



# Incorporating Wired Broadband Facility on State Highway Right-of-Way

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## User Guide

First Edition  
January 1, 2018

## Foreword

California Governor's Executive Order S-23-06 Twenty-First Century Government directed the establishment of the California Broadband Task Force, of which the California Department of Transportation (Caltrans) is a member, to bring together public and private stakeholders to better facilitate broadband installation, identify opportunities for increased broadband adoption, and enable access to and deployment of new advanced communication technologies.

California Assembly Bill 1549 (Wood, Chapter 505, Statutes of 2016) requires that Caltrans, during the planning phase of specified Caltrans-led highway construction projects, notify broadband deployment companies and organizations on its Internet Web site of transportation projects that involve construction methods suitable for the installation of broadband. Upon notification from Caltrans, companies or organizations working on broadband deployment may collaborate with Caltrans to install a broadband conduit as part of a project. The bill also requires Caltrans, in consultation with Wired Broadband Stakeholders, to develop guidelines to facilitate the installation of broadband conduit in State highway right-of-way on or before January 1, 2018.

In July 2017, Caltrans published Deputy Directive DD-116 to provide guidance and direction regarding roles and responsibilities within Caltrans in promoting the facilitation of broadband conduit deployment on State highway right-of-way. This user guide provides guidelines on Caltrans' processes for wired broadband providers to incorporate wired broadband facilities in State highway right-of-way.

Caltrans will continue to collect best practices, refine its policy, and update the user guide to better facilitate wired broadband deployment in State highway right-of-way for Californians.

Sincerely,



Malcolm Dougherty  
Director  
California Department of Transportation

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## CHAPTER 1 – Introduction

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This user guide provides guidance and information on Caltrans' processes for wired broadband providers to incorporate wired broadband facilities on State highway right-of-way.

### 1.1 Policy

The California Department of Transportation (Caltrans) accommodates wired broadband facility encroachments within its State highway right-of-way when there is a benefit to the public. Accommodation shall be in accordance with federal and state laws and shall not adversely impact the highway user or worker safety, transportation facility longevity, or highway aesthetic quality.

### 1.2 Legislative Authority

California Assembly Bill 1549 (Wood, Chapter 505, Statutes of 2016), an act to add Section 14051 to the Government Code, requires Caltrans, during the planning phase of specified Caltrans-led highway construction projects, to notify broadband deployment companies and organizations, on its Internet Web site, of transportation projects that involve construction methods suitable for installing broadband conduit in an effort to encourage collaborative broadband installations. Upon notification from Caltrans, companies or organizations working on broadband deployment may collaborate with Caltrans to install a broadband conduit as part of a transportation project. The bill requires Caltrans, in consultation with Wired Broadband Stakeholders, to develop guidelines to facilitate the installation of broadband conduit on State Highway right-of-way on or before January 1, 2018.

### 1.3 Governor's Executive Order

California Governor's Executive Order S-23-06 Twenty-First Century Government directed the establishment of the California Broadband Task Force, of which Caltrans is a member, to bring together public and private stakeholders to better facilitate broadband installation, identify opportunities for increased broadband adoption, and enable the access to and deployment of new advanced communication technologies.

## CHAPTER 2 – Resources

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### 2.1 Caltrans Contacts

Each Caltrans District has designated a single point of contact for wired broadband matters. The district's point of contact provides information and guidance to both internal and external stakeholders regarding the facilitation of broadband installations within State highway right-of-way. The following website lists the point of contacts based in each district:

<http://www.dot.ca.gov/onlineservices.html>

## 2.2 Caltrans Project Information

A list of proposed transportation projects on the State Highway System can be found at the following website:

<http://www.maps.arcgis.com/apps/webappviewer/index.html?id=9323116b932e4755a6acb55ba9311558>

This website serves as Caltrans' public notification of upcoming transportation projects in the planning phase, as required by AB 1549. The website also includes information on the access control designation of the project facility as defined in Chapter 2 of the American Association of State Highway and Transportation Officials Policy on Geometric Design of Highways and Streets (AASHTO Greenbook).

Wired Broadband Stakeholders may obtain additional information about the transportation projects listed on this website from the point of contact described in Section 2.1 to determine if there are opportunities for broadband deployment.

## 2.3 Caltrans Asset Information

Caltrans maintains an inventory and mapping of Caltrans-owned wired data communication assets, including broadband conduits, within State highway right-of-way. Wired Broadband Stakeholders that wish to access information regarding the inventory of Caltrans owned and operated data communications assets can contact the Caltrans district single point of contact listed in Section 2.1.

As these assets are part of Caltrans' infrastructure, a non-governmental entity that requests consideration for access to Caltrans' wired data communication asset information needs to secure a Certificate of Public Convenience and Necessity (CPCN) from the California Public Utilities Commission (CPUC). Information on the CPCN requirements can be found on the CPUC website at:

<http://www.cpuc.ca.gov/licensing/>

## 2.4 External Utilities Agency Information

CPUC regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies. The CPUC provides grants and funding to qualified stakeholders to bridge the "digital divide" in unserved and underserved areas throughout the state. More information on CPUC's services and funding programs can be found on their website at:

<http://www.cpuc.ca.gov/Communications/>

## 2.5 Other References

The facilitation of broadband deployment within the State highway right-of-way shall be in accordance with the processes and procedures outlined in the following guidance documents:

Reference	Website
Highway Design Manual (HDM)	<a href="http://www.dot.ca.gov/design/manuals/hdm.html">http://www.dot.ca.gov/design/manuals/hdm.html</a>
Project Development Procedures Manual (PDPM)	<a href="http://www.dot.ca.gov/design/manuals/pdpm.html">http://www.dot.ca.gov/design/manuals/pdpm.html</a>
Encroachment Permits Manual	<a href="http://www.dot.ca.gov/trafficops/ep/manual.html">http://www.dot.ca.gov/trafficops/ep/manual.html</a>
Construction Manual	<a href="http://www.dot.ca.gov/hq/construc/constmanual/">http://www.dot.ca.gov/hq/construc/constmanual/</a>
Right of Way Manual	<a href="http://www.dot.ca.gov/hq/row/rowman/manual/index.htm">http://www.dot.ca.gov/hq/row/rowman/manual/index.htm</a>
Local Assistance Procedures Manual	<a href="http://www.dot.ca.gov/hq/LocalPrograms/lam/lapm.htm">http://www.dot.ca.gov/hq/LocalPrograms/lam/lapm.htm</a>
Project Development Workflow Tasks Manual	<a href="http://www.dot.ca.gov/hq/oppd/pdwt/pdwt.htm">http://www.dot.ca.gov/hq/oppd/pdwt/pdwt.htm</a>
Standard Plans, Specifications, Special Provisions & Notices	<a href="http://www.dot.ca.gov/des/oe/construction-contract-standards.html">http://www.dot.ca.gov/des/oe/construction-contract-standards.html</a>
Environmental Handbook	<a href="http://www.dot.ca.gov/ser/index.htm">http://www.dot.ca.gov/ser/index.htm</a>
How Caltrans Builds Projects	<a href="http://www.dot.ca.gov/hq/oppd/proj_book/HCBP_2011a-9-13-11.pdf">http://www.dot.ca.gov/hq/oppd/proj_book/HCBP_2011a-9-13-11.pdf</a>
State Administrative Manual (SAM)	<a href="http://sam.dgs.ca.gov/TOC.aspx">http://sam.dgs.ca.gov/TOC.aspx</a>
Deputy Directive-116-R1 Wired Broadband within State Highway Rights-of-Way	See Caltrans District point of contact
Deputy Directive-23 Roles and Responsibilities for Development of Projects on the State Highway System	<a href="http://www.dot.ca.gov/trafficops/ep/docs/Appendix_E">http://www.dot.ca.gov/trafficops/ep/docs/Appendix_E</a>

## CHAPTER 3 – Roles and Responsibilities

### 3.1 Caltrans

Any and all references to the “Department” within this document shall refer to Caltrans.

Caltrans has full possession and/or control of State highways and associated property, and allows encroachments in the State highway right-of-way in accordance with Federal and State regulations. Caltrans authorizes encroachments in Caltrans owned highway right-of-way through the encroachment permit process. A permit is issued to the permittee for the purpose of providing a notice and record of work. For information on applying for and obtaining an encroachment permit, see the Encroachment Permits Manual:

<http://www.dot.ca.gov/trafficops/ep/manual.html>

Caltrans manages Caltrans owned and operated data communication assets within State highway right-of-way. To promote and encourage broadband access to all Californians, Caltrans will, upon request, provide companies or organizations working on broadband

deployment and meeting the requirements listed Section 2.3 access to information regarding existing Caltrans data communications assets.

In accordance with the SAM Chapter 8752, Full Cost Recovery Policy, Caltrans shall recoup from Broadband Conduit Owners actual costs incurred by the State relating to the installation of broadband conduit in State highway right-of-way. Actual costs may include, but are not limited to, costs associated with design and construction of the broadband conduits as well as fees associated with encroachment permits.

Caltrans will collaborate with Wired Broadband Stakeholders and facilitate the drafting and execution of any and all agreements associated with the design, construction, and maintenance of the broadband conduit.

### **3.2 Sponsors**

Sponsor refers to the Public Agency that accepts the responsibility of establishing the scope of the State Highway System (SHS) project and the obligation of securing financial resources to fund the project. The Sponsor serves as the project advocate. It is the responsibility of the project sponsor to choose an Implementing Agency, as defined in the most current Deputy Directive DD-23, for each project component and to serve as the customer of the Implementing Agency. Caltrans is the sponsor for all transportation projects funded solely from the State Highway Operation and Protection Program and various transportation projects funded from the Interregional Improvement Program.

### **3.3 Wired Broadband Stakeholders**

Wired Broadband Stakeholders refer to companies or organizations working on broadband deployment including, but not limited to, local governments, nonprofit organizations, cable television corporations, as defined in Section 216.4 of the Public Utilities Code, and telephone corporations, as defined in Section 234 of the Public Utilities Code. Wired Broadband Stakeholders can use the website provided in Section 2.2 of this user guide to search for transportation projects that involve construction methods that are suitable for installing broadband conduit. Upon obtaining project information on the website, it is the responsibility of the Wired Broadband Stakeholders to contact the Caltrans district single point of contact for additional information and collaboration in installing a broadband conduit as part of an initiated Department-led highway construction project. Only transportation projects initiated on or after January 1, 2017 will be eligible for consideration of broadband conduit installations requested by Wired Broadband Stakeholders. Wired Broadband Stakeholders are responsible for reimbursement of State funds associated with the design and construction of the broadband conduits. Fees are required for the issuance of Encroachment Permits related to wired broadband facilities unless exempted administratively or by Statute.

### **3.4 Wired Broadband Conduit Owner**

Each conduit will be owned by that Wired Broadband Stakeholder to whom an encroachment permit is issued (Wired Broadband Conduit Owner). If each conduit is going to be shared by multiple Wired Broadband Stakeholders, these stakeholders should agree amongst themselves on the ownership of the conduit



prior to approaching Caltrans with a request for the construction of that conduit in the project. The Wired Broadband Conduit Owner needs to place adequate conduit space at the time of the initial broadband conduit installation to provide and/or include access for other foreseeable users.

Wired Broadband Conduit Owners have no property rights within the State highway right-of-way and are only allowed access to their facilities with an Encroachment Permit. Wired Broadband Conduit Owners assume financial responsibility of the design, installation, maintenance, and repair of the installed broadband conduit. Fees are required for the issuance of encroachment permits related to wired broadband facilities unless exempted administratively or by statute.

## **CHAPTER 4 – Shared Location of Wired Broadband Facility**

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### **4.1 Partnering**

When feasible and practical, Caltrans will provide partnering opportunities as a part of Caltrans transportation projects with Wired Broadband Stakeholders in the form of concurrent trenching or boring of conduits within the State highway right-of-way. Where the State has a business need to run fiber optic cable adjacent to the roadway, there may be an opportunity for Wired Broadband Stakeholders to request, and Caltrans to facilitate, the installation of conduit concurrently. Caltrans shall be reimbursed by the Broadband Conduit Owner/Stakeholders for any additional costs incurred by Caltrans and/or its local agency partners to design and construct (including materials) broadband conduits within the State highway right-of-way on State Highway System Projects.

### **4.2 Co-Location of Conduits**

The co-location of broadband conduits owned by the Caltrans and the Wired Broadband Conduit Owner will be considered for conduits that run within the State highway right-of-way. The conduit will be installed by Caltrans's contractor as a part of a Caltrans' contract. The conduit shall meet current Caltrans standards for materials and installation. See Chapter 6 – Facility Specification for details. At locations where the conduit trench encounters a splice vault or pull box, the Wired Broadband Conduit Owner's conduit will terminate at the pull box or vault that is located outside the State highway right-of-way. Placement and access to Wired Broadband Conduit Owner's pull boxes and vaults outside of the State highway right-of-way will require easements or permits from other land owners and may lengthen the time required to secure the necessary permissions.

Caltrans will not share Caltrans-owned conduit, duct, or fiber optic cable strands with broadband providers. Caltrans may choose to share conduit or fibers with local government agencies for exchanging transportation data and services as part of a regional communications network infrastructure.

## **CHAPTER 5 – Process to Incorporate Wired Broadband Facilities**

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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. Wired Broadband Stakeholders that wish to install, maintain, access, remove, or relocate wired broadband conduits and/or cabling inside the State highway right-of-way are required to apply for and secure an Encroachment Permit from Caltrans before performing work within State right-of-way. Broadband facilities must 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.

There are two processes by which Wired Broadband Stakeholders may incorporate broadband conduits within the State highway right-of-way:

- 1) Stand-Alone Encroachment Permit Project (See Section 5.2)
- 2) Planned Transportation Partnering Project (See Section 5.3)

The California Legislature authorizes Caltrans to manage the safety and operational control of the State Highway System. In order to meet this responsibility, Caltrans requires any proposed encroachments, as well as any other access to the State Highway System to be applied for by the encroachment proponent and reviewed by the Caltrans district Encroachment Permit Office. All applications for encroachment or access must meet the policy requirements and follow the procedures outlined in Chapter 17 of the Project Development Procedures Manual and the Encroachment Permits Manual.

Whether processed as a Stand-Alone Encroachment Permit or a Planned Transportation Partnering Project, broadband conduit installation will require the Wired Broadband Conduit Owner to apply for and obtain an Encroachment Permit from Caltrans. Encroachment Permits are required for any facilities not owned by the State that are placed or maintained within the State highway right-of-way.

In situations where Caltrans does not have full possession (is not the land owner) of a State highway section, permission must be obtained from the land owner (US Forest Service, Bureau of Land Management, etc.) for encroachment onto its right-of-way, with Caltrans' concurrence.

### **5.1 Consideration for Partnering**

Qualification of the Wired Broadband Stakeholder to be included in the partnership of a project will be considered and evaluated by Caltrans based on the best suitability of the broadband use to achieve greater public good, maximize efficient connectivity and ability to share resources with other broadband companies. Caltrans does not use preferential treatment to any one Wired Broadband Stakeholder in the evaluation and partnership selection process.

## **5.2 Stand-Alone Encroachment Permit Process**

Caltrans policy is to allow utilities within conventional highway right-of-way subject to reasonable conditions that provide for the safety of the traveling public and permit future highway improvement. (See Project Development Procedures Manual Chapter 17).

Caltrans policy prohibits the placement of longitudinal encroachments within access controlled highway right-of-way, with the exception of Broadband facilities. Longitudinal Broadband facilities that do not have maintenance access facilities (e.g. vaults, manholes, hand holds, etc.) in access control right-of-way are allowed. Broadband facilities that do have access points, and all other longitudinal encroachments, are approved by exception process upon proper justification.

Encroachments for the purpose of installing broadband conduits within the State highway right-of-way will be allowed in accordance with current Federal and State regulations. Conduit planning, design, and construction should comply with the current Standard Plans, Standard Specifications, Standard Special Provisions, and any approved Non-Standard Special Provisions, as well as the current practices used within the Caltrans District where the conduit is being installed.

For stand-alone wired broadband installation encroachment permits, the permit applicant is required to purchase and install conduits and fibers for Caltrans's use, at no cost to Caltrans, in addition to the broadband applicant's own conduit and/or fiber installation. The Caltrans District point of contact will inform the applicant or the applicant's representative of the number, locations, requirements, and specifications of these additional conduits and fibers which the applicant is providing for Caltrans's use. Information specific to broadband facilities can be found in Chapter 600 – Utility Permits of the Encroachment Permits Manual.

Additional information regarding encroachment permit policies and procedures, application, instructions, and related forms can be found in the Encroachment Permits Manual.

Wired Broadband Stakeholders that wish to install, maintain, operate, access, remove, or relocate broadband conduits and/or cabling inside the State highway right-of-way, whether as a stand-alone encroachment project or as a part of a partnering effort with the State, are required to apply for and secure an encroachment permit from Caltrans.

## **5.3 Planned Transportation Partnering Project Process**

Caltrans is responsible for developing transportation projects that maintain the safety, condition and operation of the State Highway System. 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.

This section provides guidance to the partnering process required to incorporate (planning, design, and construction) broadband conduits into a planned transportation project. As a planning strategy, Wired Broadband Stakeholders are encouraged to partner with local planning agencies and Caltrans to identify broadband conduit network needs and incorporate such needs into the long-range transportation and regional system planning.

Detailed information regarding the Caltrans development process and individual tasks required to complete a project as it proceeds through the project development process can be found in the Project Development Procedures Manual and the Project Development Workflow Tasks Manual.

### Project Initiation

Wired Broadband Stakeholders can use the Project Planning and Broadband Web Map mentioned in Chapter 2 to identify transportation projects that are located within a corridor where there is an interest by the Wired Broadband Stakeholders to install broadband conduit. Wired Broadband Stakeholders must then contact and coordinate with the Caltrans district single point of contact to determine if the Caltrans planned project involves construction methods that are suitable for broadband conduit installation. The Caltrans point of contact within the district in which the project is to be designed will determine if the project is in the project initiation phase and if partnering to install broadband conduit can be accommodated. If the project is determined to be acceptable for broadband conduit installation, Wired Broadband Stakeholders can partner with sponsoring agencies and Caltrans to identify broadband conduit needs, appropriate funding, and scope in order to secure programming approval. Caltrans transportation projects are programmed for funding at the completion of the project initiation phase of the project development process. Any broadband conduits to be incorporated into a transportation project should be identified in the Project Initiation phase.

As a part of the partnering process, conduit planning, design, and construction are to be completed as a part of the Caltrans sponsored project utilizing the Caltrans chosen construction contractor. If Wired Broadband Stakeholders intend to plan, design, and install the broadband conduit either by themselves or by using third-party services, they must go through the stand-alone encroachment permit process. In such cases, the stand-alone encroachment project process outlined in Section 5.2 is to be followed.

### Project Approval and Environmental Document

After project programming approval is obtained, the project enters the Project Approval and Environmental Document (PA&ED) phase of the delivery process. During the PA&ED phase, detailed project studies are initiated and project scope, schedule and cost are determined. Broadband conduits should be identified in the preliminary engineering activities as a part of the right-of-way and utilities need/impact assessments. In parallel, environmental studies are conducted to analyze the effect and impact of the design features, including broadband conduits, in the project alternatives.

During the PA&ED phase, Caltrans and the Wired Broadband Conduit Owner will enter into an agreement/contract that describes the mechanism of receiving reimbursement of actual costs incurred as a result of the planning, design, and construction of the broadband conduit. Agreements and contracts in the broadband conduit partnering process are specific to each project and situation. Sample contracts may be obtained from the District Point of Contact.

#### Plans, Specifications and Estimate

The Plans, Specifications, and Estimate (PS&E) phase is applicable for broadband conduit partnering projects that have already been included in the PA/ED process. During this phase, detailed design is completed and final right of way requirements are determined and procurement initiated.

Wired Broadband Conduit Owners will be required to reimburse the State for any additional actual costs incurred related to the planning and design of conduit as agreed upon in the contract executed during the PA&ED phase.

#### Construction

During the construction phase of a Caltrans sponsored project, the project is constructed per the plans provided to the State's chosen contractor. The contractor's work is overseen by construction inspectors under the auspices of a Caltrans Resident Engineer. If changes to the plans are required during construction, the Project Engineer will be asked to prepare engineering details and calculations as needed. If changes involve the broadband conduit, the Wired Broadband Conduit Owners will be included in discussions on changes to plans, schedule, and cost. The Wired Broadband Conduit Owner will be required to reimburse the State for any additional actual costs incurred related to broadband conduit installation during the construction phase as agreed upon in the contract executed during the PA&ED phase. Wired Broadband Conduit Owners will be provided the opportunity to inspect the broadband conduit installation prior to the filling of the trench. After the project is complete, the Wired Broadband Conduit Owners can then install fibers/cables through the broadband conduit.

After construction of the project is completed but prior to the final acceptance of the contract, the Broadband Conduit Owner will apply for an Encroachment Permit to access the State highway right-of-way to own and operate the conduits. Thereafter, separate permits for routine or emergency maintenance can be applied for and obtained from Caltrans District Permits office (See Section "Annual Maintenance" of Chapter 600 in the Encroachment Permits Manual). Annual permits will only be issued for non-access control highway right-of-way. A separate permit is needed for each instance of encroachment onto access control right-of-way for maintenance.

Subject to the Caltrans review and approval of the encroachment permit submitted by the Wired Broadband Conduit Owner, Caltrans will issue the Encroachment Permit(s) required for all work within State highway right-of-way. Utility owners, their contractors, and/or agents need an Encroachment Permit issued in their name to work within the State highway right-of-way. Caltrans will issue Encroachment Permits to

utility owners, their contractors and/or agents at cost. Installation of the broadband conduit is subject to the mutual agreement of the parties.

## **CHAPTER 6 –Facility Specifications**

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Facility specifications such as the location, quantity, and types of conduits to be placed within the State highway right-of-way will be accommodated based on an evaluation of overall impacts to the State facility including environmental impacts, right-of-way capacity, design, construction, schedule, and other factors.

### **6.1 Installation by Trenching**

Installation by trenching should be conducted as close to the Right of Way line as possible. For State-initiated transportation projects, typically one or more 4” conduits each with up to four 1” HDPE conduits or one or more individual 1” HDPE conduit are installed in the trench. Final determination of conduit size and count will be dependent on and consistent with the Caltrans fiber optic system project design and the Wired Broadband Conduit Owner’s overall needs.

The trench may also contain State-owned fiber optic, power, and lighting circuit conduits used for State facilities. Such conduits may be placed at varying depths. Wired Broadband Conduit Owners are responsible for any additional costs associated with providing the necessary vertical separation between the conduits within the trench.

### **6.2 Installation by Trenchless Technologies**

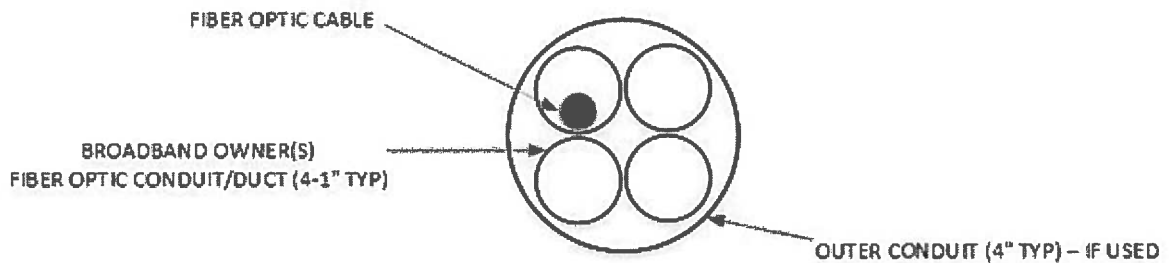
In lieu of trenching, conduits may be installed utilizing a Caltrans approved trenchless or boring installation method.

### **6.3 Installations on Structures**

Broadband conduits may be installed in conjunction with Caltrans conduits on structures using the appropriate approved Caltrans Structures design. Conduits crossing bridge structures that are exposed to the environment must be Type 1 galvanized steel conduits. For additional requirements relating to conduit installations on structures, see Chapter 600 of the Encroachment Permits Manual.

### **6.4 Conduits**

Conduit material will be Type 3 (Rigid PVC or High-Density Polyethylene (HDPE)) for all installations unless otherwise specified. All conduits must be installed at a minimum of 42” depth of cover.



Note: Conduit/Duct size and quantity may vary

**FIBER OPTIC CONDUIT AND CABLE DETAIL**  
**(TYPICAL)**  
**NO SCALE**

### **6.5 Pull Boxes and Access Points**

Conduit terminations for power cables must not be mixed with fiber optics cables within the same pull box or splice vault due to safety concerns. The power cables and fiber optics cables must be in separate conduits and pull boxes. On the rare occasion when pull boxes or vault access points associated with conduit installation are approved by Caltrans to be placed within the State highway right-of-way, they must be traffic load rated.

### **6.6 Tracer Wire**

Tracer wire will be installed for the purpose of detection of the conduit. The tracer wire will provide detection between the fiber optic splice vaults and pull boxes. The tracer wire shall be installed the entire length of the conduit, either inside the conduit or in the trench.

### **6.7 Warning Tape**

For broadband conduit installation by trenching, warning tape shall be installed in all the trench, without exception. For conduit installations using horizontal directional drilling (trenchless installation), warning tape may be excluded.

### **6.8 Cable Marker**

Cable markers will be placed where fiber optic conduit is placed. These non-reflective flexible markers or monuments will be used to identify locations of fiber optic conduit and provide contact information to prevent possible damage.

## **CHAPTER 7 – Conduit Siting Criteria and Environmental Review**

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Broadband facilities proposed for placement on the State highway right-of-way shall be designed, installed, and maintained to minimize traffic disruption and hazards to highway users. The design shall comply with the Horizontal Clearance requirements in the Highway Design Manual. Encroachments shall not be constructed or installed if they adversely affect the safety, design, construction, operation, maintenance, or stability of the highway or any proposed or existing highway appurtenance.

Access to broadband facilities located within controlled access right-of-way normally is permitted only from frontage roads, public roads and streets, trails, or auxiliary roads.

All broadband conduit installations and maintenance shall be subject to Caltrans' policy on Encroachment Permits including all applicable local, state, and federal laws and regulations. Caltrans shall stipulate locations for the placement of broadband conduits, fibers, access points, cabinets, vaults, and/or stations dedicated for public use.

Additional siting criteria for broadband conduit installations is outlined in Chapter 600–Utility Permits of the Encroachment Permits Manual.

All projects requiring an Encroachment Permit will be subject to environmental review. Projects will be subject to the requirements and provisions of all applicable environmental laws and policies including the California Environmental Quality Act (CEQA), and the National Environmental Policy Act (NEPA). In most cases, the required information and specialized studies (if necessary) can also be submitted to meet the requirements of the California Public Utilities Commission's (CPUC) environmental review process. Caltrans' environmental process and the CPUC's environmental review process are independent of each other. The reviews can be conducted simultaneously and coordination of review efforts between the two agencies is encouraged to reduce duplication and potential for re-work.

## **CHAPTER 8 – Ownership and Maintenance of Facility**

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### **8.1 Ownership**

Broadband conduit ownership should be specified during the Project Approval and Environmental Document (PA&ED) phase of the project development process if installed as a part of a partnering effort on a State sponsored project. The State does not assume ownership of conduits placed at the request of Wired Broadband Stakeholders. A Wired Broadband Stakeholder that pursues an Encroachment Permit to install broadband conduits also assumes ownership of the broadband conduit and is thus identified as the Wired Broadband Conduit Owner.



## **8.2 Maintenance**

Wired Broadband Conduit Owners are solely responsible for the maintenance, repair and relocation costs associated with the installed broadband conduits and fiber optic facilities, whether placed by a stand-alone encroachment permit project or as a partnering effort with the State. Caltrans does not assume financial responsibility for conduits damaged as a result of third party activities on the State Highway System.

Wired Broadband Conduit Owners are required to conduct their activities in the safest possible manner consistent with all applicable laws, policy, rules, practices and procedures while working within State highway right-of-way. These include but are not limited to: the California Code of Regulations, Title 8 (“Industrial Relations”), Construction Manual (Chapter 2), and Encroachment Permit General and Special Provisions.

For more information regarding the maintenance of the conduit, contact the District Permit Engineer.

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

## **CHAPTER 9 – Relocation of Facility**

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Per State law, the California Code of Regulations, Title 21, Chapter 8 Encroachment Permits and the Encroachment Permit General Provisions (TR-0045), the Wired Broadband Conduit Owner understands and agrees to relocate their facilities upon notice by Caltrans. Unless under prior property right or agreement, the permittee must comply with said notice at the permittee’s sole expense.

## **CHAPTER 10 – Issues Resolution Process**

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### **10.1 Encroachment Permit**

Conditions for denial of broadband facility installation through the encroachment permit process along with the process for appeal and dispute resolution of such facilities are governed by the California Code of Regulations Title 21, Division 2, Chapter 8 – Encroachment Permits and the California Streets and Highway Code Sections 660-734.

### **10.2 Partnering**

Each Caltrans district has designated a single point of contact for wired broadband matters. Any questions or concerns from Wired Broadband Stakeholders are to be coordinated through the single point of contact in each Caltrans district. For issues on partnering between the Wired Broadband Stakeholders and Caltrans that cannot be resolved at the project team level, Wired Broadband Stakeholders can request an appeal. Caltrans is currently drafting guidelines for the approval process for the selection of

Wired Broadband Stakeholders and the appeal resolution of rejecting the stakeholders' application to collaborate in the planned transportation project.

### **10.3 Design Exception to the Highway Design Manual Standards**

The design standards related to the placement of broadband conduit within the State Highway right-of-way should meet or exceed the minimum design standards in the Highway Design Manual. Design features or elements that deviate from the standards within the Highway Design Manual and require a formal design exception approval should follow the documentation and approval processes outlined in Chapter 80 of the Highway Design Manual and Chapter 21 of the Project Development Procedures Manual. The dispute resolution process for design exceptions is also specified in Chapter 21 of the Project Development Procedures Manual.

### **10.4 Exception to the Encroachment Policy**

The Encroachment Policy for wired broadband facility on the State Highway right-of-way is different from the design standards in the Highway Design Manual. For information on the Encroachment Policy Exceptions process, see Chapter 17, Section 3 "Exception Requests," of the Project Development Procedures Manual and Chapter 300 of the Encroachment Permit Manual.