Encroachment Permits Manual
DIVISION OF TRAFFIC OPERATIONS

Safety
Customer Service
Mobility
Preface

This Eighth Edition (revised July, 2013) of the Encroachment Permits Manual describes Departmental policy, revisions and legislative actions that affect the encroachment permit process. It also provides information on the intergovernmental review process, procedures of the permitting process, storm water management, as-built plan requirements, utility encasement requirements, and other related programs and Departmental policies.

The manual’s purpose is to maintain uniform methods and procedures in the issuance of encroachment permits. Special situations and circumstances that require deviation from departmental design standards and policy are subject to approval by Headquarters Division of Design.

Additional information applicable to encroachment permit work may be found in other Departmental manuals.

The Encroachment Permits Manual is updated regularly. For the latest official version including any updates, users can view it at:

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

If a paper copy is maintained by the manual holder, it is important for the manual holder to maintain and use an up-to-date manual. This will insure proper reference to the latest policies and procedures. Responsibility for keeping the manual current belongs to the manual holder.

This manual was prepared by the Headquarters Office of Encroachment Permits.
Recent updates to the Encroachment Permits Manual

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Chapter 100
The Permit Function

The California Department of Transportation (Caltrans) is the steward of the California State Highway System (SHS). The safety of the traveling public, highway workers and permittees is our primary concern. Caltrans also cooperates with other public agencies and with private parties to promote the safe use of our highways.

Caltrans issues encroachment permits to:

- Ensure the safety of the traveling public, highway workers and permittees,
- Protect, maintain, and enhance the quality of the State highway system during and after permitted work,
- Ensure that the proposed encroachment is compatible with the primary uses of the State highway system,
- Protect the State’s and public’s investment in the highway facility, and
- Ensure that temporary uses of State highway right-of-way for special events, filming, etc. are conducted safely and with minimum inconvenience to the traveling public.

Encroachment permits are issued under the authority of law. In processing permit applications, Caltrans draws upon the extensive experience of its workforce in advising permittees to use safe procedures and equipment.

101 WHAT IS AN ENCROACHMENT PERMIT?

An *encroachment* is defined in Section 660 of the California Streets and Highways Code as “[…]any tower, pole, pole line, pipe, pipeline, fence, billboard, stand or building, or any structure, object of any kind or character not particularly mentioned in the section, or special event, which is in, under, or over any portion of the [State] highway right-of-way. “Special event” means any street festival, sidewalk sale, community-sponsored activity, or community-approved activity.”

An encroachment permit issued by Caltrans (or issued by an authorized local agency in certain circumstances) is permissive authority for the permittee to enter State highway right-of-way to construct, alter, repair, improve facilities, or conduct specified activities. An encroachment permit is a contract between Caltrans and the permittee. Acceptance is acknowledged when any of the specified acts or work is performed under the conditions of the permit.
An encroachment permit is not a property right. It authorizes only the permittee or the permittee's authorized agent to perform work, and the permittee may not transfer or assign a permit to another party. A permit is not transferred with the property to a new owner at the time of sale. New property owners must apply for and obtain a new permit. This new permit should be issued for notice and records purposes only.

An encroachment permit must be obtained for all proposed activities for placement of encroachments within, under, or over the State highway right-of-way. Some examples of work requiring an encroachment permit are: utilities, excavations, encroachment renewals, advertisements (when allowed by statute), vegetation planting or trimming, surveys, mail boxes, driveways, installation or removal of tire chains for compensation, special events, and commercial filming activities.

Encroachment permits are not issued to allow building structures to extend into the State highway right-of-way, e.g., bay windows, cornices, and decorative features that extend beyond the surface of a building. To do so would grant exclusive use of public property to private entities without compensation. (Exception: see Advertising Displays, Section 501.3).

### 102 STATUTORY AUTHORITY

Authority for Caltrans to control encroachments within the State highway right-of-way is contained in the California Streets and Highways Code starting with Section 660.

### 103 WHO NEEDS AN ENCROACHMENT PERMIT?

Individuals, contractors, corporations, utilities, cities, counties, Native American Tribes, and other government agencies proposing to conduct any activity within, under, or over the State highway right-of-way need an encroachment permit.

All entities (other than Caltrans’ forces or under a State highway construction contract with Caltrans and operating within their contract limits, consultants under contract with Caltrans, local agency forces with a delegation of a maintenance agreement operating within their jurisdictional boundaries and within the scope of their maintenance responsibilities) must obtain an encroachment permit before conducting any activity within, under, or over the State highway right-of-way.

### 104 ENCROACHMENT PERMITS ISSUED BY CALTRANS

Only Caltrans has authority to approve and issue permits for activities within State highway right-of-way. However, Caltrans may delegate permit issuing authority to cities and counties for routine encroachments by agreement but retains sole authority over the State highway right-of-way even after delegation. Agreements must contain provisions for city or county-issued encroachment permits. (See Appendix B and section 500.4).
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105 ROUTINE ENCROACHMENT PERMITS ISSUED BY CITIES OR COUNTIES

Cities or counties may issue routine State highway encroachment permits on specified State highway facilities located within their jurisdictional boundaries. Local agencies must be authorized by agreement with Caltrans to issue permits. (See Appendix B and section 500.4).

106 WORK EXEMPT FROM WRITTEN ENCROACHMENT PERMITS

Work within the State highway right-of-way is exempt from encroachment permits only when it is:

- A State highway construction contract
- A service contract that specifically exempts the contractor
- A delegation of a maintenance agreement
- Authorized by District Right of Way when the work is located in non-operating State highway right-of-way.
- Authorized by the California Vehicle Code and the associated activities do not affect highway operation and/or safety.

In certain instances, the placement of an encroachment may be authorized before issuing a written permit, e.g., verbal permission granted under emergency conditions. An application for a permit must be submitted as follow-up after the emergency condition ceases. Work that can be completed under regular conditions is not considered emergency work. Law enforcement agencies may not be required to obtain encroachment permits for specified enforcement activities performed during the course of duty (See section 517.4).

107 OFFICE LOCATIONS AND HOURS

Caltrans issues encroachment permits through twelve District Encroachment Permits Offices. Applicants should direct inquiries and permit applications to the appropriate District Encroachment Permits Office having jurisdictional authority over the proposed encroachment site. Addresses and contact information can be found at:


All applications for commercial filming permits must be submitted through the California Film Commission. Additional information can be found at:

http://film.ca.gov/

California Government Code Section 11020 requires all State Agencies to be open for the transaction of business from 8:00 a.m. to 5:00 p.m. except weekends and holidays. Staggered lunch hours must be used to provide continuous service throughout the day.
108 OVERVIEW OF THE ENCROACHMENT PERMIT PROCESS

The encroachment permit process is summarized in Figure 1.1. Permitted activities range from single-family residential driveway connections to multi-million dollar construction projects. Applications for various permit categories have different review and approval processes, but in all cases the District Permit Engineer must follow appropriate policies and procedures.

An application for an encroachment permit must be on a current “Standard Encroachment Permit Application” (form TR-0100) and signed by the owner or an authorized representative whose authority is validated by a letter or contract. In situations where a long-term lessee is developing land, e.g., a hotel, the permit to construct access may be issued to the lessee. When short-term leases exist, the property owner must be the applicant. The application forms and related documents can be found at:

http://www.dot.ca.gov/trafficops/ep/

108.1 Oversight Projects vs Encroachment Permit Projects

As the steward of the public’s investment in the State highway system (SHS), Caltrans reviews projects-funded-by-others using two main review processes to evaluate a project’s impact on the SHS; Oversight Project (OP) and Encroachment Permit (EP).

The District Permit Engineer, in consultation with other functional units will determine which review process will be used based on complexity and construction costs within the existing or future State Highway right-of-way:

1) Projects over $1 million will use the OP process.
2) Projects under $1 million and complex will use the OP process.
3) Projects under $1 million and non-complex will use the EP process.
4) Routine utility or drainage projects, will use the EP process.

A project is considered complex if it is ineligible for a combined PSR-PR. Other factors that can contribute to the complexity of a project are included in Chapter 12, Section 4 of the Project Development Procedures Manual.

http://www.dot.ca.gov/design/manuals/pdpm/chapter/chapt12.pdf

In addition, the project may be considered complex if the encroachment activity:

1) Creates 5,000 square feet or more of new non-highway impervious surface (Order, Provisions E.2.d.2.a), or
2) Creates 1 acre or more of new highway impervious surface (Order, Provisions E.2.d.2.a), or
3) Is within, or partially within an Environmentally Sensitive Area (ESA) or may discharge to an ESA, or
4) Requires a Storm Water Data Report (SWDR).
To assist in the determination, the District Permit Engineer can arrange a pre submittal conference to obtain input from the District Encroachment Permits Office, Program/Project Management, Design, and Traffic Operations. Inclusion of other functional units depends on project scope and features. Meeting outcomes and basis for decisions should include the same items above and may include items such as: cost estimate verification; availability of reimbursement funding; Right of Way processes; increase in State tort liability; Structure Design involvement; and Electrical unit review.

If the construction cost increases above $1,000,000, the encroachment permit application is denied and the project must be reviewed and approved using the Oversight Project process.

**Oversight Projects** – These projects are generally complex and are financed with a sales tax measure, locally funded non-sales tax, or private funds. Project Development has responsibility for these projects including workplan development, plan review, obtaining encroachment permits and executing cooperative or highway improvement agreements. For more information on the Oversight Project process, see the Project Development Procedures Manual and Deputy Directive DD-23-R1 and Section 500.10 “Oversight Projects” of this Manual.

An “Encroachment Permit Administrative Route Slip” (form TR-0154) is used by the Project Manager to request from the District Permit Engineer the issuance of an encroachment permit. The TR-0154 certifies that the project has been reviewed and approved and does not require any further coordination. Encroachment permit staff charges expended effort to the Oversight Project’s Project Code and not to an Encroachment Permits Project Code.

**Encroachment Permit Projects** – These projects are 100% funded, designed, and constructed by a local agency, transportation agency, Sales-tax measure sponsor, or a private entity. Projects are non-complex and construction cost within the existing or future State right-of-way is under $1 million. The project scope is defined, funding secured, and plans are complete. Some types of encroachment permits require cooperative agreements or highway improvement agreements.

If the work is routine utility or drainage work, the encroachment permit process is followed.

Only Encroachment Permit projects should be administered entirely by the District Encroachment Permits Office.

The State representative responsible for overseeing the project construction will be provided by the Construction Unit if construction cost exceeds $300,000. Projects with construction costs of $300,000 or less, may be overseen by either the Construction Unit or the Permits Unit (see PDPM Chapter 2, Section 5).

**108.2 Maintenance Work Performed by Volunteers**
The Adopt-A-Highway (AAH) Program allows participants to perform litter removal, seedling tree and shrub planting, wildflower planting, graffiti removal, Mission Bell placement, and
vegetation control within the State highway right-of-way. Encroachment permits issued for AAH projects are exempt from permit fees and are issued for a five-year term. For additional information see Section 500.1 and the Adopt-A-Highway Program’s website at:

http://www.dot.ca.gov/maintenance/adopt-a-highway/index.html

Program participants may include: individuals, businesses, corporations, and organizations. Excluded from participation are entities that advocate, violence, violation of the law, or discrimination based upon race, religion, color, national origin ancestry, physical handicap, medical condition, marital status, age, or sex. Also excluded from participation are individuals, businesses, or organizations involved in the distribution, display, advertisement, or promotion of pornography, including those web sites that provide pornographic materials.

Applications for an AAH project are received and processed by the District AAH Coordinators. The AAH Coordinators respond to all program questions and conduct all technical reviews. The minimum age requirement for AA participation is sixteen years old. An encroachment permit is usually issued by the District Permit Engineer with the recommendation of the AAH Coordinator. At the discretion of the District Permit Engineer, permit issuance may be delegated to the AAH Coordinator. Records associated with the project are microfilmed, and the project is closed-out when the permit expires.

Renewal of an expiring AAH permit normally is accomplished by issuing a new permit rather than extending the existing permit.

A “Consent Letter” (form TR-0131) may be issued by the Maintenance Area Superintendent for one-day highway litter removal, vegetation control, and landscape maintenance within the State highway right-of-way fronting upon an owner's property. The Deputy District Director-Maintenance may approve multiple dates at his or her discretion (maximum of three consecutive days).
Chapter 100 - The Permit Function

“Overview of the permitting process for simple* Encroachment Permit Application Packages (EPAP)”

EPAP must be screened by Permit Engineer for completeness.  

Is EPAP complete?  

YES  

Notify applicant of EPAP being conditionally accepted.  

NO  

Return EPAP to applicant and explain why it is incomplete.  

Can the review be done in-house?  

YES  

Perform review.  

NO  

Circulate EPAP to appropriate reviewing units.  

Can it be approved?  

YES  

Issue permit.  

NO  

Notify applicant if additional information and/or documentation is required (10-day letter).  

Can it be approved?  

YES  

Denied based on need for revisions?  

NO  

Send denial letter to applicant. Include appeal procedures to the Department’s Director.  

Denied based on conflicts with policy, adverse impacts, etc.?  

YES  

Compile comments.  

NO  

File is deemed abandoned and must be closed.  

Does the applicant respond within the allotted 10 days?  

YES  

NO  

Applicant must resubmit within 60 days to the Department’s Director as detailed in Chapter 300 of EP Manual.

California Streets and Highways Code, section 671.5 (a), requires the department to either approve or deny an encroachment permit application submitted within 60 calendar days of receiving a completed application as determined by the department. It also stipulates that an encroachment permit application is complete when all other statutory requirements, including (CEQA), have been complied with. The term statutory requirement includes both federal and California statutes.

*The Office of Encroachment Permits has established functions to ensure compliance with the 60 calendar day statutory requirement. These functions include:
1. Preliminary meetings,
2. The Encroachment Permits Management System database,
3. A response time goal of 30-calendar days or less for most EPAPs.

HQ Office of Encroachment Permits (Rev. 05/2019)
## Chapter 200 – Processing Permits

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Chapter 200
Processing Permits

This chapter describes the requirements and procedures for processing an Encroachment Permit Application Package (EPAP) which includes the “Standard Encroachment Permit Application” (form TR-0100), appropriate checklist(s), associated forms, plans, supporting documentation and applicable fees.

201 APPLICATION PROCEDURE (Rev 04/19)

Applicants (or their authorized representatives whose authority is validated by a letter or contract) must submit their EPAP to the appropriate District Encroachment Permits Office having jurisdictional authority over the proposed encroachment site for processing.

When Caltrans necessitates relocation of an existing utility, the District’s Division of Right of Way initiates the Notice to Owner process described in section 601.

201.1 Application Forms and Documents (Rev 04/19)
The “Standard Encroachment Permit Application” (form TR-0100), instructions, plan set requirements, sample application checklists and related forms can be found at

http://www.dot.ca.gov/trafficops/ep/apps.html

Additional supporting documentation may be required depending on the scope of work such as plans, location map, letter of authorization, environmental documentation, storm water permit(s), certification of compliance with the Americans with Disabilities Act, surety bonds, liability insurance, etc.

Applications for filming, salvage operations, litter pickup, installation and removal of tire chains, and roadside maintenance within State highway right-of-way are addressed in specific sections of Chapters 500 and 600. The applications and forms for these types of permits vary from the Standard Encroachment Permit forms.

201.2 Permit Application Fee
In accordance with Section 671.1 of the California Streets and Highways Code, Caltrans has established a Fee Schedule (form TR-0166, see Appendix H) and charges a fee for the issuance of encroachment permits, except to public corporations (see Section 201.2A).

Checks for payment of permit fees or deposits shall be made payable to “California Department of Transportation”. The District Encroachment Permits Office shall remit all payments (coin, currency, checks, warrants) to the District Cashier’s Office by the next business day for deposit
into the appropriate State bank account per the current “Accounting Bulletin on Cash Handling Policy” and must log all payments on the “Encroachment Permit Log” (form TR-0111) (see Section 201.2C).

1. Utility Permits

Utility companies have been granted deferred billing and receive Progress Billing statements from the HQ Division of Accounting on a monthly or quarterly basis when supported by a “Progress Billing/Permit Closure” (form TR-0129). Accounting will not issue Progress Billing invoices to utility companies unless Accounting receives a form TR-0129 from the District Encroachment Permits Office. All staff shall maintain records of their time expended on “Encroachment Permit Report (Diary)” (form TR-0130) for each permit, to assist the District Encroachment Permits Office in maintaining accurate records of all time expended on permits.

A “Progress Billing/Permit Closure” (form TR-0129) is used to record all inspection costs and to close out a permit file. It must be signed and dated by the District Permit Engineer, an authorized representative or the District Oversight Resident Engineer (RE) when applicable. It is then submitted to the HQ Division of Accounting for billing purposes.

2. Annual / Biennial Permits

These permits are issued on a yearly or two-year basis for conventional highways. Fees for Annual / Biennial Permits are charged a minimum of two hours of review to recover the time expended in the office for processing and administration. This privilege allows public corporations, utility companies, and in some cases private corporations (ex: survey permits) the feasibility of performing everyday routine tasks and installations (service installations, etc.) without having to apply continuously for a permit. This privilege is revocable at any time by Caltrans.
201.2A Fee Exempt Encroachment Permits

The “Encroachment Permit Fee Schedule” (form TR-0166, see Appendix H) shows how fees are assessed for the different types of permits and those permits which are fee exempt. Contractors are to pay a fee under a Double Permit (DP) when working for a fee exempt agency (public corporation). An exception to this policy occurs when the project is subsidized with State and/or Federal Highway funds (see Administratively Exempt Permits below). Fee exemption categories are as follows:

1. Statutorily Fee Exempt Encroachment Permits

Public corporations are statutorily exempt from encroachment permit fees (Streets and Highways Code, section 671.1.). However, contractors working for public corporations are not exempt from fees (see Section 501.14). Caltrans’ expenses for inspection costs are recovered by charging fees to the contractor. Public corporations created for governmental purposes where the whole interest belongs to the government may be billed directly for inspection costs (as opposed to billing the contractor through the Double Permit) upon the public corporation’s request or when authorized by a cooperative agreement.

A private corporation is organized for private purposes and/or for profit. Examples of public corporations are listed as follows:

- Federal and State Government
- Counties
- Incorporated cities and towns
- All municipal corporations, including:
  - Community Service districts
  - Road improvement districts
  - Irrigation districts
  - Reclamation districts
  - Utility districts
  - County water districts
  - Incorporated school districts
  - Sanitation and lighting districts
  - Special district libraries
- Agricultural associations

2. Administratively Fee Exempt Encroachment Permits

Some encroachment permit fees are waived by Caltrans’ policy. These permits are referred to as administratively exempt. Headquarters approval shall be obtained for
administratively exempt permits other than those listed below. Authority to waive fees is delegated to the Districts under the following types of administratively exempt permits and activities:

- Adopt-A-Highway Program
- Airspace rental (AS permits)
- Borrow or disposal areas used by a State contractor with approval in their contract to borrow or dispose within State Highway right–of-way outside of contract limits
- Crop identification signs installed through the California Farm Bureau Federation’s Crop Identification Program
- Double Permits (DP) issued for projects subsidized with any State and/or Federal Highway Funds
- Oversight projects (Project Manager will manage fees through cooperative agreement)
- Double Permit (DP) for utility tree trimming
- Entities with prior property rights providing for the encroachment (e.g. rail roads)
- Environmental Enhancement projects
- Flags of the United States and the State of California displayed on sidewalks
- Landscape Maintenance (LM Permits)
- Locally funded project identification signs
- Mail and newspaper delivery boxes or newspaper vending machines (MB Permits)
- Permits for utility ownership that are installed by developers
- Memorial/Historical plaques and Blue Star memorial highway markers authorized by legislative resolution, at approved location sites
- Native American Tribal Developments or activities (associated with reservations or Rancherias)
- Projects authorized by a “Consent Letter” (Appendix D)
- Railroad crossing maintenance (RX Permits)
- Required construction signs outside State or locally funded contract project limits
- State ordered utility relocation covered by a Notice to Owner issued by District Right of Way (UR Permits)
- Transportation Art Program permits (AP permits)
- Caltrans initiated rider (RD Permits)
- Municipal Parades by community-based nonprofit organizations (see Section 514.1, Special Events) commemorating recognized governmental holidays (e.g., Federal, State, and Local). Any other parade or special event by a nonprofit organization shall require permit fees. With City/County support for this type of
special event, the District Permit Engineer may issue a permit. Approval of the parade shall be as described in Section 514.1.

201.2B  **Fee Calculations**

Encroachment permit fees are calculated in the “Encroachment Permit Fee Calculation Sheet” (form TR-0406). The total encroachment permit fee is derived from the following components:

1. Review and Inspection Fee
2. Hourly Rate
3. Field Work Fee
4. Bridge Tolls Fee
5. Miscellaneous Fees

The components are described as follows:

1. **Review and Inspection Fee**

   The hours for review and inspection are established by one of two methods:
   
   - Set Fee Hours—SF
   - Actual Fee Hours—AX

   Actual review hours include time expended for review, and all time expended to process and administer the permit application. A minimum charge of one (1) hour applies to all permit applications and is included in the review hours shown on the Fee Schedule.

   **Set Fee Hours (SF)**

   Numeric hours shown on the Fee Schedule for specific types of permits are set based on previous hours charged for similar permit types. SF Permits have numeric predetermined fixed hours for both review and inspection time.

   Districts may change permits from “Set Fee” (SF) to “Actual Fee” (AX) at the discretion of the District Permit Engineer, but under no circumstances should the AX hours be less than the SF hours.

   **Actual Cost Permit Fee (AX)**

   AX Permits use the actual time expended for project or activity review and inspection. The billing statement used to collect costs for services is an executed “Progress Billing/Permit Closure” (form TR-0129) signed and dated by the District Permit Engineer, an authorized representative, or the District Oversight Resident Engineer (RE) when applicable. After the permit is issued, progress billings may be sent out for additional actual inspection hours worked.
Encroachment permits having an AX charge code require that a reasonable deposit for project review and inspection be collected at the time the permit application is submitted. The collection of costs for actual review hours expended and estimated inspection hours is required before the permit is issued.

When the initial deposit for inspection fees is expended, subsequent inspection fees are estimated and are collected as costs are incurred during the project or after project completion and before release of the bond.

A final bill for an AX permit is generated from an executed “Progress Billing/Permit Closure” (form TR-0129) and sent to HQ Division of Accounting for billing purposes. The TR-0129 is signed and dated by the District Permit Engineer, an authorized representative, or the District Oversight Resident Engineer (RE) when applicable, indicating that it is for a final bill.

2. **Hourly Rate**

Each fiscal year, the HQ Division of Accounting submits a proposed Hourly Rate to HQ Encroachment Permits. The Hourly Rate is determined by calculating labor and operating expenses posted against the Project IDs designated by HQ Encroachment Permits to be included in the Hourly Rate calculation. The Indirect Cost Rate is applied to the labor expenses and included in the Hourly Rate calculation by Accounting. The Hourly Rate is used for calculating encroachment permit fees.

3. **Field Work Fee (Anticipated by Caltrans’ forces)**

A Maintenance crew or a Traffic Operations team performing traffic control as a function of the encroachment permit is an example of field work. The Permit Engineer obtains an estimate of the hours from the appropriate Caltrans unit(s) who will perform the field work. This field work fee or deposit is collected from the applicant after review and before the permit is issued. Payment is required at the conclusion of the field work if there is a balance owed to Caltrans.

Unplanned Caltrans field work costs resulting from spilled loads, traffic control, or emergencies such as ongoing project or traffic accidents, are generally recovered by Maintenance and/or Traffic Management staff by submitting billing forms to the HQ Division of Accounting for processing outside of the encroachment permit process.

4. **Bridge Toll Fee**

A bridge toll fee is collected for use of a toll bridge during a special event. The bridge toll fee is equivalent to that charged for a seven-axle truck. (See Section 514, Special Events).

5. **Miscellaneous Fees**
Department-Furnished Materials

The cost of materials purchased or supplied by Caltrans to be used on encroachment permit projects (i.e. Traffic signal controllers, lighting, etc.).

Transportation Laboratory Inspection Cost

The fee for inspection work or laboratory testing by the Division of Engineering Services, Office of Materials Engineering and Testing Services (METS), shall be at the hourly rate multiplied by the current “Standard Average Hours” published by the Transportation Laboratory. Districts with work not shown on the “Standard Average Hours” publication shall contact the Transportation Laboratory directly for an estimate.

Oversight Projects

Permits’ staff hours for oversight projects (see Section 108.1 of this Manual) are charged directly to the oversight project’s project code.

Check the Highway Improvement or Cooperative agreement for a fee exemption; many sales tax and local projects are fee exempt.

The total fee is the sum of the fee components. The District Permit Engineer records all hours and calculations on the “Encroachment Permit Fee Calculation Sheet” (form TR-0406). The District Permit Engineer ensures review hours are reported on the “Encroachment Permit Application Review” (form TR-0110) and the “Permit Engineering Evaluation Report” (PEER) (form TR-0112).

201.2C Billing and Overdue Accounts

When a progress payment or final payment for an encroachment permit project is due, the Permit Engineer sends a “Progress Billing/Permit Closure” (form TR-0129) signed and dated by the District Permit Engineer, an authorized representative, or the District Oversight Resident Engineer (RE) when applicable, indicating the billing or refund information and a copy of the performance or payment bond, if any, to the HQ Division of Accounting who then bills or refunds the permittee. The “Progress Billing/Permit Closure” (form TR-0129) should indicate the work completion date. Accounting has four years from the work completion date to bill or refund the permittee per the California Code of Civil Procedure, section 337. Accounting also receives a copy of the “Encroachment Permit Log” (form TR-0111), which the Permit Office uses to chronologically record accepted permit applications, payments, and refunds. Log use is shown in Table 2.1.
Table 2.1  
Permit Log Form Use

1. A copy of the “Encroachment Permit Log” (form TR-0111) and all billing or refund requests, as listed on the log, should be mailed weekly to Accounts Receivable in the HQ Division of Accounting. It is not necessary to begin a new log sheet each week after sending the copy.

2. Continue to use the first column for all encroachment permit numbers assigned to applications when they are accepted (logged in). These will be in chronological order from the beginning of each year. In the designated columns, enter the applicant’s name, location of work, payment type, amount of any deposit/fee paid to the District Cashier, and date logged in.

3. When a deposit/fee is paid to the District Cashier after the initial deposit, a refund is requested, or a billing document is sent to Accounts Receivable for progress/final billing, use the next available line on the current sheet. Use the second column to enter the permit number for the payment or billing. Use the sixth column for the amount of the billing or payment to the District Cashier. Use the seventh column for the date payment was received by the cashier--for refunds, show a negative amount in the sixth column. No other columns need to be completed.

If the bill is not paid within 30 calendar days from the bill date, the HQ Division of Accounting will send a past due notice to the permittee. If still not paid, a second past due notice is sent after 60 calendar days from the bill date. Both past due notices request payment and inform the permittee that if the account remains unpaid, it may be subject to collection activities from a private collection agency. The HQ Division of Accounting monthly sends a list of permittees with past due accounts to the HQ Encroachment Permits Office and the appropriate District Encroachment Permits Office. Each District Office will maintain a list of permittees with past due accounts and inform them when they apply for a new permit that new permits may not be issued until resolution with the HQ Division of Accounting.

The District Permit Engineer is responsible for assisting the Division of Accounting in the collection of encroachment permit fees. For significant backlog of accounts due, the District may:

1. Require upfront payment of fees;
2. Require a payment/performance bond;
3. Revoke annual maintenance permits and require separate permits for each work element;
4. For those not given the right to a permit by law, deny encroachment permit applications.

The District must forward all performance and payment bonds to HQ Division of Accounting. When provided by the District, the performance bond information will be used by the HQ Division of Accounting to attempt to collect the overdue amount from the bonding company.
before sending the account to a collection agency. Most performance and payment bonds expire a year after Caltrans accepts the work as complete. Therefore, the District should send the “Progress Billing/Permit Closure” (form TR-0129) and the performance/payment bond to HQ Division of Accounting before the bond expires.

All unpaid accounts may be turned over to a collection agency after 180 calendar days from the bill date unless arrangements have been made through the Permit Engineer for payment of the account. The arrangements must be acceptable to the HQ Division of Accounting. After four years have lapsed since the permit completion date, statutes prohibit the invoice and supporting documentation of the “Progress Billing/Permit Closure” (form TR-0129) from being turned over to a collection agency.

201.3 Refunds

A refund is provided when the total deposits exceed Caltrans’ expenses associated with the permit. A minimum cost of one hour's time at the current Hourly Rate is retained as an application-processing fee when a refund is appropriate. The District Encroachment Permits Office shall refund all fees for inappropriately accepted applications (Table 2.2 indicates the refund of permit fees when appropriate for various circumstances of permit applications). Refunds shall be documented on the “Progress Billing/Permit Closure” (form TR-0129) signed and dated by the District Permit Engineer, an authorized representative, or the District Oversight Resident Engineer (RE) when applicable. The completed “Progress Billing/Permit Closure” (form TR-0129) shall be sent to:

HQ Division of Accounting
Attention: Accounts Receivable Branch-Encroachment Permits

The date and amount of the original transaction, copies of any checks, along with all account information, should be indicated on the “Progress Billing/Permit Closure” (form TR-0129).

The HQ Division of Accounting will issue a refund to the payer, or, in cases where there are multiple parties (permittee, authorized agent/contractor), the refund will be issued to the party who made the payment unless written mutual documentation (between the permittee and their authorized agent/contractor) indicates that the refund should be issued to the other party.

In accordance with California Government Code section 13144, refunds exceeding $10,000 require approval by the California Department of Finance. The following documentation is required:

- Copy of the payment instrument (usually a check)
- Accounting transaction showing check number, name of payer, and dollar amount
- Calculation of refund amount due

If the HQ Division of Accounting cannot locate the payer or the payer’s address, then the refund is deposited back into the State Highway Account.
Table 2.2
Refunds of Permit Fees

<table>
<thead>
<tr>
<th>Status of Permit Application</th>
<th>Appropriate Refund</th>
</tr>
</thead>
<tbody>
<tr>
<td>A SF (Set Hours) permit is denied as a result of the review process.</td>
<td>The unexpended portion of the total fee collected for inspection, field work, bridge tolls, and miscellaneous fees.</td>
</tr>
<tr>
<td>An AX permit is denied as a result of the review process.</td>
<td>That portion of the deposit that represents collected but unexpended review and inspection fees.</td>
</tr>
<tr>
<td>The applicant cancels the permit application before a permit is issued.</td>
<td>The collected but unexpended review and inspection fees.</td>
</tr>
<tr>
<td>The permittee cancels the permit application after the permit is issued but before work has started.</td>
<td>That portion of the total fee collected that represents inspection and field work.</td>
</tr>
<tr>
<td>The permittee cancels the permit application after the permit is issued and after work has started.</td>
<td>None.</td>
</tr>
</tbody>
</table>

201.4 Permit Number
A permit number is assigned when an application is accepted as complete. Encroachment permit numbers conform to the following format:

DISTRICT: Two-digit District Number (01 through 12).

YEAR: Last two digits of the calendar year in which the permit application is assigned a number.

BILLING TYPE CODE:
One of four characters:

- 6 for Caltrans fee permits
- 7 for permits issued by Cities and Counties (See Section 500.4)
- N for Fee Exempt permits
- A for Administrative permits (see Section 500.0 and 600.0)

PERMIT TYPE CODE:
A two-alpha character designation the type of encroachment as shown in the Permit Fee Schedule.
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CHRONOLGICAL NUMBER:

A four digit, serially issued number from 0001 to 9999, starting with 0001 each calendar year. A numbering machine (simplex) is used to stamp the application form, with a permit number when the application pays the fee or deposit. The District Accounting Office controls the setting of the machine number.

Each District has a numbering machine (Simplex) to number the permit application in the format illustrated below. The first two of the six digits represents the year the application is accepted. The last four digits are the chronological numbers of the application. The Permit Type Code is entered manually. The Billing Type Code is indicated by manually striking out three of the four symbols 6, 7, N or A.

<table>
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<tr>
<th>SIMPLEX STAMP</th>
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<tbody>
<tr>
<td>___ ___ Year</td>
</tr>
<tr>
<td>___ ___ Chronological Number</td>
</tr>
<tr>
<td>___ ___ District</td>
</tr>
<tr>
<td>6 7 N A Billing Type Code</td>
</tr>
<tr>
<td>(cross out three)</td>
</tr>
<tr>
<td>___ ___ Permit Type Code</td>
</tr>
</tbody>
</table>

At the start of each calendar year, the Simplex machine must be reset so the correct year is indicated and the chronological number is adjusted back to 0001.

201.5 Processing Encroachment Permit Applications (Rev 04/19)

In accordance with California Streets and Highways Code, section 671.5, subdivision (a), Caltrans is required to either approve or deny an EPAP within 60-calendar days, upon determination that the EPAP is complete.

California Streets and Highways Code, section 671.5, grants Caltrans authority to determine what constitutes a complete EPAP. The District Permit Engineer acts on behalf of the District Director in making that determination. All applicable federal and State statutory requirements including but not limited to Storm Water, Americans with Disabilities Act (ADA), and California Environmental Quality Act (CEQA) must be complied with prior to an EPAP being deemed complete. Encroachment Permit Application Checklists are used by both applicants and Encroachment Permits Staff to determine the completeness of an EPAP.

The Encroachment Permit Application Checklists are available at:

http://www.dot.ca.gov/trafficops/ep/apps.html

The Office of Encroachment Permits has established functions to ensure compliance with the 60-calendar day statutory requirement. These functions include:
1. Preliminary meetings,
2. The Encroachment Permits Management System database (EPMS) (see Section 201.6),
3. A response time goal of 30-calendar days or less for most EPAPs. The process, actions and timelines are as follows:

<table>
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<th>PROCESS</th>
<th>ACTIONS</th>
<th>DAYS</th>
<th>TOTAL DAYS</th>
</tr>
</thead>
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<tr>
<td>1. Screen</td>
<td>Permit Engineer accepts or rejects EPAP</td>
<td>2</td>
<td>2</td>
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<tr>
<td></td>
<td>(a) Sends acknowledgement letter (conditionally accepted) if EPAP meets screening criteria</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(b) Sends rejection letter if EPAP fails to meet screening criteria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Login</td>
<td>Permit Engineer enters record into EPMS and EPMS assigns a tracking number</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Circulates EPAP for review by functional units</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Review</td>
<td>Functional units review EPAP and send comments to Permit Engineer</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>4. Notify</td>
<td>Permit Engineer to issue permit, notify applicant or deny EPAP</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>(a) Issue permit</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(b) Notify applicant if additional information and/or documentation is required (10-day letter)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(c) Deny EPAP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Respond*</td>
<td>Applicant must respond to notification within 10 days</td>
<td>10</td>
<td>24</td>
</tr>
<tr>
<td>6. Final</td>
<td>Permit Engineer to issue, deny or close abandoned permit file</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>(a) Issue permit if applicant meets schedule and required additional information and/or documentation is acceptable</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(b) Deny EPAP if applicant meets schedule but required additional information and/or documentation is not acceptable (firm denial)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(c) Close abandoned file if applicant does not meet schedule.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Applicant’s responsibility

To increase the quality of EPAPs, the District Permit Engineer may approve staff time to meet with prospective applicants to assist in preparing a complete EPAP. Except in the case of some utilities, typically applicants must pay fees prior to Caltrans expending staff resources. However, preliminary meetings should decrease the amount of re-work and ultimately decrease the cost of issuing a permit. The number of staff hours should not exceed one meeting, or a total of six
hours. These hours are not charged to the applicant. EPAPs that require more than six hours should be reviewed by the District Permit Engineer to ensure the project is within the definition of an encroachment permit project.

As part of the application intake process, every EPAP submitted to Caltrans must receive an application date stamp. The application date stamp differs from the “Date of Acceptance” and is referenced in EPMS (see Section 201.6) as the “Application Received Date.” The “Application Received Date” reflects the date on which an EPAP is received in the District Encroachment Permit Office or one of its field offices. The Encroachment Permit Office must date-stamp the EPAP upon receipt, regardless of the method by which the application is delivered to Caltrans (ex. by hand or mail). The “Application Received Date,” along with the “Date of Acceptance” recorded in EPMS, provides useful information to monitor District performance, and assists management to ensure that EPAPs receive timely initial screenings. The initial screening review time should not exceed 2 business days.

After initial screening of the EPAP for completeness, the Permit Engineer must email and mail a hard copy of a letter to the applicant, acknowledging receipt of the EPAP and informing the applicant of either a conditionally accepted or rejected application status. The standard acknowledgement letter templates are available on the Encroachment Permits’ intranet site.

If the EPAP was accepted, the Permit Engineer will enter the application information into EPMS and EPMS assigns a tracking number. The EPAP is then distributed to the necessary Caltrans units to review for compliance with policy, design, and construction standards. These reviews and comments are due back to the Permit Engineer within 8 calendar days from the date of distribution. Once the comments are compiled, the Permit Engineer will make a determination as to whether or not an encroachment permit should be issued.

If additional information, revisions, or supporting documentation is needed, the Permit Engineer must email and mail a hard copy of a letter to the applicant informing the applicant the application is denied based upon the need for revisions and/or supplemental information. The applicant is given a period of 10 calendar days to resubmit with the requested revisions and/or additional information. If a resubmittal or a response is not received from the applicant by the given date, the file will be deemed abandoned and closed.

If the application is denied due to noncompliance with Caltrans’ standards and/or policies, a denial letter will be sent to the applicant detailing the reason(s) for the denial and instructions on the appeal process (see Section 304).

201.6 Tracking Permit Applications
The Encroachment Permits Management System (EPMS) is a database system that provides informational reports to Caltrans’ staff regarding the status of existing application packages and ongoing permits. It also provides information on resources expended on each individual permit.
The database assists management to ensure that statutory time constraints are complied with, and that reviews are done on time.

Districts are responsible for maintaining the integrity of the information in the database. Any unauthorized modifications to the database could result in non-retrievable functionality and loss of data. Any issues with the database shall be reported immediately to HQ Encroachment Permits.

The District Permit Engineer assigns the responsibility of data input and maintenance of the database to members of their staff. These staff members may provide monthly reports to the District Permit Engineers with the most current information on the progress of application packages, and existing permits that they are responsible for (see Table 2.3).
Specific steps for maintaining the permits database and for tracking permits are as follows:

1. Permit applications are logged into the database to create a permit record when the Simplex numbers are stamped on new permit applications. This step starts the 60-calendar day statutory period for permit approval or denial. The record should include pertinent information shown on the application, including:
   - Application Received Date
   - Permit number
   - Name of permittee
   - Date application is Simplex stamped and receives a permit number
   - Project location (county, route, and post mile)
   - Description of proposed work
   - Comments concerning the application (e.g., longitudinal encroachment, etc.)
   - Performance Bond and Payment Bond numbers (when applicable)
   - Estimated cost of work within State highway right-of-way
   - Caltrans’ project code (ID) if applicable to the project
   - Applicant’s Reference Number /Utility Work Order Number
   - Set fee, deposit, or total fee (use as applicable)
   - Permit writer (person coordinating review of the application)
   - Name of inspector (if known)
   - Primary permit number (if record is for a Double Permit “DP” or permit rider)

2. Enter the dates that requests for review are sent to appropriate reviewing functional units.

3. Enter the dates that reviews are returned to Encroachment Permits and request each functional unit log the number of review hours to permits (fee based and fee exempt). Enter the review hours that were charged to the permit’s project code on the database and on the “Progress Billing/Permit Closure” (form TR-0129).

4. Each business day, the person responsible for maintenance of the database prints the list of reviews that are past due and asks reviewing units to respond.

5. Respond in writing to all applications requiring additional information after all reviews are returned. Enter into the database under “letter sent” the date that any letter is sent to an applicant.

6. Issue permit when all reviews are returned and the application is complete, and the issue date and expiration date are entered in the database. Additional fields completed are:
   - Date permit is issued
   - Permit expiration date
   - Performance Bond and Payment Bond Numbers (if applicable)
   - Total fee (if applicable)
   - Date application is complete (the date all reviews are returned as acceptable)
• Name of inspector
• Transportation Laboratory’s standard or estimate of hours

7. Enter the date additional information is received. Review procedures start and are processed as in Steps two (2) through six (6) above.

8. Notify the District Permit Engineer each day of applications older than 45 calendar days that have not been acknowledged by Caltrans. Permit Engineers must respond immediately to these applications to avoid permits being granted by default.

9. Print a weekly list of expired permits and require time extensions or completion notices. Inform permit inspectors regarding permits in their area of responsibility.

10. Enter in the database the completion date, actual inspection hours, and any time expended by other Caltrans units. Submit completed “Progress Billing/Permit Closure” (form TR-0129) to the HQ Division of Accounting for billing. All fields should be filled out indicating hours and total fees/deposits and balance.

11. Enter permit riders through the “Edit Permit” screen of the primary (parent) permit, using a new Simplex number. Manage any reviews required for the rider as in Steps one (1) through six (6) above.

202 REVIEW PROCESS

The “Encroachment Permit Application Review” (form TR-0110) is used for transmitting a proposal for encroachment to other Caltrans units for review. The reviewing unit must fully detail its comments about the proposal and its number of expended review hours.

202.1 General Criteria for Evaluation of Encroachment Permit Applications (Rev 04/18)

The District Permit Engineer is responsible for determining the complexity of proposed projects submitted to Caltrans and for when there is a need for an Agreement between the applicant and Caltrans for maintenance and/or responsibility purposes.

Generally, in most cases the dollar value of the proposed work within the existing or future State highway right-of-way determines responsibility for processing. In some cases, it is the complexity of the proposed project that will dictate responsibility.

The criteria for determining which “Office” is responsible for processing are listed as follows:

1. If the work is routine utility or drainage work, the encroachment permit process is followed.

2. Current policy allows Highway Improvement Projects costing $1,000,000 or less to follow the Encroachment Permit Process. In some cases, proposed projects with a cost value of less than $1,000,000 within State highway right-of-way can become the responsibility of Project Development, due to:
a. Complexity, or
b. Location, in the same area where Caltrans has proposed or has the intent for a future improvement.

3. Highway Improvement Projects costing greater than $1,000,000 but less than $3,000,000 would be allowed to follow a streamlined process similar to the Encroachment Permit Process, except that Capital Outlay Support staff would take the lead in processing. Concept and project approval would be through completion of a Permit Engineering Evaluation Report (PEER). After approval of the PEER, an encroachment permit would be issued.

4. Highway Improvement Projects $3,000,000 or greater would be processed through the normal Project Development Process and would receive an encroachment permit at the end of that process. Exceptions to this policy would require approval of the Chief Engineer.

Existing policy allows Caltrans to require the full Project Development Process for complex projects (e.g. projects that require California Transportation Commission action). Under this new policy, Caltrans will retain the right to increase the level of documentation and processing for those projects that are deemed complex.

Submittals are reviewed to determine the impacts of the encroachment on:

- The safety of motorists, pedestrians, and workers.
- Design, construction, operation, maintenance, or integrity of the highway system.
- Future and on-going highway contracts.
- Aesthetic value of the highway corridor.
- The environment.
- Existing drainage
- Water quality
- The risk of tort liability

Caltrans’ policy is to cooperate with the Reclamation Board regarding submittals for encroachment permits to install underground facilities where a State highway is on or crosses a levee under the jurisdiction of the Reclamation Board. An applicant is required to furnish proof of a Reclamation Board permit before an encroachment permit can be issued.

202.1A Conflicting Permits

A permit applicant may propose work requiring the removal or relocation of conflicting improvements installed under prior encroachment permits, e.g., the removal or relocation of a driveway, curb, or gutter, for a highway widening permit application. The applicant must arrange for any such removal or relocation. The General Provisions (TR-0045, #11) require relocation of
conflicting encroachments at no cost to the State as a condition of the permit. Priority is given to the first encroachment.

**202.1B Location of Encroachment within the State Highway Right-of-way**

Encroachments should not create a public hazard, disrupt highway operations, pose a maintenance problem, restrict pedestrian facilities, or interfere with future highway construction. Consideration should be given to utility placement located within right-of-way that is planned for expansion.

Care must be taken to prevent encroachments that devalue State highway right-of-way. Potential for airspace leasing within operating right-of-way, future right-of-way, or other potential operating uses of excess lands must be preserved. Permit applications describing work within non-operating right-of-way shall be sent to District Right of Way for review. In some cases, District Right of Way may coordinate the encroachment request.

**202.1C Traffic Considerations**

**GENERAL**

When encroachment permit projects impact traffic, the permittee assumes responsibility for financing and constructing traffic control and safety features. Traffic control for day or nighttime lane closures is governed by Caltrans' Standard Plans for Traffic Control Systems. The appropriate traffic plan should be added as a special provision to the encroachment permit.

**TRAFFIC DELAYS AND LANE CLOSURES**

Encroachment permit projects require a Transportation Management Plan (TMP) if the anticipated traffic delay resulting from the permit operation or lane closure is 30 minutes above the normal recurring traffic delay or the delay threshold set by the District Traffic Manager (DTM), whichever is less.

TMPs and contingency plans for Encroachment Permit projects are developed by the permittee or by Caltrans’ staff. Staff time for development, review, and implementation of TMPs for Encroachment Permits is charged to the permit (see Section 7.2 of the TMP Guidelines). The TMP is developed by the applicant and when implemented, it should minimize or eliminate project-related traffic delays and collisions (see TMP Guidelines and Deputy Directive DD-60, Appendix E).

When lane closures are contemplated within access-controlled right-of-way, and conventional highways, a lane closure request is submitted to the District Lane Closure Review Committee (LCRC) for approval if the closure is estimated to cause additional traffic delay of more than 30 minutes or the delay threshold set by the DTM, whichever is less (see TMP Guidelines, Appendix E). A review is not required for emergency lane closures, i.e., accidents, natural
disasters, earthquakes, storm damage, hazardous material spills, vehicular accidents, etc.; nevertheless, DTM notification is required.

The District Permit Engineer or designee submits the proposed lane closure through the District Traffic Manager for review before sending it on to the District LCRC. If the DTM can reduce the delay to less than 30 minutes, then the District LCRC review is not necessary. The submittal to the DTM should contain information listed in the TMP Guidelines shown in Appendix E. Transportation Management Centers (TMC) in metropolitan areas must be notified at least seven days in advance of any planned lane closures.

In addition to the lane closure submittal, the applicant should develop a contingency plan that identifies actions to be taken to restore or minimize effects on traffic during lane closure operations when the congestion or delay exceeds original estimates. The Contingency Plan should contain information shown in the TMP Guidelines shown in Appendix E.

Approval

Proposed lane closure submittals must be sent to the District Traffic Manager (DTM) in sufficient time to allow approval at least 7 days in advance of lane closure operations. The project’s complexity may dictate the amount of lead-time required. LCRC approval is only for lane closure dates and times requested.

The District Permit Engineer assumes responsibility for notifying the DTM if there are changes to the originally approved closure. The DTM shall review approved lane closure plans 3 days before the date and time of the proposed lane closure operation. If in the DTM’s opinion the changes materially alter the nature of the original proposal, the LCRC will reevaluate the revised proposal.

Evaluation Statement

The District Permit Engineer shall prepare a statement on projects that exceed expected delay or run outside of the closure window. The statement shall be prepared within 5 working days of exceeding the threshold criteria (for statement explanation see the TMP Guidelines shown in Appendix E).

Exception

Unless the traffic delay threshold is exceeded, LCRC approval is not required.

MOBILE WORK

Encroachment activities for mobile work (slow continuous motions and/or frequent stops within a traffic lane) must comply with the requirements provided in Conventional Highway Mobile Work Special Provisions (see Appendix K). The activities are:
• Moving operations (work activities, such as striping, sweeping, etc.) that move along the road without stopping, usually at slow speeds.

• Short-term work activities that can be performed during light traffic volumes, do not interfere with traffic, and do not place the employee in jeopardy. Examples of such work include pavement patching, pavement marker replacement, etc.

Several references are made on the standard plans to "approach speed,” which could be a posted speed limit, an off-peak 85-percentile speed, or an estimated speed determined by driving through the job site several times. Many areas are not posted, so this reference is intended to allow judgment in applying the realistic speed of traffic where necessary to determine traffic control devices and requirements.

202.1D Traffic Control System Plan Changes
Requests to use different traffic plans or to revise the approved standard plans should be directed to the District Traffic Engineer for approval.

202.1E Traffic Unit Review
The appropriate District Traffic unit shall review permit applications having traffic or safety impacts, when required by other portions of this manual or if the Permit Engineer determines that such a review is necessary. A Transportation Management Plan (TMP) is required if significant traffic delays and hazards are anticipated during construction (see Appendix E and DD–60.). Procedures and responsibilities detailed in a TMP are addressed during encroachment permit review by District Traffic staff.

202.1F Field Review before Issuing Permit
Pre-inspection of the site sometimes is necessary to ensure that the proposed work is not detrimental to the State highway or the safety of highway users. The Permit Engineer should ensure that the proper personnel are involved in this pre-inspection.

202.1G Other Reviews
Proposals for encroachments may require review by other units. Such reviews ensure coordination with subsequent maintenance operations and planned future development by Caltrans or others.

A permit cannot be issued without environmental clearance. Chapter 400 discusses specific requirements for environmental review of encroachment permit applications.

202.2 Project Report or PEER Document
A Project Report or a “Permit Engineering Evaluation Report” (PEER) (form TR-0112) is required for every action that has a permanent traffic impact and for work that affects the operating capability of a State highway facility.
All Highway Improvement Projects that are between $1,000,000 and $3,000,000 require at least a PEER. These reports, and their preparation, are discussed fully in the Project Development Procedures Manual. Their preparation is either the responsibility of Project Development or Traffic Operations.

However, on projects less than $1,000,000 the District Encroachment Permits Office must verify that the responsible reviewing units have considered the need for the appropriate report and have correctly completed the “Encroachment Permit Application Review” (form TR-0110).

### 202.2A Projects Requiring a Permit Engineering Evaluation Report (PEER)

A “Permit Engineering Evaluation Report” (PEER) (form TR-0112) is prepared to document the engineering analysis of proposed work. The Proponent of the project is responsible for the submittal of the project description/proposal section of the PEER as well as all other necessary documentation. (See Project Development Procedures Manual)

Approval of the PEER is the responsibility of either Project Development or Traffic Operations on all projects up to $3,000,000. The analysis includes review of the proposed work to determine drainage, maintenance, operation, and environmental impacts to the State highway system. All proposed work shall conform to Caltrans’ current standards and practices or be justified by an approved exception.

On proposals that are too complex to be adequately described in a PEER, the District may require that a combined PSR/PR format or a PR format be utilized in lieu of the PEER format.

Exceptions to boldface and underlined design standards must be documented by the approved Design Decision Documents and attached to the PEER. The District Director or the delegated representative is responsible for approving the PEER.

Projects costing $1,000,000 or less and are not financed with local sales taxes may require a PEER.

Projects costing $1,000,000 or less and are financed with local sales taxes require a PEER or a combined PSR/PR to serve as the PSR (Project Study Report or Project Initiation Document); this is required by California Government Code Sections 14526, 14527, and 14529. If there is a Master Cooperative Agreement with a Sales Tax Measure Authority, an additional Cooperative Agreement may not be required.

Permit applications for projects requiring a PEER shall comply with Table 2.4.
Table 2.4
Permit Procedures for Projects Requiring a PEER

These permit procedures are followed for projects that require a “Permit Engineering Evaluation Report” (PEER):

1. The appropriate fee is determined and the application is accepted.
2. Engineering and technical reviews are performed; additional information is requested from the applicant if it is needed to perform the reviews. A permit may be denied based upon conclusions of the reviews.
3. A “Permit Engineering Evaluation Report” (PEER) (form TR-0112) is prepared.
4. Bonding requirements are determined.
5. Additional fees, if required, are collected.
6. An encroachment permit is issued to the applicant and distributed to other Caltrans’ units.
7. The applicant begins work authorized by the permit. Project work is inspected by Caltrans for compliance with the permit.
8. As-built plans are received, a “Progress Billing/Permit Closure” (form TR-0129) signed and dated by the District Permit Engineer, an authorized representative or the District Oversight Resident Engineer (RE) when applicable is issued, and bonds are released.
9. Records are microfilmed and the project is closed out.

202.2B Projects Not Requiring a PEER
Projects not requiring a PEER are usually commercial filming, miscellaneous activities, special events, surveys, and utilities. These permit applications involve the same steps as outlined in Table 2.4 with the omission of Step 3.

202.3 Oversight Projects
Projects located within the existing or proposed State highway system costing over $1,000,000 and financed with revenues from sources other than the State Highway Fund, e.g., a city, county, local transportation authority, local transit agency, or private entity, are called Oversight Projects.

These local and private entities finance improvements on the State highway system using funds obtained from local sales tax measures, local non-sales tax revenues or development mitigation fees, and private sources.

The Office of Special Funded Projects (OSFP) Information and Procedures Guide gives detailed guidance for developing Oversight projects constructed on the State highway system. It is available at:
202.3A Pre-Approved Cooperative Agreements (Rev 04/17)
Caltrans is required to enter into Cooperative Agreements with local entities for all proposed projects to be constructed upon the State highway system costing more than $1,000,000 within existing or future State highway right-of-way, regardless of the source of funding.

By contrast, projects $1,000,000 or less generally do not require a Cooperative Agreement. These agreements do contain a provision requiring the issuance of an encroachment permit.

Caltrans has pre-approved State Independent Quality Assurance (IQA) Agreements to be used for Oversight projects sponsored by a local entity (see Cooperative Agreement Manual).

Caltrans and private developers are required to execute a Highway Improvement Agreement for any State highway project funded by private entities that costs more than $1,000,000 for improvements located within the existing or proposed State highway right-of-way.

Caltrans also has a pre-approved Highway Improvement Agreement and Escrow Agreements that are used with private developers on State highway improvement projects funded by private entities (see Cooperative Agreement Manual).

Double Permits “DP” are required for contractors performing work under these agreements.

202.3B Issuing Encroachment Permits for Oversight Projects
Cooperative Agreements and Highway Improvement Agreements establish the respective responsibilities of Caltrans and the local entity or private developer for all proposed project development work, including environmental studies, documentation, and clearance.

The Project Manager is responsible for developing and executing cooperative agreements.

Encroachment permits shall not be issued for Oversight projects without the District Encroachment Permits Office receiving a copy of the required, fully executed agreement. The agreement will specify whether or not there will be a charge to the local agency and/or its contractor for their encroachment permits.

An “Encroachment Permit Administrative Route Slip” (form TR-0154) is used by the Project Manager to request from the District Permit Engineer the issuance of an encroachment permit. It certifies that the project has been reviewed and approved and does not require any further coordination. The permit usually can be processed and issued shortly after the Permit Engineer receives an application with approved plans and an executed agreement for construction.

202.3C Public Transit Projects
Public transit projects financed by others (other than by the State) and located within existing or future State highway right-of-way and having a construction cost of more than $1,000,000 shall
be considered an Oversight project. Responsibilities and costs for project development work, right-of-way, construction, utilities, liability, ownership, operation, and maintenance must be established in a Cooperative Agreement with Caltrans. Project Development is the responsible division to guide the project proponent through the project development process.

A copy of the fully executed agreement and approved plans shall be delivered to the District Encroachment Permits Office before an encroachment permit is issued to the transit agency and its contractor for construction work within State highway right-of-way.

202.3D Project Development Procedures
Caltrans is exposed to tort liability, operational, and possible maintenance responsibilities by any expansion or improvement of State highways using local resources. Therefore, projects that are more than routine must comply with the Project Development Procedures Manual (PDPM) and the Environmental Handbook (EH). The permit applicant is required to use the project development procedures that Caltrans uses to do the same work. These include the project development teams, project reports, and project development categories described in the PDPM.

Caltrans’ policy is that all State highway improvement projects funded totally by others and having a construction cost of more than $1,000,000 must be approved in concept by a Project Study Report and approved in a Project Report following environmental compliance and public input. Caltrans is normally responsible for the PSR if it can be done on a schedule Caltrans is able to meet, and the local agency or private developer is responsible for preparing the Project Report (except for Sales Tax Measure Projects). This requirement can create special timing problems for applicants and should be pointed out during initial discussions.

An abbreviated process utilizing a Combined PSR/PR format or the PEER is available for projects meeting certain criteria, which enable a local agency or developer to prepare a combined document on their own schedule and at their own expense in lieu of the PSR and the PR. Applicants should be given a copy of the “Procedures Guide for Oversight Projects” and "Guidelines for the Preparations of Combined Project Studies Report/Project Report for State Highway Projects Funded by others” during initial discussion.

202.4 Traffic Controller Assemblies
Caltrans provides Traffic Signal Controller Assemblies for installation on all State highway projects involving signal systems. Caltrans is reimbursed for the controller assembly acquisition, quality assurance testing, and delivery. The method of reimbursement to Caltrans depends upon the type of recipient and contractual relationship. Controller allocation criterion is described as follows:

**JOINTLY FUNDED COOPERATIVE AGREEMENT PROJECTS:**

Caltrans provides Traffic Signal Controller Assembly as a contribution to its share of the project cost.
LOCALLY FUNDED AND SALES TAX MEASURE COOPERATIVE AGREEMENT PROJECTS

The funding local agency pays the full cost of the controller assembly. If the State is administering the construction contract, the controllers will be provided as State-Furnished Material paid for by the local agency as part of the project costs.

PRIVATELY FUNDED HIGHWAY IMPROVEMENT AGREEMENT PROJECTS

Caltrans provides the controller assembly as State-Furnished Materials paid for by the permittee as part of the project cost.

ENCROACHMENT PERMIT WITHOUT AN AGREEMENT

When an agreement for the project does not exist and construction is authorized only under an encroachment permit, the private party permittee or permitted local agency contractor shall pay the costs for the controller assembly including the related field work and inspection. These costs are collected from the permittee or contractor as a State-Furnished Material fee and added to the deposit collected for other estimated inspection field work costs.

Additional information on State-Furnished Traffic Controller assemblies is shown in Appendices E and K.

202.5 Registered Engineer's Seal and Signature

Caltrans is required to comply with the provisions of the California Business and Professions Code (see Appendix E, Professional Engineers Act). Those provisions require that all final engineering plans, calculations, specifications, and reports shall bear the signature and seal or stamp of the licensee, and the date of signing and sealing or stamping.

Assembly Bill 645 deleted but does not prohibit the requirement to include the license expiration date on engineering plans, calculations, specifications, and reports. Caltrans considered the impending changes and determined that the business practice of including the expiration date is consistent with its quality management policies and its desire to perpetuate only the highest quality engineering and surveying documents (see Appendix E, Memorandum from Malcolm Dougherty). All final engineering plans, calculations, specifications, and reports shall bear the signature and seal or stamp of the licensee, the date of signing and sealing or stamping as required by Assembly Bill 645 and license expiration date.

Plans that contain civil engineering elements including those that relate to traffic handling and lane closures shall bear the signature and seal or stamp of the licensee, the date of signing and sealing or stamping and the license expiration date of the licensee responsible for the preparation of those elements.
Environmental documents are not professional engineering documents and therefore do not require preparation by a California Registered Engineer.

**202.5A Registered Engineer's Seal and Signature on Utility Plans**

(Rev 04/19)

For utility companies under the jurisdiction of the California Public Utilities Commission, utility plans prepared in connection with products, systems, or services of that utility company are exempt from the signature, registration seal and license number of the California Registered Engineer responsible for their preparation requirement.

Plans that contain civil engineering elements including those that relate to traffic handling and lane closures are not considered utility plans and therefore must bear the signature and seal or stamp of the licensee, the date of signing and sealing or stamping and the license expiration date of the licensee responsible for the preparation of those elements.

**202.6 Materials Testing**

Materials testing is performed by the Division of Engineering Services, Office of Materials Engineering and Testing Services (METS) commonly referred to as the Transportation Laboratory.

Testing is required for manufactured or fabricated materials delivered to a work site if the State will own it upon completion of the work. However, in some cases, the Permit Engineer may determine that very small quantities of materials, although not previously tested by the Transportation Laboratory, are acceptable for installation when they are delivered with a Certificate of Compliance.

The Transportation Laboratory contacts the District Encroachment Permits Office to verify materials when materials inspection is requested by the permittee and the Transportation Laboratory does not receive a “Notice of Materials to be used” (CEM-3101). If District contact is unsuccessful, the Transportation Laboratory may verify materials using permit documents and plans before performing inspection and release.

In all cases, a completed “Report of Inspection of Materials” (form TL-0029) is transmitted from the Transportation Laboratory to the District Encroachment Permits Office. Contact the Transportation Laboratory in your area to verify hours of inspection.

Procedures for materials testing are described in Table 2.5.
Table 2.5
Procedures for Materials Testing

These procedures are followed by Caltrans for testing materials used in work authorized within State highway right-of-way:

1. Permit Engineers and reviewing units evaluating applications must determine if fabricated materials require inspection by Caltrans’ Transportation Laboratory. The Transportation Laboratory unit is required to inspect all electrical components of signals, State-owned lighting, metal poles, mast arms, foundation bolts, and signs. A complete list of items is found at:
   http://www.dot.ca.gov/hq/esc/Translab/OSM/smb.htm
2. Include this statement in the text of the permit: “Your attention is directed to Section 6 of the State Standard Specifications, reference to Engineer in the State Standard Specifications shall include State Representative.”
3. Send one permit copy (including plans and special provisions) to the Transportation Laboratory in Sacramento when inspection is required.
4. When the “Notice of Materials to be used” (form CEM-3101) is received from the permittee, the State representative should review, sign, date, and forward the form to the District Encroachment Permits Office. (Enter the permit number in the space for “Contract Number” on the form.)
5. District Encroachment Permits Office then makes copies for their files and transmits form CEM-3101 to the Transportation Laboratory.
6. When the CEM-3101 form is received, the Transportation Laboratory inspects materials and returns a “Report of Inspection of Materials” (form TL-0029) to the District Encroachment Permits Office for transmittal to the State representative.
7. State representatives must ensure that all material requiring Transportation Laboratory inspection has an inspection release tag and must refuse installation of untagged materials until proper inspection is completed.

203 PERMIT FORM AND PROVISIONS

A permit will normally be written to allow six months for the work to be completed, unless the District Permit Engineer determines that a longer or shorter time period is required. The District Encroachment Permits Office may extend the time of or modify any permit within the authority granted, utilizing the appropriate Rider Form.

The “Encroachment Permit General Provisions” (TR-0045) apply to all permits except Adopt-A-Highway, Consent Letter, and Chain Installer Permits. Applicable Special Provisions should be added to cover each particular permit.

Paraphrasing Standard Specifications or General Provisions is prohibited. The preferred method for emphasizing certain items is to direct a permittee to specific items, specifications or provisions, and to state alterations as an amendment. (For example, "Section XXX.X of the Standard Specifications is amended to read ____")

For Adopt-A-Highway Permits, the “Adopt-A-Highway Permit Special Provisions” (TR-0156) shall be included in their entirety without modification by Districts; any deviations shall be approved by headquarters permits. The encroachment permit text should highlight the Special
Provision requiring notification of State representatives serving areas affected by project work having significant traffic impacts.

203.1 Encroachment Permit General Provisions
The “Encroachment Permit General Provisions” (TR-0045) apply to all permits except Adopt-A-Highway, Consent Letter, and Chain Installer Permits. Permittees must fully comply with them (see Appendix K).

203.2 Encroachment Permit Standard Special Provisions
Encroachment Permit Standard Special Provisions specific to each application usually are added to each permit. Permittees must fully comply with them (see Appendix K).

203.3 Liability Insurance
The General Provisions of the encroachment permit hold the permittee responsible for all liability for personal injury and property damages. When required, the applicant shall show evidence of liability insurance before issuance of the permit. Insurance must be provided by a company authorized to transact business in the State of California.

203.3A Encroachments Requiring Liability Insurance
Liability insurance is required for commercial filming (Section 503) and special events (Section 514.7). The HQ Legal Division determines the need and sets the dollar amount of insurance. Districts shall contact HQ Encroachment Permits and present permit requests for referral to HQ Legal.

203.3B General Requirements for Liability Insurance
When liability insurance is required, the applicant shall furnish an endorsement to the policy naming the State, its officers and employees as additional insured. The applicant also shall furnish evidence of the required insurance by supplying a certificate of insurance naming the State of California, California Department of Transportation, the directors, officers, employees, and/or agents of the State of California and/or of the California Department of Transportation as additionally insured.

A professional liability exclusion is standard in insurance policies. This exclusion provides Caltrans and the State with adequate protection against foreseeable risks as additional insured. An exclusion clause for professional liability that is contained in many insurance policies states:

“This insurance does not apply to any professional liability claims resulting from the actions, direct or indirect, from the executive or legislative branch(s) of any State or municipal government, law enforcement or police officer, security officer, firefighter, emergency medical personnel or any employee of State or local government, unless specifically endorsed hereon. This exclusion does not apply to the original named Insured.”
If a public corporation is self-insured, the permit shall include a clause that states:

“The permittee shall indemnify and save harmless the State of California, California Department of Transportation, the directors, officers, employees, and/or agents of the State of California and/or of the California Department of Transportation thereof connected with the work or activity authorized by this permit, including but not limited to the Director and the Engineer, from all claims, suits or actions of every name, kind, and description, brought forth, or on account of, injuries to or death of any person including but not limited to workmen or participants and the public, or damage to property resulting from the performance of the activity authorized by the permit, except as otherwise provided by statute. The duty of the Permittee to indemnify and save harmless includes the duties to defend as set forth in Section 2778 of the California Civil Code.”

“It is the intent of the parties that the permittee will indemnify and hold harmless the State of California, California Department of Transportation, the directors, officers, employees, and/or agents of the State of California and/or of the California Department of Transportation from any and all claims, suits of actions as set forth above regardless of the existence or degree of fault or negligence on the part of the State, the permittee, the employee or volunteer of any of these, other than in the active negligence of the State, its officers and employees.”

Any deviation from the liability insurance requirements must be reviewed by the HQ Legal Division.

Caltrans’ policy requires that all of Caltrans’ employees, volunteers, and visitors to highway work zones follow safety and work procedures outlined in Caltrans’ “Safety Manual,” other Caltrans manuals, and specific written instructions. “Volunteers” include people participating in the Adopt-A-Highway program, and “visitors” include people participating in filming and special events.

203.3C Claims
Claims against permitted work are classified in two primary categories, and guidance by the Caltrans’ Legal Division is necessary in both cases.

1. Public claims by persons not related to Caltrans

Claims made against a permittee or Caltrans for permitted work are referred to the HQ Legal Division immediately. HQ Legal provides direction to Permits for handling inquiries and requests for files.

2. Caltrans’ claims against a permittee

Claims by District Encroachment Permits Offices generally are related to incomplete or unacceptable work by permittees and are either claimed or billed against bonds. HQ Legal staff manages actual legal or court action against permittees.

203.4 Surety Bonds
Surety bonds ensure the faithful performance of a permittee's permit obligations. Letters of credit and property bonds are not acceptable forms of bonding.

Generally, a cash deposit is not an acceptable form of bonding except for non-Public Works encroachments without the likelihood for latent defects (e.g., landscaping, driveways, monitoring wells, etc.). The cash deposit with a copy of the “Standard Encroachment Permit Application” (form TR-0100) should be forwarded to the District Cashier for deposit in the State Highway Account. In accordance with Government Code Section 13144, refunds exceeding $10,000 require approval by the California Department of Finance (See section 201.3)

Bonds should be calculated as accurately as possible to ensure that the estimated costs of projects within the State highway right-of-way are covered at a minimum of 50% for performance bonds and 100% for payment bonds (Standard Specifications-Section 3-1.05 “Contract Bonds”). Public Works encroachments costing $5000.00 or more should be bonded. Non-Public Works encroachments may be bonded as determined by the District Permit Engineer.

A performance bond ensures completion of permitted work in compliance with plans, specifications, and permit conditions. Section 338 of the California Code of Civil Procedure limits the bringing of an action against a contractor to three (3) years after the discovery of a defect. In addition, Section 337.15 limits the total time to take action to recover damages for latent defects from contractors, developers, or sureties to ten (10) years after the "substantial completion" of a development or improvement.

If a permittee is delinquent in payment of permit fees, the HQ Division of Accounting will attempt to collect from the permittee's bonding company (Section 201.2C, Billing and Overdue Accounts).

A payment bond ensures payment by a contractor to its own labor, subcontractors, and material suppliers.

Bonding requirements are outlined in Table 2.6. Bonding is not required of a local public entity (city, county, public corporation, or political subdivision) that is authorized by law to establish or maintain any works or facilities in, under, or over any public highway and is not normally required of a public utility (California Streets and Highway Code, Sections 678 and 679). However, should local public entities fail to comply with the terms of a previous permit or to pay fees when due, Caltrans may require performance bonding on their next permit.

Bonds for local public entities are limited to $20,000.00 for failure to perform. Under this punitive action, contractors performing the work for any local public entity may be required to
post a 100% payment bond and a 50% performance bond of the value of work within the right-of-way prior to the issuance of their Double Permit “DP,” naming the State as sole obligee.

Regardless of the bonding situation, the local public entity permittee shall obtain final construction acceptance and approval from Caltrans before the local public entity gives final construction approval to its contractor (General Provision, Item 9).

### Table 2.6
**Guidelines for Bonds**

Use these guidelines when working with bonds for authorized work within State highway right-of-way:

1. The obligee is the entity receiving benefit from the bonds supplied.
2. The obligor is the entity named as owner or payer of the bonds.
3. The District Encroachment Permits Office shall require bonding as specified in an executed cooperative or highway improvement agreement for Oversight projects (projects over $1,000,000). Agreements are processed by Caltrans’ Project Manager and copied to the District Encroachment Permits Office for information. Bonds shall name obligee as provided for in the agreement.
4. In the absence of a cooperative agreement, bonding requirements shall be specified in the encroachment permit and/or General Provisions for local public entity projects costing $1,000,000 or less. In such cases, the contractor performing work for local public entities who have complied with terms of previous permits, do not require bonding with the State when they execute bonds in favor of the local public entity for at least 100% of the project (General provisions, Item 24). This provision applies only to contractors working for local public entities. It does not apply to private entity bonding.
5. Bonding requirements shall be specified in the encroachment permit for privately funded projects costing $1,000,000 or less in the absence of a highway improvement agreement. Under the terms of the permit, either the developer or contractor (preferably, the developer) is bonded at 100% for payment and at 50% for performance of the estimated construction costs for work within the State highway right-of-way. The bond shall name only the State as obligee.
6. Performance bonds supplied for privately funded work involving new traffic signal equipment or for work on highway structures shall not be less than $10,000. They are retained until the permittee furnishes accurate as-built plans for permit work.
7. Utilities and individuals, their contractors and tree-trimming companies:
8. Utility work or private residential improvements not maintained by Caltrans do not require bonding unless prior experience indicates poor performance by owner or contractor, such that work may not be completed in compliance with permit terms. When bonding is required, bonds should reflect Caltrans’ determination of the value for the highway facility that may require repair (roadway, base and surface, sidewalks, lighting, State-maintained landscaping, tree values, etc.). Such determinations should not include equipment owned by others or work outside the State highway right-of-way. The bond shall name only the State as obligee.

### 203.5     Cal-OSHA Safety Requirements

If the applicant's proposed work falls within one of the provisions of Section 6500 of the Labor Code, the permittee must have a Cal-OSHA permit before starting permitted work.
Section 6500 deals with trenches, excavations, structures, falsework, scaffolding, and demolition and reads as follows:

“6500. For those employments or places of employment that by their nature involve a substantial risk of injury, the division shall require the issuance of a permit prior to the initiation of any practices, work, method, operation or process of employment. The permit requirement of this section is limited to employment or places of employment that are any of the following:

a. Construction of trenches or excavations that are five feet or deeper and into which a person is required to descend.

b. The construction of any building, structure, falsework, or scaffolding more than three stories high or the equivalent height.

c. The demolition of any building, structure, falsework, or scaffold more than three stories high or the equivalent height.

d. The underground use of diesel engines in work in mines and tunnels.”

All Permit Engineers should follow section 6500 strictly. Section 6509 states “any person, or agent or officer thereof; who violates this chapter is guilty of a misdemeanor.”

Therefore, the face of each encroachment permit must indicate if a Department of Safety and Health (DOSH) permit is required and the DOSH permit number (if available).

The following agencies and activities are exempt from the requirement to obtain DOSH permits (Construction Safety Orders):

- Government bodies (but not their contractors).
- Public utilities subject to the jurisdiction of the CPUC (but not their contractors).
- Emergency repair work to underground facilities.
- Excavation or trenches where no person will descend.

Caltrans’ employees, volunteers, and visitors to highway work zones shall follow safety procedures described in Caltrans’ “Safety Manual,” other Caltrans’ manuals, and written procedures and instructions designed for specific work.

204  DENYING PERMIT APPLICATIONS

A permit is not issued to an applicant when the safety of the applicant or traveling public, the structural integrity, or operational capability of the State highway may be subject to impairment or endangerment.
The District Director (or designated representative) signs routine letters of denial and may ask headquarters to deny unusual applications. Reasons for denial shall be detailed in writing to the applicant.

Encroachment permits **SHALL** be denied for:

- Projects that adversely affect the safety, capacity, or integrity of the State highway.
- An encroachment that is an integral structural portion of a building (above or below the surface). This includes roof eaves, new bay windows, and cantilevered upper floors.
- Bungee jumping from State structures, **except** when approved for a filming permit.
- Gathering vegetable matter, except for research or education.
- Longitudinal encroachments, except for public utility and franchise facilities.
- Storage tanks, loading platforms, private truck scales.
- Temporary political signs (California Business and Professional Code 5405.3).
- Charging parking fees on a State Highway.
- Encroachments specifically prohibited elsewhere in this manual.

Encroachment permits **MAY** be denied when:

- The applicant has not complied with the provisions of prior permits.
- The applicant is delinquent with payment on prior permits.
- The project does not have concurrence by a local agency.
- The environmental effects are significant and cannot be mitigated or mitigation is unfeasible.
- A proposed development plan includes an emergency or other access, to access-controlled right-of-way.

Except as otherwise provided for public agencies and franchise holders, encroachment permits are revocable on five (5) days’ notice (California Streets and Highway Code, Section 673). All such notices shall be signed by the District Director or a designated representative. A letter is used to revoke and cancel permits.

Caltrans has no statutory authority to allow private use of State highway right-of-way without compensation. To do so would constitute a gift of public funds under Article 16 of the California Constitution. Consequently, permit applications for grading, excavating, removing materials, or placing an embankment not related to a highway improvement are considered individually. Requests for these types of encroachments require an approved encroachment policy exception (see Chapter 300). Permit applications are acceptable if all the following items are satisfied:

1. Caltrans is compensated for removal of material or use of the State highway right-of-way.
2. No safety hazard is created.
3. No additional maintenance is created.
4. No additional liability is assumed by the State.
5. No transportation use restriction is created.
6. No unwanted easement or other permanent right-of-way encumbrance is created.
7. Will not create a permanent property right detrimental to our future use or expansion.

These items apply to all State highways and require approvals from Caltrans’ District review units.

204.1 Denial for Time Limit Considerations
A permit application may be denied when additional information is needed but not furnished within the specified time limit. Examples are:

- Information required by the applicant to prepare an adequate environmental document.
- Information necessary to prepare a supplemental environmental impact report in compliance with Public Resources Code Section 21166.
- Substantial evidence for Caltrans’ approval of specific engineering details.
- When Caltrans is conducting environmental studies in the area of the proposed work.

Denial of an encroachment permit for lack of information does not affect the applicant's right to reapply for a permit or to appeal a denial.

204.2 Appeals
During the course of the encroachment permit process, the applicant may not agree with permit requirements that the District supports. If the applicant requests an exception, the District may confer with the appropriate headquarters contact. Procedures to obtain exceptions to design standards, policies and practices, are mentioned in Sections 301 through 303. For the submission of appeals by applicants of District, Headquarters or FHWA decisions, refer to Section 304.

205 APPROVING AND ISSUING PERMITS

The primary encroachment permit for private development work is issued to the developer/property-owner and not issued to a public corporation. When the encroachment is to be maintained later by a public corporation or utility company, a second permit is required of the public corporation or utility company to own and maintain (see Section 604).

205.1 Permits Approved by Districts
Statutes govern the types of encroachments and activities that Caltrans can approve. The Director’s statutory authority is delegated to the Chief, HQ Division of Traffic Operations, through Delegation of Authority letters. The Encroachment Permits Manual, information bulletins, and guidance memoranda provide the Districts with policy, guidance, and authority to issue encroachment permits without concurrence from HQ except for those listed in Section 205.2.
Permit writers prepare, initial, and/or sign, and present the permit package to the approving engineer. The approving engineer, typically the District Permit Engineer, should be the highest ranking within the District Encroachment Permits Office. Approval authority may be delegated by the approving engineer to a permit engineer that is a California-licensed engineer, except that RT permits and DP permits when no engineering review is required may be delegated to an unlicensed engineer. The approving engineer must approve permits with their signature. The permit writer may not be the same person as the approving engineer or as the person delegated approval authority by the approving engineer. The issuance procedure intends to provide a segregation of duties to assure reasonable administrative control over the permit issuance process.

Districts may authorize Maintenance Area Superintendents to issue permits (i.e. chain installer permits) and/or “Consent Letter” (form TR-0131) for one-day litter removal, salvage operations, gathering of donated landscape materials, vegetation control, removal of minor forest products, etc. Superintendents must not exceed this specified authority, and any appropriate fees shall be collected. Approval by the Deputy District Director for Maintenance is required for Consent Letters covering multiple dates (maximum of three consecutive calendar days).

205.1A Issuing the Permit Package
Permits may be issued after all reviews are returned, all conditions imposed by the lead and responsible agencies have been met, and the application is deemed complete.

The permit is written when the proposed encroachment is compatible with the primary uses and safety of the State highway system and the State’s investment in the highway facility is protected.

Copies of the permit package are provided to the Caltrans inspector(s) who will be inspecting the project, the Office of Maintenance in the vicinity of the project, and any other offices involved in the monitoring of the project.

The Encroachment Permit is a legal document and should include appropriate addenda. When packaged for issuance, the contents of the “ Permit Package” may consist of the following:

1. “Encroachment Permit” (form TR-0120) – each permit copy.
4. Copy of the applicant’s completed “Standard Encroachment Permit Application” (form TR-0100) – each permit copy.
5. “Notice of Completion” (postcard) (form TR-0128) – permittee completes form.
6. “Notice to Owner” (Form RW 13-4) – State ordered Utility Relocation, see Section 601).
7. Copy of Cooperative Agreement – each permit copy.
8. Copy of liability insurance policy – Commercial Filming or Special Events.
9. Copy of letter on acceptance of maintenance and liability by city or county – each permit copy.
10. “Certification by Contractor” (form TR-0113) – permittee completes form.
11. Copy of “Payment Bond” (form TR-0018) – each permit copy.
12. Copy of “Performance Bond” (form TR-0001) – each permit copy.
13. “Notice of Materials to be Used” (Form CEM-3101) – permittee completes form.
15. Approved city/county Standard Plans (attachment to # 14) – each permit copy.
16. “Progress Billing/Permit Closure” (form TR-0129) – Encroachment Permits staff completes form.
17. As-Built Plans Submittal Route Slip used for locally advertised structure projects - completed by permittee, see Appendix K.
18. Storm water requirements – to permittee and file copy.

All correspondence related to the permit, one set of all documents that were reviewed and approved (Plans, Application, Reports, Storm water documents, agreements, supporting documentation, etc.), and a copy of the issued permit must be included in the permit file for every permit.

205.2 Permits Requiring Headquarters Approval

These encroachment permit applications require prior approval by the appropriate headquarters office, as indicated in parentheses:

- New public road connections to declared access-controlled right-of-way that have not been previously approved by Caltrans’ Division of Design and California Transportation Commission (CTC).
- Longitudinal encroachments within access-controlled right-of-way (Division of Design).
- Modifications to existing bridges, new bridges, and underground structures [Division of Design, Structures Maintenance, and Structures Office of Oversight Projects (OSFP)]. See Appendix K for additional structure types requiring headquarters permit approval.
- Railroad grade crossings (Division of Design).
- Nonstandard retaining wall, nonstandard noise attenuation facilities (including sound walls on retaining walls), and earth retaining systems within State highway right-of-way (Headquarters Planning and Design Coordinator, Structures Maintenance, and Structures OSFP).
- Overhead sign structures, slope paving under bridges (including any paving or concrete channel lining around bridge columns), pump plants and storage boxes, transit stations, toll plazas, and seal slabs/boat sections (Division of Design, Structures Maintenance, and Structures OSFP).
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- Airspace development (Right of Way).
- Exceptions to boldface Caltrans’ design standards, policies, and practices on permits for all projects (see Section 301), if not delegated to Districts (Division of Design).
- First-time events or activities held within access-controlled right-of-way and toll bridges (Division of Design).
- Longitudinal installation of any privately owned non-utility facility in any State highway (Division of Design).

205.3 Federal Highway Administration (FHWA) Approval
The Headquarters Division of Design obtains approval from FHWA for encroachment permit applications listed in Table 2.7. A copy of the Headquarters Division of Design’s approval is submitted to the District Permit Engineer and placed in the permit file before issuing a permit. Installations not in conformance with 23 CFR 645, Subpart B (Appendix C) or Caltrans’ utility accommodation policy (AASHTO’s “Guide for Accommodating Utilities Within Freeway Right-of-Way,” Appendix A) require FHWA approval.

Table 2.7
Projects Requiring Approval by FHWA

<table>
<thead>
<tr>
<th>Prior concurrence from FHWA is required for proposed work that is located on federal-aid highway systems (access-controlled right-of-way and some conventional highways), including but not limited to the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Installation of any longitudinal privately owned (not under California Public Utilities Commission (CPUC) regulations) pipeline or other types of utility-like facilities.</td>
</tr>
<tr>
<td>2. Placing utilities longitudinally within the median area of all access-controlled highways.</td>
</tr>
<tr>
<td>3. Tower Crane Encroachments.</td>
</tr>
</tbody>
</table>

205.4 Amendments to Permits (Riders)
Applicants requesting to amend their permit application or permittees seeking to amend an approved encroachment permit must comply with Caltrans’ requirements and pay additional fees as required. Any new fees and/or estimated inspection costs shall be collected prior to the issuance of the rider.

The District may issue an “Encroachment Permit Rider” (form TR-0122) if the permittee wants to modify the authorized work or cannot complete the authorized work by the date specified in the permit. Riders are not used to change the Caltrans inspector; instead, it is sufficient to send a letter to the permittee, with a copy to the permit file.

Riders to modify authorized work or for time extensions must be requested by the permittee and issued by Caltrans prior to the expiration date of the original permit. Similarly, Caltrans initiated...
riders must be issued prior to the expiration date of the original permit. If a permit has expired, the permittee is required to stop all work and must obtain a new permit prior to resuming work.

Verification of storm water and all other applicable requirements shall be made prior to issuance of the rider. The rider may not be extended beyond the date of termination of the permit activity when permittee/applicant is operating under the United States Environmental Protection Agency’s (U.S. EPA) small construction Rainfall Erosivity Waiver (REW). A Notice of Intent (NOI) and Waste Discharge Identification (WDID) number are required as a condition of time extensions for permit riders operating under a U.S. EPA REW.

A maximum of two time extension riders may be issued. Each extension shall be for a maximum of 90 calendar days. Longer extension periods may be granted on a case-by-case basis at the discretion of the District Permit Engineer.

The rider form must be Simplex numbered and include a cross-reference to the original permit.

### 206 PERMIT INSPECTION AND ENFORCEMENT

Although statutes do not require Caltrans to inspect encroachment permit projects, District permit inspectors are assigned to provide inspection when deemed necessary. The District Permit Engineer may require inspections be performed by other Caltrans units, utility companies, local agencies, or private engineers hired by the permittee. The District Permit Engineer retains the authority to approve any non-Caltrans inspector prior to commencement of work.

The scope of encroachment permits varies and will require varying degrees of oversight inspection. Full-time inspection by the Caltrans representative is typically not required. Higher priority for inspection should be given to those encroachments that may affect highway safety, increase Caltrans’ liability, decrease operational efficiency, or negatively impact highway users.

The District Permit Engineer shall furnish a copy of all approved encroachment permits involving structure work to the Structure Construction, Area Bridge Construction Engineer (BCE). The Structure Construction Area BCE shall assign an oversight structure representative to ensure that the permittee abides by the provisions of the encroachment permit pertaining to structures. This review includes the permits issued to allow field investigations during the planning and design phase as well as permits issued to allow construction to commence.

Permittees must ensure that their projects meet Caltrans’ National Pollution Discharge Elimination System (NPDES) Permit requirements as well as the Construction General Permit (CGP) requirements (when applicable). For Caltrans’ NPDES Permit and CGP requirements, see Section 406.

### 206.A Citing of Permit Violations

The inspector (whether Caltrans staff or not) must use the “Encroachment Permit Report (Diary)” (form TR-0130) or EPMS to document any violation(s) of encroachment permit
conditions, Encroachment Permit General Provisions, and/or Encroachment Permit Special Provisions. The inspector may cite the permittee, contractor, or both for non-compliance with the permit conditions, General Provisions, or Special Provisions.

The State’s representative or inspector shall provide a formal notification to both the permittee and the permittee’s representative, that a violation or violations have occurred, by providing a written copy of the recorded violation(s) via mail, fax, or in person.

Upon notification of a “second violation,” for example, non-compliance with the encroachment permit conditions, General Provisions, and/or Special Provisions, the State’s representative/inspector shall notify the permittee and their contractor/representative that, should a “third violation” occur, their permit(s) will be suspended or revoked.

Upon accumulation of a “third violation,” for example, non-compliance with the encroachment permit conditions, General Provisions, and/or Special Provisions, the State’s representative/inspector shall immediately notify the permittee and their contractor/representative in writing that all work within the State highway right-of-way shall cease immediately, and also immediately attempt to verbally notify the permittee and their contractor/representative to cease work.

During incidents of non-compliance, Caltrans must comply with the provisions of the Caltrans NPDES permit and with Section 16 of Caltrans’ Storm Water Management Plan (SWMP). The District Work Plan will identify the responsible parties for non-compliance reporting within each District. The permittee and/or their contractor/representative shall immediately correct discharges from sudden, unexpected, unpreventable incidents that threaten public health, public safety, property, or the environment. The permittee or contractor (or the authorized field representative) shall prepare the “Notification of Non-Compliance” (form TR-0134) for the State Representative’s review and the State’s Representative will submit to the District NPDES Storm Water Coordinator.

For specific guidance on reporting of noncompliance of construction activities, see Section 9.4 “Noncompliance Reporting Plan” of the Caltrans current Storm Water Management Plan available at:

http://www.dot.ca.gov/hq/env/stormwater/

The District Permit Engineer determines to either suspend or revoke the permit(s) depending upon the severity of the violations or as allowed by statute. Bonds, inspectors, and/or private full-time inspectors not affiliated with the permittee(s) (but paid for by the permittee) may be required.

206.B Suspension of Permits
In certain situations, some local entities, franchise holders, and utility companies are granted the right to an encroachment permit by statute, and these permits cannot be revoked by the Districts.
The District Permit Engineer may place the permittee on probation for a period of up to six months. The District Permit Engineer informs the permittee that no work will be allowed to resume until the District can be assured that all conditions of the permit are met.

When a permittee is placed on probation, the District Permit Engineer may elect to suspend all annual permits that bear the name of the permittee. The permittee will be required to submit an application for every instance and location separately, for the duration of probation.

If the District cannot resolve the issues of the violations, and contacts headquarters in regards to this permittee, HQ Office of Encroachment Permits may suspend all permits in that permittee’s name statewide.

The District Permit Engineer shall notify the Maintenance Area Managers of the permittee’s suspension. Maintenance Supervisors shall ensure that any encroachment work within State highway right-of-way is covered by an encroachment permit, and that any violations are posted and reported immediately to the Area Regional Maintenance Superintendent.

206.C Revocation of Permits
Except for permits required by law to be issued to a local public entity, a franchise holder, or a utility company, any permit can be revoked upon five (5) days’ notice in accordance with California Streets and Highway Code, section 673 and General Provision #2 (form TR-0045).

When a permittee (private property owner) is placed on probation, and again violates permit conditions, the District Permit Engineer may elect to revoke their permit(s) related to that particular project and have their encroachment or facility removed from State highway right-of-way. In addition, the District Permit Engineer has the discretion to revoke all other encroachment permits for the same permittee for which construction has not been initiated.

206.1 Encroachment Permit Report (Diary)
Inspectors must compile and complete the “Encroachment Permit Report (Diary)” (form TR-0130), or use EPMS, for each permit project whether it was inspected or not. Documentation must be included in the permit file. A single form may be used for multiple inspections of the same permit project, with inspection time totaled and noted in the space provided on the form. Inspectors must document the reasons why inspections are not performed, such as routine parades, banners, or other minor encroachments.

The inspector must keep an accurate record of inspection time, record it in three separate places, and all must agree (the Diary, the “Progress Billing/Permit Closure” (form TR-0129), and the inspector’s time sheet in Staff Central).

Use the “Progress Billing/Permit Closure” (form TR-0129) to record all inspection costs and to close out a permit file. It is signed and dated by the District Permit Engineer, an authorized representative, or the District Oversight Resident Engineer (RE) when applicable then submitted to the HQ Division of Accounting for billing purposes.
With AX (Actual Hour) Permits, the District Encroachment Permits Office should submit the “Progress Billing/Permit Closure” (form TR-0129) signed and dated by the District Permit Engineer or the District Oversight Resident Engineer (RE), when applicable, to the HQ Division of Accounting on a monthly or quarterly basis for billing purposes.

Inspectors should record the following information on the Diary regarding work performed under an annual utility encroachment permit:

- Permit number
- Location of work (county, route, and post mile)
- Date and time of proposed work
- Type of work performed
- Name of utility contact and telephone number
- Utility company work order number

### 206.2 Responsibilities of Permittee

When performing the work, the permittee must comply with the encroachment permit, General Provisions, Special Provisions, authorized plans, and instructions by the Caltrans representative.

After the permit is issued, some of the permittee’s responsibilities to Caltrans are summarized as follows:

1. Notify the State's representative by phone or in writing at least five (5) business days before beginning work, or as identified in the encroachment permit. When structure-related work is involved, notify the Structure Construction Area Manager at least fourteen (14) calendar days before beginning work.
2. Request shoulder and lane closures at least ten (10) business days in advance of closure or as identified in the encroachment permit.
3. Notify the State representative not less than twenty-five (25) business days and not more than one hundred twenty-five (125) business days before the anticipated start of an activity that will change the vertical or horizontal clearance available to traffic, including shoulders. Refer to Caltrans Standard Specifications section 12-4.02A (3) (b) for additional information.
4. Request approval for encroachment permit changes or time extensions.
5. Notify State representative of any noncompliance with NPDES.
6. Submit a Notice of Completion (form TR-0128) to the State’s representative upon completion of the permitted work.
7. Furnish the State with all required documents, for example as-built plans, post-construction ADA Certification, Maintenance Agreements, etc.
8. Pay all costs associated with permitted activity.
206.2A As-Built Plans and Other Completion Records

The Encroachment Permit General Provisions require submittal of as-built plans (updated original project plan sheets showing changes made during construction) by the permittee when specified in the permit. Utility permittees are required by the CPUC to keep and maintain their own records.

Upon completion of permit work, the permittee also furnishes to the District details of the locations of hidden encroachments so that information may be retained for Caltrans’ future reference. If the permit includes any capital improvement work (whether a Capital Outlay Program or a Permit Program) involving structure-related facilities, then submittals of structure as-built plans and other structure completion records are required as detailed in Structure Work Special Provision (see Appendix K).

Additionally, utility or private entity permittees shall submit accurate, reproducible as-built plans and any other required completion records to Caltrans for approval, before bonds are released. Local agency permittees failing to provide complete, accurate, reproducible, and signed and approved completion records to Caltrans for permit work shall be cause for the State to require performance bonds on future permits. Future permitted work is subject to a bond requirement until the completion records of said previously permitted work are submitted satisfactorily (California Streets and Highways Code, section 678).

As-built plans should conform to requirements stated in Caltrans’ “Plans Preparation Manual,” “Construction Manual,” and “Bridge Design Details Manual.” As-built plans must be stamped, signed, and dated by the permittee’s engineer.

Permit inspectors verify that all as-built plan sheets have been submitted (including Log of Test Boring plan sheets). The originals are sent for microfilming in sets of 500 pages as detailed in the “Encroachment Permit File & Plan Set Microfilming Guidelines” (Appendix F). Table 2.8 indicates the number of copies of microfilmed as-built plans that must be distributed to various units of Caltrans. Additional information is available in the “Encroachment Permit File & Plan Set Microfilming Guidelines” (Appendix F).

<table>
<thead>
<tr>
<th>Type of Permit Work</th>
<th>Number of Copies of As-Built Plans</th>
<th>Caltrans’ Functional Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical</td>
<td>1</td>
<td>Headquarters Electrical Maintenance</td>
</tr>
<tr>
<td>Electrical</td>
<td>1</td>
<td>District Electrical Maintenance</td>
</tr>
</tbody>
</table>
Permits involving structures or roadway construction (capital improvements—whether Capital Outlay Program or Permit Program) require as-built plans be stamped, signed, and dated by a California licensed engineer. The stamp or the decal shall be similar to and contain the minimum information as shown below:

| CONTRACT No. | ____________________________ |
| DATE ACCEPTED | ____________________________ |

**AS-BUILT**

| STRUCTURE REPRESENTATIVE | ____________________________ |
| REVISIONS BY | _______________ DATE _____________ |

Instructions for making as-built revisions to the as-advertised plans shall be in accordance with Caltrans’ Structures’ “OSFP Information & Procedures Guide,” in the section titled “Structure As-Built Plans,” and with the “Bridge Design Details Manual,” Section 1-21 As-Built Plan Corrections.

When the permit involves structure work, Caltrans’ Oversight Structure representative shall notify either the District Oversight RE or the District Permit Engineer when the final structure completion records (except as-built plans) have been received and are satisfactory. Similarly, the Caltrans’ Structure OSFP Liaison Engineer will notify the District Permit Engineer, an authorized representative, or the Oversight RE upon receipt of satisfactory structure as-built plans.

**206.2B Notice of Completion (form TR-0128)**

General Provisions require the permittee to notify the State’s representative when work is completed. Notification is normally provided with a “Notice of Completion” (form TR-0128) (postcard), a letter, or verbally. Caltrans should conduct a final inspection of the project site within one week of notification. If the permittee has not complied with all terms and conditions of the permit, the District Permit Engineer informs the permittee of the discrepancies and requests corrections. On complex projects, corrections should be detailed in writing.

The District notifies the bond company to perform necessary work if the permittee fails to comply with this request. If the bond company fails to do the work, the District may perform the work and recover expenses from the bond company.
Chapter 200 – Processing Permits

206.3 Unauthorized Encroachments
Caltrans’ Division of Maintenance is responsible for the abatement of unauthorized encroachments. District permits staff may assist Maintenance in the abatement activities when appropriate, and when authorized by the District Permit Engineer.

When an unauthorized encroachment is found, Maintenance shall contact the responsible party and explain Caltrans’ encroachment permit requirements. Unless the unauthorized encroachment is work that would normally be permitted, it shall be removed. Caltrans can recover all administrative costs associated with unauthorized encroachments, in addition to statutory penalties. (See California Government Code, sections 720 through 734.)

Unauthorized encroachments that shall be immediately removed from any State highway including but not limited to:

- Anything that obstructs or prevents the use of the highway by the public or creates a potential safety problem.
- Rubbish, trash, refuse.
- Temporary political signs (see California Business and Professions Code, section 5405.3).

If the unauthorized encroachment is an encroachment which Caltrans would normally process for consideration of approval and issuance of a permit, and the only basis for removal would be the lack of a valid encroachment permit, then the work must be discontinued until an encroachment permit application is submitted, reviewed, approved and a permit is issued.

An exception may be given, by the permit inspector for that geographical location or by the Area Maintenance Superintendent with verbal concurrence of the permit inspector, to allow a minor encroachment to remain before a permit is issued if all the following conditions are met:

1. A permit application has been submitted and received;
2. The encroachment conforms to Caltrans’ policies, other than the requirement to obtain a permit before encroaching into State highway right-of-way;
3. It does not adversely affect traffic safety or obstruct or prevent the use of the highway by the public;
4. It does not affect the condition or appearance of the highway;
5. The person or entity causing the unauthorized encroachment agrees to follow the recommendations of the Maintenance superintendent or State representative;
6. It does not involve tree removal or trimming.

The exception process described above does not relieve the encroaching party from any civil or criminal penalties or waive any cause of action or right to recovery or other remedy that Caltrans
may have, associated with the encroachment. (See California Streets and Highways Code, sections 722, 723, 724, 727, 729, 730, 730.5, 732, 734.)

Maintenance may request law enforcement assistance when the person placing an unauthorized encroachment refuses the order/demand to discontinue or remove the unauthorized encroachment. It is imperative to keep good documentation, and photos should be taken and kept with the records.

The law enforcement agency should be informed of the specific section of the California Streets and Highways Code being violated. Maintenance should take the steps recommended in Table 2.9 to enable support of its action by Caltrans’ Legal Division.

**Table 2.9**

**Procedures for Resolving Unauthorized Encroachments**

These steps should be taken by Maintenance to resolve unauthorized encroachments:

1. Immediately remove rubbish, trash, refuse, advertising signs (exceptions see: Sections 501.3A, 501.7, 501.7A & 501.7B, 501.8, 500.6A, 517.7, 521.1), temporary political signs (see California Business and Professions Code, section 5405.3), and anything that obstructs or prevents the use of the highway by the public or creates a potential safety problem.

2. Immediately give the operator a “Notice of Encroachment” (form TR-0213, aka “red tag”).

3. If the problem is not resolved in a reasonable time, give a second and final violation notice by either:
   - Certified mail with return receipt and posting a copy for five (5) days at the site of the encroachment; or
   - Hand delivery to the owner, occupant, or other person in possession or control of the encroachment or person causing the encroachment.

4. Submit a full written report to the District Maintenance Superintendent and a copy to the District Permit Engineer. If the unauthorized encroachment consists of sediment discharge requiring immediate maintenance of the State facility, also submit a copy of the report and photos to the District NPDES Coordinator.

5. Do not take further removal action without specific instructions by the District Maintenance Superintendent unless the encroachment adversely affects traffic safety.

6. Contact Headquarters or a Regional Legal Office to consider what action should be taken to remove the encroachment, collect costs, enjoin further action, etc.

### 206.4 Retention of Permit Records

The terms and conditions of Caltrans’ encroachment permits are in force at least as long as the encroachment remains in, under, or over the State highway, unless revoked or otherwise specified.
Complete copies of permit files shall be microfilmed and the record shall be retained indefinitely. Districts should follow the “Permit File & Plan Set Guidelines” (Appendix F) when preparing permit files and the plan sets for microfilming.

**206.4A Closing Out Permit Files**

When a permitted encroachment is completed, the file should be closed out and processed for archiving. The permit file should be reviewed to ensure all documentation is completed and is in the file. The permit inspector, or the individual with first-hand knowledge of the permit, is the most likely candidate to review, compile, and close the file. Each District assigns this task to the appropriate staff to ensure that files are closed accurately, efficiently, and expeditiously.

The following is a partial list of what a permit file may contain at the time of closing:

1. The original application with the Simplex stamp
2. An approved plan set or drawing, date stamped
3. Copy of the issued Permit Package
   a. “Encroachment Permit” (form TR-0120)
   b. “Encroachment Permit General Provisions” (form TR-0045)
   c. Permit Special Provisions
   d. Additional attachments
4. Permit Office Engineer’s Encroachment Permit Reports (diaries)
5. District Reviewer’s Encroachment Permit Application Review Sheets
6. District Reviewer’s Comment Sheets
7. Memos and/or Notes
8. “Notice of Materials to be used” (Form CEM-3101)
9. Approved Local Entity Standards (if required)
10. A Performance Bond (if required)
11. A Payment Bond (if required)
12. A Cooperative Agreement (if required)
13. A Letter of Responsibility from a Local Entity (if required)
14. Inspector’s Encroachment Permit Reports (diaries)
15. “Progress Billing/Permit Closure” (form TR-0129)
16. “Certification of Compliance with Americans with Disabilities Act” (form TR-0405, one for design and separate form for post construction certification)

Each “Progress Billing/Permit Closure” (form TR-0129) is to be signed and dated by the District Permit Engineer, an authorized representative, or the District Oversight Resident Engineer (RE) when applicable. The completion notice check box will not be marked until the field work is completed and all as-built plans and other completion records have either been checked “Y” (yes) received, “N” (no) not received, or “N/A” (not applicable).
In some instances, a permit file may contain notes on sticky-notes; these should be collected and taped to an 8-1/2” x 11” piece of paper.

207 TIME REPORTING AND CHARGING INSTRUCTIONS

Caltrans’ staff shall accurately document and report all time expended on permit related activities (review, inspection, etc.).

Caltrans’ staff uses an online time reporting system (Staff Central) to record labor costs as hours worked.

207.1 Project Code, Phase, Reporting, and Sub Object codes

Caltrans has established time reporting procedures to categorize and track activities on time sheets. These require the use of project codes, phases, reporting, and sub object codes for all time reporting entries.

Time expended on oversight projects must be charged directly to the oversight project’s project code (ID), phase, reporting, and sub object codes.

Sub object codes are as follows:

- **002** - Supervision
- **003** - Staff Meetings
- **037** – Permit review, issuance and inspection
- **049** - Safety Meetings
- **059** - Training – Student
- **058** - Training – Instructor
- **099** – Administrative Time Off

For additional information and proper time charging procedures, please see the Program Charging Instructions and Norms (PCIN) available on the Division of Traffic Operations’ Intranet site.

207.2 Specific Instructions for Inspection Staff

“Progress Billing/Permit Closure” (form TR-0129) is to be signed and dated by the District Permit Engineer or the District Oversight Resident Engineer (RE) when applicable.

Inspectors must accurately report their time to recover fully the costs associated with specific permits.

They must charge the appropriate project code, reporting, sub object codes and complete diaries, “Progress Billing/Permit Closure” (form TR-0129), and permit review sheets in a timely manner.

District Permit Engineers must ensure that inspection staff time is reported correctly and that diaries agree with the hours shown on “Progress Billing/Permit Closure” (form TR-0129). Only
in “Set Fee” (SF) permits may the “actual hours” shown on “Progress Billing/Permit Closure” (form TR-0129) and diaries vary from hours charged to permittees.

The hours charged on “Actual Fee” (AX) permits must agree with hours on diaries and “Progress Billing/Permit Closure” (form TR-0129). Field inspectors on a monthly or quarterly basis must submit “Progress Billing/Permit Closure” (form TR-0129), especially for annual or biannual permits.
# Chapter 300 – Exceptions to Policy

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Chapter 300
Exceptions to Policy

301 APPROVAL OF EXCEPTIONS BY HEADQUARTERS DIVISION OF DESIGN, CHIEF (Rev. 07/2018)

This Chapter is presented for the convenience of the applicant and public. The material is repeated from the Project Development and Procedures Manual (PDPM) and in the case of discrepancy the PDPM will take precedent.

The Division of Design, Chief, shall review and approve exceptions to Statewide policies and boldface design standards that govern encroachments and access to encroachments within the State highway right-of-way. The Division of Design, Chief, has delegated approval of underlined design standards to the District Directors.

The Division of Design, Chief, is responsible for establishing procedures and guidelines governing the preparation of specific requests for variances and exceptions and the information that must be included in a request. Standard practice is to process all applications from written requests submitted to the Division of Design, Chief. Prior approval is required if personal appearances by District personnel or the applicant are necessary. Encroachment proposals listed in Sections 302 and 303 are to be submitted with District recommendations signed by the District Division Chiefs of Project Development, Right of Way, Traffic Operations, and Maintenance. Requests submitted to the Division of Design, Chief, for consideration of exceptions shall include the items listed in Table 3.1.

When possible, encroachment exceptions on the same project should be submitted in one presentation to allow a correct decision. If it is not possible to submit one presentation, the transmittal letter should explain fully why the cases must be submitted separately. Address all correspondence to the attention of the Division of Design, Chief.

302 ENCROACHMENTS WITHIN ANY STATE HIGHWAY RIGHT-OF-WAY (Rev. 07/2018)

Requests for the following encroachments shall be submitted by Districts to the Division of Design, Chief:

1. Facilities that limit use of the right-of-way or increase the cost of future highway improvements.
2. High priority utilities and pressurized facilities that are not encased within the highway right-of-way.
3. Changes in facilities that alter the conditions under which the original encroachment was approved.
4. Placement of utility facilities within the median area of any State highway.
5. Existing utilities proposed to remain in an existing tunnel when that tunnel is part of a highway project.
6. Drainage diversions.
7. Groundwater disposals.
8. Privately owned longitudinal facilities.

303 ENCROACHMENTS WITHIN ACCESS-CONTROLLED RIGHT-OF-WAY (Rev. 07/2018)

The Division of Design, Chief is authorized by the Director, Caltrans to make determinations and rule on all matters regarding installation of encroachments on access-controlled right-of-way, as established pursuant to Streets and Highways Code section 250, et seq. Matters concerning encroachments on conventional highways are delegated to the Districts except as indicated under Section 302.

Requests for the following encroachments are submitted by Districts to the Division of Design, Chief:

1. Encroachments requiring maintenance within the access control lines of access-controlled right-of-way. This includes those installations created by rearrangement of existing facilities and those requested by utility owners or others under encroachment permit.
2. Longitudinal encroachments within the access control lines of access-controlled right-of-way and on bridges other than highway overcrossing structures. Included are those longitudinal encroachments created by rearrangement of existing facilities, and those requested by utility owners under encroachment permits, including fiber optics facilities.
3. Longitudinal encroachments within a conventional highway that is upgraded to an access-controlled right-of-way and remain within the access control lines, the utility facilities will normally be relocated outside the access control. When compelling reasons require such facilities to remain within the access control, the District must submit a request for exception to this policy, for each facility.
4. Encroachments requiring temporary or permanent access to or from through traffic lanes within access-controlled right-of-way.
5. Encroachments involving installation of locked gates in access-controlled right-of-way fences for other than Caltrans’ use or utility maintenance access (see PDPM Section 1, Article 5, “Locked Gate Accesses and Pedestrian Openings”).
6. Temporary use of access-controlled right-of-way by private individuals or developers for grading.

7. Utility facilities that cross access-controlled right-of-way should be as normal as possible to the access-controlled right-of-way centerline. Facilities that are skewed greater than thirty degrees (30°) from the normal must have approval as a longitudinal encroachment.

Table 3.1
Items to Be Included with Requests for Exceptions

<table>
<thead>
<tr>
<th>Number of Copies</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Normally, submit three copies of each request, with attachments.</td>
</tr>
<tr>
<td>2.</td>
<td>One additional copy shall be submitted if the encroachment involves a bridge or tunnel.</td>
</tr>
</tbody>
</table>

**General Information**

1. District, county, route, PM, project scope, cost, and schedule.
2. Accident history (if applicable).
3. If applicable, proof of prior or superior property rights, such as fee ownership, easements, Joint Use Agreements (JUA), or Consent to Common Use Agreements (CCUA). Prior rights must be confirmed by the District Utilities Coordinator.
4. Is the highway an eligible or officially designated Scenic highway? If so, submit a letter from the Local Agency stating that potential visual impacts from the proposed projects are acknowledged.

**Materials**

The following documents are required for a District to start the review process and consider the request. [All items should be included, and action may be delayed until such information is furnished. Fold all attachments to 8.5" x 11"][.]

1. A statement that the District considered a lease arrangement under Air Space Development.
2. An index map. This map should be a print of a small scale key map outlining the general alignment of the access-controlled right-of-way, crossroads, frontage roads, ramps, and the major geographic features.
3. A plan [50 to 200 scale, should be U.S. Customary Units (1 : 600 to 2400 universal scale)] showing a geographic outline of the following:
   - The pavement and shoulder edges of the access-controlled right-of-way or highway, crossroads, collector roads, and ramps. It also should show all adjacent roads or streets, including proposed or existing frontage roads to which the facilities may be reasonably moved.
   - Right-of-way and access denial lines.
- Present and proposed location of utilities, and physical features that affect the proposed location. (Use a dashed colored line to show existing facilities and a solid line in the same color for relocated position of the facility.)
- Trace of slope catch points.
- Fencing and location of locked gates where access is proposed.
- Location of existing drainage facilities.
- Other features, such as topography, where pertinent.
- The plan need not be a special drawing; copies of project drawings are suitable. Whenever feasible, the plan should be an 11-inch high strip map as long as necessary to show the entire encroachment. However, separate sheets will suffice.

4. The Interstate number when Interstate projects are involved.
5. On access-controlled routes, a statement explaining federal participation in right-of-way purchase or construction cost.
6. Profiles, cross sections, and contour grading, if necessary to clarify design.
7. A list of all utility facilities located within the limits of a proposed highway project that involve longitudinal encroachments.
8. A full explanation of the route and method by which the permittee will gain ingress and egress to the encroaching facility.
9. A statement indicating if utility facilities must be relocated to permit construction, and if the utility might be allowed to remain in place during the initial construction but would require relocation for the ultimate construction.
10. A statement indicating if allowing a utility facility to remain within the right-of-way would present a serious safety problem or would cause highway maintenance problems.
11. The District's recommendation regarding disposition of a utility facility.
12. A full explanation of the available alternatives to the proposed encroachment, together with costs and potential consequences if the requested encroachment is not approved. If a discussion of alternatives is not submitted, the request may be returned as non-responsive.
13. Estimated savings to the State that would accrue by proceeding as proposed.
15. Concurrence by Structures Maintenance when structures are involved.
304 APPEAL OF PERMIT DENIAL

This section outlines the procedure for an applicant to appeal the denial of an encroachment permit application. The costs and allocation of the costs associated with the appeal are stated in section 304.3. This section is based on California Code of Regulations (CCR) Title 21, Division 2, Chapter 8, Article 2, sections 1413 through 1413.4, inclusive.

This section does not apply to a broadband facility permit applicant. See CCR Title 21, sections 1412.1 through 1412.9, inclusive, for broadband facility permit appeals.

This section does not apply to a Visibility Improvement Request. See Section 509.4 of this manual for Visibility Improvement Request appeals.

304.1 Appeal Process to the Department Director

a) If a District denies an encroachment permit application, an applicant may appeal to the Department Director, by submitting a written appeal package as set forth in section 304.2, within 60 days after the denial letter is served by the District. The written appeal package must be submitted to:

ENCROACHMENT PERMITS APPEAL
DIRECTOR, CALIFORNIA DEPARTMENT OF TRANSPORTATION
C/O HEADQUARTERS DIVISION OF TRAFFIC OPERATIONS
1120 N STREET, MS 36
SACRAMENTO, CA  95814

b) The applicant and the Department may mutually agree, in writing, to extend the time for the appeal process or any part of the appeal process.

304.2 Appeal Package

A written appeal package is deemed a complete submittal on the date the Department Director receives all items listed below:

a) An appeal letter to the Department Director specifically requesting an appeal of the denied encroachment permit application and containing a detailed explanation of why the Department should issue an encroachment permit for the proposed project or activity sought by the application; and

b) Denial letter issued by the District or a statement in the appeal letter that a denial letter was not issued by the District within 60 days after the District’s receipt of a complete encroachment permit application package; and
c) Applicant’s name, company or organization, mailing address, and telephone number, and the same information for any person or entity designated by the applicant to represent applicant in the appeal; and

d) Identification of all locations, including district, county, route, and post mile, at which the applicant and/or person or entity acting on behalf of the applicant proposes to encroach onto Department property as described in section 660 of the Streets and Highways Code or to perform any act or activity described in sections 670 or 670.1 of the Streets and Highways Code; and

e) Description of the proposed encroachment onto Department property as described in section 660 of the Streets and Highways Code and/or the proposed act or activity described in sections 670 or 670.1 of the Streets and Highways Code, which the applicant and/or person or entity acting on behalf of the applicant proposes to perform or conduct under the denied encroachment permit being appealed, including three (3) complete sets of plans and any applicable specifications, calculations, maps, and other supporting documents; and

f) A $2,000 deposit towards the applicant’s fifty percent (50%) share of the administrative costs of conducting the appeal. The deposit shall be made by check or money order made payable to the California Department of Transportation; and

g) Notice of whether the applicant requests to make a presentation to the Department Director or the Department Director’s designee.

304.3 Final Determination and Costs
The Department Director shall notify the applicant in writing of the final decision on the appeal within 60 days after receipt of the completed written appeal package as described in section 304.2. Once the final decision has been issued, the Department will determine the applicant’s fifty percent (50%) share of the administrative costs. If the applicant’s deposit is less than the applicant’s fifty percent (50%) share of the administrative costs, the Department will subtract the deposit amount and bill the applicant for the remainder of the applicant’s fifty percent (50%) share of the administrative costs. If the deposit is greater than the applicant’s fifty percent (50%) share of the administrative costs, the Department will refund to the applicant the excess remaining from the deposit.

Throughout sections 304 to 304.3 of this manual, “Administrative costs” means the estimated administrative costs to the Department on conducting an appeal related to a specific encroachment permit, based on the standard hourly rate for processing encroachment permits in effect on the date the encroachment permit appeal package described in Section 304.2 is submitted to the Department.
Throughout sections 304 to 304.3 of this manual, “60 days” means sixty calendar days, unless the sixtieth (60th) day lands on a holiday or weekend as defined in section 12a of the Code of Civil Procedure, in which case the computation of time shall be as provided in section 12a of the Code of Civil Procedure.
Chapter 400 – Environmental Requirements

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Chapter 400
Environmental Requirements

401   COMPLIANCE WITH STATE ENVIRONMENTAL LAWS AND REGULATIONS

Most encroachment permits issued by Caltrans do not involve projects that are federally funded or that require federal approvals. Projects with no federal involvement are subject only to state environmental laws and regulations. Under state law Caltrans has discretionary approval authority, as provided in Section 670 of the Streets and Highway Code, to approve projects that encroach within the State’s highway right-of-way. This discretionary authority gives Caltrans a “Responsible Agency” status under the California Environmental Quality Act (CEQA) for the part of a project that requires work within the State’s highway right-of-way. For purposes of CEQA, the term "Responsible Agency" includes all public agencies other than the Lead Agency which have discretionary approval power over the project.

For example, the increased traffic generated by construction of a residential subdivision could require installation of channelization on a State highway intersection to lessen the traffic impact. The “Lead Agency,” is the public agency that has principal responsibility for carrying out or approving the whole project. In this example, the Lead Agency would normally be the local agency that approves the subdivision and provides final conditions of approval on the project. Caltrans would, in this situation, be a Responsible Agency because it has discretionary approval authority only over the channelization improvements within the State’s right-of-way but not over the subdivision itself.

Whether the encroachment permit applicant is a public agency or a private entity, a public agency other than Caltrans is usually the Lead Agency. An exception to this situation would be if Caltrans is the only public agency with approval authority or if several public agencies have discretionary authority over the project and the public agencies involved agree that Caltrans should be the Lead Agency. When Caltrans is the Lead Agency under CEQA for projects sponsored by others, it determines the appropriate level of environmental review for the project and is responsible for preparing documents or causing them to be prepared. As a Lead Agency, Caltrans can require the applicant to provide all information necessary to prepare a Categorical Exemption (CE), a Negative Declaration (ND) or an Environmental Impact Report (EIR) that complies with the provisions of CEQA.

In accordance with California Streets and Highways Code, section 671.5 (a), Caltrans is required to either approve or deny an encroachment permit application submittal within 60 calendar days, upon determination that the submittal is complete. Section 671.5 grants Caltrans the authority in
determining what constitutes a complete submittal. The District Permit Engineer acts on behalf of the District Director in making that determination.

In addition to other required documentation, Caltrans requires that an approved environmental document accompany the “Standard Encroachment Permit Application” (form TR-0100). All required documentation, including environmental, must accompany the encroachment permit application before Caltrans deems the application complete. This is the case regardless of whether Caltrans is the Responsible or the Lead Agency. No new information can be required from an applicant once the application form with its accompanying documentation has been accepted as complete. However, the applicant can be asked to clarify, correct, or otherwise supplement the information submitted.

402 PROJECTS EXEMPT FROM CEQA REQUIREMENTS

Certain types of projects are exempt from the requirements of CEQA. Statutory exemptions are granted by the legislature and are listed in the CEQA Guidelines sections 15260 through 15285.

Categorical exemptions are classes of projects, which have been found by the Secretary of Resources not to have significant effect on the environment. Classes of projects determined to be categorically exempt are listed in the CEQA Guidelines sections 15300 through 15332.

In addition, other State laws, including those that protect historical, archaeological, and biological resources, may apply even for projects exempt from CEQA. Where these resources are known or are highly likely to be found, review by the District Environmental Branch is necessary to ensure compliance. To facilitate Permit Branch review of applications, the District Environmental Branch is responsible for providing to the District Permit Engineer the locations of all known environmentally sensitive areas (ESA) and if known, likely areas of high sensitivity, within State right-of-way. The absence of an ESA or area of high sensitivity, however, does not necessarily mean the absence of a sensitive resource.

Whether an area has been previously identified as an ESA or not, any permit application for work within the right-of-way that is on original ground (i.e. ground that has not been previously disturbed, or that has not been disturbed to the depth required by the proposed project), shall be submitted to the Environmental Branch for review. The Environmental Branch shall advise the District Permit Engineer if the proposed work can be accomplished without adverse impact through the attachment of permit conditions that would protect or avoid the resource. A project that requires mitigation to reduce or avoid impacts to resources is not categorically exempt.

402.1 CEQA Statutory Exemptions

Statutory exemptions listed in the CEQA Guidelines that are directly applicable to encroachment permits include, but are not limited to:

- restriping of streets or highways to relieve traffic congestion (Section 15282(k))
• installation, maintenance, and repair of pipelines not to exceed one mile in length (Section 15282(l))
• minor alterations to utilities for purposes of complying with Health and Safety Code (Section 15282(n))
• emergency projects that meet the criteria set forth in Section 15269

An emergency is defined in CEQA as a state of emergency that has been proclaimed by the Governor pursuant to the California Emergency Services Act. Statutorily exempt emergency projects include:

- projects undertaken or carried out to maintain, repair, restore, demolish, or replace property or facilities damaged or destroyed as a result of a disaster
- Emergency repairs to a public service facility that is necessary to maintain service essential to public health and safety.
- specific actions that are necessary to prevent or mitigate an emergency, excluding long term projects for the purpose of preventing or mitigating a situation that has low probability of occurrence in the short-term.
- projects undertaken, carried out, or approved by a public agency to maintain, repair or restore an existing highway damaged by fire, flood, storm, earthquake or subsidence.

Projects or actions which could alter significant historical resources are not included in this exemption, except when the resource’s condition poses a clear and imminent danger requiring immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services (Public Resources Code, Section 5028).

A historical resource (e.g. architectural, archaeological, and cultural) is defined in Public Resources Code Section 21084.1 as a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources. Historical resources included in a local register of historical resources, as defined in subdivision (k) of Section 5020.1, or deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1, are presumed to be historically or culturally significant for the purpose of Section 21084.1.

The emergency exemption also does not apply to highways designated as official state scenic highways or to any expansion or widening of highways damaged by natural disasters.

Other State laws that protect historical, archaeological and biological resources also may apply.

The CEQA Guidelines, Statutory Exemptions Section, should always be consulted to ensure that a project, as described, meets all the specific criteria of an exemption.

402.2 CEQA Categorical Exemptions
To be classified as categorically exempt from CEQA, a project must meet all the criteria within one of the classes of projects found by the Secretary for Resources not to have a significant
effect on the environment. Categorically exempt projects directly applicable to encroachment permit activities include, but are not necessarily limited to:

- repair, maintenance, and minor alteration to existing highways and streets, sidewalks, gutters, bicycle and pedestrian paths and similar facilities including grading for the purposes of public safety (Section 15301(c))
- addition of safety or health protection devices for use during construction (Section 15301(B)(f))
- new copy on existing on and off-premise signs (Section 15301(B)(g))
- maintenance of existing landscaping excluding the use of economic poisons (Section 15301(B)(h))
- demolition and removal of small structures (Section 15301(B)(l))
- replacement or reconstruction of existing structures located on the same site and having substantially the same purpose and capacity (Section 15302)
- replacement or reconstruction of existing utility systems involving no expansion of capacity (Section 15301(c))
- conversion of overhead electric utility distribution system facilities to underground where surface is restored to prior condition (Section 15302(d))
- construction and location of limited number of new, small, facilities (Section 15303)
- minor alterations to land, water and vegetation that does not involve the removal of healthy mature scenic trees (Section 15304)
- grading on land with a slope of less than 10% except in a waterway, in any wetland, or in an officially designated scenic area (Section 15304(a))
- new gardening and landscaping (Section 15304(b))
- fill into previously excavated land (Section 15304(c))
- minor temporary use of land with negligible effect on environment such as sale of Christmas trees (Section 15304(e))
- minor trenching or backfill where the surface is restored (Section 15304(f))
- maintenance trenching (Section 15304(g))
- creation of bicycle lanes in existing right-of-way (Section 15304(h))
- fuel management activities within 30 feet of structures to reduce volume of flammable material (Section 15304(I))
- basic data collection, research, experimental management and resource evaluation activities (Section 15306)

The CEQA Guidelines, Categorical Exemption Section, should always be consulted to ensure that a project, as described, meets all the specific criteria of an exemption.

It is recognized that activities that normally are exempt from CEQA may have a significant effect on the environment in certain circumstances. Exceptions to categorical exemptions are outlined in the CEQA Guidelines in Section 15300.2. These exceptions may occur in
particularly sensitive environments where the project may impact on environmental resources of hazardous or critical concern. Categorical exemptions may not be applicable when:

- cumulative impacts may be significant
- there is a reasonable possibility that due to unusual circumstances the activity will have significant effect
- damage may result to scenic resources within a highway officially designated as a state scenic highway
- the project is located on a hazardous waste site
- the project might cause a substantial adverse change in the significance of an historical resource

Review by the District Environmental Branch is necessary when the above conditions may pertain or if there is any other reasonable possibility that a significant impact might occur.

**403 CALTRANS AS A CEQA RESPONSIBLE AGENCY**

Under CEQA Responsible Agencies include all public agencies, other than the Lead Agency, which have discretionary approval power over a project in California (Public Resources Code, Sections 21069, 21080.3).

Caltrans is a Responsible Agency when a public agency requests an encroachment permit for a public project, or when a private project proponent requests an encroachment permit to carry out work on a project for which another public agency is the Lead Agency. When a project involves activities outside Caltrans right-of-way, the entire project requires environmental compliance and encroachment permit work usually is incidental to the major part of the work that lies outside Caltrans' right-of-way. Therefore, Caltrans normally is a Responsible Agency for nearly all the fee encroachment permits it issues. However, Caltrans Project Development requirements must be followed when work on the State highway is more than minor or routine.

As a Responsible Agency, Caltrans is not required to prepare environmental documentation for the project. The Lead Agency is responsible for evaluating the project to assess its effect on the environment. The Lead Agency consults with responsible agencies, including Caltrans, in deciding what type of environmental document to prepare. The environmental document should address the concerns of responsible agencies as well as the Lead Agency.

Consultation requests submitted to the District by the Lead Agency are channeled through the District Intergovernmental Review (IGR) Coordinator for preparing and coordinating the District's comments. The IGR Coordinator shall be consulted on all permit requests accompanied by an EIR or ND. The District cooperates with the Lead Agency in consultations about the project. Responses must be made within the time allowed. The IGR Coordinator is responsible for ensuring that appropriate District units review and comment on the proposal and for
preparing comments on documents received by the District. The District should advise local agencies of its need for early coordination on projects requiring permits from Caltrans.

In cases where the encroachment area has been identified as environmentally sensitive or may contain biological, historic or archeological resources, the IGR should consult with the District environmental specialists regarding the need for special studies. If the Lead Agency is preparing a categorical exemption the IGR should coordinate with the District specialists regarding the appropriateness of an exemption in the specific circumstance. If the Lead Agency is preparing an ND or EIR the IGR should coordinate with the District environmental specialists to comment prior to the receipt of the permit application. During the public review period for the environmental document, the District has an opportunity to examine the document and to comment on it. The comments of the environmental specialists regarding environmental compliance and documentation requirements should be included in the District's comment letter to the Lead Agency. Comments should encourage the Lead Agency to consult with the Native American Heritage Commission (NAHC) regarding any cultural concerns within the project area. If the project is within or contiguous to a reservation or rancheria, the District's comments shall include a recommendation that the tribe be contacted.

A permit application must include a Notice of Exemption or a certified environmental document (EIR or ND). For permits involving an EIR or ND, the Permit Engineer must certify on the permit that the information in the EIR or ND was reviewed and considered before permit approval.

403.1 Intergovernmental Review (IGR) and Permit Procedures

During the intergovernmental review process and before issuance of the encroachment permit, the procedure involving the District Permit Engineer for projects requiring environmental clearance or mitigation is listed as follows:

1. The District IGR Coordinator provides the District Permit Engineer with a copy of the draft environmental document and any supporting technical analysis provided by the Lead Agency or developer.

2. The District Permit Engineer’s comments on the draft environmental document are submitted to the IGR Coordinator for inclusion in Caltrans’ written response to the Lead Agency.

3. The District IGR Coordinator forwards to the District Permit Engineer a copy of the final environmental document containing all adopted approved conditions.

The District Permit Engineer should provide the District IGR Coordinator a copy of the Encroachment Permit Log on a mutually agreed upon schedule, e.g., weekly, monthly, etc. The District IGR Coordinator should review the Log and determine if the project was previously reviewed during the IGR process (more detailed information may be needed from specific permit
The IGR Coordinator may then provide the District Permit Engineer with a list of mitigation measures requested during IGR/CEQA review process and a copy of the conditions of project approval included in the final environmental document.

The IGR Coordinators and permit engineers should not give any approval of project alternatives (either direct or implied) which will encroach within State highways having access-controlled right-of-way. Such encroachments require approval from Headquarters’ Division of Design.

404 CALTRANS AS A CEQA LEAD AGENCY

A Lead Agency is responsible for preparing environmental documents and approving the project. The following procedures are followed when Caltrans is the Lead Agency under CEQA.

404.1 Procedures
Applications for permits that require preparation by Caltrans of a Categorical Exemption Determination form, a ND or an EIR are evaluated by the Permit Engineer, the Environmental Branch Chief, and other interested units as appropriate. Caltrans requires the project applicant to provide sufficient information so that Caltrans can prepare or cause the preparation of environmental documents. However, when Caltrans is the Lead Agency all environmental documents must reflect the independent evaluation and analysis of Caltrans.

404.2 Initial Study
If a project is not categorically exempt, an Initial Study must be prepared to determine the potential environmental effects of the project. From this study, Caltrans determines whether to prepare a ND or an EIR.

404.3 Environmental Impact Report or Negative Declaration
When an ND or EIR is required the entire project must be considered, not just the portion of the work within Caltrans' right-of-way.

The procedures for preparing and processing environmental documents are outlined in the Caltrans Environmental Handbook, Vol. 1, Chapter 2. The environmental process is completed for a ND when Caltrans, as the Lead Agency approves the project and files a Notice of Determination with the State Clearinghouse, Governor's Office of Planning and Research (OPR). The process is complete for an EIR when Caltrans certifies the EIR, approves the project, prepares a final EIR, makes findings, prepares a statement of overriding considerations, and files a Notice of Determination with the State Clearinghouse (OPR).

405 COMPLIANCE WITH FEDERAL ENVIRONMENTAL LAWS

Projects involving federal funds or approvals require compliance with the National Environmental Policy Act (NEPA), Section 4(f), as well as State environmental law (CEQA) and other State and federal environmental laws that may apply. Where historical, archaeological, and
biological resources are known or are highly likely to be found, review by the District Environmental Branch is necessary to ensure compliance.

Compliance with federal laws and regulations may involve the preparation of NEPA documents or joint compliance documents that meet both federal and state requirements (e.g. a Categorical exemption/exclusion (CE/CE), a Finding of No Significant Impact /Negative Declaration (FONSI/ND), or an Environmental Impact Statement/Environmental Impact Report (EIS/EIR)), Caltrans can require the applicant to provide all necessary information and/or to prepare the environmental document. Requirements of the federal and State environmental acts are similar and the supporting documentation is generally compatible. Therefore, it usually is possible to perform a single environmental analysis that satisfies both federal and State requirements when federal approval is required. When preparing joint documents the stricter of the federal or State requirements take precedence. While most of the document's content and processing can be combined, some aspects of the environmental process require separate state/local and federal actions. Examples include, but are not limited to the following:

1. **Approval Procedures**

   State and federal agencies must take separate actions in the approval of environmental documents. FHWA issues determinations and approvals involving federal-aid projects and the NEPA. The State or local Lead Agency adopts the environmental document and approves the project under CEQA.

   Categorical exemptions/exclusions are documented on Caltrans's *Categorical Exemption, Categorical Exclusion/Programmatic Categorical Exclusion Determination Form* available on line at:

   [http://www.dot.ca.gov/ser/forms.htm](http://www.dot.ca.gov/ser/forms.htm)

   When a project has federal involvement both the CEQA and NEPA portions of the form must be completed. To comply with CEQA the CE form is filed with the State Clearinghouse, Governor's Office of Planning and Research (OPR). For purposes of federal compliance the form is processed differently depending on whether the federal exclusion is programmatic categorical or categorical (see Section 405.1 and 405.2).

   When a Negative or Mitigated Negative Declaration/FONSI has been prepared the Lead Agency must file a Notice of Determination with the State Clearinghouse (OPR). In compliance with NEPA the federal agency must prepare a statement which sets forth its finding that the project will have no significant impact. This finding is attached to the Environmental Assessment for the project. The documents are then forwarded to the District Permit Engineer for filing before issuing a permit.
When an EIR/EIS has been completed the state or local Lead Agency must make findings and adopt a statement of overriding consideration for any impacts that are not mitigated below a level of significance. The federal agency must prepare a Record of Decision (ROD).

2. **Circulation Requirements**

State and federal circulation requirements differ for the ND and FONSI. Unlike CEQA NDs, FONSIs do not have a specified public comment period. Caltrans applies the state requirement of a 30-day public circulation period for joint documents.

3. **Categorical Exclusions/ Categorically Exemption Differences**

CEQA lists 32 standard categories of exemptions to which all state and local agencies must adhere. By contract, each federal agency adopts its own list of categorical exclusions that differ from agency to agency. FHWA has adopted exclusions which are listed in 23 CFR 771.117 (see Section 405.1). Under the authority provided in Section 771.117(d) Caltrans and FHWA have concurred through a programmatic agreement on additional actions which are deemed to have no environmental impact (See Section 405.2)

Documentation for state exempt projects must include information as to whether the project is statutorily or categorically exempt, and if the latter, under what class of exemptions. Documentation for federal exclusions must indicate if the project is a programmatic categorical exclusion (PCE) or a categorical exclusion (CE). For projects with federal involvement both the CEQA portion and the NEPA portion of the CE form is completed. If the project is exempt under 23 CFR 771.177 or falls under the provisions of the 1990 programmatic agreement no federal agency review or concurrence is required for either local agency projects or projects on the state highway system. If the project is not a programmatically excluded action, the signed CE form is forwarded to FHWA for signature by the FHWA Transportation Engineer.

### 405.1 FHWA Categorical Exclusions

The following actions defined in 23 CFR 771.177 are excluded as actions that normally do not involve significant environmental impact and require no approval actions by FHWA. For these actions the NEPA section of CE form is completed, but the FHWA Transportation Engineer does not sign the form.

- The actions does not have any significant environmental impacts as described in 23 CFR 771.117(a);
- The actions does not involve unusual circumstances as described in 23 CFR 771.117(b);
• Activities which do not involve or lead directly to construction, such as planning and technical studies; grants for training and research programs; research activities as defined in 23 U.S.C. 307; approval of a unified work program and any findings required in the planning process pursuant to 23 U.S.C. 134; approval of statewide programs under 23 CFR part 630; approval of project concepts under 23 CFR part 476; engineering to define the elements of a proposed action or alternatives so that social, economic, and environmental effects can be assessed; and Federal-aid system revisions which establish classes of highways on the Federal-aid highway system.

• Approval of utility installations along or across a transportation facility.

• Construction of bicycle and pedestrian lanes, paths, and facilities.

• Activities included in the State's highway safety plan under 23 U.S.C. 402.

• Transfer of Federal lands pursuant to 23 U.S.C. 317 when the subsequent action is not an FHWA action.

• The installation of noise barriers or alterations to existing publicly owned buildings to provide for noise reduction.

• Landscaping.

• Installation of fencing, signs, pavement markings, small passenger shelters, traffic signals, and railroad warning devices where no substantial land acquisition or traffic disruption will occur.

• Emergency repairs under 23 U.S.C. 125.

• Acquisition of scenic easements.

• Determination of payback under 23 CFR part 480 for property previously acquired with Federal-aid participation.

• Improvements to existing rest areas and truck weigh stations.

• Ridesharing activities.

• Bus and rail car rehabilitation.

• Alterations to facilities or vehicles in order to make them accessible for elderly and handicapped persons.

• Program administration, technical assistance activities, and operating assistance to transit authorities to continue existing service or increase service to meet routine changes in demand.

• The purchase of vehicles by the applicant where the use of these vehicles can be accommodated by existing facilities or by new facilities which themselves are within a CE.

• Track and railbed maintenance and improvements when carried out within the existing right-of-way.

• Purchase and installation of operating or maintenance equipment to be located within the transit facility and with no significant impacts off the site.

• Promulgation of rules, regulations, and directives.
405.2 Programmatic Exclusions (1990 Programmatic Agreement)

In addition, Caltrans and FHWA have agreed through the Programmatic Agreement, September 7, 1990, that additional actions programmatically are approved if they meet all of the conditions listed below. These actions require no approval actions by FHWA. For these actions the NEPA section of CE form is completed, but the FHWA Transportation Engineer does not sign the form.

Actions which qualify under 23 CFR 771.117(d) and do not involve the following:

- The acquisition of more than minor amounts of temporary or permanent strips of right-of-way for construction of such items as clear vision corners and grading. Such acquisitions will not require any commercial or residential displacements.
- The use of properties protected by Section 4(f) of the Department of Transportation Act (49 USC 303).
- A determination of adverse effect by the State Historic Preservation Officer.
- Any US Coast Guard construction permits or any US Army Corps of Engineers Section 404 permits [other than nationwide (blanket) permits].
- Any work in wetlands.
- Any work permanently encroaching on a regulatory floodway of any work affecting the base floodplain (100-year flood) elevations of a watercourse or lake.
- Construction in, across, or adjacent to a river designated as a component or proposed for inclusion in the National System of Wild and Scenic Rivers published by the US Department of the Interior/US Department of Agriculture.
- Any changes in access control.
- The use of a temporary road, detour or ramp closure unless the use of such facilities satisfy the following conditions:
  1. Provisions are made for access by local traffic and so posted.
  2. Through-traffic dependent business will not be adversely affected.
  3. The detour or ramp closure, to the extent possible, will not interfere with any local special event or festival.
  4. The temporary road, detour, or ramp closure does not substantially change the environmental consequences of the action.
  5. There is no substantial controversy associated with the temporary road, detour, or ramp closure.
- Any known hazardous materials sites or hazardous materials remains within the right-of-way.
- The action conforms to the Air Quality Implementation Plan that is approved or promulgated by the Environmental Protection Agency in air quality nonattainment areas.
- The action is consistent with the State’s Coastal Zone Management Plan.
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• The action does not affect federally listed endangered or threatened species or critical habitat.

All determinations made by Caltrans under the programmatic approach must be documented. The documentation shall be available for FHWA review upon request.

If one or more of the above conditions are not satisfied the categorical exclusion requires the review and approval of FHWA. Separate environmental documentation which demonstrates that the specific conditions or criteria for the CE's is satisfied and that significant environmental the impacts will not result must be submitted to FHWA to support the classification. A categorical exclusion will not apply if there are any "unusual circumstances" (23 CFR section 771.17).

Unusual circumstances include:

• significant environmental impacts
• substantial controversy on environmental grounds
• significant impact to properties protected under Section 4(f) or Section 106
• inconsistencies with any federal, state or local laws

406 ENCROACHMENT PERMITS STORM WATER MANAGEMENT

Caltrans Headquarters and District Encroachment Permits Offices have a commitment to oversee non-Caltrans projects in order to prevent pollution in storm water and non-storm water runoff from and into the State highway right-of-way. This section constitutes the Quality Assurance (QA) plan for the Encroachment Permits Program to ensure statewide consistency and compliance with the Caltrans National Pollutant Discharge Elimination System (NPDES) permit (Order) and the Caltrans Statewide Storm Water Management Plan (SWMP).

Section 406 does not encompass all water quality laws and regulations but provides guidance on the processes used by the Encroachment Permits Program to review and inspect storm water elements associated with projects approved using the encroachment permit process. Projects not approved using the encroachment permit process, such as Oversight projects (see Section 108), may have different requirements. This section does not relieve the project sponsor or contractor from their responsibility to comply with all Federal, State, and local laws, regulations, and policies that apply to their project.

Best Management Practices (BMPs) are used to reduce the discharge of pollutants. BMPs include management practices, control techniques and system, design and engineering methods. This section discusses requirements to design, document, use, and maintain BMPs on encroachment permit projects.
The applicant must incorporate Design Pollution Prevention BMPs for all projects that disturb soil, or are near or in an Environmentally Sensitive Area\(^1\) (ESA). Construction site BMPs are required during construction. Post-construction BMPs are used to minimize the project’s potential effects on water quality. Projects with post-construction BMPs may need to be approved using the Oversight Project process (see Section 108) not the Encroachment Permit process.

All BMPs must be Caltrans approved. For approved BMPs, tools, and further guidance, go to:

http://www.dot.ca.gov/hq/oppd/stormwtr/bmps.htm

For further information go to Appendix A in the Caltrans Storm Water Quality Handbooks, Project Planning and Design Guide (PPDG):


Section 406 - Encroachment Permits Storm Water Management is organized as follows:

406.1 Overview and Background
406.2 Best Management Practices and Storm Water Document Selection and Preparation
406.3 Encroachment Permit Application Review
406.4 Construction Site Inspection
406.5 Construction Site Quality Control/Quality Assurance Plan
406.6 Notice of Termination
406.7 Record Keeping and Archiving
406.8 Encroachment Permit Stormwater Training

406.1 Overview and Background

The following is from the PPDG, July, 2010. Federal regulations for controlling discharges of pollutants from Municipal Separate Storm Sewer Systems (MS4s), construction sites, and industrial activities were incorporated into the NPDES permit process by the 1987 amendments to the Clean Water Act (CWA) and by the subsequent 1990 promulgation of federal storm water regulations issued by the U.S. Environmental Protection Agency (EPA). The EPA regulations require municipal, construction and industrial storm water discharges to comply with an NPDES permit. In California, the EPA delegated its authority to the State Water Resources Control Board (SWRCB) to issue NPDES permits. The SWRCB issued an NPDES Statewide Storm Water Permit to Caltrans in 2012 (Order No. 2012-00-11-DWQ) (CAS000003), to regulate storm water discharges from Caltrans facilities. For the Order, go to:

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\(^{1}\) An ESA is defined in Section 5.3.2 of the Draft SWMP, July 2012.
Chapter 400 – Environmental Requirements


The Order contains three basic requirements:

1. Caltrans must comply with the requirements of the Construction General Permit (CGP) or the Lake Tahoe Construction General Permit
2. Caltrans must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges
3. Caltrans storm water discharges must meet water quality standards through implementation of permanent and temporary construction BMPs and other measures

To comply with the Order, Caltrans has developed a statewide SWMP. The SWMP is the Caltrans policy document that describes how Caltrans conducts its storm water management activities (i.e., procedures and practices), provides descriptions of each of the major management program elements, discusses the processes used to evaluate and select appropriate BMPs, and presents key implementation responsibilities and schedules. All projects within the State right-of-way, regardless of who funds or administers the project, are required to comply with the SWMP.

Caltrans uses the encroachment permit process as a quality assurance program to ensure project sponsors comply with storm water laws and regulations. For a glossary of terms used in this section, go to:


406.2 Best Management Practices and Storm Water Document Selection and Preparation

This section assists the applicant in selecting the appropriate BMPs and preparing the appropriate storm water document to submit with the encroachment permit application. Depending on the amount of Disturbed Soil Area (DSA) and other project conditions, the applicant provides an Erosion and Sediment Control Plan (ESCP), a Water Pollution Control Program (WPCP), a Storm Water Pollution Prevention Plan (SWPPP), and/or authorizing documents for dewatering activities.

406.2A BMP Selection

The applicant is responsible for controlling discharges of storm water and non-storm water from the construction site. The applicant shall prevent discharges from flowing through areas that have been disturbed by construction unless appropriate conveyance systems are in-place. All projects that disturb soil must incorporate Design Pollution Prevention (DPP) BMPs. The applicant must submit a completed DPP-1 checklist to document BMP consideration. The checklist is in the PPDG, Appendix E. The plans need to show which BMPs were selected and their location.
During the project planning and design process, the applicant is responsible for incorporating treatment BMPs for all projects subject to the Order, and which meet the following criteria:

<table>
<thead>
<tr>
<th>Project Category</th>
<th>Threshold – Net New Impervious Surface (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non- Highway Facilities (Rest Areas and Vista Points, Park and Ride Lots, Maintenance and support facilities)</td>
<td>5,000 square feet or more</td>
</tr>
<tr>
<td>Highway (1) (3)</td>
<td>43,560 square feet (1 acre) or more</td>
</tr>
</tbody>
</table>

(1) Pedestrian/bike path projects do not require treatment BMPs.
(2) If the net impervious area constitutes 50 percent or more of the original facility, post-construction BMPs will be designed for the entire facility.
(3) Emergency projects are exempt from treatment BMPs based on the immediate need to provide service and protection for the public.
(4) Routine Maintenance Activities are not required to incorporate treatment BMPs.

The applicant must use Caltrans approved BMPs. For a list of BMPs, go to:


Caltrans approved treatment BMPs include: Biofiltration strips and swales; infiltration devices; detention devices; wet basins; media filters; multi-chamber treatment train; dry weather flow diversion; gross solids removal devices; traction sand traps. See the PPDG for further guidance on use, design, and specifications.

All new development and redevelopment projects subject to consideration of treatment BMPs must also analyze the project’s potential to contribute to hydromodification impacts. There are many different approaches to managing hydromodification impacts from urbanization. In general, in-stream solutions are most appropriate for Caltrans facilities, and focus on managing the receiving stream to accept localized flow changes without becoming unstable.

406.2B Storm Water Document Selection

The type of storm water document required depends on the amount of total disturbed soil area (DSA) and specific project elements such as dewatering, new impervious surface area, and proximity to an ESA. DSA is exposed, erodible soil within the construction limits because of construction activities. The total construction site DSA includes DSA inside and outside the State right-of-way. The DSA calculation must be documented in the appropriate storm water document.

For Linear Utility Projects (LUP), the DSA calculation must be documented in the storm water document and must account for all ground disturbances, not just the trenching activity itself. Examples of DSA to include are truck tracks, stock pile locations, access roads, etc. The
applicant should use the guidance titled “Calculating Land Disturbance Areas in LUPs” in the CGP, A.2 for DSA calculations.

Where discrete LUP construction projects within a larger common plan of development are located at least 1/4 mile apart and the area between the projects is not being disturbed, each individual project can be treated as a separate plan of development provided any interconnecting road, pipeline or utility project that is part of the same “common plan of development” is not concurrently being disturbed.

For information on non-contiguous projects refer to EPAs Fact Sheet (page 7 of 52, 2nd paragraph)


An applicant’s questions pertaining to DSA, discharge exemption, permit coverage, and general storm water requirements should be addressed to the District Encroachment Permits Storm Water Coordinator (EPSWC). Final determinations are made by the local Regional Water Quality Control Board (RWQCB). The applicant must submit a letter of concurrence from the local RWQCB concerning the determination on whether discharges from a part of a larger common plan or DSA may be exempted from coverage under the CGP.

All storm water documents should provide a simple narrative and diagram that locates the construction site, identifies potential pollutant sources on site, and shows the location of the design, construction, and post-construction BMPs. The storm water documents should also describe measures which eliminate or reduce pollution of storm water runoff by any chemicals and materials used during each phase of the construction process. The level of detail will vary with the intensity, size, and type of construction.

No Disturbed Soil Area and No Construction Site
The applicant is not required to submit a storm water document if the project does not disturb any soil and does not have a construction site: projects such as hanging banners or conducting traffic counts.

Erosion and Sediment Control Plan
The applicant must submit an ESCP if the construction site meets all of the following conditions:

1. Total DSA is less than one-quarter (¼) acre
2. Construction site does not discharge directly\(^2\) or indirectly\(^3\) to receiving waters\(^4\)
3. Is not within an ESA nor discharges to an ESA

\(^2\) Direct Discharge: Any discharge from the MS4 that does not meet the definition of an indirect discharge (Order).
\(^3\) Indirect Discharge: Any discharge from the MS4 that is conveyed to the receiving water through 300 feet or more of an unlined ditch or channel as measured between the discharge point from the MS4 and the receiving water (Order).
\(^4\) Receiving Water: A river, lake, ocean, stream or other watercourse into which wastewater or treated effluent is discharged as provided in the “Terms of Environment” (U.S. EPA Office of Communications, Education, and Public Affairs: December 1997).
The applicant must submit six copies of the ESCP with the encroachment permit application package.

The applicant must refer to the local entity (City or County) or local Municipal Storm Water System owner for guidance on preparing this storm water document. The applicant must also incorporate any local city and county requirements.

The ESCP must provide the name and contact information for the construction superintendent or property owner, and must show on a construction site layout sheet the location of: selected BMPs; concentrated flows; project entry and exit; material storage; stockpiles.

**Water Pollution Control Program**
The applicant must submit a WPCP if the construction site is not in an ESA, and does not discharge to an ESA, and meets one of the following conditions:

1. The total DSA is less than one-quarter (¼) acre and discharges directly, or indirectly, to a receiving water body
2. The total DSA is one-quarter (¼) acre or more but less than one (1) acre
3. The total DSA is one (1) acre or more but less than five (5) acres, and qualifies under the U. S. EPA Rainfall Erosivity Waiver (REW) certification.

The applicant must submit six copies of the WPCP, the Qualified Storm Water Pollution Prevention Plan Practitioner’s (QSP) certification and contact information, and if applicable, the US EPA REW certification. If submitting an EPA REW, then the applicant must also submit the Notice of Intent (NOI), the Sediment Risk form, and other appropriate documents through the SWRCB Storm Water Multiple Application & Report Tracking System (SMARTS).

The WPCP must be prepared by a QSP. The QSP must use the Caltrans WPCP template.

For the WPCP template and preparation manual for completing it, go to: [http://www.dot.ca.gov/hq/construc/stormwater/](http://www.dot.ca.gov/hq/construc/stormwater/)

**Construction Sites under the US EPA REW seeking Time Extension (Rider): A time extension cannot be issued until the applicant submits a revised EPA REW certification from SMARTS. If the new construction times do not qualify for REW certification, the applicant is required to submit a SWPPP and a Waste Discharge Identification (WDID) number as a condition of the encroachment permit time extension.**

**Storm Water Pollution Prevention Plan**
The applicant must submit a SWPPP if the construction site meets one of the following conditions:

1. Total DSA is one (1) acre or more and does not have an REW
2. Is within an ESA or may discharge to an ESA
3. Is a Type 1 or Type 2 LUP (see the CGP, Attachment A & A.1)

For projects requiring only design-approval and are not ready for construction, the applicant can provide the Construction Site BMP Consideration Form, and associated checklists (Appendix E, PPDG) in lieu of the SWPPP. Submit a detailed cost estimate of the proposed BMPs with the form. The estimate must include consideration of the following items: Design Pollution Prevention, Treatment, and Construction Site BMPs; Preparation of SWPPP; right-of-way acquisition.

When applying for a double permit, or a permit for construction, the permit applicant must submit six copies each of; the SWPPP, the Notice of Intent (including an active WDID), and the Qualified SWPPP Developer’s (QSD) certification and contact information.

The SWPPP must be prepared by a QSD. The QSD must approve and certify the SWPPP and ensure it is uploaded correctly into the SMARTS.

The SWPPP must address all areas that are directly related to the construction site, including but not limited to staging areas, storage yards, material borrow areas, water sampling sites, and access roads, etc.

The permit applicant must ensure that their SWPPP includes a Quality Control and Assurance Plan (QC) that describes roles, responsibilities and actions that will be implemented by the LRP’s or Contractor’s QSP to ensure the project activities comply with the SWPPP.

The QSD can prepare the SWPPP using templates developed by Caltrans or the California Stormwater Quality Association (CASQA). Caltrans will also accept SWPPP’s developed using templates that may be required by utility districts or local agencies. The templates must contain the elements required by Caltrans and the CGP.

For the Caltrans SWPPP preparation manual and template, go to:

http://www.dot.ca.gov/hq/construc/stormwater/

For the CASQA template, go to:

http://www.cabmphandbooks.com

**Dewatering Plan**

For projects involving dewatering, the applicant must submit:

1. A dewatering plan and a separate Dewatering Permit (DWP) from the RWQCB, or
2. dewatering waiver acknowledgement from the RWQCB, or
3. letter of authorization from local sewer district where the effluent will be discharged

Dewatering activities must comply with the local RWQCB requirements. The applicant must submit the required documents before an encroachment permit is issued. For permits to construct (double permits), the DWP number must be submitted also. The dewatering plan must conform
to Section 13-4.03G of the Standard Specifications. The dewatering plan may involve designing, installing, operating, maintaining, and removing a temporary active treatment system for the accumulated water, groundwater or surface water from excavation or temporary containment facilities. Active treatment systems must conform to the CGP, Appendix F.

### 406.3 Encroachment Permit Application Review

The permit applicant is responsible for documenting which BMPs were considered, incorporating the appropriate BMPs, and preparing the appropriate storm water document. The permit writer determines if the applicant has submitted the appropriate documentation by using information supplied by the applicant and may also use the “Encroachment Permit Storm Water Assessment” (form TR-0132).

The permit writer may request that other functional units review the application package. The permit writer should request a review by the Caltrans EPSWC for all projects requiring a WPCP or SWPPP. Using the “Encroachment Permit Application Review” (form TR-0110), the functional units and EPSWC will approve, deny, or request further clarification on the documents submitted. The Headquarters (HQ) EPSWC is also available to review project documents.

The permit inspector should review the stormwater document and notify the permit writer concerning possible amendments to the ESCP, WPCP, or SWPPP document.

The permit writer cannot issue the Contractor’s double permit, and the Contractor cannot begin work until Caltrans has accepted the appropriate storm water document. Issuing an encroachment permit or rider without the appropriate storm water document is a non-compliance action of the Order. If this occurs, the permit writer must fill out a “Notification of Non-Compliance” (form TR-0134). The form must be submitted to the District NPDES Coordinator within three (3) business days of the finding of non-compliance.

For projects covered under the CGP, Caltrans is responsible for reviewing the qualifications of proposed field staff including the QSD and QSP working for the contractor. To verify QSD and QSP certification, go to:


This same website has a link to report a QSD or QSP problem to the SWRCB.

The plans and total DSA will be reviewed by the permit writer. To determine proximity to an ESA, the permit writer will review the Environmental Documents and the HQ Division of Environmental Analysis website at:

[http://svctenvims.dot.ca.gov/wqpt/wqpt.aspx](http://svctenvims.dot.ca.gov/wqpt/wqpt.aspx)

The permit writer will include “Storm Water Special Provisions for Minimal or No Impact” (TR-0400) for all projects that do not require a storm water document.
406.3A Erosion and Sediment Control Plan
The permit writer verifies that all BMPs are Caltrans approved. The permit writer includes “Storm Water Special Provisions for Minimal or No Impact” (TR-0400) and the “Storm Water Inspection Form” (form TR-0135) with the permit.

406.3B Water Pollution Control Program
The permit writer ensures the current version of the Caltrans WPCP template is used, a QSP has prepared it, and that Caltrans approved BMPs are used. The permit writer attaches the Encroachment Permit Storm Water Special Provisions for REW projects. The permit writer obtains acceptance from the EPSWC via the “Encroachment Permit Application Review” (form TR-0110).

The permit writer verifies that the Caltrans WPCP and drawings follow the guidance in the Caltrans SWPPP/WPCP Preparation Manual and Technical Memorandum dated 2012. For REW projects, the permit writer verifies SMARTS entries.

For high risk projects, the permit writer informs the EPSWC that an independent, third party QSD (IA) will be required for the project. The EPSWC will contract for services with the IA. The permit writer verifies the IA certification (form TR-0135) is signed by the IA, the permit applicant, and their contractor.

406.3C Storm Water Pollution Prevention Plan
The Legally Responsible Person (LRP) or authorized signatory must submit the SWPPP through SMARTS to obtain a WDID number. The LRP is typically the project sponsor or permit applicant.

The WDID number and a copy of the Notice of Intent (NOI) must be included with the SWPPP. Linear Utility Projects that span RWQCB boundaries may require more than one WDID. The WDID(s) must be submitted to the District Encroachment Permits Office before construction begins. For access to SMARTS, go to:

https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp

Caltrans requires the LRP or authorized signatory to hire an independent, third party QSD (IA) for Quality Assurance. The SWPPP must be amended to include the IA certification (form TR-0135) which is signed by the IA and the LRP. The IA certification must be uploaded into SMARTS prior to the start of the encroachment permit activity. The IA must work with the State representative to report on the Contractor’s reportable discharge or the failure to submit a notice of discharge to the RWCQB.

The permit writer will verify that the Caltrans SWPPP and drawings follow the guidance in the Caltrans SWPPP/WPCP Preparation Manual and Technical Memorandum dated 2012. The permit writer will obtain acceptance from the EPSWC via the “Encroachment Permit Application Review” (form TR-0110).
The permit writer will verify that the IA certification is in SMARTS. A permit to construct cannot be issued until Caltrans receives the WDID number from the applicant.

406.3D **Dewatering Plan**
Prior to issuing an encroachment permit for dewatering, the Permit Writer submits a copy of the encroachment permit application package to the EPSWC for their acceptance. The package may also need concurrence from District Hydraulics, District Maintenance, and District NPDES reviewers. An encroachment permit for dewatering activities cannot be issued until Caltrans receives the Dewatering Permit (DWP) number from the applicant.

406.4 **Construction Site Inspection**
The permittee and contractor are responsible for implementing and maintaining appropriate BMPs inside and outside the State right-of-way that will meet the conditions of the CGP. The contractor, the contractor’s Water Pollution Control Manager (WPCM), permit inspector, IA, regulatory inspectors work together to minimize discharges.

Construction related to soil disturbance cannot begin until the required BMPs are in place.

The permittee or contractor must ensure the storm water documents are always available to the permit inspector, regulatory personnel, and the IA.

The permit inspector records the following in the permit file:

- Caltrans SWPPP/WPCP acceptance date
- Date of pre-construction meeting with WPCM
- Start and End Construction Date
- Results of SWPPP/ WPCP inspections
- Review WPCM’s Visual monitoring reports
- Dates of notices of discharge/non-compliance
- Dates of Independent QSD (IA) inspections and report submittals to NPDES
- Dates of RWQCB inspections, NOVs, NOCs, etc.
- Verification Contractor training records in SWPPP

406.4A **Erosion and Sediment Control Plan**
The permittee and contractor are responsible for implementing and maintaining the construction site BMPs as described in the ESCP. The permittee must ensure that the appropriate BMPs are installed, maintained, and effective within the encroachment area.

406.4B **Water Pollution Control Program**
Work cannot begin on the site until the WPCP has been accepted by the permit inspector and the EPSWC. The contractor and contractor’s WPCM are required to follow the Caltrans Standard Specifications for developing and implementing the WPCP (Section 13-2, Standard Specifications). The contractor is responsible for implementing and maintaining the BMPs as
described in the WPCP. The Contractor is required to hire a QSP for the construction site. If the QSP is not appointed, the WPCM or the QSD shall perform the responsibilities of the QSP. The Contractor’s WPCM must be a QSP to implement the WPCP. [Section 131.01D (2)].

The contractor must ensure that employees receive water pollution control training before starting work at the job site. If the BMPs identified in the WPCP are not effectively controlling discharges, the QSP must amend the WPCP and place effective BMPs. If an amendment is required, work must stop until the permit inspector has accepted the WPCP amendment. The District Permit Engineer (DPE) can require an independent, third party QSD (IA) for WPCP projects.

The Quality Control/ Quality Assurance (QC/QA) Plan applies to all WPCP projects (See Section 406.5).

### 406.4C Storm Water Pollution Prevention Plan

Work cannot begin on the site until the SWPPP has been accepted by the permit inspector and the EPSWC. The contractor and contractor’s WPCM are responsible for implementing the BMPs as described in the SWPPP. The WPCM must be a QSD if the project requires a SWPPP [Section 13-1.01D 3(a)]. The contractor must ensure that employees receive water pollution control training before starting work at the job site. If the BMPs identified in the SWPPP are not effectively controlling discharges, the QSD must amend the SWPPP and place effective BMPs. If an amendment is required, work must stop until the permit inspector has accepted the SWPPP amendment. The LRP must retain inspection records for three years from the date they are generated.

The QC/QA Plan applies to all SWPPP projects (See Section 406.5).

### 406.5 Construction Site Quality Control / Quality Assurance Plan

The project owner, contractor, and the State all participate in the Quality Control/ Quality Assurance Plan (QC/QA) which consists of three levels:

1. Quality Control (QC)(contractor)
2. Quality Assurance (QA)(permit or construction inspector, and EPSWC)
3. Independent Quality Assurance (IA)(third party QSD)

### 406.5A Quality Control

The contractor’s WPCM must implement a Quality Control and Assurance program (QC) as described in Section 13-1.01D of the Standard Specifications. The WPCM must use and maintain visual monitoring reports to document visual inspections of the construction site BMPs on a weekly basis and daily during rain events. These reports must remain at the construction site as part of the SWPPP. Standard Specification 13-3.01B (5) must be used in preparing the visual monitoring reports.
The WPCM’s visual inspection must include:

- Verifying adequacy of trash receptacles
- Verifying waste disposal practices (e.g., recycle vs. hazardous waste bins)
- Examining integrity and use of containment structures
- Verifying use of employee education programs for the various activities
- Noting the location of activity (e.g., outdoor vs. indoor, concrete vs. grass)
- BMPs for any chemicals or fuels not addressed in the SWPPP must be developed
- Effectiveness of BMPs

The WPCM typically meets with the permit inspector and EPSWC at the pre-construction meeting.

406.5B Quality Assurance

Quality Assurance (QA) provides the LRP and the contractor’s WPCM the opportunity to correct non-compliance in a timely manner in an effort to avoid reporting to the RWQCB(s). The LRP may delegate its QA responsibilities to an authorized signatory for SMARTS submittals.

The District Permit Inspector has the primary role for conducting regular stormwater inspections to verify that the necessary BMPs are installed and maintained according to the approved stormwater document. For projects with planting, the inspector coordinates with Landscape Architecture, EPSWC, and the PW to verify plant establishment before the project is accepted.

The District EPSWC conducts routine field inspections as part of the QA plan. The District EPSWC also acts as liaison with the HQ EPSWC and District NPDES Coordinator.

If after notification of non-compliance (see Section on Notification of Non-Compliance), the WPCM fails to correct the non-compliance, the permit inspector takes the following progressive actions:

1. Issue and document a verbal warning
2. Notify the LRP and contractor’s WPCM in writing
3. Suspend the permit and notify the IA

**Action one** – The permit inspector will provide clear reasons for the non-compliance and corrective actions that are required. The instructions to the contractor are recorded in permit files.

**Action two** - The permit inspector and or the EPSWC prepares a written report of the non-compliance that specifies the required corrective actions. The report is submitted to the LRP and contractor’s WPCM. The project LRP must direct the Contractor’s WPCM to meet with the permit inspector and IA. The Contractor’s WPCM documents all communication with the permit inspector and IA, then takes the necessary steps to comply with the terms of the non-compliance.

**Action three** - The permit inspector notifies the IA. The IA will complete the “Notification of Non-Compliance” (form TR-0134) and submit to NPDES with copies to the permit inspector and
LRP, or permittee. The LRP or permittee and IA must meet to develop a plan that will correct the non-compliance. No work can be done, except for corrective actions, until the permit suspension is lifted.

The permit inspector removes the suspension after receiving written notification from the IA that the site is in compliance.

The contractor’s Double Permit may be revoked and other permits may be suspended. In addition, the LRP may be required to secure bonds for future work within the State right-of-way.

406.5C Independent Quality Assurance
Caltrans will provide a third party, Independent QSD (IA) for WPCP projects. (Still need approval for funding) The IA for WPCP projects will only be activated when the contractor is unresponsive, fails to take corrective action, or during non-compliance with the possibility of discharge to waters of the State.

The LRP must provide the IA for SWPPP projects.

At action three, the IA prepares a “Notification of Non-Compliance” (form TR-0134) if it is a reportable action. The IA submits the TR-0134 to the permit inspector, the NPDES Coordinator and the LRP.

The IA coordinates with the LRP to develop an action plan and implementation timeline that the WPCM uses to bring the site into compliance. After concurrence by the LRP, the IA submits the plan to the WPCM for implementation. The WPCM will contact the IA when the site is ready for inspection. The IA will coordinate a site meeting with the WPCM, permit inspector, and EPSWC. The IA issues written notification to the permit inspector when the site is in compliance.

The permit remains suspended until the site is brought into compliance.

The IA is responsible for decisions concerning SWPPP/ WPCP amendments.

406.5D Notification of Non-Compliance
The IA and the permit inspector conduct a field inspection to prepare the report. The following are triggers for the preparation of the “Notification of Non-Compliance” (form TR-0134):

1. Failure to report sudden, unexpected, unpreventable incidents that threaten public health, public safety, property, or the environment that pose a clear and imminent danger requiring immediate action to prevent or mitigate the damage or threat, and that result in a discharge or potential discharge.
2. Failure to meet any non-administrative requirement of the Order or SWMP or to meet any applicable water quality standard.
3. Failure to meet any administrative or procedural requirement of the Order or SWMP including submission of required reports, notifications and certifications.
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The following documents are gathered by the IA for submittal to the District NPDES Coordinator during implementation of action three:

1. Copy of the Encroachment Permit
2. Signed (IA and permit inspector) “Notification of Non-Compliance” (form TR-0134)
3. Photos describing the time and extent of the discharge
4. Copy of the project’s vicinity map indicating approximate location of storm drain or receiving waters
5. Copy of the water pollution control plan sheet(s) or site plan to indicate the location of discharge and failed construction site BMPs
6. Documentation of verbal or written communication with the Contractor’s WPCM

The “Notification of Non-Compliance” (form TR-0134) describes when reporting is required.

406.6 Notice of Termination
Prior to electronically filing the Notice of Termination (NOT) into SMARTS, the Contractor’s WPCM must notify the permit inspector when the DSA, subject to soil stabilization requirements, is ready for inspection. The State Inspector will coordinate with Landscape Architecture, Maintenance and the EPSWC to ensure the soil is stabilized. All DSA must be stabilized before closing the site. After the RWQCB representative has certified that construction activities have been completed, the LRP or authorized signatory can process the NOT in the SMARTS database.

406.7 Record Keeping and Archiving
The LRP or authorized signatory must all monitoring and reporting records for a period of at least years from the generation or submittal date, longer as required by the RWQCB. The District Encroachment Permits Office should keep electronic copies for three years. Anything beyond that should only include basic information such as; project scope and duration, NOI/WDID, LRP or authorized signatory certification, discharge reports, names of contractor, QSD, and QSP.

The HQ and District EPSWC’s compile and prepare materials for the Encroachment Permit Program’s portion of Caltrans’s Statewide Storm Water Management Program Annual Report to the SWRCB.

406.8 Encroachment Permit Stormwater Training
Construction site BMP training is required of all staff involved in the preparation and implementation of the SWPPP and WPCP document. The State Inspector shall verify that the Contractor’s QSP has trained personnel assigned to the implementation and maintenance of construction site BMPs. The training should cover responsibilities for BMP implementation, how to implement BMPs, general good housekeeping, and protection of BMPs in place. The LRP must certify in the SWPPP document that the Contractor’s QSP has delivered construction site BMP training to all staff involved in SWPPP implementation.
The HQ and District EPSWCs, and DPEs will assist Districts in assuring staff receive the required training and refresher courses to enable them to carry out the quality assurance aspects of the Encroachment Permit Program.

407 AERIALLY DEPOSITED LEAD MANAGEMENT GUIDANCE FOR ENCROACHMENT PERMIT PROJECTS

Until the mid-1980’s gasoline and other fuels contained lead as an additive. As each motor vehicle traveled the highways, tiny particles of lead were emitted in the exhaust and settled on the soils next to the highways. This lead is referred to as aerially deposited lead (ADL). Most of the time, lead tends not to move very far or very fast in the environment. Over the years, lead accumulated alongside the highways and became ubiquitous in the built environment. As a result, highway projects disturb soils which often contain elevated concentrations of lead.

ADL is usually found within 30 feet of the edge of the pavement and within the top six inches of the soil. In some cases, the lead is as deep as two to three feet below the surface. The Department of Toxic Substances Control (DTSC) sets regulatory thresholds for lead in soil, based on risk assessment work performed by CalEPA’s Office of Environmental Health Hazard Assessment (OEHHA). In areas where road construction will occur, Caltrans has found levels of lead that exceed the regulatory threshold throughout the State.

Therefore, ADL management has to be addressed when proposed work within state highway right-of-way includes soil disturbance by either Caltrans or other entities. Encroachment Permit (EP) projects will be categorized into three classifications for ADL compliance, as follows:

- **Minimal disturbance (E.g.: pole replacement, driveways, service connections etc.):** Projects which result in minimal soil disturbance and all disturbed soil can be placed back within work limits in the immediate area from which it was excavated.
  - The following Special Provision must be included in all permits that qualify under this classification:
    
    “Permittee must reuse the soil within the work limits in the immediate area from which it was excavated. If any excess soil is generated, it becomes the property of the permittee. Permittee must transport all excess soil outside of Caltrans’ right-of-way, and dispose of it in accordance with all applicable environmental laws and regulations.”

- **Excess Soil (E.g.: utility mainline trenching, etc.):** Projects that result in excess soil which cannot be reused within the work limits and needs to be transported off of the project site qualify under this classification.
  - “Hazardous Materials and Hazardous Waste Management Special Provisions” (TR-0408) must be included in all permits. (See appendix K)
• **All highway widening and reconfiguration projects:** All highway widening and reconfiguration projects, and projects involving right-of-way dedication must follow the following protocol:

  o Permittee will be required to perform sampling and analysis of the soils for lead and other contaminants of concern that will be excavated. For this activity, permittee will be required to submit an initial EP application for sampling. A Sampling and Analysis Plan (SAP), and a Health and Safety Plan (HaSP) must be submitted along with the application for review by the District Hazardous Waste (HW) management office. HaSP must be prepared, signed, and sealed by a Certified Industrial Hygienist (CIH). The final soil assessment report including chain of custody, laboratory data, and statistical analysis must be submitted to Caltrans for review. Upon the permit review, additional environmental documents may be required. The HW management office will review the report and recommend the need for soil management restrictions in the permit.

  o Permittee can then submit the permit application for full project review and approval. Package must include a Lead Compliance Plan (LCP) and a soil management plan, if applicable, as recommended by the HW management office. The package must be sent for review and approval by the HW management office.

  o “Hazardous Materials and Hazardous Waste Management Special Provisions” (TR-0408) must be included in all permits. (see Appendix K)

• The permittee is not responsible for clean-up of contaminated material which Caltrans would be legally required to clean up regardless of whether an encroachment permit project is proposed or not. However, encroachment work should not be allowed within the contaminated areas until clean-up is complete, unless permittee is willing to clean-up within their proposed project limits within state right-of-way at their own expense to move forward with their encroachment work.
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<td>521.3</td>
<td>Fire Protection Signing</td>
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Chapter 500
Specific Encroachment Permits

This chapter describes specific types of encroachment permits, their codes and requirements. The District Encroachment Permits Office uses permit codes for categorizing projects, determining application completeness, and file management. Specific permit codes for utility facility installation, maintenance and relocation are described in Chapter 600.

Table 5.1A and Table 5.1B lists encroachment permit types, codes and sections that discuss their requirements.

### Table 5.1A
Administrative Permit Codes

<table>
<thead>
<tr>
<th>SECTION</th>
<th>CODE</th>
<th>TITLE</th>
<th>RESPONSIBLE UNIT</th>
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</thead>
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<td>500.1</td>
<td>AH</td>
<td>Adopt-A-Highway</td>
<td>Maintenance</td>
</tr>
<tr>
<td>500.2A</td>
<td>AP</td>
<td>Transportation Art</td>
<td>Landscape Architecture</td>
</tr>
<tr>
<td>500.2B</td>
<td>GM</td>
<td>Gateway Monuments</td>
<td>Landscape Architecture</td>
</tr>
<tr>
<td>500.2C</td>
<td>ID</td>
<td>Community Identification</td>
<td>Landscape Architecture</td>
</tr>
<tr>
<td>500.2D</td>
<td>MM</td>
<td>Blue Star Memorial Highways, Markers, Roadside</td>
<td>Landscape Architecture</td>
</tr>
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<td></td>
<td></td>
<td>Memorials, and Historic Plaques</td>
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</tr>
<tr>
<td>500.3</td>
<td>AS</td>
<td>Airspace Development</td>
<td>Right of Way</td>
</tr>
<tr>
<td>500.4</td>
<td>CC</td>
<td>City and County Issued Permits</td>
<td>City/County</td>
</tr>
<tr>
<td>500.5</td>
<td>CN</td>
<td>Chain Installer</td>
<td>Maintenance</td>
</tr>
<tr>
<td>500.6</td>
<td>CU</td>
<td>Commercial Use</td>
<td>Landscape Architecture, Maintenance, Right of Way or</td>
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<td></td>
<td></td>
<td></td>
<td>Telecommunications</td>
</tr>
<tr>
<td>500.10</td>
<td>OP</td>
<td>Oversight Projects</td>
<td>Project Development</td>
</tr>
</tbody>
</table>
Section 500 of this chapter describes Administrative Encroachment Permit codes. These permit codes are reviewed and approved by Caltrans functional units other than the District Encroachment Permits Office. Subsequent sections describe categories of permits including those that are complex and often include several permit codes.
Certification of Compliance with the Americans with Disabilities Act (ADA)

Encroachment permit projects that create, alter or affect pedestrian facilities are required to be designed and constructed in accordance with the policies and standards in the current Design Information Bulletin 82 (DIB 82) available at:

http://www.dot.ca.gov/hq/oppd/dib/dibprg.htm

For projects coordinated by the District Encroachment Permits Office, compliance with DIB 82 is documented with the “Certification of Compliance with the Americans with Disabilities Act” (form TR-0405) available at:

http://www.dot.ca.gov/trafficops/ep/apps.html

Separate TR-0405 forms are required for the Design and Post Construction Certifications. The Design Certification must be submitted prior to the issuance of an encroachment permit or rider. The Post Construction Certification must be submitted after construction is completed.

The signature and stamp of a California Licensed Professional Engineer, Licensed Architect or Licensed Landscape Architect are required on the TR-0405 forms. A stamp is not required when the certification is done by (1) an authorized utility company representative or (2) an authorized (at the discretion of the District Permit Engineer) Caltrans representative with direct knowledge of the entire project’s pedestrian facilities.

The District Office of Encroachment Permits must retain both forms (Design and Post Construction) in the permit file. To ensure that these forms are submitted, the District Permit Engineer may require the applicant to provide a bond.

For administrative encroachment permit projects, which are reviewed and approved by other functional offices within Caltrans, the lead functional office coordinates with the applicant/permittee for appropriate ADA Design and Post Construction Certification. The lead functional office must retain the Design and Post Construction Certification in their project files.

Projects requiring ADA certification:
All encroachment permit applications are reviewed to assess the need for ADA certification. Lack of ADA certification does not relieve the permittee from following all applicable ADA guidelines. Table 5.2A and Table 5.2 list typical permit codes that require ADA certification.
### Table 5.2A
ADA Certification by Responsible Functional Office

<table>
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<tr>
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<th>Description</th>
<th>Responsible Office</th>
<th>Section</th>
<th>Permit Code</th>
<th>Description</th>
<th>Responsible Office</th>
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<tr>
<td>500.3</td>
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<td>Right of Way</td>
<td>500.2A</td>
<td>AP</td>
<td>Transportation Art</td>
<td>Landscape Architecture</td>
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<tr>
<td>500.4</td>
<td>CC</td>
<td>City and County Issued Permits</td>
<td>City or County</td>
<td>500.2B</td>
<td>GM</td>
<td>Gateway Monument</td>
<td>Landscape Architecture</td>
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<tr>
<td>500.6B</td>
<td>CU</td>
<td>Safety Roadside Rest Areas and Vista points</td>
<td>Landscape</td>
<td>500.2C</td>
<td>ID</td>
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<tr>
<td>500.6C</td>
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<td>Right of Way</td>
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<td>Oversight Project</td>
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<td>510.3</td>
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<td>Road Approach</td>
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Table 5.2B
ADA Certification by the District Office of Encroachment Permits

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<th>Section</th>
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*Not all projects under this code will require ADA certification.*
500 ADMINISTRATIVE ENCROACHMENT PERMITS

The District Encroachment Permits Office issues administrative encroachment permits for projects reviewed and approved by other Caltrans functional units such as Design, Maintenance, Landscape, Traffic Operations, Right of Way and Land Surveys, etc. The applicant works with the responsible functional unit to ensure the proposed encroachment complies with all applicable guidelines, procedures, Standard Plans, Standard Specifications, Design Information Bulletin 82: Pedestrian Accessibility Guidelines for Highway Projects, Deputy Directive 64, Complete Streets - Integrating the Transportation System, etc.

Once all reviews and approvals have been obtained by the responsible functional unit, a complete 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 Permits’ 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.

500.1 Adopt-A-Highway

Permit Code AH

A fee exempt permit issued for the Adopt-A-Highway (AAH) Program allows participation by individuals, businesses, agencies, and organizations for roadside enhancement involving: litter removal, vegetation control, tree and shrub planting, wildflower planting, and graffiti removal, within the State right-of-way. In recognition for their participation, signs are placed within the right-of-way identifying the group. Certain highway segments may not be appropriate for adoption because of narrow shoulders, steep slopes, poor visibility, etc.

Participants in the AAH Program may adopt segments of a highway and perform the work themselves or hire a professional contractor to perform work on their behalf.

When a contractor is hired, Districts should issue a fee-exempt Double Permit “DP” to the party actually performing the work. The “DP” must include all applicable AAH provisions, liability insurance, etc. Bonding is not required.

The “Adopt-A-Highway Program Application” (form MTCE-018) is used for all AAH inquiries and is submitted by the applicant to the District AAH Coordinator. The AAH Coordinator will review the application and inform the applicant via an “Application Status Letter” whether the group meets participation requirements and whether the requested site(s) is/are available.

If the group meets participation requirements but the requested site(s) is/are not available, the group is placed on a waiting list.
If the group meets participation requirements and a requested site(s) is available for immediate adoption, the District AAH Coordinator prints a pre-filled “Adopt-A-Highway Permit Application” (form TR-0103) and includes it with the Application Status Letter. Additional documents (plans and schedules, recognition panel design proof, etc.) are also requested at this time. Applicants are also given a deadline for returning the documents.

Once the “Adopt-A-Highway Permit Application” (form TR-0103) and additional documentation are submitted and approved, they are forwarded to the District Encroachment Permits Office along with the “Attachment A (Adopt-A-Highway Special Provisions)” (form MTCE-09) for issuance of the permit.

AAH Special Provisions include Safety Requirements (see Appendix K). These special provisions must be included in their entirety in all AAH Permits. Any highway segment that does not allow the total use of these special provisions should not be included in the AAH Program.

The AAH Program Application and additional information can be found at:

http://www.dot.ca.gov/maintenance/adopt-a-highway/index.html

500.2 Landscape Administrative Permits

Caltrans supports enriching the cultural and visual environment of the transportation system and local communities by facilitating the placement of Transportation Art, Gateway Monuments, and Community Identification within the State highway right-of-way. These projects are proposed, provided, funded, installed, maintained, removed, and/or restored by the public agency representing the area in which the project will be installed. A Maintenance Agreement may be required for the ongoing maintenance of the project. The public agency may be a city, county, tribal government, or non-federally recognized tribe.

The Caltrans Blue Star Memorial Highway Program designates various State and National routes as Blue Star Memorial Highways in tribute to the men and women of the nation’s armed forces; the District Landscape Architect oversees these encroachment permits.

District Landscape Architects or Permits Landscape Architects evaluate proposals and coordinate these proposed activities. Landscape Administrative Permits do not have associated permit fees. A Double Permit (DP), and associated fees may be required for the entity installing Transportation Art, Gateway Monuments, or Community Identification. The District Encroachment Permits Office will issue an administrative permit upon receiving the approved application package along with the “Encroachment Permit Administrative Route Slip” (TR-0154) authorizing issuance of a permit from the District Landscape Architect or Permits Landscape Architect.

Permit applicants must follow the procedures and comply with the requirements established in the applicable sections of Chapter 29 of the Project Development Procedures Manual for
500.2A  Transportation Art

*Permit Code AP*
Additional information on Transportation Art is on the Caltrans Landscape Architecture Transportation Art website:

http://www.dot.ca.gov/design/livability/transportation-art.html

All requests to wrap, decorate or install artwork on Caltrans' equipment and/or structures, including but not limited to signal cabinets and electrical boxes, must be processed through the Transportation Art Program. If the requested proposal cannot be easily determined as Transportation Art, please contact your District Landscape Architect for determination.

500.2B  Gateway Monuments

*Permit Code GM*
Additional information on Gateway Monuments is on the Caltrans Landscape Architecture Gateway Monuments website:

http://www.dot.ca.gov/design/livability/gateway-monuments.html

500.2C  Community Identification

*Permit Code ID*
Additional information on Community Identification is on the Caltrans Landscape Architecture Community Identification website:

http://www.dot.ca.gov/design/livability/community-identification.html

500.2D  Blue Star Memorial Highways and Roadside Memorials

*Permit Code MM*
Additional information on the Blue Star Memorial Highways Program is on the Caltrans Landscape Architecture Blue Star Memorial Highways website:

http://www.dot.ca.gov/design/livability/blue-star-memorial.html

Roadside memorials, such as white crosses, wreaths, flowers, personal items, etc. that commemorate the memory of loved ones that died while traveling on a particular State highway are not allowed unless required by specific legislation or approved via the Victims Memorial Sign Program (Streets and Highways Code, Section 101.10).
Additional information on the Victims Memorial Sign Program is on the Victims Memorial Sign Program website:

http://www.dot.ca.gov/trafficops/tcd/victims.html

500.3 Airspace Development

Permit Code AS

Airspace Development Permits “AS” are issued in conjunction with and under the terms of an Airspace Lease Agreement (ALA) or a Telecommunication Site License Agreement (SLA) for the development of usable airspace parcels within access-controlled right-of-way, and in some instances within conventional highway right-of-way.

General requirements for “AS” Permits and specific conditions that apply to column protection, fencing, telecommunications, and FHWA approval, on Interstate Systems, associated with airspace development are described in the sections that follow.

There are occasions where property (airspace) within conventional highway right-of-way is leased. It does not occur often, but when it does, the process is the same as when airspace is leased within access-controlled right-of-way.

Installations within conventional highway right-of-way are processed through the District Encroachment Permits Office, and generally do not require an ALA or SLA.

Functional branches involved in the processing of Airspace Lease Agreement submittals must charge their time to their own program overhead Project Code.

Functional branches involved in the processing of Telecommunication Site License Agreement submittals must charge their time to their own program’s Project Code.

Encroachment permits are required for all airspace leases when located within the operational highway right-of-way, including park and ride lots, when significant permanent improvements are proposed for the development of usable airspace parcels. An encroachment permit may not be necessary if the proposal is outside the operational right-of-way. The encroachment permit is utilized to protect Caltrans’s investment during construction.

The permittee is responsible for coordinating all inspection activities with the R/W Airspace Manager, including notification to others that may be affected by the improvements. When construction is completed and accepted by Caltrans’s R/W representative, the encroachment permit file is finalized and closed, and then the provisions of the Lease Agreement govern the lessee’s operation.

500.3A General Requirements

When an encroachment permit is required (as in the case of permanent improvements), it is issued only after the execution of an Airspace Lease Agreement or a Telecommunication Site
License Agreement. The District Airspace Manager submits the following documents to the District Encroachment Permits Office for the issuance of the encroachment permit:

- A completed “Standard Encroachment Permit Application” (form TR-0100)
- “Encroachment Permit Administrative Route Slip” (form TR-0154) must be completed by the District Airspace Manager stipulating that the package is complete
- Payment and Performance Bond (forms TR-0018 and TR-0001. Usually waived for Telecommunications SLAs)
- Copy of liability insurance
- Copy of building permit by local jurisdiction
- Final construction plans, including planting and irrigation plans, approved by the District Airspace Review Committee (DARC) and FHWA

The Airspace Lessee must provide the District Airspace Manager with six (6) sets of plans and specifications for new construction of curbs, gutters, utilities, lighting, driveway approaches, paving, planting and irrigation systems, and new, modified, or rehabilitated buildings. The District Airspace Manager is responsible for circulating the plans and other documents for review and approval by the functional units.

During lease negotiations, the District Airspace Manager must meet and confer with the District Encroachment Permit Engineer to confirm the requirements between the permit’s General and Special Provisions and the Airspace Lease Agreement.

An encroachment permit may not be required when the Airspace Lease Agreement allows minor modifications to existing improvements (e.g., re-paving, change in direction of parking stall striping, change in directional signs, repairs or minor modifications to irrigation system, painting building exteriors, etc.), or when the site is located off the operational highway right-of-way, because the Airspace Lease Agreement governs these activities. The lessee is required to notify the District Airspace Manager any time construction activities are proposed on the site, and occur near structural columns.

The usable airspace parcel must not be occupied or used by the lessee until all proposed improvements are completed to the satisfaction of Caltrans’s Airspace Development Program representative. If an encroachment permit is issued, a copy of the “Progress Billing/Completion Notice” (form TR-0129) is sent to the District Permits Office and a copy to the District Airspace Manager.

Upon completion of the work and acceptance by Caltrans, the permittee must submit one set of film positive reproducible, either matte or clear, as-built plans to the District Permit Engineer, if an encroachment permit was issued. A full size, original quality as-built plan set must be forwarded to Structures Maintenance.
500.3B  Column Protection
Lessee’s plans for column protection for Airspace Lease Agreements beneath a column-supported State structure are reviewed by Structures Maintenance. Caltrans’s representative must ensure that the protection is placed and maintained during the authorized work or as required by Structures Maintenance.

500.3C  Fencing
A Caltrans standard 6-foot high chain link fence may be installed around the perimeter of the leased area with gate locations shown on the plans. Security may be enhanced by the installation of vertical brackets on the fence posts and attaching three strands of barbed wire to the brackets. The use of razor ribbon coils atop the fence is prohibited. An encroachment permit for new fencing is required, but not required for normal maintenance repair. The terms and conditions for maintenance are included in the Airspace Lease Agreement.

Alternative fencing materials (e.g., masonry, wood, etc.) can be used, but require DARC approval. The District Airspace Manager will forward a copy of the DARC’s comments and approval of the plans and specifications, including comments by HQ Structures Maintenance, to the District Permit Engineer as part of the encroachment permit application package.

500.3D  FHWA Approval on Interstate System
Airspace development plans for sites located on the Interstate System must be approved by FHWA before an encroachment permit can be issued. The District Airspace Manager forwards a copy of the FHWA approval to the District Permit Engineer when the encroachment permit application package is submitted.

Encroachment permits for short term airspace uses such as; soil testing, Christmas tree lots, interim special event parking, donation collections, and highway contractor storage use may be issued without FHWA approval.

500.3E  Encroachment Permit Application
The District Airspace Manager must obtain a completed “Standard Encroachment Permit Application” (form TR-0100) from the proposed airspace lessee as part of the submittal package.

500.3F  Telecommunications (Wireless)
Wireless telecommunications facilities installed within conventional highway right-of-way are processed through the District Encroachment Permits Office, and generally do not require an ALA or SLA.

A Site License Agreement (the equivalent to an Airspace Lease Agreement) and an encroachment permit are required to place wireless telecommunications facilities within access-controlled right-of-way, and in some instances within conventional highway right-of-way before construction can begin. The plans and specifications must contain a memorandum from the District Airspace Review Committee (DARC) that the proposed facility does not interfere
with Caltrans’s communications systems. The telecommunications carrier must be in conformance with all other requirements for the issuance of an encroachment permit. If the installation of locked gates is necessary, approval must be obtained from DARC.

Approval of wireless facilities and access to wireless facilities within access-controlled right-of-way is delegated to the DARC. Access to the wireless facility must be made from outside the right-of-way.

- **Site Survey Permits (Pre-Construction)**
  
  Districts may issue an annual “SV” permit to each wireless service carrier for all conventional highways within the District. A deposit equivalent to ten (10) hours of the Standard Hourly Rate must be collected upon submittal. If the surveying is contracted to a surveying company, a Double Permit “DP” will be required. Work within U.S. Forest Service property, other leased or prescriptive right-of-way are not authorized under Caltrans’s encroachment permit, approval must be obtained from that specific property owner by means of written permission or permit. A copy of authorization or issued permit must also be forwarded to the District Airspace Manager.

- **Constructing Individual Wireless Sites**
  
  The District Airspace Manager is responsible for the review process of all Lease Agreement submittals. Preliminary and final proposals are reviewed through the DARC before coordinating a detailed plan review and obtaining approval. Deviations from current guidelines require review from the Division of Design, Chief.

- **Future Maintenance of Facilities**
  
  When facilities are located within the operational highway right-of-way an encroachment permit may be issued to each wireless service carrier for routine and emergency maintenance work within conventional and access-controlled right-of-way within the District. The permittee must not make additions to site facilities, change access locations, or allow attachments or modifications to their equipment that would result in use by other utility providers, as approved for construction under the Master License Agreement (MLA). Maintenance requirements within access-controlled right-of-way that do not conform to current guidelines will require approval from the Division of Design, Chief.

Applicants are responsible for all Caltrans costs associated with submittals.

**500.3G This section was left blank intentionally**

**500.3H Permanent Record**

The encroachment permit is a permanent record of the privilege given to the lessee to encroach upon highway right-of-way to construct, occupy, and use the constructed improvements.
500.3I Parklets (New 03/19)

The term “parklet” refers to a small temporary constructed seating or community gathering area over an on-street parking space or an extension of the sidewalk into the operating State highway right-of-way. The purpose of a parklet is to create a safe, comfortable and inviting pedestrian experience for the general public where narrow sidewalks cannot accommodate the expansion of an area for seating or gathering without compromising pedestrian safety or walkway area. Wide sidewalks or future widening of the sidewalk may negate the need for a parklet. Parklets may be permitted to remain in place for a period of up to one year. Renewals requests will be considered and reviewed for any additional one-year periods.

The local public entity representing the area in which the parklet is proposed is responsible for its proposal, application, installation, maintenance and removal. No other type of applicants will be accepted (i.e. businesses, individuals, organizations, etc.).

Parklet proposals are administered as “Parks” under the Division of Right of Way and Land Surveys Office of Real Property Services - Property Management, Airspace, Clearance & Demolition. A Right of Way Use Agreement is required per California Government Code Section 14013 (Marler-Johnson Park Lease). The following requirements must be written into the ‘Use’ clause of the agreement.

- Parklets must be open for use by the general public.
- Parklets must support the needs of local communities.
- Parklets may include seating areas, benches, tables, bike racks, and planting areas.
- Parklets must be constructed and/or installed to conform with the Americans with Disabilities Act Accessibility Guidelines (ADAAG).
- Parklets are not intended to replace walkways.
- Parklets must be properly maintained and kept free of trash or nuisance.
- Parklets must include signage designating the parklet as a public space not reserved for patrons of adjacent businesses.
- Parklets may include a sign identifying the local public entity. No commercial advertising is permitted.
- Vending and/or table service on parklets is strictly prohibited.
- Tables and seating must be distinct from those of nearby businesses.

Parklet Proposal Package & Process

The parklet proposal package must include a project narrative, site plan, photos and comply with the parklet design requirements. It is initially submitted to the Region / District Division of Right of Way and Land Surveys Office of Real Property Services - Property Management, Airspace, Clearance & Demolition to ensure that the parklet location and use will not risk public safety or interfere with the State highway’s primary transportation use. If deemed acceptable, the proposal is then forwarded to the District Airspace Review Committee (DARC) for review.
Once a parklet proposal package has been approved by the Region / District Division Right of Way and Land Surveys Office of Real Property Services - Property Management, Airspace, Clearance & Demolition unit, a complete 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.

A complete application package must contain:

- A completed “Standard Encroachment Permit Application” (form TR-0100).
- “Encroachment Permit Administrative Route Slip” (form TR-0154).
- “Certification of Compliance with Americans with Disabilities Act” (form TR-0405).
- Copy of the fully executed Right of Way Use Agreement.
- Local interest and support for the parklet in the form of an adopted ordinance, resolution, or written consent from all the local public entities impacted directly.

Project Narrative
The project narrative must include a short project description (800 words or less) which must include the following elements:

1. Identify the proposed parklet as an element of the Caltrans Complete Streets and Multi-Modal Transportation Plan.
2. Identify benefits from the parklet to the neighborhood in the immediate vicinity.
3. Identify how the community can participate in the creation and/or stewardship of the parklet.
4. Identify the proposed schedule for opening of the parklet.
5. Provide information of the parklet designer, including experience in the design of similar facilities.

Parklet Design Requirements
Structural plans, calculations and specifications are required when an elevated platform is proposed and must be prepared by a licensed California Civil or Structural Engineer. Drainage plans, calculations, and specifications are required when changes to the drainage system capacity are proposed and must be prepared by a licensed California Civil Engineer and in compliance with chapter 800 of the Highway Design Manual. A Flood plain encroachment study must be completed in accordance with the Federal Highway Administration standards, if drainage is changed within a federal highway facility.

1. Parklet location is evaluated using the current Highway Design Manual policy for shoulder width, clear recovery zone, horizontal clearance and corner sight distance. A Design Standard Decision Document will be required for any deviations.
2. Parklets may be allowed on highways where the speed limit is 30 mph or less.
3. Parklets are located along the curb line on highways where on-street parking spaces exist (parallel, diagonal or perpendicular parking). Parklets may be considered in locations where marked parking spaces are not available if marking is provided by the local public entity.

4. For parallel parking, the parklet structure must be set back 48 inches from adjacent marked parking spaces. For diagonal and perpendicular parking spaces, the edge of the parklet structure must be set back 36 inches from the adjacent parking space on either side.

5. No portion of the parklet may extend more than 36 inches above the surface of the roadway, except for landscape planting.

6. Landscape planting must be free from thorns. Trees must be small trees as defined in chapter 900 of the Highway Design Manual. Trees must be single trunk. Select tree species that can be maintained with an 8-foot clearance from the surface of the roadway to the lowest branches and foliage. Select plant species, excluding trees, which can be maintained to not extend into the travelled way or adjacent parking space and with a maximum height of 42 inches above the road surface.

7. The local public entity must establish the location of a parking stall line/edge of travel way.

8. Parking spaces adjacent to parklets must have parking bumpers a minimum of 4 feet from both sides of the parklet.

9. Space for curbside trash collection of adjacent property owners on both sides of the parklet must be considered.

10. Parklet railing opening must not exceed 4 inches for visual identification and to keep children from leaving the parklet area and encroaching into the traveled way.

11. Parklet substructure must accommodate the crown of the road and provide a slip resistant level surface.

12. No bolting to the state highway or curb is allowed.

13. Parklets must
   - comply with the American with Disabilities Act (ADA) and Design Information Bulletin 82. ADA certification is required (See Section 500A).
   - not be placed over ADA parking spaces or adjacent to red, yellow, white, or green curb zones, hydrants, newspaper vending machines, or postal collection boxes.
   - not restrict access to emergency vehicles, transit routes or public utilities.
   - not inhibit drainage capacity.
   - be located in well-lit areas.
   - be at least one parking space distance from any intersection curb returns.
   - be a minimum of 2 feet from the established parking stall line, edge of travel way, or bicycle lane, whichever allows for the greatest distance between the parklet and public traffic.
   - have a minimum height of 24 inches for visual identification for approaching vehicles.
• have a flush transition at the sidewalk to avoid tripping hazards. Object markers and delineators must be used to enhance the visibility of the parklets.

• be closed off to pedestrians on 3 sides, and open to the sidewalk side only. No pedestrian access will be allowed from the vehicular traffic side.

To avoid creating a distraction to the traveling public, parklets must not include the following elements:

1. Colors or combination of colors usually reserved for official traffic control devices described in the California Manual of Uniform Traffic Control Devices (CA MUTCD).

2. Illumination including blinking or intermittent lights.

3. Text that makes special interest, private, religious, or political statements.

4. Text that includes business names, trade names, jingles, or slogans.

5. Reflective glaring surface finishes.

6. Out of scale with its surroundings.

7. Seating that is not integrated into the design elements.

8. Interference with traffic control devices.

9. Moving elements (kinetic art) or simulated movement.

10. Symbols or icons, including flags and logos.

Site Plan and Photos

The site plan must be drawn to scale, with dimensions and show the parklet footprint and the following elements at least 20 feet on both sides as shown in Figure 1.

1. Parklet location and adjacent properties (existing bridge number, building or property address).

2. Horizontal dimensions from bridge supports to proposed parklet (if located under an existing bridge).

3. Parklet setback dimensions from adjacent parking spaces (48 inches minimum) and from adjacent bicycle lane or edge of travel way (24 inches minimum).

4. Adjacent bicycle lane (if existing) or auto traffic lane(s).

5. Existing parking meters with numbers of all parking meters to be covered or removed.

6. Location of existing trees and tree pits.

7. Existing sidewalk width(s).

8. Location of existing utilities in the street and sidewalk.

9. Location of other existing sidewalk features near proposed parklet area (fire hydrants, streetlights, utility poles and access panels, bicycle racks, etc.).

10. Existing curb ramps and driveways.

11. Location of existing drainage system.
12. All colored curb zones (red, yellow, green, white, blue).

*Figure 1. Site Plan Example*

Photos must also be provided with the parklet submittal package and taken from specific angles around the proposed parklet site. Photos must depict existing conditions, drainage, utilities, sidewalk, curb and gutter, and pavement conditions. Image files are to be named using the conventions shown in Figure 2:
Chapter 500 - Specific Encroachment Permits

500.4 Permits Issued by Cities and Counties

**Permit Code CC**
Cities and counties may issue specific encroachment permits on **conventional** State highways when authorized by a written agreement with Caltrans (See Appendix B). The specific permit types must be documented in the agreement. This agreement must be on file in the District Office and a copy forwarded to Headquarters Office of Encroachment Permits.

With an agreement, cities and counties may issue encroachment permits for **specific** activities under the following permit codes:

- **BR** Temporary Banners, Signs, Decorations – New or Repeat
- **CS** Curb, gutter, sidewalk (Removal or Repair of existing only)
- **FN** Fence Repair (Removal or Repair of existing only)
- **MB** Mail or Newspaper Delivery Boxes
- **RS** Driveway – Resurface, Reissue (for record purposes only)
- **SV** Land Survey – Conventional Highways only

Current Caltrans’ forms must be utilized. All work must be in conformance with State policy and State design standards, unless local standards are more restrictive. The city or county must provide quality assurance personnel for review, inspection, and final acceptance.

The city or county must collect sufficient fees from the permittee to cover their cost of permit issuance, review, and inspection. Immediately after issuance, the city or county must provide Caltrans copy of the issued permits. Caltrans will retain these in their permanent permit files. After project completion, the city or county must send the completion notice, as-built plans, and other data requested by Caltrans to the District Permit Engineer for microfilming. The required data is specified in the agreement.
The city or county must maintain files on all permits issued on State highways. Federal regulations require Caltrans to monitor permits on the National Highway System. The city or county must make the permit files available for inspection at the request of the District Permit Engineer.

Table 5.3 lists the procedures that must be utilized by cities and counties in reviewing and processing permits issued on behalf of Caltrans.
Table 5.3
Caltrans’ Procedures for Reviewing and Processing Permits
Issued by Cities and Counties

Use these procedures in reviewing and processing encroachment permits issued by cities and counties:

1. The city or county reviews the permit application for completeness and sends it to the respective Caltrans’ District Permit Engineer.
2. The permit application is then Simplex stamped in the District Office and a copy is sent back to the city or county to issue the permit.
3. The city or county then issues the permit and sends a copy to Caltrans. Caltrans retains a copy in the District Encroachment Permits Office and sends a copy to the appropriate Caltrans permit inspector and the area maintenance superintendent for information purposes only.
4. Any Caltrans’ administrative or permit processing charges are not billed on permits issued by cities or counties.
5. Any Caltrans’ normal cursory inspection monitoring is not billed for permits issued by cities and counties.

500.5 Chain Installer Operations (Rev 01/18)

Permit Code CN

Permit code CN is used to allow snow tire chain installers within the right-of-way for the benefit of motorists traveling in snow areas. Section 670 of the Streets and Highways Code authorizes these permits.

Districts issuing chain installer permits must institute a yearly training and testing program. Permit applicants must participate in an orientation session, pass both a written and a performance test during which snow chains must be installed properly within five minutes. Testing is conducted by either the District Encroachment Permits Office or the Maintenance Regional Managers Office and must be completed before a permit is issued. All administrative work, permittee training, testing and inspection time must be charged to the Maintenance Project Code for snow removal.

The “Chain Installer Permit Application/Release of Liability” (form TR-0106) and the “Chain Installer Permit” (form TR-0107) indicate the current fee and include the permit conditions. These forms are updated as needed by the HQ Office of Encroachment Permits and sent to all participating Districts. District Encroachment Permits Offices that do not administer the chain installer program should simplex-stamp the applications and distribute them to the Maintenance Regional Managers for permit issuance upon completion of testing.
District Division of Maintenance staff is responsible for ordering sets of consecutively numbered chain installer safety vests from the California Prison Industry Authority (CALPIA). Each permittee receives one vest with their permit. A permittee may apply for a second chain installer permit in another District, provided there is no established waiting list.

Loss of a permit or vest must be immediately reported to the District Encroachment Permits Office that issued the permit. A duplicate permit will be issued upon payment of the administrative fee (equal to one hour multiplied by the Standard Hourly Rate). A replacement vest will be issued upon payment of the administrative fee plus the cost of the vest itself.

Vests not used during the year may be retained in storage for future use.

The number of permits available for issuance is limited. First consideration must be given to prior applicants of the previous winter season, providing their permits were not suspended for more than 30 days or revoked during the previous winter season.

Any permits suspended near the end of the winter season, and/or if the suspension is found to be ineffective at the time so ordered in the opinion of the District Permit Engineer, may be applied to the next winter season if so stated in the letter of suspension to the permittee.

Appeals of any punitive action taken against a chain installer permittee must be submitted in writing within five (5) business days to the District Permit Engineer.

A written decision must be rendered within ten (10) business days from the receipt of the written appeal. The District Permit Engineer’s written decision may be appealed in writing within five (5) business days, to the District Director in which the permit was issued. The District Director’s decision must be rendered in writing within ten (10) working days from the receipt of the appeal, and this decision is final (There are no further administrative rights of appeal.).

Penalties noted in the “Chain Installer Permit Application/Release of Liability” (form TR-0106) and the “Chain Installer Permit” (form TR-0107) are the minimum. Severe penalties may be imposed for any infraction of Permit Conditions if warranted by the circumstances, or by the permittee’s conduct.

**500.6 Commercial Use**

*Permit Code CU*

**500.6A Newspaper Vending Machines**

No-fee permits are issued for placing newspaper vending machines within conventional highway right-of-way. Caltrans should work with servicing news organizations to select safe locations for vending machines and encourage placement of machines on private property. Permits are issued to news organizations for their individual vending machines when no practical location exists outside the right-of-way in the area requested.
Districts may remove existing newspaper vending machines placed without a permit and cite them as illegal encroachments. When vending machines obstruct pedestrians or present a traffic hazard, the news organization must relocate or remove the obstructing vending machines.

Coin-operated newspaper vending machines featuring sex-oriented magazines and newspapers are not permitted within State right-of-way [California Penal Code Section 313.1 (c) (1)].

Newspaper vending machines must have a minimum 2 feet horizontal clearance to the face of curb and provide 4 feet of clear sidewalk. They must comply with standards for clear recovery zone and breakaway design if Districts determine that the installation would constitute a fixed object. Vending machines displaying advertising for other than the newspaper must be removed.

Newspaper vending machines are not authorized, and permits are not issued, within access-controlled right-of-way except as provided in Section 500.6B. Maintenance will immediately remove machines located within the access-controlled right-of-way, except for those statutorily authorized in roadside rest areas under a “Newspaper Distribution Agreement” (form TR-0150, see Appendix B) prepared by the District Landscape Architect.

500.6B Safety Roadside Rest Areas and Vista Points
The District Safety Roadside Rest Area Coordinator is responsible for activities pertaining to safety roadside rest areas. Vista Points’ activities are the responsibility of the District Landscape Architect. Applications that require an encroachment permit will be reviewed and approved by the appropriate functional units coordinated by the appropriate coordinator and the project documents transmitted to the District Permits Engineer by an “Encroachment Permits Administrative Route Slip” (form TR-0154) authorizing the issuance of an encroachment permit.

For a list of the Safety Roadside Rest Areas Coordinators and District Landscape Architects go to the Caltrans Landscape Architecture Contacts website:

http://www.dot.ca.gov/design/ lap/contactus.html

The coordinator performs all reviews, field studies, and document preparation before sending the completed package to the District Permit Engineer for permit issuance. Applications for the placement of Newspaper vending machines require a completed Newspaper Distribution Agreement (form TR-0150) and a deposit/fee equal to four (4) hours times the SHR. Refer to “Newspaper Distribution Guidelines for Safety Roadside Rest Areas” in Appendix E for additional information.

Safety Roadside Rest Areas and Vista Points are not a public forum. These facilities are part of the State Highway System and are not intended for exercising First Amendment rights.
Solicitation, the distribution of goods or literature, the use as a public forum, and vending activities are not permitted in safety roadside rest areas and vista points except as described below.

Activities that require a permit and the responsible Headquarters jurisdiction are listed as follows:

- Newspaper Vending Machines
- Vending Machines
- Coin/Credit Card Telephones
- Coupon Distribution

Landscape Architecture

Telecommunications

Maintenance

The Streets and Highways Code, Section 220.5 authorize the placement of vending machines and any associated shelter or structure to house the vending machines at safety roadside rest areas. One permit is issued for each site to the California Department of Rehabilitation for construction and maintenance of vending machine and any associated shelter or structure to house the vending machines. A double permit is issued to the contractor installing and maintaining the vending machines and any associated shelter or structure to house the vending machines.

For additional permitting information, see the California Code of Regulation, Title 21, Division 2, Chapter 20, Article 4.

Uses not requiring a permit and the responsible Headquarters jurisdiction are listed below:

- Agricultural Displays
- Traveler Information Centers

Landscape Architecture

Maintenance

Agricultural Displays and Traveler Information Centers are governed under the terms of agreements administered by the Maintenance and Landscape Architecture. Other proposed activities or uses may require an encroachment permit. For determinations, contact Headquarters Office of Permits.

500.6C Demonstration & Experimental Projects for Commercial Use of Right-of-way

The Division of Right of Way is involved with demonstration or experimental projects involving commercial use of the right-of-way authorized by statute. The most apparent project type is a commercial kiosk used for advertising in roadside rest areas. This program involves placement of private property within the right-of-way. Right of Way manages these programs and coordinates all reviews. Permits are issued when applications are approved by Right of Way.
Chapter 500 - Specific Encroachment Permits

500.7 - 500.9 These sections were left blank intentionally

500.10 Oversight Projects

Permit Code OP

An Oversight Project (OP) permit is issued for highway improvement projects funded-by-others. A Caltrans functional unit (usually Design), other than the District Encroachment Permits Office has responsibility for these projects including, but not limited to, plan review and approval, storm water document quality assurance, obtaining encroachment permits and executing cooperative or highway improvement agreements. The Project Development Procedures Manual and Deputy Directive 23 have further information on projects-funded-by-others.

Projects with construction costs greater than $1,000,000 for work within the existing or future State highway right-of-way, or complex (as described in Chapter 100 of this manual) is an Oversight Project. These projects can be financed with a local sales tax measure, a locally funded non-sales tax, or private funds. These projects are not included in a State programming document such as the STIP or SHOPP.

The Caltrans Project Manager will develop a workplan and provide a Project Code. The Project Manager should consult with the District Permit Engineer during workplan development to ensure that the District Encroachment Permits Office is appropriately resourced. Time expended by Encroachment Permits’ staff on oversight projects must be charged directly to the Oversight Project’s Project Code.

Once all reviews and approvals have been obtained by the Caltrans Project Manager, a complete 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.

Table 5.4
Application Package Submittal Requirements for Oversight Projects

<table>
<thead>
<tr>
<th>Requirement</th>
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<tbody>
<tr>
<td>1. A completed “Standard Encroachment Permit Application” (form TR-0100).</td>
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<tr>
<td>2. A completed “Encroachment Permit Administrative Route Slip” (form TR-0154) provided by the responsible functional unit transmitting project approval and all required items. This form indicates that the project has addressed all concerns by Caltrans functional units and is “ready to proceed”.</td>
</tr>
<tr>
<td>3. A copy of the Approved Project Initiation Document (PEER, PSR-PDS, PSR).</td>
</tr>
<tr>
<td>4. A copy of the fully executed Cooperative or Highway Improvement Agreement.</td>
</tr>
<tr>
<td>5. Right of Way Certification, including high and low risk utility clearances.</td>
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</tbody>
</table>
6. Written substantiation by the functional reviewing unit that all comments and revisions requested have been addressed.

7. All plans (except for utility plans) are signed and stamped by a California Registered Engineer.

8. The proper Caltrans functional unit has signed off on all specialty design plan sheets (signalization, signing, striping, electrical, etc.).

9. Construction oversight information provided (Project Code, Resident Engineer’s name, location, and phone number).

10. Seven (7) sets of folded plans, in U.S. Customary (English) units must be provided, reduced copies are preferred. Additional plan sets may be required prior to issuance of the permit, depending on the type of project.

11. Functional reviewing units requiring a copy of the permit package must submit their request in writing.
   - Normal distribution of the permit package:
     Maintenance Regional Manager – 1
     Project Development – 1
     District Construction Division – 2
     Permits Office – 1
     Permittee – 1
     Permittee’s Contractor – “DP”

   - If applicable, also include:
     Traffic Electrical – 1
     HQ Structures – 1
     Structures Construction – 1

Additional information for the applicant:

1. Applicant’s contractor will be required to obtain an Encroachment Permit, coded “DP” (double permit).
   a. The cooperative agreement must contain a fee waiver statement; otherwise, the Contractor will be required to pay the encroachment permit hourly rate for the total actual time of inspection and oversight expended.
   b. The applicant must provide substantiation that the Contractor has met the Bonding requirements in Sec. 3-1.05 of Caltrans’ Standard Specifications and must be included within the Contractor’s Permit.
501 GENERAL TYPES OF PERMITS

The types of encroachment permits listed in Table 5.1A and Table 5.1B generally have only one permit code. They cover a wide range of authorized activities and the scope of permitted activities may vary from routine to complex. Many of the activities covered by these permit types do not require preparation of a Permit Engineering Evaluation Report (Section 202.2).

Permits covering several project locations or Districts are called blanket permits. Generally, they are issued for utility facility service connections and routine maintenance as described in Chapter 600. However, blanket permits issued for other permit types are discussed in appropriate sections of this chapter.

ANNUAL/BIENNIALS

District review (Hydraulics, Traffic Operations, etc.) is required for a new biennial permit. The District Permit Engineer may elect to re-issue the permit without the District review if all Caltrans’ requirements are satisfied and field conditions have not changed from the original biennial permit, for the same permittee.

Permits may be issued as a two-year permit (biennial) subject to the discretion of the District Permit Engineer as indicated in the appropriate sections of this chapter and the next chapter. A summary of these permits is as follows:

Table 5.5

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BR</td>
<td>Banners</td>
<td>SV</td>
<td>Engineering Services</td>
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<tr>
<td>BS</td>
<td>Bus Shelters &amp; Benches</td>
<td>SV</td>
<td>Land Surveys</td>
</tr>
<tr>
<td>GC</td>
<td>Cable Crossing (Geophysical)</td>
<td>SV</td>
<td>Research Projects Funded by FHWA</td>
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<td>GV</td>
<td>Seismic Vibrator (Geophysical)</td>
<td>SV</td>
<td>Soil Surveys</td>
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<td>Planned Sobriety Checkpoints</td>
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<td>LT</td>
<td>Tree Pruning (Trimming) and/or Removal</td>
<td>RX</td>
<td>Railroad Grade Crossing Maintenance</td>
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<td>MC</td>
<td>Mowing Grass by Adjacent Property Owners</td>
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<td>Grading</td>
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<td>Visibility Improvement Request</td>
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</tbody>
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501.1 Litter, Vegetation, and Roadside Cleanup

Consent Letter

A “Consent Letter” (form TR-0131) for litter, vegetation, roadside cleanup, and minor forest service products may be issued by the Maintenance Area Superintendent for one-day activities of a type that do not meet the requirements of Caltrans’ Adopt-A-Highway Program. The Consent Letter is issued to an individual or group for a one-time cleanup effort. It contains all provisions that apply to work along the highway at the location specified by the applicant and approved by
the Maintenance Area Superintendent. The Deputy District Director-Maintenance may approve multiple dates at his or her discretion (maximum of three consecutive days).

501.2 Salvage Operations

Consent Letter
The Maintenance Area Superintendent issues salvage permits by issuing a Consent Letter.

Individual salvage permits are required for each specific return to an accident scene by an owner or authorized agent to remove wrecked vehicles or their loads.

Salvage permits are not required when the life or safety of vehicle occupants is involved, to recover victims, to remove wrecked vehicles or their loads that are blocking the roadway, or when a law enforcement officer orders removal from alongside the highway.

In addition, a transportation permit issued by the Caltrans Transportation Permits Issuance Branch is required for oversize or overweight tows. For more information on Transportation Permits go to:

http://www.dot.ca.gov/trafficops/permits/index.html

501.3 On-Premise Advertising Displays, Arcades, Awnings, and Marquees

Permit Code AD
AD permits authorize installation and maintenance of on-premise advertising displays, arcades, awnings, and marquees. The following sections describe the general requirements that apply to all AD permits and the specific conditions that apply to each type of installation.

501.3A On-Premise Advertising Displays
AD permits are allowed only for on-premise installations as defined in the Business and Professions Code, Division 3, Chapters 2 and 2.5. Maintenance agreements or more restrictive ordinances or regulations by any city or county take precedence over this section.

An AD permit must not be issued if the proposed installation creates a hazardous condition because of a curb, gutter, cross slope etc., or if the encroachment is an integral structural portion of a building (including: roof eaves, new bay window, and cantilevered upper floors).

A structure advertising the business conducted on the premises may overhang the conventional highway right-of-way if it meets all the conditions specified in Table 5.6.

Contact the Headquarters Chief of Outdoor Advertising Program when questions arise as to whether or not a display conforms to Caltrans’ Outdoor Advertising Regulations.
Chapter 500 - Specific Encroachment Permits

**Table 5.6**

Guidelines for Allowing a Structure to Overhang the Conventional Highway Right-Of-Way

<table>
<thead>
<tr>
<th>An advertising display structure may overhang State right-of-way if it satisfies all of these conditions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Conforms to local building code.</td>
</tr>
<tr>
<td>2. Structurally adequate.</td>
</tr>
<tr>
<td>3. Supporting structure is outside the right-of-way. This includes freestanding or attached to the building it serves (except in special cases where arcades are permitted).</td>
</tr>
<tr>
<td>4. Overhang may not extend closer than 24 inches horizontally from the curb face. Exceptions are in historical districts where overhangs are permissible to the curb face. Curbs or other approved safety barriers should protect sign structures.</td>
</tr>
<tr>
<td>5. Preferred minimum vertical clearance from the sidewalk is 12 feet. A minimum 8 feet clearance is acceptable when local codes are satisfied.</td>
</tr>
<tr>
<td>6. No flashing, rotating or intermittent lights are allowed except for approved public service information signs. Signs containing red, yellow, or green lights are not permitted when they interfere with perception of traffic signals.</td>
</tr>
<tr>
<td>7. Wording on the sign may identify only the name of the owner or occupant of the premises or to identify the premises, goods sold or produced, or services rendered on the premises.</td>
</tr>
<tr>
<td>8. Displays must not interfere with or hide traffic signals or traffic signs.</td>
</tr>
<tr>
<td>9. Any future change in wording or location of a sign requires a separate permit.</td>
</tr>
</tbody>
</table>

**501.3B Arcades**

Arcades are quasi-permanent, awning-type structures that cover sidewalk areas. They generally are supported by buildings and, when permitted, by freestanding posts on the sidewalks. ADA Certification is required if poles are proposed in the design.

Arcades must not be a structural part of the building roof trusses. They also must not interfere with traffic signals and signs, nor have structural posts that reduce horizontal sidewalk clearance to less than that required under the current Design Information Bulletin 82 (DIB 82). For other requirements, see Table 5.7.

**501.3C Awnings**

An awning is a temporary removable or retractable shelter supported entirely from the exterior wall of a building. Awnings may identify only the owner or place of business.
501.3D Marquees
A marquee must be supported entirely by the building. Any drainage from the marquee must not fall on, or drain across, the sidewalk.

501.4 – 501.6 These sections were left blank intentionally

501.7 Banners and Decorations

*Permit Code BR*

Banners and Decorations are permitted only on conventional highways—they are not allowed within access-controlled right-of-way.

BR permits authorize the erection of banners, decorations, and temporary signing for events by nonprofit organizations over and within State conventional highway right-of-way.

Permanent overhead signs or arches may not be erected or suspended over any State highway. Temporary political signs placed within State highway right-of-way are prohibited by the Business and Professions Code, Section 5405.3, and must be removed immediately.

Authorized banners and decorations over the roadway must have a clearance of at least 18 feet and be suspended securely from permanent structures or poles. Vertical clearance must be 20 feet on Extralegal Load Network (ELLN) highways. No temporary supports are allowed, and use of State facilities is prohibited.

501.7A Non-Decorative Banners
Permits for Non-Decorative banners are issued to a local agency or a nonprofit organization sponsoring an event approved by the local agency. Banners displaying private advertisements are not allowed. An exception is when the advertisement is part of the event's official title (e.g. Kellogg's Napa Valley Marathon). Banners are not authorized within access-controlled right-of-way nor must they be attached to State facilities.

Districts may issue biennial permits to local agencies for installation of Non-Decorative banners at specific locations for recurring events. The local agency then authorizes each banner installation, notifies the State’s representative, and provides traffic control.

The restrictions for Non-Decorative banners are listed in Table 5.7 and apply to both individual banner permits and annual/biennial permits to local agencies.
### Table 5.7
**Guidelines for Installation of Banners in Conventional Highway Right-of-way**

1. The event must be approved by the local government having jurisdiction.
2. Display is allowed only within the community that is staging the event, or immediately adjacent to the event location.
3. The banner must be made of substantial material, such as: cloth, canvas, or plastic.
4. The permit engineer must determine the maximum number of banners allowed.
5. Rope must be without knots.
6. Banners must not contain private advertising whether in text or logo format. However, brief text, and/or logos identifying the applicant's local agency (city or county) are allowed. The telephone number of the nonprofit organizations may be included.
7. The lowest point of the banner must be at least 18 feet above the highway pavement and 20 feet on Extralegal Load Network highways.
8. Suspension or installation of banners is prohibited on State-owned traffic signal poles or other State-owned facilities.
9. Local police may provide traffic control while the banner is being installed or removed.
10. The display may be allowed two weeks before the event and may remain in place for the duration of the event. However, the total period of display should not exceed six weeks.

### 501.7B Decorative Banners

Decorative banner permits are issued to local agencies for beautification enhancement of their local streets. As a minimum, decorative banners must:

1. Be used exclusively on conventional highways.
2. Not contain advertising whether in text or logo format. However, decorative text or brief text, and/or logos identifying the applicant local agencies, (e.g. cities and counties) are allowed.
3. Remain in place for periods up to two years--the normal biennial permit duration. However, at the end of the two years, the local agency may reapply.
4. Be applied for by the local agency.

By State statute, the flags of the United States of America and the State of California may be placed on sidewalks within State conventional highway right-of-way. Encroachment permits are not required within city corporate boundaries; however, Caltrans should approve the method of installation and maintenance. In unincorporated county areas, no-fee permits are issued for flag installations after any needed traffic and maintenance reviews are completed. Applicants usually
are local agencies and civic organizations, but individuals may make applications for flags displayed within the right-of-way immediately fronting their property.

501.7C Holiday Decorations
Holiday decorations are permitted only on conventional highways—they are not allowed within access-controlled right-of-way.

Decorations attached to vertical structures (other than State-owned facilities) such as power, telephone, or light poles are not to project beyond the curb line and must be at least 14 feet above the sidewalk. Decorations attached to vertical structures that project beyond the curb line or cross the highway must have a minimum vertical clearance of 18 feet above the highway pavement and 20 feet on Extralegal Load Network (ELLN) highways. Decorations must not be attached to State-owned facilities.

Decorative red, yellow, or green lights must not be placed where it could interfere with the driver’s perception of traffic signals.

501.8 Bus Passenger Waiting Shelters and Benches

Permit Code BS
BS permits authorize the construction of bus passenger waiting shelters and benches within the State right-of-way. A biennial BS permit should also be issued for the continued maintenance of the facility and advertising panels. The following sections describe the general requirements for bus shelters and the specific conditions that apply to advertising, clearances, construction details, and telephones associated with bus shelters and benches.

501.8A General Requirements
Permits may be granted to local agencies or transportation districts to construct bus passenger waiting shelters or benches within the right-of-way at official bus stops on conventional highways. The shelter design must comply with design standards of the local agency, transit agency, or Caltrans, whichever is most stringent. ADA certification is required. See the ADA certification section at the beginning of this Chapter.

Bus shelters or benches must not restrict sight distances.

501.8B Advertising
Generally, advertising within the right-of-way is prohibited by the California Constitution for to allow it could be a gifting of public funds. Specifically, it is prohibited by State statute (Streets and Highways Code 721 and Business and Professions Code 5403). Even if Caltrans received revenues for sign placement, such signs would soon clutter the highways, become a distraction to motorists, and degrade any scenic value. However, advertising on bus shelters and benches is permissible (Business and Professions Code 5408.5) provided advertising displays are not within 660 feet of and visible from any roadway segment on the National Highway System. Advertising
displays within 660 feet of, and visible from, any urban highway must be consistent with federal laws and regulations.

Advertising displays must be placed only at approved passenger loading areas and must not extend beyond the exterior limits of the shelter or bench. Advertising must not exceed two display panels per shelter or bench.

501.8C Clearance
Complete State ADA design requirements are provided in the current Design Information Bulletin 82 (DIB 82).

501.8D Construction Details
The minimum structural section design is in Index 626.4(3) of the HDM. When the existing bus pad does not meet this minimum standard, the local agency or bus transit district must reconstruct the highway at new bus stop to accept the continued vehicle loading. In addition, the permittee must ensure that all pavement is saw-cut before removal and must replace, in kind, any pavement markings that are damaged.

501.8E Telephones in Shelters
Coin-activated or credit-card-activated telephones may be placed in bus passenger shelters located on conventional State highways. Permits authorizing phone installations are issued to the local agency or transit district. A separate encroachment permit (double permit) must be issued to the installing company for telephone installation and maintenance.

Placing telephones in new transit shelters is authorized by the shelter permit. Permission to add a telephone to an existing shelter is provided in a rider to the original permit authorizing the shelter or in a new permit to the local agency or district.

Local agencies must adopt a parking ordinance restricting parking in front of newly established bus stops and submit it to the District Director for approval.

501.9 This section was left blank intentionally

501.10 Commercial Development

Permit Code CD
The encroachment permit code (CD) is issued for commercial developments, which are usually associated with large shopping centers or office complexes. However, housing and apartment complexes often are included when they impact State highways. Work involved in commercial development generally is more than what can be classified under a single permit type or code.

Curb, gutter, sidewalk, commercial driveways, drainage, and street lighting are common work in commercial development. Signal work sometimes is a required improvement in such
developments, and an “SN” permit code should be considered if the work involves primarily signals and lighting.

If highway improvements are required, all pedestrian facilities within the limits of the project’s scope need to comply with the current Design Information Bulletin 82 (DIB 82). If the pedestrian facility on one corner of an intersection requires modification in order to comply with DIB 82, then all adjacent corners connected by a pedestrian path are considered to be within the scope of work and are required to comply with DIB 82.

### 501.10A Dedication of Public and Private Property to Caltrans

Dedications are the setting aside of properties for public use without compensation, as a condition prior to the granting of building licenses, permits, or zoning variances for land use. When development occurs or land use changes are proposed, local agencies, through their police powers, may require these dedications. Property owners must initiate the request that triggers the dedication. Valid dedications can be accepted throughout the project development process.

The dedication process is initiated when an owner applies to a governmental entity for an action on the part of that agency that will enhance the value of development potential of the applicant's property. Where this process impacts transportation facilities and a logical connection can be established between the development or land use change and a transportation project, Caltrans should encourage local agencies to impose reasonable dedication requirements. This process will typically involve Caltrans's Transportation Planning Branch with Right of Way acting in a review and advisory capacity.

When a property owner proposes to dedicate property to a local agency for Caltrans use in conjunction with an encroachment permit project, the District Permit Engineer must not issue the encroachment permit until the dedication is made and the property has been conveyed to Caltrans. District Right of Way will process the dedication and should be contacted from the outset to insure the dedication and any other realty issues are handled in the appropriate manner.

Caltrans must not accept parcels with hazardous contaminants, especially military sites, junkyards, landfills, and gasoline service stations. These parcels may contain known or unknown contaminants. The donor must be required to furnish certification detailing known contaminants in the parcel or stating that no known pollutants are present.

The District Hazardous Waste Coordinator must be consulted in all cases of suspected hazardous contaminates. Environmental clearance and utility clearance are necessary before acceptance of property dedications.

Property dedicated to Caltrans should only include that portion of property necessary to mitigate the development’s impact on the highway. These impacts are often a result of increased traffic, drainage, or a need for safe access. Caltrans has no legal authority to require more property than necessary to satisfy the mitigation. Dedication to ultimate highway width along an entire...
property frontage cannot be mandated by Caltrans unless the local agency has placed that condition on the applicant. Requiring excessive dedications is a form of inverse condemnation where there is a loss of assets without proper compensation.

Imposing mitigation conditions as a requisite for a construction permit may be unconstitutional unless the conditions are directly related to the project. Relationship of conditions to the project must conform in nature and extent and be substantiated with quantifiable data.

Local agencies have elected authority over their jurisdiction, and by that authority can develop and implement general and specific plans. Encroachment permit engineers should work with District and local agency planning units to assist with plans that will ensure the future highway needs. Local agencies should be made aware that continued operational capacity of the highway relies on their effective plan implementation and management.

When private property is dedicated to the State as a mitigation measure, the applicant must supply the encroachment permit engineer the following information:

1. A copy of title report with its documents
2. A legal description
3. Parcel map of the area
4. Copies of any recorded maps referred to in the documents

Documentation for the area to be dedicated is checked, revised if necessary, and returned to the applicant. The applicant obtains required signatures and returns the deed to Caltrans for signature by the Deputy Director of Right of Way. The deed then is returned to the applicant for recording and returned to Caltrans for our files. An encroachment permit is not issued until the deed has been recorded.

501.11 This section was left blank intentionally

501.12 Curb, Gutter, and Sidewalk

**Permit Code CS**

CS permits authorize construction and maintenance of curbs, gutters and sidewalks, which normally are used in urban areas to control drainage and provide accessibility. ADA Certification is required (See Section 500 and Chapter 200). Except for medians and typical installations at right-turn channels, etc., curbs are not a traffic control device and should not be used solely for traffic channelization without approval by District Traffic (See Section 508.10, “Protection of Survey Monuments”).

The CS permit code applies to residential and small commercial proposals that involve more work than driveway openings classified as RS, RM, or RC permits. The work also could involve minor paving, curb ramps, minor signing, and installation of one or two luminaires that are owned and maintained by a city or county. Signal work and installation or relocation of State
safety lighting are classified as SN or CD permits, and are not allowed under a CS permit because they require intensive review and inspection.

Designs for curb ramps that are proposed in new construction or as a retrofit must satisfy requirements shown in the standard plans.

Multi-year CS permits may be issued to local agencies (cities and counties) for up to two years. Should standards change during the term of the encroachment permit, the permittee must comply with current State standards and specifications. CS permits authorize reconstruction, repair, and replacement of existing curbs, gutters, curb ramps, and sidewalks. These structures must conform to existing dimensions, configurations, alignments, and grades. Drainage facilities must not be modified and healthy trees must not be removed.

501.13 This section was left blank intentionally

501.14 Double Permit

*Permit Code DP*

An encroachment permit must be issued to the owner of the encroachment. When encroachment work is performed by someone other than the owner, the contractor also may be required by the District to obtain a permit for the work. This practice is called double permitting and is required to recover inspection charges when the original permittee is a public corporation having its work performed by contract (Section 601).

When double permitting is required, the following clause is inserted in the original permit:

“Notwithstanding General Provision #4, your contractor is required to apply for and obtain an encroachment permit prior to starting work. A fee/deposit of $___________ is required at the time of application.”

The contractor must keep on site copies of both the owner’s and the contractor’s permits.

The DPE may require double permits on routine encroachments. Some examples of routine encroachments are residential driveways, sidewalks, and customary utility work. Double permitting for routine encroachments may be required when Caltrans previously had difficulty securing compliance with permit provisions by either the permittee or contractor.

Deviations from requirements for double permits occur in some specific permit types and are discussed in the appropriate specific sections of this manual.

502 DRAINAGE

Encroachment permits for constructing drainage facilities are classified as major or minor projects. Any diversion of drainage run-off onto highway right-of-way are not allowed. Drainage diversions require an approved exception from the Chief, Headquarters Division of Design.
502.1 Major Drainage Facilities

**Permit Code DD**

Large drainage projects located within Caltrans’ right-of-way can impact State drainage, traffic, and future highway design. Work can range from trenching for pipelines and boxes to new or modified multi-cell box culvert structures.

Districts should ensure that diversions in drainage are not proposed and that systems can adequately handle the drainage using Caltrans’ design criteria. Connections to State systems are not authorized solely to carry the burden of increased runoff from a new development. When State facilities cannot carry the increased drainage, the applicant is responsible for enlarging the capacity of the State facility to handle the increased drainage generated by the proposed work.

Preferably, applicants should place a closed system through the State right-of-way rather than enlarge the capacity of State facilities. However, no maintenance facilities (such as manholes, basins, etc.) are authorized within State right-of-way when a closed system is constructed unless such facilities are required by the State.

Structures Maintenance should review and approve plans for major drainage channel construction. Grading and channel lining can affect the foundations of existing State structures, and structure modifications may affect traffic. Persons working within one mile upstream or downstream of a State structure are required by statute to obtain Caltrans’ approval. When protection to the State facility is necessary, a permit is required before starting work within the right-of-way.

Districts should require a performance and payment bond for drainage improvements not owned or maintained by Caltrans.

502.2 Minor Drainage Facilities

**Permit Code DM**

Some examples of minor drainage facilities are small-diameter or low-volume drainage outfalls, through curb drains, roof drains, and minor grading to improve a State outlet or inlet. These types of facilities generally require little review, but they should not affect the State system. If the applicant’s proposal appears more involved or if hydraulic concerns are raised, Districts may still classify the encroachment as minor and perform more extensive reviews with AX permit fees.

503 FILMING

To encourage motion picture and television filming in California, the California Legislature established the California Film Commission (CFC) as a one-stop permitting authority for the use of state-owned property and state employee services for making commercial motion pictures or still photography. The District 7 Encroachment Permits Office (Los Angeles) is the Caltrans
Statewide Film Coordinator (CSFC) and acts as the film liaison to approve or deny all applications for film activities under Caltrans jurisdiction (Government Code, Section 14998 et al., Executive Order S-15-04).

Film production companies submit applications to the CFC in Hollywood who in turn forwards the application to the District 7 Encroachment Permits Office. The CSFC coordinates with Encroachment Permit staff in the other Districts where the film activity is proposed. Each District must designate staff as a District film coordinator.

The CSFC issues the encroachment permit for filming only after obtaining permit provisions and requirements from the affected Districts and submits the encroachment permit to the CFC for inclusion to the CFC film permit. The CSFC, whenever feasible, approves or denies an application within 24 hours. If not feasible, the CSFC will contact the CFC within five working days from the receipt of the application and provide an estimated approval/denial date. This date must be within 10 calendar days from receipt of the application.

503.1 Filming on the Interstate System
The Federal Highway Administration (FHWA) develops policy and assumes responsibility to ensure that the Interstate system is operated and maintained to enhance safety and minimize disruptions. While the control of activities that take place on a specific highway segment is Caltrans’ sole responsibility, Caltrans’ basic concerns are the same as FHWA’s.

Filming within an access-controlled right-of-way is strictly controlled and can require extensive review by Caltrans. Some filming activities have ramp closures and traffic control, which directly impact the system. Some filming activities move over restricted portions of the Interstate system and could require closure of the entire traveled way. Such activities on the Interstate system require FHWA approval when they may cause major disruption or negatively impact the safety and integrity of the system.

503.2 CHP/Caltrans/CFC Joint Policy Guidelines for Filming on State Highways
The California Highway Patrol (CHP), Caltrans, and the California Film Commission have entered into an interagency Memorandum of Agreement (MOA), which defines the cooperative relationship and joint guidelines to assist the CFC in carrying out its duties and meeting its objectives. The MOA provides the guidelines and conditions of approval, processing, and monitoring of various types of film activities on Caltrans’ facilities. The guidelines do not preclude the development of additional guidelines by local CHP commands and Caltrans Districts covering specific issues of mutual concern or interest. A complete copy of the agreement and guidelines is included in Appendix E.

The CFC submits a completed permit application package for a commercial filming encroachment permit to the CSFC and must include the items listed in Table 5.8.
Table 5.8
Permit Application Package for Filming Permits

The encroachment package submitted to Caltrans by the California Film Commission must include:

1. A completed California Film Commission permit application
2. If required, lane closures or detour plans approved by the affected governments
3. Resolutions from all impacted governments indicating approval of the filming activities and lane closures or detour plans. Resolutions should conform to Caltrans' sample format. These resolutions are required when a directional road closure of a State highway (or local road) for filming exceeds five minutes. Sample resolutions and letters of approval are included in Appendix I. When time is of the essence, forms included in Appendix I may be completed by a local official in lieu of a resolution.

503.3 Procedures for Reviewing and Issuing Filming Permits

To minimize traffic congestion and delays during filming, District Permit Engineers should closely monitor the authorized activities associated with FL and FS permits. The DPE should consider consulting the District Traffic Operations unit for locations with substantial traffic volumes before recommending approval of an application to the CSFC. As a minimum, consultation with Traffic Operations by telephone may be appropriate when the CFC requests review on very short notice.

The procedures for reviewing and issuing filming permits are in Table 5.9.
Table 5.9
Procedures for Reviewing and Issuing Filming Encroachment Permits

1. The production company calls the CFC to discuss filming on a State highway. If the company contacts Caltrans directly, relating to the availability or feasibility of highway facilities, basic information, and guidance should be provided if requested. The production company should be referred to the CFC for the submittal of a CFC Permit Application [California Film Commission, 7080 Hollywood Boulevard, Suite 900, Hollywood, CA, 90028, (323) 860-2960 x 104].

2. The production company provides details about location, date, proposed activity, meeting locations, etc., to the CFC.

3. The CFC verifies that basic insurance is on file and prepares the Caltrans Permit Application Package.

4. The CFC sends the Permit Application Package to the Caltrans Statewide Film Coordinator (CSFC), calls to verify receipt, and discusses the application with the CSFC.

5. The CSFC contacts the District film coordinator in the District where filming is proposed. The District film coordinator checks with field inspectors and Traffic Operations (if appropriate) to determine the acceptability of the proposal and define any special requirements. If proposed activities are unique, headquarters Legal is consulted to determine if additional liability insurance is needed. The District film coordinator provides this information to the CSFC verbally and in writing.

6. The CSFC coordinates with the Film Media Relations Officer of the California Highway Patrol and establishes required involvement of the CHP, conditions, and requirements. The SC-5 (“Special Event Ahead”) signs are not allowed during traffic control for filming.

7. The CSFC prepares the encroachment permit, including the estimated fees for review and inspection to be charged on the permit, and sends it to the CFC. A copy is sent to the District film coordinator and/or field inspector in the District where filming is proposed. The CSFC must also provide a copy to the Transportation Permits Office when a highway closure and/or detour are required.

8. The CFC attaches Caltrans' encroachment permit to the CFC permit. The production company picks up the CFC permit from the CFC and pays Caltrans' permit fee to the CFC.

9. The CFC logs the permit and encroachment permit fees.
10. The CFC submits fees collected by the CFC for all Caltrans permits monthly to the Film Transfer Account.

### 503.4 Liability Insurance for Commercial Filming

The CFC maintains continuing insurance policies on most film companies and will ensure that necessary insurance policies are submitted to it before permit issuance. Certificates of insurance name the State of California, California Department of Transportation, the directors, officers, employees, and/or agents of the State of California and/or of the California Department of Transportation as being additionally insured.

Insurance coverage required by the DPE normally ranges between the following two extremes shown in Table 5.10, depending on the risk. Special filming activities involving stunts, pyrotechnics, and aircraft flying below an altitude of 500 feet may require additional insurance as set by headquarters Legal.

#### Table 5.10

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Minimum Amount</th>
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<tr>
<td></td>
<td>$1,000,000 each occurrence</td>
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</tr>
<tr>
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<td>$2,500,000 each person</td>
</tr>
<tr>
<td>Aggregate</td>
<td>$1,000,000</td>
<td>$10,000,000</td>
</tr>
</tbody>
</table>

### 503.5 Permit Types for Commercial Filming Activities

Commercial filming activities within State right-of-way are authorized by FI, FL, FO, FS, and FF encroachment permits. FR permit riders are used to change permit conditions.

Special Provisions for all filming permits must not be modified. Changes in work authorized by a specific permit type, which exceed the Special Provisions for that permit type, must be covered by a different encroachment permit type and by the Special Provisions and District special requirements associated with that permit.

The following discussion describes each type of permit.
503.5A  Intermittent Traffic Control/Driving Shot with CHP Escort
Permit Code FI
FI permits authorize filming activities involving moving vehicles with CHP escort, intermittent traffic breaks (normally not to exceed five minutes), or rolling traffic breaks to allow clear highway conditions during filming on conventional highways.

FI permits are Set Fee, with charges consistent with average processing and review time on a statewide basis. Inspection and fieldwork are not involved because the CHP (rather than Caltrans) provides inspection.

503.5B  Traffic Control
Permit Code FL
FL encroachment permits authorize filming activities involving traffic breaks exceeding five minutes or involving lane closures on conventional highways.

FL permits generally require engineering expertise by Caltrans to review or inspect. Permit fees are based on actual hours spent for review and inspection. The CFC collects estimated fees before issuing a permit. If the actual hours spent on review and inspection differ from the estimated fees upon completion of the filming activities, Caltrans submits to the CFC the adjusted fees and the CFC bills or refunds the difference between the estimated and actual fees.

Filming Special Provisions must not be modified, although District conditions may be added to the text of FL permits.

503.5C  No Moving Traffic
Permit Code FO
FO encroachment permits authorize filming activities that do not impact moving traffic on conventional highways. FO permits usually involve the placement of stationary camera, equipment, and “No Parking” signs within the right-of-way or driving shots with the flow of traffic.

FO permits are minimum cost (two-hour review and processing) set fee, with charges consistent with average processing and review time on a Statewide basis. Inspection and fieldwork are not involved because the CHP (rather than Caltrans) provides inspection.

503.5D  Film Rider
Permit Code FR
Riders are issued for minor revisions to an existing filming encroachment permit. Permit riders cannot allow work that exceeds the original permit’s Special Provisions. According to the guidelines, Caltrans’ Districts approve or deny rider requests only after review by appropriate Caltrans units. Applicants are charged fees for review time associated with requests for time
extensions. Riders for time extensions cannot be issued when the original permit has expired; a
new permit is required.

503.5E Special

Permit Code FS
FS encroachment permits authorize filming within an access-controlled right-of-way and filming
activities requiring detours, stunts, pyrotechnics, aircraft flying below 500 feet in altitude, or
other unique activities.

FS permits generally require engineering expertise by Caltrans to review or inspect. Permit fees
are based on actual hours spent for review and inspection. The CFC collects estimated fees
before issuing a permit. If the actual hours spent on review and inspection differ from the
estimated fees upon completion of the filming activities, Caltrans submits to the CFC the
adjusted fees and the CFC bills or refunds the difference between the estimated and actual fees.

503.5F Facilities

Permit Code FF
FF permits authorize filming activities within a Caltrans facility, which is defined to include any
real estate property not part of the State highway or access-controlled right-of-way system. A
Caltrans facility includes any office building, maintenance station, maintenance facility, Park and
Ride lot, and house that is used or operated by Caltrans. Any requested activity within a Caltrans
facility must not disrupt or interfere with any State business.

FF permits generally require review and inspection by the Caltrans staff responsible for the
operations of the facility. Permit fees are based on actual hours spent for review and inspection.
The CFC collects estimated fees before issuing a permit. If the actual hours spent on review and
inspection differ from the estimated fees upon completion of the filming activities, Caltrans
submits to the CFC the adjusted fees and the CFC bills or refunds the difference between the
estimated and actual fees.

503.6 Inspecting and Monitoring Filming Permits

Inspecting, monitoring, and controlling filming on State highways is a cooperative effort by the
CHP and Caltrans. CHP officers normally are present on all filming permits. Inspection of No
Moving Traffic (FO) and Intermittent Traffic Control (FI) permits has been delegated to the CHP
through the interagency MOA (see Appendix E); Caltrans inspectors may monitor FO and FI
permits on a random basis at no cost to the permittee. Caltrans’ inspectors and CHP officers are
present when filming activities begin for Traffic Control (FL), Facilities (FF), and Special (FS)
permits.

After observing a smooth and effective operation of FL permit activities for a period of time, the
Caltrans inspector may depart and leave the CHP in charge. In rural areas, where few potential
problems exist, the CHP may handle FL filming with no Caltrans inspector involved.
For FS permits, Caltrans inspectors normally are present throughout the activity and Traffic Operations personnel may be present to monitor and adjust traffic control as needed. FS permits that involve only aircraft flying under 500 feet in altitude with no more than intermittent traffic control may be inspected by the CHP with no Caltrans inspector involved.

The production company is required to hire a licensed traffic control specialist to implement detours and lane closures.

For FF permits, both Caltrans and CHP personnel will typically provide inspection. Where filming is limited entirely within a Caltrans facility, CHP will not be assigned and inspection is provided by Caltrans (unless requested or there is an identified need). Where no significant stage work, stunts, and pyrotechnics is required, Caltrans may differ inspection to the CHP to monitor for quality control, safety, and security. Where significant state work, stunts, or pyrotechnics are present, both CHP and Caltrans will jointly inspect and monitor.

504 FENCE (New or Modification)

*Permit Code FN*

Caltrans owns and maintains all fences placed within the right-of-way to delineate access-control. Fences generally are inset 0.5 foot to 1 foot inside the State’s right-of-way. Private fences are allowed within access-controlled areas to maintain the continuity of a fence during permitted work that removes an existing fence, or when placed around an excavation.

Alternate aesthetic fencing along access-controlled right-of-way is not authorized and replacement or new fences must comply with State standards. Exceptions are allowed for soundwall construction and along short tangent sections that extend along local streets and are beyond access-controlled right-of-way ramp returns. An alternate wall or fence may be installed in these locations if it also is an effective barrier to access. Minimum height of the alternate fencing must be four feet (see Highway Design Manual).

When an unmaintainable gap of 4 feet or less between the soundwall and the right-of-way fence exists, it may be in the best interest of Caltrans and the adjacent property owner for Caltrans to remove the right-of-way fence and allow the adjacent property owner to "own and maintain" that property. In order to do this, the Districts can convey the underlying fee but reserve an easement for wall maintenance.

All adjacent owners within that property block must agree with the transaction. Caltrans recognizes the benefit of allowing these property owners to take over the continued maintenance of this property in this kind of situation and may waive Caltrans' administrative cost for this complete transaction. These requests are referred to the District Right of Way Excess Land Section. They will convey the property by the decertification process. No encroachment permit is necessary for this title transaction.
Abutting property owners may place extensions on the State’s access control fences to increase fence height or to place barbed wire. Barbed wire placed on brackets must extend vertically or overhang the permittees property. Razor and concertina wires are not authorized.

Local fire protection, law enforcement, and other emergency service agencies frequently request planned emergency access to an access-controlled right-of-way. Caltrans’ policy is to prohibit planned emergency access to an access-controlled right-of-way for new or expanded land development projects. Emergency access must be planned and provided from local streets and conventional highways outside the access control limits of access-controlled right-of-way.

This prohibition of emergency access must apply to any additional emergency access to existing development. Existing emergency access granted in the past, such as breakaway fence panels, gates, and sod-block surfaces, may remain if installed under a valid permit.

Fencing in conventional highway right-of-way is limited to protection of pedestrians and excavations. This includes temporary fences that close off construction sites adjacent to the right-of-way when pedestrian traffic is detoured or occurs on existing and temporary sidewalks. Private property fences are not allowed in conventional State highway right-of-way.

Fences along conventional highways generally are placed on the abutting property and are owned and maintained by the property owner. Caltrans has no control over pedestrian access through conventional right-of-way and the fences do not serve as a barrier. However, vehicular gates for private, agricultural, and commercial driveways must be approved as discussed in Section 510.

505 GEOPHYSICAL TESTING

GC or GV encroachment permits authorize geophysical testing within State right-of-way that involves cable crossings or vibration equipment.

Permittees conducting geophysical testing must be responsible for property damage inside or outside highway right-of-way. A certificate of liability insurance in the minimum amount of $1,000,000 for property damage liability is required before permit issuance. Districts should encourage testing companies to include “the State of California, California Department of Transportation, the directors, officers, employees, and/or agents of the State of California and/or of the California Department of Transportation” as additionally insured in their annual policies, which will avoid them having to obtain a separate policy rider for each permit. Districts can then keep a copy of the additionally insured notice on file for reference. The permit may be issued as a biennial.
505.1 **Cable Crossing**

*Permit Code GC*

Cables associated with geophysical testing preferably should not cross State right-of-way, but in some circumstances, cable crossing may be required. Specific requirements for cable crossings are listed in Table 5.11.

### Table 5.11

**Requirements for Cable Crossings**

These specific requirements apply to cable crossings of State highway right-of-way:

1. Equipment, work, or personnel must not be allowed within access-controlled right-of-way. One exception to this policy may be cable crossings required for continuity, in which case cables must cross access-controlled right-of-way in a culvert or on structures; on a temporary basis only and not in culverts during the rainy season.

2. Holes must not be drilled, and blasting is not allowed, within State right-of-way.

3. Nails, spikes, or other material must not be driven into the traveled way.

4. Nails or spikes driven into the paved shoulder area must be removed. Resulting holes must be filled with waterproof compound that blends with the original pavement in color and grade.

5. Paint must not be placed upon highway pavements, signs, or markers. Traffic tape, chalk, or crayon must be used if pavement markings are necessary. All tape, stakes, and other obvious markers must be removed upon completion of permitted work.

6. All mud, dirt, or gravel tracked onto the highway pavement must be removed immediately and completely.

7. Personnel working within the State right-of-way must wear safety glasses, hard hats, warning garments, and other appropriate personal protective equipment per the Caltrans Safety Manual.

8. Standard signing and flagging procedures must be employed according to the CA-MUTCD.

9. Permittees must comply with all requirements of the Vehicle Code and other applicable laws, except as specifically provided herein.

10. No grading is allowed without prior written permission. Grading is not authorized within access-controlled highway right-of-way.

Cables must be placed as close as possible to the right-of-way line, and must be placed within 6 inches of the curb face or pedestrian sidewalk railing of an overcrossing structure. Longitudinal cables within an access-controlled right-of-way are not authorized, and therefore cables must be placed outside the right-of-way fence.
505.2 Seismic Vibrator

*Permit Code GV*

GV encroachment permits are issued for geophysical testing activities that use equipment to generate test waves.

505.2A Testing Method Allowed

Only geophysical testing using the “P-wave” method is allowed. Testing using the “Shear wave” method (S wave) is not allowed within State highway right-of-way because damage to State facilities and adjacent property may result. Permittees may place sensors within State right-of-way even though their test-wave generating equipment is located outside State right-of-way.

All work must comply with permit conditions. Any violations of permit conditions, complaints from adjacent property owners, or other problems should be communicated to the District Permit Engineer. Work must be suspended immediately until satisfactory steps are taken to ensure compliance with the encroachment permit.

505.2B Vibrators

Truck-mounted vibrators commonly are used to generate test waves. They operate alone or in groups and stop to place a vibrating pad on the ground surface.

Vibrators must be placed and operated as close to the right-of-way line as possible, with a minimum clearance of 4 feet from the paved shoulder or toe of slopes on embankments. They must not be operated on any paved surface, and must not be operated within access-controlled right-of-way.

Vibrators must be operated so that no damage will occur to: vegetation, wells, culverts, headwalls, structures, or other improvements. Districts concerned about underground utility damage may require proof of notification and approval by utility owners in the area before starting permitted work.

506 LANDSCAPE

Highway planting may be provided by others, at their cost, within conventional highway right-of-way and within access-controlled right-of-way.

Submit permit requests to install planting, irrigation systems, landscape features or to control roadside vegetation within the State right-of-way (including tree pruning and removal) to the District Encroachment Permits Office for review and approval by the District Landscape Architect or Permits Landscape Architect.

Trimming, pruning or removal of vegetation or trees to improve visibility to or from a commercial or residential development (e.g. improving views), is not allowed within the State right-of-way.
Requests to place irrigation facilities or vines on new and existing structures must be reviewed and approved by Structures Maintenance.

Planting within State highway right-of-way is allowed through:

1. The encroachment permit process: Landscape encroachment permits assist non-Caltrans entities to install landscaping within Caltrans right-of-way. The encroachment permits process helps ensure that the planting work installed by others:
   - Conforms to Caltrans policies, procedures and standards
   - Protects the traveling public, the public’s investment, and the interests of adjacent land owners and businesses
   - Achieves a proper balance between safety, aesthetics, cost effectiveness, and resource conservation
   - Does not increase Caltrans roadside maintenance workload.

2. A Caltrans-administered contract that is funded partly or totally by others: The preferred method for handling participation by others is through an encroachment permit and an agreement with the local agency (see Project Development Procedures Manual, Chapter 16 Cooperative Agreements). In this case, a Right-of-Way Use Agreement is not required.

3. Leasing the planting area to the owner of the abutting property: A Right-of-Way Use Agreement is required.

A Right-of-Way Use Agreement may also be required with the encroachment permit if the proposed project:

   - Is unwarranted for highway planting (see Project Development Procedures Manual, Chapter 29, Section 2 for an explanation of warranted highway planting)
   - The improvement to the property is solely to the benefit of the developer

The Right-of-Way Use Agreement will require the lessee to provide a plant establishment period and maintenance of plants and irrigation, including all water and utility costs, during the term of the lease. The District Landscape Architect or Permits Landscape Architect, in coordination with the District Airspace Manager, determines when a Right-of-Way Use Agreement is required.
506.1 Responsibilities

Table 5.12
Responsibilities – Highway Planting Funded by Others

<table>
<thead>
<tr>
<th>Facility</th>
<th>New Landscape &amp; Irrigation Permittee</th>
<th>New Landscape &amp; Irrigation Maintenance*</th>
<th>Replacement of Existing Landscape Permittee</th>
<th>Replacement of Existing Landscape Maintenance**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional Highways</td>
<td>Project sponsor</td>
<td>Local Agency</td>
<td>Project sponsor</td>
<td>Local Agency</td>
</tr>
<tr>
<td>Access-Controlled Highways</td>
<td>Local Agency</td>
<td>Local Agency</td>
<td>Local Agency</td>
<td>Local Agency</td>
</tr>
</tbody>
</table>

*A maintenance agreement with the local agency is required to ensure maintenance in perpetuity. Maintenance includes all ongoing water and electrical utility costs and all other maintenance expenses.

**If the replacement proposed is like to like, Caltrans will maintain the new installations once a 3-year plant establishment period is completed, if it was maintained by Caltrans prior to the replacement.

Some projects may be managed as an Oversight Project, see Section 108.1 for information regarding Oversight Projects.

A Maintenance Agreement may be required, refer to Chapter 13 of the Project Development Procedures Manual for information regarding Maintenance Agreements.


Projects sponsored by a local agency are not charged for plan review. The local agency’s contractor must have a double permit (DP). Inspection fees and DP processing fees must be paid before the DP is issued.

Government agencies are exempt from the insurance requirement, but a bond may be required under certain circumstances.

506.1A Maintenance, Replacement and Repairs

The permittee is responsible to replace plants and repair irrigation systems originally installed by Caltrans or others that are damaged or removed by their construction activity, including plant establishment, if necessary.

Caltrans will replace or repair previously permitted highway planting installed by others that is damaged or removed by State highway construction activity, including irrigation modification and/or replacement. Replacement and repair work will be included in the State highway construction project altering the landscape, or may take place as a separate construction project. Damaged or removed planting provided by others will be replaced at a rate and size determined by the District Landscape Architect.

Planting and irrigation maintained by the permittee, must be maintained in a healthy, attractive, functional, and safe condition.
506.1B    Pesticide Use
Pesticides may be used only with approval from the District Landscape Specialist. Use of
pesticides (herbicides, insecticides, rodenticides, etc.) must be prescribed in writing by a pest
control advisor licensed in California. Pesticide application may be performed only by a certified
applicator in conformance with current laws, regulations, and Caltrans’ policies.

506.2    Standards for Conventional Highway and Access-
Controlled Highway Planting and Irrigation Plans

Planting and irrigation design must comply with the applicable policies and procedures in the
Highway Design Manual (Chapter 900) and the Project Development Procedures Manual
(Chapter 29) unless exempted by the District Landscape Architect or Permits Landscape
Architect.

The District Landscape Architect and/or Permits Landscape Architect must review all planting
and irrigation plans. The permittee must submit six copies of planting and irrigation plans,
details, and specifications to the District Encroachment Permits Office for review. Projects over
$1 million of constructed work within the State Highway right-of-way are subject to the
procedures outlined in Section 202.3

As-built plans, including wiring diagrams for irrigation systems installed must be provided to the
District Permit Engineer and the District Landscape Architect or Permit Landscape Architect
within thirty (30) days after completion of construction.
### Table 5.13
Requirements and Standards for Landscape Plans

<table>
<thead>
<tr>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Plans must be prepared, signed and stamped by a California Licensed Landscape Architect. They must show the name, registration seal, expiration date, and phone number of the Landscape Architect, and the irrigation designer (if appropriate).</td>
</tr>
<tr>
<td>2. Plans must be drawn on 24&quot; by 36&quot; size sheets at 1” : 50' scale (or 1” : 20' scale when more detail is required). Coordinate with the District Landscape Architect or Permits Landscape Architect for required print size and scale, reduced sized sets may be preferable. Scale and north arrow must be indicated on the plans.</td>
</tr>
<tr>
<td>3. A general location map must be provided with the plans. Show city limits, county lines, public roads, highways, limits of work, north arrow, scale, and other features.</td>
</tr>
<tr>
<td>4. Existing features must be shown on the plans, such as overhead and high-hazard utilities, street names, guard rail, signs, edge of pavement (shoulder), vegetation, irrigation, curbs, sidewalks, slopes (2:1, etc.), ditch flow lines, walls, and fences. Note existing features to be removed on the plans. The permittee is required to submit copies of correspondence with utility companies to verify utility information.</td>
</tr>
<tr>
<td>5. The State right-of-way (property line) and centerline of the highway must be shown and labeled. Indicate stations (100' on center) on the centerline. All existing highway striping, except on access-controlled highways, must be shown.</td>
</tr>
<tr>
<td>6. Planting plans must indicate botanical names and common names, quantities, plant sizes (for example, #1 (1-gallon) or flats), spacing (setbacks), and other planting descriptions.</td>
</tr>
<tr>
<td>7. Indicate electrical and water source locations on the irrigation plans with the name, address and phone number of the responsible utility service company. Minimum water connection information includes:</td>
</tr>
<tr>
<td>• Source (potable, non-potable, or recycled water)</td>
</tr>
<tr>
<td>• Available water pressure</td>
</tr>
<tr>
<td>• Meter size</td>
</tr>
<tr>
<td>8. The permittee may be required to use Caltrans' Standard Details and Standard Plans. The permittee must use Caltrans Standard Specifications and Standard Special Provisions as approved by the District Landscape Architect or Permits Landscape Architect.</td>
</tr>
</tbody>
</table>
Table 5.14
Design Guidelines for Conventional and Access-Controlled Highway Planting and Irrigation

**General Design Guidelines**

1. The District Landscape Architect or Permits Landscape Architect must approve all designs prior to permit issuance.
2. Disturbed areas within State right-of-way that are not planted must be treated with hydrosed or other erosion control materials.
3. Temporary Erosion control is required for stormwater pollution prevention and dust control during construction.
4. All erosion control work must be according to the Standard Specifications, Sections 13 and 21 and the Caltrans Storm Water Quality Handbooks (available online at: [http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm](http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm))
5. Projects must be designed to comply with the Model Water Efficient Landscape Ordinance (MWELO).
6. Trenching and grading is not allowed within the dripline of the tree canopy and must be performed so tree roots are protected to the dripline of the canopy and must be as shown on a plan that is reviewed by the District Landscape Architect or Permits Landscape Architect.

**Planting Design**

1. Plants must be located so they do not obstruct motorists' clear vision of highway signs and signals.
2. Plants must be located so that they will not obscure existing billboards or on-premise business identification signs.
3. Plants must be selected and located so that future pruning will not be required.
4. Lighting directed at trees or plants is not allowed.
5. On conventional highways, install root barriers to prevent damage where trees are planted within 5’ of sidewalks, curbs, or pavement.
6. Plants with thorns or known to be poisonous to humans and animals must not be planted adjacent to areas used for grazing animals, equestrian activities, with high public exposure, and where children have access to the planting.
7. Edible fruit or nut bearing plants must not be planted.
9. Shrubs are woody, multi-stemmed plants with each stem having less than a 4” diameter trunk 10 years after planting.
   - Plant shrubs so that at maturity they will not grow over the curb or right-of-way.
   - Shrubs or tall ground cover in sidewalk planter strip areas may be in beds no longer than 50’ in length with at least a 5’ break between beds to allow pedestrian passage from curb to sidewalk.
   - Shrubs with a mature height over 3’ high are not allowed within 25’ of any driveway or intersection.
10. Ground cover includes low-growing plant material and inert materials such as crushed rock and wood mulch.
    - On conventional highways, grass or an approved ground cover may be installed under permit between the curb and right-of-way line, provided it is maintained for safe pedestrian traffic.
    - Loose un-grouted rock cobble, gravel or other inert ground cover material is not allowed within the clear recovery zone or, in areas where errant vehicles are expected or anticipated.

**Irrigation Design**

1. A separate water meter and separate electrical service for the proposed irrigation system is required.
2. Install a gate valve, with ID marker within State right-of-way where the supply line(s) enter the right-of-way. Install master valves and backflow preventers outside the right-of-way.
3. Irrigation lines under continuous pressure are not allowed. A normally closed master valve to shut off water when the irrigation system is not operating is required.
4. Provide gate valves or ball valves with ID markers, to isolate groups of remote control valves or areas of the irrigation system.
5. Provide separate remote control valves for supply lines operating overhead sprinklers at the top, intermediate, and toe of slopes.
6. Anti-siphon, anti-drain valves or check valves are required.
7. Trees must be irrigated by separate remote control valves.
8. Irrigation lines proposed under paved surfaces must be installed in conduit or sleeves.
9. Design all irrigation systems with a water velocity of no higher than 5 feet per second (fps).
10. Design and operate irrigation systems to minimize fogging and overspray of water onto paved surfaces.
11. Provide uniform water coverage when using overhead sprinklers.
12. Bubblers and sprinklers must be pressure-compensating or be equipped with pressure-compensating devices.
13. Drip irrigation or subsurface irrigation may be used if approved by the District Landscape Architect or Permits Landscape Architect.
14. When necessary, a subsurface drainage system must be provided in irrigated medians to prevent water flowing onto the roadway and to prevent lateral infiltration of water into the structural section of roadway and must be approved by the District Permit Engineer.

### Table 5.15
**Tree Wells**

Tree wells are allowed on Conventional Highways only. The following conditions apply to tree wells:

1. Tree wells must allow for soil volume appropriate to the future tree size. Small trees require a minimum of 200 cubic feet, medium trees require a minimum of 450 cubic feet, and large trees require a minimum of 700 cubic feet of soil volume.
2. Openings for tree wells in paved areas must have a minimum of 3’ x 3’ square or a 3’ radius circle.
3. If irrigation is not feasible, install two deep water pipes (vertical, 4” diameter perforated plastic pipes filled with ½” to ¾” crushed rock) in opposite corners of each tree well.
4. Plant trees in the center of the tree well.
5. Tree wells must be safe for pedestrians. Install tree well grates, where appropriate, that are flush with the adjacent pavement and comply with ADA requirements.
6. Tree guards may be provided to protect trees in tree wells from damage or where desirable for aesthetic purposes.
7. Trees and tree wells in parking lots should be given a minimum of 64 square feet of opening in the pavement. If this requirement cannot be met, install deep water pipes and root barriers.
8. Root barriers must be installed to prevent tree roots from causing sidewalk and pavement damage.
Table 5.16
Plants in Containers

Plant containers are permitted only when all of the following conditions are met:

- The existing speed zone is 35 mph or less.
- There is a curb or other barrier between the traveled way and the container.
- The container and planting will not reduce the sight distance

Additional requirements are:

1. Plant containers made of wood, brick, metal, concrete, ceramic, fired clay or other appropriate material may be used.
2. Plant containers located on sidewalks or on the roadside must be a minimum of 2’ back from the curb face. Plant containers must allow for a minimum 5’ walkway.
3. Plant containers on medians must be a minimum of 6’ back from the curb face and at least 100’ from the longitudinal end of the median.
4. Plant containers must be secured to the sidewalk to prevent overturning or shifting and placed to avoid creating a pedestrian or vehicular hazard. The permittee is responsible for temporary relocation, when necessary, to install, repair, or replace facilities.
5. The proposed plant species for the container must be specified in the permit application.
6. Proper maintenance of the plant and container is required.
7. A minimum of $10,000 liability insurance is required when permits are issued to private entities for installing plant containers.
8. No advertisement, slogans or any text is allowed on or in plant containers.

506.3 Landscape Permit Types

Installation and maintenance of planting and irrigation within State right-of-way is authorized by LC, LF, LM, and LT encroachment permits.

506.3A Conventional Highways

Permit Code LC

LC encroachment permits authorize the placement of plants and groundcover and the installation of irrigation systems within non-access controlled right-of-way. Guidelines for design and installation of landscaping including irrigation systems within non-access controlled highway right-of-way are listed in Tables 5.13 through 5.17. Maintenance requirements are established in section 506.1.

506.3B Access-controlled Right-of-way

Permit Code LF

LF permits authorize the placement of plants and groundcover and associated irrigation systems within access-controlled right-of-way. The distance between the edge of traveled way (clear
recovery zone) and large trees must not be less than the minimum required; however, the Permit Engineer, District Landscape Architect, or Permits Landscape Architect may require clearances of a greater amount. Clear recovery zone requirements are specified in the Highway Design Manual, Section 902.2.

A copy of each LF permit, including plans, bid date, and completion date, must be sent to the Headquarters Landscape Architecture Program, Landscape Classifications, for record keeping, determination, and designation of landscaped access-controlled right-of-way relative to the regulation of outdoor advertising displays.

506.3C Maintenance

Permit Code LM

LM permits authorize limited term maintenance of planting and irrigation systems within the State right-of-way. Maintenance responsibilities in perpetuity must be authorized through a Maintenance Agreement. Only replacement and repairs are authorized by LM permits (no new planting).

Two-year LM permits for landscape maintenance may be issued to local agencies (cities and counties). Contractors may perform work for the local agency under a double permit (refer to Section 510.14).

LM permits also authorize roadside vegetation control by private property owners who have entered into an agreement with Caltrans Maintenance. All requests by private property owners to assume responsibility for roadside vegetation control must be directed to the District Landscape Specialist.

Food and Agriculture Code, Division 4, Part 1, Chapter 6.5, Roadside Vegetation Control, (5501 to 5509) provides a voluntary mechanism by which private property owners and Caltrans may enter into mutually acceptable agreements to promote coordinated programs for roadside vegetation control. If such an agreement includes provisions whereby the property owner assumes responsibility for vegetation control, a Maintenance Encroachment Permit (Code LM) is required for the work.

506.3D Tree Pruning (Trimming) and/or Removal

Permit Code LT

LT permits authorize tree pruning (trimming) and/or removal within the State highway right-of-way, and access to the State highway right-of-way to prune or remove vegetation outside the State right-of-way. The removal of healthy trees requires written consent from the District Landscape Architect and local agency. The planting of new trees may be required as mitigation for tree removal and will be determined on a case-by-case basis by the District Landscape Architect.
The District Landscape Architect must evaluate potential impacts to landscaped access-controlled right-of-way status prior to approving any Tree Pruning (Trimming) and/or Removal permit requests.

Pruning (Trimming) and/or Removal of vegetation to improve visibility to or from a residential development or commercial building is not allowed.

The permit must list the contractor completing the work, or the contractor must obtain a Double Permit (DP).

See Appendix K for “Tree Pruning (Trimming) and Chemical Application Special Provisions” and “Tree Removal Special Provisions”.

This permit type does not restrict a utility company from complying with California Public Resources, California Public Utility Commission (CPUC) General Orders, and other Federal, State or local laws that require clearances between vegetation and gas lines or energized power lines.
Table 5.17  
Consent Requirements for Tree Pruning and/or Removal

The following table explains property owner consent requirements for tree pruning and/or removal:

<table>
<thead>
<tr>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Trees with trunks located entirely within the State right-of-way may be pruned or removed without obtaining consent from the adjacent property owner.</td>
</tr>
<tr>
<td>2. Trees with trunks located entirely within the State right-of-way with limbs overhanging adjacent City or County property must not be pruned or removed without first receiving consent from the local agency. It is the permittee’s responsibility to obtain the consent letter from the local agency.</td>
</tr>
<tr>
<td>3. Trees with trunks located on the right-of-way line must not be pruned or removed without obtaining consent in advance from both Caltrans and the adjacent property owner – these trees are joint property. Trees which interfere with safe highway operations are exempt from this requirement.</td>
</tr>
<tr>
<td>4. Trees with trunks located entirely outside the right-of-way that have limbs that overhang the right-of-way may be pruned without obtaining consent from the adjacent property owner if the tree interferes with safe highway operations.</td>
</tr>
</tbody>
</table>

*In some locations, local agency consent may be required for any tree pruning or removal work.

Utility contractors may place woodchips produced from tree pruning within the right-of-way after a Consent Letter is obtained from the Caltrans Maintenance Area Superintendent. Authorized disposals, under these conditions, must be accomplished within one working day. Disposals made without prior authorization are illegal.

Utility companies may apply for annual tree pruning (trimming) permits, issued directly to the utility companies involved, not to the company’s contractors. Annual tree pruning permits are issued for conventional highways right-of-way and only in specific situations within access-controlled right-of-way. They are not issued for access-controlled right-of-way. The utility company must furnish a list of contractors with its application. Additional agents are included only by a rider to a previously issued permit. A fee-exempt double permit (NDP) will be required when the applicant lists a contractor that previously has been uncooperative. The permit does not include the NDP contractor as an agent unless the applicant and the NDP contractor provide written assurance that full cooperation will be provided.
Table 5.18
Permit Requirements for Electric Utility Tree Pruning

1. The electrical utility permittee must verify that the height of the utility lines provide the minimum clearances necessary for trees that are maintained at a 40’ height. This is especially true for utility lines over trees whose normal growth habit precludes pruning to less than 40’ (for example, conifers, single central leader trees of natural conical or pyramidal-type crown development). Exceptions to this requirement may be allowed when these trees:
   - Have a growth habit that can facilitate healthy growth and a natural form despite repeated pruning and thinning operations. Trees in this category include open, round crowned types, with several leaders or main branches forming their crown framework.
   - Allow utility lines to be placed through or below their crowns, minimizing pruning, maintaining main leader and limbs, avoiding permanent disfiguration of their crowns.
   - Have been top pruned for many years, and the reconditioning necessary to reestablish their natural growth habit is not cost effective.
   - Consist mainly of volunteer growth from roadside seedlings or stump sprouting and are determined by the District Landscape Architect to add little or no value to the desired condition of the roadside.

2. The District will notify the utility company if further tree pruning is not desired, either at 40’ height, or at another height determined to be best for the tree species. This notification provides the utility company time to modify their facility, minimizing additional pruning that may harm the trees. The utility company is typically allowed two growing seasons to complete these modifications, during which light pruning is permitted by Caltrans.
Table 5.19A  
Permit Requirements for Electric Utility Tree Removal

1. The electrical utility permittee must verify that removal of volunteer trees from stumps and seedlings located directly under electrical lines that may grow into electrical lines provide little or no functional roadside value as determined by the District Landscape Architect or Permits Landscape Architect. Seedlings are defined as non-planted or volunteer trees with trunk less than 4 inches in diameter, and under 20 feet in height.

2. Obtain approval from the District Landscape Architect or Permits Landscape Architect to remove trees in the following conditions:
   - Clear cutting of volunteer trees, stumps, or seedlings under electrical lines.
   - Removing groups of seedlings or volunteer trees that provide highway screening for adjacent property.
   - Removal of trees that require compensation, such as those that provide high species value, historic landscape value, highway screening, wildlife habitat, or other functional landscape benefit. Negotiating of replacement tree, compensation, or mitigation planting measures will first be required. Information on determining the fair value of an existing tree may be found in the most recent edition of the “Guide for Plant Appraisal” available from the International Society of Arboriculture. Removal of trees that provide high species value, historic landscape value, highway screening, wildlife habitat or other functional landscape benefit requires a separate permit.

3. Obtain approval from the District Landscape Specialist to remove trees in the following conditions:
   - Trees (which by mutual agreement) that pose potential hazard, such as; leaning, uprooted, or dead trees. Providing replacement trees, compensation, or mitigation planting will not be required.
   - Trees (which by mutual agreement) that are of low species value, in poor condition due to obvious poor health or severe structural defects, that do not provide highway screening, wildlife habitat or other functional landscape benefit. (Consult the Western Chapter, International Society of Arboriculture Species Classification and Group Assignment pamphlet as a reference to determine low species value.) Providing replacement, trees, compensation, or mitigation planting will not be required.

4. To remove trees specified under 2 and 3 above, submit a completed Caltrans/Electric Utility Tree Removal Request (Form TR-0168), to the District Landscape Specialist for approval. Include one or more photographs of each tree to be removed. Remove trees only after the Tree Removal Request is approved and signed by the District Landscape Specialist or designee. Keep a copy of the signed Tree Removal Request at the work site during tree removal operations.
Table 5.19B
Permit Requirements for Gas Utility Tree Removal

Tree removal permits over sub-surface gas utilities are subject to the following requirements:

| 1. | Perform a review that identifies, maps, and locates (geo-referenced) “unacceptable” trees and shrubs proposed for removal. Removal is limited to trees defined as “unacceptable” by the utility, and agreed upon by the District Landscape Architect or Permits Landscape Architect. Unacceptable trees includes trees within 15 feet of the centerline of the gas utility. Trees in this zone potentially impair the function and required maintenance of the underground utility due to root and trunk growth. |
| 2. | Document review findings in a report. |
| 3. | The report must be reviewed by the District Landscape Architect, Permits Landscape Architect, District Landscape Specialist, District Environmental staff (biologists), local agencies, Native American tribes, home-owner associations, and others as applicable to determine if the unique value of the trees requires preservation or mitigation. When preservation is required Caltrans will not approve the removal of the trees until alternatives have been discussed with the utility. The report must address the following: |
|   | • California Environmental Quality Act (CEQA) |
|   | • Mitigation requirements |
|   | • Existing or potentially historic landscapes |
|   | • Listed threatened and endangered plants or endangered species habitat per the United States Department of Agriculture, United States Fish and Wildlife Service, and the California Department of Fish and Wildlife. |
|   | • Identify Blue Oak, Engelmann Oak, Valley Oak or Coast Live Oak trees proposed for removal, include replacement planting plans. State agencies are required to preserve and protect native oak woodlands and to provide for replacement plantings whenever Blue, Engelmann, Valley, or Coast Live Oak trees are removed from native woodlands (Senate Concurrent Resolution No. 17, passed September 1989). |
|   | • Spiritual or cultural value to Native Americans |
|   | • Negative effects to classified landscape status (related to outdoor advertising) |
|   | • Negative impacts to trees that contribute significant landscape value, such as: |
|   |   o Wildlife or pollinator habitat |
|   |   o Visual highway screening (from adjacent land uses) benefit |
|   |   o Significant historic or local cultural benefit |
|   |   o Significant functional or aesthetic value |
|   |   o Contiguous street tree or right-of-way planting |
|   | • Growth habits and root structure of the species |
|   | • Age, depth and condition of the existing gas pipeline |
|   | • Opportunities within and outside the right-of-way to realign the utility facility |
| 4. | The utility must communicate and coordinate with Caltrans throughout the review process regarding the unique value of the trees designated for removal, evaluate viable alternatives, and develop an approach that meets both Caltrans and the utility company requirements. |
5. Upon completion of the review process, the gas utility company must document the agreed upon approach in the final report, and submit the report along with the tree removal permit application.
507 MAIL AND NEWSPAPER BOXES

Permit Code MB
MB permits are issued for installation and maintenance of curbside mailboxes and newspaper delivery boxes. New and replacement mailboxes must conform to Caltrans standards and policies and United States Postal Service (USPS) standards (these requirements apply to newspaper delivery boxes).

Caltrans’ policy is to issue encroachment permits for curbside mailbox locations that are convenient to postal patron and mail carriers without interfering with highway safety, maintenance, operations, or signing. If located within the clear recovery zone, the mailbox support must be made breakaway.

The permittee must provide suitable all weather surfacing between the roadway and the mailbox. The surfacing must conform to the adjoining shoulder grade.

Curbside mailboxes are not permitted within new access-controlled right-of-ways except within a rural access-controlled right-of-way with driveway access openings and no frontage road. Curbside mailboxes within new access-controlled right-of-ways may be placed at a convenient location near an interchange or grade separation structure. The most desirable location at an interchange would be on the county road section off the State right-of-way, but should be determined cooperatively with the local postmaster.

AASHTO’s “Roadside Design Guide”, 4th Edition, Chapter 11 “Erecting Mailboxes on Streets and Highways” (See Appendix H of this Encroachment Permits Manual) offers model guidelines and standards for the installation of rural mailboxes. All mailboxes within the clear recovery zone should be firmly attached to supports that would yield or break away safely if struck by a vehicle.

A single 4 inches by 4 inches square or 4 inches diameter wooden post; or a 1.5 inch - 2.0 inches diameter standard steel or aluminum pipe posts, embedded no more than 24 inches into the ground is considered acceptable as a mailbox support. A metal post must not be fitted with an anchor plate, but it may have an anti-twist device that extends no more than 10 inches below the ground surface.

Axles, ploughs, crankshafts, and similar large and heavy objects should not be used because potential collisions with them would be severe. Multiple-box installations should be located off the State highway; if that is not possible, individual supports for each mailbox must be used. The distance between the supports should be the same as the length of support above the ground.

Neighborhood Delivery and Collection Box Units (NDCBU) do not meet the breakaway requirements and should not be placed within the clear zone as described in the Highway Design Manual.
The USPS requires that all new and replacement mailboxes be approved by the postmaster general. The following information is from the Postal Operations Manual (POM) and USPS-STD-7B01. Further information and a list of approved manufacturers are located at www.usps.com.

Curbside mailboxes must be placed so that they may be safely and conveniently served by carriers without leaving their conveyances. They must be reasonably and safely accessed by customers. Boxes must also be located on the right-hand side of the road and in the carrier’s direction of travel in all cases where driving on the left-hand side of the road to reach the boxes would pose a traffic hazard or violate traffic laws and regulations. On new rural or highway contract routes, all boxes must be on the right side of the road in the carrier’s direction of travel. Boxes must be placed to conform to State laws and highway regulations. Carriers are subject to the same traffic laws and regulations as are other motorists. Customers must remove obstructions, including vehicles, trash cans, and snow, that make delivery difficult. Generally, mailboxes are installed at a height of 41 to 45 inches from the road surface to the bottom of the mailbox or point of mail entry. Mailboxes are set back 6 to 8 inches from the front face of the curb or road edge to the mailbox door. Because of varying road and curb conditions and other factors, the Postal Service recommends that customers contact the postmaster or carrier before erecting or replacing their mailboxes and supports. (POM, Section 632.524)

Boxes should be grouped wherever possible, especially at or near crossroads, service turnouts, or other places where a considerable number of boxes are presently located. (POM, Section 632.525)

Any mailbox that is found to violate Caltrans or U.S. Postal Service standards must be removed by the postal patron upon notification by Caltrans.

508 MISCELLANEOUS

Permit Code MC
MC permits authorize a variety of activities within State right-of-way that are not covered by other specific permit types addressed in this manual. Some of these activities are described in the following discussion.

508.1 Contractor’s Yards and Plant Sites
A State contractor must obtain an encroachment permit for plant and yard sites located within State right-of-way, unless the sites are located within contract limits. (Guidelines are described in the Project Development Procedures Manual.)


These rules and regulations apply to sites specified in State contracts if:
Chapter 500 - Specific Encroachment Permits

- The site is excess land, (a Category 2B or 2C hold is required), and the Right of Way Excess Lands Branch processes the hold.

- The site is airspace property, see the Right of Way Manual. Analysis must be approved by the District Airspace Review Committee, and an encroachment permit is required.

- The property is being held for future construction, see the Right of Way Manual.

- The project engineer notifies District Right of Way of the proposed use and the target date for advertising the construction contract and informs District Encroachment Permits that the contractor will be applying for an encroachment permit.

The project engineer is responsible for ensuring that local and environmental approvals are obtained and that appropriate language is placed in the Special Provisions for the contract.

The resident engineer ensures that the contractor properly protects, maintains, and leaves the property in a satisfactory condition at the end of the use, as required by the Special Provisions.

2. Requests by Contractors to Use Non-Designated State Property Located Outside Project Limits.

An encroachment permit is required to use non-designated State highway right-of-way outside contract limits. Other Caltrans property is managed by a lease or rental agreement.

Upon receipt of a contractor’s request to use State property outside of the contract limits and not designated in the Special Provisions, the resident engineer directs the contractor to the appropriate District Right of Way unit (Airspace, Property Management, or Excess Land). For excess land rentals, a Category 2B or 2C hold is required, and the analysis must be approved by the Excess Lands Branch (see Right of Way Manual.) For rental of property held for future construction, see the Right of Way Manual.

District Right of Way assists the contractor, as needed, in securing local approvals and environmental clearance. It also coordinates its activities with District Encroachment Permits to ensure that the encroachment permit contains appropriate wording.

Payment for use of State property is based on fair market value.
508.2 – 508.4 These sections were left blank intentionally

508.5 Grading
Grading work occurs frequently in numerous permit categories, and grading requirements are associated with those other permit codes. Occasionally, a permit is issued solely for grading work; in this case, a MC permit is issued for authorized work. The permit may be issued as a biennial.

The following conditions apply to authorized grading work:

**GRADING BY PRIVATE ENTITIES WITHIN ACCESS-CONTROLLED RIGHT-OF-WAY**

Private use of access-controlled right-of-way to perform earthwork not associated with a highway improvement is not allowed except by a variance approved by the Division of Design, Chief and an encroachment permit. Provisions must be made to: dispose of soil contaminated from air-borne lead, protect environmentally sensitive resources, protect historical and cultural resources, trees, and vegetation, and prevent erosion (see Caltrans publications on Storm Water Quality).

**APPROVED GRADING WITHIN HIGHWAY RIGHT-OF-WAY**

Excluding improvements to sight distance or highway improvements, developers of adjacent property must not remove earth or deposit fill within the right-of-way to improve their property unless approved by the Division of Design, Chief. When approved, the State is reimbursed an amount equal to the market value of removed materials minus the value of improvement to the right-of-way as determined by Project Development.

508.6 Mowing Grass by Adjacent Property Owners
District permit engineers may issue no-fee permits to adjacent property owners to allow cutting dry grass for weed abatement, preventing cattle from breaking through fences onto State right-of-way, or in areas that pose a potential fire hazard to the permittee’s property. This permit is available as a biennial permit.

A “Consent Letter” (form TR-0131) may be issued by the Maintenance Area Superintendent for one day activities. The Deputy District Director-Maintenance may approve multiple dates at his or her discretion (maximum of three consecutive days).

Permits require assignment of a State maintenance worker to supervise the mowing to assure no damage occurs to State facilities. The permittee will remove all cut grass or hay. Plowing cuttings into the ground is prohibited because of potential erosion.
Protection of pollinator habitat may be required. To protect pollinator habitat limit mowing to a maximum of two times per growing season, or in areas that typically receive an annual frost, delay mowing until after the first frost.

508.7 Removing Hay, Sand, and Other Materials of Commercial Value

The Maintenance unit reviews applications for removing materials of commercial value from State highway right-of-way. It is responsible for assuring that the proposal complies with policy, obtaining formal bids, advertising for bids in newspapers, and approving and issuing permits.

Permit policy pertaining to harvesting of hay or sand removal or other similar activities where a product of commercial value may be obtained within State right-of-way is as follows:

1. Where the value of the service to Caltrans or the value of the product exceeds $500, the permit will be issued to the high bidder following an informal bidding procedure. In the case of hay mowing, when hay is baled and removed by the permittee, competitive bidding will be used when parcels of 20 acres (8.09 ha) or more are involved. A permit is issued to the high bidder.

2. When the value of the service and the commercial value of the product both are less than $500, permits will be issued on a “first come, first served” basis. This would be the case with haying areas under 20 acres (8.09 ha). The District estimates the value of the service based on current labor, equipment, and overhead rates for appropriate work classifications. Current market values should be used to estimate the product value.

3. When issuing permits for the purposes noted above, consider the following:
   B. Permittee must submit operation plans and schedule well in advance of work start to allow review and approval of details by Caltrans.
   C. Permittee must not store harvested product within the right-of-way.
   D. No selected harvesting unless specifically allowed in the conditions of the permit. The permittee must mow all hay and remove sand only from specified areas.
   E. Prior to acceptance of encroachment permit fees, the permittee should be advised of pesticide use or other action that could impact the marketability or use of the product sought.
   F. The minimum acceptable bid will be the sum of the standard permit fee plus the cost of administering the competitive bidding process.
   G. A permit is issued as a miscellaneous permit at actual cost.
   H. When a product of value is removed from the right-of-way the standard permit fee will be charged, except for the case where an adjacent property owner mows and harvests hay in an area less than 20 acres (8.09 ha) in size. In the case of the adjacent property owner, as described herein, or if an individual wishes to mow...
the hay, without harvesting, the permit fee may be waived in accordance with Chapter 200 of the Encroachment Permits Manual.

Competitive bids should be sought by Right of Way for removing, harvesting, or pruning of State highway plants, with leases not to exceed 20-acre (8.09 ha) parcels. Successful bidders need an encroachment permit before starting work; the permit is fee-exempt.

508.8 Parking Meters

Only by adoption of an ordinance may local agencies install and service parking meters and mark parking spaces on conventional highways. The ordinance establishing the parking meter zone must describe the area included within the zone. The local agency must submit the complete draft ordinance to the District Director for approval. The ordinance only becomes effective after Caltrans approval. The ordinance can include the markings designating the parking spaces (Vehicle Code 22508 and CA-MUTCD Section 3B.18, Parking Space Markings).

Where maintenance of a State highway is delegated to a city, the District Director may delegate authority to regulate parking on that highway to the city (Vehicle Code 22506).

Parking meter zone plans must be reviewed by District Traffic and Maintenance. ADA certification is required (See Section 500 and Chapter 200).

508.9 Structures - Engineering Services

Encroachment permits for structures work are usually identified as Miscellaneous Permits Code (MC), although they also may occur in other permit code categories.

Design plans for work involving construction or modification of structures (for example, bridges, tunnels, retaining walls, soundwalls, etc. (see Structure Work in Appendix K), must be approved by Division of Engineering Services (DES). Special funded projects are reviewed by DES Office of Special Funded Projects, (OSFP) through the project development oversight process as indicated in Section 202.3, 205.2, 206, 206.2A, and special provision for Structure Work in Appendix K; construction and as-built requirements are subject to conditions of the cooperative agreement. Structures Maintenance must review all encroachment work not reviewed by OSFP and must approve all work to place irrigation facilities and lines on existing structures, including outside surfaces of retaining walls.

Whenever proposed work involves structures, in addition to the five (5) sets* of plans normally required by the District Permit Engineer for District use, the encroachment permit application must include the number of contract document sets as shown below:
Performance bonds are required on all permits (except public agency permits) authorizing work on signals or structures. The bond must be a minimum of $10,000 and must be retained until the permittee furnishes accurate as-built plans and other completion records for the permit work.

All materials used in the permanent construction must be individually tagged as inspected by Caltrans, or must be accompanied by a certificate indicating compliance with the permit. These must be furnished by the permittee on a timely basis. This requirement does not preclude Caltrans from testing materials when deemed necessary.

The permittee must provide field engineering for line and grade controls and must furnish Caltrans with completion records including reproducible as-built plans upon completion of the work. As-built plans furnished to Structures must be original-quality, full-size reproducible.

508.10 Protection of Survey Monuments

Pre-inspection by Encroachment Permits should include a search for known or suspected survey monuments.

When grading or construction and maintenance of curbs, gutters and sidewalks is approved, existing survey monuments must not be disturbed, destroyed, or obliterated. Districts must include the following statements in all encroachment permits allowing grading, earthwork, or curb, gutter, and sidewalk work:

“Your attention is directed to Standard Specification, Section 5-1.36 Property and Facility Preservation, and Business and Professions Code, Section 8771. Permittee must physically inspect the work site and locate survey monuments before work commencement. Monuments that might be disturbed must be referenced or reset in accordance with Business and Professions Code.”

“If feasible, monuments should not be set within the traveled way. All monuments that must be set or perpetuated in paved surfaces, must be constructed in accordance with Caltrans Standard Specification Section 78-2 ’Survey Monuments’ and Standard Plan A74, Type D, or equal with prior approval of the District Surveys Engineer.”
“Copies of Corner Records filed or Record of Surveys recorded in compliance with the Business and Professions Code must be forwarded to the District Surveys Engineer.”

508.11 Gathering of Roadside Vegetation Materials
The gathering of roadside vegetation/plant-life for the purposes of research, education and/or by Native Americans for religion, arts, & crafts is allowed (Public Resources Code, Section 5097.9).

Group participation must be limited to a maximum of 20 people at a time and must have one supervisor appointed.

All participants are required to wear safety equipment, hard hats, approved vests (green or orange), gloves, and glasses/goggles (see Caltrans Safety Manual). This safety equipment may be loaned to the group participants by Caltrans for each operation. Proper dress and foot attire is also required (i.e. shirts with sleeves (long or short), pants, boots, or shoes with a hard sole, etc.) in accordance with Caltrans policies and procedures.

508.11A Permission to Enter
For activities accomplished in one-day or less, permission to enter State right-of-way can be issued through a “Consent Letter” (form TR-0131). The Consent Letter can be obtained, through the Maintenance Area Superintendent’s Office. This activity may meet Adopt-a-Highway requirements. To see if your activity meets these requirements see Section 500.1.

When the proposed activity will take more than one-day (or three days when approved by the Deputy District Director – Maintenance), the project sponsor must obtain an encroachment permit through the local District Encroachment Permits Office.

The Consent letter or encroachment permit may be waived if Caltrans deems that the activity’s impact to be minimal.

The Consent Letter or Encroachment Permit must be specific to cover the operational and safety aspects of the specific controlled access location. A copy of the Consent Letter must be sent to the Headquarters Office of Roadside Management.

- Do not work on the roadway or shoulders, on bridges, in tunnels or near railroad tracks.
- Do not cross access-controlled right-of-way traffic lanes on foot. Use caution when crossing conventional highways. Use crosswalks and signals where available.
- Face oncoming traffic as you work and keep an eye on traffic. Be prepared to move quickly, if necessary.
- Discontinue work before dusk. Do not work when fog or other conditions reduce visibility for drivers.
- Do not work when roadway is wet or icy.
- Do not touch or remove materials which you suspect may be toxic or hazardous. Items to avoid include powders, chemicals, smelly substances, suspicious packages, chemical
drums or containers, weapons, syringes or hypodermic needles, dead animals and broken glass. Notify Caltrans or law enforcement (California Highway Patrol, Sheriff, etc.) of the location of weapons or suspected toxic substances immediately.

- Do not compact trash bags. Injuries from broken or jagged objects may occur.
- Wear hard hats, either ANSI Class II or III compliant vests, safety glasses or goggles and other personal safety equipment as advisable.
- Wear long pants and substantial leather shoes or boots with ankle support.
- Watch your footing and stay off steep slopes, drainage facilities or places from which you might fall.
- Do not use portable music devices that require the use of headphones or earbuds
- Do not run, throw objects or engage in horseplay or any other activity which may distract drivers.
- Do not consume alcoholic beverages or drugs before entering or while on the roadside.
- Be alert where snakes may be located. Also be alert for stinging insects and poisoning plants (e.g. poison oak).

508.11B Removal of Protected or Sensitive Vegetation
Only roadside vegetation/plant-life which has not been identified as environmentally protected/sensitive or roadside vegetation/plant-life within an area/location that has been identified as an Environmentally Sensitive Area (ESA) by Caltrans will be allowed to be removed.

508.11C Gathering by Research or Educational Groups
Research or Educational groups will be required to have a Caltrans representative in attendance at all times. Caltrans’s representative will be the final authority as to specific work locations, vehicular parking, and time limitations for the removal of roadside vegetation/plant-life.

508.11D Gathering by Native American Groups
Native American groups are permitted to gather roadside vegetation/plant-life for the purposes of religion or arts & crafts (basket weaving).

When there are less than five participants, a Caltrans representative may not be required. Discretion will depend upon the location requested for the gathering of the roadside vegetation/plant-life.

508.12 Law Enforcement Surveillance Devices (New 01/18)
Law Enforcement Surveillance Devices (LESDs), such as automated license plate readers, may be permitted in accordance with the criteria established in Table 5.19C below, in addition to existing encroachment permit policy and Caltrans standards. Deviations from the requirements in Table 5.19C shall not be allowed.
Proposals for installing LESDs within access-controlled right-of-way must also comply with guidance and requirements established in Project Development Procedures Manual Chapter 17, Section 1, Article 4, “Non-Utility Encroachments within Access Control Right-of-Way”.

### Table 5.19C
Law Enforcement Surveillance Devices Permitting Criteria

| 1. | Encroachment permits authorizing installation, ownership, and/or operation of LESDs within the State highway right-of-way can be issued only to local law enforcement agencies or the CHP. |
| 2. | Annual maintenance permits can be issued to the owner of the LESDs to maintain the infrastructure installed within the non-access controlled right-of-way. |
| 3. | A double permit is required if a contractor is installing or maintaining the installations for the permittee. |
| 4. | The entire LESD system must be independent from any Caltrans structure, pole, communication system, power supply, or other Caltrans-owned facilities. |
| 5. | Poles or other fixed objects installed to mount LESDs must meet horizontal clear recovery requirements described in the Highway Design Manual Topic 309-Clearances. These poles are considered discretionary fixed objects and will be allowed only if shielded behind existing guardrail, barrier or other safety device. If there are no existing shielding devices, the poles must be placed 52 feet horizontally or 8 feet vertically up-slope from the edge of traveled way. |
| 6. | At minimum, the permittee's LESD system installation plans must: |
| | a) Include all electrical, electronic, civil, and mechanical work pertaining to the LESD system; |
| | b) Show the electrical installation, and demonstrate that it operates independent of Caltrans highway infrastructure; and, |
| | c) Utilize separate conduit with distinctively marked pull boxes. |
| 7. | Caltrans shall have no direct access to or control of the surveillance data collected by LESD. |
| 8. | Other than the LESD permits issued to the CHP, the permittee must notify and send a copy of each issued LESD encroachment permit to the local CHP Office. |
| 9. | Upon termination of surveillance activities, the permittee must notify Caltrans District Permit Office in writing within 30 days and remove all LESD infrastructure from Caltrans' right-of-way. If the permittee fails to comply, Caltrans may remove the LESD system and the permittee must reimburse Caltrans for all associated costs of removal and storage. |
509 OUTDOOR ADVERTISING VISIBILITY IMPROVEMENT

Permit Code OA

509.1 General
Visibility improvements for legal outdoor advertising displays are permitted in accordance with Section 670 of the Streets and Highways Code. Section 5226 of the Business and Professions Code establishes outdoor advertising as a legitimate commercial use of property adjacent to roads and highways. When vegetation within the right-of-way obstructs the view of an advertising display from the adjacent highway the permittee may apply for an Outdoor Advertising Visibility Improvement Permit.

509.2 Commercial Buildings Obscured From Highway Visibility
Trimming or pruning to improve visibility for a commercial building (e.g. restaurant or store) is not allowed.

509.3 Advertising Display Obscured from Highway Visibility
When an advertising display is obscured from highway visibility the applicant may apply to modify vegetation for the purpose of improving or enhancing the traveling public's view of either an off-premise or on-premise advertising display, they must first complete the “Visibility Improvement Request” (VIR) (form TR-0165). The District Outdoor Advertising Coordinator provides the initial review. If the display qualifies as an applicable project for an Outdoor Advertising Visibility Improvement, the applicant prepares a “Standard Encroachment Permit Application” (form TR-0100).

509.4 Visibility Improvement Request (VIR)

General
A VIR (form TR-0165) is used to obtain the consent of the local entity and Caltrans to provide for the pruning or removal of vegetation to improve or enhance the view of a legal outdoor advertising display. Destruction, removal, or topping of trees is not permitted, except as cited below.

The Streets & Highways Code, Section 670 (a) (4), states;

“the department [Caltrans] must not issue a permit for, or take any other action to accomplish, the destruction, removal, or topping of any tree, unless the tree is dead or diseased, for the purpose of improving or enhancing the view from the highway of any advertising sign or device or any commercial activity, unless, for any project whose cost is more than five-hundred dollars ($500), the permittee has obtained consent from the city or county in which the tree is located. Nothing in this paragraph limits the department’s [Caltrans] authority to modify or deny any permittee’s request. If the city or county does not respond within 30 days to a request for a
permit pursuant to this paragraph, the city or county is deemed to have given consent to the project.”

Local entity consent does not guarantee Caltrans approval of an encroachment permit for a VIR. A VIR will only be considered when the work to be performed is within 500' from the display. Refer to Figure 5.1, Typical Visibility Improvement Limits.

The permitted work must be performed under an encroachment permit at the permittees expense. Mitigation requirements as a condition of the permit approval may be required as stipulated by Caltrans, i.e. replanting, irrigation, and a plant establishment period.

**Process and Submittal**

The District Encroachment Permits Office must provide the proposed applicant with a VIR (form TR-0165). Form TR-0165 is also available in Appendix D.

The applicant completes the top portion of the VIR (form TR-0165) for review by the local entity of responsibility for that specific geographical location, where the vegetation in question necessitates maintenance, for the purpose of improving or enhancing the view of the advertising sign.

The applicant will send a copy of the VIR (form TR-0165) via certified/registered mail to the local entity. The date the correspondence is received by the local entity establishes the start of the thirty-day (30) clock. The applicant must provide the local entity approved VIR (TR-0165) to the District Encroachment Permits Office. If the local entity does not respond to the VIR (TR-0165) within thirty-days (30), the applicant must provide proof of correspondence with the date of correspondence clearly shown, the local entity in this instance is deemed to have given consent to the VIR.

The local entity is required to complete the bottom portion of the VIR (form TR-0165). A brief explanation should be provided whenever a local entity denies a VIR.

In conjunction with a completed “Standard Encroachment Permit Application” (form TR-0100), any of the following actions begin the Encroachment Permit process for an “OA” permit:

1. Receipt of the written response mailed to the local entity giving consent,
2. Receipt of certified/registered mail delivery and no response has been received for 30 days,
3. Submittal of the completed VIR (form TR-0165) with local entity approval/denial.

The “OA” encroachment permit requests are reviewed by the following Caltrans personnel:

- District Landscape Architect or District Encroachment Permits Landscape Architect;
- District Maintenance Landscape Specialist;
- District Maintenance Landscape Supervisor responsible for that specific area;
District Office of Outdoor Advertising (ODA) (to verify the ODA permit is current);
District Right of Way Office (verify that land is not in the process of acquisition).

**Denial & Appeal**
In the event that the VIR is denied by the local entity, there are no rights of appeal through Caltrans.

In the event that the VIR is denied by Caltrans, the applicant must be provided an explanation of denial, a copy of their appeal rights and will be notified via certified/registered mail to ensure that all time-lines of the appeal process are met.

The applicant has no right to a meeting with Caltrans staff in the appeal process; the applicant is solely responsible to ensure that all justification (i.e. information, pictures, etc.) is supplied to Caltrans for consideration through the appeal process.

The Headquarters Landscape Architecture Program reviews and comments on all appeals. If the Landscape Architecture Program denies the appeal, it will be the final decision by Caltrans and the applicant will have no further rights to appeal.
### General Conditions

1. Work must be performed in accordance with the guidelines of the International Society of Arboriculture current ANSI A300 Standards.
2. The tree pruning contractor must be licensed by the California Contractors State License Board and hold a current C61 or D49 license.
3. Visibility improvement modification must not detract from appearance, compromise function, or adversely affect the maintainability or longevity of the vegetation. Within these limitations, the intent is to maintain:
   a. Visibility of off-premise displays; and,
   b. Visibility of on-premise displays.
4. Pruning must not disfigure or compromise the plant’s health.
5. Only one pruning per each 12-month time period will be allowed.
6. Removal of more than 15% of any tree’s canopy within a 12-month time period or more than 25% during any 24-month time period is not allowed.
7. Apply supplemental water to pruned trees as recommended by the District Landscape Architect or District Maintenance Landscape Specialist. To conserve domestic potable water, water must be either recycled or non-potable. Comply with the requirements of non-potable and recycled water use in Section 10-6 “watering” of the Standard Specifications.
8. Where planting is owned and maintained by the local entity, e.g., on a conventional highway comply with the pruning requirements of the local entity.
9. Pruning will only be allowed during a horticulturally appropriate time of year, based upon the tree species, solar exposure (to prevent sun scald), climate zone, and biological constraints (endangered species, nesting birds, etc.). The District Maintenance Landscape Specialist will evaluate and specify in the permit the required time to prune.
10. A bond or cash deposit may be required.
11. Pruning or removing Blue Oak, Engelmann Oak, Valley Oak or Coast Live Oak trees is not allowed. State agencies are required to preserve and protect native oak woodlands and to provide for replacement plantings whenever Blue, Engelmann, Valley, or Coast Live Oak trees are removed from native woodlands (Senate Concurrent Resolution No. 17, passed September 1989).
12. Place mulch beneath pruned trees. Mulch must be 4-inches deep, not touch the trunk of the tree, and extend 5-feet beyond the outer edge of the tree canopy (drip-line). Do not place mulch in drainage ditches, in paved areas, or closer than 5-feet of the paved roadway edge. An exception to required mulch placement may be granted by the District Landscape Architect or the District Maintenance Landscape Specialist if existing site conditions do not allow for mulch placement.

### Median Plant Pruning

1. Permits to prune plants in the median are intended to be used on sections of highway that need pruning for safety.
2. Reasonable starting and stopping points for the median pruning should be considered, such as:
   a. At overcrossings, undercrossings, bridges or similar structures.
   b. Beginning or ending of a planting or breaks in the planting of 200 feet or more.
3. The permit will specify traffic control and access requirements including access times, dates, and special access requirements. The permit will also include: the time of year to prune, the type of equipment to use and any special treatment required must be based on the types of plants, site conditions, and geographical location of the project.
4. Plants are to be side pruned to a width sufficient to provide clearance required for the safety of the traveling public. Plants must not be pruned to a height under 5-feet measured from the highest paved shoulder.

### Basis for Denial

1. The VIR (TR-0165) was denied by the local entity.
2. The display is illegally in place, is non-conforming to Federal standards or if Caltrans is in the process of acquiring the land where the display is located.
3. The scope of work involves removal of obstructing vegetation and/or destruction or topping of healthy trees.
Typical Visibility Improvement Limits

Shaded Areas Show Maximum Work Areas to be Considered for Visibility Improvement

CONVENTIONAL R/W

152.4 meters (500')

ACCESS CONTROLLED R/W

152.4 meters (500')

Figure 5.1: Typical Visibility Improvement Limits
510 ROAD APPROACHES AND DRIVEWAYS

In granting a new public road connection, the California Transportation Commission action sets the terms and conditions of construction, which usually consist of specifying local and State responsibilities for right-of-way and construction costs of the new connection. These responsibilities usually are determined through negotiation, taking into consideration the California Transportation Commission’s funding policy for interchanges adopted on April 26, 1984. New at-grade connections to existing access-controlled right-of-way are approved only if the State pays no construction or right-of-way costs.

Cases will occur where it is not clear that a proposed connection would qualify as a “public road.” Headquarters and the District make a determination after evaluating the circumstances in each case. Curb returns must have review consideration in a PEER or project report if the connection is not publicly owned and maintained.

Caltrans’ policy is to use existing access safely and minimize the number of new access points to a State highway. Access on access-controlled highways is limited by deed conditions. An increased use is not appropriate when the deed restricts access to a specific use. This usually applies to applicants wanting to use an agricultural or single-family access opening for commercial purposes.

The impacts of both initial and ultimate development must be assessed when a development requires a new connection to the State highway. The developer must mitigate adverse impacts on the State highway caused by the developer’s initial and ultimate development. Add conditions to the permit that cause the developer to provide mitigation measures in a specific phase of future development if both initial and ultimate impacts are not mitigated in the first phase of development.

Growth inducement and its impact upon traffic generation must be evaluated. Environmental documents usually contain the information needed to make an evaluation. The permittee is responsible for mitigating conditions the proposal generates (such as increased traffic) which cause an existing private road approach to become unsafe. The permit may need to be updated and modified to address those unsafe conditions. Legal should be consulted to revoke the permit if the unsafe condition cannot be mitigated or the permittee fails to comply with the permit provisions. For information regarding unauthorized driveways, see Section 206.3.

510.1 Commercial Driveways

Permit Code RC

RC permits authorize driveways for service stations and other commercial establishments. Access from the highway also is discussed in the Highway Design Manual. A clear distance of at
least 10' is required between a gasoline pump block and the right-of-way line (see the State Fire
Marshal Administrative Code).

If the only project element is the driveway, then sidewalks directly adjacent to the driveway are
considered to be out of the project scope. If other elements of the property frontage are being
constructed or reconstructed, then all elements must comply with the current Design Information
Bulletin 82 (DIB 82). ADA certification is required (See Section 500 and Chapter 200).

Permits must not be issued for servicing vehicles parked within State right-of-way. These
establishments should be set back on private property to allow for service outside the
right-of-way.

510.2 Resurface/Reconstruct/Reissue Driveway Encroachments

Permit Code RM
RM permits allow resurfacing or reconstruction of single family and agricultural driveways that
were authorized by a previous permit. RM permits are also issued to new owners of existing
driveway encroachments.

510.3 Public or Private Road Approaches

Permit Code RP
RP permits authorize construction and maintenance of a public or private road approach to a
State highway facility.

City streets, county roads, and public highways are referred to collectively as public roads. A
“public road” is defined to include:

- A road maintained for general public use that has dedicated right-of-way or easements
  and serves multiple property ownerships.
- A road maintained at public expense and that connects to a public agency facility serving
  the public, such as a State park, a Native American reservation, a county government
  center, a city landfill, etc.

A public road usually exceeds one-quarter mile in length. It functions as part of the local
circulation system providing access to land uses indicated in local general plans. The California
Transportation Commission may require that construction of a public road be started when
Caltrans grants a permit for connection of the road to the State highway. The California
Transportation Commission also may require that authorization for a new road connection be
voided if construction of the public road is not undertaken within a specified period.

A private road connection to the State highway system is any connection other than public road
connections and driveways. For example, a private road connection includes a stub connection,
which is a publicly used access opening. A stub connection usually is less than one-quarter mile
in length and serves privately-owned property which is (or is planned to be) used for commercial
business or other development (for example, a shopping center, manufacturing plant, industrial park, condominium complex, etc.). This definition does not preclude a city or a county from having jurisdiction and maintenance responsibility over a proposed stub connection, but such would not relieve the property owners from paying compensation for the private access rights to be acquired from other private property owners.

New private road connections on access-controlled highways are handled as right-of-way transactions using Director’s Deeds and are processed through the California Transportation Commission. Compensation is obtained for the enhancement of values, which is based on appraisals of the property with and without the new private connection less the appropriate costs of any required State highway modifications or mitigation. The compensation never is less than the value of State highway modifications or mitigation measures required for Caltrans to accommodate the new access.

Descriptions of road approaches in the Highway Design Manual are condensed. Complete and detailed procedures for review and approval by the California Transportation Commission are described in Caltrans’ Project Development Procedures Manual.

510.4 Single Family and Agricultural Driveways

*Permit Code RS*

RS permits authorize the construction and maintenance of driveways that provide access to private single-family residential and agricultural properties along conventional highways. The driveway permit should be issued to the property owners responsible for continued maintenance. These driveways may serve more than one resident when an easement for joint use is established. However, Districts may determine that a driveway serving more than three residents is a private road and require the facility to meet higher design standards.

Driveway standards are described in Caltrans’ Highway Design Manual. Districts can require additional standards to protect the highway and the public. Proposals located in areas having curbs, gutters, and sidewalks must conform to the Standard Plans. ADA certification is required if the driveway is part of an access route. If the only project element is the driveway, then sidewalks directly adjacent to the driveway are considered to be out of the project scope.

Rural driveways connecting to State highways must be paved a minimum of 20 feet from the edge of shoulder or to the edge of State right of way, whichever is less to minimize or eliminate gravel from being scattered on the highway and to provide a paved surface for vehicles and bicycles to accelerate and merge. Where larger design vehicles are using the driveway (e.g., dump trucks, flat bed trucks, moving vans, etc.), extend paving so the drive wheels will be on a paved surface when accelerating onto the roadway.

Districts may encourage but cannot require additional pavement. Unless asphalt concrete surfaces are required for safety of operation, Districts may approve aggregate base driveways for
intermittent farm field access for plowing and harvesting, or for construction, logging, and other driveways that are obliterated and removed after the work.

Before issuing an encroachment permit to establish a driveway for a logging operation, the permit engineer should review the California Department of Forestry’s (CDF) timber harvest plans. These plans are sent from the Intergovernmental Review Coordinator to the permit office.

510.5 Standards for Road Approaches and Driveways
Any issued permit that does not meet the minimum standards shown in Table 5.21 must include written documentation from the District Traffic or Project Development Engineer explaining the reasons for allowing any deviation. The permanent file for the permit must include such written documentation.

Fire Safe Regulations adopted by the California Board of Forestry affect construction along roadways in unincorporated State responsibility areas. These regulations affect encroachment permit work on some State highways. Except for signs, Caltrans’ standards for driveway and roadway connections exceed the standards in the Fire Safe Regulations and must be maintained. The regulations include mandatory signing standards which Caltrans has approved, and Caltrans will authorize the permittee to install and maintain signs mandated by the regulations.
Table 5.21
Minimum Standards for Road Approaches and Driveways

Road approaches and driveways generally must comply with these minimum standards:

1. Typical rural driveways with unimproved frontage on conventional State highways must conform to guidelines shown in Appendix J.
   Exceptions may be made on low-traffic highways or where a highway is non-standard or is to be soon abandoned. Approval of exceptions for responsibilities that have not been delegated to the districts will be made by the Chief, Office of Project Support. Approval of exceptions for responsibilities that have been delegated to the districts will be made by the appropriate district representative as outlines in the district’s design delegation agreement.

2. Design of urban driveways with improved frontage and access openings on expressways must be in conformance with Caltrans’ Highway Design Manual.


5. ADA certification is required if the driveway is part of an access route or pedestrian facility.

511 RIDER (Rev. 04/19)

A permit rider is issued to amend an approved encroachment permit. Districts may issue a rider if the permittee seeks to modify authorized work or cannot complete the authorized work by the permit’s expiration date. Caltrans also may initiate a rider to modify permit requirements.

Riders to modify authorized work or for time extensions must be requested by the permittee and issued by Caltrans prior to the expiration date of the original permit. Similarly, Caltrans initiated riders must be issued prior to the expiration date of the original permit. If a permit has expired, the permittee is required to stop all work and must obtain a new permit prior to resuming work.

Regardless of who requests the rider, a complete accounting review of the permit should be performed to determine if additional fees are required. Applicants amending their approved encroachment permit must comply with Caltrans’ requirements and pay additional fees as necessary for review, processing, and increased inspection.

The rider form must be Simplex-numbered and cross-referenced to the original permit.
511.1 Rider Initiated by Caltrans

Permit Code RD
RD permit riders may be initiated by Caltrans to modify permit requirements. The rider also can concurrently extend permit expiration. ADA certification is required if the proposed work modification creates, alters or affects any pedestrian facilities (See Section 500 and Chapter 200). Riders should not be initiated solely to change the name of a permit inspector; that change is made by letter.

When a permittee cancels a permit before starting work, Caltrans should issue a RD rider to terminate the permit and close the file. Inspection costs are refunded according to accounting procedures described in Chapter 200.

511.2 Rider for Time Extension

Permit Code RT
RT permit riders are issued for time extensions that commonly are requested by the permittee.

A maximum of two time extension riders may be issued; each extension should be for a maximum of 90 days. The District Permit Engineer may consider exceptions to the number and length of time extensions at his or her discretion on a case by case basis.

Riders are issued after payment of a fee, normally a minimal two-hour charge.

The permits office should ensure that the requested time extension would not affect planned maintenance or construction by Caltrans. Also, projects with a U. S. EPA Rainfall Erosivity Waiver certification require a new certificate or a SWPPP. Do not issue the time extension until a WDID is submitted (see Chapter 400). Time expended to coordinate a permittee’s request when it affects Caltrans’ work is charged to the permittee before the rider is issued.

Caltrans may initiate time extension riders to extend a contractor’s permit when the owner’s permit has been extended at the owner’s request; this action ensures that the contractor has a valid permit for the approved work. Caltrans also may initiate time extension riders to correct errors.

511.3 Rider to Modify Work

Permit Code RW
RW permit riders are issued at the permittees request to modify work and only after review and approval by appropriate Caltrans’ units. Generally, the modification must be an integral part of work authorized under the original permit. Reviews for modified work are coordinated in the same way as permit applications and are not started until the permittee provides a deposit to cover estimated review costs. ADA certification is required if proposed work modification creates, alters, or affects any pedestrian facilities (See Section 500 and Chapter 200).
After plan approval, the permittee must submit a fee to cover any additional review and estimated inspection costs associated with new work. When the new work is substantial and may require extensive inspection, the permit engineer has the option of changing an “As Set” permit to “Actual Cost” inspection when the rider is issued.

512 RAILROAD GRADE CROSSING

**Permit Code RX**

Fee-exempt permits are issued to railroad companies for constructing or maintaining their existing grade crossings even though the work impacts the highway. In almost all cases where railroad bridges cross State highways, Caltrans does not own the right-of-way but crosses the railroad property by easement or agreement. These agreements control how Caltrans can utilize railroad property for highway purposes. However, State statutes also give Caltrans authority to permit activities within the area dedicated to highway use, including railroad maintenance operations that affect the highway or traveling public.

Standard Special Provisions (SSP) for fee-exempt RX annual maintenance permits issued to railroads are included in Appendix K. Districts may issue these permits for effective periods up to two years.

When a railroad company works in, under, or over a highway easement, e.g., adds new tracks within the easement, the railroad company or its subsidiaries or affiliated companies must be issued an encroachment permit. The permit provides Caltrans with notice, a record of work, and a description of terms and conditions relating to public safety and compatibility with highway purpose.

Encroachment permits issued to railroads or its subsidiary or affiliated companies must have designated across its face the words “For Notice and Record Purposes Only,” which approval must not be unreasonably withheld. The requirement for placing this statement on the encroachment permit is found in the Indenture. The Indenture is an easement agreement between Caltrans and the railroad company. The railroad right-of-way agent in each District negotiates these easement agreements.

Guides for issuing encroachment permits to railroad companies and providing inspection are listed as follows:

1. Permits issued to railroad companies performing construction or maintenance work, whether or not the work is limited to within the easement, must be fee exempt. Fee exemption pertains to permit preparation and inspection.

2. Railroad companies performing work that impacts the right-of-way, e.g., the traveled way, will be exempt from application and inspection fees.
3. Permit inspection may be provided, without fee, to insure compliance with traffic control and roadway construction.

Additionally, railroad companies enter into lease agreements with communication service providers to install fiber optic cables within their right-of-way. Some of these cables pass through easements (e.g., grade crossings or grade separations) acquired by Caltrans from the railroads. Although Caltrans is under an easement agreement to use their property for highway purposes, the railroad retains the right to allow other uses of their property provided the lessee’s activities do not conflict with highway safety or operation.

A fee exempt encroachment permit should be issued to the provider for installing fiber optic cable within Caltrans’s easement. Permits are marked “For Record Purposes Only.” The railroad company controls the location and inspection of the cable installation while the District performs inspection to mitigate potential highway and traffic impact.

Send new railroad grade crossing applications to Headquarters Division of Rail, Division of Design, Chief, and Structures for review. They must include full details and the District’s recommendation. Details include:

1. Service to be rendered.
2. Commercial development dependent on proposal.
3. Engineering features.
4. Railroad operation.
5. Volumes of traffic.
6. Description and sketch of crossing location.
7. Effect on highway operation.
8. Railroads property rights and CPUC action.
9. Construction requirements, traffic handling plans, etc., considered necessary by the District for protection of public traffic.

These details are incorporated in special provisions for railroad construction projects.

513 CALTRANS CONSTRUCTION CONTRACT (Early Entry)

Permit Code SC
On rare occasions, District Construction allows a contractor to start work before signing a State highway contract. An encroachment permit must cover this early entry into the right-of-way. As a condition of early entry, a contractor must have bonds and insurance policies in force before permit issuance.

A contractor on a State highway contract must file a statement regarding workers’ compensation insurance before starting work (see Appendix D). All Caltrans construction contracts contain this...
statement, so that compliance is met upon receipt of an executed contract. The contractor must sign and submit the form with the permit application. The form reads:

“ATTACHMENT NO. 1 TO APPLICATION FOR ENCROACHMENT PERMIT CERTIFICATION BY CONTRACTOR FOR CONTRACT NO. ________________

I am aware of the provisions of Section 3700 of the Labor Code which requires every employer to be insured against liability for worker’s compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.

____________________
Contractor

Licensed in accordance with an act providing for the registration of contractors
License No. ____________.”

The permit engineer must contact District Construction before issuing the permit to ensure the contractor’s request is acceptable and obtain the resident engineer’s name for inspection purposes.

Encroachment permits issued to State contractors for borrow or disposal areas outside the contract limits are similar to a “Notice to Relocate” and are exempt from permit fees when those locations are designated in the contract. If locations are not designated in the contract, the contractor must obtain a lease from Right of Way and an encroachment permit.

514 SPECIAL EVENTS

Permit Code SE

The term “special events” as used in this Section refers to a marathon, bike-a-thon, walk-a-thon, parade, or other local celebration to be held on a State highway facility in such a way as to directly impact vehicular traffic on a State highway facility. Generally, a special event is an activity that is not consistent with the primary use of the State highway system and, therefore, closing a portion of a State highway and/or using special traffic control by Caltrans is necessary. However, the definition of what is (and what is not) a special event is subject to interpretation.

Because of the wide variety of requests that may be received, no attempt is made to develop a definition of “special event” that could cover all possible situations. In most cases, the District Permit Engineer should be able to decide if a proposed event falls within the above definition of “special event.” If a proposed event does not clearly fall within the definition in this Section, the District Permit Engineer should discuss the proposal with the Headquarters Permit Engineer.
Hundreds of permits are issued each year throughout the State for special events. Special events can cover a wide range of activities and may involve one or more Districts. Typical events include parades, marches, bicycle events, running events, sidewalk sales, and other activities. When several Districts are involved, a lead District is designated by headquarters Permits and a single permit is issued by the lead District after coordination with the other district(s).

Not more than 4 (four) permits for the same activity at the same location must be issued in any calendar year (Section 682.5 of the Streets and Highways Code).

Permittees are responsible for all traffic control and fees for special events and must independently coordinate all activities with other affected jurisdictions.

Special event activities that conform to the California Vehicle Code and do not interfere with public traffic do not require a permit or are handled by the Traffic unit as an incident-response, as for example, high-density traffic before and after a major football game.

Whenever a special event is allowed, Caltrans may restrict the use of or close any State highway whenever Caltrans considers such closing or restriction of use necessary (Streets & Highway Code Section 124):

   a) For the protection of the public.
   b) For the protection of such highway from damage during storms or during construction, improvement, or maintenance operations thereon.

Caltrans’s authority to issue encroachment permits for special events on State highways is derived from Streets and Highways Code Section 124, 670, and 682.5.

Legal authority for a local legislative body, e.g., city or county to close portions of State highways for special events comes from Sections 21101 and 21104 of the California Vehicle Code. These sections read in part:

**Section 21101** Local authorities may adopt rules and regulations by ordinance or resolution on the following matters:

   (e) Temporarily closing a portion of any street for celebrations, parades, local special events, and other purposes when in the opinion of local authorities having jurisdiction such closing is necessary for the safety and protection of persons who are to use that portion of the street during the temporary closing.

**Section 21104** No ordinance or resolution proposed to be enacted under Section 21101 or subdivision (d) of Section 21100 is effective as to any highway not under the exclusive jurisdiction of the local authority enacting the same, except that an ordinance or resolution which is submitted to the Department of Transportation [Caltrans] by a local legislative body in complete draft form for approval prior to the enactment thereof is effective as to any State highway or part thereof specified in the written approval of the Department [Caltrans].
In addition, Districts should consider the following questions before deciding to issue or deny an encroachment permit for a special event. At the discretion of the District Permit Engineer, issued permits may include provisions to resolve these questions:

- Is there a staging area for event participants, and is there the potential for traffic operational problems at the staging area?
- Has the applicant obtained the cooperation of local law enforcement?
- Has the applicant made arrangements for emergency services for participants if needed?
- Has the applicant established clear rules for event participants, and have these been communicated to the participants?
- Are pets allowed in the event?
- Are sweep vehicles needed to pick up any stragglers at the end of the event?
- Are there any restrictions such as no bicycles, no skates, or other wheeled contrivances?
- Are there any restrictions on the age and physical condition of the participants?
- Have public transit agencies been notified of the event if it might affect transit operations or schedules?
- Is it necessary to notify emergency services such as police and fire departments? Have arrangements been made for passage of these vehicles through or around an event?
- Clean up

514.1 Conditions and General Requirements for Special Events
(Rev 07/18)

The applicant is encouraged to consult with District encroachment permits staff as early as possible. The applicant must apply at least eight weeks prior to the event date, if the event is restricted to one or two districts. For an event encompassing more than two districts, the applicant should submit the complete package for review and approval at least 16 weeks prior to the event date to facilitate timely approval. Lack of early coordination with Caltrans and the California Highway Patrol (CHP) could result in the denial of an applicant’s encroachment permit for the special event.

Unsafe special event activities are not permitted on State highways. Caltrans approves specific events only when all concerns are mitigated.

Caltrans’ general policy requires traffic control for permitted special events to be provided by a competent traffic control specialist retained by the permittee. The District Director is authorized to specify State personnel for traffic monitoring and control.

Permit Standard Special Provisions require notification of State legislators and local elected officials that serve the area affected by special events having significant traffic impacts.

Each special event permit must include the General Provisions, which are attached to all SE encroachment permits.
An event may be canceled, postponed, or terminated at any time if, in the opinion of Caltrans, weather or other conditions present unacceptable hazards. This clause must be included in the permit:

“If rain, fog, or other elements significantly affect safety for event participants or vehicular traffic, Caltrans may take whatever action is necessary to protect the public. Also, if for some unforeseen reason the traffic demand for the State facility significantly exceeds the anticipated demand, it may be necessary to terminate the event.”

The permittee must pay required fees and charges. These fees include review and analysis of traffic handling proposals, answering correspondence, coordinating with law enforcement agencies, etc. In addition, the California Transportation Commission has established the following requirement by Resolution G-18 (8-25-78):

“ . . . that a toll charge equal to that charged for a 7-axle truck be and it is hereby established for each such event involving the use of a state-owned toll bridge . . .” The event sponsor must provide a bridge toll receipt as proof of payment prior to permit issuance.

Encroachment permit fees are not required of nonprofit organizations possessing a resolution for conducting municipal parades that are considered a civic event. For example, to qualify for fee exemption, parades are held on legal holidays such as: Independence Day, Veterans Day, etc., and conducted by veterans' organizations, schools, and youth organizations.

The applicant must provide proof that the responsible enforcing agency is aware of the special event and that special enforcement will be provided if it is necessary. This proof must be documented.

Caltrans issues encroachment permits to cities, counties, and nonprofit organizations for special events and cooperates with a special event sponsor but must not be considered a sponsor or cosponsor of any event. Permits are issued only when:

1. The event is sponsored by a nonprofit organization.

2. Local interest and support for the activity is evidenced by an ordinance, resolution, or written consent (see Appendix I) from all local governments impacted directly. Local resolutions are required for all special events unless a prior resolution clearly shows the intent to cover repeat events. For example:
   - If a previously-adopted resolution (still in effect) shows the intent to hold the special event on an annual basis, or
   - Written approval is provided from an individual delegated authority by the elected body by ordinance (see Appendix I).
3. The time and date of the event are acceptable to Caltrans and are specified on the permit to maximize safety and minimize traffic disruption. Event sponsors are required to schedule events at a time when traffic volumes are low. If the event requires lane closures, an analysis must be made to determine whether remaining lanes can carry expected traffic volumes. A lane closure must be limited to the shortest period of time necessary to hold the event.

4. The proposed use will not significantly detract from the safe operation of the highway, unreasonably delay or inconvenience the traveling public, or expose participants to unusual hazards. Safe operation for the motoring public and the event participants is a primary concern when planning special events. If the event requires using a lane next to high-speed traffic, it is desirable to provide a buffer lane between the event lane and live traffic lanes.

When a buffer lane cannot be provided, detouring traffic around the event should be considered. A detour route should take into account traffic volumes, length of detour, and impact on emergency vehicles. The encroachment permit must define the route for event participants and include the detour plan.

5. The applicant provides insurance to cover the State’s potential liability.

514.2 Nonprofit Organizations

For the purpose of allowing special events on State highways, Caltrans issues encroachment permits only to nonprofit organizations as defined in Title 26, United States Code under Section 501(c)(3), (4), (6), (7), (8), and 501 (d) [IRS Publication 557]. Political organizations and other special interest groups do not qualify as nonprofit.

A nonprofit organization must satisfy all of the 5 categories listed as follows:

1. Is the applicant one of the following?
   - A corporation
   - A community chest
   - A fund or foundation
   - A civic league or organization (boy scouts, veteran’s organization, etc.)
   - A chamber of commerce or a business league
   - A recreational club
   - A fund or foundation, a fraternal beneficiary society, order or association (lodges-Elks, Moose, etc.)

2. Is the organization formed and operated exclusively for one or more of the following purposes?
   - Charitable
   - Religious
• Scientific
• Testing for public safety
• Literary
• Educational
• The prevention of cruelty to children and animals
• National or international amateur sports competition (only if none of its activities provide athletic facilities or equipment)

3. None of the organization’s net earnings benefit private shareholders or individuals.

4. None of the organization’s activities is propaganda, influencing legislation, or a political campaign.

5. None of the proposed activities can include vending within the State right-of-way (see Section 514.6) unless vending is an incidental part of the special event (authorized under Section 682.5 of the Streets and Highways Code).

514.3 Categories of Special Events
Special events are classified in one of the two following categories:

Category 1 — Events held within access-controlled right-of-way or on toll bridges.

Written approval by the Chief, Division of Traffic Operations is required before issuing a permit for Category 1 events. Headquarters Permits obtains approvals, denials, or modifications with justification for new special events.

Headquarters approval is required for any event or activity on access-controlled or toll facilities. Once an event or activity has been approved, subsequent approvals are not required unless the event or activity changes significantly or if operational conditions on the facility change considerably.

Category 2 — Events held on conventional State highway facilities or local facilities where special traffic control on a State highway is necessary.

The District Director or his representative may approve encroachment permits on conventional highways—Category 2.

514.4 Special Events within Access-controlled Right-of-way, Toll Bridges, and the Interstate System
Special events are normally banned from access-controlled right-of-way and toll bridges. However, some events, such as marathons or nationwide events requiring lane closures, ramp closures, and traffic control are allowed under an encroachment permit. In some cases, e.g., the
Olympic Torch Run and activities on toll bridges, the event moves over portions of access-controlled highways.

FHWA approval is required for special events on the Interstate system and not required for non-interstate highways. The permit engineer should obtain FHWA approval when the event is defined sufficiently to establish impact on the Interstate facility.

The policy of the Federal Highway Administration (FHWA) is to ensure that operation and maintenance of the Interstate system enhances safety and minimizes disruptions. To ensure FHWA is aware of special events that affect the Interstate system, Caltrans’ normal operating procedure is to provide information to FHWA by telephone at the earliest possible date.

Exchanging information regarding the event provides FHWA an opportunity for input and approval plus background for response to any inquiries it receives. FHWA engineers are assigned to districts and their names are available from District Project Development.

514.5 Joint Policy Guidelines for Special Events
Caltrans and the CHP have adopted joint policy guidelines for special events on conventional State highways to ensure consistent Statewide treatment of events and to provide criteria that can aid local agencies in their planning for similar activities (see Appendix E).

The guidelines apply only to highways over which both CHP and Caltrans have jurisdiction. The guidelines do not preclude the development of additional guideline criteria by local CHP commands and Caltrans Districts covering specific problems of mutual concern or interest.

The applicant must submit a completed encroachment package for a special event permit to Caltrans for review and approval. The package must include the materials listed in Table 5.22.
Table 5.22
Encroachment Package for Special Events Permits

The final encroachment package submitted to Caltrans by the applicant must include these materials:

1. A completed and signed application for an encroachment permit and the appropriate fee.
2. Traffic control plans.
3. Detour plans approved by all affected Local entities (cities, counties and Tribal governments).
4. Resolutions or approvals from all impacted governments indicating formal approval of the special event and detour plans. Resolutions should conform to Caltrans’ sample format (Appendix I).
5. A certificate of liability insurance naming the State of California, California Department of Transportation, the directors, officers, employees, and/or agents of the State of California and/or of the California Department of Transportation as additional insured and in an amount determined by Caltrans to be appropriate for the event.

Cities, counties, public schools, local improvement districts, and other local or State agencies are exempt from insurance requirements.

514.6 Special Events Involving Vending
Street festivals involving vending and sidewalk sales within State highway right-of-way is allowable with city or county sponsorship or approval under Streets and Highway Code, Section 682.5.

Encroachment permits may be issued to cities and counties (not to the nonprofit organization) for the use of highways within their boundaries or to community-based nonprofit corporations for special events involving vending. A community-based nonprofit corporation is a corporation formed under the Nonprofit Corporation Law (Division 2, commencing with Section 5000, of the California Corporation Code) having an office located within the county where the special event is held.

A community-based nonprofit corporation must obtain an acknowledgment from the city or county before permit issuance. Acknowledgment refers to a city or county issued special event permit, road closure or detour permit, or letter of permission authorizing the special event for which an encroachment permit from Caltrans is sought.

Caltrans’ permits for special events are issued in accordance with current Joint Operational Policy Statement adopted by the California Highway Patrol and Caltrans.
514.7 Liability Insurance for Special Events

The General Provisions that accompany the encroachment permit hold the permittee responsible for all liability for personal injury and property damages (see Section 203.3 and Appendix K).

Special events are classified as low, medium, or high risk and categorized as follows:

1. **Low Risk Events**
   - The event is held on a conventional highway with low traffic volume.
   - Traffic control is provided by: a law enforcement agency having jurisdiction, or by a professional traffic control company hired by the event sponsor.
   - An approved detour is available.
   - Event participants number less than 250.
   - Expected spectator draw is less than 2,000.
   - Event duration is normally one day.
   - The duration of the event is normal for that type of event.

2. **Medium Risk Events**
   - The event is held on a conventional highway with moderate traffic volume.
   - Traffic control is provided by: a law enforcement agency having jurisdiction, or by a professional traffic control company hired by the event sponsor.
   - An approved detour is available.
   - Event participants number between 250 and 500.
   - Expected spectator draw is between 2,000 and 5,000.
   - Event duration is one or two days.
   - The event’s duration is normal for that type of event.

3. **High Risk Events**
   - The event is held on a conventional highway with high volume.
   - Any event held on access-controlled highways or toll bridges.
   - The event requires rolling traffic closures.
   - Traffic control is provided by: a law enforcement agency having jurisdiction, or by a professional traffic control company hired by the event sponsor.
   - The number of participants exceeds 500.
   - Expected spectator draw is greater than 5,000.
   - Grandstands, bleachers or other structures for spectators, participants, or officials are erected within State right-of-way.
   - Event duration continues for three or more consecutive days.
   - The duration of the event is not normal for that type of event.

Although an event may not fit specifically into one of these three categories, the District determines the appropriate risk category and establishes insurance coverage accordingly.
Access-controlled right-of-way ramp closures normally do not require insurance for special events occurring outside the right-of-way.

Table 5.23 indicates the general criteria for the three risk categories. When the risk of an event is believed to be unusual, the Districts should contact Headquarters Permits to obtain an insurance amount beyond those indicated in Table 5.23. District permit engineers should review high-risk special events and present the information to Headquarters Permits. Caltrans Legal will establish an insurance amount.
### Table 5.23
Insurance Requirements for Special Events

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Low Risk</th>
<th>Medium Risk</th>
<th>High Risk *</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dual Limit</td>
<td>Single Limit</td>
<td>Dual Limit</td>
</tr>
<tr>
<td><strong>Bodily Injury</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Each Person</td>
<td>$ 500,000</td>
<td>$1,000,000</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Each Occurrence</td>
<td>$1,000,000</td>
<td>$1,000,000</td>
<td>$2,000,000</td>
</tr>
<tr>
<td><strong>Property Damage</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Each Occurrence</td>
<td>$ 250,000</td>
<td>$1,000,000</td>
<td>$ 500,000</td>
</tr>
<tr>
<td>Aggregate</td>
<td>$ 500,000</td>
<td>$1,000,000</td>
<td>$1,000,000</td>
</tr>
</tbody>
</table>

*For high-risk events, consult Headquarters Permits regarding amounts for dual-limit and single-limit bodily injury and property damage.

### 515 SIGNALS AND LIGHTING

**Permit Code SN**

Issue SN permits for new or modified traffic signals and street lighting. The Caltrans District must prepare a Project Report of the investigation of conditions at locations where a new traffic signal is to be installed, an existing traffic signal is to be modified, or an existing traffic signal is to be removed on the State highway (Section 4B.102 (CA), CA-MUTCD). See the Project Development and Procedures Manual for project report requirements and format. A Permit Engineering Evaluation report (PEER) may be prepared in lieu of a Project Report for projects estimated to cost $1 million or less.

ADA Certification is required (See Section 500 and Chapter 200).

**515.1 New Facilities or Modifications to Existing Facilities**

Local agencies and developers may propose new or modified traffic signal and street lighting facilities. New signals and State-owned safety lighting must meet warrants and require agreements for cost and maintenance. Permits for these installations are issued only when a PEER or project report is approved and final plans are signed by a California Registered Engineer and approved by Caltrans.

Local agencies, utilities, and developers often propose continuous lighting along improved highways for future ownership and maintenance by the local agency. Caltrans cannot authorize ownership by private entities and permits are not issued unless the application is made by a local agency. The permit to the agency either can mimic the permit issued to the private entity for the
installation, or it can include text stating “Own and maintain street lighting facilities installed by ‘X’ under Permit Number __.”


For continuous street lighting, the installations may conform to local standards, but Districts should ensure that the facilities meet minimum requirements for wind loading, breakaway, and location within the right-of-way. The District Traffic Electrical unit determines when lighting installations are considered safety lights that may require ownership by Caltrans.

When permit work for signals and State-owned lighting is completed, the as-built plans are signed by the appropriate inspector and copied for District Traffic Electrical and Maintenance. Permit inspectors and Maintenance electrical staff should ensure that copies of as-built plans for signals are placed inside traffic signal controller cabinets.

Plans for installation of traffic signals and lighting designed by private and local agency engineers should be reviewed by the District Traffic unit. If roadwork is involved, the entire package must be reviewed by Traffic Electrical (i.e., signal and lighting plans, striping plans, roadway plans, and any contract specifications or special provisions).

Minimum plan requirements for work involving or affecting signals, lighting, and electrical systems are shown in Table 5.24. Caltrans will not accept the job as complete until the permittee provides the Office of Encroachment Permits with one (1) 20 ft. (1: 240) scale reproducible film and an electronic copy of as-built plans within 30 days after completing authorized work.

<table>
<thead>
<tr>
<th>Table 5.24</th>
<th>Minimum Plan Requirements for Signals, Lighting, and Electrical Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plans for signals, lighting, and electrical systems must comply with these minimum requirements:</td>
<td></td>
</tr>
<tr>
<td>1. Separate 20 ft. (1: 240) scale plans on standard layout sheets 22&quot;x 34&quot;</td>
<td></td>
</tr>
<tr>
<td>2. Reproducible film media and an electronic copy provided for review</td>
<td></td>
</tr>
<tr>
<td>3. Using an existing as-built reproduction as a plan base is not acceptable.</td>
<td></td>
</tr>
<tr>
<td>4. Design details (such as right-of-way lines, striping, crosswalks, and curb ramps) must be shown.</td>
<td></td>
</tr>
<tr>
<td>5. All supporting documentation must be provided (for example, draft environmental impact reports, traffic studies, and traffic warrants)</td>
<td></td>
</tr>
</tbody>
</table>
515.2 Traffic Signal Controllers
Caltrans provides Traffic Signal Controllers for encroachment permit projects on State highways. This policy applies to each new and existing traffic signal including those at the intersection of access-controlled right-of-way ramps and local streets, whether they are maintained by the State or by a local agency.

Caltrans will, for cooperative agreement projects and other Oversight Projects involving signal systems on State highways, provide controllers to the local agency permittees as a part of the State’s contribution to the project if that obligation is so stated in an executed agreement. Caltrans also supplies controllers as a Department-Furnished Material when stated in the Permit Engineers Evaluation Report (PEER) or the Project Study Report/Project Report (PSR/PR). When projects are privately funded, the State must be reimbursed for controller assembly, inspection, delivery, and installation costs (see Guidelines for Controller Assembly distribution - Appendix E).

515.3 Payment for Traffic Signal Control Equipment
When Caltrans supplies equipment for signalization projects, the cost of this equipment must be shown in the “Equipment & Materials” section of the “fee calculation” sheet, page 3 of the application, and collected in full prior to issuance of the permit. The amounts charged must coincide with the prices listed on the Guidelines for Controller Assembly distribution (See Appendix E).

516 SURVEYS

Permit Code SV
SV permits may be issued for property survey work, traffic counts, research and materials investigations, test wells, and preliminary surveys for highway improvements, depending upon accessibility, traffic conditions, available highway facilities, etc. Requests for survey assistance and an estimate of costs should be referred to the District Surveys Engineer or responsible unit.

516.1 Multi-year Survey Permits (Annuals)
Multi-year permits are issued for a two-year period only on conventional highways, for land surveys and research projects funded by FHWA. Districts may also issue multi-year permits for soil surveys, traffic counts, etc., when applicants have contracts for work District wide. Multi-year permits for individual companies with repeated permit violations will be canceled, therefore requiring individual permits for specific work locations.
516.2 Accident Reconstruction

Generally, Caltrans’ policy is to prohibit accident reconstruction on State highways because of concerns about traffic impacts and liability. Encroachment permits must not be issued for accident reconstruction except upon written recommendation by Caltrans Legal staff, or when required by court order. A court order allowing accident reconstruction does not exempt investigators from encroachment permit requirements. Table 5.25 outlines guidelines for issuing permits for accident reconstruction surveys.

Requests for accident reconstruction should not be referred to the California Film Commission.
### Table 5.25
**Guidelines for Issuing Permits for Accident Reconstruction Surveys**

Permits authorizing accident reconstruction surveys must conform to these guidelines:

1. Applications for accident reconstruction must supply:
   - Description of work.
   - Number of vehicles and support vehicles involved.
   - Number of persons involved in the investigation.
   - Filming or photography necessary.
   - Estimated time to complete the requested activity.
   - A certificate of liability insurance, as determined by Caltrans Legal, naming the State of California, California Department of Transportation, the directors, officers, employees, and/or agents of the State of California and/or of the California Department of Transportation as additionally insured.

2. Upon receipt of an application, the permit engineer must request recommendations from District Legal.

3. Highway closures and detours must be approved by Caltrans and the affected local agency. Closures not exceeding one hour are allowed if detours are unavailable and traffic volumes are low. Advance notification signs must be placed a minimum of seven days before authorized closures.

4. Activities must be performed during daylight and conducted so that traffic in peak periods is not disrupted.

5. A preliminary meeting of Caltrans Encroachment Permits, Caltrans Legal, and the permittee must be held before permit issuance to discuss proposed activities, required personnel, traffic control, timing, and other considerations. Local agencies, law enforcement, and legal representatives should attend when appropriate.

6. An operational meeting between Caltrans, the permittee, the private traffic control vendor, the CHP, and others as appropriate is necessary before work begins to ensure that plans are finalized and participants are aware of individual responsibilities.

7. Reviews by District Traffic and Maintenance units are necessary to determine effects on State highway traffic, State-owned facilities, and the appropriateness of requested timing.

8. Unaltered accident reconstruction special provisions must be attached to the permit, and permit text must contain District special requirements. The accident reconstruction special provisions are located in Appendix K.

9. Estimated costs incurred by Caltrans must be collected from the permittee before permit issuance.

### 516.3 Archaeological Surveys
Permits for archaeological surveys within State right-of-way are issued for site investigations at specific locations. Applicants usually are colleges, universities, public agencies, and archaeology
study groups hired to investigate sites identified in environmental impact reports. All applications are reviewed by District Environmental staff, with Maintenance and Traffic units often involved also.

Traffic and pedestrian safety is provided by the permittee when open excavations are proposed. Excavations are managed and protected in the same way as trenches adjacent to the traveled way.

An archaeological survey sometimes is required because finds are unearthed during the course of other permitted work. These investigations are approved by the original permit, and no other permit is issued.

516.4 Land Surveys
Land surveys within the access-controlled right-of-way are authorized only for future highway improvements and only for specific projects and locations. Permits must specify the work involved, list a specific location for the work, and are not issued to cover numerous, and varying work site locations. Multi-year (annuals) survey permits are not authorized for access-controlled right-of-way, except for highway improvements funded by local agencies.

Permits for private surveys within access-controlled right-of-way are issued only for proposed highway improvements or for data collection but only when District Surveys cannot provide the required information from within State right-of-way to the private surveyors within a reasonable amount of time. All survey permits on conventional highways must include unaltered Special Provisions. Districts must cooperate with private surveyors by furnishing necessary information and survey reference points as needed to avoid work within access-controlled right-of-way. Authorized surveys are restricted to areas of comparatively low traffic volume when the work can be performed safely and there is no interference to public traffic.

Surveys performed in areas of relatively heavy traffic volume, particularly in metropolitan areas, must include a Traffic Management Plan measures approved by District Caltrans.

All encroachment permits involving land surveying must contain the following statement:

“If feasible, monuments should not be set within the traveled way. All monuments that must be set or perpetuated in paved areas, must be constructed in accordance with Caltrans Standard Specification Section 81, ‘Monuments’ and Standard Plan A74, Type D, or equal with prior approval of the District Surveys Engineer.”

516.5 Literature Distribution at Toll Bridges, On Ramps, etc.
The distribution of traffic questionnaires, e.g., origin and destination inquiries, to motorists at toll bridges, access-controlled right-of-way on ramps, etc., is allowable provided the survey is beneficial to Caltrans. Surveys conducted for non-transportation purposes do not qualify. Organizations applying for a permit must meet the conditions listed below (all exceptions are forwarded to Headquarters Office of Encroachment Permits):
1. The method of questionnaire distribution must be such as to minimize traffic impact.
2. The applicant must obtain a policy of liability insurance naming the State as additional insured before permit issuance. Headquarters Legal determines the policy amount.
3. Person(s) distributing questionnaires at toll bridges must be positioned at a location designated by the toll sergeant or as described in the permit.
4. CHP must be notified when surveys are conducted within access-controlled right-of-way on ramps.
5. Distribution or collection is not allowed at off-ramps.

516.6 Research Projects Funded by FHWA
The Federal Highway Administration (FHWA) occasionally funds traffic research projects involving California highways. Contractors performing such research work are subject to the conditions listed in Table 5.26.

Encroachment permits are required for research work conducted by contractors within the access-controlled right-of-way when: any personnel or stopped vehicles are within the limits of the access-controlled right-of-way, any traffic control measures are needed, or any work will be done (such as placing traffic counters or markings on the pavement). Permits also are required for research work conducted on conventional State highways when traffic control measures are needed or when any work will be performed on the traveled way or shoulders. This permit may be issued as a biennial for long-term studies.

When there is a direct contract between FHWA and Caltrans to conduct federally funded research, all permit costs are waived and the contractor is not required to post a bond. When there is not a direct contract between FHWA and Caltrans, the contractor is required to pay all permit costs and to post a bond when there is a potential for damage to the highway.
Table 5.26
Conditions for Research Projects Funded by FHWA

<table>
<thead>
<tr>
<th>Conditions for Research Projects Funded by FHWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research projects funded by FHWA are subject to these conditions:</td>
</tr>
<tr>
<td><strong>Safety Equipment</strong></td>
</tr>
<tr>
<td>• Safety equipment must conform to provisions of Caltrans’ Safety Manual.</td>
</tr>
<tr>
<td><strong>Traffic Operations</strong></td>
</tr>
<tr>
<td>• The contractor, as part of the research project, must not flag, direct, obstruct,</td>
</tr>
<tr>
<td>or interfere with public traffic or close lanes or shoulders. Any such work that</td>
</tr>
<tr>
<td>is necessary is done by State maintenance personnel. A Caltrans maintenance</td>
</tr>
<tr>
<td>employee must be present at all times for research projects that involve traffic</td>
</tr>
<tr>
<td>control, lane closures, or shoulder closures, or any work on lanes.</td>
</tr>
<tr>
<td>• The contractor’s vehicles must not have activated rooftop flashing lights. They</td>
</tr>
<tr>
<td>must not be parked on traffic lanes and must be parked off the paved shoulder</td>
</tr>
<tr>
<td>where practical.</td>
</tr>
<tr>
<td>• The contractor’s work must be done according to conditions of the Maintenance</td>
</tr>
<tr>
<td>Manual, except when the encroachment permit provides other restrictions.</td>
</tr>
<tr>
<td>• Work on lanes and crossing of access-controlled right-of-way lanes usually must</td>
</tr>
<tr>
<td>be prohibited unless the lane is closed. Caltrans’ policies regarding limited-</td>
</tr>
<tr>
<td>time work on lanes along highways that have low volumes apply only if authorized</td>
</tr>
<tr>
<td>by the permit and only if traffic volumes are low.</td>
</tr>
<tr>
<td>• The contractor’s personnel must not be closer than six feet to moving traffic at</td>
</tr>
<tr>
<td>any time.</td>
</tr>
<tr>
<td><strong>Technical Equipment</strong></td>
</tr>
<tr>
<td>• Caltrans cannot loan or rent to the contractor any equipment needed for research</td>
</tr>
<tr>
<td>operations, such as time-lapse cameras, radar sets, etc.</td>
</tr>
<tr>
<td><strong>Fires</strong></td>
</tr>
<tr>
<td>• The contractor must comply with all local, State, and federal fire regulations.</td>
</tr>
<tr>
<td>Open flames or fires are permitted only in vehicles parked over bare ground or</td>
</tr>
<tr>
<td>pavement or when vegetation is wet and the appropriate officials have declared</td>
</tr>
<tr>
<td>the fire season ended.</td>
</tr>
<tr>
<td>• The contractor must have one shovel per vehicle when any work is performed in</td>
</tr>
<tr>
<td>grass, brush, or forests during the dry season.</td>
</tr>
<tr>
<td>• Vehicles must not be parked on tall, dry grass.</td>
</tr>
</tbody>
</table>
516.7 Soil Surveys
Soil surveys and material investigations are needed for the design of proposed structures and are associated most often with future highway improvements. They generally are performed by core boring. Use of open trenching is limited by trench depth and is acceptable only in rural areas.

Districts can authorize core boring outside improved highway surfaces where equipment and work do not affect public highway use. Permit inspectors should monitor access to locations within access-controlled right-of-way and require traffic control or shoulder closures for work next to shoulders or the traveled way. This permit may be issued as a biennial.

516.8 Traffic Counts
Permits for traffic counts are issued to public agencies and engineering firms for work on conventional highways and at access-controlled right-of-way ramp terminals. District traffic staff can provide the most recent information available for State count locations, thereby avoiding excessive counting. Traffic reviews ensure that unsafe practices or locations are not used for counting traffic. The permit may be issued as a biennial.

Permittees must firmly anchor count tubes to the traveled way with tape. Anchor nails or bolts are acceptable at the edges of shoulders or at the lips of gutters. Placing anchors in the traveled way or in Portland Cement Concrete is not authorized, unless they are placed in a joint at the lip of a gutter or at the centerline. Permittees must not place straps around State facilities to protect their equipment from theft, unless no other facility or location is available to which equipment can be secured.

517 TRAFFIC CONTROL AND TEMPORARY SIGNALS AND SIGNS

Permit Code TK
Traffic control measures (signing, temporary signals, ramp closures, etc.) are required when work is performed on or affects State highways to ensure the safety and convenience of the public and to protect highway workers.

ADA certification is required (See Section 500 and Chapter 200).

517.1 Traffic Control on Conventional Highways
Traffic control on State highways is performed for the safety of the traveling public even when the work is outside State right-of-way. Districts should not accept traffic disruptions solely for the applicant’s convenience and should suggest that an applicant perform work so that impacts on the highway are minimized. Signing standards for traffic control must conform to the Standard Plans or to a special plan designed by the applicant and approved by District Traffic.

517.2 Temporary Signals
Temporary signal installations are requested when work outside the right-of-way disrupts State highway traffic. Such work often involves highway crossings or access by construction vehicles.
District Traffic Electrical must review and approve proposals for temporary signals and recommend feasible alternatives.

Temporary signal systems should have a minimum impact on highway traffic. Their operation should be limited to the permittee’s work hours and hours approved by District Traffic Operations. When they are not in use, the permittee must cover the signal faces and the advance warning signs or lock the signals on green for highway traffic.

**517.3 Ramp Closures**

Caltrans’ policy is to provide for safety, convenience, and protection of public traffic and permittees. This policy is applied to requests for ramp closures as shown in Table 5.27. Ramp closures are not permitted solely for the convenience of the permittee. Traffic control is supervised by Caltrans, and the permittee is billed for Caltrans’ costs.

<table>
<thead>
<tr>
<th>High Volume Ramps</th>
<th>Avoid closure, if possible, to minimize disruption of traffic. Pipes should be bored and jacked in lieu of open cutting.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Volume Ramps</td>
<td>May be closed for the minimum amount of time required to perform the necessary work.</td>
</tr>
</tbody>
</table>

**517.4 Planned Checkpoints on Conventional Highways**

The California Highway Patrol (CHP) and other law enforcement agencies periodically conduct planned sobriety checkpoints on conventional State highways. Such checkpoints are considered planned work, similar to other work for which encroachment permits are issued and all law enforcement agencies, except CHP, must obtain permits. The CHP is exempt from permit requirements because it is authorized by statute to enforce laws on State highways.

In cooperation with other law enforcement agencies, Caltrans authorizes biennial (two-year) encroachment permits for planned sobriety checkpoints at pre-approved locations on conventional highways. Access-controlled right-of-way is excluded from this surveillance. Planned checkpoints that have the potential of suspects attempting to avoid operations and eluding authorities thereby endangering public safety will not be permitted. Examples of such operations are drug interdiction and illegal immigration.

Permits require two days advance notice to the State’s representative. If requested, checkpoint information furnished is confidential and the permit must be stamped confidential.

Law enforcement agencies must first consult with the CHP and get their concurrence for the checkpoint operation before District Traffic review. In addition, the enforcement agency must supply a completed encroachment permit application and a list of locations for the various
checkpoints. Districts should cooperate with law enforcement in identifying checkpoint locations and establishing safe, effective traffic control. The District Traffic Operations unit must review the proposed locations for safety and suggest alternatives for unacceptable locations. Locations may be added by permit rider after permit issuance.

State Standard Plans T-11 governs the use and placement of traffic control devices, and provisions of Section 12 of the Standard Specifications are required. Sign messages shown in T-11 may be modified to address the operation.

517.4A Charitable Solicitations

SB-582 2007 modified section 17510.25 of the Business and Professions Code to authorize charitable solicitations on City and County public roadways. State Highways were not included in this legislation. Caltrans supports the intent of the legislation and may authorize the use of a State highway for charitable activities upon compliance with, and approval of the following:

1. A “Standard Encroachment Permit Application” (form TR-0100) from the local entities’ Fire Chief, Police Chief, or head of the Public Safety Section. The complete application package must be submitted to Caltrans a minimum of 40 days prior to the proposed solicitation.

2. A certificate of liability insurance naming the State of California, California Department of Transportation, the directors, officers, employees, and/or agents of the State of California and/or of the California Department of Transportation as additional insured in the amount determined by the District Permit Engineer (Minimum $1 million).

3. A full explanation of alternative locations considered other than the State highway and reasons for not using them. The safety of the traveling public and event participants is our primary concern. The proposed solicitation must not detract the safe operation of the highway, cause unreasonably delay or inconvenience to the traveling public, or expose participants to unusual hazards. Additional requirements may be imposed based on site specific conditions.

4. Resolutions or approvals from all impacted local entities indicating formal approval of the proposed solicitation and detour plans.

5. Only law enforcement personnel, firefighters, and other persons employed to protect the public safety that are in uniform with badge or insignia as public safety personnel will be allowed to perform the actual solicitation.

6. A Traffic Management Plan (TMP) prepared and signed by a California Registered Engineer for review and approval. The TMP should discuss the location and method of collection.

7. A meeting with responsible agency personnel, the charity, the permittee, the California Highway Patrol (CHP), and Caltrans must be held prior to the issuance of the permit to go over all issues, restrictions, time constraints and the TMP.
8. The District Permit Engineer may require CHP or other law enforcement personnel to assist the permittee with traffic control at the District Permit Engineer’s discretion.
9. A letter from the applicant stating that all of the above have been completed and acceptance of the provisions provided in same.
10. No more than 4 (four) permits for the same activity at the same location must be issued in any calendar year (Section 682.5 of the Streets and Highways Code).
11. Charitable solicitation must not be performed within access-controlled right-of-way facilities.
12. Local agencies are exempt from encroachment permit fees for charitable solicitations.

517.5 Portable Changeable Message Signs
Portable Changeable Message Signs (PCMS) are used to inform motorists of unexpected conditions and should display only real-time information that conveys current traffic safety and congestion information. Public service messages are not permitted. For additional information, see publication titled, “Changeable Message Sign Guidelines,” Division of Traffic Operations, Department of Transportation, December 2013.

517.6 Snow Closures
Certain State highway segments are normally closed (with barriers) to prevent public access during the high snow season. When Caltrans has fee title ownership, encroachment permits are not issued for recreational use of the State right-of-way or for using snow removal equipment to keep the highway traversable beyond the closure point.

When Caltrans has not obtained right-of-way by fee title but is occupying land owned by others, such as the U.S. Forest Service or the Bureau of Land Management, it does not object to the use of that portion of closed highway provided that:

- The Forest Service issues the permit;
- The special use permit issued by the Forest Service has a specific provision naming Caltrans as an additional insured on liability insurance policies; and
- Caltrans is entitled to review any permit issued for this activity to determine if appropriate liability clauses are included.

Property owners that are unable to access their land because of a snow closure (locked gate), may apply for a key through the encroachment permit process. Permits are issued fee exempt. The permittee must assume responsibility for maintaining a secure gate and agrees to indemnify and hold harmless the State against any and all claims arising out of any activity for which the permit is issued.

517.7 Temporary Directional Signing
To maintain safe highway operations, Caltrans sometimes allows nonprofit organizations sponsoring attractions or events conducted for nonprofit purposes, to place directional signing
within the right-of-way. To qualify for sign placement, the attraction or event must have significant traffic generation as determined by the permit engineer. Also, traffic patterns must have local agency approval before permits are issued.

Directional signs within the State highway right-of-way must be reviewed and approved by the District Traffic unit. They must be placed and removed by the permittee at no cost to Caltrans and be covered until they are needed for actual event traffic. They must be removed immediately or under certain situations within a maximum of one week after the event.

Permanent directional signs for points of local interest and fire protection signs required by the State Board of Forestry are discussed in Section 521.

517.8 Project Construction Identification Signs
Project construction identification signs for State contracts are included in the Plans, Specifications, & Estimate.

Project construction identification signs may be provided when authorized and installed under permit for construction projects having an estimated contract cost of $1,000,000 or more and contract duration of 50 or more working days. One sign in each direction must be placed near the limits of each qualifying project. The sign format, message content, and letter size must conform to standard sign detail sheets.
One or more of these local agency funding sources must be identified:

1. City or county road funds.
2. City or county traffic authority measure funds.
3. Private entity funding through a local agency.

The following information must not be included on the sign:

1. Dollar cost figure.
2. Funding percentages of contributing sources.
3. Names of private firms, developers, or organizations.
4. Promotional information, such as identification of public officials, organizational affiliations, or related symbols or logos.

A State or local agency contractor is often required to post advance signs warning the traveling public of restricted clearances caused by falsework or other types of construction. Standard Specifications require these signs, and they are usually placed outside the project limits. Review by Transportation Permits Office staff is required to ensure that the signs direct vehicles exceeding the restricted clearance to an approved detour. Caltrans issues permits for these signs at no charge, and inspection is performed by the resident engineer. The contractor and resident engineer are responsible for notifying Permits and other District staff for implementing Standard Specifications, Section 7-1.04.

518  TUNNEL UNDER ROAD

**Permit Code TN**
A tunnel is defined as any jacked casing, liner plate, or wood lagging work that is 30" in diameter or larger. A Cal-OSHA permit and tunnel classification is required for tunnels.

Tunneling must conform to the requirements for bore and jacked pipe (Section 623) and the additional requirements listed in Table 5.28. All tunnels (except for jacked casings) must be reviewed by Structures Maintenance. Two soils reports must accompany the submittal.
Table 5.28
Requirements for Tunneling

Tunneling must satisfy the requirements for bore and jacked pipe (see Section 603.6A) and these additional requirements:

1. Tunneling is authorized when the permittee provides full-time inspection and is monitored by a Caltrans representative.
2. The permittee must set and check a survey grid over the centerline of the pipe jacking or tunneling operation. Copies of the survey notes should be submitted to the Caltrans representative at Caltrans’s discretion.
3. Caltrans may require sand shields as ground conditions change.
4. The method used to check the grade and alignment must be approved by Caltrans’ representative before work begins.
5. Pressure grouting for liner plates, rib and spilling, or rib and lagging tunnels must be at every 8' section or at the end of work shift before the next section is excavated. All grouting must be completed by the end of each workday.
6. A method for securing the headway at the end of each workday is required. Breast plates must be installed during working hours for running sand or super-saturated soil.

519 WALL

Permit Code WL
Retaining walls and soundwalls often are proposed by local agencies and developers as part of their work outside State right-of-way. Local agencies may perform advance construction of soundwalls within State right-of-way when the project is in Caltrans’ State Transportation Improvement Program (STIP) but funding is uncertain. In these cases, cooperative agreements between Caltrans and local agencies specify Caltrans’ future participation in reimbursement, plan requirements, and construction standards.

The applicant is responsible for the design, construction, and future maintenance of walls constructed outside State right-of-way. Plans for construction within the right-of-way are reviewed by District Project Development, Environmental, Landscape Architecture, Maintenance, and Headquarters Structures. Project plans should include access gates and fire hose openings. Caltrans must maintain soundwalls built within the right-of-way. Structures Maintenance must approve plans for walls to be used for retaining purposes.

Applicants should store materials and provide access to the construction site from outside State right-of-way. When access from outside State right-of-way is limited, Districts may allow work and materials storage within the right-of-way but must maintain the clear zone or require K-rail...
protection. Permittees may relocate access control fences to ensure continuity of the fencing and allow for permitted work.

Upon completion, permittees must remove the fencing in front of the wall, set new end posts with bracing approximately 4" from the wall, and connect the remaining access fence. Salvaged fence is delivered to the nearest State maintenance facility. Retaining walls must have standard CL-6 fencing or a minimum 6' soundwall above ground surface (see Section 504).

520 GROUNDWATER MONITORING WELLS Rev. (07/18)

Permit Code MW
Under State legislation, counties and regional water quality control boards may require the owners or operators of underground storage tanks and parties responsible for hazardous materials spills to test for groundwater and soil contamination. Monitoring wells are one of several methods used to determine contamination. In those situations where placement of monitoring wells within the right-of-way is unavoidable, the underground storage tank owner or operator must apply for an encroachment permit. However, an engineer or other representative may apply when properly authorized by the owner or operator.

A copy of the approved site mitigation plan should be submitted along with the encroachment permit application. Any subsequent modifications to the mitigation plan must be submitted when appropriate. A copy of the mitigation plan, permit, and all relevant information should be submitted to the District Hazardous Waste Coordinator.

1. The following policies apply to drilling wells, temporary conduits, and discharging treated water into State highway drainage facilities:

2. Permits may be issued for monitoring wells on conventional highways located safely outside the traveled way when no reasonable alternative exists outside the right-of-way.

3. Permits may be issued for monitoring wells on access-controlled right-of-way if alternate locations or means of access are unavailable or impractical due to terrain or environmental constraints and where such use will not adversely affect safety or cause damage to the State highway. Temporary wells must be located such that access to the facility can be obtained by entering from a local road or private property. The intent of this requirement is for the service vehicle to park outside of the right-of-way.*

4. Permits are not issued for discharging treated groundwater or effluent into the State drainage systems*.

5. Permits are not issued for temporary conduits or pipelines through culverts. A transverse underground crossing permit is required*.

* Requests for exceptions are submitted to the Division of Design, Chief
Regional water quality control boards and county representatives oversee the testing well operation, abandonment, and compliance with the Department of Water Resources’ standards.

A maximum expiration date of 5 years is to be used for MW permits. The permittee will need to reapply for a new MW permit (not a rider) as needed.

The owner of the required clean up must submit a minimum $5,000.00 performance bond prior to permit issuance.
521 SIGNS

Permit Code SI

521.1 Guide Signs to Points of Local Interest
When State (conventional) highways also function as a community’s “Main Street” local agencies may place supplemental guide signs to points of local interest when approved by District Traffic Operations. Policies governing placement of guide signs are located in the CA-MUTCD. Signs may indicate directions to locations that do not meet Caltrans’ minimum qualifications or to those places of community interest, which normally do not warrant signing by Caltrans. Examples of destinations that may receive signing include:

- Business Districts
- City Halls
- Civic Centers
- Community Swimming Pools
- Libraries
- Museums
- Parks and Zoos
- Police Agencies
- Public Parking
- Visitor Information Centers
- Hospitals (emergency service)

Sign installation and maintenance must be by the local agency at no cost to the State. Sign locations must be limited to areas where they do not block or interfere with warning, regulatory, or other guide signs necessary for the safe and efficient operation of the highway. Sign panels should be clearly marked as to city or county ownership. ADA certification may be required if supports are placed in an access route (See Section 500 and Chapter 200). Encroachment permits for placement of guide signs are issued as fee-exempt and may be biennial.

521.2 Fire Hydrant Markers and Signs
Placement of blue reflective markers and signs to identify fire hydrant locations must conform to criteria described in “Guidelines for Fire Hydrant Markings Along State Highways and Freeways” (This publication was prepared by the Office of the Fire Marshal in cooperation with Caltrans for the California State Board of Fire Services - May, 1988). Additional guidance is presented in the CA-MUTCD, Section 3B.11 and 21.03.

Encroachment permits for placing such markers and signs are issued at no cost to the fire agency.

521.3 Fire Protection Signing
Fire Safe Regulations adopted by the Board of Forestry establish requirements for roadway name and building address signs. Caltrans authorizes such signs under encroachment permits issued to property owners and developers when the signs are set outside the clear zone or as close to the right-of-way as possible. County sign standards for height, color, and reflectivity will be accepted, but breakaway sign posts conforming to current State Standard Plans are required.
# Chapter 600 – Utility Permits

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Chapter 600
Utility Permits

600 INTRODUCTION (Rev 04/18)

Caltrans policy is to allow utilities within conventional highway right-of-way subject to reasonable conditions and to exclude them from within access-controlled right-of-way to the extent practicable with few exceptions. Requests for utility encroachments that are not allowed by Caltrans policy or utility access within access-controlled right-of-way require an approved encroachment policy exception.

The primary purpose of these policies is to protect both the public and highway workers from the hazards of a damaged, exposed, cut, or penetrated utility. The secondary purpose is to protect the public’s investment in the highway system (see Project Development Procedures Manual [PDPM] Chapter 17). In the event of there being 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 facility that may lead to future costs for the State.

When Caltrans issues a permit for installation of public utility facilities, it does not inspect the installation for compliance with the utility or public corporation standard. Compliance with industry standards is the responsibility of the public utility or public corporation.

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

The most common utility and franchise facilities are:

- Water
- Sewer
- Broadband
- Cable Television
- Electrical
- Natural Gas
- Telephone - Cellular
- Telephone - Landline
- Common-carrier petroleum pipelines
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., the Sacramento Municipal Utility District (SMUD) and are governed by State law and CPUC regulations. Privately owned companies providing service to the public, such as, Pacific Gas and Electric (PG&E) and Southern California Edison are regulated by the 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 Advisory and Compliance Division. They will verify the status of the company or facility.

Streets and Highways Code Section 117 grants Caltrans the authority to issue permits, under Chapter 3 (commencing with Section 660), for the location in the 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 standards for the occupancy and use of the State highway right-of-way for utility facilities.

This chapter addresses requirements for the initial placement and subsequent adjustment, relocation, and replacement of utility facilities within State highway right-of-way. It also describes specific requirements associated with these permit codes:

Table 6.0A
Administrative Utility Permit Codes

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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 private companies or developers. Usually, utility companies providing utility facility service to the public are billed for application and inspection fees whereas other companies pay fees 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.

A 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. Double-permitting is not usually needed for private utilities and requiring a Double Permit (DP) is at the discretion of the District Permit Engineer. However, for public utilities using a contractor, a DP will be needed to recover inspection charges for the project.

The installer or contractor may be required to apply for and secure an encroachment permit (DP) if prior contractor performance was poor. In this situation, the DP provides Caltrans with direct control over the authorized work. DPs, when required, are issued at a two-hour minimum fee, but inspection costs are billed directly to the utility owner.

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:

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1. Payment of estimated fees prior to the processing of the encroachment permit submittal,
2. Require bonding in accordance with Standard Specification 3-1.05,
3. Require their contractors to obtain a DP and to furnish bonds.

601 ADMINISTRATIVE UTILITY PERMITS

601.1 State Required Relocation

Permit Code UR

UR permits authorize the relocation of utility facilities or pot-holing for the exact horizontal and vertical alignment of the utility when such relocation or design information is required by State highway improvement projects.

When highway construction occurs either by a State contract or an Oversight Project in lieu of a State contract (e.g., projects programmed in STIP or 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 request 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.

Right of Way prepares a “Notice to Owner” (form RW 13-04) and sends this notice to the utility owner notifying them that their facility conflicts with a Caltrans highway improvement project and must be relocated. The utility owner must then submit their relocation plans to the Right-of-Way Utilities Coordinator who will oversee the review and approval of the relocation plans with all applicable reviewing units for compliance with Caltrans policies, standards and requirements.

A copy of the “Notice to Owner” (form RW-13-04), 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 Right-of-Way Utility Coordinator to the District Encroachment Permits Office requesting issuance of the UR permit. The District Encroachment Permits Office issues the UR permit to the Right of Way Utility Coordinator for issuance to the utility owner along with the Notice to Relocate. 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 is exempt from encroachment permit fees.

The permit should contain:

- Encroachment Permit General Provisions (TR-0045),
- Utility Notice number,
- A reference to the State contract and Project Code,
- A brief description of the work,
The construction inspector's name, address, and telephone number.

This information is provided on the face of the notice, and the issued permit may mimic the notice to simplify procedures and avoid conflicting statements. The District Encroachment Permits Office sends copies to Maintenance, Construction, and the area permit inspector for information. Construction is responsible for inspection and 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 Right of Way Utilities section is responsible for the cost sharing decisions.

All permits for local agency projects constructed by encroachment permit without a cooperative agreement must contain this 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 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 Highway 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.”
State highway projects constructed under cooperative or highway improvement agreements do not require the above clauses in the 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 highway improvement or construction must be performed by the owner before the highway work begins. Arrangements for such work must be made with the owners by the District Right of Way Utility Coordinator.

**601.2 Utility Wireless Installations** (Rev 04/18)

*Permit Code AS*

All wireless utility installations that occupy parcel of land in Caltrans right-of-way require “right-of-way use agreement”. All such requests must be directed to District Airspace manager. District Encroachment Permits Office will support with issuing administrative permit. See section 500.3 for further details, requirements and process, related to airspace lease or right-of-way use for wireless utility installations.

**601.3 SAFE Telephones**

*Permit Code US*

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 access-controlled right-of-way emergency telephone systems. Systems are installed by locally administered contract under encroachment permit. SAFE funding comes from a one-dollar assessment by the Department of Motor Vehicles on each registered vehicle in the jurisdiction.

SAFE telephones are acceptable within access-controlled right-of-way and connecting highways under jurisdiction of the California Highway Patrol (see Streets and Highways Code 131.1). They also are acceptable in park-and-ride lots as provided in SAFE guidelines. SAFE systems must connect directly to a California Highway Patrol dispatch.

Only local authorities may propose SAFE systems. Site selection and design are determined by SAFE and the District SAFE Coordinator and are reviewed by appropriate Caltrans functional units. Upon acceptance of the plans as complete, a copy of the plans, the cooperative agreement, and completed “Encroachment Permits Administrative Route Slip” (form TR-0154) are sent to the permit engineer for permit issuance. No additional review is required by the permit engineer. Any Caltrans' costs attributed to the project are reimbursed according to the SAFE/Caltrans cooperative agreement.
The encroachment permits issued to SAFE for construction and subsequent maintenance of the project are fee exempt. However, SAFE’s contractor must be charged permit issuance and inspection fees under the double permit process. For additional information on SAFE call boxes, see the Publication Titled, “CHP/Caltrans Call Box, and Motorist Aid Guidelines.”

“Certification of Compliance with the Americans with Disabilities Act” (form TR-0405) is required for the installation of SAFE phones.

602 UTILITY ACCOMMODATION POLICY

602.1 Conditions of Occupancy within State Highway Right-of-way (Rev 04/18)
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 of the Highway Design Manual.

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 right-of-way or increase the cost of future improvements.

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 Provision # 25). District Right of Way Utilities initiates the Notice to Relocate.

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

Access to utility facilities located within the access-controlled 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 an access-control right-of-way fence is permitted only with an approved encroachment policy exception. For sites within the 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, manholes, or other appurtenances that are proposed to be located within interchanges, median areas, or within any other 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 limiting access to such facilities from ramps or through traffic lanes.

**602.2 Utility Owner Prior Rights**

A fee exempt permit is issued for utility encroachment activities involving utility work wherein the utility owner has prior rights (utility facility in place before highway right-of-way purchase), i.e., a Consent to Common Use Agreement (CCUA) or a Joint Use Agreement (JUA). The 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.

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

When a contractor's double permit is required, it is also a fee exempt permit.

**602.3 Encroachments No Longer in Use** *(Rev 04/18)*

Permittees must remove their facilities at their expense from the highway right-of-way when they are no longer in use. Underground facilities may be allowed to remain in place when the highway segment is also being abandoned.

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,
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 (such as 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 PDPM, Chapter 17, Section1, Article 4 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 right-of-way with few exceptions. This section describes requirements for transverse and longitudinal utility encroachments that are allowed within access-controlled right-of-way.

When prior rights within 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 right-of-way should have all disconnects, meters, or shut-offs outside access control lines. The utility is required to obtain a NUS (No fee Utility Service) permit for the connection.

#### 602.4A Access Encroachments

Breaks in access are restricted on access-controlled right-of-way. See PDPM, Chapter 17, Section1, Article 5 “Access Restrictions”, for Caltrans policies related to access to encroachments or for maintaining existing encroachments in access-controlled right-of-way.

#### 602.4B Transverse 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 transverse encroachments within access-controlled right-of-way. Privately owned water, power, or communication facilities that are used for private purposes are allowed transverse crossings only when property or easements are under the same ownership on both sides of the highway.
Table 6.1 (Rev 04/18)
Transverse Utility Encroachments within Access-controlled Right-of-way

<table>
<thead>
<tr>
<th>The following restrictions apply to transverse encroachments within access-controlled right-of-way:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The number of crossings must be minimized to the extent practical.</td>
</tr>
<tr>
<td>2. Service connections generally are not allowed to cross.</td>
</tr>
<tr>
<td>3. When feasible, multiple installations should cross in a single conduit or structure.</td>
</tr>
<tr>
<td>4. Crossings should be normal (90 degrees) to the highway alignment where practical. Districts may only allow skews up to 30 degrees from normal.</td>
</tr>
<tr>
<td>5. Clearances of overhead crossings must conform to regulations of the California PUC.</td>
</tr>
<tr>
<td>6. New installations under an existing roadbed and median must be made by boring and jacking, directional drilling or other methods approved by the District.</td>
</tr>
<tr>
<td>7. Underground encroachments in a depressed section should be avoided. When possible, they must cross at street overcrossings (see Utility Encroachments on Structures, sections 602.7A and 602.7B).</td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td>10. Tunneling under access-controlled right-of-way is considered under the following conditions:</td>
</tr>
<tr>
<td>• Studies establish that the soil structure is sufficiently stable.</td>
</tr>
<tr>
<td>• Permanent tunnel portals must be located outside the 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, it is beyond the toe of slope of embankments. Any deviations require an approved encroachment policy exception.</td>
</tr>
<tr>
<td>11. See Table 6.7 for encasement requirements.</td>
</tr>
<tr>
<td>12. Supports for overhead lines crossing access-controlled right-of-way:</td>
</tr>
<tr>
<td>• Must be located outside the access-controlled right-of-way. Any deviations require an approved encroachment policy exception.</td>
</tr>
<tr>
<td>If approved as an exception to be installed within Caltrans right-of-way:</td>
</tr>
<tr>
<td>• Must be placed as close to the right-of-way line as possible and outside the Clear Recovery Zone (CRZ). The CRZ for discretionary fixed objects, on all highways without curbs and posted speeds over 35 mph is 52 feet, from the edge of traveled way horizontally when side slopes are 3:1 or flatter, or more than 8 feet vertically up-slope. The 52 feet dimension may need to be increased in areas with non-recoverable side slopes. See Topic 309 Clearances, of the Highway Design Manual for more information.</td>
</tr>
<tr>
<td>• Should not be permitted in median areas except when required for temporary guard poles to support netting for overhead line installation.</td>
</tr>
<tr>
<td>• Should not be permitted on cut or fill slopes.</td>
</tr>
<tr>
<td>• Must not impair sight distances.</td>
</tr>
<tr>
<td>Consideration should be given to underground facilities when spanning roadways is not feasible.</td>
</tr>
<tr>
<td>13. Traffic always must be protected, and barriers or protective devices are required as necessary.</td>
</tr>
<tr>
<td>14. Open trenching is not permitted unless approval is granted by the District Permit Engineer.</td>
</tr>
</tbody>
</table>

602.4C  Longitudinal Utility Encroachments within Access-controlled Right-of-way

**Permit Code UL**

Placement of longitudinal utility encroachments within access-controlled right-of-way is prohibited under Caltrans’ policy (except for Broadband installations, telecommunication facilities and temporary wells). Any deviations require an approved encroachment policy exception.
602.5 Utility Encroachments within Conventional Highway Right-of-way

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

Districts are delegated authority to issue permits for the placement and maintenance of utility facilities within the conventional highway right-of-way. Applications for encroachments by publicly or privately owned utility companies (regulated by the CPUC) 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 transverse crossing of conventional highways, but longitudinal encroachments are not approved. 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 Transverse Utility Encroachments within Conventional Highway Right-of-way

Permit Code UJ

Table 6.2 lists the restrictions that apply to transverse utility encroachments within conventional highway right-of-way. The Reclamation Board, in maintaining the integrity of the State's levee system, issues permits for construction of facilities within the levee prism. Caltrans and the Reclamation Board cooperatively agreed to authorize Reclamation Board 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 Reclamation Board.
Table 6.2

Transverse Utility Encroachments within Conventional Highway Right-of-way

| The following restrictions apply to transverse utility 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 (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 boring and jacking, directional drilling or other methods approved by the District. |
| 7. 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. |
| 8. Tunneling under conventional highways must conform to the requirements for access-controlled right-of-way. |
| 9. Bore pits or manholes at street intersections should be located behind the State highway curb line where possible. |
| 10. Supports for overhead lines in conventional highway right-of-way must be as close to the right-of-way line as possible, with a desirable minimum clear recovery zone identified in Topic 309 of Highway Design Manual, and 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. |

602.5B Longitudinal Utility Encroachments within Conventional Highway Right-of-way

Permit Code UL

New publicly owned utility facilities and privately owned utility facilities that are regulated by the 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, outside of the Clear Recovery Zone (CRZ) when applicable. On conventional highways with curbs, typically in urban conditions, a minimum horizontal clearance of 1 foot 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 DPE.
Table 6.3 (Rev 04/18)
Permissible Locations for Installations in Conventional Highway Right-of-way

<table>
<thead>
<tr>
<th>Above ground Installations*</th>
<th>Underground Installations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. as close to the right-of-way line as possible</td>
<td>1. as close to the right-of-way line as possible</td>
</tr>
<tr>
<td>2. back of sidewalk</td>
<td>2. under sidewalk</td>
</tr>
<tr>
<td>3. 1 foot 6 inches clearance to from back of curb</td>
<td>3. under parking lane/shoulder</td>
</tr>
</tbody>
</table>

* 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, manholes 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 given to slightly depressing the manhole.

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 PDPM, Chapter 17, Section 1, Article 4 for Caltrans’ policies related to utility encroachments within conventional highway right-of-way for additional information.
Highway encroachment work involving excavations shall be identified during the review process of the 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 take into account 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 permitted operation, the shoring shall conform to Caltrans standards.

When backfilling operations of an excavation in the roadway including bike lanes and parking strip, whether transverse or longitudinal, cannot be properly completed within a work day, 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 right-of-way is not allowed.
2. Steel plates used for bridging must extend a minimum of 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 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 plate(s) and ending plate (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 2 inches into the pavement. Subsequent plates are to be butted and tack welded to each other.

**Method 2**

For speeds less than 45 mph:

Approach plate(s) and ending plate (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 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 slope 8.5 percent with a minimum 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 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).

<table>
<thead>
<tr>
<th>Trench Width</th>
<th>Minimum Plate Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 inches</td>
<td>½ inch</td>
</tr>
<tr>
<td>1 foot 11 inches</td>
<td>¾ inch</td>
</tr>
<tr>
<td>2 feet 7 inches</td>
<td>7/8 inch</td>
</tr>
<tr>
<td>3 feet 5 inches</td>
<td>1 inch</td>
</tr>
<tr>
<td>5 feet 3 inches</td>
<td>1 ¾ inch</td>
</tr>
</tbody>
</table>

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

All steel plates within the 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 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 (see Appendix H). 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. Based on the test data, the permittee shall determine what amount of surface wear is acceptable, and independently ascertain when to remove, test, or resurface an individual plate.

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

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 Encroachment Permits Office does not determine when the placement of facilities underground is required. Determination is made by the CPUC in concert with Section 320.
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 Caltrans’ Encroachment Permit 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 are in need of 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.

California Public Utility Code Section 320 stipulates that utility owners must not install new overhead distribution facilities on scenic highways without first obtaining an exemption from the CPUC.

For purposes of CPUC 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 (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 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 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 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 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 scenic highway should 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., should have appropriate design review and District Landscape Architect concurrence to assess design compatibility with the scenic corridor (see Project Development Procedures Manual, Chapter 29- Section 10, “Project Development along Scenic Highways”, 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.

602.7 Utility Encroachments on Structures
602.7A Utilities Within or on Bridges

Permit Code UB
A UB Permit Code is used when utilities are placed or maintained within or on a bridge.

The Office of Structures Maintenance must review proposed encroachments on existing bridges and other existing structures. When a proposed encroachment has been reviewed and approved by the Office of Structures Maintenance, one copy of the encroachment permit and completed plans authorizing work on structures is to be sent to the Office of Structures Maintenance and one copy is to be sent to headquarters Structures 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 Installing Utilities on Bridges
Existing utilities on bridges within a project’s limits must be relocated to outside the State right-of-way unless project-specific analysis provides that they do not adversely affect the safety, design, construction, traffic operations, maintenance, or the stability of the bridge. New utilities on bridges are not allowed unless project-specific analysis provides that they do not adversely
affect the safety, design, construction, traffic operations, maintenance, or the stability of the bridge and they meet the following conditions:

- The utility load can be supported by the bridge structure.
- The utility does not require routine maintenance.
- The utility construction and maintenance is scheduled during hours approved by Caltrans.
- The utility is supported by a backup system and emergency maintenance or repairs will not be required.
- The utility is under the California Public Utilities Commission jurisdiction or is publicly owned and provides a dedicated service to the public.
- The utility provides capacity to other companies that supply similar services.

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

When a utility conduit crosses a structure and has voltage conductors of 2000 volts 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 69kV regardless of the bridge type.

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

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

Utility facilities on bridges must meet both the standard utility requirements and the additional requirements shown in Table 6.4 and Table 6.5.
# Additional Requirements for Utility Facilities Located on Bridges

<table>
<thead>
<tr>
<th>Utility facilities located on bridges must comply with the standard requirements and the following additional requirements:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Location:</td>
</tr>
<tr>
<td>a. Permitted encroachment preferably must be located between girders.</td>
</tr>
<tr>
<td>b. Encroachments should not be exposed to view and must not be permitted on the exterior of a bridge unless they are enclosed and spear as an integral part of the bridge.</td>
</tr>
<tr>
<td>c. Structures Maintenance may approve exceptions for unusual circumstances</td>
</tr>
<tr>
<td>d. On very wide structures having an expansion joint in the median, installation normally can occur between the two interior girders in the median.</td>
</tr>
<tr>
<td>2. Encroachment applications must include adequate plans of installation and pertinent details showing:</td>
</tr>
<tr>
<td>a. Bridge number</td>
</tr>
<tr>
<td>b. Location of encroachment on bridge</td>
</tr>
<tr>
<td>c. Method of attachment to bridge</td>
</tr>
<tr>
<td>d. Type of material transported</td>
</tr>
<tr>
<td>e. Weight per foot of facility including load, encasement, etc.</td>
</tr>
<tr>
<td>f. Maximum operating pressure</td>
</tr>
<tr>
<td>g. Maximum flow rate of high-pressure water lines in the event of a full rupture</td>
</tr>
<tr>
<td>h. Wall thickness of pipe</td>
</tr>
<tr>
<td>3. Gas pipelines require additional information according to CPUC General Orders.</td>
</tr>
<tr>
<td>4. Pipelines carrying highly volatile fluids must show the location of the nearest automatic shut-off valves on each side of the structure. Shut-off valves are required to be within a reasonable distance of the structure.</td>
</tr>
<tr>
<td>5. Pipelines conveying water, sewage, and low volatile fluids must include evidence of compliance with corrosion control requirements of the Federal Department of Transportation and the CPUC.</td>
</tr>
<tr>
<td>6. Electrical and communication conduits must indicate maximum voltage and description of carrier conduit. Additional information such as induced voltage calculations may be required by Structures (e.g. “Data for High Voltage Cables on Bridges” form DS-M-0080, see Appendix D).</td>
</tr>
<tr>
<td>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. Manholes in the shoulder area or sidewalk area may be authorized. Access to utility facilities on overcrossing structures, by means of manholes, may be authorized where necessary and feasible.</td>
</tr>
<tr>
<td>8. Basic Specifications</td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td>b. High pressure systems:</td>
</tr>
<tr>
<td>1) Must conform to API specifications and to ASTM specifications covering sizes and types not covered by API.</td>
</tr>
<tr>
<td>2) If operating pressures are over 200 psig:</td>
</tr>
<tr>
<td>• Wall thickness must conform to CPUC General Orders.</td>
</tr>
<tr>
<td>• Maximum allowable hoop stresses for gas must be 40 percent of the specified minimum yield strength.</td>
</tr>
<tr>
<td>• 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 90 percent of the yield strength.</td>
</tr>
<tr>
<td>• A pressure test at 1.5 times maximum operating pressure must be conducted for 24 hours.</td>
</tr>
<tr>
<td>• Radiographic inspection of all field welds must be made.</td>
</tr>
<tr>
<td>c. Sewer lines will not be steel pipe unless corrosion protective measures are provided.</td>
</tr>
<tr>
<td>d. Other pipelines may be steel, cast iron, ductile iron or approved material.</td>
</tr>
</tbody>
</table>
|   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 is compromised.

---

**Chapter 600 - Utility Permits**

**Table 6.4 Additional Requirements for Utility Facilities Located on Bridges**

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steel elements, rebar, and prestress cables is compromised due to the presence of excessive induced voltage in them.

Table 6.5 (Rev 06/18)
Additional Encasement Requirements for Utility Facilities Located on Bridges

<table>
<thead>
<tr>
<th>In addition to the encasement requirements in Section 603.3C, utility facilities located on bridges must comply with the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. High priority utilities (see section 603.1) and pressurized facilities operating at 60 psig or greater must be encased throughout the structure in a steel sleeve.</td>
</tr>
<tr>
<td>a) The sleeve must have a diameter sufficiently larger than the largest outside diameter of pipe (but not less than 4 inches) to facilitate removal and replacement of the pipe.</td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td>c) In unusual instances, it may be impractical to provide encasement because of curvature, space limitations, etc. Subject to approval by the Office of Structures Maintenance, the wall thickness of the carrier pipe must be increased in such instances.</td>
</tr>
<tr>
<td>2. Pipelines conveying water, sewage, and low volatile fluids:</td>
</tr>
<tr>
<td>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 Structures Maintenance.</td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td>c) The pipeline must be encased to prevent leakage from flowing under or around bridge abutments.</td>
</tr>
<tr>
<td>d) It may be impractical to provide encasement in unusual instances because of curvature, space limitations, etc., and other safeguards may be required.</td>
</tr>
<tr>
<td>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 General Orders of the CPUC and the Electrical Safety Orders of Cal-OSHA.</td>
</tr>
<tr>
<td>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.</td>
</tr>
</tbody>
</table>

602.7C Vehicular Tunnels and Tubes

New utilities are not allowed in tunnels. High priority utilities (see section 603.1) are not allowed in any 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 the Chief, Headquarters Division of Design or district delegate, if a
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 of 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.

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 Structures Maintenance for review and approval. Installation of utility facilities in new structures is coordinated by the permit engineer through the District project engineer and solely by the permit engineer for existing structures. Installation of all relocated utility facilities is coordinated by District Right of Way.

603 Utility Types and Installation Requirements
(Rev 04/18)
Once the determination has been made that a utility can be accommodated within the State right-of-way, the utility must meet Caltrans’ locating requirements, clearance and offset requirements, encasement requirements, be protected in place, or be relocated. If a utility is relocated within the right-of-way, the utility 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 development of projects, various constraints may require deviation from these policies in the form of a utility policy exception. See PDPM, Chapter 17, Section 3 “Exception Requests,” for a summary of the steps to request a utility policy exception.

603.1 High Priority Utilities
(Rev 04/18)
High priority utilities include the following primarily derived from the California Government Code, Section 4216:

- Natural gas pipelines greater than 6” in diameter, or with normal operating pressures greater than 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 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. For wireless communication facility installations, see section 601.2 and 500.3 (Permit Code AS).

603.2A Telecommunications (including broadband) (Rev 04/18)

Permit Code BB
“Telecommunications” refers to any facility (including conduits and cabling) used to transmit voice, data, and/or video signals that are not transmitted through the air.

“Broadband” 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 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, and stability of the highway or any proposed or existing highway appurtenance.

Underground longitudinal telecommunications encroachments within access-controlled right-of-way may be approved at the District level if all of the requirements shown in Table 6.6B are met, in addition to complying with all other applicable requirements established in this manual.

Requests submitted for the replacement of telecommunications (regardless of capacity or upgrade issues) must adhere to policy as a new submittal.
Table 6.6A (Rev 05/18)

Requirements for Telecommunication Encroachments within All 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 installations must be placed outside the Clear Recovery Zone (CRZ, 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 (RFP) or any other legally acceptable method.

Table 6.6B (Rev 04/18)

Additional Requirements for Telecommunication Encroachments within Access-controlled Right-of-way

1) All installations must be **underground** and subject to Department policy on encroachment permits including all applicable local, state and federal laws and regulations.
2) Routine maintenance of facilities must be conducted under individual encroachment permits and not allowed under “blanket permits”.
3) Longitudinal installations are not permitted in existing or planned roadbed.
4) District may also limit construction activities (the number of trenching, plowing or boring) to once every five years if any of the following conditions apply:
   - a) Longitudinal installation is fully or partially proposed within the CRZ and an approved encroachment policy exception is granted.
   - b) Installation exceeds one mile in length.
   - c) District determines that the future installation of facilities will be limited because of physical constraints, limited right-of-way width, safety or other relevant factors.
5) If construction activities are limited as provided in 4), applicants will be required to provide public notice informing interested parties of the limitations and providing them an opportunity to respond and/or participate in the project (joint build). The notice process must be as follows:
   - a) Applicant publishes a notice in one newspaper of general circulation in the county/counties where the project is proposed. The notice must provide a public response period of no less than 30 days from the date of publication; and
   - b) Applicant must provide notice to all companies from the same industry (obtain list from California Public Utilities Commission - CPUC) including a response period of no less than 30 days from the day they are notified. A copy of this notice must be attached to the encroachment permit application.

603.2A-1 Broadband Installation Processes (Rev 04/18)

Broadband installations can be pursued through the Stand-alone Encroachment Permit Process or the Planned Transportation Partnering Process. 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:

Broadband facility owners must submit the completed and signed 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, Design, Structures, and Traffic Operations as applicable. Broadband installation requests should be prioritized and all reasonable efforts should be made to complete the review, and approve or deny such requests within 40 calendar days.

**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 Project Development Procedures Manual, Highway Design Manual, Project Development Workflow Tasks Manual and other pertinent Caltrans manuals and guidance.

The Administrative Encroachment Permit Process (see Section 500) is used for these types of projects. **Permit code BB must be used for all such permits.**

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 “User Guide on Incorporating Wired Broadband in State Highway Right-of-Way”.

http://dot.ca.gov/wiredbroadband/

**603.2A-2 CPUC Mandate - New Telecommunication Wiring Within Existing Facilities**

In conjunction with the California Public Utility 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 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 highways within the District. Survey permit requests for within access-controlled right-of-way must be issued on a one-time basis.

A deposit equivalent to six (6) hours of the encroachment permit standard hourly rate must be collected upon submittal. If the surveying is contracted to a surveying company, a double permit (“DP”) must be required.

Work within or from adjacent property owners’ land, U.S. Forest Service property, other leased or prescriptive right-of-way are not authorized under Caltrans’s 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 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 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 highways and are equipped to hold the telephones. State statutes and Caltrans policies do not permit coin-operated telephones at other State highway right-of-way locations because telephones are a form of vending that is prohibited by Section 731 of the 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 right-of-way. These telephones must not be coin or credit card operated. 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 a 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 the same as public utilities, if Sections 682-695 of the Streets and Highways Code are met. They may be granted biennial maintenance permits.

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 CPUC General Orders.

In any case, use of highway structures is subject to Structures Maintenance approval.

### 603.3 Installation Requirements

#### 603.3A Locating Requirements (Rev 04/18)

All utilities within the right-of-way must be shown on the utility plans for the entire project limits. Positive location is required for high priority utilities and approximate location is required for all other utilities for the entire project limits. Projects must have an approved utility policy exception to avoid the requirement for locating the utilities and depicting them on the plans. See PDPM Chapter 17, Section 2, Article 2 for more details on location and depiction requirements.

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

**Exempt Projects:**

Projects that do not have any excavation, as defined in PDPM CH17, Section 1, Article 2 “Definitions,” are exempt from the locating and depicting requirements. Projects that only include limited excavation are also exempt from the locating and depicting requirements, provided that the limited excavation is in conjunction with:

- Digging less than 6 inches. below existing ground level within the roadside area (outside the roadway)
- Digging within the existing limits of the pavement structural section within the roadbed
- Reconstruction of concrete or asphalt pavement driveways, sidewalks, curb ramps, curbs, gutters, and dike
- Reconstruction of bridge approach slabs
- Construction or reconstruction of guardrail, thrie beam barrier, and end treatments
- Installation of roadside signs and markers
- Hand digging or digging by air-lance, hydro-excavation, and vacuum excavation
Projects are not exempt when the proposed work 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 2 inches in pipe diameter that have normal operating pressures of 60 psig or less
- Subsurface electrical service connections with a potential to ground of 50 volts or less
- Service connections (laterals) for water, sewer, telephone, telecommunication, and cable service

All State owned utilities must be plotted on the plans.

**603.3B Clearance and Offset Requirements** (Rev 04/18)

All installations proposed must comply with Clearance and Offset requirements (including depth of cover) for new and existing utility facilities identified in PDPM, Chapter 17, Section 2, 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 CPUC General Orders or normal procedures.

**603.3C Encasements** (Rev 04/18)

In accordance with Caltrans’s Project Development Procedures Manual, all new high priority utilities (See section 603.1) and pressurized fluid carrier facilities are required to be encased within both conventional and access-controlled right-of-way for both longitudinal and transverse installations.

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’s Standard Specifications is an acceptable carrier for storm drain gravity flow or non-pressure flow. RCP when installed by Bore & Jack 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.)
Based on 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 transverse installation of uncased high pressure natural gas pipelines, provided all of the requirements listed in the memo and Special Provisions are met.
Table 6.7 (Rev 04/18)
Encasement and Protection Requirements

<table>
<thead>
<tr>
<th>Utility facilities must comply with the following encasement and protection requirements:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Types of facilities requiring encasement or protection:</td>
</tr>
<tr>
<td>a. High priority utilities (see section 603.1) are required to be encased on both conventional and access-controlled right-of-way, when installed either longitudinal or transverse to highway.</td>
</tr>
<tr>
<td>i. An exception to this policy may be allowed on a case by case basis for the installation of unencased high pressure natural gas pipelines when in compliance with the TR-0158 Special Provisions.</td>
</tr>
<tr>
<td>ii. Service laterals are exempt from encasement requirement.</td>
</tr>
<tr>
<td>b. Additionally, pressurized liquid carrier facilities are required to be encased within both conventional and access-controlled right-of-way when installed either longitudinal or transverse to highway.</td>
</tr>
<tr>
<td>i. Service laterals are exempt from encasement requirement.</td>
</tr>
<tr>
<td>c. Additionally, for all transverse crossings, placement of multiple pipes or ducts, regardless of diameters are required to be encased within both conventional and access-controlled right-of-way.</td>
</tr>
<tr>
<td>d. Consider encasement of carriers that are exempt from encasement, when these possibilities exist:</td>
</tr>
<tr>
<td>i. When under embankments of 10 feet or more.</td>
</tr>
<tr>
<td>ii. Appreciable settlement of supporting ground.</td>
</tr>
<tr>
<td>iii. When detrimental subsidence of the ground under a fill is anticipated. In such cases, a sleeve 6 inches larger than the outside diameter of the pipe is recommended.</td>
</tr>
<tr>
<td>iv. Damage to protective pipe coatings during jacking.</td>
</tr>
<tr>
<td>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 headquarters Structures Design, Electrical, Mechanical, Water and Waste Water Branch.)</td>
</tr>
<tr>
<td>vi. Cracking of mortar coating during jacking or boring operations.</td>
</tr>
<tr>
<td>vii. Corrosion of field-coated joints.</td>
</tr>
<tr>
<td>viii. Existing electrical and communication lines under an embankment of 10 feet or more.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Types of encasements and their purposes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. A sleeve is an encasement that:</td>
</tr>
<tr>
<td>i. Contains or controls leaks,</td>
</tr>
<tr>
<td>ii. Facilitates carrier pipe maintenance and replacement,</td>
</tr>
<tr>
<td>iii. Protects carrier pipe from crushing or bending stresses and minimizes coating damage during installation,</td>
</tr>
<tr>
<td>iv. Protects the pipe from corrosive elements and aggressive salts,</td>
</tr>
<tr>
<td>v. Protects carrier pipe against highway maintenance and repair activities, and</td>
</tr>
<tr>
<td>vi. Isolates cathodically protected lines and limits stray currents.</td>
</tr>
<tr>
<td>b. A reinforced concrete jacket is an encasement that:</td>
</tr>
<tr>
<td>i. Contains or controls leaks,</td>
</tr>
<tr>
<td>ii. Protects carrier pipe from crushing or bending stresses and minimizes coating damage during installation,</td>
</tr>
<tr>
<td>iii. Provides some protection from corrosive elements and aggressive salts, and</td>
</tr>
<tr>
<td>iv. Protects against highway maintenance and repair activities.</td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td>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.)</td>
</tr>
</tbody>
</table>

| 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 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 24 inches or twice that of the diameter of the larger pipe being installed.
g) Encasement ends must be plugged with un-grouted 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 expense of the permittee. Grout holes when placed inside the of the pipe, generally on diameters of 36 inches or greater, must be on 8 feet centers, longitudinally and offset 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 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 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.
### Table 6.8
**Required Thickness for Steel Pipe Casings**

<table>
<thead>
<tr>
<th>Casing Diameter</th>
<th>Up to 150’ in length</th>
<th>Over 150’ in length</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 inches to 28 inches</td>
<td>¼ inches</td>
<td>¼ inches</td>
</tr>
<tr>
<td>30 inches to 38 inches</td>
<td>3/8 inches</td>
<td>½ inches</td>
</tr>
<tr>
<td>40 inches to 60 inches</td>
<td>½ inches</td>
<td>¾ inches</td>
</tr>
<tr>
<td>62 inches to 72 inches</td>
<td>¾ inches</td>
<td>¾ inches</td>
</tr>
</tbody>
</table>

#### 603.3D Minimum Carrier Pipeline Specifications
Caltrans' minimum specifications for pipelines carrying materials are described in Table 6.9. Carrier pipe materials must conform to industry and California Public Utilities Commission requirements.

<table>
<thead>
<tr>
<th>Table 6.9</th>
<th><strong>Minimum Carrier Pipeline Specifications</strong></th>
</tr>
</thead>
</table>

- **Pipeline encroachments must comply with these minimum specifications:**
  1. **Metal Pipe**
     - Gas transmission and distribution piping systems must conform to General Order No. 112D of the California Public Utilities Commission, and applicable provisions of Title 49, Code of Federal Regulations.
     - Other fluids under pressure must conform to the American National Standard Code for Pressure Piping.
     - Cast iron pipes must conform to Caltrans' Standard Specifications.
     - Metal underground encasements must conform to Caltrans’ Standard Specifications.
  2. **Concrete and Asbestos Cement Pipe**
     - Must not exceed the manufacturer's recommended pressure.
     - Must conform to Caltrans' Standard Specifications. Requirements for underground culverts stated in Caltrans' Highway Design Manual must also apply.
     - Uncoated sewer pipe that is located under the highway must be designed to flow full to protect against attack from generated acids.
  3. **Plastic Pipe (HDPE)**
     - Specifications must ensure that the type of pipe is adequate for the intended purpose (see CPUC General Orders).
     - A means for detection of nonmetallic material must be provided.
  4. **Pipe Joints**
     - Must be watertight under pressure and foreseeable conditions of expansion, contraction, and settlement.
     - Recommended joint sealants include rubber, neoprene, and similar synthetic products.
     - Mortar, grout, or other Portland cement materials are not allowed as joint sealants.
  5. **Water and sewage pipelines must conform to CPUC General Orders.**
  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 CPUC regulations. Evidence of compliance must be submitted before issuance of an encroachment permit.**
  8. **Specifications for pipelines on bridges are discussed in the Sections 602.7**
603.4 Aerial Crossings

603.4A Conventional Aerial (Rev 04/18)

**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.

Maintenance of aerial facilities is authorized by UE annual permits. These annual permits allow capacity increases when the carrying pole lines are designed and constructed to accept additional cable or a larger replacement cable and new permits are not required.

Permittee should ensure that aerial cables have the minimum vertical clearance required by the California Public Utilities Commission. CPUC Rule 84-4-A6 indicates communication cables installed longitudinally on conventional highways may have a minimum 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 18 feet minimum clearance required for public connecting roads.

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

Appendix F provides tables and details showing minimum clearances for aerial utility facilities and require exceptions to standards. (For additional information, see Highway Design Manual, Topic 309 Clearances).

603.4B Access-controlled (formerly “Freeway”) Aerial (Rev 04/18)

**Permit Code UF**

UF permits authorize aerial facilities that cross access-controlled right-of-way. Utility facilities affecting access-controlled 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 for their useful life with relocation performed at that time, but any alterations to the existing longitudinal exception 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 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 break in traffic on most highways to allow up to a five-minute clearing. 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 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 K-rail and sand barrel 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 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 Access-controlled Right-of-Way

<table>
<thead>
<tr>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Must be located outside the right-of-way or between the right-of-way line and access control line if different. Any deviations require an approved encroachment policy exception.</td>
</tr>
<tr>
<td>2) Should have a minimum lateral clearance of 52 feet from the edge of a through lane and 52 feet from the edge of a ramp lane, when possible.</td>
</tr>
<tr>
<td>3) Should not be permitted in medians.</td>
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<tr>
<td>4) Should not be permitted on cut or fill slopes.</td>
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<tr>
<td>5) Must not impair sight distances.</td>
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<tr>
<td>6) Must be compatible with access requirements.</td>
</tr>
</tbody>
</table>
603.5 Service connections, Potholing, Modifications and Miscellaneous Utility Work (Rev 05/19)

Permit Code US

Service Connections:
Utility companies without an UE permit are required to apply for and obtain encroachment permits for service connections. Caltrans doesn’t allow individuals or non-CPUC regulated utility entities that are not authorized by law (except for Broadband and sewer services) 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 control 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 installation of such longitudinal or transverse 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 # 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 shall 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 (NUS permit).

Potholing:
Utility owners must apply for and obtain individual permits for potholing when their annual permit doesn’t authorize potholing. Method of potholing, exact locations with lateral dimensions to right-of-way line and travel lanes, size and depth must be provided in the application and submittal.

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

Modifications and Miscellaneous Utility Work:
Permit code US can be used for modifications to existing utility facilities in place, pole replacements or other miscellaneous utility work not covered under the scope of other utility permit codes.

603.6 Methods of Installation (Rev 04/18)

Underground installations within highway right-of-way must be performed using a trenchless technology method (Bore & Jack, 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.

When a number of parallel services are proposed, it is preferable to place a distribution facility. For very large installations, Districts may need to require extensive traffic control or detours. Permittees should prepare traffic control plans for Caltrans approval and obtain local approval for detours. Additionally, these large facilities can have extensive shoring. If shoring failures could damage State facilities or if the excavation is 5-ft or deeper, permittees must submit shoring plans and calculations to Structures Maintenance for approval. Allow a minimum of two weeks for review and approval (see California Code of Regulations, Title 8, Chapter 4).

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

603.6A Trenchless Technologies: Bore & Jack / Horizontal Directional Drilling / Microtunneling / Pipe Ramming / Pipe Bursting

The establishment of a “Survey Grid Line” is required on installations with proposed “hole-diameters at 30 inches or greater,” and may be required on installations with hole-diameters less than 30 inches as directed by the DPE or delegate. For Survey Grid and Settlement Rod Details, see forms TR-0151 and TR-0152 in Appendix E. Requirements for trenchless technologies may be increased or modified as needed by the DPE or delegate at his or her discretion.

Utility installations and service installations are not permitted to be placed within culverts or drainage structures within State highway right-of-way.

The requirement for encasement of utility installations is for the protection of the traveling public and to minimize the amount of disturbance to the structural integrity of the roadbed. Please refer to section 603.2C for encasement requirements. Any deviations require an approved encroachment policy exception. For additional information on trenchless technologies, see Appendix E and Design Information Bulletin (DIB) 83-04 Section 9.1.2.2 “Trenchless Excavation Construction Methods”

http://www.dot.ca.gov/design/stp/dib/dib83-04.pdf
**603.6A-1  Bore & Jack**

Utility installations placed by the bore & jack method must be monitored to ensure that the integrity of the existing roadway elevations are maintained.

Bore & Jack consists of cutting of the soil, generally 6 inches to 8 inches ahead of the pipe being jacked simultaneously, by an auger placed within the encasement. The encasement should generally support the integrity of the hole. When the encasement is also to serve as the carrier facility for hazardous materials, the use of another trenchless installation is recommended. Potential damage could occur during the jacking process, rendering the use of that facility as the carrier pipe useless.

**603.6A-1A  Bore and Receiving Pits**

Requirements:

1. Must be located as far from the traveled way as feasible. At minimum, must be located 10 feet from the edge of pavement in rural areas, or at least 5 feet beyond the concrete curb and gutter or AC dike in urban areas, or at least 5 feet beyond the toe of slope of embankments.
2. Must be located outside of access-controlled right-of-way. Any deviations for direct crossings that are excessively long, or there is restricted space available for placement, outside of the right-of-way require an approved encroachment policy exception. Those portions of the installation not placed by Bore & Jack must be encased by the open trench method.
3. Must be protected by placement of 6 feet chain link fence or Type-K barrier around them.
4. Must be shored in accordance to Cal-OSHA requirements. Shoring of pits located within 15 feet of lanes within State highway right-of-way must not extend more than 36 inches in height above the pavement grade, unless authorized by a Caltrans' representative.
5. Reflectors must be affixed to the shoring on all sides facing traffic.
6. Pits must not affect any State facilities, or create a hazard to the traveling public. Damaged State facilities must be replaced in-kind or repaired to their original state.
7. All pits should have crushed-rock and sump areas to clear groundwater and water used to clean the casings. Pits must be lined with filter fabric when groundwater is found and pumping is required.
8. Temporary Type-K railing must be placed at a 10:1 taper or as otherwise directed by the Caltrans’ representative to maintain the integrity of the adjacent travel lane.

Any installation that is 30 inches in diameter or greater is defined as tunnel. See Section 518, and Table 5.29 - Permit Code TN for the requirements of such installations.
603.6A-2 **Horizontal Directional Drilling**
Horizontal Directional Drilling is another trenchless method for the placement of encasement and/or carrier pipe under, across, or within existing highway right-of-way.

603.6A-2A **Backreamer Detection**
The backreamer must have a sonic detection system. See attachment E “Guidelines and Specifications for Trenchless Technology Projects”

603.6A-2B **Documentation of Projected Path**
The permittee must provide a copy of the bore-log showing horizontal and vertical alignment (depth). A bore-log must be kept for both the pilot bore and the reaming process. These records must be provided to Caltrans’s representative daily. The bore-log must depict a plan profile of the actual bore path.

603.6A-2C **Safety Requirements**
All members of the contractor’s crew must wear protective safety gear, (Die-Electric boots are recommended).

603.6A-2D **Permit Application Submittal**
The permit application package should contain the following information in support of the permit application; construction plan, site layout plan, project schedule, communication plan, safety procedures, emergency procedures, company experience record, contingency plan and a drilling fluid management plan in support of the permit application.

1. Location of entry and exit point.
2. Equipment and pipe layout areas.
3. Proposed drill path alignment (both plan & profile view).
4. Location, elevations, and proposed clearances of all utility crossings and structures.
5. Proposed Depth of cover.
6. Soil analysis **.
7. Product material (HDPE/steel), length, diameter-wall thickness, reamer diameter.
8. Detailed pipe calculations, confirming ability of product pipe to withstand installation loads and long term operational loads including H20.
9. Proposed composition of drilling fluid (based on soil analysis) viscosity and density.
10. Drilling fluid pumping capacity, pressures, and flowrates proposed.
11. State right-of-way lines, property, and other utility right-of-way or easement lines.
12. Elevations.
13. Type of tracking method/system.
14. Survey Grid establishment for monitoring ground surface movement (settlement or heave) due to the drilling operation.

Note: **May be waived by the District Permit Engineer on HDD jobs with pipe size of 6 inches or less in diameter and on a transverse crossing less than 150 feet in length.
All additional permit conditions must be set forth in the special provisions of the permit.

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Depth of cover</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 inches to 6 inches</td>
<td>4 feet</td>
</tr>
<tr>
<td>8 inches to 14 inches</td>
<td>6 feet</td>
</tr>
<tr>
<td>15 inches to 24 inches</td>
<td>10 feet</td>
</tr>
<tr>
<td>25 inches to 48 inches</td>
<td>15 feet</td>
</tr>
</tbody>
</table>

The permittee/contractor must, prior to and upon completion of the directional drill, establish a Survey Grid Line and provide monitoring.

Upon completion of the work, the permittee must provide an accurate “As-Built” drawing of the installed pipe.

603.6A-2E Soil Investigation
A soils investigation should be undertaken, suitable for the proposed complexity of the installation to confirm ground conditions. Engineering judgment must be utilized when requiring the extensiveness of the soil analysis. A soil analysis is required in order to obtain information on the ground conditions that the contractor will encounter during the HDD operation.

If the contractor can go to the project site and do an excavation with a backhoe to one foot below the proposed depth of the bore, that excavation can be considered a soil investigation. In all cases when an excavation is made in creating of an entrance and exit pit for a HDD project, that is an example of a soil investigation. The HDD process is in itself a continual and extensive soil analysis as the pilot bore is made and it encounters the varying soils and formations the drilling slurry will change colors, therefore providing the contractor with continual additional information.

The purpose and intent of the soil analysis is to assist the contractor in developing the proper drilling fluid mixture, and to ensure Caltrans that the contractor is aware of the conditions that do exist in the area of the proposed project. This prepares the contractor in the event they should encounter a zone of pre-tectonics, and that they would need additives or preventive measures in dealing with inadvertent returns (frac-outs).

The discretion on the extensiveness of the soil analysis is left to each individual District Permit Engineer (DPE) respectfully, for their respective areas. The inspectors play a large role in assisting the DPE in making decisions on the extensiveness. Each individual inspector has a general knowledge of the soil conditions in their area of responsibility.

In many circumstances the soil information has already been prepared, either by Caltrans or by City and County Entities. This information if existing should be provided to the requesting
permittee, if there is a structure within 1/2 mile of the proposed project, then Caltrans has already done an extensive soil analysis and the information is stored in our Maps & Records Branch. As-Built, on our access-controlled right-of-way provide stationing and detailed information regarding soil information, cut and fill areas.

603.6A-2F **Determination of Soil Investigations**
The District Permit Engineer (DPE) should determine the extensiveness of the soils investigation to be performed based on the complexity of the HDD operation. The DPE in consultation with the District Materials Engineer may recommend according to the guidelines listed below, a combination of, or modify the guideline to fit the respective area:

- **Projects less than 500 feet in length, where the product or casing is 8 inches or less in diameter:**
  A field soil sampling investigation to a depth of one foot below the proposed drilling.
  a) subsurface strata, fill, debris and material

- **Projects less than 800 feet in length, where the product or casing is 14 inches or less in diameter:**
  A field soil sampling investigation to a depth of one foot below the proposed drilling.
  a) subsurface strata, fill, debris and material
  b) particle size distribution (particularly percent gravel and cobble)

- **Projects where the product or casing is 16 inches or greater in diameter:**
  A geotechnical evaluation by a qualified soil engineer to determine the following.
  a) subsurface strata, fill, debris and material,
  b) particle size distribution (particularly percent gravel and cobble),
  c) cohesion index, internal angle of friction, and soil classification,
  d) plastic and liquid limits (clays), expansion index (clays), soil density, water table levels, and soil permeability,
  e) rock strength, rock joint fracture and orientation, water table levels, and soil permeability,
  f) areas of suspected and known contamination should also be noted and characterized.

Boreholes or test pits should be undertaken at approximately 250 feet to 410 feet intervals where proposed installations greater than 1000 feet in length and parallel an existing road. For road
crossings a borehole or test pit must be undertaken on either side with one or more additional boreholes or test pits in the median where conditions permit. Additional boreholes or test pits should be considered if substantial variation in soil conditions are encountered.

Should the soil investigation determine the presence of gravel, cobble, and/or boulders, care should be exercised in the selection of drilling equipment and drilling fluids. In such ground conditions the use of casing pipes or washover pipes may be required or specialized drilling fluids utilized. Fluid jetting methods used as a means of cutting should only be considered where soils have a high cohesion such as stiff clays.

Directional drilled gravity sewers must only be considered where suitable soil conditions are present. Suitable soil conditions include homogenous soils consisting of clays, silts, silty sands, and sands that would allow for good control of the drill head during the pilot hole drilling.

603.6A-3 Microtunneling

Microtunneling is a hybrid of the tunneling industry (miniaturization of tunnel boring machines) and the pipeline industry where pipe jacking has been used for more than 100 years.

Microtunneling does not require personnel entry into the tunnel. Microtunneling is a special construction method suitable for many conditions where open-cut construction methods are not cost effective, too disruptive, or not physically possible.

603.6A-3A Microtunneling Permit Application Submittal

The encroachment permit application package must consist of two separate submittals. The first submittal must be by the Owner of the installation. The second submittal required must be by the owner's contractor, when applying for the "DP"

The encroachment permit application package must contain a construction plan, site layout plan, project schedule, communication plan, safety and emergency procedures, company’s experience record, in addition to the information listed as follows:

The first submittal by the owning agency must contain the following plans and information:

1. Drive lengths
2. Proposed depth
3. Shaft; jacking and receiving shafts, manhole construction, shaft backfill, and shoring removal;
   - Type of shaft;
     a) Sheet Pile
     b) Beams and Lagging
     c) Trench Box
     d) Auger Drilled and Lined
     e) Caissons
4. Intermediate jacking stations;
• Number of Stations;
  a) Required by Specifications
  b) On site

5. Geotechnical; including ground water information
   • Geotechnical evaluation by a qualified soil engineer to determine the following;
     a) Boring logs & plan locations of borings and cross sections, Subsurface strata, fill and ground water elevations
     b) Particle size distribution (particularly percent rock and cobble),
     c) Cohesion indexes, internal angle of friction, and soil classification,
     d) Plastic and liquid limits (clays), expansion index (clays), soil density, and penetration tests,
     e) Rock strength; rock joint fracture and orientation, water table levels, and soil permeability,
     f) Areas of suspected and known contamination should also be noted and characterized.
   • Should the soil investigation determine the presence of rock, cobbles, and/or boulders, determination of the following information would be required;
     a) Depth and extent of rock
     b) Rock type
     c) Rock strength
     d) Rock joint/fracture spacing
     e) Hardness
     f) RQD
     g) Estimated range of sizes & frequency of occurrence of cobbles and boulders.

Boreholes or test pits for road crossings must be undertaken on both sides with one or more additional boreholes or test pits in the median where conditions permit. Additional boreholes or test pits should be considered if substantial variation in soil conditions are encountered. Where a proposed installation parallels an existing road, boreholes or test pits should be undertaken at approximately 250 to 410 foot intervals.

603.6A-3B Contractor's Submittal
The second submittal by the owner’s contractor must contain the following plans and information:

1. Shaft; soil stability at portals and ground improvement.
2. Dewatering plans for jacking and receiving shafts, if any.
3. Shoring design for jacking and receiving shafts.
5. Ground surface settlement monuments and subsurface settlement monuments monitoring program plan.
   - Buried points
     a) Rebar points, or
     b) MPBX (Multi-point borehole extensometers)

6. Recycling information; slurry mix and polymer additives, slurry separation plant type, and spoils disposal;
   a) Removal of slurry in dump trucks.
   b) Removal of slurry in tankers.
   c) Settlement ponds.
   d) Muck piles on site.

7. Contingency plan information;
   a) Ground improvement plans when required at portals and/or behind thrust block/reaction wall due to weak and unstable soil conditions.
   b) Obstruction removal through emergency (911) shafts or other means.
   c) Mechanical breakdowns and recovery of the MTBM through 911 shafts or other means.
   d) Control of hydrofracture and slurry loss.
   e) Remediation of loss of ground and excessive ground surface settlement.

603.6A-4 Pipe Ramming
Pipe Ramming pit requirements are identical to those for Bore & Jack. Establishment of a survey-grid line is required.

Before any project begins, exploration bore-holes and a complete geotechnical investigation must be conducted to determine possible difficulties in order to determine the drilling trajectory.

The casing must be rammed open ended, except when the diameter is 6 inches or smaller. Pipes 6 inches or smaller may be rammed open ended or closed.

A soil shoe may be installed on the leading edge of the casing, either by fabrication on site or obtained from the manufacturer. No installation should be less than a service connection of 30 inches.

Lubrication must only be utilized to reduce friction and increase production. The amount of lubrication directed to the outside of the pipe must only be of a sufficient amount required to fill the void between the outside of the pipe and soil, as created by the soil shoe.

Lubrication to the inside of the casing must only be an amount adequate to assist in spoil removal when the ram is completed.

Welding of the casing at joints must be as per the manufacturer’s recommendations.
The use of straps at each joint on pipe diameters of 12 inches or larger is required as is the use of the manufacturers’ specified welding wire or rod.

Spoil removal for rammed encasements of 30 inches in diameter or less, may utilize pressurized air or water.

Air pressure must not exceed 150 psi and water pressure must not exceed 300 psi.

Encasements larger than 30 inches in diameter must have the spoils removed by other means than by pressurizing of the pipe, such as, manual, auguring, vacuum, washing or other means.

The Receiving Pit must be steel plated entirely when the spoils are to be removed from within the encasement by means of air or water pressurized methods.

**603.6A-5 Pipe Bursting**

Pipe Bursting operations generally are only performed by the owning utility when they have exceeded the operating capacity of their existing facilities. In most cases pipe bursting allows the utility owners the advantage of upgrading their existing facilities by up to 50%.

A contractor with a significant resume/track record should be obtained to perform the pipe bursting work.

On installations of diameters 12 inches or greater, it is necessary to establish a survey-grid line and establish the existing elevation points over the existing area of installation.

A soil analysis should be required and review of the information to identify any locations of difficulty, density, water table, changes in soil formation that could present or create greater friction resistance.

Request information of the proposed project as to:

1. the ratio of the proposed upgrade to determine difficulty, generally up to 25% increase in diameter is common. An increase of 25% - 50% is considered challenging and an increase of 50% or greater is considered experimental.

2. the existing depth of cover, “rule of thumb” depth of cover should be at least 10X the difference in the upgrade of the existing diameter to be burst.

3. whether or not the existing line has been viewed by video, do not allow line to be burst blind.

4. is this proposed line straight or are there bends in the line.

5. if bends are existing in the line, the location of the bend will have to be excavated and new pits re-established at those locations.
6. require that the contractor provide a list of equipment to be on site to handle an emergency, in the event that bypass pumping is required to maintain the existing service in the event of a problem.

7. as to what method will be utilized (static, pneumatic, burst and jack, or hydraulic).

**603.6A-6 Tunneling - Rib & Lagging**
NOTE: All projects will vary in their own characteristics. General similarities are listed below to provide a general understanding of these types of projects.

Establishment of a survey-grid line and existing elevation points must be over the centerline and wing points of the installation.

Designed plans and specifications, calculations and details (liner plates, rib & lagging, bracing, etc.) must be stamped by a California Registered Structural or Civil Engineer, with a minimum of five (5) years’ experience in sub-structural design of tunnels. Proof of experience must be submitted on “Certification of Structural Experience” (form TR-0133) in conjunction with project package submittal.

A geotechnical investigation and soil analysis by a licensed geotechnical engineer/engineering geologist is required. It must provide identification of any locations of difficulty, changes in soil formation, or mixed face conditions that could present or create ground loss, exploratory soil corings and logs are required along the tunnel alignment at intervals of 25 feet to 100 feet as determined by the DPE or Structures Division.

When the length of the tunnel is greater than 400 feet, alignment holes may be required. Alignment holes must be drilled at a maximum spacing of 200 feet and a casing of 4 inches to 6 inches in diameter installed vertically, to a depth necessary for the installed casing to extend into the tunnel excavation. When alignment holes fall within the pavement area of the roadway, the pavement must be saw-cut, a cover must be placed over the end of the casing at grade, and the space around the casing within the roadway filled with concrete (EXCEPT within access-controlled right-of-way).

**603.6A-6A Cal/OSHA Requirements**
The California Code of Regulations (CCR) mandates the following requirements for Tunneling Projects.

The Owner or Local Entity proposing the construction of the tunnel must make a full submittal to the Department of Industrial Relations, Cal/OSHA, to determine tunnel classification (CCR 8422).

Development of a check-in/check-out procedure to ensure an accurate account of personnel underground in the event of an emergency (CCR 8410).
Development of an Emergency Plan that outlines duties and responsibilities of all personnel on the project during an emergency. The plan must include ventilation controls, firefighting equipment, rescue procedures, evacuation plans, and communications (CCR 8426).

Cal/OSHA requires a State of California certified person performing the duties of gas tester or safety representative to be certified by passing a written and an oral examination administered by the Cal/OSHA Mining & Tunneling Unit (CCR 8406(f), (h)).

A certified safety representative must direct the required safety and health program and must be on-site while employees are engaged in operations during which the Tunnel Safety Orders (TSO) apply (CCR 8406(f)).

The certified safety representative must have knowledge in underground safety, must be able to recognize hazards, and must have the authority to correct unsafe conditions and procedures subject to the TSO (CCR 8406(f)).

A State of California certified gas tester is required for the following operations:

- All classifications other than non-gassy
- Projects during which diesel equipment is used underground
- Hazardous underground gas conditions (CCR 8470).

**603.6A-6B Tunnel**

Tunnel construction is accomplished by the method of Hand-mining, or by Mechanical means, and the use of a protective shield.

Continuous monitoring and observation of the ground surface above the tunnel is required. In some cases, it may be required to survey and record elevations along the survey grid line, several times a day or daily.

Generally, when tunneling in good ground, tunnels with a diameter of less than 8 feet and less than 300 feet to 400 feet in length may be holed-through (excavated completely) before concreting the interior of the tunnel, when placement of pre-fabricated or pre-cast pipe is to be installed. When this is proposed, hole-through (unsupported length) before concreting of the interior of the tunnel, it must be justified by the original subsurface geotechnical investigation and design.

Tunnel lining and bracing should consist of steel ribs and steel spreaders (dutchmen) with wood, concrete, or steel lagging, or with bolted steel liner plates.

Fireproof materials should be utilized in all construction of plant structures, above ground, within 100 feet of the shaft or tunnel. The use of flammable materials or wood shoring would require that adequate fire protection be provided.

Ventilation systems must be established and provide a minimum of 200 cfm per worker.
• All equipment must maintain a minimum clearance of 25 feet from opening.
• An established contingency plan in the event of ground loss.
• Cranes utilized in operations must maintain minimum required clearances.

603.6A-6C Tunnel Shield
• The face of the shield must be provided with a hood or an approved grid system.
• The excavation face must have a sufficient length to allow for the installation of one (1) complete ring of liner plates, or one (1) complete set of ribs and lagging before advancing.
• The contractor must submit details and design information of the shield.

603.6A-6D Tunnel Lining
Tunnel lining and bracing should consist of steel ribs and steel spreaders with wood lagging and concrete, or steel lagging, or with bolted steel liner plates.

The tunnel liner and bracing must be designed (calculations provided) of an adequate strength based upon the geotechnical investigation, soil analysis, loading, and the diameter and depth of cover to provide adequate support of the tunnel.

• A ring expander must be used to expand the rib continuously outward and upward.
• Liner plates must be designed based on joint strength, minimum stiffness, critical buckling of the liner plate wall, and deflection, or flattening of the tunnel section.
• On tunnels with a diameter greater than 10 feet, the placement of ribs inside of liner plate may be required.
• When the geotechnical investigation has determined that silts and fine sands exist, that may flow under pressure, all liner plates must include a neoprene gasket adhered to each flange face.

603.6A-6E Lagging
Lags are generally started at spring line and continue upwards towards the crown.

Lag spacing consists of three methods:

1. **Wedging** – done by driving a block of wood between the earth and the lag at each end, or by driving a wedge between the rib and the lag.
2. **Stops** – by welding small angles to the ribs outer flange to prevent sliding.
3. **Clamps** – which are applied to wood or steel lags.

If the spacing of lags between ribs is used in tunnel construction, packing between lags with filler may be required.

• Lags are boards of steel plates placed longitudinally against the roof and walls of the tunnel excavation.
• Steel lagging may consist of channel, liner plate or corrugated metal.
• Steel lagging thickness must be designed on strength based upon the geotechnical investigation, soil analysis, and loading.
• Wood lagging thickness must be designed on strength based upon the geotechnical investigation, soil analysis, loading. Generally wooden lags common size are 3 inches by 6 inches, and the length is cut according to the spacing of the ribs.
• A minimum of one liner plate per ring with a 2 inch diameter coupling for grouting is required.

603.6A-6F The Construction of Shafts / Pits
Shafts / pits should be constructed of a proper size and shape, and equipped as to allow work to be carried on safely.

• Shafts must be constructed of driven steel sheet pilings, steel bracing and tight wood, or steel lagging or steel liner plates and ribs.
• The removal of spoils should be accomplished by mechanical means (muck box).
• All shafts must be provided with guardrail and a toeboard.
• When ladders are utilized within the shaft or pit, cages and/or safety devices must be provided on depths of 15 feet to 20 feet, platforms must be provided at depths of greater than 20 feet.
• Ventilation systems must be established and provide a minimum of 200 cfm per worker.
• All equipment must maintain a minimum clearance of 25 feet from openings.
• Upon completion of project all shafts, pits and drifts that are not part of the finished product must be backfilled.

603.6A-6G Placement of Shafts / Pits
Shafts / Pits must be:

• Preferred to be located as far from the traveled way as feasible. At minimum, should be located 10 feet from the edge of pavement in rural areas, or at least 5 feet beyond the concrete curb and gutter or AC dike in urban areas, or at least 5 feet beyond the toe of slope of embankments.
• Located outside of access-controlled right-of-way.
• Adequately fenced or have a Type-K barrier placed around them at a 10:1 taper or as otherwise directed.
• Shored according to Cal-OSHA minimum requirements. Located within 15 feet of traffic lanes on a State highway must not extend more than 36 inches above the pavement grade unless otherwise authorized by the State representative. Reflectors must be affixed to the sides facing traffic, and placement around the perimeter of a 6 feet chain link fence during non-working hours.
• Are only allowed within access-controlled right-of-way for direct access-controlled right-of-way crossings that are excessively long or that have restricted space available outside the right-of-way.
• They must not affect State facilities or create a hazard to the traveling public. When placement is approved within access-controlled right-of-way, damaged State facilities must be replaced or repaired according to State Standard Specifications.
• Must have crushed-rock and sump areas to clear groundwater and water used to clean. They must be lined with filter fabric when groundwater is found and pumping is required.

603.6A-6H Excavation
In some locations Soil Stabilization may be required. It may become necessary at the direction of the Engineer to either pressure grout or freeze the soil area of the project to control water, to prevent loss of ground, to prevent settlement or displacement of an embankment. When required, a California Registered Geotechnical Engineer must prepare and stamp the plans determining the material and method for use.

In some projects masonry sections are installed, the amount of excavation of the tunnel should not exceed the amount needed for placement of a full masonry section after all lining is in place.

All excavated material must be considered as unclassified material.

• In the event of any ground movement over or adjacent to construction, all work must be suspended, except that which will assist in making the construction site secure and prevent any further additional movement of the ground.
• Excavation should not be advanced beyond the edge of the shield, except in rock.
• The geotechnical engineer/engineering geologist must determine the allowable amount of tunnel length unsupported by bracing, based on the geotechnical investigation and design.
• All voids between the excavation and the liner must be grouted after setting of ribs and lagging, if not expanded to full contact with the surrounding ground, as determined by the Safety Engineer.
• A log must be maintained of all surrounding utilities and facilities.

603.6A-6I Dewatering
When ground water is anticipated, pumps of sufficient capacity to handle the flow must be maintained at the site. Observation must be maintained to detect any settlement, displacement, or washing of fines into the pit, shaft or tunnel. A NPDES permit is required if the water is not put in the sewer.

603.6A-6J Grouting
Grouting should be kept close to the heading (working front of tunnel). It may be required to add pea-gravel and fly ash to the grout. The pea-gravel would assist in consolidation and the filling of the voids, fly-ash works as a lubricant allowing the grout to free-flow.
The use of grout stops may be utilized if necessary or if required by the Safety Engineer.
Grouting must be performed when ordered by the Safety Engineer.
At no time must progression of the tunnel exceed 6 feet beyond the grouting of the exterior void.
Pressure on the grouting gauge should not exceed the capacity of the lining, sufficient to fill all voids.
A gauge must be provided which will accurately indicate working pressure and must be monitored constantly during grouting procedures.
Grouting must start at the lowest point and proceed upwards simultaneously on alternating sides.
When grouting is complete at that location a threaded plug must be installed into the coupling.

603.6A-6K Materials
The form “Notice of Materials to be used,” form CEM-3101 is required.

- The manufacturer must provide a Certificate of Compliance, to ensure tensile and yield strengths.
- Steel lagging may consist of channel, liner plate or corrugated metal.
- Steel lagging thickness must be designed on strength based upon the geotechnical investigation, soil analysis, and loading.
- Wood lagging thickness must be designed on strength based upon the geotechnical investigation, soil analysis, loading. Generally wooden lags common size are 3 inches by 6 inches, and the length is cut according to the spacing of the ribs.
- When the geotechnical investigation has determined that silts and fine sands exist, that may flow under pressure, all liner plates must include a neoprene gasket adhered to each flange face.
- Ensure Manufacturer’s Specification Data Sheets (MSDS) are provided stipulating recommended:
  - Specifications of steel spreaders (spacing, tolerances).
  - Specifications of steel rib (section lengths, spacing, etc.)

603.6A-6L Project Owner’s / Permittee’s Responsibilities
The project owner/permittee is responsible for providing:

- A full-time Safety Engineer;
  Must be a California Registered Structural or Civil Engineer, with a minimum of five (5) years’ experience in sub-structural design or inspection of tunnels. Proof of experience must be submitted on “Certification of Structural Experience” (form TR-0133),
 OR
• **A full-time Safety Representative;**

  State certified by Department of Industrial Relations, Cal/OSHA, proof of certification is required.

Cal/OSHA requires persons performing the duties of gas tester or safety representative to be certified by passing a written and an oral examination administered by the M&T Unit. CCR 8406(f), (h)

• Project drawings and specifications, calculations and details stamped by a California Registered Structural or Civil Engineer, with a minimum of five (5) years’ experience in sub-structural design of tunnels.

• An geotechnical investigation by a licensed geotechnical engineer to determine the following;

  • Storm Water Pollution Prevention Plan (SWPPP) or Water Pollution Control Plan (WPCP).
  • De-Watering Plan, if needed.
  • Ground water information
  • Boring and soil analysis logs, location plan of borings, cross sections, subsurface strata, fill and ground water elevations;
    - Particle size distribution (particularly percent rock and cobble),
    - Cohesion index, internal angle of friction, and soil classification,
    - Plastic and liquid limits (clays), expansion index (clays), soil density, and penetration tests,
    - Rock strength, rock joint fracture and orientation, water table levels, and soil permeability,
    - Areas of suspected and known contamination should also be noted and characterized.

• The soil investigation must also determine the presence of rock, cobbles, and/or boulders, and the following;
  - Depth and extent of rock
  - Rock type
  - Rock strength
  - Rock joint/fracture spacing
  - Hardness
  - RQD
  - Estimated range of sizes & frequency of occurrence of cobbles and boulders.

### 603.6A-6M Contractor's Responsibilities

The contractor is responsible for providing:
• Tunnel project construction plans and specifications, calculations and details, method of construction, to include the adequacy of the shield and liner material stamped by a California Registered Structural or Civil Engineer, with a minimum of five (5) years’ experience in sub-structural design of tunnels.
• “Notice of Materials to be used,” form CEM-3101.
• Method of construction plan.
• A Licensed Surveyor.
• Proof of rib expanders and/or liner supports.
• Working schedule of the project.
• Contingency plan for dealing with ground loss work.
• Shaft; soil stability at portals and ground improvement plan.
• Dewatering plans for entry and exit shafts/pits, if needed.
• Installation and monitoring of SWPPP or WPCP facilities and conditions.
• Shoring design for entry and exit shafts/pits.
• Survey control plan: lasers, laser mounting, laser checking.
• Ground surface settlement monuments and subsurface settlement monuments monitoring program plan.
  o Buried points

603.6A-6N Key Points of Inspection
Meet and confer with the Safety Engineer hired by the Owner/Permittee, explain exactly what is expected and required on a daily report, and any issues of concern.

State Representative and Safety Engineer/Safety Representative, together both should:

1. Review the geotechnical investigation.
2. Review the emergency and contingency plans.
3. Inspect the roadway and shoulder area for existing cracks in the ground and mark them.
4. Inspect the area for all-existing utility facilities and sub-structures.
5. Check and confirm any requirements or concessions requested by any Utility companies with the owner and the contractor.
6. Ensure that a Survey Grid line has been established over proposed alignment of tunnel.
7. Make a determination on the frequency of surface monitoring that will be required and identify what would constitute additional monitoring and/or surveying.
8. Inspect and ensure there is sufficient space for the staging area, that equipment and workers can work safely.
9. Establish the limits of minimum clearance.

Safety Engineer/Safety Representative – start of project and construction of shafts/pits.

1. Request to see OSHA permit and tunnel classification sheet.
2. Ensure the contractor has equipment on site to handle an emergency, and in the event that ground loss occurs.
3. Inspect installation of SWPPP or WPCP facilities and conditions.
4. Have knowledge of the soil conditions, density, and water table (sand, clay, cobble, etc.).
5. Inspect the shafts/pits for Cal OSHA (trenching and shoring) requirements.
6. Ensure that guardrails and toe-boards are secured around shafts.
7. Ensure the flooring of the shaft/pit is lined with gravel or ballast rock.
8. Ensure that the sump pumps setup and that they are adequate for dewatering.
9. Ensure all electrical cords and facilities are properly secured.
10. Inspect materials to be used against list provided by contractor.
11. Obtain receipt of the certificates of compliance from the manufacturer on all materials delivered and to be used for the project.
12. Ensure that ventilation system is adequate and installed.
13. Ensure a location is designated for spoils, that they are adequately stockpiled and removed.

Safety Engineer/Safety Representative – daily inspection

1. Ensure that laser is verified every morning prior to start of work.
2. Inspect SWPPP or WPCP facilities and conditions
3. Check traffic control, signs, and delineation.
4. When warranted request line to be re-surveyed to determine heaving or subsidence, if greater than 0.2 inches take corrective measures.
5. Visually inspect gauge during grouting operations.
6. Inspect ventilation equipment, request copies of contractor’s records of maintenance.
7. Ensure safety equipment is worn at all times by everyone.
8. Notify State Representative in the event of an incident or accident.
9. Ensure that all excavations are adequately protected with Type-K barrier and chain link fence around them or covered with steel plates.

State Representative and Safety Engineer/Safety Representative – close of project

1. Upon completion, visually inspect the area of installation, highway and shoulder area to ensure no new cracks, heaving or subsidence have occurred.
2. Require line to be re-surveyed to determine heaving or subsidence.
3. Ensure that all excavations were backfilled.
4. Work site and staging areas are restored to their original condition.
5. Establish a checklist if necessary for completion points (i.e. repairs or corrections).
603.6A-7  Procedural Requirements for Structural and Sub-Structural Design and Calculations
All submittals must be stamped by a California Registered Structural or Civil Engineer, with a minimum of five (5) years’ experience in structural design and preparation of calculations, proof of experience is required by use of Encroachment Permits form “Certification of Structural Experience” (form TR-0133) to be included within the project package submittal.

Sub-structural projects may consist of but are not limited to; drainage boxes & systems, tunneling projects (mechanical or manual tunnel excavations for the placement of tunnel supports), and Trenchless Technologies for the installation of utilities when the diameter is 30 inches or larger (jack & bore, microtunneling, horizontal directional drilling, or pipe-ramming).

603.6A-7A  Structural Design and Calculations
All Structural Project submittals (structures and structural falsework) will require review by Division of Engineering Services (DES), for construction under an encroachment permit and require the following:

- Designed plans and specifications, calculations and details (structural and falsework).
- A geotechnical investigation and soil analysis by a licensed geotechnical engineer is required. It must provide identification of any locations of difficulty, changes in soil formation, or mixed face conditions that could present or create ground loss, exploratory soil corings and logs are required along the alignment of the project.

Construction or Structures Construction will review false work and shoring submittals. Submittals may be routed through Structure Maintenance.

603.6A-7B  Sub-structural Design and Calculations
When the distance between a tunnel and an existing structure is less than twenty times the tunnel's diameter, it must be sent to Division of Engineering Services (DES) for review of the potential lateral loading effects to the pilings and foundation. As in Section 603.6B-7, submittals may be routed through Structure Maintenance.

Otherwise, Sub-structural Project submittals, listed below and submitted with the “Certification of Experience” (form TR-0133) do not require review by DES.

1. Microtunneling projects.
2. Bore & Jack, HDD, or Pipe Ramming (diameter is 30-in or larger and requiring structural/sub-structural design, investigations and calculations)
3. Tunneling for the placement of tunnel support systems (rib & lagging, or steel liner plate requiring structural/sub-structural design, investigations, and calculations).
4. Drainage boxes and systems.

All Sub-structural Project submittals require the following:
The District Encroachment Permits Office is responsible for verification of the California Registered Engineers stamp, validation of the date of expiration against the dated plan set and calculations. The permit office engineer must validate the RE’s stamp at the web site listed below, by entering the RE’s number. A copy of the results must be printed and included within the permit file. The encroachment permit may be issued, upon completion of the normal review process (Traffic, Environmental, R/W, etc.).

http://www2.dca.ca.gov/pls/wllpub/wllqryna$lcev2.startup?p_qte_code=ENG&p_qte_pgm_code=7500

- Designed plans and specifications, calculations and details (liner plates, rib, & lagging, bracing, etc.)
- A geotechnical investigation and soil analysis by a licensed geotechnical engineer is required. It must provide identification of any locations of difficulty, changes in soil formation, or mixed face conditions that could present or create ground loss, exploratory soil corings and logs are required along the alignment of the project.
- When the length of the tunnel is greater than 400 feet, alignment holes may be required. Alignment holes must be drilled at a maximum spacing of 200 feet and a casing of 4 inches to 6 inches in diameter installed vertically, to a depth necessary for the installed casing to extend into the tunnel excavation. When alignment holes fall within the pavement area of the roadway, the pavement must be saw-cut, a cover must be placed over the end of the casing at grade, and the space around the casing within the roadway filled with concrete (EXCEPT within access-controlled right-of-way).

603.6A-7C Project Owner’s / Permittee’s Responsibilities
On projects deemed by Caltrans as requiring full-time inspection, the project owner/permittee is responsible for providing a third-party full-time inspector.

On projects over 30 inches diameter and deemed as requiring full-time inspection, the project owner is responsible for providing:

- **A full-time Safety Engineer:**
  - A California Registered Structural or Civil Engineer, with a minimum of five (5) years’ experience in design or inspection of Sub-structural Projects (tunnels). Proof of experience must be submitted on Encroachment Permits form “Certification of Structural Experience” (form TR-0133),
  - OR
- **A full-time Safety Representative:**
  - State certified by Department of Industrial Relations, Cal/OSHA Mining & Tunnel Unit, proof of certification is required. California Code of Regulations 8406(f), (h)

603.6A-7D Contractor’s Responsibilities
Prior to issuance of the “DP” permit, the following must be submitted:
• Proof of experience, as stipulated by the District Office, in respect to diameter and length of proposed project.
• Tunnel support system construction plans and specifications, calculations and details, method of construction, to include the adequacy of the shield and liner material stamped by a California Registered Structural or Civil Engineer, with a minimum of five (5) years’ experience in sub-structural design and preparation of calculations.
• “Notice of Materials to be used,” form CEM-3101.
• Method of construction plan.
• A Licensed Surveyor.
• Proof of rib expanders and/or liner supports.
• Working schedule of the project.
• Contingency plan for dealing with ground loss work.
• Shaft; soil stability at portals and ground improvement plan.
• Dewatering plans for entry and exit shafts/pits, if needed.
• Installation and monitoring of SWPPP or WPCP facilities and conditions.
• Shoring design for entry and exit shafts/pits.
• Survey control plan: lasers, laser mounting, laser checking.
• Ground surface settlement monuments and subsurface settlement monuments monitoring program plan.
• Buried points

603.6B  Open-cut Road (Rev 04/18)

**Permit Code UT**

Underground installations within highway right-of-way must be performed using a trenchless technology method (Bore & Jack, 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 6.11.

The Reclamation Board, in maintaining the integrity of the State's levee system, issues permits for construction of facilities within the levee prism. Caltrans and the Reclamation Board cooperatively have developed procedures for controlling installation of underground facilities where a State highway is on or crosses a levee. The Board prefers open-cut highway crossings to ensure the integrity of the levee. Caltrans issues permits that conform to Board requirements.

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.

Transverse trenching is not authorized within access-controlled right-of-way.

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:

http://www.dot.ca.gov/hq/esc/construction/manuals/

The contractor may elect to use the Construction Safety Order Details, it is not required that a Professional 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 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 pressure (e.g., ground water) 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 OSC Sacramento Office.
Table 6.11
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 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 Bore & Jack 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 boring and jacking 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 Development, and Right of Way Utilities.

604 ANNUAL MAINTENANCE (Rev 04/18)

Annual maintenance of utility facilities within conventional highway right-of-way (e.g. installation of service connections, routine maintenance, pole maintenance and treatment, etc.) is authorized by UM or UE permits.

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. In absence of the original permit, a current annual UE or UM maintenance permit, will allow maintenance work in compliance with the Encroachment Permit General Provisions (TR-0045) and applicable Special Provisions.

UE Permits allow utility owners to install service connections, additional capacity aerial facilities and perform ordinary maintenance of its facilities located within State highway right-of-way. The UM Permits are more restrictive allowing routine maintenance activities but prohibiting service connection and aerial work (Except for maintaining existing wires and cross-arms). These permits are issued for one or two year periods.

Encroachment permits are also required for utility companies, to operate and maintain services to State-installed facilities (e.g. 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 annual permit. A no fee Utility Service (NUS) permit must be obtained by the utility company if the service connection does not qualify under the annual permit. Service connections having service disconnects, meters, or shut-off valves or switches within the access control lines require the utility owner to obtain a NUS permit for the connections.

Only projects that can use a standard traffic control document are authorized under the annual maintenance permit. A separate permit application for the work, along with a traffic control plan designed and signed by a California Registered Civil Engineer must be submitted for review and approval.

Permit inspectors should note the following information on the “Encroachment Permit Report (Diary)” (form TR-0130) regarding work performed under an annual utility maintenance encroachment permit:

- Name of caller and telephone number.
- Permit number.
- Date and time of proposed work.
- Location of work (county and route).
- Type of work to be performed.
- Company work order.
- Lane Closure Number

### 604.1 Encroachment Permit Annual Utility Maintenance Provisions (Rev 04/18)

**Permit Code UM**

UM permits authorize utility companies to inspect, maintain, repair utility facilities, pole and chemical treatment, and to make emergency repairs to remedy any interruption of service to a customer. The UM annual permit is a restrictive maintenance permit that allows emergency and routine maintenance of existing utility facilities on conventional highways without the privilege of service connection installations as allowed under the UE permit.

Detailed permissible activities under the UM permit are shown in Appendix K. UM permits are generally issued to non-compliant utilities or sewer, fire hydrants, and street lighting utilities. Any new services for **publicly** owned sewers, fire hydrants, and street lighting requires a separate permit to allow the permittee to waive the statutory right conferred by Section 703 of the Streets and Highways Code for **publicly** owned sewers, fire hydrants, and any street lighting structure whether publicly or privately owned is a waivable right under the provisions of Civil Code Section 3513.
604.2 Encroachment Permit Annual Utility Provisions
(Rev 04/18)

**Permit Code UE**

UE permits authorize utility companies to inspect, maintain, repair utility facilities, to install service connections under specified conditions, pole and chemical treatment, and to make emergency repairs to remedy any interruption of service to a customer.

Public utilities and public corporations that lawfully maintain a utility facility within State’s right-of-way may perform routine maintenance and may perform emergency repairs of their facility under the original encroachment permit. Such maintenance must comply with the Encroachment Permit General Provisions (TR-0045) and applicable Special Provisions.

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

Annual or biennial UE utility permits may be issued to public and private utility owners.

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

Utility owners must apply for an encroachment permit to identify their ownership and establish maintenance responsibilities of a utility service lateral within the State right-of-way. The utility company should apply before the property owner is issued an encroachment permit for the installation. A developer may be required by a city or county to construct service connections that later will be maintained by the utility company. Caltrans’ policy for developer installed public utility facilities is discussed in Section 603.5.

**Requirements for Pole Maintenance by Chemical Treatment:**

Utility Companies are to provide 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 upon expiration of their UE annual permit or upon request of Caltrans during the annual/biennial permit life as needed.

Utility Companies must submit copies of the MSDS sheets for all chemical compounds to be used in their pole treatment maintenance operations, in conjunction with the permit application submittal.
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.

Prior to any application or use of Tree Growth Regulators (TGR), prior approval must be obtained from the District Landscape Specialist or their designee, and the products used must be on the Caltrans approved chemical list.

### Work Authorized by UM & UE Permits*

<table>
<thead>
<tr>
<th>Work Type</th>
<th>UM</th>
<th>UE</th>
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</thead>
<tbody>
<tr>
<td>Routine and Emergency maintenance</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Maintain Existing Cables and Cross-arms</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Adding new Aerial cables</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Chemical Treatment on Poles</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Service Connections</td>
<td>No</td>
<td>Yes</td>
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</tbody>
</table>

*Only if authorized work can be safely performed using Caltrans’ Standard Traffic Control Plans (T-9 through T-14). If site specific traffic control plans are needed, a separate permit is required.
Chapter 700
Glossary and Definitions

Terminology used in policies and guidelines should depart little from conventional usage. However, some terms need to have restricted or special meaning. This glossary defines terms that are used commonly in this manual. Sources of definitions are AASHTO, FHWA, State statutes, and Caltrans’ manuals and standard specifications.

Agency – A public entity.

Airspace Development – Any development of airspace on or above the land within the State highway right-of-way limits for non-transportation purposes.

Americans with Disabilities Act (ADA): - Federal civil rights law to establish a clear and comprehensive prohibition of discrimination on the basis of disability. The Districts must follow established procedures to certify that the project “as-built” complies with the ADA standards in DIB 82.

Average Daily Traffic (ADT) – The average 24-hour volume of traffic, being the total number during a stated period divided by the number of days in that period. The period is a year, unless stated otherwise. (HDM Topic 62.8 (1))

Backfill – Material used to replace or the act of replacing material removed during construction. Also may denote material placed or the act of placing material adjacent to structures.

Bar Hole – Using a probe (bar) to locate underground facilities.

Bedding – Composition and shaping of soil or other suitable material to support a pipe, conduit, casing, or utility tunnel.

Blanket Permit – Caltrans’ written permission to enter State right-of-way and perform authorized activities at more than one location within specified limits, and may be issued to be valid for one or two years.

Boring – A horizontal drilling operation to place a carrier pipe or casing pipe progressively behind the drilling face by jacking. Bore trailings are augered or mucked back through the pipe.

Buffer Strip – That portion of the roadside, usually vegetated, between the curb or curb line and the sidewalk, or extending about 1.21 meter (4’) or more from the curb where there is no walk.

Cable – An insulated conductor or combination of insulated conductors, enclosed in a sheath.
California Manual on Uniform Traffic Control Devices (CA MUTCD) – Statewide adopted standards and specifications for all official traffic control devices.

Caltrans – California Department of Transportation.

Cap – Rigid structural element surrounding a pipe, conduit, casing, or utility tunnel.

Carrier – A pipe directly enclosing a transmitted fluid (liquid or gas). Also an electric or communication cable, wire or line.

Casing – A larger pipe, conduit, or duct enclosing a carrier.

Catch Point – The intersection of a cut or fill slope and the natural ground.

Categorical Exclusion – Federal terminology for an action that has no significant effects on the environment and requires neither an environmental assessment nor an environmental impact statement.

Categorical Exemption – State terminology for an exemption from the requirements of CEQA for a project having no significant effect on the environment.

CEQA (California Environmental Quality Act) – The State environmental legislation that establishes procedures for conducting an environmental analysis for all projects in California (California Public Resources Code, Section 21000, et. seq.).

Clear Recovery Zone – As described in the HDM Topics 304.1 & 309.1, this is an unobstructed, relatively flat (4:1 or flatter) or gently sloping area beyond the edge of the traveled way which affords the drivers of errant vehicles the opportunity to regain control.

Coating – Material applied to or wrapped around a pipe.

Common Carrier – means every person and corporation providing transportation for compensation to or for the public or any portion thereof. This includes pipelines that transport petroleum products.

Communication Line – A transmission circuit, such as fiber optic, telephone line, telegraph wire, fire alarm, or television cable.

Concurrent Resolution - Resolution requiring consideration and adoption by both the California Assembly and Senate.

Conductor – A material that contains movable electric charges such as a wire carrying electric current.

Conduit – An enclosed casing for protection of wires, cables, or lines. Conduits often occur in multiple, usually are jacketed, and often extend from manhole to manhole.

Control of Access – The condition where the right of owners or occupants of abutting land or other persons to access in connection with a highway is fully or partially controlled.
• **Full Control of Access** (freeway) – Control is exercised by providing access connection with selected public roads and by prohibiting crossings at grade or direct private driveway connections.

• **Partial Control of Access** (expressway) – Control is exercised to a degree that there may be some crossings at grade and some private driveway connections, in addition to access connections with selected public roads.

**Conventional Highway** – A highway with no control of access, which may be divided or have grade separations at intersections. Abutting property owners have access rights.

**Cooperative Agreement** – An executed document that specifies the respective roles and responsibilities of Caltrans and local government entities involved.

**Coring** – A small casing drilled into firm soil, which enters the pipe as it advances. The core is removed by sluicing during or after drilling.

**Cover** – The depth to the top of pipe, conduit, casing, cable, or similar line or utility tunnel below the earth or roadway surface.

**Cradle** – A rigid structural element below and supporting a carrier or casing.

**CTC** – California Transportation Commission.

**CWA** – Clean Water Act

**Department** – California Department of Transportation (Caltrans).

**Design Exception** – Written documentation of a design criteria decision, by an individual with authority for such decision, to deviate from Caltrans’ design standards or policy.

**Design Information Bulletin (DIB) 82 Pedestrian Accessibility Guidelines for Highway Projects** – Caltrans Policy to improve mobility for all travelers on the State Highway System. DIB 82 provides ADA design guidance and standards to comply with the various federal and state laws and regulations on pedestrian accessibility.

**Direct Burial** – Installing a utility facility underground without encasement.

**Discretionary Project** – Requires analysis and consideration for its approval or disapproval.

**District** – A management region defined by the Department of Transportation (Caltrans).

**District Utility Coordinator** – The District Right of Way employee responsible for utility relocations.

**Discovery** – A determination that an existing installation/facility has been modified or upgraded. The installation/facility design or capacity exceeds that, which was allowed for placement under the original encroachment permit.
Double Permit – A permit issued to someone performing work for the original permittee, e.g., a contractor performing encroachment work for the owner permittee.

Drain – An appurtenance to discharge liquid contaminants from casings.

Duct – An enclosed tubular non-metal casing for protecting wires, lines, or cables. Often semi-rigid or flexible.

Electric Lines – Overhead conductors with supporting structures or underground conductors and the conduit in which they are contained.

Emergency Conditions – When a situation is life threatening, when traffic is severely impacted, or when conditions are unsafe.

Encasement – Surrounding a carrier or casing with a structural element.

Encroachment – Includes any tower, pole, pole line, pipe, pipe line, fence, billboard, stand or building, or any structure, object of any kind or character not particularly mentioned in this section, or special event, which is in, under, or over any portion of the State highway right-of-way. (S&H Code, Section 660)

Encroachment Permit – A revocable permissive authority for the permittee to enter State highway right-of-way to construct facilities or conduct special events. An encroachment permit is a valid contract between the State and the permittee. It is not a property right and is not transferable.

Environmental Assessment – A public document for which a Federal agency is responsible that provides sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact.

Environmental Documents – Environmental impact reports and statements, negative declarations, initial studies, and environmental assessments under CEQA and NEPA.

Environmental Handbook – A Caltrans publication of guidelines for complying with State and federal environmental requirements.

Environmental Impact Report (EIR) – A detailed statement prepared under California Environmental Quality Act (CEQA) describing and analyzing the significant environmental effects of a project and discussing ways to mitigate or avoid the effects.

Environmental Impact Statement (EIS) – A detailed statement prepared under the National Environmental Policy Act (NEPA) presenting studies and information needed to identify and assess the significant effects a project may have on the quality of the human environment.

Existing facility – A facility installed in a prior era of time (months, years).

Expressway – An arterial highway for through traffic with at least partial control of access, which may or may not be divided or have grade separations at intersections.
Facility – Something installed to serve a particular purpose.

FHWA – Federal Highway Administration.

Finished Grade – The top surface of the completed roadway.

Flexible Pipe – A plastic, fiberglass, or metallic pipe having a large ratio of diameter-to-wall thickness that can be deformed without undue stress.

Franchise – A privately owned company that has been licensed as a corporation and is regulated by the California Public Utilities Commission to operate in the State of California.

Freeway – A divided arterial highway with full control of access and with grade separations at intersections.

Frontage Road – A local street or road auxiliary to and located on the side of an arterial highway for service to abutting property and adjacent areas and for control of access.

General Provisions – Basic requirements that are attached to each encroachment permit.

Grade Separation – A crossing of two highways, highway and local road, or a highway and a railroad at different levels.

Grading Plane – The lowest level of original ground upon which the first layer of highway base is placed.

Grounded – Connected to earth or to an extended conducting body that serves instead of the earth, whether the connection is intentional or accidental.

Grout – A cement mortar or slurry of fine sand or clay.

Highway, Street, or Road – A general term denoting a public way for the transportation of people, materials, goods, and services but primarily for vehicular travel. Includes the entire area within the right-of-way.

Highway Improvement Agreement – An executed document that specifies the respective roles and responsibilities of Caltrans and private entities involved in developing a special funded State highway project.

Highway Right-of-way – Any public street or highway or portion thereof which is within the boundaries of a state highway, including a traversable highway adopted or designated as a state highway, shall constitute a part of the right-of-way of such state highway without compensation being paid therefore, and the department shall have jurisdiction thereover and responsibility for the maintenance thereof. (Streets and Highways Code, section 83)

Historical Resource – Includes, but not limited to, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant
in the archaeological, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California (For more information see: California Register of Historic Resources “Proposed Guidelines for the Nomination of Properties, March 1, 1995)

**Initial Study** – Determines whether an environmental impact report or a negative declaration must be prepared to satisfy CEQA provisions.

**Innerduct** – A flexible sheath used to enclose cables and protect them from damage. Commonly used when running fiber optic cable through underground conduits originally designed for large-diameter telephone cables.

**Interchange** – A system of interconnecting roadways in conjunction with one or more grade separations that provides for the movement of vehicles between two or more roadways on different levels.

**Jacket** – Encasement by concrete poured around a carrier or casing.

**Jacking** – Pushing pipe horizontally into a bored hole behind a drilling device or to protect a manual excavation operation.

**Lead Agency** – The public agency having principal responsibility for a project, including preparing environmental documents and approving and carrying out the project.

**Local Assistance Project** – A local agency project involving federal or State highway funds.

**Longitudinal** – A facility located parallel to and within highway right-of-way.

**Manhole** – An opening in an underground system that workers may enter to make installations, removals, inspections, repairs, connections, and tests.

**Median** – The portion of a divided highway separating traveled ways for traffic in opposite directions.

**Modification** – a revision to or change of an existing installation/facility, which does not increase size or capacity.

**ND** – Negative Declaration. Justifies that a project subject to CEQA will not have a significant environmental effect and does not require an environmental impact report.

**NEPA (National Environmental Policy Act)** – The national environmental law that establishes procedures for conducting an environmental analysis for a project involving federal action.

**New Installation** – An installation placed in a location where none exists.

**Newspaper Vending Machine** – A self-service and coin-operated box, container, storage unit or other dispenser installed, used or maintained for the display and sale of newspapers.
**Nonprofit Corporation** – An organization that is tax exempt under Title 26 of the United States Code, Section 501(c)(3),(4),(6),(7),(8), 501(d) and the California Revenue and Taxation Code, Section 23701(d).

**Non-operational Right-of-way** – State land used for, but not limited to, future highway use, office buildings, District offices, maintenance facilities, and labs managed by the Division of Right of Way.

**NPDES** – National Pollution Discharge Elimination System

**Occupation of an Existing Facility** – The placement of telecommunications within an existing empty facility.

**Operational Right-of-way** – The area between the right-of-way limits utilized for the purpose and protection of public travel.

**Occupational Safety and Health Administration (OSHA)** – A federal agency of the United States that regulates workplace safety and health.

**Overcrossing** – A structure carrying a road or street over a State highway.

**Overhead** – An elevated structure carrying a highway over a railroad.

**Owner** – The individual, corporation, or organization responsible for an encroachment.

**Pascal** - Newton per square meter.

**Pavement Structure** – The combination of subbase, base course, and surface course placed on a subgrade to support the traffic load and distribute it to the roadbed.

**PEER** – A Permit Engineering Evaluation Report is prepared to document the engineering analysis of proposed work. The analysis includes review of the proposed improvements to determine drainage, maintenance, operation, tort liability, and environmental impact on the State highway system.

**Pipe** – A tubular product made as a production item for sale as such. Cylinders formed from plate are not defined here as pipe.

**Pipeline** – A pipe used to transport liquids or gases.

**Plowing** – Direct burial by means of a “plow-type” mechanism that in a single operation breaks the ground, places the line, and closes the break in the ground.

**Pothole** – An excavation to expose an underground facility.

**Pressure** – Relative internal pressure in psig (pounds per square inch gauge) or pascal (Pa).

**Pressure Pipeline** – Any pipeline flowing full shall be considered under pressure.
**Probe** – A rod used to locate an underground facility without exposing the facility.

**Project Report** – A detailed document that justifies Caltrans’ approval for a proposed State highway project and includes the appropriate environmental documents.

**PSIG (PSI)** – Pounds per square inch gauge pressure.

**Public Corporation** – Includes federal, State, cities, counties, and public Districts (not including privately-owned public utilities).

**Public Road Connection** – Provides an access opening through the right-of-way line which serves abutting land ownerships whose remaining access rights have been acquired by the State.

**Public Utility** – Includes every common carrier, toll bridge corporation, pipeline corporation, gas corporation, electrical corporation, telephone corporation, telegraph corporation, water corporation, sewer system corporation, and heat corporation, where the service is performed for, or the commodity is delivered to, the public or any portion thereof.

**Public Utility Facility** – Any pole, pole line, pipe, pipeline, conduit, cable, aqueduct, or other structure or appurtenance dedicated to public use and used to provide a service to the public.

**Public Works** - All road, bridge, street lighting, or installation of signal work performed under an encroachment permit issued and for acceptance into the State highway system, except work performed solely to allow private encroachments onto the State highway or for utility and/or drainage encroachments within the State highway.

**RWQCB** – Regional Water Quality Control Board

**Relocation** – Removal, rearrangement, reinstallation, or adjustment of a public utility facility required by highway construction or improvement.

**Relocation within State Rights-of-way** – Relocation is required from an existing location to a designated location remaining within the existing or proposed State rights-of-way.

**Relocation out of State Rights-of-way** – Relocation is required from an existing location to a location out of the existing or proposed State rights-of-way.

**Repairs** – To correct problems with an existing installation/facility that is deemed inoperable by the owner.

**Replacement in Kind** – When an owner cannot correct a problem with an existing facility and is deemed inoperable, the owner shall replace that existing facility with another of the same size or capacity.

**Resolution** – A written expression of the will of a legislative body, such as a city or town council, county board, of the California Assembly or Senate.
**Responsible Agency** – A public agency, other than the Lead Agency, which has responsibility under CEQA for carrying out or approving a project in California.

**Rider** – A document used to amend an approved encroachment permit. Amendments may be initiated by the permittee for time extension or to modify work, or initiated by Caltrans to modify permit requirements.

**Right-of-way** – A general term denoting land, property, or interest therein (usually in a strip) acquired for or devoted to transportation purposes.

**Rigid Pipe** – Pipe designed for diametric deflection of less than one percent (1%).

**Roadbed** – That portion of the roadway extending from curb line to curb line or shoulder line to shoulder line; divided highways are considered to have two roadbeds.

**Roadside** – A general term denoting the area adjoining the outer edge of the roadbed to the right-of-way line. Extensive areas between the roadways of a divided highway also may be considered roadside.

**Roadway** – That portion of the highway included between the outside lines of the sidewalks, or curbs and gutter, or side ditches including also the appertaining structures, and all slopes, ditches, channels, waterways, and other features necessary for proper drainage and protection.

**Safety Roadside Rest Area** – A designated area within and along State highways with parking facilities provided for motorists to stop and rest for short periods. It may include drinking water, toilets, tables and benches, telephones, information, and other facilities for travelers. (S&H Code §220 and §220.5)

**Scenic Highway** – A State or county highway, in total or in part, that is recognized for its scenic value, protected by a locally adopted corridor protection program, and has been officially designated by the Department. The state scenic highway system is listed in S&H Code, Section 263 et al.

**Scenic Overlook** – A roadside area provided for motorists to stop their vehicles beyond the shoulder, primarily for viewing the scenery in safety.

**Scenic Resource** – Includes but not limited to a stand of trees, a rock outcropping, or an historic building; having scenic or visual qualities, as determined by a trained individual.

**Semi-Rigid Pipe** – Pipe designed to tolerate from one percent (1%) to three percent (3%) diametric deflection.

**Shoulder** – The paved or unpaved portion of the roadway contiguous with the traveled way for accommodating stopped vehicles, for emergency use, and for lateral support of base and surface courses.
Chapter 700 - Glossary and Definitions

**Sidewalk Sale** – Use of the sidewalk for vending purposes. It may be permitted as a special event, but otherwise is prohibited by Section 731 of the Streets and Highways Code.

**Slab, Floating** – A slab between (but not contacting) a utility line and a structure or pavement.

**Sleeve** – A short casing through a pier or abutment of a highway structure.

**Special Event** – A street festival, sidewalk sale, or community-sponsored activity, or community approved activity as defined in Streets and Highway Code Sections 660 (b) and 682.5.

**Special Funded Project** – Any project on the State highway system developed with local or private funds that is planned, developed and constructed efficiently and effectively in accordance with standards and practices defined in various Caltrans policies, procedures, manuals and guidance documents. Utility and drainage encroachment projects normally are not considered special funded projects (DD 23).

**Special Provisions** – Written requirements of an encroachment permit supplementary to the General Provisions.

**SWMP** – The Caltrans Statewide Storm Water Management Plan. A description of the procedures and practices used to reduce or eliminate the discharge of pollutants to storm drain systems and receiving waters.

**SWRCB** – State Water Resources Control Board

**Telecommunications** – The installation of wiring, to include but not limited to fiber optic cabling or hard wiring (copper or aluminum).

**Telecommunication Facilities** – The installation and placement of conduits (Steel, G.I.P., H.D.P.E., M.D.P.E., or P.V.C.) splice boxes, vaults, manholes, regeneration/boosting stations, or cabinets.

**Temporary Traffic Barrier** – An object used to prevent vehicular access into construction or maintenance work zones, and to redirect an impacting vehicle so as to limit damage to the vehicle and injury to the occupants while providing worker protection.

**Traffic Barrier** – A device used to prevent a vehicle from striking a more severe obstacle or feature located on the roadside or in the median to prevent crossover median accidents.

**Transverse** – A facility crossing from one side of a highway right-of-way to the other.

**Traveled Way** – The portion of the roadway used for movement of through traffic.

**Trenched** – Installed in a narrow open excavation.

**Tunnel** – A horizontal underground highway crossing of jacked pipe, liner plate, or wood lagging work in excess of 30 inches diameter.
**Undercrossing** – A structure providing passage for a road or street under a State highway.

**Underpass** – A structure providing passage for a highway under a railroad.

**Untrenched** – Installed without breaking the ground or pavement surface, such as jacking, boring, or mechanical compaction.

**Upgrade** – An upgrade consists of an increase in the size or capacity of the existing.

**Utility Tunnel** – An undercrossing for one or more utility lines.

**Vent** – An appurtenance used to discharge gaseous contaminants from casings.

**Vista Point** – A dedicated area, typically paved, beyond the shoulder that permits travelers to stop and view a scenic area.

**Walled** – Partially encased by concrete placed alongside a carrier or casing.
Appendix A – AASHTO

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The following documents are available for purchase at: https://store.transportation.org/

- A Policy on the Accommodation of Utilities Within Freeway Right-of-Way, 2005
# Appendix B – Agreements

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Cooperative Agreements:

Please contact Project Management Delivery Improvement and Agreements (ODIA)

MEMORANDUM OF AGREEMENT AMONG THE CALIFORNIA HIGHWAY PATROL, THE CALIFORNIA DEPARTMENT OF TRANSPORTATION AND THE CALIFORNIA FILM COMMISSION: FILMING ON CALTRANS PROPERTIES ...........................................................................................................................................B-4

Maintenance Agreements:

Please contact the appropriate District Maintenance Agreement Coordinator for the following:

- Freeway Maintenance Agreement
- Electrical Maintenance Agreement
- Delegated Maintenance Agreement
- Landscape Maintenance Agreement
- Project Specific Maintenance Agreement
- Work for other Agreement

Kiosk Advertising/Display Agreement (TR-0401) ........................................................................................................... See CEFS

Newspaper Distribution Agreement (TR-0150) ........................................................................................................... See CEFS
AGREEMENT WITH (CITY/COUNTY OF __________ ) TO ISSUE ROUTINE ENCROACHMENT PERMITS ON
CONVENTIONAL HIGHWAYS

THIS AGREEMENT, made and executed in duplicate on (date) __________, by and between the State of California acting by and through the Department of Transportation, hereinafter referred to as State and the City/County of __________ hereinafter referred to as City/County.

WITNESSETH:

A. RECITALS

The Parties hereto desire to provide for the (City/County) to perform particular encroachment permit functions on (designated State highways) __________ within the jurisdictional limits of (City/County), to wit, the issuance of routine encroachment permits and the control and inspection of work performed pursuant to said permits, as provided for in Sections 130 and 676 of the Streets and Highways Code.

B. AGREEMENT

This Agreement shall supersede any previous AGREEMENT WITH CITY/COUNTY OF __________ TO ISSUE ROUTINE ENCROACHMENT PERMITS ON STATE HIGHWAYS and/or AMENDMENTS thereto.

C. In consideration of the mutual covenants and promises herein contained it is mutually agreed that (City/County):

1. Shall use State's Standard Encroachment Permit forms.

2. Shall follow State's policies as contained in State's Encroachment Permit Manual. A copy of said Manual will be furnished upon execution of this Agreement.

3. Shall follow State's design standards unless (City/County's) standards are more restrictive. In the event of conflict as to interpretation, State's standards shall apply.

4. May issue Encroachment Permits for the following routine encroachments without State's prior approval:
   a.
   b.
   c. (etc.)

5. Shall collect sufficient fees from the permittee to cover its cost of permit administration, inspection and
other permit related costs. No cost for (City/County) administration, review or inspection shall be charged to or borne by the State.

6. (City/County) shall assign qualified personnel to review permit application, plans and specifications, to revise plans and produce permit with appropriate specifications, and to provide construction inspection or monitoring and conduct final inspection of all work performed within the highway right-of-way.

7. Shall keep on file, subject to State's inspection, all permits issued on State highways; and shall forward copies of all issued permits, along with Notices of Completion, As-Built plans (if any) and all other related data to State's District Permit Engineer immediately upon completion of the work permitted or upon the expiration of the permit.

D. LEGAL RELATIONS AND RESPONSIBILITIES

Nothing in the provisions of this agreement is intended to created duties or obligations to or rights in third parties not parties to this contract or affect the legal liability of either party to the contract by imposing any standard of care respecting the maintenance of State highways different from the standard of care imposed by law.

It is understood and agreed that neither the STATE nor any officer or employee is responsible for any damage or liability occurring by reason of anything done or omitted to be done by the (CITY/COUNTY) under or in connection with any work, authority or jurisdiction delegated to the (CITY/COUNTY) under this agreement. It is understood and agreed that pursuant to Government Code Section 895.4 (CITY/COUNTY) shall defend, indemnify and save harmless the State of California, all officers and employees from all claims, suits or actions of every name, kind and description brought for or in account of injuries to or death of any person or damage to property resulting from anything done or omitted to be done by the (CITY/COUNTY) under or in connection with any work, authority or jurisdiction delegated to the (CITY/COUNTY) under this agreement.

The (CITY/COUNTY) waives any and all rights to any type of express and implied indemnity against the STATE, its officers and employees arising from any work, authority or jurisdiction delegated to the (CITY/COUNTY) under this agreement.

E. TERMS OF AGREEMENT

THIS AGREEMENT shall become effective and shall remain in full force and effect until amended or terminated. This Agreement may be amended or terminated at anytime upon mutual consent of the parties hereto. This Agreement may also be terminated by either party upon thirty (30) days written notice to the other party.

IN WITNESS WHEREOF, the parties hereto have set their hands and seals the day and year first above
written.

(CITY/COUNTY) OF _________

BY________________________

Approved as to form and procedure

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

_____________________________
Attorney

Department of Transportation

BY ________________________

_____________________________
City/County Attorney
MEMORANDUM OF AGREEMENT

Among
the California Highway Patrol,
the California Department of Transportation,
and
the California Film Commission:

FILMING ON CALTRANS’ PROPERTIES

Agreement No. M01–0178

I. INTENT

A. It is the intent of the California Highway Patrol (CHP), the California Department of Transportation (Caltrans), and the California Film Commission (CFC) to enter into this Memorandum of Agreement (MOA), effective this 1st day of JUNE 2014, to establish (1) reasonable criteria for the approval of permits to allow filming on State of California highways, freeways, and Nonhighway Caltrans facilities, and (2) a consistent process for obtaining such approval.

A. Pursuant to Government Code section 14998.8, the Director of the CFC is the permitting authority for the use of State-owned property and State employee services for the purpose of making commercial motion pictures or still photography, commonly called film permits (Film Permits).

B. Therefore, the CHP, Caltrans, and the CFC hereby agree to the following process for issuing and inspecting specific Film Permits for filming, videotaping, or digital recording on State of California highways, freeways, and Nonhighway Caltrans facilities. The duties and responsibilities of the signatory parties to this MOA are hereby clarified and defined.

II. DEFINITION OF TERMS

Capitalized terms as used in this MOA have the following definitions:

A. “Access Controlled Highway” is any highway with full or partial restriction of access, allowing entry only at prescribed access points, usually designated as a freeway or expressway.

B. “Business Day” is a weekday that begins at 8 a.m. and concludes at 5 p.m., excluding weekends, State-observed holidays, and State-mandated furlough days. If an application is forwarded to Caltrans by the CFC beyond these hours on a given Business Day, the period defined as a Business Day will end at 5 p.m. the following Business Day.

C. “Caltrans” is the California Department of Transportation.
D. “Caltrans Encroachment Permit” is a revocable authorization issued by Caltrans allowing the specified presence for work by others on State highway rights-of-way.

The following types of Caltrans Encroachment Permits may be issued for commercial filming activities:

1. An “FI Permit” is a Caltrans Encroachment Permit authorizing filming involving moving vehicles with CHP escort or intermittent traffic control (“ITC”), normally not to exceed five minutes in the rights-of-way of “Conventional Highways” as defined in this MOA.

2. An “FL Permit” is a Caltrans Encroachment Permit authorizing filming within Conventional Highway rights-of-way, including the use of ITC exceeding five minutes, lane closures, detours, etc.

3. An “FO Permit” is a Caltrans Encroachment Permit authorizing filming that does not affect moving traffic on State highway rights-of-way, including placement of cameras, equipment, and “No Parking” signs in Conventional Highway rights-of-way.

4. An “FR Permit Rider” is a document issued by Caltrans changing terms and conditions of the original Caltrans Encroachment Permit. Riders cannot allow work to exceed the special provisions of the original Caltrans Encroachment Permit. Significant changes may require Caltrans to issue a new permit in lieu of an FR Permit Rider.

5. An “FS Permit” is a Caltrans Encroachment Permit authorizing filming within Conventional Highway rights-of-way involving stunts, pyrotechnics, aircraft flying below 500 feet in altitude, or any filming within Access Controlled Highways.

6. An “FF Permit” is a Caltrans Encroachment Permit authorizing filming at a “Nonhighway Caltrans Facility” as defined in this MOA.

E. “Car-to-Car” filming is an industry term that involves a camera handheld or mounted on one registered motor vehicle while filming another “picture vehicle” in front of, behind, or beside the vehicle carrying the camera.

F. “CFC” is the California Film Commission.

G. “CFC Permit Application” is a document consisting of applicant information specific to the occupation or use of State-owned or State-operated property and/or services for the purpose of filming, and the general terms and conditions governing such activities.

H. “CHP” is the California Highway Patrol.

I. “Conventional Highway” is any highway other than Access Controlled Highways.

J. “Drive-bys” mean that cameras and sound devices that are recording images and sounds of a motor vehicle driving on State-administered freeways, highways, and roads are outside of the picture vehicle, with equipment on the side of the road or near the road.
K. “Driving Shots Within a Vehicle” means that all cameras and sound devices that are recording images and sounds are contained entirely within a registered motor vehicle moving with the flow of traffic whether on freeway, highway, or road. No camera is mounted or handheld outside of the windows of the car. The camera position cannot be in the driver’s seat, on the driver of the vehicle, or obstruct the driver’s view or control of the vehicle in any manner.

L. “Film Permit” is a document issued by the CFC authorizing commercial filming operations on State properties.

M. “FMRO” is the CHP Film Media Relations Officer.

N. “Insurance Coverage” means an insurance policy sufficient to reimburse the State for any user-caused damage to property and to provide adequate personal liability insurance coverage.

O. “ITC” means intermittent traffic control, intended to impede or stop the flow of public traffic, normally not to exceed five minutes at any one time.

P. “MOA” refers to this Memorandum of Agreement, No. M01-0178 and its amendment if any.

Q. “Nonhighway Caltrans Facilities” is defined to include any Caltrans facility or real estate property not part of any State highway or freeway system. Caltrans facilities include any office buildings, maintenance stations, maintenance facilities, Park and Ride lots, and houses used or operated by Caltrans.

R. “Notification of Closures” is required for a “Road Closure” as defined in this MOA. This Notification of Closures shall be done at least seven (7) calendar days in advance of a permitted closure.

1. The Permittee shall notify the local print/broadcast media and all affected entities with the local detour information; the Permittee’s contact information shall also be provided. Affected entities may include the local permitting agency, local film commissions or offices, local law enforcement, transit agencies, fire departments, tribal governments, and/or other interested persons. The Permittee shall provide evidence of this notification to the CFC or Caltrans.

2. The Caltrans Public Information Officer (District PIO) of the district where activity is occurring will broadcast a press release for closure information pertaining to the State right-of-way.
S. Permits

1. “Complex Permit” is a Caltrans Encroachment Permit issued to the Permittee that involves any of the following activities:
   a. Ramp closure(s) with major local traffic detour.
   b. Freeway closure(s).
   c. Explosions, pyrotechnics, or other special effects or stunts that interfere with traffic.
   d. Aircraft or helicopters flying below 500 feet in altitude.
   e. Aircraft or helicopters landing on ramps, freeways, highways, or Nonhighway Caltrans Facility.

2. “Noncomplex Permit” is a Caltrans Encroachment Permit issued to the Permittee that requires ramp closure without detour or lane closure on a Conventional Highway that would require detour.

3. “Routine Permit” is any permit that is neither a Complex Permit nor a Noncomplex Permit.

T. “Permit Application Package” is a set of documents created and/or collected by the CFC upon receipt of a filming permit application, which shall include the following:

1. A complete CFC Permit Application.

2. If required, detour plans approved by the affected governmental agencies (cities, counties, and tribal governments).

3. If required, resolutions from all affected local governmental agencies indicating approval of the filming activity and any proposed detours. Other written approval for the filming from an individual delegated such approval authority may be submitted. The CFC will keep proof of delegated authority.

4. A letter of consent from each State contractor whose construction operations may be affected by the permitted filming activity.

5. A complete “Traffic Management Plan” for FL or FS Permits that involve Road Closures as defined in this MOA.

U. “Permittee” is the insured entity that has applied for a permit to film or use for commercial filming or photographic purposes State-owned or State-operated property or services.

V. “Road Closures” include any lane, onramp, offramp, full directional closure, or stoppage of traffic that exceeds five minutes.

W. “Rolling Traffic Break” consists of an intentional slowing of public traffic to a desired speed through the use of CHP pilot vehicles.

X. “State” is the State of California.
Y. “Stationary Camera Location” includes filming from a fixed location, not from or on a vehicle or vehicles moving with the normal flow of traffic on a highway.

Z. “Traffic Management Plan” is a document prepared by the Permittee to address and mitigate the impacts of a proposed Road Closure and associated detours. This document shall include reasonable and appropriate provisions for advance public notification and augmented transit, tow, and emergency services as needed.

III. INCORPORATION OF EXHIBITS

Exhibits A and B are attached to this MOA and by this reference are expressly incorporated into this MOA. The Exhibits consist of the following:

   Exhibit A, General Terms and Conditions
   Exhibit B, Signature of Parties

IV. COMMUNICATION

A. The CHP Contract Manager for this MOA is the Commander of the Research and Planning Section, (916) 843-3340.

   The Caltrans Contract Manager for this MOA is the Chief of the Office of Permits, (916) 654-5548.

   The CFC Contract Manager for this MOA is the Deputy Director of the CFC, (323) 860-2960, extension 136. In the event the position of Deputy Director is vacant, the CFC Contract Manager will be the Director of the CFC at extension 111.

B. All official communications to the CHP shall be directed to the attention of the Contract Manager or designee at the following address and telephone/fax numbers:

   CHP Commander
   California Highway Patrol
   Research and Planning Section
   601 North Seventh Street
   Sacramento, CA 95811
   Tel. (916) 843-3340
   Fax (916) 322-3175
C. All official communications to Caltrans shall be directed to the attention of the Contract Manager or designee at the following address and telephone/fax numbers:

Chief, Office of Permits
California Department of Transportation
Division of Traffic Operations
1120 N Street, MS–36
Sacramento, CA 95814
Tel. (916) 654-5548
Fax (916) 653-6080

D. All official communications to the CFC shall be directed to the attention of the Contract Manager or designee at the following address and telephone/fax numbers:

Deputy Director
California Film Commission
7080 Hollywood Boulevard, Suite 900
Los Angeles, CA 90028
Tel. (323) 860-2960, ext. 136
Fax (323) 860-2972

V. CHP RESPONSIBILITIES

A. On an ongoing basis, the CHP will station a CHP officer at the CFC’s office to act as liaison between the CHP, Caltrans and the CFC.

B. On an ongoing basis, the CHP will furnish to Caltrans and the CFC the name and telephone/fax numbers of the FMRO responsible for permit conditions enforcement, to enable the CFC to identify the FMRO named in each Film Permit.

C. On an ongoing basis, the CHP will inform Caltrans and the CFC of all complaints received by the CHP relative to filming on State highways within seven (7) Business Days of receipt of said complaint.

D. On an ongoing basis, the CHP will take responsibility for Vehicle Code compliance with respect to activities not requiring a Caltrans Encroachment Permit.

E. Upon receipt of a Permit Application Package from the CFC, the CHP will verbally advise the local law enforcement agency with jurisdiction over the film location, when applicable. Typically on large-scale projects, the FMRO will involve the local law enforcement agency in the pre-planning procedures.

F. During filming, the CHP will enforce the permit conditions set out in the Caltrans Encroachment Permit and in the Film Permit and will ensure public safety and convenience pursuant to the Permit Guidelines set forth in this MOA.
G. During filming, the CHP will ensure permitted work hours and locations are not significantly altered or changed without a Caltrans FR Permit Rider. The CHP may approve minor changes to approved filming activities or locations and to time extensions during daylight hours if (a) the change will allow the filming to be completed without impacting commute or peak traffic and safety, (b) the CHP approved changes are documented on the face of the issued Film Permit and sent to the CFC and Caltrans within three (3) Business Days, and (c) any change to location is still within the limits of the film site listed on the Film Permit and the Caltrans Encroachment Permit. The CHP may also modify or stop a permitted presence, work, or activity to ensure highway safety or efficient traffic flow.

H. After filming, the CHP will supply Caltrans and the CFC with written documentation of unusual occurrences and permit violations occurring during permitted activities within seven (7) Business Days of the occurrence or violation or within seven (7) Business Days of notification to the FMRO of the occurrence or violation, whichever is later. The documentation should be prepared by the FMRO named in the Film Permit.

I. The CHP shall notify Caltrans if for any reason the CHP is unable to have a representative present at a filming site.

VI. CALTRANS RESPONSIBILITIES

A. On an ongoing basis, Caltrans will staff a statewide film coordinator at the Caltrans District 7 office in Los Angeles to act as liaison between the CHP, Caltrans, and the CFC.

B. Caltrans' statewide film coordinator will inform the CHP and the CFC of any complaints received by Caltrans relative to filming on State highways within three (3) Business Days of receipt of the complaint by that statewide film coordinator, with a written confirmation within seven (7) Business Days.

C. Caltrans will process the Permit Application Package for filming and will, pursuant to Government Code section 14998.8(f), issue or deny a Caltrans Encroachment Permit within ten (10) Business Days of receipt of application.

D. Sufficient lead time is necessary to assess adequately the affects of a film activity to the operations of State highway facility. Caltrans reserves the right to deny with prejudice any application that does not comply with the following lead-time requirements.

1. Applications for Routine Permit shall be received by the CFC at least four (4) Business Days in advance of activity. Caltrans will make every effort to issue or deny a Caltrans Encroachment Permit within three (3) Business Days of receipt.

2. Applications for Noncomplex Permit shall be received by the CFC at least ten (10) Business Days in advance of activity. The allotted lead time is necessary to implement requirements of possible Notification of Closures properly. Caltrans will make every effort to issue or deny a Caltrans Encroachment Permit within five (5) Business Days of receipt.
3. Applications for Complex Permit shall be received by the CFC at least fifteen (15) Business Days in advance of the activity. The allotted lead time is necessary to allow Caltrans time to assess the merits of the proposed activity, detour plans, and associated Traffic Management Plans that are inherent in Complex Permits. Caltrans will make every effort to issue or deny a Caltrans Encroachment Permit within ten (10) Business Days of receipt.

4. Applications for FR Permit Riders and revisions to ongoing applications for Routine Permits should be received at least one (1) Business Day in advance of the activity. If proposed changes of a filming activity are significant, revisions to a Permit Application Package may, at Caltrans’ discretion, require additional time to deny or approve the requested change.

E. Caltrans will deny a Caltrans Encroachment Permit, without prejudice, if the Permit Application Package is deemed incomplete. For Complex Permits, a package may be considered incomplete, and therefore denied, if a satisfactory Traffic Management Plan is not provided or if approval from affected entities is not provided.

F. Caltrans will notify the CFC immediately once it is determined that a Caltrans Encroachment Permit will not be issued or denied within the timeframe allotted in Government Code section 14998.8(f) and this MOA.

G. For the purpose of Road Closure required for Complex Permits, Caltrans’ statewide film coordinator will perform duties as follows:

1. The statewide film coordinator will ensure that each Caltrans district film coordinator will provide the respective District PIO with closure information at least seven (7) calendar days in advance of a permitted closure. The District PIO will broadcast a press release for closure information pertaining to the State right-of-way.

2. The statewide film coordinator will ensure that each Caltrans district film coordinator will notify the Caltrans Office of Permits, Transportation Permits Issuance Branch, with the information at least ten (10) calendar days in advance of a permitted closure.

3. The statewide film coordinator will confirm that the Permittee has provided the Notification of Closures as defined in this MOA at least seven (7) calendar days in advance of closure.

4. The statewide film coordinator will ensure that each district film coordinator conduct a field check to ensure that advance notification signs are in place seven (7) calendar days in advance of the activity.

H. Caltrans’ statewide film coordinator will communicate with the FMRO whenever a Permit Application Package is under review so the FMRO may determine the need for CHP involvement.
I. Upon the approval or denial of a Caltrans Encroachment Permit, Caltrans will provide the CFC with a calculation sheet setting out Caltrans’ fees to be collected from the Permittee by the CFC, including review fees, inspection fees, and costs incurred by Caltrans associated with preliminary and operational meetings, special traffic analysis, identifying sites, and actual on-site operations.

J. The estimated cost becomes the final cost unless inspection time cost is changed during filming. No separate billing will be made if no changes occur.

K. Caltrans will endeavor to check and verify the information, as to the date, time, and activity, on the Caltrans Encroachment Permit to ensure accuracy prior to forwarding to the CFC.

L. During filming, Caltrans’ inspector will enforce the provisions set out in the Caltrans Encroachment Permit for FL, FS, and FF Permits pursuant to the Permit Guidelines set forth in this MOA. Caltrans, at its sole discretion, may still inspect the filming operations for FL and FO Permits for quality control and training purposes; however, the Permittee is not charged for this effort.

M. The Caltrans Encroachment Permit may be modified or revoked immediately by Caltrans upon any violations of permit requirements or conditions or for operational needs or emergency situations.

VII. CFC RESPONSIBILITIES

A. On an ongoing basis, the CFC will act as the first point of contact and continuing point of contact for film industry representatives applying for a Film Permit.

B. On an ongoing basis, the CFC will inform filming industry representatives of Film Permit and Caltrans Encroachment Permit procedures and any changes to those procedures.

C. The CFC will inform filming industry representatives that no filming on State highways can take place prior to the issuance of a Film Permit and a Caltrans Encroachment Permit.

D. The CFC will inform the Permittee that the Caltrans Encroachment Permit may be modified or revoked immediately by Caltrans upon any violation of permit requirements or conditions or for operational needs or emergency situations arising on State highways.

E. The CFC will inform the Permittee that the CHP may also modify or stop a permitted presence, work, or activities to ensure highway safety or efficient traffic flow.

F. On an ongoing basis, the CFC will inform filming industry representatives of the Permit Guidelines for filming on Conventional Highways, Access Controlled Highways, and Nonhighway Caltrans Facilities set forth in this MOA.
G. On an ongoing basis, the CFC will inform applicants of the lead time required to process a Caltrans Encroachment Permit, which is as follows:

1. For a Routine Permit, applications shall be received by the CFC at least four (4) Business Days in advance of the activity.

2. For a Noncomplex Permit, applications shall be received by the CFC at least ten (10) Business Days in advance of the activity.

3. For a Complex Permit, applications shall be received by the CFC at least fifteen (15) Business Days in advance of the activity. A coordination meeting may be required in advance of the activity.

H. Immediately upon receipt of a CFC Permit Application, the CFC will create a Permit Application Package.

I. The CFC will submit a Permit Application Package to the Caltrans statewide film coordinator and to the FMRO for review and approval or denial.

J. Prior to issuing the Film Permit, the CFC shall collect all fees shown on the Caltrans calculation sheets submitted by Caltrans. The CFC shall deposit the fees in the Film Transfer Account, which was created in accordance with Government Code section 14998.8. The CFC shall disburse the fees to Caltrans to reimburse Caltrans for the actual costs associated with the issuance and inspection of Caltrans Encroachment Permits.

K. Prior to issuing the Film Permit, the CFC will ensure that there are no conflicts between the Caltrans Encroachment Permit and the Film Permit documents and that both documents are complete.

L. The CFC will issue the Film Permit and the Caltrans Encroachment Permit to the responsible film company representative and provide a copy to the CHP with a confirming copy to Caltrans.

M. The CFC is responsible for informing the Permittee that it is required to have the two permits in its possession at all times.

N. For purposes of Notification of Closures, the CFC will inform the Permittee that it is the responsibility of the Permittee to notify the local print/broadcast media and all affected entities about the local detour information. Affected entities may include the local permitting agency, local film commissions or offices, local law enforcement, transit agencies, fire departments, and/or other interested persons. The Permittee shall show evidence of Notification of Closures to the CFC or Caltrans at least seven (7) calendar days in advance of a permitted closure.

The District PIO where film activity is occurring will broadcast a separate press release for closure information pertaining to the State right-of-way.
O. The CFC will inform the Permittee that no activity that will cause damage to State property shall be allowed. Use of pyrotechnics shall have approval from the State Fire Marshal and the local fire department having jurisdiction over the filming site. This clearance shall be indicated on the CFC Permit Application and/or the Caltrans Encroachment Permit. A licensed “Pyrotechnic Operator–Special Effects” shall be on location and in charge of all use, storage, and handling of special effect items.

P. The CFC will inform the Permittee that traffic control shall only be placed/ performed by the CHP, Caltrans, or a California licensed Traffic Control Contractor.

VIII. SPECIAL PROVISIONS APPLICABLE TO ALL PARTIES

A. All routine contacts between the CHP, Caltrans, and the CFC with regard to permit matters covered by this MOA shall be directed through the FMRO, the Caltrans statewide film coordinator, and the CFC permit coordinator respectively.

B. Even though this MOA addresses the issuance and inspection of specific Film Permits for filming or videotaping on State highways, freeways, and Nonhighway Caltrans Facilities, the duties and responsibilities of the signatory parties to this MOA are limited to the duties listed under the section listing their respective responsibilities. Each of these agencies is not responsible or liable for the acts or duties of the other signatory agencies. Each of the agencies shall indemnify and hold harmless the other agencies in accordance with the indemnity provisions of this MOA.

C. The CHP, Caltrans, and the CFC will respond to all public complaints regarding filming on State highways within a timely manner upon soliciting input from the other agencies.

D. The CHP, Caltrans, and the CFC shall independently train all of their employees involved in the Film Permit process in the operation of this MOA.

E. The CHP, Caltrans, and the CFC shall hold meetings, as needed, involving the FMRO; the Caltrans statewide film coordinator, and the CFC Deputy Director or designee to review current procedures and areas of concern. Upon the mutual agreement of the parties, individual meetings may be canceled.

F. The CHP, Caltrans, and the CFC will check and verify that all film activities comply with all of the provisions set forth in this MOA in Section IX, “Permit Guidelines for Filming on Conventional Highways,” Section X, “Permit Guidelines for Filming on Freeway and Access Controlled Highways,” and Section XI, “Permit Guidelines for Filming on Nonhighway Caltrans Facilities.” The guidelines set out in Sections IX, X, and XI do not preclude the development of additional guidelines or criteria by local CHP commands and local Caltrans districts addressing safety, public convenience, highway operation, or other issues specific to their areas. All parties will be provided with copies of any such guidelines or criteria, and the parties can meet to discuss related issues as needed.

G. The CHP, Caltrans, and the CFC will work with the Permittee to identify public agencies and private parties that need to be notified by the Permittee of FL or FS Permits and other filming operations.
IX. PERMIT GUIDELINES FOR FILMING ON CONVENTIONAL HIGHWAYS

A. A Caltrans Encroachment Permit is required whenever filming activities are being conducted on a Conventional Highway, including posting of temporary “No Parking” signs; parking of equipment, trucks, trailers, and vehicles with steps or ramps; stringing cables on sidewalk shots; and driving scenes.

B. The CFC shall inform the Permittee that it is required to have its Film Permit and the Caltrans Encroachment Permit, when applicable, in its possession at all times while on Caltrans’ rights-of-way. Noncompliance shall be cause for termination of activity. The CHP and/or Caltrans shall report all noncompliance to the CFC.

C. The Permittee shall supply properly functioning communication equipment in sufficient quantity to appropriate personnel involved in the filming operation and to the CHP and Caltrans on-site personnel.

D. The Permittee shall not direct lights or other illuminating devices toward traffic.

E. Stationary cameras shall be positioned on the sidewalk or ten (10) feet from the edge of the adjacent lane. Filming equipment and personnel are normally prohibited in median areas.

F. On State Conventional Highways, placement of “Temporary No Parking” signs requires proof of written authorization by the incorporated city or by the county in unincorporated areas, as appropriate. The Permittee’s equipment such as buses, trucks, cars, and catering service equipment shall be parked off the traveled way, or in a manner approved by Caltrans, so that equipment and employees do not interfere with the free flow of pedestrian or vehicular traffic.

G. Filming involving only Driving Shots Within a Vehicle and Drive-bys, which conform to the Vehicle Code and are approved in advance by the CHP, may not require a Caltrans Encroachment Permit.

1. A Caltrans Encroachment Permit for Drive-bys is necessary only when the recording devices and other film equipment are outside of those moving vehicles and on a Caltrans easement or highway right-of-way. If not on Caltrans property, then a permit from the authority having jurisdiction or private landowner is necessary. Drive-bys may or may not necessitate CHP escort.

2. Filming involving Driving Shots Within a Vehicle may or may not necessitate CHP escort.

H. Filming involving Car-to-Car activities shall always involve a CHP escort and a Caltrans Encroachment Permit.

I. Prior approval by Caltrans of the filming operation and location is necessary.
J. Routine filming activities in which traffic control is performed by the CHP without a requirement for Caltrans to monitor the filming are classified as FI or FO Permits by Caltrans. After Caltrans issues an FI or FO Permit, the Permittee will coordinate its activities with the FMRO, and no additional Caltrans contact is necessary unless specifically required in the Caltrans Encroachment Permit. Caltrans, at its sole discretion, may still monitor the filming operations for quality control and training purposes; however, the Permittee will not be charged for this effort.

K. More complex filming activities and those involving stunts, staged accidents, pyrotechnics, wet downs, or aircraft flying below 500 feet in altitude are classified as FL or FS Permits by Caltrans, and monitoring for these activities is provided by Caltrans. After initial on-site inspection, and by mutual agreement, Caltrans may defer to the CHP to monitor the remaining activities without further Caltrans involvement. Such authorization will be stated on the FL or FS Permit. Filming with only ITC for involved aircraft does not usually require Caltrans monitoring.

L. Upon a request by Caltrans, or upon the CFC’s determination of need, the CFC will be responsible for scheduling a preliminary meeting before issuance of a Caltrans Encroachment Permit and Film Permit when proposed filming activities require a Road Closure, stunts, or special effects. The CHP, Caltrans, the CFC, responsible film company representatives, and, when appropriate, other local authorities and law enforcement agencies shall attend this meeting to ensure that all plans are finalized and that all participants are aware of their individual responsibilities prior to the commencement of filming.

M. Upon a request by Caltrans, or upon the CFC’s determination of need, the CFC will be responsible for scheduling an operational meeting immediately prior to complex FL or FS Permit filming operations. The CHP, Caltrans, the CFC, responsible film company representatives, and, when appropriate, other local authorities and law enforcement agencies shall attend this meeting to ensure that all plans are finalized and that all participants are aware of their individual responsibilities prior to the commencement of filming.

N. Hours of high volume or peak traffic flow shall be excluded from filming.

O. ITC, normally not to exceed five (5) minutes, if approved, shall be provided by the CHP.

P. Operational need or emergency situations may require that the roadway be reopened immediately. This decision shall be made by the CHP or Caltrans. If the roadway is reopened under these conditions, the CFC shall be notified as soon as possible. The notification shall be made by the CHP or Caltrans representative who made the decision. When both the CHP and Caltrans are present, the decision shall be made jointly. The CFC will notify the responsible film company representatives.

Q. Filming of activities on Conventional Highway rights-of-way from aircraft flying below 500 feet in altitude over the highway must be in compliance with Federal Aviation Administration (FAA) regulations and will not be permitted if public safety is jeopardized.
R. Wet downs of the roadway will not be permitted unless authorized within the Caltrans Encroachment Permit.

S. On Conventional Highways, the following guidelines apply to Road Closures, whether lane or full closures, unless specifically waived within the Caltrans Encroachment Permit. Special Provisions:

1. Film sites identified for a complete closure shall be selected where cross streets are at a minimum and where adequate detours are available. A complete closure is defined as a full two-directional closure of an undivided roadway or a full one-directional closure of a divided roadway separated by a raised median.

2. Where detours or reduced access is proposed, a comprehensive Traffic Management Plan shall be prepared and submitted by the film company for review and approval by the CHP, Caltrans, and the affected local agencies before the Permit Application Package is considered complete.

3. Entities affected by a proposed detour or reduced access through their jurisdiction shall pre-approve the proposed detour through their jurisdiction prior to submittal to Caltrans. The final detour approval shall be attached to the Caltrans Encroachment Permit.

4. The proposed ingress and egress of all filming company personnel to the closed portion of the highway shall be preapproved by both the CHP and Caltrans. Only vehicles essential for the immediate filming operation will be allowed within full Road Closures.

5. Notification of Closures shall be done at least seven (7) calendar days in advance of any closure.

6. Advance notification signs for all highway closures shall be in place seven (7) calendar days in advance of the activity.

7. Film sites identified for single-lane or multiple-lanes closure (one direction) shall be allowed only with the CHP controlling the left turn and cross street traffic, unless waived within the Caltrans Encroachment Permit. Adequate detours as required by the CHP, Caltrans, and affected local agencies shall be available.

8. Advanced warning and detour signing is required where determined necessary by the CHP or Caltrans.
X. PERMIT GUIDELINES FOR FILMING ON ACCESS CONTROLLED HIGHWAYS

A. A Caltrans Encroachment Permit for filming is required for filming activities on State freeways and Access Controlled Highways.

B. The CFC shall inform the Permittee that it is required to have its Film Permit and the Caltrans Encroachment Permit, when applicable, in its possession at all times while on Caltrans’ rights-of-way. Noncompliance shall be cause for termination of activity. The CHP and/or Caltrans shall report all noncompliance to the CFC.

C. The Permittee shall supply properly functioning communication equipment in sufficient quantity to appropriate personnel involved in the filming operation and to the CHP and Caltrans on-site personnel.

D. The Permittee shall not direct lights or other illuminating devices toward traffic.

E. Filming involving only Driving Shots Within a Vehicle and Drive-bys, which conform to the Vehicle Code and are approved in advance by the CHP, may not require a Caltrans Encroachment Permit.

   1. A Caltrans Encroachment Permit for Drive-bys is necessary only when the recording devices and other film equipment are outside of those moving vehicles and on a Caltrans easement or highway right of way. If not on Caltrans property, then a permit from the authority having jurisdiction or private landowner is necessary. Drive-bys may or may not necessitate CHP escort.

   2. Filming involving Driving Shots Within a Vehicle may or may not necessitate CHP escort.

F. Only in unusual cases will Caltrans inspect routine filming activities with only Rolling Traffic Breaks performed by the CHP. After Caltrans has completed its review and a Film Permit and the Caltrans Encroachment Permit are issued, the Permittee will coordinate its activities with the FMRO, and no additional Caltrans contact is necessary unless specifically required by the permit.

G. More complex filming activities and those involving aircraft flying below 500 feet in altitude over State highway rights-of-way are monitored by Caltrans. After initial on-site inspection, and by mutual agreement with the CHP representative, the Caltrans representative may defer to the CHP to monitor the remaining activities without further Caltrans involvement.

H. Upon a request from the CHP, Caltrans, or the CFC, the CFC will be responsible for scheduling a preliminary meeting before issuance of a Caltrans Encroachment Permit and Film Permit when proposed filming activity will take place on a State freeway. The CHP, Caltrans, the CFC, responsible film company representatives, and, when appropriate, other local authorities and law enforcement agencies shall attend this meeting to determine freeway location feasibility, the number of personnel required, traffic control needs, timing of filming, and other required provisions. For Complex Permits, this meeting shall be held at least fifteen (15) Business Days in advance of the activity.
I. Upon a request from the CHP, Caltrans, or the CFC, the CFC will be responsible for scheduling an operational meeting immediately prior to a freeway closure. The CHP, Caltrans, the CFC, responsible film company representatives, and, when appropriate, other local authorities and law enforcement agencies shall attend this meeting to ensure that all plans are finalized and that all participants are aware of their individual responsibilities prior to the commencement of filming.

J. Hours of high volume or peak traffic flow shall be excluded from filming.

K. All approved Road Closures shall be done only by a California-licensed Traffic Control Contractor using State specifications and standards. Rolling Traffic Break control shall be provided by the CHP. Stunts, temporary modification of traffic regulatory devices, pyrotechnics, and wet downs are only authorized during full Road Closures and only with specific written authorization in the Caltrans Encroachment Permit.

L. Operational need or emergency situations may require that the roadway be reopened immediately. This decision shall be made by the CHP or Caltrans. If the roadway is reopened under these conditions, the CFC shall be notified as soon as possible. The notification shall be made by the CHP or Caltrans representative who made the decision. When both CHP and Caltrans are present, the decision shall be made jointly. The CFC will notify the responsible film company representatives.

M. On full directional closures, the following guidelines apply to State freeways or Access Controlled Highways unless specifically waived in the Caltrans Encroachment Permit:

1. Whenever possible, the area identified shall be the “end” portion of a freeway, one to three miles in length.

2. A comprehensive Traffic Management Plan shall be prepared and submitted by the film company for review and approval by the CHP, Caltrans, and the affected local agencies before the Permit Application Package is considered complete.

3. Entities affected by a proposed detour or reduced access through their jurisdiction shall pre-approve the proposed detour through their jurisdiction prior to submittal to Caltrans. The final detour approval shall be attached to the Caltrans Encroachment Permit.

4. The proposed ingress and egress of all filming company personnel to the closed portion of the highway shall be preapproved by both the CHP and Caltrans.

5. The filming company’s base of operations shall be located outside the State’s operating rights-of-way. Only vehicles essential for the immediate filming operation will be allowed within full Road Closures.

6. Notification of Closures shall be done at least seven (7) calendar days in advance of any closure.
7. Caltrans requires at least ten (10) calendar days’ notice to notify the Caltrans Office of Permits, Transportation Permits Issuance Branch, of any freeway or ramp closures.

8. Advance notification signs for all highway and freeway closures shall be in place seven (7) calendar days in advance of the activity.

N. The following guidelines apply to a Rolling Traffic Break on State freeways or Access Controlled Highways unless specifically waived in the Caltrans Encroachment Permit:

1. Adequate on and offramps must be available for CHP units to create Rolling Traffic Breaks that will provide space for the filming company to enter and exit the freeway safely.

2. The highway shall have either a median barrier or a 30-foot or wider median area.

3. Advanced warning and detour signing is required when determined necessary by the CHP or Caltrans.

4. The CHP has final responsibility for traffic control and operational coordination with the filming company. Caltrans shall seek the CHP’s input prior to permit issuance relating to a Rolling Traffic Break to ensure that the CHP can provide for a safe filming operation.

O. The following guidelines apply to a full ramp closure on State freeways or Access Controlled Highways unless specifically waived in the Caltrans Encroachment Permit:

1. Ramp closures should be performed during time of low traffic volumes.

2. The Permittee shall not place equipment, lay cables, or park vehicles over State traffic signals or other forms of vehicle loop detectors.

3. Adequate alternate on- and offramps shall be available at a reasonable distance from the ramp(s) to be closed to provide access to local facilities.

4. Affected local governmental agencies shall formally concur in the ramp closure, access denial, and related traffic control, and such authorization shall be attached to the Caltrans Encroachment Permit.

5. Notification of Closures shall be done at least seven (7) calendar days in advance of any closure.

6. Caltrans requires at least ten (10) calendar days’ notice to notify the Caltrans Office of Permits, Transportation Permits Issuance Branch, of any freeway or ramp closures.

7. Advance notification signs for freeway closures shall be in place seven (7) calendar days in advance of the activity.
P. The following guidelines apply to Stationary Camera Locations on State freeways or Access Controlled Highways, unless specifically waived in the Caltrans Encroachment Permit:

1. Film company vehicles, personnel, cameras, and equipment shall remain a safe and reasonable distance, to be determined by the CHP and/or the Caltrans Inspector, from the edge of the roadway unless protected by adequate existing barriers or other means approved by Caltrans.

2. Only persons associated with the filming company are allowed at Stationary Camera Locations.

3. When appropriate, advance-warning signs shall be provided, placed, and removed by the Permittee’s private traffic control company.

4. The CHP shall control access to and from the Stationary Camera Location for individuals associated with the filming operation.

5. Vehicles being filmed shall enter the roadway at the first appropriate upstream onramp, and exit at the first appropriate downstream offramp.

6. Vehicles being filmed shall not stop or slow in the flow of traffic, in the median, or on the shoulder.

7. Stationary cameras shall be positioned on the sidewalk or at least ten (10) feet from the edge of the adjacent lane. Filming equipment and personnel are normally prohibited in median areas.

Q. The following guidelines apply to film operations on over-crossing structures of State freeways or Access Controlled Highways unless specifically waived in the Caltrans Encroachment Permit:

1. Filming activities on over-crossing structures require a filming permit.

2. Filming activities on structures with no connecting freeway ramps, and not affecting the structure or freeway traffic, are generally monitored by local authorities, while filming activities on structures with connecting ramps or affecting freeway traffic are generally monitored by the CHP and Caltrans.

3. Equipment shall not hang or project over the structure.

4. The Permittee shall not mount or strap equipment to the structure.

5. Pedestrian travel must remain unobstructed or have safe alternate facilities.

6. Traffic control on structures with connecting freeway ramps shall conform to Caltrans standards and specifications.
7. Traffic control on structures with no connection to freeway ramps may conform to local requirements and specifications.

8. The Permittee shall not place equipment, lay cables, or park vehicles over State traffic signal or other forms of vehicle loop detectors.

XI. PERMIT GUIDELINES FOR FILMING ON NONHIGHWAY CALTRANS FACILITIES

A. A Caltrans Encroachment Permit for filming is required when filming activities are conducted on Nonhighway Caltrans Facilities and shall be designated as an FF Permit.

B. The CFC shall inform the Permittee that it is required to have its Film Permit and the Caltrans Encroachment Permit, when applicable, in its possession at all times while on Caltrans’ rights-of-way. Noncompliance shall be cause for termination of activity. The CHP and/or Caltrans shall report all noncompliance to the CFC.

C. The Permittee shall supply properly functioning communication equipment in sufficient quantity to appropriate personnel involved in the filming operation and to the CHP and Caltrans on-site personnel.

D. Before filming begins, Caltrans must approve the filming operation and location. The filming operation must not disrupt or interfere with any State business.

E. Upon a request by Caltrans, or upon the CFC’s determination of need, the CFC will be responsible for scheduling a preliminary meeting before issuance of a Caltrans Encroachment Permit and Film Permit when proposed filming activities require significant stage work, stunts, special effects, or pyrotechnics. The CHP, Caltrans, the CFC, responsible film company representatives, and when appropriate, other local authorities and law enforcement agencies shall attend this meeting to ensure that all plans are finalized and that all participants are aware of their individual responsibilities prior to the commencement of filming.

F. When the filming is limited entirely within a Caltrans or other Caltrans-owned or maintained State building, the CHP will not be assigned unless requested or there is an identified need. Caltrans will be providing inspection.

G. Permits without significant stage work, stunts, and pyrotechnics may be monitored by the CHP for quality control, safety, and security, and no additional Caltrans contact is necessary unless specifically stated in the Caltrans Encroachment Permit.

H. Permits in which filming activities require significant stage work, stunts, or pyrotechnics will require inspection by the CHP and Caltrans, and the Permittee will be charged accordingly. After initial on-site inspection, and by mutual agreement, Caltrans may defer to the CHP the remaining monitoring activities without further Caltrans involvement.
EXHIBIT A

GENERAL TERMS AND CONDITIONS

1. AGREEMENT PERIOD

This MOA shall take effect on the date specified on the face sheet and shall terminate without cause only upon the issuance of a thirty (30) days written notice by any parties to the other two parties involved.

2. PAYMENT

Each party will assume all costs incurred in the performance of this MOA, except to the extent that those costs are passed on to the Film Permit holders.

The CHP and the CFC agree to provide the services covered in this MOA at no cost to Caltrans. Caltrans services are contingent upon the allocation of sufficient resources in the Annual State Budget Act and by the California Transportation Commission.

3. APPROVAL

This MOA is not valid until signed by all parties.

4. AMENDMENT

No amendment or variation of the terms of this MOA shall be valid unless made in writing, signed by the parties, and approved as required. No oral understanding or agreement not incorporated in the MOA is binding on any of the parties.

5. SUBCONTRACTING

No subcontracting is authorized by this MOA.

6. AUDIT

The parties to this MOA agree that the other parties, the Department of General Services, the Bureau of State Audits, or their designated representatives shall have the right to review and to copy any records and supporting documentation pertaining to the performance of this MOA. The parties agree to maintain such records for possible audit for a minimum of three (3) years after the termination of the MOA.
7. INDEMNIFY AND HOLD HARMLESS

A. Neither the CHP, CALTRANS nor any officer or employee thereof is responsible for any injury, damage or liability occurring by reason of anything done or omitted to be done by the CFC under or in connection with any work, authority, or jurisdiction conferred upon the CFC under this MOA. It is understood and agreed that the CFC will fully defend, indemnify and save harmless the CHP, CALTRANS and all their officers and employees from all claims, suits, or actions of every name, kind and description brought forth under, including, but not limited to, tortious, contractual, inverse condemnation or other theories or assertions of liability occurring by reason of anything done or omitted to be done by the CFC under this MOA.

B. Neither, CALTRANS, the CFC nor any officer or employee thereof is responsible for any injury, damage or liability occurring by reason of anything done or omitted to be done by the CHP, under or in connection with any work, authority, or jurisdiction conferred upon the CHP under this MOA. It is understood and agreed that the CHP will fully defend, indemnify and save harmless CALTRANS, the CFC and all their officers and employees from all claims, suits, or actions of every name, kind and description brought forth under, including, but not limited to, tortious, contractual, inverse condemnation or other theories or assertions of liability occurring by reason of anything done or omitted to be done by the CHP under this MOA.

C. Neither the CHP, the CFC nor any officer or employee thereof is responsible for any injury, damage or liability occurring by reason of anything done or omitted to be done by CALTRANS, under or in connection with any work, authority, or jurisdiction conferred upon CALTRANS under this MOA. It is understood and agreed that CALTRANS will fully defend, indemnify and save harmless the CHP, the CFC and all their officers and employees from all claims, suits, or actions of every name, kind and description brought forth under, including, but not limited to, tortious, contractual, inverse condemnation or other theories or assertions of liability occurring by reason of anything done or omitted to be done by CALTRANS under this MOA.

8. TIMELINES

Time is of the essence in this MOA.

9. DISPUTES

The parties to this MOA shall continue with the responsibilities under this MOA during any dispute. Disputes shall be resolved at the lowest level, through the normal chain of command for respective individuals involved. If a dispute arises under this MOA that cannot be resolved at the Contract Manager level, the parties will elevate the dispute to the CHP Commissioner, the Caltrans Director and the Director of the CFC. Any dispute that cannot be resolved at that level will be elevated to the Secretary of the California State Transportation Agency and the Director of the Governor's Office of Business & Economic Development for final resolution.
EXHIBIT B

SIGNATURE OF PARTIES

IN WITNESS THEREOF, the parties agree to have executed this MOA on the day, month and year noted.

California Department of Transportation

[Signature]
Malcolm Dougherty, Director

3/27/2014
Date

California Highway Patrol

[Signature]
Joe Farrow, Commissioner

[Signature]
Date

California Film Commission

[Signature]
Amy Lemisch, Director

4/8/2014
Date
Appendix C – FHWA

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FHWA

FEDERAL-AID POLICY GUIDE
23 CFR 645B

https://www.fhwa.dot.gov/legsregs/directives/fapg/cfr0645b.htm
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For all internal (Caltrans') use forms, visit the Caltrans Electronic Forms System (CEFS).
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GUIDELINES FOR TRAFFIC SIGNAL CONTROLLERS AND INSPECTION

Privately funded projects without a Cooperative Agreement - Project proponent pays costs for Department furnished controller assembly.

These costs are updated annually, if necessary, after determining the average actual cost for the Department to acquire, test, stock and ship the equipment to the local District. For additional equipment and their associated costs, please see the attached price list.

These costs should be included in the deposit prior to the issuance of the contractor's encroachment permit. In cases where there is a long lead-time before starting work, these costs may be submitted immediately prior to performing work on a signal system.

Districts should determine and charge additional fees covering the actual cost to deliver, install, inspect, and turn on traffic signal controllers.

Projects involving Cooperative Agreements - Project proponent pays costs for Department furnished controller assembly

The traffic signal controllers, and all other actual costs incurred by Caltrans, are charged against the appropriate Cooperative Agreement Expenditure Authorization. When there is Department participation in the project, the Department's share of the actual costs of the project will be reduced by the actual cost of the controllers, which include controller fee, testing costs and any other mandatory charges.

Procedures to order controller assemblies from the Department’s warehouse

To allow time for delivery to the District, controller assemblies shall be ordered from the Sacramento warehouse a minimum of 10 working days before a permittee plans to pick up an assembly in the district (controller not included). Caltrans Maintenance or Traffic staff will deliver actual controllers and auxiliary equipment to job sites at the time of a scheduled signal turn on.

Charges for Encroachment Permit projects

As each controller assembly is ordered, the districts shall instruct the Caltrans warehouse in Sacramento to charge the equipment to the Encroachment Permit Expenditure Authorization (EA) 937700, using Subjob 3EPIC and Object Code 118. A Special Designation (SD) of 7CONTROL must also be used if the permittee has paid a fee for the equipment.

Charges for Cooperative Agreement projects

For Cooperative Agreement projects, the district should instruct the warehouse to charge the equipment to the appropriate Cooperative Agreement EA, with any applicable SD identified for the project (do not use an Encroachment Permit EA or SD on these Cooperative Agreement Project
## FEES FOR TRAFFIC SIGNAL CONTROLLERS AND INSPECTION

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Electrical Price List

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ElectricalPriceListUpdated_03_29_2017.xlsx 3/29/2017
Deputy Directive

Number: DD-23-R2

Refer to Director's Policy:
- DP-03, Safety and Health
- DP-06, Caltrans’ Partnerships
- DP-07, Project Delivery
- DP-08, Transportation System Management and Operations (TSMO)
- DP-10, Departmental Commitments
- DP-14, Quality in Caltrans
- DP-33, Sustainability

Effective Date: 12/04/2018


Responsible Program: Project Delivery, Division of Design

TITLE Roles and Responsibilities for Development of Projects on the State Highway System

POLICY

The California Department of Transportation (Caltrans), as owner/operator of the State Highway System (SHS), has the statutory (Government Code section 14000(c)) and inherent goal to ensure that all modifications or additions to the SHS are:

- Safe, operational, maintainable, environmentally compatible, and of good value.
- Efficient in providing multimodal movement of people and goods.
- In the best interest of the general public.
- Developed and constructed in compliance with laws and regulations that govern the use of state and federal transportation funds.
- Developed and constructed in partnership with vested stakeholders.

Caltrans meets this goal by:

- Applying quality management practices.
- Engaging in early and continuous partnerships and ensuring accountability amongst project sponsors, implementing agencies, stakeholders, Caltrans functional units, local, regional, and transit agencies, tribal governments, developers and consulting firms employed by Caltrans or its partners.
- Ensuring that all projects on or proposed for the SHS are planned, developed, and constructed efficiently and effectively resulting in a quality project in accordance with Caltrans standards and practices.

“Provide a safe, sustainable, integrated and efficient transportation system to enhance California’s economy and livability.”
• Ensure one implementing agency undertakes the project’s advertising, awarding, and administration of a construction contract.
• Maintaining ultimate approval authority for all projects on the SHS.
• Keeping the public informed through appropriate outreach.

**DEFINITION/BACKGROUND**

The roles and responsibilities in planning, designing, and constructing transportation projects on the SHS continue to increase in complexity due to the influx of various transportation funding sources, the ability to use alternative project delivery methods, regional transportation planning agencies’ active roles in selecting and programming transportation projects, and these agencies’ ability to contract with private architectural and engineering firms to deliver those projects. Caltrans as steward of the SHS strives to ensure the appropriate accountability and professional liability remain with project sponsors, implementing agencies, and product suppliers. Caltrans seeks to ensure the integrity of the SHS by defining the various roles and responsibilities of all parties involved, and by ensuring the quality of transportation projects. The definitions provided below are recognition of the parties’ interests related to transportation project development.

**Owner/Operator** is the entity ultimately responsible for the planning, design, construction, operation, maintenance, and liability of a facility. Government Code section 14520.3 (b) and Streets and Highways Code section 90 establishes Caltrans as the owner/operator of the SHS.

**Project** is the undertaking by a project sponsor of a transportation related construction, erection, alteration, repair, or improvement to the SHS, including all work necessary to fulfill the owner/operator’s requirements and commitments while satisfying all state and federal laws and regulations. (Public Contract Code section 10105).

**Project Sponsor** is the project advocate that acquires funding partners to ensure adequate project funding.

**Project Components** are prescribed in Government Code section 14529(b) and describe the resources during the life of a project in the State Transportation Improvement Program. Components are synonymous to phases which are used to indicate the progression of a project in the project development process.

**Implementing Agency** is an entity charged with successful completion of a project component, and assumes project management responsibilities for the component. There is only one implementing agency per component.

“Provide a safe, sustainable, integrated and efficient transportation system to enhance California’s economy and livability”
Supplier is the entity that provides a service or product to the implementing agency.

Delegation is the process of transferring powers, duties, obligations, or actions from one person/entity to another.

Quality Project is the result in the fulfillment of project responsibilities in the delivery of products and services that considers stakeholders’ interests and fulfills Caltrans’ requirements and outcomes.

Quality Control (QC) is the methods, means, or procedures used by a supplier to monitor and assess products or services to ensure that the final product will fulfill the established quality requirements.

Quality Assurance (QA) is the performance of all the planned and systematic activities that provide confidence that the product requirements will be fulfilled.

Quality Management Plan (QMP) is a document prepared by the implementing agency that describes by who, what, when, and how QC and QA activities will be performed for each project component as specified in the quality assurance program.

Quality Assurance Program (QAP) is the implementing agency’s promulgated quality related policies, procedures, and guidelines necessary to ensure the work performed for each project component results in a quality project.

Quality Management Assessment (QMA) is the performance of all planned systematic activities by the owner/operator that verifies the implementing agency’s QAP effectiveness and precedes the owner/operator approval.

Quality Management Practices are all the implementing agency’s systematic activities used to direct, control, and coordinate the development of a quality project. These activities include the QAP and QMP implementation, the performances of QC and QA activities, and quality improvements originating from QMA, QC, or QA.

Owner/Operator Approval is a non-delegable project related decision which can only be performed by the owner/operator.

Stakeholder Approval is a project related decision which can only be performed by an external individual or organization whose duties are established by law (e.g. National Environmental Policy Act (NEPA) permitting agencies, California Environmental Quality Act (CEQA) permitting agencies, railroads, or the California Transportation Commission (CTC)).
California Environmental Quality Act Lead Agency (CEQA) (Public Resources Code section 21067) is the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect on the environment.

National Environmental Policy Act Lead Agency is the public agency which ensures federal compliance and approvals for a project.

CEQA Responsible Agency (Public Resource Code section 21069) is the public agency, other than the lead agency, that has discretionary authority over a project.

RESPONSIBILITIES

**Owner/Operator:**
- Performs QMA for all projects to ensure a quality project on the SHS.
- Provides owner/operator approval as needed.
- Provides written approval on risks the project sponsor is unable to mitigate or avoid.
- Fulfills the FHWA Stewardship and Oversight Agreement responsibilities.
- Fulfills NEPA lead agency role and responsibilities when assigned by FHWA.
- Fulfills CEQA lead agency role and responsibilities.
- Performs CEQA responsible agency responsibilities, when not a CEQA lead agency.

**Project Sponsor:**
- Secures funding for the preparation and completion of all the project components including quality management practices.
- Identifies and seeks approval for the transportation need and purpose that conforms to Caltrans Strategic Management Plan.
- Evaluates and compares project outcomes to the established project goals.
- Chooses an implementing agency for each project component.
- Mitigates project risks and does not create undue risk for the owner/operator unless necessary approvals are obtained using proper procedures.
- Ensures the project management plan is implemented, including, but not limited to, the QMP and risk management plan.

**CEQA Lead Agency:**
- Determines the appropriate type of environmental documentation.
- Exercises its independent judgment and analysis for the adequacy and objectivity of the CEQA environmental document.
- Reviews and approves the need and purpose for the project as it relates to the environmental documentation.
• Reviews and approves a reasonable range of alternatives in relation to the environmental documentation.
• Reviews, comments, approves, and certifies the environmental documentation at appropriate stages of project development as prescribed in the Caltrans Standard Environmental Reference (SER).

NEPA Lead Agency:
Performed by the US Department of Transportation, Federal Highway Administration (FHWA) unless assigned to Caltrans.
• Reviews, comments, and approves the NEPA environmental documentation at appropriate stages of project development.
• Reviews and approves the need and purpose for the project as it relates to the environmental document.
• Ensures a reasonable range of alternatives are considered in relation to the environmental document.
• Reviews, comments, approves, and reevaluates environmental documentation at each project component.
• Ensures the project sponsor complies with the project’s environmental mitigation and other environmental commitments disclosed in the environmental document.

CEQA Responsible Agency:
• Ensures its concerns are met by providing early consultation to the CEQA lead agency.
• Participates in the CEQA process.
• Prepares and issues its own findings.
• Certifies its review and consideration of the CEQA lead agency’s CEQA document.
• Acts on or approves the project.

Implementing Agency:
• Chooses the supplier for each project component.
• Establishes and implements QAP and generates a QMP for each component.
• Delivers quality project components on time, and within budget.
• Verifies and accepts work performed by the supplier provided appropriate documentation is obtained to allow for verification and acceptance.
• Advertises, awards, and administers the construction contract.
• Ensures that all project component closeout activities are completed in a timely manner, including, but not limited to, survey control and right of way monumentation, as-built plans, environmental commitments compliance, and right-of-way.
Deputy Director, Project Delivery:
- Ensures establishment and implementation of Caltrans policies, standards, procedures, and best practices for each project component affecting project development.
- Ensures establishment of the QAP for each project component affecting Project Delivery that includes QC, QA, QMA, and owner/operator approval activities.
- Ensures allocation of capital outlay support (COS) resources for the timely delivery of quality products and services.

Deputy Director, Maintenance and Operations:
- Ensures establishment and implementation of Caltrans policies, procedures, and best practices for maintenance and operations of SHS.
- Ensures allocation of maintenance and operations support resources for the timely delivery of products and services related to project development.
- Ensures establishment and implementation of Caltrans policies, procedures, and best practices for issuance of encroachment permits.
- Ensures allocation of maintenance and operations support resources for the timely delivery of products and services including CEQA lead agency or responsible agency.

Deputy Director, Planning and Modal Programs:
- Ensures establishment and implementation of Caltrans policies, procedures, and best practices for Transportation Planning of the SHS.
- Ensures that implementation of projects on or proposed for the SHS are consistent with all Caltrans transportation planning documents.
- Provides resources for the development of project initiation documents in the project initiation phase.
- Establishes and ensures the QAP for the project initiation phase includes QC, QA, QMA, and owner/operator approval activities.
- Ensures allocation of Transportation Planning support resources for the timely delivery of products and services including CEQA lead agency or responsible agency.

Division Chiefs:
For each Division’s respective area of responsibility pertaining to the efficient and timely delivery of quality projects and services:
- Develop and implement standards, procedures, and best practices that are aligned with Caltrans’ Strategic Management Plan.
- Develop and implement guidance, tools, and training to ensure successful delivery of quality projects.
- Develop a QAP pertaining to their product and services for which Caltrans is the implementing agency and responsible agency.

“Provide a safe, sustainable, integrated and efficient transportation system to enhance California’s economy and livability”
• Provide statewide direction, policies and standards for activities required to ensure compliance with Caltrans policies, standards, and best practices.
• Measure and monitor critical program and project deliverables and outcomes by districts and regions in alignment with Caltrans’ Strategic Management Plan.
• Act as the approval authority for owner/operator approvals for those decisions delegated.
• Provide guidance, policies, tools, and training for QMA activities.
• Perform audit, surveillance, or process reviews for ensuring the consistent and effective application of Caltrans standards, procedures, best practices, and quality management activities.
• Implement a system of continuous quality improvement using information learned from measuring and monitoring deliverables and from process reviews.

District Directors:
• Assess the feasibility of the project sponsor’s ability to obtain funding for the proposed project component(s) before Caltrans begins work.
• Act as the Caltrans authority for any owner/operator approval for those decisions delegated.
• Concur on the project’s need and purpose relative to its public benefit and impacts to the SHS.
• Appoint a primary point of contact for each project.
• Determine and provide those activities that ensure a quality project on the SHS, including, but not limited to:
  o Implementation of the QAP for each project component for which Caltrans is the implementing agency.
  o Implementation of QMA for all project components.
• Ensure project decisions are made considering information gathered through public outreach and involvement of stakeholders.
• Enter into cooperative or highway improvement agreements as appropriate with project sponsor(s) prior to expenditure of COS resources.
• Inform stakeholders of the policies, standards, procedures, and best practices required by Caltrans and FHWA.
• Deliver on commitments made to partners and customers, based on statutory authority and available resources, and ensure the timely delivery of quality products and services for which Caltrans is the implementing agency.
• Ensure that Caltrans functional units are properly resourced to deliver quality products and services in a timely manner.
• Determine the appropriate agency to be the lead under CEQA.
• Approve and certify the CEQA environmental document if Caltrans is the CEQA lead agency or approve the project if Caltrans is the responsible agency.
• Review and approve the project report or equivalent after consideration of the CEQA.
• If assigned, approve the NEPA environmental documentation.
• Ensures all proposed projects are evaluated and prioritized for funding.

Public Information Officers:
Communicate to the public specific actions that will be taken to restore or minimize effects of all construction, maintenance, permitting, planned emergency restoration, or other activities on the SHS.

District Deputies, Office Chiefs, and Branch Chiefs:
• Provide QA for the products, and services within their functional area.
• Empower employees with the tools, resources, time, and training to deliver the products and services for which Caltrans is the implementing agency.
• Participate in the development of work plans and quality management activities defining project scope, cost, schedule, resource, and quality requirements.
• Prioritize commitments to ensure the successful delivery of both Caltrans’ and external project sponsors’ projects.
• Ensure that work does not begin without appropriate written authorization.
• Notify their District Director and/or Deputy District Directors, via established reporting relationship, of any changes, problems, or risks that could affect the scope, cost, schedule, and overall quality of projects on the SHS, or owner/operator approval.
• Apply the QAP, and develop the QMP if Caltrans is the implementing agency.
• Perform QMA, if assigned this responsibility.
• Assess and manage risk affecting the owner/operator responsibilities.

Project Managers:
• Lead the project development team on issues and risks related to quality management, scope management, schedule management, or cost management issues for each project component utilizing appropriate documentation.
• Facilitate resolutions and seek approvals for project related issues and risks affecting the quality, scope, schedule or cost.
• Ensure funding requirements are met.

Task Managers or Employees:
• Participate in the deployment of the QAP by performing quality control or quality assurance, if assigned, on work or services.
• Provide quality and timely products and services by using appropriate tools, resources, time, documentation, and training.
• Assess risk of issues affecting the owner/operator responsibilities and communicate those in a collaborative fashion to the implementing agency and stakeholders.
• Communicate to their supervisors, project managers, and impacted functional units any changes, problems, or risks by using proper and approved methods of documentation for the project.

APPLICABILITY

All employees involved with the delivery of modifications or additions to the SHS.

[Signature]
RYAN CHAMBERLAIN
Chief Deputy Director

12/4/18
Date Signed

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"
CONSTRUCTION NOTES:

A MINIMUM OF 18' SHALL BE MAINTAINED OVER AND ACROSS HIGHWAY OR FREEWAY LANES.

NETTING SHALL BE MAINTAINED OVER AND ACROSS LANES UNTIL AERIAL FACILITIES ARE PROPERLY SECURED IN PLACE.

H - SUPPORTS SHALL BE INSTALLED OUTSIDE OF STATE R/W, UNLESS PERMITTED BY THE STATE’S REPRESENTATIVE.

CHP BREAKS SHALL NOT EXCEED 5 MINUTES FOR THE PLACEMENT OF NETTING.

PLACEMENT OF AERIAL LINES: Installation or removal of overhead conductors crossing a freeway require traffic control by the California Highway Patrol (CHP) and usually occur on weekend mornings. The CHP can perform a rolling break in traffic on most highways to allow up to a five-minute clearing. These breaks are adequate for simple cable installation. Utility personnel carry the conductors across the freeway lanes and hoist them into place on the opposite side of the freeway.

On larger conductor crossings such as transmission lines, 1" or greater in diameter, 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 K-rail and sand barrel crash cushions. After rope nets are strung during CHP traffic breaks other work is then allowed to proceed. Placement of the aerial line may be by helicopter.
Road Box, H-20 loading when required to be installed within the pavement area.

PVC threaded cap to be removed by hand.

Small chain attached to rebar with hose clamp to restrict maximum movement on chain to allow for 3" of settlement on rod. Slot top of PVC to hold chain.

BETONITE SEAL

6" DIAMETER BOREHOLE FILLED WITH SAND

2 - 1/2" DIAMETER PVC CASING

3/4" REBAR driven 6" to 12" past the bottom of the borehole (SOLIDLY ANCHORED)

NOTE:

It shall be installed over the centerline of the installation, within the median, shoulder area, or within the pavement as directed by the State's Representative.

ABANDONMENT PROCEDURES

1. Remove PVC cap, rebar, and restriction chain.

2. Fill borehole with sand to 24" below bottom of Road Box when within the median or shoulder areas.

3. Fill remainder of borehole with Bentonite seal mixture.

4. Remove Road Box and back fill with an approved backfill.
LEGEND:

- Octagon Data Points required when the diameter is < 8".
- Octagon & Triangle Data Points required when the diameter is > 8".
- Settlement Rod may be required when the diameter is > 5'. (Settlement Rod Detail is located in Appendix E of the Encroachment Permits Manual)

EP Edge of Pavement

ETW Edge of Travel Way (Fog line, Yellow Stripe, etc.)

S Offset Distance away from the pipe alignment, as follows:
- 3' for casing pipe diameters < 30"
- 5' for casing pipe diameters 30" - 72"
- 10' for casing pipe diameters 72" - 108"
- 15' for casing pipe diameters > 108"

NOTES:

Survey data is to be collected at the specific points along the casing alignment at the following times:

1. Prior to Start of Work.
2. Every two (2) hours continuously throughout the project.
3. Upon completion of the project.
4. Every two (2) months, during a six month period after the date of completion, and or As Required by the Department.
TYPICAL TRENCH DETAIL

Existing Pavement

( Existing HMA Pavement )

Existing Base

Existing Subgrade

New Pavement

( New HMA Pavement )

match existing + 1” - ( MAX 7” )

New Pavement Base

New Subgrade

UW - Width of Utility or Culvert

HMA - Hot Mix Asphalt

CLR - Clearance between product and trench wall

TW - Trench Width

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
ENCROachment PERMIT TRENCH DETAIL
TR-0153 (REV. 09/2006)

Structure Backfill shall conform to Section 19 - 3.06 of the Standard Specifications

Slurry Cement Backfill shall conform to Section 19 - 3.062 of the Standard Specifications

HMA shall conform to Section 39 of the Standard Specifications

All methods of compaction shall be by mechanical means. Ponding, jetting or flooding shall not be allowed.

Aggregate base shall conform to Section 26 of the Standard Specifications

When CLSM is utilized the mix design and test results shall be submitted to the state’s representative.

All work shall be as authorized by the approved encroachment permit plans, and/or as directed by the state’s representative.

When the UW is > 6” then the minimum CLR shall be 6”

Cold planing and re-surfacing overlay shall be parallel to the roadway and to the nearest lane line for the entire length of the trench/disturbed areas, and/or as directed by the state’s representative.

When cold planing is required, the minimum shall be 0.10’ or as directed by the state’s representative to accommodate field conditions.

Cold planing may be required at the direction of the state’s representative to accommodate the placement of steel plates.

When trench placement is within 4’ of curb & gutter, additional cold planing may be required at the discretion of the state’s representative.

Any pavement markings and/or striping removed or damaged during construction shall be replaced as directed by the state’s representative.

A tracer wire shall be placed on top of the facility, when required by the state’s representative.

Other trench related details are shown in Figure 6.1, Chapter 6 of the encroachment permits manual.

A paint binder (tack coat) of asphaltic emulsion conforming to Section 39-4.02, prime coat & paint binder (tack coat) shall be furnished and applied.

New pavement base shall consist of either Cl. II aggregate base, 2-sack slurry cement, or CLSM. When TW is < 24,” Cl. II aggregate base is not recommended for backfill.

New subgrade shall consist of either Cl. II aggregate base, 2-sack slurry cement, or CLSM. When TW is < 24,” Cl. II aggregate base is not recommended for backfill.
NEWSPAPER DISTRIBUTION GUIDELINES

SPECIAL PROVISIONS & PERMIT CONDITIONS

APPLICATION SUBMITTAL

Streets and Highway Codes Section 220.5 authorizes the placement of Newspaper Vending Machines, herein after referred to as “distribution boxes,” at Safety Roadside Rest Areas (SRRA).

- Section 220.5 (c) authorizes the Department the rights of determination in which SRRA are suitable for placement of these facilities.
- Section 220.5 (d) authorizes the Department the right to determine a suitable fee.

Newspaper distribution boxes at Safety Roadside Rest Areas (SRRA) and Vista Points are permissible when a Newspaper Entity has entered into a “Newspaper Distribution Agreement,” hereinafter referred to as “Agreement”, through the District Landscape Architect.

The District Landscape Architect is responsible for all reviews, field studies, and document preparation before sending the completed package, consisting of the Agreement, the required fee/deposit and a completed Encroachment Permit Application to the District Encroachment Permits Office for permit issuance.

The Department retains all rights in determining whether or not the placement of Newspapers and distribution boxes will be allowed within any SRRA and/or Vista Point. When the Department grants permission to allow placement of these facilities, they shall be limited to a total of four units per SRRA location. A copy of the agreement, permit and guidelines shall be provided to the requestor, and a copy forwarded to Headquarters Landscape Architecture Program.

FEE / DEPOSIT

A check in the amount of four (4) hours of the encroachment standard hourly rate shall be submitted with the package to the District Permits Office. This deposit/fee will cover processing of the application, review, issuance of the permit and inspection. All permits issued for the placement of a Newspaper within a SRRA shall be issued for a period of one year.

The permittee is responsible for all actual costs of the permitting process. When there are issues of non-conformance that could result in additional time expenditures the permittee shall be required to compensate re-imbursement of that time expended.

SPECIAL PROVISIONS & CONDITIONS

Subcontracting under this permit will not be allowed for the placement of the newspapers.

The permittee is required to provide weekly maintenance checks on their distribution facility, to ensure cleanliness of the area surrounding their facility.

Storage of newspapers on State rights-of-way will not be allowed.

A copy of the newspaper is the only item that will be allowed in the window of the door on the distribution box.

The permittee is required to notify the District Landscape Architect prior to start of any work in the States’ right-of-way, to include performing weekly inspections.
Vehicles shall be parked in the parking lot when filling or re-filling of the distribution boxes.

Any three violations of the special provisions or permit conditions within the term of the permit will result in revocation of your permitted privileges.

**INSTALLATIONS & CONDITIONS**

All new installations of distribution facilities shall be installed and maintained by the permittee under the direction of the District Landscape Architect and shall be in compliance with the following criteria:

Within each Safety Roadside Rest Area (SRRA), all distribution facilities (boxes and pedestals) shall all be of the same type, model, manufacturer and color (see Attachment #1 & #2) so that a uniform appearance is maintained as directed by the District Landscape Architect and per the attachments provided.

The distribution facilities shall be located within the SRRA as directed by the District Landscape Architect, in the planted areas wherever practicable, adjacent to walkways and electrometers to reduce the exposure to vandalism and theft.

The distribution facility should be located in an area where it will be unobtrusive and not detract from other elements of the SRRA. It will be located so that it is convenient and easily accessible to the traveling public.

The front of the distribution facility should be parallel with the edge of the walkway.

The distribution boxes are to be securely fastened to square steel pedestal mounts, which are to be set in a concrete footing located within the planted area. The top of the concrete footing is to be covered with soil, mulch or ground cover to restore the area to its previous appearance to as great an extent as possible. Distribution boxes furnished with a pedestal mount equipped with a steel flange base designed to be bolted to concrete surfaces are to be used only where directed by the District Landscape Architect.

All distribution facilities shall be free of any advertisements and shall be maintained in a clean, neat and attractive condition and in good repair at all times. Any facilities (boxes, pedestals) that are damaged, in a state of disrepair, or due to wear and tear which are no longer in a presentable condition (clean, neat and attractive) shall be replaced or repaired by the permittee within (48) hours after discovery or notification by the States’ representative to do so.

All distribution facilities which have been lost, stolen or vandalized and facilities that are no longer to be used, shall be removed, replaced or repaired by the permittee within (48) hours after discovery or notification by the District Landscape Architect to do so.

Any distribution facility that is missing, vandalized or unused and is not to be replaced shall be removed, and the site shall be returned to its original condition.

**THESE GUIDELINES ARE SUBJECT TO CHANGE AT THE DISCRETION OF THE HEADQUARTERS OFFICE OF ENCROACHMENT PERMITS. IT IS THE RESPONSIBILITY OF THE PERMITTEE TO REMAIN CURRENT WITH THE SPECIAL PROVISIONS AND PERMIT CONDITIONS OF THESE GUIDELINES.**
ATTACHMENT #1

DISTRIBUTION BOXES

FACE VIEW

BEIGE COLOR

SIDE VIEW

24 1/8"

DOUBLE BOX DIAGRAM

TOP VIEW

Of

BASE TRAY
The distribution boxes are to be securely fastened to square steel pedestal mounts, which are to be set in a concrete footing located within the planted area. The top of the concrete footing is to be covered with soil, mulch or ground cover to restore the area to its previous appearance to as great an extent as possible. Distribution boxes furnished with a pedestal mount and equipped with a steel flange base that are designed to be bolted to concrete surfaces are to be used only where directed by the Department.
DEPARTMENT OF TRANSPORTATION

AND

CALIFORNIA HIGHWAY PATROL

Joint Operational Policy Statements

PLANNED LANE CLOSURES

GENERAL

The California Department of Transportation (Caltrans) and the California Highway Patrol (CHP) share responsibility for operating the state highway system safely and efficiently. Because of the shared responsibilities, planned lane closures impact both Caltrans and CHP. Minimizing motorist delay while maintaining the quality of work and public and worker safety are key goals during planned lane closures.

PLANNED LANE CLOSURE POLICY

Transportation Management Plans (TMPs), including contingency plans, are required for all construction, maintenance, encroachment permit, planned emergency restoration, or other planned activities. TMPs define the actions necessary to ensure a safe workzone that minimizes impacts to motorists. Caltrans District offices will seek input from local CHP personnel for the development of significant TMPs.

When planned lane closures are necessary, some of the techniques or considerations when developing a TMP may include:

1. Consideration of lane closure hour restriction.
2. Use of Construction/Maintenance Zone Enhanced Enforcement Program (COZE Epid / MAZE Epid).
3. Use of Freeway Service Patrol for workzone.
4. Consideration of predictable heavy congestion, such as commute hours and holidays.
5. Detour routes.
6. Reduced lane widths.
7. Consideration of impact on adjacent roads.

Decisions on how to handle public safety situations should be made collaboratively between Caltrans and CHP at pre-job meetings and/or when they
occur. More information on termination of lane closures is contained under Joint Responsibilities.

A. JOINT RESPONSIBILITIES

1. Lane Closure Review Committees. When a planned lane closure-related traffic delay is expected to exceed 30 minutes, a Caltrans District Lane Closure Review Committee (DLCRC) review and approval is required. The DLCRC will include a local designated CHP representative. The DLCRC decides when to submit lane closure requests that are of an interregional, statewide, environmental, or otherwise of a sensitive nature to the Caltrans headquarters Lane Closure Review Committee (HLCRC) for their approval. The HLCRC includes a designated CHP headquarters representative.

2. Contingency Plans. Contingency plans will be developed to address construction process problems, and those for unexpected traffic issues. A contingency plan addresses specific actions that will be taken to restore or minimize effects on traffic when traffic congestion or delay exceeds the original estimates. The contingency plans will prescribe actions for likely problems and provide the criteria “triggers” for initiating the planned actions. The CHP and Caltrans will collaborate in the development of contingency plans and will:

   a. Commit personnel and resources, as available, to ensure the efficient execution of the plan.

   b. Ensure the plan provides that clearly designated responsible personnel, with the authority to act, will be available at all times during closure.

   c. Coordinate and collaborate with other commands and agencies as required.

   d. Ensure local authorities and allied agencies as appropriate are participants in the plan and are willing to act.

   e. Ensure the TMCs are part of the plan, including interregional TMC participation.

3. Termination of Highway Lane Closures. Either department may terminate a lane closure because of safety concerns (e.g., unacceptable smoke or dust that restricts motorist visibility, development of inclement weather, potential for flooding). Whenever possible, a closure should be terminated collaboratively between Caltrans and the CHP.

When a CHP field representative determines a lane closure should be terminated
because of safety concerns or unacceptable traffic congestion, the following protocol should be used:

a. Notify a CHP supervisor.

b. Contact the Caltrans person responsible for overseeing field work. If mutual agreement to terminate the closure is not reached, the CHP supervisor should notify the Area commander or designee, who will contact the appropriate Caltrans manager to mutually resolve the issue. If the decision is made to terminate the closure, the CHP and Caltrans representatives shall:

1. Advise the TMC or Caltrans Maintenance Dispatch as appropriate.

2. Notify all other applicable entities (e.g., highway contractor).

When a Caltrans field representative or District Traffic Manager (DTM) determines a lane closure should be terminated because of safety concerns or unacceptable traffic congestion on the immediate and/or adjacent highway/roadway system, the following protocol should be used:

a. Notify the Caltrans person responsible for overseeing field work, Maintenance Dispatch, CHP Communication Center, and TMC.

b. Notify all other applicable entities (e.g., highway contractor).

4. **Evaluation.** For some major TMPs, it is expected that evaluations will be done as a joint CHP/Caltrans activity, and include any other participants such as allied agencies.

**B. CHP’S RESPONSIBILITIES**

CHP Division and Area commanders, or their designees, will collaborate and cooperate with responsible Caltrans personnel to minimize traffic congestion (e.g., vehicle queuing, stopping, slow bumper-to-bumper vehicles) resulting from planned lane closures. CHP Division and Area commanders will work with the appropriate Caltrans District Division Chief, DTM, Resident Engineer, Maintenance Region Manager, or person(s) designated by the District Director to ensure the CHP’s concerns are adequately addressed in the TMPs and contingency plans.

Area commanders or their designees participating on, and/or reviewing and commenting on project-specific TMPs and contingency plans will:
1. Review the plans in a timely manner to ensure CHP concerns, including motorist and worker safety, are adequately addressed.

2. Provide notification to appropriate CHP commands of all impending planned lane closures and status of associated TMPs.

3. Notify respective CHP Division commanders of agreed upon traffic queues (distance and amount of time for stop-and-go vehicles) during the lane closures and any significant issues concerning traffic control that were not resolved in the TMP.

4. Verify that TMCs have been notified and are part of impending projects, TMPs, and contingency plans.

5. Ensure the commitment of CHP personnel and resources to COZEEP/MAZEEP, directing traffic, and traffic monitoring is clearly and accurately described in TMPs and contingency plans.

C. CALTRANS' RESPONSIBILITIES

The Caltrans TMP Coordinator will confer with the respective CHP Area commanders to determine criteria and procedures for notification of planned highway lane closures and changes to TMPs.

Depending on the project and impact on traffic, Caltrans may include CHP in the development and review of TMPs.

1. Caltrans should designate a responsible representative for each lane closure.

2. Caltrans should ensure the contractor is able and prepared to comply with the TMP and contingency plan as they relate to its performance of work.

D. SPECIAL EVENTS ON STATE HIGHWAYS

Special events include, but are not limited to, activities such as parades, marathons, bikeathons, walkathons, marches, triathlons, and other activities. Filming operations are covered under separate guidelines.

An encroachment permit for special events is required whenever any activity is conducted within a state highway right-of-way which interferes with the unrestricted movement of traffic, requires special traffic control, and/or cannot be conducted in such a manner as to fall under the permissible uses of a highway as authorized in the California Vehicle Code (CVC). Activities which do not
interfere with traffic and which conform to the CVC do not require a permit.

Preliminary and operational meetings should be held with Caltrans, CHP, and special event representatives for all proposed special events before a permit is issued. When appropriate, other local authorities and law enforcement agencies should be invited to attend the meetings. The purpose of these meetings is to define permit conditions, which generally include:

1. Highway location feasibility.
2. Traffic control and facility needs.
3. CHP and Caltrans personnel required for event.
4. Timing of event.
5. Preventing damage to state property.
6. Safety considerations, which includes preventing traffic hazards and determining the least amount of impact to traffic.

Operational decisions and/or emergency situations may require the roadway to be reopened immediately. This decision should be made by the state representative in charge (Caltrans or CHP). CHP and Caltrans may bill the permit-holder for all costs incurred.

WILL KEMPTON, Director
Department of Transportation

M. L. BROWN, Commissioner
Department of California
Highway Patrol

12/20/05
Date

Date
6735. Preparation, signing, and sealing of civil engineering documents
(a) All civil (including structural and geotechnical) engineering plans, calculations, specifications, and reports (hereinafter referred to as "documents") shall be prepared by, or under the responsible charge of, a licensed civil engineer and shall include his or her name and license number. Interim documents shall include a notation as to the intended purpose of the document, such as "preliminary," "not for construction," "for plan check only," or "for review only." All civil engineering plans and specifications that are permitted or that are to be released for construction shall bear the signature and seal or stamp of the licensee and the date of signing and sealing or stamping. All final civil engineering calculations and reports shall bear the signature and seal or stamp of the licensee, and the date of signing and sealing or stamping. If civil engineering plans are required to be signed and sealed or stamped and have multiple sheets, the signature, seal or stamp, and date of signing and sealing or stamping shall appear on each sheet of the plans. If civil engineering specifications, calculations, and reports are required to be signed and sealed or stamped and have multiple pages, the signature, seal or stamp, and date of signing and sealing or stamping shall appear at a minimum on the title sheet, cover sheet, or signature sheet.

6746. Exemption - communications companies under the Public Utilities Commission
Plans, specifications, reports and documents relating to communication lines and equipment prepared by employees of communications companies which come under the jurisdiction of the Public Utilities Commission, and by employees of contractors while engaged in work on communication equipment for communications companies which come under the jurisdiction of the Public Utilities Commission, are not subject to the provisions of this chapter.

6746.1. Exemption - employees of the communications industry
The provisions of this act pertaining to licensure of professional engineers other than civil engineers, do not apply to employees in the communication industry, nor to the employees of contractors while engaged in work on communication equipment. However, those employees may not use any of the titles listed in Section 6732, 6736, and 6736.1, unless licensed.

6747. Exemption – industrial corporations and public utilities
(a) This chapter, except for those provisions that apply to civil engineers and civil engineering, shall not apply to the performance of engineering work by a manufacturing, mining, public utility, research and development, or other industrial corporation, or by employees of that corporation, provided that work is in connection with, or incidental to, the products, systems, or services of that corporation or its affiliates.
(b) For purposes of this section, “employees” also includes consultants, temporary employees, contract employees, and those persons hired pursuant to third-party contracts.
Memorandum

To: DIRECTOR
DEPUTY DIRECTORS
DISTRICT DIRECTORS
DIVISION CHIEFS

Date: December 22, 2009

From: MALCOLM DOUGHERTY
Interim Chief Engineer

Subject: Inclusion of Expiration Date on Engineering and Land Surveying Documents

Assembly Bill 645, which becomes effective January 1, 2010, deletes the requirement to include the license expiration date on engineering and land surveying documents.

The Department has considered the impending changes and has determined that engineering and survey documents prepared for the Department’s use or for construction on the State Highway System will continue to include the expiration date on the seal or stamp.

The current business practice of including the expiration date is consistent with the Department’s quality management policies and its desire to perpetuate only the highest quality engineering and surveying documents.

Please refer any questions on this policy to Terry Abbott or Linda Fong.
KIOSK ADVERTISING GUIDELINES

SUBMITTAL

This program is “optional” at the discretion of the District Office.

Requests for placement of an advertisement/display within a Traveler/Tourist Information Center, hereinafter referred to as “Kiosk,” shall be submitted by the responsible person (City, County, Chamber of Commerce, Organization or Business Owner) for that activity, service or facility, hereinafter referred to as the “Requestor,” to the District’s Representative.

Kiosk Advertising Guidelines are established from Barclays California Code of Regulations, Title 21: Public Works, Division 2: Department of Transportation, Chapter 20: Permissible Activity and Use of Safety Roadside Rest Areas (SRRA) and Vista Points in and along California State Highways, which authorize the placement of commercial advertisements/displays within kiosks.

- Article 2, Section 2204 (b) authorizes the placement of commercial displays under an agreement within Traveler Information Centers for a cost.
- Article 2, Section 2204 (d) defines Traveler Information Centers as kiosks.
- Article 2, Section 2204 (f) authorizes the Department to place Public Information displays/advertisements determined to be of specific value, interest or assistance to the traveling public, for a cost.

Streets and Highway Codes Section 220.5 authorizes the placement of kiosks, within Safety Roadside Rest Areas (SRRA), and the following advertisements/displays are allowed for placement at no cost.

- Section 220 authorizes the placement of agricultural displays.
- Section 221 authorizes the placement of information regarding missing children.

Forty-percent (40%) of the kiosk space is devoted to non-commercial public information. The remaining sixty-percent (60%) may be utilized as follows:

Placement of an advertisement/display can be monthly, quarterly or semi-annual.

The format and content of the advertisement/display will be provided for review and consideration. The District SRRA Coordinator or District Landscape Architect is responsible for review, approval and processing of the submitted request.

Upon approval in writing from the Department, the advertisement/display can not be changed or altered in any way without the written consent of the Department.

Displays approved for placement can only provide public information regarding:

- local and state points of interest
- local communities and community service facilities
- location of recreational areas and facilities (campgrounds, etc)
- identification of local automotive service stations
• food
• lodging
• traveler service related facilities

**FEE**

The entire fee of the agreement, per advertisement/display, is required due upon written approval of the request. Payment of the fee shall be by personal or company check, money order or cashier’s check, made out to the Department of Transportation.

Districts will assess the fee for the placement of the “advertising/display” based upon the following criteria:

1. Location of the SRRA
2. Distance of the SRRA in relation to the District Office (round-trip travel time, etc.)
3. Size of the advertising/display
4. Other district resources expended

The assessed advertising fee is subject to change at the end of the existing agreement period entered into by the requestor and the Department, at the discretion of the Department.

**CONDITIONS OF INSTALLATION**

Installation or removal of the advertisement/display upon any kiosk will solely be the responsibility of the Department. Under no circumstances can the requestor install, replace, repair, alter or remove the advertisement/display.

The Department reserves all rights, as stipulated within Barclays California Code of Regulations:

- to reject or refuse at its sole discretion any advertisement/display which is false or misleading, which may misinform, or which does not qualify as traveler information under the Department’s rules and regulations.
- to reject, refuse or remove any advertisement/display which does not conform to the Department’s specifications, which is deemed unsightly or in a bad state of repair.
- to cancel the agreement at any time, upon ten-days written notification.
- any delay in the placement of an advertisement/display or interruption of the display time caused by the Department shall not constitute a breach of the agreement. In its discretion, the Department may extend the term of the agreement or provide a pro rata credit equal to the period of delay or interruption. Such extension or credit shall be the only damages recoverable.
- to close the Safety Roadside Rest Area for any reason without notification, temporarily or permanently, or to cancel the agreement. The requestor shall have no claim for damages, or extension of the agreement by reasons of such removal, disruption, discontinuance or termination.

The Requestor is responsible for the production of the advertisement/display at their sole cost and expense.

The Requestor is responsible at their own cost and expense for, the restoration, repair or replacement of any advertisement/display which is lost, stolen, defaced, damaged, or destroyed through no fault of
the Department, or which is deemed by the Department to be in a faded, or deteriorated condition, regardless of the cause.

In this event, if the requestor fails to provide an acceptable replacement of the advertisement/display within thirty-days of notification, the Department may cancel the agreement.

The advertisement/display will be of a professional quality, printed on LEXAN or a comparable material pre-approved by the District SRRA Coordinator or District Landscape Architect, able to withstand adverse conditions, such as direct sunlight, rain or snow and able to endure the length of the agreement. The minimal size of the advertisement/display allowed shall be no less than 10” x 14,” and a maximum size of 14” x 20.” Advertisement/displays not enclosed within a protective casing shall be durable, and protected with an anti-graffiti coating.

**SPECIAL PROVISIONS**

Sub-contracting or third party agreements will not be allowed for the request or placement of an advertisement/display. The requestor is required to be solely responsible for the service or facility, listed within the advertisement/display.

The requestor assumes full and complete responsibility and liability for the content of the advertisement/display, and shall agree to save, defend, indemnify and hold the State, the Department, its officers, agents and employees harmless against any and all demands, claims, liability, damages and causes of action, including attorney’s fees and all costs of any legal action occasioned by or resulting from injuries or losses to any person, firm or corporation, however occurring, resulting from their reliance on the person’s or company’s advertisement/display or from the form, content or representations contained therein.

**THESE GUIDELINES ARE SUBJECT OF CHANGE AT THE DISCRETION OF THE DEPARTMENT. IT IS THE REQUESTOR’S RESPONSIBILITY TO REMAIN CURRENT WITH THESE GUIDELINES.**
Memo

To: DEPUTY DISTRICT DIRECTORS for Planning

DEPUTY DISTRICT DIRECTORS for Operations

From: BRIAN J. SMITH
Deputy Director
Planning and Modal Programs

Date: August 2, 2004

LAWRENCE H. ORCUTT
Acting Deputy Director
Maintenance and Operations

Subject: Guidelines for Submitting Transportation Information from a Reporting or Monitoring Program to the California Department of Transportation (Department), Revised July 9, 2004

The California Environmental Quality Act (CEQA), (Public Resources Code [PRC] Section 21081.6) requires that public agencies adopt a reporting or monitoring program when they include environmental impact mitigation as a condition of project approval. PRC Section 21081.7 requires that public agencies submit such information to the Department if the project is of statewide, regional or area-wide significance; in addition, 21081.7 requires that the Department adopt guidelines for the submittal of such information.

In February 2003, the Department issued Guidelines for Submitting Transportation Information From a Reporting or Monitoring Program to the Department (Guidelines).

We revised the Guidelines, effective July 9, 2004, in response to comments and questions that we received following distribution of the February 2003 edition. The new Guidelines seek to clarify the procedures for the Department and public agencies by providing a bit more detail to the steps that we are asking them to take. In addition, we have modified the Checklist/Certification form to more easily accommodate its purposes.

The revised Guidelines are enclosed, as is a sample cover letter for use in forwarding them from district Intergovernmental Review (IGR) units to local public agencies.

Please direct questions to Tom Neumann, Chief, Office of Community Planning at Calnet 8-461-6882, or Paul Cavanaugh, Chief, Encroachment Permit Branch at Calnet 8-464-6232.

Enclosures: 1. Guidelines, including “Checklist/Certification” form
2. Sample cover letter.

"Caltrans improves mobility across California"
c:  Joan Sollenberger, DOTP
    Karla Sutliff, DOTO
    District Directors
    Paul Cavanaugh, DOTO, Encroachment Permit Branch
    Maxine Ferguson, Legal Division
    Robert Wiswell, Division of Aeronautics
    District IGR Coordinators
    Tom Neumann, DOTP, OCP
    Terri Pencovic, DOTP, OCP, IGR
Guidelines for Submitting Transportation Information from a Reporting or Monitoring Program to the California Department of Transportation

for a

Project of Statewide, Regional, or Areawide Significance

California Department of Transportation

July 9, 2004
GUIDELINES FOR SUBMITTING TRANSPORTATION INFORMATION FROM A REPORTING OR MONITORING PROGRAM TO THE CALIFORNIA DEPARTMENT OF TRANSPORTATION (DEPARTMENT)

INTRODUCTION

The California Environmental Quality Act (CEQA) requires, under Public Resources Code (PRC) Section 21081.6, the adoption of reporting or monitoring programs when public agencies include environmental impact mitigation as a condition of project approval. Reporting or monitoring takes place after project approval to ensure implementation of the project in accordance with mitigation adopted during the CEQA review process.

Assembly Bill 1807 (effective January 1, 2001) amended the PRC in a number of ways. Section 21080.4 was amended to add a requirement that lead agencies submit Notices of Preparation (NOPs) to the Governor's Office of Planning and Research when they determine that an environmental impact report will be required to approve a project.

Section 21081.7 was amended with two additional provisions. The first provision required that transportation information resulting from a reporting or monitoring program adopted by a public agency in accordance with Section 21081.6 be submitted to the Department of Transportation (Department) when a project has impacts that are of statewide, regional, or area-wide significance. The second provision required that the Department adopt guidelines for the submittal of those reporting or monitoring programs.

PURPOSE

The purpose of these guidelines is to establish clear and consistent statewide procedures to be used by both Department District Intergovernmental Review (IGR) Program Coordinators to identify the scope and timing of transportation information needed from lead agencies, and public agencies when submitting transportation information to the Department, in accordance with Section 21081.7.
PROCEDURES

A. The District IGR Program Managers and/or Coordinators shall:

1. Prior to implementation of mitigation measures:

   a. Notify the CEQA lead agency by letter during “early consultation,” the Notice of Preparation (NOP) stage, or the Initial Study (IS) phase of the CEQA review process that the transportation information included in the reporting or monitoring program will need to be provided to the Department following project mitigation agreement.

   b. Provide the name, address, and telephone number of the District IGR contact to the lead agency.

   c. Provide, as an enclosure to the notification letter, a copy of these “Guidelines” and the Department’s “CEQA Lead Agency Checklist/Certification” form. (Part 1 of the form, Checklist, is to be signed by the lead agency following project approval, and a copy submitted to the District along with the transportation reporting or monitoring information. Part 2 of the form, Certification, is to be signed by the lead agency and the District upon implementation of all agreed-upon mitigation measures.)

2. Following implementation of mitigation measures as identified in Part 1, Checklist, of the CEQA Lead Agency Checklist/Certification form, and certification of implementation by the lead agency in Part 2, Certification:

   Ensure sign off of Part 2, indicating that the mitigation measures have been implemented.

   1) If the project required encroachment onto a state highway, obtain the District Permit Engineer’s signature in Part 2.

   2) If the project did not involve encroachment onto a state highway, the District IGR Coordinator shall sign Part 2.
3) The District IGR Coordinator shall: (a) Retain the original document; (b) forward a copy to the District Permit Engineer (if the Permit Engineer signed Part 2); (c) forward a copy to the Department’s Headquarters IGR Program Manager; and, (d) send a copy to the lead agency.

B. The CEQA lead agency shall:

1. Following project approval:

Submit the following information to the Department District IGR contact:

1) Name, address, and telephone number of the CEQA lead agency contact responsible for the mitigation reporting or monitoring program.

2) Location and custodian of the documents or other material, which constitute the record of proceedings upon which the lead agency’s decision to approve the project is based.

3) Assurances that the Department can obtain copies of the aforementioned documents and materials, if needed, to clarify details or resolve issues related to the mitigation adopted.

4) Detailed information on impact assessment methods, the type of mitigation, specific location, and implementation schedule for each transportation impact mitigation measure included in the reporting or monitoring program.

5) A copy of the “CEQA Lead Agency Checklist/Certification” form, with Part 1, Checklist, signed and dated, and the reporting or monitoring program transportation information attached or enclosed. The CEQA lead agency, at its discretion, may submit the complete reporting or monitoring program with the required transportation information highlighted.
2. Following implementation of mitigation measures:

   a. Sign and date Part 2, Certification, of the "CEQA Lead Agency Checklist/Certification" form.

   b. Forward the "CEQA Lead Agency Checklist/Certification" form, with appropriate completion documents attached, to the District IGR contact, certifying that the mitigation measures agreed upon and identified in the reporting or monitoring program have been implemented, and that all other reporting requirements have been adhered to, in accordance with PRC Sections 21081.6 and 21081.7.

APPROVED:

BRIAN J. SMITH 8-7-04
Deputy Director
Planning and Modal Programs

L. H. Orcutt 7-9-04
Acting Deputy Director
Maintenance and Operations
CEQA LEAD AGENCY CHECKLIST/CERTIFICATION
TRANSPORTATION INFORMATION FROM A REPORTING OR MONITORING PROGRAM

Part 1 - Checklist

Project Name: ____________________________________________________________
Lead Agency: ____________________________________________________________
Lead Agency Contact (Name, Title, Agency, Address & Phone):____________________

State Clearinghouse (SCH) File #/s: _______________________________________
Document Type/s: _______________________________________________________
Findings & Approval Date/s: ______________________________________________

Project Proponent (Name, Title, Company, Address & Phone):______________________

For each specific Transportation Related Mitigation Measure associated with this Project, The following information items are included in the attached materials:

Yes  No
[ ] Location/Custodian Of CEQA Documents, Proceedings, Records
[ ] Description Of How To Obtain Copies Of Above Documents
[ ] Mitigation Measure Name & Identifying Number
[ ] Detailed Description of Measure & its Purpose (attach blueprints if necessary)
[ ] Measure Location Description, Latitude/Longitude, & Vicinity Map
[ ] Location of Impacted State Highway Component (County, Route, Postmile)
[ ] Caltrans Encroachment Permit Number (if one was needed)
[ ] Copy of Other Agency Permits required for this Measure (if needed)
[ ] Completion Criteria (including detailed performance objectives)
[ ] Implementation Schedule
[ ] Estimated Monetary Value of Completed Measure & % Local Agency Funded
[ ] Responsible Contractor (Name, Company, Address & Phone)

The above project mitigation measures will be implemented as indicated in the adopted reporting or monitoring program, and the California Department of Transportation will be notified upon implementation.

CEQA Lead Agency ___________________________ Date ___________________________

Part 2 - Certification

We certify that the agreed upon mitigation measures have been implemented, and all other requirements have been adhered to, in accordance with PRC Sections 21081.6 and 21081.7. Attached: 1. Completion evaluation (including field inspection reports); 2. Photograph of completed measure.

Signature & Date: ________________________________________________________
Name: _________________________________________________________________
Title: _________________________________________________________________

CEQA Lead Agency _____________________________________________________
California Department of Transportation

* This form is to be used by public agencies to submit their mitigation reporting or monitoring programs to the California Department of Transportation (Department) when a CEQA project has been found to have transportation or circulation impacts that are of statewide, regional, or area-wide significance. Copies of this form, and the Department Guidelines developed pursuant to PRC Section 21081.7, can be downloaded from our website (http://www.dot.ca.gov/hq/tip/offices/ocp/igr_guidelines_procedures.htm). Completed form with attached materials may be post-mailed, e-mailed, or faxed to the appropriate Department District Planning Office, Attention: Intergovernmental Review (IGR) Coordinator.  {Form Version 07/2004}
GUIDELINES
for the placement of
TRAVELER DISCOUNT BOOKLETS
In
AMTRAK-CALIFORNIA STATIONS
&
SAFETY ROADSIDE REST AREAS

OCTOBER 2007
Definition

Periodical vendors, herein after referred to as Coupon Booklet Vendors (CBV), offer discount coupons for lodging and entertainment to the traveling public.

Written Agreement

The Department’s representative for Amtrak-California Stations will be the Chief of the Rail Marketing Branch, Division of Rail.

The Department’s representative for Safety Roadside Rest Areas (SRRA) will be the District Rest Area Coordinator.

CBV companies requesting to place their coupon booklet(s) within Amtrak-California Stations and SRRA are first required to enter into a written agreement with the Department, administered by the Headquarters Office of Encroachment Permits.

This written agreement shall stipulate the reserving of four full-pages for departmental campaign advertisements within their respective publications, to be administered by the Statewide Events & Awards Coordinator, in the Headquarters Office of External Affairs.

The Department’s advertisements will consist of Slow for the Cone Zone, Amtrak-California, California Highway Information Network (CHIN) and Don’t Trash California. These campaign advertisements shall be effectively placed in the booklets upon finalization of the written agreement.

The location of placement of the Department’s campaign advertisements within the publications is at the discretion of the CBV, so long as the pages appear either before the first page of lodging coupons or, after the final page of lodging coupons.

The CBV agree to endeavor to place the Department’s campaign advertisements together, facing each other whenever the paid composition of the publication permits.

When, and if constraints are imposed upon the CBV by the placement of paid advertising, the CBV shall still be obligated to provide the advertisements at their discretion within the areas of the publications as prescribed above.

The Department retains the right and privilege to prescribe the content of the four full-page advertisements during the course of the written agreement and thereafter.

Each CBV will deliver 2 copies of each new publication printed to the Statewide Events & Awards Coordinator, HQ Office of External Affairs, and 2 copies of each new publication printed to the Chief, Rail Marketing Branch, Division of Rail, 1120 N Street, MS-74, Sacramento, California 95814.

Application Submittal

Upon confirmation of the revised agreement, each CBV will only be required to submit one standard encroachment permit application, for the issuance of one statewide biennial permit allowing the continual distribution and maintenance of their facilities. In the box labeled “description of work to be performed”, the applicant shall state the intent for the “placement and maintenance of Traveler Discount Coupon Booklets, and/or facilities.”
In the event that placement is sought where there are no existing facilities, as a new installation, will require the CBV to submit an exempt encroachment permit rider request, and the CBV shall be responsible for all costs incurred with the installation of new facilities.

**Permit Fee**

All permits are to be issued “exempt” for periodical distribution, and shall be issued as biennial permits (2-years).

**Special Provisions**

The Department will allow for the placement of these booklets for each year following as long as the respective parties adhere to the conditions of the written agreement entered into:

District 11 Encroachment Permit Office will issue a statewide biennial “CU” encroachment permit, listing the specific Amtrak-California Stations and SRRA locations statewide, following the permit special provisions, on the following pages of the permit. All respective districts will receive cc: copies of the statewide permits issued.

Require the placement of a laminated placard depicting the cover of the booklet to be placed within the window of the display box.

The CBV booklets will be allowed in the Department's Headquarters building, on the sixth floor outside of the cafeteria area and in Amtrak-California Stations stipulated within their permit, to be placed within facilities provided by the CBV.

**Permit Conditions**

Subcontracting under this permit will not be allowed for the placement of the coupon booklets.

The CBV is required to provide weekly maintenance checks on all distribution facilities, to ensure cleanliness of the area surrounding their facilities and to ensure that the traveling public is provided with current information at no cost to the public.

Storage of coupon booklets upon State rights-of-way or within the Amtrak-California termini will not be allowed.

The CBV is required to notify the Department’s representative a minimum of two days prior to entry into any of the locations stipulated within their respective permit and/or the States’ rights-of-way.

Any combination of three violations of the special provisions or permit conditions within the term (two-years) of the permit will result in suspension and/or revocation of your permitted privileges.

**Installation Conditions**

All new installations of distribution facilities shall be installed and maintained by the CBV under the direction of the Department’s representative and shall be in compliance with the following criteria:

Upon completion on the installation of the distribution facilities located within an Amtrak-California Station or SRRA, said facilities inherently become the property of the State of California.

Within each Amtrak-California Station or SRRA, all distribution facilities (boxes and pedestals) shall all be of the same type, model, manufacturer and color (see Attachment #1 & #2) to ensure a uniform appearance is maintained as directed by the Department’s representative and per the attachments provided.
The color for new distribution facilities shall be consistent at a location but may be a color other than Beige, as determined by the Department’s representative.

The distribution facility should be located in an area where it will be unobtrusive and not detract from other elements of the SRRA.

The distribution facility should be located within the planted areas wherever practicable, adjacent to walkways and electroliers to reduce the exposure to vandalism and theft, or as directed by the Department’s representative.

It will be located so that it is convenient and easily accessible to the traveling public, as directed by the Department’s representative. The front of the distribution facility should be parallel with the edge of the walkway.

The maximum number of distribution boxes shall not exceed four (a double stack of two) in any SRRA.

The distribution boxes located within SRRA are to be securely fastened to square steel pedestal mounts, which are to be set in a concrete footing located within the planted area. The top of the concrete footing is to be covered with soil, mulch or ground cover to restore the area to its previous appearance to as great an extent as possible. Distribution boxes furnished with a pedestal mount equipped with a steel flange base designed to be bolted to concrete surfaces are to be used only where directed by the Department’s representative.

All distribution facilities shall be free of any advertisements (see Attachment #3) and shall be maintained in a clean, neat and attractive condition and in good repair at all times. Any facilities (boxes, pedestals, and racks) that are damaged, in a state of disrepair, or due to wear and tear which are no longer in a presentable condition (clean, neat and attractive) shall be replaced or repaired by the CBV as soon as practicable after discovery or notification by the Department’s representative to do so.

All distribution facilities which have been lost, stolen or vandalized and facilities that are no longer to be used, shall be removed, replaced or repaired by the CBV as soon as practicable after discovery or notification by the Department’s representative to do so.

The CBV is responsible for removal of the remaining facilities when any distribution facility is missing, vandalized or unused, and there is not intent to replace it in kind. The site shall be returned to its original condition.

THESE GUIDELINES ARE SUBJECT TO CHANGE AT THE DISCRETION OF THE HEADQUARTERS OFFICE OF ENCROACHMENT PERMITS. IT IS THE RESPONSIBILITY OF THE PERMITTEE TO REMAIN CURRENT WITH THE SPECIAL PROVISIONS AND PERMIT CONDITIONS OF THESE GUIDELINES.
ATTACHMENT #1
COUPON BOOK DISTRIBUTION BOXES

FACE VIEW

BEIGE COLOR

SIDE VIEW

DOUBLE BOX DIAGRAM

TOP VIEW

Of

BASE TRAY
The distribution boxes are to be securely fastened to square steel pedestal mounts, which are to be set in a concrete footing located within the planted area. The top of the concrete footing is to be covered with soil, mulch or ground cover to restore the area to its previous appearance to as great an extent as possible. Distribution boxes furnished with a pedestal mount and equipped with a steel flange base that are designed to be bolted to concrete surfaces are to be used only where directed by the Department.
This illustration shows the appearance in how the placements of these distribution facilities are to appear in the Safety Roadside Rest Areas. Also shown is what is acceptable for placement in the door window and what is NOT.
CALTRANS
ENCROACHMENT PERMITS

GUIDELINES AND SPECIFICATIONS
FOR
TRENCHLESS TECHNOLOGY PROJECTS

AUGUST 2018
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PROCEDURAL REQUIREMENTS FOR DESIGN AND CALCULATIONS OF STRUCTURAL AND SUB-STRUCTURAL PROJECTS

All submittals shall be stamped by a Registered Structural Engineer, or a Registered Civil Engineer, with a minimum of five years’ experience in structural design and preparation of calculations, proof of experience is required by use of Encroachment Permits form “Certification of Structural Experience” (form TR-0133) to be included within the project package submittal.

STRUCTURAL DESIGN AND CALCULATIONS

All Structural Project submittals (structures and structural falsework) will require review by Structures Maintenance, for construction under an encroachment permit and require the following:

Designed plans and specifications, calculations and details (structural and falsework).

A geotechnical investigation and soil analysis by a licensed geotechnical engineer is required. It shall provide identification of any locations of difficulty, changes in soil formation, or mixed face conditions that could present or create ground loss, exploratory soil corings and logs are required along the alignment of the project.

Construction or Structures Construction may provide oversight.

SUB-STRUCTURAL DESIGN AND CALCULATIONS

Sub-structural projects may consist of, but are not limited to, drainage boxes & systems, tunneling projects (mechanical or manual tunnel excavations for the placement of tunnel supports), and Trenchless Technologies for the installation of utilities when the diameter is 30” or larger (jack & bore, micro-tunneling, horizontal directional drilling, or pipe-ramming).

When the distance between the tunnel and an existing structure is less than twenty times its diameter, it shall be sent to Structures Maintenance for review of the potential lateral loading effects to the pilings and foundation.

Otherwise, Sub-structural Project submittals, listed below and submitted with the “Certification of Experience” (form TR-0133) do not require review by Structures Maintenance or Underground Structures.

- Micro-tunneling projects.
- Bore & Jack, HDD, or Pipe Ramming (hole-diameter is 30” or larger and requiring structural/sub-structural design, investigations and calculations)
- Tunneling for the placement of tunnel support systems (rib & lagging, or steel liner plate requiring structural/sub-structural design, investigations and calculations).
- Drainage boxes and systems.

All Sub-structural Project submittals require the following:

The District Encroachment Permits Office is responsible for verification of the Registered Engineer’s stamp, validation of the date of expiration against the dated plan set and calculations. The permit office engineer shall validate the RE’s stamp at the web site listed below, by entering the RE’s number. A copy of the results shall be printed and included within the permit file. The encroachment permit may be issued, upon completion of the normal review process (Traffic, Environmental, R/W, etc.).
• Designed plans and specifications, calculations and details (liner plates, rib & lagging, bracing, etc.).
• A geotechnical investigation and soil analysis by a licensed geotechnical engineer is required. It shall provide identification of any locations of difficulty, changes in soil formation, or mixed face conditions that could present or create ground loss, exploratory soil corings and logs are required along the alignment of the project.
• When the length of the tunnel is greater than four hundred feet (> 400’), alignment holes may be required. Alignment holes shall be drilled at a maximum spacing of two-hundred feet (200’) and a casing of four to six inches (4” to 6”) in diameter installed vertically, to a depth necessary for the installed casing to extend into the tunnel excavation. When alignment holes fall within the pavement area of the roadway, the pavement shall be saw-cut, a cover shall be placed over the end of the casing at grade, and the space around the casing within the roadway filled with concrete (EXCEPT in controlled access right-of-way).

**PROJECT OWNER’S RESPONSIBILITIES**

On projects deemed by the Department as requiring full time inspection, the project owner is responsible for providing a third-party full-time inspector.

A full-time Safety Engineer: A Registered Structural or Civil Engineer, with a minimum of five years’ experience in design or inspection of Sub-structural Projects (tunnels). Proof of experience shall be submitted on Encroachment Permits form “Certification of Structural Experience” (form TR-0133) or

A full-time Safety Representative: State certified by Department of Industrial Relations, Cal/OSHA Mining & Tunnel Unit, proof of certification is required. California Code of Regulations 8406(f), (h)

**CONTRACTOR’S RESPONSIBILITIES**

Prior to issuance of the “DP” permit the following shall be submitted:
• Proof of experience, as stipulated by the District Office, in respect to diameter and length of proposed project.
• Tunnel support system construction plans and specifications, calculations and details, method of construction, to include the adequacy of the shield and liner material stamped by a Registered Structural Engineer, or a Registered Civil Engineer, with a minimum of five (5) years’ experience in sub-structural design and preparation of calculations.
• “Notice of Materials to be used” (form CEM-3101).
• Method of construction plan.
• A Licensed Surveyor.
• Proof of rib expanders and/or liner supports.
• Working schedule of the project.
• Contingency plan for dealing with ground loss work.
• Shaft; soil stability at portals and ground improvement plan.
• Dewatering plans for entry and exit shafts/pits, if needed.
• Installation and monitoring of SWPPP or WPCP facilities and conditions.
• Shoring design for entry and exit shafts/pits.
• Survey control plan: lasers, laser mounting, laser checking.
• Ground surface settlement monuments and subsurface settlement monuments monitoring program plan.
  o Buried points
TUNNELING PROJECTS

All projects will vary in their own characteristics. General similarities are listed below to provide a general understanding of these types of projects.

Establishment of a survey-grid line and existing elevation points shall be over the centerline and wing points of the installation.

Designed plans and specifications, calculations and details (liner plates, rib & lagging, bracing, etc.) shall be stamped by a Registered Structural Engineer, or a Registered Civil Engineer, with a minimum of five (5) years’ experience in sub-structural design of tunnels. Proof of experience shall be submitted on “Certification of Structural Experience” (form TR-0133) in conjunction with project package submittal.

A geotechnical investigation and soil analysis by a licensed geotechnical engineer/engineering geologist is required. It shall provide identification of any locations of difficulty, changes in soil formation, or mixed face conditions that could present or create ground loss, exploratory soil corings and logs are required along the tunnel alignment at intervals of twenty-five to one-hundred feet (25’ to 100’).

When the length of the tunnel is greater than four hundred feet (> 400’), alignment holes may be required. Alignment holes shall be drilled at a maximum spacing of two-hundred feet (200’) and a casing of four to six inches (4” to 6”) in diameter installed vertically, to a depth necessary for the installed casing to extend into the tunnel excavation. When alignment holes fall within the pavement area of the roadway, the pavement shall be saw-cut, a cover shall be placed over the end of the casing at grade, and the space around the casing within the roadway filled with concrete (EXCEPT in controlled access right-of-way).

CAL/OSHA REQUIREMENTS

The California Code of Regulations (CCR) mandates the following requirements for Tunneling Projects.

- The Owner or Local Entity proposing the construction of the tunnel shall make a full submittal to the Department of Industrial Relations, Cal/OSHA, to determine tunnel classification. CCR 8422
- Development of a check-in/check-out procedure to ensure an accurate account of personnel underground in the event of an emergency. CCR 8410
- Development of an Emergency Plan, that outlines duties and responsibilities of all personnel on the project during an emergency. The plan shall include ventilation controls, firefighting equipment, rescue procedures, evacuation plans and communications. CCR 8426
- Cal/OSHA requires a State of California certified person performing the duties of gas tester or safety representative to be certified by passing a written and an oral examination administered by the Cal/OSHA Mining & Tunneling Unit. CCR 8406(f), (h)
- A certified safety representative shall direct the required safety and health program and must be on-site while employees are engaged in operations during which the Tunnel Safety Orders (TSO) apply. CCR 8406(f)
- The certified safety representative must have knowledge in underground safety, must be able to recognize hazards, and must have the authority to correct unsafe conditions and procedures subject to the TSO. CCR 8406(f)

A State of California certified gas tester is required for the following operations:

- All classifications other than non-gassy
- Projects during which diesel equipment is used underground
- Hazardous underground gas conditions. CCR 8470
TUNNEL

Tunnel construction is accomplished by the method of Hand-mining, or by Mechanical means, and the use of a protective shield.

Continuous monitoring and observation of the ground surface above the tunnel is required. In some cases, it may be required to survey and record elevations along the survey grid line, several times a day, or daily.

Generally, when tunneling in good ground, tunnels with a diameter of less than eight-feet (< 8’) and less than three-hundred feet to four-hundred feet (300’ to 400’) in length may be holed-through (excavated completely) before concreting the interior of the tunnel, when placement of pre-fabricated or pre-cast pipe is to be installed. When this is proposed, hole-through (unsupported length) before concreting of the interior of the tunnel, it shall be justified by the original subsurface geotechnical investigation and design.

Tunnel lining and bracing should consist of steel ribs and steel spreaders (dutchmen) with wood, concrete, or steel lagging, or with bolted steel liner plates.

Fireproof materials should be utilized in all construction of plant structures, above ground, within one hundred feet (100’) of the shaft or tunnel. The use of flammable materials or wood shoring would require that adequate fire protection be provided.

Ventilation systems shall be established and provide a minimum of two hundred (200) cfm per worker.

- All equipment shall maintain a minimum clearance of twenty-five feet (25’) from opening.
- An established contingency plan in the event of ground loss.
- Cranes utilized in operations shall maintain minimum required clearances.

TUNNEL SHIELD

- The face of the shield shall be provided with a hood or an approved grid system.
- The excavation face shall have a sufficient length to allow for the installation of one (1) complete ring of liner plates, or one (1) complete set of ribs and lagging before advancing.
- The contractor shall submit details and design information of the shield.

TUNNEL LINING

Tunnel lining and bracing should consist of steel ribs and steel spreaders with wood lagging and concrete, or steel lagging, or with bolted steel liner plates.

The tunnel liner and bracing shall be designed (calculations provided) of an adequate strength based upon the geotechnical investigation, soil analysis, loading, and the diameter and depth of cover to provide adequate support of the tunnel.

- A ring expander shall be used to expand the rib continuously outward and upward.
- Liner plates shall be designed based on joint strength, minimum stiffness, critical buckling of the liner plate wall, and deflection or flattening of the tunnel section.
- On tunnels with a diameter greater than ten feet (> 10’), the placement of ribs inside of liner plate may be required.
- When the geotechnical investigation has determined that silts and fine sands exist, that may flow under pressure, all liner plates shall include a neoprene gasket adhered to each flange face.
LAGGING

Generally started at spring line and continue upwards towards the crown. Lag spacing consists of three methods:

1. Wedging – done by driving a block of wood between the earth and the lag at each end, or by driving a wedge between the rib and the lag.
2. Stops – by welding small angles to the ribs outer flange to prevent sliding.
3. Clamps – which are applied to wood or steel lags.

If the spacing of lags between ribs is used in tunnel construction, packing between lags with filler may be required.

- Lags are boards or steel plates placed longitudinally against the roof and walls of the tunnel excavation.
- Steel lagging may consist of channel, liner plate or corrugated metal.
- Steel lagging thickness shall be designed on strength based upon the geotechnical investigation, soil analysis, and loading.
- Wood lagging thickness shall be designed on strength based upon the geotechnical investigation, soil analysis, loading. Generally wooden lags common size is three-inches by six-inches (3” x 6”), and the length is cut according to the spacing of the ribs.
- A minimum of one liner plate per ring with a two-inch (2”) diameter coupling for grouting is required.

CONSTRUCTION OF SHAFTS / PITS

Shafts / pits should be constructed of a proper size and shape, and equipped as to allow work to be carried on safely.

- Shafts must be constructed of driven steel sheet pilings, steel bracing and tight wood, or steel lagging or steel liner plates and ribs.
- The removal of spoils should be accomplished by mechanical means (muck box).
- All shafts must be provided with guardrail and a toeboard.
- When ladders are utilized within the shaft or pit, cages and/or safety devices must be provided on depths of 15 feet to 20 feet, platforms must be provided at depths of greater than 20 feet.
- Ventilation systems must be established and provide a minimum of 200 cfm per worker.
- All equipment must maintain a minimum clearance of 25 feet from openings.
- Upon completion of project all shafts, pits and drifts that are not part of the finished product must be backfilled.

PLACEMENT OF SHAFTS / PITS

Shafts/Pits must be:

- Preferred to be located as far from the traveled way as feasible. At minimum, should be located 10 feet from the edge of pavement in rural areas, or at least 5 feet beyond the concrete curb and gutter or AC dike in urban areas, or at least 5 feet beyond the toe of slope of embankments.
- Located outside of access-controlled right-of-way.
- Adequately fenced or have a Type-K barrier placed around them at a 10:1 taper or as otherwise directed.
• Shored according to Cal-OSHA minimum requirements. Located within 15 feet of traffic lanes on a State highway must not extend more than 36 inches above the pavement grade unless otherwise authorized by the State representative. Reflectors must be affixed to the sides facing traffic, and placement around the perimeter of a 6-foot chain link fence during non-working hours.
• Are only allowed within access-controlled right-of-way for direct access-controlled right-of-way crossings that are excessively long or that have restricted space available outside the right-of-way.
• They must not affect State facilities or create a hazard to the traveling public. When placement is approved within access-controlled right-of-way, damaged State facilities must be replaced or repaired according to State Standard Specifications.
• Must have crushed-rock and sump areas to clear groundwater and water used to clean. They must be lined with filter fabric when groundwater is found and pumping is required.

EXCAVATION

In some locations Soil Stabilization may be required. It may become necessary at the direction of the Engineer to either pressure grout or freeze the soil area of the project to control water, to prevent loss of ground, to prevent settlement or displacement of an embankment. When required, a Registered Geotechnical Engineer shall prepare and stamp the plans determining the material and method for use.

In some projects masonry sections are installed, the amount of excavation of the tunnel should not exceed the amount needed for placement of a full masonry section after all lining is in place.

All excavated material shall be considered as unclassified material.

• In the event of any ground movement over or adjacent to construction, all work shall be suspended, except that which will assist in making the construction site secure and prevent any further additional movement of the ground.
• Excavation should not be advanced beyond the edge of the shield, except in rock.
• The geotechnical engineer/engineering geologist shall determine the allowable amount of tunnel length unsupported by bracing, based on the geotechnical investigation and design.
• All voids between the excavation and the liner shall be grouted after setting of ribs and lagging, if not expanded to full contact with the surrounding ground, as determined by the Safety Engineer.
• A log shall be maintained of all surrounding utilities and facilities.

DEWATERING

When ground water is anticipated, pumps of sufficient capacity to handle the flow shall be maintained at the site. Observation shall be maintained to detect any settlement, displacement or washing of fines into the pit, shaft or tunnel.

GROUTING

Grouting should be kept close to the heading (working front of tunnel). It may be required to add pea-gravel and fly ash to the grout. The pea-gravel would assist in consolidation and the filling of the voids, fly-ash works as a lubricant allowing the grout to free-flow.

• The use of grout stops may be utilized if necessary or if required by the Safety Engineer.
• Grouting shall be performed when ordered by the Safety Engineer.
• At no time shall progression of the tunnel exceed six feet (6’) beyond the grouting of the exterior void.
• Pressure on the grouting gauge should not exceed the capacity of the lining, sufficient to fill all voids.
• A gauge shall be provided which will accurately indicate working pressure and shall be monitored constantly during grouting procedures.
• Grouting shall start at the lowest point and proceed upwards simultaneously on alternating sides.
• When grouting is complete at that location a threaded plug shall be installed into the coupling.

**MATERIALS**

“Notice of Materials to be used” (form CEM-3101) is required.

• The manufacturer shall provide a Certificate of Compliance, to ensure tensile and yield strengths.
• Steel lagging may consist of channel, liner plate or corrugated metal.
• Steel lagging thickness shall be designed on strength based upon the geotechnical investigation, soil analysis, and loading.
• Wood lagging thickness shall be designed on strength based upon the geotechnical investigation, soil analysis, loading. Generally wooden lags common size is three-inches by six-inches (3”x 6”), and the length is cut according to the spacing of the ribs.
• When the geotechnical investigation has determined that silts and fine sands exist, that may flow under pressure, all liner plates shall include a neoprene gasket adhered to each flange face.
• Ensure Manufacturer’s Specification Data Sheets (MSDS) are provided stipulating recommended:
  o Specifications of steel spreaders (spacing, tolerances).
  o Specifications of steel rib (section lengths, spacing, etc.)

**PROJECT OWNER’S/PERMITTEE’S RESPONSIBILITIES**

The project owner/permittee is responsible for providing:

A full-time Safety Engineer or Safety Representative, and proof of certification is required, either by submittal on “Certification of Structural Experience” (form TR-0133) or State Certification.

Cal/OSHA requires persons performing the duties of gas tester or safety representative to be certified by passing a written and an oral examination administered by the M&T Unit. CCR 8406(f), (h)

• Project drawings and specifications, calculations and details stamped by a Registered Structural Engineer, or a Registered Civil Engineer, with a minimum of five (5) years’ experience in sub-structural design of tunnels.
• A geotechnical investigation by a licensed geotechnical engineer to determine the following:
  • Storm Water Pollution Prevention Plan (SWPPP) or Water Pollution Control Plan (WPCP).
  • De-Watering Plan, if needed.
  • Ground water information
  • Boring and soil analysis logs, location plan of borings, cross sections, subsurface strata, fill and ground water elevations;
  o Particle size distribution (particularly percent rock and cobble),
  o Cohesion index, internal angle of friction, and soil classification,
  o Plastic and liquid limits (clays), expansion index (clays), soil density, and penetration tests,
  o Rock strength, rock joint fracture and orientation, water table levels, and soil permeability,
  o Areas of suspected and known contamination should also be noted and characterized.
• The soil investigation shall also determine the presence of rock, cobbles, and/or boulders, and the following:
  o Depth and extent of rock
- Rock type
- Rock strength
- Rock joint/fracture spacing
- Hardness
- RQD
- Estimated range of sizes & frequency of occurrence of cobbles and boulders.

**CONTRACTOR’S RESPONSIBILITIES**

The contractor is responsible for providing:

- Tunnel project construction plans and specifications, calculations and details, method of construction, to include the adequacy of the shield and liner material stamped by a Registered Structural Engineer, or a Registered Civil Engineer, with a minimum of five (5) years’ experience in sub-structural design of tunnels.
- “Notice of Materials to be used” (form CEM-3101).
- Method of construction plan.
- A Licensed Surveyor.
- Proof of rib expanders and/or liner supports.
- Working schedule of the project.
- Contingency plan for dealing with ground loss work.
- Shaft; soil stability at portals and ground improvement plan.
- Dewatering plans for entry and exit shafts/pits, if needed.
- Installation and monitoring of SWPPP or WPCP facilities and conditions.
- Shoring design for entry and exit shafts/pits.
- Survey control plan: lasers, laser mounting, laser checking.
- Ground surface settlement monuments and subsurface settlement monuments monitoring program plan.
- Buried points
ENCASEMENT REQUIREMENTS

1. Encasement requirements are discussed in Section 603.3C of the Encroachment Permits Manual.
2. The minimum wall thickness required for steel encasements is shown in Table 6.8 of the Encroachment Permits Manual.
3. Encasement ends shall be plugged with ungrouted bricks or other suitable material approved by the Caltrans' representative.
4. The Caltrans' representative may require the permittee to pressure grout, filling any voids generated during the permitted work. Grouting shall be at the expense of the permittee. Grout holes when placed inside the of the pipe, generally on diameters of 36” or greater, shall be on 8' centers, longitudinally and offset 22 degrees from vertical, and staggered to the left and right of the top longitudinal axis of the pipe. Grout pressure shall not exceed five-(5) psig (34.5 kPa) for a duration sufficient to fill all voids.
5. There is a spacing requirement when placement of multiple encasements is requested. The distance between multiple encasements shall be the greater of either 24” or twice that of the diameter of the larger pipe being installed.
6. Wing cutters when used shall only add a maximum of 1" in diameter to the outside diameter of the encasement pipe. Voids in excess of the Standard Specifications shall be grouted.
7. 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 100' shall not be permitted.
8. The length of the auger strand shall be equal to that of the section of encasement pipe.
BORE & JACK

Utility installations placed by Bore & Jack shall be monitored to ensure that the integrity of the existing roadway elevations are maintained. When the encasement is also to serve as the carrier facility for hazardous materials, the use of another trenchless installation is recommended. Potential damage could occur during the jacking process, rendering the use of that facility as the carrier.

BORE AND RECEIVING PITS

Requirements:

1. Must be located as far from the traveled way as feasible. At minimum, must be located 10 feet from the edge of pavement in rural areas, or at least 5 feet beyond the concrete curb and gutter or AC dike in urban areas, or at least 5 feet beyond the toe of slope of embankments.
2. Must be located outside of access-controlled right-of-way. Any deviations for direct crossings that are excessively long, or there is restricted space available for placement, outside of the right-of-way require an approved encroachment policy exception. Those portions of the installation not placed by Bore & Jack must be encased by the open trench method.
3. Must be protected by placement of 6-foot chain link fence or Type-K barrier around them.
4. Must be shored in accordance to Cal-OSHA requirements. Shoring of pits located within 15 feet of lanes within State highway right-of-way must not extend more than 36 inches in height above the pavement grade, unless authorized by a Caltrans' representative.
5. Reflectors must be affixed to the shoring on all sides facing traffic.
6. Pits must not affect any State facilities, or create a hazard to the traveling public. Damaged State facilities must be replaced in-kind or repaired to their original state.
7. All pits should have crushed-rock and sump areas to clear groundwater and water used to clean the casings. Pits must be lined with filter fabric when groundwater is found and pumping is required.
8. Temporary Type-K railing must be placed at a 10:1 taper or as otherwise directed by the Caltrans’ representative to maintain the integrity of the adjacent travel lane.

Any installation that is 30 inches in diameter or greater is defined as tunnel. See Section 518, and Table 5.29 - Permit Code TN for the requirements of such installations.
RECOMMENDED MINIMUM DEPTH OF COVER FOR HDD INSTALLATIONS

<table>
<thead>
<tr>
<th>DIAMETER</th>
<th>DEPTH OF COVER</th>
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</thead>
<tbody>
<tr>
<td>2 inches to 6 inches</td>
<td>4 feet</td>
</tr>
<tr>
<td>8 inches to 14 inches</td>
<td>6 feet</td>
</tr>
<tr>
<td>15 inches to 24 inches</td>
<td>10 feet</td>
</tr>
<tr>
<td>25 inches to 48 inches</td>
<td>15 feet</td>
</tr>
</tbody>
</table>

Upon completion of the work, the permittee shall provide an accurate as-built drawing of the installed pipe.

SOIL INVESTIGATIONS

The District Permit Engineer (DPE) should determine the extensiveness of the Soil Investigation to be performed based on the complexity of the HDD operation, or modify the guideline to fit the respective area.

A soil investigation is required, suitable for the proposed complexity of the installation to confirm ground conditions that will be encountered during the HDD operation. The HDD process is a continual and extensive soil analysis as the pilot bore is made encountering the varying soils and formations.

Projects less than 500' in length, where the product or casing is 8" or less in diameter:

A field soil sampling investigation to a depth of one foot below the proposed drilling.
  a) Subsurface strata, fill, debris and material

Projects less than 800' in length, where the product or casing is 14" or less in diameter:

A field soil sampling investigation to a depth of one foot below the proposed drilling.
  a) subsurface strata, fill, debris and material
  b) particle size distribution (particularly percent gravel and cobble)

Projects where the product or casing is 16" or greater in diameter:

A geotechnical evaluation by a qualified soil engineer to determine the following.
  a) subsurface strata, fill, debris and material,
  b) particle size distribution (particularly percent gravel and cobble),
  c) cohesion index, internal angle of friction, and soil classification,
  d) plastic and liquid limits (clays), expansion index (clays), soil density
  e) water table levels, and soil permeability,
  f) rock strength, rock joint fracture and orientation, water table levels, and soil permeability,
  g) areas of suspected and known contamination should also be noted and characterized.

Projects where the product or casing 24" or greater in diameter:

A geotechnical evaluation by a qualified soil engineer to determine the following.
  a) subsurface strata, fill, debris and material
  b) particle size distribution (particularly percent gravel and cobble)
  c) cohesion index, internal angle of friction, and soil classification
  d) plastic and liquid limits (clays), expansion index (clays), soil density, and penetration tests,
  e) rock strength, rock joint fracture and orientation, water table levels, and soil permeability,
  f) areas of suspected and known contamination should also be noted and characterized.

A borehole or test pit should be undertaken on both sides and in the median when conditions permit.
Additional boreholes or test pits should be considered if substantial variations in soil conditions are encountered in the soil analysis (the presence of gravel, cobble, and/or boulders).

Fluid jetting methods used as a means of cutting should only be considered where soils have a high cohesion such as stiff clays.

PRE-CONSTRUCTION & SITE EVALUATION

The following steps should be undertaken by the permittee/contractor to ensure safe and efficient construction with minimum interruption of normal, everyday activities at the site.

- Notify owners of subsurface utilities along and on either side of the proposed drill path of the impending work through USA alert (the one-call program). All utilities along and on either side of the proposed drill path are to be located.
- Obtain all necessary permits or authorizations to carry construction activities near or across all such buried obstructions.
- All utility crossings should be exposed using a hydro-excavation, hand excavation (potholing) or other approved method to confirm depth.
- Construction schedule should be arranged to minimize disruption (e.g. drilling under railroad beds, major highways, and/or river crossings).
- The proposed drill path should be determined and documented, including its horizontal and vertical alignments and the location of buried utilities and substructures along the path.

Walk the area prior to the commencement of the project and visually inspect potential sites. The following should be addressed:

- When on State R/W establish whether or not there is sufficient room at the site for: entrance and exit pits; HDD equipment and its safe unimpeded operation; support vehicles; fusion machines; stringing out the pipe to be pulled back in a single continuous operation.
- Establishing suitability of soil conditions for HDD operations. Subgrade soils consisting of large grain materials like gravel, cobble, and boulders make HDD difficult to use and may contribute to pipe damage.
- Check the site for evidence of substructures such as manhole covers, valve box covers, meter boxes, electrical transformers, conduits or drop lines from utility poles, and pavement patches. HDD may be a suitable method in areas where the substructure density is relatively high.

INSTALLATION REQUIREMENTS

During construction continuous monitoring and plotting of pilot drill progress shall be undertaken to ensure compliance with the proposed installation alignment and allow for appropriate course corrections to be undertaken that would minimize “dog legs” should the bore start to deviate from the intended bore path.

Monitoring shall be accomplished by manual plotting based on location and depth readings provided by the locating/tracking system or by computer generated bore logs which map the bore path based on information provided by the locating/tracking system. Readings or plot points shall be undertaken on every drill rod.

Excess drilling fluids shall be contained at entry and exit points until recycled or removed from the site. Entry and exit pits should be of sufficient size to contain the expected return of drilling fluids and soil cuttings.

The permittee shall ensure that all drilling fluids are disposed of in a manner acceptable to the appropriate
local, state, or federal regulatory agencies. When drilling in contaminated ground the drilling fluid shall be tested for contamination and disposed of appropriately. Restoration of damage to any highway or non-highway facility caused by escaping (“fracout”) drilling fluid, or the directional drilling operation, shall be the responsibility of the permittee.

To minimize heaving during pullback, the pull back rate shall be determined which maximizes the removal of soil cuttings and minimizes compaction of the ground surrounding the borehole. The pullback rate shall also minimize overcutting of the borehole during the back reaming operation to ensure excessive voids are not created resulting in post installation settlement.

The permittee shall, prior to and upon completion of the directional drill, establish a Survey Grid Line and provide monitoring as outlined in their submitted detailed monitoring plan. Subsurface monitoring points shall be utilized to provide early indications of settlement as large voids may not materialize during drilling due to pavement bridging.

Should pavement heaving or settlement occur, sawcutting and replacement of the asphalt shall be the responsibility of the permittee.

To prevent future settlement should the drilling operation be unsuccessful the permittee shall ensure the backfill of any void(s) with grout or backfilled by other means.

**PERMITTEE’S/CONTRACTOR’S RESPONSIBILITIES**

The plans set submittal should contain the following information in support of the permit application.

1. Location of entry and exit point.
2. Equipment and pipe layout areas.
3. Proposed drill path alignment (both plan & profile view).
4. Location, elevations and proposed clearances of all utility crossings and structures.
5. Proposed Depth of cover.
7. Product material (HDPE/steel), length, diameter-wall thickness, reamer diameter.
8. Detailed pipe calculations, confirming ability of product pipe to withstand installation loads and long term operational loads including H2O.
9. Proposed composition of drilling fluid (based on soil analysis) viscosity and density.
10. Drilling fluid pumping capacity, pressures and flow rates proposed.
11. State right-of-way lines, property, and other utility right-of-way or easement lines.
12. Elevations.
13. Type of tracking method/system.
14. Survey Grid establishment for monitoring ground surface movement (settlement or heave) due to the drilling operation.

Note: **May be waived by the District Permit Engineer on HDD jobs of less than 6" in diameter and on a transverse crossing less than 150' in length.**

**ADDITIONAL PERMIT CONDITIONS SHALL BE SET FORTH IN THE SPECIAL PROVISIONS OF THE PERMIT.**

**LOCATING AND TRACKING**

**Effective January 1, 2000, locating and tracking of the reamer during the back-reaming process is required.**

The illustration below shows a universal housing that will work with any drill-string on all HDD rigs.
DRILLING FLUIDS MANAGEMENT PLAN

The following information should be provided as part of the drilling fluid management plan:

- Identify source of fresh water for mixing the drilling mud (Necessary approvals and permits are required for sources such as streams, rivers, ponds, or fire hydrants).
- Method of slurry containment.
- Method of recycling drilling fluid and spoils (if applicable).
- Method of transporting drilling fluids and spoils off site.

Drilling fluid pressures should not exceed that which can be supported by the overburden (soil) pressure.

Drilling fluids serve many functions, as follows:

- Removes cuttings from the bottom of the hole and transports them to the surface.
- Holds cuttings and weight material in suspension when circulation is interrupted.
- Releases sands and cuttings at the surface.
- Stabilizes the hole with an impermeable cake.
- Cools and lubricates the drill bit and drill string.
- Controls subsurface pressures.
- Transmits hydraulic horsepower.
- Cools the locating transmitter sonde preventing burnout.

PREVIOUS EXPERIENCE

- The permittee's contractor should provide a list of projects completed by his company, location, project environment (e.g., urban work, river crossing), product diameter and length of installation.
- The permittee's contractor should provide a list of key personnel.

SAFETY

- Emergency procedures for inadvertently boring into a natural gas line, live power cable, water main, sewer lines, or a fiber-optic cable, which comply with applicable regulations.
- Emergency evacuation plan in case of an injury.
CONTINGENCY PLANS

The Contingency plan shall address the containment and removal, of an inadvertent return or spill (e.g., drilling fluids, and hydraulic fluids).

COMMUNICATION PLAN

The communication plan should address the following:

- The phone numbers for communication with owner or his representative on the site.
- Identification of all key personnel which will be responsible for ensuring that the communications plan is followed.

DRILLING OPERATIONS

The following paragraphs provide general remarks and rules of thumb related to the directional boring method, as well as specific details regarding various stages of the installation process.

- The drill path alignment should be as straight as possible to minimize the fractional resistance during pullback and maximize the length of the pipe that can be installed during a single pull.
- The radius of curvature is determined by the bending characteristics of the product line, and it is increasing with diameter.
- If a drill hole beneath a road must be abandoned, the hole should be backfilled with grout or bentonite to prevent future subsidence.

EQUIPMENT SETUP AND SITE LAYOUT

- Sufficient space is required on the rig side to safely set up and operate the equipment.
- Sufficient space should be allocated to fabricate the product pipeline into one string, thus enabling the pull back to be conducted in a single continuous operation.

DRILLING AND BACK-REAMING

- Drilling mud shall be used during drilling and back reaming operations. Using exclusively water may cause collapse of the borehole in unconsolidated soils, while in clays, the use of water may cause swelling and subsequent jamming of the product.
- Heaving may occur when attempting to back ream too large of a hole. This can be avoided by using several pre-reams to gradually enlarge the hole to the desired diameter.
- The conduit must be sealed at both ends with a cap or a plug to prevent water, drilling fluids and other foreign materials from entering the pipe as it is being pulled back.
- Pipe rollers, skates or other protective devices should be used to prevent damage to the pipe from the edges of the pit during pullback, eliminate ground drag or reduce pulling force and subsequently reduce the stress on the product.
- The drilling mud in the annular region should not be removed after installation, but permitted to solidify and provide support for the pipe and neighboring soil.

BREAK-AWAY PULLING HEAD

Some utility companies require the use of breakaway swivels to limit the amount of force used when pulling HDPE products.
**PROTECTIVE COATINGS**

In an HDD installation, the product pipe may be exposed to extra abrasion during pullback. When installing a steel pipe, a form of coating which provides a corrosion barrier as well as an abrasion barrier is recommended during the operation, the coating should be well bonded and have a hard smooth surface to resist soil stresses and reduce friction, respectively. A recommended type of coating for steel pipes is mill applied Fusion Bonded Epoxy.

**DRILLING FLUID - COLLECTION AND DISPOSAL PRACTICES**

Drilling fluids, additives and their Material Safety Data Sheets (MSDS) shall be identified within the contractor’s submittal permit package:

- Excess drilling fluids shall be contained within a lined pit or containment pound, until removed from the site.
- When an area of contaminated ground is encountered, the slurry shall be tested for contamination and disposed of in a manner, which meets Local, State and/or Federal requirements.
- Precautions shall be taken to keep drilling fluids out of the streets, manholes, sanitary and storm sewers, and other drainage systems, including streams and rivers.
- The contractor shall make all diligent efforts to minimize the amount of drilling fluids and cuttings spilled during the drilling operation, and shall provide complete clean-up of all drilling mud overflows or spills.

**SITE RESTORATION AND POST CONSTRUCTION EVALUATION**

All surfaces affected by the work shall be restored to their pre-existing conditions.

The permittee/contractor shall provide a set of as-built drawings to include both alignment and profile.

Drawings should be constructed from actual field readings. Raw data shall be submitted as part of the “As-Built” document. The contractor shall stipulate the tracking method used to ensure the data was captured.
MICRO-TUNNELING

Micro-tunneling is a hybrid of the tunneling industry (miniaturization of tunnel boring machines) and the pipeline industry where pipe jacking has been used for more than 100 years. It is a special construction method suitable for many conditions where open cut construction methods are not cost effective, too disruptive, or not physically possible.

MICRO-TUNNELING PLAN SET SUBMITTAL

The plan set submittal shall consist of two separate submittals, by the Owner of the installation and by the owner's contractor.

The submittal by the owning agency shall contain the following plans and information:

1. Drive lengths
2. Proposed depth
3. Shaft; jacking and receiving shafts, manhole construction, shaft backfill, and shoring removal;
   - Type of shaft;
     a) Sheet Pile
     b) Beams and Lagging
     c) Trench Box
     d) Auger Drilled and Lined
     e) Caissons
4. Intermediate jacking stations;
   - Number of Stations;
     a) Required by Specifications
     b) On site
5. Geotechnical; including ground water information
   - Geotechnical evaluation by a qualified soil engineer to determine the following;
     a) Boring logs & plan locations of borings and cross sections, Subsurface strata, fill and ground water elevations
     b) Particle size distribution (particularly percent rock and cobble),
     c) Cohesion indexes, internal angle of friction, and soil classification,
     d) Plastic and liquid limits (clays), expansion index (clays), soil density, and penetration tests,
     e) Rock strength; rock joint fracture and orientation, water table levels, and soil permeability,
     f) Areas of suspected and known contamination should also be noted and characterized.
   - Should the soil investigation determine the presence of rock, cobbles, and/or boulders, determination of the following information would be required;
     a) Depth and extent of rock
     b) Rock type
     c) Rock strength
     d) Rock joint/fracture spacing
     e) Hardness
     f) RQD
     g) Estimated range of sizes & frequency of occurrence of cobbles and boulders.

Boreholes or test pits for road crossings shall be undertaken on both sides with one or more additional boreholes or test pits in the median where conditions permit. Additional boreholes or test pits should be considered if substantial variation in soil conditions are encountered. Where a proposed installation parallels an existing road, boreholes or test pits should be undertaken at approximately 250 to 410 feet intervals.
CONTRACTOR’S SUBMITTAL

Shall contain the following plans and information:

1. Shaft; soil stability at portals and ground improvement.
2. Dewatering plans for jacking and receiving shafts, if any.
3. Shoring design for jacking and receiving shafts.
5. Ground surface settlement monuments and subsurface settlement monuments monitoring program plan.
   - Buried points
     a) Rebar points, or
     b) MPBX (Multi-point borehole extensometers)
6. Recycling information; slurry mix and polymer additives, slurry separation plant type, and spoils disposal;
   a) Removal of slurry in dump trucks.
   b) Removal of slurry in tankers.
   c) Settlement ponds.
   d) Muck piles on site.
7. Contingency plan information;
   a) Ground improvement plans when required at portals and/or behind thrust block/reaction wall due to weak and unstable soil conditions.
   b) Obstruction removal through emergency (911) shafts or other means.
   c) Mechanical breakdowns and recovery of the MTBM through 911 shafts or other means.
   d) Control of hydrofracture and slurry loss.
   e) Remediation of loss of ground and excessive ground surface settlement.
PIPE RAMMING

Pipe Ramming pit requirements are identical to those for Bore & Jack.

Establishment of a survey-grid line is required.

Before any project begins, exploration bore-holes and a complete geotechnical investigation shall be conducted to determine possible difficulties to determine the drilling trajectory.

The casing shall be rammed open ended, except when the diameter is 6” or smaller. Pipes 6” or smaller may be rammed open ended or closed.

A soil shoe may be installed on the leading edge of the casing, either by fabrication on site or obtained from the manufacturer. A soil shoe shall not be utilized on those installations at depths or 18” or less from the surface.

Lubrication shall only be utilized to reduce friction and increase production. The amount of lubrication directed to the outside of the pipe shall only be of a sufficient amount required to fill the void between the outside of the pipe and soil, as created by the soil shoe.

Lubrication to the inside of the casing shall only be an amount adequate to assist in spoil removal when the ram is completed.

Welding of the casing at joints shall be as per the manufacturer’s recommendations.

The use of straps at each joint on pipe diameters of 12” or larger is required as is the use of the manufacturer’s specified welding wire or rod.

Spoil removal for rammed encasements of 30” in diameter or less, may utilize pressurized air or water.

Air pressure shall not exceed 150 psi and water pressure shall not exceed 300 psi.

Encasements larger than 30” in diameter shall have the spoils removed by other means than by pressurizing of the pipe, such as, manual, auguring, vacuum, washing or other means.

The Receiving Pit shall be steel plated entirely when the spoils are to be removed from within the encasement by means of air or water pressurized methods.
PIPE BURSTING

Pipe Bursting operations generally are only performed by the owning utility when they have exceeded the operating capacity of their existing facilities. In most cases pipe bursting allows the utility owners the advantage of upgrading their existing facilities by up to 50%.

On installations of diameters 12” or greater it is necessary to establish a survey-grid line and establish the existing elevation points over the existing area of installation.

A soil analysis should be required and review of the information to identify any locations of difficulty, density, water table, changes in soil formation that could present or create greater friction resistance.

Request information of the proposed project as to:

1. The ratio of the proposed upgrade to determine difficulty, generally up to 25% increase in diameter is common. An increase of 25% - 50% is considered challenging, and an increase of 50% or greater is considered experimental.

2. The existing depth of cover, “rule of thumb” depth of cover should be at least 10X the difference in the upgrade of the existing diameter to be burst.

3. Whether or not the existing line has been viewed by video, do not allow line to be burst blind.

4. Is this proposed line straight or are there bends in the line.

5. If bends are existing in the line, the location of the bend will have to be excavated and new pits re-established at those locations.

6. Require that the contractor provide a list of equipment to be on site to handle an emergency, in the event that bypass pumping is required to maintain the existing service in the event of a problem.

7. As to what method will be utilized (static, pneumatic, burst and jack, or hydraulic).
Appendix F – Miscellaneous

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Sample letter to City or County requesting consent for Visibility Improvement ........................................... F-1

Permit File & Plans Set Microfilming Guidelines .................................................................................................. F-2

Minimum clearances of wires above railroads, thoroughfares, buildings, etc. (Excerpts from the California Public Utilities Commission's General Order 95, Rules 36, 37 and Table 1)

http://www.cpuc.ca.gov/gos/GO95/go_95_section_3.html
Dear City/County Manager:

I am writing to you in behalf of a visibility improvement requester regarding a matter you may be interested in.

Pursuant to Streets and Highways Code Section 670, when proposed encroachment work for the destruction, removal or topping of a tree (except if dead or diseased) exceeds $500, then the consent of the city or county, in which the tree is located, is required before permit issuance. In addition, a 30 day time limit to respond from the receipt of this letter is also required and failure to do so shall deem the consent from the city or county.

Please complete the bottom portion of the enclosed Visibility Improvement Request and return it to the Caltrans District Permit Office.

Sincerely,

District Permit Engineer

Enclosure
In addition to the requirements discussed in Section 206.4A “Closing out permit files”, the following steps must be taken when preparing permit files and plan sets for microfilming:

**PERMIT FILES:**

- The first page of the permit file must be a completed “EP – Microfilming Slipsheet” (form TR-0155). This form is available at:
  
  [http://cefs2.dot.ca.gov/v2Forms/servlet/FormRenderer?frmid=TR0155](http://cefs2.dot.ca.gov/v2Forms/servlet/FormRenderer?frmid=TR0155)

- Forms can be typed or handwritten as long as they are legible. If handwritten, print using black or blue ink.

- Smaller size plan sets (8 1/2” x 11” and 11” x 17”) must be included with the permit file (preferably at the end) so they are microfilmed together rather than in separate aperture cards. This helps reduce costs, space and research time since all of the information is available in a single microfilm roll.

  Procedures for larger size plan sets are addressed below.

- The “Permit Transfer Sheet” (form ADM-0163) is an accountability record used by both the District Office and the Microfilming contractor to track the location of any particular permit file while it is in the process of being microfilmed. This form is available at:
  
  [http://cefs2.dot.ca.gov/v2Forms/servlet/FormRenderer?frmid=ADM0163](http://cefs2.dot.ca.gov/v2Forms/servlet/FormRenderer?frmid=ADM0163)

- A copy of the transfer sheet must be placed inside the box (on top of the permit files).

- A second copy of the transfer sheet must also be taped to the outside of the box. This allows us to quickly view the box’s contents without opening it if a file needs to be located.

- **Keep a copy of the transfer sheet for your records.**

- If the documents do not completely fill up the box, add packing material to prevent the contents from shifting during transit.

**LARGER SIZE PLAN SETS:**

- Larger size plans sets must be packaged separately from the permit files so they are converted into aperture cards.

- Use the following guide to place the information stamp (permit #, plan set #, etc.) on each page of the plan set parallel to the bottom of the page:
  
  1. First choice - lower right quarter
  2. Second choice- upper right quarter
  3. Third choice - upper left quarter
  4. Fourth choice- lower left quarter

  If the background of the page is a dark color, tape a post-it or similar label on the page and then stamp the label.

- Be sure that plan sets are placed facing up.
• Do not place written information on the back of the plan sets.

• Important notes must be taped onto the plan set. These additional pieces of paper are to become part of the plan set. Place and tape down any applicable notes over an open space on the plan set.

• Remove all staples from plan sets with multiple sheets. Plan sheets must be numbered and placed in the correct sequential order.

• Do not break up a plan set between boxes.

• Consecutively number each box within the current calendar year.

  Format:
  • 2 digit District number – Box number – last 2 digits of the current calendar year.

  Example:
  • The first box is packaged by District 02 in 2017 this box is numbered 02-01-17.
  • Two months later, the second box is packaged and numbered 02-02-17.
  • Then District 02 does not package another box until 2018.
  Since this is the first box for 2018, this box is numbered 02-01-18.

• Arrange the plan sets in ascending order by year and plan set number within the year.

  The oldest plan set with lowest plan set number will appear first followed by the next, etc.

  Example:

<table>
<thead>
<tr>
<th>PERMIT NUMBER</th>
<th>YEAR</th>
<th>PLAN SET #</th>
<th>TOTAL PAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>0217 – 6-CD - 0005</td>
<td>2017</td>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td>0217 – N-DD - 0180</td>
<td>2017</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>0218 – 6-MC - 0161</td>
<td>2018</td>
<td>31</td>
<td>1</td>
</tr>
<tr>
<td>0219 – 6-UB - 0068</td>
<td>2019</td>
<td>35</td>
<td>2</td>
</tr>
<tr>
<td>0219 – N-UE - 0070</td>
<td>2019</td>
<td>36</td>
<td>3</td>
</tr>
</tbody>
</table>

  The district must list the plan sets in **ASCENDING YEAR and PLAN SET #** as the plans also appear in the box.

  The first plan set listed on the sheet is the plan set on top in the box, etc.

• A copy of the transfer sheet must be placed inside the box (on top of the plan sets).

• A second copy of the transfer sheet must also be taped to the outside of the box. This allows us to quickly view the box’s contents without opening it if a plan set needs to be located.

• **Keep a copy of the transfer sheet for your records.**

• If the documents do not completely fill up the box, add packing material to prevent the contents from shifting during transit.
Appendix G – DISTRICT ENCROACHMENT PERMIT OFFICES

District 04
111 Grand Avenue, 6th Floor MS 5E
P. O. Box 23860
Oakland, CA 94623-0660
(510) 286-4401
(510) 286-4712 FAX

District 05
50 Higuera Street
San Luis Obispo, CA 93401
(805) 549-3152
(805) 549-3062 FAX

District 06
1352 W. Olive Avenue
Fresno, CA 93728
(559) 488-4058
(559) 445-6510 FAX

District 07
100 South Main Street, Suite 100
Los Angeles, CA 90012
(213) 897-3631
(213) 897-0420 FAX

District 08
464 W 4th Street MS 619
San Bernardino, CA 92401-1400
(909) 383-4526
(909) 383-4224 FAX

District 09
500 South Main Street
Bishop, CA 93514
(760) 872-0674
(760) 872-5215 FAX

District 10
1976 E. Charter Way/MLK Jr Blvd (95205)
P. O. Box 2048
Stockton, CA 95201
(209) 948-7891
(209) 948-7232 FAX

District 11
4050 Taylor St MS 110
San Diego, CA 92110
(619) 688-6158
(619) 688-6157 FAX

District 12
1750 East 4th. Street
Santa Ana, CA 92705
(657) 328-6246
(657) 328-6504 FAX

* Eastern Kern County and Northern San Bernardino County fall under D09’s jurisdiction. Please contact the office if you have any questions.

ENCROACHMENT PERMITS MANUAL
CURRENT AS OF: 09/2017
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## Appendix H – References

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</tr>
<tr>
<td>California Test Method 342</td>
<td>H-5</td>
</tr>
<tr>
<td>Encroachment Permit Fees</td>
<td>H-17</td>
</tr>
</tbody>
</table>

The following Temporary Traffic Control Systems ("T" sheets) are available at:

https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications

- Traffic Control System for Lane Closure on Freeways and Expressways, T-9
- Traffic Control System for Lane Closure on Freeways and Expressways, T-10
- Traffic Control System for Lane and Complete Closure on Freeways and Expressways, T-10A
- Traffic Control System for Lane Closure on Multilane Conventional Highways, T-11
- Traffic Control System for Lane Closure on Multilane Conventional Highways, T-12
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Controlled Low Strength Material ................................................................. H-21

METHOD FOR CALIBRATION OF CALIFORNIA PORTABLE SKID TESTER

CAUTION: Prior to handling test materials, performing equipment setups, and/or conducting this method, testers are required to read “SAFETY AND HEALTH” in Section E of this method. It is the responsibility of the user of this method to consult and use departmental safety and health practices and determine the applicability of regulatory limitations before any testing is performed.

A. SCOPE

The Procedure for the direct calibration of the California Portable Skid Tester, which is used in California Test 342, is described in this method.

B. APPARATUS

1. Calibration plate, Grooved metal (Figure 1)
2. Holding plate (Figure 2)

C. CALIBRATION PROCEDURE

1. Anchor the holding plate with hardened nails on a level surface such as an AC driveway.
2. Position the tester over the calibration plate.
3. Block up the large front casters of the tester to the same elevation as the test plate surface.
4. Coat the test plate and test tire with glycerine.
   Note: Temperatures near 4.4°C or less will yield low values because the glycerine loses fluidity.
5. Perform test in both directions on the plate using the procedures outlined in California Test 342. Recoat the plate and tire with glycerine before each test. The desired reading against the cut is 0.42 ± 0.02 for all plates. Values desired with the cut vary depending upon the plate used. The friction factor of Plate No. 1 (Districts 07 and 11) is 0.27, Plate No. 2 (District 04 and the Transportation Laboratory) is 0.30 and Plate No. 3 (Branch Laboratory in Los Angeles) is 0.32. The diagram (Figure 1a) defines with and against the cut.
6. After completing the tester calibration, thoroughly wash the standard plate with warm water and detergent, dry the plate and replace face down in the box.

D. ADJUSTMENT PROCEDURE

1. Adjustments can be made in the tension of the small coil springs.
2. Large discrepancies may be corrected by adding or removing wheel weights.
3. If wheel weights are necessary, maintain a centrifugal balance by applying equal masses across the axle. Do not loosen more than one bolt at a time while changing weights.

Note: Before making large adjustments, investigate the following common sources of problems: dirty vertical support rod; dirty sliding gauge indicators; speedometer error; improper tire pressure, 1.73 kPa (25 psi ± 2 psi); cold glycerine and corroded carriage bearings.

E. SAFETY AND HEALTH

Testers are required to wear face protection due to the presence of glycerin mist, and also to read Chapter 12.15 (Face and Eye Protection) and Chapter 15 (Respiratory Protection) of Caltrans Employee Safety Manual.

REFERENCES
California Test 342
End of Text (4 pages) on Calif. 114
Figure 1a
660.4 MM
(26")

12.7 MM
(0.5")

3.175 MM
(0.125")

0.635 MM
(0.025")

0.508 MM
(0.02")

NOTES:
1. MATT - AIR HARDENING PRECISION GRIND
   TOOL STIL - AISI - A2
2. HEAT TREAT - 35 - 59 R.C., WITHOUT DISTORTION
3. FINISH - REMOVE ALL BURRS, BUT LEAVE ALL TOOTH EDGES SHARP.

SKID RESISTANCE

STANDARD TEST SURFACES

SECTION A-A

MILL CUTF DETAIL
SCALE - TWICE SIZE

FIGURE 1
HOLDING PLATE FOR
SKID RESISTANCE
STANDARD TEST SURFACES

SCALE 1:4 (1/4" = 1")

FIGURE 2
METHOD OF TEST FOR SURFACE SKID RESISTANCE
WITH THE CALIFORNIA PORTABLE SKID TESTER

CAUTION: Prior to handling test materials, performing equipment setups, and/or conducting this method, testers are required to read “SAFETY AND HEALTH” in Section H of this method. It is the responsibility of the user of this method to consult and use departmental safety and health practices and determine the applicability of regulatory limitations before any testing is performed.

A. SCOPE
The apparatus and procedure for obtaining coefficient of friction values of bituminous and portland cement concrete pavements and bridge decks using a portable skid tester are described in this test method.

B. APPARATUS
1. Skid testing unit
A 2-ply tire (200 mm rim height, 95 mm rim width, 425 mm tire height and a maximum overall tire width from 100 to 120 mm) with 170 ± 15 kPa air pressure manufactured with a smooth tread, together with rim, axle, and driving pulley, is mounted to a rigid frame. The tire is brought to the required test speed by a motor. A carriage moves on two parallel guides. Friction is reduced to a low uniform value with three roller bearings fitted at 120° points to bear against the guide rod at each corner of the carriage. Two guide rods are rigidly connected to the end frame bars. The front end of the guide bar frame assembly is firmly fastened to a bumper hitch to restrain forward movement. The bumper hitch provides for swinging the skid tester to the right or left after positioning the vehicle. The rear end of the frame assembly is raised by an adjustable knob to hold the tire 6 mm above the surface to be tested. This device is constructed so that the tire may be dropped instantaneously to the test surface by tripping the release arm. A tachometer indicates the speed of the tire in kilometers per hour. The springs are calibrated by procedures outlined in California Test 114. See Figures 1, 2 and 3.

2. A trailer hitch is used to fasten the skid testing unit to the test vehicle.

3. A 0.7-m metal carpenter’s level, fitted at one end with a movable gage rod, is required. This device is calibrated to determine surface grades, in percent.

C. MATERIALS
1. Glycerin
2. Water
3. Paint brush
   (approximately 50 mm wide)
4. Wooden spacer
   (6 mm thick, 0.6 m long and 25 mm wide)
5. A stiff fiber broom

D. TEST PROCEDURE

1. Clean loose material from the test surface using the stiff fiber broom.

2. Determine the grade of the test surface.
   a. Place the metal level on the test surface parallel to direction of traffic with the adjustable end down grade.
   b. Adjust the level until the bubble is centered.
   c. The grade is read directly on the calibrated sliding bar. See Figure 4. Record this slope to nearest 0.5 %.

3. Remove the skid testing unit from the vehicle, attach it to the bumper hitch, and connect the power cables as shown in Figure 5.

4. Position the skid tester with the test tire over the pavement surface to be tested. The test tire should be parallel to the direction of traffic.

5. Place the wooden spacer under the test tire and turn the adjustment knob to obtain a distance of 6 mm from the test surface to the bottom of the test tire. Remove the wooden spacer.

6. Wet the full circumference of the test tire and the test surface (from the initial tire contact point to approximately 0.5 m ahead of the contact point) with glycerin, using the paint brush.

7. Release the rebound shock absorber. This device is located in front of the switch, and below the motor.

8. Set the sliding gage indicator against the carriage end.

9. Depress the starting switch and bring the test tire speed to approximately 90 km/h.


11. Drop the test tire to the pavement surface the instant the tachometer shows 80 km/h. This is performed by engaging the lever arm.

12. Read the gage at the rear edge of indicator and record the test measurement. Obtain a coefficient of friction value for the smoothest appearing surface or surfaces on the project.

   For a pavement surface, obtain five test measurements and report the average as the coefficient of friction. Make the tests in a longitudinal direction at 7.5-m intervals, unless any test measurement is less than the specified minimum. If less than the specified minimum, make five test measurements at 0.6-m intervals within or including the smoothest appearing area.

   For a bridge deck, obtain the coefficient of friction value by averaging three test measurements. Space each test location for this average no nearer than 0.6 m nor farther than 1.2 m, from any other test location. The spacing may be lateral or longitudinal, but perform the test measurement in a longitudinal direction.

   For coefficient of friction values less than the specified minimum, use a combination of visual observations and individual test measurements to define the area of non-compliance.

E. CALCULATIONS

1. Make pavement corrections due to slope changes using Figures 6 and 7.

2. Average the corrected readings for each test location.
Example: The following readings were taken at 7.5 m intervals in a test location.

<table>
<thead>
<tr>
<th>Test Location</th>
<th>Test Measurement</th>
<th>% Grade</th>
<th>Corrected Test Measurement*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0+00.0</td>
<td>0.37</td>
<td>+2</td>
<td>0.39</td>
</tr>
<tr>
<td>0+07.5</td>
<td>0.38</td>
<td>+1</td>
<td>0.39</td>
</tr>
<tr>
<td>0+15.0</td>
<td>0.40</td>
<td>+1</td>
<td>0.41</td>
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<td>0+22.5</td>
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<td>+1</td>
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</tr>
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<td>0+30.0</td>
<td>0.41</td>
<td>+1</td>
<td>0.42</td>
</tr>
</tbody>
</table>

Average Coefficient of Friction = \( \frac{0.40}{0.40} \)

*Corrected values for upgrade measurements were taken from chart in Figure 6.

Examples of coefficient of friction values for different pavement textures are presented in the Appendix.

F. PRECAUTIONS

1. The rear support rod must be cleaned by washing frequently with water and a detergent to prevent sticking. A coating of light oil should be applied.

2. Sliding gage indicator must be kept clean so that it will slide very freely, and adjusted so that it will not shift upon carriage recoil impact.

3. Glycerin remaining on the surface after the test should be flushed off with water.

4. A minimum of seven days should lapse after PCC placement before testing.

5. A minimum of one day should lapse after AC placement before testing.

6. Temperatures less than 4.5°C will cause glycerin to become viscous and yield lower values. For full accuracy, coefficient of friction values must be obtained at temperatures greater than 4.5°C.

7. At the conclusion of a testing period, thoroughly wash the entire tester with water and carefully dry all parts with a cloth to minimize the corrosive properties of glycerin.

8. Use care when removing and reinserting the test apparatus in the transport vehicle. See Figures 8 and 9.

G. REPORTING OF RESULTS

The report shall include the following data:

1. The name of the tester and the date when test measurements were recorded

2. The contract number

3. The year when the pavement surface was placed

4. The location of the test measurements

5. The surface grade for each test site

6. The initial and corrected test measurements and the average coefficient of friction value for each test location

7. Average air temperature during testing

8. Form TL-3111 shall be used to report all test results. See Figure 10.

H. SAFETY AND HEALTH

Prior to handling, testing or disposing of any waste materials, testers are required to read: Part A (Section 5.0), Part B (Sections: 5.0, 6.0 and 10.0) and Part C (Section 1.0) of Caltrans Laboratory Safety Manual. Users of this method do so at their own risk.

REFERENCE:
California Test 114

End of Text (California Test 342 contains 12 pages)
FIGURE 1 - DIAGRAM OF SKID TESTER

<table>
<thead>
<tr>
<th>LETTER REFERENCE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>TEST TIRE</td>
</tr>
<tr>
<td>B</td>
<td>CARRIAGE COLLAR</td>
</tr>
<tr>
<td>C</td>
<td>CARRIAGE GUIDE RODS</td>
</tr>
<tr>
<td>D</td>
<td>BEARING ASSEMBLY</td>
</tr>
<tr>
<td>E</td>
<td>END FRAME BARS</td>
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<tr>
<td>F</td>
<td>ADJUSTMENT KNOB</td>
</tr>
<tr>
<td>G</td>
<td>RELEASE ARM</td>
</tr>
<tr>
<td>H</td>
<td>MOTOR</td>
</tr>
<tr>
<td>I</td>
<td>POWER CABLES</td>
</tr>
<tr>
<td>J</td>
<td>STARTING SWITCH</td>
</tr>
<tr>
<td>K</td>
<td>TACHOMETER</td>
</tr>
<tr>
<td>L</td>
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<tr>
<td>M</td>
<td>TIRE CIRCUMFERENCE</td>
</tr>
<tr>
<td>N</td>
<td>GAGE</td>
</tr>
<tr>
<td>O</td>
<td>REAR SUPPORT ROD</td>
</tr>
<tr>
<td>P</td>
<td>SLIDING GAGE INDICATOR</td>
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</table>
FIGURE 2 - SIDE VIEW OF SKID TESTER

FIGURE 3 - CLOSE-UP VIEW OF SKID TESTER

<table>
<thead>
<tr>
<th>LETTER REFERENCE</th>
<th>DESCRIPTION</th>
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<tr>
<td>A</td>
<td>TEST TIRE</td>
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<tr>
<td>B</td>
<td>CARRIAGE COLLAR</td>
</tr>
<tr>
<td>C</td>
<td>CARRIAGE GUIDE RODS</td>
</tr>
<tr>
<td>D</td>
<td>BEARING ASSEMBLY</td>
</tr>
<tr>
<td>E</td>
<td>END FRAME BARS</td>
</tr>
<tr>
<td>F</td>
<td>ADJUSTMENT KNOB</td>
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<tr>
<td>G</td>
<td>RELEASE ARM</td>
</tr>
<tr>
<td>H</td>
<td>MOTOR</td>
</tr>
<tr>
<td>I</td>
<td>POWER CABLES</td>
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<tr>
<td>J</td>
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<tr>
<td>K</td>
<td>TACHOMETER</td>
</tr>
<tr>
<td>L</td>
<td>CALIBRATED SPRINGS</td>
</tr>
<tr>
<td>M</td>
<td>TIRE CIRCUMFERENCE</td>
</tr>
<tr>
<td>N</td>
<td>GAGE</td>
</tr>
<tr>
<td>O</td>
<td>REAR SUPPORT ROD</td>
</tr>
<tr>
<td>P</td>
<td>SLIDING GAGE INDICATOR</td>
</tr>
</tbody>
</table>
FIGURE 4 - LEVEL FOR MEASURING PAVEMENT SLOPE

FIGURE 5 - APPARATUS IN TEST POSITION
COEFFICIENT OF FRICTION CORRECTION CHART
FOR MEASUREMENTS MADE ON GRADERS

FIGURE 6 - GRADE CORRECTION CHART (UP GRADE)
COEFFICIENT OF FRICTION CORRECTION CHART
FOR MEASUREMENTS MADE ON GRADES

FIGURE 7 - GRADE CORRECTION CHART (DOWN GRADE)
FIGURE 8 - APPARATUS BEING PLACED IN VEHICLE
(NOTE: CABLE AND WINCH FOR MOVING SKID TESTER)

FIGURE 9 - APPARATUS IN POSITION FOR TRANSPORTING
**TRANSPORTATION LABORATORY**

**REPORT OF SKID TESTS**

District, County, Route, P.M. ____________________________

Contract Number ____________________________ Number of Lanes __________

Federal Number ____________________________ Bridge Width __________

Contract Limits ____________________________

Tested By ____________________________ Test Date ____________________ Bridge No. __________

Lane: ____________________________ Average Air Temperature _________

Position: In the direction of flow, position denotes feet to the right of the left edge of pavement or the inside face of the right wheel from the left bridge rail.

<table>
<thead>
<tr>
<th>TEST NO.</th>
<th>DATE PLACED</th>
<th>LOCATION</th>
<th>PERCENT GRADE</th>
<th>TEST MEASUREMENT</th>
<th>REMARKS</th>
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</thead>
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<tr>
<td></td>
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<td>KILOMETER POST</td>
<td>LANE</td>
<td>POSITION</td>
<td>MEASURED</td>
</tr>
<tr>
<td>1</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

* The coefficient of friction value

FORM TL-3111 (Revised 8/95)

FIGURE 10 - REPORT FORM
APPENDIX

COEFFICIENT OF FRICTION VALUES FOR TYPICAL PORTLAND CEMENT CONCRETE SURFACES ILLUSTRATING A RANGE OF TEXTURES

0.15

0.23

0.33

0.41
## STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION
### ENCOREAMIENT PERMIT FEE SCHEDULE
TR-0166 (REV. 10/2013)

<table>
<thead>
<tr>
<th>CODE</th>
<th>PERMIT TYPE</th>
<th>DEPOSIT REQUIRED</th>
<th>REVIEW</th>
<th>INSPECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD</td>
<td>Advertising displays, marquees, arcades, awnings</td>
<td>6</td>
<td>AX</td>
<td>AX</td>
</tr>
<tr>
<td>AH</td>
<td>Adopt-A-Highway</td>
<td>EXEMPT</td>
<td>EXEMPT</td>
<td>EXEMPT</td>
</tr>
<tr>
<td>AP</td>
<td>Transportation Art Program</td>
<td>EXEMPT</td>
<td>EXEMPT</td>
<td>EXEMPT</td>
</tr>
<tr>
<td>AS</td>
<td>Airspace Development</td>
<td>EXEMPT</td>
<td>EXEMPT</td>
<td>EXEMPT</td>
</tr>
<tr>
<td>BR</td>
<td>Banners, decorations</td>
<td>6</td>
<td>AX</td>
<td>AX</td>
</tr>
<tr>
<td>BS</td>
<td>Bus shelters &amp; benches</td>
<td>EXEMPT</td>
<td>EXEMPT</td>
<td>AX</td>
</tr>
<tr>
<td>CC</td>
<td>City/County issued permits</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>CD</td>
<td>Commercial Development</td>
<td>6</td>
<td>AX</td>
<td>AX</td>
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<tr>
<td>CN</td>
<td>Chain Installer</td>
<td>2 + vest</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CU</td>
<td>Coupon Racks &amp; Newspaper vending machines at SRRA</td>
<td>6</td>
<td>AX</td>
<td>AX</td>
</tr>
<tr>
<td>CU</td>
<td>Adopt-A-Kiosk (TSIC)</td>
<td>EXEMPT</td>
<td>EXEMPT</td>
<td>EXEMPT</td>
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<tr>
<td>CU</td>
<td>SRRA Vending Machines</td>
<td>EXEMPT</td>
<td>EXEMPT</td>
<td>EXEMPT</td>
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<tr>
<td>DP</td>
<td>Double Permit</td>
<td>6</td>
<td>AX, (#1)</td>
<td>AX</td>
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<tr>
<td>GM</td>
<td>Gateway Monument</td>
<td>EXEMPT</td>
<td>EXEMPT</td>
<td>EXEMPT</td>
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<tr>
<td>ID</td>
<td>Community Identification</td>
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<td>EXEMPT</td>
<td>EXEMPT</td>
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<tr>
<td>MB</td>
<td>Mailbox</td>
<td>EXEMPT</td>
<td>EXEMPT</td>
<td>EXEMPT</td>
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<tr>
<td>MC</td>
<td>Contractor’s yard and plant, Grading, mowing grass, material removal, structures, parking meters, tieback, widening, freeway &amp; conventional striping</td>
<td>6</td>
<td>AX</td>
<td>AX</td>
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<tr>
<td>MM</td>
<td>Blue Star and Memorial Markers</td>
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<td>EXEMPT</td>
<td>EXEMPT</td>
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<tr>
<td>MW</td>
<td>Monitoring Wells</td>
<td>6</td>
<td>AX</td>
<td>AX</td>
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<tr>
<td>OA</td>
<td>Visibility Improvement Request</td>
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<td>AX</td>
<td>AX</td>
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<tr>
<td>OP</td>
<td>Oversight Projects</td>
<td>AD</td>
<td>AD</td>
<td>AD</td>
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<tr>
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<td>EXEMPT</td>
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<tr>
<td>SC</td>
<td>State Contract – Early entry</td>
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<td>1</td>
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<tr>
<td>SI</td>
<td>Signs</td>
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<td>AX</td>
<td>AX</td>
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<tr>
<td>SV</td>
<td>Land, archeological, traffic counts, research project, accident reconstruction, literature distribution</td>
<td>6</td>
<td>AX</td>
<td>AX</td>
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<td>TN</td>
<td>Tunneling ( &gt; 30 inches)</td>
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<td>AX</td>
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<tr>
<td>WL</td>
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<td>DD</td>
<td>Major Drainage</td>
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<td>AX</td>
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<tr>
<td>FL</td>
<td>Filming Facilitie</td>
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<td>AX</td>
<td>AX</td>
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<tr>
<td>FI</td>
<td>Intermittent Traffic control</td>
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<td>2</td>
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<tr>
<td>FO</td>
<td>No moving traffic</td>
<td>0</td>
<td>1</td>
<td>0</td>
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<td>FR</td>
<td>Film rider</td>
<td>0</td>
<td>AX</td>
<td>AX</td>
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<tr>
<td>FS</td>
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<td>AX</td>
<td>AX</td>
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### CODE | PERMIT TYPE | DEPOSIT REQUIRED | REVIEW | INSPECTION |
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<tbody>
<tr>
<td>DEF</td>
<td>Deferred Billing (Utilities only)</td>
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<tr>
<td>GEC</td>
<td>Cable crossing</td>
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<td>AX</td>
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<tr>
<td>GV</td>
<td>Seismic Vibrator</td>
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<td>AX</td>
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<td>GC</td>
<td>Conventional Highway</td>
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<td>AX</td>
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<td>LF</td>
<td>Freeway</td>
<td>6</td>
<td>AX</td>
<td>AX</td>
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<td>LM</td>
<td>Maintenance</td>
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<td>AX</td>
<td>AX</td>
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<td>LT</td>
<td>Tree Trim/removal</td>
<td>6</td>
<td>AX</td>
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<td>Caltrans initiated rider</td>
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<td>EXEMPT</td>
<td>EXEMPT</td>
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<td>RS</td>
<td>Single family/agricultural</td>
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<td>AX</td>
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<td>Signal – new/modify</td>
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<td>AX</td>
<td>AX</td>
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<td>Traffic Control, signals, lighting</td>
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<td>AX</td>
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<tr>
<td>SE</td>
<td>SPECIAL EVENT</td>
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<td>BB</td>
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<td>AX</td>
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<td>UM</td>
<td>Bi/Annual Maintenance</td>
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<td>AX</td>
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<td>UC</td>
<td>Conventional Aerial</td>
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<td>AX</td>
<td>AX</td>
</tr>
<tr>
<td>UE</td>
<td>Bi/Annual utility &amp; service</td>
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<td>AX</td>
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<tr>
<td>UF</td>
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<td>AX</td>
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<td>Underground Longitudinal Major</td>
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<td>EXEMPT</td>
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<td>Service, pothole, modify</td>
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<td>AX</td>
<td>AX</td>
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<td>UT</td>
<td>Open cut road</td>
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<td>AX</td>
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### CODE | PERMIT TYPE | DEPOSIT REQUIRED | REVIEW | INSPECTION |
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<tbody>
<tr>
<td>DEF</td>
<td>Deferred Billing (Utilities only)</td>
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</table>

### NOTES:

**M ost PERMITS REQUIRE A 6 HOUR MINIMUM DEPOSIT UNLESS EXEMPT OR NOTED OTHERWISE**

(1) Inspection time will be charged to only one permit, the parent permit or the double permit, not both

**A D** – As specified in the agreement and/or the “Encroachment Permit Administrative Route Slip” (form TR-0154)

**A X** – Actual expenditures shall be collected

**D E F** – Deferred Billing (Utilities only)
Memorandum

To: ALL DISTRICT DIRECTORS

Attention Deputy District Directors
District Permit Engineers

Date: November 9, 1994
File No.: 617
Encroachment Permits

From: DEPARTMENT OF TRANSPORTATION
DIRECTOR'S OFFICE

Subject: Exception to Policy - Uncased High-pressure Natural Gas Pipeline Crossings

Encroachment Permits Manual Section 623, entitled "Transverse Boring and Jacking", requires that all new pipeline installations six inches and larger that cross a State highway must be placed within a casing that is bored and jacked under the highway.

Having examined the pros and cons of cased versus uncased natural gas transmission pipelines, Caltrans will now allow uncased natural gas pipeline crossings in specific circumstances. Because our primary concerns are for public safety, the integrity of the highway facility and the mechanical protection of the pipeline itself, it is necessary to limit requests for transverse natural gas transmission line crossings without casings to locations where the following conditions are met:

1) The pipeline owner agrees that the crossing will be designed for construction in accordance with the Code of Federal Regulations, Title 49, Part 192, and/or the California Public Utilities Commission General Orders No. 112-D with respect to natural gas pipelines. The crossing design shall be comprehensive in all respects including but not limited to material specification, pipe wall thickness determination, coating selection, and cathodic protection. Soil conditions at each site shall be analyzed for characteristics that may prove harmful to the protective pipe coating. This analysis shall be used by the pipeline owner in selecting a protective pipe coating sufficient to withstand the potential for gouging or peeling during the boring and jacking operation, or other methods approved by Caltrans. The final condition of the coating will be determined by the pipeline owner through monitoring of the boring and jacking operation, visually inspecting the exiting initial pipe segment, and electrical testing by an engineer or technician with expertise in cathodic protection. The test data shall be noted on the as-built drawings. Remedial action will be taken if the condition of the coating is such that cathodic protection is not practical.

2) The minimum depth of cover within State highway right of way, from the final ground line (finished grade or original ground) to the top of the proposed gas carrier pipeline, is two and one-quarter meters (7' - 6''). If the location is such that it is not practical to achieve the above depth of cover, then an engineered protective cover (such as a reinforced concrete structure) may be provided outside of pavement areas in lieu of casing.
no time shall the minimum depth of cover be less than one and one-tenth meters (42").

3) The permit specifies that the uncased gas carrier pipeline shall, as a minimum, be designed for a Class 3 Location (Code of Federal Regulations referenced above) for hard surfaced roads, highways, public streets, and railroads. (See attached Excerpts From Code of Federal Regulations, Design Factor to be Used for Natural Gas Pipelines.)

4) The existence of the crossing is adequately identified by signing at the right-of-way line, with at least one identifying sign which is visible from the roadway in each direction of travel.

5) The pipeline owner agrees to provide as-built drawings at completion of the pipeline crossing, with a letter certifying that the pipeline was installed properly and in accordance with the permit plans (including approved changes to the permit plans), and meets industry and regulatory standards for such installation.

6) All other applicable requirements of Section 623 of the Encroachment Permits Manual are satisfied.

All permit applications requesting installations of such uncased natural gas pipeline crossings six inches or larger in diameter and meeting the above requirements may be approved by the highway district. All permit applications for uncased pipeline crossings deviating from the above requirements shall be submitted to the Chief of the Office of Project Planning and Design for exception approval in the usual manner.

R. P. WEAVER
Deputy Director
Project Development

Attachment

JCHaggard:jl
bcc:
DHBenjamin
WPSmith
GPeck
JVan Berkel
DLeFevre
JHaggard
DParks - NTM&R
AGugino - Structures Maint.
WMorehead - Structures
PCotter - Structures
DHBenjamin's Pend
WPSmith's Pend
Director's Office Chron
Director's Office Read
OPPD File
EXCERPTS FROM CODE OF FEDERAL REGULATIONS.

DESIGN FACTOR TO BE USED FOR NATURAL GAS PIPELINES

In the design of steel natural gas pipelines the Minimum Yield Strength for the grade of steel used is reduced by a Design Factor (F). This Design Factor is determined by the type of road being crossed by the pipeline and a Class Location established by Code of Federal Regulations, Title 49, Part 192 (Office of the Federal Register, 1990)

The Class Location depends on the occupancy of buildings or activities within an area that extends 660 feet (200 m) either side of the pipeline centerline for a continuous 1 mile (1.6 km) segment of the pipeline. There are four Class Locations as follows:

Class 1. Location that has 10 or less buildings intended for human occupancy.

Class 2. Location that has more than 10 but less than 46 buildings intended for human occupancy.

Class 3. a) Any location that has 46 or more buildings intended for human occupancy; or

b) Area where pipeline lies less than 300 feet (91 m) of either a building or a small well-defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. (The days or weeks need not be consecutive).

Class 4. Location where buildings of four or more stories are prevalent.

The design factor used for a specific Class Location also depends on the kind of road involved as indicated on the following Table.

<table>
<thead>
<tr>
<th>Design Factor (F)</th>
<th>Class Location</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Kind of Thoroughfare</td>
<td></td>
</tr>
<tr>
<td>Privately owned roads</td>
<td>0.72</td>
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<tr>
<td>Unimproved public roads</td>
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</tr>
<tr>
<td>Hard surfaced roads, highways public streets, and railroads</td>
<td>0.60</td>
</tr>
</tbody>
</table>

Example: A pipe made of X42 grade of steel which has a Minimum Yield Strength (MYS) of 42,000 psi used in a Class 4 location at a hard surface road crossing would be designed using a reduced Minimum Yield Strength, by applying a Design Factor of 0.4, of 16,800 psi.
CONTROLLED LOW STRENGTH MATERIAL

Controlled low strength material (CLSM) shall consist of a workable mixture of aggregate, cementitious materials, and water. Controlled low strength material shall conform to the provisions in Section 19-3, "Structure Excavation and Backfill," of the Standard Specifications and these special provisions.

At the option of the Contractor, controlled low strength material may be used as structural backfill for pipe culverts within trenches.

When controlled low strength material is used for structure backfill, the width of the excavation shown on the plans may be reduced so that the clear distance between the outside of the pipe and the side of the excavation, on each side of the pipe, is a minimum of 6 inches except that 12 inches shall be required for pipes 42 inches and greater in diameter or span when height of cover is greater than 20 feet. Controlled low strength material shall not be used with underground structures having a span greater than 20 feet.

Controlled low strength material in new construction shall not be permanently placed higher than the basement soil. For trenches in existing pavements, permanent placement shall be no higher than the bottom of any existing pavement permeable drainage layer; if no drainage layer(s) are present, permanent placement in existing pavements shall be no higher than: a) 1 inch below the bottom of the existing asphalt concrete, or b) no higher than the top of base below existing Portland cement concrete pavements. When used, the minimum height that controlled low strength material placed relative to the pipe invert shall be: 0.5 d (diameter) for rigid pipe and 0.7 d for flexible pipe.

When controlled low strength material is proposed for use, the Contractor shall submit a mix design and test data to the Engineer for approval prior to excavating the trench for which controlled low strength material is proposed for use. The test data shall demonstrate that the mix design provides:

a) For pipe culverts having a height of cover of 20 feet or less, a 28-day compressive strength between 50 and 100 psi is required; for height of cover greater than 20 feet, a minimum 28-day compressive strength of 100 psi is required. Compressive strength shall be determined by ASTM Test Method D4832, "Preparation of Testing of Soil-Cement Slurry Test Cylinders."

b) When controlled low strength material is used as structure backfill for pipe culverts, the sections of pipe culvert in contact with the controlled low strength material shall meet the requirements of Chapter 850 of the Highway Design Manual using the minimum resistivity, pH, chloride content, and sulfate content of the hardened controlled low strength material. Minimum resistivity and pH shall be determined by California Test 643, the chloride content shall be determined by California Test 422, and the sulfate content shall be determined by California Test 417.

c) Cement shall be: any type of Portland cement conforming to the provisions of ASTM Designation C 150; any type blended hydraulic cement conforming to ASTM C 595M; or any type blended hydraulic cement conforming to the physical requirements of ASTM C 1157M. Testing will not be required.

d) Admixtures may be used in conformance with Section 90-4 of the Standard Specifications and the following: Chemical admixtures containing chlorides as CI in excess of 1 percent by mass of admixture, as determined by California Test 415, shall not be used.
Materials for controlled low strength material shall be thoroughly machine-mixed in a pugmill, rotary drum, or other approved mixer. Mixing shall continue until the cementitious material and water are thoroughly dispersed throughout the material. Controlled low strength material shall be placed in the work within 3 hours after mixing.

Controlled low strength material shall be placed in a uniform manner that will prevent voids in, or segregation of, the backfill, and will not float or shift the culvert. Foreign material that falls into the trench prior to or during placing of the controlled low strength material shall be immediately removed.

When controlled low strength material is to be placed within the traveled way or otherwise to be covered by paving or embankment materials, it shall achieve a maximum indentation diameter of 3 inches prior to covering and opening to traffic. Penetration resistance shall be as measured by ASTM Test Method C 6024, "Standard Test Method for Ball Drop on Controlled Low Strength Material to Determine Suitability for Load Application."

Controlled low strength material used as structure backfill for pipe culverts will be considered structure backfill for compensation purposes.
Chapter 11

Erecting Mailboxes on Streets and Highways

11.0 OVERVIEW

This chapter deals with privately owned mailboxes, mailbox supports, and mailbox turnout designs. Highway safety is the primary reason for a transportation agency to become involved in this type of design. Limited data exist for vehicle-mailbox collisions because most record systems do not specifically isolate these types of crashes. However, the Fatality Analysis Reporting System (FARS) (3) showed 294 deaths in 2008 in which an impact with a mailbox was the first harmful event. Although this number includes crashes in which the mailbox may not have been the direct cause of the fatal injuries, it is significant because it is associated with an unnecessary hazard.

A point that makes this a sensitive issue is that postal patrons may view their mailboxes as an extension of themselves and part of their domain. They may resent and even resist design directions concerning their mailboxes. An extra measure of diplomacy and public relations may be needed to effect changes in the design and location of mailbox installations. In recent years, commercially available secure (lockable) and heavy, vandal-resistant mailboxes have become popular to prevent identity theft and reduce vandalism.

11.1 MAILBOXES

The typical single mailbox installation, shown in Figure 11-1, consists of a light-weight, sheet-metal box mounted on a 100-mm- by-100-mm [4-in.-by-4-in.] wooden post or a 38-mm [11/2-in.] diameter light-gage pipe, and it is not a serious threat to motorists. Improvements to strengthen typical post-to-box mounting details, discussed in Section 11.2.4, would further reduce its threat. Mailboxes supported by structures such as masonry columns, railroad rails and ties, tractor wheels, plow blades, and concrete-filled barrels (see Figure 11-2) sometimes turn a single mailbox installation into a roadside hazard that should be eliminated. Newer plastic, vandal-resistant steel and secure mailboxes are discussed in Section 11.2.4.

The typical grouped or multiple mailbox installation, shown in Figure 11-3, also is a serious hazard to the motorist who strikes it. This installation consists of one or more posts supporting a horizontal member, usually a timber plank, which supports a group of mailboxes. The horizontal members in these installations are poised at windshield height and have the potential to seriously injure motorists when struck. For safe alternative designs of grouped mailbox installations, see Section 11.2.4.

Injury from striking a mailbox is not the only risk associated with mailboxes. The mail carrier’s maneuvers in collecting and delivering mail and the patron’s activities, either as a pedestrian or motorist, in collecting and depositing mail, create opportunities for traffic conflict and human error. Reducing the number and severity of these conflicts is an important objective of this chapter.
Figure 11-1. Typical Single Mailbox Installations

Figure 11-2. Examples of Hazardous Single Mailbox Installations
Figure 11-3. Examples of Hazardous Multiple Mailbox Installations

Only by removing mailboxes from our highways can mailbox-related traffic crashes be eliminated. Although removal is impractical, many identifiable problems can be corrected. Through cooperation among transportation agencies, the U.S. Postal Service, and postal patrons, good design practices in mailbox installation and location can be implemented when mailboxes are installed or replaced. This should incur little or no cost increase, with a typical mailbox lasting an average of about 10 years. Furthermore, when highways are rebuilt or undergo significant upgrading, there may be opportunities to incorporate relatively inexpensive mailbox improvements.

The general principles and guidelines contained in this chapter also are applicable to newspaper delivery boxes and similar devices located along public highways. These guidelines are compatible with the requirements of the U.S. Postal Service. Highway agencies and local entities are encouraged to use these guidelines in developing their own mailbox and installation policies and standards. It should be understood that these are general guidelines and that local conditions, including legal institutions and practices, population densities, topography, highway characteristics, snowfall, and prevailing vehicle characteristics, are factors to consider when developing regulations and standards.

11.2 GENERAL PRINCIPLES AND GUIDELINES

This section deals with regulations and design. Regulations are needed to establish consistency in acceptable mailbox turnouts and design.

11.2.1 Regulations

It is recommended that each highway agency adopt regulations for the design and placement of mailboxes and newspaper boxes within the right-of-way of public highways. Correlation of these regulations with those for the granting of driveway entrance permits should be considered. Mailbox and newspaper box control regulations should follow the principles and guidance contained in this chapter and includes the following:

- A reference to pertinent statutes and ordinances.
- A statement that all mailbox installations must meet the requirements of the U.S. Postal Service.
- A requirement that all mailbox and newspaper box installations conform to the current policies and standards of the highway agency regarding location, geometry, and structure of such installations.
- Information on where postal patrons can obtain copies of the current policies and standards.
- A statement on permits, if required.
A statement on how approval of exceptions can be obtained.

A description of the highway agency’s and the postal patron’s responsibilities regarding new and replacement installations.

A description of the distribution of responsibilities and the procedures to be followed in removing unsafe or nonconforming installations.

Some local jurisdictions have reduced the number of non-conforming mailboxes by requiring the mailbox owners to obtain a waiver from their property insurance company if they want to obtain a permit to construct a massive mailbox installation on the public right-of-way.

11.2.2 Mail Stop and Mailbox Location

Mailboxes should be placed for maximum convenience to the patron and should be consistent with safety considerations for highway traffic, the carrier, and the pedestrian. Consideration should be given to

- Minimizing walking distance within the roadway for the patron,
- Available stopping sight distance in advance of the mailbox site, and
- Possible restrictions to corner sight distances at intersections and driveway entrances. Where feasible, new installations should be located on the far right side of an intersection with a road or driveway entrance.

Mailboxes should be placed only on the right-hand side of the highway in the carrier’s direction of travel. An exception is one-way streets, where mailboxes may be placed on either side. It is undesirable to require pedestrian travel along the shoulder to access the mailbox; however, this may be the preferred solution when compared to alternatives such as constructing a turnaround in a deep cut, placing a mailbox just beyond a sharp crest vertical curve, or constructing two or more closely spaced turnouts.

The placing of mailboxes along both high-speed and high-volume highways should be avoided if other practical locations are available. Mailboxes should not be located where access is from the lanes of an expressway or where access, stopping, or parking is otherwise prohibited by law or regulation. Where there are frontage roads, the abutting property owners may be served by boxes located along them. It is highly undesirable to locate a mailbox that would require a patron to cross the lanes of an expressway to deposit or retrieve mail. When the U.S. Postal Service deems that service is not warranted on both frontage roads or when a frontage road is only on one side, patrons not served directly should be accommodated by mailboxes at a suitable and safe location in the vicinity of the crossroad nearest the patron’s property.

In addition, placing a mail stop near an intersection could have an effect on the operation of the intersection. The nature and magnitude of this effect depends on traffic speeds and volumes on each of the intersecting roadways, the number of mailboxes at the stop, type of traffic control, how the stop is located relative to the traffic control, and the distance the stop is from the intersection.

At intersections where one roadway has the right-of-way and the other is stop-controlled, a vehicle at a mail stop on the through roadway approach may restrict the view of a vehicle entering the intersection from the right. A mail stop on the far side of a through road’s intersection may increase the chance of driver in the crossroad pulling into the path of a vehicle on the through road and headed for the mail stop. A mail stop in advance of a stop sign creates the potential for a vehicle at the mail stop to block the view of the stop sign. The least troublesome location for a mail stop at these intersections is adjacent to a crossroad lane leaving the intersection. Nevertheless, there is still a chance that a driver re-entering traffic from the mail stop will not see or be seen from a vehicle turning onto the crossroad. Figure 11-4 shows the suggested minimum clearance distance to the nearest mailbox for mail stops at intersections. Using the mail stop location dimensions in the figure will minimize the effect on the intersection’s operation and the hazard to persons using the mail stop.
Figure 11-4. Suggested Minimum Clearance Distance to Nearest Mailbox for Mail Stops at Intersections

- $V_x$: Average Daily Traffic on Cross Road (vehicles per day)
- $V_y$: Average Daily Traffic on Through Road (vehicles per day)
- $n$: Number of Mailboxes at Mail Stop
Mailbox heights usually are set to accommodate the mail carrier. Typically, the bottom of the mailbox is located 1,040 mm to 1,140 mm [41 in. to 45 in.] above the mail stop surface. Mailboxes should be located so that a vehicle stopped at it is clear of the adjacent traveled way. The higher the traffic volume or speed, the greater the clearance should be. A reasonable exception to this principle may be on low-volume and low-speed streets and roads.

Most vehicles stopped at a mailbox should be clear of the traveled way when the mailbox is placed outside a 2.4-m [8-ft] wide usable shoulder or turnout. This location is recommended for most rural highways. Although a 2.7-m [9-ft] minimum shoulder width is acceptable, a minimum 3-m [10-ft] turnout should be provided when practical. Where conditions justify, 3.6-m [12-ft] turnouts should be provided. However, it may not be reasonable to require even a 2.4-m [8-ft] shoulder or turnout on very low-volume, low-speed roads or streets. To provide space outside of the all-weather surface to open the mailbox door, it is recommended that the roadside face of a mailbox be set 150 mm to 200 mm [6 in. to 8 in.] outside the all-weather surface of the shoulder or turnout. Table 11-1 shows suggested guidelines for the placement of mailboxes that are based on experience and design judgment. When a mailbox is installed in the vicinity of an existing guardrail, it should, wherever practical, be placed behind the guardrail.

### 11.2.3 Mailbox Turnout Design

Shoulder or turnout widths suitable to safely accommodate vehicles stopped at mailboxes are discussed in Section 11.2.2 and shown in Table 11-1.

#### Table 11-1. Suggested Guidelines for Lateral Placement of Mailboxes

<table>
<thead>
<tr>
<th>Highway Type and ADT (vpd)</th>
<th>Preferred</th>
<th>Minimum</th>
<th>Preferred</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural, Over 10,000</td>
<td>&gt; 3.6</td>
<td>2.4</td>
<td>150 to 200</td>
<td>0</td>
</tr>
<tr>
<td>Rural, 1,500 to 10,000</td>
<td>3.6</td>
<td>2.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural, 400 to 1,500</td>
<td>2.4</td>
<td>1.8</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>Residential Street</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curbed Residential Street</td>
<td>1.8</td>
<td>0.0</td>
<td>200 to 305</td>
<td>150</td>
</tr>
</tbody>
</table>

Notes: ADT = average daily traffic

a) If increased access is needed, the following may be considered in conjunction with the local postmaster:

- Provide a level clear space 760 mm by 1220 mm [30 in. by 48 in.] centered on the box for either side or forward approach.
- Provide an accessible passage to and from the mailbox and projections into a circulation route—no more than 100 mm [4 in.] if between 719 mm [28 in.] and 2,030 mm [80 in.], so that the mailbox does not become a protruding object for pedestrians with impaired vision.

b) Provide an accessible passage to and from the mailbox. The mailbox projection into a circulation route shall not be more than 100 mm [4 in.], so that the mailbox does not become a protruding object for pedestrians with impaired vision.

c) If a turnout is provided, this may be reduced to zero.

d) Behind traffic face of curb.

The surface over which a vehicle is maneuvered to and from a mailbox must be sufficiently stable to support passenger cars stopping regularly during all-weather conditions. When shoulder surface strength or width is not sufficient for this purpose, the shoulder should be modified to provide a suitable all-weather mailbox turnout. In most instances, adequate surface stabilization can be obtained by the addition of select materials to the in-situ soils. A mailbox turnout for grouped mailboxes may require greater stabilization or possibly a

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11-6 Roadside Design Guide
surface treatment course to accommodate multiple patron use. Special measures also may be needed where highway traffic conditions encourage hard braking or high acceleration by vehicles entering or exiting the mailbox turnout.

Edge dropoffs often are found at rural mailbox locations. The daily use by the delivery vehicles may loosen the soil at the edge of the pavement. When the soil at the edge is eroded, a drop of 100 mm [4 in.] or more may result. These edge dropoffs can make it difficult for drivers to safely return to the pavement if the vehicle strays onto the unstable soil. The use of paved turnouts is one solution. Another approach is a recent paving innovation called the Safety Edge, which shapes the edge of the traveled way into a 30 degree angle rather than a vertical drop. This new angle is optimal in allowing motorists to return their vehicle to the pavement without overcorrecting or losing control.

Drivers usually are required to slow their vehicles in traffic, which increases the risk of a crash. The ideal way to minimize this risk is to provide a speed-change lane. A wide surface-treated shoulder is ideal for this purpose. Unfortunately, suitable shoulders are not available at most mailbox turnout locations and it would be far too expensive to provide shoulders or turnouts that would allow a speed change outside the traveled way. Figure 11-5 presents a mailbox turnout layout considered appropriate for different traffic conditions.

The minimum space needed for maneuvering to a parallel position in and out of traffic also is shown in Figure 11-5. However, when only the minimum space is provided, the typical driver probably would slow considerably before starting into the low-speed turnout. This tendency renders such minimum space unsuitable for high-speed highways where driver expectancy does not include such slow-moving traffic.

Before entering a 2.4-m [8-ft] wide turnout with a 20:1 taper for high-speed traffic, as shown in Figure 11-5, a driver probably would not slow as much before clearing the traveled way. Although this is not an ideal exit maneuver, it probably would not create an unacceptable hazard on most rural highways for the few stops generated by a single mailbox.

Increasing the width of the turnout to 3.6 m [12 ft] and maintaining the 20:1 taper rate suggested in Figure 11-5 would induce a driver using the turnout to enter it at a fair rate of speed, but it will not be as fast as the through speed. Although this still is not ideal, it should be acceptable for most sites. The exception may be found on highways operating at high speeds and carrying more than 3,000 vehicles per day, with a high percentage of them on long trips. For these conditions, mail stops should be kept to a minimum and consideration should be given to providing shoulders or turnouts at the mail stops to facilitate greater speed-change opportunities outside the traffic stream.

The tapers shown in Figure 11-5 represent theoretical layouts. It may be more practical to square the ends of the turnout or to provide a stepped layout by strengthening and widening the shoulder to the full width of the turnout for the entire length of the taper. It also may be simpler to construct a continuous turnout-width shoulder rather than individual turnouts where mailbox turnouts are closely spaced.

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**Figure 11-5. Mailbox Turnout**

*LS = A Minimum Design for Roads Carrying Low-Speed Traffic and for Local and Collector Roads.*
*HS = For Roads Carrying High-Speed Traffic.*
*W = For Suggested Widths, see Table 11-1.*
*MAILBOXES = For Mailbox Spacing and Variable Length, see Section 11.2.4, Mailbox Support and Attachment Design.*
* = For Mailbox Face Offset, see Table 11-1, 0 mm to 300 mm [0" to 12"];
11.2.4 Mailbox Support and Attachment Design

All exposed conventional mailboxes should be firmly attached to supports that would yield or break away safely if struck by a vehicle. The Manual for Assessing Safety Hardware (MASH) (1) from the American Association of State Highway and Transportation Officials (AASHTO) contains current performance criteria for testing mailbox supports when subjected to impact with an automobile. The criteria can be summarized as follows:

- Mailbox supports should be, with a minor qualification, no more substantial than required to resist service loads and to reasonably minimize vandalism. Nominal 100-mm-by-100-mm [4-in.-by-4-in.] or 100-mm [4-in.] diameter wood posts or 38-mm to 50-mm [1½-in. to 2-in.] diameter standard steel or aluminum pipe posts are acceptable. The steel or aluminum pipes should be embedded no more than 610 mm [24 in.] into the ground. Lower strength supports, such as light-weight, flanged-channel steel posts, have provided satisfactory service in most environments. A metal post should not be fitted with an anchor plate. However, an anti-twist device that extends no more than 254 mm [10 in.] below the ground surface is acceptable. The minor qualification to the criterion of minimizing post strength is that the support must break rather than bend under impact. Also, the support should have sufficient strength for the box to be accelerated to a speed approaching that of the impacting vehicle before breaking to minimize the chance of the box penetrating the vehicle's windshield. Test results indicate that 100-mm-by-100-mm [4-in.-by-4-in.] or 100-mm [4-in.] diameter wood supports should be both the minimum and maximum post dimensions (2).

- Mailbox-to-post attachments should prevent mailboxes from separating from their supports when struck by a vehicle. The lighter the mailbox, the easier it is to meet this criterion. Conversely, given sufficient post attachment strength, the less sensitive the safety of an installation will be to the mass of the mailbox. Acceptable attachment and support details are shown in Figures 11-6 through 11-10. The exact support hardware dimensions and design may vary, such as having a two-piece platform bracket or alternative slot-and-hole locations. However, the product must result in a satisfactory attachment of the mailbox to the post and all components must fit together properly (3).

- Multiple mailbox installations must meet the same criteria as single mailbox installations. This requirement precludes the use of a heavy horizontal support member, such as the one shown in Figure 11-3. Figures 11-7 through 11-10 show acceptable multiple mailbox support systems. The use of a series of such installations or of individually supported boxes is acceptable. However, vehicle rollover occurred in a high-speed crash test involving a small car impacting off-center of a row of eight closely spaced mailboxes individually supported with 3 kg/m [2 lb/ft] channel post supports (3).

- Review of the crash test film from this test and results from other tests suggest that this ramping phenomenon is caused by the closely spaced mailboxes piling up. To avoid this problem, it is recommended that the mailbox supports be separated by a distance of no less than 1½ their full heights above ground. It is also preferred that multiple mailbox installations be located outside of the highway clear zone, such as on a service road or a minor intersecting road.

In addition to the general criteria for single and multiple mailbox installations, specific types of mailbox designs have been crash tested and need to have their own installation criteria:

- The Neighborhood Delivery and Collection Box Unit (NDCBU) is a specialized type of multiple mailbox installation, shown in Figure 11-11. The NDCBU is a cluster of 8 to 16 locked boxes mounted on a pedestal or within a framework, the combination of which generally has a mass of between 45 kg and 90 kg [100 lb and 200 lb]. Although the NDCBU usually serves a limited number of single-family residences in urban areas, its use has been observed in rural areas. A crash test of one of these units at 100 km/h [62 mph] showed that it failed to meet safety requirements (4).

- Therefore, an NDCBU should be located outside the clear zone to allow for safe recovery of errant vehicles and for safe access by postal patrons and carriers. Postmasters and designers responsible for the location of an NDCBU should be instructed to contact local government authorities, including the appropriate highway officials (e.g., state, county, township, municipal) prior to installation. This communication can lead to a safer location of the NDCBU.

- A variety of plastic mailboxes with integral supports are available (see Figure 11-12 for an example). One of the heavier plastic mailboxes (10.9 kg [24 lb]) consists of two components: an upper section contains the mailbox, while a lower section incorporates two newspaper delivery slots and a housing that covers supporting post. The two sections are connected using four sheet metal screws. Crash tests at 100 km/h [62 mph] were conducted using three different support posts: a 100-mm-by-100-mm [4-in.-by-4-in.] wood post, a 3-kg/m [2-lb/ft] steel U-channel, and a 75-mm [3-in.] steel pipe. In all three tests, the upper section
of the mailbox separated from the lower section on impact, causing only minor damage. All three support designs met NCHRP Report 350 criteria (2, 8).

- Vandal-resistant mailboxes typically are shaped like conventional rural mailboxes but are fabricated from heavy gage sheet steel or other substantial materials and have been designed and sold as deterrents to theft or vandalism. These massive boxes, more 5 kg [11 lb] in weight, meet U.S. Postal Service requirements for minimum size, material durability, ease of access, etc., and are quite resistant to deformation. However, full-scale crash testing has shown that these boxes separate from their support on impact and penetrate the passenger compartment easily (7). Thus, they should not be used within the clear zone of high-speed highways. Vandal-resistant mailboxes, decorative cast-metal boxes (see Figure 11-13), and other massive proprietary or custom-made mailbox supports are only appropriate for use on very low-speed, low-volume residential streets characterized by trees between the curbs and sidewalks, frequent driveway openings, on-street parking, or other features that indicate to drivers that they are in a low-speed environment, and where the minimum horizontal clearance is not an issue.

- Secure mailboxes are unlike traditional tunnel-shaped mailboxes; they have a box-like shape and consist of two main compartments (see Figure 11-14). The top compartment has a hinged door in front of the mailbox (facing the street). This section is used by the mail carrier for incoming mail delivery and outgoing mail pickup. The lower compartment, which has a lockable door, is used for mail pickup. Because no regulations are imposed on the height, weight, or material used for secure mailboxes, significant variations exist. Their heights vary from 280 to 910 mm [11 to 36 in.], and their weights range from 6.4 to 22.7 kg [14 to 50 lb]. The materials include stainless steel, galvanized steel, and aluminum, and they range in thickness from 12 to 20 gage. Supports for secure mailboxes also vary and include square and round posts of steel and aluminum of up to 100 mm [4 in.] across. All posts are available in two mounting configurations: a ground mount in that embeds the post in the soil and a surface mount that bolts the post to a concrete foundation. A study (10) using full-scale crash testing, pendulum testing, and finite-element modeling showed that these secure mailboxes would pass NCHRP Report 350 evaluation criteria and did not show potential for intruding into the occupant compartment if they were securely attached to the provided support posts and if the posts were either embedded 300 to 700 mm [12 to 24 in.] in the ground or were surface-mounted to concrete.

In areas of heavy snowfall, some highway agencies have found cantilever mailbox supports advantageous. Although such designs do permit windshield contact with the box without the vehicle first contacting the support, tests of the design shown in Figures 11-15 and 11-16 did not reveal serious consequences. The operational advantage of these supports is that snow can be plowed close to the mailbox without the snow windrow pushing the support over.

The State of Minnesota has developed and tested a swing-away mailbox that is not patented and will not penetrate a vehicle windshield (3, 6). This type of mailbox support is designed to swing back and out of the way when a snowplow truck goes by. Light-weight newspaper boxes may be mounted below the box on the mailbox support.
Figure 11-6. Mailbox Support Hardware, Series A
Figure 11-7. Single and Double Mailbox Assemblies, Series A
Figure 11-8. Mailbox Support Hardware, Series B

NOTE: ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE INDICATED. ALL DIMENSIONS IN BRACKETS ARE IN U.S. CUSTOMARY UNITS.
Figure 11-9. Single and Double Mailbox Assemblies, Series B

NOTE: ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE INDICATED.
ALL DIMENSIONS IN BRACKETS ARE IN U.S. CUSTOMARY UNITS.
Figure 11-10. Single and Double Mailbox Assemblies, Series C
Figure 11-11. Collection Unit on Auxiliary Lane (left) and Neighborhood Delivery and Collection Box Units

Figure 11-12. Plastic Mailbox with integral Support
11.3 U.S. POSTAL SERVICE GUIDANCE AND MODEL MAILBOX REGULATION

11.3.1 U.S. Postal Service Guidance


11.3.2 Model Mailbox Regulation

This section provides a generic model regulation for mailboxes and newspaper delivery boxes on public highway right-of-ways. The model is intended only as an example. States and municipalities can and should tailor the model to fit their own particular needs.

11.3.2.1 Scope

No mailbox or newspaper delivery box, hereinafter referred to as mailbox, will be allowed to exist on the Agency’s right-of-ways if it interferes with the safety of the traveling public or the function, maintenance, or operation of the highway system. A mailbox installation not conforming to the provisions of this regulation is an unauthorized encroachment under State Code Section___________________.

The location and construction of mailboxes shall conform to the rules and regulations of the U.S. Postal Service as well as to standards established by the Agency. Agency standards for the location and construction of mailboxes are available from:

Highway Agency
Street Address or P.O. Box
City, State Zip Code
Telephone number

A mailbox installation that conforms to the following criteria will be considered acceptable unless, in the judgment of the Chief Engineer of the Agency, the installation interferes with the safety of the traveling public or the function, maintenance, or operation of the highway system.

11.3.2.2 Location

No mailbox will be permitted where access is obtained from a freeway or where access is otherwise prohibited by law or regulation. Mailboxes shall be located on the right-hand side of the roadway in the carrier’s direction of travel route except on one-way streets, where they may be placed on the left-hand side. The bottom of the box shall be set at a height established by the U.S. Postal Service, usually between 1.0 m (39 in.) and 1.2 m (48 in.) above the roadway surface. The roadside face of the box shall be offset from the edge of the traveled way a distance no less than the greater of the following:

- 2.4 m (8 ft) (where no paved shoulder exists and shoulder cross slope is 13 percent or flatter), or
- the width of the all-weather shoulder present plus 200 mm to 300 mm (8 in. to 12 in.), or
- the width of an all-weather turnout specified by the Agency plus 200 mm to 300 mm (8 in. to 12 in.).

Exceptions to these placement criteria will exist on residential streets and certain designated rural roads where the Agency deems it in the public interest to permit lesser clearances or to require greater clearances. Oncurbed streets, the roadside face of the mailbox shall be set back from the face of the curb at a distance of between 150 mm and 300 mm (6 in. and 12 in.). On residential streets without curbs or all-weather shoulders that carry low traffic volumes operating at low speeds, the roadside face of the mailbox shall be offset between 200 mm and 300 mm (8 in. and 12 in.) behind the edge of the pavement. On very low-volume rural roads with low operating
speeds, the Agency may find it acceptable to offset mailboxes a minimum of 2 m [6 ft] from the traveled way and under some low-volume, low-speed conditions may accept clearances as low as 800 mm [32 in.].

- Where a mailbox is located at a driveway entrance, it shall be placed on the far side of the driveway in the carrier’s direction of travel.
- Where a mailbox is located at an intersecting road, it shall be located a minimum of 30 m [100 ft] beyond the center of the intersection road in the carrier’s direction of travel. This distance shall be increased to 60 m [200 ft] when the average daily traffic on the intersection road exceeds 400 vehicles per day.
- When a mailbox is installed in the vicinity of an existing guardrail, it should, when practical, be placed behind the guardrail.

11.3.2.3 Structure

Design and/or location criteria for the mailbox support structure should consist of the following:

- Mailboxes shall be of light sheet metal or plastic construction conforming to the requirements of the U. S. Postal Service. Newspaper delivery boxes shall be of light metal or plastic construction of minimum dimensions suitable for holding a newspaper.
- No more than two mailboxes may be mounted on a support structure unless crash tests have shown the support structure and mailbox arrangement to be safe. However, light-weight newspaper boxes may be mounted below the mailbox on the side of the mailbox support.
- Mailbox supports shall not be set in concrete unless crash tests have shown the support design to be safe.
- A single 100-mm–by–100-mm [4-in.–by–4-in.] square or 100-mm [4-in.] diameter wooden post; or metal post, Schedule 40, 50 mm [2 in.] (normal size IPS (external diameter 60 mm [2 3/8 in.]) wall thickness 4 mm [0.154 in.] or smaller), embedded no more than 600 mm [24 in.] into the ground, shall be acceptable as a mailbox support. A metal post shall not be fitted with an anchor plate, but it may have an anti-twist device that extends no more than 254 mm [10 in.] below the ground surface.
- The post-to-box attachment details should be of sufficient strength to prevent the box from separating from the post top if the installation is struck by a vehicle. The exact support hardware dimension and design may vary, such as having a two-piece platform bracket or alternative slot-and-hole locations. The product must result in a satisfactory attachment of the mailbox to the post, and all components must fit together properly.
- The minimum spacing between the centers of support posts shall be the height of the posts above the ground line. Mailbox support designs not described in this regulation are acceptable if approved by the Chief Engineer of the Agency.
- Where snow plowing operations cause damage to fixed mailbox installations, the swing-away designs in Figures 11-15 and 11-16 may be used.

11.3.2.4 Shoulder and Parking Area Construction

It shall be the responsibility of the postal patron to inform the Agency of any new or existing mailbox installations where shoulder construction is inadequate to permit all-weather vehicular access to the mailbox.

11.3.2.5 Removal of Nonconforming or Unsafe Mailboxes

Any mailbox that is found to violate the intent of this regulation shall be removed by the postal patron upon notification by the Agency. At the discretion of the Agency, based on an assessment of hazard to the public, the patron shall be granted not less than 24 hours and no more than 30 days to remove an unacceptable mailbox. After the specified period has expired, the unacceptable mailbox will be removed by the Agency at the postal patron’s expense.
Figure 11-15. Cantilever Mailbox Supports
Figure 11-16. Breakaway Cantilever/Swing-Away Mailbox Support
REFERENCES


4. Bullard, D. L., D. C. Alberson, and W. L. Menges. Design and Testing of a Break Away Mount for Cluster Box Unit (CBU) and Neighborhood Delivery and Collection Box Unit (NDCBU) Texas Transportation Institute, Texas A&M University System, College Station, TX, May 1996.


Appendix I – Resolutions

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FILMING

Use this document for filming when:

Closure of the State Highway will require traffic redirection onto local streets or roads ......................... I-1
Filming activity requires closure of the State Highway and there is no acceptable alternate route .......... I-2
A restriction on the State Highway occurs but no closure or detour is required ........................................ I-3
Time factors do not permit a resolution adoption before the date of the filming activity and requires re-routing over City Streets/County Roads ........................................................................................................ I-4
Time factors do not allow a resolution to be adopted before the date of the filming activity ..................... I-5

SPECIAL EVENTS

Use this document for special events when:

Closure of the State Highway will require traffic redirection onto local streets or roads ............................ I-6
Event activity requires closure of the State Highway and there is no acceptable alternate route ............. I-7
A restriction on the State Highway occurs but no closure or detour is required ........................................ I-8
Time factors do not permit a resolution adoption before the date of the special event and requires re-routing over City Streets/County Roads ........................................................................................................ I-9
Time factors do not allow a resolution to be adopted before the date of the special event ...................... I-10
FILMING

(USE THIS RESOLUTION FORMAT WHEN CLOSURE OF THE STATE HIGHWAY WILL REQUIRE TRAFFIC REDIRECTION ONTO LOCAL STREETS OR ROADS)

WHEREAS (name of production company) _______________ has applied to the State of California to conduct (describe filming activities) _______________ on State property; and

WHEREAS (filming activities) _______________ will require the temporary closure of State Highway Route _______________ on (date) _______________ between (location) _______________ and _______________ between the hours of _______________ and _______________ ; and

WHEREAS said temporary closure will cause the re-routing of traffic onto and over the following (city streets/county roads) _______________: (describe routing) _______________.

NOW THEREFORE be it resolved that the City/County of _______________ approves and consents to the proposed (filming activities) _______________ and recommends approval of and consents to the proposed re-routing of traffic onto and over the described city streets/county roads upon terms and conditions deemed appropriate and necessary by the State of California, Department of Transportation.
WHEREAS (name of production company) _______________ has applied to the State of California to conduct (describe filming activities) _______________ on State property; and

WHEREAS (filming activities) _______________ will require the temporary closure of State Highway Route _______________ on (date) _______________ between (location) _______________ and _______________ between the hours of _______________ and _______________; and

WHEREAS there is no acceptable alternate route, with the result that traffic normally using State Highway Route _______________ will be temporarily halted or restricted.

NOW THEREFORE be it resolved that the City/County of _______________ approves and consents to the proposed (filming activities) _______________ and recommends approval of and consents to the proposed closure/restriction of State Highway Route _______________ upon terms and conditions deemed appropriate and necessary by the State of California, Department of Transportation.
FILMING

(USE THIS RESOLUTION FORMAT WHEN A RESTRICTION ON THE STATE HIGHWAY OCCURS BUT NO CLOSURE OR DETOUR IS REQUIRED)

WHEREAS (name of production company) _______________ has applied to the State of California to conduct (describe filming activities) _______________ on State property; and

WHEREAS (filming activities) _______________ will temporarily impede and restrict the free passage of traffic over State Highway Route _______________ on (date) _______________ between (location) _______________ and _______________ between the hours of _______________ and _______________; and

NOW THEREFORE be it resolved that the City/County of _______________ approves and consents to the proposed (filming activities) _______________ and recommends approval of and consents to the proposed restriction of State Highway Route _______________ upon terms and conditions deemed appropriate and necessary by the State of California, Department of Transportation.
FILMING

(USE THIS DOCUMENT FORMAT WHEN TIME FACTORS DO NOT PERMIT A RESOLUTION ADOPTION BEFORE THE DATE OF THE FILMING AND REQUIRES RE-ROUTING OVER CITY STREETS/COUNTY ROADS)

(To be addressed to the California Film Commission)

(Name of production company) _______________ has applied to the State of California to conduct (describe filming activities) _______________ on State Highway Route _______________ on (date) _______________, between (location) and _______________ between the hours of _______________ and _______________. Said event will require the temporary closure of State Highway Route _______________, as indicated, and the re-routing of traffic over (describe city streets/county roads) _______________.

The next regularly scheduled meeting of the City Council/Board of Supervisors of _______________ will be on (date) _______________. A formal Resolution by the Council/Board cannot be obtained before the proposed date of the (filming activities) _______________. In my capacity as (title) _______________ for the City/County of _______________, I am authorized to advise you that the City/County of _______________ approves and consents to the proposed event upon such terms and conditions deemed appropriate and necessary by the State of California, Department of Transportation and further recommends approval of and consents to the re-routing of traffic onto and over the named city streets/county roads.

Date: _______________ Signature: _______________
FILMING

(USE THIS DOCUMENT FORMAT WHEN TIME FACTORS DO NOT ALLOW A RESOLUTION TO BE ADOPTED BEFORE THE DATE OF THE FILMING)

(To be addressed to the California Film Commission)

(Name of production company) _______________ has applied to the State of California to conduct (describe filming activities) _______________ on State Highway Route _______________ on _______________, between (location) and _______________ between the hours of _______________ and _______________.

The next regularly scheduled meeting of the City Council/Board of Supervisors of will be on (date) _______________. A formal Resolution by the Council/Board cannot be obtained before the proposed date of (filming activities) _______________. In my capacity as (title) _______________ for the City/County of _______________, I am authorized to advise you that the City/County of _______________ approves and consents to the proposed event upon such terms and conditions deemed appropriate and necessary by the State of California, Department of Transportation.

Date: _______________ Signature: _____________________________
SPECIAL EVENT

(USE THIS RESOLUTION FORMAT WHEN CLOSURE OF THE STATE HIGHWAY WILL REQUIRE TRAFFIC REDIRECTION ONTO LOCAL STREETS OR ROADS)

WHEREAS (name of sponsor) _______________ has applied to the State of California to conduct (describe special event) _______________ on State property; and

WHEREAS (special event) _______________ will require the temporary closure of State Highway Route _______________ on (date) _______________ between (location) _______________ and _______________ between the hours of _______________ and _______________; and

WHEREAS said temporary closure will cause the re-routing of traffic onto and over the following (city streets/county roads) _______________, (describe routing) _______________.

NOW THEREFORE be it resolved that the City/County of _______________ approves and consents to the proposed (special event) _______________ and recommends approval of and consents to the proposed re-routing of traffic onto and over the described city streets/county roads upon terms and conditions deemed appropriate and necessary by the State of California, Department of Transportation.
SPECIAL EVENT

(USE THIS RESOLUTION FORMAT WHEN THE SPECIAL EVENT REQUIRES CLOSURE OF THE STATE HIGHWAY AND THERE IS NO ACCEPTABLE ALTERNATE ROUTE)

WHEREAS (name of sponsor) _______________ has applied to the State of California to conduct (describe special event) _______________ on State property; and

WHEREAS (special event) _______________ will require the temporary closure of State Highway Route _______________ on (date) _______________ between (location) _______________ and _______________ between the hours of _______________ and _______________; and

WHEREAS there is no acceptable alternate route, with the result that traffic normally using State Highway Route _______________ will be temporarily halted or restricted.

NOW THEREFORE be it resolved that the City/County of _______________ approves and consents to the proposed (special event) _______________ and recommends approval of and consents to the proposed closure/restriction of State Highway Route _______________ upon terms and conditions deemed appropriate and necessary by the State of California, Department of Transportation.
SPECIAL EVENT

(USE THIS RESOLUTION FORMAT WHEN A RESTRICTION ON THE STATE HIGHWAY OCCURS BUT NO CLOSURE OR DETOUR IS REQUIRED)

WHEREAS (name of sponsor) _______________ has applied to the State of California to conduct (describe special event) _______________ on State property; and

WHEREAS (special event) _______________ will temporarily impede and restrict the free passage of traffic over State Highway Route _______________ on (date) _______________ between (location) _______________ and _______________ between the hours of _______________ and _______________; and

NOW THEREFORE be it resolved that the City/County of _______________ approves and consents to the proposed (special event) _______________ and recommends approval of and consents to the proposed restriction of State Highway Route _______________ upon terms and conditions deemed appropriate and necessary by the State of California, Department of Transportation.
SPECIAL EVENT

(USE THIS DOCUMENT FORMAT WHEN TIME FACTORS DO NOT PERMIT A RESOLUTION ADOPTION BEFORE THE DATE OF THE SPECIAL EVENT AND REQUIRES RE-ROUTING OVER CITY STREETS/COUNTY ROADS)

(To be addressed to the Department’s Permit Engineer)

(Name of sponsor) _______________ has applied to the State of California to conduct (describe special event) _______________ on State Highway Route _______________ on (date) _______________, between (location) _______________ and _______________ between the hours of _______________ and _______________. Said event will require the temporary closure of State Highway Route _______________, as indicated, and the re-routing of traffic over (describe city streets/county roads) _______________.

The next regularly scheduled meeting of the City Council/Board of Supervisors of _______________ will be on (date) _______________. A formal Resolution by the Council/Board cannot be obtained before the proposed date of the (special event) _______________. In my capacity as (title) _______________ for the City/County of _______________, I am authorized to advise you that the City/County of _______________ approves and consents to the proposed event upon such terms and conditions deemed appropriate and necessary by the State of California, Department of Transportation and further recommends approval of and consents to the re-routing of traffic onto and over the named city streets/county roads.

Date: _______________ Signature: _____________________________
SPECIAL EVENT

(USE THIS DOCUMENT FORMAT WHEN TIME FACTORS DO NOT ALLOW A RESOLUTION TO BE ADOPTED BEFORE THE DATE OF THE SPECIAL EVENT)

(To be addressed to the Department’s Permit Engineer)

(Name of sponsor) _______________ has applied to the State of California to conduct (describe special event) _______________ State Highway Route _______________ on (date) _______________, between (location) _______________ and _______________ between the hours of _______________ and _______________. The next regularly scheduled meeting of the City Council/Board of Supervisors will be on (date) _______________. A formal Resolution by the Council/Board cannot be obtained before the proposed date of (special event) _______________. In my capacity as (title) _______________ for the City/County of _______________, I am authorized to advise you that the City/County of _______________ approves and consents to the proposed event upon such terms and conditions deemed appropriate and necessary by the State of California, Department of Transportation.

Date: _______________ Signature: _____________________________
Appendix J – Road Connections and Driveways

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Design Guidelines for Typical Rural Driveways in State Right of Way. ................................................................. 2

REFERENCES:

Please always refer to the latest Highway Design Manual (HDM) for most up to date guidelines. The HDM indexes referenced in the guidelines below can be accessed online from the following link:

https://dot.ca.gov/programs/design/manual-highway-design-manual-hdm

Initial Driveway Design Considerations:

1. **Location of the driveway shall be designed to maximize corner sight distance.** For corner sight distance, see HDM Index 405.1 (2) (c). Driveway proposals that do not meet sight distance requirements will not be permitted. The minimum corner sight distance shall be equal to the stopping sight distance as given in HDM Table 201.1. HDM Table 101.2 shows appropriate ranges of design speeds that shall be used for the various types of facilities, place types, and conditions listed. (See HDM Table 101.2 Vehicular Design Speed; Table 201.1 Sight Distance Standards; Index 205.4 Driveways on Frontage roads and in Rural Areas; Index 405.1 (2) Corner Sight Distance)

2. **Driveways connecting to State highways shall be paved a minimum of 20 feet from the edge of shoulder or to the edge of State right of way, whichever is less to minimize or eliminate gravel from being scattered on the highway and to provide a paved surface for vehicles and bicycles to accelerate and merge.** Where larger design vehicles are using the driveway (e.g., dump trucks, flatbed trucks, moving vans, etc.), extend paving so the drive wheels will be on a paved surface when accelerating onto the roadway (See HDM Index 205.4 Driveways on Frontage roads and in Rural Areas).

Driveway Design Details: Once considerations 1 and 2 above are met, driveway shall be designed per the following requirements:

3. Where County or City Regulations differ from the State’s, it may be desirable to follow their regulations (See HDM Index 205.4 Driveways on Frontage roads and in Rural Areas).

OR

4. Design details are shown on HDM Figure 205.1. This detail, without the recess, may be used on conventional highways (See HDM Figure 205.1 Access Openings on Expressways, Note 2).

5. Approach and departure tapers should be 50 feet longitudinal and 8 feet from edge of traveled way at the end of the taper. Approach and departure tapers are not required where the existing paved shoulder is at least 8 feet wide (See HDM Figure 205.1 Access Openings on Expressways).

Structural Section Design Details: Driveways structural section has to meet the following requirements:

6. Approach and departure tapers should have structural sections matching the existing State highway shoulders. An alternate shoulder design is allowed. See HDM Figure 613.5B for details. For asphalt driveway the structural section should be equal to or greater than edge of shoulder or approach and departure tapers. Minimum thickness of surface course is 0.35 foot. Aggregate base depth should match State highway shoulders. Details (cross section, etc.) for concrete driveways are shown on Standard Plan A87A. Minimum thickness at driveway shall be 4 inches for residential and 6 inches for
commercial. (See HDM 613.5 (2) Shoulders; Standard Plan A87A Curb and Driveways; Standard Plans are available at: https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications

7. Place shoulder backing from the edge of pavement (EP) to the hinge point (HP). Shoulder backing should be placed on a width of at least 2 feet from EP. For placement of shoulder backing thickness greater than 0.5 foot for slope repair; shoulder backing behind dikes; and where longitudinal drainage are present; see HDM for details. (see HDM Index 672 Shoulder Backing and HDM Figures 672.3 A through E)

The Figure below is provided to assist driveway design for rural areas and to clarify terminologies used in the above guidance. This figure is provided for general illustration purposes and is not be used for design details. It should not to be used as a drawing in the encroachment permit application for the driveway.

![Driveway Design Requirements for Rural Areas with Unimproved Frontage on Conventional State Highways](image)

*Corner Sight Distance shall be calculated from all directions of approach. See HDM Index 405.1(2) & Figure 405.7 for set back and sight distance calculations.

Purpose: The above excerpts from the Department’s HDM are shown for reference. The design standards used for any project should equal or exceed the minimum given in the manual to the maximum extent feasible. They do not replace engineering knowledge, experience, and judgment in the design of driveways.

8. Special situations may call for variation from policies and procedures, subject to the appropriate approval. This is not intended to, nor does it establish a legal standard or any other standard of conduct or duty toward the public.
# Appendix K – General and Special Provisions

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ACCESS CONTROL AND TEMPORARY SAFETY BARRIER
RETAINING WALLS AND SOUNDWALLS (WL) SPECIAL PROVISIONS

In addition to the attached General Provisions (Form TR-0045), the following special provisions are also applicable:

1. A temporary 6' high access control fence shall be provided before removing the existing fence. Existing fence fabric shall be salvaged and delivered to the nearest State facility as directed by the State's representative at no cost to the State. The remaining access control fence shall be tied to the wall.

2. Fence posts are to be removed completely and the holes backfilled with compacted earthen material.

3. Access to the worksite from the freeway is prohibited.

4. Any material stored at the worksite within 30' of the traveled way when work is not in progress shall be protected by Type K barrier railing placed at a 20:1 taper or as otherwise directed by the State's representative.

5. Any Type K barrier placed within 10' of the traveled way shall have one appropriate reflective marker affixed to the top of each section. A Type "P" object marker shall be installed in front of the approach end section. The end section shall also be protected by a temporary crash cushion array.
1. **AUTHORITY:** The Department’s authority to issue encroachment permits is provided under Division 1, Chapter 3, Articles 1 - 3, Section 660 to 734 of the Streets and Highways Code.

2. **REVOCATION/CANCELLATION:** This permit may be revoked by the Department for noncompliance with permit provisions or for failure of the permittee, or their representative to adhere to direction given by a Departmental representative. These provisions are subject to modification or abrogation at any time. This permit may be temporarily suspended due to construction or other State operations at, or within, the vicinity of the site. Permittee may cancel their permit at any time without consequence from the Department. Permittees using contractors are responsible for terminating those arrangements.

3. **ASSIGNMENT:** No parties other than the permittee, or permittee’s authorized representative, are allowed to work under this permit.

4. **ACCEPTANCE OF PROVISIONS:** Permittee understands and agrees to accept these Adopt-A-Highway Permit Special Provisions and all attachments to this permit, for any work to be performed under this permit. It is understood and agreed by the permittee that performing work under this permit shall constitute acceptance.

5. **PERMITTEE RESPONSIBILITY:** No person shall enter the State’s right of way to perform work until the Department’s Maintenance Supervisor has given the permittee’s group/crew leader a safety orientation, and, all participants have received safety training from the permittee’s group/crew leader as described in items 20 and 24.

   It is the responsibility of the permittee to notify the District Adopt-A-Highway Coordinator of any change of permittee’s address, phone number, or contact person.

6. **PLAN CHANGES:** Changes to plans, specifications, and permit provisions are not allowed without prior approval from the Department.

7. **AGE OF PARTICIPANTS:** No minors under the age of 16 are permitted to participate in the program. Minors, 16 and 17 years of age, may participate; however, there must be one adult supervisor for every five minors present at the work site. The adult supervisor must be at least 21 years old and must walk along with the group. Volunteer group leaders must be adults who are at least 21 years old.

8. **BEGINNING OF WORK:** Work authorized by this permit shall begin after a safety orientation has been completed and within 30 calendar days from the date of issuance, regardless of whether or not the permittee's Adopt-A-Highway courtesy sign(s) and/or recognition panel(s) have been installed. Work shall not be discontinued if the permittee's courtesy sign is damaged or stolen.

9. **ADVANCE NOTICE OF WORK:** Permittee must notify the Department’s Maintenance Supervisor listed on Attachment A (Adopt-A-Highway Special Provisions) of their plans to work at least five days, but no more than one month, before the event.

10. **WORK DAYS AND HOURS:** Work must be performed during daylight hours. If weather (or other adverse circumstance) causes decreased visibility or a public hazard, work shall immediately be discontinued. Work shall not be conducted on, or within twenty-four hours preceding, the following holidays or holiday weekends: New Year’s Day, Martin Luther King, Jr.’s Birthday, Washington’s Birthday, Cesar Chavez’s Birthday, Easter, Memorial Day, Independence Day (July 4th), Labor Day, Veteran’s Day, Thanksgiving and the day after, and Christmas. Unless specified, work is permitted the day following a legal holiday or holiday weekend.

11. **PARTICIPATION IN STATEWIDE EVENTS:** Weather permitting, volunteer litter removal groups shall schedule work during the “Great American Cleanup-California” (March-May) and “California Cleanup Day” (September) events in order to support Adopt-A-Highway’s participation in national and international cleanup events.

12. **CONFLICTING ENCROACHMENTS:** Permittee shall yield start of work to ongoing, prior authorized, work adjacent to or within the limits of the project site.

13. **PERMIT AT WORK SITE:** Permittee shall keep the complete permit package (Adopt-A-Highway Encroachment Permit, Adopt-A-Highway Permit Special Provisions, and if applicable, plans and work schedule) or a copy thereof, at the work site and show it upon request to any Department representative or law enforcement officer. If the permit package is not kept and made available at the work site, the work shall be suspended. In addition, a copy of the encroachment permit must be displayed in the windshield of each vehicle parked on the right of way. Vehicles without permits may receive traffic citations.

14. **PARKING AT THE WORK SITE:** Participant’s personal vehicles shall not interfere with the free flow of traffic or pedestrians. Vehicles used to transport participants or materials may legally park on the right of way provided that they are located completely off of the pavement and a minimum of six feet from any traffic lane. If this is not possible, participants must walk to and from the site or, if the site has a shoulder, participants can use a drop-off and pick-up arrangement.

15. **WORK PROCEDURES:** Work shall proceed in the direction facing traffic. A posted safety lookout shall be used when fellow participants are unable to watch oncoming traffic.

   Work shall not be performed on or within six feet from any traffic lane or on median strips. Participants shall not walk or run across access-controlled highways (freeways), including on-ramps and off-ramps unless there are crosswalks. Participants shall not work on unstable or slippery ground, on slopes greater than approximately 40º, on bridges, in tunnels, or inside culverts. Unless excluded by the aforementioned conditions, or entered on Attachment A, Work Procedures, litter removal and vegetation control shall be performed behind soundwalls.

16. **PUBLIC TRAFFIC CONTROL:** All forms of traffic control, including shoulder, lane, and ramp closures, signs, cones, vehicles, or any other traffic control device are prohibited under this permit.

17. **SAFETY EQUIPMENT:** It is required that all participants wear hard hats, safety vests, gloves, and protective eye wear while on the State’s right of way. The Department will provide these and, if needed, litter pickers to volunteers free of charge. In addition, participants are required to wear long pants and substantial leather shoes or boots with ankle support. Any State-furnished, personal protective equipment, unused materials, and tools shall be returned upon termination of the permit.

18. **LITTER BAGS:** Participants shall use white, Adopt-A-Highway bags provided by the Department. Securely tied, filled bags must be placed at least six feet from the edge of traffic lanes and off of paved shoulders. Bags must be placed in locations where they are not obstructing drainage and where Departmental maintenance forces can easily see them and safely retrieve them. Whenever possible, bags...
should be stacked together and/or placed 100 feet from structures. It is important for participants to leave their filled bags at the site so that the Department can verify that work frequencies are being met. Also, the monthly count of white bags collected, enables the Department to quantify the value of the Adopt-A-Highway Program. (Participants may take bags of recyclables home.)

19. STORAGE OF EQUIPMENT AND MATERIALS: Unless specified in the Permittee's planting and/or work plans, storage of equipment and materials (other than filled, Adopt-A-Highway litter bags) on the State right of way is not authorized under this permit.

20. SAFETY PROCEDURES FOR VOLUNTEER GROUPS:
   A. Designate group leaders. Each permittee shall designate a group leader and an alternate group leader to represent the group. Unless otherwise notified, the Department considers the group leader to be the individual whose name appears on the attached encroachment permit. Unless otherwise notified, the Department considers the alternate group leader to be the individual named as the alternate contact on the Adopt-A-Highway Program Application.
   B. Attend a Caltrans safety orientation. Both the group leader and the alternate group leader shall schedule and attend a safety orientation given by the Department’s Maintenance Supervisor. The "Adopt-A-Highway Safety Orientation Checklist for Volunteers" will be reviewed, signed, and copies given to the group leaders.
   C. Obtain safety equipment: Safety equipment and a copy of the Adopt-A-Highway safety video shall be issued during the Caltrans safety orientation. Participants who need them will also receive Adopt-A-Highway litter bags and litter pickers. Additional safety equipment and litter bags may be obtained as needed throughout the permit period from the Department’s Maintenance Supervisor.
   D. Provide safety training to all group members. The group leader or alternate group leader shall then provide safety training for all participants before they attend a work event. The encroachment permit and special provisions shall be explained and part two of the Adopt-A-Highway safety video must be viewed.
   E. Conduct safety reviews before each work event. The group leader or alternate group leader shall conduct a brief, off-site safety review each time the group goes out to work. The "Safety Requirements for Participants" and the "Bag It, Move It, or Leave It?" handouts shall be reviewed. The group leader or alternate group leader shall ensure that all participants are equipped with safety gear and that minors will be adequately supervised. The group leader or alternate group leader must participate in the work event.
   F. Provide annual safety training. The group leader or alternate group leader shall hold an annual safety training refresher for all participants. Once again, the encroachment permit and special provisions shall be explained and part two of the Adopt-A-Highway safety video viewed.
   G. Report Injuries, Accidents, and Incidents. The following occurrences shall be reported to the District Adopt-A-Highway Coordinator by the next business day: injuries resulting in an individual seeking medical treatment, vehicular damage resulting in an insurance claim and/or police report, and incidents where the California Highway Patrol was contacted.

21. ADOPT-A-HIGHWAY SIGNS: The Department shall furnish, install, and maintain an Adopt-A-Highway courtesy sign(s) and standard recognition panel(s) at the adoption site in recognition of the Permittee's contribution. Standard recognition panels shall display the Permittee's name in black, block letters on a white background. Permittees may furnish a customized, recognition panel(s) at their own expense. Specifications for the recognition panel's wording, size, color, type style, placement, and any subsequent modifications shall be solely determined and approved by the Department. (Note: "Spot" Wildflower and Supplemental Litter Removal adoptions do not meet minimum requirements for a courtesy sign.) Neither the Adopt-A-Highway Program nor it's courtesy signs are intended to provide a forum for advertisement, solicitation, or public discourse.

22. WHEN AN ADOPT-A-HIGHWAY CONTRACTOR IS UTILIZED: Individuals, organizations, and businesses may adopt segments of highway and have the required adoption work performed by a professional business through contract or agreement. Contractors must submit a separate Adopt-A-Highway Permit Application and will be issued a "double permit." Only contractors that have been pre-approved by the Department may be utilized. In order to receive Departmental approval, contractors must submit and maintain the following documents:
   A. Liability Insurance: Contractors with employees shall maintain $1,000,000 of general liability insurance for each occurrence, plus $2,000,000 of excess liability insurance (totaling $3,000,000). Contractors who do not utilize paid employees shall maintain $1,000,000 in general liability insurance for each occurrence; no excess liability insurance is required. All certificates of liability insurance shall name the State of California Department of Transportation as additional insured.
   B. Vehicular insurance, in the minimum amount of one million dollars, is required of all contractors.
   C. Worker's compensation insurance, in the minimum amount of one million dollars, is required for contractors who employ persons to perform work authorized under this permit.
   D. Professional licensing as required by the California Contractors State License Board and/or the California Department of Pesticide Regulation to perform work authorized under this permit. Subcontracting is not permitted under the Adopt-A-Highway Program.
   E. County and/or city business licenses as required by local governments to perform work authorized under this permit.

Contractors are required to provide a minimum notice of 30 days to the Department's District Adopt-A-Highway Coordinator or Statewide Adopt-A-Highway Coordinator before any reduction in coverage and/or cancellation of coverage becomes effective.

23. INSTALLATION OF RECOGNITION PANELS BY ADOPT-A-HIGHWAY CONTRACTORS: Adopt-A-Highway contractors may install recognition panels at specific locations if the work is authorized on page one of the attached Encroachment Permit (Adopt-A-Highway) and they have received an Adopt-A-Highway Service Contractor Recognition Panel Installation Order.
SAFETY PROCEDURES FOR ADOPT-A-HIGHWAY CONTRACTORS:

A. Attend a Caltrans safety orientation. Adopt-A-Highway contractors shall abide by safety requirements set forth by California Occupational Safety and Health Administration (Cal-Osha). In addition, the contractor's crew leader must schedule and attend a safety orientation given by the Department's Maintenance Supervisor. The "Safety Orientation Checklist for Adopt-A-Highway Contractors" will be reviewed, signed, and a copy given to the crew leader.

B. Report Injuries, Accidents, and Incidents. The following occurrences shall be reported to the District Adopt-A-Highway Coordinator by the next business day. Injuries resulting in an individual seeking medical treatment, vehicular damage resulting in an insurance claim and/or police report, and incidents where the California Highway Patrol was contacted.

C. Contractor's crew must carry an identification card. The card must list the employee's name, the name of the Adopt-A-Highway contractor, and a phone number where the crew leader can be reached during working hours.

PERMITS FROM OTHER AGENCIES: This permit is invalid if the permittee has not obtained all permits necessary and required by law, from Cal-Osha, the Public Utilities Commission of the State of California (PUC), the California Contractors State License Board, the California Department of Pesticide Regulation, or any other public agency having jurisdiction.

COST OF WORK: Unless stated in the permit, or a separate written agreement, the permittee shall bear all costs incurred for work within the State right of way and waives all claims for indemnification or contribution from the State.

LABOR CODE COMPLIANCE - PREVAILING WAGES: If the scope of work granted under this Adopt-A-Highway permit is performed under a contract between the permittee/adopter and a contractor, and falls within the parameters of the Labor Code section 1720(a)(1) definition of a "public work" in that it is construction, alteration, demolition, installation, repair or maintenance, the permittee/adopter herein agrees to require its contractor to conform to the provisions of Labor Code sections 1720 through 1815, all applicable regulations and coverage determinations issued by the Department of Industrial Relations. Adopt-A-Highway adopters agree to include prevailing wage requirements in any service contract for public work. Work performed by Adopt-A-Highway adopter's own forces or persons working voluntarily without compensation are exempt from the Labor Code's prevailing wage requirements.

UNDERGROUND SERVICE ALERT (USA) NOTIFICATION: Any excavation requires compliance with the provisions of Government Code Section 4216 et. seq., including, but not limited to, notice to a regional notification center, such as Underground Service Alert (USA). The permittee shall provide notification at least 48 hours before performing any excavation work within the right of way.

ARCHAEOLOGICAL/HISTORICAL: If any archaeological or historical resources are revealed in the work vicinity, the permittee shall immediately stop work and notify the Department's Maintenance Supervisor.

DURATION OF PERMIT: Unless otherwise specified, this permit is valid for five calendar years from the date of issuance. Permits may apply for additional five-year permits, provided the that the permittee and/or the permittee's contractor have satisfactorily met the terms of the existing permit and the site remains suitable for adoption. If the permittee wishes to reapply, a notice of such intent shall be submitted to the District Adopt-A-Highway Coordinator at least 30 days prior to the expiration date of this permit.

NO PRECEDENT ESTABLISHED: This permit is issued with the understanding that it does not establish a precedent.

RESPONSIBILITY FOR DAMAGE: The State of California and all officers and employees thereof, including but not limited to the Director of Transportation and the Deputy Director, shall not be answerable or accountable in any manner for injury to or death of any person, including but not limited to the permittee, persons employed by the permittee, persons acting in behalf of the permittee, or for damage to property from any cause. The permittee shall be responsible for any liability imposed by law and for injuries to or death of any person, including but not limited to the permittee, persons employed by the permittee, persons acting in behalf of the permittee, or for damage to property arising out of work, or other activity permitted and done by the permittee under a permit, or arising out of the failure on the permittee's part to perform his obligations under any permit in respect to maintenance or any other obligations, or resulting from defects or obstructions, or from any cause whatsoever during the progress of the work, or other activity or at any subsequent time, work or other activity is being performed under the obligations provided by and contemplated by the permit.

The permittee shall indemnify and save harmless the State of California, all officers, employees, and State's contractors, thereof, including but not limited to the Director of Transportation and the Deputy Director, from all claims, suits or actions of every name, kind and description brought for or on account of injuries to or death of any person, including but not limited to the permittee, persons employed by the permittee, persons acting in behalf of the permittee and the public, or damage to property resulting from the performance of work or other activity under the permit, or arising out of the failure on the permittee's part to perform his obligations under any permit in respect to maintenance or any other obligations, or resulting from defects or obstructions, or from any cause whatsoever during the progress of the work, or other activity, or at any subsequent time, work or other activity is being performed under the obligations provided by and contemplated by the permit, except as otherwise provided by statute.

The duty of the permittee to indemnify and save harmless includes the duties to defend as set forth in Section 2778 of the Civil Code. The permittee waives any and all rights to any type of expressed or implied indemnity against the State, its officers, employees, and State contractors. It is the intent of the parties that the permittee will indemnify and hold harmless the State, its officers, employees, and State's contractors, from any and all claims, suits or actions as set forth above regardless of the existence or degree of fault or negligence, whether active or passive, primary or secondary, on the part of the State, the permittee, persons employed by the permittee, or acting on behalf of the permittee.

For the purpose of this section, “State’s contractors” shall include contractors and their subcontractors under contract to the State of California performing work within the limits of this permit.
Safety Requirements for Participants: "C R E W  P L A N S"

Contact Caltrans. Notify your Maintenance field representative of your plans to work at least five days, but no more than one month, before the event. If State construction or maintenance activities have been scheduled at your adoption site on that same day, you will not be permitted to work.

Review safety procedures. Review these "Safety Requirements for Participants" and the "Bag It, Move It, or Leave It?" instructions with all participants at an off-site location prior to each work event.

Evaluate weather conditions. Work must be performed during daylight hours. Do not work, or discontinue working, if weather (or other adverse circumstance) decreases visibility or causes a public hazard.

Wear your safety gear. It is required that participants wear safety vests, hard hats, gloves, protective eye wear, long pants, and substantial leather shoes or boots with ankle support. Light-colored clothing and long-sleeved shirts are recommended. Put on your safety gear before travelling to your site and do not take it off on until you have left the roadside.

Park in a safe place. Please carpool. Vehicles must park completely off of paved areas and be at least six feet from any traffic lane. If this is not possible and your site has a shoulder, then use a drop-off and pick-up arrangement instead. Or, enter and exit your site on foot from locations that allow you to face oncoming traffic. If in doubt about the safest way to access your site, please contact your Maintenance field representative for advice.

Look out for danger and look out for each other. Always work facing oncoming traffic. Use a safety lookout when fellow workers are unable to see oncoming traffic. Watch your footing and be alert for snakes, stinging insects, and poisonous plants. If your encroachment permit authorizes minors to participate, you must have at least one adult supervisor over the age of 21 at the site for every five minors present. Do not work alone.

Alert the California Highway Patrol (call 911) if you find an extremely hazardous item. Identify all objects before touching them and handle found items according to the procedures outlined in the "Bag It, Move It, or Leave It" instructions.

Never risk injury. Work shall not be performed on median strips. Stay completely off of paved areas and always remain at least six feet from any traffic lane; this includes crossing freeway on-ramps and off-ramps. Use extreme caution when crossing conventional, two-lane highways; plan to use crosswalks and signals where available. Do not work on unstable or slippery ground, on bridges, in tunnels, or in drainage facilities. Avoid behaviors that will distract motorists; this includes working in groups of more the three or four persons. Drink plenty of water. Use tools to help prevent over exertion. For example, litter removal groups should use litter pickers instead of bending to pickup litter and graffiti removal groups should use rollers instead of brushes to paint large areas.

Stack your bags. Do not overload or compact litter bags and be sure to tie them securely closed. Whenever possible, stack several filled bags together. Place bags completely off of paved areas and at least six feet from any traffic lane. Make sure that the bags are located where Caltrans maintenance crews can easily see them and safely retrieve them.

ADDITIONAL REQUIREMENTS: 1) No person shall enter the State’s right of way to perform work until a Caltrans representative has given the permittee’s safety leader a safety orientation, and, all participants have received safety training from that safety leader. 2) A complete encroachment permit "package" (encroachment permit, special provisions, and any plans and schedules) must be present at the site. In addition, a copy of the encroachment permit must be displayed on the dashboard of each vehicle parked on the State's right of way. 3) Work shall not be conducted on, or within twenty-four hours preceding, holidays or holiday weekends. Refer to your Encroachment Permit Special Provisions for a listing of holidays and possible additional work restrictions specific to your adoption site.
ADVERTISING DISPLAYS (AD) SPECIAL PROVISIONS

In addition to the attached General Provisions (TR-0045), the following special provisions are also applicable:

I. GENERAL

1. Signs, Marquees and Awnings overhanging State highway right of way (R/W) shall comply with the requirements of the applicable local agency, the latest edition of the Uniform Building Code (UBC) or these special provisions, whichever is the higher standard.

II. SIGNS

1. Vertical Clearance: The minimum clearance of signs from the sidewalk shall be 12’.
2. Codes: Must be structurally adequate and conform to applicable building code and Caltrans' Outdoor Advertising Regulations.
3. Location: Support shall be off the right of way. The overhang shall be at least 2’ behind the curb line. If no curbs are in place, the signs should be placed so that some physical barrier prevents them from being struck.
4. Advertising: The wording on the sign may only identify either the owner, the goods sold or manufactured on the premises or the services rendered.
5. Lights: No flashing, rotating or intermittent lights shall be allowed except approved public service information. Signs that contain red, yellow, or green lights shall not be permitted where they could interfere with the driver's perception of traffic signals.
6. No displays shall interfere with or hide traffic signals or traffic signs.
7. Any future change of copy or location must be covered by a separate permit.

III. MARQUEES

1. The horizontal clearance between a marquee and the curb line shall not be less than 2’.
2. The minimum vertical clearance from the sidewalk shall be 12’.
3. A marquee shall be supported entirely by the building.
4. Any drainage from the marquee shall not fall on or drain across the sidewalk.

IV. Awnings

1. An awning is a temporary shelter supported entirely from the exterior wall of a building.
2. Awnings may identify the owner or place of business.
AIR SPACE DEVELOPMENT (AS) SPECIAL PROVISIONS

In addition to the attached General Provisions, (TR-0045), the following special provisions are also applicable:

1. Column Protection: shall be lumber at least 2" nominal thickness and at least 4" nominal width with 2" maximum clear space between pieces. The lumber shall be strapped to columns with a minimum of three (3) galvanized steel bands. The bottoms of the pieces of lumber shall be 2' or less above the ground and tops 8' minimum above the ground.

2. Fencing: a standard 6' high chain link fence may be installed around the perimeter of the leasing area with gate(s) as designated. Security may be enhanced by the installation of vertical brackets on the fence posts and attaching three (3) strands of barbed wire to the brackets. THE USE OF RAZOR RIBBON COILS ATOP THE FENCE IS PROHIBITED.

3. The improvements shall not be occupied by the leasee until all work is completed to the satisfaction of the State and a notice of completion has been issued to the permittee.

4. Upon completion of the work, the permittee shall submit one set of film positive reproducible, either matte or clear, "As-Built" plans to the District Permit Engineer.
ART PROGRAM (AP) SPECIAL PROVISIONS

In addition to the attached General Provisions (TR-0045), the following special provisions are also applicable:

1. Artwork located within State right of way will be considered a gift to the people of California.

2. Caltrans reserves the right to reproduce the artwork for publicity type purposes.

3. No commercial advertising on State right of way is allowed. Any identification of the donor or sponsor must have prior approval by Caltrans.

4. The permittee must maintain the integrity of the artwork until further notice. The permittee agrees to remove the artwork if so ordered by Caltrans.

5. The permittee shall abide by Caltrans' safety rules and regulations, including traffic control.
BANNERS (BR) SPECIAL PROVISIONS

In addition to the attached General Provisions (TR-0045), the following special provisions are also applicable:

I. BANNERS

1. The banners shall not contain private advertising nor be of a political nature.

2. The lower edge of the banners shall be at least 18' above the highway pavement at its closest point.

3. Suspension or installation on State owned traffic signal poles or other State owned facilities is prohibited.

4. Local police shall provide traffic control while banner is being installed or removed.

5. The display may not be in place more than two weeks prior to the event and shall be immediately removed after the event.

II. HOLIDAY DECORATIONS

1. Installation of Holiday decorations shall not begin prior to the day after Thanksgiving Day.

2. Decorations attached to vertical structures such as power, telephone, or light poles, are not to project beyond the curb line and shall not hang below a height of 14'. Decorations which project beyond the curb line or cross the highway shall have a minimum vertical clearance of 18'.

3. Decorations shall not be attached to State owned poles.

4. Decorative lighting displaying red, yellow, or green lights shall not be placed where they could interfere with the driver’s perception of traffic signals.
BUS PASSENGER SHELTERS, BENCHES, AND PULLOUTS--ADVERTISING AND LOCATION (BS) SPECIAL PROVISIONS

In addition to the attached General Provisions (TR-0045), the following special provisions are also applicable:

1. Advertising displays on bus passenger shelters or benches may not be within 660' of and visible from any Federal Aid Interstate or Primary highway. Advertising displays shall only be placed at approved passenger loading areas. The advertising displays must not extend beyond the exterior limits of the shelter or bench. Advertising shall not exceed two (2) display panels per shelter or bench.

2. Bus passenger shelters and benches shall be located a minimum of 2' behind the face of curb, with a minimum of 4' width of walkway available.

3. All pavement shall be saw cut prior to removal.

4. Pavement markings obliterated shall be replaced in kind by permittee.

5. No telephone installations are authorized by this permit.
CABLES/GEOPHYSICAL TESTING (GC) SPECIAL PROVISIONS

In addition to the attached General Provisions (TR-0045), the following special provisions are applicable:

1. The shear wave method of geo-physical testing is prohibited.

2. Cables shall not be left on the roadbed overnight.

3. Personnel working within the right of way shall wear orange colored outer garments and hard-hats.

4. No equipment shall be parked on or operated on the traveled way except for normal legal travel.

5. No holes shall be drilled and no blasting shall be conducted on State right of way.

6. On overcrossing structures, cables shall be placed within 6" of curb face.

7. No equipment, work, or personnel shall be allowed within access controlled rights of way except for personnel and cable necessary to place cable crossings required for continuity. Cable shall cross access-controlled rights of way in culverts or at crossing structures if available within 500' of proposed crossing. Any drainage channel shall not be disturbed.

8. Cables shall be placed as close to the right of way line a practical.

9. Cable shall be securely attached to the traveled way by taping. No nails, spikes or other material shall be driven into the pavement.

10. No paint shall be placed upon highway pavements, signs or markers. If pavement markings are necessary, traffic tape, chalk or crayon shall be used. All tape, stakes and other obvious markers shall be removed upon completion of permitted work.

11. All mud, dirt or gravel tracked onto the highway pavement shall be immediately and completely removed.

12. Any ruts or other damage to unpaved shoulder areas caused by driving or operating equipment on soft shoulders shall be repaired immediately.

13. Should any deviation from these procedures be observed, all work shall be suspended until satisfactory steps have been taken to insure compliance.

14. Except as specifically provided herein, all requirements of the vehicle code and other applicable laws must be complied with in all particulars.

15. Work shall be limited to normal working hours unless otherwise specifically authorized on the permit. Permittee will be required to deposit an amount equal to four-hours minimum of overtime per day for inspection charges, if work is permitted beyond normal working hours, weekends or holidays.
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<th>LANE WIDTH REMAINING FOR TRAFFIC</th>
<th>APPROACH SPEED</th>
<th>STOP DURATION IN MINUTES</th>
<th>TYPE OF TRAFFIC CONTROL REQUIRED</th>
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<td>Standard Plan T11 or T13</td>
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**NOTES:**

1. MOBILE WORK IS CONSIDERED TO BE ENCROACHMENT ACTIVITIES THAT INCLUDE SLOW CONTINUOUS MOTIONS AND/OR FREQUENT STOPS WITHIN A TRAFFIC LANE.

2. TRAFFIC SHALL NOT BE MOVED ACROSS THE CENTERLINE STRIPE OF ANY HIGHWAY WITHOUT A STANDARD LANE CLOSURE OR OTHER APPROVED TRAFFIC CONTROL.

3. ON HIGHWAYS WITH PAVED SHOULDERS OF 8' OR MORE IN WIDTH, AND WHERE WORK IS TO BE CONDUCTED WITHIN 6' OF THE TRAVELED WAY, A SHOULDER CLOSURE PER STANDARD PLAN T10 SHALL BE IMPLEMENTED.

4. SHADOW VEHICLE ESCORTS ARE VEHICLES WEIGHING A MINIMUM OF 18000 lbs AND SHALL BE EQUIPPED WITH A TRUCK MOUNTED CRASH CUSHION. A “LANE CLOSED” SIGN PANEL AND A FLASHING ARROW SIGN SHALL BE MOUNTED ON THE REAR OF THE SHADOW VEHICLE FOR A MULTILANE HIGHWAY. A “DO NOT PASS” SIGN PANEL SHALL BE MOUNTED ON THE REAR OF THE SHADOW VEHICLE FOR A 2-LANE HIGHWAY.

5. PERMITEES MAY CONTACT CALTRANS MAINTENANCE REGIONAL OFFICE FOR SHADOW VEHICLE ESCORTS. CALTRANS MAINTENANCE WILL PROVIDE SUCH ASSISTANCE WHEN AVAILABLE. CALTRANS IS TO BE REIMBURSED BY THE PERMITTEE.

6. ANY WORKING HOUR RESTRICTIONS ARE TO BE INCLUDED WITHIN THE ENCROACHMENT PERMIT OR AS DETERMINED BY THE DEPARTMENTS’S REPRESENTATIVE.
DRAINAGE - ROOF AND SURFACE, MINOR (DM) SPECIAL PROVISIONS

In addition to the attached General Provisions (TR-0045), the following special provisions are also applicable.

1. Drains must be restricted to the exclusive purpose of draining rain water from the roof of permittee's building and/or paved parking lot. Drains if used for any other purpose, such as draining waste water or domestic supply water into the highway, will not be authorized. Drains shall be installed at right angles to the curb line unless otherwise authorized.

2. Removal of PCC Sidewalks or Curbs: Concrete sidewalks or curbs shall be saw cut to the nearest score marks and replaced equal in dimension to that removed with score marks matching existing adjacent sidewalk or curb.

3. After pipe drains are installed, curb and sidewalk shall be replaced with Portland Cement Concrete in accordance with State Standard Specifications.
DRIVEWAY, COMMERCIAL (RC) SPECIAL PROVISIONS

In addition to the attached General Provisions (TR-0045), the following special provisions are also applicable:

1. Asphalt Concrete or PCC pavement shall be saw-cut at conform location.

2. Excavations made within the limits of the right of way shall be backfilled before leaving the work for the night unless otherwise authorized by State's representative. After backfilling, temporary surfacing shall be placed if required by State's representative.

3. The permittee shall contact State's representative before placing structural section materials for the roadway pavement.

4. The approach fill area shall slope away from the highway pavement or improved shoulder and shall be so constructed as to avoid any flowing water reaching the traveled way and to avoid pocketing or ponding of water.

5. If not shown on project plans, the road approach or driveway shall conform to the “Design Guidelines for Typical Rural Driveways in State Right of Way”.
DRIVEWAY RECONSTRUCTION (RM) SPECIAL PROVISIONS

In addition to the attached General Provisions (TR-0045), the following special provisions are applicable:

1. Where reconstruction requires removal of existing asphalt concrete pavement, it shall be either saw-cut before removal or removed by grinding.

2. Existing drainage shall not be impaired.
DRIVEWAYS, SINGLE FAMILY (RS) SPECIAL PROVISIONS

In addition to the attached General Provision (TR-0045), the following special provisions are applicable:

I. RURAL LOCATIONS

1. The driveway shall be surfaced with a minimum of 3" of asphalt concrete placed on 6" of well graded and compacted aggregate base and shall conform to the existing pavement.

2. Existing drainage shall not be impaired. Either a valley gutter or a culvert shall be provided.

3. Where a culvert is installed, it shall be installed in the flowline of the existing drainage ditch at a slope to provide maximum drainage.

4. A standard tapered end section shall be installed at the inlet and outlet of the culvert.

5. Any change in the existing drainage pattern, whether occasioned by increase or diversion, and the cost of any damage, repair or restoration of the State highway right of way shall be the responsibility of the permittee.


II. URBAN LOCATIONS

1. Where curbs exist, the driveway structural section shall be a minimum of 4" of Portland Cement Concrete (PCC) over 6" of aggregate base.

2. Driveway details shall comply with State standards unless local standards exceed the State's.

3. Any existing utility boxes must be either relocated or adjusted to grade at the permittee's expense.

4. Removal of PCC Sidewalks or Curbs: sidewalks or curbs shall be saw cut to the nearest score marks and replaced equal in dimension to that removed with score marks matching existing adjacent sidewalk or curb.
EARLY ENTRY (SC) SPECIAL PROVISIONS

In addition to the attached General Provisions (TR-0045), the following special provisions are also applicable:

1. In the event contract is not awarded to permittee, he/she is liable for all charges for surveying material inspection and construction inspection by State personnel relating to this permit.

2. Prior to starting any work under this permit, the contractor will sign Attachment No.1 and return it to the State's representative.
FILMING - ACCIDENT RECONSTRUCTION SPECIAL PROVISIONS

In addition to the attached General Provisions (TR-0045), the following special provisions also applicable:

1. Permittee shall strictly comply with conditions of this permit. Minor variations require written Caltrans' State Representative approval; changes require a Caltrans Permit Rider.

2. Caltrans State representative or CHP may stop work not being performed in strict compliance with conditions of this permit.

3. UNLESS SPECIFICALLY ALLOWED IN THIS PERMIT, WETTING ROADWAYS IS STRICTLY PROHIBITED.

4. UNLESS SPECIFICALLY ALLOWED IN THIS PERMIT, TRAFFIC SHALL NOT BE DETOURED.

5. UNLESS SPECIFICALLY ALLOWED IN THIS PERMIT, STAGED ACCIDENTS, AND PYROTECHNICS ARE STRICTLY PROHIBITED.

6. Road closures and detours, if specifically allowed in this permit, require state specification advance warning signs and traffic control devices provided and installed to Caltrans standards by qualified private traffic control companies.

7. Traffic control activities shall be approved by Caltrans' State Representative prior to institution.

8. Accident reconstruction filming involving aircraft shall be done in strict compliance with FAA regulations.

9. When filming or photography is permitted, stationary cameras adjacent to roadways open to public traffic, shall be located at least 10' from edge of pavement or at least 2' behind curb face on raised sidewalks. Cameras shall NOT be allowed in medians of roadways open to public traffic. At locations of fixed cameras, Permittee's staff shall not exceed four persons.

10. On freeways, permittee's personnel, vehicles, and equipment not involved in the permitted activities shall be legally located outside freeway right of way.

11. On conventional highways open to public traffic, permittee's personnel, vehicles, and equipment not involved in the permitted activities, shall be legally located off the traveled way and not interfere with free traffic and pedestrian flow.

12. Highway operational problems require immediate cessation of permitted activities.

13. When filming or photography is permitted, lighting fixtures, mirrors, reflectors, and supports shall be placed to not present a glare or safety hazard.

14. Permittee equipment situated on sidewalks open to public, or interfering with pedestrians, shall be provided with devices for pedestrian protection.

15. Permittee vehicles operating in public traffic shall conform to California vehicle code.

16. Well functioning communications equipment shall be supplied by Permittee in sufficient quantity for all organizations involved.
FILMING - AIRCRAFT, PYROTECHNICS, STUNTS, ETC. (FS)
SPECIAL PROVISIONS

In addition to the attached General Provisions (TR-0045), the following special provisions are applicable:

1. The Permit Inspector or the CHP has the authority to stop any or all work that is not being performed in strict compliance with the provisions of this permit.

2. Traffic shall not be detoured from the State Highway without the written approval of the Permit Engineer.

3. Any filming involving the use of any type aircraft shall be done in accordance with FAA regulations.

4. All approved closures shall be done by a qualified traffic control contractor (retained by the Permittee) using current State Specifications and Standards.

5. Well functioning communications equipment shall be supplied by the Permittee in sufficient quantity for all parties involved in the activity.

6. Operational decisions and/or emergency situations may require the roadway to be reopened immediately. This decision may be made by either the CHP or the Permit Engineer.

7. Film company vehicles, personnel, camera and equipment shall be parked at least 30' from the edge of roadway unless protected by existing barriers.

8. A maximum of four (4) persons associated with the filming company will be allowed at fixed camera locations.

9. Stopping or slowing vehicles being filmed on the highway shall not be allowed.

10. Wetting of the roadway is prohibited.
FILMING - INTERMITTENT TRAFFIC CONTROL (FI) SPECIAL PROVISIONS

In addition to the attached General Provisions (TR-0045), the following special provisions are also applicable:

1. Permittee shall comply with this permit. Permit conditions shall not be modified without a Caltrans permit rider.

2. Permittee shall provide signs and equipment for traffic control conforming to the attached plan at permittee expense.

3. The CHP officer in charge shall be present at initiation of permit authorized filming operations.

4. Wetting roadways is prohibited.

5. Traffic shall not be detoured.

6. Stunts, staged accidents, and pyrotechnics are strictly prohibited.

7. Filming involving aircraft flying over state highways at an altitude of 500 feet or less is prohibited.

8. Specific camera locations require on site approval by CHP officer in charge.

9. Stationary cameras shall be mounted at least 10' from edge of pavement or at least 2’ behind curb face on raised sidewalks. Unless specifically allowed in this permit cameras shall not be in medians.

10. Permittee's personal vehicles and equipment shall be legally located off the traveled way and not interfere with free traffic or pedestrian flow.

11. Highway operational problems may require immediate cessation of permitted activities.

12. Intermittent traffic breaks normally not to exceed five minutes duration, are approved by the CHP officer in charge, and provided by uniformed peace officers in marked law enforcement vehicles.

13. Permitted lighting fixtures, mirrors, reflectors, and supports shall not present a glare or other safety hazard.

14. Permittee equipment situated on sidewalks or interfering with pedestrians shall be provided with devices for pedestrian protection.

15. Vehicles with lights or cameras mounted or attached that, in the opinion of the CHP officer in charge, interfere with the driver's view, shall be legally towed with a drawbar.

16. Filmed vehicles used in filming dialogue between driver and passenger shall be legally towed with a drawbar.

17. Properly functioning communications equipment shall be supplied by permittee in sufficient quantity for all organizations involved.
FILMING - NO MOVING TRAFFIC (FO) SPECIAL PROVISIONS

In addition to the attached General Provisions (TR-0045), the following special provisions are also applicable:

1. The Permit Inspector or the CHP has the authority to stop any or all work that is not being performed in strict compliance with the provisions of this permit.

2. Traffic shall not be detoured from the State highway without the written approval of the Permit Engineer.

3. All of the permittee's production vehicles and equipment shall be legally parked off the traveled way so that the equipment and personnel do not interfere with the free flow of traffic and/or pedestrians.

4. Any filming involving the use of any type aircraft shall be done in accordance with FAA regulations.

5. All cables and step extensions that cross the sidewalk shall be shielded or coned for pedestrian traffic.

6. On conventional highways, stationary cameras shall be mounted in a position at least 10' from the edge of pavement or at least 2' behind curb face on raised sidewalks. Cameras will not be allowed on the raised median.

8. No lights shall be erected on the traveled way.

9. The location of camera within the right of way shall be approved by the State's representative.

10. Intermittent traffic breaks [not to exceed three (3) minutes] shall be approved and provided by the CHP.

11. Well functioning communications equipment shall be supplied by the permittee in sufficient quantity for all organizations involved in the event.

12. Wetting of the roadway is prohibited.
FILMING - TRAFFIC CONTROL (FL) SPECIAL PROVISIONS

In addition to the standard attached General Provisions (TR-0045), the following special provisions are also applicable.

1. The permit Inspector or the CHP has the authority to stop any or all work that is not being performed in strict compliance with the provisions of this permit.

2. Traffic shall not be detoured from the State Highway without the written approval of the Permit Engineer.

3. All of the permittee's production vehicles and equipment shall be legally parked off the traveled way so that the equipment and personnel do not interfere with the free flow of traffic and/or pedestrians.

4. Any filming involving the use of any type aircraft shall be done in accordance with the FAA regulations.

5. On conventional highways, stationary cameras shall be mounted in a position at least 10' from the edge of pavement or on raised sidewalks. Cameras will not be allowed on the raised median.

6. Traffic control shall not exceed three (3) minutes duration.

7. Intermittent traffic breaks (not to exceed three (3) minutes) shall be approved and provided by the CHP.

8. Any vehicle involved in filming dialogue between the driver and someone else shall be legally towed with a tow bar.

9. Any vehicle that has lights and/or cameras mounted or attached, that in the opinion of either Caltrans or the CHP interferes with the driver's view, shall be legally towed with a tow bar.

10. All traffic control shall be approved through the State's representative and/or the CHP prior to filming.

11. Any vehicles in public traffic including camera truck and towed picture car or camera truck and separate picture cars must conform to the California Vehicle Code requirement while filming. A CHP officer must be in attendance during the filming.

12. Well functioning communications equipment shall be supplied by the permittee in sufficient quantity for all organizations involved in the event.

13. Wetting of the roadway is prohibited.
1. Traffic control for wetdowns shall be in conformance with the Department of Transportation Standard Plans T-10, T-11, T-12, T-13, or T-14, whichever is applicable.

2. Placement of signs shall be far in advance of the work site, to accommodate the backup queue of traffic when traffic is stopped for filming purposes. These traffic breaks should not exceed five (5) minutes at each given occurrence.

3. Placement of "Wet Pavement Ahead" signs, 48" x 48" black lettering on an orange background, shall be required at all wetdown worksites. These signs are required to meet Caltrans requirements for lettering size and made by a recognized sign manufacturer. Placement of these signs shall be in succession of the "Road Work Ahead" sign (C-18), in both directions of traffic.

4. When traffic control is to be maintained by law enforcement officers (i.e. C.H.P., P.D. , or S.O.), a minimum of 3 officers is normally required, (flaggers may not be required). Officers and their vehicles would be utilized in lieu of flaggers.

5. When traffic control safety devices are required (i.e. signs, cones, lights), placement of these devices shall be installed by a recognized traffic control contractor.

6. If it is determined by Caltrans and C.H.P. that flaggers are required, the traffic control contractor shall supply or utilize his employees as the flaggers.

7. Caltrans and C.H.P. reserve the right to require the reopening of the highway at any given time as may be necessary. All cost shall be borne by the permittee.

8. C.H.P. will be present during all wetdown filming operations. For safety purposes C.H.P. will determine when traffic is allowed over wetdown area.

9. In the event of an adverse condition or incident that would require the response of Caltrans Traffic Management Team, this permit operation will be terminated.

10. No wetdown will be allowed if there is a possibility of creating a ponding situation and/or flooding of the highway.

11. Placement and time of the wetdown will be determined by Caltrans.
1. **AUTHORITY:** The California Department of Transportation ("Department") has authority to issue encroachment permits under Division 1, Chapter 3, Article 1, Sections 660 through 734 of the Streets and Highways Code.

2. **REVOCATION:** Encroachment permits are revocable on five (5) business days’ notice unless otherwise stated on the permit and except as provided by law for public corporations, franchise holders, and utilities. Notwithstanding the foregoing, in an emergency situation as determined by the Department, an encroachment permit may be revoked immediately. These General Provisions and any applicable Special Provisions are subject to modification or abrogation by the Department at any time. Permittee’s joint use agreements, franchise rights, reserved rights or any other agreements for operating purposes in State of California ("State") highway right-of-way may be exceptions to this revocation.

3. **DENIAL FOR NONPAYMENT OF FEES:** Failure to pay encroachment permit fees when due may result in rejection of future applications and denial of encroachment permits.

4. **ASSIGNMENT:** This encroachment permit allows only the Permittee or Permittee’s authorized agent to work within or encroach upon the State Highway right-of-way, and the Permittee may not assign this permit.

5. **ACCEPTANCE OF PROVISIONS:** Permittee understands and agrees to accept and comply with these General Provisions, the Special Provisions, any and all terms and/or conditions contained in or incorporated into the encroachment permit, and all attachments to the encroachment permit (collectively “the Permit Conditions”), for any encroachment, work, and/or activity to be performed under this encroachment permit and/or under color of authority of this encroachment permit. Permittee understands and agrees the Permit Conditions are applicable to and enforceable against Permittee as long as the encroachment remains in, under, or over any part of the State Highway right-of-way.

6. **BEGINNING OF WORK:** When traffic is not impacted (see General Provision Number 35), the Permittee must notify the Department’s representative two (2) business days before starting permitted work. Permittee must notify the Department’s representative if the work is to be interrupted for a period of five (5) business days or more, unless otherwise agreed upon. All work must be performed on weekdays during regular work hours, excluding holidays, unless otherwise specified in this encroachment permit.

7. **STANDARDS OF CONSTRUCTION:** All work performed within State Highway right-of-way must conform to all applicable Departmental construction standards including but not limited to: Standard Specifications, Standard Plans, Project Development Procedures Manual, Highway Design Manual and Special Provisions.

Other than as expressly provided by these General Provisions, the Special Provisions, the Standard Specifications, Standard Plans, and other applicable Departmental standards, nothing in these General Provisions is intended to give any third party any legal or equitable right, remedy, or claim with respect to these General Provisions or any provision herein. These General Provisions are for the sole and exclusive benefit of the Permittee and the Department.

Where reference is made in such standards to “Contractor” and “Engineer,” these are amended to be read as “Permittee” and “Department’s representative,” respectively, for purposes of this encroachment permit.

8. **PLAN CHANGES:** Deviations from plans, specifications, and/or the Permit Conditions as defined in General Provision Number 5 are not allowed without prior approval from the Department’s representative.

9. **INSPECTION AND APPROVAL:** All work is subject to monitoring and inspection. Upon completion of work, Permittee must request a final inspection for acceptance and approval by the Department. Permittee must not give final construction completion approval to its contractor, until final acceptance and approval is obtained from the Department.

10. **PERMIT AT WORKSITE:** Permittee must keep the permit package or a copy thereof at the work site at all times, and must show it upon request to any Department representative or law enforcement officer. If the permit package, or a copy thereof, is not kept and made available at the work site at all times, the work must be suspended.

11. **CONFLICTING ENCROACHMENTS:** Permittee must yield start of work to ongoing, prior authorized work adjacent to or within the limits of the Permittee’s project site. When existing encroachments conflict with Permittee’s work, the Permittee must bear all cost for rearrangements (e.g., relocation, alteration, removal, etc.).

12. **PERMITS FROM OTHER AGENCIES:** This encroachment permit is invalidated if the Permittee has not obtained all permits necessary and required by law, including but not limited to permits from the California Public Utilities Commission (CPUC), California Occupational Safety and Health Administration (Cal-OSHA), or any other public agency having jurisdiction. Permittee warrants all such permits have been obtained before beginning work under this encroachment permit.

13. **PEDESTRIAN AND BICYCLIST SAFETY:** A safe minimum continuous passageway of four (4) feet must be maintained through the work area at existing pedestrian or bicycle facilities. At no time must pedestrians be diverted onto a portion of the street used for vehicular traffic. At locations where safe alternate passageways cannot be provided, appropriate signs and barricades must be installed at the limits of construction and in advance of the limits of construction at the nearest crosswalk or intersection to detour pedestrians to facilities across the street. Attention is directed to Section 7-
14. PUBLIC TRAFFIC CONTROL: As required by law, the Permittee must provide traffic control protection, warning signs, lights, safety devices, etc., and take all other measures necessary for the traveling public’s safety. While providing traffic control, the needs of all road users, including but not limited to motorists, bicyclists and pedestrians, including persons with disabilities in accordance with the Americans with Disabilities Act, must be an essential part of the work activity.

Lane and/or shoulder closures must comply with the Department’s Standard Specifications and Standard Plans for traffic control systems, and with the applicable Special Provisions. Where issues are not addressed in the Standard Specifications, Standard Plans, and/or Special Provisions, the California Manual on Uniform Traffic Control Devices (Part 6, Temporary Traffic Control) must be followed.

15. MINIMUM INTERFERENCE WITH TRAFFIC: Permittee must plan and conduct work so as to create the least possible inconvenience to the traveling public, such that traffic is not unreasonably delayed.

16. STORAGE OF EQUIPMENT AND MATERIALS: The storage of equipment or materials is not allowed within State highway right-of-way, unless specified within the Special Provisions of this encroachment permit. If encroachment permit Special Provisions allow for the storage of equipment or materials within the State highway right-of-way, the equipment and material storage must also comply with Section 7-1.04, Public Safety, of the Department’s Standard Specifications.

17. CARE OF DRAINAGE: Permittee must provide alternate drainage for any work interfering with an existing drainage facility in compliance with the Department’s Standard Specifications, Standard Plans, and/or as directed by the Department’s representative.

18. RESTORATION AND REPAIRS IN STATE HIGHWAY RIGHT-OF-WAY: Permittee is responsible for restoration and repair of State highway right-of-way resulting from permitted work (Streets and Highways Code, section 670 et seq.).

19. STATE HIGHWAY RIGHT-OF-WAY CLEAN UP: Upon completion of work, Permittee must remove and dispose of all scraps, refuse, brush, timber, materials, etc. off the State highway right-of-way. The aesthetics of the highway must be as it was before work started or better.

20. COST OF WORK: Unless stated otherwise in the encroachment permit or a separate written agreement with the Department, the Permittee must bear all costs incurred for work within the State highway right-of-way and waives all claims for indemnification or contribution from the State, the Department, and from the Directors, officers, and employees of the State and/or the Department.

21. ACTUAL COST BILLING: When specified in the permit, the Department will bill the Permittee actual costs at the currently set Standard Hourly Rate for encroachment permits.

22. AS-BUILT PLANS: When required, Permittee must submit one (1) set of folded as-built plans within thirty (30) calendar days after completion and acceptance of work in compliance with requirements listed as follows:

a) Upon completion of the work provided herein, the Permittee must submit a paper set of As-Built plans to the Department’s representative.

b) All changes in the work will be shown on the plans, as issued with the permit, including changes approved by Encroachment Permit Rider.

c) The plans are to be prominently stamped or otherwise noted “AS-BUILT” by the Permittee’s representative who was responsible for overseeing the work. Any original plan that was approved with a Department stamp, or by signature of the Department’s representative, must be used for producing the As-Built plans.

d) If construction plans include signing or striping, the dates of signing or striping removal, relocation, or installation must be shown on the As-Built plans when required as a condition of the encroachment permit. When the construction plans show signing and striping for staged construction on separate sheets, the sheet for each stage must show the removal, relocation, and installation dates of the appropriate staged striping and signing.

e) As-Built plans must contain the Encroachment Permit Number, County, Route, and Post Mile on each sheet.

f) The As-Built plans must not include a disclaimer statement of any kind that differs from the obligations and protections provided by sections 6735 through 6735.6 of the California Business and Professions Code. Such statements constitute non-compliance with Encroachment Permit requirements, and may result in the Department retaining Performance Bonds or deposits until proper plans are submitted. Failure to comply may also result in denial of future encroachment permits or a provision requiring a public agency to supply additional bonding.

23. PERMITS FOR RECORD PURPOSES ONLY: When work in the State highway right-of-way is within an area under a Joint Use Agreement (JUA) or a Consent to Common Use Agreement (CCUA), a fee exempt encroachment permit is issued to the Permittee for the purpose of providing a notice and record of work. The Permittee’s prior rights must be preserved without the intention of creating new or different rights or obligations. “Notice and Record Purposes Only” must be stamped across the face of the encroachment permit.

24. BONDING: The Permittee must file bond(s), in advance, in the amount(s) set by the Department and using forms acceptable to the Department. The bonds must name the Department as obligee. Failure to maintain bond(s) in full force and effect will result in the Department stopping all work under this encroachment permit and possibly revoking other encroachment permit(s). Bonds are not required of public corporations or privately owned utilities unless Permittee failed to comply with the provisions and/or conditions of a prior encroachment permit. The surety company is responsible for any latent defects as provided in California Code of Civil
27. PREVAILING WAGES: Work performed by or under an encroachment permit may require Permittee’s contractors and subcontractors to pay appropriate prevailing wages as set by the California Department of Industrial Relations. Inquiries or requests for interpretations relative to enforcement of prevailing wage requirements must be directed to the California Department of Industrial Relations.

28. LIABILITY, DEFENSE, AND INDEMNITY: The Permittee agrees to indemnify and save harmless the State, the Department, and the Directors, officers, employees, agents and/or contractors of the State and/or of the Department, including but not limited to the Director of Transportation and the Deputy Directors, from any and all claims, demands, damages, costs, liability, suits, or actions of every nature, kind, and description, including but not limited to those brought for or on account of property damage, invasion of privacy, violation or deprivation of a right under a state or federal law, environmental damage or penalty, or injury to or death of any person including but not limited to members of the public, the Permittee, persons employed by the Permittee, and/or persons acting on behalf of the Permittee, arising out of or in connection with: (a) the issuance and/or use of this encroachment permit; and/or (b) the encroachment, work, and/or activity conducted pursuant to this encroachment permit, or under color of authority of this encroachment permit but not in full compliance with the Permit Conditions as defined in General Provision Number 5 (“Unauthorized Work or Activity”); and/or (c) the installation, placement, design, existence, operation, and/or maintenance of the encroachment, work, and/or activity; and/or (d) the failure by the Permittee or anyone acting on behalf of the Permittee to perform the Permittee’s obligations under any part of the Permit Conditions as defined in General Provision Number 5, in respect to maintenance or any other obligation; and/or (e) any change to the Department’s property or adjacent property, including but not limited to the features or conditions of either of them, made by the Permittee or anyone acting on behalf of the Permittee; and/or (f) a defect or obstruction related to or caused by the encroachment, work, and/or activity whether conducted in compliance with the Permit Conditions as defined in General Provision Number 5 or constituting Unauthorized Work or Activity, or from any cause whatsoever. The duty of the Permittee to indemnify and save harmless includes the duties to defend as set forth in Section 2778 of the Civil Code.

It is the intent of the parties that except as prohibited by law, the Permittee will defend, indemnify, and hold harmless as set forth in this General Provision Number 28 regardless of the existence or degree of fault or negligence, whether active or passive, primary or secondary, on the part of: the State; the Department; the Directors, officers, employees, agents and/or contractors of the State and/or of the Department, including but not limited to the Director of Transportation and the Deputy Directors; the Permittee; persons employed by the Permittee; and/or persons acting on behalf of the Permittee.

The Permittee waives any and all rights to any type of expressed or implied indemnity from or against the State, the Department, and the Directors, officers, employees, agents, and/or contractors of the State and/or of the Department, including but not limited to the Director of Transportation and the Deputy Directors.

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The Permittee understands and agrees to comply with the obligations of Titles II and III of the Americans with Disabilities Act in the conduct of the encroachment, work, and/or activity whether conducted pursuant to this encroachment permit or constituting Unauthorized Work or Activity, and further agrees to defend, indemnify, and save harmless the State, the Department, and the Directors, officers, employees, agents, and/or contractors of the State and/or of the Department, including but not limited to the Director of Transportation and the Deputy Directors, from any and all claims, demands, damages, costs, penalties, liability, suits, or actions of every name, kind, and description arising out of or by virtue of the Americans with Disabilities Act.

The Permittee understands and agrees the Directors, officers, employees, agents, and/or contractors of the State and/or of the Department, including but not limited to the Director of Transportation and the Deputy Directors, are not personally responsible for any liability arising from or by virtue of this encroachment permit.

For the purpose of this General Provision Number 28 and all paragraphs herein, “contractors of the State and/or of the Department” includes contractors under contract to the State and/or the Department, and the subcontractors of such contractors.

This General Provision Number 28 and all paragraphs herein take effect immediately upon issuance of this encroachment permit, and apply before, during, and after the encroachment, work, and/or activity contemplated under this encroachment permit, whether such work is in compliance with the Permit Conditions as defined in General Provision Number 5 or constitutes Unauthorized Work or Activity, except as otherwise provided by California law. The Permittee’s obligations to defend, indemnify, and save harmless under this General Provision Number 28 take effect immediately upon issuance of this encroachment permit and have no expiration date, including but not limited to situations in which this encroachment permit expires or is revoked, the work or activity performed under this encroachment permit is accepted or not accepted by the Department, the encroachment, work, and/or activity is conducted in compliance with the Permit Conditions as defined in General Provision Number 5 or constitutes Unauthorized Work or Activity, and/or no work or activity is undertaken by the Permittee or by others on the Permittee’s behalf.

29. NO PRECEDENT ESTABLISHED: This encroachment permit is issued with the understanding that it does not establish a precedent.

30. FEDERAL CIVIL RIGHTS REQUIREMENTS FOR PUBLIC ACCOMMODATION:

a) As part of the consideration for being issued this encroachment permit, the Permittee, on behalf of Permittee and on behalf of Permittee’s personal representatives, successors in interest, and assigns, does hereby covenant and agree that:

i. No person on the grounds of race, color, or national origin may be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities.

ii. In connection with the construction of any improvements on said lands and the furnishings of services thereon, no discrimination must be practiced in the selection and retention of first-tier subcontractors in the selection of second-tier subcontractors.

iii. Such discrimination must not be practiced against the public in their access to and use of the facilities and services provided for public accommodations (such as eating, sleeping, rest, recreation), and operation on, over, or under the space of the State highway right-of-way.

iv. The Permittee must use the premises in compliance with all other requirements imposed pursuant to Title 15, Code of Federal Regulations, Commerce and Foreign Trade, Subtitle A. Office of the Secretary of Commerce, Part 8 (15 C.F.R. Part 8) and as said Regulations may be amended.

b) In the event of breach of any of the above nondiscrimination covenants, the State and the Department have the right to terminate this encroachment permit and to re-enter and repossess said land and the facilities thereon, and hold the same as if said permit had never been made or issued.

31. MAINTENANCE OF HIGHWAYS: By accepting this encroachment permit, the Permittee agrees to properly maintain any encroachment. This assurance requires the Permittee to provide inspection and repair any damage, at Permittee’s expense, to State facilities resulting from the encroachment.

32. SPECIAL EVENTS: In accordance with subdivision (a) of Streets and Highways Code section 682.5, the Department is not responsible for the conduct or operation of the permitted activity, and the applicant agrees to defend, indemnify, and hold harmless the State, the Department, and the Directors, officers, employees, agents, and contractors of the State and/or of the Department, including but not limited to the Director of Transportation and the Deputy Directors, from any and all claims, demands, damages, costs, liability, suits, or actions of every name, kind and description arising out of any activity for which this encroachment permit is issued.

The Permittee understands and agrees to comply with the obligations of Titles II and III of the Americans with Disabilities Act in the conduct of the event, and further agrees to defend, indemnify, and save harmless the State and the Department, and the Directors, officers, and employees of the State and/or Department, including but not limited to the Director of the Department and the Deputy Directors, from any and all claims, demands, damages, costs, liability, suits, or actions of every name, kind and description arising out of or by virtue of the Americans with Disabilities Act.

33. PRIVATE USE OF STATE HIGHWAY RIGHT-OF-WAY: State highway right-of-way must not be used for private purposes without compensation to the State. The
gifting of public property use and therefore public funds is prohibited under the California Constitution, Article 16.

34. FIELD WORK REIMBURSEMENT: Permittee must reimburse the Department for field work performed on Permittee’s behalf to correct or remedy hazards or damaged facilities, or to clear refuse, debris, etc. not attended to by the Permittee.

35. NOTIFICATION OF CLOSURES TO DEPARTMENT AND TRAFFIC MANAGEMENT CENTER (TMC): The Permittee must notify the Department’s representative and the Traffic Management Center (TMC) at least seven (7) days before initiating a lane closure or conducting an activity that may cause a traffic impact. A confirmation notification should occur three (3) days before closure or other potential traffic impact. In emergency situations when the corrective work or the emergency itself may affect traffic, TMC and the Department’s representative must be notified as soon as possible.

36. SUSPENSION OF TRAFFIC CONTROL OPERATION: The Permittee, upon notification by the Department’s representative, must immediately suspend all lane closure operations and any operation that impedes the flow of traffic. All costs associated with this suspension must be borne by the Permittee.

37. UNDERGROUND SERVICE ALERT (USA) NOTIFICATION: Any excavation requires compliance with the provisions of Government Code section 4216 et. seq., including but not limited to notice to a regional notification center, such as Underground Service Alert (USA). The Permittee must provide notification to the regional notification center at least forty-eight (48) hours before performing any excavation work within the State highway right-of-way.

38. COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA): All work within the State highway right-of-way to construct and/or maintain any public facility must be designed, maintained, and constructed strictly in accordance with all applicable Federal Access laws and regulations (including but not limited to Section 504 of the Rehabilitation Act of 1973, codified at 29 U.S.C. § 794), California Access laws and regulations relating to ADA, along with its implementing regulations, Title 28 of the Code of Federal Regulations Parts 35 and 36 (28 C.F.R., Ch. I, Part 35, § 35.101 et seq., and Part 36, § 36.101 et seq.), Title 36 of the Code of Federal Regulations Part 1191 (36 C.F.R., Ch. XI, Part 1191, § 1119.1 et seq.), Title 49 of the Code of Federal Regulations Part 37 (49 C.F.R., Ch. A, Part 37, § 37.1 et seq.), the United States Department of Justice Title II and Title III for the ADA, and California Government Code section 4450 et seq., which require public facilities be made accessible to persons with disabilities.

Notwithstanding the requirements of the previous paragraph, all construction, design, and maintenance of public facilities must also comply with the Department’s Design Information Bulletin 82, “Pedestrian Accessibility Guidelines for Highway Projects.”

39. STORMWATER: The Permittee is responsible for full compliance with the following:

- For all projects, the Department’s Storm Water Program and the Department’s National Pollutant Discharge Elimination System (NPDES) Permit requirements under Order No. 2012-0011-DWQ, NPDES No CAS000003; and
- In addition, for projects disturbing one acre or more of soil, with the California Construction General Permit Order No. 2009-0009-DWQ, NPDES No CAS000002; and
- In addition, for projects disturbing one acre or more of soil in the Lahontan Region with Order No. R6T-2016-0010, NPDES No CAG616002.

For all projects, it is the Permittee’s responsibility to install, inspect, repair, and maintain all facilities and devices used for water pollution control practices (Best Management Practices/BMPs) before performing daily work activities.
By acceptance of this encroachment permit, Permittee hereby agrees that:

1. All construction debris/materials/water/excess soil must become the property of the Permittee, and must be transported and disposed of, outside of Caltrans’ right-of-way, in accordance with all applicable environmental laws and regulations. The Permittee must be identified as the generator for all construction debris/materials/water/excess soil and must be responsible for proper identification (including sampling and analysis) and management of all construction and contaminated debris/materials/water/excess soil that are removed, and/or excavated, from the work site. If hazardous waste is generated, the Permittee must obtain an Environmental Protection Agency (EPA) Identification Number issued in their name. State Permit Inspector does not sign any manifests or shipping papers. The Permittee must be named as the generator on all Uniform Hazardous Waste Manifests and shipping papers. Caltrans must not be identified or written anywhere on the manifests or shipping papers. Prior to waste disposal, the Permittee should submit the waste generator form(s) to State Permit Inspector for verification. The Permittee must submit to the State Permit Inspector, a copy of all manifests and/or shipping papers generated for materials removed, transported and/or excavated from the state right-of-way.

2. If contaminated material is encountered, Permittee is to stop work and contact the State Permit Inspector immediately. The Permittee must submit a Sampling and Analysis Plan (SAP), and a Health and Safety Plan (HaSP) prepared by a Certified Industrial Hygienist (CIH) and in conformance with California Code of Regulations title 8, section 5192, “Hazardous Waste Operations and Emergency Response” for sampling activity through a separate permit application. Upon the permit review, additional environmental documents may be required prior to resumption of construction activity.

3. Permittee is responsible for any violation, penalty, enforcement action, corrective action, remedial action, and any other type of consequences resulting from cross contamination of groundwater (including perched groundwater), improper handling/managing of hazardous materials and/or placement of contaminated materials inside Caltrans right-of-way.

4. It is the Permittee’s responsibility to comply with the Department of Toxic Substances Control (DTSC) ADL requirements for roadway soil management. Reuse of soils containing greater than 80 mg/kg total lead is not allowed without written approval of the DTSC and Caltrans. The Soil Management Agreement for Aerially Deposited Lead-Contaminated Soils between Caltrans and the DTSC does not constitute written approval for the Permittee to reuse soils containing greater than 80 mg/kg total lead.


6. Any imported material used for backfill must be free of contamination, and a certificate of the material as “clean” with the source area of the material must be provided to Permit Inspector upon request. Importing soils containing greater than 80 mg/kg total lead for use in state right-of-way is not allowed.

7. Stockpiles of material containing aerially deposited lead shall not be placed where affected by surface run-on or run-off. Stockpiles shall be covered with plastic sheeting 13 mils minimum thickness or with one foot of nonhazardous material. Stockpiles shall not be placed in environmentally sensitive areas. Stockpiled material shall not enter storm drains, inlets, or waters of the State.
In addition to the attached “Encroachment Permit General Provisions” (TR-0045), the following special provisions are also applicable:

1. The permittee must comply with all applicable state and federal laws with respect to all activities relating to this encroachment permit. This includes, but is not limited to, Law Enforcement Surveillance Devices (LESD) and the data collected by LESD.

2. The following statement is added between the first and second paragraphs of section 28 of the “Encroachment Permit General Provisions” (TR-0045):

“The permittee agrees to indemnify and save harmless the State, the Department, and all Directors, officers, employees, agents and/or contractors of the State and/or of the Department, including but not limited to the Director of Transportation and the Deputy Directors, from any and all claims, demands, damages, costs, liability, suits, or actions of every name, kind and description arising from any and all alleged violations of State and/or Federal law with respect to any and all activities relating to this encroachment permit, including, but not limited to, invasion of privacy, section 1983 of title 42 of the United States Code, and the Fourth Amendment to the United States Constitution, and regardless of whether such are brought by or on behalf of any entity or natural person including but not limited to members of the public, the permittee, persons employed by the permittee, and persons acting on behalf of the permittee, arising out of or in connection with: (a) the issuance and/or use of this encroachment permit, and/or (b) the work or other activity conducted pursuant to this encroachment permit, and/or (c) the installation, placement, subsequent operation, and/or maintenance of said encroachment, and/or (d) the failure by the permittee or anyone acting on behalf of the permittee to perform permittee's obligations under this encroachment permit in respect to maintenance or any other obligation, and/or (e) a defect or defects in the work, or obstructions related to the work, or from any cause whatsoever. The duty of the permittee to indemnify and save harmless includes the duties to defend as set forth in Section 2778 of the California Civil Code.”

3. Upon termination of surveillance activities, permittee must notify the Department’s District Permits Office in writing within 30 days, and remove all LESD infrastructure from the Department’s highway rights-of-way. If the permittee fails to comply, the Department may remove the LESD system and the permittee must reimburse the Department for all the associated cost of removal and storage.
In addition to the attached General Provisions (TR-0045), the following special provisions are also applicable:

I. LOCATION

1. Whenever possible, mailboxes shall be located outside State highway right of way (R/W).

2. Mailboxes may be located inside State Highway right of way in compliance with AASHTO’s “Roadside Design Guide”, 3rd Edition, Chapter 11 “Erecting Mailboxes on Streets and Highways”. (A copy can be found in Appendix H of the Encroachment Permits Manual)

3. Coordination with the local postmaster is required to determine the exact site.

4. In areas where curbs or dikes exist, mailboxes shall be located no closer than 1' behind the face of curb or dike to face of box.

II. INSTALLATION

1. Installation shall be as shown in the "Roadside Design Guide".

2. Mailboxes supported by structures such as masonry columns, railroad rails and ties, tractor wheels, plow blades, concrete filled barrels are strictly prohibited.

3. Postmaster approved, neighborhood delivery and collection box units (NDCBU) shall be installed in a location where they will not pose a hazard to errant vehicles.

4. Request for exceptions must follow the exception process described in Chapter 300 of the Encroachment Permits Manual.
NOTIFICATION OF ENCROACHMENT SPECIAL PROVISIONS

When highway or ramp closures, detours, and work with significant traffic impacts occur, use paragraphs 1, 2, and 3. Additional possible impacted activities include: CD, MC, FL, and FS permits.

In addition to the attached General Provisions (TR-0045), the following special provisions are also applicable:

**Media Notification for Special Events (SE):**

1. Permittee shall verify to State's representative that local or regional media, including radio, television or newspapers serving the area affected by the special event, have been notified by letter or press release format. Media contact must allow sufficient time for print or broadcast two days prior to the permitted activity. Letter or press release shall include date, time, location, duration, permitted activity, and identify detours for impacted State highways and local roads.

**Highway Signing for Special Events (SE):**

   - **Public Notification Signs**

2. Permittee shall place public notification signs at locations designated on the approved signing plan a minimum of seven (7) calendar days before the activity begins. Signs shall be constructed and installed to Caltrans specifications and standards.

   - **Detour Signs**

3. Permittee shall place detour signs prior to the permitted activity in accordance with State Standard Specifications.

When encroachment activities create significant traffic impacts, used paragraph 4 for local agency notification. Possible impacted activities include: SE, CD, MC, FL, and FS permits.

**Local Agency Notification**

4. Permittee shall make written notice to, and coordinate with, local emergency services, law enforcement agencies and public road departments seven (7) calendar days prior to the scheduled permitted activity. Letter copies shall be provided to the State's representative to evidence contacts.

When special event (SE) encroachments create significant traffic impacts use paragraph 5 for CHP notification.

**CHP Notification**

5. Permittee shall make written notice to, and coordinate with, CHP seven (7) calendar days before encroachment activities are scheduled. Letter copies shall be provided to the State's representative to evidence contacts.
PEDESTRIAN SAFETY (MCP) SPECIAL PROVISIONS

In addition to the attached General Provisions (Form TR-0045), the following special provisions are also applicable:

1. When the work area encroaches upon a sidewalk, walkway, or crosswalk area, special consideration must be given to pedestrian safety. Protective barricades, fencing, handrails and bridges, together with warning and guidance devices and signs must be utilized so that the passageway for pedestrians, especially blind and other physically handicapped, is safe and well defined and shown on the approved permit plan.

2. Pedestrian walkways and canopies within State Right of Way shall comply with the requirements of the applicable local agency or of the latest edition of the Uniform Building Code whichever contains the higher standards.
RAILROAD GRADE CROSSING - MAINTENANCE (RX)


1. This permit does not authorize work on freeways, expressways or other activities not specifically provided for in this permit.

2. Work that reduces the vertical clearance over highways or changes the load carrying capacity of structures is not authorized by this permit.

3. Railroad work shall conform to Railroad, and applicable California Public Utilities Commission standards. Work affecting State highway facilities shall conform to current Caltrans standards.

4. Permittee may control or alter the flow of highway traffic only if absolutely necessary for public safety or to prevent a serious interruption of railroad service. Traffic control shall conform to Caltrans Traffic Control Systems published in the current State Standard Plans.

5. No excavation within 30' of the traveled way shall be left open after daylight hours, unless specifically authorized and adequate protection of traffic is provided in accordance with the General Provisions "Protection of Traffic." Backfill and highway paving shall conform to Standard Specifications and the General Provisions.

6. Routine maintenance taking place from the State highway shall be conducted between 9 am and 3 p.m. or as directed by the State representative.

7. Methods of installation and time of work for replacing aerial lines for railroad communication shall be approved by the State representative.
1. Permittee must arrange a meeting with the California Highway Patrol (CHP) and the Caltrans permit inspector, at least two (2) weeks prior to the start of work in order to determine the appropriate number of CHP vehicles required for planned traffic breaks. A minimum of two (2) CHP vehicles in each direction are required. One CHP vehicle will be conducting the planned traffic break and the second CHP vehicle will be stationed on the shoulder with its rear emergency lights on to caution motorists at the end of the queue. Additional CHP vehicles may be required if determined to be necessary by the CHP. It is the responsibility of the permittee to make arrangements with CHP for providing planned traffic breaks to facilitate the approved work.

2. The duration of a planned traffic break MUST NOT exceed five (5) minutes. If additional traffic breaks are required, traffic backup must be cleared before performing another break.

3. The permittee must provide a minimum of one (1) Portable Changeable Message Sign (PCMS). Additional PCMSs must be provided if required by Caltrans permit inspector or CHP. PCMS(s) must be placed at the locations directed by the CHP and be moved or relocated as needed. Each PCMS must comply with section 12-3.32 of the Caltrans Standard Specifications. PCMS(s) must be removed promptly after the planned traffic break is completed.

4. Message to be displayed on the PCMSs must be coordinated with Caltrans permit inspector/representative and CHP.

5. All aerial crossings should be scheduled on Sunday mornings (excluding holidays), from daylight to 10:00 AM, unless otherwise authorized by the District Permit Engineer or authorized Caltrans’ representative.

6. No aerial crossings must be performed in rainy, foggy or other inclement weather.
SIDEWALKS (CS) SPECIAL PROVISIONS

In addition to the attached General Provisions (TR-0045), the following special provisions are applicable:

1. A State issued permit is required for any landscaping or tree installation, including installation of tree wells.

2. A separate permit must be obtained from Caltrans for any driveway, handicap-ramp installations or any sidewalks that are other than Portland Cement Concrete constructed in compliance with Caltrans Standard Specifications.

3. Traffic control is authorized only between 9 am and 3 p.m., Monday through Friday, holidays excluded. Any traffic control that requires lane closure shall be in compliance with the appropriate traffic control plan. Where required by the plan, the use of a flashing arrowboard is MANDATORY.

4. New curb and gutter installations shall be State Standard Type A2-6, unless necessary to conform to existing adjacent curb and gutter installations.

5. The minimum width of a sidewalk should be 8 feet between a curb and a building when in urban and rural main street place types. For all other locations the minimum width of sidewalk should be 6 feet when contiguous to a curb or 5 feet when separated by a planting strip.

6. Alignment and grade of gutter and sidewalk shall match the existing.

7. Existing concrete curb and paved shoulder shall be saw cut to a neat line prior to excavating and forming. Existing concrete sidewalk shall be saw cut at the scoreline. Paved shoulder shall be replaced with asphalt concrete paving material equal "in kind" and thickness to existing shoulder and shall conform to lip of new curb and gutter.

8. Permittee shall be responsible for the relocation or adjustment of any utility required as the result of work authorized by this permit, and utility relocation shall be completed prior to the installation of any new curb, gutter or sidewalk.

9. A monolithic pour of sidewalk and curb and gutter shall not be permitted.
SPECIAL EVENTS (SE) SPECIAL PROVISIONS

In addition to the attached General Provisions (TR-0045), the following special provisions are applicable.

1) In accordance with subdivision (a) of Streets and Highways Code section 682.5, the Department is not responsible for the conduct or operation of the permitted activity, and the applicant agrees to defend, indemnify, and hold harmless the State, the Department, and the Directors, officers, employees, agents, and contractors of the State and/or of the Department, including but not limited to the Director of Transportation and the Deputy Directors, from any and all claims, demands, damages, costs, liability, suits, or actions of every name, kind and description arising out of any activity for which this encroachment permit is issued.

2) The permittee understands and agrees to comply with the obligations of Titles II and III of the Americans with Disabilities Act in the conduct of the event, and further agrees to defend, indemnify, and save harmless the State and the Department, and the Directors, officers, and employees of the State and/or Department, including but not limited to the Director of the Department and the Deputy Directors, from any and all claims, demands, damages, costs, liability, suits, or actions of every name, kind and description arising out of or by virtue of the Americans with Disabilities Act.
To accommodate excavation work, steel plate bridging may be necessary. All conditions for use of steel plate bridging should be set forth in the special provisions.

Consideration of steel plate bridging should take into account 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 backfilling operations of an excavation in the traveled way, whether transverse or longitudinal, cannot be properly completed within a work day, steel plate bridging with a non-skid surface and shoring (see Trenching & Shoring) may be required to preserve unobstructed traffic flow. In such cases, the following conditions shall apply:

1. Steel plate bridging on freeways is not allowed.
2. Steel plates used for bridging must extend a minimum of 12" 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 of the Encroachment Permits Manual) 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 of 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 plate(s) and ending plate (if longitudinal placement) shall be attached to the roadway by a minimum of 2 dowels pre-drilled into the corners of the plate and drilled 2" into the pavement. Subsequent plates are to be butted and tack welded to each other.

**Method 2** For Speeds less than 45 mph:

Approach plate(s) and ending plate (if longitudinal placement) shall be attached to the roadway by a minimum of 2 dowels pre-drilled into the corners of the plate and drilled 2" 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 slope 8.5 % with a minimum 12" 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 special provisions, or approved by the State representative, steel plate bridging shall not exceed 4 consecutive working days in any given week. Backfilling of excavations shall be covered with a minimum 3" temporary layer of cold asphalt concrete.

The following table shows the advisory 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).

<table>
<thead>
<tr>
<th>Trench Width</th>
<th>Minimum Plate Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>10&quot;</td>
<td>½”</td>
</tr>
<tr>
<td>1'-11&quot;</td>
<td>¾”</td>
</tr>
<tr>
<td>2'-7&quot;</td>
<td>7/8&quot;</td>
</tr>
<tr>
<td>3'-5&quot;</td>
<td>1&quot;</td>
</tr>
<tr>
<td>5'-3&quot;</td>
<td>1 ¼”</td>
</tr>
</tbody>
</table>

NOTE: For spans greater than 5'-3", a structural design shall be prepared by a California registered civil engineer.

All steel plates within the 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 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 (See Appendix H, Encroachment Permits Manual). If a different test method is used, the permittee may utilize standard test plates with known coefficients of friction available from each Caltrans District Materials Engineer to correlate skid resistance results to California Test Method 342. Based on the test data, the permittee shall determine what amount of surface wear is acceptable, and independently ascertain when to remove, test, or resurface an individual plate.

Caltrans Inspectors should not enforce plate removal unless it is permanently deformed or delivered without the required surfacing. However, an inspector should document in a diary all contacts with the contractor.

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 parking strips, on shoulders not used for turning movements, or on connecting driveways, etc., not open to the public.
1. GENERAL: The purpose of these Special Provisions is to provide the Permittee with specifications for water pollution control to minimize, prevent, or control the discharge of material into the air, surface waters, groundwater, and storm sewers owned by the State or local agencies. These provisions are not intended to take the place of the Caltrans Water Pollution Control Program (WPCCP) for projects where soil disturbance from work activities of one acre or more subject to the preparation of the Caltrans Storm Water Pollution Prevention Plan (SWPPP). The Permittee must comply with the following Special Provisions and the direction of the State Representative. All Stormwater Best Management Practices (BMPs) must conform to Section 13 Water Pollution Control of Caltrans’ Standard Specifications.

2. NPDES REQUIREMENTS: The Permittee must be responsible for full compliance with the Caltrans Storm Water Program and the Caltrans National Pollutant Discharge Elimination System (NPDES) Permit requirements (Order No. 2012-0011-DWQ, NPDES No CAS000003) and for projects disturbing one acre or more of soil, full compliance with the California Construction General Permit (Order No. 2009-0009-DWQ NPDES No CAS000002) or for projects for which have one acre or more of soil disturbance in the Lahontan Region (Order No. R6T-2016-0010, NPDES No CAG616002). It is the Permittee’s responsibility to install, inspect, repair or maintain facilities and devices used for water pollution control practices (BMPs) before performing daily work activities. Installation, inspection and maintenance responsibilities on the job site include: 1) soil stabilization materials in work areas that are inactive or prior to storm events, 2) water pollution control devices to control sediment and erosion, 3) implementation of spill and leak prevention procedures for chemical and hazardous substances stored on the job site, 4) material storage, 5) stockpile management, 6) waste management, 7) non-stormwater management, 8) water conservation, 9) tracking controls and 10) illicit connection, illegal discharge detection and reporting. The Permittee must report to the State representative when discharges enter into receiving waters, adjacent property, drainage systems or when discharges could be a cause or a threat for water pollution. The Permittee must also control illicit discharges or illegal dumping prior to start of daily work schedule. Copies of written notices or orders from the Regional Water Quality Control Board or other regulatory agency must be provided to the State representative within 48 hours of reported activity. For additional information on stormwater compliance, visit the State Water Resources Control Boards storm water Website at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater

3. RESPONSIBILITY FOR DEBRIS REMOVAL: The Permittee must be responsible for preventing sediment, trash, debris, and other construction waste from entering the street, the storm drains, local creeks, or any other bodies of water.

4. SPOILS AND RESIDUE: The Permittee must vacuum any saw-cut concrete waste material, debris, residue, etc. No spills, debris, residue, etc. must be washed into a drainage system.

5. SWEEPING: Sweep paved roads at construction entrance and exit locations and surrounding paved areas daily within the job site during: 1) clearing and grubbing, 2) earthwork, 3) trenching, 4) soil disturbance, 5) pavement grinding and/or cutting, and 6) after observing tracking of material onto or off the State property. Keep dust to a minimum during sweeping activities. Use vacuum whenever dust generation is excessive or sediment pickup is ineffective.

Roadways or work areas must not be washed down with water. Street sweeping operations must conform to Section 13 Water Pollution Control of Caltrans’ Standard Specifications.

6. VEHICLES AND EQUIPMENT: Permittee must prevent all vehicles, equipment, etc. from leakage or mud tracking onto roadways. If leaks cannot be repaired immediately, remove the vehicle or equipment from the job site.

7. MAINTENANCE AND FUELING OF VEHICLES AND EQUIPMENT: Maintenance and fueling of equipment must not result in any pollution at the job site. The Permittee must immediately clean up spills/leaks, and properly dispose of contaminated soil and materials.

8. CLEANING VEHICLES AND EQUIPMENT: Limit vehicle and equipment cleaning or washing at the job site except what is necessary to control vehicle tracking or hazardous waste. The Permittee must clean all equipment within a bermed area or over a drip pan large enough to prevent run-off. No soaps, solvents, degreasers, etc. must be used in State right-of-way. Any water from this operation must be collected and disposed of at an appropriate site. Containment berms or dikes must be used for fueling, washing, maintaining and washing vehicles or equipment in outside areas. Containment must be performed at least 100 feet from concentrated flows of storm water, drainage courses, and storm drain inlets if within a flood plain, otherwise at least 50 feet if outside the floodplain. Keep adequate quantities of absorbent spill-cleanup material and spill kits in the fueling or maintenance area and on fueling trucks.

9. DIESEL FUELS: The use of diesel fuel from petroleum or other fossil fuel as a form-oil or solvent is not allowed.

10. WEATHER CONDITIONS AT WORKSITE: Any activity that would generate fine particles or dust that could be transported off site by stormwater must be performed during dry weather.

11. WIND EROSION PROTECTION: The use of Wind Erosion BMPs must be deployed year-round in instances where dust or fine particles could be transported off site.

12. PROTECTION OF DRAINAGE FACILITIES: The Permittee must protect/cover gutters, ditches, drainage courses, and inlets with gravel bags, fiber rolls, State approved fabric filters, etc., to the satisfaction of the State representative during grading, paving, saw-cutting, etc. and materials must conform to Section 13-6.02 Materials for Water Pollution Control of Caltrans’ Standard Specifications. No such protection measures must cause an obstruction to the traveling public. The Permittee must implement spill and leak prevention procedures for chemicals and hazardous substances stored on the job site (including secondary containment requirements) in accordance to section 13-4.03B Spill Prevention and Control, and 14-11 Hazardous Waste and Contamination, Water Pollution Control of Caltrans’ Standard Specifications.

13. PAINT: Rinising of painting equipment and materials is not permitted in State right-of-way. When thoroughly dry, dispose of the following as solid waste: dry latex paint, paint cans, used brushes, rags, gloves, absorbent materials, and drop cloths. Oil based paint sludge and unusable thinner must be disposed of at an approved hazardous waste site.
14. CONSTRUCTION MATERIALS: Stockpile of all construction materials, including, but not limited to; pressure treated wood, asphalt concrete, cold mix asphalt concrete, concrete, grout, cement containing premixes, and mortar, must conform to section 13-4.03C (2) Material Storage & 13-4.03C (3) Stockpile Management of Caltrans’ Standard Specifications.

15. CONCRETE EQUIPMENT: Concrete equipment must be washed in a designated washing area in a way that does not contaminate soil, receiving waters, or storm drain systems.

16. EXISTING VEGETATION: Established existing vegetation is the best form of erosion control. Minimize disturbance to existing vegetation. Damaged or removed vegetation must be replaced as directed by the State Representative.

17. SOIL DISTURBANCE: Soil disturbing activities must be avoided during the wet weather season. If construction activities during wet weather are allowed in your permit, all necessary erosion control and soil stabilization measures must be implemented in advance of soil disturbing activity.

18. SLOPE STABILIZATION AND SEDIMENT CONTROL: Consider a certified expert in Erosion and Sediment control in cases where slopes are disturbed during construction. The Permittee is directed to comply with Section 13.5 Temporary Soil Stabilization and Section 21 Erosion Control of Caltrans’ Standard Specifications during application of temporary soil stabilization measures to the soil surface. Fiber rolls or silt fences may be required down slope until permanent soil stabilization is established. Remove the accumulated sediment whenever the sediment accumulates to 1/3 of the linear sediment barrier height. The Permittee must limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist or when environmental regulations prohibit their use within the project.

19. STOCKPILES: Stockpiles containing aggregate and/or soil must be stored at least 100 feet from concentrated flows of storm water, drainage courses, and storm drain inlets if within a floodplain, otherwise at least 50 feet if outside the floodplain, and must be covered and protected with a temporary perimeter sediment barrier. Cold mix stockpiles must be stored on an impermeable surface and covered with 9 mil plastic to prevent contact with water. Minimize stockpiling of materials on the job site. Manage stockpiles by implementing the water pollution control practices in Section 13-4.03C (3) Stockpile Management of the State of California standard specifications for construction.

20. DISCOVERY OF CONTAMINATION: The State Representative must be notified in case any unusual discoloration, odor, or texture of ground water, is found in excavated material or if abandoned, underground tanks, pipes, or buried debris are encountered.

21. SANITARY AND SEPTIC WASTE: Do not bury or discharge wastewater from a sanitary or septic system within the highway. Properly connected sewer facilities are free from leaks. With State Representative approval place portable sanitary facility at least 50 feet away from storm drains, receiving waters, and flow lines. Permittee must comply with local health agency provisions when using an on-site disposal system.

22. LIQUID WASTE: Prevent job site liquid waste from entering storm drain systems and receiving waters. Drilling slurries, grease or oil-free waste water or rinse water, dredging, wash water or rinse water running off a surface or other non-storm water liquids not covered under separate waste water permits must be held in structurally sound, leak-proof containers, such as portable bins or portable tanks. Store containers at least 50 feet away from moving vehicles and equipment. Liquid waste may require testing to determine hazardous material content prior to disposal. All measures must conform to section 13-4.03D (5) Liquid Waste, Water Pollution Control of Caltrans’ Standard Specifications.

23. WATER CONTROL AND CONSERVATION: Manage water use in a way that will prevent erosion and the discharge of pollutants into storm drain systems and receiving waters. Direct runoff, including water from water line repair from the job site to areas where it can infiltrate into the ground. Direct water from off-site sources around the job site or from contact with jobsite runoff.

24. PILE DRIVING: Keep spill kits and cleanup materials at pile driving locations. Park pile driving equipment over drip pans, absorbent pads, or plastic sheeting with absorbent material, and away from stormwater run-on when not in use.

25. DEWATERING: Dewatering consists of discharging accumulated storm water, groundwater, or surface water from excavations or temporary containment facilities. All dewatering operations must comply with the latest Caltrans guidelines including the Field Guide for Construction Site Dewatering. Contact State representative for approval of dewatering discharge by infiltration or evaporation, otherwise, any effluent discharged into a permitted storm water system requires approval from the Regional Water Quality Control Board. Prior to the start of dewatering, the Permittee must provide the State Representative with a dewatering and discharge work plan that complies with section 13-4.03G Dewatering, Water Pollution Control of Caltrans’ Standard Specifications. A copy of the Waste Discharge Permit and a copy of a valid WDID number issued by the Regional Board must be provided to the State representative.
STRUCTURE WORK

Use these special provisions when Permit includes any capital improvement work (Capital Outlay Program or Permit Program) involving structure related facilities such as: modification to existing bridges, new bridges, all tunnels, underground structures, single and multi-cell culverts wider than 20' measured in the direction of traffic, storage boxes, non-standard retaining walls, non-standard sound walls (including sound walls on retaining wall), earth retaining systems, bridge-mounted sign structures, overhead sign structures, pump plants, slope paving under bridges (including any paving or channel lining around bridge columns), seal slabs/boat sections, transit stations, and toll plazas.

In addition to the attached General Provisions (TR-0045), the following special provisions are also applicable:

1) BEGINNING OF WORK:

The PERMITTEE shall notify the Department’s Representative, _____________________________

(Name of Structures Area Construction Manager)

at ____________________ two (2) weeks before the intent to start permitted work to ensure coordination

(Phone Number)

with the Division of Structure Construction.

2) CONTRACT DOCUMENTS:

In addition to the number of as-advertised contract document sets required by the District Permit Engineer for district use, the PERMITTEE shall include a minimum of eleven (11) additional sets of contract documents (plans, special provisions and addenda) for use by the Caltrans Division of Engineering Services. Upon approval of the permit application, the District Permit Office shall distribute the eleven additional sets of contract documents to:

State of California
Department of Transportation
Division of Engineering Services
Office of Special Funded Projects, MS 9-2/7G
1801 30th Street
Sacramento, CA 95816

Depending on the work contemplated in the project, more copies may be required as determined by the District Permit Engineer and the Structures OSFP Liaison Engineer.

3) AS-BUILT & OTHER COMPLETION RECORDS

Within sixty (60) days following completion and acceptance of the project construction contract, PERMITTEE shall furnish acceptable completion records, which are applicable to the project, to the STATE representatives shown in the following table. Completion records shall be submitted in accordance with the “Submittal Instructions and Forms” shown in the following table. When requested by the PERMITTEE, the STATE representative shall furnish the instructions and forms shown in the following table. This information is also available from the Caltrans internet website.

Completion records or accompanying correspondence shall not include disclaimer statements of any kind. Such statements shall constitute non-compliance with these provisions.

For Locally Advertised projects, the As-Built Plan Package shall include the “Structures As-Built Plan Submittal Route Slip.”
### Completion Records Table

<table>
<thead>
<tr>
<th>Completion Record</th>
<th>Submittal Instructions and Forms</th>
<th>Submit Completion Record to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field Office set of red-marked As-Built plans for Structures, including Log of Test Borings from the Construction Contract Administrator</td>
<td>Furnish the construction field office set of red-marked As-Built prints, AND Initial, date, and attach the “Structures As-Built Plan Submittal Route Slip” to the As-Built plans submittal package.</td>
<td>Express Mail or hand carry to: State of California Department of Transportation Division of Engineering Services Division of Structure Construction 1801 30th Street, MS 9-2/11H Sacramento, CA 95816</td>
</tr>
<tr>
<td>Final As-Built plans for Structures, including Log of Test Borings from the Design Consultant</td>
<td>Furnish one (1) complete set of acceptable full size reproducible As-Built plans, AND Furnish the construction field office set of red-marked As-Built prints, AND Initial, date, and attach the Structures As-Built Plan Submittal Route Slip to the As-Built plans submittal package.</td>
<td>Regular Mailing Address: State of California Department of Transportation Division of Engineering Services Office of Special Funded Projects MS 9-2/7G P.O. Box 168041 Sacramento, CA 95816-8041 Next Day Mail or hand carry to: State of California, Department of Transportation Division of Engineering Services Office of Special Funded Projects 1801 30th Street, MS 9-2/7G Sacramento, CA 95816</td>
</tr>
<tr>
<td>Working Drawings (Shop Plans)</td>
<td>See contract special provisions and Standard Specifications for each individual structure.</td>
<td>DES Structures Document Unit Division of Structure Design</td>
</tr>
<tr>
<td>Report of Completion for Structures</td>
<td>Submit, for each individual structure, Form DS-OS C3, “Report of Completion-Bridges”, or equivalent.</td>
<td>Division of Structure Construction Oversight field Engineer for the project construction contract</td>
</tr>
<tr>
<td>Joint Movement Calculations for Structures</td>
<td>Submit, for each individual structure, Form DSD-D-0129, “Joint Movement Calculations” or equivalent.</td>
<td>Division of Structure Construction Oversight field Engineer for the project construction contract</td>
</tr>
<tr>
<td>Driven Pile Records</td>
<td>Submit, for each individual structure, Forms DC-C78, “Pile Quantity &amp; Driving Record (Driven Piles)”; DH-OS C79, “Log Pile Sheet”; and DH-OS C80, “Pile Layout Sheet”; or equivalent.</td>
<td>Division of Structure Construction Oversight field Engineer for the project construction contract</td>
</tr>
</tbody>
</table>

### 4) PROJECT COMPLETION (PROCESS BILLING/COMPLETION NOTICE)

For permits involving structure work, the Progress Billing/Completion Notice shall not be submitted by the District Oversight Resident Engineer/District Permit Engineer as the “Completion Notice” until the structure As-Builts and other applicable structure completion records have been submitted by the permittee and approved by Caltrans. The receipt of these records shall be noted on the Progress Billing/Completion Notice.
Private Entities

Failure of private entities to provide accurate, reproducible As-Built plans and satisfactory completion records for permit work shall be cause for bond or deposit retention by the Department.

Local Agencies

Failure of local agencies to provide accurate, reproducible As-Built plans, and satisfactory completion records for permit work shall be cause for the Department to require performance bonds on future permits. Future permitted work is subjected to a bond requirement until the completion records of said previously permitted work are submitted satisfactorily (Streets & Highways Code, Section 678).
STRUCTURE AS-BUILT PLANS SUBMITTAL ROUTE SLIP
FOR LOCALLY-ADVERTISED CONSULTANT-DESIGNED STRUCTURE PROJECT(S)

CONTRACT EA: ____________________________________________

PERMIT NO. (to local entity): ________________________________

DIST/CO/RT/PM(KP): ______________________________________

COMPLETION & ACCEPTANCE OF PROJECT CONSTRUCTION CONTRACT FIELD WORK (DATE): ________________________________

BRIDGE NOS: ____________________________________________

CONSTRUCTION CONTRACT ADMINISTRATOR (Name, Phone, & Firm): __________________________________________________

CALTRANS OVERSIGHT STRUCTURE REPRESENTATIVE (Name & Phone): _________________________________________________

CALTRANS DISTRICT OVERSIGHT RESIDENT ENGINEER (Name & Phone): _______________________________________________

DISTRICT ENCROACHMENT PERMITS ENGINEER (Name & Phone): _____________________________________________________

CALTRANS STRUCTURES OSFP OVERSIGHT LIAISON ENGINEER (Name & Phone): _______________________________________

KEEP THIS MEMO WITH THE STRUCTURE AS-BUILT PLAN PACKAGE
(HAND CARRY OR EXPRESS MAIL TO THE NEXT PERSON)

Initials/Date

1) CONSTRUCTION CONTRACT ADMINISTRATOR / STRUCTURE REPRESENTATIVE
   - Compile all structure As-Built changes, including supplemental plan sheets due to CCO’s. Consultant Structure
     Representatives shall review structure As-Built changes with the State Oversight Structure Representative prior
     to delivery to Division of Structure Construction in Sacramento.
     - Send the field office set of red-marked As-Built prints to CALTRANS ESC, Offices of Structure Construction,
       MS 9-2/11H, 1801 30th Street, Sacramento, CA 95816.
     - Receive and review the structure As-Built Plans changes noted on the field office set of red-marked As-Built
       prints.
     - Verify that ALL of the As-Built structure sheets have been received and have the As-Built stamp (including Log
       of Test Borings plan sheets).
     - Update contract records.

2) DIVISION OF STRUCTURE CONSTRUCTION (DSC), SACRAMENTO
   - Receive and review the structure As-Built Plans changes noted on the field office set of red-marked As-Built
     prints.
   - Verify that ALL of the As-Built structure sheets have been received and have the As-Built stamp (including Log
     of Test Borings plan sheets).
   - Update contract records.

3) DIVISION OF EARTHQUAKE ENGINEERING & DESIGN SUPPORT (DEE&DS), Office of Special Funded Projects
   - Receive and reviewAs-Built changes.
   - Deliver the package of the field office set of red marked as built prints, and the As-Built route slip to the Design
     Consultant so that the As-Built changes can be transferred onto the Local Entity’s as-advertised tracings.

4) DESIGN CONSULTANT
   - Transfer red-marked As-Built changes to original as-advertised tracings (or to the Computer Graphics files if
     necessary). The original as-advertised tracings thereby become the final As-Built tracings.
   - Deliver field office set of red-marked As-Built prints, the set of final As-Built tracings and this Slip by express mail
     or hand carry to CALTRANS ESC – OSFP, MS 9-2/7G, 1801 30th Street, Sacramento, CA 95816.

5) DIVISION OF EARTHQUAKE ENGINEERING & DESIGN SUPPORT (DEE&DS), Office of Special Funded Projects
   - Verify that As-Built red-marked changes and approved CCO’s are reflected on the final As-Built tracings.
   - Inform District Resident Engineer (or District Encroachment Permit Engineer if total estimate < $1M) that the final
     structure As-Builds have been received and are satisfactory. The RE or the District Permit Engineer can then initiate
     and submit the Progress Billing/Completion Notice (TR-0129) regarding structure requirements to the District Permit
     Section**
     - Inform Design Consultant that final structure As-Builds have been received and are satisfactory.
     - Structures OSFP retains the field office set of red-marked As-Built prints until the final As-Built tracings are returned
       from HQ Micrographics. Final structure As-Built tracings are forwarded to DSM&I.

6) DIVISION OF STRUCTURES MAINTENANCE AND INVESTIGATIONS (DSM&I)
   - Notify DSM&I-Encroachment Permits Section that As-Built plans have been received and are satisfactory.
   - Scan final As-Built tracings into bridge information records system, BIRIS.
   - Forward final As-Built tracings to HQ Micrographics.

7) HQ MICROGRAPHICS
   - Use final structure As-Built tracings to order 3 full sets of microfilm (roadway & structures) aperture cards.
   - HQ Micrographics files a set of microfilms, delivers a set to both the District, and the Department’s security file.
   - Return the final structure As-Built tracings to Structures OSFP [for storage/disposal or return to Design Consultant
     of Local Entity (if requested)]. Structures OSFP can then dispose of the field office set of red-marked As-Built
     prints or return then to the Design Consultant or Local Entity (if requested).

   * When required by contract with Local Agency, send a copy of red-marked prints and reproducible copies of final As-Built plans to the Local Agency, Design Consultant keeps a set of reproducible copies of the final As-Built plans for own file.

   **Project closure is also contingent upon the submittal of other final structure project records and District Roadway As-Built Plan Package to the District.

 Attachment: As-Built Plans.  Rev. 09/2003
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SURVEYS (SV) SPECIAL PROVISIONS

In addition to the attached General Provisions (TR-0045), the following special provisions are also applicable:

1. Two days before work is started under this permit, contact ________________________ concerning the permittee’s operation.

2. All survey operations shall be conducted off the traveled way except where necessary to cross pavements and medians.

3. When survey operations are being conducted, the permittee shall furnish, place and maintain signs and safety equipment in accordance with the latest edition of the "California Manual on Uniform Traffic Control Devices” (Part 6, Temporary Traffic Control).

4. All personnel shall wear hard hats and orange vests, shirts or jackets as appropriate. Any painted markings shall be made with water soluble paint.

5. Permission is also granted to park survey vehicles temporarily within the right of way, outside the shoulders, while survey work is in progress.

6. SURVEY WORK IS PROHIBITED ON FREEWAYS.

7. Survey information and assistance may be obtained upon request to: Survey Section, Department of Transportation, ________________________________.
TRAFFIC COUNTERS (SV) SPECIAL PROVISIONS

In addition to the attached General Provisions (TR-0045), the following special provisions are applicable:

1. Personnel installing or removing traffic counters shall wear an orange colored outer garment and a hard hat.

2. Traffic counters installed on freeway ramps shall be located at the curb return as near as possible to the local street intersection.

3. Counter tubes shall be securely attached to the pavement by taping. No nails, spikes or other material shall be driven into the pavement except to secure the tube at the outside edge of shoulder, at the lip of a gutter, or in the center line stripe.

4. A copy of the collected data shall be sent to the Caltrans District Permit Engineer.
TRAFFIC SIGNAL CONTROLLER ASSEMBLY SPECIAL PROVISIONS

In addition to the attached General Provision (Form TR-0045), the special provision shown below is also applicable.

Use the special provision that pertains to either a chargeable or State furnished controller assembly. When the permittee is charged a fee for the controller, the special provision will identify the fee amount and instructions for requesting controller assembly delivery. When Caltrans is providing the controller under a Cooperative Agreement, the provision contains only the delivery instructions.

Use this Statement in Permits for Privately Funded Projects and Locally Funded Projects Without Cooperative Agreements

The permittee or the contractor for a local agency shall pay $5,600 to Caltrans to compensate the State of California for the costs incurred in obtaining, testing, and supplying a Traffic Signal Controller Assembly. This fee does not supercede any other fee charged by Caltrans for review, inspection or field work performed by Department staff as a result of the permitted work. If the fee has not been paid before permit issuance, full payment shall be made to the district cashier before starting any traffic signal work authorized by this permit, and at least 30 (thirty) days before the controller is needed for installation. The permittee shall give the State representative not less than 10 (ten) working days written advance notice before picking up the cabinet assembly (without the controller). When notified by the permittee, Caltrans will provide the permittee with a time and location for picking up that cabinet assembly. Caltrans will subsequently deliver the actual controller to the job site at the prearranged time of signal turn on.

Use this Statement in Permits When a Traffic Controller Assembly is Provided for Projects Involving Cooperative Agreements

The permittee shall give the State representative at least 10 (ten) working days written advance notice before picking up the cabinet assembly (without the controller). When notified by the permittee, Caltrans will provide the permittee with a time and location for picking up the cabinet assembly. Caltrans will deliver the controller to the job site at the prearranged time of signal activation.
TRAFFIC STRIPING, MARKINGS, AND SIGNS (MCS) SPECIAL PROVISIONS

In addition to the attached General Provisions (TR-0045), the following special provisions are also applicable:

1. Traffic striping, pavement markings and signs shall be furnished and placed by the permittee and the cost shall be borne by the permittee. Where new asphalt concrete has been placed, painted striping and pavement markings shall be installed within 24-hours. Where shown on the plans, after thirty (30) days curing time, thermoplastic materials shall be applied in compliance with Section 84 of the Standard Specifications.

2. Roadside signs shall be placed at locations shown on the permit plans and shall be installed in compliance with the latest edition of Caltrans Standard Plans.

3. Permittee shall furnish to State's representative a completed Form CEM-3101 "Notice of Materials to be Used," and approval of the material used shall be obtained prior to its installation.
I. GENERAL (Applies to BOTH Non-Utility and Utility Projects):

1. Scheduled pruning work may be restricted by Caltrans to maintain mobility during special events, commuter traffic, or other periods of projected high traffic volumes.
   - Traffic control is generally authorized from 9 a.m. to 3 p.m., Monday through Friday, excluding holidays. Extended traffic control hours may be required by Caltrans.
   - Traffic control must conform to requirements shown in the State Standard Plans. When required, the use of a flashing arrow board is MANDATORY.
   - Suspend work during inclement weather, such as heavy fog, if lane or shoulder closures will be required. Do not perform pruning work during periods of high wind to minimize the spread of debris into the traveled way.
2. Prune trees in compliance with the most recent version of ANSI A300-Pruning Part 1, the American National Standard for Tree Care Operations, Tree, Shrub and Other Woody Plant Maintenance-Standard Practices (Pruning), and the International Society of Arboriculture (ISA) Tree Pruning Best Management Practices.
3. Prune trees in compliance with the seasonal tree pruning restrictions specified in the Migratory Bird Act and meet the seasonal requirements of specific tree species. Perform pruning based upon the age of the tree (newly planted or established), type of tree (evergreen or deciduous), purpose for pruning (maintenance of form, structure, maintaining sight lines, utility clearance), and to minimize the spread of disease (pine pitch canker, eucalyptus psyllid, eucalyptus borer beetles, Dutch elm disease, or mistletoe).
4. Tree trimmers must be licensed by the California State Contractors State License Board and hold a current C61/D49 license.
5. Do not use climbing spurs to prune trees, except when working in the tops of Eucalyptus, Palms, and Conifers.
6. Prune trees to maintain their natural structure and shape. If unbalanced growth already exists, first thin and head prune the tree. Where prior topping or side pruning has resulted in excessive growth over the State right-of-way, prune to restore a balanced, symmetrical shape. Avoid creating large holes in the canopy. Upon completion of work, trees should present a balanced, symmetrical shape that is characteristic of their species.
7. Prune trees to maintain their natural open crown structure. Do not cut young growth year after year at the same fixed distance from the trunk. This technique creates very dense growth at the tree canopy margin, growth called “crown’s nests” or “brooms”. Maintain the natural open crown structure by thinning out dense growth.
8. Prune trees to restore an open crown structure. Remove limbs larger than 2-inches in diameter as necessary to open up dense growth, called “crows’ nests” or “brooms.” Make these cuts at laterals or parent branches in older wood so that the following season’s growth will result in a crown structure free of dense, disfiguring growth.
9. Prune trees to avoid redirecting growth over the highway. Maintain the terminal bud of the leader. Perform top or center pruning only after these trees have recovered their natural balance and form.
10. Final cuts must not leave stubs. Prune in ways that maximize wound recovery from callus growth. Keep wounds as small as practicable, reasonably flush, within the shoulder ring area, keeping cambial tissues at the cut edge alive and healthy. Do not make extreme flush cuts that produce large wounds and weaken the tree.
11. Remove debris, cuttings, and tree limbs from the State right-of-way at the end of each workday, leaving the work area in a safe and presentable condition. In regions where pruned limbs and bark might harbor pests or disease (such as pine pitch canker, eucalyptus psyllid, eucalyptus borer beetles, Dutch elm disease, or sudden oak death) dispose pruned materials in accordance with Federal, State, and local agency requirements.
12. Topping of trees is not allowed.
13. Prune trees to allow 8’ over sidewalks and 17’ over vehicular pavement.
14. Pruning must not change the character of the tree.

II. ADDITIONAL TREE PRUNING REQUIREMENTS FOR UTILITIES ONLY:

Comply with the requirements under “I. General” above, and the following:

1. Severity of utility tree pruning work may be restricted by the District Landscape Specialist to preserve the appearance of trees that possess high value due to local community significance, historic landscape potential, or documented horticultural value.
2. Limit pruning severity such that required minimum clearances are maintained for no more than two years.
3. Comply with minimum utility clearances as established by the CPUC General Orders, California Public Resources Code and Federal and State laws. Clearances that exceed the established minimum must be agreed upon by Caltrans and the Utility Company. For most locations, pruning should not take place more frequently than once per year. Pruning clearances and pruning frequencies must reflect the species, growth habit, condition, and health of each tree.
4. Prune trees receiving their first pruning, or recently pruned trees with “directional pruning” as defined in the ISA Tree-Pruning Guidelines. Trees that cannot be directionally pruned, such as older trees that have been topped many times may be submitted for consideration of removal.

5. Do not perform initial, severe “V” shaped pruning on trees along any highway, expressway or freeway without approval from the District Landscape Specialist or District Landscape Architect. Do not perform severe “V” pruning on any tree along a state or federally designated scenic highway without approval from the District Landscape Architect.

6. Maintain previously “rounded over” trees consistent with past practices, unless Caltrans and the Electric Utility owner agree that the tree can be directionally pruned or have its crown restored without creating structural defects or growth that presents a liability.

III. CHEMICAL CONTROL:

1. Do not apply chemicals to trees located on scenic highways.
2. Upon approval by Caltrans to use chemicals, also obtain approval by the County Agricultural Commissioner.
3. Control resprouting tree species using integrated vegetation management program techniques, including chemical and non-chemical methods.
4. Prior to chemical application, obtain a pest control recommendation from a licensed Pest Control Advisor. Submit a copy of the recommendation to the Caltrans District Landscape Specialist or their designee.
5. Utility Companies must maintain a list of locations, chemical types, and quantities used for treatment in pruning operations. Provide this information upon expiration of your annual permit or upon request of the Department during the annual/biennial permit period.
6. Utility Companies must submit copies of MSDS sheets for all chemical compounds used in tree pruning operations along with their permit application.
7. Utility Companies must notify the District Encroachment Permits Office when they change or modify the chemicals used in their pruning operations.
I. GENERAL (Applies to BOTH Non-Utility and Utility Projects):

1. Scheduled removal work may be restricted by Caltrans to maintain mobility during special events, commuter traffic, or other periods of projected high traffic volumes.
   a) Traffic control is generally authorized from 9 a.m. to 3 p.m., Monday through Friday, excluding holidays. Extended traffic control hours may be required by Caltrans.
   b) Traffic control must conform to requirements shown in the State Standard Plans. When required, the use of a flashing arrow board is MANDATORY.
   c) Suspend removal work during inclement weather, such as heavy fog, if lane or shoulder closures will be required. Do not perform removal work during periods of high wind to minimize the spread of debris into the traveled way.

2. Remove trees in compliance with the seasonal restrictions specified in the Migratory Bird Act.

3. Contractors must be licensed by the California State Contractors State License Board and hold a current C61/D49 license.

4. Remove debris, cuttings, and limbs from the State right-of-way at the end of each workday, leaving the work area in a safe and presentable condition. In regions where debris, cuttings, limbs and bark may harbor pests or disease (such as pine pitch canker, eucalyptus psyllid, eucalyptus borer beetles, Dutch elm disease, or sudden oak death) dispose the vegetative materials in accordance with Federal, State, and local agency requirements.

5. Permittee or their contractors may collect woodchips produced by removing trees located both inside and outside Caltrans right-of-way, and dispose of these woodchips by placing them in locations within Caltrans right-of-way, when approved in advance by Caltrans Maintenance. Woodchips must not create a fire hazard, encourage illegal dumping, block traveler sightlines, or obstruct drainage ditches or drain inlets.

II. NON-UTILITY TREE REMOVAL PROJECTS:

When a permit is issued for removal of a tree as an independent operation or as a part of other work, the entire stump must be taken out to a depth of at least 12-inches below the ground surface. All debris must be removed from the right of way. The hole left by the stump must be backfilled and thoroughly tamped and the site left in a safe presentable condition.

III. UTILITY TREE REMOVAL PROJECTS ONLY:

Removal of trees over sub-surface Gas lines:

After trees are removed, cut trunks flush with the ground, leaving no more than 2-inches exposed above the finished grade. If required by Caltrans, remove the stump to a depth of at least 12-inches, remove all debris from the hole, backfill with clean fill, and thoroughly compact the soil, leaving the area in a safe presentable condition.
In accordance with the Department’s Project Development Procedures Manual, all new high priority utilities and pressurized facilities are required to be encased on both conventional and access controlled highway rights-of-way.

Based on the Memorandum dated November 9, 1994, “Exception to Policy - Uncased High-pressure Natural Gas Pipelines”, the Department may allow the installation of uncased natural gas pipelines crossings in specific circumstances. The Department’s primary concerns are for public safety, the integrity of the highway facility and the mechanical protection of the pipeline itself, it is necessary to limit the number of requests for transverse natural gas transmission pipeline crossings without casings to locations where all of the following conditions are met:

UNG 1.

The pipeline owner agrees that the crossing will be designed for construction in accordance with the Code of Federal Regulations, Title 49, Part 192, and/or the California Public Utilities Commission General Orders No. 112-D with respect to natural gas pipelines. The crossing design shall be comprehensive in all respects including but not limited to material specification, pipe wall thickness determination, coating selection, and cathodic protection. Soil conditions at each site shall be analyzed for characteristics that may prove harmful to the protective pipe coating. This analysis shall be used by the pipeline owner in selecting a protective pipe coating sufficient to withstand the potential for gouging or peeling during the boring and jacking operation, or other methods approved by Caltrans. The final condition of the coating will be determined by the pipeline owner through monitoring of the boring and jacking operation, visually inspecting the exiting initial pipe segment, and electrical testing by an engineer or technician with expertise in cathodic protection. The test data shall be noted on the as-built drawings. Remedial action will be taken if the condition of the coating is such that cathodic protection is not practical.

UNG 2.

The minimum depth of cover within State highway right of way, from the final ground line (finished grade or original ground) to the top of the proposed gas carrier pipeline, is 7.5’. If the location is such that it is not practical to achieve the above depth of cover, then an engineered protective cover (such as a reinforced concrete structure) may be provided outside of pavement areas in lieu of casing. At no time shall the minimum depth of cover be less than 42”.

UNG 3.

The permit specifies that the uncased gas carrier pipeline shall, as a minimum, be designed for a Class 3 Location (Code of Federal Regulations referenced above) for hard surfaced roads, highways, public streets, and railroads. (See attached Excerpts from the Code of Federal Regulations, Design Factor to be used for Natural Gas Pipelines.)

UNG 4.

The existence of the crossing is adequately identified by signing at the right-of-way line, with at least one identifying sign, which is visible from the roadway in each direction of travel.

UNG 5.

The pipeline owner agrees to provide as-built drawings at completion of the pipeline crossing, with a letter certifying that the pipeline was installed properly and in accordance with the permit plans (including approved changes to the permit plans), and meets industry and regulatory standards for such installation.

UNG 6.

All other applicable requirements in Chapter 600 of the Encroachment Permits Manual are satisfied.

UNG 7.

All submittals requesting installations of such uncased natural gas pipeline crossings greater than 6” in diameter or with normal operating pressures greater than 60 psig and meeting all of the above requirements may be approved by the district. Any deviations from the above requirements require an encroachment policy exception.
In the design of steel natural gas pipelines the Minimum Yield Strength for the grade of steel used is reduced by a Design Factor (F). This Design Factor is determined by the type of road being crossed by the pipeline and a Class Location established by Code of Federal Regulations, Title 49, Part 192 (Office of the Federal Register, 1990). The Class Location depends on the occupancy of buildings or activities within an area that extends 660 feet from either side of the pipeline centerline for a continuous 1 mile segment of the pipeline. There are four Class Locations as follows:

Class 1. A location that has 10 or less buildings intended for human occupancy.

Class 2. A location that has more than 10 but less than 46 buildings intended for human occupancy.

Class 3. a) Any location that has 46 or more buildings intended for human occupancy; or

b) Area where pipeline lies less than 300 feet of either a building or a small well defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. (The days or weeks need not to be consecutive).

Class 4. Location where buildings of four or more stories are prevalent.

The design factor used for a specific Class Location also depends on the kind of road involved as indicated on the following Table.

**DESIGN FACTOR (F)**

<table>
<thead>
<tr>
<th>TYPE OF THOROUGHFARE</th>
<th>CLASS LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Privately owned roads</td>
<td>0.72</td>
</tr>
<tr>
<td>Unimproved public roads</td>
<td>0.60</td>
</tr>
<tr>
<td>Hard surfaced roads, highways</td>
<td>0.60</td>
</tr>
<tr>
<td>public streets, and railroads</td>
<td></td>
</tr>
</tbody>
</table>

**Example:** A pipe made of X42 grade of steel which has a Minimum Yield Strength (MYS) of 42,000 psi used in a Class 4 location at a hard surface road crossing would be designed using a reduced Minimum Yield Strength, by applying a Design Factor of 0.4, of 16,800 psi.
Any public utility or public corporation, who lawfully maintains a utility encroachment, or their agent, may perform routine or emergency maintenance on such facility in accordance with the following provisions:

**UE1. EXCLUSIONS:** These provisions do not authorize tree trimming, work on freeways, expressways, aerial capacity increases on designated "Scenic Highways," or other activities not specifically provided for in this permit.

**UE2. DELETED. Provision left blank intentionally.**

**UE3. DELETED. Provision left blank intentionally.**

**UE4. DELETED. Provision left blank intentionally.**

**UE5. EMERGENCY REPAIRS:** The permittee may make emergency repairs, alter traffic flow, and excavate through improved surfaces only when breaks in the conduit, cable, or pipeline over or under the pavement presents a definite public hazard or serious interruption of essential services. In such cases, the Department's representative shall be notified immediately.

**UE6. OPEN EXCAVATIONS:** No excavation shall be left open after daylight hours unless specifically authorized and adequate protection for traffic is provided in accordance with the General Provisions, "Public Traffic Control." Backfill and pavement replacement shall be performed in accordance with General Provisions, "Restoration and Repairs in State Highway right-of-way."

**UE7. TRAFFIC CONTROL HOURS:** Work requiring traffic control shall be conducted between 9:00 AM and 3:00 PM or as otherwise authorized by the Department's representative.

**UE8. WORK PERMITTED - AERIAL:**

1. Install additional capacity in the same location, except facilities over the traveled way, on designated "Scenic Highways," or on Structures.

2. Maintain, inspect, remove, repair or replace (in the same location) all aerial facilities except over the traveled way or on Structures. Work over the travelled way or on structures requires the placement of "H" poles and netting as per TR-0108, located in Appendix "E" of the Encroachment Permits Manual, under a separate permit.

3. Permittee is authorized to clear grasses from around base of poles and excavate around poles for inspection, including tamping and straightening.

4. Perform insulator washing and interconnect splicing of cables.

5. Install or remove service connections with potential to ground of 50 volts or less, except over the traveled way or on structures.

6. Install, maintain, remove, repair or replace aerial service connections with potential to ground of 50 volts or less, except over the traveled way or on structures, unless specifically stated in permit.

7. Installations and clearances shall be equal to those required by either the State of California Public Utilities Commission orders or the California Occupational Safety and Health Regulations (CAL-OSHA), Division of Industrial Safety, Safety Orders, promulgated in the California Code of Regulations, Title 8, Chapter 4, whichever is greater.

**UE9. WORK PERMITTED - UNDERGROUND:**

1. Maintain, inspect, remove, repair or replace (in the same location) all underground facilities except those requiring trenching in the traveled way.

2. Install additional capacity in existing ducts except for facilities not in compliance with the Department's High priority utility policies or on Structures.

3. Install air flow monitoring transducers and piping in existing ducts.

4. Barholing, potholing, cleaning, rodding and placing float ropes.

5. Adjust access cover to grade and replace in kind or with larger size pull boxes.

6. Interconnect splicing of cables.

7. Install service connections (laterals) perpendicular to the highway using Trenchless Technologies for the following:

   a) Natural gas service lines less than 2 inches in pipe diameter that have normal operating pressures of 60 psig or less

   b) Subsurface electrical service connections with a potential to ground of 50 volts or less

   c) Service connections for water, sewer, telephone, telecommunication, and cable service

8. Permanent pavement patching for work authorized by this permit.

**UE10. POLE MAINTENANCE & CHEMICAL TREATMENT:**

1. Utility Companies are to provide a list of the pole identification, locations, type of chemicals and quantities used for their pole treatment maintenance operations. This information shall be provided upon expiration of their annual permit or upon request of the Department during the annual/biennial permit life as needed.

2. Utility Companies shall submit copies of the MSDS sheets for all chemical compounds to be used in their pole treatment maintenance operations, in conjunction with the permit application submittal.

3. 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 used in their pole treatment maintenance operations.

4. Prior to any application of Tree Growth Regulators (TGR) approval shall be obtained from the District Landscape Specialist or their designee, and the products used must be on the Caltrans approved chemical list.

**UE11 DELETED. Provision left blank intentionally.**

*NOTE: Special Provision was deleted since it is already part of the EP General Provisions (TR-0045).*
UTILITY LEASING SPECIAL PROVISIONS

In addition to the attached General Provisions (TR-0045), the following special provision is also applicable:

1. Leasing all or part of the longitudinal utility encroachment is prohibited. Encroachment includes but is not limited to: utilities, carrier pipes, casings, conduits, poles, etc.
Any public utility or public corporation who lawfully maintains a utility encroachment, or their agent, may perform routine or emergency maintenance on such facility in accordance with the following provisions:

UM1. EXCLUSIONS: These provisions do not authorize tree trimming, work on freeways, expressways, or other activities not specifically provided for in this permit.

UM2. DELETED. Provision left blank intentionally.*

UM3. DELETED. Provision left blank intentionally.*

UM4. DELETED. Provision left blank intentionally.*

UM5. EMERGENCY REPAIRS: The permittee may make emergency repairs, alter traffic flow, and excavate through improved surfaces only when breaks in the conduit, cable or pipeline over or under the pavement present a definite public hazard or serious interruption of essential service. In such cases, the Department's representative shall be notified immediately.

UM6. OPEN EXCAVATIONS: No excavation shall be left open after daylight hours unless specifically authorized and adequate protection for traffic is provided in accordance with the General Provisions "Public Traffic Control".

Backfill and pavement replacement shall be performed in accordance with the applicable General Provisions (i.e., "Restoration and Repairs in State Highway rights-of-way").

UM7. SERVICE CONNECTION: These provisions do not authorize installation of conduit, cable, gas, or water service connections within State Highway rights-of-way, regardless of the location of the main, existing conduit, or cable. All new underground or pipe abandon services must be covered by individual permits. See Section “UM8-4” regarding service connections for aerial wires.

UM8. ROUTINE INSPECTION AND MAINTENANCE:

1. Routine Maintenance and Inspection:

Roadbed work shall be conducted between 9:00 AM and 3:00 PM, or as otherwise authorized, in writing, by the Department's representative.

2. Manholes:

The permittee may open existing manholes to repair underground cables. Where the manhole lies within the improved surface of the highway, the permittee will provide adequate protection for traffic in accordance with the General Provisions "Public Traffic Control".

3. Excavations:

Routine inspection and repair of pipeline and cables shall:

A. Not be made in improved surfaces, landscaped areas or closer than 10’ to the edge of the pavement without a special permit; and

B. Not uncover more than 50’ of line at any one time.

4. Pole Lines:

Permittee is authorized to:

A. Stub, or reset existing pole, provided no change in location of pole or anchor is made. Stubs and anchors must not be placed between existing poles and the traveled way.

B. Replace poles, guy poles, and crossarms in same location limited to two (2) consecutive poles. No additional poles or guys poles are authorized under this routine maintenance provision.

C. Replace broken pins and/or insulators, repair broken wires, pull slack wires, and replace or pull broken or slack guys.

D. Repair and complete transfer work on existing aerial cables.

E. Install new and replace existing transformers on existing poles.

F. Replace aerial wires and cross arms on existing poles except where wires cross the highway. Unless otherwise specifically required by the Department, protected cable, tree wire or plastic tree wire guard used for communication lines may be used through trees where necessary, provided the appearance of the tree or the tree itself will not be damaged. This section (F) does not apply to scenic highways.

G. Installations and clearances shall be equal to those required by either the California Public Utilities Commission Orders or the California Occupational Safety and Health (CAL-OSHA) Safety Orders, whichever is greater. Also see "OH 2" of the Overhead Utility Provisions.

H. Clear grass from around base of poles and excavate around poles for inspection, including tamping and straightening. The use of herbicides or other chemicals is not authorized by this permit. A separate encroachment permit must be applied for and issued for that purpose.

*NOTE: Special Provision was deleted since it is already part of the EP General Provisions (TR-0045).
OH1. LOCATION POLE LINES, ETC.:

Pole lines shall be located as specifically directed in the provisions of the permit.

OH2. INSTALLATIONS AND CLEARANCES:

Horizontal clearances, as measured form the edge of traveled way to the installation, shall be in accordance with the minimum desirable clear recovery zone for a conventional highway which is 20’. In no case is a pole allowed closer than 1.5’ behind a curb face or less than 2’ from the edge of a slope catch point or a driveway, or within a drainage ditch. New installations should adhere to setback limits or should be protected. Consideration should be given to placing such encroachments underground in shoulder or parking areas. Also, installations and clearances shall comply with applicable orders of the Public Utilities Commission of the State of California, or the California Occupational Safety and Health (CAL-OSHA) Safety Orders, whichever is greater.

OH3. PERMISSION FROM PROPERTY OWNERS:

When necessary, permission shall be secured from the abutting property owner(s) in written form by the permittee before starting work.

OH4. CLEARANCE OF TREES:

Unless otherwise specifically required by the Department, protected cables, tree wires or plastic tree wire guards used for communication lines may be used through trees where necessary, provided the installation and any necessary pruning does not damage or affect the appearance of the tree or the tree itself will not be damaged. This allowance does not apply to scenic highways.

OH5. GUY WIRES:

No guy wires are to be attached to trees except as may be specified in the permit and in no event shall they be so attached as to girdle the tree or interfere with its growth. Guy wires shall be kept to a minimum elevation above ground as directed.

OH6. ANCHOR:

No anchor shall be placed closer to the traveled way than the pole itself.

OH7. REMOVE OLD POLES, GUY, and STUBS:

The entire length of poles and stubs shall be removed from the ground and the holes backfilled. Guy rods shall be removed to a minimum depth of 3’ below original ground.

OH8. AERIAL CROSSING:

No work involving new or additions to existing aerial crossings shall be performed in rainy, foggy or inclement weather which creates hazardous conditions for highway users.

OH9. CLEARANCE FROM CURBS:

The face of poles shall not be placed closer than 1.5' from any curb face.

OH10. POLE INSTALLATION OR REMOVAL:

Where poles are to be installed or removed behind the curb in a parkway that is paved with Portland Cement Concrete, the concrete shall be saw cut, removed and replaced to the nearest score lines or expansion joints. The hole in the PCC sidewalk created by pole removal shall be temporarily backfilled with 2” minimum temporary AC at the time the pole is removed. Poles are not to be installed without prior approval of the final location by the Department's field representative.

OH11. CONTROLLED ACCESS R/W:

Poles, anchors, etc., shall not be installed inside of any controlled access right of way. All requests shall be packaged as “exceptions” to policy.
High priority utilities, pressurized facilities, pipes or ducts 6" or larger in diameter, or placement of multiple pipes or ducts, regardless of diameters are required to be encased on both conventional and access controlled highway rights-of-way.

A “High Priority Utility” is defined as: 1) a natural gas pipeline greater than 6” in diameter, or with normal operating pressures greater than 60 psig, 2) petroleum pipelines, 3) pressurized sanitary sewer pipelines, 4) high-voltage electric supply lines, conductors, or cables that have a potential to ground of greater than or equal to 60 kV, or 5) hazardous materials pipelines that are potentially harmful to workers or the public if damaged.

An exception to this policy may be allowed on a case by case basis for the installation of Uncased High Pressure Natural Gas Pipelines when in compliance with the TR-0158 Special Provisions.

The pavement or roadway must not be open-cut unless specifically allowed under a separate “UT” permit. Utility installations must not be installed inside of culverts or drainage structures.

For additional details regarding longitudinal utility encroachments on both conventional and access controlled highway rights-of-way, see Chapter 600.

UG 1. CASINGS:

Casings must be steel conduit with a minimum inside diameter sufficiently larger than the outside diameter of the pipe or ducts to accommodate placement and removal. The casing can be either new or used steel pipe, or an approved connector system. Used pipe must be pre-approved by the Department's engineer or representative before installation.

When the method of Horizontal Directional Drilling (HDD) is used to place casing, the use of High Density Polyethylene Pipe (HDPE) as casing is acceptable.

Reinforced Concrete Pipe (RCP) in compliance of State Standard Specifications is an acceptable carrier for storm drain gravity flow or non-pressure flow. RCP when installed by Bore &Jack must have rubber gaskets at the joints, and holes for grouting of voids left by jacking operations, see “E” below.

A. Minimum wall thickness for steel pipe casing for different lengths and diameters of pipes are as follows:

<table>
<thead>
<tr>
<th>Casing Pipe</th>
<th>Up to 150 ft</th>
<th>Over 150 ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Diameter)</td>
<td>(Length)</td>
<td>(Length)</td>
</tr>
<tr>
<td>6&quot; to 28&quot;</td>
<td>1/4&quot;</td>
<td>1/4&quot;</td>
</tr>
<tr>
<td>30&quot; to 38&quot;</td>
<td>3/8&quot;</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td>40&quot; to 60&quot;</td>
<td>1/2&quot;</td>
<td>3/4&quot;</td>
</tr>
<tr>
<td>62&quot; to 72&quot;</td>
<td>3/4&quot;</td>
<td>3/4&quot;</td>
</tr>
</tbody>
</table>

B. Spiral welded casing is authorized provided the casing is new and the weld is smooth.

C. The ends of the casing must be plugged with ungrouted bricks or other suitable material approved by the Department’s representative.

D. When required by the Department's representative, the permittee must at his expense, pressure grout the area between the pavement and the casing from within the casing in order to fill any voids caused by the work covered under this permit. The increments for grout holes inside the pipe must be 8' staggered and located 22-1/2 degrees from vertical axis of the casing. Pressure must not exceed 5 psig for a duration sufficient to fill all voids.

E. There is a spacing requirement when placement of multiple encasements is requested. The distance between multiple encasements must be the greater of either 24" or twice that of the diameter of the larger pipe being installed.

F. Casings placed within access controlled highway rights-of-way must extend to the right-of-way lines.

G. Wing cutters, if used, must be a maximum of 1" larger than the casing. Voids caused by the use of wing cutters must be grouted in accordance with “E” above.

H. A band welded to the leading edge of the casing must be placed square to the alignment. The band must not be placed on the bottom edge. Flaring the lead section on bores over 100' must not be permitted.

I. All casing lengths must equal the auger length.

J. The casings within conventional highways must extend 5' beyond the back of curb or edge of pavement, or to the right of way line if less. Where PCC cross-gutter exists, the casing must extend at least 5' beyond the back of the cross-gutter, or to the right of way line if less.

Bore and receiving pits must:

A. be located at least 10' or more from the edge of pavement on conventional highways in rural areas.

B. be located 5' behind the concrete curb or AC dike on conventional highways in urban areas.

C. be located 5' outside the toe of slope of embankment areas.

D. be located outside access controlled highway rights-of-way.

E. be adequately fenced and/or have a Type-K barrier placed around them.

F. be adequately shored in accordance with Cal-OSHA requirements. Shoring for jacking and receiving pits located within 15' of traffic lanes on a State highway must not extend more than 36" above the pavement grade unless otherwise authorized by Department's representative. Reflectors must be affixed to the shoring on the sides facing traffic. A 6' chain link fence must be installed around the perimeter of the pits during non-working hours.
UG 2. HORIZONTAL DIRECTIONAL DRILLING:
Bore and receiving pits

When HDD is the approved method for pipe installation, drilling plans must contain information listed as follows:

1. Location of: entry and exit point, access pit, equipment, and pipe staging area.
2. Proposed drill path alignment (horizontal and vertical).
3. Location and clearances of all other facilities.
4. Depth of cover.
5. Soil analysis.*
6. Carrier pipe length, diameter, thickness, and material (HDPE/steel) and ream pipe diameter.
7. Detailed carrier pipe calculations confirming ability to withstand installation loads and long term operational loads including H20.
8. Proposed drilling fluid composition, viscosity, and density (based on soils analysis).
10. State right-of-way lines, property, and utility right of way or easement lines.
11. Elevations.
12. Type of tracking method/system and accuracy used.
13. A detailed plan for monitoring ground surface movement (settlement or heave) resulting from the drilling operation.

* May be waived by the District Permit Engineer for HDD jobs less than 6" in diameter and a traverse crossing less than 150'.

UG 3. LIMIT OF EXCAVATION:

No excavation is allowed within 10' from the edge of pavement except in curbed urban areas or as specified in the permit. Where no curb exists and excavations within 10' of the traveled way are to remain open, a temporary Type-K railing must be placed at a 10:1 taper or as otherwise directed by the Department.

UG 4. TUNNELING:

Review, requirements of Section 603.6A-6 of the Encroachment Permits Manual, if applicable. In addition to the requirements of "UG1" the following requirements apply:

A. For the purpose of this provision, a tunnel is defined as any pipe, 30" or larger in diameter placed.

B. When tunneling is authorized, the permittee must provide full-time inspection of tunneling operations. The Department's representative must monitor projects.

C. A survey grid must be set and appropriately checked over the centerline of the pipe jacking or tunneling operation. Copies of the survey notes must be submitted to the Department's representative.

D. Sand shields may be required as ground conditions change.

E. The method used to check the grade and alignment must be approved by the Department's representative.

F. Pressure grouting for liner plates, rib and spiling, or rib and lagging tunnels must be at every 8' section or at the end of work shift before the next section is excavated. All grouting must be completed at the end of each workday.

G. A method for securing the headway at the end of each workday is required. Breastplates must be installed during working hours for running sand or super-saturated soil.

UG 5. CLEARANCE AND OFFSET REQUIREMENTS:

All installations must comply with Chapter 17, Article 4 of the Project Delivery Procedures Manual (PDPM) for utility clearance and offset requirements.

UG 6. FACILITIES EXEMPT FROM THE HIGH PRIORITY UTILITY REQUIREMENTS:

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 2 inches in pipe diameter that have normal operating pressures of 60 psig or less
- Subsurface electrical service connections with a potential to ground of 50 volts or less
- Service connections (laterals) for water, sewer, telephone, telecommunication, and cable service

All State owned utilities must be plotted on the plans.

UG 7. DETECTOR STRIP:

A continuous metallic detector strip must be provided with non-metallic main installations. Service connections must be installed at right angles to the centerline of the State highway where possible.

UG 8. BACKFILLING:

All backfilling must conform to the applicable sections of the Department's Standard Specifications. Ponding or jetting methods of backfilling are prohibited.

Any required compaction tests must be performed by a certified laboratory at no cost to the Department and the laboratory report furnished to the Department's representative.

UG 9. ROADWAY SURFACING AND BASE MATERIALS:

When the permit authorizes installation by the open cut method, surfacing and base materials and thickness thereof must be as specified in the permit.

Temporary repairs to pavements must be made and maintained upon completion of backfill until permanent repairs are made. Permanent repairs to pavements must be made within thirty (30) days of completion of backfill unless otherwise specified by the Department. Temporary pavement patches must be placed and maintained in a smooth riding plane free of humps and/or depressions.

UG 10. DAMAGE TO TREE ROOTS:

Tree roots 3" or larger in diameter will not be cut within the tree drip line when trenching or other underground work is necessary adjacent to roadside trees. If such roots are encountered, they must be tunnelled under, wrapped in burlap and kept moist until the trench is backfilled. Trenching machines may not be used under trees if the trunk or limbs will be damaged by their use.
If the trees involved are close together and of such size that it is impractical to protect all roots over 3" in diameter, or when roots are less than 4" in diameter, outside tree drip line, special arrangements may be made whereby pruning of the tree tops to balance the root loss can be done by the permittee under the close supervision of the District Landscape Specialist or District Tree Maintenance Supervisor. Manholes must not be installed within 20' of any trunk.

UG 11. PIPES ALONG ROADWAY:

Pipes and conduits paralleling the pavement must be located as shown on the plans or located outside of pavement as close as possible to the right-of-way line.

UG 12. BORROW AND WASTE:

Borrow and waste will be allowed within the work limits only as specified in the permit.

UG 13. MARKERS:

The permittee must not place any markers that create a safety hazard for the traveling public or departmental employees.

UG 14. CATHODIC PROTECTION:

The permittee must perform stray current interference tests on underground utilities under cathodic protection. The permittee must notify the Department prior to the tests. The permittee must perform any necessary corrective measures and advise the Department.

UG 15. DELETED. Provision left blank intentionally

UG 16. INSTALLATION BY OPEN CUT METHOD:

When the permit authorizes installation by the open cut method no more than one lane of the highway pavement must be open-cut at any one time. Any exceptions must be in writing by the Department’s representative. After the pipe is placed in the open section, the trench is to be backfilled in accordance with specifications, temporary repairs made to the surfacing and that portion opened to traffic before the pavement is cut for the next section.

If, at the end of the working day, backfilling operations have not been properly completed, steel plate bridging must be required to make the entire highway facility available to the traveling public in accordance with the “Steel Plate Bridging Special Provisions” (TR-0157)

UG 17. PAVEMENT REMOVAL:

PCC pavement to be removed must be saw cut at a minimum depth of 4" to provide a neat and straight pavement break along both sides of the trench. AC pavement must be saw cut to the full depth.

Where the edge of the trench is within 2' of existing curb and gutter or pavement edge, the asphalt concrete pavement between the trench and the curb or pavement edge must be removed.

UG 18. DELETED. Provision left blank intentionally.

UG 19. SIDES OF OPEN-CUT TRENCHES:

Sides of open cut trenches in paved areas must be kept as nearly vertical as possible. Trenches must not be more the 2' wider than the outside diameter of the pipe to be laid therein, plus the necessary width to accommodate shoring.

UG 20. EXCAVATION UNDER FACILITIES:

Where it is necessary to excavate under existing curb and gutter, or underground facilities, the void must be backfilled with two (2) sack cement-sand slurry.

UG 21. PERMANENT REPAIRS TO PCC PAVEMENT:

Repairs to PCC pavement must be made of Portland Cement Concrete containing a minimum of 658 lbs. or 7 sack of cement per cubic yard. Replaced PCC pavement must equal existing pavement thickness. The concrete must be satisfactorily cured and protected from disturbance for not less than forty-eight (48) hours. Where necessary to open the area to traffic, no more than two (2%) percent by weight of calcium chloride may be added to the mix and the road opened to traffic after six (6) hours.

UG 22. REMOVAL OF PCC SIDEWALKS OR CURBS:

Concrete sidewalks or curbs must be saw cut to the nearest score marks and replaced equal in dimension to that removed with score marks matching existing sidewalk or curb.

UG 23. SPOILS:

No earth or construction materials are to be dragged or scraped across the highway pavement, and no excavated earth placed or allowed to remain at a location where it may be tracked onto the highway traveled way, or any public or private approach by the permittee's construction equipment, or by traffic entering or leaving the highway traveled way. Any excavated earth or mud so tracked onto the highway pavement or public or private approach must be immediately removed by the permittee.

*NOTE: Special Provision was deleted since it is already part of the EP General Provisions (TR-0045)
VIBRIO GENERATING EQUIPMENT (GV) SPECIAL PROVISIONS

In addition to the attached General Provisions (TR-0045), the following special provisions are also applicable.

1. Equipment shall not be operated on any pavement or other paved surface.

2. Equipment shall not be operated within access-controlled rights of way.

3. Equipment shall be placed and operated as close to the right of way line as possible.

4. Equipment shall be operated so that no damage will occur to trees, plants, wells, culverts, headwalls, structures or other improvements.

5. This permit does not authorize the shear wave method.

6. Equipment shall not be parked on or operated on the traveled way except for normal legal travel.

7. Personnel working within the State right of way shall wear hard hats and orange jackets, shirts or vests.

8. All mud, dirt or gravel tracked onto the highway pavement shall be immediately and completely removed.

9. Dirt areas within the State right of way disturbed by Geophysical testing operations shall be graded back to its original shape and grade.