# WORKPLAN STANDARDS GUIDE

## RELEASE 11.1

**California Department of Transportation**
**HQ Division of Project Management**

Spanish Creek Bridge, Plumas County, Route 70, PM 35.1/35.5, Year Built 2012

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# Foreword

The **Workplan Standards Guide for the Delivery of Capital Projects, Release 11.1, October 2015** supersedes all previous releases of the Work Breakdown Structure (WBS) and Workplan Standards Guide (WSG). The Workplan Standards Guide (WSG) is updated annually. WSG Committee consisting of subject matter experts from all HQ-Project Delivery Divisions and various districts, meet once a month throughout the year to discuss, analyze and approve/disapprove change requests submitted by various stakeholders using a web based Issue Management System (IMS).

HQ-Division of Project Management summarizes and compiles all approved changes throughout the year to update the guide and publish a new release. Converting the entire document to a database format last year has brought efficiency and consistency to the compilation process, and has improved the quality of the document many folds. Each year the adopted changes are implemented in Standard WBS template in PRSM and Staff Central charge codes. Below is a brief summary of adopted changes in WSG11.1:

- Only content changes for both Roadway Design and Structure Design tasks were adopted (WBS 150, 160, 170, 185, 230, and 240)
- Office Engineer Tasks (WBS 260 and 265) were updated to comply with the AADD process
- Draft Contract Ready Task (WBS 260.80) was retired which is no longer needed
- New subtask was added to WBS 270.33 for "Tailgate Safety Meetings"
- New Task WBS 270.10.30 (Existing Monumentation Perpetuation Survey) was adopted for the projects which don't have programmed phase 2
- New mandatory Milestone M215 (Begin Structure) was adopted for Structures work only

For a complete listing of all the text changes to this guide please refer to Appendix A of this Guide.
Request for changes to the WSG can be submitted by a Caltrans employee at:
http://sv06web1.dot.ca.gov/ppm/pmsu/apps/wsghq/wsgims.cfm .

This version of the **Workplan Standards Guide for the Delivery of Capital Projects, Release 11.1,** will be effective as of November 1, 2015. Periodic updates (revisions) will be displayed in the on-line version on the Intranet (internal) website:
http://pd.dot.ca.gov/pm/ProjectOffice/WorkplanStandards/StandardsHome.asp
OR the Internet (external) website at: http://www.dot.ca.gov/hq/projmgmt/guidance.htm

A bound, hard copy of this Guide is no longer produced and distributed. Copies, or portions, can be downloaded from the web site and printed locally.

***Special Thanks to the WSG 2014-2015 Committee members for their contribution in development of this revision:*** *Robert McMillan,Bob Hull (Retired Annuitant), Mary Frederick, Esmail Hadjihabib, Reza Hajjari, Philip Kuo, Said Ismail, Laura Luce, Charlie Olson, Rich Weaver, Tammy Messengale, Stephnie Morita, Moon Sung, Harlan Woo, Dave Singh, Timothy Van Keuren, Zairen Luo, Eaman Atebar, and Rochelle Vierra.*

Sincerely,
Mohammad U. Sadiq, PE
WSG Committee Chair

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| **Purpose** | The purpose of the Workplan Standards Guide (WSG) Release 11.1, is to provide Work Breakdown Structure (WBS) for the delivery of Capital Outlay Projects. This guide will provide statewide uniformity in development of project workplans to initiate, plan, control, execute and closeout of Capital Projects. |
| **History and Background** | In the early 1990's, several task forces and PEER Reviews recommended that the Department establish a modern project management process and develop the tools to help improve the Department's project delivery. Caltrans issued the first version of the Department's Capital Outlay Support (COS) WBS in July 1994.<br><br>Subsequent updates to the WBS were published in June 1995 (WBS Release 2.0), in May 1996 (WBS Release 3.0), in May 1999 (WBS Release 4.0), in June 2000 (WBS Release 5.0), in April 2001 (WBS Release 5.1), in August 2002 (WBS Release 6.0), in July 2003 (WBS Release 6.1), in July 2004 (WBS Release 6.2), in September 2005 (WBS Release 7.0), in July 2006 (WBS 8.0), in July 2007 (WBS 9.0), in August 2007 (WBS 9.1), in August 2008 (WBS 10.0), in June 2009 (WBS 10.1), June 2012 (WSG 10.2), and in August 2014 (WSG 11.0).<br><br>Throughout this document references to capital projects specifically mean the Capital Outlay Support. |

**Work Breakdown Structure (WBS)**

WBS is a deliverable-oriented grouping of project elements that organizes and defines the total scope work of a project. Each descending level represents an increasingly detailed definition of a project component or phase. Project components or phases may be products or services.

The WBS work elements are discrete components of the total work. They represent only work and are largely independent of schedule, sequence, precedence, cost, resources and quality.

One of the principal tools used throughout the project life cycle is the WBS. Successful project management depends in a large degree on the project team's ability to specify the work content of projects in terms of its products (deliverables) and activities. The project WBS defines the total scope of a project in a hierarchal format. It is the foundation of a project resource estimate and schedule to build a workplan. The elements at the bottom of hierarchy are called Work Packages (WPs) or Tasks. A WP is a "deliverable" at the lowest level of WBS. WPs may be further divided into activities or sub-tasks. Each deliverable is assigned to a Lead Function. Unique numerical identifier is assigned to each work element so that computers can recognize it.

A standard WBS has many benefits including:

- Consistency of information needed to manage a statewide work force.
- More effective communication relative to project level work throughout the Department.
- Ease of data transfer, such as the sharing of project "templates" between and within districts.
- Decreased "culture shock" when employees transfer to different locations and work assignments.
- Utilize a single software package (i.e. PRSM) for all COS projects.

**Structure of WBS**

The structure of WBS is defined by the nature of the levels within the WBS hierarchy. The Standard WBS reflects the criteria applied to the hierarchical decomposition of each work element into its parts. The top levels represent the project groupings, by programs, or by Districts responsible for their delivery. Lower levels represent project and project decomposition according to a number of criteria, such as product components, organizational functions, or life-cycle stages.

The highest level of the Project Delivery Standard WBS identifies the total Caltrans work program. Lower levels describe "program" categories or decomposition according to criteria for managing groups of projects. Still lower levels break down projects into major components (deliverables). Each descending level represents an increasingly detailed description of the level above it. The subdivision continues until the described work element is small enough to be adequately scheduled, resourced, monitored, and managed.

A main principle is that one level is completely described in further detail by the level below it. Each level is a summary of the work in its lower levels. Therefore, it provides for a progressively detailed definition of work elements for all levels of review, such as staff, functional manager, project manager, and program manager. The WBS facilitates summary reporting at a variety of levels.

The coding structure or the numbering scheme that goes along with the WBS allows staff to charge the time spent on capital projects to the actual tasks they were performing. The same set of codes for tasks is used statewide for all capital projects. Proper time charging allows managers to track how much projects actually cost to produce. Over time, these proper charges for past projects allow more accurate estimating for new projects, as well as better predictions of when the resources are needed to produce a product.
Understanding of the WBS is important for all staff since proper time charging is the responsibility of all staff.

Although an attempt was made to place the activities generally in the order in which they may occur, the numeric order of the coding is not necessarily the chronological order that they are executed. There may be an overlap of time between the start dates of tasks. Each project manager may vary the order in which a project is developed.
The WBS, the coding structure and the definitions of each activity are not meant to be a blueprint for doing a project. The actual process, governing policies and procedures are defined in other manuals. Those manuals, memos, and guidelines should be consulted for questions about how to create a workplan or manage a project.

For your convenience, the Appendix A in Part III of this guide, contains a list of changes made from version 10.2 to version 11.0, the Appendix B, contains a list of Level 4 and 5 tasks sorted by Level 4. Appendix C contains the same list sorted by Level 5 numeric

order with the respective lead COS Division. Appendix D shows all WBS coding to be used in Timesheets, and Appendix E is a list of all WBS elements.

**Level of Detail**

The planning component of a project involves estimating the time and resources required to carry out its work content or to produce the identified work packages in the project WBS. This is where decisions are made as to the level of detail in the project schedule needed for effective management.

Generally, estimates based on smaller work packages are more accurate. When work is divided into smaller, homogeneous "chunks", it helps with focusing on the activities involved and provides better information for estimating. Additionally, when estimates are based on smaller work packages, errors in estimating tend to be less just because of the nature of statistical methods.

For appropriate management of a project, the project manager should ensure that each Work Package (WP) can be assigned to a single person or organizational unit also known as Lead Function, and that this unit has the ability to deal with all aspects of that WP.

In selecting a level of detail for project WBS, project managers should balance the need to control project deliverables and measuring performance with time spent measuring and reporting progress which results in an increase in nonproductive time.

The following are general rules for decomposing projects to their detailed components:

- Is there a need to improve the accuracy of the duration or resource requirement (support cost) estimates?
- Is more than one individual responsible for the work contents?
- Does the work content include more than one type of activity (skill/function)?
- Is there a need to know precisely the timing of activities internal to the work package?
- Is there a need to estimate activity resources internal to the work package?
- Are there any dependencies between the internal activities and other work packages? Or are all activities linear within a work package? Ensure that the schedule allows adequate time for all efforts required to produce and finalize all deliverables in each element.
- Are there any significant time breaks in the execution of the internal activities?
- Do resource requirements within the work package change over time?
- Do the prerequisites differ among the internal activities?
- Are there any acceptance criteria applicable before the completion of the entire work package?
- Are there any specific risks that require focused attention?

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| **Standard Template (Levels of the WBS)** | In order to facilitate summary reporting of work done for projects, the WBS contains several levels of breakdown of the work, starting with Level Ø. Each succeeding level breaks down our work into component parts. Each level represents a summary of the work below it and can be the basis for reporting that gets as detailed as needed.<br><br>A graphic representation of the WBS Levels Ø through 5 is shown on the page 9 and may be helpful to summarize the following Levels discussion. |
| **Level Ø - Department Level** | This top level of the WBS represents all the work that the Department is charged to perform by the Legislature. |
| **Level 1 - District Level** | This level represents all scheduled work performed by a specific charge district. There are twelve districts (1 through 12) and therefore twelve components to this level. The first two digits of the Project Identifier represent the charge district. The "charge district" is the organizational entity that receives the resources for the work. |
| **Level 2 - Program Level** | Level 2 is used to separate the work by major Program. Currently, the WBS is only developed for the Capital Project Program (that is, transportation/highway projects), and the Transportation Planning Program. This level is not represented separately in the Department's time reporting system. |
| **Level 3 - Project Level** | This level represents the work required for an individual capital project. Capital projects are identified currently by a 10 digit number called the Project Identifier (PI) (formerly known as the Expenditure Authorization (EA). The first two digits of the PI represent the Charge District, the third and fourth digit represent the year the Project was created in the financial system (AMS-Advantage). The fifth through tenth digit represent a randomly system generated number. |
| **Level 4 - Summary Task Level** | Level 4 breaks a capital project into a maximum of six summary tasks that more closely conform to the requirements of Senate Bill 45 (SB45). Throughout this guide we have focused only on the four summary tasks (Phases) associated with the COS Program: Project Approval and Environmental Document (PA&ED); Plans, Specifications and Estimates (PS&E); Right of Way (R/W); And Construction Support (CONS). Presently, the terms Component and Phase are used interchangeably at Caltrans and throughout this Guide. See SB45 Components and corresponding WBS Code as shown below. |

| Task/ Phase | SB45 Component | Component Title | WBS Codes |
|---|---|---|---|
| K | NO | Project Initiation (PID) | 100.05, 150 |
| 0 | YES | Completion of Project Approval and Environmental Document(PA&ED) | 100.10, 160, 165, 170, 175, 180 |
| 1 | YES | Preparation of Plans, Specifications, and Estimates (PS&E) | 100.15, 185, 205, 230, 235, 240, 250, 255, 260 & 265 |
| 2 | YES | Acquisitions of Right of Way (R/W) | 100.25, 195, 200, 220, 225, 245 & 300 |
| 3 | YES | Construction Management and Engineering, including Surveys and Inspection (Construction Support) | 100.20, 270, 275, 280, 285, 290, & 295 |

**Level 5 - the Major Task Level**

This level is a decomposition of the summary tasks and represents the minimum level of detail required to plan, schedule, and manage capital projects. The code structure for this level is a three-digit number. The Level 5 code number must be shown in the Staff Central time reporting system in the "Sub-Object" field for any work done on a capital project.

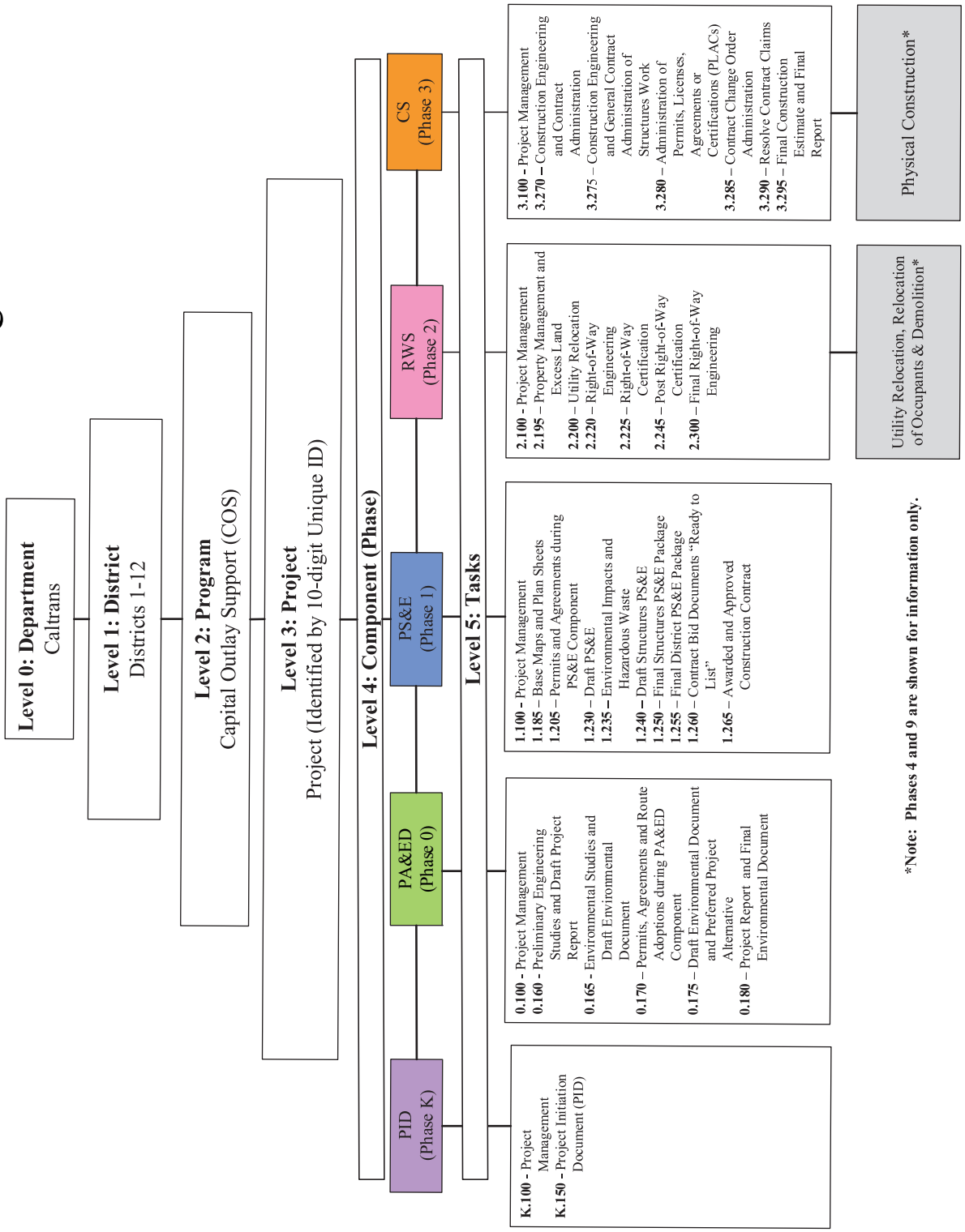
**Level 6, 7, and 8 - the Task and Activity Levels**

The WBS identifiers for Level 6, 7, and 8 are 2-digit numeric codes. Level 5 major Tasks are decomposed to lower levels 6, 7, and 8 when more detailed project workplan is needed to efficiently and effectively plan, schedule and manage the project.

The WBS for capital projects has been standardized to this level of detail for statewide reporting purposes at this time. There is no standardization lower than Level 7 for most work packages, and Level 8 for a few work packages. However, further breakdowns may be used if needed and may be standardized at some future date.

A complete listing of WBS work elements for Levels 5, 6, 7, and 8 is provided in Appendix D of this guide.

# Work Breakdown Structure Diagram



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| **Determine Level of Detail for Your Project WBS** | Each level is a total sum of work below also known as "The 100% Rule". As work is decomposed into increasing levels of detail, each parent level must completely include the total work scope of the WBS elements of the children levels. For example, the sum of the Level 7 deliverables represents the total work needed to accomplish the Level 6 product.<br><br>A project manager and task manager may elect to schedule and monitor portions of a project to a level lower than 5. However, if any of the work of a Level 5 task is scheduled to Level 6, all the work done in that Level 5 task must be scheduled to Level 6. Each Level 5 task must be a complete summary of the Level 6 tasks that will be done on that project. The same is true for scheduling below Level 6.<br><br>If this breakdown is not followed, then the summary rollup features provided by this hierarchical system will not work and actual effort spent might be under-reported or over-reported. See previous section on Level of Detail for some general guidelines in preparing your project WBS. |
| **Network Construction (Logic Diagram)** | Work packages are, by definition, the smallest manageable work elements of the project. The building of your project network logic consists of developing dependencies between project WPs that results in a coherent project schedule.<br><br>Each project WP has internal activities that are the responsibility of the task manager. If dependencies among WP activities cross work package (products) boundaries, then the construction of the project network become more complex and the accuracy of the WBS may be impaired. In general, activities that are interdependent should be assigned to the same WP. This will allow for easier network and workable schedule.<br><br>One way of achieving independent WPs in your network may be by decomposing them further until each WP includes either a single well-defined activity or a small number of tightly interrelated activities.<br><br>To establish an effective and manageable project schedule, developing the right work packages is the key. Here are some important attributes for the right work package for a project: [1]<br>– One clear accomplishment (deliverable)<br>– One owner<br>– Easy to identify resources for its completion<br>– Bounded |

[1] Tzvi Raz and Shlomo Globerson, "Effective Sizing and Content Definition of Work Packages," Project Management Journal, 29-4 (December 1998), 17.

- Easy to assess quality
- Unique

For example, if sub-products of Preliminary Engineering Studies (WBS 160) are dependent on (i.e. have supplier/user relationship) sub-products of Preliminary Environmental Studies for DED (WBS 165), then we should define separate WPs (sub-products at Level 6) for each of those sub-products. This means that our WBS should be defined at Level 6 to be effective.

**Estimate Project Support Costs (SB45 Requirements)**

In 1997 the California State Legislature passed SB45. This amended the rules governing the programming of State transportation projects. It became law as Chapter 622 of the Statutes of 1997.

This section introduces the Program Evaluation and Review Technique (PERT) method for estimating project support costs based on project WBS elements, to address two of the changes brought about by SB45:

- Support costs must now be listed in the STIP in four "components".
  - Completion of all permits and environmental studies
  - Preparation of plans, specifications and estimates
  - The acquisition of rights-of-way
  - Construction management and engineering, including surveys and inspection.
- The total of the combined PA&ED and PS&E support costs must be within 20 percent of the combined amount of those two components listed in the STIP. If the final cost is more than120 percent of the estimate, the difference is deducted from the future programming capacity of the agency that programmed the project.

This means that project managers must be confident that the numbers in the STIP are accurate to within 20 percent. PERT is a tool that can be used to achieve this level of confidence.

**Principles of PERT**

The PERT principles were developed in 1958 as a tool for estimating the cost and schedule of nuclear submarines. It is based on three principles:

- An expert's estimate of the cost of a task that takes one day to complete is likely to be more accurate than their estimate of a task that takes a year to complete. The longer and larger the task, the more difficult it is to visualize the effort required
- 95% percent of the area under a "normal" distribution curve lies within two standard deviations of the mean
- Given several independent variables $(a, b, c, \dots n)$, each with its own standard deviation, $(\sigma_a, \sigma_b, \sigma_c \dots \sigma_n)$, the standard deviation of $(a + b + c + \cdots + n)$, is the square root of the sum of the squares of the standard deviations $\sigma_{(a+b+c+\cdots n)} = (\sigma_a^2 + \sigma_b^2 + \sigma_c^2 + \cdots + \sigma_n^2)^{0.5}$.

**PERT Procedure**

PERT may be used for estimating project costs or schedules. The PERT process is as follows.

- Establish a WBS for the project.
- For each lowest-level work package in the WBS, assemble a team of people who have the greatest experience in producing that type of package.
- Have each team member develop three estimates for the particular package:
  - An optimistic estimate (o): The lowest credible cost or schedule assuming that everything goes right.
  - A most-likely estimate (m): The team member's best guess of the actual outcome.
  - A pessimistic estimate (p): The highest credible cost or schedule, assuming that virtually everything goes wrong, but that the team continues working on the project. [2]
- The average estimated cost or schedule of the work package is $(o + 4m + p)/6$.
- The standard deviation for the work package is $\sigma_{wp} = (p - o)/4$. [3]
- The standard deviation of the project is $\sigma_{project} = (\sigma_{wp1}^2 + \sigma_{wp2}^2 + \sigma_{wp3}^2 + \cdots + \sigma_{wpn}^2)^{0.5}$. If one is estimating the schedule, wp1 through wpn are the work packages on the critical path. For costs, wp1 through wpn are all the work packages at the lowest level of the WBS.

[2] If the team stops working on the project, the project will never finish and the highest credible schedule is infinite; for estimating purposes, one must assume that the team continues to work on the project.
[3] Derived from the principle that 95% of events occur within two standard deviations of the mean.

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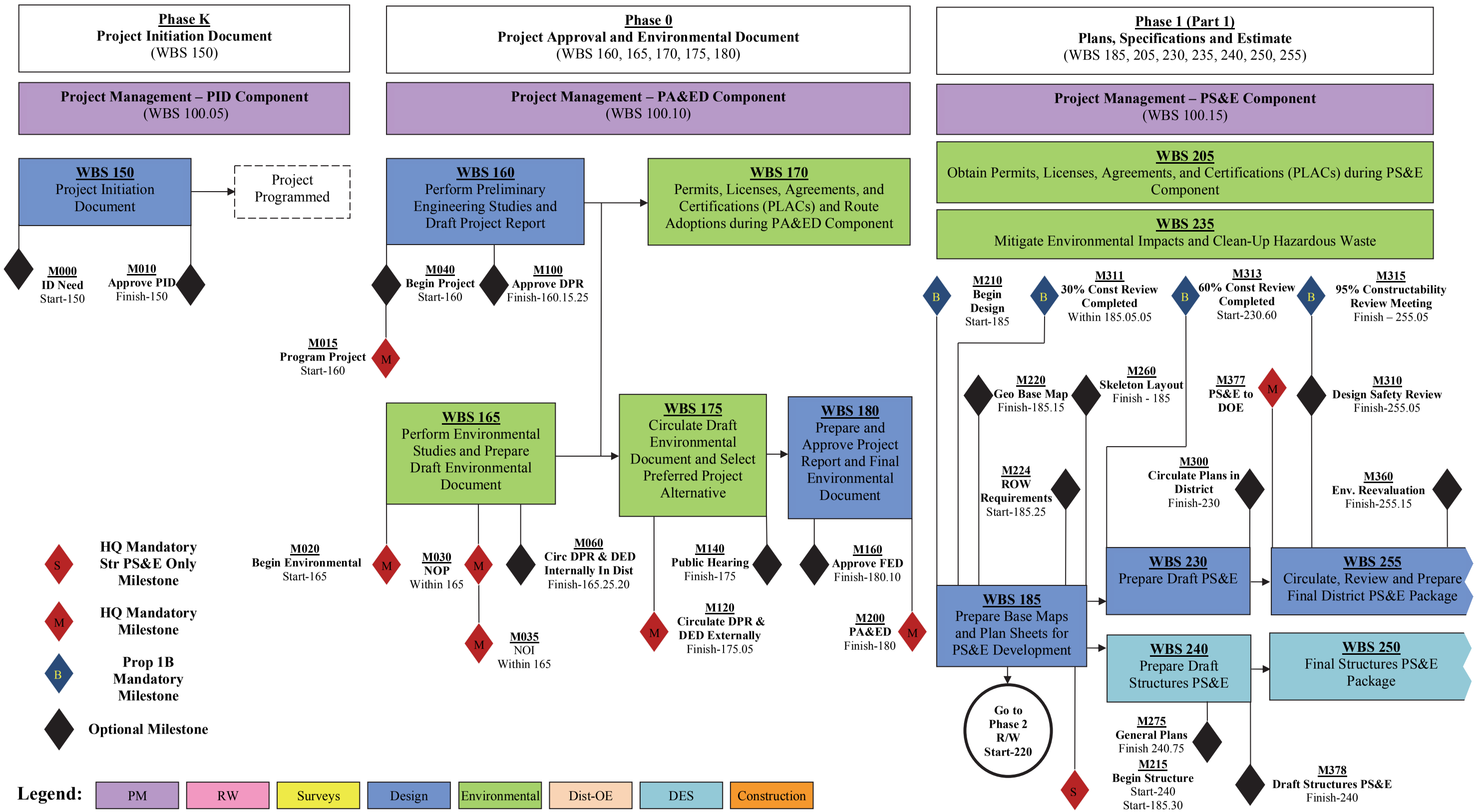
| **Charging Project Work Using WBS** | The Project Manager will determine the minimum level of detail in WBS to which each portion of a project will be scheduled beyond the mandatory Level 5. A functional or Task manager may elect to schedule activities for their portion of the work at a more detailed (lower) level. A single project workplan can consist of Level 5, Level 6, Level 7, and Level 8 activities, as needed for proper managing of the work.<br><br>Supervisors should take care to ensure that staff working on each part of a project (deliverable) understands which level is planned, so that time reporting can be consistent with the desired level.<br><br>For example, if a portion of the work is planned only to the WBS Level 5, the time reporting entries must be at least to Level 5. If scheduled work is to Level 7, time charges must be to Level 7.<br><br>It is imperative for the Project Team to perform their work within the allotted schedule constraints. Should more time be required to complete a given task, the Project Manager or Task Manager will need to be contacted.<br><br>For additional information regarding charging practices, lookup the COS Proper Charging Guide at http://cap3.dot.ca.gov/EVRStest//ProperChargingPractice/index.htm. All COS time charges need to abide by the approved tasks listed in this guide. |
| **Consultant Oversight Versus Staff Work** | Historically, when an individual was performing oversight on a project activity being done by others (i.e. Consultants, Local Agency, etc.), the prefix "O" would be used in the MSA field on the time sheets, otherwise the prefix "P" would be used followed by the appropriate Level 6, 7 or 8 WBS element code(s). |
| **Rework Efforts** | Rework is defined as "the re-opening of an activity due to error or re-scope, in which the deliverable is complete or as deemed necessary by the Task Manager". Prior to the implementation of AMS-Advantage, when an individual was performing rework activities, the prefix "I" would be used in the MSA field followed by Level 6, 7, or 8 WBS element code, as of the release of this document, the MSA field has been omitted; it is a common understanding that a comparable mechanism will exist in the new Project Resource and Schedule Management (PRSM) tool. |
| **Charging Project Activity Using WBS** | The WBS is a product-oriented hierarchy. Activities are what people do to produce WBS elements. There are no activities in a WBS. For example:<br>Design is an activity. Plans, Specifications and Estimates are deliverables or products.<br>Surveying is an activity. Maps are products.<br><br>A particular activity is often performed during the production of several products. For example, design is performed as part of the preparation of Project Initiation Documents (PID); Project Reports (PR); Plans, Specifications and Estimates (PS&E); and some |

Change Orders. If a specific activity is needed to produce more than one WBS element, it should be planned as part of the first WBS element that will need it.

For example, if mapping will be used in the PID, PR and PS&E, that mapping is planned and charged as part of the PID. If another piece of mapping will be used for the PR and PS&E, but not the PID, it is planned and charged as part of the Project Report.

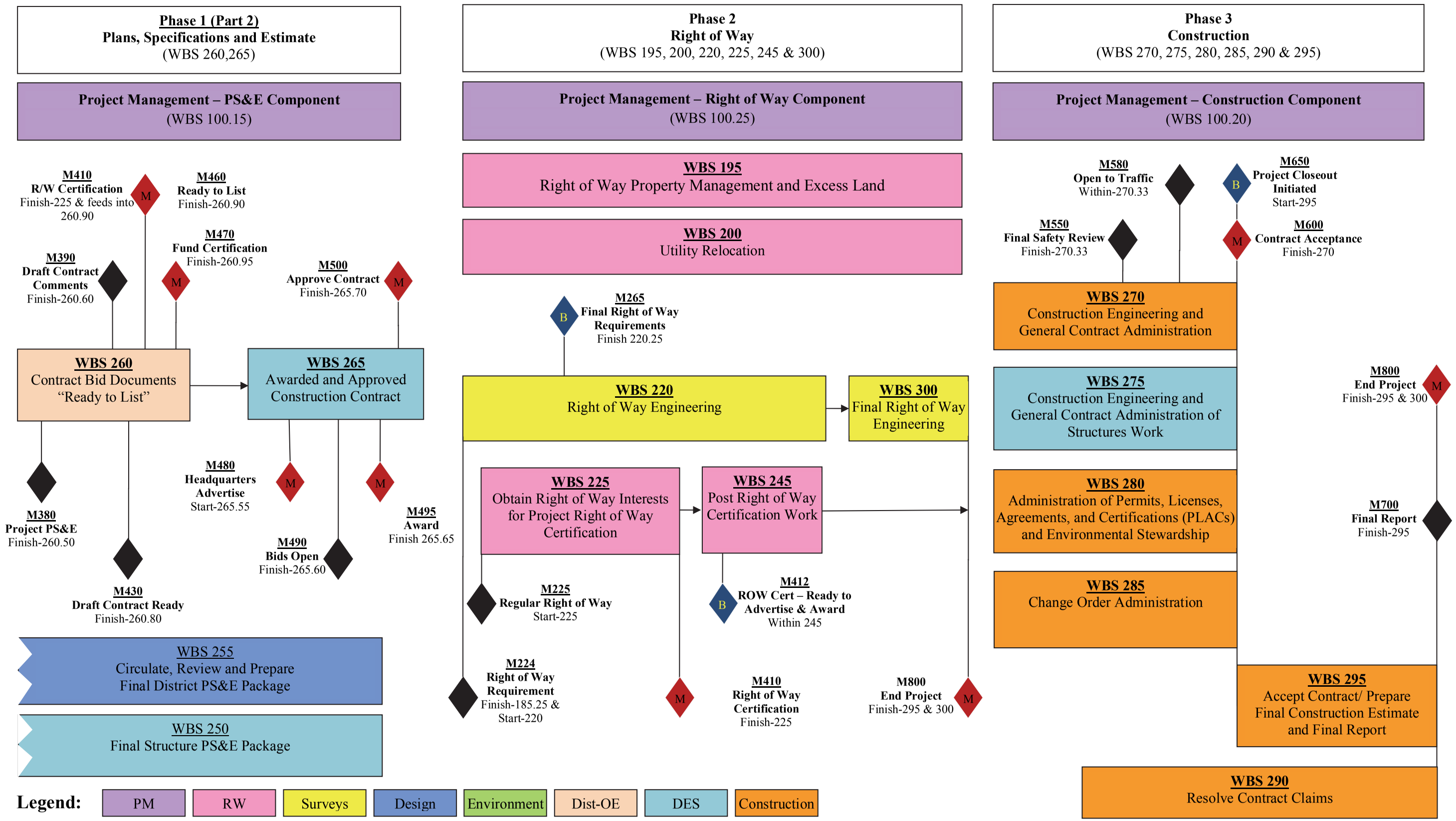
# Overview of Phases, Level 5 Work Breakdown Structure Elements, and Milestones

Note: This chart is intended as an overall pictorial of the WBS and not to be used as a logic diagram.



# Overview of Phases, Level 5 Work Breakdown Structure Elements, and Milestones

Note: This chart is intended as an overall pictorial of the WBS and not to be used as a logic diagram.



**WBS Change Control Process**

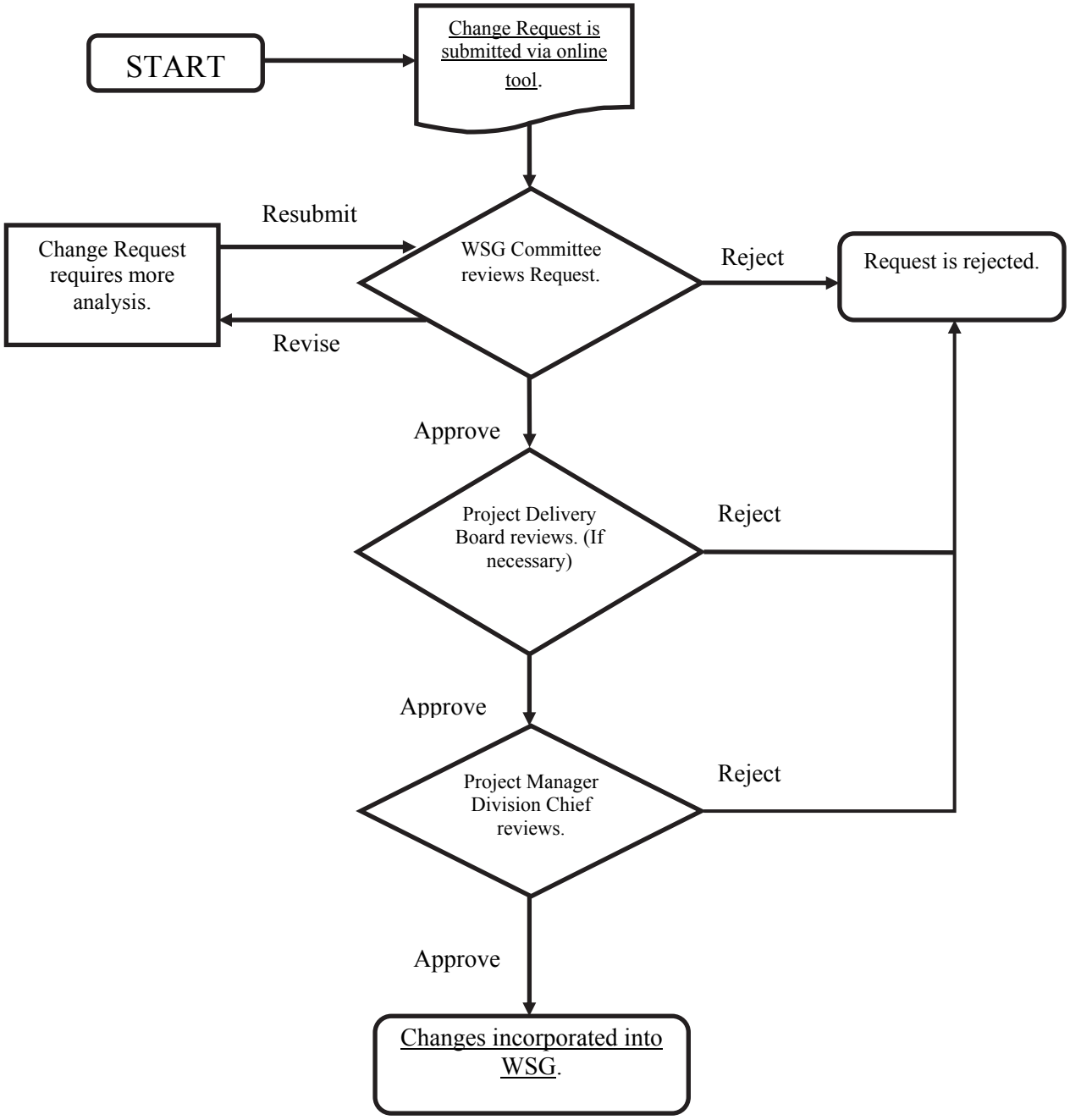
It may be necessary to revise the Workplan Standards Guide (WSG) from time to time in order to adapt to the changing business environment in which we operate. With that in mind, the WSG Committee has established a website as a collaboration tool that allows anyone in Caltrans to submit a change request or comment on any pending changes and ultimately provide the status of the submitted change. The WSG Committee is comprised of Subject Matter Experts (SME) from all Functional Groups in COS and meets on a regular basis to discuss the merits of any Change Request submitted via the WSG website. Change Requests that are incomplete or do not provide accurate information, will not be reviewed by the Committee.

Any change to the WBS may have impacts on other areas of the project development process so they are subjected to an extensive review by the WSG Committee prior to being implemented. There are limits to the type of problems that can be effectively cured by changing the WBS.

Just as, it would not be productive to attempt to remedy a flat tire on your car by working on the engine, attempts to fix problems caused by resource allocation or charging practice issues by modifying the Work Breakdown Structure (WBS) are equally unproductive. Yet, these two issues are at the root of many change requests that are ultimately rejected.

This current process is as follows:

- To propose a change to the WBS, products or definition of products, the requester may submit or comment via the online tool located at: http://sv06web1.dot.ca.gov/ppm/pmsu/apps/wsghq/wsgims.cfm. Anyone from the Districts, Regions, Division of Engineering Services (DES), or Headquarters programs working on capital projects, may prepare a WBS Change Request. However, only those Change Requests that are complete will be reviewed.
- The WBS Committee composed of Subject Matter Experts in each of the functional groups meets on a regular basis to review the request and plan for implementation of the proposed changes.
- Change Requests approved by the WSG Committee will be presented to the Project Delivery Board and ultimately the Project Manager Division Chief for final authorization.
- Project managers and Project Development Teams will implement the approved changes.


START
Change Request is submitted via online tool.
Resubmit
Change Request requires more analysis.
WSG Committee reviews Request.
Reject
Request is rejected.
Revise
Approve
Project Delivery Board reviews. (If necessary)
Reject
Approve
Project Manager Division Chief reviews.
Reject
Approve
Changes incorporated into WSG.

| | |
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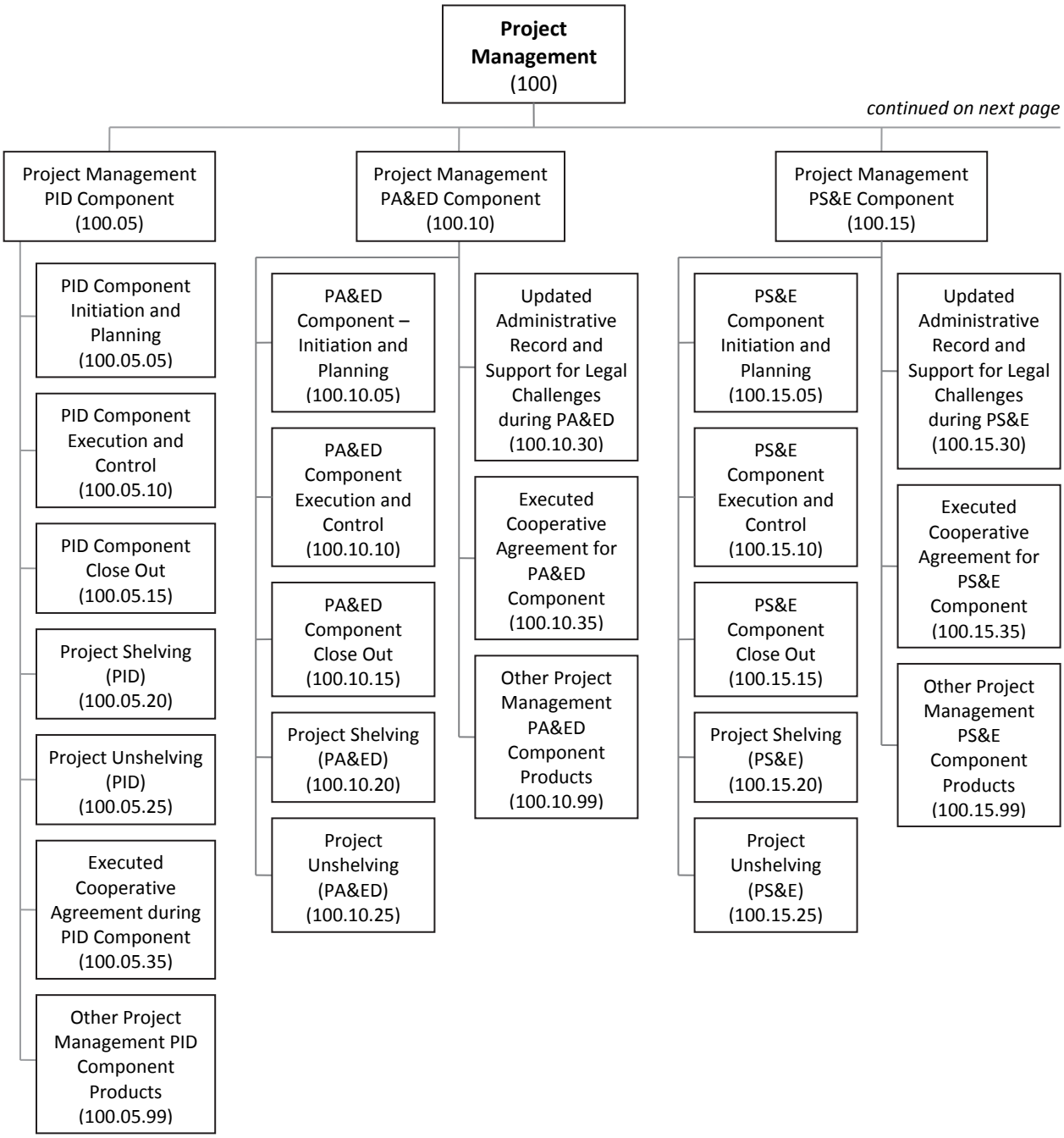
| **WBS Level** | 000 Title of the Task |
| **Description** | This is a mandatory attribute for every task at level 5, 6, 7, and 8. It provides a brief and accurate description of the specific task. |
| **Lead function** | This is a mandatory attribute at the lowest level of a task. This is an entity responsible for the overall delivery of specific "deliverable". |
| **Deliverables** | A "deliverable" is a final product. It is mandatory to outline the deliverable(s) at WBS level 5, 6 and optional at level 7 and 8. The term End Products used in the previous releases of WSG is same as Deliverables. |
| **Major Milestones** | All applicable Major Milestones are identified along with the predecessors and successors of specific task at level 5. |
| **Business Practices** | This is an optional attribute at all levels. This attribute outlines the common practices which should be followed to deliver a specific task. This attribute is useful when further decomposition of a task is not desirable or cannot be defined clearly. |
| **Notes** | Notes are content that doesn't fit any other category necessary for sufficient definition of a work element. This is always an optional attribute. |
| **References** | This is a mandatory attribute at every level. At level 5, each reference has an embedded Universal Resource Locator (URL) hyperlink for the users to get quick access to the referenced document. More detailed references are listed for lower level tasks but without the URL. This term replaced the attribute "Guidance" in the previous release of WSG. |
| **Subtasks** | Work elements are products, not activities. Support activities (e.g., "Prepare technical report") for the lowest-level work elements may optionally be defined using the Subtask attribute. |

| | |
|---|---|
| **Summary of TM Responsibilities** | It is Caltrans policy to implement Task Management practices for all COS projects. Per Deputy Directive 93-R1, Task Management is defined as the assignment of individuals (Task Managers) to manage the production and completion of a discrete deliverable, or work package, on a project within a defined schedule and support budget. The primary responsibilities of a Task Manager (TM) as defined are following:<br>– Monitor expenditures, time charges, progress, schedule, quality of the tasks.<br>– Take preventive and/or corrective action to stay within approved scope, schedule, budget and quality standards of the task.<br>– Request and analyze changes to the scope, schedule, and budget of the tasks.<br>– Report progress and status of the task.<br>– Manage lower level Task Managers and/or resources which may be cross functional.<br>– Coordinate with higher level Task Managers, cross functional Task Managers, or Project Managers regarding task deliverables, resources, or schedule.<br>– Develop, provide input, and manage the task portion of following: charters, workplans, risk registers, risk management plans, communication plans, and quality management plans. |
| **TM and PRSM** | Task Management is an integral business practice utilized by Project Resource and Schedule Management (PRSM) application. PRSM defines TM roles based on the responsibility of the end user. For example, a Project Manager is defined as TM 3 in PRSM who has certain right to add, modify and manipulate the project data and a Functional Manager (i.e. Design Unit Branch Chief) is defined as TM 4. Each level of task management is defined by hierarchy of the organization. Please contact the Office of Capital Project Skill Development to obtain more task management training in PRSM. |
| **Business Practices** | There are times when it is both appropriate and necessary for task managers and project team members to be resourced on and charge effort against a WBS 100 Level 6 task, such as, developing the charter, developing the workplan, executing the cooperative agreement for that component of work, and other project planning efforts that need to occur before a functional task has been opened for time keeping. Once a task has been opened, most, if not all, efforts would shift to the task. |

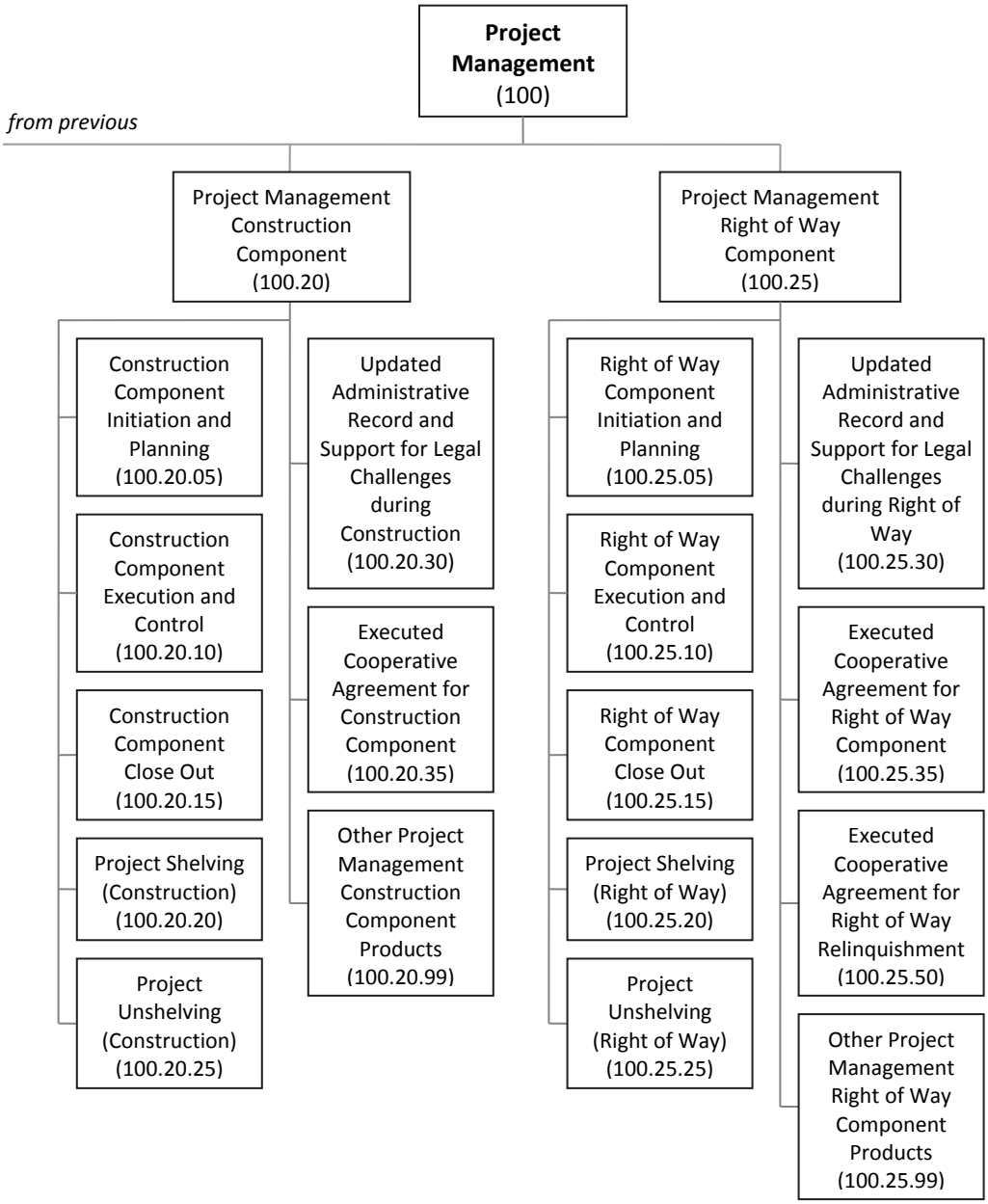
| WBS 100 | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| Project Phase | | K | 0 | 1 | 2 | 3 |
| SB45 Component | 0 | 1 | 2 | 3 | 4 | 5 |

## 100 Perform Project Management



**WBS**

**100**


Project Management (100)
from previous
Project Management Construction Component (100.20)
Project Management Right of Way Component (100.25)
Construction Component Initiation and Planning (100.20.05)
Construction Component Execution and Control (100.20.10)
Construction Component Close Out (100.20.15)
Project Shelving (Construction) (100.20.20)
Project Unshelving (Construction) (100.20.25)
Updated Administrative Record and Support for Legal Challenges during Construction (100.20.30)
Executed Cooperative Agreement for Construction Component (100.20.35)
Other Project Management Construction Component Products (100.20.99)
Right of Way Component Initiation and Planning (100.25.05)
Right of Way Component Execution and Control (100.25.10)
Right of Way Component Close Out (100.25.15)
Project Shelving (Right of Way) (100.25.20)
Project Unshelving (Right of Way) (100.25.25)
Updated Administrative Record and Support for Legal Challenges during Right of Way (100.25.30)
Executed Cooperative Agreement for Right of Way Component (100.25.35)
Executed Cooperative Agreement for Right of Way Relinquishment (100.25.50)
Other Project Management Right of Way Component Products (100.25.99)

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 5** | **100 Perform Project Management** |
|---|---|
| Description | Project Management work performed throughout the life of a project. The services provided include the initiation and planning of the project, and the execution, control, and close out of the project. |
| Lead Function | Project Management |
| Deliverables | • Project Management Plan<br>• Project Communication Plan<br>• Risk Management Plan<br>• Status Reports on Project Cost Scope and Schedule<br>• Project Management Records<br>• Closeout |
| Major Milestones | ♦ M000 Identify Need (Start: WBS 150)<br>♦ M010 Approve PID (Finish: WBS 150)<br>♦ M015 Program Project (Start: WBS 160)<br>♦ M650 Project Closeout Initiated (Start: WBS 295)<br>♦ M700 Final Report (Finish: WBS 295)<br>♦ M800 End Project (Finish: WBS 295 and WBS 300) |
| References | – Caltrans Project Development Procedures Manual: http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm<br>– Caltrans Project Management Handbook: http://www.dot.ca.gov/hq/projmgmt/documents/pmhb_5thed.pdf<br>– Capital Project Workplan Handbook: http://onramp/hq/pm/dpmwp/content/PM/COS_Overview/Guides/Project_Workplan_Handbook.pdf<br>– Project Risk Management Handbook: A Scalable Approach: http://onramp/hq/pm/dpmwp/content/PMR/RiskManagement/PRM_Handbook.pdf<br>– Project Management Directives & Memos: http://onramp.dot.ca.gov/hq/projmgmt/index.jsp?pg=17<br>– Project Management Project Communication Handbook: http://onramp.dot.ca.gov/hq/projmgmt/index.jsp?pg=62<br>– Project Management Resources (PMR): http://onramp.dot.ca.gov/hq/projmgmt/index.jsp?pg=62<br>– Caltrans Directors Policies and Deputy Directives: http://admin.dot.ca.gov/bfams/admin_svcs/sw_policy<br>– Accounting Manual: http://accounting.dot.ca.gov/accounting-manual-0<br>– Cooperative Agreement Manual - For reference only: http://onramp.dot.ca.gov/hq/design/coop/coopmanual-old.php |

| | |
|---|---|
| | – Caltrans Project Delivery Workplan Standards Guide: http://www.dot.ca.gov/hq/projmgmt/documents/wsg/WSG_10-2.pdf<br>– Construction Manual: http://www.dot.ca.gov/hq/construc/constmanual<br>– Right of Way Manual: http://www.dot.ca.gov/hq/row/rowman/manual/index.htm<br>– Caltrans Surveys Manual: http://www.dot.ca.gov/hq/row/landsurveys/SurveysManual/Manual_TOC.html<br>– Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser/ |

| **WBS Level 6** | **100.05 Project Management PID Component** |
|---|---|
| Description | The management of the Project Initiation Document (PID) component from initiation through completion. The services provided include the initiation and planning of the project, and the execution, control, and close-out of the PID component. |
| Deliverables | • Executed PID Component Cooperative Agreement<br>• Executable Cooperative Agreement for Future Components<br>• Project Management Plan<br>• Project Communication Plan<br>• Updated Project Workplan |
| Business Practices | Work is to be performed for projects identified as candidates for programming. This work is to be executed by project development teams in collaboration with other Planning, Project Delivery, Maintenance and Operations functions, and external stakeholders, with the project manager leading the effort. |
| References | – Project Development Procedures Manual: Chapter 9, Project Initiation<br>– Project Development Procedures Manual, Appendices L and S, Section 5, Scoping Tools<br>– Project Delivery Directive 09 - Risk Management<br>– Project Risk Management Handbook: A Scalable Approach<br>– Project Management Project Communication Handbook<br>– Project Management Directive 002 - Project Initiation<br>– Project Management Directive 007R - Capital Project Charter Process and Innovation Checklist<br>– Project Management Directive 20 - Cooperative Agreement Funding Commitment Process<br>– Project Management Memo - Conflict Management Planning for Projects<br>– Project Management Memo - Project Risk Management in Project Delivery<br>– Directors Policy 6 - Caltrans Partnerships |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| | – Directors Policy 10 - Department Commitments<br>– Directors Policy 22 - Context Sensitive Solutions<br>– Deputy Directive 23R1 - Roles and Responsibilities for Development of Projects on the State Highway System<br>– Deputy Directive 46 - External Advisory Committees<br>– Deputy Directive 64R1 - Complete Streets - Integrating the Transportation System<br>– Caltrans Standard Environmental Reference (SER) |

| **WBS Level 7** | **100.05.05 PID Component Initiation and Planning** |
|---|---|
| Description | Initiation of the PID phase to identify transportation deficiencies and objectives along with obtaining stakeholders input on community goals to properly develop basic project constraints: cost, scope and schedule. |
| Lead Function | Project Management |
| Deliverables | • Charter for PID<br>• Workplan for PID<br>• Quality Management Plan<br>• Project Communication Plan<br>• Risk Management Plan<br>• Risk Register<br>• Project Scope and Elements<br>• Completed Scoping Tools<br>• Scope of Work for A&E Contracts or Agreements for the PID Component |
| Business Practices | Work for these deliverables requires coordination and collaboration of the project development team with all Planning, Project Delivery, Maintenance and Operations functions, and external stakeholders to adequately scope and plan projects for future delivery. The project manager functions as the lead and will normally serve as task manager for the deliverables identified in WBS 100.05. Both the Project Manager and Task Managers will participate in the development of these deliverables. |
| References | – Project Development Procedures Manual (PDPM), Appendix L & S, Section 5, Scoping Tools |
| Subtasks | – Project Manager Assignment<br>– Project Communication Task Manager Assignment<br>– Initiation in Accounting's Financial Database System for Phase K<br>– Charter for Project PID (Phase K)<br>– Project Management's project database system<br>– Resource Management Plan<br>– Consultant Scope of Work |

| | |
|---|---|
| | – Submit request to appropriate functional unit for Scoping Tools and project information to aid project team in scoping project and resourcing workplan<br>– Open for Time Entry (OTE) in PRSM |

| WBS Level 7 | 100.05.10 PID Component Execution and Control |
|---|---|
| Description | The process of coordinating people and other resources to carry out the project plan, ensuring that the PID component objectives are met by monitoring progress and taking corrective action when necessary. Includes monitoring PID resources, schedule, and project management elements of a cooperative agreement. |
| Lead Function | Project Management |
| Deliverables | • Workplan for Future Components<br>• Updated Project Management Plan<br>• Updated Project Communication Plan<br>• Project Records, Using the Caltrans Uniform File System<br>• Risk Register Certification for PID |
| References | – |
| Subtasks | – Quality Assurance/Quality Control<br>– Status Project<br>– Communication and Distribution of Project Records or information<br>– Quality Management Plan<br>– Procure Consultant Resources for PID Component<br>– Later Phase Component Plan Development<br>– Monitor and Control Workplan<br>– Preparing Project for Programming<br>– Analysis of Scoping Tool(s) for project and stakeholder issues needed to properly scope the project and resource the Workplan |

| WBS Level 7 | 100.05.15 PID Component Close Out |
|---|---|
| Description | The process of bringing this phase of the project work to an end. |
| Lead Function | Project Management |
| Deliverables | • Lessons Learned<br>• Archived Records<br>• Project Performance Output Table<br>• Asset Management Table<br>• Closeout of Phase K |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| | • Planned Vs. Actual Reports<br>• Updated Project Communication Plan |
| Business Practices | Under this WBS, the project team compiles Lessons Learned, archives project files, closes Phase K project tasks to charging, and then closes the project phase through AMS Advantage with changes made during this project component with added detail for the remaining project components. |
| References | – Project Management Handbook<br>– Project Management Project Communication Handbook<br>– Capital Project Workplan Handbook<br>– Project Management Directive 21: Capital Outlay Project Closeout |

| **WBS Level 7** | **100.05.20 Project Shelving (PID)** |
|---|---|
| Description | The process of bringing this phase of the project work and its associated files, designs, and other materials to closure. |
| Lead Function | Project Development Team |
| Deliverables | • Archived Ready Files<br>• Closeout of Phase K<br>• Project Work Elements/Products (Files, Documents, Designs, etc.) Wrapped-up for Hiatus<br>• Update Project Communication Plan<br>• Updated STEVE Database |
| Business Practices | This WBS is used to capture effort needed to archive a project for shelving and closeout. |
| References | – Project Management Directive 21: Capital Outlay Project Closeout |

| **WBS Level 7** | **100.05.25 Project Unshelving (PID)** |
|---|---|
| Description | The process of bringing this project from an archived shelf status to active status. |
| Lead Function | Project Management |
| Deliverables | • Updated Project Files<br>• Updated Draft PID<br>• Updated Project Workplan<br>• Updated Project Communication Plan<br>• Project Work Elements/Products (Files, Documents Designs, etc.) Reactivated<br>• Updated STEVE Database |

| | |
|---|---|
| Business Practices | When additional programming dollars become available, unshelving of lower priority projects becomes necessary. This work requires staff to locate project files, draft reports, and workplans. Re-openning of Phase K is required to ensure proper charging practices. |
| References | – |

| WBS Level 7 | 100.05.35 Executed Cooperative Agreement for PID Component |
|---|---|
| Description | The work related to preparing and obtaining approval of all cooperative agreements during the PID phase. |
| Lead Function | Cooperative Agreement Unit |
| Deliverables | • Cooperative Agreement Number<br>• Cooperative Agreement Transmittal Memo<br>• Approved Cooperative Agreement for PID Work<br>• Executable Cooperative Agreement for Future Phases |
| Business Practices | Projects requiring exchange of services or obtaining funding from a range of sources and fund types require cooperative agreements. PID work for agreements are WBS tasks included in 150, and other phase work may also be identified for agreement. |
| References | – Project Development Procedures Manual, Chapter 13 and 16<br>– Cooperative Agreements Manual<br>– Deputy Directive 102: Cooperative Agreements<br>– Project Management Directive 20: Cooperative Agreement Funding Commitment Process; Capital Outlay |

| WBS Level 7 | 100.05.99 Other Project Management PID Component Products |
|---|---|
| Description | All other work not defined in WBS 100.05 elements. |
| Lead Function | Project Management |
| Deliverables | • Various |
| References | – Various |

| WBS Level 6 | 100.10 Project Management PA&ED Component |
|---|---|
| Description | The management of the Project Approval and Environmental Document (PA&ED) component from initiation through completion and updating the plan for later phases. The services provided include the initiation, planning, execution, control, and closeout of the PA&ED component. |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| Deliverables | • Executed PA&ED Phase Cooperative Agreement<br>• Updated Project Management Plan<br>• Updated Project Workplan |
| References | – Caltrans Project Management Handbook<br>– Project Management Project Communication Handbook<br>– Project Delivery Directive 09 - Risk Management<br>– Project Risk Management Handbook: A Scalable Approach<br>– Project Management Directive 20 - Cooperative Agreement Funding Commitment Process<br>– Project Management Memo, signed by Richard Land - Conflict Management Planning for Projects<br>– Caltrans Standard Environmental Reference (SER) |

| **WBS Level 7** | **100.10.05 PA&ED Component Initiation and Planning** |
|---|---|
| Description | Initiation of the Project Management Plan, including the PA&ED component plan and the PA&ED component activity. |
| Lead Function | Project Management |
| Deliverables | • Charter for PA&ED Phase<br>• Updated Workplan<br>• Quality Management Plan<br>• Updated Project Communication Plan<br>• Risk Management Plan<br>• Cooperative Agreement for Phase 0<br>• Scope of Work for A&E Contracts or Agreements for PA&ED Phase<br>• Project Performance Output Table (SHOPP Only)<br>• Asset Management Table (SHOPP Only) |
| Business Practices | Work for these deliverables requires coordination and collaboration of all Project Delivery functions to adequately scope and plan projects in delivery phases. The project manager functions as the lead and will normally serve as task manager for the deliverables identified in WBS 100.10. |
| References | – |
| Subtasks | – Initiation in Accounting's Financial Management Database System for Phase 0<br>– Project Workplan in Project Resource and Schedule Management (PRSM)<br>– Open for Time Entry in PRSM |

| **WBS Level 7** | **100.10.10 PA&ED Component Execution and Control** |
|---|---|

| | |
|---|---|
| Description | The process of coordinating people and other resources to carry out the project plan, ensuring that the PA&ED component objectives are met by monitoring progress and taking corrective action when necessary. |
| Lead Function | Project Management |
| Deliverables | • Updated Project Management Plan<br>• Project Records, Using the Caltrans Uniform File<br>• Risk Register Certification for PA&ED<br>• Update Project Communication Plan |
| References | – |
| Subtasks | – Quality Assurance/Quality Control<br>– Status Project<br>– Communication and Distribution of Project Records or information<br>– Quality Management Plan<br>– Procure Consultant Resources for PA&ED Component<br>– Later Phase Component plan development |

| **WBS Level 7** | **100.10.15 PA&ED Component Close Out** |
|---|---|
| Description | The Project Management effort required to close out PA&ED component. |
| Lead Function | Project Management |
| Deliverables | • Cooperative Agreement(s) Close out<br>• Sponsor, Team and Stakeholder Evaluations of PA&ED Component<br>• Lessons Learned<br>• Records Archived<br>• Project Performance Output Table (SHOPP Only)<br>• Asset Management Table (SHOPP Only)<br>• Closeout Report for Phase 0<br>• Planned Vs. Actual Reports<br>• Project Communication Plan |
| Business Practices | Under this WBS, the project team compiles Lessons Learned, archives project files, closes Phase 0 project tasks to charging if all project work is complete, and then closes the project phase through AMS Advantage with changes made during this project component with added detail for the remaining project components. . |
| References | – Project Management Handbook<br>– Project Management Project Communication Handbook<br>– Capital Project Workplan Handbook |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| | – Project Management Directive 21: Capital Outlay Project Closeout |

| **WBS Level 7** | **100.10.20 Project Shelving (PA&ED)** |
|---|---|
| Description | The process of bringing this phase of the project work and its associated files, designs, and other materials to closure prior to the closeout of the PA&ED phase. |
| Lead Function | Project Development Team |
| Deliverables | • Archived Files<br>• Close of Phase 0<br>• Project Work Elements/Products (Files, Documents, Designs, etc.) Wrapped-up for Hiatus<br>• Updated STEVE Database |
| Business Practices | This WBS is used to capture effort needed to archive a project for shelving and closeout. |
| References | – Project Management Directive 21: Capital Outlay Project Closeout |

| **WBS Level 7** | **100.10.25 Project Unshelving (PA&ED)** |
|---|---|
| Description | The process of bringing a project from an archived shelf status to active status. |
| Lead Function | Project Management |
| Deliverables | • Project Files<br>• Project Workplan<br>• Project Communication Plan<br>• Project Work Elements/Products (Files, Documents, Designs, etc.) Reactivated<br>• Updated STEVE Database |
| Business Practices | When additional programming dollars become available, unshelving of lower priority projects becomes necessary. This work requires staff to locate project files, archived reports, and workplans. |
| References | – |

| **WBS Level 7** | **100.10.30 Updated Administrative Record and Support for Legal Challenges during PA&ED** |
|---|---|
| Description | Work related to preparing and updating the Administrative Record for a project, and support for legal challenges during the PA&ED phase. |
| Lead Function | Project Development Team |

| | |
|---|---|
| Deliverables | • Updated Administrative Record and Legal Support<br>• Updated STEVE Database |
| References | – |

| WBS Level 7 | 100.10.35 Executed Cooperative Agreement for PA&ED Component |
|---|---|
| Description | The work related to preparing and obtaining approval of cooperative agreements during the PA&ED Phase. |
| Lead Function | Project Management |
| Deliverables | • Cooperative Agreement Transmittal Memo<br>• Approved Cooperative Agreement |
| Business Practices | Projects often obtain funding from a range of sources and fund types, requiring cooperative agreements. |
| References | – Project Development Procedures Manual, Chapter 13 and 16<br>– Cooperative Agreements Manual<br>– Deputy Directive 102: Cooperative Agreements<br>– Project Management Directive 20: Cooperative Agreement Funding Commitment Process; Capital Outlay |

| WBS Level 7 | 100.10.99 Other Project Management PA&ED Component Products |
|---|---|
| Description | All other work not defined in WBS 100.10 elements. |
| Lead Function | Project Management |
| Deliverables | • Various |
| References | – Various |

| WBS Level 6 | 100.15 Project Management PS&E Component |
|---|---|
| Description | The management of the Project Plans, Specifications and Estimate (PS&E) component from initiation through completion and updating the plan for later phases. The services provided include the initiation, planning, execution, control, and closeout of the PS&E component. |
| Lead Function | Project Management |
| Deliverables | • Executed Phase 1 Cooperative Agreement<br>• Updated Project Management Plan<br>• Updated Project Communication Plan |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| | • Fund Varification<br>• Updated Project Workplan |
| References | – Caltrans Project Management Handbook<br>– Project Management Project Communication Handbook<br>– Project Delivery Directive 09 - Project Risk Management Manual: A Scalable Approach<br>– Project Management Directive 20 - Cooperative Agreement Funding Commitment Process<br>– Project Management Memo - Conflict Management Planning for Projects<br>– Standard Environmental Reference |

| **WBS Level 7** | **100.15.05 PS&E Component Initiation and Planning** |
|---|---|
| Description | Development of the Project Management Plan, including changes made during earlier components with added detail for the remaining project components. |
| Lead Function | Project Management |
| Deliverables | • Charter for PS&E Phase<br>• Updated PRSM Workplan<br>• Quality Management Plan<br>• Updated Project Communication Plan<br>• Risk Management Plan<br>• Risk Register<br>• Resource Management Plan<br>• Cooperative Agreement for Phase 1 Work<br>• Scope of Work for A&E Contracts or Agreements for the PS&E Component |
| Business Practices | Work for these deliverables requires coordination and collaboration of all Project Delivery functions with Planning and Maintenance and Operations functions, and external stakeholders, to adequately scope and plan projects in delivery phases. The project manager functions as the lead and will normally serve as task manager for the deliverables identified in WBS 100.15. |
| References | |
| Subtasks | – Initiation in Accounting's Financial Database System for Phase 1<br>– Open for Time Entry in PRSM |

| **WBS Level 7** | **100.15.10 PS&E Component Execution and Control** |
|---|---|
| Description | The process of coordinating people and other resources to carry out the project plan, ensuring that the PS&E component objectives are met by monitoring progress and |

| | |
|---|---|
| | taking corrective action when necessary. |
| Lead Function | Project Management |
| Deliverables | • Updated Project Management Plan<br>• Updated Project Communication Plan<br>• Project Records, Using the Caltrans Uniform File<br>• Risk Register Certification for PS&E |
| References | |
| Subtasks | – Quality Assurance/Quality Control<br>– Status Project<br>– Communication and Distribution of Project Records or Information<br>– Procure Consultant Resources for PS&E Component<br>– Later Phase Component Plan Development |

| **WBS Level 7** | **100.15.15 PS&E Component Close Out** |
|---|---|
| Description | The effort required to close out PS&E component of the project. |
| Lead Function | Project Management |
| Deliverables | • Agreement(s) Close out<br>• Sponsor, Team and Stakeholder Evaluations of PS&E Component<br>• Lessons Learned<br>• Records Archived<br>• Updated Project Performance Output Table (SHOPP Only)<br>• Updated Asset Management Table (SHOPP Only)<br>• Closeout Report for Phase 1<br>• Planned Vs. Actual Reports<br>• Updated Project Communication Plan |
| Business Practices | Under this WBS, the project team compiles Lessons Learned, archives project files, closes Phase 1 project tasks to charging if all project work is complete, and then closes the project phase through AMS Advantage with changes made during this project component with added detail for the remaining project components. |
| References | – Project Management Handbook<br>– Project Management Project Communication Handbook<br>– Capital Project Workplan Handbook<br>– Project Management Directive 21: Capital Outlay Project Closeout |

| **WBS Level 7** | **100.15.20 Project Shelving (PS&E)** |
|---|---|

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| Description | The process of bringing this phase of the project work and its associated files, designs, and other materials to closure prior to the close out of the PS&E phase. |
| Lead Function | Project Development Team |
| Deliverables | • Archived Ready Files<br>• Close of Phase 1<br>• Project Work Elements/Products (Files, Documents, Designs, etc.) Wrapped-up for Hiatus<br>• Updated STEVE Database |
| Business Practices | This WBS is used to capture effort needed to archive a project for shelving and close out. |
| References | – Project Management Directive 21: Capital Outlay Project Closeout |

| **WBS Level 7** | **100.15.25 Project Unshelving (PS&E)** |
|---|---|
| Description | The process of bringing this project from archived shelf status to active status. |
| Lead Function | Project Management |
| Deliverables | • Updated Project Files<br>• Updated Cost Estimate and Plans<br>• Draft or Completed Technical Studies and Reports<br>• Updated Project Workplan<br>• Updated Project Communication Plan<br>• Project Work Elements/Products (Files, Documents, Designs, etc.) Reactivated<br>• Updated STEVE Database |
| Business Practices | When additional programming dollars become available, unshelving of lower priority projects becomes necessary. This work requires staff to locate project files, archived reports, and workplans. |
| References | – |

| **WBS Level 7** | **100.15.30 Updated Administrative Record and Support for Legal Challenges during PS&E** |
|---|---|
| Description | Work related to preparing and updating the Administrative Record for a project, and support for legal challenges during the PS&E phase. |
| Lead Function | Project Development Team |
| Deliverables | • Updated Administrative Record and Legal Support<br>• Updated STEVE Database |

| | |
|---|---|
| References | – |

| WBS Level 7 | 100.15.35 Executed Cooperative Agreement for PS&E Component |
|---|---|
| Description | The work related to preparing and obtaining approval of cooperative agreements during the PS&E Phase. |
| Lead Function | Project Management |
| Deliverables | • Cooperative Agreement Transmittal Memo<br>• Approved Cooperative Agreement |
| Business Practices | Projects often obtain funding from a range of sources and fund types, requiring cooperative agreements. |
| References | – Caltrans Project Management Handbook<br>– Project Management Project Communication Handbook<br>– Project Delivery Directive 09 - Project Risk Management Manual: A Scalable Approach<br>– Project Management Directive 20 - Cooperative Agreement Funding Commitment Process<br>– Project Management Memo - Conflict Management Planning for Projects<br>– Caltrans Standard Environmental Reference (SER) |

| WBS Level 7 | 100.15.99 Other Project Management PS&E Component Products |
|---|---|
| Description | All other work not defined in WBS 100.15 elements. |
| Lead Function | Project Management |
| Deliverables | • Various |
| References | – Various |

| WBS Level 6 | 100.20 Project Management Construction Component |
|---|---|
| Description | The management of the Construction component from initiation through completion and updating the plan for future phases or ongoing mitigation effort. The services provided include the initiation, planning, execution, control, and close out of the Construction component. |
| Deliverables | • Executed Phase 3 Cooperative Agreement<br>• Updated Project Management Plan<br>• Updated Project Communication Plan<br>• Updated Project Workplan |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| References | – Caltrans Project Management Handbook<br>– Project Management Project Communication Handbook<br>– Project Delivery Directive 09 - Project Risk Management Manual: A Scalable Approach<br>– Project Management Directive 20 - Cooperative Agreement Funding Commitment Process<br>– Project Management Memo - Conflict Management Planning for Projects<br>– Caltrans Standard Environmental Reference (SER) |

| **WBS Level 7** | **100.20.05 Construction Component Initiation and Planning** |
|---|---|
| Description | Development of the Project Management Plan, including changes made during earlier components and the detailed construction component. |
| Lead Function | Project Management |
| Deliverables | • Charter for Construction Phase<br>• Updated PRSM Workplan<br>• Quality Management Plan<br>• Project Communication Plan<br>• Risk Management Plan<br>• Risk Register<br>• Resource Management Plan<br>• Cooperative Agreement for Phase 3 Work<br>• Scope of Work for A&E Contracts or Agreements for the Construction Component |
| References | – Surveys Manual Chapter 12 |
| Subtasks | – Initiation in Accounting's Financial Database System for Phase 3<br>– Open for Time Entry (OTE) in PRSM |

| **WBS Level 7** | **100.20.10 Construction Component Execution and Control** |
|---|---|
| Description | The process of coordinating people and other resources to carry out the project plan, ensuring that the Construction component objectives are met by monitoring progress and taking corrective action when necessary. |
| Lead Function | Project Management |
| Deliverables | • Updated Project Management Plan<br>• Updated Project Communication Plan<br>• Project Records, Using the Caltrans Uniform File<br>• Risk Register Certification for RE File Handoff |

| | |
|---|---|
| References | – Surveys Manual Chapter 12 |
| Subtasks | – Quality Assurance/Quality Control<br>– Status Project<br>– Communication and Distribution of Project Records or information<br>– Quality Management Plan<br>– Procure Consultant Resources for Construction Component<br>– Later Phase Component plan development |

| **WBS Level 7** | **100.20.15 Construction Component Close Out** |
|---|---|
| Description | The effort required to close out Construction Component of the project. |
| Lead Function | Project Management |
| Deliverables | • Agreement(s) Close out<br>• Sponsor, Team and Stakeholder Evaluations of Construction Component<br>• Lessons Learned<br>• Records Archived<br>• Project Performance Output Table (SHOPP Only)<br>• Asset Management Table (SHOPP Only)<br>• Close out Report for Phase 3<br>• Planned Vs. Actual Reports<br>• Project Communication Plan |
| Business Practices | Under this WBS, the project team compiles Lessons Learned, archives project files, closes the 3 phase project tasks to charging if all project work is complete, and then closes the project phase through AMS Advantage with changes made during this project component with added detail for the remaining project components. . |
| References | – Project Management Handbook<br>– Project Management Project Communication Handbook<br>– Capital Project Workplan Handbook<br>– Project Management Directive 21: Capital Outlay Project Closeout |

| **WBS Level 7** | **100.20.20 Project Shelving (Construction)** |
|---|---|
| Description | The process of bringing this phase of the project work and its associated files, designs, and other materials to closure prior to the closeout of the Construction phase. |
| Lead Function | Project Development Team |
| Deliverables | • Archived Ready Files<br>• Close of Phase 3 |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| | • Project Work Elements/Products (Files, Documents, Designs, etc.) Wrapped-up for Hiatus<br>• Updated STEVE Database |
| Business Practices | This WBS is used to capture effort needed to archive a project for shelving and close out. |
| References | – Project Management Directive 21: Capital Outlay Project Closeout<br>– Project Management Project Communication Handbook |

| **WBS Level 7** | **100.20.25 Project Unshelving (Construction)** |
|---|---|
| Description | The process of bringing this project from an archived shelf status to active status. |
| Lead Function | Project Management |
| Deliverables | • Project Files<br>• Project Plans, Specifications and Estimates<br>• Draft or Completed Technical Studies and Reports<br>• Resident Engineer's File<br>• Project Workplan<br>• Project Communication Plan<br>• Project Work Elements/Products (Files, Documents, Designs, etc.) Reactivated<br>• Updated STEVE Database |
| Business Practices | When additional programming dollars become available, unshelving of lower priority projects becomes necessary. This work requires staff to locate project files, archived reports, and workplans. |
| References | – |

| **WBS Level 7** | **100.20.30 Updated Administrative Record during Construction** |
|---|---|
| Description | Work related to preparing and updating the Administrative Record for a project, and support for legal challenges during the Construction phase. |
| Lead Function | Project Development Team |
| Deliverables | • Updated Administrative and Legal Support<br>• Updated STEVE Database |
| References | – |

| **WBS Level 7** | **100.20.35 Executed Cooperative Agreement for Construction Component** |
|---|---|

| | |
|---|---|
| Description | The work related to preparing and obtaining approval of cooperative agreements during the Construction phase. |
| Lead Function | Project Management |
| Deliverables | • Cooperative Agreement Transmittal Memo<br>• Approved Cooperative Agreement<br>• Interagency Agreements<br>• Joint Powers Agreements<br>• Escrow Agreements<br>• Contribution Agreements<br>• Memorandum of Understanding |
| Business Practices | Projects often obtain funding from a range of sources and fund types, requiring cooperative agreements. |
| References | – Project Development Procedures Manual, Chapter 13 and 16<br>– Cooperative Agreements Manual<br>– Deputy Directive 102: Cooperative Agreements<br>– Project Management Directive 20: Cooperative Agreement Funding Commitment Process; Capital Outlay |

| **WBS Level 7** | **100.20.99 Other Project Management Construction Component Products** |
|---|---|
| Description | All other work not defined in WBS 100.20 elements. |
| Lead Function | Project Management |
| Deliverables | • Various |
| References | – |

| **WBS Level 6** | **100.25 Project Management Right of Way Component** |
|---|---|
| Description | The management of the Right of Way component from initiation through completion. The services provided include the initiation, planning, execution, control, and closeout of the Construction component. |
| Deliverables | • Executed Right of Way<br>• Executed Right of Way Cooperative Agreement<br>• Updated Project Management Plan<br>• Updated Project Communication Plan |
| References | – Caltrans Project Management Handbook<br>– Project Delivery Directive 09 - Project Risk Management Manual: A Scalable |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| | Approach<br>– Project Management Directive 20 - Cooperative Agreement Funding Commitment Process<br>– Project Management Memo - Conflict Management Planning for Projects |

| **WBS Level 7** | **100.25.05 Right of Way Component Initiation and Planning** |
|---|---|
| Description | Initiation of the Project Management Plan, including changes made during earlier components and the detailed Right of Way component. |
| Lead Function | Project Management |
| Deliverables | • Charter for Right of Way Phase<br>• Updated PRSM Workplan<br>• Quality Management Plan<br>• Project Communication Plan<br>• Risk Management Plan<br>• Resource Management Plan<br>• Cooperative Agreement for Phase 2 and/or Phase 9 Work<br>• Scope of Work for A&E Contracts or Agreements for the Right of Way Component |
| Business Practices | Work for these deliverables requires coordination and collaboration of all Project Delivery functions to adequately scope and plan projects in delivery phases. The project manager functions as the lead and will normally serve as task manager for the deliverables identified in WBS 100.25. |
| References | – Project Development Procedures Manual, Chapters 3 and 6<br>– Caltrans Right of Way Manual Chapter 6<br>– Caltrans Surveys Manual Chapter 10 |
| Subtasks | – Phase 2 and Phase 9 initiation in Accounting's financial database system<br>– Open for Time Entry in PRSM |

| **WBS Level 7** | **100.25.10 Right of Way Component Execution and Control** |
|---|---|
| Description | The process of coordinating people and other resources to carry out the project plan, ensuring that the Right of Way component objectives are met by monitoring progress and taking corrective action when necessary. |
| Lead Function | Project Management |
| Deliverables | • Updated Project Management Plan<br>• Updated Project Communication Plan<br>• Project Records, Using the Caltrans Uniform Filing System |

| | |
|---|---|
| References | – |
| Subtasks | – Quality Assurance/Quality Control<br>– Status Project<br>– Communication and Distribution of Project Records and Information<br>– Quality Management Plan<br>– Procure Consultant Resources for Right of Way Component |

| **WBS Level 7** | **100.25.15 Right of Way Component Close Out** |
|---|---|
| Description | The effort required to close out Right of Way component of the project. |
| Lead Function | Project Management |
| Deliverables | • Agreement(s) Close out<br>• Sponsor, Team and Stakeholder Evaluations of Right of Way Component<br>• Lessons Learned<br>• Records Archived<br>• Close out Report for Phase 2 and 9<br>• Planned Vs. Actual Reports<br>• Updated Project Communication Plan |
| Business Practices | Under this WBS, the project team compiles Lessons Learned, archives project files, closes the Right of Way component project tasks to charging if all project work is complete, and then closes the project phase through AMS Advantage with changes made during this project component with added detail for the remaining project components. . The project is complete and can be closed out when the Construction, Right of Way component (including excess property disposal and Monumentation of rights of way), post-construction environmental mitigation, and other necessary actions are finished. |
| References | – Project Management Handbook<br>– Project Management Project Communication Handbook<br>– Capital Project Workplan Handbook<br>– Project Management Directive 21: Capital Outlay Project Closeout |

| **WBS Level 7** | **100.25.20 Project Shelving (Right of Way)** |
|---|---|
| Description | The process of bringing this phase of the project work and its associated files, maps, deeds, and other materials to closure prior to the close out of the Right of Way phase. |
| Lead Function | Project Development Team |
| Deliverables | • Archived Ready Files |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| | • Close out Phase 2 and 9<br>• Project Work Elements/Products (Files, Documents, Designs, etc.) Wrapped-up for Hiatus<br>• Updated STEVE Database |
| Business Practices | This WBS is used to capture effort needed to archive a project for shelving and closeout. |
| References | – Project Management Directive 21: Capital Outlay Project Closeout |

| **WBS Level 7** | **100.25.25 Project Unshelving (Right of Way)** |
|---|---|
| Description | The process of bringing this project from an archived shelf status to active status. |
| Lead Function | Project Management |
| Deliverables | • Updated Project Files<br>• Parcel Acquisition Maps or Deeds<br>• Parcel Appraisals<br>• Updated Project Workplan<br>• Updated Project Communication Plan<br>• Project Work Elements/Products (Files, Documents, Designs, etc.) Reactivated<br>• Updated STEVE Database |
| Business Practices | When additional programming dollars become available, unshelving of lower priority projects becomes necessary. This work requires staff to locate project files, archived maps and documents, and workplans. |
| References | – |

| **WBS Level 7** | **100.25.30 Updated Administrative Record during Right of Way** |
|---|---|
| Description | Work related to preparing and updating the Administrative Record for a project, and support for legal challenges during the Right of Way component. |
| Lead Function | Project Development Team |
| Deliverables | • Updated Administrative Record and Legal Support<br>• Updated STEVE Database |
| References | – |

| **WBS Level 7** | **100.25.35 Executed Cooperative Agreement for Right of Way Component** |
|---|---|
| Description | The work related to preparing and obtaining approval of cooperative agreements during |

| | |
|---|---|
| | the Right of Way component. |
| Lead Function | Project Management |
| Deliverables | • Cooperative Agreement Transmittal Memo<br>• Approved Cooperative Agreement<br>• Interagency Agreements<br>• Escrow Agreements<br>• Contribution Agreements |
| Business Practices | Projects often obtain funding from a range of sources and fund types, requiring cooperative agreements. Right of Way work covered are WBS tasks 195, 200, 220, 225, 245, and 300 |
| References | – Project Development Procedures Manual, Chapter 13 and 16<br>– Cooperative Agreements Manual<br>– Right of Way Manual Chapter 6<br>– Surveys Manual Chapter 10<br>– Plans Preparation Manual Chapter 4<br>– Deputy Directive 102: Cooperative Agreements<br>– Project Management Directive 20: Cooperative Agreement Funding Commitment Process; Capital Outlay |

| **WBS Level 7** | **100.25.50 Executed Cooperative Agreement for Right of Way Relinquishment** |
|---|---|
| Description | The work of preparing a Relinquishment Agreement/Memorandum of Understanding with the local agency to relinquish existing state facilities and any collateral facilities. |
| Lead Function | Project Management |
| Deliverables | • Cooperative Agreement Report<br>• Cooperative Agreement Transmittal Memo<br>• Approved Cooperative Agreement<br>• Interagency Agreements<br>• Escrow Agreements<br>• Contribution Agreements |
| Business Practices | The detailed work for this element includes all discussions and issue resolution with local agencies concerning relinquishment features, arrangements and negotiations for special funding, and any cooperative agreement preparation and execution efforts. All project development effort to relinquish facilities including traffic forecasts, material information, deflection stud, and PS&E preparation is to be charged to other WBS elements, such as WBS 300.25 |
| References | – Deputy Directive 52R2 |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

- Project Development Procedures Manual, Chapter 13, 16, and 25
- Cooperative Agreements Manual
- Deputy Directive 102: Cooperative Agreements
- Project Management Directive 20: Cooperative Agreement Funding Commitment Process; Capital Outlay
- Right of Way Manual Chapter 6 - Relinquishment section

| **WBS Level 7** | **100.25.99 Other Project Management Right of Way Component Products** |
|---|---|
| Description | All other work not defined in WBS 100.25 elements. |
| Lead Function | Project Management |
| Deliverables | • Various |
| References | – |

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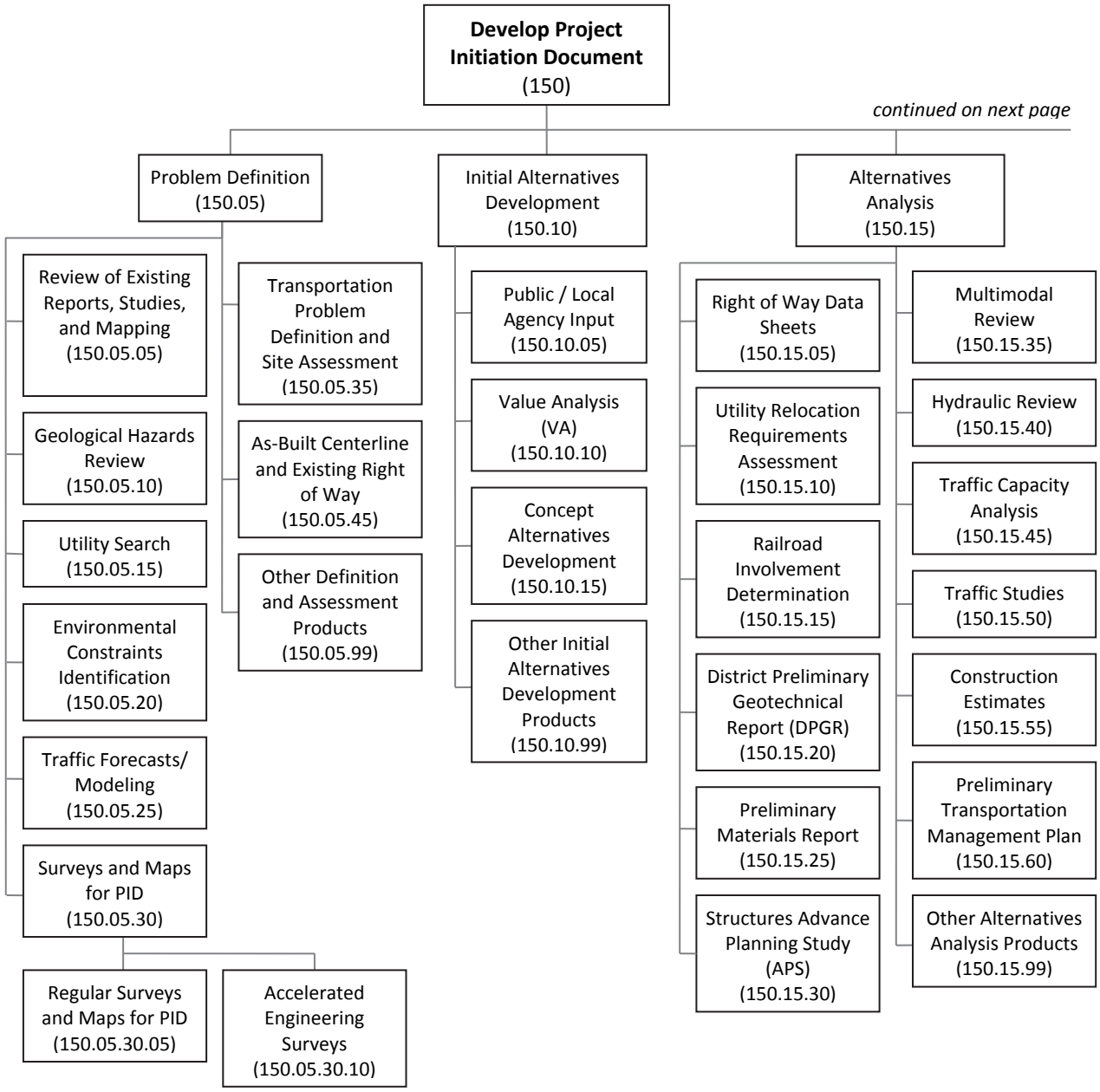
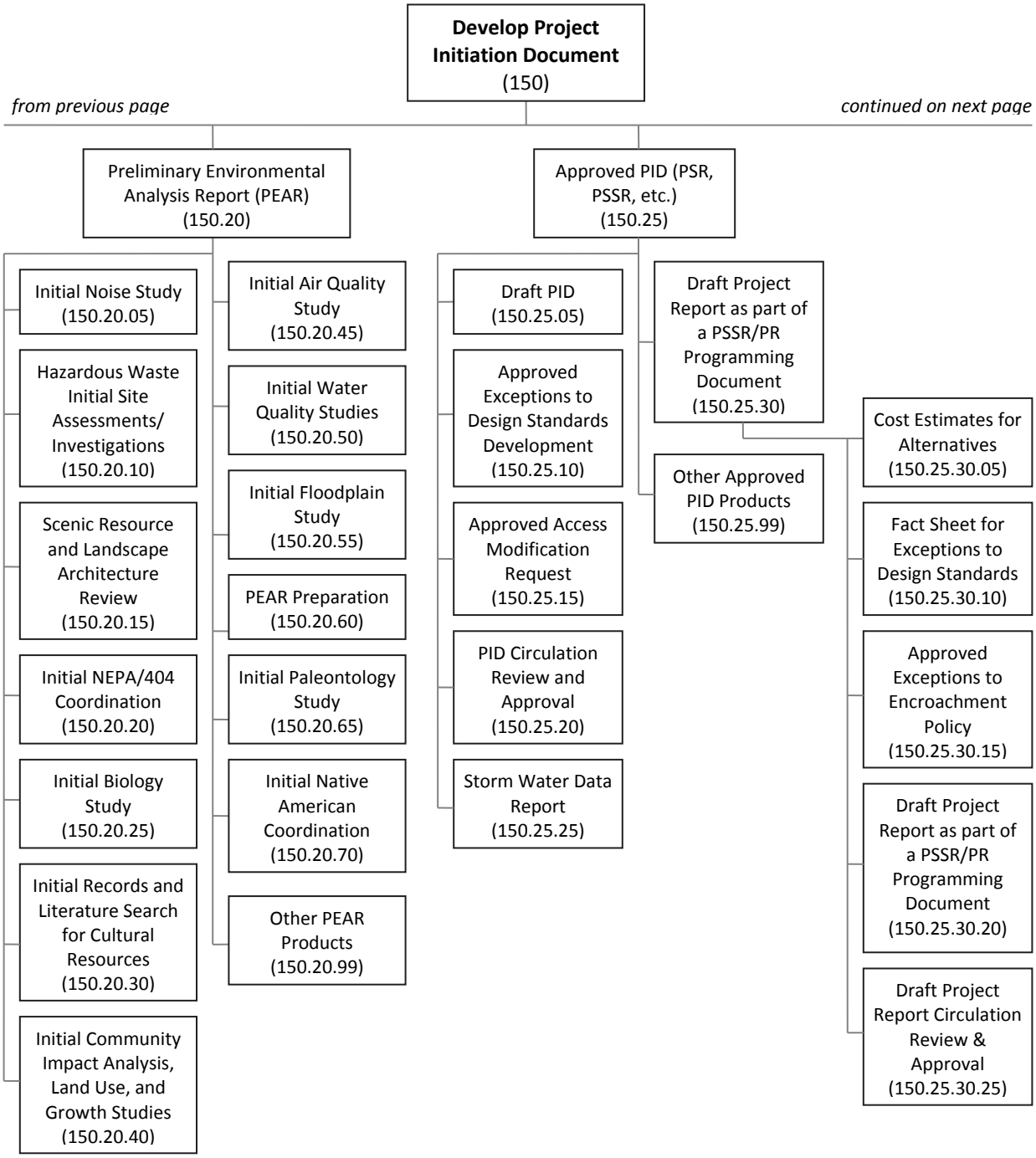
| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

## 150 Develop Project Initiation Document (PID)

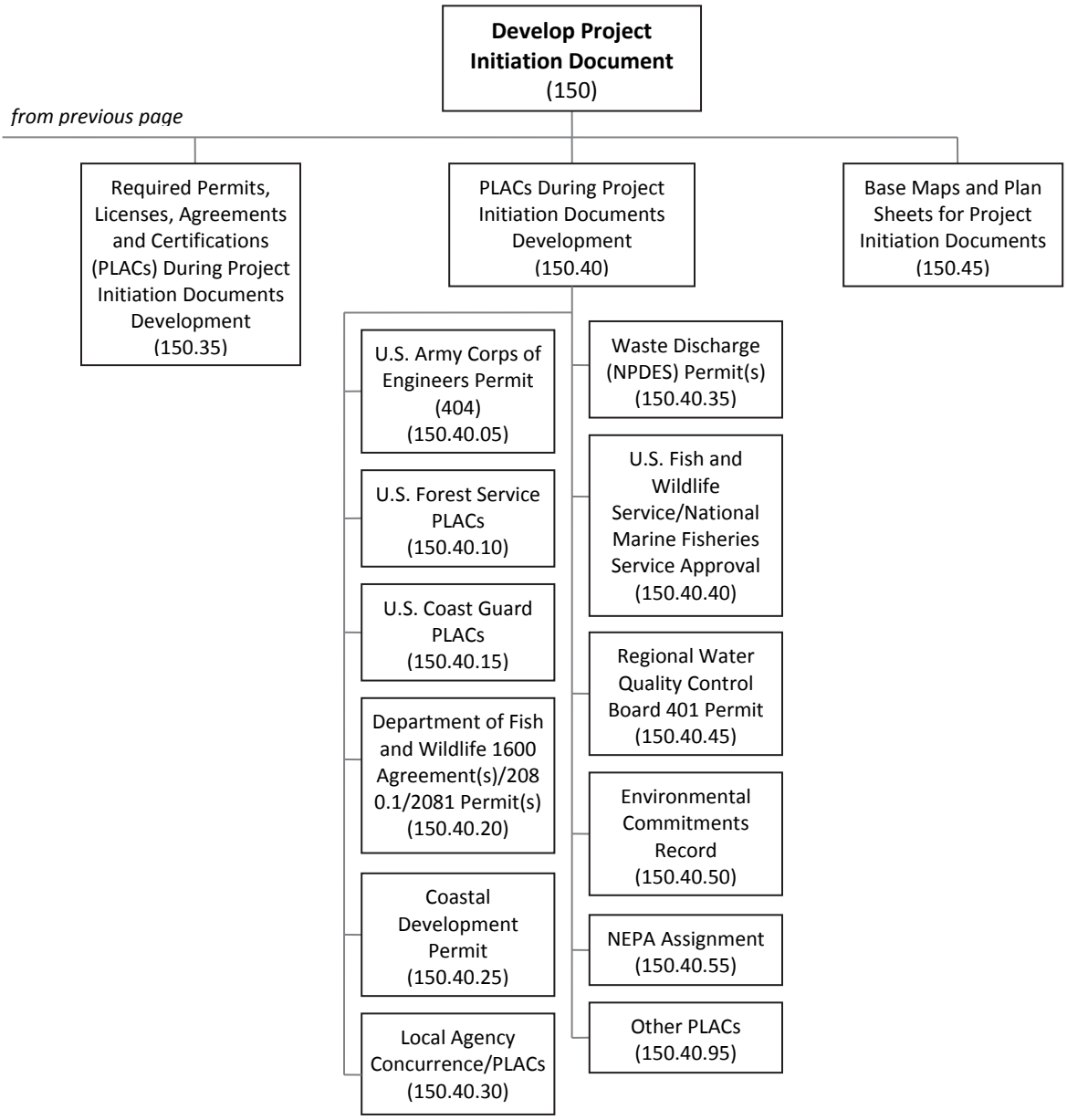


| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |



**WBS**

**150**


Develop Project Initiation Document (150)
from previous page
Required Permits, Licenses, Agreements and Certifications (PLACs) During Project Initiation Documents Development (150.35)
PLACs During Project Initiation Documents Development (150.40)
Base Maps and Plan Sheets for Project Initiation Documents (150.45)
U.S. Army Corps of Engineers Permit (404) (150.40.05)
U.S. Forest Service PLACs (150.40.10)
U.S. Coast Guard PLACs (150.40.15)
Department of Fish and Wildlife 1600 Agreement(s)/2080.1/2081 Permit(s) (150.40.20)
Coastal Development Permit (150.40.25)
Local Agency Concurrence/PLACs (150.40.30)
Waste Discharge (NPDES) Permit(s) (150.40.35)
U.S. Fish and Wildlife Service/National Marine Fisheries Service Approval (150.40.40)
Regional Water Quality Control Board 401 Permit (150.40.45)
Environmental Commitments Record (150.40.50)
NEPA Assignment (150.40.55)
Other PLACs (150.40.95)

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 5** | **150 Develop Project Initiation Document (PID)** |
|---|---|
| Description | Work involved in the preparation, review, and approval of a Project Initiation Document such as a PSR, PSSR, NBSSR, etc.<br><br>Note: Includes minor survey effort directly related to PID. |
| Lead Function | Design |
| Deliverables | • Approved Project Initiation Document |
| Major Milestones | ♦ M000 ID Need (Start: WBS 150)<br>♦ M010 Approve PID (Finish: WBS 150) |
| References | – Caltrans Bridge Design Aids: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-design-aids/bda.html<br>– Caltrans Bridge Design Details: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-design-details/bdd.html<br>– Caltrans Bridge Memos to Designers: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-memo-to-designer/bmd.html<br>– Caltrans Bridge Design Specifications: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-design-specifications/bds.html<br>– Caltrans Director's Policy 22, Context Sensitive Solutions: http://admin.dot.ca.gov/bfams/admin_svcs/sw_policy/dp/dp_22.pdf<br>– Caltrans Deputy Directive 60: Transportation Management Plans: http://www.dot.ca.gov/hq/traffops/TMP_Guidelines_June_2009.pdf, Appendix A<br>– Caltrans Purpose and Need Team Final Report and Recommendations: http://www.dot.ca.gov/ser/downloads/general/PN_Report.pdf<br>– Caltrans Guidelines for Applying Traffic Microsimulation Modeling Software: http://www.paramics-online.com/downloads/technicaldocs/Caltrans%20Microsimapps%202002.pdf<br>– Caltrans Guidelines for Structures Foundation Reports: http://www.dot.ca.gov/hq/esc/geotech/requests/fr_guidelines_December_2009.pdf<br>– Caltrans Project Management Handbook: http://www.dot.ca.gov/hq/projmgmt/documents/pmhb_5thed.pdf<br>– Caltrans Highway Design Manual (HDM): http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm<br>– Caltrans HOV Guidelines: http://www.dot.ca.gov/hq/traffops/systemops/hov/hov_sys/guidelines<br>– California Manual on Uniform Traffic Control Devices: |

http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp
- Caltrans OSFP Information & Procedures Guide: http://www.dot.ca.gov/hq/esc/osfp/osfp-manual/osfp-manual.htm
- Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm
- Caltrans Ramp Metering Design Manual: http://www.dot.ca.gov/hq/traffops/systemops/ramp_meter
- Caltrans Right of Way Manual: http://www.dot.ca.gov/hq/row/rowman/manual
- Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser/index.htm
- Caltrans Surveys Manual: http://www.dot.ca.gov/hq/row/landsurveys/SurveysManual/Manual_TOC.html
- Caltrans Traffic Manual: http://www.dot.ca.gov/hq/traffops/signtech/signdel/trafficmanual-current.htm
- Caltrans Transportation Management Plan Guidelines: http://www.dot.ca.gov/hq/traffops/TMP_Guidelines_June_2009.pdf
- Caltrans Travel Forecasting Guidelines: http://ntl.bts.gov/DOCS/TF.html
- Caltrans User's Guide to Photogrammetric Products and Services: http://www.dot.ca.gov/hq/esc/photogrammetry/resources/UsersGuide1996.pdf
- Caltrans Project Development Workflow Task Manual: http://www.dot.ca.gov/hq/oppd/pdwt/pdwt.htm
- Highway Capacity Manual: http://www.trb.org/Main/Blurbs/164718.aspx
- FHWA Traffic Analysis Toolbox, Vol. III: Guidelines for Applying Traffic Microsimulation Modeling Software: http://ops.fhwa.dot.gov/trafficanalysistools/tat_vol3/index.htm
- FHWA Memorandum on Purpose and Need in Environmental Documents: http://www.environment.fhwa.dot.gov/guidebook/Gjoint.asp
- NCHRP Report 255: Highway Traffic Data for Urbanized Area Project Planning and Design: http://ops.fhwa.dot.gov/trafficanalysistools/tat_vol3/index.htm

| WBS Level 6 | 150.05 Transportation Problem Definition and Site Assessment |
|---|---|
| Description | Analyzing the available information to resolve the project's need and purpose and general scope. In the case of a highway project this would include determining the existing and future Level of Service (LOS) in the no build scenario, a corridor analysis to determine deliverable volumes, determining the general perimeters such as the required number of lanes, and analyzing traffic accident history. |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| Lead Function | PID Unit |
| Deliverables | • Purpose & Need Statement |
| References | – Project Development Procedures Manual (PDPM), Chapter 1, Section 4; Chapter 8, Section 1. |

| **WBS Level 7** | **150.05.05 Review of Existing Reports, Studies, and Mapping** |
|---|---|
| Description | This includes Planning documents (such as Transportation Corridor Report, Regional Transportation Improvement Program, Regional Transportation Program, Congestion Management Plan Tribal Transportation Plan), As-builts, base mapping, weigh in motion master plan, existing surveys and R/W maps, TASAS and Pavement Management System (PMS) adjacent projects under development. Initial field reviews are also included. |
| Lead Function | PID Unit |
| Deliverables | • Input in PID Development<br>• Review and Presumably Prepare A List of Issues |
| References | – Project Development Procedures Manual (PDPM), Chapter 1, Sections 4 & 5; Chapter 2, All Sections<br>– User's Guide to Photogrammetric Services<br>– Surveys Manual Sections 10.5 and 11.5 |

| **WBS Level 7** | **150.05.10 Geological Hazards Review** |
|---|---|
| Description | Normally this activity is limited to a review of the existing studies and a field review of the area. |
| Lead Function | Right of Way, Utilities |
| Deliverables | |
| References | – Project Development Procedures Manual (PDPM), Chapter 3, Section 6. |

| **WBS Level 7** | **150.05.15 Utility Search** |
|---|---|
| Description | Normally this activity is limited to a review of the existing plans/As-builts and a field review of the area. |
| Lead Function | PID Unit/ R/W Units |
| Deliverables | • Utility Portion of R/W Data Sheet and Estimate |

| | |
|---|---|
| References | – Project Development Procedures Manual (PDPM), Chapter 3, Section 13<br>– Caltrans Surveys Manual |

| WBS Level 7 | 150.05.20 Environmental Constraints Identification |
|---|---|
| Description | Normally this activity is limited to a review of the existing studies and a field review of the area. However, project specific circumstances may indicate the need/advisability of more detailed investigations. The purpose of this activity is to identify and delineate any environmental resources or issues that might affect initial alternative(s) selection. Preparation of a base environmental constraints map is recommended. |
| Lead Function | Environmental |
| Deliverables | • Preliminary PEAR Data<br>• List of Known Environmental Constraints |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 4.<br>– Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6 |

| WBS Level 7 | 150.05.25 Traffic Forecasts/Modeling |
|---|---|
| Description | Analyze travel-demand model data using Regional Transportation Planning Agencies (RTPA) traffic models when available. Prepare future traffic projections for intersections, highway mainlines and ramps for project level documents. Prepare traffic indices and design designations such as traffic index and equivalent single-axle load. |
| Lead Function | PID Unit/TSI |
| Deliverables | • Forecast/LOS |
| References | – Project Development Procedures Manual (PDPM), Chapter 3, Section 7<br>– Highway Design Manual (HDM) Chapter 600<br>– California Department of Transportation Travel Forecasting Guidelines<br>– NCHRP 255 Highway Traffic Data for Urbanized Area Project Planning and Design |

| WBS Level 7 | 150.05.30 Surveys and Maps for PID |
|---|---|
| Description | When performing work under this element for the PID process 150.05.30.05 should be charged. Primary efforts are limited to compilation and delivery of existing survey and boundary information. |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| | When requested to provide accelerated survey or right of way engineering products, products which work is normally performed during a future project phase, 150.05.30.10 should be charged. |
| Lead Function | Surveys and Right of Way Engineering |
| Deliverables | • Final Products Include All Products Listed in Caltrans Surveys Manual, Sections 11.7-2 and 11.7-3 with the following Limitation: Intended Application of This Code Is to Tie Existing Data Accrued during WBS 150.05.05 to Correct Project Datum.<br>• Engineering Surveys Products as Listed in WBS 160.20.60 - 160.20.70 and 185.10.60 - 185.10.70<br>• Photogrammetric Products as Listed in WBS 160.20.55 or 185.10.55.<br>• Right of Way Engineering Products as Listed in WBS 300.05.10, 300.25, and 300.35. |
| Business Practices | This WBS code should never be charged. WBS elements 150.05.30.05 and 150.05.30.10 should be used as appropriate. |
| References | – Surveys Manual Chapter 10, 11, 13 & 14<br>– Right of Way Manual Chapter 6<br>– Plans Preparation Manual Chapter 4 |

| **WBS Level 8** | **150.05.30.05 Regular Surveys and Maps for PID** |
|---|---|
| Description | Minimal field and office survey activities to supplement products from 150.05.05 and 150.05.15. This code is not intended for performing a full engineering survey of a whole project during the K phase. |
| Lead Function | Surveys |
| Deliverables | • Final Products Include All Products Listed in Caltrans Surveys Manual, Sections 11.7-2 and 11.7-3 with the following Limitation: Intended Application of This Code Is to Tie Existing Data Accrued during WBS 150.05.05 to Correct Project Datum. |
| Business Practices | Total survey time expended should be minimal; otherwise, centerline work effort should be delayed and performed under activity 160.20.65 in 0 Phase or 185.10.65 in 1 Phase. Right of Way work can be performed under 150.15.05 when preparing cost estimate maps or should be delayed until 0 Phase and performed under 160.10.40 or 160.20.25 – 160.20.35. |
| References | – Surveys Manual Chapter 10, 11, 13 & 14<br>– Right of Way Manual Chapter 6<br>– Plans Preparation Manual Chapter 4 |

| **WBS Level 8** | **150.05.30.10 Accelerated Engineering Surveys** |
|---|---|

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|---|---|
| Description | This activity includes developing detailed design surveys and/or photogrammetric mapping. |
| Lead Function | Surveys |
| Deliverables | • Engineering Surveys Products as Listed in WBS 160.20.60 - 160.20.70 and 185.10.60 - 185.10.70<br>• Photogrammetric Products as Listed in WBS 160.20.55 or 185.10.55. |
| Business Practices | This project work element will only be charged:<br>– when the use of alternate data sources that have 1 meter or greater vertical accuracy will not be suitable, and<br>– where risk assessment justifies the cost and time savings of early surveying/mapping.<br><br>The District Chief of the Division of Transportation Planning must approve work in writing prior to start. Otherwise, work effort should be delayed and performed under activity 160.20 in 0 Phase or 185.10 in 1 Phase.<br><br>If approval from Transportation Division of Planning is secured, then Source Unit for WBS 150.05.40 work should be from within District Division of Planning. |
| Notes | Surveys shall meet all requirements as set forth in the Caltrans Surveys Manual, Sections 11.7-2 and 11.7-3, Chapter 5, and Figure 5-1. |
| References | – Surveys Manual Chapter 11, 13 & 14 |

| **WBS Level 7** | **150.05.35 Transportation Problem Definition and Site Assessment** |
|---|---|
| Description | This activity includes three major tasks:<br>– Compiling and analyzing existing background information, system and corridor planning, and data on transportation deficiencies that validate the need for the project.<br>– Developing project constraints and information required to determine the extent of the existing problem and future needs. This should include any necessary discussions with internal and external stakeholders. State highways located within communities will have its own characteristic features and values attached. The PDT should work with the stakeholders to ensure these characteristics are considered when developing project alternatives.<br>– Analyzing the existing problem and future requirement to determine the project's need and purpose. The need and purpose will be used to develop the alternatives or the scope of the alternatives to be considered. |
| Lead Function | Right of Way, Utilities |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

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|---|---|
| Deliverables | • Problem Definition<br>• Site Assessment/Statement of Context<br>• Purpose and Need Statement. |
| Business Practices | Adequate development of a purpose and need statement with enough information to begin developing alternatives to meet the stated objective. |
| References | – Caltrans Purpose and Need Team Final Report and Recommendations<br>– Caltrans Project Management Handbook, Chapter 1, Understanding the Project Environment<br>– Project Development Procedures Manual (PDPM), Chapter 9, Article 4, (Purpose and Need Defining the Transportation Problem)<br>– Project Development Procedures Manual (PDPM), Chapter 9, Article 4, (PID Alternatives Formulation Strategies - Context Sensitive Solutions) |

| **WBS Level 7** | **150.05.45 As-Built Centerline and Existing Right of Way** |
|---|---|
| Description | Review the existing data and preliminary surveys as necessary, to locate existing facility centerline and right of way lines. Locate existing record information such as plans, As-builts, survey files and mapping, etc. Evaluate data. Minimal surveys as necessary to locate right of way and centerline. |
| Lead Function | PID Unit |
| Deliverables | • A Design Software Project File and/or CADD Drawing File Containing Preliminary Centerline and/or Right of Way Line Locations Based on Record Data and Field Surveys.<br>• Inclusion into District Centerline Alignment Log Using Appropriate Format for District. |
| Business Practices | Total survey time expended should be minimal; otherwise, centerline work effort should be delayed and performed under activity 160.20.65 in 0 Phase or 185.10.65 in 1 Phase. Right of Way work can be performed under 150.15.05 when preparing cost estimate maps or should be delayed until 0 Phase and performed under 160.10.40 or 160.20.25 – 160.20.35. |
| Notes | For centerline location, surveys should be performed in a manner to ensure meeting Caltrans General Order standards as listed in the Caltrans Surveys Manual, Chapter 5 and Figure 5-1. |
| References | – |

| **WBS Level 7** | **150.05.99 Other Definition And Assessment Products** |
|---|---|
| Description | All other work, during the problem definition and Site Assessment efforts, not defined |

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| | or covered in other 150.05 elements. |
| Lead Function | Various |
| Deliverables | • Various |
| References | – |

| WBS Level 6 | 150.10 Initial Alternatives Development |
|---|---|
| Description | This activity includes identifying all potential alternatives and reaching consensus with internal/external stakeholders on the alternatives that will be addressed in the PID. This activity includes establishing the study limits of the various alternatives to be analyzed in the PID. |
| Deliverables | • General Scope and Study Limits of the Alternatives Determined to Be Carried Forward for Further Study. These Alternatives Are Now Ready for Further Analysis to Determine Project Features, Cost, and Cost Effectiveness. |
| References | – |

| WBS Level 7 | 150.10.05 Public / Local Agency Input |
|---|---|
| Description | Includes but is not limited to:<br>– Development of Community Involvement Plan<br>– Initial information or preliminary Scoping Meetings w/public & local agencies<br>– Reaching consensus on which alternatives to address in the PID |
| Lead Function | PID Unit |
| Deliverables | • Verification of Alternatives to Carry Forward |
| References | – Project Development Procedures Manual (PDPM), Chapters 9 and 11, Article 1<br>– Caltrans Project Management Handbook, Chapter 4<br>– Project Communication Handbook<br>– Project Development Procedures Manual (PDPM), Chapter 22, Article 4<br>– Project Development Procedures Manual (PDPM), Chapter 22, Article 5, 6, 7, and 8 |

| WBS Level 7 | 150.10.10 Value Analysis |
|---|---|
| Description | This activity includes reviewing VA procedures, identifying VA team, conducting the analysis, and recommendations to management and the Project Development Team (PDT). |
| Lead Function | PID Unit |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
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| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

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| Deliverables | • VA Study Report |
| References | – Project Development Procedures Manual (PDPM), Chapter 19, All; Chapter 9, Article 3; Chapter 8, Section 6 |

| **WBS Level 7** | **150.10.15 Concept Alternatives Development** |
|---|---|
| Description | Development of the basic strategy options to meet the project need and purpose. Including developing horizontal & vertical alignment, cross sections, preliminary staging plans, strip maps, right of way requirements, rehabilitation strategies and reviews by FHWA and for all alternatives under considerations. |
| Lead Function | PID Unit |
| Deliverables | • Possible Layouts. Engineering Data Required to Support or Reject Conceptual Alternatives Proposed for Use in the PID. |
| References | – Highway Design Manual (HDM), Chapters 100 & 200<br>– Project Development Procedures Manual (PDPM), Chapter 9, Article 2<br>– PDPM, Chapter 8, Section 6<br>– PDPDM, Chapter 9, Article 4<br>– PDPM, Chapter 10, Section 4<br>– PDPM, Chapter 12, Section 2 |

| **WBS Level 7** | **150.10.99 Other Initial Alternative Development Products** |
|---|---|
| Description | All other work, during the Initial Alternatives Development efforts, not defined or covered in other 150.10 elements. |
| Lead Function | Various |
| Deliverables | • Various Deliverables Required for District Alternative Studies. |
| References | – |

| **WBS Level 6** | **150.15 Alternatives Analysis** |
|---|---|
| Description | This activity is required to develop the necessary scope and cost of each alternative to be presented in the PID. Costs developed in this activity will be used for programming purposes; consequently, the analysis should be of sufficient detail to identify all potential costs. Also included in this activity are tasks required to assess the adequacy of the alternatives to meet the project's need and purpose. |
| Deliverables | • in Conjunction with 150.20 (Perform Preliminary Environmental Analysis) Completion of This Activity Should Establish Project Scope, Cost, and Feasibility |

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| | for Presentation in the PID and Programming.<br>• Review and Presumably Prepare A List of Issues |
| References | – PDPM, Chapter 8, Section 6<br>– PDPM, Chapter 9, Article 4<br>– PDPM, Chapter 10, Section 4 |

| **WBS Level 7** | **150.15.05 Right of Way Data Sheets** |
|---|---|
| Description | Includes assessing R/W requirements, obtaining public records, and preparing right of way cost estimates and Cost Estimate Maps. |
| Lead Function | R/W Units |
| Deliverables | • Right of Way Data Sheets<br>• Cost Estimate Maps (for Inclusion in the Right of Way Data Sheet Deliverable.) |
| Business Practices | Departmental recommendation is for Right of Way Engineering to create Cost Estimate Maps. |
| Notes | Cost Estimate Maps shall meet or exceed specifications and standards as set forth in the Caltrans Right of Way Manual, Sections 4.01.04 – 4.01.08, and Caltrans Plans Preparation Manual, Section 4-2(all). |
| References | – Right of Way Manual Sections 4.01.04 - 4.01.08<br>– Plans Preparation Manual Section 4-2 |

| **WBS Level 7** | **150.15.10 Utility Relocation Requirements Assessment** |
|---|---|
| Description | Identifying utility needs, inspecting facilities and preparing utility estimate for inclusion in the Right of Way Data Sheets. |
| Lead Function | PID Unit/ R/W Units |
| Deliverables | • R/W Data Sheet. Cost Estimate, Right of Way Needs, Preliminary Utility Relocation Schedule. |
| References | – Right of Way Manual - Forms and Exhibits, Chapter 13<br>– Right of Way Manual - Reference Version, Chapter 13<br>– Project Development Procedures Manual (PDPM), Chapter 3, Section 13; Chapter 8, Section 7 |

| **WBS Level 7** | **150.15.15 Railroad Involvement Determination** |
|---|---|
| Description | Identify Railroad involvement |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
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| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

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| Lead Function | R/W Units |
| Deliverables | • R/W Data Sheet. Estimate of Cost, Schedule, and Scope of Any Railroad Involvement. |
| References | – Right of Way Manual - Forms and Exhibits, Chapter 8<br>– Right of Way Manual - Reference Version, Chapter 8<br>– Project Development Procedures Manual (PDPM), Chapter 3, Section 4; Chapter 8, Section 7 |

| **WBS Level 7** | **150.15.20 District Preliminary Geotechnical Report (DPGR)** |
|---|---|
| Description | This task includes all efforts required to prepare a District Preliminary Geotechnical Report (DPGR). The effort required to prepare a DPGR typically consists of field reviews, researching existing files, literature reviews and information gathering, such as proposed plans/alternatives and location history. Sometimes limited subsurface exploration is required to provide sufficient information to produce a DPGR. The subsurface exploration can include, but isn't limited to, test borings, soundings, and/or geophysics. A typical DPGR consists of identifying the geological conditions of the proposed alternatives, existing conditions, constructability issues, and preliminary information such as cut and fill slope ratios for project cost estimating purposes. |
| Lead Function | PID Unit/DES Units |
| Deliverables | • District Preliminary Geotechnical Report (DPGR) |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 9; Chapter 3, Section 6; Chapter 9, Article 9; Chapter 20, Section 2<br>– Caltrans Highway Design Manual Chapter 100, Topics 113 and 114; Chapter 200, Topics 203, 208, and 210; Chapter 800, Topics 802 and 805 |

| **WBS Level 7** | **150.15.25 Preliminary Materials Report** |
|---|---|
| Description | Includes initial deflection study, corrosion study, and identification of need for material sites. |
| Lead Function | PID Unit/ District DES units |
| Deliverables | • Preliminary Materials Report (PMR) |
| References | – Project Development Procedures Manual (PDPM), Chapter 3, Section 6. |

| **WBS Level 7** | **150.15.30 Structures Advance Planning Study (APS)** |
|---|---|
| Description | This task includes all efforts required to develop, review, approve and distribute |

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| | Structures Advance Planning Studies. An APS is required to identify the structures scope of work and preliminary cost. The APS is included in the Project Initiation Document. |
| Lead Function | DES units |
| Deliverables | • Structures Advance Planning Study (APS) |
| References | – Caltrans Bridge Design Aids, Sections 10 & 11<br>– Caltrans Bridge Design Details, Sections 1-3<br>– Caltrans Bridge Design Memos to Designers, Sections 1, 2, & 17<br>– Caltrans Bridge Design Specifications, All Sections<br>– Caltrans OSFP Information & Procedures Guide, Chapter 3-02<br>– Pumping Plant Design Manual, Appendix 7<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 8<br>– Caltrans Guidelines for Structure Foundation Reports, Chapter 2 |
| Subtasks | – Prepare Preliminary Design<br>– Prepare Preliminary Plan Sheets<br>– Prepare Structures Preliminary Geotechnical Report (SPGR): The SPGR is used to document existing foundation conditions, make preliminary foundation recommendations, and identify the need for additional investigations and studies. Sometimes limited subsurface exploration is required to provide sufficient information to produce a SPGR. The subsurface exploration can include, but isn't limited to, test borings, soundings, and/or geophysics. The SPGR shall provide, but not be limited to, the following:<br>▪ Project Location<br>▪ Summary of Site Geology and Subsurface Condition<br>▪ Scour Evaluation<br>▪ Corrosion Evaluation<br>▪ Preliminary seismic data and recommendations<br>▪ As-Built Foundation Data<br>▪ Preliminary Foundation Recommendation<br>▪ Additional Field Work and Laboratory Testing<br>– Prepare Structures Preliminary Hydraulics Report (PHR)<br>– Prepare Structures Preliminary Architectural and Aesthetics Report (PAAR)<br>– Prepare Structures Preliminary Maintenance Report (PMR)<br>– Prepare Preliminary Quantities<br>– Prepare Preliminary Estimate<br>– Prepare Structures Advance Planning Study package<br>– Perform Constructability Review (CR) of the APS package<br>– Obtain APS approval<br>– Distribute approved APS package for inclusion in the PID |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
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| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

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|---|---|
| | – Other subtasks if required |

| **WBS Level 7** | **150.15.35 Multimodal Review** |
|---|---|
| Description | This review should address temporary construction and permanent impacts as well as possible improvements to:<br>– Pedestrian facilities<br>– Bicycle facilities<br>– Transit facilities<br>– Park and Rides<br>– Equestrian Facilities<br>– Weight/Inspection Facilities<br>– Rest Area Facilities |
| Lead Function | PID Unit |
| Deliverables | • LOS/Forecast. Engineering Planning Data Supporting or Rejecting Various Multimodal Proposals for the PID. |
| References | – Project Development Procedures Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 7; Chapter 31, All. |

| **WBS Level 7** | **150.15.40 Hydraulic Review** |
|---|---|
| Description | Includes review and inspection of existing facilities to determine the need to upgrade or replace the existing drainage system (includes culvert inspection study). |
| Lead Function | Hydraulic Unit |
| Deliverables | • Hydraulic Report |
| References | – Project Development Procedures Manual (PDPM), Chapter 3, Section 9. |

| **WBS Level 7** | **150.15.45 Traffic Capacity Analysis** |
|---|---|
| Description | Includes the use macroscopic and/or micro-simulation modeling, as appropriate, to perform traffic capacity analysis on existing and future year project specific State highways. Includes integrating, as appropriate, ramp metering, HOV lanes and intelligent transportation system needs. |
| Lead Function | TSI Unit |
| Deliverables | • LOS/Forecast |
| References | – California Manual on Uniform Traffic Control Devices |

| | |
|---|---|
| | – Highway Capacity Manual<br>– HOV Guidelines<br>– Ramp Metering Design Guidelines<br>– Project Development Procedures Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 7<br>– Caltrans Guidelines for Applying Traffic Microsimulation Modeling Software<br>– FHWA Vol. III Guidelines for Applying Traffic Microsimulation Model Software |

| **WBS Level 7** | **150.15.50 Traffic Studies** |
|---|---|
| Description | Preliminary traffic studies pertaining to traffic operation and traffic safety. |
| Lead Function | TSI Unit & PDI Unit |
| Deliverables | • LOS/Forecast<br>• Preliminary Traffic Design<br>• Traffic Operational and Safety Analysis<br>• Traffic System and Signal System Review<br>• Skid Test Analysis |
| References | – Traffic Manual, Ch.7<br>– Highway Capacity Manual<br>– HOV Guidelines<br>– Ramp Metering Design Guidelines<br>– Traffic Bulletins<br>– California Manual on Uniform Traffic Control Devices<br>– Project Development Procedures Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 7 |

| **WBS Level 7** | **150.15.55 Construction Estimates** |
|---|---|
| Description | The Construction Estimates are used to program the project. The estimates include (and may include other items depending upon the project features):<br>– Adequate scoping for each alternative<br>– Worst case scenario<br>– Reconstruction of existing features<br>– Right of Way costs, including utility relocation<br>– Mitigation costs for hazardous materials and other environmental impacts<br>– Existing and forecasted traffic<br>– Geotechnical design, especially foundation and slope stability features<br>– Materials<br>– Pavement structural sections design |

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|---|---|
| | – Noise barriers<br>– Retaining walls<br>– Major storm drains<br>– Proposed Structures<br>– Traffic handling and traffic management<br>– Recycling |
| Lead Function | PID Unit/ Design Units |
| Deliverables | • Cost Estimate for All Viable Alternatives. |
| References | – Project Development Procedures Manual (PDPM), Chapter 3, Sec. 10; Chapters 6 & 20<br>– Draft Workflow Task Manual |

| **WBS Level 7** | **150.15.60 Preliminary Transportation Management Plan** |
|---|---|
| Description | This plan includes:<br>– Review and approve TMP Data Sheet<br>– Prepare itemized estimate of proposed TMP strategies and their respective costs for the Project Initiation Document<br>– Identify TMP elements that need to be in place prior to start of construction as stage construction or first order of work for CTC package<br>– Form and meet with TMP team, which may include the District TMP Manager,District Traffic Manager (DTM), Project Engineer (PE), and the Maintenance representative<br>– Coordinate lane closures for multiple projects in the same area to determine impact on this project<br>– Coordinate major closures with neighboring Caltrans districts, CHP, and local agencies to determine impact on this project<br>– Update TMP/lane closure database |
| Lead Function | PID Unit |
| Deliverables | • TMP Data Sheet |
| References | – Deputy Directive 60 regarding TMP Requirements<br>– TMP Guidelines<br>– Traffic Manual, Ch.7<br>– Highway Capacity Manual<br>– HOV Guidelines<br>– Ramp Metering Design Guidelines<br>– Traffic Bulletins |

| | |
|---|---|
| | – California Manual on Uniform Traffic Control Devices<br>– Project Development Procedures Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 7 |

| WBS Level 7 | 150.15.99 Other Alternative Analysis Products |
|---|---|
| Description | All other work, during the Alternatives Analysis efforts, not defined or covered in other 150.15 elements. |
| Lead Function | Various |
| Deliverables | • Additional Studies of Alternatives. |
| References | – |

| WBS Level 6 | 150.20 Preliminary Environmental Analysis Report (PEAR) |
|---|---|
| Description | The Preliminary Environmental Analysis Report (PEAR) identifies the potential environmental impacts of each alternative, as well as potential mitigation costs. Although existing data will most frequently be used in the preparation of this report, project specific circumstances may indicate the need for or advisability of conducting more detailed investigations. Costs developed in this activity will be used for programming purposes; consequently, the analysis should be of sufficient detail to identify all potential costs. For those projects where the initiation document is combined with the project report/environmental document (such as PSSRs and PSR/PR), this activity also includes those tasks required for the environmental document. |
| Lead Function | Various |
| Deliverables | • The PEAR provides the results of project specific preliminary environmental analyses performed by an interdisciplinary team of environmental and associated specialists. It contains a bottoms-up determination of projected time and an estimate of support resource needs associated with completing the environmental compliance tasks (WBS 165, 175, 180, 235) for a proposed project.<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER) |

| WBS Level 7 | 150.20.05 Initial Noise Study |
|---|---|
| Description | Develop Noise Study for evaluating noise impacts of both CEQA and NEPA projects. Noise levels for roadside receptors need to be quantified and mitigated/abated if necessary. |
| Lead Function | Environmental |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

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|---|---|
| Deliverables | • Initial Noise Study to Be Included in PEAR<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol.1, Chap. 12<br>– Preliminary Environmental Analysis Report Handbook<br>– Traffic Noise Analysis Protocol and Technical Noise Supplement<br>– Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 9, Article 9; Chapter 30, All |

| **WBS Level 7** | **150.20.10 Hazardous Waste Initial Site Assessment/Investigations** |
|---|---|
| Description | Preparation of the Initial Site Assessment (ISA). An ISA is required for all projects. This information is required in order to complete the PEAR and PID. Additionally, for "high risk" sites, as assessed by the Hazardous Waste Technical Specialist, it is strongly recommend that a Preliminary Site Investigation (PSI) at least be started during the K Phase. |
| Lead Function | Various |
| Deliverables | • Hazardous Waste Initial Site Assessment (ISA)<br>• Updated STEVE Database |
| Notes | This work may be done through the consultant contract process. Consultant selection and administration activities should be captured under WBS 100.10. |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 10<br>– Preliminary Environmental Analysis Report Handbook<br>– Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 18, All |

| **WBS Level 7** | **150.20.15 Scenic Resources and Landscape Architecture Review** |
|---|---|
| Description | This task includes two subtasks: a review of visual resources and a Landscape Architectural Review. |
| Lead Function | Environmental and Landscape Architecture |
| Deliverables | • Initial Study to Be Included in PEAR |
| References | – Project Development Procedures Manual (PDPM) Chapter 3, Section 12; Chapter29, All.<br>– Highway Design Manual (HDM) Chapter 900<br>– Storm Water Project Planning and Design Guide (PPDG) |

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|---|---|
| | – Highway Design Manual (HDM) Chapter 890<br>– Caltrans Standard Environmental Reference (SER), Chap. 27 |
| Subtasks | – A review to determine if scenic or visual resources exist within the project limits, and whether these resources will be impacted by the proposal. For projects on the State Highway System, the following information is collected:<br>▪ Verification of information from the RTP stage;<br>▪ Identification of possible scenic resources and the project's potential visual impact(s);<br>▪ Identification of possible mitigation measures and preliminary costs to be included in the PSR estimate (e.g., special grading requirements, architectural features on bridges and walls, urban street amenities, landscape treatment, right-of way requirements)<br>▪ Identification of Officially Designated State Scenic Highways in the project area<br>▪ Public input is solicited during this phase to address local concerns and integrate appropriate design features through a 'context sensitive solutions' approach per Director's Policy DP-22.<br>▪ For projects off the State Highway System, a Preliminary Environmental Study (PES) form is completed.<br>– The Landscape Architectural Review typically includes recommendations regarding:<br>▪ Design strategies that integrate the project with the surrounding environment.<br>▪ Erosion control, slope design, and Storm Water Data Report recommendations.<br>▪ Replacement Highway Planting and Mitigation Planting requirements<br>▪ Integration with the Comprehensive Corridor Plan, if available<br>▪ Traveler and Worker Safety<br>▪ Preservation of Historic Period Landscapes |

| **WBS Level 7** | **150.20.20 Initial NEPA/404 Coordination** |
|---|---|
| Description | Includes Pre-Consultation with appropriate resource agencies in order to reach consensus on need and purpose, avoidance alternatives, and feasible alternatives. |
| Lead Function | Environmental |
| Deliverables | • Activity and Documentation of Coordination<br>• Updated STEVE Database |
| References | – Guidance Papers on Implementation of NEPA/404 MOU<br>– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 15 |

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|---|---|
| | – Project Development Procedures Manual (PDPM), Chapter 2, Sections 6 & 7, Article 2 |

| WBS Level 7 | 150.20.25 Initial Biology Study |
|---|---|
| Description | Conduct a background search, perform appropriate level of survey, prepare documentation. |
| Lead Function | Environmental |
| Deliverables | • Initial Biological Study to Be Included in PEAR<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 14<br>– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 3, Chap. 2<br>– Preliminary Environmental Analysis Report Handbook<br>– Project Development Procedures Manual (PDPM), -Chapter 3, Section 2; Chapter 8, Section 6 |

| WBS Level 7 | 150.20.30 Initial Records and Literature Search for Cultural Resources |
|---|---|
| Description | Review of Caltrans Cultural Resources Database (CCRD) records, historical society archives, Caltrans records, etc. to determine archaeological sensitivity for planning purposes. |
| Lead Function | Environmental |
| Deliverables | • Site Record/Literature Search Documentation<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 4<br>– Preliminary Environmental Analysis Report Handbook<br>– Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6 |

| WBS Level 7 | 150.20.40 Initial Community Impact Analysis, Land Use, and Growth Studies |
|---|---|
| Description | Identify all applicable activities related to socioeconomic, land use, and growth impact technical studies for use in the environmental document and identify if a separate community impact assessment technical report will be necessary. |

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| Lead Function | Environmental |
| Deliverables | • Initial Community Impact Assessment Documentation<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 4<br>– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 24<br>– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 25<br>– Preliminary Environmental Analysis Report Handbook<br>– Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6 |

| **WBS Level 7** | **150.20.45 Initial Air Quality Study** |
|---|---|
| Description | Prepare an Air Quality Assessment to determine the need and scope of formal air quality studies and Conformity determination as required under CEQA, NEPA, the Clean Air Act, and Federal regulations. |
| Lead Function | Environmental |
| Deliverables | • Initial Air Quality Assessment Documentation<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER) covers some, but not all, AQ issues |
| Subtasks | – Preliminary Environmental Analysis Report Handbook<br>– Standard Environmental Reference (SER) - Environmental Handbook Vol. 1, Chap. 11<br>– Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6 |

| **WBS Level 7** | **150.20.50 Initial Water Quality Studies** |
|---|---|
| Description | Revised scoping questionnaire for water quality studies. |
| Lead Function | Environmental/Design |
| Deliverables | • Initial Water Quality Assessment Report<br>• Updated STEVE Database |
| References | – Preliminary Environmental Analysis Report Handbook |

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|---|---|
| | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 9<br>– Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6 |

| WBS Level 7 | 150.20.55 Initial Floodplain Study |
|---|---|
| Description | Information needed includes identification of 100-year base floodplain(s) within the project area using National Flood Insurance Program (NFIP) maps and identification of any potential floodplain encroachments by the proposed project and construction activities. |
| Lead Function | Hydraulics Units |
| Deliverables | • Preliminary Floodplain Study |
| References | – Preliminary Environmental Analysis Report Handbook<br>– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1 Chap. 17<br>– Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6. |

| WBS Level 7 | 150.20.60 Preliminary Environmental Analysis Report Preparation |
|---|---|
| Description | Prepare Preliminary Environmental Analysis Report (PEAR) or a Categorical Exemption/Categorical Exclusion (CE/CE) for qualifying projects where the PID is combined with the project report/environmental document. |
| Lead Function | Environmental |
| Deliverables | • PEAR Document<br>• Updated STEVE Database |
| References | – Preliminary Environmental Analysis Report Handbook<br>– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 5<br>– Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6 |

| WBS Level 7 | 150.20.65 Initial Paleontology Study |
|---|---|
| Description | Prepare the Paleontological Identification Report (PIR). A PIR is required for all projects, however, a brief memo is satisfactory when the project does not include disruption of previously undisturbed sediments. |

| | |
|---|---|
| Lead Function | Environmental |
| Deliverables | • Initial Paleontological Assessment Report<br>• Paleontological Identification Report (PIR)<br>• Updated STEVE Database |
| References | – Preliminary Environmental Analysis Report Handbook<br>– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 8<br>– Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6 |
| Subtasks | – Identification of geologic strata potentially affected by project related activities (including borrow sites, cuts and haul roads) and assessment of its potential to contain significant paleontological resources<br>– Geologic map review<br>– Field survey<br>– Literature search of paleontological resources in the region |

| **WBS Level 7** | **150.20.70 Initial Native American Coordination** |
|---|---|
| Description | Letters, telephone calls, meetings, etc. conducted to consult with Native American groups and individuals to determine whether the project may affect historic properties to which they attribute significance. |
| Lead Function | Environmental |
| Deliverables | • Activity and Documentation of Coordination<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1<br>– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chap. 3<br>– Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6 |

| **WBS Level 7** | **150.20.99 Other PEAR Products** |
|---|---|
| Description | All other work, during the PEAR efforts, not defined or covered in other 150.20 elements. |
| Lead Function | Various |
| Deliverables | • Activity and Documentation of Coordination |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| | • Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER) |

| **WBS Level 6** | **150.25 Approved PID (PSR, PSSR, etc.)** |
|---|---|
| Description | This activity includes all tasks required to develop the PID text and exhibits, as well as the effort required to circulate, review and update the PID (includes appropriate "Constructability Review" for project initiation component). This activity also includes development and approval of any required design exceptions and /or a FHWA access modification request. It also includes the development and approval of any supplemental PIDs. |
| Deliverables | • Approved PID. |
| References | – |

| **WBS Level 7** | **150.25.05 Draft PID** |
|---|---|
| Description | Prepare Draft Initiation Document |
| Lead Function | PID Unit |
| Deliverables | • Circulated Draft Initiation Document |
| References | – Project Development Procedures Manual (PDPM), Chapter 4, 6 & 9, All Sections<br>– Highway Design Manual (HDM), Chapter 80, Topic 82<br>– DD23 Special Funded Projects |

| **WBS Level 7** | **150.25.10 Approved Exceptions to Design Standards** |
|---|---|
| Description | Documentation of the Design Exception Process. |
| Lead Function | PID Unit. |
| Deliverables | • Approved Fact Sheet |
| References | – Highway Design Manual (HDM), Chapter 80, Topic 82<br>– Project Development Procedures Manual (PDPM), Chapter 9, Article 3; Chapter 21, All |

| **WBS Level 7** | **150.25.15 Approved Access Modification Request** |
|---|---|
| Description | Engineering Studies Pertaining to Highway Access Rights |
| Lead Function | Design and PID Unit. |

| | |
|---|---|
| Deliverables | • Information for the PID Pertaining to Highway Access Rights and the Potential Need for Freeway Agreements, Route Adoptions or New Public Connection Documents. |
| References | – Project Development Procedures Manual (PDPM), Chapter 9, Article 3; Chapter 27, All |

| **WBS Level 7** | **150.25.20 PID Circulation, Review & Approval** |
|---|---|
| Description | This includes the PSSR Scoping Team field review and appropriate Constructability Review. |
| Lead Function | PID |
| Deliverables | • Approved Initiation Project Document. |
| References | – Project Development Procedures Manual (PDPM), Chapter 4 & 9, All Sections, Chapter 8, Section 6 |

| **WBS Level 7** | **150.25.25 Storm Water Data Report** |
|---|---|
| Description | Review scope and location to determine Storm Water Requirement. |
| Lead Function | PID Unit. |
| Deliverables | • Storm Water Data Report |
| References | – Project Planning and Design Guide (PPDG), Section 5; Appendix E |

| **WBS Level 7** | **150.25.30 Draft Project Report as part of a PSSR/PR Programming Document** |
|---|---|
| Description | If this project uses a combined PR/PSSR and only has Categorical Exemption/Exclusion required, the draft Project Report is itself the Final Project Report, and WBS 180 should not be used. This activity includes all tasks required to develop the text, exhibits and cost estimate required for a Draft Project Report. This activity includes development and approval of any design exceptions. |
| Deliverables | • This Activity Is Complete Where No Draft Environmental Document Is Required, and Is the Final Project Report and Acts as the Programming Document. |
| References | – |

| **WBS Level 8** | **150.25.30.05 Cost Estimates for Alternatives** |
|---|---|
| Description | Cost Estimate frequent for each Alternative |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| Lead Function | PID Unit |
| Deliverables | • Cost Estimate for Alternatives to Be Included in PID |
| References | – Project Development Procedures Manual (PDPM), Chapters 6 & 20, All; Chapter 8, Section 6 |

| **WBS Level 8** | **150.25.30.10 Fact Sheet for Exceptions to Design Standards** |
|---|---|
| Description | Fact Sheet Preparation for PID |
| Lead Function | PID Unit |
| Deliverables | • Approved Fact Sheet |
| References | – Highway Design Manual (HDM), Chapter 80, Topic 82<br>– Project Development Procedures Manual (PDPM), Chapter 10, Section 2; Chapter 21, All |

| **WBS Level 8** | **150.25.30.15 Approved Exceptions to Encroachment Policy** |
|---|---|
| Description | |
| Lead Function | PID Unit |
| Deliverables | |
| References | – Project Development Procedures Manual (PDPM), Chapter 17, All |

| **WBS Level 8** | **150.25.30.20 Draft Project Report as part of a PSSR/PR Programming Document** |
|---|---|
| Description | Verify Project Information Pertaining to Utility Encroachments. |
| Lead Function | PID Unit |
| Deliverables | • Identify All Issues Pertaining to Longitudinal Encroachments and Any Issues Pertaining to Meeting High and Low Risk Utility Policies. |
| References | – Project Development Procedures Manual (PDPM), Chapter 10, Section 5 |

| **WBS Level 8** | **150.25.30.25 Draft Project Report Circulation Review and Approval** |
|---|---|
| Description | Circulate Draft PSSR/PR |
| Lead Function | PID Unit |

| | |
|---|---|
| Deliverables | • Approved Draft Project Report |
| References | – Project Development Procedures Manual (PDPM), Chapter 10, All Sections |

| WBS Level 7 | 150.25.99 Other PID Products |
|---|---|
| Description | All other work, during the Approved PID efforts, not defined or covered in other 150.25 elements. |
| Lead Function | Various |
| Deliverables | • Various |
| References | – |

| WBS Level 6 | 150.35 Required Permits, Licenses, Agreements, and Certifications (PLACs) during Project Initiation Documents Development |
|---|---|
| Description | This activity includes all work, normally prior to approval of the combined PR/PSSR, required in order to determine what PLACs may or may not be required.<br><br>Note: This does not include coordination with resource agencies covering the scoping and NEPA/404 MOU process covered under activities 150.10.05, 150.20.20, 165.05.10, and 165.15.15. |
| Lead Function | Various |
| Deliverables | • A List of What Specific PLACs Are Required and from What Agency and/or A Memo to File of What PLACs Were Considered but Not Pursued and for What Reason.<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER)<br>– Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2 |

| WBS Level 6 | 150.40 PLACs During Project Initiation Documents Development |
|---|---|
| Description | All work involved in obtaining PLACs for combined PR/PSSR, including:<br>– Discussions and negotiations with the permitting agency with jurisdiction<br>– Preparation of the PLACs such as exhibits, maps, etc.<br>– Obtain funds for any required PLAC fees<br>– Submit PLACs application |
| Lead Function | Various |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| Deliverables | • the Permits from Each Applicable Permitting Agency Have Been Received. |
| References | – Caltrans Standard Environmental Reference (SER) |

| **WBS Level 7** | **150.40.05 U.S. Army Corps of Engineers Permit (404/10)** |
|---|---|
| Description | All efforts required to obtain U.S. Army Corps of Engineers permit(s). |
| Lead Function | Environmental |
| Deliverables | • Coordination as to Need for PLACs<br>• U.S. Army Corps of Engineers Permit (404/10)<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 3, Chap. 3<br>– Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2 |

| **WBS Level 7** | **150.40.10 U.S. Forest Service PLACs** |
|---|---|
| Description | All efforts required to obtain Forest Service PLACs |
| Lead Function | Various |
| Deliverables | • Coordination as to Need for PLACs<br>• U.S. Forest Service Permit(s)<br>• Updated STEVE Database |
| References | – Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2 |

| **WBS Level 7** | **150.40.15 U.S. Coast Guard PLACs** |
|---|---|
| Description | All efforts required to obtain U.S. Coast Guard PLACs. |
| Lead Function | Various |
| Deliverables | • Coordination as to Need for PLACs<br>• U.S. Coast Guard Permit/PLACs<br>• Updated STEVE Database |
| References | – Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2 |

| WBS Level 7 | 150.40.20 Department of Fish and Wildlife 1600 Agreement(s)/2080.1/2081 Permit(s) |
|---|---|
| Description | Includes all efforts needed to obtain 1600 Agreement(s)/2080.1/2081 Permit(s), including potential fees and timelines. |
| Lead Function | Environmental |
| Deliverables | • Coordination as to Need for PLACs<br>• Department of Fish and Game 1600 Agreement(s)/2080.1/2081 Permit(s)<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 3, Chap. 3<br>– Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2 |

| WBS Level 7 | 150.40.25 Coastal Development Permit |
|---|---|
| Description | All efforts required to contain Coastal Development Permit. |
| Lead Function | Environmental |
| Deliverables | • Coordination as to Need for PLACs<br>• Coastal Development Permit<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 18<br>– Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2 |

| WBS Level 7 | 150.40.30 Local Agency Concurrence/PLACs |
|---|---|
| Description | Includes coordination necessary to obtain concurrence/PLACs from the appropriate local agencies when state highway construction impacts existing local facilities. |
| Lead Function | Environmental/Design |
| Deliverables | • Coordination as to Need for PLACs<br>• Concurrence/PLACs<br>• Updated STEVE Database |
| References | – Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2 |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 7** | **150.40.35 Waste Discharge (NPDES) Permit** |
|---|---|
| Description | Includes all efforts needed to obtain a National Pollutant Discharge Elimination System (NPDES) permit. |
| Lead Function | Various |
| Deliverables | • Coordination as to Need for PLACs<br>• Waste Discharge (NPDES) Permit(s)<br>• Updated STEVE Database |
| References | – Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 8, Section 7; Chapter 13, Articles 1 & 2 |

| **WBS Level 7** | **150.40.40 U.S. Fish and Wildlife Service/National Marine Fisheries Service Approvals** |
|---|---|
| Description | Includes all efforts needed to perform consultation pursuant to Section 7 of the Endangered Species Act. Include timing, timelines, etc. for both USFWS and NMFS, as necessary. |
| Lead Function | Environmental |
| Deliverables | • Coordination as to Need for PLACs<br>• U.S. Fish and Wildlife Service/National Marine Fisheries Service Approval(s)<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 18<br>– Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2 |

| **WBS Level 7** | **150.40.45 Regional Water Quality Control Board 401 Permit** |
|---|---|
| Description | All efforts required to obtain 401 Permit. |
| Lead Function | Environmental |
| Deliverables | • Coordination as to Need for PLACs<br>• Regional Water Quality Control Board 401 Permit<br>• Updated STEVE Database |
| References | – Project Development Procedures Manual (PDPM), Chapter<br>– 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2 |

| WBS Level 7 | 150.40.50 Updated Environmental Commitments Record |
|---|---|
| Description | Prepare and/or update the Environmental Commitments Record (ECR) and its associated documentation (e.g., Mitigation Monitoring and Reporting Record (MMRR) or Permits, Agreements and Mitigation (PAM)) for combined PR/PSSR projects. In the case of a CE, transmit to Design for inclusion into the PS&E package. The ECR (which should be initiated/updated at WBS 150.40.50, 165.10.75, 180.15.20, 235.05.15, 235.40, 255.15, 255.40, 260.75, 295.35, and 295.40) is used as a part of the Environmental input for the RE Pending File (255.40), Environmental Certification at RTL (260.15.15), and the Certificate of Environmental Compliance (295.35). |
| Lead Function | Environmental |
| Deliverables | • New/Updated Environmental Commitments Record<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 39 |

| WBS Level 7 | 150.40.55 NEPA Assignment |
|---|---|
| Description | Includes all pre-WBS 165 environmental work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA assignment under MAP-21. |
| Lead Function | Environmental |
| Deliverables | • Coordination as to Need for PLACs<br>• All Products and Actions Required to Comply with NEPA Assignment<br>• Updated STEVE Database |
| References | – Standard Environmental Reference<br>– FHWA California Division Home Page |

| WBS Level 7 | 150.40.95 Other PLACs |
|---|---|
| Description | Includes all PLACs not listed above, such as Bay Conservation and Development Commission (BCDC) permit, Tahoe Regional Planning Agency (TRPA) permit, and flood control district permits. |
| Lead Function | Various |
| Deliverables | • Coordination as to Need for PLACs<br>• PLACs<br>• Updated STEVE Database |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| References | – Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2 |

| **WBS Level 6** | **150.45 Base Maps and Plan Sheets for Project Initiation Documents** |
|---|---|
| Description | Work involved in the preparation of exhibits, geometric base maps and functional base plan sheets required for the PID development efforts. |
| Lead Function | PID or Design Unit |
| Deliverables | • Preliminary Geometric Base Map and Functional Base Plan for PID Use. |
| References | – |

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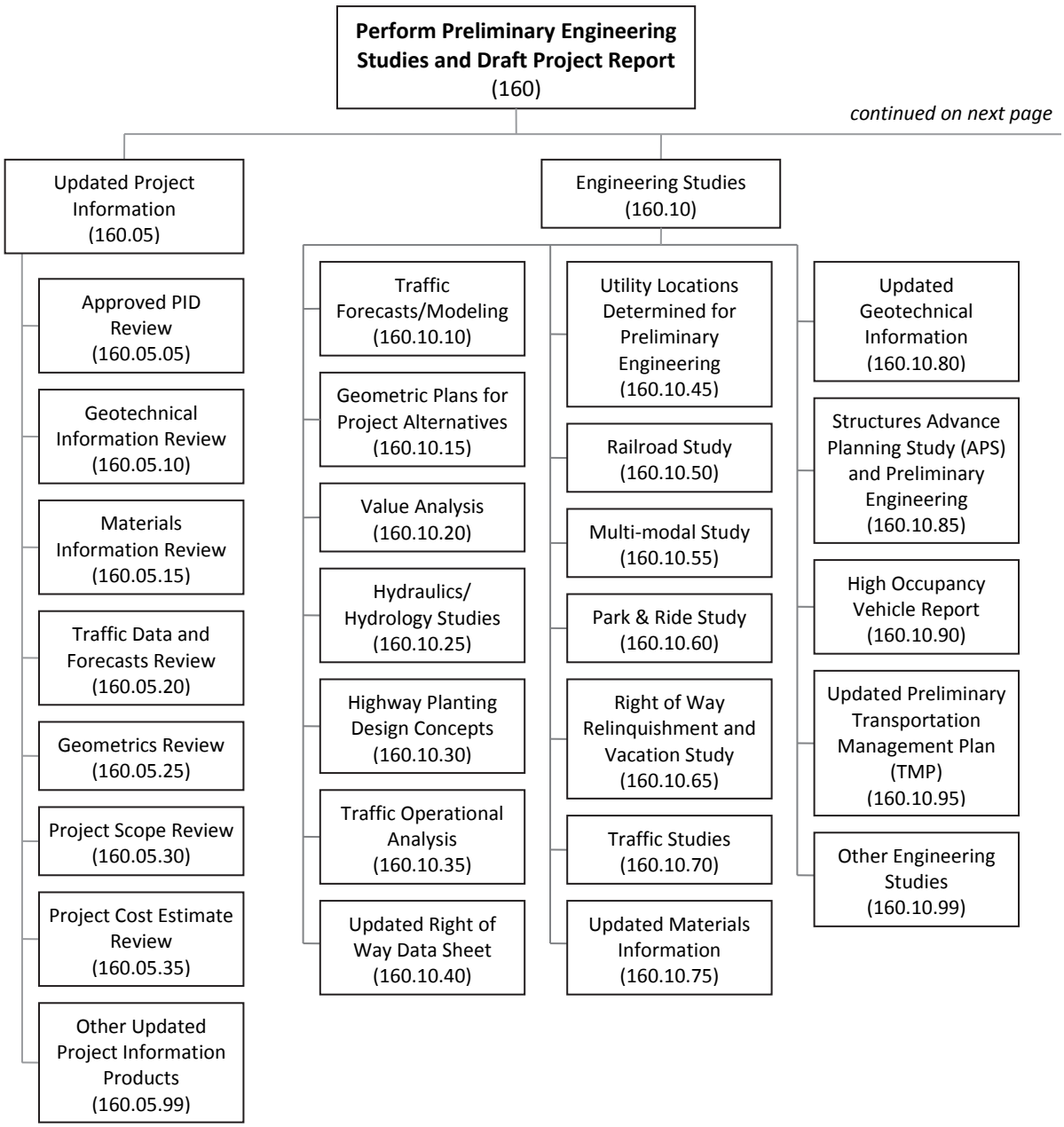
| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

## 160 Perform Preliminary Engineering Studies and Draft Project Report

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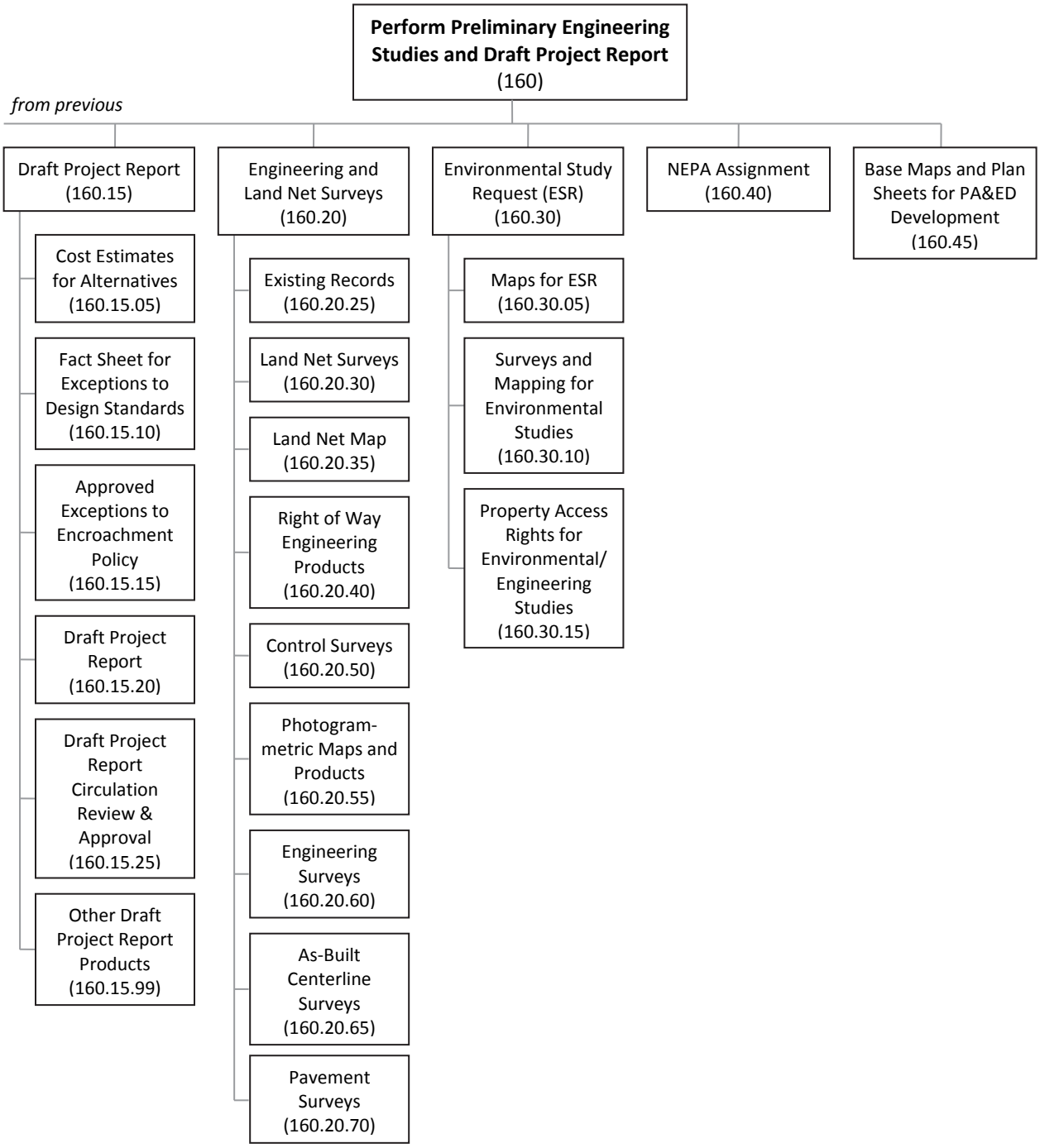
| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |



**WBS**

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| WBS Level 5 | 160 Perform Preliminary Engineering Studies and Draft Project Report |
|---|---|
| Description | Work involved in conducting preliminary engineering studies used in the development of a draft Project Report (PR) and a final Environmental Study Request (ESR). Work may include survey work and preliminary field studies directly related to the PR and ESR. Support from Environmental units is also covered. |
| Lead Function | Design |
| Deliverables | • Draft or Final Project Report and ESR |
| Major Milestones | ♦ M015 Program Project (Start: WBS 160)<br>♦ M040 Begin Project (Start: WBS 160)<br>♦ M100 Approve Draft Project Report (Finish: WBS 160.15.25) |
| References | – Caltrans Bridge Design Aids: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-design-aids/bda.html<br>– Caltrans Bridge Design Details: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-design-details/bdd.html<br>– Caltrans Bridge Design Specifications: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-design-specifications/bds.html<br>– Caltrans Bridge Memos to Designers: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-memo-to-designer/bmd.html<br>– Caltrans CADD Users Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/caddman/default.htm<br>– Caltrans Chief Engineer memo dated November 28, 2001 regarding Beginning Environmental Studies: http://www.dot.ca.gov/ser/downloads/memos/FelkerBeginEnvMemo.pdf<br>– Caltrans Deputy Directive 60: Transportation Management Plans: http://www.dot.ca.gov/hq/traffops/TMP_Guidelines_June_2009.pdf, Appendix A<br>– Caltrans Highway Design Manual (HDM): http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm<br>– Caltrans Guidelines for Applying Traffic Microsimulation Modeling Software: http://www.paramics-online.com/downloads/technicaldocs/Caltrans%20Microsimapps%202002.pdf<br>– Caltrans Guidelines for Structures Foundation Reports: http://www.dot.ca.gov/hq/esc/geotech/requests/fr_guidelines_December_2009.pdf<br>– Caltrans Highway Design Manual (HDM): http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm<br>– Caltrans HOV Guidelines: |

http://www.dot.ca.gov/hq/traffops/systemops/hov/files/hov_guidelines/HOV%20Guideline.pdf

- California Manual on Uniform Traffic Control Devices: http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp
- Caltrans OSFP Information & Procedures Guide: http://www.dot.ca.gov/hq/esc/osfp/osfp-manual/osfp-manual.htm
- Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm
- Caltrans Ramp Meter Design Manual: http://www.dot.ca.gov/hq/traffops/systemops/ramp_meter/RMDM.pdf
- Caltrans Right of Entry Guidelines for Environmental Work, Joint ROW and DEA Memo, May 22, 2002: http://www.dot.ca.gov/ser/downloads/memos/ROW-EnvMemo.pdf
- Clarification of Caltrans Right of Entry Guidelines for Environmental Work, Joint ROW and DEA Memo, January 7, 2003: http://www.dot.ca.gov/ser/downloads/memos/ClarificationROEEnvWork.pdf
- Caltrans Right of Way Manual: http://www.dot.ca.gov/hq/row/rowman/manual
- Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser
- Caltrans Surveys Manual: http://www.dot.ca.gov/hq/row/landsurveys/SurveysManual/Manual_TOC.html
- Caltrans Traffic Bulletins: http://www.dot.ca.gov/hq/traffops/signtech/signdel/trafficmanual-current.htm
- Caltrans Traffic Manual: http://www.dot.ca.gov/hq/traffops/signtech/signdel/trafficmanual-current.htm
- Caltrans Transportation Management Plan Guidelines: http://www.dot.ca.gov/hq/traffops/TMP_Guidelines_June_2009.pdf
- Caltrans Travel Forecasting Guidelines: ntl.bts.gov/DOCS/TF.html
- Caltrans User's Guide to Photogrammetric Products and Services: http://www.dot.ca.gov/hq/esc/photogrammetry/resources/UsersGuide1996.pdf
- FHWA California Division website: http://www.fhwa.dot.gov/cadiv
- FHWA Traffic Analysis Toolbox, Vol. III: Guidelines for Applying Traffic Microsimulation Modeling Software: http://ops.fhwa.dot.gov/trafficanalysistools/tat_vol3/index.htm
- Highway Capacity Manual: http://www.trb.org/Main/Blurbs/164718.aspx
- NCHRP Report 255: Highway Traffic Data for Urbanized Area Project Planning and Design:

| | |
|---|---|
| | http://trid.trb.org/view/1982/M/188432<br>– Professional Land Surveyors' Act, Business and Professions Code: http://www.bpelsg.ca.gov/laws/pls_act.pdf<br>– Rules of the California Board of Professional Engineers and Land Surveyors: http://www.bpelsg.ca.gov/laws/boardrules.pdf |

| **WBS Level 6** | **160.05 Updated Project Information** |
|---|---|
| Description | This activity includes review of the information assembled and developed during the PID as well as a preliminary assessment of what additional information may be required during the project report and environmental document development. |
| Deliverables | • Draft or Final Project Report and ESR |
| Notes | Understanding of project need and purpose, scope, cost and what additional studies may be required during the Project Report phase. |
| References | – |

| **WBS Level 7** | **160.05.05 Approved PID Review** |
|---|---|
| Description | Review the Project Initiation Document |
| Lead Function | District Design Branch |
| Deliverables | • Draft or Final Project Report and ESR |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Section 1 |

| **WBS Level 7** | **160.05.10 Geotechnical Information Review** |
|---|---|
| Description | Review and update PID Geotechnical information |
| Lead Function | District Design Branch |
| Deliverables | • Completed Geotechnical Information Review |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 8, Section 7; Chapter 10, Section 1 |

| **WBS Level 7** | **160.05.15 Materials Information Review** |
|---|---|
| Description | Review and update PID Materials information |
| Lead Function | District Design Branch |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| Deliverables | • Draft or Final Project Report and ESR |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 8, Section 7; Chapter 10, Section 1 |

| **WBS Level 7** | **160.05.20 Traffic Data and Forecasts Review** |
|---|---|
| Description | Review and update PID Traffic Data |
| Lead Function | District Design Branch |
| Deliverables | • Draft or Final Project Report and ESR |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 8, Section 7; Chapter 10, Section 1 |

| **WBS Level 7** | **160.05.25 Geometrics Review** |
|---|---|
| Description | Review and update PID Geometrics |
| Lead Function | District Design Branch |
| Deliverables | • Draft or Final Project Report and ESR |
| References | – Caltrans Highway Design Manual (HDM), Chapters 100 and 200<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 1 and 2 |

| **WBS Level 7** | **160.05.30 Project Scope Review** |
|---|---|
| Description | Review and update PID Project Scope |
| Lead Function | District Design Branch |
| Deliverables | • Draft or Final Project Report and ESR |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 8, Section 7; Chapter 10, Section 1 |

| **WBS Level 7** | **160.05.35 Project Cost Estimate Review** |
|---|---|
| Description | Review and update PID Cost Estimate |
| Lead Function | District Design Branch |
| Deliverables | • Draft or Final Project Report and ESR |

| | |
|---|---|
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Section 1; Chapter 6; Chapter 20 |

| WBS Level 7 | 160.05.99 Other Project Information Products |
|---|---|
| Description | All other work conducted during the updated Project Information efforts not defined or covered in other WBS 160.05 elements. |
| Lead Function | District Design Branch |
| Deliverables | • Draft or Final Project Report and ESR |
| References | – |

| WBS Level 6 | 160.10 Engineering Studies |
|---|---|
| Description | This activity includes development in more detail or update of those studies initiated during the PID. It also includes those additional engineering studies required to address new alternatives or revisions developed during the environmental process. |
| Deliverables | • Refinement of Project Alternatives, and Further Design of All Project Features Adequate for Detailed Discussion of Project Impacts in the Environmental Document and Suitable for the Initiation of Final Design. |
| References | – |

| WBS Level 7 | 160.10.10 Traffic Forecasts/Modeling |
|---|---|
| Description | All activities necessary to update and expand any previously completed travel forecast effort under WBS 150.05.25. Includes:<br>– Analysis of travel-demand model data using Regional Transportation Planning Agencies (RTPA) traffic models when available.<br>– Preparation of future traffic projections for intersections, highway mainlines and ramps for project level documents.<br>– Preparation of traffic indices and design designations such as traffic index and equivalent single-axle load. |
| Lead Function | Traffic Ops and/or Planning |
| Deliverables | • Traffic Data for Draft or Final Project Report and ESR |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 7<br>– Caltrans Highway Design Manual (HDM), Chapter 600<br>– Caltrans Travel Forecasting Guidelines<br>– NCHRP Report 255: Highway Traffic Data for Urbanized Area Project Planning |

| | |
|---|---|
| | and Design |

| WBS Level 7 | 160.10.15 Geometric Plans for Project Alternatives |
|---|---|
| Description | Includes horizontal and vertical alignments, cross sections, typical sections, construction staging/detours and building plans. |
| Lead Function | District Design Branch |
| Deliverables | • Draft or Final Project Report and ESR |
| References | – Caltrans Highway Design Manual (HDM), Chapters 100 and 200<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 1 and 2 |

| WBS Level 7 | 160.10.20 Value Analysis |
|---|---|
| Description | Project Value Analysis |
| Lead Function | District Design Branch |
| Deliverables | • Value Analysis Report |
| References | – Project Development Procedures Manual (PDPM): Chapter 19; Chapter 9, Article 3; Chapter 8, Section 6 |

| WBS Level 7 | 160.10.25 Hydraulics/Hydrology Studies |
|---|---|
| Description | Perform preliminary hydraulics design |
| Lead Function | District Design Branch and/or District Hydraulics Branch |
| Deliverables | • Preliminary Drainage Report |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 8, Section 7 |

| WBS Level 7 | 160.10.30 Highway Planting Design Concepts |
|---|---|
| Description | Includes mitigation planting, replacement planting, and new planting. |
| Lead Function | Landscape Architecture |
| Deliverables | • Draft or Final Project Report and ESR, Concept Plans |
| References | – Project Development Procedures Manual (PDPM): Chapter 3, Section 12; Chapter 9, Article 7; Chapter 29<br>– Caltrans Highway Design Manual, Chapter 900 |

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| | – Caltrans Landscape Architecture PS&E Guide |

| WBS Level 7 | 160.10.35 Traffic Operational Analysis |
|---|---|
| Description | Evaluation of the level of service that will result from alternative improvements to a facility. Includes all activities necessary to update and expand any previously completed traffic capacity analysis (WBS 150.15.45). Includes the use of macroscopic and/or micro-simulation modeling, as appropriate, to perform traffic capacity/operational analysis on existing and future year project specific needs for State highways. Includes integrating ramp metering, high occupancy vehicle (HOV) lanes and intelligent transportation system needs. The operational impacts of various improvements are estimated and compared as a basis for decision-making and evaluation of proposed alternatives. |
| Lead Function | Traffic Operations |
| Deliverables | • Traffic Report and/or Data for Draft and Final Project Report and ESR. |
| References | – Highway Capacity Manual<br>– Caltrans HOV Guidelines<br>– Caltrans Ramp Metering Design Manual<br>– Caltrans Traffic Manual<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 8<br>– Caltrans Guidelines for Applying Traffic Microsimulation Modeling Software<br>– FHWA Traffic Analysis Toolbox, Vol. III: Guidelines for Applying Traffic Microsimulation Modeling Software<br>– California Manual on Uniform Traffic Control Devices (MUTCD) |

| WBS Level 7 | 160.10.40 Updated Right of Way Data Sheet |
|---|---|
| Description | Includes assessment of R/W requirements, acquisition of public records, and preparation or updates to right of way cost estimates and Cost Estimate Maps. |
| Lead Function | District R/W and R/W Engineering |
| Deliverables | • Right of Way Data Sheets<br>• Cost Estimate Maps (Part of the Right of Way Data Sheet Deliverable) |
| Business Practices | The departmental recommendation is for Right of Way Engineering to create Cost Estimate Maps. |
| Notes | Cost Estimate Maps shall meet or exceed specifications and standards as set forth in the Caltrans Plans Preparation Manual, Section 4-2. |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

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|---|---|
| References | – Plans Preparation Manual Section 4-2<br>– Right of Way Manual Sections 4.01.04 - 4.01.08 and Chapter 6 |

| **WBS Level 7** | **160.10.45 Utility Locations Determined for Preliminary Engineering** |
|---|---|
| Description | Task includes updated Utility Estimates, Utility Verification Maps, Verified Utility Locations transfer to plan sheet, Request for Pothole (Pos Loc), Pothole plan, Task Orders, Notice to Owner to Pothole, Report of Investigation to Pothole, Utility Agreement to Pothole, Potholed facility information transfer to plan sheets, and Utility Survey. |
| Lead Function | District Design Branch |
| Deliverables | • as Defined in Caltrans Surveys Manual, Section 11.7-5, Products Should Be Delivered in A Design Software Project File Containing Three-Dimensional Location of Tied Utility Facilities. |
| Notes | Surveys must meet all requirements as set forth in the Caltrans Surveys Manual, Section 11.7-5. |
| References | – Caltrans Right of Way Manual, Chapter 13<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 13; Chapter 8, Section 7<br>– Caltrans Surveys Manual, Section 11.7-5 |

| **WBS Level 7** | **160.10.50 Railroad Study** |
|---|---|
| Description | Verify level of Railroad involvement |
| Lead Function | District Design Branch and/or District R/W Railroad Coordinator |
| Deliverables | • Draft or Final Project Report and ESR |
| References | – Caltrans Right of Way Manual, Chapter 8<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 4; Chapter 8, Section 7 |

| **WBS Level 7** | **160.10.55 Multi-modal Study** |
|---|---|
| Description | This review should address temporary construction and permanent impacts, as well as possible improvements to:<br>– Pedestrian facilities<br>– Bicycle facilities<br>– Transit facilities |

| | |
|---|---|
| | – Equestrian Facility<br>– Weight/Inspection Facilities<br>– Rest Area Facilities |
| Lead Function | District Design Branch and/or District Planning |
| Deliverables | • Draft or Final Project Report and ESR |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 8, Section 7; Chapter 31 |

| **WBS Level 7** | **160.10.60 Park and Ride Study** |
|---|---|
| Description | Verify Park and Ride viability |
| Lead Function | District Design Branch and /or District Planning |
| Deliverables | • Draft or Final Project Report and ESR |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 8, Section 7 |

| **WBS Level 7** | **160.10.65 Right of Way Relinquishment and Vacation Study** |
|---|---|
| Description | Verify preliminary R/W relinquishment and vacations requirements |
| Lead Function | District Design Branch |
| Deliverables | • Draft or Final Project Report and ESR |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 13, Articles 6 and 7; Chapter 25 |

| **WBS Level 7** | **160.10.70 Traffic Studies** |
|---|---|
| Description | This work includes:<br>– Preparation of preliminary traffic design<br>– Performance of Safety Analysis<br>– Traffic system and signal system review<br>– Determination of need for weigh in motion facility |
| Lead Function | District Design Branch and/or District Traffic Operations |
| Deliverables | • Draft or Final Project Report and ESR |
| References | – Caltrans Traffic Manual, Chapter 7<br>– Highway Capacity Manual |

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|---|---|
| | – Caltrans HOV Guidelines<br>– Caltrans Ramp Metering Design Manual<br>– Caltrans Traffic Bulletins<br>– California Manual on Uniform Traffic Control Devices<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 7 |

| WBS Level 7 | 160.10.75 Updated Materials Information |
|---|---|
| Description | Includes identification of Material sites and any required lab testing. |
| Lead Function | District Design Branch |
| Deliverables | • Draft or Final Project Report and ESR |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 6 |

| WBS Level 7 | 160.10.80 Updated Geotechnical Information |
|---|---|
| Description | This task includes preparation of the District Preliminary Geotechnical Report (DPGR) if it is not done during the PID phase (i.e., WBS 150.15.20). If the DPGR is completed for the project in the earlier component, then this element is used to plan the effort needed to update or supplement DPGR should additional project information become available. |
| Lead Function | District Design Branch and/or DES |
| Deliverables | • District Preliminary Geotechnical Report (DPGR) |
| References | – Caltrans Project Development Procedures Manual (PDPM):Chapter 2, Section 9; Chapter 3, Section 6; Chapter 9, Article 9; Chapter 20, Section 2<br>– Caltrans Highway Design Manual: Chapter 100, Topics 113 and 114; Chapter 200, Topics 203, 208 and 210; Chapter 800, Topics 802 and 805 |

| WBS Level 7 | 160.10.85 Structures Advance Planning Study (APS) |
|---|---|
| Description | This task includes all efforts required to prepare or update a Structures Advance Planning Study (APS). Efforts include the development, review, approval and distribution of the APS. An APS is required to identify the structure's scope of work and preliminary cost. |
| Lead Function | DES |
| Deliverables | • Structures Advanced Planning Study |

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|---|---|
| References | – Caltrans Bridge Design Aids, Sections 10 and 11<br>– Caltrans Bridge Design Details, Sections 1-3<br>– Caltrans Bridge Memos to Designers, Sections 1, 2 and 17<br>– Caltrans Bridge Design Specifications<br>– Caltrans OSFP Information & Procedures Guide, Section 3-2<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 8<br>– Caltrans Guidelines for Structures Foundation Reports, Chapter 2 |
| Subtasks | – Prepare Preliminary Design<br>– Prepare Preliminary Plan Sheets<br>– Prepare Structures Preliminary Geotechnical Report (SPGR). The SPGR is used to document existing foundation conditions, make preliminary foundation recommendations, and identify the need for additional investigations and studies. Sometimes limited subsurface exploration is required to provide sufficient information to produce a SPGR. The subsurface exploration can include, but is not limited to, test borings, soundings, and geophysics. The SPGR shall provide, but not be limited to, the following: Project Location; Summary of Site Geology and Subsurface Conditions; Scour Evaluation; Corrosion Evaluation; Preliminary seismic data and recommendations; As-Built Foundation Data<br>– Preliminary Foundation Recommendations<br>– Additional Field Work and Laboratory Testing<br>– Prepare Structures Preliminary Hydraulics Report (PHR)<br>– Prepare Structures Preliminary Architectural and Aesthetics Report (PAAR)<br>– Prepare Structures Preliminary Maintenance Report (PMR)<br>– Prepare Preliminary Quantities<br>– Prepare Preliminary Estimate<br>– Prepare Structures Advance Planning Study package<br>– Perform Constructability Review (CR) of the APS package.<br>– Obtain APS approval<br>– Distribute approved APS package for inclusion in the PID<br>– Additional tasks if needed |

| **WBS Level 7** | **160.10.90 High Occupancy Vehicle Report** |
|---|---|
| Description | Efforts required for preparing a High Occupancy Vehicle (HOV) Report. |
| Lead Function | District Design Branch and/or District Traffic Operations |
| Deliverables | • HOV Report |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 7 |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 7** | **160.10.95 Updated Preliminary Transportation Management Plan** |
|---|---|
| Description | Efforts required for preparing or updating Preliminary Transportation Management Plan (TMP). |
| Lead Function | District Design Branch and/or District Traffic Operations |
| Deliverables | • Transportation Management Plan |
| References | – Caltrans Deputy Directive 60: Transportation Management Plans<br>– Caltrans Transportation Management Plan Guidelines<br>– Caltrans Traffic Manual, Chapter 7<br>– Highway Capacity Manual<br>– Caltrans HOV Guidelines<br>– Caltrans Ramp Metering Design Manual<br>– Traffic Bulletins<br>– California Manual on Uniform Traffic Control Devices<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 7 |
| Subtasks | – Refine estimate of proposed TMP strategies (from the PID component) and their respective costs<br>– Determine feasibility of using surface streets for traffic diversion<br>– Develop traffic handling plans with local agencies<br>– Review and update the TMP Data Sheet<br>– Coordinate lane closures for multiple projects in the same area to determine impact on this project<br>– Coordinate major closures with neighboring districts, Headquarters, and local agencies to determine impact on this project<br>– Coordination with TMP team (TMP Manager, District Traffic Manager, Project Engineer, and Maintenance).<br>– Begin preparation of traffic contingency plan<br>– Update TMP/lane closure database<br>– Place and adjust traffic signs and devices |

| **WBS Level 7** | **160.10.99 Other Engineering Studies** |
|---|---|
| Description | All other work conducted during the Engineering Studies efforts not defined or covered in other WBS 160.10 elements. |
| Lead Function | District Design Branch |
| Deliverables | • Draft or Final Project Report and ESR |
| References | – |

| WBS Level 6 | 160.15 Draft Project Report |
|---|---|
| Description | This activity includes all tasks required to develop the text, exhibits and cost estimate required for a Draft Project Report. This activity includes development and approval of any design exceptions that were not addressed during the PID. |
| Deliverables | • This Activity Is Complete with the Approval and Distribution of the Draft Project Report, Any Supplemental Draft Project Reports, or in the Case Where No Draft Environmental Document Is Required, the Final Project Report. |
| Business Practices | If only a Categorical Exemption/Exclusion is required, the draft Project Report is in itself the Final Project Report and WBS 180 should not be used. |
| References | – |

| WBS Level 7 | 160.15.05 Cost Estimates for Alternatives |
|---|---|
| Description | Prepare Cost Estimates for Draft Project Report |
| Lead Function | District Design Branch |
| Deliverables | • Draft Project Report |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 6; Chapter 20; Chapter 8, Section 6 |

| WBS Level 7 | 160.15.10 Fact Sheet for Exceptions to Design Standards |
|---|---|
| Description | Advisory and Mandatory Design Exceptions |
| Lead Function | District Design Branch |
| Deliverables | • Draft Project Report |
| References | – Caltrans Highway Design Manual (HDM), Chapter 80, Topic 82<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Section 2; Chapter 21 |

| WBS Level 7 | 160.15.15 Approved Exceptions to Encroachment Policy |
|---|---|
| Description | Prepare and document any exceptions to Encroachment Policy |
| Lead Function | District Design Branch |
| Deliverables | • Draft Project Report |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 17 |

| **WBS Level 7** | **160.15.20 Draft Project Report** |
|---|---|
| Description | Finalize Draft Project Report |
| Lead Function | District Design Branch |
| Deliverables | • Draft Project Report |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Section 5 |

| **WBS Level 7** | **160.15.25 Draft Project Report Circulation Review and Approval** |
|---|---|
| Description | Circulate DPR for review and comment |
| Lead Function | District Design Branch |
| Deliverables | • Draft Project Report |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 10 |

| **WBS Level 7** | **160.15.99 Other Draft Project Report Products** |
|---|---|
| Description | All other work conducted during the Draft Project Report efforts not defined or covered in other WBS 160.15 elements. |
| Lead Function | District Design Branch |
| Deliverables | • Draft Project Report |
| References | – |

| **WBS Level 6** | **160.20 Engineering and Land Net Surveys** |
|---|---|
| Description | Project Control Surveys, Data Surveys for Design, and Initial Land Net Mapping Control; topographic surveys for products supplied to Design; surveys of existing land net; and Right of Way Base Map development. |
| Lead Function | Surveys and Right of Way Engineering |
| Deliverables | • Land Net Surveys<br>• Retracement Map<br>• Project Control Network<br>• Photogrammetric Control Surveys<br>• Design Software Project File |

| | |
|---|---|
| | • Photogrammetric Maps and Products |
| Business Practices | Work for WBS 160.20.25, WBS 160.20.30 and WBS 160.20.35 products may be performed in part or completely under WBS 220.05.05, WBS 220.05.10 and WBS 220.10 respectively. Regardless of which WBS element products are created under, an effort should be made to have them completed prior to receipt of Right of Way requirements (WBS 185.25).<br><br>Work for WBS 160.20.50–160.20.70 products may be performed in part or completely under WBS 185.10.50–185.10.70 respectively. Determination of when work is performed should be based on type of project (State Transportation Improvement Program (STIP), State Highway Operations and Protection Program (SHOPP), Minor, etc.) and Design's needs. An agreement for delivery schedule and deliverables should be negotiated with Design and filed with the project. |
| References | – Right of Way Manual Chapter 6<br>– Surveys Manual, Chapters 5, 10 and 11, and Figure 5.1<br>– Plans Preparation Manual Chapter 4 |

| **WBS Level 7** | **160.20.25 Existing Records** |
|---|---|
| Description | Thorough research of relevant land and survey records to locate all necessary survey and land ownership records required to complete field survey (WBS 160.20.30 and/or WBS 220.05) and for analysis, determination, and delineation of the existing land net (WBS 160.20.35 and/or WBS 220.10). Creation of the Monument Search Map for use during the Land Net Survey (WBS 160.20.30 and/or WBS 220.05.10). |
| Lead Function | Surveys and Right of Way Engineering |
| Deliverables | • Required Record Types<br>• Pre Land Net Survey Monument Search Map |
| Business Practices | Work for this product may be performed under WBS 160.20.25 or WBS 220.05.05. Charge code usage is dependent on district charging practices and opening of Project Phase 2 Expenditure Authorization. Care should be taken to charge in concurrence with project resource estimate. |
| References | – For Required Record Types: Caltrans Surveys Manual, Section 10.5<br>– For Pre Land Net Survey Monument Search Map: Caltrans Surveys Manual, Sections 10.6 and 10.7 |

| **WBS Level 7** | **160.20.30 Land Net Surveys** |
|---|---|
| Description | All activities required in performing an ownership boundary retracement survey. |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| | Search, recover, describe, and tie-in existing controlling land survey monuments, followed by observation adjustment and calculating coordinates. |
| Lead Function | Surveys |
| Deliverables | • Post Land Net Survey Monument Search Map<br>• Notice of Intent to Survey<br>• Field Package<br>• Adjusted Land Net Field Survey<br>• Perpetuated Monuments or Evidence<br>• Corner Records<br>• Monument Perpetuation List. List Should Contain All Survey and Land Net Monuments That Will Be Disturbed during Any Element of the Project<br>• Survey Documentation |
| Business Practices | Work for this product may be performed under WBS 160.20.30 or WBS 220.05.10. It is often advantageous to perform the land net survey, in part or in whole, while performing the control survey work for the engineering surveys during Project Phase 0. When the land net survey is performed during the Project Phase 0, WBS 160.20.30 should be charged. Charge code usage is dependent on district charging practices and opening of project Right of Way support phase. Care should be taken to charge in concurrence with project resource estimate.<br><br>If a Record of Survey is filed instead of multiple Corner Records, effort for creating and filing Record of Survey should be charged to WBS 220.05.25. |
| Notes | All products must meet or exceed criteria as set forth in the references provided with each product listed above. |
| References | – For Post Land Net Survey Monument Search Map: Caltrans Surveys Manual, Section 10.10-3<br>– For Notice of Intent to Survey: Caltrans Surveys Manual, Section 10.8<br>– For Field Package: Caltrans Surveys Manual, Section 10.9<br>– For Adjusted Land Net Field Survey: Caltrans Surveys Manual, Sections 5.4, 10.10, 10.11-5, and Figure 5.1<br>– For Corner Records: Refer to Caltrans Surveys Manual, Section 10.10-6; California Professional Land Surveyors' Act, Section 8771; and the Rules of the California Board of Professional Engineers and Land Surveyors<br>– For Monument Perpetuation List: Caltrans Surveys Manual, Section 10.10-7<br>– For Survey Documentation: Refer to Caltrans Surveys Manual, Section 10.11 |

| **WBS Level 7** | **160.20.35 Land Net Map** |
|---|---|
| Description | The Land Net Map depicts the condition of existing property ownership boundaries, |

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| | lines, and monuments (land net). Effort entails completion of work activities required to analyze, determine, and delineate a single land net that encompasses the whole project. |
| Lead Function | Right of Way Engineering |
| Deliverables | • CADD Drawing Files Delineating Existing Property Ownership's, Monuments, etc. Delineated Data Includes:<br>▪ Record Data (WBS 220.05.05)<br>▪ Land Net Survey Results (WBS 220.05.10)<br>▪ Calculated Missing Land Net Elements |
| Notes | Boundary analysis and retracement of the land net will be performed in accordance with accepted professional land surveying practices and applicable laws. |
| References | – Caltrans Surveys Manual, Section 10-14<br>– Caltrans Right of Way Manual, Section 06.03.02.00<br>– Caltrans CADD Users Manual, Section 2.4 E |

| **WBS Level 7** | **160.20.40 Right of Way Engineering Products** |
|---|---|
| Description | Creation of Deeds and supporting Right of Way Engineering documents for projects with no declared Right of Way Requirements. |
| Lead Function | Right of Way Engineering |
| Deliverables | • Exchange Transactions<br>• Correctory Deeds<br>• Utility Agreements (Including Joint Use Agreement and Consent to Common Use Agreement)<br>• Additional Deliverables as Required |
| Business Practices | This work may only be performed when resulting products will not affect selection of project alternative. |
| Notes | Maps produced must meet all requirements as set forth in the Caltrans Plans Preparation Manual, Chapter 4, the Caltrans CADD Users Manual Section 2.4.E, and the Caltrans Right of Way Manual, Chapter 6. Document preparation will be performed in accordance with accepted professional land surveying practices and applicable laws. |
| References | – Caltrans Plans Preparation Manual, Chapter 4<br>– Caltrans CADD Users Manual Section 2.4.E<br>– Caltrans Right of Way Manual, Chapters 6 and 13 |

| **WBS Level 7** | **160.20.50 Control Surveys** |
|---|---|
| Description | Involves all facets of control survey work related to a project: bringing control from |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| | Basic (Corridor) Control and adjacent projects, establishing primary control throughout the project, establishing supplemental control for the project, and documentation of the control survey. |
| Lead Function | Surveys |
| Deliverables | • Permanent Project Control Monumentation<br>• Project Control Diagram and/or Control Record of Survey<br>• Project Control Report<br>• Inclusion of Control Points in Electronic Control Database |
| Business Practices | Horizontal project control should be created as a single adjusted network.<br><br>The department's preferred level of accuracy for horizontal project control is 1st Order.<br><br>Work for this product may be performed under WBS 160.20.50 or WBS 185.10.50. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate. |
| Notes | Control must meet all accuracy standards and methodology requirements as set forth in the Caltrans Surveys Manual, Chapters 5, 8 and 9, and Figure 5.1. Deliverables do not include control set for aerial mapping products. |
| References | – Caltrans Surveys Manual, Chapters 5, 8 and 9, and Figure 5.1 |

| **WBS Level 7** | **160.20.55 Photogrammetric Maps and Products** |
|---|---|
| Description | Includes preparation of mapping request, flight line and control distribution planning, premarking control survey, aero-triangulation, contract administration, 3-D compilation, map assembly, data conversion, quality control and digital terrain modeling. |
| Lead Function | Surveys |
| Deliverables | • Flight Line Layout<br>• Pre-Marking Control Survey<br>• Design Project File<br>• CADD Drawing File |
| Business Practices | Work for this product may be performed under WBS 160.20.55 or WBS 185.10.55. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate. |
| Notes | Control must meet all accuracy standards and methodology requirements as set forth in the Caltrans Surveys Manual, Chapters 5, 8 and 9, and Figure 5.1. For Photogrammetric Products refer to Caltrans User's Guide to Photogrammetric Products and Services. |

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|---|---|
| References | – Caltrans Surveys Manual, Chapters 5, 8 and 9, and Figure 5.1<br>– Caltrans User's Guide to Photogrammetric Products and Service |

| WBS Level 7 | 160.20.60 Engineering Surveys |
|---|---|
| Description | Includes all facets of work - research, planning, field survey, processing and adjusting data, report writing and creating Design Project File - required to perform topographic or hydrologic surveys for delivery to Design. |
| Lead Function | Surveys |
| Deliverables | • Design Software Project File, Containing Any or All of the following:<br>▪ Topography<br>▪ Structures<br>▪ Utility Locations<br>▪ Monitoring Surveys<br>▪ Vertical Clearance<br>▪ Hydrologic Surveys<br>▪ Preliminary Investigations Report<br>▪ Foundation Plan |
| Business Practices | Work performed during PA&ED (Project Phase 0) to produce all Engineering Survey products should be charged to WBS 160.20.60. Work performed during PS&E (Project Phase 1) to produce all Engineering Survey products, except Hydrologic Surveys and Foundation Plans, should be charged to WBS 185.10.60. During PS&E, Foundation Plans and Hydrologic Surveys for structures work should be charged to WBS 240.55. |
| Notes | All products must meet or exceed criteria as set forth in the Caltrans Surveys Manual, Chapters 5 and 11, and Figure 5-1. |
| References | – Caltrans Surveys Manual, Chapters 5 and 11, and Figure 5-1. |

| WBS Level 7 | 160.20.65 As-Built Centerline Surveys |
|---|---|
| Description | All work required for locating and documenting existing facility centerline. Includes planning, research, field survey, processing and adjusting data, and preparing the As-built Centerline Alignment map. |
| Lead Function | Surveys |
| Deliverables | • A Design Software Project File and/or CADD Drawing File Containing Existing Centerline Alignment and May Also Contain Preliminary Right of Way Line Locations Based on Record Data and Field Surveys.<br>• Inclusion into District Centerline Alignment Log Using Appropriate Format for District. |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| Business Practices | Work for this product may be performed under WBS 160.20.65 or WBS 185.10.65. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate. |
| Notes | For centerline location, surveys should be performed in a manner to ensure meeting Caltrans General Order standards as listed in the Caltrans Surveys Manual, Chapter 5 and Figure 5-1. |
| References | – Caltrans Surveys Manual, Chapter 5 and Figure 5-1 |

| **WBS Level 7** | **160.20.70 Pavement Surveys** |
|---|---|
| Description | Includes all efforts to survey paved portion of project alignments. |
| Lead Function | Surveys |
| Deliverables | • Design Software Project File for the Paved Surface of the Travel Way |
| Business Practices | Work for this product may be performed under WBS 160.20.70 or WBS 185.10.70. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate.<br><br>This work element should be charged when only the horizontal and vertical location of paved features is to be collected. When data collected includes features other than pavement, WBS 160.20.65/WBS 185.10.65 should be charged. Typically this product will be merged with the WBS 160.20.65/ WBS 185.10.65 product prior to transmittal to Design. |
| References | – Caltrans Surveys Manual, Chapter 5, Figure 5-1, and Sections 11.7-1 through 11.7-4 |

| **WBS Level 6** | **160.30 Environmental Study Request (ESR)** |
|---|---|
| Description | Includes all Environmental, Design, and Right of Way efforts necessary to develop and complete an Environmental Study Request (ESR). |
| Lead Function | Environmental |
| Deliverables | • A Complete Environmental Study Request<br>• Updated STEVE Database |
| References | – Caltrans Chief Engineer memo dated November 28, 2001 regarding Beginning Environmental Studies |

| **WBS Level 7** | **160.30.05 Maps for ESR** |
|---|---|

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|---|---|
| Description | Preparation of environmental study maps for the alternatives selected for further study. This activity includes preparation of only those maps not produced as part of other activities (such as WBS 160.10.15) that are necessary for publishing in the Environmental Documents/Determination and related technical study reports. |
| Lead Function | District Design Branch |
| Deliverables | • Adequate Project Maps for Initiation of Environmental Studies for the Alternatives Selected for Further Study.<br>• This Activity Also May Continue through the Environmental Process to Address Modifications and Maps Required for Environmental Documents/Determinations and Related Technical Study Reports. |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vols. 1-4<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 and 4 |
| Subtasks | – Project Vicinity Map<br>– Project Location Map<br>– Proposed Project/Alternatives Plans<br>– Project R/W and adjacent parcel mapping<br>– Hydrologic and flood plain mapping<br>– Seismic and environmental geology<br>– Additional mapping and plans if required |

| **WBS Level 7** | **160.30.10 Surveys and Mapping for Environmental Studies** |
|---|---|
| Description | Performance of field surveys to augment existing base mapping and to determine the location of environmental resources. |
| Lead Function | Surveys |
| Deliverables | • Site Maps for Environmental Studies |
| References | – Caltrans Surveys Manual<br>– Caltrans User's Guide to Photogrammetric Products and Services |
| Subtasks | – Prepare for and perform field surveys required for environmental studies. Detailed project surveys and mapping are included in WBS 185.10.<br>– Provide photographs to be used in the environmental study process. |

| **WBS Level 7** | **160.30.15 Property Access Rights for Environmental/Engineering Studies** |
|---|---|
| Description | Acquisition of access to private and public lands as needed for environmental and |

| | |
|---|---|
| | engineering technical studies. Access may be obtained by any of the following: permits to enter; rights of entry; temporary construction easement; or other legal document. |
| Lead Function | District R/W with assistance from District Design Branch |
| Deliverables | • Formal Access Rights (E.G., Permits to Enter, Rights of Entry, Temporary Construction Easement, Antiquities Permit, and Other Legal Documents)<br>• Informal Entry Documents, Including Verbal Agreements, etc.<br>• Personnel Identification Documents |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1<br>– Caltrans Right of Entry Guidelines for Environmental Work, Joint R/W and DEA Memo, May 22, 2002<br>– Clarification of Caltrans Right of Entry Guidelines for Environmental Work, Joint R/W and DEA Memo, January 7, 2003<br>– Caltrans Right of Way Manual, Chapter 8 |
| Subtasks | – Identify properties where access is needed and the types of studies required.<br>– Identify location on property where access is needed.<br>– Identify the type of document needed to gain access to the property.<br>– Determine time frame when access is required.<br>– Contact property owners and obtain access rights.<br>– Provide identification documents for field personnel to use when requesting informal entry permission. |

| **WBS Level 6** | **160.40 NEPA Assignment** |
|---|---|
| Description | Includes all pre-WBS 165 environmental work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA Assignment under MAP-21. |
| Lead Function | Environmental |
| Deliverables | • All Products and Actions Required to Comply with NEPA Assignment under Map 21<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER)<br>– FHWA California Division website |

| **WBS Level 6** | **160.45 Base Maps and Plan Sheets for PA&ED Development** |
|---|---|
| Description | Work involved in the preparation of exhibits, geometric base maps and functional base |

**WBS**

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|---|---|
| | plan sheets required for the PA&ED development efforts. |
| Lead Function | District Design Branch |
| Deliverables | • DPR and Final Project Report |
| References | – |

**WBS**
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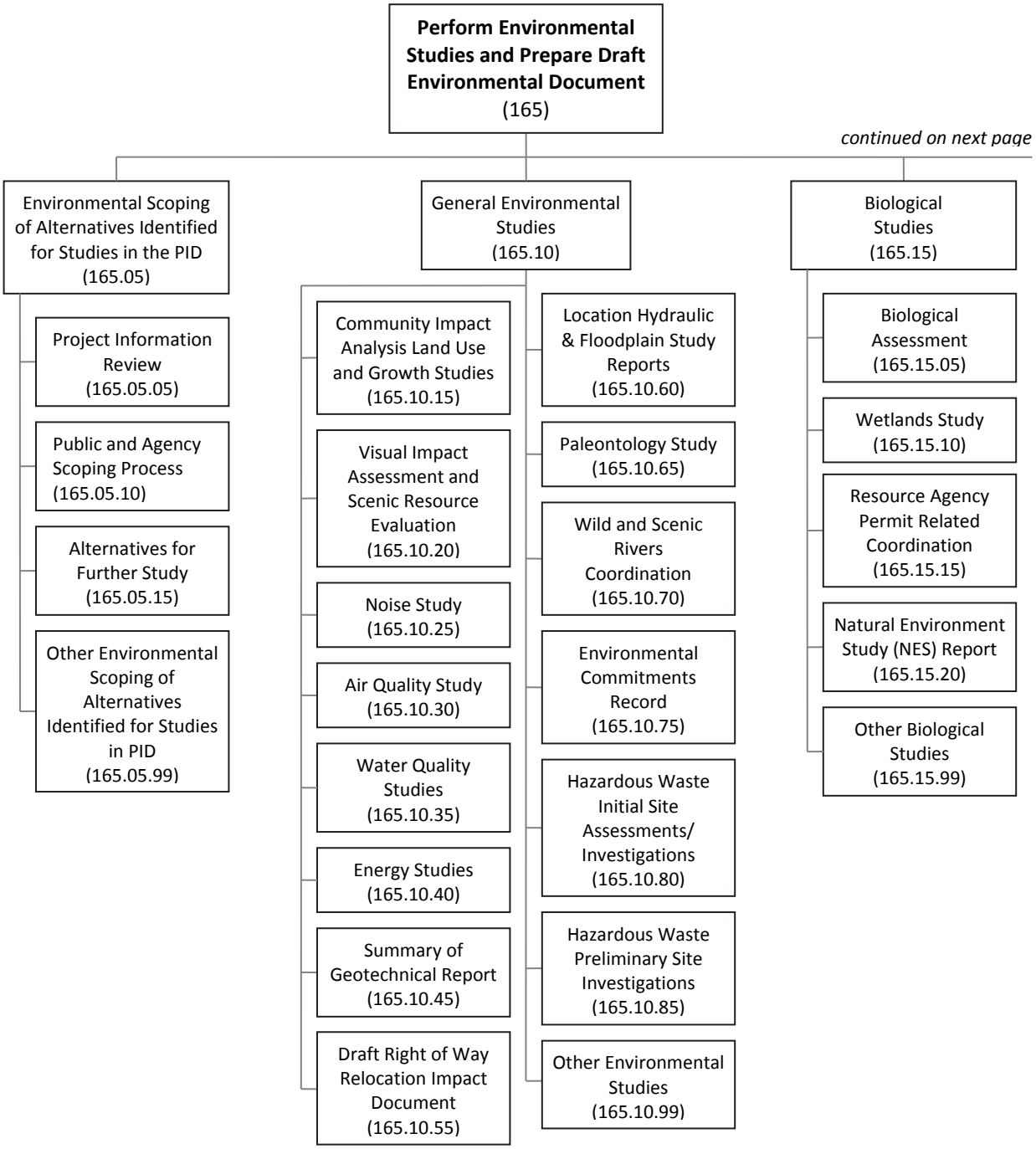
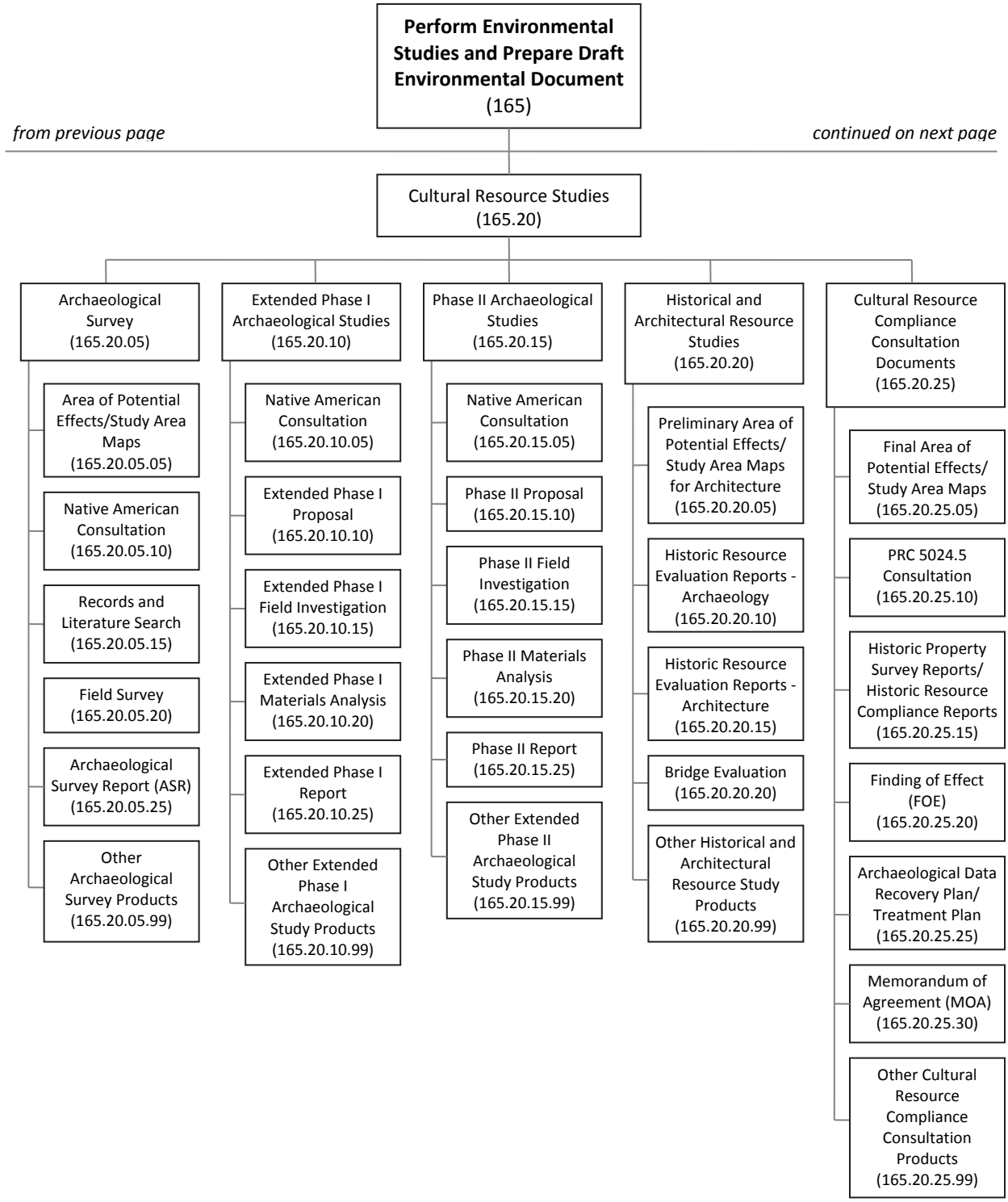
| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

## 165 Perform Environmental Studies and Prepare Draft Environmental Document



**WBS**

**165**


Perform Environmental Studies and Prepare Draft Environmental Document (165)
from previous page
continued on next page
Cultural Resource Studies (165.20)
Archaeological Survey (165.20.05)
Area of Potential Effects/Study Area Maps (165.20.05.05)
Native American Consultation (165.20.05.10)
Records and Literature Search (165.20.05.15)
Field Survey (165.20.05.20)
Archaeological Survey Report (ASR) (165.20.05.25)
Other Archaeological Survey Products (165.20.05.99)
Extended Phase I Archaeological Studies (165.20.10)
Native American Consultation (165.20.10.05)
Extended Phase I Proposal (165.20.10.10)
Extended Phase I Field Investigation (165.20.10.15)
Extended Phase I Materials Analysis (165.20.10.20)
Extended Phase I Report (165.20.10.25)
Other Extended Phase I Archaeological Study Products (165.20.10.99)
Phase II Archaeological Studies (165.20.15)
Native American Consultation (165.20.15.05)
Phase II Proposal (165.20.15.10)
Phase II Field Investigation (165.20.15.15)
Phase II Materials Analysis (165.20.15.20)
Phase II Report (165.20.15.25)
Other Extended Phase II Archaeological Study Products (165.20.15.99)
Historical and Architectural Resource Studies (165.20.20)
Preliminary Area of Potential Effects/ Study Area Maps for Architecture (165.20.20.05)
Historic Resource Evaluation Reports - Archaeology (165.20.20.10)
Historic Resource Evaluation Reports - Architecture (165.20.20.15)
Bridge Evaluation (165.20.20.20)
Other Historical and Architectural Resource Study Products (165.20.20.99)
Cultural Resource Compliance Consultation Documents (165.20.25)
Final Area of Potential Effects/ Study Area Maps (165.20.25.05)
PRC 5024.5 Consultation (165.20.25.10)
Historic Property Survey Reports/ Historic Resource Compliance Reports (165.20.25.15)
Finding of Effect (FOE) (165.20.25.20)
Archaeological Data Recovery Plan/ Treatment Plan (165.20.25.25)
Memorandum of Agreement (MOA) (165.20.25.30)
Other Cultural Resource Compliance Consultation Products (165.20.25.99)

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
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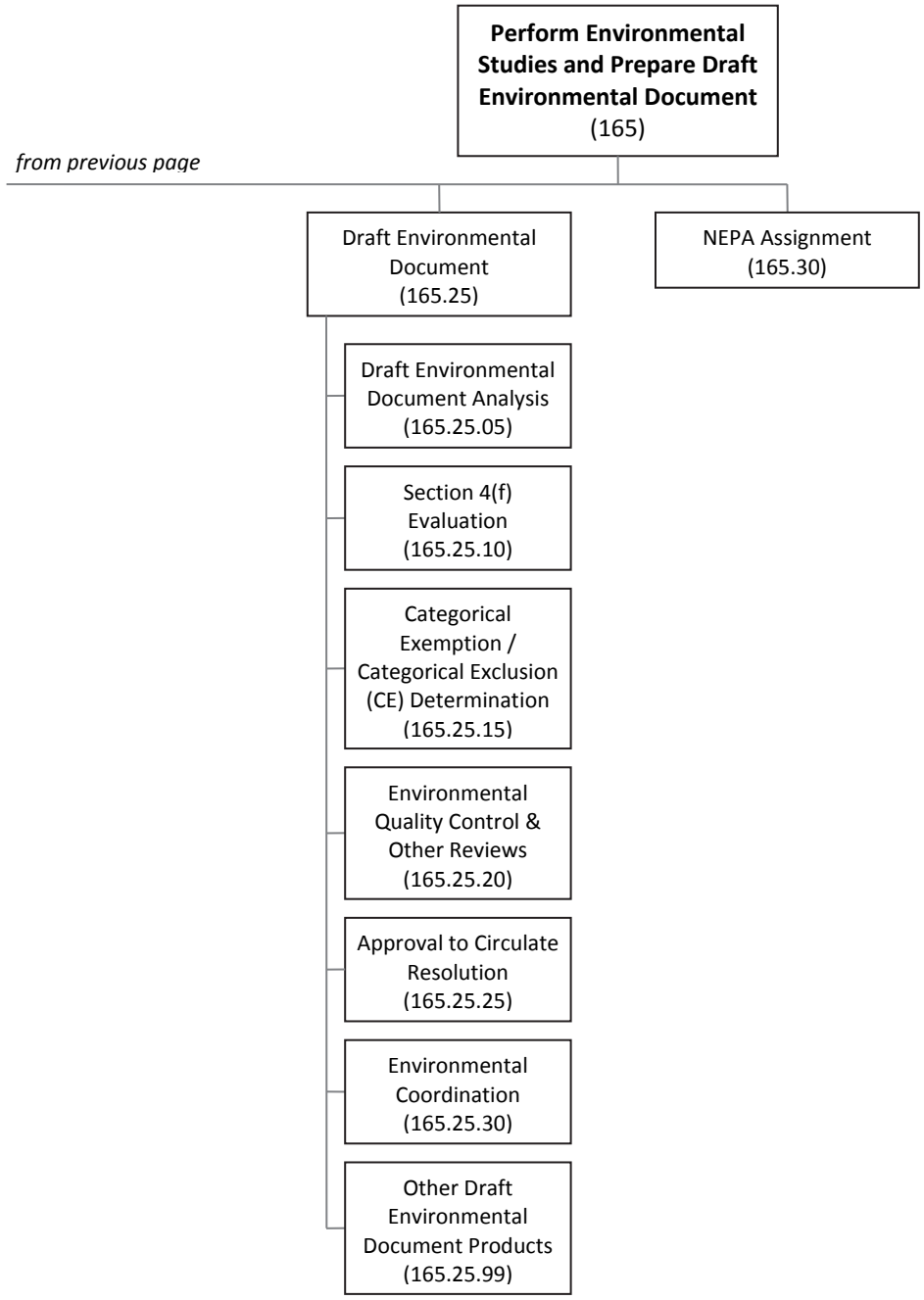
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |



**WBS**

**165**

| WBS Level 5 | 165 Perform Environmental Studies and Prepare Draft Environmental Document |
|---|---|
| Description | Work involved in performing the environmental studies needed to determine the environmental impact of a Capital Outlay Project and preparation of the Draft Environmental Document (DED). |
| Lead Function | Environmental |
| Deliverables | • Approved CEQA/NEPA Draft Environmental Document or Categorical Exclusions/Exemption<br>• Updated STEVE Database |
| Major Milestones | ♦ M020 Begin Environmental (Start: WBS 165)<br>♦ M030 Notice of Preparation (Lag after M020, number of days determined by PDT; related to WBS 165.05.10)<br>♦ M035 Notice of Intent (Lag after M020, number of days determined by PDT; related to WBS 165.05.10)<br>♦ M060 Circulate Draft Project Report and Draft Environmental Document Internally in District (Finish: WBS 165.25.20) |
| Business Practices | Commencement of 165 tasks cannot begin until all information required for "Begin Environmental" (WBS 160.30) has been provided or agreement to begin has been reached between the Project Manager, Environmental Branch Chief, and the Project Engineer. This does not include activities beyond study completion needed to obtain resource agency (Corps of Engineers, Fish and Wildlife, etc.) permits. These efforts should be performed under WBS 170 for Project Phase 0 efforts and WBS 205 for Project Phase 1 efforts. |
| References | – Caltrans Highway Design Manual (HDM): http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm<br>– Caltrans Preliminary Environmental Analysis Report (PEAR) Handbook: http://www.dot.ca.gov/ser/pear.htm<br>– Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm<br>– Caltrans Right of Way Manual: http://www.dot.ca.gov/hq/row/rowman/manual<br>– Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser<br>– Caltrans Stormwater Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual: http://www.dot.ca.gov/hq/construc/stormwater/documents/SWPPP_Prep_ManualJune2011.pdf<br>– Caltrans Technical Noise Supplement: |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
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| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

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| | http://www.dot.ca.gov/hq/env/noise/pub/Technical%20Noise%20Supplement.pdf<br>– Caltrans Traffic Noise Analysis Protocol: http://www.dot.ca.gov/hq/env/noise<br>– FHWA California Division website: http://www.fhwa.dot.gov/cadiv<br>– Traffic Volume Data: |

| **WBS Level 6** | **165.05 Environmental Scoping of Alternatives Identified for Study in PID** |
|---|---|
| Description | Environmental Scoping and Preparatory Tasks that initiate the environmental evaluation process. |
| Lead Function | Environmental |
| Deliverables | • Alternatives Selected for Environmental Study. |
| References | – Caltrans Standard Environmental Reference (SER), Vols. 1-4<br>– DEA Internet SER Page > Forms and Templates > PEAR Subpage |

| **WBS Level 7** | **165.05.05 Project Information Review** |
|---|---|
| Description | Obtain and examine information from prior stages in the project development process related to the environmental evaluation. |
| Lead Function | Various |
| Deliverables | • Initial Environmental Project File Setup<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 and 4 |
| Subtasks | – Obtain and examine PID and related documents<br>– Obtain and examine project plans from earlier stages<br>– Discuss and verify initial Purpose and Need, Alternatives, and previous environmental evaluations with Project Development Team<br>– Obtain and examine Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP) listings, regional emissions analyses<br>– Verify compliance with NEPA/404 Memorandum of Understanding (MOU) process at prior stages<br>– Verify Clean Air Act conformity status of project and alternatives |

| | |
|---|---|
| | – Environmental Generalist/Coordinator, Field Review<br>– Start Project File |

| WBS Level 7 | 165.05.10 Public and Agency Scoping Process |
|---|---|
| Description | Prepare and publish legal notices and perform all public and agency participation tasks related to the overall environmental product prior to circulation of the Draft Environmental Document to the public. |
| Lead Function | Environmental |
| Deliverables | • Draft Notice of Intent for FHWA Publication<br>• Published Notice of Preparation with Mailing List and State Clearinghouse Documentation.<br>• Public Participation Plan<br>• MPO/Air Pollution Control District (APCD) Comments on and Concurrence with Public Participation Plan.<br>• Minutes, Records of Meeting, Newsletters, Press Materials, and Public Participation Reports for Meetings and Other Public Participation Activities.<br>• Project Mailing List<br>• Updated STEVE Database<br>• Fulfill Scoping Requirements of 23 USC 139 |
| Notes | This WBS task has multiple deliverables, with no single item indicating completion of the work package. Work on this WBS element may occur throughout the performance period of WBS 165-level work. |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 6<br>– Caltrans Standard Environmental Reference (SER), Forms and Templates, EIR/EIS Scoping Checklist<br>– FHWA/FTA SAFETEA-LU Environmental Review Process Final Guidance<br>– Caltrans Standard Environmental Reference (SER), Forms and Templates, Annotated Outlines<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 and 4; Chapters 11 and 22 |
| Subtasks | – Prepare written notification of initiation of environmental studies<br>– Prepare Draft Notice of Intent (NOI) (NEPA requirement - Environmental Impacts Statement EIS only) and submit to FHWA for Federal Register publication<br>– Prepare and circulate Notice of Preparation (NOP) (California Environmental Quality Act [CEQA] requirement - Environmental Impact Report EIR only)<br>– Conduct and document Public and Agency environmental scoping meeting(s) |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
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| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

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| | – Prepare and coordinate with Metropolitan Planning Organization (MPO)/Regional Transportation Planning Agency (RTPA), and Tribal Transportation Planning Agency a Public Participation Plan, meeting MPO, State Implementation Plan (SIP), FHWA Metropolitan Planning and tribal requirements<br>– Prepare and send invitation letters to applicable federal, state, tribal, regional, and local governments<br>– Conduct and document public and agency open house and workshop meetings during development of the environmental document<br>– Conduct and document other formal and informal public participation activities such as citizens' committees, focus groups, presentations to political bodies, and media appearances, not directly related to preparation and coordination of a technical work product<br>– Prepare and circulate newsletters and other public informational and press materials<br>– Prepare and maintain project mailing list |

| **WBS Level 7** | **165.05.15 Alternatives for Further Study** |
|---|---|
| Description | The Project Development Team selects alternatives for further study in the Draft Environmental Document and Draft Project Report. The selection process and criteria are documented for use in later stages of the project. Alternatives are based on those developed and documented in the Project Initiation Document, with additions or deletions as required. |
| Lead Function | Environmental |
| Deliverables | • Alternative(S) Selection Memo<br>• NOP/NOI Alternatives Discussion (EIR/EIS Projects Only) |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 and 4 |
| Subtasks | – Perform preliminary alternatives analysis<br>– Consider public comment and participation (via the scoping process in WBS 165.05.10)<br>– Review alternatives analysis with Project Development Team<br>– Prepare and review alternative selection documentation<br>– Preliminary alternatives analysis report (used by PDT and public)<br>– Public and PDT Review of documentation and comments<br>– Response to comments |

| WBS Level 7 | 165.05.99 Other Environmental Scoping of Alternatives Identified for Studies in PID |
|---|---|
| Description | All other work conducted during the Environmental Scoping of Alternatives Identified for Studies in PID efforts not defined or covered in other WBS 165.05 elements |
| Lead Function | Environmental |
| Deliverables | • Activities and Documentation |
| References | – Caltrans Standard Environmental Reference (SER), Vols. 1-4<br>– DEA Internet SER Page > Forms and Templates > PEAR Subpage |

| WBS Level 6 | 165.10 General Environmental Studies |
|---|---|
| Description | Perform environmental technical studies, other than for Biology and Cultural Resources, and prepare technical reports and other work products documenting study results. |
| Lead Function | Environmental |
| Deliverables | • All Technical Study Reports Necessary for the Preparation of A Project's Environmental Document, Other than Those Related to Biology (See WBS 165.15) and Cultural Resources (See WBS 165.20).<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Vols. 1-4<br>– DEA Internet SER Page > Forms and Templates > PEAR Subpage |

| WBS Level 7 | 165.10.15 Community Impact Analysis Land Use and Growth Studies |
|---|---|
| Description | Perform all activities related to socioeconomic, land use, and growth impact technical studies for use in the environmental document and prepare a technical report documenting study results. |
| Lead Function | Environmental |
| Deliverables | • Technical Report(s)<br>• Technical Report Abstract for Use in Environmental Document Text<br>• Transmittal Memo with Proposed Mitigation Measures and Mitigation Effectiveness Evaluation |
| Business Practices | Tasks that are in common with draft relocation impact study are done under this WBS. |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. |

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|---|---|
| | 1, Chap. 24<br>– Caltrans Standard Environmental Reference (SER), Vol. 1, Chap. 25<br>– Caltrans Standard Environmental Reference (SER), Vol. 4<br>– Traffic Volume Data<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 8, Sections 6 and 7; Chapter 10, Sections 3 and 4 |
| Subtasks | – Perform ethnicity and economic studies to determine the characteristics of the communities affected by the project. This includes Environmental Justice requirements<br>– Perform land use studies to determine the relationship of the project to local, regional, and other planning, and identify compatibility issues with existing land uses<br>– Perform growth impact studies<br>– Prepare interim reports for internal and peer review<br>– Prepare technical report with mapping and other graphics<br>– Prepare abstract for inclusion in Environmental Document text<br>– Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures<br>– Coordinate with local and regional agencies, ethnic and community groups, and business organizations<br>– Farmland Evaluation and Coordination |

| **WBS Level 7** | **165.10.20 Visual Impact Assessment and Scenic Resource Evaluation** |
|---|---|
| Description | Perform all activities related to Visual Impact Assessment (VIA) and Scenic Resource Evaluation (SRE) for use in the environmental document and prepare a technical report documenting study results. |
| Lead Function | Landscape Architecture |
| Deliverables | • Visual Simulations and Exhibits<br>• Technical Report<br>• Technical Report Abstract for Use in Environmental Document<br>• Transmittal Memo with Proposed Mitigation Measures and Mitigation Effectiveness Evaluation |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 27, Project Development Procedures Manual, Chap. 8, Section 7, Article 6 |
| Subtasks | – Perform a visual inventory of the project area<br>– Perform a visual impact assessment (VIA)<br>– Perform a scenic resource evaluation (SRE) |

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| | – Prepare a technical report documenting VIA and SRE results<br>– Prepare visual simulations of the proposed alternatives<br>– Coordinate with local agencies, citizens groups, and business groups related to community design and scenic issues<br>– Prepare abstract for inclusion in Environmental Document<br>– Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures |

| **WBS Level 7** | **165.10.25 Noise Study** |
|---|---|
| Description | Perform all activities related to noise impact analysis for use in the Environmental Document and prepare a technical report documenting study results. |
| Lead Function | Environmental |
| Deliverables | • Preliminary Noise Barrier Plans<br>• Technical Report<br>• Technical Report Abstract for Use in Environmental Document<br>• Transmittal Memo<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 12<br>– Caltrans Highway Design Manual (HDM), Chapter 1100<br>– Caltrans Technical Noise Supplement<br>– Caltrans Traffic Noise Analysis Protocol<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 30 |
| Subtasks | – Identify sensitive receptors and analysis locations<br>– Collect existing noise information, including monitoring data from Air Resources Board (ARB) and Air Pollution Control District (APCD) sites<br>– Perform noise modeling<br>– Develop estimates of effectiveness for alternative mitigation measures<br>– Prepare technical report with preliminary barrier plans<br>– Prepare abstract for inclusion in Environmental Document text<br>– Prepare transmittal memo outlining study results, potential significance |

| **WBS Level 7** | **165.10.30 Air Quality Study** |
|---|---|
| Description | Perform all activities related to air quality impact analysis for use in the environmental document and prepare a technical report documenting study results. |
| Lead Function | Environmental |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
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| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

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|---|---|
| Deliverables | • Monitoring Report<br>• Technical Report<br>• Technical Report Abstract for Use in Environmental Document<br>• Air Quality Conformity Checklist<br>• Transmittal Memo<br>• Evidence of Coordination with and Concurrence by MPO and Air Quality Agencies |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 11<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 and 4 |
| Subtasks | – Identify sensitive receptors and analysis locations<br>– Collect existing carbon monoxide (CO) data<br>– Perform CO or other monitoring. Note that scheduling of this activity should take into account appropriate study windows.<br>– Identify sensitive receptors and analysis locations<br>– Collect existing CO data<br>– Perform CO or other monitoring. Note that scheduling of this activity should take into account appropriate study windows. |

| **WBS Level 7** | **165.10.35 Water Quality Studies** |
|---|---|
| Description | Perform all activities related to water quality impact analysis for use in the environmental document and prepare a technical report documenting study results. |
| Lead Function | Environmental/Design |
| Deliverables | • Monitoring Report(s)<br>• Permit Application Materials, If Required<br>• Technical Report<br>• Technical Report Abstract for Use in Environmental Document Text<br>• Transmittal Memo<br>• Evidence of Coordination with and Concurrence by MPO and Water Quality Agencies<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chaps. 9 and 15<br>– Stormwater Pollution Protection Plan Guidelines for Environmental Planning<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 and 4 |

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| Subtasks | – Identify receiving waters, their regulatory status, and their uses<br>– Collect existing water quality information, including monitoring data from other agencies as available<br>– If necessary due to inadequate existing information, conduct on-site sampling or monitoring<br>– Perform modeling, if necessary and appropriate, to predict future pollutant concentrations with no project and all applicable alternatives<br>– Verify applicability of Sole Source Aquifer, NPDES, and other laws and regulations to the project and design of drainage facilities<br>– Develop estimates of effectiveness for alternative drainage facilities and mitigation measures<br>– Prepare technical report with mapping and other graphics<br>– Prepare abstract for inclusion in Environmental Document text<br>– Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures |

| **WBS Level 7** | **165.10.40 Energy Studies** |
|---|---|
| Description | Perform all activities related to energy impact analysis for use in the environmental document and prepare a technical report documenting study results. |
| Lead Function | Various |
| Deliverables | • Technical Report<br>• Technical Report Abstract for Use in Environmental Document Text<br>• Transmittal Memo |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 13 |
| Subtasks | – Perform modeling or use other analysis methods to predict future energy use with no project and all applicable alternatives<br>– Verify applicability of energy-related laws and regulations to the project and design of drainage facilities<br>– Prepare technical report<br>– Prepare abstract for inclusion in Environmental Document text<br>– Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures |

| **WBS Level 7** | **165.10.45 Summary of Geotechnical Report** |
|---|---|
| Description | Prepare summary of Preliminary Geotechnical Report for inclusion in the Draft Environmental Document. |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
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| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

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|---|---|
| Lead Function | Various |
| Deliverables | • Technical Report Abstract for Use in Environmental Document |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 and 4 |
| Subtasks | – Review Preliminary Geotechnical Report<br>– Prepare abstract for inclusion in Environmental Document text |

| **WBS Level 7** | **165.10.55 Draft Right of Way Relocation Impact Document** |
|---|---|
| Description | Perform all activities related to relocation impact analysis for use in the Environmental Document and prepare a technical report documenting study results. |
| Lead Function | Various |
| Deliverables | • Technical Report and Associated Materials<br>• Technical Report<br>• Technical Report Abstract for Use in Environmental Document<br>• Transmittal Memo |
| Business Practices | Tasks that are common with Draft Relocation Impact study and WBS 165.10.15 (Perform Socioeconomic, Land Use, and Growth Studies) are done under WBS 165.10.15. |
| References | – Caltrans Right of Way Manual, Chapter 10, Reference Version and Forms and Exhibit<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 and 4<br>– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 4, Chap. 4, Section 7 |
| Subtasks | – Prepare technical report<br>– Prepare abstract for inclusion in Environmental Document text<br>– Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures |

| **WBS Level 7** | **165.10.60 Location Hydraulic and Floodplain Study Report** |
|---|---|
| Description | Perform all activities related to preparing a Location Hydraulic Study, including structures hydraulics, for use in the environmental document and Draft Project Report and a Flood Plain Study for use in the Environmental Document; prepare a technical report or reports documenting study results. |

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|---|---|
| Lead Function | Various |
| Deliverables | • Technical Report<br>• Technical Report Abstract for Use in Environmental Document Text<br>• Transmittal Memo |
| Business Practices | These studies are usually combined into one document since they address largely the same issues. The Location Hydraulic Study is a specific FHWA requirement where a project will encroach on a flood plain. The Flood Plain Study may consider a broader range of issues than FHWA requires for the Location Hydraulic Study and is usually part of the information required to deal with the US Army Corps of Engineers in the 404 permit process. |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 17<br>– Caltrans Highway Design Manual (HDM), Chapter 800, Topic 804<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 2, 3 and 4 |
| Subtasks | – Prepare technical report<br>– Prepare abstract for inclusion in Environmental Document text<br>– Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures |

| **WBS Level 7** | **165.10.65 Paleontology Study** |
|---|---|
| Description | Tasks involved with the identification and evaluation of paleontological resources within the project's study area. |
| Lead Function | Various |
| Deliverables | • Summary Report of Conclusions for Inclusion in the Environmental Document.<br>• Paleontological Identification Report (PIR), If Not Prepared for PID (A Combined PIR/PER May Be Prepared in These Cases)<br>• Paleontological Evaluation Report (PER)<br>• Updated STEVE Database |
| Business Practices | The PIR, PER, or PIR/PER may be prepared by a consultant. In such cases this task will include oversight of the consultant's work. |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 8 |
| Subtasks | – Identification of geologic strata potentially affected by project related activities (including borrow sites, cuts and haul roads) and assessment of its potential to |

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| | contain significant paleontological resources<br>– Literature search of paleontological resources in the region<br>– Consultation with paleontologists with expertise in the region<br>– Develop preliminary mitigation recommendations, if necessary<br>– Geological map review<br>– Field survey<br>– Consultation with museums containing paleontological collections |

| **WBS Level 7** | **165.10.70 Wild and Scenic Rivers Coordination** |
|---|---|
| Description | Tasks involved with the identification and evaluation of wild and scenic rivers within the project's study area. |
| Lead Function | Various |
| Deliverables | • Summary Report of Conclusions for Inclusion in the Environmental Document |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 19 |
| Subtasks | – Identification of all river reaches officially designated as being part of the National Wild and Scenic River System and official "study" river<br>– Identification of all river reaches officially designated as "wild", "scenic", or "recreational" by the California Resources Agency |

| **WBS Level 7** | **165.10.75 Environmental Commitments Record** |
|---|---|
| Description | Prepare or update the Environmental Commitments Record (ECR) and its associated documentation (e.g., Permits, Agreements and Mitigation (PAM)). In the case of a Categorical Exemption/Categorical Exclusion (CE), transmit to Design for inclusion into the PS&E package. |
| Lead Function | Environmental |
| Deliverables | • Updated Environmental Commitments Record<br>• Updated STEVE Database |
| Business Practices | The ECR (which should be initiated/updated at WBS 150.40.50, WBS 165.10.75, WBS 170.10.60, WBS 180.15.20, WBS 205.10.60, WBS 235.40, WBS 255.15, WBS 255.40, WBS 260.75, WBS 295.35, and WBS 295.40) is used as a part of the Environmental input for the RE Pending File (WBS 255.40), Environmental Certification at RTL (WBS 260.75), and the Certificate of Environmental Compliance (WBS 295.35). |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 39 |

| WBS Level 7 | 165.10.80 Hazardous Waste Initial Site Assessments/Investigations |
|---|---|
| Description | Perform a hazardous waste, hazardous materials and contamination evaluation of the property within and surrounding the project area. Document the results in an Initial Site Assessment (ISA). |
| Lead Function | Various |
| Deliverables | • Hazardous Waste Initial Site Assessment (ISA).<br>• Technical Report(s)<br>• Technical Report Abstract for Use in Environmental Document<br>• Transmittal Memo<br>• Updated STEVE Database |
| Business Practices | This work may be done through the consultant contract process. Consultant selection and administration activities should be captured under WBS 100.10. |
| Notes | An ISA is required for all projects. This information should have been acquired during the K Phase in order to properly complete the Preliminary Environmental Analysis Report (PEAR) and Project Initiation Documents (PID). If an ISA was not completed during the K Phase, its costs should be captured here. |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 10<br>– Caltrans Preliminary Environmental Analysis Report (PEAR) Handbook<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 10, Sections 3 and 4; Chapter 18 |

| WBS Level 7 | 165.10.85 Hazardous Waste Preliminary Site Investigations |
|---|---|
| Description | Perform all activities related to one or more Preliminary Site Investigations (PSIs) and prepare a technical report documenting study results. |
| Lead Function | Various |
| Deliverables | • Technical Report(s)<br>• Technical Report Abstract for Use in Environmental Document Text<br>• Transmittal Memo<br>• Updated STEVE Database |
| Business Practices | Typically this work may be done through the consultant contract process. Consultant selection and administration activities should be captured under WBS 100.10. |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 10 |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
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| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

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|---|---|
| | – Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 and 4; Chapter 18 |
| Subtasks | – Review and update, if necessary, the Initial Site Assessment<br>– Transfer funding from project to hazardous waste contract to cover task order cost<br>– Prepare technical report<br>– Prepare abstract for inclusion in Environmental Document text<br>– Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures |

| **WBS Level 7** | **165.10.99 Other Environmental Studies** |
|---|---|
| Description | All other work conducted during the General Environmental Studies efforts not defined or covered in other WBS 165.10 elements. |
| Lead Function | Environmental |
| Deliverables | • Technical Report(s)<br>• Technical Report Abstract for Use in Environmental Document Text<br>• Transmittal Memo<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Vols. 1-4<br>– DEA Internet SER Page > Forms and Templates > PEAR Subpage |

| **WBS Level 6** | **165.15 Biological Studies** |
|---|---|
| Description | Perform all activities related to preparing Biological Studies related to the project. |
| Lead Function | Environmental |
| Deliverables | • the Biological Study Reports Necessary for the Preparation of the Project's Environmental Document.<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Vol. 3 |

| **WBS Level 7** | **165.15.05 Biological Assessment** |
|---|---|
| Description | Perform all tasks related to endangered species and other studies required to complete a Biological Assessment report. |
| Lead Function | Environmental |
| Deliverables | • Biological Assessment Report |

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|---|---|
| | • Documentation of Coordination<br>• Abstract(s) for Inclusion in the Natural Environmental Study and Environmental Document<br>• Memo Discussing Recommended and/or Required Mitigation Measures<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 14; Vol. 3, Chap. 4<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 and 4 |
| Subtasks | – Obtain endangered species list for project area<br>– Perform presence/absence and other field studies<br>– Determine effect on species<br>– Perform formal and informal coordination with resource agencies<br>– Prepare technical report |

| **WBS Level 7** | **165.15.10 Wetlands Study** |
|---|---|
| Description | Perform all tasks related to identifying, studying project effects on, and determining mitigation for wetlands in the project area, and prepare a report. |
| Lead Function | Environmental |
| Deliverables | • Memo Discussing Recommended and/or Required Mitigation Measures<br>• Prepare Technical Report<br>• Wetland Delineation Materials<br>• Abstract(s) for Inclusion in Natural Environment Study and Environmental Document<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chaps. 15 and 37; Vol. 3, Chap. 3<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 and 4 |
| Subtasks | – Coordinate endangered species information with Biological Assessment (WBS 165.15.05) work<br>– Delineate wetlands in the project area to US Army Corps of Engineers standards and obtain approval of the delineation<br>– Determine effect on species and amount and type of wetlands affected<br>– Prepare technical report |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 7** | **165.15.15 Resource Agency Permit Related Coordination** |
|---|---|
| Description | Effort involved directly with formal consultation and coordination required in order to complete the biological studies. |
| Lead Function | Environmental |
| Deliverables | • Documentation of Various Types of Consultation, Coordination, and Permits for Inclusion in Other Biological Study Reports and the Environmental Document.<br>• Updated STEVE Database |
| Business Practices | This work may result from studies done under any of the other biological task areas and may be required in order to complete those studies. The purpose of separating this effort is to identify the workload involved with permit and mandatory consultation work in the biology field.<br><br>The intent of this activity is to gain consensus with the resource agencies on the impacts and mitigation's on the proposed alternatives necessary for completion of the Draft Environmental Document (DED). Subsequent effort in resolving comments from the DED is covered in WBS 175. Efforts required to obtain permits, renew permits, or obtain permit extensions after PA&ED are included in WBS 280. This includes coordination with the US Army Corps of Engineers under the NEPA/404 Coordination Memorandum of Understanding (MOU) process. |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 3<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 and 4; Chapter 13 |
| Subtasks | – Obtain concurrence by the US Army Corps of Engineers with initial purpose and need and range of alternatives, per NEPA/404 MOU requirements<br>– Coordinate work with Biological Assessment (WBS 165.15.05), Wetlands Study (WBS 165.15.10), and Natural Environment Study (WBS 165.15.20) work<br>– Perform Section 7 and Section 10 consultation with the U.S. Fish and Wildlife Service<br>– Perform formal consultation and obtain concurrence in biological and wetland studies under the NEPA/404 Coordination MOU process<br>– Perform early consultation with California Department of Fish and Wildlife regarding biology issues related to possible Section 1600 permits<br>– Perform formal and informal biology-related coordination with other resource agencies as needed<br>– Prepare and submit preliminary Section 404 permit application to the US Army Corps of Engineers per NEPA/404 Memorandum of Understanding (MOU) |

| WBS Level 7 | 165.15.20 Natural Environment Study (NES) Report |
|---|---|
| Description | Based on information developed in the Biological Assessment and Wetlands Study reports, and other information as directed by technical guidance, prepare a Natural Environment Study (NES) Report. This report is the master document covering compliance with biological study and consultation requirements and providing language and mitigation measures for use in the Environmental Document. |
| Lead Function | Environmental |
| Deliverables | • Technical Report<br>• Technical Report Abstract for Use in Environmental Document Text<br>• Memorandum Summarizing Technical Report, Discussing Impacts and Their Potential Significance, and Recommending or Requiring Mitigation Measures<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 14; Vol. 3, Chap. 2<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 and 4 |
| Subtasks | – Review other biological study work<br>– Prepare technical report<br>– Prepare abstract for inclusion in Environmental Document text<br>– Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures |

| WBS Level 7 | 165.15.99 Other Biological Studies |
|---|---|
| Description | All other work conducted during the Biological Studies efforts not defined or covered in other WBS 165.15 elements. |
| Lead Function | Environmental |
| Deliverables | • Technical Report(s)<br>• Technical Report Abstract for Use in Environmental Document Text<br>• Transmittal Memo<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Vol. 3 |

| WBS Level 6 | 165.20 Cultural Resource Studies |
|---|---|
| Description | Perform studies and prepare cultural resources (archaeological, historical, and architectural reports) in order to comply with the requirements of the California |

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|---|---|
| | Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act, and Section 5024 of the California Public Resources Code. Includes consultation with Native American communities. |
| Lead Function | Environmental |
| Deliverables | • Documentation (Such as from State Historic Preservation Officer (SHPO) or Professionally Qualified Staff (PQS)) That Demonstrates Compliance with Applicable Federal and State Cultural Resource Laws and Regulations Has Been Achieved.<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Vol. 2 |

| WBS Level 7 | 165.20.05 Archaeological Survey |
|---|---|
| Description | Pre-field research, pedestrian archaeological survey, site recording, and report writing. May include consultation with consulting parties. |
| Lead Function | Environmental |
| Deliverables | • Archaeological Survey Report (ASR) That Details Study Methods and Results<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Vol. 2 |

| WBS Level 8 | 165.20.05.05 Area of Potential Effects/Study Area Map |
|---|---|
| Description | Efforts required for preparing an Area of Potential Effects (APE) maps for projects with a Federal nexus and Study Area maps for those with state-only involvement. |
| Lead Function | Environmental |
| Deliverables | • APE Maps |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chaps. 2 and 4 |

| WBS Level 8 | 165.20.05.10 Native American Consultation |
|---|---|
| Description | Letters, telephone calls, meetings, etc. conducted to consult with Native American groups and individuals to determine whether the project may affect historic properties to which they attribute significance. |
| Lead Function | Environmental |

| | |
|---|---|
| Deliverables | • Documentation of Coordination<br>• Abstract(s) for Inclusion in the Environmental Document<br>• Memo Discussing Recommended and/or Required Mitigation Measures<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chap. 3 |

| **WBS Level 8** | **165.20.05.15 Records and Literature Search** |
|---|---|
| Description | Review of California Historical Resources Information System (CHRIS) Information Center's records, historical society archives, Caltrans records, etc. to determine archaeological sensitivity and develop background context. |
| Lead Function | Environmental |
| Deliverables | • Activity and Report |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chap. 4 |

| **WBS Level 8** | **165.20.05.20 Field Survey** |
|---|---|
| Description | Field investigations. |
| Lead Function | Environmental |
| Deliverables | • Activity |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chap. 4 |

| **WBS Level 8** | **165.20.05.25 Archaeological Survey Report (ASR)** |
|---|---|
| Description | Efforts required for preparing an Archaeological Survey Report (ASR). |
| Lead Function | Environmental |
| Deliverables | • the Archaeological Survey Report Necessary for the Preparation of the Project's Environmental Document<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chaps. 4 and 5 |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 8** | **165.20.05.99 Other Archaeological Survey Products** |
|---|---|
| Description | All other work conducted during the Archaeological Survey efforts not defined or covered in other WBS 165.20.05 elements. |
| Lead Function | Environmental |
| Deliverables | • Technical Report(s)<br>• Technical Report Abstract for Use in Environmental Document Text<br>• Transmittal Memo<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Vol. 2 |

| **WBS Level 7** | **165.20.10 Extended Phase I Archaeological Studies** |
|---|---|
| Description | Phase I. studies for projects involving only one alternative or projects where all alternatives have the same impacts on all archaeological resources. Limited to presence/absence testing or limited integrity assessments. |
| Lead Function | Environmental |
| Deliverables | • A Technical Report Detailing the Methods and Results of the Extended Phase I Investigation.<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Vol. 2 |

| **WBS Level 8** | **165.20.10.05 Native American Consultation** |
|---|---|
| Description | Letters, telephone calls, meetings, etc. conducted to consult with Native American groups and individuals to determine whether the project may affect historic properties to which they attribute significance. |
| Lead Function | Environmental |
| Deliverables | • Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chap. 3 |

| **WBS Level 8** | **165.20.10.10 Extended Phase 1 Proposal** |
|---|---|
| Description | Extended Phase I proposal describing scope of proposed archaeological investigation work, decision thresholds, expectations, purpose, and reporting requirements. |

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|---|---|
| Lead Function | Environmental |
| Deliverables | • Proposal |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chap. 5 |

| WBS Level 8 | 165.20.10.15 Extended Phase 1 Field Investigation |
|---|---|
| Description | Fieldwork conducted to implement the proposal. Includes pre-field coordination, safety requirements, logistical support, field work, and demobilization. |
| Lead Function | Environmental |
| Deliverables | • Activity |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chaps. 5 and 6 |

| WBS Level 8 | 165.20.10.20 Extended Phase 1 Materials and Analysis |
|---|---|
| Description | Analysis of archaeological materials conducted to implement the Extended Phase I proposal, following requirements laid out in the Proposal. |
| Lead Function | Environmental |
| Deliverables | • Analyses and Report |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chap. 5 |

| WBS Level 8 | 165.20.10.25 Extended Phase 1 Report |
|---|---|
| Description | Reporting to fulfill requirements of Proposal to create Section 106 compliance documents. Includes peer review by Professionally Qualified Staff (PQS) in appropriate disciplines. |
| Lead Function | Environmental |
| Deliverables | • Report |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chap. 5 |

| WBS Level 8 | 165.20.10.99 Other Phase I Archaeological Study Products |
|---|---|

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

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|---|---|
| Description | All other work conducted during the Extended Phase I Archaeological Studies efforts not defined or covered in other WBS 165.20.10 elements. |
| Lead Function | Environmental |
| Deliverables | • Documentation |
| References | – Caltrans Standard Environmental Reference (SER), Vol. 2 |

| **WBS Level 7** | **165.20.15 Phase II Archaeological Studies** |
|---|---|
| Description | Phase II studies for projects involving only one alternative or projects where all alternatives have the same impacts on all archaeological resources. |
| Lead Function | Environmental |
| Deliverables | • A Technical Report Detailing the Methods and Results of Phase II Studies for Projects Involving Only One Alternative or Projects Where All Alternatives Have the Same Impact on All Archaeological Resources.<br>• Updated STEVE Database |
| Business Practices | For projects involving multiple alternatives, hence Phase II investigations necessarily being conducted after circulation of the Draft Environmental Document and selection of the Preferred Alternative use WBS 180.10.05.40 “Section 106 Consultation and MOA". |
| References | – Caltrans Standard Environmental Reference (SER), Vol. 2 |

| **WBS Level 8** | **165.20.15.05 Native American Consultation** |
|---|---|
| Description | Letters, telephone calls, meetings, etc. conducted to consult with Native American groups and individuals to determine whether the project may affect historic properties to which they attribute significance. |
| Lead Function | Environmental |
| Deliverables | • Documentation of Coordination<br>• Abstract(s) for Inclusion in the Environmental Document<br>• Memo Discussing Recommended and/or Required Mitigation Measures<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chap. 3 |

| **WBS Level 8** | **165.20.15.10 Phase II Proposal** |
|---|---|
| Description | Phase II proposal describing scope of proposed archaeological investigation work, |

| | |
|---|---|
| | decision thresholds, expectations, purpose, and reporting requirements. |
| Lead Function | Environmental |
| Deliverables | • Report |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chap. 5 |

| WBS Level 8 | 165.20.15.15 Phase II Field Investigation |
|---|---|
| Description | Fieldwork conducted to implement the proposal. Includes pre-field coordination, safety requirements, logistical support, field work, and demobilization. |
| Lead Function | Environmental |
| Deliverables | • Action |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chap. 5 |

| WBS Level 8 | 165.20.15.20 Phase II Materials Analysis |
|---|---|
| Description | Analysis of archaeological materials conducted to implement the Phase II proposal, following requirements laid out in the Proposal. |
| Lead Function | Environmental |
| Deliverables | • Documented Analysis Results |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chap. 5 |

| WBS Level 8 | 165.20.15.25 Phase II Report |
|---|---|
| Description | Reporting to fulfill requirements of Proposal to create Section 106 compliance documents. Includes peer review by Professionally Qualified Staff (PQS) in appropriate disciplines. |
| Lead Function | Environmental |
| Deliverables | • Technical Report(s)<br>• Technical Report Abstract for Use in Environmental Document<br>• Transmittal Memo<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. |

| | |
|---|---|
| | 2, Chap. 5 |

| WBS Level 8 | 165.20.15.99 Other Phase II Archaeological Study Products |
|---|---|
| Description | All other work conducted during the Phase II Archaeological Studies efforts not defined or covered in other WBS 165.20.15 elements. |
| Lead Function | Environmental |
| Deliverables | • Technical Report(s)<br>• Technical Report Abstract for Use in Environmental Document<br>• Transmittal Memo with Proposed Mitigation Measures and Mitigation Effectiveness Evaluation<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Vol. 2 |

| WBS Level 7 | 165.20.20 Historical and Architectural Resource Studies |
|---|---|
| Description | Provide technical reports detailing the methods and results of the Historic and Architectural Resource studies. |
| Lead Function | Environmental |
| Deliverables | • Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Vol. 2 |

| WBS Level 8 | 165.20.20.05 Preliminary Area Of Potential Effects /Study Area Maps for Architecture |
|---|---|
| Description | Efforts required for preparing preliminary Area of Potential Effects (APE) maps for projects with a Federal nexus and Study Area maps for state-only projects. |
| Lead Function | Environmental/Design |
| Deliverables | • Maps |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chaps. 2 and 4 |

| WBS Level 8 | 165.20.20.10 Historic Resources Evaluation Report - Archaeology |
|---|---|
| Description | Efforts required for preparing a Historic Resource Evaluation Report (HRER) focused on historic archaeological resources. |

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|---|---|
| Lead Function | Environmental |
| Deliverables | • Technical Report(s)<br>• Technical Report Abstract for Use in Environmental Document Text<br>• Transmittal Memo<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chap. 6 |

| **WBS Level 8** | **165.20.20.15 Historic Resource Evaluation Report - Architecture (HRER)** |
|---|---|
| Description | Efforts required for preparing a Historic Resources Evaluation Report (HRER) focused on historic architectural resources. |
| Lead Function | Environmental |
| Deliverables | • Technical Report(s)<br>• Technical Report Abstract for Use in Environmental Document Text<br>• Transmittal Memo<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chap. 7 |

| **WBS Level 8** | **165.20.20.20 Bridge Evaluation** |
|---|---|
| Description | All efforts needed to complete a historical and architectural evaluation report for existing bridges. |
| Lead Function | Environmental |
| Deliverables | • Technical Report(s)<br>• Technical Report Abstract for Use in Environmental Document Text<br>• Transmittal Memo<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chap. 7 |

| **WBS Level 8** | **165.20.20.99 Other Historical and Architectural Resource Study Products** |
|---|---|
| Description | All other work conducted during the Historical and Architectural Resource Studies efforts not defined or covered in other WBS 165.20.20 elements. |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
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| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

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|---|---|
| Lead Function | Environmental |
| Deliverables | • Technical Report(s)<br>• Technical Report Abstract for Use in Environmental Document Text<br>• Transmittal Memo<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Vol. 2 |

| **WBS Level 7** | **165.20.25 Cultural Resources Compliance Consultation Documents** |
|---|---|
| Description | This work element subsumes all subsequently listed documents. |
| Lead Function | Environmental |
| Deliverables | • Compliance documents submitted to the State Historic Preservation Officer (SHPO) for concurrence, or approved by Professionally Qualified Staff (PQS) under the terms of the existing CT/SHPO MOU, regarding resource identification, significance, project effects, and mitigation measures. |
| References | – Caltrans Standard Environmental Reference (SER), Vol. 2 |

| **WBS Level 8** | **165.20.25.05 Final Area of Potential Effects /Study Area Maps** |
|---|---|
| Description | Prepare final Area of Potential Effects (APE) maps for projects with a Federal nexus and Study Area maps for projects with state-only involvement. |
| Lead Function | Environmental/Design |
| Deliverables | • Maps |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chap. 2 |

| **WBS Level 8** | **165.20.25.10 PRC 5024.5 Consultation** |
|---|---|
| Description | All work required to complete consultation pursuant to Public Resources Codes Section 5024.5 |
| Lead Function | Environmental |
| Deliverables | • Documentation of Coordination<br>• Abstract(s) for Inclusion in the Environmental Document<br>• Memo Discussing Recommended and/or Required Mitigation Measures<br>• Updated STEVE Database |

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|---|---|
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chaps. 2 and 7 |

| WBS Level 8 | 165.20.25.15 Historic Property Survey Report/Historic Resources Compliance Report |
|---|---|
| Description | Efforts required for preparing Historic Property Survey Reports (HPSR), including Determinations of Eligibility (for Federal nexus projects) and Historic Resource Compliance Reports (HRCPs; for State-only projects). |
| Lead Function | Environmental |
| Deliverables | • Technical Report(s)<br>• Technical Report Abstract for Use in Environmental Document Text<br>• Transmittal Memo<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chap. 2 |

| WBS Level 8 | 165.20.25.20 Finding of Effect (FOE) |
|---|---|
| Description | Efforts required for preparing a Finding of Effect (FOE). |
| Lead Function | Environmental |
| Deliverables | • Documentation of Coordination<br>• Abstract(s) for Inclusion in the Environmental Document<br>• Memo Discussing Recommended and/or Required Mitigation Measures<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chap. 2 |

| WBS Level 8 | 165.20.25.25 Archaeological Data Recovery Plan/Treatment Plan |
|---|---|
| Description | All work required to complete a required Archaeological Data Recovery Plan/Treatment Plan, including consultation. |
| Lead Function | Environmental |
| Deliverables | • Plan |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chaps. 5 and 6 |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 8** | **165.20.25.30 Memorandum of Agreement (MOA)** |
|---|---|
| Description | Efforts required for preparing Memorandum of Agreement (MOA) regarding cultural resources. |
| Lead Function | Environmental |
| Deliverables | • Memorandum of Agreement (MOA) |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chap. 2 |

| **WBS Level 8** | **165.20.25.99 Other Cultural Resources Compliance Consultation Products** |
|---|---|
| Description | All other work conducted during the Cultural Resource Compliance Consultation Documents efforts not defined or covered in other WBS 165.20.25 elements. |
| Lead Function | Environmental |
| Deliverables | • Technical Report(s)<br>• Technical Report Abstract for Use in Environmental Document Text<br>• Transmittal Memo<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Vol. 2 |

| **WBS Level 6** | **165.25 Draft Environmental Document** |
|---|---|
| Description | Prepare Draft Environmental Document (DED) with all attachments or Categorical Exemption/Categorical Exclusion (CE/CE) documentation. Conduct all necessary in-house and external reviews (NEPA and CEQA documents) and obtain any necessary approvals to circulate (e.g., Federal Transit Administration [FTA], or other agency) the NEPA Document. |
| Lead Function | Environmental |
| Deliverables | • Completed CE Documentation or Approval to Circulate DED |
| References | – Caltrans Standard Environmental Reference (SER), Vol. 1<br>– DEA Internet SER Page > Forms and Templates |

| **WBS Level 7** | **165.25.05 Draft Environmental Document Analysis** |
|---|---|
| Description | Analyze technical studies and prepare Draft Environmental Document (CEQA draft Negative Declaration/Initial Study [ND/IS] or Environmental Impact Report [EIR]; |

| | |
|---|---|
| | NEPA draft Environmental Assessment [EA] or Environmental Impacts Statement [EIS]; or typically a combination CEQA/NEPA document). |
| Lead Function | Environmental |
| Deliverables | • Draft Analysis |
| Business Practices | Includes the coordination of the studies required for the Environmental Document. |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chaps. 31, 32, 34, 35, 36, and 37<br>– Caltrans Project Development Procedures Manual (PDPM), Chapters 10, 11 and 12 |

| WBS Level 7 | **165.25.10 Section 4(f)/6(f) Evaluation** |
|---|---|
| Description | Section 4(f) and 6(f) property evaluations, as appropriate |
| Lead Function | Environmental |
| Deliverables | • Technical Report(s)<br>• Documentation of Coordination, If Appropriate<br>• Technical Report Aabstract for Use in Environmental Document<br>• Transmittal Memo<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chaps. 20 and 37<br>– Caltrans Project Development Procedures Manual (PDPM), Chapters 12 and 13 |

| WBS Level 7 | **165.25.15 Categorical Exemption/Categorical Exclusion (CE) Determination** |
|---|---|
| Description | Includes review, circulation and approval. |
| Lead Function | Environmental |
| Deliverables | • Documentation Supporting CE/CE Conclusion<br>• Finalized CE/CEs<br>• Notice of Exemption<br>• CE Checklist<br>• Updated STEVE Database |
| Notes | If an Environmental Document is required, the draft Project Report does not constitute the Final Project Report and WBS 180.05 should be used. |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| | 1, Chaps. 30 and 34 |

| **WBS Level 7** | **165.25.20 Environmental Quality Control and Other Reviews** |
|---|---|
| Description | Carry out formal and informal review of DED within the Department, including all required quality control reviews. Revise DED as required addressing any comments. Perform preliminary U.S. DOT review if applicable. |
| Lead Function | Environmental |
| Deliverables | • Draft Quality Control Certification<br>• Environmental Document Review Checklist<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37<br>– Caltrans Project Development Procedures Manual (PDPM), Chapters 12 and 13 |

| **WBS Level 7** | **165.25.25 Approval to Circulate Resolution** |
|---|---|
| Description | Includes time and effort required to resolve U.S. DOT comments. |
| Lead Function | Environmental |
| Deliverables | • Document<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37<br>– Caltrans Project Development Procedures Manual (PDPM), Chapters 12 and 13 |

| **WBS Level 7** | **165.25.30 Environmental Coordination** |
|---|---|
| Description | Management of project-specific environmental resources, schedules, and information and coordination of the studies required for the environmental document. Obtain Approval to Circulate. |
| Lead Function | Environmental |
| Deliverables | • Coordination<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Vol. 1<br>– DEA Internet SER Page > Forms and Templates |

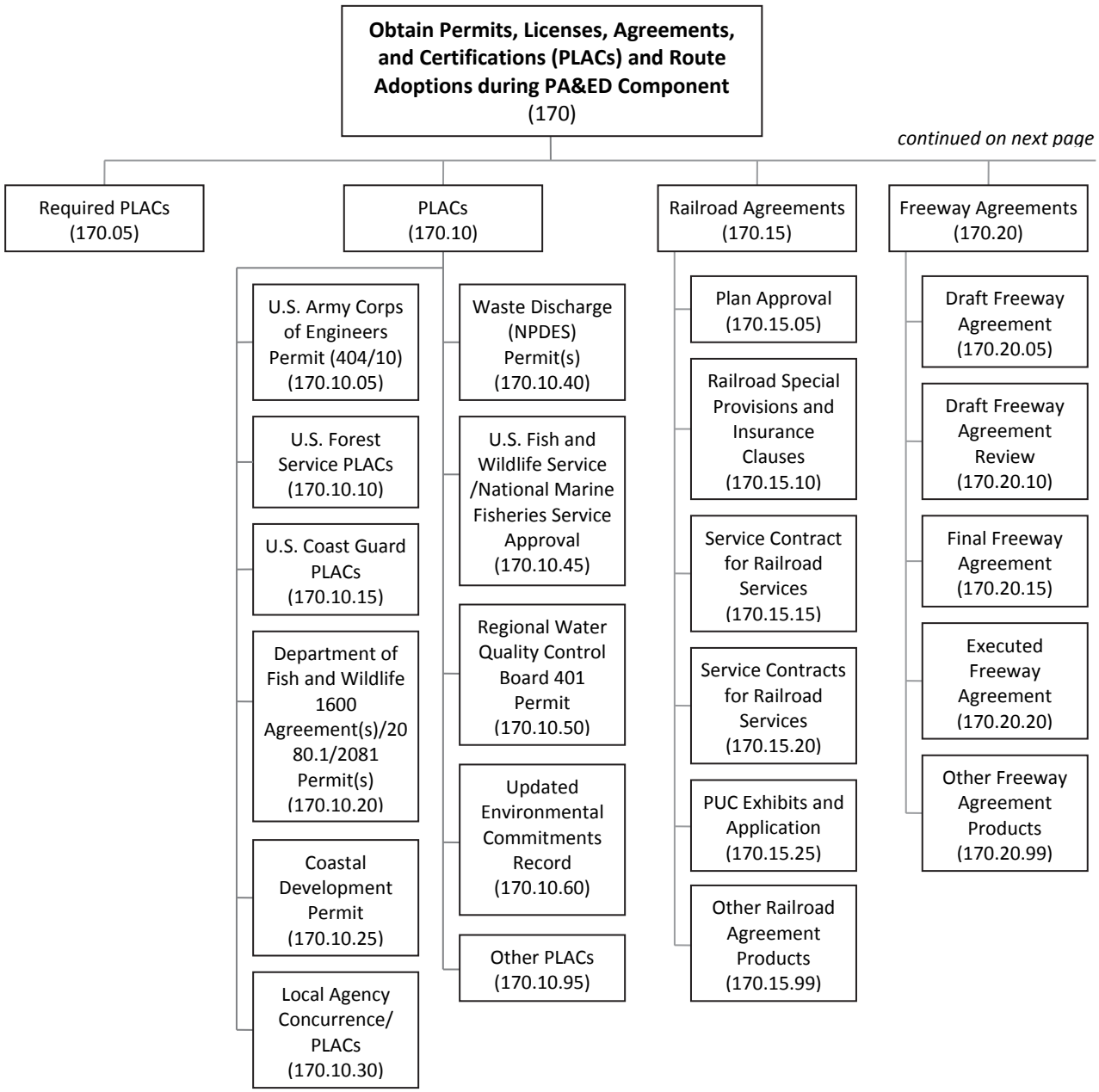
| WBS Level 7 | 165.25.99 Other Draft Environmental Document Products |
|---|---|
| Description | All other work conducted during the Draft Environmental Document efforts not defined or covered in other WBS 165.25 elements. |
| Lead Function | Environmental |
| Deliverables | • Reports/Document<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Vol. 1<br>– DEA Internet SER Page > Forms and Templates |

| WBS Level 6 | 165.30 NEPA Assignment |
|---|---|
| Description | Includes all WBS 165 (Environmental Studies and Draft Environmental Document) work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA Assignment under MAP-21. |
| Lead Function | Environmental |
| Deliverables | • All Products and Actions Required to Comply with NEPA Assignment<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER)<br>– FHWA California Division website |

**WBS 170**

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

## 170 Obtain Permits, Licenses, Agreements, and Certifications (PLACs) and Route Adoptions during PA&ED Component

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**WBS**

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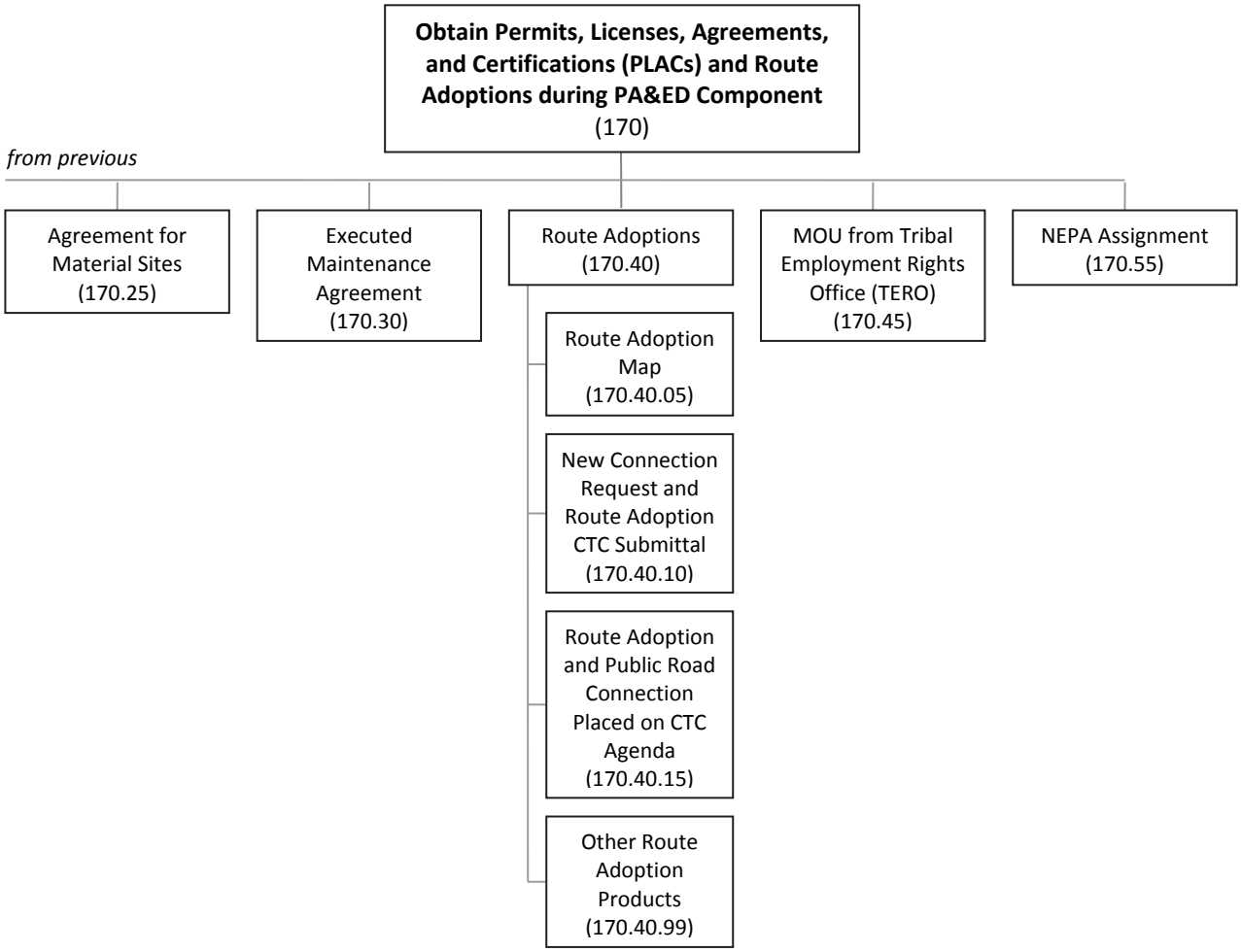
Obtain Permits, Licenses, Agreements, and Certifications (PLACs) and Route Adoptions during PA&ED Component (170)
from previous
Agreement for Material Sites (170.25)
Executed Maintenance Agreement (170.30)
Route Adoptions (170.40)
MOU from Tribal Employment Rights Office (TERO) (170.45)
NEPA Assignment (170.55)
Route Adoption Map (170.40.05)
New Connection Request and Route Adoption CTC Submittal (170.40.10)
Route Adoption and Public Road Connection Placed on CTC Agenda (170.40.15)
Other Route Adoption Products (170.40.99)

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 5** | **170 Obtain Permits, Licenses, Agreements, and Certifications (PLACs) and Route Adoptions during PA&ED Component** |
|---|---|
| Description | Work conducted during PA&ED Component involved in identifying and obtaining necessary permits, agreements, and route adoptions needed for project construction. |
| Lead Function | Various |
| Deliverables | • Work during PA&ED to Identify and Obtain PLACs or Route Adoption<br>• Updated STEVE Database |
| Major Milestones | ♦ None. |
| Business Practices | Agreements or permits specific to other Level 5 activities are not included as part of this work. |
| References | – Caltrans Plans Preparation Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/ppman/default.htm<br>– Caltrans Highway Design Manual (HDM): http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm<br>– Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm<br>– Caltrans Right of Way Manual: http://www.dot.ca.gov/hq/row/rowman/manual<br>– Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser<br>– FHWA California Division website: http://www.fhwa.dot.gov/cadiv/ |

| **WBS Level 6** | **170.05 Required PLACs** |
|---|---|
| Description | This activity includes all work completed during PA&ED in order to determine what PLACs may or may not be required, and obtain PLACs, if appropriate. |
| Lead Function | Various |
| Deliverables | • A List of What Specific PLACs Are Required and from What Agency, and or A Memo to File of What PLACs Were Considered but Not Pursued, and for What Reason<br>• Updated STEVE Database |
| Business Practices | This does not include coordination with resource agencies covering the scoping and NEPA/404 Memorandum of Understanding process covered under WBS 150.10.05, WBS 150.20.20, WBS 165.05.10, and WBS 165.15.15. |

| | |
|---|---|
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 3, Chaps. 3 and 4<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 and 2 |

| **WBS Level 6** | **170.10 PLACs** |
|---|---|
| Description | All work involved in obtaining PLACs, including:<br>– Discussions and negotiations with the agency with jurisdiction<br>– Preparation of the PLACs and attachments such as exhibits, maps, etc.<br>– Acquisition of funds for any required PLACs fees<br>– Submission of PLAC applications |
| Lead Function | Various |
| Deliverables | • Received PLACs from Each Agency with Jurisdiction<br>• Coordination as to Need for PLACs<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Vol. 1<br>– DEA Intranet SER Page > Library > Permits, Licenses, Agreements, and Certifications Subpage<br>– Caltrans Standard Environmental Reference (SER), Forms and Templates |

| **WBS Level 7** | **170.10.05 U.S. Army Corps of Engineers Permit (404/10)** |
|---|---|
| Description | All work involved in obtaining permits (Section 404 of Clean Water Act and/or Section 10 of the Rivers and Harbors Act), including:<br>– Discussions and negotiations with the US Army Corps of Engineers<br>– Preparation of the PLACs and attachments such as exhibits, maps, etc<br>– Submission of PLAC application<br>– Quarterly Status Meetings<br>– Field reviews |
| Lead Function | Environmental |
| Deliverables | • Coordination as to Need for PLACs<br>• Receipt of PLACs<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 3, Chap. 3<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 7; |

| | |
|---|---|
| | Chapter 3, Section 2; Chapter 13, Articles 1 and 2 |

| WBS Level 7 | 170.10.10 U.S. Forest Service PLACs |
|---|---|
| Description | All work required to obtain Forest Service PLACs |
| Lead Function | Various |
| Deliverables | • Coordination as to Need for PLACs<br>• Updated STEVE Database<br>• Receipt of PLACs |
| Notes | Not all aspects of Forest Service PLACs are necessarily environmentally related (e.g., hours of operation, etc). |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 and 2 |

| WBS Level 7 | 170.10.15 U.S. Coast Guard PLACs |
|---|---|
| Description | All work required to obtain Coast Guard PLACs. |
| Lead Function | Various |
| Deliverables | • Coordination as to Need for PLACs<br>• Updated STEVE Database<br>• Receipt of PLACs |
| Notes | Not all aspects of Coast Guard PLACs are necessarily environmentally related (e.g., hours of operation, etc). |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 and 2 |

| WBS Level 7 | 170.10.20 Department of Fish and Wildlife 1600 Agreement(s)/2080.1/2081 Permit(s) |
|---|---|
| Description | All work involved in obtaining agreements/permits (Section 1602 and/or 2080.1/2081 of the Fish and Wildlife Code), including:<br>– Discussions and negotiations with the Department of Fish and Wildlife<br>– Preparation of the permit and attachments such as exhibits, maps, etc.<br>– Submission of permit application<br>– Quarterly Status Meetings<br>– Field reviews |

| | |
|---|---|
| Lead Function | Environmental |
| Deliverables | • Coordination as to Need for PLACs<br>• Updated STEVE Database<br>• Receipt of PLACs |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 3, Chap. 3<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 and 2 |

| **WBS Level 7** | **170.10.25 Coastal Development Permit** |
|---|---|
| Description | All efforts required to obtain a coastal development permit. |
| Lead Function | Environmental |
| Deliverables | • Coordination as to Need for PLACs<br>• Updated STEVE Database<br>• Receipt of Permit |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 18<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 and 2 |

| **WBS Level 7** | **170.10.30 Local Agency Concurrence/PLACs** |
|---|---|
| Description | Includes coordination necessary to obtain concurrence from the appropriate local agencies when state highway construction impacts existing local facilities. |
| Lead Function | Various |
| Deliverables | • Coordination as to Need for PLACs<br>• Updated STEVE Database<br>• Receipt of PLACs |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 and 2 |

| **WBS Level 7** | **170.10.40 Waste Discharge (NPDES) Permit(s)** |
|---|---|
| Description | Includes all effort needed to obtain a National Pollutant Discharge Elimination System (NPDES) permit. |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| Lead Function | Environmental/Design |
| Deliverables | • Coordination as to Need for PLACs<br>• Updated STEVE Database<br>• Receipt of Permit(s) |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 8, Section 7; Chapter 13, Articles 1 and 2 |

| **WBS Level 7** | **170.10.45 U.S. Fish and Wildlife Service/National Marine Fisheries Service Approval** |
|---|---|
| Description | All work involved in obtaining Letters of Concurrence and/or Biological Opinions (Section 7 of the Endangered Species Act), including:<br>– Discussions and negotiations with the US Fish and Wildlife Service and/or National Marine Fisheries Service<br>– Preparation of the permit and attachments such as exhibits, maps, etc.<br>– Submission of permit application<br>– Quarterly Status Meetings<br>– Field reviews |
| Lead Function | Environmental |
| Deliverables | • Coordination as to Need for PLACs<br>• Updated STEVE Database<br>• Receive Approval(s) |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 18<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 and 2 |

| **WBS Level 7** | **170.10.50 Regional Water Quality Control Board 401 Permit** |
|---|---|
| Description | All efforts needed to obtain 401 permits. |
| Lead Function | Environmental |
| Deliverables | • Coordination as to Need for PLACs<br>• Updated STEVE Database<br>• Receipt of PLACs |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 and 2 |

| WBS Level 7 | 170.10.60 Updated Environmental Commitments Record |
|---|---|
| Description | Includes all efforts necessary to update the Environmental Commitments Record (ECR), originally prepared at WBS 165.10.75, and its associated documentation (e.g., Permits, Agreements, and Mitigation (PAM)). |
| Lead Function | Environmental |
| Deliverables | • Updated ECR<br>• Updated STEVE Database |
| Business Practices | The update must be coordinated with Design. The ECR is used as a part of the Environmental input for the Resident Engineer's Pending File, Environmental Certification at Ready to List ,and the Certificate of Environmental Compliance. |
| References | – Caltrans Standard Environmental Reference (SER) |

| WBS Level 7 | 170.10.95 Other PLACs |
|---|---|
| Description | Includes all permits not listed above, such as Bay Conservation and Development Commission (BCDC) permit, Tahoe Regional Planning Agency (TRPA) permit, and flood control district permits. |
| Lead Function | Various |
| Deliverables | • Coordination as to Need for PLACs<br>• Updated STEVE Database<br>• Receipt of PLACs |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 and 2 |

| WBS Level 6 | 170.15 Railroad Agreements |
|---|---|
| Description | All work involved in preparing a Railroad Service Contract, a Railroad construction and Maintenance Agreement, and a Public Utilities Commission (PUC) application for authorization to construct with a public rail crossing. |
| Deliverables | • Site Diagnostic Meeting - Preparation and Coordination of a Site Diagnostic Meeting with stakeholders, design engineer, PUC representative, and the State Railroad Agreements Engineer. This occurs at the 30% design and only after the approval of the project environmental document. Meeting takes place at the railroad site of project.<br>• Determine right of way requirements with plat and legal description and deed.<br>• Negotiate with railroad for right of way purchase – permanent and temporary easements. |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| | • Submit PUC application pursuant to the guidelines of General Order No. 88-D for work within an existing railroad crossing.<br>• Submit formal PUC application for all new crossing work, which will requirement extensive involvement with HQ Legal.<br>• Obtain railroad letter of approval for final design.<br>• Develop final draft railroad agreement that will incorporated special project and railroad requirements.<br>• Develop final draft railroad specification based on the final draft railroad agreement.<br>• Follow through with submitted final draft till executed agreement is obtained.<br>• Submits final draft railroad agreement to railroad and, if applicable, other involved stakeholders for execution.<br>• Transmittal of a Railroad Clearance Memo from the Railroad Agreements Engineer or a District Railroad Agreement Coordinator to Office Engineer prior to RTL. |
| Notes | Projects cannot be advertised prior to Railroad Clearance Memo. |
| References | – Caltrans Right of Way Manual, Chapter 8.<br>– Chief Engineer's Decision document dated October 17, 2001, moved Railroad Agreements Function from Structures to Right of Way. 23 CFR635.307 & 635.309 PUC Code Section 1201. |

| **WBS Level 7** | **170.15.05 Plan Approval** |
|---|---|
| Description | All work involved with inter and intra coordination of project design plans between bridge engineer, project engineer, project manager, and the railroad entity involved. |
| Lead Function | Right of Way |
| Deliverables | • Final Project Plan Approval Letter from Railroad |
| Business Practices | Right of Way acts as a project manager coordinating the work of the bridge engineer with railroad engineer for concept, preliminary, and final approval of structure plans. |
| References | – Caltrans Right of Way Manual, Chapter 8 |

| **WBS Level 7** | **170.15.10 Railroad Special Provisions and Insurance Clauses** |
|---|---|
| Description | The HQ Railroad Agreements Engineer develops, edits, and maintains railroad special provisions for each railroad entities throughout the State. Each special provisions are developed to each specific project and railroad entity in accordance to their requirements and special construction restriction period. |
| Lead Function | District Railroad Coordinator |

| | |
|---|---|
| Deliverables | • Final draft Railroad special provision and insurance requirements are included with the railroad agreement for execution.<br>• Final draft Railroad Special Provision and Insurance Requirements are included to the "Information Handout," of the Project construction contract document package. |
| Business Practices | The HQ Railroad Agreements Engineer and the District Railroad Agreements Coordinator develop the final draft special provisions. All railroad specification write ups are to be reviewed and approved by the HQ Railroad Agreements Engineer. |
| References | – Caltrans Right of Way Manual, Chapter 8 |

| **WBS Level 7** | **170.15.15 Service Contract for Railroad Services** |
|---|---|
| Description | A service contract that will pay railroad to provide surfaces in support of project work such as flagging, plan review, inspection, and necessary relocation work of railroad facilities. |
| Lead Function | District Railroad Coordinator |
| Deliverables | • Once HQ Legal signs, Service Contract becomes valid.<br>• After execution, railroad invoices are received in HQ R/W for payment.<br>• HQ R/W coordinates with the Resident Engineer and approves payment. Work with Accounting and monitors the balance of each contract against remaining balance. |
| Business Practices | The District Railroad Agreement Coordinator prepares the Service Contract which is a short form for project specific information. All terms and conditions are prewritten. The District Railroad Coordinators will obtain signatures from its District approval authority, funding manager, and the railroad prior to HQ legal signature. |
| References | – Caltrans Right of Way Manual, Chapter 8 |

| **WBS Level 7** | **170.15.20 Service Contracts for Railroad Services** |
|---|---|
| Description | A construction and maintenance agreement is only for grade separated crossing and is required to construct or reconstruct structure and to operate and maintain structure after project completion. This permits the Division of Structure Maintenance access to inspect, maintain, and operate state bridges crossing over railroad properties and facilities. |
| Lead Function | District Railroad Coordinator |
| Deliverables | • A fully executed agreement when all signatures are obtained. |
| Business Practices | The District Railroad Agreements Coordinator makes the first draft and submits to the Railroad Agreements Engineer (RAE) for review until approval is obtained. Once this |

| | |
|---|---|
| | is obtained, the RAE takes ownership and will submit to railroad as a final draft for execution. This is a HQ executed agreement. There are no District signature involved. |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Sections 3 and 8<br>– Caltrans Right of Way Manual |

| WBS Level 7 | 170.15.25 PUC Exhibits and Application |
|---|---|
| Description | Under the direction of the RAE, the District Railroad Coordinator prepares the draft PUC application and submits it to PUC for authorization to construct project. The can only occur after the approval of the project environmental document. For new work over railroad property, a full application will be required. The District Railroad Coordinator will request from the project engineer for the necessary exhibits to accompany the PUC application. For a full application, HQ Legal will submit to PUC for authorization to construct project. |
| Lead Function | District and HQ Right of Way and HQ Legal (for full application) |
| Deliverables | • Completed application to PUC for review and approval. |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Sections 3 and 8<br>– Caltrans Right of Way Manual, Chapter 8 |

| WBS Level 7 | 170.15.99 Other Railroad Agreement Products |
|---|---|
| Description | All other work conducted during the Railroad Agreement efforts not defined or covered in other WBS 170.15 elements. |
| Lead Function | Right of Way |
| Deliverables | |
| References | – |

| WBS Level 6 | 170.20 Freeway Agreements |
|---|---|
| Description | Acquisition of a Freeway Agreement, superseding Freeway Agreement, Controlled Access Highway Agreement, and/or "Performance" ("Project") Agreement. Includes preparation, local agency reviews, and revision to the text and map. This task also includes any work done on an agreement for a new public road connection and any work done on a Resolution of Change. |
| Deliverables | • Executed Copies of the Freeway Agreement and Map Sent to the Local Agency and |

| | |
|---|---|
| | Filed in the District Files. |
| References | – |

| WBS Level 7 | 170.20.05 Draft Freeway Agreement |
|---|---|
| Description | |
| Lead Function | Right of Way, Utilities |
| Deliverables | |
| References | – Caltrans Drafting and Plans Manual of Instruction, Article 3-2.5<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 13, Article 6; Chapter 24 |

| WBS Level 7 | 170.20.10 Draft Freeway Agreement Review |
|---|---|
| Description | |
| Lead Function | Right of Way, Utilities |
| Deliverables | |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 13, Article 6; Chapter 24 |

| WBS Level 7 | 170.20.15 Final Freeway Agreement |
|---|---|
| Description | |
| Lead Function | Right of Way, Utilities |
| Deliverables | |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 13, Article 6; Chapter 24 |

| WBS Level 7 | 170.20.20 Executed Freeway Agreement |
|---|---|
| Description | |
| Lead Function | Right of Way, Utilities |
| Deliverables | |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 13, Article 6; |

| | |
|---|---|
| | Chapter 24 |

| WBS Level 7 | 170.20.99 Other Freeway Agreement Products |
|---|---|
| Description | All other work conducted during the Freeway Agreement efforts not defined or covered in other WBS 170.20 elements. |
| Lead Function | Right of Way, Utilities |
| Deliverables | |
| References | – |

| WBS Level 6 | 170.25 Agreement for Material Sites |
|---|---|
| Description | Preparation and execution of agreements for non-commercial borrow and disposal material sites. This includes identifying, obtaining necessary environmental clearance (if any), and preparing a reclamation plan. |
| Lead Function | Right of Way, Utilities |
| Deliverables | • Distribution of Copies of the Materials Agreement to the Appropriate Units. |
| References | – Caltrans Highway Design Manual (HDM), Chapter 100, Topic 111<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 13, Article 3; Chapter 16<br>– Caltrans Right of Way Manual |
| Subtasks | – Negotiate material or disposal royalties<br>– Prepare and review Materials Agreement<br>– Execute Materials Agreement<br>– Environmental clearance<br>– Prepare reclamation plan |

| WBS Level 6 | 170.30 Executed Maintenance Agreement |
|---|---|
| Description | Preparation and execution of Maintenance Agreement with local agency. |
| Lead Function | Right of Way, Utilities |
| Deliverables | • Executed Maintenance Agreements |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 13, Article 4; Chapter 16 |
| Subtasks | – Identify facilities within the State's access control limits that will be maintained by |

| | |
|---|---|
| | the local agency<br>– Negotiate agreement with local agencies<br>– Draft and execute agreement |

| WBS Level 6 | 170.40 Route Adoptions |
|---|---|
| Description | All work involved in preparing the route adoption map, exhibits, the California Transportation Commission (CTC) resolution, and route adoption reports for CTC action. Includes:<br>– New public road connections<br>– New route adoptions<br>– Adopted freeway route denominated to a "controlled access highway"<br>– Traversable Highway Adoption<br>– Adoption of a temporary connection<br>– Route re-designations<br>– Modifications to an existing adopted route<br>– Route rescissions<br>– Deletion from the Freeway and Expressway System |
| Deliverables | • CTC Approval |
| References | – |

| WBS Level 7 | 170.40.05 Route Adoption Map |
|---|---|
| Description | |
| Lead Function | Right of Way, Utilities |
| Deliverables | |
| References | – Caltrans Drafting and Plans Manual of Instruction, Article 3-2.2<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 13, Article 5; Chapter 23 |

| WBS Level 7 | 170.40.10 New Connection Request and Route Adoption CTC Submittal |
|---|---|
| Description | |
| Lead Function | Right of Way, Utilities |
| Deliverables | |
| References | – Caltrans Drafting and Plans Manual of Instruction, Articles 3-2.2 and 3-2.6<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 13, Article 5; |

| | |
|---|---|
| | Chapter 23 |

| WBS Level 7 | 170.40.15 Route Adoption and Public Road Connection Placed on CTC Agenda |
|---|---|
| Description | |
| Lead Function | Right of Way, Utilities |
| Deliverables | |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 13, Article 5; Chapter 23; Chapter 27 |

| WBS Level 7 | 170.40.99 Other Route Adoption Products |
|---|---|
| Description | All other work conducted during the Route Adoption efforts not defined or covered in other WBS 170.40 elements. |
| Lead Function | Right of Way, Utilities |
| Deliverables | |
| References | – |

| WBS Level 6 | 170.45 MOU from Tribal Employment Rights Office (TERO) |
|---|---|
| Description | Acquisition of Memorandum of Understanding from either the tribal government or the Tribal Employment Rights Office (TERO) for Native American preference in hiring and for TERO Tax if on a reservation. |
| Lead Function | Right of Way, Utilities |
| Deliverables | |
| References | – |

| WBS Level 6 | 170.55 NEPA Assignment |
|---|---|
| Description | All WBS 170 (Permits, Agreements, and Route Adoptions) work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA Assignment under MAP-21. |
| Lead Function | Environmental |
| Deliverables | • All Products and Actions Required to Comply with NEPA Assignment<br>• Updated STEVE Database |

**WBS**

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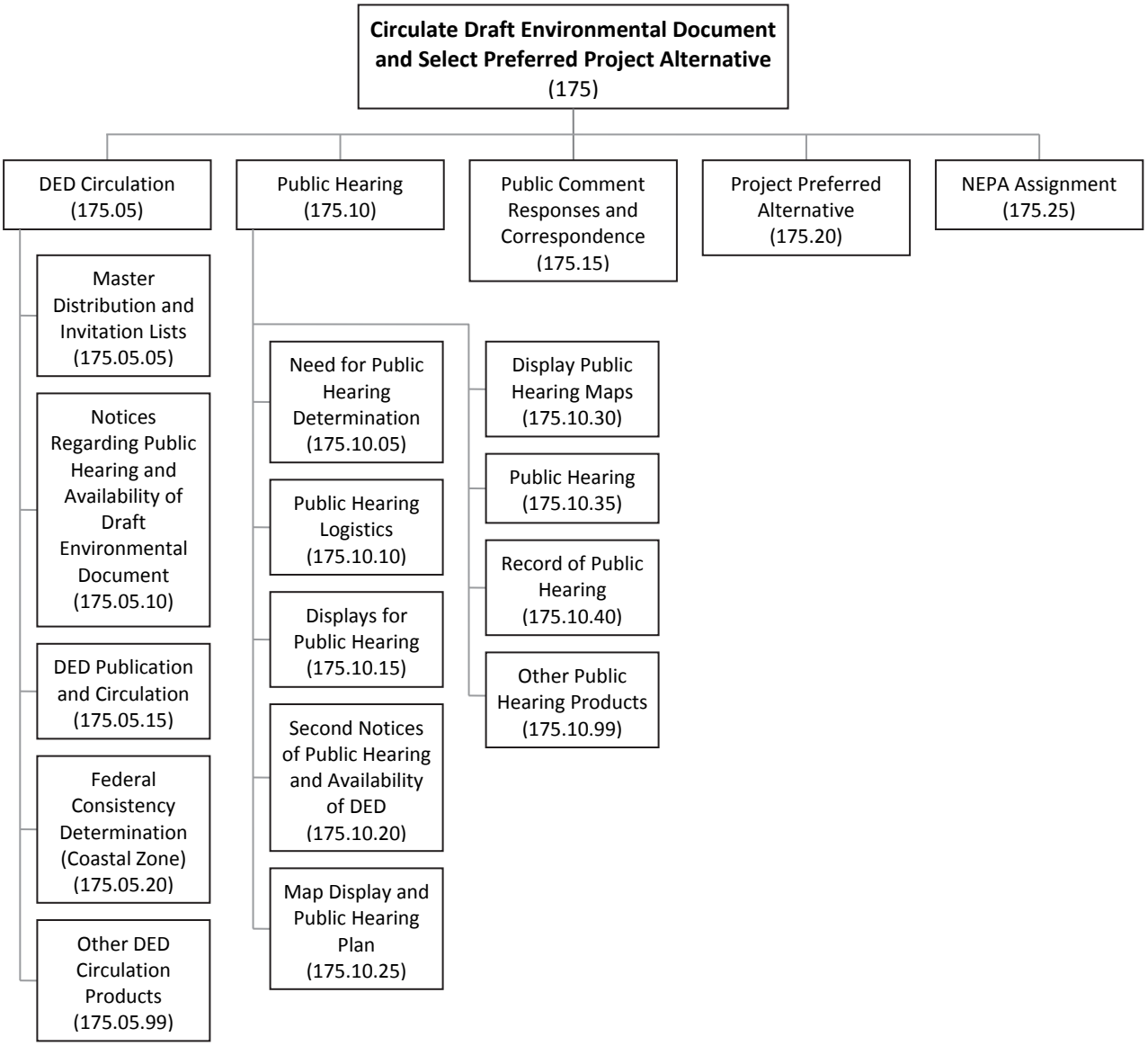
| | |
|---|---|
| References | – Caltrans Standard Environmental Reference (SER)<br>– FHWA California Division website |

**WBS 175**

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

## 175 Circulate Draft Environmental Document and Select Preferred Project Alternative



WBS
175

| WBS Level 5 | 175 Circulate Draft Environmental Document and Select Preferred Project Alternative |
|---|---|
| Description | Work involved in the circulation of the Draft Environmental Document (DED), acquisition and response to public comment, and selection of a preferred alternative. |
| Lead Function | Environmental |
| Deliverables | • End of the Circulation Period. This Does Not Include the Public Hearing Process or Responding to Comments<br>• Updated STEVE Database |
| Major Milestones | ♦ M175 Public Hearing (Finish: WBS 175)<br>♦ M120 Circulate Draft Project Report (DPR) and Draft Environmental Document (DED) Externally (Finish: WBS 175.05) |
| References | – Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm<br>– Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser/envhand.htm<br>– FHWA California Division website: http://www.fhwa.dot.gov/cadiv |

| WBS Level 6 | 175.05 DED Circulation |
|---|---|
| Description | Preparation and circulation of the DED. |
| Lead Function | Environmental |
| Deliverables | • End of Circulation Period<br>• Updated STEVE Database |
| Notes | This effort does not include the public hearing process and response to comments. |
| References | – Caltrans Standard Environmental Reference (SER), Vol. 1<br>– DEA Internet SER Page > Forms and Templates |

| WBS Level 7 | 175.05.05 Master Distribution and Invitation Lists |
|---|---|
| Description | Update of the project's existing mailing list and preparation of the distribution list for all interested individuals, groups, and governmental agencies. |
| Lead Function | Environmental |
| Deliverables | • Lists<br>• Updated STEVE Database |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 11 |

| **WBS Level 7** | **175.05.10 Notices Regarding Public Hearing and Availability of DED** |
|---|---|
| Description | This includes all efforts required to prepare and issue a Notice of Availability for the DED and to mail notifications of the public hearing, either the published "Notice of Opportunity" or the first published public hearing notice. |
| Lead Function | Environmental |
| Deliverables | • Notices<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 11 |

| **WBS Level 7** | **175.05.15 DED Publication and Circulation** |
|---|---|
| Description | Includes formal public circulation period, publishing/reproduction (including both paper and electronic formats) and mailing of the DED. This activity does not include the public hearing process and responding to comments. This activity includes transmittal of DED to the California Transportation Commission (CTC) and preparation of CTC agenda item. |
| Lead Function | Environmental |
| Deliverables | • Document/Action<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37 |

| **WBS Level 7** | **175.05.20 Federal Consistency Determination (Coastal Zone)** |
|---|---|
| Description | All efforts required to obtain from FHWA a Federal Consistency Determination. |
| Lead Function | Environmental |
| Deliverables | • Determination<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. |

| | |
|---|---|
| | 1, Chap. 18<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 13 |

| WBS Level 7 | 175.05.99 Other DED Circulation Products |
|---|---|
| Description | All other work conducted during the DED Circulation efforts not defined or covered in other WBS 175.05 elements. |
| Lead Function | Environmental |
| Deliverables | • Reports/Documents<br>• Updated STEVE Database |
| References | –<br>– Caltrans Standard Environmental Reference (SER), Vol. 1<br>– DEA Internet SER Page > Forms and Templates |

| WBS Level 6 | 175.10 Public Hearing |
|---|---|
| Description | Performance of all tasks for the purpose of preparing and holding Public Hearing for a project. |
| Deliverables | • Distribution of the Record of Public Hearing<br>• Updated STEVE Database |
| References | – |

| WBS Level 7 | 175.10.05 Need for Public Hearing Determination |
|---|---|
| Description | Based upon the response to the "Notice of Opportunity" for a public hearing, scheduling of meetings with the interested parties to determine if a public hearing is required. |
| Lead Function | Environmental |
| Deliverables | • Determination<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 11 |

| WBS Level 7 | 175.10.10 Public Hearing Logistics |
|---|---|
| Description | Arrangement of Public Hearing Logistics. This Includes all formal arrangements for the public hearing, including: |

| | |
|---|---|
| | – Select and obtain public hearing officer<br>– Obtain hearing room<br>– Obtain security<br>– Obtain court reporter<br>– Obtain language interpreters |
| Lead Function | Environmental |
| Deliverables | • Logistics (E.G., Secured Public Hearing Officer, Hearing Room, Court Reporter(S), and/or Language Interpreters)<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 11 |

| **WBS Level 7** | **175.10.15 Displays for Public Hearing** |
|---|---|
| Description | Preparation of any displays, exhibits, equipment, signs, models, or other physical features for use at the public hearing. |
| Lead Function | Environmental |
| Deliverables | • Displays<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 11 |

| **WBS Level 7** | **175.10.20 Second Notices of Public Hearing and Availability of DED** |
|---|---|
| Description | Task includes the second published - and all subsequent - public hearing notices and general publicity regarding the public hearing, including:<br>– Display ads<br>– Flyers or newsletters mailed/distributed to residents and interested parties<br>– Notices on bulletin boards in public places<br>– Press release to all media<br>– Distribution of notices through schools and service clubs<br>– Copies of the notice sent pursuant to SER and PDPM<br>– Availability of DED noticed pursuant to SER and PDPM |
| Lead Function | Environmental |

| | |
|---|---|
| Deliverables | • Notices<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 11 |

| WBS Level 7 | 175.10.25 Map Display and Public Hearing Plan |
|---|---|
| Description | All efforts required to prepare maps, displays and public meeting hearing plan. |
| Lead Function | Environmental |
| Deliverables | • Maps/Displays/Plan |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 11 |

| WBS Level 7 | 175.10.30 Display Public Hearing Maps |
|---|---|
| Description | Includes either formal or informal display of the maps to be shown at the public hearing, prior to the public hearing. |
| Lead Function | Environmental/Design |
| Deliverables | • Maps |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 11 |

| WBS Level 7 | 175.10.35 Public Hearing |
|---|---|
| Description | Includes all remaining activities relating to holding the public hearing. |
| Lead Function | Environmental |
| Deliverables | • Hearing<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 11 |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 7** | **175.10.40 Record of Public Hearing** |
|---|---|
| Description | All efforts needed to prepare the Record of Public Hearing. |
| Lead Function | Environmental |
| Deliverables | • Documentation<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 11 |

| **WBS Level 7** | **175.10.99 Other Public Hearing Products** |
|---|---|
| Description | All other work conducted during the Public Hearing efforts not defined or covered in other WBS 175.10 elements. |
| Lead Function | Environmental |
| Deliverables | • Reports/Documents<br>• Updated STEVE Database |
| References | – |

| **WBS Level 6** | **175.15 Public Comment Responses and Correspondence** |
|---|---|
| Description | Includes the formal response to comments on the DED for the preparation of the Final Environmental Document (FED). |
| Lead Function | Environmental |
| Deliverables | • Printed Copies of the Responses to Comments or the Complete Text, Figures, Tables, etc., Ready for Inclusion into the FED.<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 11 |

| **WBS Level 6** | **175.20 Project Preferred Alternative** |
|---|---|
| Description | Identification of the project's preferred alternative to be carried forward in the Project Report (PR) and Final Environmental Document (FED). |
| Lead Function | Environmental |

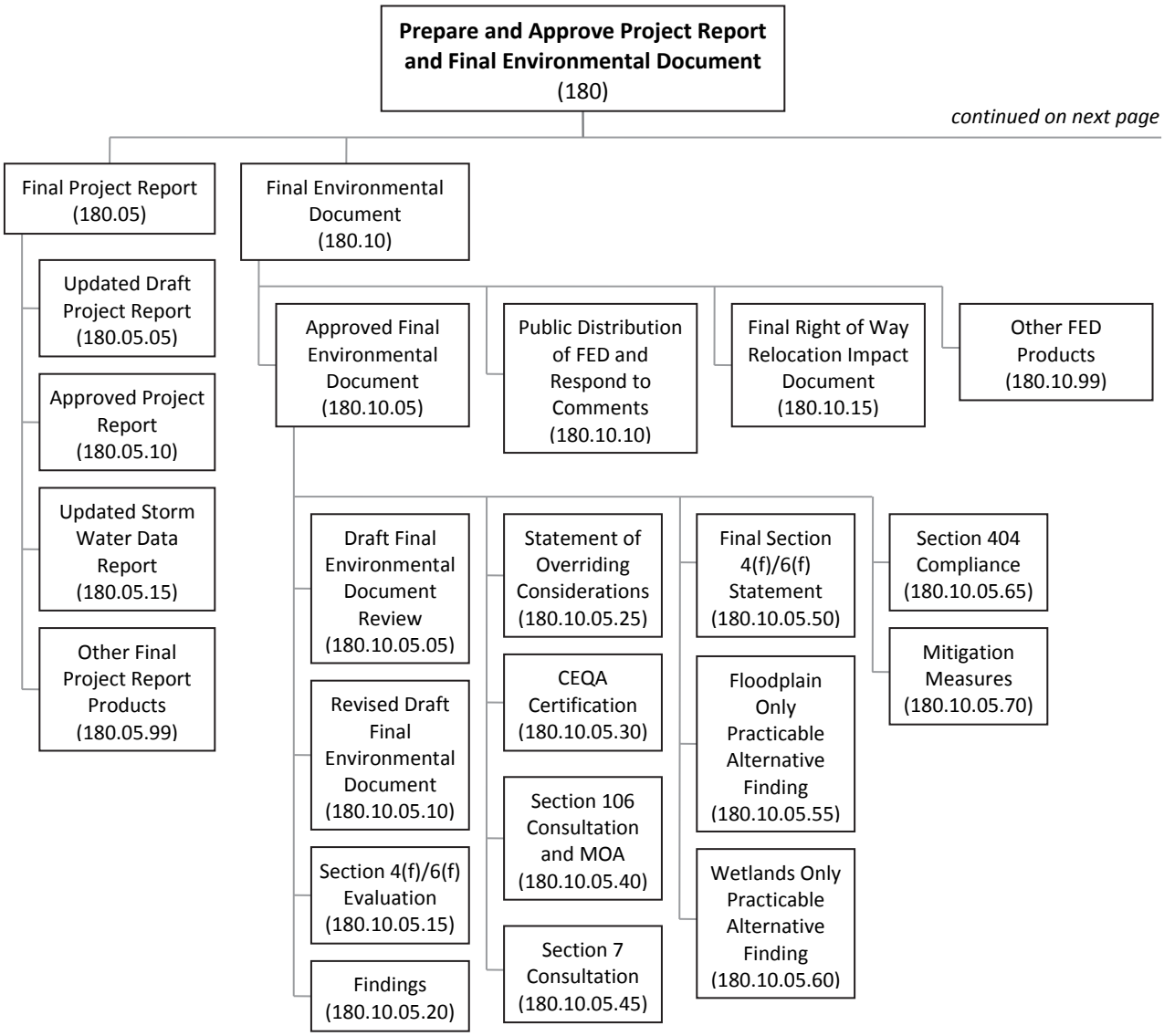
| | |
|---|---|
| Deliverables | • Minutes of the Project Development Team (PDT) Meeting Documenting the Selection and Agreements with Other Agencies |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 12, Section 2 |
| Subtasks | – Assemble all the data needed to make the selection of the preferred alternative<br>– PDT and other meetings to select the preferred alternative<br>– Prepare and submit to the NEPA/404 Agencies a request for concurrence with the Least Environmentally Damaging Practicable Alternative (LEDPA) determination and conceptual mitigation plan. |

| **WBS Level 6** | **175.25 NEPA Assignment** |
|---|---|
| Description | Includes all WBS 175 work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA Assignment under MAP-21. |
| Lead Function | Environmental |
| Deliverables | • All Products and Actions Required to Comply with NEPA Assignment<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER)<br>– FHWA California Division website |

**WBS 180**

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

## 180 Prepare and Approve Project Report and Final Environmental Document

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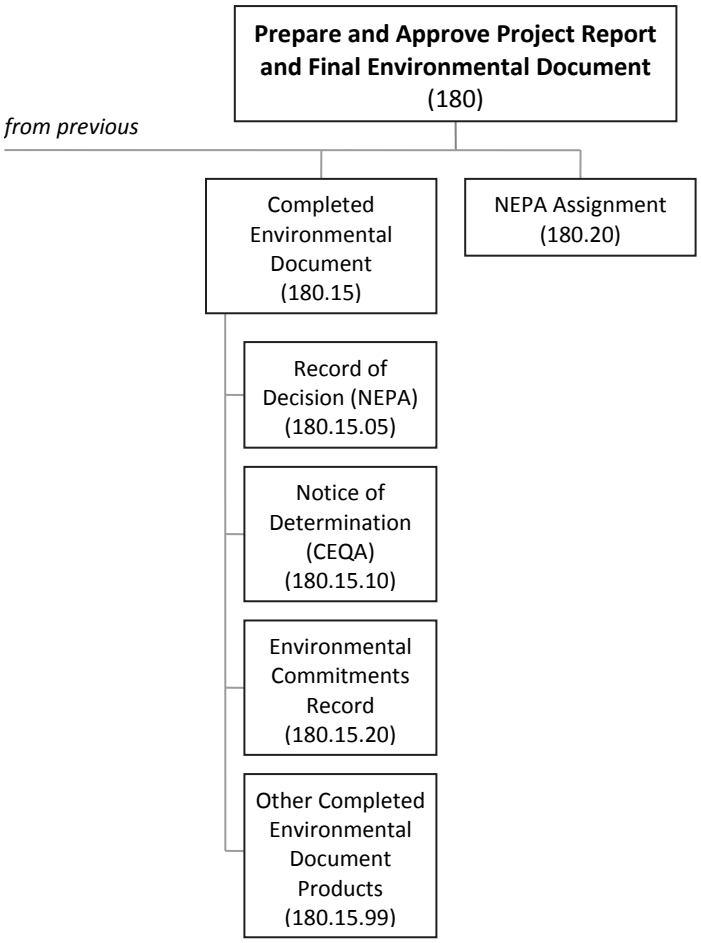
**WBS**

**180**


Prepare and Approve Project Report and Final Environmental Document (180)
from previous
Completed Environmental Document (180.15)
NEPA Assignment (180.20)
Record of Decision (NEPA) (180.15.05)
Notice of Determination (CEQA) (180.15.10)
Environmental Commitments Record (180.15.20)
Other Completed Environmental Document Products (180.15.99)

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 5** | **180 Prepare and Approve Project Report and Final Environmental Document** |
|---|---|
| Description | Work involved in the preparation, review, and approval of a Project Report, a Final Environmental Document, and Notices of Determination and/or Records of Decision. |
| Lead Function | Design (PR)/Environmental (ED) |
| Deliverables | • Project Report/Environmental Document<br>• Updated STEVE Database |
| Major Milestones | ♦ M160 Approve FED (Finish: WBS 180.10)<br>♦ M200 PA&ED (Finish: WBS 180) |
| References | – Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm<br>– Caltrans Right of Way Manual: http://www.dot.ca.gov/hq/row/rowman/manual<br>– Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser<br>– Caltrans Storm Water Quality Handbook: Project Planning and Design Guide (PPDG): http://www.dot.ca.gov/hq/oppd/stormwtr/ppdg/swdr2012/PPDG-May-2012.pdf<br>– Caltrans Traffic Noise Analysis Protocol: http://www.dot.ca.gov/hq/env/noise/pub/ca_tnap_may2011.pdf<br>– FHWA California Division website: http://www.fhwa.dot.gov/cadiv |

| **WBS Level 6** | **180.05 Project Report** |
|---|---|
| Description | Includes all work beyond the approval of the Draft Project Report (WBS 160.15) leading to and including approval and distribution of the Project Report. |
| Deliverables | • Creation and Distribution of Approved Copies of the Final Project Report. |
| Business Practices | If only a Categorical Exemption/Exclusion is required, the draft Project Report constitutes the Final Project Report and WBS 180 should not be used, but rather 165.25.15. |
| References | – |

| **WBS Level 7** | **180.05.05 Updated Draft Project Report** |
|---|---|
| Description | Includes the Preferred Alternative selection and updates to the cost estimate. |
| Lead Function | Right of Way, Utilities |

| | |
|---|---|
| Deliverables | |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapters 12 and 13 |

| WBS Level 7 | 180.05.10 Approved Project Report |
|---|---|
| Description | Includes any review and revision as needed due to comments made during circulation. |
| Lead Function | Right of Way, Utilities |
| Deliverables | |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapters 12 and 13 |

| WBS Level 7 | 180.05.15 Updated Storm Water Data Report |
|---|---|
| Description | All efforts required to update the stormwater data report. |
| Lead Function | Environmental/Design |
| Deliverables | • Updated Storm Water Data Report |
| References | – Caltrans Storm Water Quality Handbook: Project Planning and Design Guide (PPDG), Section 6 and Appendix E |

| WBS Level 7 | 180.05.99 Other Project Report Products |
|---|---|
| Description | All other work conducted during the Final Project Report efforts not defined or covered in other WBS 180.05 elements. |
| Lead Function | Right of Way, Utilities |
| Deliverables | |
| References | – |

| WBS Level 6 | 180.10 Final Environmental Document |
|---|---|
| Description | Update to the Draft Environmental Document (DED) to identify the rationale for selection of the Preferred Alternative, Includes work on the Final Environmental Document (FED), Section 4(f) Evaluation, Findings, and Statement of Overriding Considerations. Also includes carrying out formal and informal review of FED within The Department, including all required quality control reviews. |
| Lead Function | Environmental |
| Deliverables | • FED Quality Control Review Certification |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| | • Approved Copies Are Made and Distributed<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook , Vol. 1, Chap. 37<br>– Caltrans Project Development Procedures Manual (PDPM), Chapters 12 and 13 |

| **WBS Level 7** | **180.10.05 Approved Final Environmental Document** |
|---|---|
| Description | Includes efforts required to prepare and obtain approval of the Final Environmental Document (FED). |
| Lead Function | Environmental |
| Deliverables | • Document<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chaps. 31, 32, 35, 36, and 37<br>– Caltrans Project Development Procedures Manual (PDPM), Chapters 12 and 13 |

| **WBS Level 8** | **180.10.05.05 Draft Final Environmental Document Review** |
|---|---|
| Description | Includes reproduction of draft FED, performance of internal district and required QA/QC reviews, and documentation of comments received. |
| Lead Function | Environmental |
| Deliverables | • Review<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook , Vol. 1, Chaps. 31, 32, 35, 36, and 37 |

| **WBS Level 8** | **180.10.05.10 Revised Draft Final Environmental Document** |
|---|---|
| Description | Includes modification of Final Environmental Document (FED) in response to all comments received as a result of internal district and required QA/QC reviews. |
| Lead Function | Environmental |
| Deliverables | • Revised Document<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook , Vol. 1, Chap. 37 |

| WBS Level 8 | 180.10.05.15 Section 4(f)/6(f) Evaluation |
|---|---|
| Description | All efforts required to prepare Section 4(f)/6(f) evaluation(s) |
| Lead Function | Environmental |
| Deliverables | • Report<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook , Vol. 1, Chap. 20 |

| WBS Level 8 | 180.10.05.20 Findings |
|---|---|
| Description | All efforts required to memorialize the Environmental Document's Findings. |
| Lead Function | Environmental |
| Deliverables | • Determination<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook , Vol. 1, Chap. 36 |

| WBS Level 8 | 180.10.05.25 Statement of Overriding Considerations |
|---|---|
| Description | All efforts required to prepare a Statement of Overriding Considerations, if needed. |
| Lead Function | Environmental |
| Deliverables | • Document<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook , Vol. 1, Chap. 36 |

| WBS Level 8 | 180.10.05.30 CEQA Certification |
|---|---|
| Description | All actions required to complete CEQA Certification. |
| Lead Function | Environmental |
| Deliverables | • Document<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook , Vol. |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| | 1, Chap. 36 |

| **WBS Level 8** | **180.10.05.35 FHWA Approval** |
|---|---|
| Description | |
| Lead Function | Various |
| Deliverables | |
| References | |

| **WBS Level 8** | **180.10.05.40 Section 106 Consultation and MOA** |
|---|---|
| Description | All technical studies, reports, coordination and agreements needed to complete Section 106 Consultation. Applicable when a project has multiple alignments and the preferred alternative is not identified until after circulation of the Draft Environmental Document. |
| Lead Function | Environmental |
| Deliverables | • MOA<br>• Updated STEVE Database |
| Business Practices | For projects involving only a single alternative or where all alternative have the same impacts on all archaeological resources use WBS 165.20.15. |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook , Vol. 2, Chaps. 2, 3, and 5 |
| Subtasks | – Performing Phase II Archaeological Studies for the Preferred Alternative (including Native American Consultation, proposal preparation, field investigations, analysis, and report preparation).<br>– Prepare and Process Supplemental Cultural Resources Compliance Documents for the Preferred Alternative (including preparation of Final Area of Potential Effect map, Supplemental Historic Property Survey Report, Finding of Effect, Archaeological Data Recovery Plan/Treatment Plan, and Memorandum of Agreement (MOA)).<br>– Processing of supplemental compliance documents through FHWA and/or the State Historic Preservation Officer for concurrence on resource significance, project effects, and mitigation measures. |

| **WBS Level 8** | **180.10.05.45 Section 7 Consultation** |
|---|---|
| Description | Informal and Formal consultation with USFWS and/or NOAA Fisheries for potential affects to federally listed species. |

| | |
|---|---|
| Lead Function | Environmental |
| Deliverables | • Document<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook , Vol. 3, Chap. 4 |

| WBS Level 8 | 180.10.05.50 Final Section 4(f)/6(f) Statement |
|---|---|
| Description | All efforts needed to prepare the final Section 4(f)/6(f) Statement. |
| Lead Function | Environmental |
| Deliverables | • Document<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook , Vol. 1, Chaps. 20 and 37 |

| WBS Level 8 | 180.10.05.55 Floodplain Only Practicable Alternative Finding |
|---|---|
| Description | Executive Order (EO) 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The Federal Highway Administration (FHWA) requirements for compliance are outlined in 23 Code of Federal Regulations (CFR) 650 Subpart A. |
| Lead Function | Environmental |
| Deliverables | |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook , Vol. 1, Chap. 17 |

| WBS Level 8 | 180.10.05.60 Wetlands Only Practicable Alternative Finding |
|---|---|
| Description | Pursuant to Executive Order (EO) 11990, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use. |
| Lead Function | Environmental |
| Deliverables | • Document<br>• Updated STEVE Database |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook , Vol. 1, Chaps. 15 and 37 |

| **WBS Level 8** | **180.10.05.65 Section 404 Compliance** |
|---|---|
| Description | Document compliance with 404 permit conditions, and as required, provide compliance certification post construction. |
| Lead Function | Environmental |
| Deliverables | • the End Product for This Effort May Be A Permit, Acceptance of Stipulations, or Some Other Agreement.<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook , Vol. 3, Section 3.4 |

| **WBS Level 8** | **180.10.05.70 Mitigation Measures** |
|---|---|
| Description | All efforts required to prepare a report/summary of all environmental mitigation measures for the project. |
| Lead Function | Environmental |
| Deliverables | • Report/Summary of All Environmental Mitigation Measures<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook , Vol. 1, Chaps. 32, 36 and 37 |

| **WBS Level 7** | **180.10.10 Public Distribution Of FED And Respond To Comments** |
|---|---|
| Description | Includes publication/reproduction (including both paper and electronic formats) of the Final Environmental Document (FED), preparation of a transmittal letter, publication of the Notice of Availability, transmittal of copies of the Federal Register, and distribution. Includes transmittal of Final Environmental Document (FED) to the California Transportation Commission (CTC), preparation of CTC agenda item and response to comments on the FED. |
| Lead Function | Environmental |
| Deliverables | • Correspondence<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook , Vol. |

| | |
|---|---|
| | 1, Chap. 37<br>– Caltrans Project Development Procedures Manual (PDPM), Chapters 12 and 13 |

| WBS Level 7 | 180.10.15 Final Right of Way Relocation Impact Document |
|---|---|
| Description | Completion and update to the draft Right of Way Impact Study done during the DED phase. |
| Lead Function | Right of Way, Utilities |
| Deliverables | |
| References | – Caltrans Right of Way Manual, Chapter 10 |

| WBS Level 7 | 180.10.99 Other FED Products |
|---|---|
| Description | All other work conducted during the FED efforts not defined or covered in other WBS 180.10 elements. |
| Lead Function | Environmental |
| Deliverables | • Reports/Documents<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER)<br>– Caltrans Standard Environmental Reference (SER), Vol. 1<br>– DEA Internet SER Page > Forms and Templates |

| WBS Level 6 | 180.15 Completed Environmental Document/Determination |
|---|---|
| Description | For environmental documents, work involved in preparing the Notice of Determination (NOD), Record of Decision (ROD), and in obtaining FHWA approval of the ROD<br>For CEs, work required to prepare the CE or CE/CEs. |
| Lead Function | Environmental |
| Deliverables | • Executed Notice of Determination<br>• Approved Record of Decision<br>• Quality Control Certification<br>• Environmental Document Review Checklist<br>• Updated STEVE Database<br>• CE<br>• Notice of Exemption (NOE) |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| Notes | Environmental compliance is not necessarily considered complete at this stage. Rather, the environmental document/determination and associated decision making process are complete. |
| References | – Caltrans Standard Environmental Reference (SER)<br>– Caltrans Standard Environmental Reference (SER), Vol. 1<br>– DEA Internet SER Page > Forms and Templates |

| **WBS Level 7** | **180.15.05 Record Of Decision (NEPA)** |
|---|---|
| Description | Includes efforts required to draft and obtain approval of the Record of Decision (ROD). FHWA approval required for non-assigned projects. |
| Lead Function | Environmental |
| Deliverables | • Document<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook , Vol. 1, Chap. 37<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 12, Section 5; and Chapter 28 |

| **WBS Level 7** | **180.15.10 Notice Of Determination (CEQA)** |
|---|---|
| Description | Includes preparation of Notice of Determination (NOD), making and sending copies to Caltrans Headquarters, CTC, and filing with the Office of Planning and Research. |
| Lead Function | Environmental |
| Deliverables | • Document<br>• Updated STEVE Database |
| Business Practices | Includes Notice of Determination (NOD) for projects with or without a route adoption or new road connection and projects that are locally funded. |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook , Vol. 1, Chap. 37<br>– Caltrans Traffic Noise Analysis Protocol<br>– Caltrans Project Development Procedures Manual (PDPM), Chapters 12, 13, and 28 |

| **WBS Level 7** | **180.15.20 Environmental Commitments Record** |
|---|---|
| Description | Includes preparation or update of the Environmental Commitments Record (ECR) and its associated documentation (e.g., Permits, Agreements, and Mitigation (PAM)) for |

| | |
|---|---|
| | transmission to Design for PS&E.<br><br>The ECR, which should be updated at WBS 235.40, and WBS 295.35, is used as a part of the Environmental input for the Resident Engineer's Pending File (WBS 255.40), Environmental Certification at Ready to List (WBS 260.75), and the Certificate of Environmental Compliance (WBS 295.35). |
| Lead Function | Environmental |
| Deliverables | • Updated Environmental Commitments Record<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER) |

| **WBS Level 7** | **180.15.99 Other Completed Environmental Document Products** |
|---|---|
| Description | All other work conducted during the completed Environmental Document efforts not defined or covered in other WBS 180.15 elements. |
| Lead Function | Environmental |
| Deliverables | • Reports/Documents<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER)<br>– Caltrans Standard Environmental Reference (SER), Vols. 1-4<br>– DEA Internet SER Page > Forms and Templates > PEAR Subpage |

| **WBS Level 6** | **180.20 NEPA Assignment** |
|---|---|
| Description | Includes all WBS 180 work previously performed by FHWA but which is now the Department's responsibility as a result of full NEPA Assignment under MAP-21. |
| Lead Function | Environmental |
| Deliverables | • All Products and Actions Required to Comply with NEPA Assignment<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER)<br>– FHWA California Division website |

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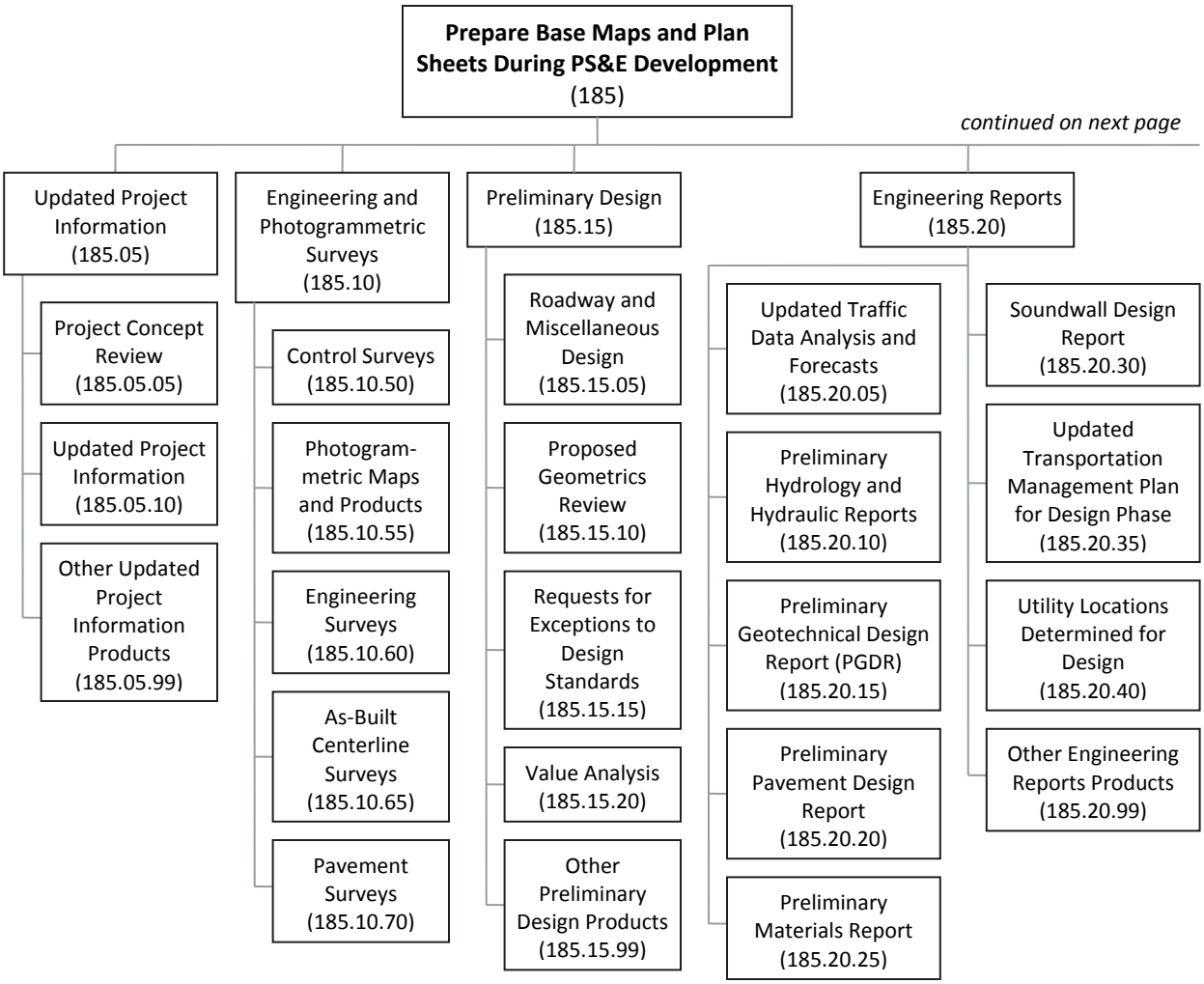
| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

## 185 Prepare Base Maps and Plan Sheets for PS&E Development

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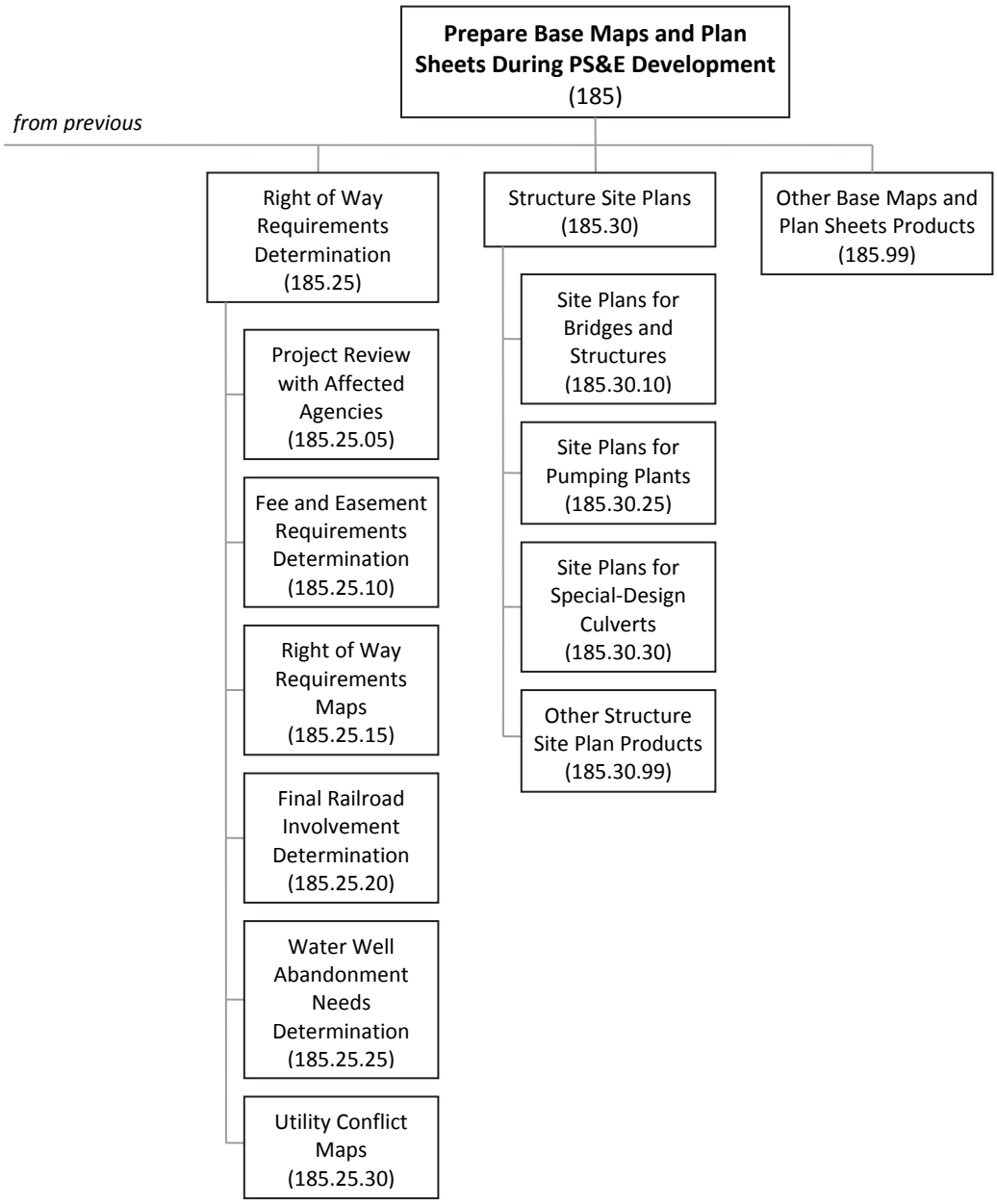
**WBS**

**185**


Prepare Base Maps and Plan Sheets During PS&E Development (185)
from previous
Right of Way Requirements Determination (185.25)
Structure Site Plans (185.30)
Other Base Maps and Plan Sheets Products (185.99)
Project Review with Affected Agencies (185.25.05)
Fee and Easement Requirements Determination (185.25.10)
Right of Way Requirements Maps (185.25.15)
Final Railroad Involvement Determination (185.25.20)
Water Well Abandonment Needs Determination (185.25.25)
Utility Conflict Maps (185.25.30)
Site Plans for Bridges and Structures (185.30.10)
Site Plans for Pumping Plants (185.30.25)
Site Plans for Special-Design Culverts (185.30.30)
Other Structure Site Plan Products (185.30.99)

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 5** | **185 Prepare Base Maps and Plan Sheets for PS&E Development** |
|---|---|
| Description | Work during PS&E development involved in the preparation of geometric base maps and functional base plan sheets, including review of existing project information, gathering appropriate mapping, and conducting additional studies. |
| Lead Function | Design |
| Deliverables | • Final Products of This Activity Include Maps to ROW and Plan Sheets to Other Functional Units. |
| Major Milestones | ♦ M210 Begin Design (Start: WBS 185)<br>♦ M215 Begin Structure (Start: WBS 185.30 and WBS 240)<br>♦ M220 Geo Base Map (Finish: WBS 185.15)<br>♦ M221 Bridge Site Data Completed (Finish: WBS 185.30)<br>♦ M224 ROW Requirements (Start: WBS 185.25)<br>♦ M260 Skeleton Layout (Finish: WBS 185)<br>♦ M311 30% Constructability Review Completed (Within WBS 185.05.05) |
| References | – Caltrans Construction Manual: http://www.dot.ca.gov/hq/construc/constmanual<br>– Caltrans Deputy Directive 60: Transportation Management Plans: http://www.dot.ca.gov/hq/traffops/TMP_Guidelines_June_2009.pdf, Appendix A<br>– Caltrans Design Information Bulletins: http://www.dot.ca.gov/hq/oppd/dib/dibprg.htm<br>– Caltrans Drafting and Plans Manual of Instruction: http://www.dot.ca.gov/hq/oppd/cadd/usta/ppman/default.htm<br>– Caltrans Guidelines for Preparing Geotechnical Design Reports: http://www.dot.ca.gov/hq/esc/geotech/requests/gdrguidelines20061220.pdf<br>– Caltrans Highway Design Manual: http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm<br>– Caltrans HOV Guidelines: http://www.dot.ca.gov/hq/traffops/systemops/hov/hov_sys/guidelines<br>– California Manual on Uniform Traffic Control Devices: http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp<br>– Caltrans OSFP Information & Procedures Guide: http://www.dot.ca.gov/hq/esc/osfp/osfp-manual/osfp-manual.htm<br>– Caltrans Ready to List Guide: http://www.dot.ca.gov/hq/esc/oe/construction_contract_standards/rtl_guide/RTL_GUIDE_FINAL_Jan_2014_(2-04-14).pdf<br>– Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm<br>– Caltrans Pumping Plant Design Manual: |

- Caltrans Ramp Meter Design Manual: http://www.dot.ca.gov/hq/traffops/systemops/ramp_meter/RMDM.pdf
- Caltrans Right of Way Manual: http://www.dot.ca.gov/hq/row/rowman/manual
- Caltrans Standard Plans: http://www.dot.ca.gov/hq/esc/oe/project_plans/HTM/10_plans_disclaim_US.htm
- Caltrans Surveys Manual: http://www.dot.ca.gov/hq/row/landsurveys/SurveysManual/Manual_TOC.html
- Caltrans Technical Noise Supplement: http://www.dot.ca.gov/hq/env/noise/pub/tens_complete2009RedlineScreenProcess.pdf
- Caltrans Traffic Bulletins:

- Caltrans Traffic Manual: http://www.dot.ca.gov/hq/traffops/signtech/signdel/trafficmanual-current.htm
- Caltrans Traffic Noise Analysis Protocol: http://www.dot.ca.gov/hq/env/noise/pub/protocol.pdf
- Caltrans Transportation Management Plan Guidelines: http://www.dot.ca.gov/hq/traffops/TMP_Guidelines_June_2009.pdf
- Highway Capacity Manual: http://www.trb.org/Main/Blurbs/164718.aspx

| **WBS Level 6** | **185.05 Updated Project Information** |
|---|---|
| Description | Initial activities of project design phase necessary to become familiar with the project purpose and scope. Includes activities necessary to update project information needed to prepare engineering design reports, perform preliminary design, and determine Right of Way requirements. |
| Deliverables | • Updated Project Information<br>• Confirmation of Project Purpose and Scope |
| References | – |

| **WBS Level 7** | **185.05.05 Project Concept Review** |
|---|---|
| Description | Review updated project information to reaffirm project purpose, need, and scope. |
| Lead Function | District Design Branch |
| Deliverables | • Final Plans, Specifications and Estimate |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 1 |
| Subtasks | – Review of existing project information to determine the project purpose and scope<br>▪ Review Project Reports<br>▪ Review Post Miles and Description of Project<br>▪ Review Planning Alignments<br>▪ Review Freeway Agreement<br>▪ Review Traffic Capacity Requirements<br>▪ Review Project Site<br>▪ Review/update Project Cost Estimate<br>– Confirm project purpose and scope |

| **WBS Level 7** | **185.05.10 Updated Project Information** |
|---|---|
| Description | Updating of project information necessary to determine the project scope and cost (Basic Engineering Estimate System (BEES), etc.). This does not include work needed to prepare a Supplemental Project Report. Work needed for a Supplemental Project Report should be included under WBS 160, 165, 175, and 180 and the project rescheduled accordingly. |
| Lead Function | District Design Branch |
| Deliverables | • Final Plans, Specifications and Estimate |
| References | – Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 1 |

| **WBS Level 7** | **185.05.99 Other Updated Project Information Products** |
|---|---|
| Description | All other work conducted during the Updated Project Information efforts that is not defined or covered in other WBS 185.05 elements. |
| Lead Function | District Design Branch |
| Deliverables | • Final Plans, Specifications and Estimate |
| References | – |

| **WBS Level 6** | **185.10 Surveys and Photogrammetric Mapping for Design** |
|---|---|
| Description | Work needed to produce the mapping and survey control necessary for the PS&E. This supplements the mapping and control surveys that were produced for the Project Report stage. (See WBS 160.20.) |
| Lead Function | Surveys |

| | |
|---|---|
| Deliverables | • Project Mapping for PS&E<br>• Project Survey Control for PS&E |
| References | – Surveys Manual (all) |

| WBS Level 7 | 185.10.50 Control Surveys |
|---|---|
| Description | All facets of control survey work related to a project, including bringing control from Basic (Corridor) Control and adjacent projects, establishing primary control throughout the project, establishing supplemental control for the project, and documentation of the control survey. |
| Lead Function | Surveys |
| Deliverables | • Permanent Project Control Monumentation<br>• Project Control Diagram and/or Control Record of Survey<br>• Project Control Report<br>• Inclusion of Control Points in Electronic Control Database |
| Business Practices | Horizontal project control should be created as a single adjusted network.<br><br>The department's preferred level of accuracy for horizontal project control is first order.<br><br>Work for this product may be performed under WBS 160.20.50 or WBS 185.10.50. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate. |
| Notes | Control must meet all accuracy standards and methodology requirements as set forth in the Caltrans Surveys Manual, Chapters 5, 8, and 9 and Figure 5.1. Does not include control set for aerial mapping products. |
| References | – Caltrans Surveys Manual: Chapters 5, 8, and 9; Figure 5.1 |

| WBS Level 7 | 185.10.55 Photogrammetric Maps and Products |
|---|---|
| Description | Includes preparing mapping request, flight line and control distribution planning, premarking control survey, aero-triangulation, contract administration, 3-D compilation, map assembly, data conversion, quality control and digital terrain modeling. |
| Lead Function | Surveys |
| Deliverables | • Flight Line Layout<br>• Pre-Marking Control Survey<br>• Design Project File<br>• CADD Drawing File |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| Business Practices | Work for this product may be performed under WBS 160.20.55 or WBS 185.10.55. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate. |
| Notes | Control must meet all accuracy standards and methodology requirements as set forth in the Caltrans Surveys Manual, Chapters 5, 8, and 9, and Figure 5.1.<br><br>For Photogrammetric Products, refer to Caltrans' Users Guide to Photogrammetric Services. |
| References | – Caltrans Surveys Manual: Chapters 5, 8, and 9; and Figure 5.1<br>– Caltrans' User's Guide to Photogrammetric Products and Services |

| **WBS Level 7** | **185.10.60 Engineering Surveys** |
|---|---|
| Description | Includes all facets of work - research, planning, field survey, processing and adjusting data, and creating Design Project File - required to perform a topographic survey for delivery to Design. |
| Lead Function | Surveys |
| Deliverables | • Design Software Project File, Containing Any or All of the following:<br>• Topography<br>• Structures<br>• Utility Locations<br>• Monitoring Surveys<br>• Vertical Clearance |
| Business Practices | Work for this product may be performed under WBS 160.20.60 or WBS 185.10.60. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate. |
| Notes | All products must meet or exceed criteria as set forth in the Caltrans Surveys Manual, Chapters 5 and 11, and Figure 5-1. |
| References | – Caltrans Surveys Manual: Chapters 5 and 11; Figure 5-1. |

| **WBS Level 7** | **185.10.65 As-Built Centerline Surveys** |
|---|---|
| Description | All work required to locate and document existing facility centerline. Includes planning, research, field survey, processing and adjusting data, and preparing the As-Built Centerline Alignment map. |
| Lead Function | Surveys |
| Deliverables | • A Design Software Project File and/or CADD Drawing File Containing Existing |

| | |
|---|---|
| | Centerline Alignment. May Also Contain Preliminary Right of Way Line Locations Based on Record Data and Field Surveys.<br>• Inclusion into District Centerline Alignment Log Using Appropriate Format for District. |
| Business Practices | Work for this product may be performed under WBS 160.20.65 or WBS 185.10.65. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate. |
| Notes | For centerline location, surveys should be performed in a manner to ensure meeting Caltrans General Order standards as listed in the Caltrans Surveys Manual, Chapter 5 and Figure 5-1. |
| References | – Caltrans Surveys Manual, Chapter 5 and Figure 5-1. |

| **WBS Level 7** | **185.10.70 Pavement Surveys** |
|---|---|
| Description | Includes all efforts to survey paved portion of project alignment(s). |
| Lead Function | Surveys |
| Deliverables | • Design Software Project File<br>• Paved Surface of the Travel Way |
| Business Practices | Work for this product may be performed under WBS 160.20.70 or WBS 185.10.70. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate.<br><br>This work element should be charged when only the horizontal and vertical location of paved features is to be collected. When data collected includes features other than pavement, WBS 160.20.65/WBS 185.10.65 should be charged.<br><br>Typically this product will be merged with the WBS 160.20.65/WBS 185.10.65 product prior to transmittal to Design. |
| References | – Caltrans Surveys Manual, Chapter 5, Figure 5-1, and Sections 11.7-1 through 11.7-4. |

| **WBS Level 6** | **185.15 Preliminary Design** |
|---|---|
| Description | This activity includes establishment of the project footprint and any subsequent substantial changes to it. Includes design activities associated with the following preliminary design work:<br>– Horizontal and Vertical Alignment<br>– Typical Cross Sections |

| | |
|---|---|
| | – Superelevations<br>– Earthwork<br>– Intersection/Interchange Design<br>– Review of Geometric Design<br>– Exceptions to Design Standards<br>– Delineation Support<br>– Conceptual stage construction plans |
| Deliverables | • Completed Base Maps (Which Become Skeleton Plan Sheets) for Functional Units, Suitable for Developing the Functional PS&E.<br>• Approved Geometric Design. |
| References | – |

| **WBS Level 7** | **185.15.05 Roadway and Miscellaneous Design** |
|---|---|
| Description | Includes design of horizontal and vertical alignment, typical cross sections, superelevations, earthwork (cut and fill locations), and conceptual stage construction plans. |
| Lead Function | District Design Branch |
| Deliverables | • Geometric Approval Drawings<br>• Alignments and Intersection/Interchange Design |
| References | – Caltrans Highway Design Manual (HDM), Chapter 80, Topic 82<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 1 |

| **WBS Level 7** | **185.15.10 Proposed Geometrics Review** |
|---|---|
| Description | Includes routine meetings with HQ Division of Design, FHWA and other units in review of proposed geometric design. |
| Lead Function | District Design Branch |
| Deliverables | • Geometric Approved Drawings (GAD) |
| References | – Caltrans Design Information Bulletin (DIB) No. 66<br>– Caltrans Highway Design Manual (HDM): Chapter 80, Topic 82; Chapter 100, Topic 111<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Articles 2 & 5 |

| WBS Level 7 | 185.15.15 Requests for Exceptions to Design Standards |
|---|---|
| Description | All work involved in the preparation of Fact Sheets for exceptions to the mandatory and advisory design standards. Includes work involved in processing Fact Sheets for approval. |
| Lead Function | District Design Branch |
| Deliverables | • Approved Mandatory and Advisory Fact Sheets |
| References | – Caltrans Highway Design Manual (HDM), Chapter 80, Topic 82<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 21, all sections |

| WBS Level 7 | 185.15.20 Value Analysis |
|---|---|
| Description | All work necessary to perform a formal Value Analysis on applicable projects. |
| Lead Function | District Design Branch |
| Deliverables | • Value Analysis Report |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 19, all sections |

| WBS Level 7 | 185.15.99 Other Preliminary Design Products |
|---|---|
| Description | All other work conducted during the Preliminary Design efforts that is not defined or covered in other WBS 185.15 elements. |
| Lead Function | District Design Branch |
| Deliverables | • Final Plans, Specifications and Estimate |
| References | – |

| WBS Level 6 | 185.20 Engineering Reports |
|---|---|
| Description | Activities conducted by various functional units to develop project design reports (including weigh in motion facility requirements) needed to establish design parameters and complete preliminary design (see WBS 185.20.05 to 185.20.99). |
| Deliverables | • Various Engineering Reports |
| References | – |

| WBS Level 7 | 185.20.05 Updated Traffic Data Analysis and Forecasts |
|---|---|
| Description | Update and complete any preliminary traffic data and traffic forecasting used in the PID |

| | |
|---|---|
| | phase. |
| Lead Function | District Traffic Operations and/or Advanced Planning |
| Deliverables | • Traffic Data and Traffic Volumes for Use in the Final Plans, Specifications and Estimate Package. |
| References | – Caltrans Highway Design Manual (HDM): Chapter 100, Topics 102 and 103; Chapter 600, Topic 603<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 1 |

| **WBS Level 7** | **185.20.10 Hydrology and Hydraulic Reports** |
|---|---|
| Description | This task includes all efforts required to prepare preliminary Hydrology and Hydraulic Reports. Final Report to be completed in WBS 230.05.70.05. |
| Lead Function | District Design Branch and/or District Hydraulics Branch |
| Deliverables | • Hydraulic Data and Reports Required for A Final Plans, Specifications and Estimate Package. |
| References | – Caltrans Highway Design Manual (HDM), Chapter 800<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 1 |

| **WBS Level 7** | **185.20.15 Geotechnical Design Report (GDR)** |
|---|---|
| Description | This task includes all efforts required to prepare a Preliminary Geotechnical Design Report (PGDR). A PGDR is to be prepared by Geotechnical Services, Division of Engineering Services, for all projects that involve designs for cut slopes, embankments, earthwork, landslide remediation, standard plan retaining walls, standard plan sound walls, overhead signs, changeable message signs, groundwater studies, erosion control features, sub-excavation and any other studies involving geotechnical investigations and engineering geology. The purpose of the report is to provide geotechnical design input for the early phase of design. The level of effort will depend upon the project needs and may involve some or all of the activities listed under Site Ready for Subsurface Exploration and Geotechnical Design Report. Final Report to be completed in WBS 230.05.70.10. |
| Lead Function | Design and Engineering Services-Geotechnical Services |
| Deliverables | • Preliminary Geotechnical Report and any other Geotech information for the final Plans, Specification and Estimate package. |
| References | – Caltrans Project Development Procedures Manual (PDPM): Chapter 2, Section 9; |

| | |
|---|---|
| | Chapter 3, Section 6; Chapter 9, Article 9; Chapter 20, Section 2<br>– Caltrans Highway Design Manual: Chapter 100, Topics 113 and 114; Chapter 200, Topics 203, 208 and 210; Chapter 800, Topics 802 and 805<br>– Caltrans Guidelines for Preparing Geotechnical Design Reports |

| WBS Level 7 | 185.20.20 Pavement Design Report |
|---|---|
| Description | This task includes all efforts required to prepare a Preliminary Pavement Design Report. Includes all tests, such as deflection study, required to complete preliminary structural section design recommendations. Final Report to be completed in WBS 230.05.70.15. |
| Lead Function | District Materials Lab and/or HQ Pavement Program |
| Deliverables | • Various Reports and Recommendations for the Final Plans, Specification and Estimate Package. |
| References | – |

| WBS Level 7 | 185.20.25 Materials Report |
|---|---|
| Description | This task includes all efforts required to prepare a Preliminary Materials Report. Preliminary Materials Report may be issued using the best information available and good engineering judgment. Accurate traffic projections and design designations are required for the Preliminary Materials Report. Preliminary Materials Reports must document the sources of information used and assumptions made. Final Report to be completed in WBS 230.05.70.25. |
| Lead Function | District Materials Lab and/or HQ Pavements Program |
| Deliverables | • Various Reports and Recommendations for the Final Plans, Specification and Estimate Package. |
| References | – Caltrans Highway Design Manual (HDM), Chapter 100, Topics 112 & 113<br>– Caltrans Ready to List Guide, Section 10.8.4 |

| WBS Level 7 | 185.20.30 Soundwall Design Report |
|---|---|
| Description | Noise Abatement Decision Document |
| Lead Function | Project Engineer in Design or Environmental Unit |
| Deliverables | • Noise Abatement Decision Report (NADR) |
| References | – Caltrans Technical Noise Supplement, Chapters 6 and 7<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 30, all sections |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 7** | **185.20.35 Updated Transportation Management Plan For Design Phase** |
|---|---|
| Description | Preparation of a Transportation Management Plan for the PS&E phase. |
| Lead Function | Project Engineer in Design or Traffic Operations |
| Deliverables | • Transportation Management Plan |
| References | – Caltrans Deputy Directive 60: Transportation Management Plans<br>– Caltrans Transportation Management Plan Guidelines<br>– Caltrans Traffic Manual, Chapter 7<br>– Highway Capacity Manual<br>– Caltrans HOV Guidelines<br>– Caltrans Ramp Metering Design Manual<br>– Caltrans Traffic Bulletins<br>– California Manual on Uniform Traffic Control Devices |

| **WBS Level 7** | **185.20.40 Utility Locations Determined for Design** |
|---|---|
| Description | Includes all activities needed to produce updated Utility Estimates, Utility Verification Maps, Verified Utility Locations transferred to plan sheet, Request for Pothole (Pos Loc), Pothole plan, Task Orders, Notice to Owner to Pothole, Report of Investigation to Pothole, Utility Agreement to Pothole, Potholed facility information transferred to plan sheets, and Utility Survey. |
| Lead Function | District Design Branch |
| Deliverables | • as Defined in Caltrans Surveys Manual, Section 11.7-5. Products Should Be Delivered in A Design Software Project File Containing Three-Dimensional Location of Tied Utility Facilities. |
| Business Practices | For Utility Surveys: When potholing activities are required to locate utility facilities, the recommended procedure is:<br>– Caltrans representative, normally from Design or Utilities, is present during the potholing efforts.<br>– Representative will set reference points to the uncovered utilities, noting the horizontal and vertical offsets between reference point and utility.<br>– Surveys will respond immediately upon notification that reference points to utilities are set, tie the locations of reference points, calculate location of utilities, and provide information to requester.<br>This procedure will eliminate the need for survey crews to stand by while utilities are being uncovered. |
| Notes | Surveys must meet all requirements as set forth in the Caltrans Surveys Manual, Section |

| | |
|---|---|
| | 11.7-5. |
| References | – Caltrans Surveys Manual, Section 11.7-5 |

| WBS Level 7 | 185.20.99 Other Engineering Report Products |
|---|---|
| Description | All other work conducted during the Engineering Reports efforts that is not defined or covered in other WBS 185.20 elements. |
| Lead Function | District Design Branch |
| Deliverables | • Various |
| References | – |

| WBS Level 6 | 185.25 Right of Way Requirements Determination |
|---|---|
| Description | Activities necessary to determine right of way needs and prepare maps for submittal to Right of Way. Includes identifying the need for new right of way, permanent easements, temporary construction easements, and railroad involvement. Includes coordination with affected agencies to determine right of way impacts. |
| Deliverables | • Maps to Right of Way Engineering |
| Business Practices | This activity includes incorporation of utility ROW needs determined in WBS 200.15. |
| References | – Project Development Procedures Manual Chapter 14, Section 2, Article 5; Section 3, Article 2 |

| WBS Level 7 | 185.25.05 Project Review With Affected Agencies |
|---|---|
| Description | Includes meetings and coordination work with affected agencies to determine right of way impacts. Does not include obtaining of required permits or cooperative agreements (see WBS 170, 205, 100.05.35, 100.10.35, 100.15.35, 100.20.35, 100.25.35 and 100.25.50). |
| Lead Function | District Design Branch with District R/W and R/W Engineering |
| Deliverables | • Final R/W Maps |
| References | – Caltrans Construction Manual, Section 6-16-2<br>– Caltrans Ready to List Guide, Section 1.3.2<br>– Caltrans Right of Way Manual |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 7** | **185.25.10 Fee and Easement Requirements Determination** |
|---|---|
| Description | See Caltrans reviewer note. |
| Lead Function | Right of Way, Utilities |
| Deliverables | |
| References | – |

| **WBS Level 7** | **185.25.15 Right of Way Requirements Maps** |
|---|---|
| Description | All activities required for Design to prepare project base maps with right of way needs identified for submittal to Right of Way Engineering. Does not include work by Surveys to prepare right of way appraisal maps (see WBS 220.15.05). This activity includes incorporation of utility ROW needs determined in WBS 200.15. |
| Lead Function | District Design Branch |
| Deliverables | • Final R/W Maps |
| References | – Caltrans Standard Plans<br>– Caltrans Highway Design Manual (HDM): Chapter 200, Topic 205; Chapter 700, Topic 701<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1, 2, and 3<br>– Caltrans Right of Way Manual |

| **WBS Level 7** | **185.25.20 Final Railroad Involvement Determination** |
|---|---|
| Description | Includes preliminary investigations and meetings to determine railroad involvement and right of way impacts. Does not include obtaining of railroad agreements (see WBS 205.15). |
| Lead Function | District Design Branch |
| Deliverables | • Final R/W Certification |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2<br>– Caltrans Right of Way Manual |

| **WBS Level 7** | **185.25.25 Water Well Abandonment Needs Determination** |
|---|---|
| Description | Activities required to determine water well abandonment issues. |

| | |
|---|---|
| Lead Function | District Design Branch and District Environmental Units |
| Deliverables | • Final Water Well Requirements for PS&E. |
| References | – Caltrans Highway Design Manual (HDM), Chapter 100, Topic 110, Index 110.2(3)<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2 |

| **WBS Level 7** | **185.25.30 Utility Conflict Maps** |
|---|---|
| Description | Includes internal review and redesign to avoid relocation. Includes preparation and transmittal of conflict maps to the utility companies, and determination of utility ROW needs. |
| Lead Function | District Design Branch |
| Deliverables | • Final Utility Plans and Specs for PS&E Package. |
| References | – Caltrans Project Development Procedures Manual (PDPM): Chapter 3, Section 13; Chapter 8, Section 7 |

| **WBS Level 6** | **185.30 Structure Site Plans** |
|---|---|
| Description | Activities involved in the preparation of various structure site plans, including site geometrics, contours, utility locations, and other surface and underground obstacles. |
| Deliverables | • Submittal of Structure Site Plans to Structure Design in the Division of Engineering Services |
| References | – |

| **WBS Level 7** | **185.30.10 Site Plans for Bridges and Structures** |
|---|---|
| Description | This activity includes completion of the Bridge Site Data Submittal form and attaching all required background information with the form. In addition to the requested information, any special circumstance or important information should be noted and included. |
| Lead Function | District Design Branch |
| Deliverables | • Bridge Site Submittal to Structures. |
| References | – Caltrans Drafting and Plans Manual of Instruction, Article 3-3.2<br>– Caltrans Highway Design Manual (HDM): Chapter 200, Topic 208; Chapter 1000<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 3 |

| | |
|---|---|
| | – Caltrans OSFP Information & Procedures Guide, Chapters 2, 5 and 6 |
| Subtasks | – Collect and calculate required information<br>– Prepare site plan drawings<br>– Prepare Bridge Site Data Submittal form<br>– Complete, when necessary, the "special circumstance/important information" section of the bridge site submittal form. |

| **WBS Level 7** | **185.30.15 Site Plans for Retaining Walls and Non-standard Earth Retention Systems** |
|---|---|
| Description | This activity includes all the tasks involved in assembling necessary data, such as foundation studies, etc., for retaining walls and nonstandard earth retention systems. This activity also includes completing the Bridge Site Submittal Form for Retaining Walls and Non Standard Earth Retention Systems and preparing necessary site plan sheets. In addition to the requested information, any special circumstance or important information should be noted and included. |
| Lead Function | Structures Design |
| Deliverables | • Site Plans for Retaining Wall or Non-Standard Earth Retention Systems |
| References | – Drafting and Plans Manual of Instruction, Article 3-3.2<br>– Highway Design Manual (HDM), Chapter 200, Topic 210<br>– OSFP Information & Procedures Guide, Chapters 2, 5 & 6<br>– Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 3 |
| Subtasks | – Collect and calculate required information<br>– Prepare site plan drawings<br>– Prepare Bridge Site Submittal Form for Retaining Walls<br>– Complete, when necessary, the "special circumstance/important information" section of the bridge site submittal form |

| **WBS Level 7** | **185.30.20 Site Plans for Soundwalls on Retaining Systems or Structures** |
|---|---|
| Description | This activity includes filling out the Retaining Wall Site Data Submittal form and attach all required background information with the form. This activity also includes preparing the necessary site plan sheets to be included in the package. In addition to the requested information, any special circumstance or important information should be noted and included. |
| Lead Function | Structures Design |
| Deliverables | • Site Plans for Soundwalls on Retaining Systems or Structures |

| | |
|---|---|
| References | – Drafting and Plans Manual of Instruction, Article 3-3.2<br>– Highway Design Manual (HDM), Chapter 1100<br>– Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 3<br>– Traffic Noise Analysis Protocol<br>– OSFP Information & Procedures Guide, Chapters 2, 5 & 6 |
| Subtasks | – Collect and calculate required information<br>– Prepare site plan drawings<br>– Prepare Request form<br>– Complete, when necessary, the "special circumstance/important information" section of the bridge site submittal form. |

| **WBS Level 7** | **185.30.25 Site Plans for Pumping Plants** |
|---|---|
| Description | This activity includes assembling the necessary information as outlined in Article 3-3.2 of the Caltrans Drafting and Plans Manual, "Bridge Site Maps." Additional information is needed for pumping plants as follows:<br>– Proposed location of the pump house and storage box<br>– Location of the pump outfall line<br>– Location and elevation of the lowest edge of pavement<br>In addition to the requested information, any special circumstance or important information should be noted and included. |
| Lead Function | District Design Branch |
| Deliverables | • Bridge Site Submittal to DES |
| References | – Caltrans Drafting and Plans Manual of Instruction, Article 3-3.2<br>– Caltrans Highway Design Manual (HDM), Chapter 800, Topics 805 and 839<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 3<br>– Caltrans OSFP Information & Procedures Guide, Chapters 2, 5 and 6<br>– Caltrans Pumping Plant Design Manual, Required Design Data |
| Subtasks | – Collect and calculate required information<br>– Prepare site plan drawings<br>– Prepare request form<br>– Complete, when necessary, the "special circumstance/important information" section of the bridge site submittal form. |

| **WBS Level 7** | **185.30.30 Site Plans for Special-Design Culverts** |
|---|---|
| Description | This activity includes completion of the Bridge Site Data Submittal Form and attaching |

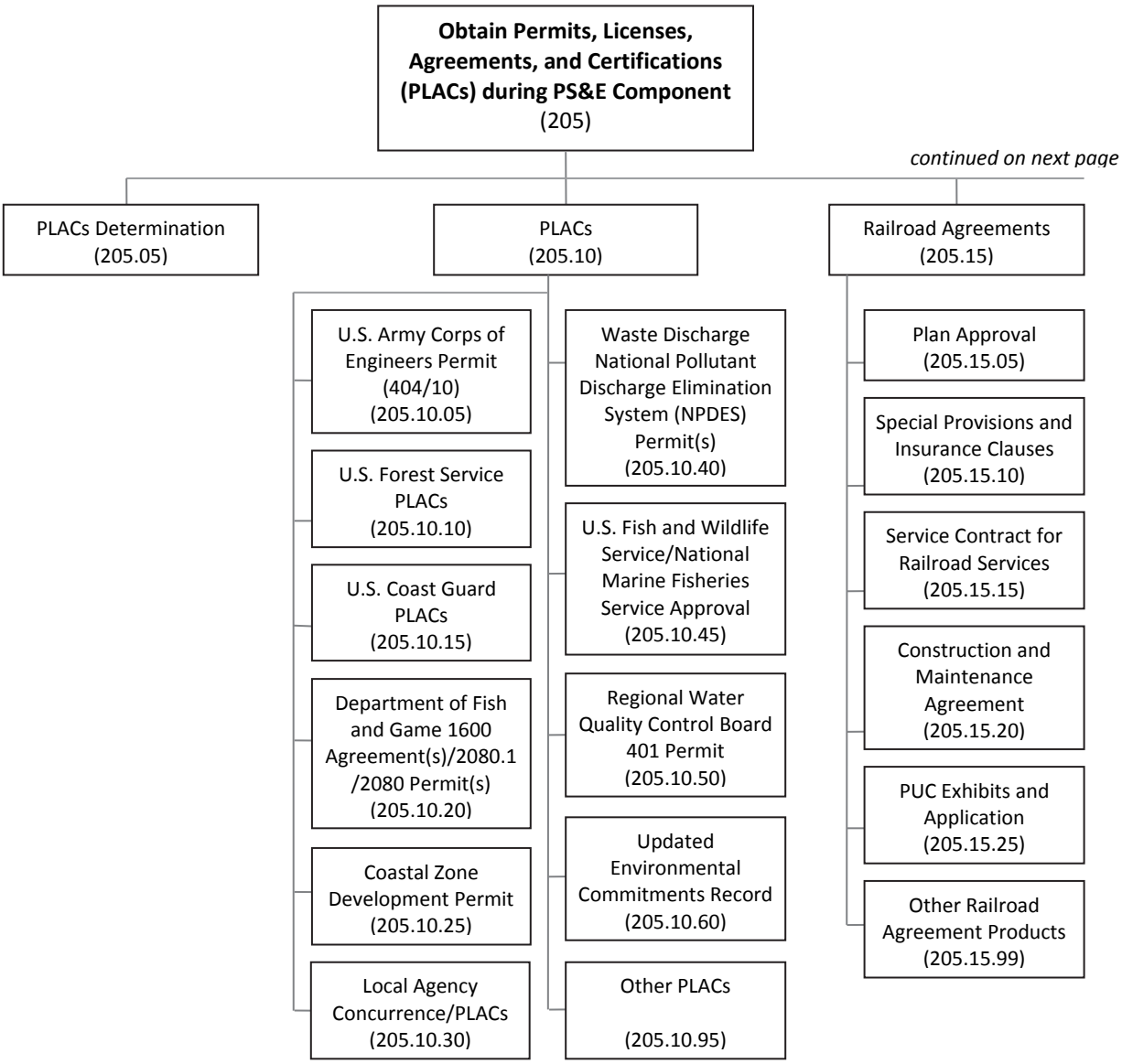
| | |
|---|---|
| | all required background information with the form. This activity also includes preparing all necessary site plan sheets to be included in the package. In addition to the requested information, any special circumstance or important information should be noted and included. |
| Lead Function | District Design Branch |
| Deliverables | • Bridge Site Submittal to DES |
| References | – Caltrans Drafting and Plans Manual of Instruction, Article 3-3.2<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 3<br>– Caltrans OSFP Information & Procedures Guide, Chapters 2, 5 and 6 |
| Subtasks | – Collect and calculate required information<br>– Prepare site plan drawings<br>– Prepare Bridge Site Data Submittal Form<br>– Complete, when necessary, the "special circumstance/important information" section of the bridge site submittal form. |

| **WBS Level 7** | **185.30.99 Other Structure Site Plan Products** |
|---|---|
| Description | All other work conducted during the Structure Site Plan efforts that is not defined or covered in other WBS 185.30 elements. |
| Lead Function | District Design Branch |
| Deliverables | • Bridge Site Submittal to DES |
| References | – |

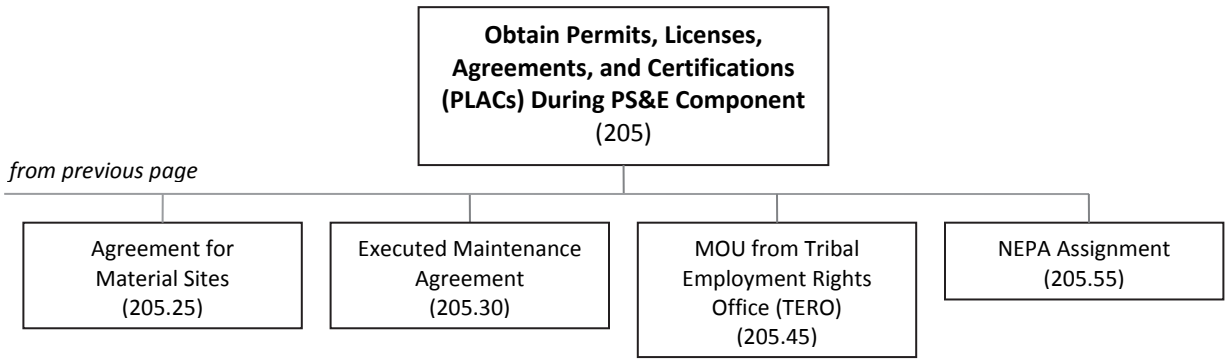
| **WBS Level 6** | **185.99 Other Base Map And Plan Sheet Products** |
|---|---|
| Description | All other work conducted during the Base Maps and Plan Sheets efforts that is not defined or covered in other WBS 185 elements. |
| Lead Function | District Design Branch |
| Deliverables | • Various Reports and Submittals to Other Functional Units. |
| References | – |

| WBS 205 | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| Project Phase | | K | 0 | 1 | 2 | 3 |
| SB45 Component | 0 | 1 | 2 | 3 | 4 | 5 |

## 205 Obtain Permits, Licenses, Agreements, and Certifications (PLACs) during PS&E Component



| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |



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205

| WBS Level 5 | 205 Obtain Permits, Licenses, Agreements, and Certifications (PLACs) during PS&E Component |
|---|---|
| Description | Work conducted during Project Phase 1 (PS&E Component) involved in identifying and obtaining necessary permits and agreements for project construction. |
| Lead Function | Various |
| Deliverables | • Work during PS&E Involved in Identifying and Obtaining Project PLACs<br>• Updated STEVE Database |
| Major Milestones | ♦ None. |
| Notes | Agreements or permits specific to other Level 5 activities are not included as part ofthis work. |
| References | – CADD Users Manual Consider this instead: Caltrans Plans Preparation Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/ppman/default.htm<br>– Caltrans Highway Design Manual: http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm<br>– Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm<br>– Caltrans Right of Way Manual: http://www.dot.ca.gov/hq/row/rowman/manual<br>– Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser/<br>– FHWA California Division website: http://www.fhwa.dot.gov/cadiv |

| WBS Level 6 | 205.05 PLACs Determination |
|---|---|
| Description | This activity includes all work completed during PS&E in order to:<br>– Determine what permits may or may not be required<br>– Obtain permits if necessary |
| Lead Function | Various |
| Deliverables | • A Listing of the Required Permits, Licenses, Agreements, and Certifications (PLACs) Required for the Project.<br>• Updated STEVE Database |
| Business Practices | This does not include coordination with resource agencies covering the scoping and National Environmental Policy Act (NEPA)/404 Memorandum of Understanding (MOU) process covered under WBS 150.10.05, WBS 150.20.20, WBS 165.05.10, and WBS 165.15.15. |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 3, Chaps. 3 and 4<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles, 1 and 2 |

| **WBS Level 6** | **205.10 PLACs** |
|---|---|
| Description | All work involved in obtaining PLACs, including:<br>– Discussions and negotiations with agencies with juristiction<br>– Preparation of the permit and attachments such as exhibits, maps, etc.<br>– Acquisition of funds for any required permit fee<br>– Submission of permit application |
| Lead Function | Various |
| Deliverables | • Receipt of Permits from Each Applicable Permitting Agency.<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Vol. 1<br>– DEA Intranet Page > Library > Permits, Licenses, Agreements, and Certifications Subpage<br>– DEA Internet Page > Forms and Templates |

| **WBS Level 7** | **205.10.05 U.S. Army Corps of Engineers Permit (404/10)** |
|---|---|
| Description | 404 Permit and/or Section 10 Permit(s). |
| Lead Function | Environmental |
| Deliverables | • 404 Permit and/or Section 10 Permit<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 3, Chap. 3<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles, 1 and 2 |

| **WBS Level 7** | **205.10.10 U.S. Forest Service PLACs** |
|---|---|
| Description | Forest Service PLACs |
| Lead Function | Various |
| Deliverables | • Forest Service Permit(s)<br>• Updated STEVE Database |

| | |
|---|---|
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles, 1 and 2 |

| WBS Level 7 | 205.10.15 U.S. Coast Guard PLACs |
|---|---|
| Description | U.S. Coast Guard PLACs. |
| Lead Function | Various |
| Deliverables | • U.S. Coast Guard PLACs<br>• Updated STEVE Database |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles, 1 and 2 |

| WBS Level 7 | 205.10.20 Department of Fish and Game 1600 Agreement(s)/2080.1/2080 Permit(s) |
|---|---|
| Description | 1600 Agreement(s)/2080.1/2080 Permit(s) |
| Lead Function | Environmental |
| Deliverables | • 1600 Agreement(s)/2080.1/2081 Permit(s)<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 3, Chap. 3<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles, 1 and 2 |

| WBS Level 7 | 205.10.25 Coastal Development Permit |
|---|---|
| Description | Coastal Development Permit |
| Lead Function | Environmental |
| Deliverables | • Permit<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 18<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles, 1 and 2 |

| WBS Level 7 | 205.10.30 Local Agency Concurrence/PLACs |
|---|---|

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| Description | Includes coordination necessary to obtain concurrence from the appropriate local agencies when state highway construction impacts existing local facilities. |
| Lead Function | Various |
| Deliverables | • Permit<br>• Updated STEVE Database |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles, 1 and 2 |

| **WBS Level 7** | **205.10.40 Waste Discharge (NPDES) Permit(s)** |
|---|---|
| Description | Includes all effort needed to obtain a National Pollutant Discharge Elimination System (NPDES) permit. |
| Lead Function | Design/Environmental |
| Deliverables | • NPDES Permit<br>• Updated STEVE Database |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 8, Section 7; Chapter 13, Articles, 1 and 2 |

| **WBS Level 7** | **205.10.45 U.S. Fish and Wildlife Service/National Marine Fisheries Service Approval** |
|---|---|
| Description | U.S. Fish and Wildlife Service/National Marine Fisheries Service approval |
| Lead Function | Environmental |
| Deliverables | • U.S. Fish and Wildlife Service/National Marine Fisheries Service Approval<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 14<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles, 1 and 2 |

| **WBS Level 7** | **205.10.50 Regional Water Quality Control Board 401 Permit** |
|---|---|
| Description | 401 Permit |
| Lead Function | Environmental |
| Deliverables | • 401 Permit |

| | |
|---|---|
| | • Updated STEVE Database |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles, 1 and 2 |

| WBS Level 7 | 205.10.60 Updated Environmental Commitments Record |
|---|---|
| Description | Includes all efforts necessary to update the Environmental Commitments Record (ECR), originally prepared or updated at WBS 165.10.75 and updated at WBS 180.15.20, and its associated documentation (e.g., Mitigation Monitoring and Reporting Record (MMRR) or Permits, Agreements, and Mitigation(PAM)). |
| Lead Function | Environmental |
| Deliverables | • Updated Environmental Commitments Record<br>• Updated STEVE Database |
| Business Practices | The update must be coordinated with Design. The ECR is used as a part of the Environmental input for the Resident Engineer's (RE) Pending File, Environmental Certification at Ready to List (RTL), and the Certificate of Environmental Compliance. |
| References | – Caltrans Standard Environmental Reference (SER) |

| WBS Level 7 | 205.10.95 Other PLACs |
|---|---|
| Description | Includes all permits not listed above, such as Bay Conservation and Development Commission (BCDC) permit, Tahoe Regional Planning Agency (TRPA) permit, and flood control district permits. |
| Lead Function | Environmental |
| Deliverables | • PLACs<br>• Updated STEVE Database |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles, 1 and 2 |

| WBS Level 6 | 205.15 Railroad Agreements |
|---|---|
| Description | All work involved in preparing a Railroad Service Contract, a Railroad Construction and Maintenance Agreement, and Public Utility Commission (PUC) application. |
| Deliverables | • Transmittal of A Clearance Memo from the Structures Agreements Section to Office Engineer. Project Cannot Be Advertised Prior to This Clearance. |
| References | – |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 7** | **205.15.05 Plan Approval** |
|---|---|
| Description | |
| Lead Function | Right of Way, Utilities |
| Deliverables | |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 3 and 8 |

| **WBS Level 7** | **205.15.10 Special Provisions and Insurance Clauses** |
|---|---|
| Description | |
| Lead Function | Right of Way, Utilities |
| Deliverables | |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 3 and 8 |

| **WBS Level 7** | **205.15.15 Service Contract for Railroad Services** |
|---|---|
| Description | |
| Lead Function | Right of Way, Utilities |
| Deliverables | |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 3 and 8 |

| **WBS Level 7** | **205.15.20 Construction and Maintenance Agreement** |
|---|---|
| Description | |
| Lead Function | Right of Way, Utilities |
| Deliverables | |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 3 and 8<br>– Caltrans Right of Way Manual |

| **WBS Level 7** | **205.15.25 PUC Exhibits and Application** |
|---|---|

| | |
|---|---|
| Description | |
| Lead Function | Right of Way, Utilities |
| Deliverables | |
| References | – Caltrans Drafting and Plans Manual of Instruction, Article 3-2.7<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 3 and 8<br>– Caltrans Right of Way Manual |

| WBS Level 7 | 205.15.99 Other Railroad Agreement Products |
|---|---|
| Description | All other work conducted during the Railroad Agreement efforts not defined or covered in other WBS 205.15 elements. |
| Lead Function | Right of Way, Utilities |
| Deliverables | |
| References | – |

| WBS Level 6 | 205.25 Agreement for Material Sites |
|---|---|
| Description | Preparation and execution of agreements for non-commercial borrow and disposal material sites. This includes identifying, obtaining necessary environmental compliance (if any), and preparing a reclamation plan. |
| Lead Function | Right of Way, Utilities |
| Deliverables | • Distribution of Copies of the Materials Agreement to the Appropriate Units. |
| References | – Caltrans Highway Design Manual (HDM), Chapter 100, Topic 111<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 3 and 8<br>– Caltrans Right of Way Manual |
| Subtasks | – Negotiate material or disposal royalties<br>– Prepare and review Materials Agreement<br>– Execute Materials Agreement<br>– Environmental clearance<br>– Prepare reclamation plan |

| WBS Level 6 | 205.30 Executed Maintenance Agreement |
|---|---|
| Description | Preparation and execution of Maintenance Agreement with local agency. |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| Lead Function | Right of Way, Utilities |
| Deliverables | • Executed Maintenance Agreements |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 13, Article 4; Chapter 16 |
| Subtasks | – Identify facilities within the State's access control limits that will be maintained by the local agency<br>– Negotiate agreement with local agencies<br>– Draft and execute agreement |

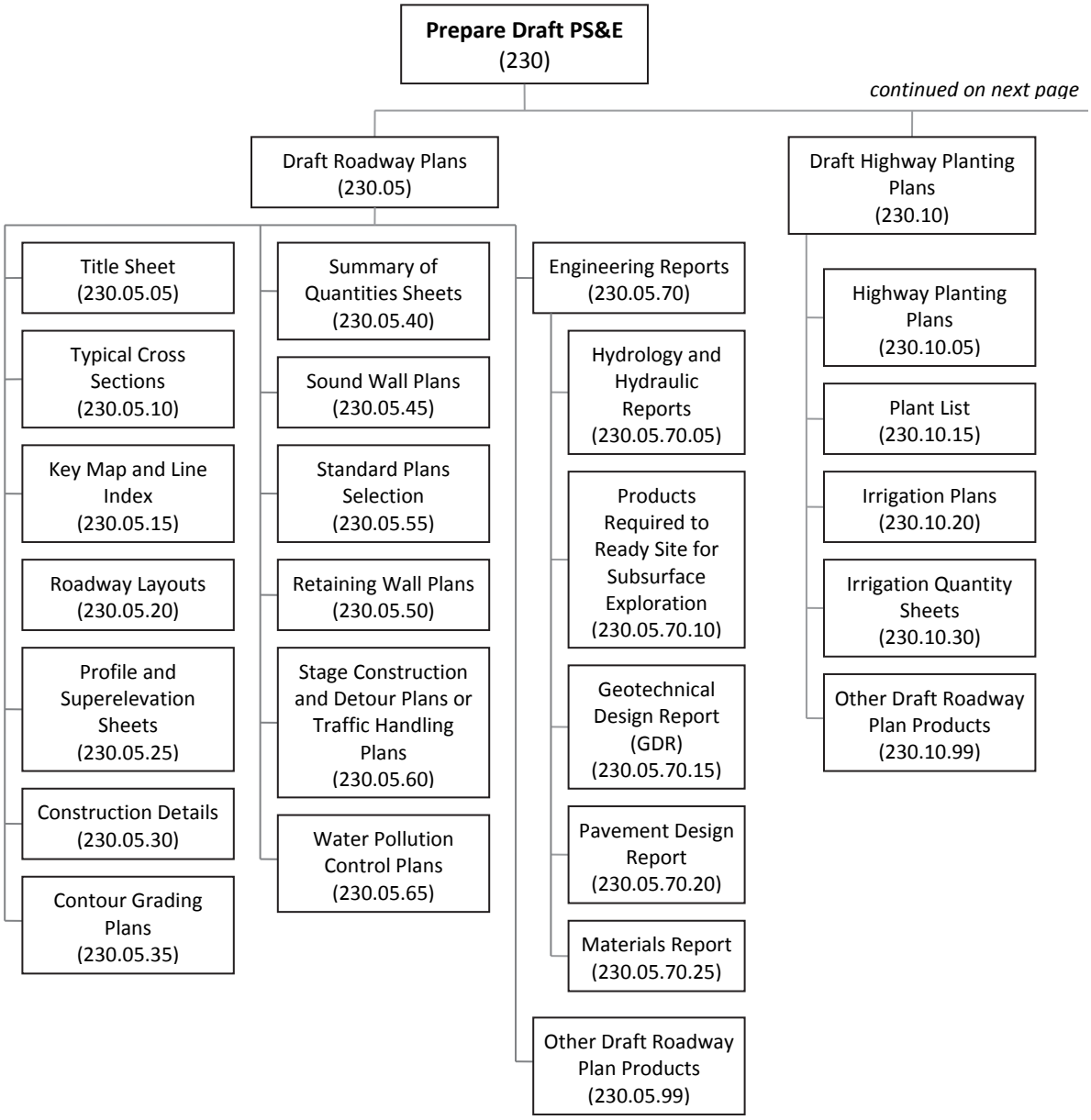
| **WBS Level 6** | **205.45 MOU from Tribal Employment Rights Office (TERO)** |
|---|---|
| Description | Acquisition of Memorandum of Understanding from either the tribal government or the Tribal Rights Office (TERO) for Native American preference in hiring and for TERO Tax if on a reservation. |
| Lead Function | Right of Way, Utilities |
| Deliverables | |
| References | – |

| **WBS Level 6** | **205.55 NEPA Assignment** |
|---|---|
| Description | Includes all Permits and Agreements and work previously performed by FHWA which is now the Department's responsibility as a result of full NEPA Assignment under MAP-21. |
| Lead Function | Environmental |
| Deliverables | • All Products and Actions Required to Comply with NEPA Assignment<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER)<br>– FHWA California Division website |

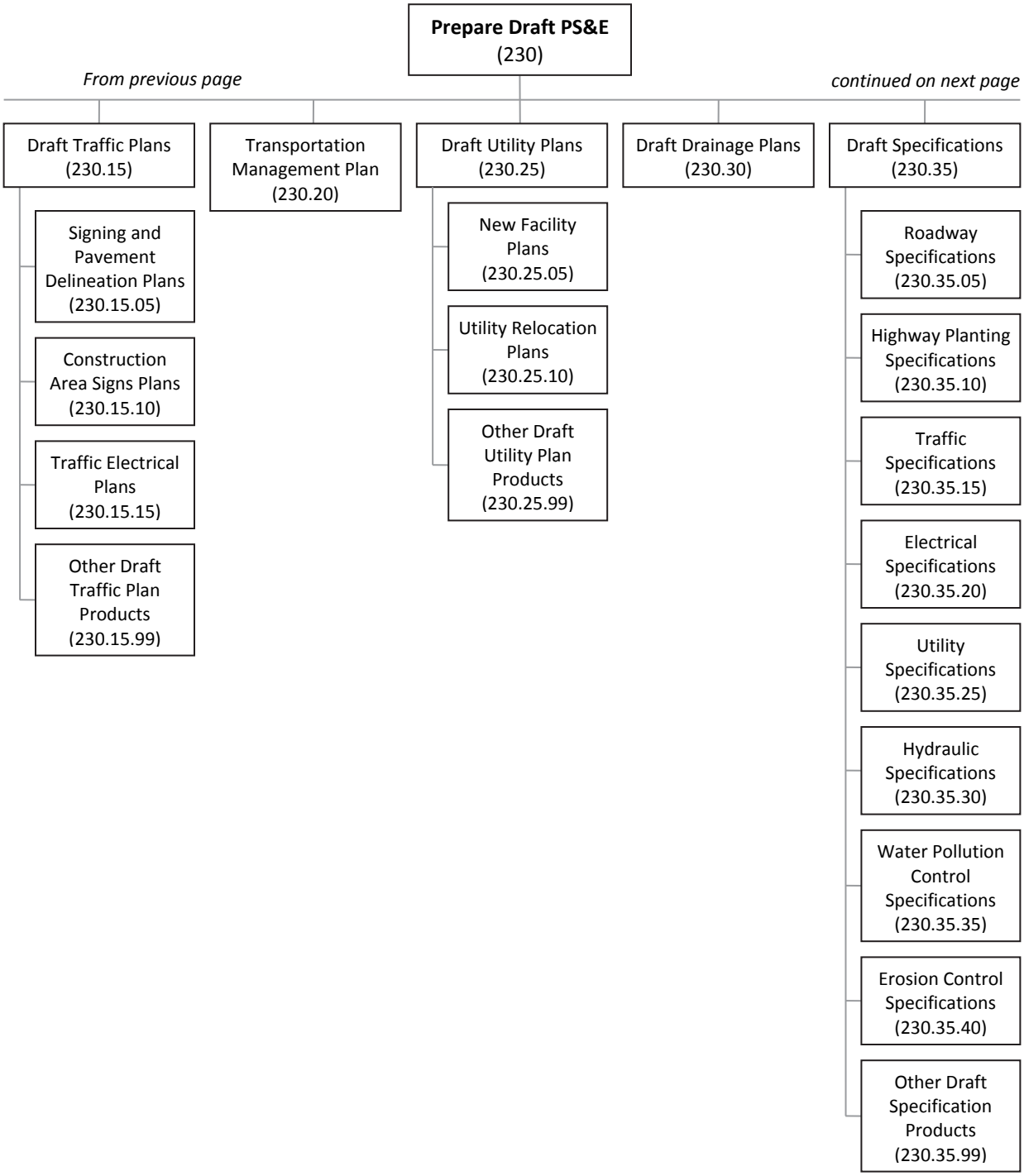
**WBS 230**

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

## 230 Prepare Draft PS&E

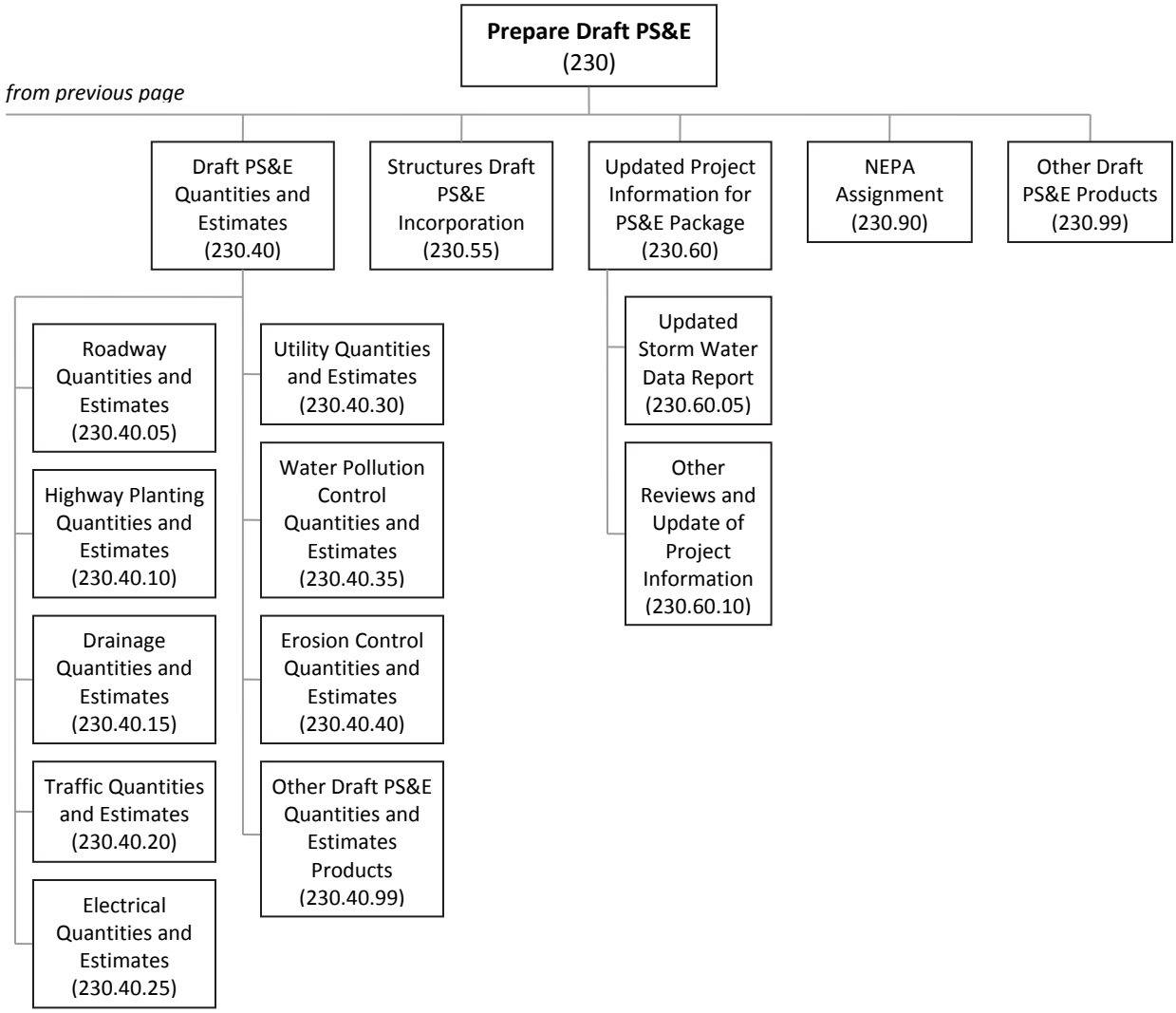


| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |



**WBS**

**230**


Prepare Draft PS&E (230)
from previous page
Draft PS&E Quantities and Estimates (230.40)
Structures Draft PS&E Incorporation (230.55)
Updated Project Information for PS&E Package (230.60)
NEPA Assignment (230.90)
Other Draft PS&E Products (230.99)
Roadway Quantities and Estimates (230.40.05)
Highway Planting Quantities and Estimates (230.40.10)
Drainage Quantities and Estimates (230.40.15)
Traffic Quantities and Estimates (230.40.20)
Electrical Quantities and Estimates (230.40.25)
Utility Quantities and Estimates (230.40.30)
Water Pollution Control Quantities and Estimates (230.40.35)
Erosion Control Quantities and Estimates (230.40.40)
Other Draft PS&E Quantities and Estimates Products (230.40.99)
Updated Storm Water Data Report (230.60.05)
Other Reviews and Update of Project Information (230.60.10)

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 5** | **230 Prepare Draft PS&E** |
|---|---|
| Description | Work involved in the preparation and review of draft roadway plans, specifications and estimates. Includes roadway design and preparation of functional PS&Es. Also includes incorporation of the Draft Structures PS&E into Draft District PS&E. |
| Lead Function | Design |
| Deliverables | • 95% Complete PS&E Ready Package |
| Major Milestones | ♦ M300 Circulate Plans in District (Finish: WBS 230)<br>♦ M313 60% Constructability Review Complete (Start: WBS 230.60, with "x" number of days lag determined by Project Team) |
| References | – California Manual on Uniform Traffic Control Devices: http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/<br>– Caltrans Code of Safe Drilling Practices:<br>– Caltrans Construction Manual: http://www.dot.ca.gov/hq/construc/constmanual/<br>– Caltrans Cooperative Agreement Manual: http://onramp.dot.ca.gov/hq/design/coop/coopmanual-old.php - Reference only<br>– Caltrans Deputy Directive 60: Transportation Management Plans: http://www.dot.ca.gov/hq/traffops/TMP_Guidelines_June_2009.pdf, Appendix A<br>– Caltrans Drafting and Plans Manual of Instruction:<br>– Caltrans Guidelines for Preparing Geotechnical Design Reports: http://www.dot.ca.gov/hq/esc/geotech/requests/gdrguidelines20061220.pdf<br>– Caltrans Highway Design Manual (HDM): http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm<br>– Caltrans HOV Guidelines: http://www.dot.ca.gov/hq/traffops/systemops/hov/hov_sys/guidelines/<br>– Caltrans Ready to List Guide: http://www.dot.ca.gov/hq/esc/oe/construction_contract_standards/rtl_guide/RTL_GUIDE_FINAL_Jan_2014_(2-04-14).pdf<br>– Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm<br>– Caltrans Ramp Meter Design Manual: http://www.dot.ca.gov/hq/traffops/systemops/ramp_meter/<br>– Caltrans Right of Entry Guidelines for Environmental Work, Joint ROW and DEA Memo, May 22, 2002: http://www.dot.ca.gov/ser/downloads/memos/ROWEnvMemo.pdf<br>– Clarification of Caltrans Right of Entry Guidelines for Environmental Work, Joint ROW and DEA Memo, January 7, 2003: |

http://www.dot.ca.gov/ser/downloads/memos/ClarificationROEEnvWork.pdf
- Caltrans Right of Way Manual: http://www.dot.ca.gov/hq/row/rowman/manual/
- Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser/
- Caltrans Standard Plans: http://www.dot.ca.gov/hq/esc/oe/project_plans/HTM/10_plans_disclaim_US.htm
- Caltrans Standard Special Provisions (SSPs): http://www.dot.ca.gov/hq/esc/oe/standards.php
- Caltrans 2010 Standard Specifications: http://dot.ca.gov/hq/esc/oe/construction_contract_standards/std_specs/2010_StdSpecs/2010_StdSpecs.pdf
- Caltrans 2006 Standard Specifications: http://www.dot.ca.gov/hq/esc/oe/construction_contract_standards/std_specs/2006_StdSpecs/2006_StdSpecs.pdf
- Caltrans Storm Water Quality Handbook: Project Planning and Design Guide (PPDG): http://www.dot.ca.gov/hq/oppd/stormwtr/ppdg.htm
- Caltrans Technical Noise Supplement: http://www.dot.ca.gov/hq/env/noise/pub/Technical%20Noise%20Supplement.pdf
- Caltrans Traffic Bulletins:

- Caltrans Traffic Manual: http://www.dot.ca.gov/hq/traffops/signtech/signdel/trafficmanual-current.htm
- Caltrans Traffic Noise Analysis Protocol: http://www.dot.ca.gov/hq/env/noise/
- Caltrans Transportation Management Plan Guidelines: http://www.dot.ca.gov/hq/traffops/TMP_Guidelines_June_2009.pdf
- FHWA California Division website: http://www.fhwa.dot.gov/cadiv/
- Highway Capacity Manual: http://www.trb.org/Main/Blurbs/164718.aspx
- OTA Standard Drawings:

| **WBS Level 6** | **230.05 Draft Roadway Plans** |
|---|---|
| Description | Includes all activities to develop the preliminary base maps, such as roadway design, delineation, field reviews, and internal/external coordination with project stakeholders. |
| Deliverables | • Draft Roadway Plans for District Circulation. |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| References | – |

| **WBS Level 7** | **230.05.05 Title Sheet** |
|---|---|
| Description | The Title Sheet is a cover page of the construction project plans. It provides a conceptual view of the specific project location and other project related information. |
| Lead Function | Design Branch |
| Deliverables | • Title Sheet |
| References | – Plans Preparation Manual, Section 2-2.2 |

| **WBS Level 7** | **230.05.10 Typical Cross Sections** |
|---|---|
| Description | Typical Cross Section is a graphic representation of both existing and proposed roadbed structural section and other major roadway features within the project limits. |
| Lead Function | Design Branch |
| Deliverables | • Typical Cross Sections |
| References | – Plans Preparation Manual, Section 2-2.3<br>– Caltrans Highway Design Manual (HDM): Chapter 100, Topic 103; and Chapter 600, Topic 602<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2 |

| **WBS Level 7** | **230.05.15 Key Map and Line Index** |
|---|---|
| Description | Normally a single plan sheet showing the labeled "clip frames" of all layout sheets and identifies Alignment Lines in a global plan view of a project. |
| Lead Function | Design Branch |
| Deliverables | • Key Map and Line Index Sheet |
| References | – Plans Preparation Manual, Section 2-2.4 |

| **WBS Level 7** | **230.05.20 Roadway Layouts** |
|---|---|
| Description | The layout is a base plan sheet for the project. It shows the general project data such as horizontal alignment lines, right of way lines, easements, proposed and existing roadway features. Layout sheet may show other features such as profiles, superelevation diagrams, signing and striping, and drainage features if feasible |

| | |
|---|---|
| | (common for simple projects). |
| Lead Function | Design Branch |
| Deliverables | • Roadway Layout Plan Sheets |
| References | – Plans Preparation Manual, Section 2-2.5<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2 |

| **WBS Level 7** | **230.05.25 Profile and Superelevation Sheets** |
|---|---|
| Description | Profile and Superelevation sheets show the vertical alignment and curve data of Profile Grid Line (PGL).Superelevation diagrams show percent cross-slope along PGL axis. For simple projects, this information can be shown on the layout sheets. |
| Lead Function | Design Branch |
| Deliverables | • Roadway Profile and Superelevation Plan Sheets |
| References | – Plans Preparation Manual, Section 2-2.5<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2 |

| **WBS Level 7** | **230.05.30 Construction Details** |
|---|---|
| Description | Plan sheets showing greater detailed information of an area or object typically not shown on the layouts. Information shown in the Construction Details is unique and project specific. |
| Lead Function | Design Branch |
| Deliverables | • Construction Detail Plan Sheets |
| References | – Plans Preparation Manual, Section 2-2.6<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2 |

| **WBS Level 7** | **230.05.35 Contour Grading Plans** |
|---|---|
| Description | Contour Grading Plans are typically developed when embankments are irregular and complex shape and design cross sections cannot show smooth grading transitions. |
| Lead Function | Design Branch |
| Deliverables | • Contour Grading Plan Sheets |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| References | – Plans Preparation Manual, Section 2-2.9<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2 |

| **WBS Level 7** | **230.05.40 Summary of Quantities Sheets** |
|---|---|
| Description | These plan sheets summarize all the pay and non-pay items in a tabular form for a specific project. These quantities also correspond to the items shown in the Engineers Estimate. |
| Lead Function | Design Branch |
| Deliverables | • Summary of Quantity Sheets |
| References | – Plans Preparation Manual, Section 2-2.19<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2 |

| **WBS Level 7** | **230.05.45 Noise Barrier Plans** |
|---|---|
| Description | Sound Wall Plans include the plan, profile, typical cross-section, aesthetics and specific materials requirements, construction details, summary of quantities, and log of test borings for proposed sound walls. |
| Lead Function | Design/Landscape Architecture Branches |
| Deliverables | • Sound Wall Plans |
| References | – Plans Preparation Manual, Section 2-2.21<br>– Caltrans Highway Design Manual (HDM), Chapter 1100<br>– 2010 Standard Plans<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2, Chapter 29, Sections 1 and 2<br>– Caltrans Technical Noise Supplement<br>– Caltrans Traffic Noise Analysis Protocol |

| **WBS Level 7** | **230.05.50 Retaining Wall Plans** |
|---|---|
| Description | Retaining Wall Plans include the plan, profile, typical cross-section, aesthetics and specific materials requirements, construction details, summary of quantities, and log of test borings for proposed retaining walls. |
| Lead Function | Design Branch |
| Deliverables | • Retaining Wall Plan Sheets |

| | |
|---|---|
| References | – Caltrans Standard Plans 2010<br>– Plans Preparation Manual, Section 2-2.20<br>– Caltrans Highway Design Manual (HDM), Chapter 200, Topic 210<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2, Chapter 29, Sections 1 and 2 |

| WBS Level 7 | 230.05.55 Standard Plans Selection |
|---|---|
| Description | It is a list of all the Standard Plans applicable to a specific project. |
| Lead Function | Design Branch |
| Deliverables | • Standard Plans Checklist |
| References | – 2010 Standard Plans Index |

| WBS Level 7 | 230.05.60 Stage Construction and Detour Plans or Traffic Handling Plans |
|---|---|
| Description | Stage Construction and Traffic Handling plans are required if staging of the work or shifting and detouring of traffic is needed. Detour Plans are needed for the staging of proposed improvements on some projects. For complex projects, Stage Construction Plans, Detour Plans, and Traffic Handling Plans may have to be developed separately. |
| Lead Function | Design Branch |
| Deliverables | • Stage Construction, Detour, and Traffic Handling Plans |
| References | – Caltrans Standard Plans 2010<br>– Caltrans Construction Manual, Section 2-30<br>– Plans Preparation Manual, Section 2-2.16<br>– Caltrans Highway Design Manual (HDM), Chapter 100, Topic 106, Index 110.6<br>– Caltrans Ready to List Guide, Section 5.3<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2<br>– Caltrans Traffic Manual, Chapter 7<br>– California Manual on Uniform Traffic Control Devices |

| WBS Level 7 | 230.05.65 Water Pollution Control Plans |
|---|---|
| Description | Water Pollution Control Plans includes all the effort required on a project to identify the Best Management Practices (BMPs) measures to reduce or eliminate the pollutants in storm water discharges during or after construction activities. These plans are developed in accordance to the procedures set forth in the Storm Water Quality Handbook Project Planning and Design Guide (PPDG). |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| Lead Function | Design Branch |
| Deliverables | • Water Pollution Control Plans |
| References | – Project Planning and Design Guide (PPDG)<br>– Plans Preparation Manual, Section 2-2.7 |

| **WBS Level 7** | **230.05.70 Engineering Reports** |
|---|---|
| Description | Activities by various cross-functional units (e.g., Design, Environmental, Right of Way) necessary to finalize project design reports needed to establish design parameters and complete design. The Preliminary Reports were prepared under WBS 185.20. |
| Deliverables | • Various Engineering Reports |
| References | – |

| **WBS Level 8** | **230.05.70.05 Hydrology and Hydraulic Reports** |
|---|---|
| Description | This task includes all efforts required to finalize Hydrology and Hydraulic Reports. |
| Lead Function | Design Branch/Hydraulics Branch |
| Deliverables | • Hydraulics Report |
| References | – Caltrans Highway Design Manual (HDM), Chapter 800-880<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 1 |

| **WBS Level 8** | **230.05.70.10 Products Required to Ready Site for Subsurface Exploration** |
|---|---|
| Description | This task includes all efforts required to ready a site for subsurface exploration. Subsurface exploration may require prior acquisition of rights to enter, resource/regulatory agency permits, or other cross-functional (e.g., Design, Environmental, Right of Way) compliance efforts. |
| Lead Function | Design Branch |
| Deliverables | • Site Clearance for Subsurface Exploration<br>• Permit to Enter<br>• Environmental Clearance or Compliance |
| References | – Caltrans Standard Environmental Reference (SER)<br>– Caltrans Right of Entry Guidelines for Environmental Work, Joint ROW and DEA Memo, May 22, 2002<br>– Clarification of Caltrans Right of Entry Guidelines for Environmental Work, Joint |

| | |
|---|---|
| | ROW and DEA Memo, January 7, 2003<br>– Caltrans Right of Way Manual - Forms and Exhibits, Chapter 8<br>– Caltrans Right of Way Manual - Reference Version, Chapter 8<br>– Caltrans Project Development Procedures Manual (PDPM): Chapter 2, Section 7; Chapter 3, Section 2; and Chapter 13, Articles 1 and 2<br>– Caltrans Deputy Directive 60: Transportation Management Plans<br>– Caltrans Transportation Management Plan Guidelines<br>– Caltrans Traffic Manual<br>– Highway Capacity Manual<br>– Caltrans HOV Guidelines<br>– Caltrans Ramp Metering Design Manual<br>– Caltrans Traffic Bulletins<br>– California Manual on Uniform Traffic Control Devices<br>– Caltrans Construction Manual, Section 2-30<br>– Plans Preparation Manual, Section 2-2<br>– Caltrans Highway Design Manual (HDM), Chapter 100, Topic 110, Index 110.6<br>– Caltrans Code of Safe Drilling Practices |
| Subtasks | Activities include, but are not limited to:<br>– Developing a subsurface exploration plan (drilling and geophysics)<br>– Obtaining rights of entry for access to private and public lands<br>– Obtaining permits from applicable permitting agencies<br>– Determining if the site contains hazardous waste<br>– Preparing traffic management plans and providing traffic control, if needed<br>– Providing physical access for drilling and other exploration equipment (grubbing and clearing, grading, fence removal, etc.)<br>– Clearing utilities<br>– Requesting drilling, CPT, and geophysics |

| **WBS Level 8** | **230.05.70.15 Geotechnical Design Report (GDR)** |
|---|---|
| Description | This task includes all efforts required to finalize a Geotechnical Design Report (GDR), from subsurface exploration through report and boring log completion. The purpose of the GDR is to provide the geotechnical recommendations required to produce a complete District PS&E. A GDR is to be prepared by Geotechnical Services, Division of Engineering Services, for all projects that involve designs for cut slopes, embankments, earthwork, landslide remediation, standard plan retaining walls, standard plan sound walls, overhead signs, changeable message signs, groundwater studies, erosion control features, sub-excavation, and any other studies involving geotechnical investigations and engineering geology. |
| Lead Function | DES Geotechnical Branch |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| Deliverables | • Geotechnical Design Report (GDR) |
| Business Practices | The GDR requires sufficient subsurface exploration, including test borings, soundings and/or geophysics, to characterize geologic and geotechnical conditions for the project. The GDR uses information collected during subsurface exploration to provide recommendations that support both the design and construction of the project. |
| References | – Caltrans Project Development Procedures Manual (PDPM): Chapter 2, Section 9; Chapter 3, Section 6; Chapter 9, Article 9; and Chapter 20, Section 2<br>– Caltrans Highway Design Manual: Chapter 100, Topics 113 and 114; Chapter 200, Topics 203, 208 and 210; and Chapter 800, Topics 802 and 805<br>– Caltrans Code of Safe Drilling Practices<br>– Caltrans Guidelines for Preparing Geotechnical Design Reports |
| Subtasks | The GDR shall provide, but not be limited to, the following:<br>– Description of the project<br>– Summary of existing facilities and proposed improvements<br>– Summary of pertinent reports and investigations<br>– Physical setting<br>– Discussion of field exploration<br>– Summary of geotechnical testing<br>– Geotechnical conditions<br>– Geotechnical analysis and design<br>– Material sources<br>– Material disposal<br>– Construction considerations<br>– Recommendations and specifications |

| **WBS Level 8** | **230.05.70.20 Pavement Design Report** |
|---|---|
| Description | This task includes all efforts required to finalize a Pavement Design Report. Includes all tests, such as deflection study, required to complete preliminary structural section design recommendations. |
| Lead Function | District/HQ Materials Lab |
| Deliverables | • Pavement Design Report<br>• Final Structural Section Recommendations |
| References | – Caltrans Highway Design Manual, Chapters 060 and 610 through 670 |

| **WBS Level 8** | **230.05.70.25 Materials Report** |
|---|---|
| Description | This task includes all efforts required to finalize a Materials Report. |

| | |
|---|---|
| Lead Function | District Materials Lab |
| Deliverables | • Final Materials Report |
| Business Practices | A Materials Report must be prepared for all projects that involve any of the following components:<br>– Pavement structural section recommendations and/or pavement studies<br>– Culverts (or other drainage materials)<br>– Corrosion studies<br>– Materials disposal sites<br>– Slide-prone areas with erosive soils<br>The Materials Report may be either a single report or a series of reports that contains one or several of the components listed above. The District Materials Engineer will either prepare the Materials Report or review and accept Materials Report(s) prepared by others. |
| References | – Caltrans Highway Design Manual (HDM), Chapter 100, Topic 114<br>– Caltrans Ready to List Guide, Section 10.8.4 |
| Subtasks | – Deflection Studies |

| **WBS Level 7** | **230.05.99 Other Draft Roadway Plan Products** |
|---|---|
| Description | All other work conducted during the Draft Roadway Plan efforts that is not defined or covered in other WBS 230.05 elements. |
| Lead Function | Design Branch |
| Deliverables | • Various Products |
| References | – Caltrans Highway Design Manual (HDM) |

| **WBS Level 6** | **230.10 Draft Highway Planting Plans** |
|---|---|
| Description | All activities (such as design, field reviews, delineation, and internal/external coordination) necessary to develop highway-planting plan sheets for a construction contract. |
| Deliverables | • Highway Planting Plans for Draft PS&E District Circulation. |
| References | – |

| **WBS Level 7** | **230.10.05 Highway Planting Plans** |
|---|---|
| Description | Highway Planting Plans |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| Lead Function | Landscape Architecture |
| Deliverables | • Final Highway Planting Plan Sheets |
| References | – Caltrans Standard Plans<br>– Caltrans Drafting and Plans Manual of Instruction, Articles 4-2.2, 4-2.8 and 4-2.9<br>– Caltrans Highway Design Manual (HDM), Chapter 900<br>– Caltrans Ready to List Guide, Section 5.3<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2, Chapter 29<br>– Caltrans Ready To List Guide<br>– Landscape Architecture PS&E Guide |

| **WBS Level 7** | **230.10.15 Plant List** |
|---|---|
| Description | Plant List |
| Lead Function | Landscape Architecture |
| Deliverables | • Final Highway Planting Plan Sheets |
| References | – |

| **WBS Level 7** | **230.10.20 Irrigation Plans** |
|---|---|
| Description | Irrigation Plans |
| Lead Function | Landscape Architect |
| Deliverables | • Final Highway Planting Plan Sheets |
| References | – Landscape Architecture PS&E Guide |

| **WBS Level 7** | **230.10.30 Irrigation Quantity Sheets** |
|---|---|
| Description | Irrigation Quantity Sheets |
| Lead Function | Landscape Architecture |
| Deliverables | • Final Highway Planting Plan Sheets |
| References | – Landscape Architecture PS&E Guide |

| **WBS Level 7** | **230.10.99 Other Draft Highway Planting Plan Products** |
|---|---|
| Description | All other work conducted during the Draft Roadway Plan efforts that is not defined or |

| | |
|---|---|
| | covered in other WBS 230.10 elements. |
| Lead Function | Landscape Architecture |
| Deliverables | • Final Highway Planting Plan Sheets |
| References | – Landscape Architecture PS&E Guide |

| WBS Level 6 | 230.15 Draft Traffic Plans |
|---|---|
| Description | All activities (such as design, field reviews, delineation, and internal/external coordination) necessary to develop traffic plan sheets for a construction contract. |
| Deliverables | • Traffic Plans for Draft PS&E District Circulation |
| References | – |

| WBS Level 7 | 230.15.05 Signing and Pavement Delineation Plans |
|---|---|
| Description | Signing And Pavement Delineation Plans |
| Lead Function | Traffic Sign and Delineation Unit |
| Deliverables | • Traffic Plan Sheets |
| References | – Caltrans Standard Plans<br>– Caltrans Drafting and Plans Manual of Instruction, Articles 4-1.2, 4-2.14 through 4-2.16, 4-2.18, and 4-2.22<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2<br>– California Manual on Uniform Traffic Control Devices |

| WBS Level 7 | 230.15.10 Construction Area Signs Plans |
|---|---|
| Description | Construction Area Signs Plans |
| Lead Function | District Design Branch |
| Deliverables | • Traffic Plan Sheets |
| References | – Caltrans Drafting and Plans Manual of Instruction, Articles 4-2.16 and 4-2.18<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2<br>– California Manual on Uniform Traffic Control Devices |

| WBS Level 7 | 230.15.15 Traffic Electrical Plans |
|---|---|

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| Description | Traffic Electrical Plans |
| Lead Function | Traffic Electrical Unit |
| Deliverables | • Traffic Electrical Plan Sheets |
| References | – Caltrans Standard Plans<br>– Caltrans Drafting and Plans Manual of Instruction, Articles 4-1.2 and 4-2.22<br>– Caltrans Ready to List Guide, Section 5.3, Appendix H.3.c<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2<br>– Caltrans Traffic Manual, Chapter 9, Lighting |

| **WBS Level 7** | **230.15.99 Other Draft Traffic Plan Products** |
|---|---|
| Description | All other work conducted during the Draft Traffic Plan efforts that is not defined or covered in other WBS 230.15 elements. |
| Lead Function | Traffic Electrical Unit |
| Deliverables | • Traffic Electrical Plan Sheets |
| References | – |

| **WBS Level 6** | **230.20 Transportation Management Plan** |
|---|---|
| Description | This effort includes all activities necessary to update or develop the project's Transportation Management Plan to accompany the project PS & E. |
| Lead Function | Design/TMP unit |
| Deliverables | • the Transportation Management Plan (Including Its Plans, Specifications, and Estimates) |
| References | – Caltrans Deputy Directive 60: Transportation Management Plans<br>– Caltrans Transportation Management Plan Guidelines<br>– Caltrans Traffic Manual, Chapter 7<br>– Highway Capacity Manual<br>– Caltrans HOV Guidelines<br>– Caltrans Ramp Metering Design Manual<br>– Caltrans Traffic Bulletins<br>– California Manual on Uniform Traffic Control Devices<br>– Caltrans Construction Manual, Section 2-30<br>– Caltrans Drafting and Plans Manual of Instruction, Article 4-2.14<br>– Caltrans Highway Design Manual (HDM), Chapter 100, Topic 110, Index 110.6 |

| | |
|---|---|
| | – Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2 |
| Subtasks | – Itemize capital outlay costs tied to main project as State Furnished Material and expenses using the Basic Engineering Estimate System (BEES)<br>– Identify SSPs to be included in contract document<br>– Coordinate lane closures for multiple projects in the same area to determine impact on this project<br>– Coordinate major closures with neighboring districts, HQ, and local agencies to determine impact on this project<br>– Refine/finalize traffic contingency plan pending contractor's contingency plan<br>– Update TMP/lane closure database |

| **WBS Level 6** | **230.25 Draft Utility Plans** |
|---|---|
| Description | All activities (such as design, delineation, and internal/external coordination) necessary to develop draft utility plan sheets for a construction contract. |
| Deliverables | • Utility Plans for Draft PS&E District Circulation |
| References | – Right of Way Manual, Chapter 13<br>– Project Development Procedures Manual, Chapter 14 |

| **WBS Level 7** | **230.25.05 New Facility Plans** |
|---|---|
| Description | All activities required to produce plans for new utilities required to serve the facilities or new encroachments. |
| Lead Function | Design Branch |
| Deliverables | • Utility Plan Sheets |
| References | – Caltrans Cooperative Agreement Manual<br>– Plans Preparation Manual, Section 2-2.13<br>– Caltrans Highway Design Manual (HDM), Chapter 800, Topic 803<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2 |

| **WBS Level 7** | **230.25.10 Utility Relocation Plans** |
|---|---|
| Description | Includes sanitary sewer relocation plans. This includes preparation of the Utility LocationContract Plans. For effort to identify location of existing utilities, use WBS 200.05 and 200.10. |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| Lead Function | Design Branch |
| Deliverables | • Utility Plan Sheets |
| References | – Caltrans Drafting and Plans Manual of Instruction, Article 4-2.13 |

| **WBS Level 7** | **230.25.99 Other Draft Utility Plan Products** |
|---|---|
| Description | All other work conducted during the Draft Utility Plan efforts that is not defined or covered in other WBS 230.25 elements. |
| Lead Function | Design Branch |
| Deliverables | • Utility Plan Sheets |
| References | – Plans Preparation Manual, Section 2-2.13 |

| **WBS Level 6** | **230.30 Draft Drainage Plans** |
|---|---|
| Description | All activities (such as design, delineation, field reviews, and internal/external coordination) necessary to develop draft drainage plan sheets for a construction contract. |
| Lead Function | Design/Hydraulics |
| Deliverables | • Drainage Plans for Draft PS&E District Circulation. |
| References | – Caltrans Standard Plans<br>– Caltrans Cooperative Agreement Manual<br>– Plans Preparation Manual, Section 2-2.10<br>– Caltrans Highway Design Manual (HDM), Chapters 800, 820 and 850<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2 |

| **WBS Level 6** | **230.35 Draft Specifications** |
|---|---|
| Description | Activities necessary to develop the project draft Special Provisions. |
| Deliverables | • Specifications Ready for Draft District PS&E Circulation. |
| References | – |

| **WBS Level 7** | **230.35.05 Roadway Specifications** |
|---|---|
| Description | Roadway Specifications |

| | |
|---|---|
| Lead Function | Design/Dist. Office Engineer |
| Deliverables | • Roadway Special Provisions |
| References | – Caltrans Standard Special Provisions (SSPs)<br>– Caltrans Standard Specifications<br>– Caltrans Ready to List Guide, Sections 1, 2 and 6 |

| **WBS Level 7** | **230.35.10 Highway Planting Specifications** |
|---|---|
| Description | Highway Planting Specifications |
| Lead Function | Landscape Architecture |
| Deliverables | • Highway Planting Special Provisions |
| References | – Caltrans Standard Special Provisions (SSPs)<br>– Caltrans Standard Specifications<br>– Caltrans Ready to List Guide, Sections 1, 2 and 6<br>– Caltrans Ready To List Guide<br>– Landscape Architecture PS&E Guide |

| **WBS Level 7** | **230.35.15 Traffic Specifications** |
|---|---|
| Description | Traffic Specifications including preparation of lane closure charts. |
| Lead Function | Traffic Operations |
| Deliverables | • Signing and Striping Special Provisions |
| References | – Caltrans Standard Special Provisions (SSPs)<br>– Caltrans Standard Specifications<br>– Caltrans Ready to List Guide, Sections 1, 2 and 6 |

| **WBS Level 7** | **230.35.20 Electrical Specifications** |
|---|---|
| Description | Electrical Specifications |
| Lead Function | Traffic Electrical |
| Deliverables | • Electrical Special Provisions |
| References | – Caltrans Standard Special Provisions (SSPs)<br>– Caltrans Standard Specifications<br>– Caltrans Ready to List Guide, Sections 1, 2 and 6 |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 7** | **230.35.25 Utility Specifications** |
|---|---|
| Description | Utility Specifications |
| Lead Function | District Design Branch |
| Deliverables | • Utility Special Provisions |
| References | – Caltrans Standard Special Provisions (SSPs)<br>– Caltrans Standard Specifications<br>– Caltrans Ready to List Guide, Sections 1, 2 and 6 |

| **WBS Level 7** | **230.35.30 Hydraulic Specifications** |
|---|---|
| Description | Hydraulic Specifications |
| Lead Function | Design/Hydraulics |
| Deliverables | • Drainage Special Provisions |
| References | – Caltrans Standard Special Provisions (SSPs)<br>– Caltrans Standard Specifications<br>– Caltrans Ready to List Guide, Sections 1, 2 and 6 |

| **WBS Level 7** | **230.35.35 Water Pollution Control Specifications** |
|---|---|
| Description | Water Pollution Control Specifications |
| Lead Function | Design/Storm Water Unit |
| Deliverables | • Water Pollution Control Special Provisions |
| References | – |

| **WBS Level 7** | **230.35.40 Erosion Control Specifications** |
|---|---|
| Description | Erosion Control Specifications |
| Lead Function | Landscape Architecture |
| Deliverables | • Erosion Control Special Provisions |
| References | – Caltrans Standard Special Provisions (SSPs)<br>– Caltrans Standard Specifications<br>– Caltrans Ready to List Guide, Sections 1, 2 and 6<br>– Landscape Architecture PS&E Guide |

| WBS Level 7 | 230.35.99 Other Draft Specification Products |
|---|---|
| Description | All other work conducted during the Draft Specification efforts that is not defined or covered in other WBS 230.35 elements. |
| Lead Function | District Design Branch |
| Deliverables | • Various Special Provisions |
| References | – |

| WBS Level 6 | 230.40 Draft PS&E Quantities and Estimates |
|---|---|
| Description | Includes all activities necessary to develop project quantities and estimates. |
| Deliverables | • Draft Quantities and Estimates Ready for Draft District PS&E Circulation. |
| Business Practices | Delineation of Quantity Sheets is included in development of plans (WBS 230.05, 230.10, 230.15, 230.25, 230.30). |
| References | – |

| WBS Level 7 | 230.40.05 Roadway Quantities and Estimates |
|---|---|
| Description | Includes preparation of roadway and other cross sections. |
| Lead Function | District Design Branch |
| Deliverables | • Roadway Quantity Plan Sheets<br>• Basic Engineer's Estimate Summary (BEES) |
| References | – Caltrans Standard Plans<br>– Plans Preparation Manual, Section 2-2.19<br>– Caltrans Ready to List Guide, Section 7.5<br>– Caltrans Project Development Procedures Manual (PDPM): Chapter 14, Section 2, Article 5; and Chapter 20, Section 3<br>– Caltrans Standard Specifications |

| WBS Level 7 | 230.40.10 Highway Planting Quantities and Estimates |
|---|---|
| Description | Highway Planting Quantities and Estimates |
| Lead Function | Landscape Architecture |
| Deliverables | • Highway Planting Quantity Plan Sheets<br>• Basic Engineer's Estimate Summary (BEES) |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| References | – Caltrans Standard Plans<br>– Caltrans Ready to List Guide, Section 7.5<br>– Caltrans Project Development Procedures Manual (PDPM): Chapter 14, Section 2, Article 5; and Chapter 20, Section 3<br>– Caltrans Standard Specifications<br>– Landscape Architecture PS&E Guide |

| **WBS Level 7** | **230.40.15 Drainage Quantities and Estimates** |
|---|---|
| Description | Drainage Quantities and Estimates |
| Lead Function | Design/Hydraulics |
| Deliverables | • Drainage Quantity Plan Sheets<br>• Basic Engineer's Estimate Summary (BEES) |
| References | – Caltrans Standard Plans<br>– Caltrans Drafting and Plans Manual of Instruction, Article 4-2.11<br>– Caltrans Ready to List Guide, Section 7.5<br>– Caltrans Project Development Procedures Manual (PDPM): Chapter 14, Section 2, Article 5; and Chapter 20, Section 3<br>– Caltrans Standard Specifications |

| **WBS Level 7** | **230.40.20 Traffic Quantities and Estimate** |
|---|---|
| Description | Traffic Quantities and Estimates |
| Lead Function | Traffic Operations |
| Deliverables | • Traffic Quantity Plan Sheets<br>• Basic Engineer's Estimate Summary (BEES) |
| References | – Caltrans Ready to List Guide, Section 7.5<br>– Caltrans Project Development Procedures Manual (PDPM): Chapter 14, Section 2, Article 5; and Chapter 20, Section 3 |

| **WBS Level 7** | **230.40.25 Electrical Quantities and Estimates** |
|---|---|
| Description | Electrical Quantities and Estimates |
| Lead Function | Traffic Electrical |
| Deliverables | • Electrical Quantity Plan Sheets<br>• Basic Engineer's Estimate Summary (BEES) |

| | |
|---|---|
| References | – Caltrans Standard Plans<br>– Caltrans Drafting and Plans Manual of Instruction, Article 4-2.11<br>– Caltrans Ready to List Guide, Section 7.5<br>– Caltrans Project Development Procedures Manual (PDPM): Chapter 14, Section 2, Article 5; and Chapter 20, Section 3<br>– Caltrans Standard Specifications |

| **WBS Level 7** | **230.40.30 Utility Quantities and Estimate** |
|---|---|
| Description | Includes sanitary sewer relocation plans. |
| Lead Function | District Design Branch |
| Deliverables | • Utility Quantity Plan Sheets<br>• BEES |
| References | – Caltrans Standard Plans<br>– Plans Preparation Manual, Section 2-2.12 & 13<br>– Caltrans Highway Design Manual (HDM), Chapter 600, Topic 602, Index 602.1<br>– Caltrans Ready to List Guide, Section 7.5<br>– Caltrans Project Development Procedures Manual (PDPM): Chapter 14, Section 2, Article 5; and Chapter 20, Section 3<br>– Caltrans Standard Specifications |

| **WBS Level 7** | **230.40.35 Water Pollution Control Quantities and Estimates** |
|---|---|
| Description | Water Pollution Control Quantities and Estimates |
| Lead Function | Design/Storm Water Unit |
| Deliverables | • Water Pollution Control Quantity Plan Sheets<br>• BEES |
| References | – |

| **WBS Level 7** | **230.40.40 Erosion Control Quantities and Estimates** |
|---|---|
| Description | Erosion Control Quantities and Estimates |
| Lead Function | Landscape Architecture |
| Deliverables | • Erosion Control Quantity Plan Sheets<br>• BEES |
| References | – Landscape Architecture PS&E Guide |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 7** | **230.40.99 Other Draft PS&E Quantities And Estimates Products** |
|---|---|
| Description | All other work conducted during the Draft PS&E Quantity and Estimate efforts that is not defined or covered in other WBS 230.40 elements. |
| Lead Function | Design Branch |
| Deliverables | • Various Quantity Sheets<br>• BEES |
| References | – |

| **WBS Level 6** | **230.55 Structures Draft PS&E Incorporation** |
|---|---|
| Description | All effort required to incorporate the Draft Structures PS&E package in to the roadway draft PS&E package. |
| Lead Function | Design Branch |
| Deliverables | • A Combined District Draft PS&E Package. |
| Business Practices | This activity does not include reviewing and commenting on the Draft PS&E, which is included in WBS 255.05. |
| References | – Caltrans Ready to List Guide, Sections 1.2.9 and 5.2.1<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Section 2 |

| **WBS Level 6** | **230.60 Updated Project Information for PS&E Package** |
|---|---|
| Description | Includes all work necessary to conduct reviews and to update project information needed to begin production of the PS&E package and all of its components. Also includes the 60% Constructability Review. |
| Deliverables | • Updated Project Information for the Production of the PS&E Package. |
| Notes | The numbering of this Level 6 task does not imply order or sequence. This task should be scheduled according to project scheduling needs. |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 8, Section 6<br>– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 39 |

| **WBS Level 7** | **230.60.05 Updated Storm Water Data Report** |
|---|---|
| Description | All effort required to obtain the approved Storm Water Data Report and BMP |

| | |
|---|---|
| | quantities. |
| Lead Function | Design Branch/ Landscape Architecture |
| Deliverables | • Final Storm Water Data Report<br>• BMP Quantities and Estimate |
| References | – Caltrans Storm Water Quality Handbook: Project Planning and Design Guide (PPDG): Section 7; Appendix E |

| WBS Level 7 | 230.60.10 Other Reviews and Update of Project Information |
|---|---|
| Description | Includes all other work necessary to conduct reviews and to update project information and all components not included in Storm Water Data report. |
| Lead Function | Design Branch |
| Deliverables | • PS&E Ready Project |
| References | – |

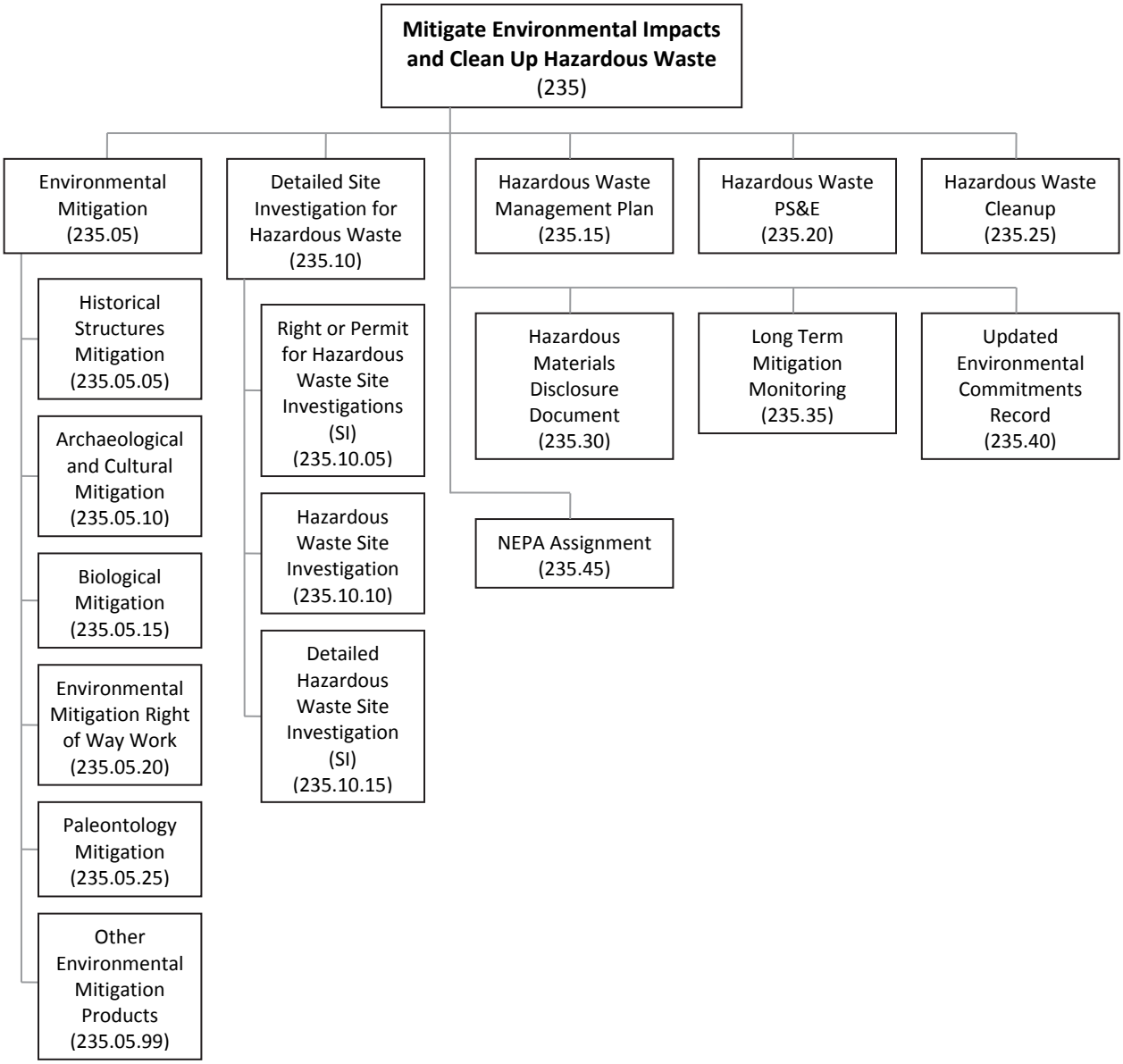
| WBS Level 6 | 230.90 NEPA Assignment |
|---|---|
| Description | Includes all WBS 165.30, 175.25, 180.20, 205, 235.45, and 255.35 work previously performed by FHWA but which is now the Department's responsibility as a result of full NEPA Assignment under MAP-21. |
| Lead Function | Environmental |
| Deliverables | • All Products and Actions Needed to Comply with NEPA Assignment<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference<br>– FHWA California Division website |

| WBS Level 6 | 230.99 Other Draft PS&E Products |
|---|---|
| Description | All efforts to produce the Draft PS&E package which are not covered under WBS230.60. |
| Lead Function | Design Branch |
| Deliverables | • PS&E Ready Project |
| References | – Ready to List and Construction Contract Award Guide (RTL Guide), Section 10 |

**WBS 235**

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

## 235 Mitigate Environmental Impacts and Clean up Hazardous Waste



WBS
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| WBS Level 5 | 235 Mitigate Environmental Impacts and Clean up Hazardous Waste |
|---|---|
| Description | Work involved in mitigating environmental impacts - including hazardous waste cleanup - as required in order to construct a capital outlay project. Includes long-term mitigation and monitoring efforts if necessary within overall project scope. |
| Lead Function | Various |
| Deliverables | • Work Required to Complete Environmental Mitigation<br>• Updated STEVE Database |
| Notes | WBS 235 is only to be used prior to Construction Contract Award. After Construction begins, use WBS 280.10, and after Construction Contract Acceptance, use WBS 295.40. |
| References | – Caltrans Construction Manual: http://www.dot.ca.gov/hq/construc/constmanual<br>– Caltrans General Guidelines for Identifying and Evaluating Historic Landscapes: http://www.dot.ca.gov/hq/env/cultural/landscape/indxfram.htm<br>– Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm<br>– Caltrans Right of Way Manual: http://www.dot.ca.gov/hq/row/rowman/manual<br>– Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser<br>– Caltrans Surveys Manual: http://www.dot.ca.gov/hq/row/landsurveys/SurveysManual/Manual_TOC.html<br>– FHWA California Division website: http://www.fhwa.dot.gov/cadiv |

| WBS Level 6 | 235.05 Environmental Mitigation |
|---|---|
| Description | All work involved in accomplishing environmental mitigation as determined in the Final Environmental Document (FED) and associated regulatory permits and agreements. |
| Lead Function | Various |
| Deliverables | • Completed Mitigation in Accordance with the FED and PLACs<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Vol. 1<br>– DEA Intranet Page > Library > Permits, Licenses, Agreements and Certifications Subpage<br>– DEA Internet Page > Forms and Templates |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 7** | **235.05.05 Historical Structures Mitigation** |
|---|---|
| Description | All work required to move, sell, rehabilitate, or provide landscape buffers for historic structures. Includes historic buildings and historic engineering features such as bridges, roads, trails, canals, and railroads. |
| Lead Function | Environmental |
| Deliverables | • Report Completion of Mitigation as Detailed in the Memorandum of Agreement between the Department and the California State Historic Preservation Office (SHPO)<br>• Updated STEVE Database |
| References | – Caltrans General Guidelines for Identifying and Evaluating Historic Landscapes<br>– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chaps. 2, 5 and 6 |
| Subtasks | – Marketing Plan<br>– Historic American Building Survey (HABS) recordation<br>– Historic American Engineering Record (HAER) |

| **WBS Level 7** | **235.05.10 Archaeological and Cultural Mitigation** |
|---|---|
| Description | Consists of archaeological data recovery (Phase III) and other research related to the site's National Register of Historic Places (NRHP) eligibility (excavation, analyses, report preparation, and distribution). This activity is only applicable when an archaeological site is eligible for the National Register of Historic Places for its research potential under Criterion D. This activity also includes non-excavation work related to the data recovery. Please refer to Native American consultation for a Phase III Archaeological Study. |
| Lead Function | Environmental |
| Deliverables | • Published Phase III Final Report on Results of Excavation and Research<br>• Curated Collection<br>• Fulfillment of Mitigation Requirements<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chaps. 2 and 7 |
| Subtasks | – Pre-excavation burial agreement with Native Americans.<br>– Arrangements for Native American monitors.<br>– Curation agreement |

| | |
|---|---|
| | – Site mapping.<br>– Right of Entry, if needed.<br>– Site visit with consultants and Native Americans.<br>– All field work.<br>– Analyses of recovered materials.<br>– Repatriations of human remains and sacred objects, if recovered.<br>– Preparation, submittal, and review of draft report on excavations<br>– Publish Phase III final report.<br>– Transfer collection and field notes and pay fees to curation facility.<br>– Transmit final report to FHWA, SHPO, ACHP, tribes, and the scientific community, and obtain approval letters if required.<br>– Establish an Environmentally Sensitive Area (ESA) to protect remaining portions of site. |

| **WBS Level 7** | **235.05.15 Biological Mitigation** |
|---|---|
| Description | Work involved in the design and monitoring of all biological mitigation measures as outlined in the final environmental document and included as a part of the parent project that created the impact. If a separate contract is used for biological mitigation, the effort required to develop that separate project should use the full range of WBS codes. In the event that permit renewals or extensions result in new or changed requirements, the Environmental Commitments Record (ECR) and related documents (e.g., Mitigation Monitoring and Reporting Record (MMRR)), Resident Engineer's (RE) Pending File, Environmental Certification at Ready to List (RTL), and similar documents must also be updated. |
| Lead Function | Environmental |
| Deliverables | • Fulfillment of Biological Mitigation Requirements<br>• Updated STEVE Database |
| References | – Caltrans Construction Manual, Section 2-05<br>– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 3, Chap. 5 |
| Subtasks | – Prepare Mitigation Monitoring Plan<br>– Design and delineation of mitigation measures into project plans<br>– Preparation of special provisions<br>– Reviews by affected units and regulatory agencies<br>– Prepare and distribute monitoring reports<br>– Prepare and submit permit renewal and extension requests to resource agencies |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 7** | **235.05.20 Environmental Mitigation Right of Way Work** |
|---|---|
| Description | This activity covers Right of Way (R/W) efforts in support of environmental mitigation parcel work. It involves right of way engineering, appraisal and acquisition efforts connected to a mitigation parcel not covered in WBS 220 and 225. |
| Lead Function | R/W Engineering, R/W and Environmental |
| Deliverables | • Parcel(s) Acquired for Mitigation and All R/W Mitigation Work Complete (Includes Transfer of Mitigation Parcel to Another Agency).<br>• Updated STEVE Database |
| References | – Caltrans Right of Way Manual - Chapter 6<br>– Caltrans Right of Way Manual - Forms and Exhibits, Chapters 7 and 8<br>– Caltrans Right of Way Manual - Reference Version, Chapters 7 and 8<br>– Caltrans Surveys Manual<br>– Caltrans Plans Preparation Manual - Chapter 4 |
| Subtasks | – Surveys of Mitigation parcel<br>– R/W Engineering of Mitigation parcel (Appraisal Maps, Acquisition Documents, Disposal Documents, WBS300 Closeout )<br>– Appraise Mitigation parcel<br>– Acquire Mitigation parcel<br>– Transfer of Mitigation parcel to another agency |

| **WBS Level 7** | **235.05.25 Paleontology Mitigation** |
|---|---|
| Description | All tasks related to the recovery of paleontological resources affected by project-related activities, contract (or task order) oversight, coordination and monitoring of field work, and report review. |
| Lead Function | Environmental |
| Deliverables | • Paleontological Mitigation Report<br>• Paleontological Stewardship Summary<br>• Updated STEVE Database |
| Business Practices | The actual mitigation is normally performed by consultants. See WBS 100.15 for tasks and activities covering the preparation and administration of consultant contracts or task order.<br><br>Preparation of specifications for paleontological mitigation which will occur during construction is covered in WBS 230. Mitigation which occurs during construction is covered in WBS 280.10 if there is a relevant PLAC (such as a BLM permit) or WBS 280.50 is there is no controlling PLAC. |

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|---|---|
| Notes | Paleontological mitigation is performed during PS&E in cases where fossils are exposed at the surface and therefore can be removed prior to construction. |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 8 |
| Subtasks | – Review and update, as necessary, the Paleontological Mitigation Plan (PMP)<br>– Contract development and oversight<br>– Review of consultant-prepared reports on mitigation work. |

| **WBS Level 7** | **235.05.99 Other Environmental Mitigation Products** |
|---|---|
| Description | All other work conducted during the Environmental Mitigation efforts that is not defined or covered in other WBS 235.05 elements. |
| Lead Function | Various |
| Deliverables | • Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Vol. 1<br>– DEA Intranet Page > Library > Permits, Licenses, Agreements and Certifications Subpage<br>– DEA Internet Page > Forms and Templates |

| **WBS Level 6** | **235.10 Detailed Site Investigation for Hazardous Waste** |
|---|---|
| Description | Perform a detailed Site Investigation (SI) through development of a task order using the District or Region's on-call contract. The investigation should fully characterize the contamination, identify appropriate and feasible cleanup alternatives, and estimate cleanup costs. |
| Lead Function | Various |
| Deliverables | • A Detailed Hazardous Waste Remedial Investigation and Feasibility Report Detailing the Investigation, Outlining the Feasible Remedial Technologies Applicable to the Particular Sites and the Costs for Those Efforts.<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Vol. 1<br>– DEA Intranet Page > Library > Permits, Licenses, Agreements and Certifications Subpage<br>– DEA Intranet Page > Hazardous Waste Subpage<br>– DEA Internet Page > Forms and Templates |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 7** | **235.10.05 Right or Permit for Hazardous Waste Site Investigations** |
|---|---|
| Description | District Hazardous Waste Technical Specialists (DHWTS) requests that District Right of Way (R/W) obtain right or permit to enter onto an identified property for the purpose of conducting a hazardous waste site investigation. This activity includes all work required to obtain the right or permit to enter. The DHWTS provides technical support to R/W to obtain the right or permit. R/W coordinates the effort with Legal if necessary.<br><br>This code is not used for miscellaneous acquisition by R/W Contracts (e.g., mobile homes, amended contracts, leasehold interests, signboards, waivers). Adequate time should be requested in the right or permit to ensure completion of the detailed SI. |
| Lead Function | Various |
| Deliverables | • Permit<br>• Updated STEVE Database |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 18<br>– Caltrans Right of Way Manual - Forms and Exhibits, Chapter 8<br>– Caltrans Right of Way Manual - Reference Version, Chapter 8<br>– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 10 |

| **WBS Level 7** | **235.10.10 Hazardous Waste Sites Survey** |
|---|---|
| Description | Effort required to determine which identified sites require a detailed Site Investigation. |
| Lead Function | Various |
| Deliverables | • Reports<br>• Updated STEVE Database |
| References | – Caltrans Surveys Manual<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 18<br>– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 10 |

| **WBS Level 7** | **235.10.15 Detailed Hazardous Waste Site Investigation** |
|---|---|
| Description | Effort required to develop a detailed Site Investigation Task Order to access an On-Call Contract to conduct a detailed SI and feasibility studies or to develop a workplan for conducting the detailed SI. Consultants under the direction and control of the district hazardous waste task order manager or other assigned staff will perform the site investigation. |

| | |
|---|---|
| Lead Function | Various |
| Deliverables | • Reports<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 10<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 18 |

| **WBS Level 6** | **235.15 Hazardous Waste Management Plan** |
|---|---|
| Description | The remedial investigation and feasibility studies of potential mitigation strategies for the site constitute the Hazardous Waste Management Plan (HWMP). This activity includes all efforts required to complete the HWMP.A part of the HWMP is the Remedial Action Plan (RAP). This is the actual plan necessary for implementing the remediation. |
| Lead Function | Various |
| Deliverables | • Hazardous Waste Management Plan<br>• Remedial Action Design<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 10<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 18 |
| Subtasks | – Develop RAP, which may involve developing a task order<br>– Review RAP and determine scope of HWMP<br>– Develop HWMP<br>– Approve HWMP |

| **WBS Level 6** | **235.20 Hazardous Waste PS&E** |
|---|---|
| Description | The Hazardous Waste Management Plan (HWMP) and the associated Remedial Action Plan (RAP) require the development of hazardous waste remediation design plans, specifications, and estimates (PS&E). This activity includes all efforts required to complete the Hazardous Waste PS&E.<br><br>The PS&E is used to contract for the actual site cleanup. Department staff can complete the PS&E or use contract consultants. |
| Lead Function | Various |
| Deliverables | • Hazardous Waste PS&E |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 10<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 18 |
| Subtasks | – Review HWMP<br>– Determine how the PS&E will be prepared, either in-house or by contract consultant<br>– Consultation with PS&E preparer<br>– Task Order oversight and administration<br>– Review PS&E, including reviews by District and HQ functions |

| **WBS Level 6** | **235.25 Hazardous Waste Clean-up** |
|---|---|
| Description | This activity includes all efforts involved in hazardous waste cleanup, which requires a contract or task order and PS&E based on the Hazardous Waste Management Plan (HWMP). Hazardous Waste Technical Specialists provide support to Construction's administration of the cleanup contract. |
| Lead Function | Various |
| Deliverables | • Cleanup Report If Required by A Resource/Regulatory Agency<br>• Updated STEVE Database |
| Business Practices | Cleanup activities are performed by contract either before construction or as part of it. |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 10<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 18 |

| **WBS Level 6** | **235.30 Hazardous Materials Disclosure Document** |
|---|---|
| Description | Note: The HSDD has been replaced with the Hazardous Materials Disclosure Document–Acquisition (HMDD-A).<br><br>This activity includes all efforts required to prepare and approve the HMDD-A. Hazardous Waste Technical Staff prepare and approve the HMDD-A, including validation of site investigation findings and cleanup completed by others. If a proposed property acquisition is located outside the boundary of previous hazardous waste studies for the project, additional investigations may be needed before acquisition. If prior studies indicate that a situation exists where some action by the existing owner is required, progress of that action (including tank removal), if any, will be assessed and further recommendations made as needed before the HMDD-A can be approved. |

| | |
|---|---|
| Lead Function | Various |
| Deliverables | • HMDD-A, with Any Necessary Recommendations. |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 10<br>– R/W Manual Chapter 6 |
| Subtasks | – Review of R/W Certification for consistency with prior project scope.<br>– Field review of site<br>– Verification of status of any recommended remediation (tank removal) by owner<br>– Preparation and approval of the HMDD-A for acquisition |

| **WBS Level 6** | **235.35 Long Term Mitigation Monitoring** |
|---|---|
| Description | Work involved in the monitoring of mitigation sites over an extended period to ensure compliance with objectives of the permit issued by the regulatory agency. Includes work beyond the scope of WBS 235.10 through 235.25. |
| Lead Function | Environmental |
| Deliverables | • Approved Site Closure Documentation from Regulatory Agencies.<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER) |
| Subtasks | – Field review of site<br>– Develop and submit performance reports to the regulatory agency<br>– Perform remedial action to correct deficiencies |

| **WBS Level 6** | **235.40 Updated Environmental Commitments Record** |
|---|---|
| Description | Includes all efforts necessary to update the Environmental Commitments Record (ECR) and its associated documentation (e.g., Mitigation Monitoring and Reporting Record (MMRR) or Permits, Agreements, and Mitigation (PAM)) prepared at WBS 180.15.20. The updated ECR must be coordinated with Design. The ECR (which should also be updated at WBS 255.15, 255.40, 260.75, and 295.35) is used as a part of the Environmental input for the Resident Engineer's (RE) Pending File (WBS 255.40), Environmental Certification at Ready to List (RTL) (WBS 260.75), and the Certificate of Environmental Compliance (WBS 295.35). |
| Lead Function | Environmental |
| Deliverables | • Updated Environmental Commitments Record<br>• Updated STEVE Database |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| References | – Caltrans Standard Environmental Reference (SER) |

| **WBS Level 6** | **235.45 NEPA Assignment** |
|---|---|
| Description | Includes all WBS 235 work (environmental impacts mitigation and hazardous waste cleanup) previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA Assignment from FHWA under MAP-21. |
| Lead Function | Environmental |
| Deliverables | • All Products and Actions Required to Comply with NEPA Assignment<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER)<br>– FHWA California Division website |

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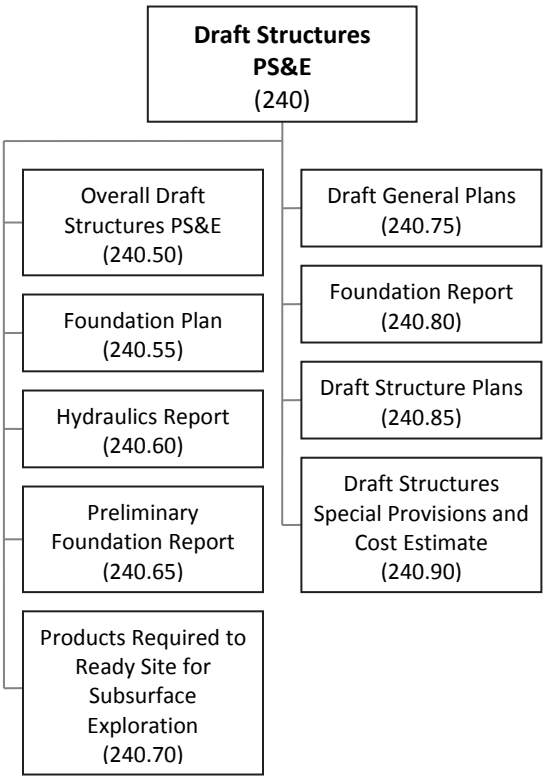
| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

## 240 Draft Structures PS&E



| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 5** | **240 Draft Structures PS&E** |
|---|---|
| Description | Work involved in the development of Draft Structures Plans, Specifications, and Estimate. |
| Lead Function | Structure Design |
| Deliverables | • Completed Draft Structures PS&E |
| Major Milestones | ♦ M215 Begin Structure (Start: WBS 185.30 and WBS 240)<br>♦ M275 General Plans (Finish: WBS 240.75)<br>♦ M378 Draft Structures PS&E (Finish: WBS 240) |
| Notes | BDS is phasing out since DES is shifting to new California Amendments (to the AASHTO LRFD Bridge Design Specifications. Old BDS is to be dropped when new LRFD manual has new codes for all the DES products. |
| References | – Caltrans Bridge Design Aids: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-design-aids/bda.html<br>– Caltrans Bridge Design Details: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-design-details/bdd.html<br>– Caltrans Bridge Design Practice Manual: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-design-practice/bdp.html<br>– California Amendments (to the AASHTO LRFD Bridge Design Specifications - Fourth Edition): http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/ca-to-aashto-lrfd-bds/caalbds_v4.html<br>– Caltrans Bridge Design Specifications: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-design-specifications/bds.html<br>– Caltrans Bridge Memos to Designers: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-memo-to-designer/bmd.html<br>– Caltrans Code of Safe Drilling Practices: http://www.dot.ca.gov/hq/esc/geotech/requests/codedrillpractice.pdf<br>– Caltrans Construction Manual: http://www.dot.ca.gov/hq/construc/constmanual<br>– Caltrans Deputy Directive 60-R1: Transportation Management Plans: http://admin.dot.ca.gov/bfams/deputydirectives/Internal/dd_60_r1_signed.pdf<br>– Plans Preparation Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/ppman/toc.htm |

- Caltrans Guidelines for Structures Foundation Reports: http://www.dot.ca.gov/hq/esc/geotech/requests/fr_guidelines_December_2009.pdf
- Caltrans Highway Design Manual (HDM): http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htmCaltrans HOV Guidelines:
- Caltrans HOV Guidelines: http://www.dot.ca.gov/hq/traffops/systemops/hov/hov_sys/guidelines
- California Manual on Uniform Traffic Control Devices: http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp
- Caltrans OSFP Information & Procedures Guide: http://www.dot.ca.gov/hq/esc/osfp/osfp-manual/osfp-manual.htm
- Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm
- Caltrans Ramp Meter Design Manual: http://www.dot.ca.gov/hq/traffops/systemops/ramp_meter
- Caltrans Right of Entry Guidelines for Environmental Work, Joint R/W and DEA Memo, May 22, 2002: http://www.dot.ca.gov/ser/downloads/memos/ROW-EnvMemo.pdf
- Clarification of Caltrans Right of Entry Guidelines for Environmental Work, Joint R/W and DEA Memo, January 7, 2003: http://www.dot.ca.gov/ser/downloads/memos/ClarificationROEEnvWork.pdf
- Caltrans Right of Way Manual: http://www.dot.ca.gov/hq/row/rowman/manual
- Caltrans RTL Guide: http://www.dot.ca.gov/hq/esc/oe/specifications/rtl_guide
- Caltrans Seismic Design Criteria: http://www.dot.ca.gov/hq/esc/techpubs/manual/othermanual/other-engin-manual/seismic-design-criteria/sdc.html
- Caltrans Soil and Rock Logging, Classification, and Presentation Manual: http://www.dot.ca.gov/hq/esc/geotech/sr_logging_manual/srl_manual.html
- Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser
- Caltrans Standard Plans: http://www.dot.ca.gov/hq/esc/oe/project_plans/HTM/10_plans_disclaim_US.htm
- Caltrans 2010 and 2006 Standard Specifications: http://dot.ca.gov/hq/esc/oe/construction_contract_standards/std_specs/2010_StdSpecs/2010_StdSpecs.pdf, http://www.dot.ca.gov/hq/esc/oe/construction_contract_standards/std_specs/2006_Std
- Design Information Bulletins: http://www.dot.ca.gov/hq/oppd/dib/dibprg.htm
- Caltrans Traffic Manual:

http://www.dot.ca.gov/hq/traffops/signtech/signdel/trafficmanual-current.htm
- Caltrans Transportation Management Plan Guidelines: http://www.dot.ca.gov/hq/traffops/TMP_Guidelines_June_2009.pdf
- Highway Capacity Manual: http://www.trb.org/Main/Blurbs/164718.aspx
- Hydraulic Design Transp. Engg. Index guidance by Federal Highway Administration (FHWA): http://www.fhwa.dot.gov/engineering/hydraulics/index.cfm
- Caltrans Transportation Management Plan Guidelines: http://www.dot.ca.gov/hq/traffops/TMP_Guidelines_June_2009.pdf
- Hydraulic Design software by Federal Highway Administration (FHWA): http://www.fhwa.dot.gov/engineering/hydraulics/software.cfm
- Hydraulic Design policy memos by Federal Highway Administration (FHWA): http://www.fhwa.dot.gov/engineering/hydraulics/policymemos.cfm
- The Hydraulic Design library by FHWA: http://www.fhwa.dot.gov/engineering/hydraulics/library_sub.cfm?keyword=007
- California Department of Water Resources, Division of Flood Management: http://www.water.ca.gov/floodmgmt/
- National Flood Insurance Program-Flood Hazard Mapping by Federal EmergencyManagement Agency (FEMA): http://www.fema.gov/national-flood-insuranceprogram-flood-hazard-mapping
- Central Valley Flood Protection Board (CVFPB): http://www.cvfpb.ca.gov/
- California Code of Regulations - Title 23 - Waters: http://ccr.oal.ca.gov/linkedslice/default.asp?SP=CCR-1000&Action=Welcome
- Manuals, guides and publications on Hydraulics Design by US Army Corp. of Engineers: http://www.usace.army.mil/Library.aspx
- Water Resources of the United States by United States Geological Survey (USGS): http://water.usgs.gov/

| **WBS Level 6** | **240.50 Overall Draft Structures PS&E** |
|---|---|
| Description | This task includes all efforts involved in managing and guiding delivery of the project, including attending Project Development Team meetings, coordinating with other divisions and outside agencies, tracking percents complete, identifying scope creep and new risks. |
| Lead Function | Structure Design |
| Deliverables | • Completed Draft Structures PS&E |
| Business | Activities under this task are tracked on an overall project basis. Typically this work is |

| | |
|---|---|
| Practices | done by the Structures Project Engineer and the Design Senior that does not apply to the specific tasks for each individual structure within an overall project. |
| References | – Bridge Design Aids, Sections 1-9, 11, & 13-15<br>– Bridge Design Details, Sections 1-20<br>– Bridge Design Memo to Designers, Sections 1- 22<br>– Bridge Design Practice<br>– California Amendments (to the AASHTO LRFD Bridge Design Specifications - Fourth Edition) Caltrans Bridge Design Specifications<br>– Building Specifications<br>– MEWW Standard Drawings<br>– OTA Design Manual<br>– OTA Standard Drawings<br>– Pumping Plant Design Manual, Chapters 10-16<br>– Pumping Plant Design Manual, Appendices 1-6<br>– Highway Design Manual, Chapter 200, Topic 210<br>– Soil and Rock Logging, Classification, Description, and Presentation Manual<br>– Project Development Procedures Manual (PDPM), Chapter 14, Section 3 |
| Subtasks | Activities include, but are not limited to:<br>– Technical coordination of the project<br>– Technical project meetings with DES and District representatives<br>– Other non-specific activities that are directly related to the development of the Draft PS&E package |

| **WBS Level 6** | **240.55 Foundation Plan** |
|---|---|
| Description | This task includes the creation of the foundation plan and submitting to DES Structure Design to be incorporated into structures plans. |
| Lead Function | Preliminary Investigations (PI) |
| Deliverables | • Completed Foundation Plan |
| References | – Bridge Design Aids, Sections 10 & 11<br>– Bridge Design Details, Sections 1, 2, & 3<br>– Bridge Design Memo to Designers, Sections 1 & 17<br>– California Amendments (to the AASHTO LRFD Bridge Design Specifications - Fourth Edition)<br>– Caltrans Bridge Design Specifications<br>– OSFP Information & Procedures Guide, Chapters 2, 3 & 4<br>– Soils and Rock Logging Classification Manual (Field Guide)<br>– Area Bridge Maintenance Engineer Manual, Sections 3.1 & 3.3 |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| | – Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 3 |
| Subtasks | Activities include, but are not limited to:<br>– District Submittal Review - This task includes reviewing district submitted Bridge Site Submittals (BSS) for completeness. This is an interactive process with District, DES Design engineers and PI staff. The information obtained in this review process is imperative to the development of the Foundation Plan.<br>– Structure Site Investigation - This task includes conducting site and topographic and hydrologic surveys at structure locations to be used in preparation of structure foundation plans.<br>– Preliminary Investigation Report - This task includes coordinating DES Design Engineer's requests for photographs and descriptions of the proposed work-site conditions; processing the BSS, site and topographic data in preparation of foundation plan creation. |

| **WBS Level 6** | **240.60 Hydraulics Report** |
|---|---|
| Description | This task includes all tasks needed in the generation of a Hydraulic Report for use by the Design Engineer to prepare the Structures Plan sheets. |
| Lead Function | Structure Hydraulics |
| Deliverables | • Completed Hydraulics Report and/or Recommendations |
| References | – Caltrans Bridge Memos to Designers:<br>– California Amendments (to the AASHTO LRFD Bridge Design Specifications - Fourth Edition)<br>– Caltrans Bridge Design Specifications<br>– Hydraulic Design transportation engineering index guidance by Federal Highway Administration (FHWA)<br>– Hydraulic Design software by Federal Highway Administration (FHWA)<br>– Hydraulic Design policy memos by Federal Highway Administration (FHWA)<br>– The Hydraulic Design library by FHWA<br>– California Department of Water Resources, Division of Flood Management<br>– National Flood Insurance Program: Flood Hazard Mapping by Federal Emergency Management Agency (FEMA)<br>– Central Valley Flood Protection Board (CVFPB)<br>– California Code of Regulations - Title 23 - Waters<br>– Manuals, guides and publications on Hydraulics Design by US Army Corp. of Engineers<br>– Water Resources of the United States by United States Geological Survey (USGS) OSFP Information and Procedures Guide, Chapter 2 |

| WBS Level 6 | 240.65 Preliminary Foundation Reports |
|---|---|
| Description | This task includes all efforts required to produce a Preliminary Foundation Report (PFR). A PFR is required during the early stages of draft structures PS&E for a project and shall be included as part of the Structures Type Selection. The PFR is used to document existing foundation conditions, make preliminary foundation recommendations, and identify the need for additional investigations, subsurface exploration, and studies. |
| Lead Function | Geotechnical Services |
| Deliverables | • Completed Preliminary Foundation Report and/or Recommendations |
| References | – Caltrans Guidelines for Structure Foundation Reports, Chapter 2 |
| Subtasks | The PFR shall provide, but not be limited to, the following:<br>– Project Location<br>– Summary of Site Geology and Subsurface Conditions<br>– Scour Evaluation<br>– Corrosion Evaluation<br>– Preliminary Seismic Data and Recommendations<br>– As-Built Foundation Data<br>– Preliminary Foundation Recommendations<br>– Additional Field Work and Laboratory Testing |

| WBS Level 6 | 240.70 Products Required to Ready Site for Subsurface Exploration |
|---|---|
| Description | This task includes all efforts required to ready a site for subsurface exploration. Subsurface exploration may require prior acquisition of rights to enter, resource/regulatory agency permits, or other cross-functional (e.g., Design, Environmental, R/W) compliance efforts. |
| Lead Function | Geotechnical Services |
| Deliverables | • Completed Products Required to Ready Site for Subsurface Exploration |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1<br>– Joint R/W and DEA Memo Dated May 22, 2002 regarding Rights-to Enter<br>– Joint R/W and DEA Memo dated January 7, 2003, Clarifying Memo Dated May 22, 2002<br>– Right of Way Manual - Forms and Exhibits, Chapter 8<br>– Right of Way Manual - Reference Version, Chapter 8<br>– Standard Environmental Reference<br>– Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, |

| | |
|---|---|
| | Section 2; Chapter 13, Articles 1 & 2<br>– Deputy Directive 60 regarding TMP Requirements<br>– TMP Guidelines<br>– Traffic Manual<br>– Highway Capacity Manual<br>– Caltrans HOV Guidelines Ramp Metering Design Guidelines<br>– Design Information Bulletins<br>– Manual on Uniform Traffic Control Devices<br>– Construction Manual, Section 2-30<br>– Drafting and Plans Manual of Instruction, Article 4-2.14<br>– Highway Design Manual (HDM), Chapter 100, Topic 110, Index 110.6<br>– Code of Safe Drilling Practices |
| Subtasks | Activities include, but are not limited to:<br>– Developing a subsurface exploration plan (drilling and geophysics),<br>– Obtaining rights of entry for access to private and public lands,<br>– Obtaining permits from applicable permitting agencies,<br>– Determining if the site contains hazardous waste,<br>– Preparing traffic management plans and providing traffic control, if needed,<br>– Providing physical access for drilling and other exploration equipment (grubbing and clearing, grading, fence removal, etc.),<br>– Clearing utilities,<br>– Requesting drilling, (Cone Penetrometer Test) CPT, and geophysics. |

| **WBS Level 6** | **240.75 Draft General Plans** |
|---|---|
| Description | This task includes all efforts required to develop, review, approve and distribute draft Structures General Plans. The preliminary plan approval process is part of this task and generally includes type selection meetings, seismic retrofit strategy meetings, constructability reviews and review of impacted existing facilities as required. |
| Lead Function | Structure Design, OSFP for oversight/local projects |
| Deliverables | • Completed Draft General Plans and Additional Preliminary Plans for Buildings and Miscellaneous Details as Required. |
| References | – Bridge Design Aids, Sections 10, 11, & 15<br>– Bridge Design Details, Sections 1, 2, & 3<br>– Bridge Design Memo to Designers, Sections 1 through 22<br>– Bridge Design Practice<br>– California Amendments (to the AASHTO LRFD Bridge Design Specifications - Fourth Edition) |

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| | – Caltrans Bridge Design Specifications<br>– OSFP Information & Procedures Guide, Chapters 2 through 6<br>– Pumping Plant Design Manual, Chapters 1 through 9<br>– Pumping Plant Design Manual, Appendix 8<br>– Project Development Procedures Manual (PDPM), Chapter 14, Section 2, Article 3 |
| Subtasks | Activities include, but are not limited to:<br>– Prepare Preliminary Design<br>– Prepare Preliminary Plan Sheets<br>– Prepare Preliminary Quantities<br>– Prepare Preliminary Estimates<br>– Prepare Preliminary Specifications<br>– Prepare Type Selection Report or Seismic Retrofit Strategy Report<br>– Perform a Constructability Review (CR) of project General Plans<br>– Conduct Type Selection Meeting or Seismic Retrofit Strategy Meeting<br>– Update General Plans and General Plan Estimate<br>– Obtain Preliminary Plan Approval<br>– Distribute approved General Plans to stakeholders |

| **WBS Level 6** | **240.80 Foundation Report** |
|---|---|
| Description | This task includes all efforts required to produce a Foundation Report (FR), from subsurface exploration through report and Log of Test Borings completion. The purpose of the FR is to provide the required geologic and geotechnical recommendations needed to produce a complete Structures PS&E.<br><br>The FR requires sufficient subsurface exploration, including, but not limited to, test borings, soundings and/or geophysics, to characterize geologic and geotechnical conditions at the structure location. The Foundation Report uses information collected during subsurface exploration to provide recommendations that support both the design and construction of the structure. |
| Lead Function | Geotechnical Services |
| Deliverables | • Completed Foundation Report and/or Recommendations |
| Business Practices | A Foundation Report is required for all structures (bridges, tunnels, non-standard plan retaining walls and soundwalls, overhead signs, maintenance stations, pumping plants/stations, toll plazas, etc.) when new, widening, retrofit, or modifications to existing structures are proposed. |
| References | – Project Development Procedures Manual (PDPM), Chapter 2-70, Section 20, Article 30 |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

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| | – Bridge Design Aids, Sections 10, 11, & 15<br>– Bridge Design Details, Sections 1, 2, & 3<br>– Bridge Design Memo to Designers, Sections 1 through 22<br>– Bridge Design Practice<br>– California Amendments (to the AASHTO LRFD Bridge Design Specifications - Fourth Edition)<br>– Bridge Design Specifications<br>– Seismic Design Criteria, Section 6<br>– OSFP Information & Procedures Guide, Chapters 2 through 6<br>– Pumping Plant Design Manual, Chapters 1 through 9<br>– Pumping Plant Design Manual, Appendix 8<br>– Highway Design Manual, Chapter 200, Topic 210<br>– Code of Safe Drilling Practices<br>– Soil and Rock Logging, Classification, Description, and Presentation Manual<br>– Guidelines for Structure Foundation Reports. Chapter 3<br>– Caltrans Standard Environmental Reference (SER) |
| Subtasks | The FR shall provide, but not be limited to, the following:<br>– Summary of Site Geology and Subsurface Conditions<br>– Ground Water<br>– Scour Evaluation<br>– Corrosion Evaluation<br>– Seismic Data and Recommendations<br>– As-Built Foundation Data<br>– Foundation Recommendations<br>– Slope Stability Analyses<br>– General Notes to the Designer<br>– Construction Considerations<br>– Project Location<br>In addition to the FR, the Log of Test Borings (LOTB), which presents the description, in graphic and text format, of the soil and rock encountered during the subsurface exploration, is produced for inclusion in contract plans. |

| **WBS Level 6** | **240.85 Draft Structure Plans** |
|---|---|
| Description | This task includes all efforts required to develop, review, approve and distribute draft Structure Plans. The Plan Approval process is part of this task and generally includes design calculations, check calculations, constructability reviews and checked quantity calculations. |
| Lead Function | Structure Design, OSFP for oversight /local projects |

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| Deliverables | • Completed Draft Structure Plans and Checked Quantities |
| References | – Standard Plans<br>– Standard Specifications<br>– Bridge Design Aids, Sections 1-9, 11, & 13-15<br>– Bridge Design Details, Sections 1-20<br>– Bridge Design Memo to Designers, Sections 1- 22<br>– Bridge Design Practice<br>– California Amendments (to the AASHTO LRFD Bridge Design Specifications - Fourth Edition)<br>– Caltrans Bridge Design Specifications<br>– Building Specifications<br>– MEWW Standard Drawings<br>– OTA Design Manual<br>– OTA Standard Drawings<br>– Pumping Plant Design Manual, Chapters 10-16<br>– Pumping Plant Design Manual, Appendices 1-6<br>– Soils and Rock Logging Classification Manual (Field Guide)<br>– Project Development Procedures Manual (PDPM), Chapter 20, Section 3<br>– OSFP Information & Procedures Guide , Chapter 4. |
| Subtasks | Prepare Unchecked Details (65%)<br>– Perform structural analysis and develop draft Design<br>– Prepare draft Structure Plan Sheets<br>– Perform a Constructability Review (CR) of the Unchecked Details<br>– Prepare updated quantities<br>– Prepare Unchecked Detail Cost Estimate<br>– Prepare Unchecked Detail Item List<br>– Prepare Unchecked Detail Working Day Schedule<br>– Distributed Unchecked Details package to District, including plan sheets & cost estimate<br>Prepare Draft Structures Plans & Quantities (P&Q)<br>– Perform an independent structural analysis<br>– Check the Design and Plan Sheets<br>– Prepare draft Quantities<br>– Perform an independent check of the draft Quantities<br>– Prepare Memorandum to Specification Engineer/Cost Estimator<br>– Update Type Selection Report or Seismic Retrofit Strategy Report<br>– Transmit P&Q package to Structure Office Engineer |

| **WBS Level 6** | **240.90 Draft Structures Special Provisions and Cost Estimate** |
|---|---|

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
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| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

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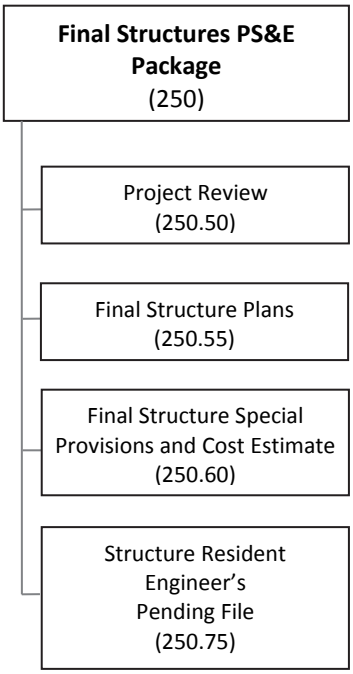
|---|---|
| Description | This task includes efforts required to prepare the draft Structures Plans, Specifications, and Estimate (SPS&E). |
| Lead Function | Structure Office Engineer |
| Deliverables | • the Final Product Is A 95% Complete Draft Set of Structure Plans, Structure Special Provisions, and Structure Cost Estimate. |
| References | – Standard Plans<br>– Standard Specifications<br>– RTL Guide<br>– Bridge Design Aids, Sections 1-9, 11, & 13-15<br>– Bridge Design Details, Sections 1-20<br>– Bridge Design Memo to Designers, Sections 1- 22<br>– Bridge Design Practice<br>– California Amendments (to the AASHTO LRFD Bridge Design Specifications - Fourth Edition)<br>– Caltrans Bridge Design Specifications<br>– Building Specifications<br>– MEWW Standard Drawings<br>– OTA Design Manual<br>– OTA Standard Drawings<br>– Pumping Plant Design Manual, Chapters 10-16<br>– Pumping Plant Design Manual, Appendices 1-6<br>– Soils and Rock Logging Classification Manual (Field Guide)<br>– Project Development Procedures Manual (PDPM), Chapter 20, Section 3<br>– OSFP Information & Procedures Guide, Chapter 4. |
| Subtasks | Activities include, but are not limited to:<br>– Review of the Structure Plans and Quantities<br>– Review Memorandum to Specification Engineer/Cost Estimator<br>– Update Structure Contract Item list<br>– Prepare draft special provisions<br>– Update cost estimate for Structure Contract Items and Working Days summary<br>– Transmit draft SPS&E package to District Office Engineer |

**WBS**
**250**

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

## 250 Final Structures PS&E Package



| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 5** | **250 Final Structures PS&E Package** |
|---|---|
| Description | Work involved in addressing comments from the District and DES Office Engineer for the Draft Structures PS&E (SPS&E) and incorporating them into the final Structures PS&E package. This task also includes the compiling of the Structure Resident Engineer's (RE) Pending File. This task is to end at the start of WBS 275.<br><br>Activities include, but are not limited to:<br><br>– Project Review by DES project development team<br>– Constructability Review Meeting for draft SPS&E package<br>– Revisions to the Plans, Special Provisions, and Cost Estimates<br>– Transmittal of final SPS&E package to District Office Engineer, DES Office Engineer, or appropriate agencies for an external review<br>– Other nonspecific activities that are directly related to the development of the final SPS&E package. |
| Lead Function | Structure Design |
| Deliverables | • Completed Final SPS&E Package<br>• Structure Resident Engineer's Pending File |
| Business Practices | Typically, the Structure Project Engineer, Specifications Engineer, Cost Estimates Engineer, and other members of the Division of Engineering Services (DES) project development team do this work. |
| References | – Caltrans Bridge Design Aids: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-design-aids/bda.html (Sections 1-9, 11, and 13-15)<br>– Caltrans Bridge Design Details: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-design-details/bdd.html (Sections 1-20)<br>– Caltrans Bridge Memos to Designers: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-memo-to-designer/bmd.html (Sections 1-22)<br>– Caltrans Bridge Design Practice Manual: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-design-practice/bdp.html<br>– Caltrans Bridge Design Specifications: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-design-specifications/bds.html<br>– Caltrans Ready to List (RTL) Guide: http://dot.ca.gov/hq/esc/oe/rtl_guide.html<br>– Building Specifications: |

| | |
|---|---|
| | http://oe.dot.ca.gov/occs.html#spec as Section 99 of 2010 Standard Special Provisions<br>– MEWW Standard Drawings:<br>– OTA Design Manual:<br>– OTA Standard Drawings:<br>– Caltrans Pumping Plant Design Manual, Chapters 10-16 and Appendices 1-6:<br>– Caltrans Soil and Rock Logging, Classification, and Presentation Manual: |
| Subtasks | Activities include, but are not limited to:<br>– Project Review by DES project development team<br>– Constructability Review Meeting for draft Structures Plan, Specifications, and Estimates (SPS&E) package<br>– Revisions to the Plans, Special Provisions, and Cost Estimates<br>– Transmittal of final SPS&E package to District Office Engineer, DES Office Engineer, or appropriate agencies for an external review<br>– Other nonspecific activities that are directly related to the development of the final SPS&E package. |

| **WBS Level 6** | **250.50 Project Review** |
|---|---|
| Description | This task includes the final Project review of the draft SPS&E package by applicable members of the DES project development team, including but not limited to the Design Engineer, Specifications Engineer, Geotechnical Engineer, Engineering Geologist, Hydraulic Engineers and the Construction Engineer. |
| Lead Function | Structure Design |
| Deliverables | • Completed Project Review |
| References | – Caltrans Bridge Design Aids<br>– Caltrans Bridge Design Details<br>– Caltrans Bridge Memos to Designers<br>– Caltrans Bridge Design Practice Manual<br>– Caltrans Bridge Design Specifications<br>– Caltrans Ready to List (RTL) Guide<br>– Building Specifications<br>– MEWW Standard Drawings<br>– OTA Design Manual |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| | – OTA Standard Drawings<br>– Caltrans Pumping Plant Design Manual, Chapters 10-16 and Appendices 1-6<br>– Caltrans Soil and Rock Logging, Classification, and Presentation Manual |
| Subtasks | Activities include, but are not limited to:<br>– Review of draft SPS&E package<br>– Final review of Hydraulic Report, Foundation Report and any other project-specific reports<br>– Final review and updating of the Structure Type Selection Report or the Seismic Retrofit Report<br>– Constructability Review of all final documents<br>– Concurrence by DES project development team that recommendations have been properly incorporated into the final SPS&E |

| **WBS Level 6** | **250.55 Final Structure Plans** |
|---|---|
| Description | This task includes efforts required to prepare final Structure Plans for incorporation into the final SPS&E package. |
| Lead Function | Structure Design |
| Deliverables | • Finalized Structure Plans |
| Notes | Some of structure project activities here are duplicated from WBS 260.70 Draft Contract Response for "Resolution of Draft Contract Comments". |
| References | – Caltrans Bridge Design Aids<br>– Caltrans Bridge Design Details<br>– Caltrans Bridge memo to Designers<br>– Caltrans Bridge Practice Manual |
| Subtasks | Activities include, but are not limited to:<br>– Update plan sheets based on final Project Review (95% Constructability Review)<br>– Review and incorporate District Office Engineer and Structure Office Engineer comments into Final Structure Plans and Quantity calculations<br>– Update Memorandum to Specifications Engineer<br>– Update Type Selection Report or Seismic Retrofit Strategy Report<br>– Update quantities for contract bid items<br>– Resolution of Draft Contract Comments<br>– Revise plans in accordance with Caltrans and/or FHWA standards and applicable laws and regulations and/or document why suggested changes were not incorporated.<br>– Verify revisions are consistent with other portions of the PS&E |

| WBS Level 6 | 250.60 Final Structure Special Provisions and Cost Estimate |
|---|---|
| Description | This task includes efforts required to prepare the final Structure Special Provisions and Cost Estimate. |
| Lead Function | Structure Office Engineer |
| Deliverables | • Finalized Structure Special Provisions and Cost Estimate |
| Notes | Some of structure project activities here are duplicated from WBS 260.70 Draft Contract Response for "Resolution of Draft Contract Comments". |
| References | – Caltrans Bridge Design Specifications |
| Subtasks | Activities include, but are not limited to:<br>– Update specifications based on final Project Review (95% Constructability Review)<br>– Update Basic Engineering Estimating System (BEES) estimate<br>– Transmit final SPS&E package to District Office Engineer, DES Office Engineer and/or appropriate agencies for an external review<br>– Respond to Draft Comments from DES or District OE<br>– Resolution of Draft Contract Comments<br>– Revise specifications and estimate in accordance with Caltrans and/or FHWA standards and applicable laws and regulations and/or document why suggested changes were not incorporated.<br>– Verify that the following items are addressed: non-conforming legal and cost effective standards; all executed permits that affect the contract; and revisions are not in conflict with other portions of the PS&E |

| WBS Level 6 | 250.75 Structure Resident Engineer Pending File |
|---|---|
| Description | All work related to the preparation of the Structures Resident Engineer's Pending File. |
| Lead Function | Structure Design |
| Deliverables | • Completed Resident Engineer's Pending File for Structure Representative |
| Notes | The Structures RE pending file "duties" have been transferred to the new proposed WBS 250.75 from WBS 255.40 with coordination from Structure Office Engineer (SOE) and HQs Division of Design. |
| References | – Bridge Design Memo to Designers, Section 1-38 |
| Subtasks | Documents and information typically included:<br>– Joint Movement Rating Calculations for bridge expansion joints (using Caltrans Form DSD-D-0129) prepared in accordance with Bridge Memo to Designers.<br>– Final Foundation Report |

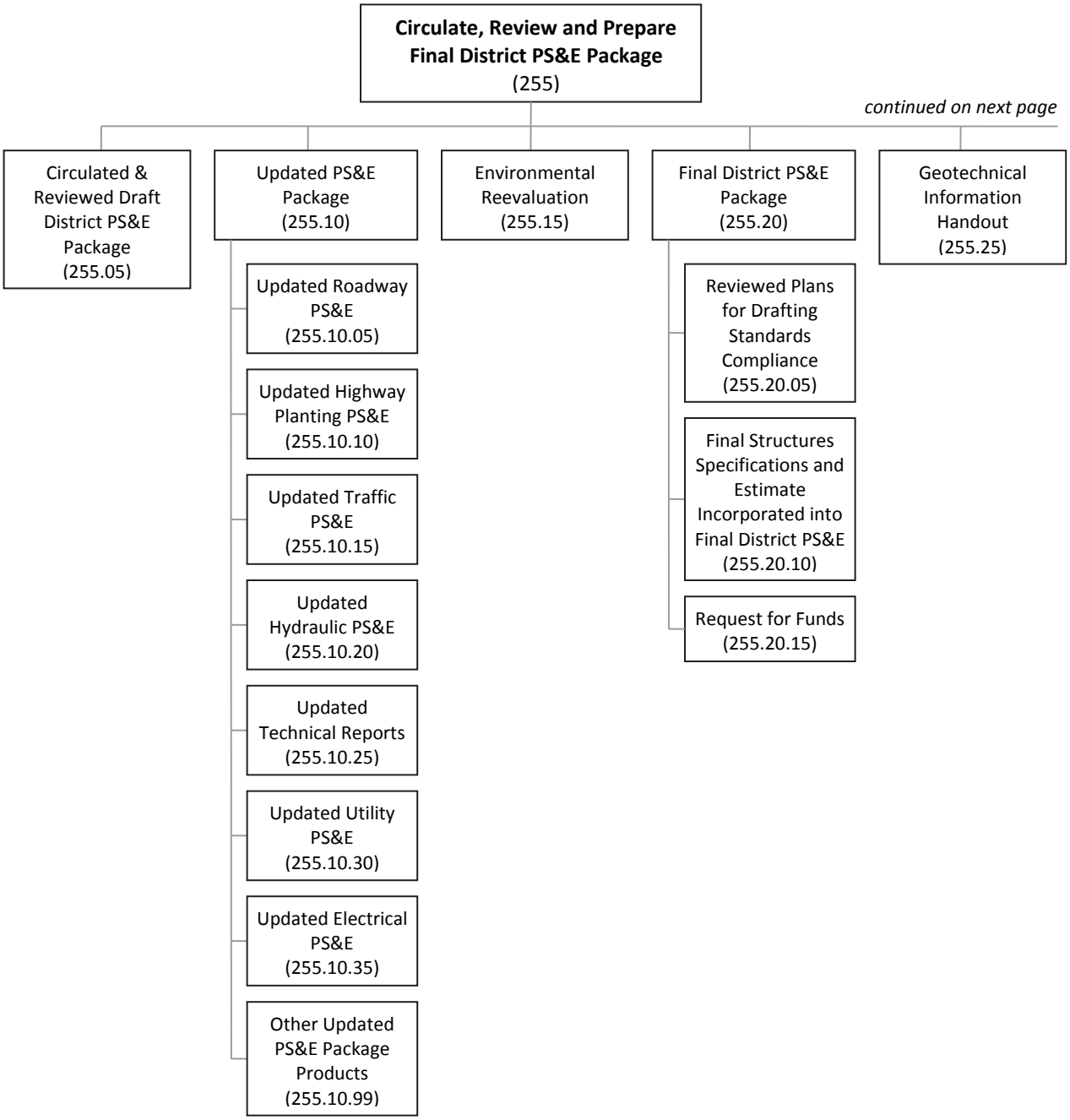
| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

- Final Hydraulics Report
- Quantity (P&Q) summary sheets prepared in accordance with Bridge Design Aids for the following pay items: Bar Reinforcing, Concrete, Piles, Miscellaneous Metal, Structure Excavation and Structure Backfill. *
- Special instructions or information from the Designer to the Resident Engineer/ Structure Representative.
- Special falsework or shoring concepts and requirements.
- Bridge Deck Contour Plots (referred to as 4-Scales) prepared in accordance with Bridge Memo to Designers.
- Update Memo to Specification Engineer and other items (shown above) for Structures Resident Engineer Pending File.

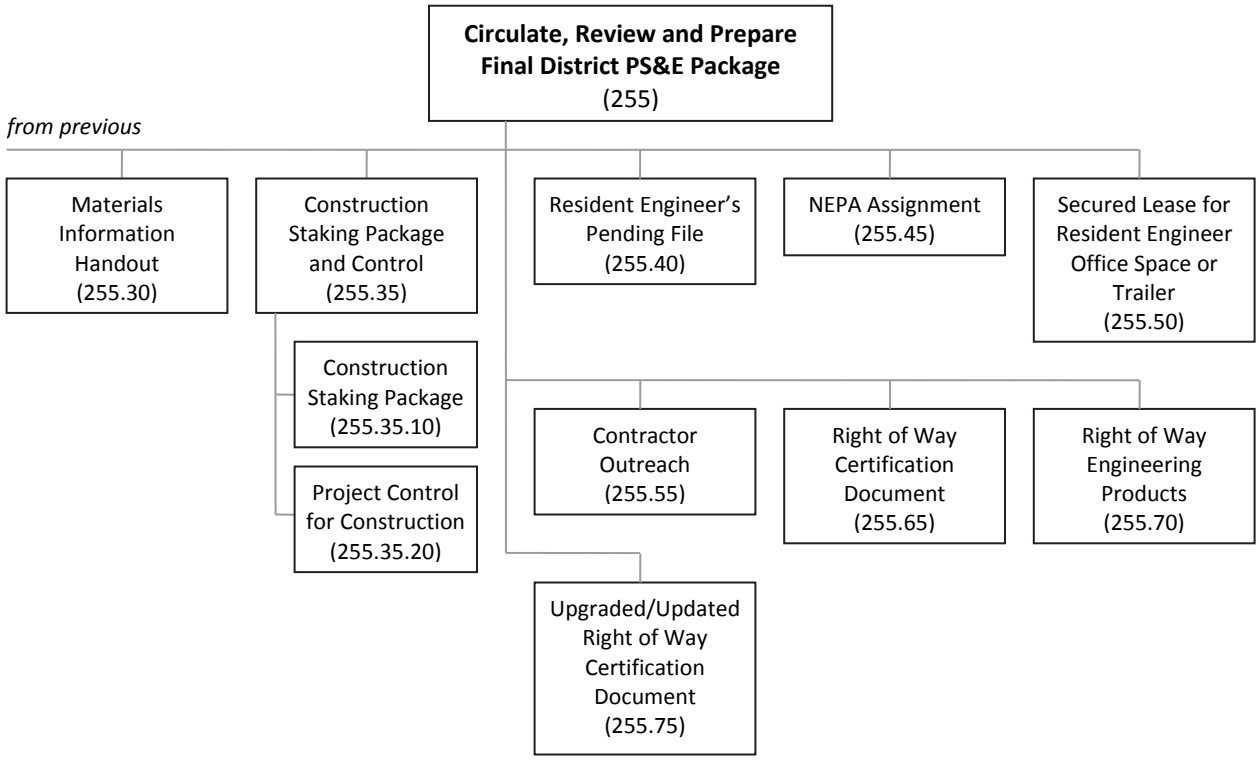
**WBS 255**

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

## 255 Circulate, Review, and Prepare Final District PS&E Package



| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |



WBS
255

| WBS Level 5 | 255 Circulate, Review, and Prepare Final District PS&E Package |
|---|---|
| Description | Work involved in the circulation and review of the Draft District PS&E package. Includes addressing review comments and preparing the Final District PS&E package. |
| Lead Function | District OE/Design |
| Deliverables | • Final District PS&E Package |
| Major Milestones | ♦ M310 Design Safety Review (Finish: WBS 255.05)<br>♦ M315 95% Constructability Review Meeting (Finish: WBS 255.05)<br>♦ M360 Environmental Reevaluation (Finish: WBS 255.15)<br>♦ M377 PS&E to DOE (Start: WBS 255.20) |
| References | – California General Prevailing Wage Determinations (Director of Industrial Relations): http://www.dir.ca.gov/oprl/DPreWageDetermination.htm<br>– Caltrans CADD Users Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/caddman/default.htm<br>– Caltrans Construction Manual: http://www.dot.ca.gov/hq/construc/constmanual<br>– Caltrans DES Decision Document 39, Funding Package (January 15, 2003): http://onramp.dot.ca.gov/hq/des/decisiondocs.html<br>– Caltrans Highway Design Manual (HDM): http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm<br>– Caltrans Plans Preparation Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/ppman/default.htm<br>– Caltrans Ready to List (RTL) Guide: http://dot.ca.gov/hq/esc/oe/rtl_guide.html<br>– Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm<br>– Caltrans Ready to List and Construction Contract Award Guide (RTL Guide): http://dot.ca.gov/hq/esc/oe/rtl_guide.html<br>– Caltrans Right of Way Manual: http://www.dot.ca.gov/hq/row/rowman/manual/<br>– Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser/<br>– Caltrans Surveys Manual: http://www.dot.ca.gov/hq/row/landsurveys/SurveysManual/Manual_TOC.html<br>– FHWA California Division website: http://www.fhwa.dot.gov/cadiv/<br>– Landscape Architecture PS&E Guide: http://www.dot.ca.gov/hq/LandArch/lap_guide/index.htm |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 6** | **255.05 Circulated & Reviewed Draft District PS&E Package** |
|---|---|
| Description | This activity includes reproduction, distribution, coordination, and circulation of the project's plans, specifications and estimates. This activity also includes review and comment as well as reaching consensus with the reviewers (including the 95% Constructability Review). Copies of the review package are routed to both in-house functional branches and involved outside agencies. |
| Lead Function | District Design Branch |
| Deliverables | • Final District PS&E Package |
| References | – Caltrans Plans Preparations Manual, Chapters 1 and 2<br>– Caltrans Highway Design Manual (HDM), Chapter 100, Topic 110, Index 110.7 and 110.8<br>– Caltrans Ready to List and Construction Contract Award Guide (RTL Guide), Sections 5, 6 and 7<br>– Caltrans Project Development Procedures Manual (PDPM): Chapter 14, Section 3; Chapter 8, Section 6 |
| Subtasks | – Review Final Plans for Constructability (95%) and inclusion in package<br>– Review Project for Final Permit Needs<br>– Review Aesthetics<br>– Review the Final Traffic Management Plan (TMP)<br>– Review All Specifications and Estimates<br>– Review Hydrology and Hydraulic design elements and specifications<br>– Review Geotechnical design elements and specifications<br>– Review Pavement design elements and specifications<br>– Review Materials design elements and specifications<br>– Review for Conformity with Environmental Commitments<br>– Perform Safety Review<br>– Perform All Other PS&E Reviews |

| **WBS Level 6** | **255.10 Updated PS&E Package** |
|---|---|
| Description | This activity includes all necessary updates as a result of the draft PS&E circulation or when headquarters Division of Engineering Services Office Engineer (DES-OE) requires resubmittal of the final PS&E package from the district. This includes delineation support. |
| Deliverables | • Final District PS&E Package |
| References | – |

| WBS Level 7 | 255.10.05 Updated Roadway PS&E |
|---|---|
| Description | Update Plans Specifications and Estimate after District Review |
| Lead Function | District Design Branch |
| Deliverables | • Final District PS&E Package |
| References | – |

| WBS Level 7 | 255.10.10 Updated Highway Planting PS&E |
|---|---|
| Description | Update Highway Planting Plans and Specifications |
| Lead Function | Landscape Architecture |
| Deliverables | • Final District PS&E Package |
| References | – |

| WBS Level 7 | 255.10.15 Updated Traffic PS&E |
|---|---|
| Description | Update Signing and Striping Plans and Specifications |
| Lead Function | District Traffic Division |
| Deliverables | • Final District PS&E Package |
| References | – |

| WBS Level 7 | 255.10.20 Updated Hydraulic PS&E |
|---|---|
| Description | Update Hydraulics Plans and Specifications |
| Lead Function | District Design or District Hydraulics Branch |
| Deliverables | • Final District PS&E Package |
| References | – |

| WBS Level 7 | 255.10.25 Updated Technical Reports |
|---|---|
| Description | All work necessary to produce updated technical reports, such as the Geotechnical Design Report, Hydrology/Hydraulics Report, and Material Report. |
| Lead Function | District Design Branch |
| Deliverables | • Final District PS&E Package |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

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|---|---|
| References | – |

| **WBS Level 7** | **255.10.30 Updated Utility PS&E** |
|---|---|
| Description | Update Utility Plans and Specifications |
| Lead Function | District Design Branch |
| Deliverables | • Final District PS&E Package |
| References | – |

| **WBS Level 7** | **255.10.35 Updated Electrical PS&E** |
|---|---|
| Description | Update Electrical Plans and Specifications |
| Lead Function | District Electrical Branch |
| Deliverables | • Final District PS&E Package |
| References | – |

| **WBS Level 7** | **255.10.99 Other Updated PS&E Products** |
|---|---|
| Description | All other work conducted during the Updated PS&E Package efforts that is not defined or covered in other WBS 255.10 tasks. |
| Lead Function | District Design Branch |
| Deliverables | • Final District PS&E Package |
| References | – |

| **WBS Level 6** | **255.15 Environmental Re-evaluation** |
|---|---|
| Description | This activity is initiated when there are changes in any factors that might affect the validity of the project's Environmental Document (ED) or CE (Categorical Exemption under the California Environmental Quality Act, or Categorical Exclusion under the National Environmental Policy Act) Determination. Pertinent factors include, but are not limited to, changes in the project scope, identification of new issues, and changes in laws or regulations as they apply to the project. Reevaluation is required for Federal nexus projects at each project decision point and three years after completion of an Environmental Impact Statement (EIS). For lower level environmental documents and determinations, the need for reevaluation is determined by the circumstances. If a supplemental document is required, WBS 165 should be used. In the event that permit |

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| | renewals or extensions result in new or changed requirements, the Environmental Commitments Record, Mitigation Monitoring and Reporting Record, RE Pending File, and similar documents must also be updated. |
| Lead Function | Environmental |
| Deliverables | • Approved Environmental Reevaluation, Supplemental Environmental Documents, Revalidations, and/or Addendum Documents for the Final PS&E Package or A Determination That No Such Efforts Are Required.<br>• Updated STEVE Database |
| Notes | Final EISs are only valid for three years; consequently this activity may be required more than once. |
| References | – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chaps. 12 and 33<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Section 4, Article 2 |
| Subtasks | – Technical studies that may be required to assess the new impacts. This would include but not be limited to biological, archaeological, visual and noise studies.<br>– Drafting review and approval of the reevaluation.<br>– Prepare and submit permit renewal and extension requests to resource agencies. |

| **WBS Level 6** | **255.20 Final District PS&E Package** |
|---|---|
| Description | This activity includes all tasks required to complete the process requirements (such as the reproduction, funds request and RTL Certification). Also includes District OE effort to ensure the completeness, quality, and consistency of PS&Es submitted to DES-OE for processing. The DOE verifies that the design is complete, bid-able, and buildable. |
| Deliverables | • Final District PS&E Package (Submitted to DES-OE) |
| References | – |

| **WBS Level 7** | **255.20.05 Reviewed Plans for Drafting Standards Compliance** |
|---|---|
| Description | This activity includes the delineation effort required to address any review comments. |
| Lead Function | District Design Branch or District Delineation Branch |
| Deliverables | • Final District PS&E Package |
| References | – |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 7** | **255.20.10 Final Structures Specifications and Estimate Incorporated into Final District PS&E** |
|---|---|
| Description | Incorporated Structures Plans and Specifications into Roadway plans. |
| Lead Function | District Design Branch |
| Deliverables | • Final District PS&E Package |
| References | – Caltrans Ready to List Guide, Sections 1.2.9 and 5.2.1<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Section 3, Article 1 |

| **WBS Level 7** | **255.20.15 Request for Funds** |
|---|---|
| Description | Includes all work required for the Project Manager to prepare the funding package. |
| Lead Function | Project Management |
| Deliverables | • Final District PS&E Package |
| References | – Caltrans Ready to List and Construction Contract Award Guide (RTL Guide), Section 9<br>– Caltrans DES Decision Document 39, Funding Package (January 15, 2003; see the RTL Guide, Section 9) |

| **WBS Level 6** | **255.25 Geotechnical Information Handout** |
|---|---|
| Description | This task includes reviewing the Geotechnical Design Report (GDR), Foundation Report (FR), geophysical data, geotechnical instrumentation data, laboratory test data and rock core and soil samples that were prepared during the design phase and selecting the necessary sections and information to be included in the Geotechnical Information Handout. The GDR and FR include information such as existing physical setting, geophysical studies, geotechnical conditions, geotechnical analysis and design, construction considerations, and recommendations and specifications. |
| Lead Function | District Design Branch |
| Deliverables | • Final District PS&E Package |
| References | – Caltrans RTL Guide, Sections 10.8, 10.8.2, and 10.8.5 |

| **WBS Level 6** | **255.30 Materials Information Handout** |
|---|---|
| Description | This task includes all efforts necessary to prepare the Materials Information Handout (MIH) for the use of prospective bidders. The handout includes test data on local |

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|---|---|
| | materials sources and soil survey sheets showing borings, tests, and seismic information (if required). It also includes a statement that the noncommercial borrow, disposal, or material sites conform with regulations and environmental laws. |
| Lead Function | District Design Branch |
| Deliverables | • Final District PS&E Package |
| References | – Caltrans Highway Design Manual (HDM), Chapter 100, Topic 111, Index 111.3<br>– Caltrans RTL Guide, Sections 10.8, 10.8.4 and 10.8.7 |
| Subtasks | – Transmit project strip map and proposed typical cross sections to the Materials Unit, requesting available materials information for the project.<br>– Request that the Materials Unit prepare a Materials Information Handout.<br>– Materials Unit prepares MIH and sends to Project Engineer. |

| **WBS Level 6** | **255.35 Construction Staking Package and Control** |
|---|---|
| Description | Develop the Construction Staking Notes Package (CSNP) required by field survey crews and ensure that adequate project control exists to complete all required construction staking. |
| Lead Function | Design with Surveys |
| Deliverables | • Construction Staking Notes<br>• Construction Staking Electronic Data File<br>• Project Control Viable for Construction Staking |
| Notes | Completion of this task is not tied to Milestone 380 (Project PS&E). Work on this task can continue after the PS&E package has been received by DES-OE. |
| References | – Project Development Procedures Manual, Appendix QQ<br>– Surveys Manual, Chapter 12<br>– Plans Preparation Manual, Section 2.2-4 |

| **WBS Level 7** | **255.35.10 Construction Staking Package** |
|---|---|
| Description | Develop the Construction Staking Notes Package required by field survey crews to complete all required construction staking. Notes and files will contain all information required by field survey crews to stake the project for construction. |
| Lead Function | District Design Branch with Surveys |
| Deliverables | • Electronic Alignments for Structures<br>• Electronic Alignments for Roadway and Drainage<br>• Slope Stake/Finish Grade Hard Copies |

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|---|---|
| | • Drainage/Structure Detail Sketches |
| Business Practices | Work for WBS 255.35.10 products may be performed in part under WBS 270.10.10. Creation of the CSNP should be started and substantially completed during Project Phase 1 under WBS 255.35.10. Completion and revision of the CSNP can be performed under WBS 255.35.10 and charged to Project Phase 1 or under WBS 270.10.10 and charged to Project Phase 3. Determination of which WBS element and phase is charged after Project Phase 3 is opened is determined by district charging practices. |
| Notes | This task does not include performance of any Civil Engineering duties as listed in the California Business and Professions Code, Section 6731, by Survey staff. |
| References | –<br>– Project Development Procedures Manual, Appendix QQ<br>– Surveys Manual, Chapter 12<br>– Plans Preparation Manual, Section 2.2-4 |

| **WBS Level 7** | **255.35.20 Project Control for Construction** |
|---|---|
| Description | Tasks include locating, verifying, and supplementing project control as necessary to ensure that control is viable for construction staking. Includes all work required to enable control to be used for any type of staking/construction methods. |
| Lead Function | Surveys |
| Deliverables | • Sufficient Control to Stake Project during Construction. |
| Business Practices | All control necessary for construction staking should be ready for use at the beginning of the project construction phase. An exception to this practice is when it is expected that a control point would be disturbed during construction prior to its required use. |
| References | – Caltrans Surveys Manual: Chapters 5 and 9; Figure 5.1 |

| **WBS Level 6** | **255.40 Resident Engineer's Pending File** |
|---|---|
| Description | Work involved in preparing the District Resident Engineer's (RE) Pending File/Structures RE Pending File. Includes preparation of an Environmental Commitments Record (ECR) or similar document, weigh-in-motion and PrePass™ commitments, and contacts with construction to transmit the file and determine what additional information may be required. Also includes preparing and forwarding additional information (such as cross sections, as-builts, slope staking notes, grid grades, and structures 4-scales) as requested by construction. In terms of the environmental component of the RE Pending file, the input is a "snapshot" of the ECR or similar document (e.g., Mitigation Monitoring and Reporting Record). The ECR (or similar) also serves as the basis for determining Environmental Certification at RTL |

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| | (WBS 260.75). Any changes to the PS&E after District submittal to the Headquarters Office Engineer (HQOE) will require coordination with the District Environmental Branch Chief to make any necessary updates to the ECR, RE Pending File, and Environmental Certification at RTL. |
| Lead Function | District Design Branch |
| Deliverables | • District RE Pending File and Structures RE Pending File Forwarded to Construction/Surveys |
| Notes | Completion of this work element is not tied to Milestone 380 (Project PS&E). Work on this element can continue after the PS&E package has been received by DES-OE. |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 15, Section 2 and Appendix GG |
| Subtasks | – Verify that contract special provisions cover all items of work and other contract terms in accordance with FHWA standards and applicable laws and regulations.<br>– Verify that Engineer's Estimate is consistent with the plans and special provisions and that there is a method of payment for all contract work, either by contract item or some other means (e.g., included in other items of work, extra work, etc.)<br>– Develop a punch list of nonconforming and unresolved issues and forward to District/Structures for resolution. |

| **WBS Level 6** | **255.45 NEPA Assignment** |
|---|---|
| Description | Includes all WBS 255 (Final District PS&E Package) work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA Assignment under MAP-21. |
| Lead Function | Environmental |
| Deliverables | • All Products and Actions Required to Comply with NEPA Assignment<br>• Updated STEVE Database |
| References | – Caltrans Standard Environmental Reference (SER)<br>– FHWA California Division website |

| **WBS Level 6** | **255.50 Secured Lease for Resident Engineer Office Space or Trailer** |
|---|---|
| Description | All efforts required to secure the RE Office lease to be ready for construction contract efforts. |
| Lead Function | District Construction Branch |
| Deliverables | • RE Office Lease |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

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|---|---|
| References | – Caltrans Construction Manual, Chapter 1-4.02<br>– California General Prevailing Wage Determinations (Director of Industrial Relations) |

| **WBS Level 6** | **255.55 Contractor Outreach** |
|---|---|
| Description | All efforts required when soliciting more contractors to bid on a construction contract prior to bid advertisement. Includes meetings and presentations to potential bidders to familiarize them with the scope, issues and benefits of the project in an effort to increase the number of bids received. |
| Lead Function | District Construction Support Branch |
| Deliverables | • Project Advertisement |
| References | – |

| **WBS Level 6** | **255.65 Right of Way Certification Document** |
|---|---|
| Description | Includes all work required to prepare the Right of Way Certification Document. |
| Lead Function | District R/W Branch |
| Deliverables | • Right of Way Certification Document |
| References | – Caltrans Right of Way Manual: Forms and Exhibits<br>– Caltrans Right of Way Manual: Reference Version<br>– Caltrans Ready to List Guide, Section 1.3.2<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 4 |
| Subtasks | – Request Clearance Letters Transmittal |

| **WBS Level 6** | **255.70 Right of Way Engineering Products** |
|---|---|
| Description | Includes all work required to create Deeds and supporting Right of Way Engineering documents for projects with no declared Right of Way Requirements. |
| Lead Function | District R/W Engineering and District Design Branch |
| Deliverables | • Exchange Transactions<br>• Correction Deeds<br>• Utility Agreements (Including Joint Use Agreements and Consent to Common Use Agreements) |
| Business | Maps produced must meet all requirements as set forth in the Caltrans Plans Preparation |

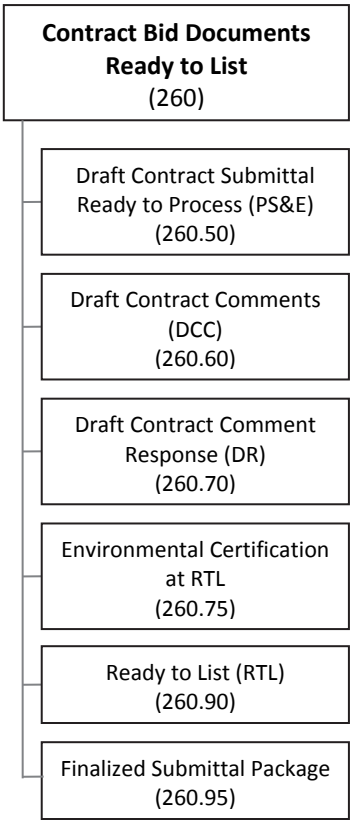
| | |
|---|---|
| Practices | Manual, Chapter 4, the Caltrans CADD Users Manual, Section 2.4.E (all), and the Caltrans Right of Way Manual, Chapter 6. Document preparation will be performed in accordance with accepted professional land surveying practices and applicable laws. |
| References | – Caltrans Plans Preparation Manual, Chapter 4<br>– Caltrans CADD Users Manual, Section 2.4.E<br>– Caltrans Right of Way Manual, Chapters 6 and 13 |

| **WBS Level 6** | **255.75 Upgraded/Updated Right of Way Certification Document** |
|---|---|
| Description | Includes all work conducted to prepare an upgraded Right of Way Certification Document from Level 3 or 3W to Level 1, 2, or 3W or an updated Right of Way Certification Document. |
| Lead Function | District R/W Branch |
| Deliverables | • Upgraded or Updated Right of Way Certification Document |
| References | – Caltrans Right of Way Manual: Forms and Exhibits<br>– Caltrans Right of Way Manual: Reference Version<br>– Caltrans Ready to List Guide, Section 1.3.2<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 4 |
| Subtasks | – Request Clearance Letters Transmittal |

**WBS**
**260**

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

## 260 Contract Bid Documents Ready to List



WBS
260

| WBS Level 5 | 260 Contract Bid Documents Ready to List |
|---|---|
| Description | Work involved in the preparation of draft contract bid documents. Completion of this activity is the finalized submittal package to DES-OE for advertisement. |
| Lead Function | District Office Engineer |
| Deliverables | • Finalized Submittal Package Contract<br>• Contract Bid Documents Ready to List<br>• Fund Allocation |
| Major Milestones | ♦ M390 Draft Contract Comments (Finish: WBS 260.60)<br>♦ M400 Draft Contract Comment Response (Finish: WBS 260.70)<br>♦ M430 Draft Contract Ready (Finish: WBS 260.80)<br>♦ M460 Ready to List (Finish: WBS 260.90)<br>♦ M470 Fund Allocation (Finish: WBS 260.95, with ”x” number of days lead determined by Project Team) |
| Business Practices | WBS 260 should remain open 10 business days beyond completion of Milestone 470 - Fund Allocation. District-Office Engineer needs time to complete tasks such as preparing Authority to Advertise Form signed by District Director and Project Manager, completing project submittal package, and submitting final package to DES-Office Engineer after fund allocation either by the CTC or through delegation or by other means (M470). |
| References | – Caltrans CADD Users Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/caddman/default.htm<br>– Caltrans Plans Preparation Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/ppman/default.htm<br>– Caltrans Ready to List and Construction Contract Award Guide (RTL Guide): http://dot.ca.gov/hq/esc/oe/rtl_guide.html<br>– Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser/<br>– Caltrans Standard Plans: http://www.dot.ca.gov/hq/esc/oe/construction_standards.html<br>– Caltrans Standard Special Provisions (SSPs): http://www.dot.ca.gov/hq/esc/oe/construction_standards.html<br>– Caltrans Standard Specifications: http://www.dot.ca.gov/hq/esc/oe/standards.php<br>– Caltrans Standard Specifications Style Guide:<br>– Legal and Cost Avoidance Construction Quality Standards: |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 6** | **260.50 Draft Contract Submittal Ready to Process (PS&E)** |
|---|---|
| Description | The product from this activity is a project submittal from the district PE and Spec Writer to an independent QA reviewer for AADD ready for processing. Primary DOE Reviewer submits for QA Review. For High Profile Projects, submit PS&E Package to FHWA. |
| Lead Function | District Office Engineer |
| Deliverables | • Complete Draft Contract Submittal Ready to Process |
| References | – Caltrans CADD Users Manual<br>– Caltrans Ready to List and Construction Contract Award Guide (RTL Guide) |
| Subtasks | – Validate that project submittal is complete<br>– Print plan sets |

| **WBS Level 6** | **260.60 Draft Contract Comments (DCC)** |
|---|---|
| Description | Develop a list of potential deviations of District QC/QA Standards and provide to District Design and DES Structure Design for resolution. |
| Lead Function | District Office Engineer |
| Deliverables | • Draft Contract Comments (A List of Potential Deviations of District QC/QA Standards) |
| References | – Caltrans RTL Guide<br>– Caltrans Plans Preparation Manual<br>– Caltrans Standard Specifications<br>– Caltrans Standard Plans<br>– Caltrans Standard Special Provisions<br>– Caltrans QC/QA Standards<br>– Caltrans Standard Specifications Style Guide<br>– Caltrans Best Bid Standards (BBS) Guide |
| Subtasks | – Assign project to independent reviewer<br>– Submit Electrical and Landscape Architecture specialty portions to specialty group.<br>– Verify that combined Basic Engineering Estimating System (BEES) items are accurate and complete.<br>▪ All contract pay items in BEES are as specified in Standard Special Provisions (SSPs) and as shown on plans<br>▪ Item description and units of measure agree with Standard Specifications, SSPs, and plans<br>▪ Verify R/W & Utility/TMP/Hazardous Waste/Estimate/Risk Certifications. |

- Final pay items are marked "(F)
- Unit prices are reasonable and rounded correctly
- State Furnished Materials are listed and match the SSP. Estimates are included.
- Supplemental Work items are within allowable limits or approval is obtained.

– Verify that project plans are accurate and complete.
  - All items of work are shown on the plans, specified in the SSPs and match pay items in BEES.
  - Title sheet is complete and accurate.
  - Standard Plans List is complete and accurate.
  - Plans comply with requirements in the Plans Preparation Manual and related policies.

– Verify that specifications are accurate and complete.
  - All specifications have necessary measurement and payment clauses.
  - Specifications specify, directly or indirectly, all work to be done in plans and each contract pay item in BEES.
  - Specifications are updated to current SSP in the HQOE Fileserver.
  - SSP editing instructions are followed.
  - NSSP's Approved and Concurred.
  - Liquidated Damages are calculated correctly for projects over $250 million.
  - Specifications comply with the RTL Guide and related policies.
  - Develop a list of deviations to District QC/QA standards and provide to Design and DES Office of Structure Design for resolution.
  - Contractor License Calculation checked.
  - AADD database inputs completed and verified.

| **WBS Level 6** | **260.70 Draft Contract Comment Response (DR)** |
|---|---|
| Description | The product from this activity is a resolution to the list of potential deviations of District QC/QA Standards identified in WBS 260.60 Draft Contract Comments. The activity includes the PE and Spec Writer revising plans, specifications and estimates as a result of draft contract comments or resolving and documenting why suggested changes were not incorporated. |
| Lead Function | District Office Engineer |
| Deliverables | • Resolution of Draft Contract Comments |
| Notes | Some of structure project activities for "Resolution of Draft Contract Comments" activities were also duplicated in WBS 250.55 (Final Structure Plans) and WBS 250.60 (Final Structure Special Provisions and Cost Estimates). |
| References | – Caltrans RTL Guide |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

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|---|---|
| | – Caltrans Plans Preparation Manual<br>– Caltrans Standard Specifications, Standard Plans, Standard Special Provisions<br>– Caltrans QC/QA Standards<br>– Caltrans Specifications Style Guide.<br>– Caltrans Best Bid Standards (BBS) Guide |
| Subtasks | – Verify that deviations to District QC/QA Standards were addressed.<br>– Verify that all requested information has been received, including all executed permits that affect the contract.<br>– Verify that revisions are in accordance with Caltrans and/or FHWA standards and applicable laws and regulations.<br>– Verify that revisions are not in conflict with other portions of the PS&E.<br>– Verify that FHWA comments have been appropriately addressed.<br>– Resolve compliance issues if requested changes were not made. |

| **WBS Level 6** | **260.75 Environmental Certification at RTL** |
|---|---|
| Description | This activity includes all environmental work necessary to review the PS&E and for the Environmental Branch Chief, or designee, to complete the Environmental Certification. |
| Lead Function | District Environmental Branch |
| Deliverables | • Environmental Certification<br>• Updated STEVE Database<br>• Updated Environmental Commitments Record |
| Notes | This Certification is based on a "snapshot" of the Environmental Commitments Record (ECR), or similar document (e.g., Mitigation Monitoring and Reporting Record), which is also used to provide Environmental input for WBS 255.40 (Resident Engineer's Pending File). Changes made to the contract after obtaining the Environmental Certification must be coordinated with the District Environmental Branch Chief in order to make any necessary updates to the ECR, RE Pending File, and reassessment of the Environmental Certification |
| References | – Caltrans RTL Guide<br>– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1<br>– Project Development Procedures Manual (PDPM) |
| Subtasks | – Caltrans RTL Guide<br>– Standard Environmental Reference (SER) – Environmental Handbook Vol. 1<br>– Project Development Procedures Manual (PDPM) |

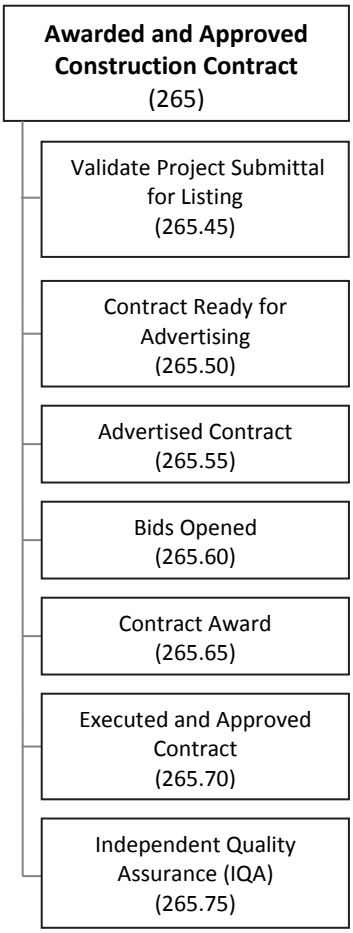
| WBS Level 6 | 260.90 Ready to List (RTL) |
|---|---|
| Description | The product from this activity is a draft contract with constraints cleared ready for funding request. This activity includes validating that all RTL requirements have been met. |
| Lead Function | District Office Engineer |
| Deliverables | • Final RTL Certification |
| References | – |
| Subtasks | – Notify designer of outstanding RTL requirements<br>– Validate completion of RTL requirements<br>– Signature & Seal Sheet for Special Provisions<br>– Job File Contents Verified<br>– AADD database inputs completed and verified<br>– Obtain signatures and seal on RTL Certification |

| WBS Level 6 | 260.95 Finalized Submittal Package |
|---|---|
| Description | The product from this activity is a finalized construction contract package submitted to DES-OE for advertisement. |
| Lead Function | District Office Engineer |
| Deliverables | • Finalized submittal package including contract bid documents and fund allocation. |
| Notes | WBS 265 cannot start until WBS 260.95 is 100% complete. |
| References | – Caltrans Ready to List and Construction Contract Award Guide (RTL Guide) |
| Subtasks | – DOE Submits Federal Requirements to the Federal Liaison<br>– Submit Fund Request<br>– Fund Verification<br>– Incorporate Construction Contract Standards Updates into Contract<br>– Construction Contract Submittal for Advertisement Signed<br>– Authority to Advertise Form signed by District Director and Project Manager<br>– Complete project submittal package<br>– Submit project to DES-OE |

**WBS 265**

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

## 265 Awarded and Approved Construction Contract



WBS
265

| WBS Level 5 | 265 Awarded and Approved Construction Contract |
|---|---|
| Description | Work involved in the advertisement, bid opening, award, and approval of a construction contract. |
| Lead Function | DES Office Engineer |
| Deliverables | • Awarded and Approved Construction Contract |
| Major Milestones | ♦ M480 Headquarters Advertise (Start: WBS 265.55)<br>♦ M490 Bids Open (Finish: WBS 265.60)<br>♦ M495 Award (Finish: WBS 265.65)<br>♦ M500 Approve Contract (Finish: WBS 265.70, with ”x” number of days lead determined by Project Team) |
| Business Practices | WBS 265 should remain open 10 business days beyond completion of Milestone 500 - Approve Contract. M500 marks the date in which Caltrans Legal Division signs and approves the construction contract. Once approved, DES-Office Engineer needs time to complete tasks such as verification of completed documents signed by Legal, distribution of contract to contractor, Division of Construction and district, sending payment bond and Payee Data Record to Accounting, and record keeping for necessary documents. |
| References | – California Public Contract Code: http://leginfo.legislature.ca.gov/faces/codes.xhtml<br>– California Streets and Highways Code: http://leginfo.legislature.ca.gov/faces/codes.xhtml<br>– Caltrans Construction Manual: http://www.dot.ca.gov/hq/construc/constmanual<br>– Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm<br>– Caltrans Ready to List and Construction Contract Award Guide (RTL Guide): http://dot.ca.gov/hq/esc/oe/rtl_guide.html<br>– Caltrans Standard Specifications: http://www.dot.ca.gov/hq/esc/oe/construction_standards.html<br>– Civil Rights Program (Goals): http://www.dot.ca.gov/hq/bep/<br>– Code of Federal Regulations, Title 49: http://www.ecfr.gov/ |

| WBS Level 6 | 265.45 Validate Project Submittal for Listing |
|---|---|
| Description | The product from this activity is a complete project ready to be included on tentative advertisement list. Activities include receiving the project submittal from the district, |

| | |
|---|---|
| | validating that submittal requirements are complete, coordinating with district staff for missing items, logging the submittal into a database. |
| Lead Function | DES Office Engineer |
| Deliverables | • Complete Project Submittal to be included on Tentative Advertisement List |
| References | – Caltrans Ready to List and Construction Contract Award Guide (RTL Guide) |
| Subtasks | – Validate that project submittal is complete<br>– Log complete submittal into database |

| **WBS Level 6** | **265.50 Contract Ready for Advertising** |
|---|---|
| Description | The product of this activity is that contract bid documents are ready for advertising. Work includes setting Disadvantaged Business Enterprise goals for federal aid projects preparation and reproduction of bid documents, verifying funds, approving authority to advertise, setting advertising and bid opening dates, listing in the State Contracts Register, and posting advertisements on the Internet. |
| Lead Function | DES Office Engineer |
| Deliverables | • Contract Ready for Advertisement |
| References | – Civil Rights Program (Goals)<br>– Caltrans Construction Manual, Chapter 9, Section 9-03, Page 9-03-1<br>– Code of Federal Regulations, Title 49, Part 23, Pages 222-263<br>– California Public Contract Code, Sections 10115-10115.10, 14838-14838.6, and 999-999.9<br>– California Streets and Highways Code, Sections 94.3 and 94.4<br>– Caltrans RTL Guide |
| Subtasks | – Verify funding is available in an amount equal to or greater than the construction estimate<br>– Prepare list of projects tentatively proposed for advertisement<br>– Distribute the above list to other units and obtain input and concurrence<br>– Finalize advertisement list and set advertising and bid opening dates<br>– Set and distribute target dates to be met by various units in preparing projects for advertisement<br>– Compare the items of work and materials that can be subcontracted with the list of available DBE firms in the vicinity of the project and develop match list<br>– Determine items of work and materials that will most likely be performed by the prime contractor<br>– Estimate the percentage of work available that DBE or DBVE firms can perform<br>– Recommend project participation goals to OBEO for approval |

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|---|---|
| | – Generate and incorporate electronic Engineer's Estimate<br>– Merge project data<br>– Incorporate contract boilerplate<br>– Scan and incorporate Engineer's seals<br>– Format for reproduction<br>– Reproduce contract books and Plans<br>– Maintain Office Engineer (OE) Database Import electronic plan files<br>– Plot final electronic files<br>– Send to Reprographics<br>– Print project ticket/tentative list for specific advertising date<br>– Verify funding source(s)<br>– Compare authorized funding amount to estimate total<br>– Obtain contributor number<br>– Coordinate AADD project submittal with districts<br>– Coordinate Bid Book Review with Districts<br>– Post list on Internet |

| **WBS Level 6** | **265.55 Advertised Contract** |
|---|---|
| Description | This activity begins with the advertisement of the contract documents, which consists of distributing bid documents and preparing and issuing addenda. The product of this activity is an advertised contract and addenda ready for bid opening. |
| Lead Function | DES Office Engineer |
| Deliverables | • Advertised Contract including Distributed Bid Documents and Addenda |
| References | – Caltrans Construction Manual, Chapter 2: Section 2-02, Page 2-02-1, and Section 2-03, Pages 2-03-1 and 2-03-2<br>– Caltrans RTL Guide<br>– Caltrans Standard Specifications, Section 2, Pages 2-1 through 2-6 |
| Subtasks | – Distribute bid documents<br>– Districts respond to bidders' inquiries<br>– Districts post responses on Caltrans website<br>– Process addenda<br>– Reproduce and publish addenda<br>– Distribute addenda to all bidders, non-bidders, Districts, Functional Programs, Federal Highway Administration(FHWA) and other involved parties. DES Structure design sections or others who "sealed" the plans must be included in the distribution list<br>– Include addenda in undistributed contract documents |

| | |
|---|---|
| | – Perform red-lined Basic Engineering Estimating System (BEES) corrections<br>– Update Project Database to reflect changes (e.g., items, working days, call-outs, etc.<br>– Maintain plan holder lists<br>– Coordinate addenda for AADD projects with districts |

| **WBS Level 6** | **265.60 Bids Opened** |
|---|---|
| Description | The product of this activity is bids opened. This activity includes all work associated with opening, publicly reading, recording and verifying bids on construction contracts, as well as disseminating bid results to the Department and the public. |
| Lead Function | DES Office Engineer |
| Deliverables | • Bids Opened,Verified, Ranked and Information Disseminated |
| References | – Caltrans Construction Manual, Chapter 2: Section 2-02, Page 2-02-1, and Section 2-03, Pages 2-03-1 and 2-03-2<br>– Caltrans RTL Guide<br>– Caltrans Standard Specifications, Section 2, Pages 2-1 through 2-6 |
| Subtasks | – Receive bids<br>– Open bids at public bid opening, record bid results and perform cursory check for responsiveness and completeness of bid<br>– Read and record bids<br>– Enter bid data into Bid Opening System to verify each bid and to store bid data on computer<br>– Perform license check<br>– Confirm small business certification<br>– Apply small business preference<br>– Produce bid summary information and distribute to bidders and Districts<br>– Recommend rejection of all bids if necessary<br>– Reject bids |

| **WBS Level 6** | **265.65 Contract Award** |
|---|---|
| Description | The product of this activity is an awarded contract. This activity includes contract award-related work and includes validating bidder responsiveness and responsibility. |
| Lead Function | DES Office Engineer |
| Deliverables | • Awarded Contract |
| References | – Caltrans RTL Guide<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 15, Section 1 |

| | |
|---|---|
| | – California Public Contract Code, Sections 3300, 6100-9202, and 10180-10285.5; Sections 10115-10115.10, 14838-14838.6, and 999-999.9<br>– Caltrans Standard Specifications<br>– Code of Federal Regulations, Title 49, Part 23, Pages 222-263<br>– California Streets and Highways Code, Sections 94.3 and 94.4<br>– Caltrans Construction Manual: Chapter 2, Section 2-03; Chapter 9, Section 9-03 |
| Subtasks | – Determine bidder responsibility<br>– Analyze all bids if necessary<br>– Prepare Award recommendation<br>– Perform funding analysis<br>– Receive contractor Disabled Veteran Business Enterprise (DVBE)/Disadvantaged Business Enterprise (DBE) submittals and forward to the Department's Business Enterprise Program (BEP) for evaluation<br>– Notify contractor when BEP has determined that a good faith effort was not made and arrange reconsideration/appeal meetings<br>– Chair Department's Good Faith Effort Reconsideration Committee and provide staff to the Committee<br>– Prepare Reconsideration Committee findings for signature<br>– Respond to bid protests<br>– Analyze relief of bid requests and prepare findings for Relief of Bid Committee<br>– Analyze requests for subcontractor substitution<br>– Prepare pre-award qualification reports for committee<br>– Notify bidder of determination<br>– Verify that contractor is not debarred or suspended<br>– Perform license verification<br>– Confirm bid bond from California Bidder Surety<br>– Conduct responsibility hearings and notify bidder of determination<br>– Obtain Project Phase 4 certification<br>– Process G-11 or G-12<br>– Award contract<br>– Assemble award package<br>– Assemble contract documents<br>– Obtain contract award signature<br>– Mail to contractor<br>– Distribute award information to district |

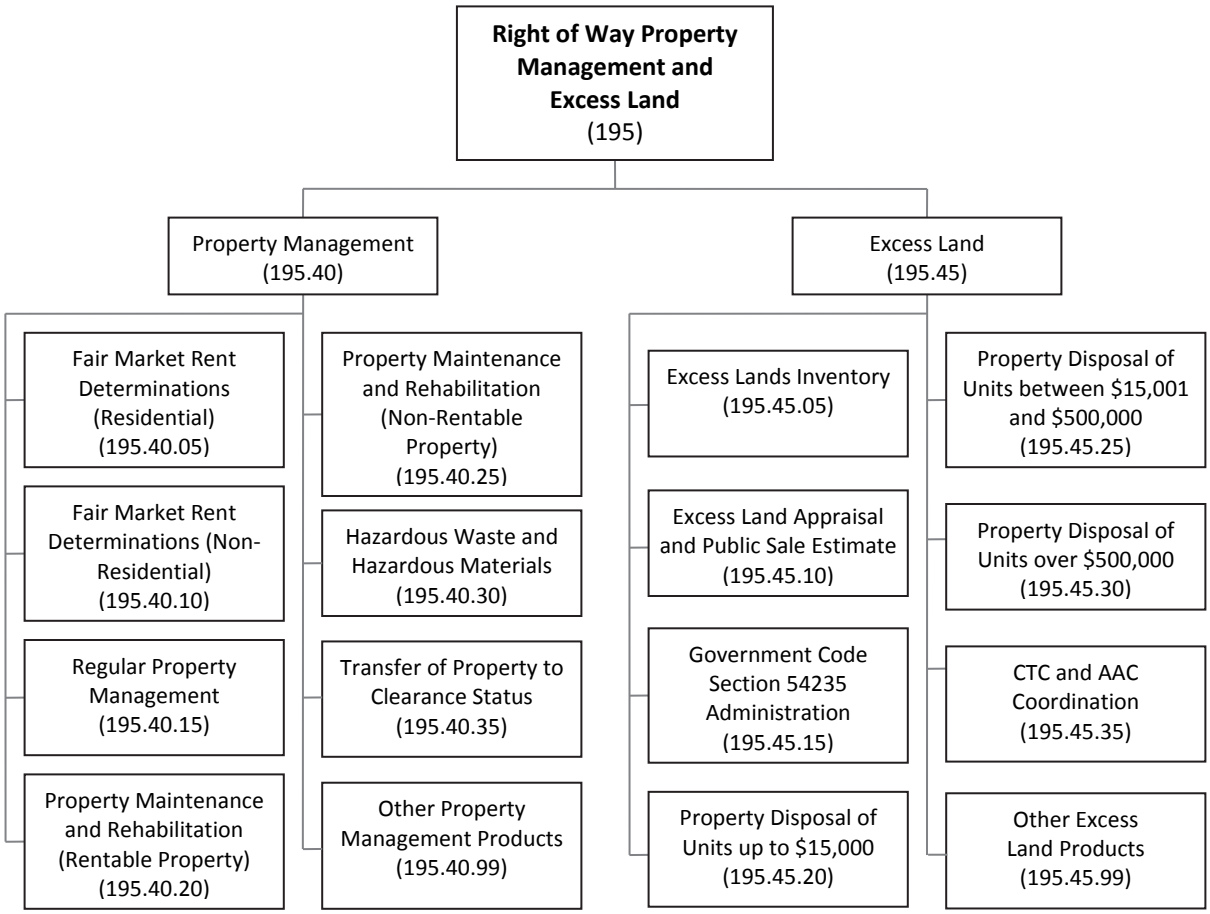
| **WBS Level 6** | **265.70 Executed and Approved Contract** |
|---|---|
| Description | The product of this activity is an approved contract ready for construction. This activity includes work associated with the execution of awarded contracts and the approval of |

| | |
|---|---|
| | those contracts. |
| Lead Function | DES Office Engineer |
| Deliverables | • Executed and Approved Contract |
| References | – Caltrans Project Development Procedures Manual (PDPM), Chapter 15, Section 1<br>– California Public Contract Code, Section 10220<br>– Caltrans Standard Specifications<br>– Caltrans Construction Manual: Chapter 2, Section 2-03 |
| Subtasks | – Contractor signs contract<br>– Contractor provides Payment and Performance Bonds<br>– Contractor returns contract<br>– Process forfeiture of bid bond if contractor fails to execute<br>– Verify Surety of payment and performance bonds<br>– Office Engineer signs contract for the Director<br>– Legal signs contract for Attorney General<br>– Mail contract to contractor and Division of Construction<br>– Make copy of contract and mail to the district |

| **WBS Level 6** | **265.75 Independent Quality Assurance (IQA)** |
|---|---|
| Description | The product of this activity is comments from an Independent Quality Assurance (IQA) review conducted by using Best Bid Standards (BBS) between Advertisement and Bid Opening. The immediate goal is to provide feedback to the Districts to avoid delays to bid openings and awards. The long term goal is to improve contract quality to minimize cost overrun and construction delays. |
| Lead Function | DES Office Engineer |
| Deliverables | • IQA Review Comments and Risk Assessment |
| References | – Caltrans Best Bid Standards (BBS) Guide<br>– Caltrans Best Bid Standards (BBS)<br>– Caltrans IQA Review Checklist<br>– Caltrans IQA Review Manual |
| Subtasks | – Perform IQA review to validate conformance to the Best Bid Standards (BBS)<br>– Coordinate with Districts about IQA findings and issue addendum to correct errors and omissions as needed<br>– Issue project quality report<br>– Issue performance report<br>– Provide process review, training and recommendation |

| WBS 195 | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| Project Phase | | K | 0 | 1 | 2 | 3 |
| SB45 Component | 0 | 1 | 2 | 3 | 4 | 5 |

## 195 Right of Way Property Management and Excess Land



| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 5** | **195 Right of Way Property Management and Excess Land** |
|---|---|
| Description | Work involved in managing all property held for transportation projects, and all excess properties. |
| Lead Function | Right of Way |
| Deliverables | |
| Major Milestones | ♦ None. |
| References | – Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm<br>– Caltrans Right of Way Manual, including Forms and Exhibits: http://www.dot.ca.gov/hq/row/rowman/manual/<br>– Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser |

| **WBS Level 6** | **195.40 Property Management** |
|---|---|
| Description | Property Management units manage all property held for future transportation projects, and all excess properties. Work includes maintaining an inventory of state-owned properties, inspecting properties for loss prevention, marketing rentable properties, establishing tenancies, collecting rents, inputting information in the Property Management Property System (Right of Way Property System, or RWPS), maintaining and rehabilitating properties, terminating tenancies, monitoring and coordinating properties for hazardous waste cleanup, and final preparation of the properties to clearance and demolition or excess land sales. |
| Deliverables | • Property Management. |
| References | – |

| **WBS Level 7** | **195.40.05 Fair Market Rent Determinations (Residential)** |
|---|---|
| Description | All work involved in preparation of fair market rent determinations of residential parcels. |
| Lead Function | Right of Way Real Property Services |
| Deliverables | • Residential Fair Market Rent Determinations |
| References | – Caltrans Right of Way Manual, Chapter 11<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 5 |

| WBS Level 7 | 195.40.10 Fair Market Rent Determinations (Non-Residential) |
|---|---|
| Description | All work involved in preparation of fair market rent determinations of nonresidential parcels. |
| Lead Function | Right of Way, Real Property Services |
| Deliverables | • Non-Residential Fair Market Determinations |
| References | – Caltrans Right of Way Manual, Chapter 11<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 5 |

| WBS Level 7 | 195.40.15 Regular Property Management |
|---|---|
| Description | All work involved in directly managing and reviewing rentable and non-rentable properties, including maintaining the Right of Way Property System (RWPS). |
| Lead Function | Right of Way, Real Property Services |
| Deliverables | • Parcel to Excess Lands or Construction |
| References | – Caltrans Right of Way Manual, Chapter 11<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 5 |

| WBS Level 7 | 195.40.20 Property Maintenance and Rehabilitation (Rentable Property) |
|---|---|
| Description | All work involved in preparing and administering property maintenance contracts, preparing and assigning repair orders, inspecting work, record keeping and other administrative activities associated with property maintenance and rehabilitation. |
| Lead Function | Right of Way, Real Property Services |
| Deliverables | • Maintenance of Property |
| References | – Caltrans Right of Way Manual, Chapter 11<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 5 |

| WBS Level 7 | 195.40.25 Property Maintenance and Rehabilitation (Non-Rentable Property) |
|---|---|
| Description | All work involved in preparing and administering property maintenance contracts of un-rentable non-operating right of way. This is usually right of way that has been acquired for construction projects that have not yet been awarded or pieces of excess land. Major work items consist of mowing, debris removal, weed abatement, boarding up permanently vacated structures, correcting hazardous conditions, etc. |
| Lead Function | Right of Way, Real Property Services |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| Deliverables | • Maintenance of Property |
| References | – Caltrans Right of Way Manual, Chapter 11<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 5 |

| **WBS Level 7** | **195.40.30 Hazardous Waste and Hazardous Materials** |
|---|---|
| Description | Monitoring state-owned properties for potential hazardous waste and hazardous materials. Includes coordinating with the District Hazardous Material Coordinator and tenants for cleanup. |
| Lead Function | Right of Way, Real Property Services |
| Deliverables | |
| References | – Right of Way Manual - Forms and Exhibits, Chapter 11<br>– Right of Way Manual - Reference Version, Chapter 11<br>– Project Development Procedures Manual (PDPM), Chapter 18, All Sections |

| **WBS Level 7** | **195.40.35 Transfer of Property to Clearance Status** |
|---|---|
| Description | Preparation of the property to be transferred to clearance status, including vacating tenants, terminating utility services (disconnects/removals) and boarding up improvements. |
| Lead Function | Right of Way, Real Property Services |
| Deliverables | • Transfer of Property to Clearance Status. |
| References | – Caltrans Right of Way Manual, Chapter 11<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Section 3, Article 3 |

| **WBS Level 7** | **195.40.99 Other Property Management Products** |
|---|---|
| Description | All other work, during the Property Management efforts, not defined or covered in other 195.40 elements. |
| Lead Function | Right of Way, Real Property Services |
| Deliverables | |
| References | |

| **WBS Level 6** | **195.45 Excess Land** |
|---|---|

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|---|---|
| Description | Includes all work required for administering project-specific inventory and disposition of State-owned real property that is no longer required for rights of way or other operational purposes. Includes all efforts for appraisal of excess land and environmental compliance efforts required as a part of disposal approval. |
| Deliverables | • Sale or Disposal of Excess Land. |
| References | – |

| **WBS Level 7** | **195.45.05 Excess Lands Inventory** |
|---|---|
| Description | All efforts required maintaining the excess land inventory. This includes all activities related to disposal units in hold categories or in foreclosure. Activities include processing releases of parcels into inventory through design changes; route recessions or parcel splits; all clearances required to make the property available for sale, including completing environmental compliance requirements; obtaining approval from the Property Retention Committee to place disposal units in a hold category; and all time spent updating the Excess Land Management System (ELMS) and completing forms. |
| Lead Function | Right of Way, Real Property Services |
| Deliverables | • Excess Lands Database |
| References | – Caltrans Right of Way Manual, Chapter 16<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 26<br>– Caltrans Standard Environmental Reference (SER) |

| **WBS Level 7** | **195.45.10 Excess Land Appraisal and Public Sale Estimate** |
|---|---|
| Description | All work involved in appraising or estimating real property for excess land disposal. |
| Lead Function | Right of Way, Real Property Services |
| Deliverables | • Appropriate Property Value |
| References | – Caltrans Right of Way Manual, Chapter 16<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 26 |

| **WBS Level 7** | **195.45.15 Government Code Section 54235 Administration** |
|---|---|
| Description | Related to California Government Code Sections 54235, et seq. (Roberti Bill SB 86). This includes monitoring activities, but does not include sales activities. Sales efforts should be charged to WBS 195.45.20, WBS 195.45.25, or WBS 195.45.30, depending on the value of the disposal unit. |
| Lead Function | Right of Way, Real Property Services |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

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|---|---|
| Deliverables | • Sell Properties under the Roberti Act |
| References | – Caltrans Right of Way Manual, Chapter 16<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 26 |

| **WBS Level 7** | **195.45.20 Property Disposal of Units up to $15,000** |
|---|---|
| Description | All activities to sell or otherwise dispose of a disposal unit up to $15,000 for which all clearances have been obtained and which is now available to sell. Activities include ordering and reviewing deeds, maps and appraisals; negotiating with property owners; advertising property and conducting public sales; disposing through transfer of control and possession, exchange, utility agreement or cooperative agreement; incorporating excess into right of way or operating property; processing California Transportation Commission (CTC) agenda or delegated sales and recording deeds; making presentations to the CTC on excess land issues; completing associated environmental compliance requirement; and processing credit sales and all collections efforts, including foreclosure and disposition of property subsequently returned. |
| Lead Function | Right of Way, Real Property Services |
| Deliverables | • Sale of Property |
| References | – Caltrans Right of Way Manual, Chapter 16<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 26<br>– Caltrans Standard Environmental Reference (SER) |

| **WBS Level 7** | **195.45.25 Property Disposal of Units Between $15,001 and $50,000** |
|---|---|
| Description | All activities to sell or otherwise dispose of a disposal unit from $15,001 to $500,000 for which all clearances have been obtained and which is now available to sell. Activities included are shown in WBS 195.45.20. |
| Lead Function | Right of Way, Real Property Services |
| Deliverables | • Sale of Property |
| References | – Caltrans Right of Way Manual, Chapter 16<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 26<br>– Caltrans Standard Environmental Reference (SER) |

| **WBS Level 7** | **195.45.30 Property Disposal of Units over $50,000** |
|---|---|
| Description | All activities to sell or otherwise dispose of a disposal unit over $500,000 for which all clearances have been obtained and which is now available to sell. Activities included |

| | |
|---|---|
| | are shown in WBS 195.45.20. |
| Lead Function | Right of Way, Real Property Services |
| Deliverables | • Sale of Property |
| References | – Caltrans Right of Way Manual, Chapter 16<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 26<br>– Caltrans Standard Environmental Reference (SER) |

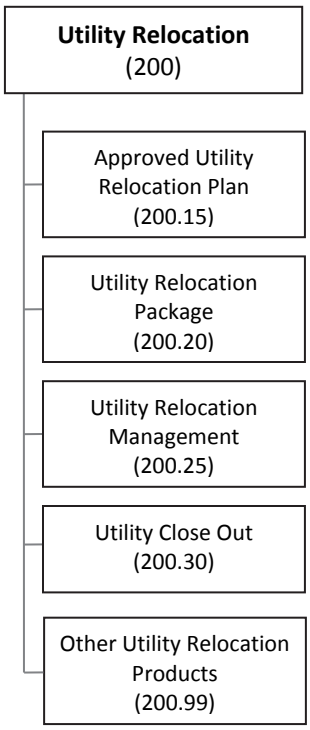
| **WBS Level 7** | **195.45.35 CTC and AAC Coordination** |
|---|---|
| Description | Activities necessary to make presentations to the California Transportation Commission (CTC) and the Airspace Advisory Committee (AAC) on excess land issues. This includes preparation time and any additional work done at the specific request of the CTC or AAC. This does not include time spent preparing appraisals: resume packages or other transmittals that regularly go to the CTC for approval. |
| Lead Function | Right of Way, Real Property Services |
| Deliverables | • Agenda and Book Items<br>• Approval of Sale of Property |
| References | – Caltrans Right of Way Manual, Chapter 16<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 26 |

| **WBS Level 7** | **195.45.99 Other Excess Land Products** |
|---|---|
| Description | All other work, during the Excess Land efforts, not defined or covered in other 195.45 elements. |
| Lead Function | Right of Way, Real Property Services |
| Deliverables | |
| References | |

**WBS**
**200**

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

## 200 Utility Relocation



WBS
200

| WBS Level 5 | 200 Utility Relocation |
|---|---|
| Description | All work involved in the protection, removal and relocation of utility facilities necessary to clear and certify Right of Way. Includes coordination with utility companies, review of utility plans, establishing liability, Federal Highway Administration (FHWA) Authorization and processing payments per utility agreements. State's development of plans on behalf of a utility owner as part of a relocation agreement will be performed as part of WBS 230. |
| Lead Function | Right of Way |
| Deliverables | • Relocated or Removed Utilities |
| Major Milestones | ♦ None. |
| Business Practices | State's effort in support of administering the physical relocation (construction) of impacted utilities will be included as part of WBS 270.33 or WBS 200.25. This effort will be planned/scheduled within activity WBS 270 only if the relocation is made part of the project's construction contract (item work or CCO work). |
| References | – Caltrans Local Assistance Procedures Manual: http://www.dot.ca.gov/hq/LocalPrograms/lam/lapm.htm<br>– Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm<br>– Caltrans Right of Way Manual: http://www.dot.ca.gov/hq/row/rowman/manual |

| WBS Level 6 | 200.15 Approved Utility Relocation Plan |
|---|---|
| Description | Review and approval of utility relocation plans from utility company. This includes determining and obtaining utility encroachment exceptions, obtaining exceptions to high-low risk policy, and includes transmittal of needs to project development and right of way. |
| Lead Function | Right of Way, Utilities |
| Deliverables | • Approved Utility Relocation Plan |
| References | – Project Development Procedures Manual (PDPM): Chapter 3, Section 13; Chapter 8, Section 7; Chapter 14, Sections 1 and 2 |

| WBS Level 6 | 200.20 Utility Relocation Package |
|---|---|
| Description | Work includes preparing and approving liability/FHWA authorization package and notifying utility owners of relocation requirements. Obtaining relocation plans from |

| | |
|---|---|
| | utility companies determining liability, preparing utility agreements, and obtaining funds, Notice to Owner, and Report of Investigation (ROI). Also includes transmitting Notice/Agreement/Permit to utility owner. |
| Lead Function | Right of Way, Utilities |
| Deliverables | • Utility Relocation Package |
| References | – Caltrans Right of Way Manual, Chapter 13<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 12<br>– Caltrans Local Assistance Procedures Manual, Chapter 14 |

| WBS Level 6 | 200.25 Utility Relocation Management |
|---|---|
| Description | Involves all work related to administering the physical utility relocation work prior to, during, or after the construction of the project pursuant to a Notice to Owner to relocate. Includes determining the construction schedule for utility relocation. |
| Lead Function | Right of Way, Utilities |
| Deliverables | • Completion of Utility Relocation. |
| References | – Caltrans Right of Way Manual, Chapter 13 |
| Subtasks | – Administer/inspect relocation work. This includes pre-construction meetings, coordination with utility owner, monitoring, and discovered work. |

| WBS Level 6 | 200.30 Utility Close Out |
|---|---|
| Description | Preparation and processing of invoices and billings, etc., processing of property rights such as Director's Easement Deeds, Utility Joint Use Agreement (JUA) and Consent to Common Use Agreement (CCUA)/Conveyance document packages; requesting of utility post audits and file close outs (updating of databases, etc). |
| Lead Function | Right of Way, Utilities |
| Deliverables | • Paid Invoices<br>• Director's Deeds<br>• Utility Joint Use Agreements<br>• Conveyance Documents |
| References | – Caltrans Right of Way Manual, Chapter 13 |

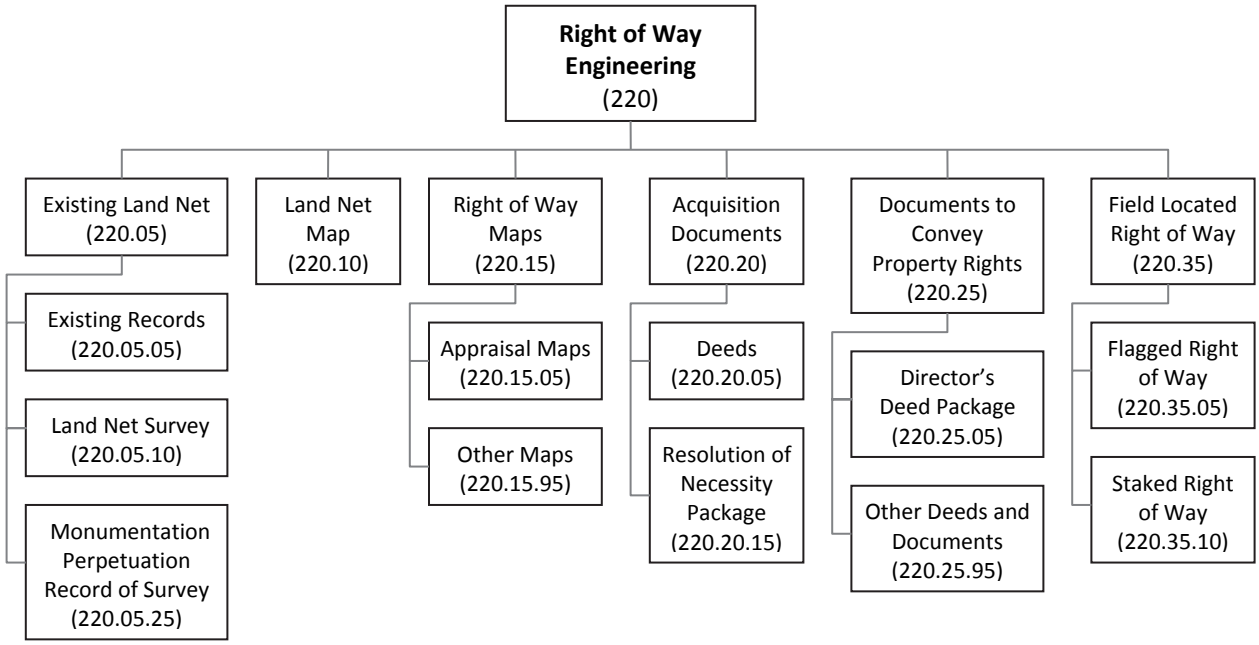
| WBS Level 6 | 200.99 Other Utility Relocation Products |
|---|---|
| Description | All other work, during the Utility Relocation efforts, not defined or covered in other 200 |

| | |
|---|---|
| | elements. |
| Lead Function | Right of Way, Utilities |
| Deliverables | • Various |
| References | |

**WBS**
**220**

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

## 220 Perform Right of Way Engineering



WBS
220

| WBS Level 5 | 220 Perform Right of Way Engineering |
|---|---|
| Description | Right of Way Engineering work performed in advance of appraisal and acquisition activities. Includes preparing appraisal maps. |
| Lead Function | Right of Way Engineering with Surveys |
| Deliverables | • Land-Net Survey<br>• Land Net Map<br>• Right of Way Maps<br>• Acquisition Documents<br>• Documents to Convey Property Rights<br>• Field Located Right of Way |
| Major Milestones | ♦ M224 Right of Way Requirement (Finish: WBS 185.25 and Start: WBS 220.15)<br>♦ M225 Regular Right of Way (Finish: WBS 220.20)<br>♦ M265 Final Right of Way Requirements (Finish: WBS 220.25) |
| Notes | The Right of Way Engineering effort required for environmental/hazardous material/paleontology mitigation is addressed in WBS 235. |
| References | – Caltrans Surveys Manual: http://www.dot.ca.gov/hq/row/landsurveys/SurveysManual/Manual_TOC.html<br>– Caltrans CADD Users Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/caddman/default.htm<br>– Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser<br>– Caltrans Right of Way Manual: http://www.dot.ca.gov/hq/row/rowman/manual<br>– Caltrans Plans Preparation Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/ppman/default.htm<br>– Caltrans Project Development Procedures Manual: http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm<br>– Professional Land Surveyors' Act, Business and Professions Code: http://www.bpelsg.ca.gov/laws/pls_act.pdf<br>– Rules of the California Board of Professional Engineers and Land Surveyors: http://www.bpelsg.ca.gov/laws/boardrules.pdf |

| WBS Level 6 | 220.05 Existing Land Net |
|---|---|
| Description | Collection of all record data and field evidence required to begin development of the Right of Way Base Map (WBS 220.10) |
| Lead Function | Right of Way Engineering with Surveys |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| Deliverables | • Land-Net Survey<br>• Complete Survey Documentation |
| Business Practices | Work for WBS 220.05.05 and WBS 220.05.10 products may be performed in part or completely under WBS 160.20.25 and WBS 160.20.30 respectively. Regardless of which WBS element the products are created under, an effort should be made to have them completed prior to receipt of Right of Way requirements (WBS 185.25).<br><br>It is often advantageous to perform the land net survey, in part or in whole, while performing the control survey work for the engineering surveys during the Project Approval and Environmental Document (PA&ED) phase of the project. When record data search or land net surveys are performed during the PA&ED phase, WBS 160.20.25 and 160.20.30 should be charged. |
| References | – For Land-Net Survey: Caltrans Surveys Manual, Section 10.10<br>– For Complete Survey Documentation: Caltrans Surveys Manual, Section 10.11 |

| **WBS Level 7** | **220.05.05 Existing Records** |
|---|---|
| Description | Thorough research to locate all relevant survey and land ownership records required to complete existing land-net field survey (WBS 160.20.30 and/or 220.05) boundary analysis, determination, and delineation (WBS 160.20.35 and/or 220.10). Create the Monument Search Map for use during the land-net Survey (WBS 160.20.30 and/or 220.05.10); refer to Caltrans Surveys Manual, Section 10.5 and 10.7. |
| Lead Function | Right of Way Engineering |
| Deliverables | • Existing Records<br>• Land Net Survey Monument Search Map |
| Business Practices | Work for this product may be performed under WBS 160.20.25 or WBS 220.05.05. Charge code usage is dependent on district charging practices and opening of project phase 2. Care should be taken to charge in concurrence with project resource estimate. |
| References | – For Existing records: Caltrans Surveys Manual, Section 10.5<br>– For Land Net Survey Monument Search Map: Caltrans Surveys Manual, Section 10.6 and 10.7.<br>– R/W Manual, Section 6.03.05.00 |

| **WBS Level 7** | **220.05.10 Land Net Survey** |
|---|---|
| Description | All activities required in performing an ownership boundary retracement survey. Search, recover, describe, and tie-in existing controlling land survey monuments, followed by observation adjustment and calculating coordinates. |

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|---|---|
| Lead Function | Surveys and Right of Way Engineering |
| Deliverables | • Marked Land-Net Survey Monument Search Map<br>• Notice of Intent to Survey<br>• Field Package<br>• Adjusted Land-Net Field Survey<br>• Perpetuated Monuments or Evidence Corner Records<br>• Monument Perpetuation List; List Should Contain All Survey and Land-Net Monuments That Will Be Disturbed during Any Element of the Project.<br>• Survey Documentation |
| Business Practices | Work for this product may be performed under WBS 160.20.30 or WBS 220.05.10. Charge code usage is dependent on district charging practices and opening of project phase 2. Care should be taken to charge in concurrence with project resource estimate.<br><br>If a Record of Survey is filed instead of multiple Corner Records, effort for creating and filing Record of Survey should be charged to WBS 220.05.25. |
| References | – For Marked Land-Net Survey Monument Search Map: Caltrans Surveys Manual, Section 10.10-3<br>– For Notice of Intent to Survey: Caltrans Surveys Manual, Section 10.8<br>– For Field Package: Caltrans Surveys Manual, Section 10.9<br>– For Adjusted Land-Net Field Survey: Caltrans Surveys Manual, Sections 5.4, 10.10, 10.11-5, and Figure 5.1A.<br>– For Perpetuated Monuments or Evidence Corner Records:<br>▪ Caltrans Surveys Manual, Section 10.10-6<br>▪ California State Land Surveyors Act, Section 8771<br>▪ Rules of the California Board of Professional Engineers and Land Surveyors<br>– For Monument Perpetuation List: Caltrans Surveys Manual, Section 10.10-7<br>– For Survey Documentation: Caltrans Surveys Manual, Section 10.11 |

| **WBS Level 7** | **220.05.25 Monumentation Perpetuation Record of Survey** |
|---|---|
| Description | All efforts required for preparation, filing, and recording a Pre-Construction Record of Survey on the Land-Net and/or to perpetuate existing survey monuments. The Record of Survey may be filed in lieu of multiple Corner Records. As required by California Business and Professions Code (LS Act) Section 8762 or 8765. |
| Lead Function | Right of Way Engineering |
| Deliverables | • Retracement Record of Survey |
| Business | The department's preferred method is filing a Record of Survey. A map filed under |

| | |
|---|---|
| Practices | Section 8765(a) should only be filed when filing a Record of Survey would impose an extreme hardship on the department.<br><br>Producing Corner Records required by the Land-Net field survey should be charged to WBS 220.05.10. |
| References | – Caltrans Surveys Manual, 10.10-6 |

| **WBS Level 6** | **220.10 Land Net Map** |
|---|---|
| Description | Depiction of the condition of existing property ownership boundaries, lines, and monuments (land net). Effort entails completion of work activities required to analyze, determine, and delineate a single land-net that encompasses the whole project. |
| Lead Function | Right of Way Engineering |
| Deliverables | • Land Net Map |
| Business Practices | The CADD drawing file produced in this work element will be used as the base layer in subsequent project work elements (WBS 220.15, WBS 220.20, WBS 220.25, and WBS 300). Work for this product may be performed under WBS 160.20.35 or WBS 220.10. Charge code usage is dependent on district charging practices and opening of the project's phase 2. Care should be taken to charge in concurrence with project resource estimate. Regardless of which WBS element the Land-Net Map is created under, an effort should be made to have it completed prior to receipt of Right of Way requirements (WBS 185.25).<br><br>CADD drawing file delineating existing property ownerships, monuments, etc. Delineated data includes Record Data (WBS 220.05.05), Land-Net Survey results (220.05.10), and calculated missing land-net elements. Calculation or delineation of new parcels or ownership lines should be included in WBS 220.15.05. |
| References | – Caltrans Surveys Manual, Section 10-14<br>– Caltrans Right of Way Manual, Section 6.03.02.00<br>– Caltrans CADD Manual, Section 2.4 E |

| **WBS Level 6** | **220.15 Right of Way Maps** |
|---|---|
| Description | Creation of various Right of Way Maps. Also includes the certification of the sufficiency of the right of way by designers prior to finalizing the appraisal maps. |
| Lead Function | Right of Way Engineering |
| Deliverables | • Appraisal Maps<br>• State or Federal Application Maps |

| | |
|---|---|
| | • Hardship Maps<br>• Protection Maps<br>• Miscellaneous Right of Way Maps |
| Business Practices | Does not include Cost Estimate Maps (WBS 150.15.05 and/or 160.10.40), Land Net Maps (WBS 160.20.35 and/or 220.10), Record Maps (WBS 300.20), or Relinquishment and Vacation Maps (WBS 300.25).<br><br>Products created under this work element will be based on the CADD drawing file product created in the Land Net Map work element (WBS 220.10). |
| References | – Caltrans Plans Preparation Manual, Chapter 4<br>– Caltrans CADD User Manual Section 2.4.E<br>– Caltrans R/W Manual, Chapter 6 |

| **WBS Level 7** | **220.15.05 Appraisal Map** |
|---|---|
| Description | Includes the calculation and delineation of all new parcels and sub-parcels, using the Land Net Map (WBS 220.10) and the Right of Way Requirements submittal (WBS 185.25). |
| Lead Function | Right of Way Engineering |
| Deliverables | • Appraisal Maps<br>• Certificate of Sufficiency (CoS)<br>• Hazardous Material Disclosure Document - Acquisition (HMDD-A) , Prepared by Environmental Staff |
| Business Practices | On larger projects transmittal of Appraisal Maps to Right of Way should be done in stages to promote continuous product flow. First transmittal of Appraisal Maps to Right of Way should occur no later than the projects M225 Milestone date (Regular Right of Way). A delivery schedule should be negotiated with Right of Way and filed with the project. Upon written agreement with Right of Way, the delivery schedule of Appraisal Maps may deviate from the official project schedule. |
| References | – For Appraisal Maps<br>▪ Caltrans RW Manual, Section 6.07.00.00<br>▪ Caltrans Plans Preparation Manual, Section 4-5<br>▪ Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 4.<br>– For CoS:<br>▪ Caltrans RW Manual, Section 6.07.04.00<br>▪ Caltrans Plans Preparation Manual, Section 4-5<br>▪ Project Development Procedures Manual (PDPM), Chapter 14, Section 1, |

| | |
|---|---|
| | Article 4.<br>– For Hazardous Material Disclosure Document - Acquisition (HMDD-A):<br>▪ Caltrans Right of Way Manual, Section 6.07.04.00<br>▪ Project Development Procedures Manual (PDPM), Chapter 18, Article 4<br>▪ Caltrans form ENV-0001<br>▪ Caltrans Standard Environmental Reference (SER), Vol. 1, Chap. 10 |

| **WBS Level 7** | **220.15.95 Other Maps** |
|---|---|
| Description | Creation of Right of Way Maps not specifically mentioned in other Right of Way Engineering or Right of Way WBS codes. |
| Lead Function | Right of Way Engineering |
| Deliverables | • Application for State Sovereign Lands Maps<br>• Federal Lands Application Maps<br>• Freeway Lease Area Maps<br>• Right of Way Hardship Maps<br>• Right of Way Protection Maps<br>• Transfer of Jurisdiction Maps<br>• Miscellaneous Right of Way Maps<br>• Cost Estimate Map<br>• Resolution of Necessity<br>• Court Exhibits |
| References | – Caltrans Plans Preparation Manual<br>– Caltrans CADD User Manual Section 2.4.E<br>– Caltrans Right of Way Manual, Chapter 6 |

| **WBS Level 6** | **220.20 Acquisition Documents** |
|---|---|
| Description | Preparation of all property acquisition documents. Does not include preparation of contractual obligation documents (WBS 220.25) or preparation of the Hazardous Material Disclosure Document - Acquisition (HMDD-A). |
| Lead Function | Right of Way Engineering |
| Deliverables | • Deeds<br>• Legal Descriptions<br>• Resolution of Necessity Legal Descriptions |
| References | – Caltrans Right of Way Manual, Sections 6.08.00.00, 6.09.00.00, 6.11.00.00, and Exhibit 6-EX-2 |

| WBS Level 7 | 220.20.05 Deeds |
|---|---|
| Description | Preparation of legal description and ancillary conveyance documents associated with the deed; does not include Director's Deeds (WBS 220.25.05). |
| Lead Function | Right of Way Engineering |
| Deliverables | • Deeds<br>• Legal Descriptions |
| Business Practices | A delivery schedule based on milestone M225 should be negotiated with Right of Way and filed with the project. |
| References | – Right of Way Manual<br>▪ Sections 6.08.00.00 and 6.09.00.00<br>▪ Exhibit 6-EX-2 |

| WBS Level 7 | 220.20.15 Resolution of Necessity Package |
|---|---|
| Description | Includes preparing description for Resolution of Necessity, obtaining any additional information for the filing of the complaint, and preparing any attendant map or plat. |
| Lead Function | Right of Way Engineering |
| Deliverables | • Resolution of Necessity Legal Descriptions |
| References | – Caltrans Right of Way Manual, Section 6.11.00.00 and Exhibit 6-EX-2<br>– Caltrans Plans Preparation Manual, Section 4-8 |

| WBS Level 6 | 220.25 Documents to Convey Property Rights |
|---|---|
| Description | Preparation of documents required to convey property rights for various reasons, including satisfying contractual obligations. Does not include preparation of deeds described under Acquisition Documents (WBS 220.20). |
| Lead Function | Right of Way Engineering |
| Deliverables | • Director's Deeds and Plats<br>• Utility Deeds and Plats<br>• Other Deeds |
| References | – Right of Way Manual, Section 6.15.00.00 and Exhibit 6-EX-2<br>– Caltrans Plans Preparation Manual, Section 4-10 |

| WBS Level 7 | 220.25.05 Director's Deed Package |
|---|---|

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| Description | Preparation of Director's Deed and attendant maps or plats for contract obligations with other than a utilities entity. |
| Lead Function | Right of Way Engineering |
| Deliverables | • Director's Deeds and Plats |
| References | – Caltrans Right of Way Manual<br>▪ Section 6.15.00.00<br>▪ Exhibit 6-EX-2<br>– Caltrans Plans Preparation Manual, Section 4-10 |

| **WBS Level 7** | **220.25.95 Other Deeds and Documents** |
|---|---|
| Description | Creation of deeds and supporting documents other than those specifically mentioned in other Right of Way Engineering WBS codes. |
| Lead Function | Right of Way Engineering |
| Deliverables | • Exchange Transactions<br>• Correctory Deeds<br>• Utility Agreements, Including Joint Use Agreements (JUAs) and Consent to Common Use Agreements (CCUAs) |
| Notes | See the References cited below for other examples of deliverables. |
| References | – Caltrans Plans Preparation Manual, Chapter 4<br>– Caltrans CADD Users Manual, Section 2.4.E<br>– Caltrans Right of Way Manual, Chapters 6 and 13 |

| **WBS Level 6** | **220.35 Field Located Right of Way** |
|---|---|
| Description | Efforts to mark, in the field, current and proposed right of way lines by both approximate and accurate methods. |
| Lead Function | Surveys |
| Deliverables | • Temporary Right of Way Lines Marked by the Placement of Flagging, Paint, or Lath.<br>• Permanent Right of Way Lines Marked by the Placement of Monuments. |
| References | – Surveys Manual, Section 10.10 |

| **WBS Level 7** | **220.35.05 Flagged Right of Way** |
|---|---|
| Description | A temporary and approximate marking of the right of way. Used for appraisal, |

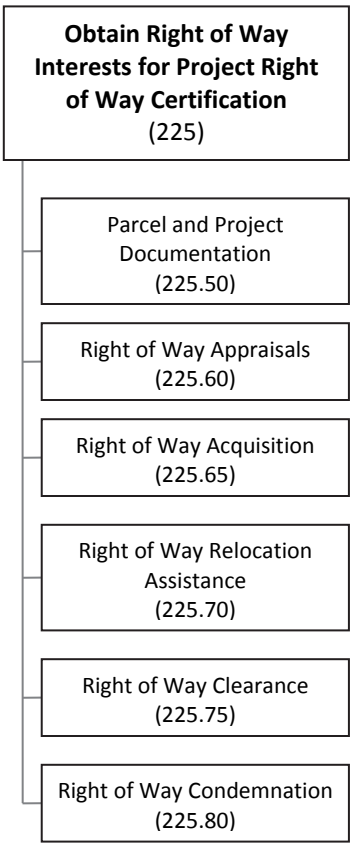
| | |
|---|---|
| | acquisition, disposal of land, or utility relocation planning and estimating. |
| Lead Function | Surveys |
| Deliverables | • an Easily Locatable Right of Way Line Marked by the Placement of Flagging, Paint, or Lath. |
| References | – Caltrans Surveys Manual<br>▪ Sections 10.15-1 and 10.15-2<br>▪ For placement of marks, see Figure 5-1 |

| WBS Level 7 | 220.35.10 Staked Right of Way |
|---|---|
| Description | A permanent and accurate marking of the right of way. Used to provide a durable, visible location of a right of way feature and its angle points. |
| Lead Function | Surveys |
| Deliverables | • an Easily Locatable Right of Way Line Marked by the Placement of Permanent Monuments. |
| Business Practices | Setting of permanent monuments may require filing of a Record of Surveys as required under the California State Land Surveyors Act, Section 8762(b). |
| References | – Surveys Manual<br>▪ Sections 10.15-3 and 10.15-4<br>▪ For placement of marks, see Figure 5-1 |

**WBS**
**225**

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

## 225 Obtain Right of Way Interests for Project Right of Way Certification



WBS
225

| WBS Level 5 | 225 Obtain Right of Way Interests for Project Right of Way Certification |
|---|---|
| Description | Work involved in assuring that the State has legal and physical possession and right to enter on all land for the project necessary for deliverance of the Right of Way Certification. |
| Lead Function | Right of Way |
| Deliverables | |
| Major Milestones | ♦ M225 Regular Right of Way (Start: WBS 225)<br>♦ M410 Right of Way Certification (Finish: WBS 225) |
| References | – Plan Preparation Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/ppman/default.html<br>– Caltrans Ready to List Guide: http://dot.ca.gov/hq/esc/oe/rtl_guide.htm<br>– Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm<br>– Caltrans Right of Way Manual: http://www.dot.ca.gov/hq/row/rowman/manual<br>– Caltrans Surveys Manual: http://www.dot.ca.gov/hq/row/landsurveys/SurveysManual/Manual_TOC.html |

| WBS Level 6 | 225.50 Parcel and Project Documentation |
|---|---|
| Description | Includes all work not specified in other Level 6 or 7 deliverables that lead to the Right of Way Certification of the project. |
| Lead Function | Right of Way, Planning and Management and Project Coordination |
| Deliverables | • Right of Way Certification |
| References | – Caltrans Right of Way Manual<br>– Caltrans Ready to List Guide, Section 1.3.2<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 4 |

| WBS Level 6 | 225.60 Right of Way Appraisals |
|---|---|
| Description | Work involved in appraising property rights required for acquisition purposes. |
| Lead Function | Right of Way, Appraisals |
| Deliverables | • Regular Appraisal<br>• Hardship and Protection Appraisal |

| | |
|---|---|
| | • Review or Revise Contract Appraisal Work<br>• Goodwill Appraisal<br>• Miscellaneous Appraisals |
| Business Practices | The Right of Way appraisal includes significant components as exhibited in R/W Forms 1 through 31 and Exhibits 1 through 25 located in Chapter 7 of the Right of Way Manual. |
| References | – Caltrans Right of Way Manual, Chapters 7 and 17<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 4 |

| **WBS Level 6** | **225.65 Right of Way Acquisition** |
|---|---|
| Description | Work involved in acquiring property rights required for Right of Way project closeout. |
| Lead Function | Right of Way, Acquisitions |
| Deliverables | • Acquire Hardship and Protection Parcels<br>• Obtain Real Property Interest by Right of Way Contract<br>• Perform/Revise Miscellaneous Acquisitions<br>• Obtain Resolution of Necessity and Order of Possession |
| References | – Caltrans Right of Way Manual, Chapter 8<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Section 2, Article 2 |

| **WBS Level 6** | **225.70 Right of Way Relocation Assistance** |
|---|---|
| Description | Work involved in relocating occupants of acquired property required for Right of Way project closeout. |
| Lead Function | Right of Way, Relocation and Assistance Program |
| Deliverables | • Provide Relocation Services and Payments<br>• Prepare Replacement Housing Valuations |
| References | – Caltrans Right of Way Manual, Chapter 10 |

| **WBS Level 6** | **225.75 Right of Way Clearance** |
|---|---|
| Description | Work involved in clearing the right of way of improvements, either by selling or demolishing improvements required for Right of Way project closeout. |
| Lead Function | Right of Way, Clearance and Demolition |

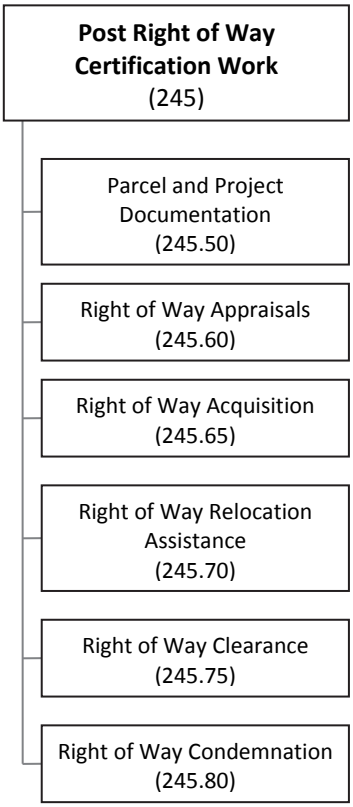
| | |
|---|---|
| Deliverables | • Cleared Property |
| References | – Caltrans Right of Way Manual, Chapter 12 |

| WBS Level 6 | 225.80 Right of Way Condemnation |
|---|---|
| Description | Work involved in delivering condemnation work required for Right of Way project closeout. |
| Lead Function | Right of Way, Condemnation |
| Deliverables | • Prepare Trial Exhibits<br>• Confer with Attorneys<br>• Review Condemnation Appraisal<br>• Appear as Expert Witness |
| References | – Caltrans Right of Way Manual, Chapter 9<br>– Staking Information<br>– Caltrans Surveys Manual<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 28 |

**WBS**
**245**

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

## 245 Post Right of Way Certification Work



WBS
245

| WBS Level 5 | 245 Post Right of Way Certification Work |
|---|---|
| Description | Work involved in assuring that all Right of Way deliverables are completed after the project has been certified as mentioned in WBS 225. |
| Deliverables | |
| Major Milestones | ♦ M412 Right of Way Certification—Ready to Advertise and Award (Start: WBS 245, with ”x” number of days lag determined by Project Team) |
| References | – Caltrans Plans Preparation Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/ppman/default.htm<br>– Caltrans Ready to List Guide: http://dot.ca.gov/hq/esc/oe/rtl_guide.html<br>– Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm<br>– Caltrans Right of Way Manual: http://www.dot.ca.gov/hq/row/rowman/manual<br>– Caltrans Surveys Manual: http://www.dot.ca.gov/hq/row/landsurveys/SurveysManual/Manual_TOC.html |

| WBS Level 6 | 245.50 Parcel and Project Documentation |
|---|---|
| Description | Includes all work not specified in other Level 6 or 7 deliverables that lead to Right of Way project closeout. |
| Lead Function | Right of Way, Planning and Management and Project Coordination |
| Deliverables | • Right of Way Project Closeout or Final Voucher of the Project |
| References | – Caltrans Right of Way Manual<br>– Caltrans Ready to List Guide, Section 1.3.2<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 4 |

| WBS Level 6 | 245.60 Right of Way Appraisals |
|---|---|
| Description | Work involved in appraising property rights required for acquisition purposes. |
| Lead Function | Right of Way, Appraisals |
| Deliverables | • Regular Appraisal<br>• Hardship and Protection Appraisal<br>• Review or Revise Contract Work and/or Appraisal Work<br>• Goodwill Appraisals |

| | |
|---|---|
| | • Appraisal Revisions<br>• Miscellaneous Appraisals |
| References | – Caltrans Right of Way Manual, Chapter 7<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 4 |

| WBS Level 6 | 245.65 Right of Way Acquisition |
|---|---|
| Description | Work involved in acquiring property rights required for Right of Way project closeout. |
| Lead Function | Right of Way, Acquisitions |
| Deliverables | • Acquire Hardship Parcels<br>• Obtain Real Property Interest by R/W Contract<br>• Perform/Revise Miscellaneous Acquisition |
| References | – Caltrans Right of Way Manual, Chapter 8<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Section 2, Article 2 |

| WBS Level 6 | 245.70 Right of Way Relocation Assistance |
|---|---|
| Description | Work involved in relocating occupants of acquired property required for Right of Way project closeout. |
| Lead Function | Right of Way, Relocation and Assistance Program |
| Deliverables | • Provide Relocation Services and Payments<br>• Prepare Replacement Housing Valuations |
| References | – Caltrans Right of Way Manual, Chapter 10 |

| WBS Level 6 | 245.75 Right of Way Clearance |
|---|---|
| Description | Work involved in clearing the right of way of improvements, either by selling or demolishing improvements required for Right of Way project closeout. |
| Lead Function | Right of Way, Demolition and Clearance |
| Deliverables | • Cleared Property |
| References | – Caltrans Right of Way Manual, Chapter 12 |

| WBS Level 6 | 245.80 Right of Way Condemnation |
|---|---|

**WBS**

**245**

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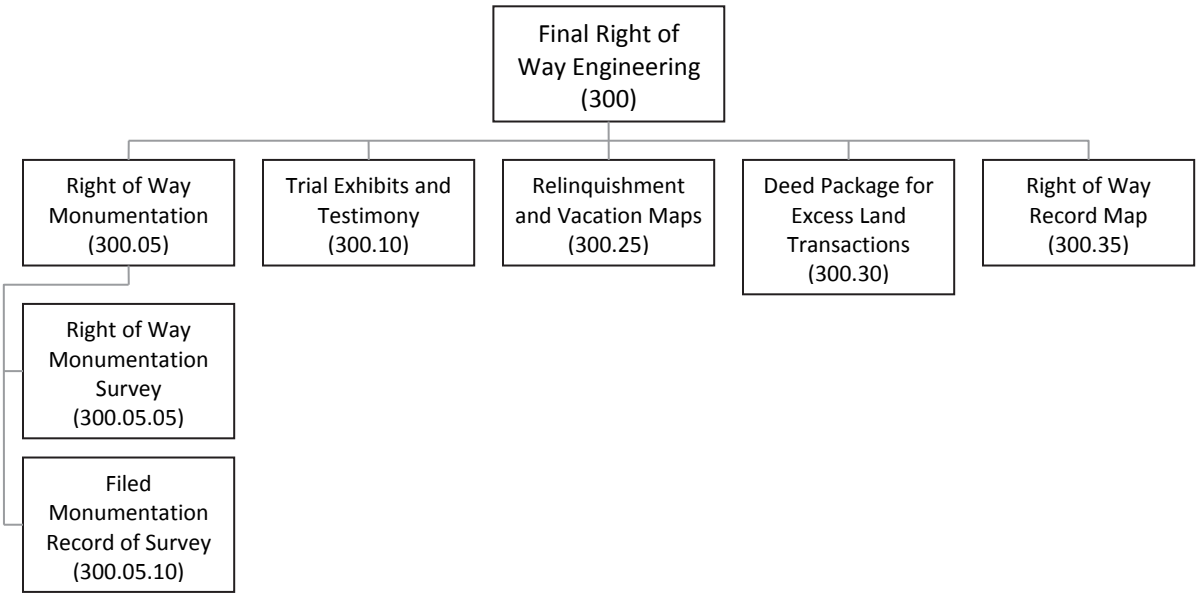
|---|---|
| Description | Work involved in delivering condemnation work required for Right of Way project closeout. |
| Lead Function | Right of Way, Condemnation |
| Deliverables | • Prepare Trial Exhibits<br>• Confer with Attorneys<br>• Review Condemnation Appraisal<br>• Appear as Expert Witness |
| References | – Caltrans Right of Way Manual, Chapter 9<br>– Staking Information<br>– Caltrans Surveys Manual<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 28 |

**WBS**
**300**

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

## 300 Final Right of Way Engineering



WBS

300

| WBS Level 5 | 300 Final Right of Way Engineering |
|---|---|
| Description | Work that is normally performed after construction of the project is complete and accepted by the Resident Engineer. Work involved is normally the monumentation of the right of way, relinquishments and vacations, preparation of right of way record maps, and preparation of deed packages for excess land transactions. |
| Lead Function | Right of Way Engineering |
| Deliverables | • Filed Monumentation Record of Survey<br>• Court Exhibits<br>• Relinquishment and Vacation Maps and Documents<br>• Excess Lands Documents<br>• Right of Way Record Maps |
| Major Milestones | ♦ M800 End Project (Finish: WBS 300) |
| References | – Caltrans Surveys Manual: http://www.dot.ca.gov/hq/row/landsurveys/SurveysManual/Manual_TOC.html<br>– Caltrans Right of Way Manual: http://www.dot.ca.gov/hq/row/rowman/manual<br>– Professional Land Surveyors' Act, Business and Professions Code: http://www.bpelsg.ca.gov/laws/pls_act.pdf<br>– Rules of the California Board of Professional Engineers and Land Surveyors: http://www.bpelsg.ca.gov/laws/boardrules.pdf |

| WBS Level 6 | 300.05 Right of Way Monumentation |
|---|---|
| Description | Effort includes field and office land surveying work required to be in compliance with the Professional Land Surveyors Act, Sections 8762-8765, 8771, and 8773, and Board Rules,Sections 464 and 465. |
| Lead Function | Right of Way Engineering with Surveys |
| Deliverables | • Filed Monumentation Record of Survey |
| References | – Professional Land Surveyors' Act, Business and Professions Code, Sections 8762-8765, 8771, and 8773<br>– Rules of the California Board of Professional Engineers and Land Surveyors, Sections 464 and 465 |

| WBS Level 7 | 300.05.05 Right of Way Monumentation Survey |
|---|---|
| Description | Includes all right of way monumentation field survey effort before, during and at |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| | completion of project construction. |
| Lead Function | Surveys |
| Deliverables | • Field Package<br>• Adjusted Land Net Field Survey |
| Business Practices | Pre-construction land-net monument perpetuation effort should be performed under WBS 160.20.30 and/or WBS 220.05.10. Effort does not include preparation or filing of Record of Survey. |
| References | – Caltrans Surveys Manual, Sections 10.16-1, 10.16-2, and 10.16-4<br>– For Field Package: Caltrans Surveys Manual, Section 10.9<br>– For Adjusted Land Net Field Survey: Caltrans Surveys Manual, Sections 5.4, 10.10, 10.11-5, and Figure 5.1 |

| **WBS Level 7** | **300.05.10 Filed Monumentation Record of Survey** |
|---|---|
| Description | Monumentation Record of Survey to meet the requirements of Professional Land Surveyors' Act. Effort includes preparation, filing, and correcting of Monumentation Record of Survey. |
| Lead Function | Right of Way Engineering |
| Deliverables | • Filed Monumentation Record of Survey |
| Business Practices | Department preferred method is filing a Record of Survey. A map filed under Business and Professions Code Section 8765(a) may only be filed when filing a Record of Survey would impose an extreme hardship on the department.<br><br>Pre-construction retracement Record of Survey effort should be performed under WBS 220.05.25. Actual field survey effort is not included under this code. |
| Notes | Boundary analysis, retracement of the land net, and mapping will be performed in accordance with accepted professional land surveying practices and applicable laws. |
| References | – Caltrans Surveys Manual, Sections 10.16-3<br>– Professional Land Surveyors' Act, Business and Professions Code, Sections 8762-8765, 8771, and 8773 |

| **WBS Level 6** | **300.10 Trial Exhibits and Testimony** |
|---|---|
| Description | Effort includes assisting in trial exhibit preparation, participating in pre-trial conferences and depositions, and expert testimony in court. |
| Lead Function | Right of Way Engineering |

| | |
|---|---|
| Deliverables | • Right of Way Trial Exhibits<br>• Expert Testimony |
| Business Practices | Creation of trial exhibits should be delayed as long as reasonably possible. Staff should liaise with Right of Way and Legal on a regular basis to ascertain that trial is still scheduled. Often an out of court settlement is reached, which precludes the necessity for trial exhibits. |
| References | – Caltrans Right of Way Manual, Sections 6.01.05.01 and 6.01.08.00<br>– Plans Preparation Manual, Sections 4-9 |

| **WBS Level 6** | **300.25 Relinquishment and Vacation Maps** |
|---|---|
| Description | Includes all work required to complete the relinquishment and vacation process of state facilities and right of way and collateral facilities, normally after completion of project construction. |
| Lead Function | District Right of Way Engineering and Division of Right of Way and Land Surveys, Office of Land Surveys |
| Deliverables | • Relinquishment Maps<br>• Vacation Maps<br>• Corresponding Documentation<br>• California Transportation Commission (CTC) Resolution (Filed with County) |
| Business Practices | Relinquishment package should be delivered to the Division of Right of Way and Land Surveys, Office of Land Surveys, four months prior to completion of the related construction project.<br>For closed projects try the following in order shown:<br>– Attempt to have original Project reopened.<br>– Have new project assigned specifically for performing this project element work. If this option is available, phase 2 should be opened to correctly charge time to this Project.<br>– Charge time to Project 00 0000 0838. |
| References | – Caltrans Right of Way Manual, Sections 6.17.00.00 and 6.18.00.00<br>– The maps produced must meet all requirements as set forth in the Caltrans Plans Preparation Manual, Chapter 4, and the Caltrans CADD Manual Section 2.4.E |

| **WBS Level 6** | **300.30 Deed Package for Excess Land Transactions** |
|---|---|
| Description | Effort includes preparation of documents required to convey property rights to satisfy excess land transactions. Includes preparation of Director's Deed and Plat. |
| Lead Function | Right of Way Engineering |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

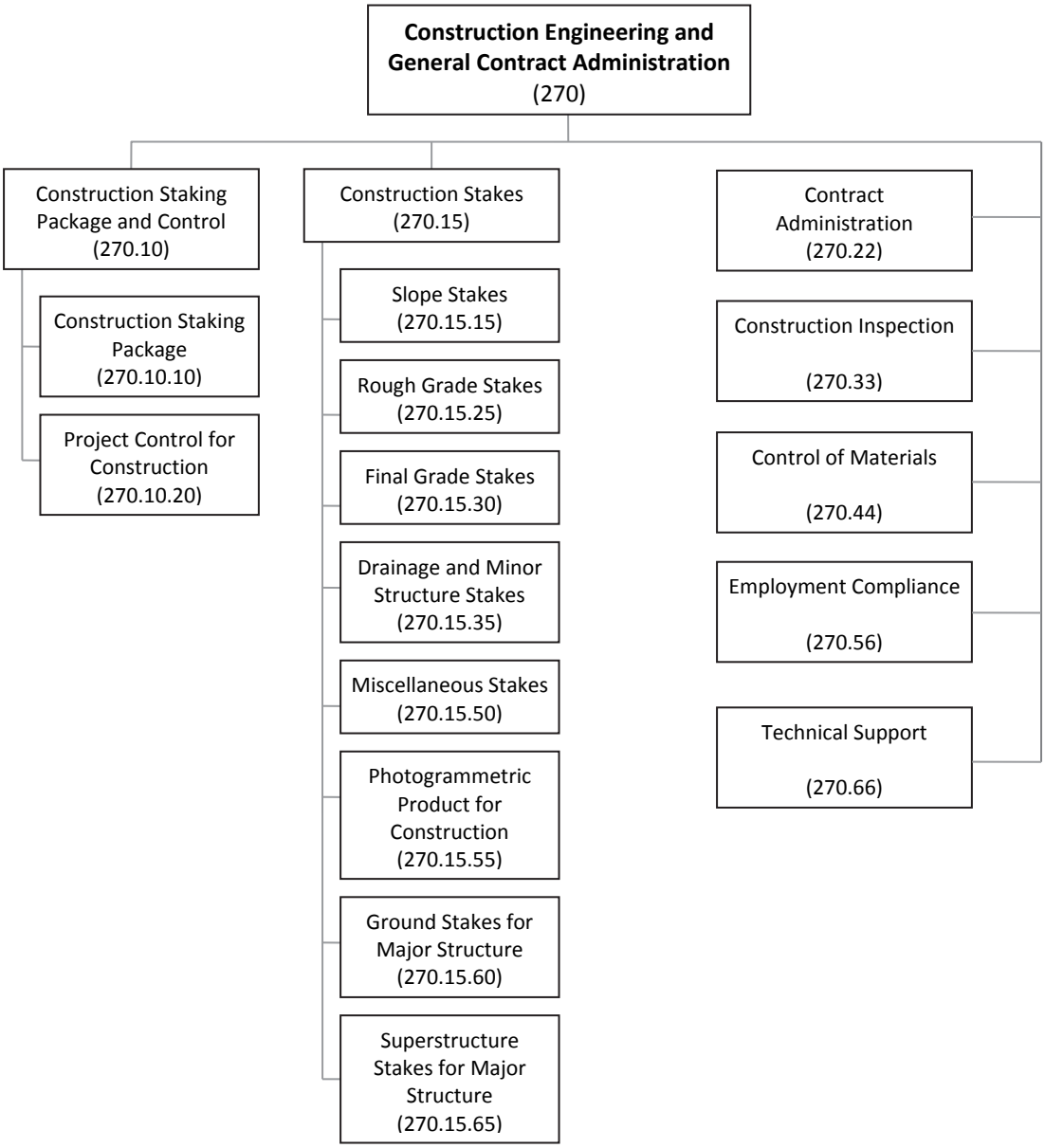
| | |
|---|---|
| Deliverables | • Excess Land Deed and Plat. |
| Business Practices | Effort should be made to complete deeds and plats for all identified excess land parcels prior to close of Project. If Project has been closed, an effort should be made to reopen Project for charging work for this WBS element.<br>For closed projects try the following in order shown:<br>– Attempt to have original Project reopened.<br>– Charge time to the District's pseudo-project ID for Director's Deeds and Maps. |
| References | – The maps produced must meet all requirements as set forth in the Caltrans Plans Preparation Manual, Chapter 4, and the Caltrans CADD Manual Section 2.4.E<br>– Caltrans R/W Manual, Section 6.15.00.00 and Exhibit 6-EX-2 |

| **WBS Level 6** | **300.35 Right of Way Record Map** |
|---|---|
| Description | Includes all effort in the preparation or modification of right of way maps for filing as an official District right of way Record Map. Tasks include, but are not limited to, temporary record map review, excess land delineation, verifying and posting conveyance document information, and updating status of excess lands. |
| Lead Function | Right of Way Engineering |
| Deliverables | • Right of Way Record Map |
| References | – The maps produced must meet all requirements as set forth in the Caltrans PlansPreparation Manual, Chapter 4, and the Caltrans CADD Manual Section 2.4.E<br>– Caltrans R/W Manual, Chapter 6.16.00.00 |

**WBS 270**

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

## 270 Construction Engineering and Contract Administration



| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 5** | **270 Construction Engineering and Contract Administration** |
|---|---|
| Description | Work involved in the construction of a project. Work includes performing construction surveying and staking, contract administration, construction inspection, quality assurance of materials, regulatory compliance and technical support. The end product of this activity is the acceptance of the construction contract. |
| Lead Function | Construction |
| Deliverables | • Accepted Construction Contract. |
| Major Milestones | ♦ M550 Final Safety Review (Finish: WBS 270.33)<br>♦ M580 Open to Traffic (Within: WBS 270)<br>♦ M600 Contract Acceptance (Finish: WBS 270) |
| References | – Caltrans Construction Manual: http://www.dot.ca.gov/hq/construc/constmanual<br>– Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser<br>– California Manual on Uniform Traffic Control Devices: http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp<br>– Caltrans Traffic Manual: http://www.dot.ca.gov/hq/traffops/signtech/signdel/trafficmanual-current.htm<br>– Caltrans Transportation Management Plan Guidelines: http://www.dot.ca.gov/hq/traffops/TMP_Guidelines_June_2009.pdf<br>– Caltrans Labor Surcharge and Equipment Rental Rates: http://www.dot.ca.gov/hq/construc/equipmnt.html<br>– California General Prevailing Wage Determinations (Director of Industrial Relations): http://www.dir.ca.gov/oprl/DPreWageDetermination.htm<br>– Caltrans Surveys Manual: http://pd/row/offices/landsurveys/Standards_&_Procedures/Manuals/Survey_Manual<br>– Caltrans Material Plant Quality Program: http://www.dot.ca.gov/hq/construc/hma/MPQP.pdf<br>– Caltrans Quality Control Manual for Hot Mix Asphalt: http://www.dot.ca.gov/hq/construc/publications/qcqaman1.pdf<br>– Caltrans Quality Control Quality Assurance Manual: http://www.dot.ca.gov/hq/construc/publications/qcqaman2002.pdf<br>– Caltrans Field Guide to Construction Site Dewatering: http://www.dot.ca.gov/hq/construc/stormwater/DewateringGuide.pdf<br>– Caltrans Independent Assurance Manual, Procedures for Accreditation of Laboratories and Qualification of Testers: http://www.dot.ca.gov/hq/esc/Translab/ofpm/IA_reports/2005_IA_Maunal.pdf |

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|---|---|
| | – Caltrans Construction Site Monitoring Program Guidance Manual January 2012: http://www.dot.ca.gov/hq/construc/stormwater/Caltrans_Guidance_Manual_CD.pdf |

| WBS Level 6 | 270.10 Construction Staking Package and Control |
|---|---|
| Description | Develop the Construction Staking Notes Package (CSNP) required by surveys field crews and ensure that adequate project control exists to complete all required construction staking. |
| Lead Function | Surveys |
| Deliverables | • Construction Staking Notes Package<br>• Construction Staking Electronic Data File<br>• Electronic Alignments for Structures<br>• Roadway and Drainage<br>• Slope Stake/Finish Grade Hard Copies<br>• Drainage/Structure Detail Sketches |
| Business Practices | All control necessary for construction staking should be ready for use at the beginning of the project construction phase. Exception to this practice is when it is expected that a control point would be disturbed during construction prior to its required use. |
| Notes | This task does not include performance of any civil engineering duties as listed in the California Business and Professions Code, Section 6731 by Land Surveys personnel. |
| References | – Caltrans Construction Manual<br>– Caltrans Surveys Manual |

| WBS Level 7 | 270.10.10 Construction Staking Package |
|---|---|
| Description | Develop the Construction Staking Notes Package required by surveys field crews to complete all required construction staking. Notes and files will contain all information required by field survey crews to stake the project for construction. |
| Lead Function | Surveys |
| Deliverables | • Electronic Alignments for Structures<br>• Roadway and Drainage<br>• Slope Stake/Finish Grade Hard Copies<br>• Drainage/Structure Detail Sketches |
| Business Practices | Work to complete the Construction Staking Notes Package (CSNP) may be performed in part under WBS 255.35.10. Creation of the CSNP should be started and substantially complete during the PS&E phase under WBS 255.35.10. Completion and revision to the CSNP can be performed under WBS 255.35.10 and charged the Project Phase 1 or |

| | |
|---|---|
| | under WBS 270.10 and charged to Project Phase 3. |
| Notes | This task does not include performance of any civil engineering duties as listed in the California Business and Professions Code, Section 6731 by Survey staff. |
| References | – Caltrans Project Development Procedures Manual, Appendix QQ<br>– Caltrans Construction Manual<br>– Caltrans Surveys Manual |
| Subtasks | – Obtain and examine PID and related documents<br>– Obtain and examine project plans from earlier stages<br>– Discuss and verify initial Purpose and Need, Alternatives, and previous environmental evaluations and approvals with Project Manager<br>– Obtain and examine Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP) listings, regional emissions analyses<br>– Verify compliance with NEPA/404 Memorandum of Understanding (MOU) process at prior stages<br>– Verify Clean Air Act conformity status of project and alternatives<br>– Environmental Generalist/Coordinator, Field Review<br>– Start Project File |

| WBS Level 7 | **270.10.20 Project Control for Construction** |
|---|---|
| Description | Tasks include reestablishing and supplementing project control as necessary to ensure that control is viable for construction staking. Includes all work required to enable control to be used for any type of staking / construction methods. |
| Lead Function | Surveys |
| Deliverables | • Sufficient Control to Stake Project during Construction. |
| Business Practices | All control necessary for construction staking should be ready for use at the beginning of the project construction phase. Exception to this practice is when it is expected that a control point would be disturbed during construction prior to its required use. |
| References | – Caltrans Surveys Manual, Chapters 5 and 9, and Figure 5.1.<br>– Caltrans Construction Manual<br>– Caltrans Plans Preparation Manual, Section 2-2.4 |

| WBS Level 7 | **270.10.30 Existing Monument Perpetuation Survey** |
|---|---|
| Description | FOR PROJECTS WITH NO PHASE 2 ONLY. All effort required to perpetuate (preserve, reference, or replace) existing survey monuments, including performing research to locate all relevant survey monument records required to complete existing |

| | |
|---|---|
| | monument perpetuation field surveys; creating the Monument Search Map for use during monument perpetuation field surveys; performing Pre-Construction and Post-Construction monument perpetuation field surveys (search, recover, describe, tie-in, and reference existing survey monuments, including observation adjustment and calculating coordinates as appropriate); preparing, submitting, correcting, and filing Pre-Construction and Post-Construction Records of Survey or Corner Records in conformance with the California Streets and Highways Code (S&H Code), Business and Professions Code (B&P Code), and any other required Right of Way Engineering effort before, during and at completion of project construction FOR PROJECTS WITH NO PHASE 2 ONLY. |
| Lead Function | Surveys and Right of Way Engineering |
| Deliverables | • Existing Records<br>• Monument perpetuation Surveys<br>• Complete Survey Documentation<br>• Perpetuated Monuments<br>• Filed Pre-Construction Record of Survey or Pre-Construction Corner Records<br>• Filed Post-Construction Record of Survey or Post-Construction Corner Records |
| Business Practices | Work for this task is intended only for projects having no programmed 2-Phase and when monument perpetuation or other required Right of Way Engineering effort was not identified or not sufficiently identified, earlier in the project. Pre-Construction Record of Survey or Pre-Construction Corner Records must be submitted prior to any existing monumentation being destroyed, damaged, covered, disturbed, or otherwise obliterated during any element of the Project. The Department's preferred method is filing a Record of Survey. Producing Corner Records is an option allowed by the B&P Code. A map filed under Section 8765(a) should only be filed when filing a Record of Survey would impose an extreme hardship on the Department.<br><br>It is preferred to perform the Pre-Construction monumentation perpetuation survey, in part or in whole, while performing the control survey work for the engineering surveys during the Project Approval and Environmental Document (PA&ED) phase of the project. When record data search or monument perpetuation surveys are performed during the PA&ED phase, WBS 160.20.25 and 160.20.30 should be charged. Close coordination with the Project Manager is required to ensure adequate resources are made available for this effort, and care should be taken to charge in accordance with the project resource estimate. |
| References | – Caltrans Surveys Manual, Chapters 5 and 10<br>– California S&H Code Section 732.5, California B&P Code, Sections 6730, 8762-8765, 8771, 8773, and the Rules of the California Board of Professional Engineers, Land Surveyors, and Geologists, Sections 464 and 465 |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 6** | **270.15 Construction Stakes** |
|---|---|
| Description | Construction staking operations performed at the construction project site. Includes time reviewing the construction-staking request, traveling to the construction project, performing the staking and all staking related survey operations. |
| Lead Function | Surveys |
| Deliverables | • Construction Staking to Control Planned Lines and Grades<br>• Notes Resulting from Construction Staking Requests<br>• Electronic Alignments for Structures<br>• Staking and Setting Control Points for Roadway and Drainage Facilities<br>• Slope Stake/Finish Grade Hard Copies<br>• Drainage/Structure Detail Sketches<br>• Photogrammetric Product as Requested |
| References | – Caltrans Surveys Manual, Chapter 12 |

| **WBS Level 7** | **270.15.15 Slope Stakes** |
|---|---|
| Description | Slope stakes control the construction of earthwork slopes, including bridge abutment fill stakes. |
| Lead Function | Surveys |
| Deliverables | • Construction Staking to Control Planned Lines and Grades<br>• Slope Stake Notes Resulting from Construction Staking Request |
| References | – Caltrans Surveys Manual, Chapter 12, Section 12.5-2, 12.5-3 and 12.5-10.<br>– Caltrans Construction Manual |

| **WBS Level 7** | **270.15.25 Rough Grade Stakes** |
|---|---|
| Description | Rough grade stakes aid rough finishing of the grading plane. They are only set when requested by the resident engineer when cuts or fills are greater than 30 feet. |
| Lead Function | Surveys |
| Deliverables | • Rough Grade Staking Notes Resulting from Construction Staking Request |
| References | – Caltrans Surveys Manual<br>– Caltrans Construction Manual |

| **WBS Level 7** | **270.15.30 Final Grade Stakes** |
|---|---|
| Description | Controls all elements of the structural section (the grading plane, sub-base, base, and |

| | |
|---|---|
| | pavement). Can also be used to curb, gutter, sidewalk, etc. Commonly referred to as Finish Grade Stakes. |
| Lead Function | Surveys |
| Deliverables | • Construction Staking to Control Planned Lines and Grades<br>• Slope Stake Notes Resulting from Construction Staking Request |
| References | – Caltrans Surveys Manual<br>– Caltrans Construction Manual |

| **WBS Level 7** | **270.15.35 Drainage and Minor Structure Stakes** |
|---|---|
| Description | Control minor drainage structures, pipes, and similar facilities as well as minor structure stakes such as sign bases, lighting and signal foundations, other foundations, and similar miscellaneous structures. |
| Lead Function | Surveys |
| Deliverables | • Drainage and Minor Structure Detail Sketches.<br>• Staking and Setting Control Points for Drainage and Minor Structure Facilities |
| References | – Caltrans Surveys Manual<br>Sublist:Caltrans Construction Manual |

| **WBS Level 7** | **270.15.50 Miscellaneous Stakes** |
|---|---|
| Description | Used to control all other required features not specified in other codes. Includes fences, utilities, landscaping, etc. |
| Lead Function | Surveys |
| Deliverables | • Slope Stake Notes Resulting from Construction Staking Request |
| References | – Caltrans Surveys Manual<br>– Caltrans Construction Manual |

| **WBS Level 7** | **270.15.55 Photogrammetric Product for Construction** |
|---|---|
| Description | Includes preparing mapping request, flight line and control distribution planning, pre-marking control survey, aero-triangulation, contract administration, 3-D compilation, map assembly, data conversion, quality control, and digital modeling, or other products as specifically requested by Construction. |
| Lead Function | Surveys |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| Deliverables | • Photogrammetric Product as Requested. |
| References | – Caltrans Surveys Manual<br>– Caltrans Construction Manual |

| **WBS Level 7** | **270.15.60 Ground Stakes for Major Structure** |
|---|---|
| Description | Used to control staking of footings, bents, abutments, wingwalls, walls, and other ground features related to the structure. Surveys does not set stakes to reference individual piles, individual pile cutoff elevations, or falsework. Used for all stakes, set in ground, used to reference major structures. |
| Lead Function | Surveys |
| Deliverables | • Staking and Setting Ground Stakes for Major Structure Facilities.<br>• Major Structure Detail Sketches. |
| Notes | Use of the term "Ground Stakes" in title refers to the location of the reference stake, not the location of the item being referenced. |
| References | – Caltrans Surveys Manual<br>– Caltrans Construction Manual |

| **WBS Level 7** | **270.15.65 Superstructure Stakes for Major Structure** |
|---|---|
| Description | Includes temporary benchmarks set on top of columns, and single offset control stakes to the alignment set on the soffit forms. Used for all stakes, set in the superstructure, used to reference major structures. |
| Lead Function | Surveys |
| Deliverables | • Staking and Setting Stakes for Superstructure for Major Structure Facilities<br>• Superstructure Detail Sketches |
| Notes | Use of the term "Superstructure" in title refers to the location of the reference stake, not the location of the item being referenced. |
| References | – Caltrans Surveys Manual<br>– Caltrans Construction Manual |

| **WBS Level 6** | **270.22 Contract Administration** |
|---|---|
| Description | Work required administrating a construction contract. |
| Lead Function | Construction |

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|---|---|
| Deliverables | • Documents or Records Produced under Subtasks Appropriately Filed in the Construction Project Records. |
| References | – Caltrans Construction Manual<br>– Caltrans Standard Environmental Reference (SER)<br>– California Manual on Uniform Traffic Control Devices<br>– Caltrans Traffic Manual<br>– Caltrans Transportation Management Plan Guidelines<br>– Caltrans Labor Surcharge and Equipment Rental Rates<br>– California General Prevailing Wage Determinations (Director of Industrial Relations)<br>– Caltrans Surveys Manual<br>– Caltrans Material Plant Quality Program<br>– Caltrans Quality Control Manual for Hot Mix Asphalt<br>– Caltrans Quality Control Quality Assurance Manual<br>– Caltrans Independent Assurance Manual, Procedures for Accreditation of Laboratories and Qualification of Testers<br>– Caltrans Construction Site Monitoring Program Guidance Manual January 2012<br>– Caltrans Standard Operating Procedures for Turbidity, pH, Dissolved Oxygen, and Conductivity January 2012<br>– Caltrans Summary of Changes - Revision of SWPPP & WPCP Preparation Manual, SWPPP and WPCP Templates May 2012<br>– Caltrans SWPPP/WPCP Preparation Manual March 2011<br>– Caltrans Construction Site BMP Manual March 2003<br>– Caltrans SWPPP/WPCP Review Guidance Manual<br>– Caltrans Stormwater Management Enforcement Guidance Manual and Appendices<br>– Caltrans Construction Stormwater Coordinators Guidance Manual<br>– Caltrans Guidance for Temporary Soil Stabilization<br>– Caltrans BMP Field Manual and Troubleshooting Guide<br>– Caltrans Field Guide to Construction Site Dewatering |
| Subtasks | Activities include, but are not limited to:<br>– Reviewing resident engineer file and project plans including right of way agreements.<br>– Building project files. Ensuring that complete and accurate records of the work are retained.<br>– Securing office space and associated service contracts.<br>– Arranging and conducting the pre-construction meeting with the contractor.<br>– Analyzing the contract plan and specifications. Identifying corrections.<br>– Changed field condition engineering.<br>– Reviewing for design adequacy, constructability, regulatory compliance and |

potential cost impacts of a proposed value engineering cost proposals (VECP). Development of a change order for a VECP is included in WBS 285.05.

- Analyzing construction staging and authorizing when required.
- Reviewing and analyzing action submittals and authorizing when required.
- Traffic management and contingency planning. Includes activities related to lane closures, managing and implementing the Transportation Management Plan (TMP) during construction and any traffic delays associated with lane closures. Also includes work associated with the contingency planning for lane closures.
- Reviewing contractor offsite activities and agreements.
- Managing COZEEP. Includes scheduling and cancelling COZEEP as well as processing and filing COZEEP daily reports.
- Completing resident engineers' daily report.
- Completing weekly statement of working days.
- Performing bid item quantity calculations for progress payments. Measuring and calculating the bid item quantities completed and preparing quantity sheets for payment. Reviewing and approving estimates for payment. Also includes materials on hand payment.
- Processing withholds and deductions.
- Actively managing budget and contingency funds.
- Requesting supplemental funds when needed.
- Reviewing contractor documents including insurance and bonding.
- Assisting in termination of control or contract.
- Performing the required reviews of a project prior to acceptance. Also included, as need, is the issuance of relief of maintenance and responsibility to the contractor.
- Accepting the contract.
- Managing A&E task order.
- Monitoring and maintaining documents involving vehicles, equipment, time reporting and overtime records.
- Cal/OSHA related issues, accident or incident reporting, and ADA compliance.

| **WBS Level 6** | **270.33 Construction Inspection** |
|---|---|
| Description | All work involved in the conduct of inspecting bid item work for the construction of a project. Includes inspection of change order work and documentation. |
| Lead Function | Construction |
| Deliverables | • Documents or Records Produced under Subtasks Appropriately Filed in the Construction Project Records. |
| References | – Caltrans Construction Manual<br>– Caltrans Standard Environmental Reference (SER) |

| | |
|---|---|
| | – California Manual on Uniform Traffic Control Devices<br>– Caltrans Traffic Manual<br>– Caltrans Transportation Management Plan Guidelines<br>– Caltrans Labor Surcharge and Equipment Rental Rates<br>– California General Prevailing Wage Determinations (Director of Industrial Relations)<br>– Caltrans Surveys Manual<br>– Caltrans Material Plant Quality Program<br>– Caltrans Quality Control Manual for Hot Mix Asphalt<br>– Caltrans Quality Control Quality Assurance Manual<br>– Caltrans Independent Assurance Manual, Procedures for Accreditation of Laboratories and Qualification of Testers |
| Subtasks | Activities include, but are not limited to:<br>– Interpreting contract documents.<br>– Field inspection and observation.<br>– Jobsite material inspection, sampling and release as required.<br>– Inspection using established lines and grade control.<br>– Taking progress photographs of the jobsite and the contractors' operation.<br>– Inspecting the contractor's operations related to traffic control to ensure public safety and compliance with contract provisions for public convenience.<br>– Completing assistant resident engineer daily reports and documentation.<br>– Inspecting the plant establishment phase of a project including monitoring plant growth, irrigation operation and direction of remedial work.<br>– Punch list/final cleanup/relief of maintenance/final inspection. Work involved in the final inspection of the work prior to the acceptance of the project.<br>– Safety inspections, Cal/OSHA related issues, accident or incident reporting, and ADA compliance.<br>– Tailgate Safety Meetings. |

| **WBS Level 6** | **270.44 Control of Materials** |
|---|---|
| Description | All quality assurance work related to the control of materials incorporated into the work. All work involved in the conduct of sampling and testing of construction material for the construction contract. |
| Lead Function | Construction |
| Deliverables | • Documents or Records Produced under Subtasks Appropriately Filed in the Construction Project Records. |
| References | – Caltrans Construction Manual<br>– Caltrans Material Plant Quality Program |

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|---|---|
| | – Caltrans Quality Control Manual for Hot Mix Asphalt<br>– Caltrans Quality Control Quality Assurance Manual<br>– Caltrans Independent Assurance Manual, Procedures for Accreditation of Laboratories and Qualification of Testers |
| Subtasks | Activities include, but are not limited to:<br>– Mix Design review and comment.<br>– Material plant 109 certification and testing.<br>– Sampling and testing material at the source or at the construction project site.<br>– Inspecting material source plants or facilities<br>– Sampling and testing as part of quality assurance and independent assurance.<br>– Logging and analyzing materials tests, notifying contractor of results, materials dispute resolution, and materials certification. |

| **WBS Level 6** | **270.56 Employment Compliance** |
|---|---|
| Description | Work involved during construction to assure compliance with the appropriate laws related to the contractor and the contractor's employees. |
| Lead Function | Construction |
| Deliverables | • Documents or Records Produced under Subtasks Appropriately Filed in the Construction Project Records. |
| References | – Caltrans Construction Manual<br>– California General Prevailing Wage Determinations (Director of Industrial Relations) |
| Subtasks | Activities include, but are not limited to:<br>– Civil Rights, Disadvantaged Business Enterprise (DBE), Underutilized Disadvantaged Business Enterprises (UDBE), commercially useful function, and Disabled Veteran Business Enterprise (DVBE) administration as described in Construction Manual Chapter 8 Section 3.<br>– Contractor Licensing<br>– Subcontracting including approving subcontracting requests, verifying that subcontractors have not been debarred, and confirming percentages of work performed are as required by contract.<br>– Subcontractor substitution including evaluating request for substitution of subcontractors and/or equal evaluations.<br>– Tribal Employment Rights Ordinance (TERO) administration.<br>– Equal employment opportunity (EEO) administration per the provisions of the contract This includes the "Federal-Aid Highway Construction Contractors Annual EEO Report" , employee interviews, investigation and referral of EEO complaints, |

| | |
|---|---|
| | and any EEO deduction recommendations.<br>– Labor compliance activities including reviewing fringe benefit statements, contractor/subcontractor payroll, statement of compliance, employee interviews, labor compliance violation deduction recommendations, and final utilization reports. |

| **WBS Level 6** | **270.66 Technical Support** |
|---|---|
| Description | Technical support provided by personnel from functional units other than construction during the Construction Engineering and Contract Administration not defined or covered in other WBS 270, 275 or 280 elements. Technical support provided by: Design, Traffic, Hydraulics, Materials, Division of Engineering Services (DES)/Structure Design, DES/Geotechnical Services, Environmental, Landscape Architect, Maintenance, and other specialty staff. |
| Lead Function | Various |
| Deliverables | • Documents or Records Produced under Subtasks Appropriately Filed in the Construction Project Records. |
| References | – Caltrans Construction Manual<br>– Caltrans Standard Environmental Reference (SER) |
| Subtasks | Activities include, but are not limited to:<br>– Functional unit support to construction. Includes responses to requests for information and authorization of shop drawings.<br>– Pre-construction meeting between construction and functional units.<br>– Public information officer/outreach including public meetings, open houses, and other meetings concerning construction impacts.<br>– Technical assistance in the review of the project site (or for portions of the project) to ensure that all safety concerns/ requirements have been addressed and that the Right-of-Way and all State roadway/structures/facilities within the defined project limits have been maintained by the contractor (from beginning of construction through construction completion and contract acceptance) in accordance with the construction contract. |

**WBS**
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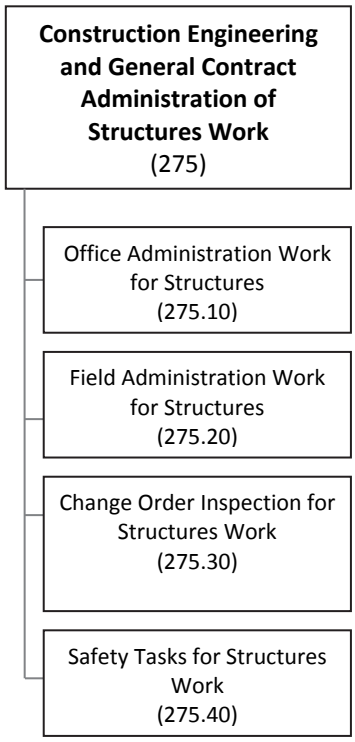
| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

## 275 Construction Engineering and General Contract Administration of Structures Work



WBS
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| WBS Level 5 | 275 Construction Engineering and General Contract Administration of Structures Work |
|---|---|
| Description | Work involved in field engineering, inspection of contractors' operations and general construction contract administration for structures work. |
| Lead Function | Structures Construction |
| Deliverables | • Completed Construction Engineering and General Contract Administration of Structures Work |
| Major Milestones | ♦ None. |
| References | – California General Prevailing Wage Determinations (Director of Industrial Relations): http://www.dir.ca.gov/oprl/DPreWageDetermination.htm<br>– California Test Methods: http://www.dot.ca.gov/hq/esc/ctms<br>– Caltrans Bridge Construction Records and Procedures: http://www.dot.ca.gov/manuals.htm<br>– Caltrans Bridge Deck Construction Manual: http://www.dot.ca.gov/manuals.htm<br>– Caltrans Construction Manual: http://www.dot.ca.gov/hq/construc/constmanual<br>– Caltrans Construction Manual Supplement for Local Agency Resident Engineers: http://www.dot.ca.gov/hq/construc/CPDirectives/LARE.pdf<br>– Caltrans Construction Site Best Management Practices Manual: http://www.dot.ca.gov/manuals.htm<br>– Caltrans Falsework Manual: http://www.dot.ca.gov/hq/esc/construction/manuals<br>– Caltrans Foundation Manual: http://www.dot.ca.gov/hq/esc/construction/manuals<br>– Caltrans Local Agency Structure Representative Guidelines: http://www.dot.ca.gov/hq/construc/CPDirectives/LASR_Guidelines.pdf<br>– Caltrans Prestress Manual: http://www.dot.ca.gov/hq/esc/construction/manuals<br>– Caltrans Stormwater Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual: http://www.dot.ca.gov/hq/construc/stormwater/documents/SWPPP_Prep_ManualJune2011.pdf<br>– Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser<br>– Caltrans Surveys Manual: |

http://www.dot.ca.gov/hq/row/landsurveys/SurveysManual/Manual_TOC.html
- Caltrans Trenching and Shoring Manual: http://www.dot.ca.gov/hq/esc/construction/manuals
- Concrete Technology: http://dschq.dot.ca.gov/OSCHQDownloads/misc/CTM_DRAFT_August2011.pdf
- Outline of Field Construction Practices: http://dschq.dot.ca.gov/sc_manuals/complete_manuals/FieldConstructionPractices.pdf

| WBS Level 6 | 275.10 Office Administration Work for Structures |
|---|---|
| Description | All work related to the office tasks involved in the contract administration of structures work. |
| Lead Function | Structure Construction |
| Deliverables | • Completed Office Administration Work for Structures |
| References | Reference(s) - shown under each product or service<br>– Project Plans Special Provisions and Estimate Review:<br>▪ Caltrans Construction Manual, Chapters 1 and 3<br>– Clerical Work and Structure Construction Project Files:<br>▪ Caltrans Construction Manual, Chapters 1 and 5<br>▪ Caltrans Bridge Construction Records and Procedures, Sections 4 and 5<br>– Pre-construction Meeting:<br>▪ Caltrans Construction Manual, Chapter 5<br>▪ Caltrans Standard Environmental Reference (SER), Sections 1-2.8<br>– Progress Pay Estimates and Pay Quantities for Structures Items:<br>▪ Caltrans Construction Manual, Chapters 1 and 3<br>▪ Caltrans Bridge Construction Records and Procedures, Sections 3, 4, 5, 6 and 130<br>– Correspondence:<br>▪ Caltrans Bridge Construction Records and Procedures, Sections 2-7.0<br>– Structures Submittal and Shop Plan Review:<br>▪ Caltrans Construction Manual, Chapters 3 and 7<br>▪ Caltrans Trenching and Shoring Manual<br>▪ Caltrans Bridge Construction Records and Procedures, Sections 3<br>▪ Caltrans Prestress Manual<br>▪ Caltrans Falsework Manual<br>▪ Concrete Technology<br>– Cost Reduction Incentive Proposals (CRIP) for Structures Review:<br>▪ Caltrans Construction Manual, Chapter 3<br>– Labor Compliance Activities: |

| | |
|---|---|
| | ▪ Caltrans Construction Manual, Chapters 3 and 8<br>– Civil Rights Contract Compliance:<br>▪ Caltrans Construction Manual, Chapter 8<br>– Weekly Statement of Working Days:<br>▪ Caltrans Construction Manual, Chapter 3<br>– Coordination:<br>▪ Caltrans Construction Manual, Chapters 1 and 2<br>▪ Caltrans Bridge Construction Records and Procedures, Sections 8<br>– Pile Mitigation:<br>▪ Caltrans Foundation Manual, Chapter 9 |
| Subtasks | – Structures Resident Engineer Pending File Review.<br>▪ Structure Representative reviews the resident engineer's file and structures resident engineer's file.<br>– Project Plans Special Provisions and Estimate Review.<br>▪ Work involved in reviewing the project plans, special provisions and the estimates to become familiar with the contract documents.<br>– Clerical Work and Structure Construction Project Files.<br>▪ Involves the initial work to develop the contract administration files for structures items.<br>– Pre-construction Meeting.<br>▪ Includes in-house meeting after Pre-Construction meeting to establish Partnering Agreement, and the use of a Dispute Review Board (DRB).<br>– Progress Pay Estimates and Pay Quantities for Structures Items.<br>▪ Work involved in measuring and calculating the contract item pay quantities for the construction project's structure items. Includes preparation of payment sheets to be used for quantity sheets.<br>– Correspondence.<br>▪ Letters and e-mails providing correspondence between State representatives and the Contractor.<br>– Structures Submittal and Shop Plan Review.<br>▪ Field engineering staff's review and approval of the Contractor's submittals for compliance with contract documents, design adequacy, constructability, and completeness. This can include trenching and shoring plans, shop plans, falsework drawings and mix design reviews.<br>– Cost Reduction Incentive Proposals (CRIP) for Structures Review.<br>▪ Review and approval for design adequacy, constructability, contract compliance, estimate of cost savings, potential impacts on the environment, conformity with permit requirements, any necessary specification changes or additions, etc., of a Contractor's submitted CRIP for structures work. Development of the Contractor Change Order (CO) for an approved CRIP is included in WBS 285. |

- Labor Compliance Activities.
  - Administering the labor compliance provisions of the contract per California Labor Code, Federal Highway Administration (FHWA) and the United States Department of Labor. Also includes approving subcontractor substitutions.
- Civil Rights Contract Compliance.
  - Includes work by construction staff to comply with civil right statutes.
- Weekly Statement of Working Days.
  - Work involved in supporting the resident engineer in using form CEM-2701 to track the contract time and using "days," "working days," and "controlling operation."
- Coordination.
  - Includes contact with Local agencies and others. Also includes management of the Construction Zone Enhanced Enforcement Program (COZEEP) agreement/contract.
- Pile Mitigation.
  - Office work involved if a pile is determined to be defective. Elements of support from Geotechnical Services that are field related are part of Field Administration Work for Structures.
- Technical Support.
  - Technical Support for the construction engineering staff provided by personnel other than construction staff, providing support to structure construction engineering activities. Includes Design, Traffic, Hydraulics, Materials, DES/Structure Design, DES/Geotechnical Services, Environmental, Landscape Architect, Right of Way Engineering, Maintenance and other specialty staff. Functional support may include attendance at pre-work conferences, resource identification and staking, on-site construction support and Resident Engineer's pending file review.

| **WBS Level 6** | **275.20 Field Administration Work for Structures** |
|---|---|
| Description | All work related to the field tasks involved in contract administration of structures work. |
| Lead Function | Structure Construction |
| Deliverables | • Completed Field Administration Work for Structures |
| References | Reference(s) - shown under each product or service<br>– Line and Grade Control<br>▪ Caltrans Surveys Manual<br>▪ Caltrans Bridge Deck Construction Manual<br>▪ Caltrans Bridge Construction Records and Procedures |

- Inspection of Structures Work for Compliance and Incorporation:
  - Caltrans Bridge Construction Records and Procedures, Sections 100, 105, 112, 115, 124, 125, 130, 132, 135, 140, 145, 155, 160-162, 165, 168, and 170
  - Caltrans Stormwater Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual
  - Caltrans Construction Site Best Management Practices Manual
- Load Testing and Cast-in-Drilled-Hole Inspection:
  - Caltrans Bridge Construction Records and Procedures, Section 130
  - Caltrans Foundation Manual, Chapters 4 and 8
  - California Test Methods
  - Caltrans Surveys Manual
  - Caltrans Prestress Manual
  - Caltrans Bridge Deck Construction Manual
- Pile Mitigation:
  - Caltrans Foundation Manual, Chapter 9
- Daily Report of Contract Operations:
  - Caltrans Construction Manual, Chapters 1 and 3
  - Caltrans Bridge Construction Records and Procedures, Section 3
- Punch List:
  - Construction Manual Supplement for Local Agency Resident Engineers

Subtasks

- Photographed Jobsite and Contractors' Operations.
- Line and Grade Control.
  - Using the field survey stakes and notes from Surveys, the construction field engineering staff determines and lays out all additional lines and grades necessary to construct/erect/place a particular structure (or portion of a structure).
- Inspection of Structures Work for Compliance and Incorporation.
  - Includes inspection and monitoring of the contractor's Storm Water Pollution Protection Plan (SWPPP) facilities.
- Inspection of Superstructure work for Compliance and Incorporation.
  - Involves inspection and monitoring of superstructure work for contract compliance.
- Inspection of Substructure Work for Compliance and Incorporation.
  - Involves inspection and monitoring of substructure work for contract compliance.
- Structures Construction Material Sampling and Testing.
  - Limited to work involved in the material sampling and testing duties of the Structure Representative and the Structure Representative's assistant(s). Material sampling and testing activities performed by the Office of Materials Engineering and Testing Services is performed under WBS

270.35.

- Load Testing and Cast-in-Drilled-Hole Inspection.
  - Work involved in providing services for structure construction projects by the Foundation Testing Branch, Office of Geotechnical Support, and Geotechnical Services.
- Pile Mitigation.
  - Fieldwork involved if a pile is determined to be defective. Elements of support from Geotechnical Services and Division Engineering Services (DES)/Structure Design that are office related are part of Office Administration Work for Structures.
- Daily Report of Contract Operations.
- Punch List.

| WBS Level 6 | 275.30 Change Order Inspection for Structures Work |
|---|---|
| Description | All additional work involved in the inspection of structure's items created or altered by a change order. |
| Lead Function | Structure Construction |
| Deliverables | • Completed Change Order Inspection for Structures Work |
| References | – Caltrans Bridge Construction Records and Procedures, Section 3 |

| WBS Level 6 | 275.40 Safety Tasks for Structures Work |
|---|---|
| Description | Federal and State laws require Caltrans to provide a safe place of employment that is reasonably free from danger to life or health. |
| Lead Function | Structure Construction |
| Deliverables | • Completed Safety Tasks for Structures Work |
| Business Practices | Federal and State laws have established occupational safety and health standards with which all employers must comply. |
| References | Reference(s) - shown under each product or service<br>– Contractors' Operations Relative to Safety Requirements Documentation<br>▪ Caltrans Bridge Construction Records and Procedures, Section 14<br>– Safety Diaries<br>▪ Caltrans Construction Manual, Chapter 2<br>▪ Caltrans Bridge Construction Records and Procedures, Section 14<br>– Project Safety Program Statement<br>▪ Caltrans Construction Manual, Chapter 2<br>– Code of Safe Practices |

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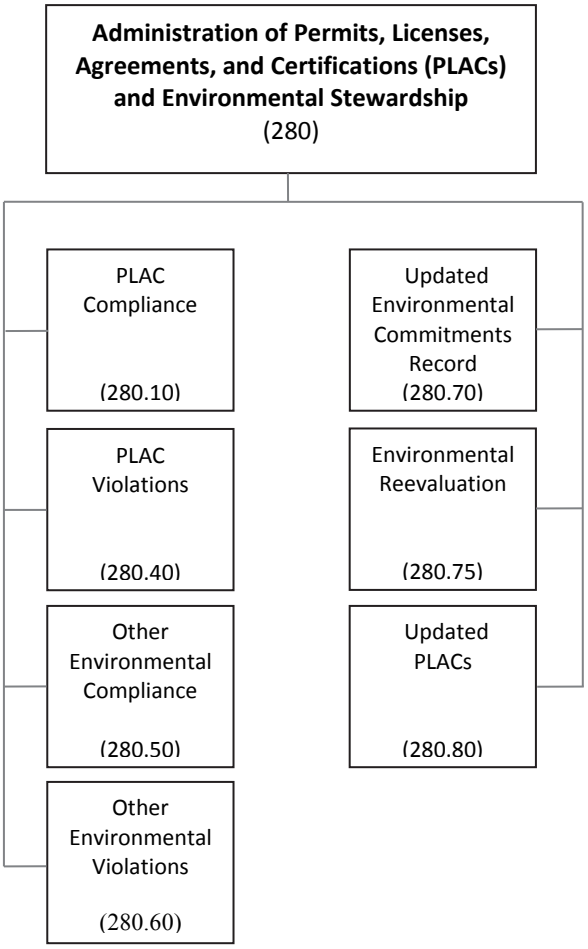
|---|---|
| | ▪ Caltrans Construction Manual, Chapter 2<br>– Tailgate Safety Meetings<br>▪ Caltrans Construction Manual, Chapter 2<br>▪ Caltrans Bridge Construction Records and Procedures, Section 14 |
| Subtasks | – Contractors' Operations Relative to Safety Requirements Documentation.<br>– Safety Diaries<br>– Project Safety Program Statement.<br>– Code of Safe Practices.<br>– Tailgate Safety Meetings. |

| WBS 280 | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| Project Phase | | K | 0 | 1 | 2 | 3 |
| SB45 Component | 0 | 1 | 2 | 3 | 4 | 5 |

## 280 Administration of Permits, Licenses, Agreements, and Certifications (PLACs) and Environmental Stewardship



**WBS**

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| WBS Level 5 | 280 Administration of Permits, Licenses, Agreements, and Certifications (PLACs) and Environmental Stewardship |
|---|---|
| Description | Work involved in the administration of permits, licenses, agreements, and certifications (PLACs), as well as other environmental stewardship responsibilities, during the construction of a project. Work includes ensuring compliance with PLACs, responding to alleged violations, updating environmental commitment records (ECR), technical support or guidance on PLACs from other support functions, updating PLACs, and the monitoring of environmental commitments during construction. The end product of this activity is the acceptance of the construction contract. |
| Lead Function | Construction |
| Deliverables | • Accepted Construction Contract. |
| Major Milestones | ♦ M600 Contract Acceptance (Finish: WBS 270) |
| Notes | Memo dated June 10, 2000 from the Chief Engineer requiring the preparation and use of an Environmental Commitments Record for all projects. |
| References | – Caltrans Construction Manual: http://www.dot.ca.gov/hq/construc/constmanual<br>– Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser<br>– Caltrans Field Guide to Construction Site Dewatering: http://www.dot.ca.gov/hq/construc/stormwater/DewateringGuide.pdf<br>– Caltrans Construction Site Monitoring Program Guidance Manual January 2012: http://www.dot.ca.gov/hq/construc/stormwater/Caltrans_Guidance_Manual_CD.pdf<br>– Caltrans Standard Operating Procedures for Turbidity, pH, Dissolved Oxygen, and Conductivity January 2012: http://www.dot.ca.gov/hq/construc/stormwater/Caltrans_SOPs_CD.pdf<br>– Caltrans Summary of Changes - Revision of SWPPP & WPCP Preparation Manual, SWPPP and WPCP Templates May 2012: http://www.dot.ca.gov/hq/construc/stormwater/documents/CTSW-TM-11-255-08-2_Summary-of-Changes.pdf<br>– Caltrans SWPPP/WPCP Preparation Manual March 2011: http://www.dot.ca.gov/hq/construc/stormwater/documents/SWPPP_Prep_ManualJune2011.pdf<br>– Caltrans Construction Site BMP Manual March 2003: http://www.dot.ca.gov/hq/construc/stormwater/CSBMPM_303_Final.pdf<br>– Caltrans SWPPP/WPCP Review Guidance Manual: http://www.dot.ca.gov/hq/construc/stormwater/reviewguidance.pdf<br>– Caltrans Stormwater Management Enforcement Guidance Manual and Appendices: |

http://www.dot.ca.gov/hq/construc/stormwater/Enforcement_Manual012404.pdf
- Caltrans Construction Stormwater Coordinators Guidance Manual: http://www.dot.ca.gov/hq/construc/stormwater/caltransconstruc_coord.pdf
- Caltrans Guidance for Temporary Soil Stabilization: http://www.dot.ca.gov/hq/construc/stormwater/tempsoilstabilizationguide.pdf
- Caltrans BMP Field Manual and Troubleshooting Guide: http://www.dot.ca.gov/hq/construc/stormwater/BMP_Field_Master_FullSize_Final-Jan03.pdf
- Storm Water Management Enforcement Guidance Manual Appendices: http://www.dot.ca.gov/hq/construc/stormwater/appendices.htm

| WBS Level 6 | 280.10 PLAC Compliance |
|---|---|
| Description | Work involved during construction of a project to assure compliance with the appropriate permits, licenses, agreements and certifications.<br><br>Includes technical support related to PLAC compliance provided by personnel from all functional units and is not defined or covered in other WBS 270, 275 or 285 elements. |
| Lead Function | Construction |
| Deliverables | • Documents or Records Produced under Subtasks Appropriately Filed in the Construction Project Records. |
| Business Practices | This work also includes inspection for PLAC compliance change orders and documentation. WBS 285.05, “Change Order Process,” is used to prepare, review and process change orders. |
| References | – Caltrans Construction Manual<br>– Caltrans Standard Environmental Reference (SER)<br>– Caltrans Construction Site Monitoring Program Guidance Manual January 2012<br>– Caltrans Standard Operating Procedures for Turbidity, pH, Dissolved Oxygen, and Conductivity January 2012<br>– Caltrans Summary of Changes - Revision of SWPPP & WPCP Preparation Manual, SWPPP and WPCP Templates May 2012<br>– Caltrans SWPPP/WPCP Preparation Manual March 2011<br>– Caltrans Construction Site BMP Manual March 2003<br>– Caltrans SWPPP/WPCP Review Guidance Manual<br>– Stormwater Management Enforcement Guidance Manual and Appendiceslist 9: Caltrans Construction Stormwater Coordinators Guidance Manual<br>– Caltrans Guidance for Temporary Soil Stabilization<br>– Caltrans BMP Field Manual and Troubleshooting Guide<br>– Caltrans Field Guide to Construction Site Dewatering |

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|---|---|
| Subtasks | Activities include, but are not limited to:<br>– All work to ensure compliance with PLACs including document review, field inspections, documentation, mitigation, and certification.<br>– Hazardous materials and waste management including aerially deposited lead and oncall cleanup. Refer to Section 7-106 of the Construction Manual for more information.<br>– Reviewing contractor-property owner agreements for compliance with the contract and regulatory-related PLACs, field inspections, and documentation.<br>– Stormwater pollution prevention plans and water pollution control (SWPPP/WPCP) work including review of stormwater related material, inspection of construction activities and documentation using appropriate forms.<br>– Compliance with PLACs (e.g., air, noise, biological resources, paleontological resources, and archaeological resources.)<br>– Solid waste disposal and recycling reporting. |

| **WBS Level 6** | **280.40 PLAC Violations** |
|---|---|
| Description | Work involved with responding to alleged PLAC violation(s) occurring during construction of a project. Activities include but are not limited to the following: time involved in defense regarding alleged violation(s) of PLACs by regulatory agency(ies); legal opinion and assistance; correspondence, including corrective action plans and responses to "Notice to Comply" and "Notice of Violation"; correspondence with the contractor regarding PLAC violations including "Red Flag," "Notice to Comply," and "Notice of Violation" corrections; and administration of noncompliance withholds (penalty) to progress payments or deductions to progress payments and final payment regarding PLAC violations.<br><br>Includes technical support related to PLAC violations provided by personnel from functional units other than construction and is not defined or covered in other WBS 270, 275 or 285 elements. |
| Lead Function | Construction |
| Deliverables | • Documents or Records Produced under Subtasks Appropriately Filed in the Construction Project Records.<br>• If Necessary, Processed Noncompliance Withholds or Deductions Appropriately Taken from Progress Payments or Final Payment. |
| References | – Caltrans Construction Manual<br>– Caltrans Standard Environmental Reference (SER)<br>– Caltrans Construction Site Monitoring Program Guidance Manual January 2012<br>– Caltrans Standard Operating Procedures for Turbidity, pH, Dissolved Oxygen, and Conductivity January 2012 |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| | – Caltrans Summary of Changes - Revision of SWPPP & WPCP Preparation Manual, SWPPP and WPCP Templates May 2012<br>– Caltrans SWPPP/WPCP Preparation Manual March 2011<br>– Caltrans Construction Site BMP Manual March 2003<br>– Caltrans SWPPP/WPCP Review Guidance Manual<br>– Stormwater Management Enforcement Guidance Manual and Appendiceslist 9: Caltrans Construction Stormwater Coordinators Guidance Manual<br>– Caltrans Guidance for Temporary Soil Stabilization<br>– Caltrans BMP Field Manual and Troubleshooting Guide<br>– Caltrans Field Guide to Construction Site Dewatering |
| Subtasks | – Field review of site<br>– Develop and submit performance reports to the regulatory agency<br>– Develop and submit responses or corrective action plans as warranted |

| **WBS Level 6** | **280.50 Other Environmental Compliance** |
|---|---|
| Description | Work involved during construction of a project to assure compliance with environmental laws, regulations, and policies not specifically addressed in PLACs.<br><br>Includes technical support related to environmental compliance, involving issues not addressed in PLACs, provided by personnel from functional units other than Construction and is not defined or covered in other WBS 270, 275 or 285 elements. |
| Lead Function | Construction |
| Deliverables | • Documents or Records Produced under Subtasks Appropriately Filed in the Construction Project Records. |
| Business Practices | This work also includes inspection for compliance, involving issues not addressed in PLACs, related change orders and writing change order diaries. WBS 285.05, “Change Order Process,” is used to prepare, review and process change orders. |
| References | – Caltrans Construction Manual<br>– Caltrans Standard Environmental Reference (SER)<br>– Caltrans Construction Site Monitoring Program Guidance Manual January 2012<br>– Caltrans Standard Operating Procedures for Turbidity, pH, Dissolved Oxygen, and Conductivity January 2012<br>– Caltrans Summary of Changes - Revision of SWPPP & WPCP Preparation Manual, SWPPP and WPCP Templates May 2012<br>– Caltrans SWPPP/WPCP Preparation Manual March 2011<br>– Caltrans Construction Site BMP Manual March 2003<br>– Caltrans SWPPP/WPCP Review Guidance Manual |

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|---|---|
| | – Stormwater Management Enforcement Guidance Manual and Appendices<br>– Caltrans Construction Stormwater Coordinators Guidance Manual<br>– Caltrans Guidance for Temporary Soil Stabilization<br>– Caltrans BMP Field Manual and Troubleshooting Guide<br>– Caltrans Field Guide to Construction Site Dewatering |
| Subtasks | Activities include, but are not limited to:<br>– All work to ensure compliance with related environmental requirements, not addressed in PLACs, including document review, field inspections, documentation, mitigation, and certification.<br>– Hazardous materials and waste management including aerially deposited lead and on-call cleanup. Refer to Section 7-106 of the Construction Manual for more information.<br>– Reviewing contractor-property owner agreements for compliance with the contract and environmental requirements not specifically addressed in PLACs related requirements, field inspections, and documentation.<br>– Stormwater pollution prevention plans and water pollution control (SWPPP/WPCP) work including review of stormwater related material, inspection of construction activities and documentation using appropriate forms.<br>– Compliance with environmentally related laws, regulations, and policies including, but not limited to, those involving air, noise, hazardous materials and hazardous wastes, biological resources, paleontological resources, and archaeological/cultural resources.<br>– Solid waste disposal and recycling reporting. |

| **WBS Level 6** | **280.60 Other Environmental Violations** |
|---|---|
| Description | Work involved with responding to alleged environmental violation(s) occurring during construction of a project and involving issues not addressed in PLACs. Activities include, but are not limited to, the following: time involved in defense regarding alleged violation(s) identified by the Department, regulatory agency(ies), or others; legal opinion and assistance; correspondence, including corrective action plans and responses to “Notice to Comply” and “Notice of Violation”; correspondence with the contractor regarding violations including “Red Flag,” “Notice to Comply,” and “Notice of Violation” corrections; and administration of noncompliance withholds (penalty) to progress payments or deductions to progress payments and final payment regarding violations.<br><br>Includes technical support related to violations, involving issues not addressed in PLACs, provided by personnel from functional units other than Construction and is not defined or covered in other WBS 270, 275 or 285 elements. |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

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|---|---|
| Lead Function | Construction |
| Deliverables | • Documents or Records Produced under Subtasks Appropriately Filed in the Construction Project Records.<br>• If Necessary, Processed Noncompliance Withholds or Deductions Appropriately Taken from Progress Payments or Final Payment. |
| References | – Caltrans Construction Manual<br>– Caltrans Standard Environmental Reference (SER)<br>– Caltrans Construction Site Monitoring Program Guidance Manual January 2012<br>– Caltrans Standard Operating Procedures for Turbidity, pH, Dissolved Oxygen, and Conductivity January 2012<br>– Caltrans Summary of Changes - Revision of SWPPP & WPCP Preparation Manual, SWPPP and WPCP Templates May 2012<br>– Caltrans SWPPP/WPCP Preparation Manual March 2011<br>– Caltrans Construction Site BMP Manual March 2003<br>– Caltrans SWPPP/WPCP Review Guidance Manual<br>– Stormwater Management Enforcement Guidance Manual and Appendices<br>– Caltrans Construction Stormwater Coordinators Guidance Manual<br>– Caltrans Guidance for Temporary Soil Stabilization<br>– Caltrans BMP Field Manual and Troubleshooting Guide<br>– Caltrans Field Guide to Construction Site Dewatering |
| Subtasks | – Field review of site<br>– Develop and submit performance reports.<br>– Develop and submit responses or corrective action plans as warranted<br>– Performance of actions to correct deficiencies<br>– Update Environmental Commitments Record at the close of construction (see WBS 295.35) |

| **WBS Level 6** | **280.70 Updated Environmental Commitments Record** |
|---|---|
| Description | Includes all efforts necessary to update the Environmental Commitments Record (ECR) and associated documentation (e.g., Mitigation Monitoring and Reporting Record (MMRR) or Permits, Agreements, and Mitigation (PAM) ) prepared/updated at WBS 180.15.20 and potentially updated at WBS 165.10.75, WBS 180.15.20, WBS 235.05.15, WBS 235.40, WBS 255.15, WBS 255.40, and WBS 260.75. |
| Lead Function | Environmental |
| Deliverables | • Updated Environmental Commitments Record and Associated Documentation<br>• Updated STEVE Database |
| Business | The updated ECR must be coordinated with Design and Construction. The ECR (which |

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| Practices | should also be updated at WBS 295.35) is used as a part of the Certificate of Environmental Compliance (WBS 295.35). |
| References | – Caltrans Construction Manual<br>– Caltrans Standard Environmental Reference (SER) |

| **WBS Level 6** | **280.75 Environmental Reevaluation** |
|---|---|
| Description | This activity is initiated when there are changes in any factors that might affect the validity of the project's Environmental Document (ED) or CE (Categorical Exemption under the California Environmental Quality Act, or Categorical Exclusion under the National Environmental Policy Act) Determination. Pertinent factors include, but are not limited to, changes in the project scope, identification of new issues, and changes in laws or regulations as they apply to the project. Reevaluation is required for Federal nexus projects at each project decision point and three years after completion of the ED or CE. If a supplemental document is required, WBS 165 should be used. In the event that permit renewals or extensions result in new or changed requirements, the Environmental Commitments Record, Mitigation Monitoring and Reporting Record, and similar documents must also be updated. |
| Lead Function | Environmental |
| Deliverables | • Updated Environmental Commitments Record and Associated Documentation<br>• Updated STEVE Database |
| Business Practices | The updated ECR must be coordinated with Design and Construction. The ECR (which should also be updated at WBS 295.35) is used as a part of the Certificate of Environmental Compliance (WBS 295.35). |
| Notes | Final Environmental Impact Statements are only valid for three years; consequently this activity may be required more than once. |
| References | – Caltrans Construction Manual<br>– Caltrans Standard Environmental Reference (SER) |

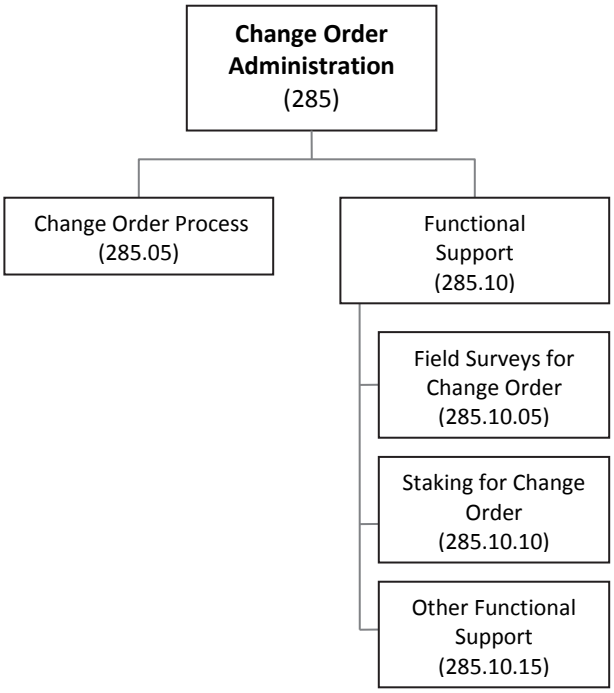
| **WBS Level 6** | **280.80 Updated PLACs** |
|---|---|
| Description | Prepare and submit renewal and/or extension requests for previously issued PLACs as necessary. In the event of new or changed permit requirements, the Environmental Commitments Record, Mitigation Monitoring and Reporting Records, and similar documents must also be updated. Updated PLACs include, but are not limited to, those issued by the following agencies: U.S. Army Corps of Engineers; California Department of Fish and Wildlife; U.S. Fish and Wildlife Service; Regional Water Quality Control Boards; United States Department of Interior (USDI) National Park |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| | Service; USDI Bureau of Land Management; United States Department of Agriculture (USDA) Forest Service; United States Coast Guard; California Coastal Commission; San Francisco Bay Conservation and Development District; Tahoe Regional Planning Agency; Railroad; California Public Utilities Commission; National Oceanic and Atmospheric Administration (NOAA); and Local Agency PLACs.<br><br>Includes technical support related to updating PLACs provided by personnel from functional units other than construction and is not defined or covered in other WBS 270, 275 or 285 elements. |
| Lead Function | Construction |
| Deliverables | • Extension Requests and Coordination<br>• PLACs Extensions<br>• Updated Environmental Commitments Records, Signature Page, and Similar Documents If PLAC Conditions Change<br>• Updated STEVE Database |
| Notes | Changes may also trigger an Environmental Reevaluation (WBS 280.75). |
| References | – Caltrans Construction Manual<br>– Caltrans Standard Environmental Reference (SER) |

| WBS 285 | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| Project Phase | | K | 0 | 1 | 2 | 3 |
| SB45 Component | 0 | 1 | 2 | 3 | 4 | 5 |

## 285 Change Order Administration



| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 5** | **285 Change Order Administration** |
|---|---|
| Description | Work involved in preparing and administering change orders. |
| Lead Function | Construction |
| Deliverables | • All Documents Required to Process an Approved Change Order and Process Payment |
| Major Milestones | ♦ M600 Contract Acceptance (Finish: WBS 270) |
| References | – Caltrans Construction Manual: http://www.dot.ca.gov/hq/construc/constmanual<br>– Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser<br>– Caltrans Labor Surcharge and Equipment Rental Rates: http://www.dot.ca.gov/hq/construc/equipmnt.html<br>– California General Prevailing Wage Determinations (Department of Industrial Relations): http://www.dir.ca.gov/OPRL/dprewagedetermination.htm |

| **WBS Level 6** | **285.05 Change Order (CO) Process** |
|---|---|
| Description | Includes analyzing the cost and time, assessing the potential impacts to the environment, assessing conformity with regulatory requirements, preparing and compiling support information, and preparing the change order and transmittal memorandum. Also includes reviewing and processing the change order by the construction engineering and office staff, the Environmental-Construction liaison and by staff at the District Office, Structure Construction and HQ Division of Construction. |
| Lead Function | Construction |
| Deliverables | • Approved Change Order and Processed Payments |
| Business Practices | Field inspection of change order work and writing change order diaries are included in WBS 270.33, "Construction Inspection." |
| References | – Caltrans Construction Manual<br>– Caltrans Standard Environmental Reference<br>– Caltrans Labor Surcharge and Equipment Rental Rates<br>– California General Prevailing Wage Determinations (Department of Industrial Relations) |
| Subtasks | Activities include, but are not limited to:<br>– Analyzing the change order for cost, time and other related impacts and filing the |

| | |
|---|---|
| | completed analysis with the change order in the project files.<br>– Producing a draft change order and transmittal memorandum for review and comment. The effort by functional areas other than construction staff is accounted for under WBS 285.10, “Functional Support."<br>– Obtaining the proper authorization to approve the change order and the work.<br>– Processing payments due for the change order work. This work includes reviewing and approving the contractor’s change order bills, and compiling and documenting information for payment adjustments. This work also includes filing documentation of payment for a change order in the project files. |

| **WBS Level 6** | **285.10 Functional Support** |
|---|---|
| Description | Technical support provided by personnel other than construction staff. Includes but not limited to: Design, Traffic, Hydraulics, Materials, DES/Structure Design, Surveys, ES/Geotechnical Services, Environmental, Landscape Architect, Maintenance, and other specialty staff. Re-staking for change order work is part of activity 270.10, “Construction Surveying and Staking.” |
| Lead Function | Various |
| Deliverables | • Support Documentation to Complete the Written Change Order Includes Permits, Studies, Specifications, Calculations, Analysis, Design Documents and Drawings |
| References | – Caltrans Construction Manual<br>– Caltrans Standard Environmental Reference (SER)<br>– Caltrans Labor Surcharge and Equipment Rental Rates<br>– California General Prevailing Wage Determinations (Department of Industrial Relations) |

| **WBS Level 7** | **285.10.05 Field Surveys for Change Order** |
|---|---|
| Description | This is work by the R/W&LS to provide survey data, including mapping, required for change order(s), and includes revisions to change order(s). |
| Lead Function | Surveys |
| Deliverables | • Engineering Survey Products as Described under WBS 185.10.50 through 185.10.70 |
| Business Practices | Construction field engineers’ efforts are a part of this activity only if they are performing field “survey” work. If the construction field engineers are determining lines and grades control for a change order, their effort should be part of WBS 270.22. |
| References | – Caltrans Construction Manual<br>– Caltrans Surveys Manual |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

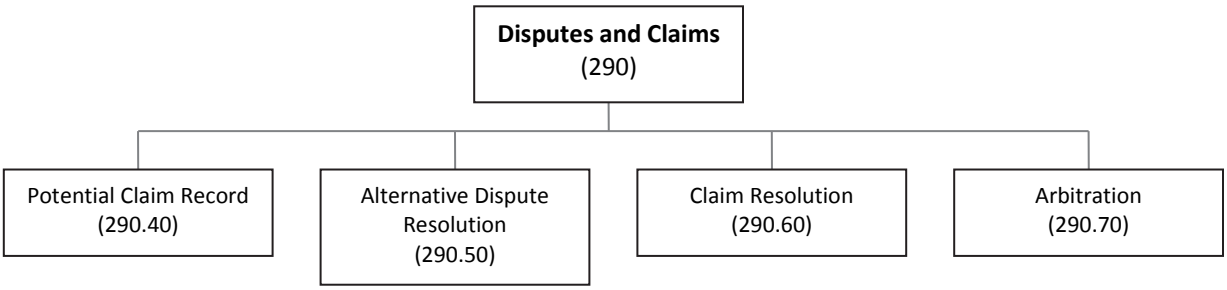
| **WBS Level 7** | **285.10.10 Staking for Change Order** |
|---|---|
| Description | Construction staking operations performed at the construction site needed for change order(s) and includes re-staking for change order. |
| Lead Function | Surveys |
| Deliverables | • Construction Staking of Planned Lines and Grades<br>• Notes Resulting from Construction Staking |
| References | – Caltrans Surveys Manual |

| **WBS Level 7** | **285.10.15 Other Functional Support** |
|---|---|
| Description | Other functional support to Construction provided by personnel other than Construction staff, providing support for the change order. Includes but not limited to: Design, Traffic, Hydraulics, Materials, DES/Structure Design, DES/Geotechnical Services, Environmental, Landscape Architect, Maintenance, and other specialty staff. |
| Lead Function | Various |
| Deliverables | • Support Documentation to Complete the Written Change Order Including but Not Limited to Permits, Studies, Specifications, Calculations, Analysis, Design Documents and Drawings. |
| References | – Caltrans Construction Manual<br>– Caltrans Standard Environmental Reference<br>– Caltrans Labor Surcharge and Equipment Rental Rates<br>– California General Prevailing Wage Determinations (Department of Industrial Relations) |

**WBS**
**290**

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

## 290 Resolve Contract Claims



| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 5** | **290 Resolve Contract Claims** |
|---|---|
| Description | Work involved in the documentation and resolution of contract disputes and claims. |
| Lead Function | Construction |
| Deliverables | • Determination of Contract Disputes and Claims. |
| Major Milestones | ♦ None. |
| References | – Caltrans Construction Manual: http://www.dot.ca.gov/hq/construc/constmanual<br>– Caltrans Forms Used for Contract Administration: http://www.dot.ca.gov/hq/construc/forms.htm |

| **WBS Level 6** | **290.40 Potential Claim Record** |
|---|---|
| Description | Work involved in analyzing the potential claim record and responding to the contractor in writing. This includes organizing and placing backup data, the request for information, and the response in project files. WBS 285.05, "Change Order Process," is used to prepare and process change orders when appropriate. |
| Lead Function | Construction |
| Deliverables | • Written Responses to:<br>▪ Initial Potential Claim Record (Form CEM 6201D)<br>▪ Supplemental Potential Claim Record (Form CEM 6201E)<br>▪ Full and Final Potential Claim Record (Form CEM 6201F) |
| References | – Construction Manual, Chapters 3 and 5<br>– Caltrans Forms Used for Contract Administration web site |

| **WBS Level 6** | **290.50 Alternative Dispute Resolution** |
|---|---|
| Description | Work involved in resolving contract disputes through participation in facilitated dispute resolution, dispute resolution ladder, dispute resolution advisor, and dispute resolution board processes. This includes participating, preparing story boards, presentations, PowerPoints, exhibits, position papers and rebuttals, preparing for and participating in mock dispute meetings and status meeting, reviewing and responding to recommendations. WBS 285.05, "Change Order Process," is used to prepare and process change orders when appropriate. |
| Lead Function | Construction |
| Deliverables | • Dispute Resolution Board Issue Report (Form CEM 6204) |

| | |
|---|---|
| References | – Construction Manual, Chapters 3 and 5<br>– Caltrans Forms Used for Contract Administration web site |

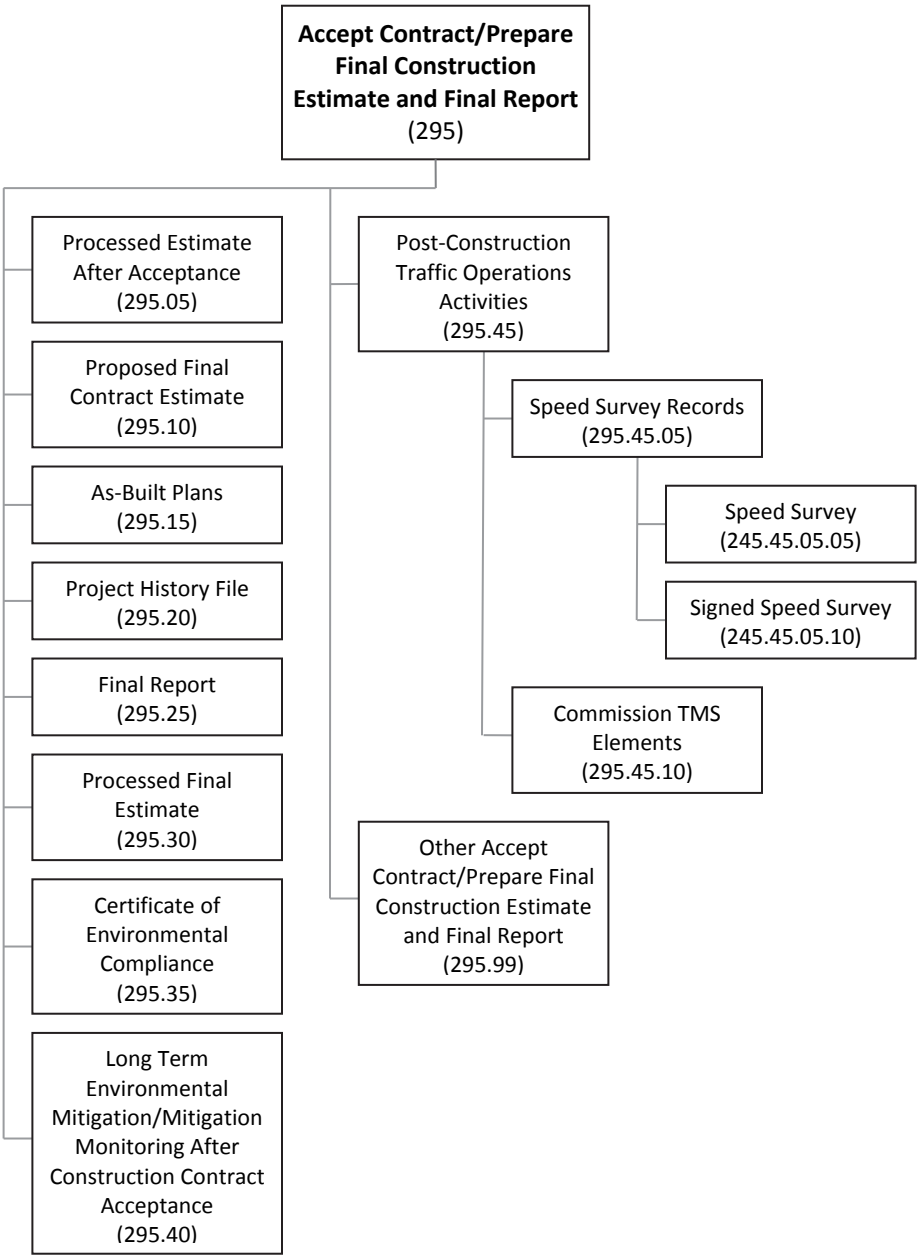
| WBS Level 6 | 290.60 Claim Resolution |
|---|---|
| Description | Work involved in analyzing and resolving contract claims listed as exceptions to the proposed final estimate. This includes preparing and compiling information for the preliminary construction claim findings, deputy district director determination of claims and the district director's final determination of claims.<br><br>Work involved in preparing, conducting, and documenting the district claim meeting or Board of Review. |
| Lead Function | Construction |
| Deliverables | • "District Director Determination of Claims" Letter to Contractor<br>• Change Order When Appropriate:<br>▪ Change Order (Form CEM 4900)<br>▪ Change Order Input (Form CEM 4901)<br>▪ Change Order Memorandum (Form CEM 4903) |
| References | – Construction Manual, Chapters 3 and 5<br>– Caltrans Forms Used for Contract Administration web site |

| WBS Level 6 | 290.70 Arbitration |
|---|---|
| Description | Work involved in participating in the arbitration process. This includes assisting the case attorney in the defense against the construction contract complaint by providing documentation, expertise, appearing as an expert witness, participation in hearings, approval of arbitration award or settlement memorandum, and making arbitration payment or collection of money owed to Caltrans. |
| Lead Function | Construction |
| Deliverables | • Change Order When Appropriate:<br>▪ Change Order (Form CEM 4900)<br>▪ Change Order Input (Form CEM 4901)<br>▪ Change Order Memorandum (Form CEM 4903) |
| References | – Construction Manual, Chapters 3 and 5<br>– Caltrans Forms Used for Contract Administration web site |

**WBS**
**295**

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

## 295 Accept Contract/Prepare Final Construction Estimate and Final Report



**WBS**

**295**

| WBS Level 5 | 295 Accept Contract/Prepare Final Construction Estimate and Final Report |
|---|---|
| Description | Work involved in the acceptance and final documentation of a construction contract. |
| Lead Function | Construction |
| Deliverables | • End of Project. |
| Major Milestones | ♦ M650 Project Closeout Initiated (Start: WBS 295)<br>♦ M700 Final Report (Finish: WBS 295)<br>♦ M800 End Project (Finish: WBS 295) |
| References | – California General Prevailing Wage Determinations (Director of Industrial Relations): http://www.dir.ca.gov/oprl/DPreWageDetermination.htm<br>– California Manual on Uniform Traffic Control Devices (MUTCD): http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/ca_mutcd2012.htm<br>– California Vehicle Code (CVC): http://www.dmv.ca.gov/pubs/vctop/vc/vc.htm<br>– Caltrans Division of Environmental Analysis (DEA) memo dated June 2005 regarding Environmental Commitments Record: http://www.dot.ca.gov/ser/downloads/memos/DDDs_const_design_env_proj_mgmt.pdf<br>– Caltrans Division of Environmental Analysis (DEA) memo dated June 21, 2004 regarding Environmental Certification and Headquarters Office of Engineering (HQOE) memo dated May 3, 2004 regarding and Ready to List (RTL): http://www.dot.ca.gov/ser/downloads/memos/Memo_DDs_Env_Certification_21Jun04.pdf<br>– Caltrans CADD Users Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/caddman/default.htm<br>– Caltrans Bridge Construction Records and Procedures: http://www.dot.ca.gov/manuals.htm<br>– Caltrans Construction Manual: http://www.dot.ca.gov/hq/construc/constmanual/<br>– Caltrans Plans Preparation Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/ppman/default.htm<br>– Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm<br>– Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser/<br>– Caltrans Standard Specifications: http://www.dot.ca.gov/hq/esc/oe/standards.php |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 6** | **295.05 Processed Estimate After Acceptance** |
|---|---|
| Description | The work involved in preparing payment documents for processing an after acceptance estimate after the resident engineer has recommended acceptance and the deputy district director has given acceptance. This activity includes preparation of semifinal estimates.<br><br>Processing an after acceptance or semifinal estimate includes processing the estimate by district office staff, the review and approval of the estimate by the resident engineer and the structure representative, and the subsequent processing for payment to the contractor by the district office staff. |
| Lead Function | Construction |
| Deliverables | • Processed After-Acceptance Estimate(s)<br>• Processed Semifinal Estimate(s) |
| Business Practices | Preparation and processing of the proposed final estimate is in WBS 295.10. |
| References | – Caltrans Construction Manual<br>– Standard Specifications |
| Subtasks | – Ensure after-acceptance or semifinal estimate includes:<br>▪ Payment for any work completes since the previous estimate<br>▪ Corrects for any errors that may have discovered<br>▪ Clears any labor compliance, equal employment opportunity program or outstanding documents deficiencies or includes appropriate deductions as required<br>– Before an after-acceptance estimate, review the status of change orders and change order master listing per the Construction Manual. |

| **WBS Level 6** | **295.10 Proposed Final Contract Estimate** |
|---|---|
| Description | The work involved in preparation of payment documents and preparing the Proposed Final Estimate (PFE) for processing and sending the PFE to the contractor. The PFE is sent to the contractor after contract acceptance by the deputy district director and after completing all processing of after acceptance estimates. |
| Lead Function | Construction |
| Deliverables | • Transmittal of the Proposed Final Estimate to the Contractor |
| Business Practices | If the contractor reviews the proposed final estimate and returns they accept the proposed final estimate and has no exceptions, then the district office processes the final estimate as part of work included in WBS 295.30. |

| | |
|---|---|
| | If the contractor reviews the proposed final estimate and it is returned with exceptions, the work to analyze and resolve contract claims listed as exceptions is included in WBS 290.60. |
| References | – Caltrans Construction Manual<br>– Caltrans Standard Specifications |

| WBS Level 6 | 295.15 As-Built Plans |
|---|---|
| Description | Includes preparation work involved in transferring all as-built changes, or required as-built information, onto the set of plans (hardcopy or electronic) dedicated as the set of as-built plans. This activity also involves forwarding all of the as-built road plans to the district office and the structure as-built plans to Headquarters Office of Structure Construction Design for distribution. Also included in this activity is work by the design section to transfer the as-built plan mark-ups to the original full size reproducible plan sheets (or CADD file) and forwarding a reproducible set of plans with the transferred as-built changes to the office "As-Built" Section for filing, scanning, and microfilming. Includes transmitting As-Built plans to local agency for sections of the state highway relinquished. |
| Lead Function | Various |
| Deliverables | • Structure as-Built Plans Archived<br>• Roadway as-Built Plans Archived in the District |
| References | – Caltrans Construction Manual<br>– Caltrans Bridge Construction Records and Procedures Manual<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 15, Section 3<br>– Caltrans CADD Users Manual<br>– Caltrans Plans Preparation Manual |
| Subtasks | – Ensure compliance with Records Retention Schedule for the Division of Construction. |

| WBS Level 6 | 295.20 Project History File |
|---|---|
| Description | The work involved in the preparation of the construction project records for disposition. This activity includes the effort in recording and archiving storage of project records. Includes transmitting Project History File(s) to local agency for sections of the state highway relinquished. Also included in this activity is the work by the structure representative to submit copies of portions of the job records to the Headquarters Office of Structure Construction for recording as required. |
| Lead Function | Construction |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| Deliverables | • All Records Required by the District Office to Be Stored after Completion That Are Bound as A Construction Project Records and Stored in the District Office<br>• Project History Files Transmitted to Local Agency for Sections of the State Highway Relinquished |
| Notes | Ensure compliance with records retention schedules. |
| References | – Caltrans Construction Manual<br>– Caltrans Bridge Construction Records and Procedures Volume 1 |

| **WBS Level 6** | **295.25 Final Report** |
|---|---|
| Description | A Report of Completion for each structure is to be prepared by the structure representative for forwarding to the Office of Structure Construction. The Joint Seal Calculations and all Paint Records are also to be forwarded by the structure representative and the structure representative's staff to the Office of Structure Construction. |
| Lead Function | Office of Structure Construction |
| Deliverables | • A Report of Completion for Each Structure with Joint Seal Calculations (When Applicable) and Paint Records (When Applicable) Recorded and Scanned into Storage by the Office of Structure Maintenance & Investigations in Sacramento<br>• A District Roadway Report of Completion Recorded and Stored in the District Office |
| References | – Caltrans Bridge Construction Records and Procedures<br>– Prevailing State Wage Rates |

| **WBS Level 6** | **295.30 Processed Final Estimate** |
|---|---|
| Description | The work involved in the preparation of the final estimate. This estimate is prepared and processed after a one of the following has been met: all required documents have been submitted and the contractor agrees on payment; final determination of claims has been issued; the contractor does not respond to the proposed final estimate but has submitted all required documents; or the district is advised to proceed by the Division of Construction field coordinator. |
| Lead Function | Construction |
| Deliverables | • Processed Final Estimate for Payment to the Contractor. |
| References | – Caltrans Construction Manual<br>– Caltrans Standard Specifications |

| WBS Level 6 | 295.35 Certificate of Environmental Compliance (CEC) |
|---|---|
| Description | The purpose of the certificate is to document the Department's environmental compliance efforts for all measures specified in final environmental (or other project) documents and to inform all project stakeholders (including regulatory agencies) as to the outcome of the mitigation efforts. The information contained in this Certificate should be based on the Environmental Commitments Record (ECR), or similar summary, initiated during PA&ED (WBS 180.15.20) and updated at WBS 150.40.50, WBS 165.10.75, WBS 205.10.60, WBS 235.40, WBS 255.15, WBS 255.40, WBS 260.75, and WBS 295.40.<br><br>The ECR is also used for Environmental Certification at Ready to List (RTL) (WBS 260.75) and for input into the Resident Engineer Pending File (WBS 255.40). The CEC, along with the updated ECR, should be filed in the Uniform File System and a copy retained in the project history file as evidence that the Department has met its obligation to fully document environmental compliance efforts for projects.<br><br>The Resident Engineer, Project Manager, and Environmental Branch Chief or designee all sign the Certificate. The Certificate should contain, as a minimum, the following information summaries:<br>– Brief project descriptions, including county, route, project manager, and project identifier<br>– Impacts<br>– Mitigation associated with each impact<br>– Mitigation completed according to agreements and the agency with which that agreement was reached and the date it was completed.<br>– Mitigation not completed according to agreements, why it was not so accomplished, what was done instead, and when that was completed.<br>– Updated ECR (or similar, e.g., Mitigation Monitoring and Reporting Record) to cover any on-going future commitments (copies must be provided to the impacted units (e.g., Maintenance). |
| Lead Function | Environmental/RE/Project Manager |
| Deliverables | • Certificate of Environmental Compliance<br>• Updated STEVE Database<br>• Updated ECR |
| References | – Caltrans Standard Environmental Reference (SER)<br>– Caltrans Division of Environmental Analysis (DEA) memo dated June 2005 regarding Environmental Commitments Record<br>– Caltrans Division of Environmental Analysis (DEA) memo dated June 21, 2004 regarding Environmental Certification and Headquarters Office of Engineering |

| | |
|---|---|
| | (HQOE) memo dated May 3, 2004 regarding and Ready to List (RTL) |

| WBS Level 6 | 295.40 Long Term Environmental Mitigation/Mitigation Monitoring After Construction Contract Acceptance |
|---|---|
| Description | Work involved in the mitigation or monitoring of mitigation after Construction Contract Acceptance over an extended period to ensure compliance with resource and regulatory agency permits and agreements. |
| Lead Function | Environmental |
| Deliverables | • Final Environmental Commitments Records<br>• Updated STEVE Database |
| Business Practices | Includes work beyond the timeframe or scope of WBS 235. Work done after Construction Contract Award, but prior Construction Contract Acceptance is to be resourced/charged to the appropriate subcategory in WBS 280. The updated Environmental Commitments Records should be filed in the Uniform File System and a copy retained in the project history file as evidence that the Department has met its obligation to fully document environmental compliance efforts for projects. |
| References | – Caltrans Standard Environmental Reference (SER) |
| Subtasks | – Field review of site<br>– Develop and submit performance reports to the regulatory agency<br>– Perform remedial action to correct deficiencies<br>– Update the Environmental Commitments Record at the completion of mitigation (see - WBS 295.35) |

| WBS Level 6 | 295.45 Post-Construction Traffic Operations Activities |
|---|---|
| Description | Work that is normally performed after construction of the project is complete and accepted by the Resident Engineer. Work normally involved is performing speed surveys, updating speed zones, processing signing changes, and putting into service traffic monitoring system (TMS) elements. |
| Deliverables | • Completed Engineering and Traffic Surveys<br>• Updated Speed Zones<br>• Sign Orders for Speed Limit Sign Installation<br>• Operating TMS Elements |
| References | – California Manual on Uniform Traffic Control Devices (MUTCD)<br>– California Vehicle Code (CVC) |

| WBS Level 7 | 295.45.05 Speed Survey Records |
|---|---|
| Description | Effort includes field and office work required in order to be in compliance with the California Manual on Uniform Traffic Control Devices (MUTCD) and the California Vehicle Code. |
| Deliverables | • Signed Order<br>• Speed Survey<br>• Justification |
| References | – California Manual on Uniform Traffic Control Devices (MUTCD)<br>– California Vehicle Code (CVC) |

| WBS Level 8 | 295.45.05.05 Speed Survey |
|---|---|
| Description | Includes all speed survey field effort after completion of project construction. This includes field work to gather the required information, review and reduction of field data, analysis of the data, preparation of the speed survey determination, update of the speed survey mapping, sending out of letters to appropriate agencies, attendance at public meetings when speed zone changes are proposed, and attendance of any other meetings with local jurisdictions as needed relating to speed zone change. |
| Lead Function | District Traffic Engineering |
| Deliverables | • Field Survey Sheets<br>• Survey Mapping<br>• Public Outreach Including Letters, Meeting Attendance Hearing Attendance |
| Notes | Surveys taken during free flow conditions with dry pavement. |
| References | – California Manual on Uniform Traffic Control Devices (MUTCD)<br>– California Vehicle Code (CVC) |

| WBS Level 8 | 295.45.05.10 Signed Speed Survey |
|---|---|
| Description | Preparation of Speed Survey and Justification and order reducing or increasing speed zone; distribution of said documents to appropriate agencies. |
| Lead Function | District Traffic Engineering |
| Deliverables | • Signed Order<br>• Speed Survey<br>• Justification |
| References | – California Manual on Uniform Traffic Control Devices (MUTCD), Section 2B.13<br>– California Vehicle Code (CVC), Sections 22352, 223455, and 627(a) |

| | Project Management | Project Initiation | PA&ED | PS&E | Right of Way | Construction |
|---|---|---|---|---|---|---|
| **Project Phase** | | K | 0 | 1 | 2 | 3 |
| **SB45 Component** | 0 | 1 | 2 | 3 | 4 | 5 |

| **WBS Level 7** | **295.45.10 Commission TMS Elements** |
|---|---|
| Description | Work involving the calibration, configuration and activation of Traffic Monitoring System (TMS) elements, which include Ramp Meters (RM), Traffic Monitoring Stations (TMS), Closed Circuit Television Cameras (CCTV), Changeable Message Signs (CMS), Roadside Weather Information Stations (RWIS), Highway Advisory Radios (HAR) and Extinguishable Message Signs (EMS). Work may also include the integration of the TMS elements into the Traffic Management Center (TMC) through various communications media. |
| Lead Function | District Traffic Engineering |
| Deliverables | • Operating TMS Elements. |
| Notes | Accurate and timely information fed to the TMC. |
| References | – |

| **WBS Level 6** | **295.99 Other Accept Contract/ Prepare Final Construction Estimate And Final Report** |
|---|---|
| Description | All other work conducted during the Accept Contract/Prepare Final Construction Estimate and Final Report Work efforts not defined or covered in other WBS 295 elements. |
| Lead Function | Right of Way, Utilities |
| Deliverables | • Processed Final Estimate and Final Report. |
| References | – |

# SECTION III

# WSG Appendices

**Appendix A - List of Changes Matrix**
**Appendix B - List of Major Work Elements at Level 4**
**Appendix C - List of Major Tasks at Level 5**
**Appendix D - Complete List of WBS Showing Proper Timesheet Coding**
**Appendix E - List of All WBS Elements**
**Appendix F - WBS Glossary**
**Appendix G - Common Acronyms**
**Appendix H - Milestones Associated with WBS 11.0 Tasks**

# Appendix A - List of Changes Matrix

| WBS Task ID | NEW-Release 11.1 Revised Attribute(s) | Old-Release 11.0 Prior Text | Change Description |
|---|---|---|---|
| 150.15.20 | **References:**<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 2, Section 9; Chapter 3, Section 6; Chapter 9, Article 9; Chapter 20, Section 2<br>– Caltrans Highway Design Manual Chapter 100, Topics 113 and 114; Chapter 200, Topics 203, 208, and 210; Chapter 800, Topics 802 and 805 | PROProject Development Procedures Manual (PDPM), Chapter 2, Section 9; Chapter 3,<br>Section 6; Chapter 9, Article 9; Chapter 20, Section 2<br>Highway Design Manual Chapter 100, Topics 113 and 114; Chapter 200, Topics<br>203, 208, and 210; Chapter 800, Topics 802 and 805 J MGMT - PID | Content Change |
| 150.15.30 | **Deliverables:**<br>• Structures Advance Planning Study (APS)<br>**References:**<br>– Caltrans Bridge Design Aids, Sections 10 & 11<br>– Caltrans Bridge Design Details, Sections 1-3<br>– Caltrans Bridge Design Memos to Designers, Sections 1, 2, & 17<br>– Caltrans Bridge Design Specifications, All Sections<br>– Caltrans OSFP Information & Procedures Guide, Chapter 3-02<br>– Pumping Plant Design, Appendix 7<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 8<br>– Caltrans Guidelines for Structure Foundation Reports, Chapter 2 | Deliverables:<br>Advance Planning Study (APS)<br>References:<br>Bridge Design Aids, Sections 10 & 11<br>Bridge Design Details, Sections 1-3<br>Bridge Design Memos to Designers, Sections 1, 2, & 17<br>Bridge Design Specifications, All Sections<br>OSFP Information & Procedures Guide, Chapter 3-02<br>Pumping Plant Design Manual, Appendix 7<br>Project Development Procedures Manual (PDPM), Chapter 3, Section 8<br>Guidelines for Structure Foundation Reports, Chapter 2 | Content Change |

# Appendix A

| WBS Task ID | NEW-Release 11.1 Revised Attribute(s) | Old-Release 11.0 Prior Text | Change Description |
|---|---|---|---|
| 160.05.10 | **Deliverables:**<br>• Completed Geotechnical Information Review | Deliverables:<br>• Draft or final Project Report and ESR | Content Change |
| 160.10.80 | **Deliverables:**<br>• District Preliminary Geotechnical Report (DPGR) | Deliverables:<br>• Draft or Final Project Report and ESR | Content Change |
| 160.10.85 | **Deliverables:**<br>• Structures Advanced Planning Study | Deliverables:<br>• Advanced Planning Study | Content Change |

| WBS Task ID | NEW-Release 11.1 Revised Attribute(s) | Old-Release 11.0 Prior Text | Change Description |
|---|---|---|---|
| 170.15 | **Description:**<br>All work involved in preparing a Railroad Service Contract, a Railroad construction and Maintenance Agreement, and a Public Utilities Commission (PUC) application for authorization to construct with a public rail crossing.<br>**Deliverables:**<br>• Site Diagnostic Meeting - Preparation and Coordination of a Site Diagnostic Meeting with stakeholders, design engineer, PUC representative, and the State Railroad Agreements Engineer. This occurs at the 30% design and only after the approval of the project environmental document. Meeting takes place at the railroad site of project.<br>• Determine right of way requirements with plat and legal description and deed.<br>• Negotiate with railroad for right of way purchase – permanent and temporary easements.<br>• Submit PUC application pursuant to the guidelines of General Order No. 88-D for work within an existing railroad crossing or<br>• Submit formal PUC application for all new crossing work, which will requirement extensive involvement with HQ Legal.<br>• Obtain railroad letter of approval for final design.<br>• Develop final draft railroad agreement that will incorporated special project | Description:<br>All work involved in preparing a Railroad Service Contract, a Railroad Construction and Maintenance Agreement, and a Public Utilities Commission (PUC) application.<br>Deliverables:<br>• Transmittal of A Clearance Memo from the Structures Agreements Section to Office Engineer. (Note: the Project Cannot Be Advertised Prior to This Clearance.)<br>References: | Content Change |

| WBS Task ID | NEW-Release 11.1 Revised Attribute(s) | Old-Release 11.0 Prior Text | Change Description |
|---|---|---|---|
| | and railroad requirements.<br>• Develop final draft railroad specification based on the final draft railroad agreement.<br>• Submits final draft railroad agreement to railroad and, if applicable, other involved stakeholders for execution.<br>• Follow through with submitted final draft till executed agreement is obtained.<br>• Transmittal of a Railroad Clearance Memo from the Railroad Agreements Engineer or a District Railroad Agreement Coordinator to Office Engineer prior to RTL. (Note: Projects cannot be advertised prior to Railroad Clearance Memo).<br>**References:**<br>– Caltrans Right of Way Manual, Chapter 8.<br>– Chief Engineer's Decision document dated October 17, 2001, moved Railroad Agreements Function from Structures to Right of Way. 23 CFR635.307 & 635.309 PUC Code Section 1201. | | |

# Appendix A

| WBS Task ID | NEW-Release 11.1 Revised Attribute(s) | Old-Release 11.0 Prior Text | Change Description |
|---|---|---|---|
| 170.15.05 | **Description:**<br>All work involved with inter and intra coordination of project design plans between bridge engineer, project engineer, project manager, and the railroad entity involved.<br>**Lead Function:**<br>Right of Way<br>**Deliverables**:<br>• Final Project Plan Approval Letter from Railroad<br>**References:**<br>– Caltrans Right of Way Manual, Chapter 8<br>**Business Practices:**<br>Right of Way acts as a project manager coordinating the work of the bridge engineer with railroad engineer for concept, preliminary, and final approval of structure plans. | Description:<br><br>Lead Function:<br><br>Deliverables:<br><br>References:<br>Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Sections 3 and 8 | Content Change |

# Appendix A

| WBS Task ID | NEW-Release 11.1 Revised Attribute(s) | Old-Release 11.0 Prior Text | Change Description |
|---|---|---|---|
| 170.15.10 | **Task Name: Railroad Special Provisions and Insurance Clauses**<br>**Description:**<br>The HQ Railroad Agreements Engineer develops, edits, and maintains railroad special provisions for each railroad entities throughout the State. Each special provisions are developed to each specific project and railroad entity in accordance to their requirements and special construction restriction period.<br>**Lead Function:**<br>District Railroad Coordinator<br>**Deliverables**:<br>• Final draft Railroad special provision and insurance requirements are included with the railroad agreement for execution<br>• Final draft Railroad Special Provision and Insurance Requirements are included to the "Information Handout," of the Project construction contract document package.<br><br>**References:**<br>– Caltrans Right of Way Manual, Chapter 8<br>**Business Practices:**<br>The HQ Railroad Agreements Engineer and the District Railroad Agreements Coordinator develop the final draft special provisions. All railroad specification write ups are to be reviewed and approved by the HQ Railroad Agreements Engineer. | Task Name: Special Provisions and Insurance Clauses<br><br>Description:<br><br>Lead Function:<br><br>Deliverables:<br><br>References:<br>Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Sections 3 and 8 | Task Name Change<br><br>Content Change |

# Appendix A

| WBS Task ID | NEW-Release 11.1 Revised Attribute(s) | Old-Release 11.0 Prior Text | Change Description |
|---|---|---|---|
| 170.15.15 | **Description:**<br>A service contract that will pay railroad to provide surfaces in support of project work such as flagging, plan review, inspection, and necessary relocation work of railroad facilities.<br>**Lead Function:**<br>District Railroad Coordinator<br>**Deliverables**:<br>• Once HQ Legal signs, Service Contract becomes valid.<br>• After execution, railroad invoices are received in HQ R/W for payment.<br>• HQ R/W coordinates with the Resident Engineer and approves payment. Work with Accounting and monitors the balance of each contract against remaining balance.<br><br>**References:**<br>– Caltrans Right of Way Manual, Chapter 8<br>**Business Practices:**<br>The District Railroad Agreement Coordinator prepares the Service Contract which is a short form for project specific information. All terms and conditions are prewritten. The District Railroad Coordinators will obtain signatures from its District approval authority, funding manager, and the railroad prior to HQ legal signature. | Description:<br><br>Lead Function:<br><br>Deliverables:<br><br>References:<br>Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Sections 3 and 8 | Content Change |

# Appendix A

| WBS Task ID | NEW-Release 11.1 Revised Attribute(s) | Old-Release 11.0 Prior Text | Change Description |
|---|---|---|---|
| 170.15.20 | **Task Name: Service Contracts for Railroad Services**<br>**Description:**<br>A construction and maintenance agreement is only for grade separated crossing and is required to construct or reconstruct structure and to operate and maintain structure after project completion. This permits the Division of Structure Maintenance access to inspect, maintain, and operate state bridges crossing over railroad properties and facilities.<br>**Lead Function:**<br>District Railroad Coordinator<br>**Deliverables**:<br>• A fully executed agreement when all signatures are obtained<br><br>**Business Practices:**<br>The District Railroad Agreements Coordinator makes the first draft and submits to the Railroad Agreements Engineer (RAE) for review until approval is obtained. Once this is obtained, the RAE takes ownership and will submit to railroad as a final draft for execution. This is a HQ executed agreement. There are no District signature involved. | Task Name: Construction and Maintenance Agreement<br><br>Description:<br><br>Lead Function:<br><br>Deliverables: | Task Name Change<br><br>Content Change |

# Appendix A

| WBS Task ID | NEW-Release 11.1 Revised Attribute(s) | Old-Release 11.0 Prior Text | Change Description |
|---|---|---|---|
| 170.15.25 | **Description:**<br>Under the direction of the RAE, the District Railroad Coordinator prepares the draft PUC application and submits it to PUC for authorization to construct project. The can only occur after the approval of the project environmental document. For new work over railroad property, a full application will be required. The District Railroad Coordinator will request from the project engineer for the necessary exhibits to accompany the PUC application. For a full application, HQ Legal will submit to PUC for authorization to construct project.<br>**Lead Function:**<br>District and HQ Right of Way and HQ Legal (for full application)<br>**Deliverables**:<br>• Completed application to PUC for review and approval<br>**References:**<br>– Caltrans Right of Way Manual, Chapter 8<br>– Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Sections 3 and 8 | Description:<br><br>Lead Function:<br><br>Deliverables:<br><br>References:<br>CADD Users Manual Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Sections 3 and 8<br><br>Caltrans Right of Way Manual | Content Change |
| 185.20.15 | **Deliverables:**<br>• Preliminary Geotechnical Report and any other Geotech information for the final Plans, Specification and Estimate package. | Deliverables:<br>• Geotechnical Report and Any Other Geotech Information for the Final Plans, Specification and Estimate Package | Content Change |
| 230.05.70.10 | **Deliverables:**<br>• Environmental Clearance or compliance | Deliverables:<br>• Environmental Compliance | Content Change |

# Appendix A

| WBS Task ID | NEW-Release 11.1 Revised Attribute(s) | Old-Release 11.0 Prior Text | Change Description |
|---|---|---|---|
| 230.05.70.15 | **Deliverables:**<br>● Geotechnical Design Report (GDR) | Deliverables:<br>• Final Geotechnical Report | Content Change |
| 240.65 | **References:**<br>– Caltrans Guidelines for Structure Foundation Reports, Chapter 2 | Deliverables:<br>Guidelines for Structure Foundation Reports, Chapter 2 | Content Change |
| 240.70 | **Task Name: Products Required to Ready Site for Subsurface Exploration** | Task Name: Site Ready for Subsurface Exploration | Task Name Change |
| 240.80 | **Task Name: Foundation Report** | Task Name: Foundation Reports | Task Name Change |
| 260 | **Description:**<br>Work involved in the preparation of draft contract bid documents. Completion of this activity is the finalized submittal package to DES-OE for advertisement.<br>**Lead Function:**<br>District Office Engineer<br>**Deliverables**:<br>• Finalized Submittal Package Contract<br>• Contract Bid Documents Ready to List<br>• Fund Allocation<br>**Major Milestones:**<br>♦ M470 Fund Allocation (Finish: approximately 30 days before finish of WBS 260.95) | Description:<br>Work involved in the preparation of draft contract bid documents. Completion of this activity is the milestone "Ready to List" as defined in the RTL Guide.<br>Lead Function:<br>HQ OE<br>Deliverables:<br>• Contract Bid Documents "Ready to List<br>Major Milestones:<br>M470 Fund Certification (Finish: WBS 260.95) | Content Change |
| 260.50 | **Task Name: Draft Contract Submittal Ready to Process (PS&E)**<br>**Lead Function:**<br>District Office Engineer<br>**Deliverables:**<br>• Complete Draft Contract Submittal Ready to Process | Task Name: Project Submittal Ready to Process (PS&E)<br>Lead Function: District Office Engineer for AADD projects.<br>Deliverables:<br>• Complete Project Submittal Ready to Process | Task Name Change<br><br>Content Change |

# Appendix A

| WBS Task ID | NEW-Release 11.1 Revised Attribute(s) | Old-Release 11.0 Prior Text | Change Description |
|---|---|---|---|
| 260.60 | **Description:**<br>Develop a list of potential deviations of District QC/QA Standards and provide to District Design and DES Structure Design for resolution.<br>**Lead Function:**<br>District Office Engineer<br>**Deliverables**:<br>• Draft Contract Comments (A List of Potential Deviations of District QC/QA Standards)<br>**References:**<br>– Caltrans Best Bid Standards (BBS) Guide | Description:<br>Develop a list of potential deviations of District QC/QA Standards<br>Lead Function:<br>District Office Engineer for AADD projects.<br>Deliverables:<br>• Draft Contract Comments (A List of Potential Deviations of District QC/QA Standards) Are Provided to District Design and DES Structure Design for Resolution.<br>References:<br>– *Added* | Content Change |
| 260.70 | **References:**<br>– Caltrans Best Bid Standards (BBS) Guide | References:<br>– *Added* | |
| 260.80 | Retired | Task Name:<br>Draft Contract Ready | Retired Task |
| 260.90 | **Description:**<br>The product from this activity is a draft contract with constraints cleared ready for funding request. This activity includes validating that all RTL requirements have been met.<br>**Lead Function:**<br>District Office Engineer<br>**Deliverables**:<br>• Final RTL Certification<br>**Subtasks:**<br>– Obtain signatures and seal on RTL Certification | Description:<br>The product from this activity is a draft contract, ready for funding request. This activity includes validating that all RTL requirements have been met.<br>Lead Function:<br>District Office Engineer for AADD projects.<br>Deliverables:<br>• Final RTL Certification; DOE Submits Federal Requirements to the Federal Liaison.<br>Subtasks:<br>– *Added* | Content Change |

# Appendix A

| WBS Task ID | NEW-Release 11.1 Revised Attribute(s) | Old-Release 11.0 Prior Text | Change Description |
|---|---|---|---|
| 260.95 | **Task Name: Finalized Submittal Package**<br>**Description:**<br>The product from this activity is a finalized construction contract package submitted to DES-OE for advertisement.<br>**Lead Function:**<br>District Office Engineer<br>**Subtasks:**<br>– DOE Submits Federal Requirements to the Federal Liaison.<br>– Submit Fund Request<br>– Fund Verification<br>– Incorporate Construction Contract Standards Updates into Contract<br>– Construction Contract Submittal for Advertisement Signed | Task Name: Fund Certification<br>Description:<br>The product from this activity is a signed document certifying every type of funds for the project has been secured.<br>Lead Function:<br>District Project Manager<br>Subtasks:<br>– Submit signed Authority to Advertise Form to DES-OE | Task Name Change<br><br>Content Change |
| 265 | **Lead Function:**<br>DES Office Engineer<br>**Deliverables:**<br>• Awarded and Approved Construction Contract | Lead Function:<br>HQ OE<br>Deliverables:<br>• Advertised, Bid Opened, Awarded and Approved Construction Contract | Content Change |
| 265.45 | **Task Name: Validate Project Submittal for Listing**<br>**Description:**<br>The product from this activity is a complete project ready to be included on tentative advertisement list. Activities include receiving the project submittal from the district, validating that submittal requirements are complete, coordinating with district staff for missing items, logging the submittal into a database.<br>**Lead Function:**<br>DES Office Engineer | Task Name: Project Submittal Ready to Process for AADD Projects<br>Description:<br>The product from this activity is a complete project submittal from the district to Division of Engineering Services–Office Engineer (DES-OE) ready for processing. Activities include receiving the project submittal from the district, validating that submittal requirements are complete, coordinating with district staff for missing items, logging the submittal into a database. | Task Name Change<br><br>Content Change |

# Appendix A

| WBS Task ID | NEW-Release 11.1 Revised Attribute(s) | Old-Release 11.0 Prior Text | Change Description |
|---|---|---|---|
| | **Deliverables:**<br>• Complete Project Submittal to be included on Tentative Advertisement List | Lead Function:<br>DES-OE Office of Project Control and Support<br>Deliverables:<br>• Complete Project Submittal Ready to Process. | |
| 265.50 | **Lead Function:**<br>DES Office Engineer<br>**Subtasks**:<br>– *Moved to bottom of the subtasks list*<br>– *Deleted* | Lead Function:<br>DES-OE Office of Project Control and Support<br>Subtasks:<br>– Post list on Internet<br>– Receive job file from District | Content Change |
| 265.55 | **Lead Function:**<br>DES Office Engineer<br>**Deliverables**:<br>• Advertised Contract including Distributed Bid Documents and Addenda. | Lead Function:<br>DES-OE Office of Project Control and Support<br>Deliverables:<br>• Distributed Bid Documents and Addenda. | Content Change |
| 265.60 | **Lead Function:**<br>DES Office Engineer | Lead Function:<br>DES-OE Office of Contract Awards and Services | Content Change |
| 265.65 | **Lead Function:**<br>DES Office Engineer | Lead Function:<br>DES-OE Office of Contract Awards and Services | Content Change |
| 265.70 | **Lead Function:**<br>DES Office Engineer<br>**Deliverables:**<br>• Executed and Approved Contract | Lead Function:<br>DES-OE Office of Project Control and Support<br>Deliverables:<br>• Approved Contract | Content Change |

# Appendix A

| WBS Task ID | NEW-Release 11.1 Revised Attribute(s) | Old-Release 11.0 Prior Text | Change Description |
|---|---|---|---|
| 265.75 | **Lead Function:**<br>DES Office Engineer<br>**References:**<br>– Caltrans Best Bid Standards (BBS) Guide<br>– Caltrans Best Bid Standards (BBS)<br>– Caltrans IQA Review Checklist<br>– Caltrans IQA Review Manual<br>**Subtasks:**<br>**–** Perform IQA review to validate conformance to the Best Bid Standards (BBS) | Lead Function:<br>DES-OE Office of Project Control and Support<br>References:<br>– *Added*<br>– *Added*<br>– *Added*<br>– *Added*<br>Subtasks:<br>– Perform IQA review to validate conformance to Best Bid Standards | Content Change |
| 270.33 | **Subtasks:**<br>– Tailgate Safety Meetings. | Subtasks:<br>– *Added* | Content Change |
| Intro | **Table of Content:**<br>Administration of Permits, Licenses, Agreements and Certifications (PLACs) and Environmental Stewardship | Table of Content:<br>Administration of Permits, Licenses, Agreements or Certifications (PLACs) and Environmental Stewardship | Content Change |
| M215 | **Milestone Name: Begin Structure** | *New Milestone* | New Mandatory Milestone |

# Appendix B - List of Major Work Elements at Level 4 (Capital Outlay Support)

**PROJECT MANAGEMENT**

100 Perform Project Management

**PROJECT INITIATION**

150 Develop Project Initiation Document (PID)

**PERMITS AND ENVIRONMENTAL STUDIES**

160 Perform Preliminary Engineering Studies and Draft Project Report
165 Perform Environmental Studies and Prepare Draft Environmental Document
170 Obtain Permits, Licenses, Agreements, and Certifications (PLACs) and Route Adoptions during PA&ED Component
175 Circulate Draft Environmental Document and Select Preferred Project Alternative
180 Prepare and Approve Project Report and Final Environmental Document

**PLANS, SPECIFICATIONS, AND ESTIMATES**

185 Prepare Base Maps and Plan Sheets for PS&E Development
205 Obtain Permits Licenses, Agreements, and Certifications (PLACs) during PS&E Component
230 Prepare Draft PS&E
235 Mitigate Environmental Impacts and Clean up Hazardous Waste
240 Draft Structures PS&E
250 Final Structures PS&E Package
255 Circulate, Review, and Prepare Final District PS&E Package
260 Contract Bid Documents Ready to List
265 Awarded and Approved Construction Contract

**RIGHT OF WAY**

195 Right of Way Property Management and Excess Land
200 Utility Relocation
220 Perform Right of Way Engineering
225 Obtain Right of Way Interests for Project Right of Way Certification
245 Post Right of Way Certification Work
300 Final Right of Way Engineering

**CONSTRUCTION**

270 Construction Engineering and Contract Administration
275 Construction Engineering and General Contract Administration of Structures Work
280 Administration of Permits, Licenses, Agreements, and Certifications (PLACs) and Environmental Stewardship
285 Change Order Administration
290 Resolve Contract Claims
295 Accept Contract Prepare Final Construction Estimate and Final Report

# Appendix C

# Appendix C -List of Major Tasks at Level 5

This Appendix should serve as a general point of reference and in certain circumstances, some variation may exist.

| WBS Level 5 Task | Task Description | Lead COS Division |
|---|---|---|
| 100 | Perform Project Management | Project Management |
| 150 | Develop Project Initiation Document (PID) | Design |
| 160 | Perform Preliminary Engineering Studies and Draft Project Report | Design |
| 165 | Perform Environmental Studies and Prepare Draft Environmental Document | Environmental |
| 170 | Obtain Permits, Licenses, Agreements, and Certifications (PLACs) and Route Adoptions during PA&ED Component | Various |
| 175 | Circulate Draft Environmental Document and Select Preferred Project Alternative | Environmental |
| 180 | Prepare and Approve Project Report and Final Environmental Document | Design (PR)/Environmental (ED) |
| 185 | Prepare Base Maps and Plan Sheets for PS&E Development | Design |
| 195 | Right of Way Property Management and Excess Land | Right of Way |
| 200 | Utility Relocation | Right of Way |
| 205 | Obtain Permits Licenses, Agreements, and Certifications (PLACs) during PS&E Component | Various |
| 220 | Perform Right of Way Engineering | Right of Way Engineering with Surveys |
| 225 | Obtain Right of Way Interests for Project Right of Way Certification | Right of Way |
| 230 | Prepare Draft PS&E | Design |
| 235 | Mitigate Environmental Impacts and Clean up Hazardous Waste | Various |
| 240 | Draft Structures PS&E | Structure Design |
| 245 | Post Right of Way Certification Work | |
| 250 | Final Structures PS&E Package | Structure Design |
| 255 | Circulate, Review, and Prepare Final District PS&E Package | District OE/Design |
| 260 | Contract Bid Documents Ready to List | HQ OE |
| 265 | Awarded and Approved Construction Contract | HQ OE |
| 270 | Construction Engineering and Contract Administration | Construction |
| 275 | Construction Engineering and General Contract Administration of Structures Work | Structures Construction |
| 280 | Administration of Permits, Licenses, Agreements, and Certifications (PLACs) and Environmental Stewardship | Construction |
| 285 | Change Order Administration | Construction |
| 290 | Resolve Contract Claims | Construction |
| 295 | Accept Contract/Prepare Final Construction Estimate and Final Report | Construction |
| 300 | Final Right of Way Engineering | Right of Way Engineering |

# Appendix D - Complete List of All WBS Elements Showing Proper Timesheet Coding

Due to size and to provide a separate more useable source this portion of document is shown as a stand-alone file. Go to the Caltrans Project Management Website at:
http://pd.dot.ca.gov/pm/ProjectOffice/WorkplanStandards/StandardsHome.asp
OR the Internet Website at:
http://www.dot.ca.gov/hq/projmgmt/guidance.htm

If you have any questions or need assistance, contact Mohammad U. Sadiq either by phone (916) 653-4604 or Email at: mohammad.u.sadiq@dot.ca.gov

# Appendix E – List of all WBS Elements

| WBS | WBSName |
|---|---|
| 100 | Perform Project Management |
| 100.05 | Project Management PID Component |
| 100.05.05 | PID Component Initiation and Planning |
| 100.05.10 | PID Component Execution and Control |
| 100.05.15 | PID Component Close Out |
| 100.05.20 | Project Shelving (PID) |
| 100.05.25 | Project Unshelving (PID) |
| 100.05.35 | Executed Cooperative Agreement for PID Component |
| 100.05.99 | Other Project Management PID Component Products |
| 100.10 | Project Management PA&ED Component |
| 100.10.05 | PA&ED Component Initiation and Planning |
| 100.10.10 | PA&ED Component Execution and Control |
| 100.10.15 | PA&ED Component Close Out |
| 100.10.20 | Project Shelving (PA&ED) |
| 100.10.25 | Project Unshelving (PA&ED) |
| 100.10.30 | Updated Administrative Record and Support for Legal Challenges during PA&ED |
| 100.10.35 | Executed Cooperative Agreement for PA&ED Component |
| 100.10.99 | Other Project Management PA&ED Component Products |
| 100.15 | Project Management PS&E Component |
| 100.15.05 | PS&E Component Initiation and Planning |
| 100.15.10 | PS&E Component Execution and Control |
| 100.15.15 | PS&E Component Close Out |
| 100.15.20 | Project Shelving (PS&E) |
| 100.15.25 | Project Unshelving (PS&E) |
| 100.15.30 | Updated Administrative Record and Support for Legal Challenges during PS&E |
| 100.15.35 | Executed Cooperative Agreement for PS&E Component |
| 100.15.99 | Other Project Management PS&E Component Products |
| 100.20 | Project Management Construction Component |
| 100.20.05 | Construction Component Initiation and Planning |
| 100.20.10 | Construction Component Execution and Control |
| 100.20.15 | Construction Component Close Out |
| 100.20.20 | Project Shelving (Construction) |
| 100.20.25 | Project Unshelving (Construction) |
| 100.20.30 | Updated Administrative Record during Construction |
| 100.20.35 | Executed Cooperative Agreement for Construction Component |
| 100.20.99 | Other Project Management Construction Component Products |
| 100.25 | Project Management Right of Way Component |
| 100.25.05 | Right of Way Component Initiation and Planning |
| 100.25.10 | Right of Way Component Execution and Control |
| 100.25.15 | Right of Way Component Close Out |

# Appendix E

| WBS | WBSName |
|---|---|
| 100.25.20 | Project Shelving (Right of Way) |
| 100.25.25 | Project Unshelving (Right of Way) |
| 100.25.30 | Updated Administrative Record during Right of Way |
| 100.25.35 | Executed Cooperative Agreement for Right of Way Component |
| 100.25.50 | Executed Cooperative Agreement for Right of Way Relinquishment |
| 100.25.99 | Other Project Management Right of Way Component Products |
| 150 | Develop Project Initiation Document (PID) |
| 150.05 | Transportation Problem Definition and Site Assessment |
| 150.05.05 | Review of Existing Reports, Studies, and Mapping |
| 150.05.10 | Geological Hazards Review |
| 150.05.15 | Utility Search |
| 150.05.20 | Environmental Constraints Identification |
| 150.05.25 | Traffic Forecasts/Modeling |
| 150.05.30 | Surveys and Maps for PID |
| 150.05.30.05 | Regular Surveys and Maps for PID |
| 150.05.30.10 | Accelerated Engineering Surveys |
| 150.05.35 | Transportation Problem Definition and Site Assessment |
| 150.05.45 | As-Built Centerline and Existing Right of Way |
| 150.05.99 | Other Definition And Assessment Products |
| 150.10 | Initial Alternatives Development |
| 150.10.05 | Public / Local Agency Input |
| 150.10.10 | Value Analysis |
| 150.10.15 | Concept Alternatives Development |
| 150.10.99 | Other Initial Alternative Development Products |
| 150.15 | Alternatives Analysis |
| 150.15.05 | Right of Way Data Sheets |
| 150.15.10 | Utility Relocation Requirements Assessment |
| 150.15.15 | Railroad Involvement Determination |
| 150.15.20 | District Preliminary Geotechnical Report (DPGR) |
| 150.15.25 | Preliminary Materials Report |
| 150.15.30 | Structures Advance Planning Study (APS) |
| 150.15.35 | Multimodal Review |
| 150.15.40 | Hydraulic Review |
| 150.15.45 | Traffic Capacity Analysis |
| 150.15.50 | Traffic Studies |
| 150.15.55 | Construction Estimates |
| 150.15.60 | Preliminary Transportation Management Plan |
| 150.15.99 | Other Alternative Analysis Products |
| 150.20 | Preliminary Environmental Analysis Report (PEAR) |
| 150.20.05 | Initial Noise Study |
| 150.20.10 | Hazardous Waste Initial Site Assessment/Investigations |
| 150.20.15 | Scenic Resources and Landscape Architecture Review |
| 150.20.20 | Initial NEPA/404 Coordination |
| 150.20.25 | Initial Biology Study |
| 150.20.30 | Initial Records and Literature Search for Cultural Resources |

# Appendix E

| WBS | WBSName |
|---|---|
| 150.20.40 | Initial Community Impact Analysis, Land Use, and Growth Studies |
| 150.20.45 | Initial Air Quality Study |
| 150.20.50 | Initial Water Quality Studies |
| 150.20.55 | Initial Floodplain Study |
| 150.20.60 | Preliminary Environmental Analysis Report Preparation |
| 150.20.65 | Initial Paleontology Study |
| 150.20.70 | Initial Native American Coordination |
| 150.20.99 | Other PEAR Products |
| 150.25 | Approved PID (PSR, PSSR, etc.) |
| 150.25.05 | Draft PID |
| 150.25.10 | Approved Exceptions to Design Standards |
| 150.25.15 | Approved Access Modification Request |
| 150.25.20 | PID Circulation, Review & Approval |
| 150.25.25 | Storm Water Data Report |
| 150.25.30 | Draft Project Report as part of a PSSR/PR Programming Document |
| 150.25.30.05 | Cost Estimates for Alternatives |
| 150.25.30.10 | Fact Sheet for Exceptions to Design Standards |
| 150.25.30.15 | Approved Exceptions to Encroachment Policy |
| 150.25.30.20 | Draft Project Report as part of a PSSR/PR Programming Document |
| 150.25.30.25 | Draft Project Report Circulation Review and Approval |
| 150.25.99 | Other PID Products |
| 150.35 | Required Permits, Licenses, Agreements, and Certifications (PLACs) during Project Initiation Documents Development |
| 150.40 | PLACs During Project Initiation Documents Development |
| 150.40.05 | U.S. Army Corps of Engineers Permit (404/10) |
| 150.40.10 | U.S. Forest Service PLACs |
| 150.40.15 | U.S. Coast Guard PLACs |
| 150.40.20 | Department of Fish and Wildlife 1600 Agreement(s)/2080.1/2081 Permit(s) |
| 150.40.25 | Coastal Development Permit |
| 150.40.30 | Local Agency Concurrence/PLACs |
| 150.40.35 | Waste Discharge (NPDES) Permit |
| 150.40.40 | U.S. Fish and Wildlife Service/National Marine Fisheries Service Approvals |
| 150.40.45 | Regional Water Quality Control Board 401 Permit |
| 150.40.50 | Updated Environmental Commitments Record |
| 150.40.55 | NEPA Assignment |
| 150.40.95 | Other PLACs |
| 150.45 | Base Maps and Plan Sheets for Project Initiation Documents |
| 160 | Perform Preliminary Engineering Studies and Draft Project Report |
| 160.05 | Updated Project Information |
| 160.05.05 | Approved PID Review |
| 160.05.10 | Geotechnical Information Review |
| 160.05.15 | Materials Information Review |
| 160.05.20 | Traffic Data and Forecasts Review |
| 160.05.25 | Geometrics Review |
| 160.05.30 | Project Scope Review |

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| WBS | WBSName |
|---|---|
| 160.05.35 | Project Cost Estimate Review |
| 160.05.99 | Other Project Information Products |
| 160.10 | Engineering Studies |
| 160.10.10 | Traffic Forecasts/Modeling |
| 160.10.15 | Geometric Plans for Project Alternatives |
| 160.10.20 | Value Analysis |
| 160.10.25 | Hydraulics/Hydrology Studies |
| 160.10.30 | Highway Planting Design Concepts |
| 160.10.35 | Traffic Operational Analysis |
| 160.10.40 | Updated Right of Way Data Sheet |
| 160.10.45 | Utility Locations Determined for Preliminary Engineering |
| 160.10.50 | Railroad Study |
| 160.10.55 | Multi-modal Study |
| 160.10.60 | Park and Ride Study |
| 160.10.65 | Right of Way Relinquishment and Vacation Study |
| 160.10.70 | Traffic Studies |
| 160.10.75 | Updated Materials Information |
| 160.10.80 | Updated Geotechnical Information |
| 160.10.85 | Structures Advance Planning Study (APS) |
| 160.10.90 | High Occupancy Vehicle Report |
| 160.10.95 | Updated Preliminary Transportation Management Plan |
| 160.10.99 | Other Engineering Studies |
| 160.15 | Draft Project Report |
| 160.15.05 | Cost Estimates for Alternatives |
| 160.15.10 | Fact Sheet for Exceptions to Design Standards |
| 160.15.15 | Approved Exceptions to Encroachment Policy |
| 160.15.20 | Draft Project Report |
| 160.15.25 | Draft Project Report Circulation Review and Approval |
| 160.15.99 | Other Draft Project Report Products |
| 160.20 | Engineering and Land Net Surveys |
| 160.20.25 | Existing Records |
| 160.20.30 | Land Net Surveys |
| 160.20.35 | Land Net Map |
| 160.20.40 | Right of Way Engineering Products |
| 160.20.50 | Control Surveys |
| 160.20.55 | Photogrammetric Maps and Products |
| 160.20.60 | Engineering Surveys |
| 160.20.65 | As-Built Centerline Surveys |
| 160.20.70 | Pavement Surveys |
| 160.30 | Environmental Study Request (ESR) |
| 160.30.05 | Maps for ESR |
| 160.30.10 | Surveys and Mapping for Environmental Studies |
| 160.30.15 | Property Access Rights for Environmental/Engineering Studies |
| 160.40 | NEPA Assignment |
| 160.45 | Base Maps and Plan Sheets for PA&ED Development |

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| WBS | WBSName |
|---|---|
| 165 | Perform Environmental Studies and Prepare Draft Environmental Document |
| 165.05 | Environmental Scoping of Alternatives Identified for Study in PID |
| 165.05.05 | Project Information Review |
| 165.05.10 | Public and Agency Scoping Process |
| 165.05.15 | Alternatives for Further Study |
| 165.05.99 | Other Environmental Scoping of Alternatives Identified for Studies in PID |
| 165.10 | General Environmental Studies |
| 165.10.15 | Community Impact Analysis Land Use and Growth Studies |
| 165.10.20 | Visual Impact Assessment and Scenic Resource Evaluation |
| 165.10.25 | Noise Study |
| 165.10.30 | Air Quality Study |
| 165.10.35 | Water Quality Studies |
| 165.10.40 | Energy Studies |
| 165.10.45 | Summary of Geotechnical Report |
| 165.10.55 | Draft Right of Way Relocation Impact Document |
| 165.10.60 | Location Hydraulic and Floodplain Study Report |
| 165.10.65 | Paleontology Study |
| 165.10.70 | Wild and Scenic Rivers Coordination |
| 165.10.75 | Environmental Commitments Record |
| 165.10.80 | Hazardous Waste Initial Site Assessments/Investigations |
| 165.10.85 | Hazardous Waste Preliminary Site Investigations |
| 165.10.99 | Other Environmental Studies |
| 165.15 | Biological Studies |
| 165.15.05 | Biological Assessment |
| 165.15.10 | Wetlands Study |
| 165.15.15 | Resource Agency Permit Related Coordination |
| 165.15.20 | Natural Environment Study (NES) Report |
| 165.15.99 | Other Biological Studies |
| 165.20 | Cultural Resource Studies |
| 165.20.05 | Archaeological Survey |
| 165.20.05.05 | Area of Potential Effects/Study Area Map |
| 165.20.05.10 | Native American Consultation |
| 165.20.05.15 | Records and Literature Search |
| 165.20.05.20 | Field Survey |
| 165.20.05.25 | Archaeological Survey Report (ASR) |
| 165.20.05.99 | Other Archaeological Survey Products |
| 165.20.10 | Extended Phase I Archaeological Studies |
| 165.20.10.05 | Native American Consultation |
| 165.20.10.10 | Extended Phase 1 Proposal |
| 165.20.10.15 | Extended Phase 1 Field Investigation |
| 165.20.10.20 | Extended Phase 1 Materials and Analysis |
| 165.20.10.25 | Extended Phase 1 Report |
| 165.20.10.99 | Other Phase I Archaeological Study Products |
| 165.20.15 | Phase II Archaeological Studies |
| 165.20.15.05 | Native American Consultation |

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| WBS | WBSName |
|---|---|
| 165.20.15.10 | Phase II Proposal |
| 165.20.15.15 | Phase II Field Investigation |
| 165.20.15.20 | Phase II Materials Analysis |
| 165.20.15.25 | Phase II Report |
| 165.20.15.99 | Other Phase II Archaeological Study Products |
| 165.20.20 | Historical and Architectural Resource Studies |
| 165.20.20.05 | Preliminary Area Of Potential Effects /Study Area Maps for Architecture |
| 165.20.20.10 | Historic Resources Evaluation Report - Archaeology |
| 165.20.20.15 | Historic Resource Evaluation Report - Architecture (HRER) |
| 165.20.20.20 | Bridge Evaluation |
| 165.20.20.99 | Other Historical and Architectural Resource Study Products |
| 165.20.25 | Cultural Resources Compliance Consultation Documents |
| 165.20.25.05 | Final Area of Potential Effects /Study Area Maps |
| 165.20.25.10 | PRC 5024.5 Consultation |
| 165.20.25.15 | Historic Property Survey Report/Historic Resources Compliance Report |
| 165.20.25.20 | Finding of Effect (FOE) |
| 165.20.25.25 | Archaeological Data Recovery Plan/Treatment Plan |
| 165.20.25.30 | Memorandum of Agreement (MOA) |
| 165.20.25.99 | Other Cultural Resources Compliance Consultation Products |
| 165.25 | Draft Environmental Document |
| 165.25.05 | Draft Environmental Document Analysis |
| 165.25.10 | Section 4(f)/6(f) Evaluation |
| 165.25.15 | Categorical Exemption/Categorical Exclusion (CE) Determination |
| 165.25.20 | Environmental Quality Control and Other Reviews |
| 165.25.25 | Approval to Circulate Resolution |
| 165.25.30 | Environmental Coordination |
| 165.25.99 | Other Draft Environmental Document Products |
| 165.30 | NEPA Assignment |
| 170 | Obtain Permits, Licenses, Agreements, and Certifications (PLACs) and Route Adoptions during PA&ED Component |
| 170.05 | Required PLACs |
| 170.10 | PLACs |
| 170.10.05 | U.S. Army Corps of Engineers Permit (404/10) |
| 170.10.10 | U.S. Forest Service PLACs |
| 170.10.15 | U.S. Coast Guard PLACs |
| 170.10.20 | Department of Fish and Wildlife 1600 Agreement(s)/2080.1/2081 Permit(s) |
| 170.10.25 | Coastal Development Permit |
| 170.10.30 | Local Agency Concurrence/PLACs |
| 170.10.40 | Waste Discharge (NPDES) Permit(s) |
| 170.10.45 | U.S. Fish and Wildlife Service/National Marine Fisheries Service Approval |
| 170.10.50 | Regional Water Quality Control Board 401 Permit |
| 170.10.60 | Updated Environmental Commitments Record |
| 170.10.95 | Other PLACs |
| 170.15 | Railroad Agreements |
| 170.15.05 | Plan Approval |

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| WBS | WBSName |
|---|---|
| 170.15.10 | Railroad Special Provisions and Insurance Clauses |
| 170.15.15 | Service Contract for Railroad Services |
| 170.15.20 | Service Contracts for Railroad Services |
| 170.15.25 | PUC Exhibits and Application |
| 170.15.99 | Other Railroad Agreement Products |
| 170.20 | Freeway Agreements |
| 170.20.05 | Draft Freeway Agreement |
| 170.20.10 | Draft Freeway Agreement Review |
| 170.20.15 | Final Freeway Agreement |
| 170.20.20 | Executed Freeway Agreement |
| 170.20.99 | Other Freeway Agreement Products |
| 170.25 | Agreement for Material Sites |
| 170.30 | Executed Maintenance Agreement |
| 170.40 | Route Adoptions |
| 170.40.05 | Route Adoption Map |
| 170.40.10 | New Connection Request and Route Adoption CTC Submittal |
| 170.40.15 | Route Adoption and Public Road Connection Placed on CTC Agenda |
| 170.40.99 | Other Route Adoption Products |
| 170.45 | MOU from Tribal Employment Rights Office (TERO) |
| 170.55 | NEPA Assignment |
| 175 | Circulate Draft Environmental Document and Select Preferred Project Alternative |
| 175.05 | DED Circulation |
| 175.05.05 | Master Distribution and Invitation Lists |
| 175.05.10 | Notices Regarding Public Hearing and Availability of DED |
| 175.05.15 | DED Publication and Circulation |
| 175.05.20 | Federal Consistency Determination (Coastal Zone) |
| 175.05.99 | Other DED Circulation Products |
| 175.10 | Public Hearing |
| 175.10.05 | Need for Public Hearing Determination |
| 175.10.10 | Public Hearing Logistics |
| 175.10.15 | Displays for Public Hearing |
| 175.10.20 | Second Notices of Public Hearing and Availability of DED |
| 175.10.25 | Map Display and Public Hearing Plan |
| 175.10.30 | Display Public Hearing Maps |
| 175.10.35 | Public Hearing |
| 175.10.40 | Record of Public Hearing |
| 175.10.99 | Other Public Hearing Products |
| 175.15 | Public Comment Responses and Correspondence |
| 175.20 | Project Preferred Alternative |
| 175.25 | NEPA Assignment |
| 180 | Prepare and Approve Project Report and Final Environmental Document |
| 180.05 | Project Report |
| 180.05.05 | Updated Draft Project Report |
| 180.05.10 | Approved Project Report |
| 180.05.15 | Updated Storm Water Data Report |

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| WBS | WBSName |
|---|---|
| 180.05.99 | Other Project Report Products |
| 180.10 | Final Environmental Document |
| 180.10.05 | Approved Final Environmental Document |
| 180.10.05.05 | Draft Final Environmental Document Review |
| 180.10.05.10 | Revised Draft Final Environmental Document |
| 180.10.05.15 | Section 4(f)/6(f) Evaluation |
| 180.10.05.20 | Findings |
| 180.10.05.25 | Statement of Overriding Considerations |
| 180.10.05.30 | CEQA Certification |
| 180.10.05.35 | FHWA Approval |
| 180.10.05.40 | Section 106 Consultation and MOA |
| 180.10.05.45 | Section 7 Consultation |
| 180.10.05.50 | Final Section 4(f)/6(f) Statement |
| 180.10.05.55 | Floodplain Only Practicable Alternative Finding |
| 180.10.05.60 | Wetlands Only Practicable Alternative Finding |
| 180.10.05.65 | Section 404 Compliance |
| 180.10.05.70 | Mitigation Measures |
| 180.10.10 | Public Distribution Of FED And Respond To Comments |
| 180.10.15 | Final Right of Way Relocation Impact Document |
| 180.10.99 | Other FED Products |
| 180.15 | Completed Environmental Document/Determination |
| 180.15.05 | Record Of Decision (NEPA) |
| 180.15.10 | Notice Of Determination (CEQA) |
| 180.15.20 | Environmental Commitments Record |
| 180.15.99 | Other Completed Environmental Document Products |
| 180.20 | NEPA Assignment |
| 185 | Prepare Base Maps and Plan Sheets for PS&E Development |
| 185.05 | Updated Project Information |
| 185.05.05 | Project Concept Review |
| 185.05.10 | Updated Project Information |
| 185.05.99 | Other Updated Project Information Products |
| 185.10 | Surveys and Photogrammetric Mapping for Design |
| 185.10.50 | Control Surveys |
| 185.10.55 | Photogrammetric Maps and Products |
| 185.10.60 | Engineering Surveys |
| 185.10.65 | As-Built Centerline Surveys |
| 185.10.70 | Pavement Surveys |
| 185.15 | Preliminary Design |
| 185.15.05 | Roadway and Miscellaneous Design |
| 185.15.10 | Proposed Geometrics Review |
| 185.15.15 | Requests for Exceptions to Design Standards |
| 185.15.20 | Value Analysis |
| 185.15.99 | Other Preliminary Design Products |
| 185.20 | Engineering Reports |
| 185.20.05 | Updated Traffic Data Analysis and Forecasts |

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| WBS | WBSName |
|---|---|
| 185.20.10 | Hydrology and Hydraulic Reports |
| 185.20.15 | Geotechnical Design Report (GDR) |
| 185.20.20 | Pavement Design Report |
| 185.20.25 | Materials Report |
| 185.20.30 | Soundwall Design Report |
| 185.20.35 | Updated Transportation Management Plan For Design Phase |
| 185.20.40 | Utility Locations Determined for Design |
| 185.20.99 | Other Engineering Report Products |
| 185.25 | Right of Way Requirements Determination |
| 185.25.05 | Project Review With Affected Agencies |
| 185.25.10 | Fee and Easement Requirements Determination |
| 185.25.15 | Right of Way Requirements Maps |
| 185.25.20 | Final Railroad Involvement Determination |
| 185.25.25 | Water Well Abandonment Needs Determination |
| 185.25.30 | Utility Conflict Maps |
| 185.30 | Structure Site Plans |
| 185.30.10 | Site Plans for Bridges and Structures |
| 185.30.15 | Site Plans for Retaining Walls and Non-standard Earth Retention Systems |
| 185.30.20 | Site Plans for Soundwalls on Retaining Systems or Structures |
| 185.30.25 | Site Plans for Pumping Plants |
| 185.30.30 | Site Plans for Special-Design Culverts |
| 185.30.99 | Other Structure Site Plan Products |
| 185.99 | Other Base Map And Plan Sheet Products |
| 195 | Right of Way Property Management and Excess Land |
| 195.40 | Property Management |
| 195.40.05 | Fair Market Rent Determinations (Residential) |
| 195.40.10 | Fair Market Rent Determinations (Non-Residential) |
| 195.40.15 | Regular Property Management |
| 195.40.20 | Property Maintenance and Rehabilitation (Rentable Property) |
| 195.40.25 | Property Maintenance and Rehabilitation (Non-Rentable Property) |
| 195.40.30 | Hazardous Waste and Hazardous Materials |
| 195.40.35 | Transfer of Property to Clearance Status |
| 195.40.99 | Other Property Management Products |
| 195.45 | Excess Land |
| 195.45.05 | Excess Lands Inventory |
| 195.45.10 | Excess Land Appraisal and Public Sale Estimate |
| 195.45.15 | Government Code Section 54235 Administration |
| 195.45.20 | Property Disposal of Units up to $15,000 |
| 195.45.25 | Property Disposal of Units Between $15,001 and $50,000 |
| 195.45.30 | Property Disposal of Units over $50,000 |
| 195.45.35 | CTC and AAC Coordination |
| 195.45.99 | Other Excess Land Products |
| 200 | Utility Relocation |
| 200.15 | Approved Utility Relocation Plan |
| 200.20 | Utility Relocation Package |

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| WBS | WBSName |
|---|---|
| 200.25 | Utility Relocation Management |
| 200.30 | Utility Close Out |
| 200.99 | Other Utility Relocation Products |
| 205 | Obtain Permits, Licenses, Agreements, and Certifications (PLACs) during PS&E Component |
| 205.05 | PLACs Determination |
| 205.10 | PLACs |
| 205.10.05 | U.S. Army Corps of Engineers Permit (404/10) |
| 205.10.10 | U.S. Forest Service PLACs |
| 205.10.15 | U.S. Coast Guard PLACs |
| 205.10.20 | Department of Fish and Game 1600 Agreement(s)/2080.1/2080 Permit(s) |
| 205.10.25 | Coastal Development Permit |
| 205.10.30 | Local Agency Concurrence/PLACs |
| 205.10.40 | Waste Discharge (NPDES) Permit(s) |
| 205.10.45 | U.S. Fish and Wildlife Service/National Marine Fisheries Service Approval |
| 205.10.50 | Regional Water Quality Control Board 401 Permit |
| 205.10.60 | Updated Environmental Commitments Record |
| 205.10.95 | Other PLACs |
| 205.15 | Railroad Agreements |
| 205.15.05 | Plan Approval |
| 205.15.10 | Special Provisions and Insurance Clauses |
| 205.15.15 | Service Contract for Railroad Services |
| 205.15.20 | Construction and Maintenance Agreement |
| 205.15.25 | PUC Exhibits and Application |
| 205.15.99 | Other Railroad Agreement Products |
| 205.25 | Agreement for Material Sites |
| 205.30 | Executed Maintenance Agreement |
| 205.45 | MOU from Tribal Employment Rights Office (TERO) |
| 205.55 | NEPA Assignment |
| 220 | Perform Right of Way Engineering |
| 220.05 | Existing Land Net |
| 220.05.05 | Existing Records |
| 220.05.10 | Land Net Survey |
| 220.05.25 | Monumentation Perpetuation Record of Survey |
| 220.10 | Land Net Map |
| 220.15 | Right of Way Maps |
| 220.15.05 | Appraisal Map |
| 220.15.95 | Other Maps |
| 220.20 | Acquisition Documents |
| 220.20.05 | Deeds |
| 220.20.15 | Resolution of Necessity Package |
| 220.25 | Documents to Convey Property Rights |
| 220.25.05 | Director’s Deed Package |
| 220.25.95 | Other Deeds and Documents |
| 220.35 | Field Located Right of Way |

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| WBS | WBSName |
|---|---|
| 220.35.05 | Flagged Right of Way |
| 220.35.10 | Staked Right of Way |
| 225 | Obtain Right of Way Interests for Project Right of Way Certification |
| 225.50 | Parcel and Project Documentation |
| 225.60 | Right of Way Appraisals |
| 225.65 | Right of Way Acquisition |
| 225.70 | Right of Way Relocation Assistance |
| 225.75 | Right of Way Clearance |
| 225.80 | Right of Way Condemnation |
| 230 | Prepare Draft PS&E |
| 230.05 | Draft Roadway Plans |
| 230.05.05 | Title Sheet |
| 230.05.10 | Typical Cross Sections |
| 230.05.15 | Key Map and Line Index |
| 230.05.20 | Roadway Layouts |
| 230.05.25 | Profile and Superelevation Sheets |
| 230.05.30 | Construction Details |
| 230.05.35 | Contour Grading Plans |
| 230.05.40 | Summary of Quantities Sheets |
| 230.05.45 | Noise Barrier Plans |
| 230.05.50 | Retaining Wall Plans |
| 230.05.55 | Standard Plans Selection |
| 230.05.60 | Stage Construction and Detour Plans or Traffic Handling Plans |
| 230.05.65 | Water Pollution Control Plans |
| 230.05.70 | Engineering Reports |
| 230.05.70.05 | Hydrology and Hydraulic Reports |
| 230.05.70.10 | Products Required to Ready Site for Subsurface Exploration |
| 230.05.70.15 | Geotechnical Design Report (GDR) |
| 230.05.70.20 | Pavement Design Report |
| 230.05.70.25 | Materials Report |
| 230.05.99 | Other Draft Roadway Plan Products |
| 230.10 | Draft Highway Planting Plans |
| 230.10.05 | Highway Planting Plans |
| 230.10.15 | Plant List |
| 230.10.20 | Irrigation Plans |
| 230.10.30 | Irrigation Quantity Sheets |
| 230.10.99 | Other Draft Highway Planting Plan Products |
| 230.15 | Draft Traffic Plans |
| 230.15.05 | Signing and Pavement Delineation Plans |
| 230.15.10 | Construction Area Signs Plans |
| 230.15.15 | Traffic Electrical Plans |
| 230.15.99 | Other Draft Traffic Plan Products |
| 230.20 | Transportation Management Plan |
| 230.25 | Draft Utility Plans |
| 230.25.05 | New Facility Plans |

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| WBS | WBSName |
|---|---|
| 230.25.10 | Utility Relocation Plans |
| 230.25.99 | Other Draft Utility Plan Products |
| 230.30 | Draft Drainage Plans |
| 230.35 | Draft Specifications |
| 230.35.05 | Roadway Specifications |
| 230.35.10 | Highway Planting Specifications |
| 230.35.15 | Traffic Specifications |
| 230.35.20 | Electrical Specifications |
| 230.35.25 | Utility Specifications |
| 230.35.30 | Hydraulic Specifications |
| 230.35.35 | Water Pollution Control Specifications |
| 230.35.40 | Erosion Control Specifications |
| 230.35.99 | Other Draft Specification Products |
| 230.40 | Draft PS&E Quantities and Estimates |
| 230.40.05 | Roadway Quantities and Estimates |
| 230.40.10 | Highway Planting Quantities and Estimates |
| 230.40.15 | Drainage Quantities and Estimates |
| 230.40.20 | Traffic Quantities and Estimate |
| 230.40.25 | Electrical Quantities and Estimates |
| 230.40.30 | Utility Quantities and Estimate |
| 230.40.35 | Water Pollution Control Quantities and Estimates |
| 230.40.40 | Erosion Control Quantities and Estimates |
| 230.40.99 | Other Draft PS&E Quantities And Estimates Products |
| 230.55 | Structures Draft PS&E Incorporation |
| 230.60 | Updated Project Information for PS&E Package |
| 230.60.05 | Updated Storm Water Data Report |
| 230.60.10 | Other Reviews and Update of Project Information |
| 230.90 | NEPA Assignment |
| 230.99 | Other Draft PS&E Products |
| 235 | Mitigate Environmental Impacts and Clean up Hazardous Waste |
| 235.05 | Environmental Mitigation |
| 235.05.05 | Historical Structures Mitigation |
| 235.05.10 | Archaeological and Cultural Mitigation |
| 235.05.15 | Biological Mitigation |
| 235.05.20 | Environmental Mitigation Right of Way Work |
| 235.05.25 | Paleontology Mitigation |
| 235.05.99 | Other Environmental Mitigation Products |
| 235.10 | Detailed Site Investigation for Hazardous Waste |
| 235.10.05 | Right or Permit for Hazardous Waste Site Investigations |
| 235.10.10 | Hazardous Waste Sites Survey |
| 235.10.15 | Detailed Hazardous Waste Site Investigation |
| 235.15 | Hazardous Waste Management Plan |
| 235.20 | Hazardous Waste PS&E |
| 235.25 | Hazardous Waste Clean-up |
| 235.30 | Hazardous Materials Disclosure Document |

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| WBS | WBSName |
|---|---|
| 235.35 | Long Term Mitigation Monitoring |
| 235.40 | Updated Environmental Commitments Record |
| 235.45 | NEPA Assignment |
| 240 | Draft Structures PS&E |
| 240.50 | Overall Draft Structures PS&E |
| 240.55 | Foundation Plan |
| 240.60 | Hydraulics Report |
| 240.65 | Preliminary Foundation Reports |
| 240.70 | Products Required to Ready Site for Subsurface Exploration |
| 240.75 | Draft General Plans |
| 240.80 | Foundation Report |
| 240.85 | Draft Structure Plans |
| 240.90 | Draft Structures Special Provisions and Cost Estimate |
| 245 | Post Right of Way Certification Work |
| 245.50 | Parcel and Project Documentation |
| 245.60 | Right of Way Appraisals |
| 245.65 | Right of Way Acquisition |
| 245.70 | Right of Way Relocation Assistance |
| 245.75 | Right of Way Clearance |
| 245.80 | Right of Way Condemnation |
| 250 | Final Structures PS&E Package |
| 250.50 | Project Review |
| 250.55 | Final Structure Plans |
| 250.60 | Final Structure Special Provisions and Cost Estimate |
| 250.75 | Structure Resident Engineer Pending File |
| 255 | Circulate, Review, and Prepare Final District PS&E Package |
| 255.05 | Circulated & Reviewed Draft District PS&E Package |
| 255.10 | Updated PS&E Package |
| 255.10.05 | Updated Roadway PS&E |
| 255.10.10 | Updated Highway Planting PS&E |
| 255.10.15 | Updated Traffic PS&E |
| 255.10.20 | Updated Hydraulic PS&E |
| 255.10.25 | Updated Technical Reports |
| 255.10.30 | Updated Utility PS&E |
| 255.10.35 | Updated Electrical PS&E |
| 255.10.99 | Other Updated PS&E Products |
| 255.15 | Environmental Re-evaluation |
| 255.20 | Final District PS&E Package |
| 255.20.05 | Reviewed Plans for Drafting Standards Compliance |
| 255.20.10 | Final Structures Specifications and Estimate Incorporated into Final District PS&E |
| 255.20.15 | Request for Funds |
| 255.25 | Geotechnical Information Handout |
| 255.30 | Materials Information Handout |
| 255.35 | Construction Staking Package and Control |
| 255.35.10 | Construction Staking Package |

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| WBS | WBSName |
|---|---|
| 255.35.20 | Project Control for Construction |
| 255.40 | Resident Engineer's Pending File |
| 255.45 | NEPA Assignment |
| 255.50 | Secured Lease for Resident Engineer Office Space or Trailer |
| 255.55 | Contractor Outreach |
| 255.65 | Right of Way Certification Document |
| 255.70 | Right of Way Engineering Products |
| 255.75 | Upgraded/Updated Right of Way Certification Document |
| 260 | Contract Bid Documents Ready to List |
| 260.50 | Draft Contract Submittal Ready to Process (PS&E) |
| 260.60 | Draft Contract Comments (DCC) |
| 260.70 | Draft Contract Comment Response (DR) |
| 260.75 | Environmental Certification at RTL |
| 260.90 | Ready to List (RTL) |
| 260.95 | Finalized Submittal Package |
| 265 | Awarded and Approved Construction Contract |
| 265.45 | Validate Project Submittal for Listing |
| 265.50 | Contract Ready for Advertising |
| 265.55 | Advertised Contract |
| 265.60 | Bids Opened |
| 265.65 | Contract Award |
| 265.70 | Executed and Approved Contract |
| 265.75 | Independent Quality Assurance (IQA) |
| 270 | Construction Engineering and Contract Administration |
| 270.10 | Construction Staking Package and Control |
| 270.10.10 | Construction Staking Package |
| 270.10.20 | Project Control for Construction |
| 270.10.30 | Existing Monument Perpetuation Survey |
| 270.15 | Construction Stakes |
| 270.15.15 | Slope Stakes |
| 270.15.25 | Rough Grade Stakes |
| 270.15.30 | Final Grade Stakes |
| 270.15.35 | Drainage and Minor Structure Stakes |
| 270.15.50 | Miscellaneous Stakes |
| 270.15.55 | Photogrammetric Product for Construction |
| 270.15.60 | Ground Stakes for Major Structure |
| 270.15.65 | Superstructure Stakes for Major Structure |
| 270.22 | Contract Administration |
| 270.33 | Construction Inspection |
| 270.44 | Control of Materials |
| 270.56 | Employment Compliance |
| 270.66 | Technical Support |
| 275 | Construction Engineering and General Contract Administration of Structures Work |
| 275.10 | Office Administration Work for Structures |
| 275.20 | Field Administration Work for Structures |

# Appendix E

| WBS | WBSName |
|---|---|
| 275.30 | Change Order Inspection for Structures Work |
| 275.40 | Safety Tasks for Structures Work |
| 280 | Administration of Permits, Licenses, Agreements, and Certifications (PLACs) and Environmental Stewardship |
| 280.10 | PLAC Compliance |
| 280.40 | PLAC Violations |
| 280.50 | Other Environmental Compliance |
| 280.60 | Other Environmental Violations |
| 280.70 | Updated Environmental Commitments Record |
| 280.75 | Environmental Reevaluation |
| 280.80 | Updated PLACs |
| 285 | Change Order Administration |
| 285.05 | Change Order (CO) Process |
| 285.10 | Functional Support |
| 285.10.05 | Field Surveys for Change Order |
| 285.10.10 | Staking for Change Order |
| 285.10.15 | Other Functional Support |
| 290 | Resolve Contract Claims |
| 290.40 | Potential Claim Record |
| 290.50 | Alternative Dispute Resolution |
| 290.60 | Claim Resolution |
| 290.70 | Arbitration |
| 295 | Accept Contract/Prepare Final Construction Estimate and Final Report |
| 295.05 | Processed Estimate After Acceptance |
| 295.10 | Proposed Final Contract Estimate |
| 295.15 | As-Built Plans |
| 295.20 | Project History File |
| 295.25 | Final Report |
| 295.30 | Processed Final Estimate |
| 295.35 | Certificate of Environmental Compliance (CEC) |
| 295.40 | Long Term Environmental Mitigation/Mitigation Monitoring After Construction Contract Acceptance |
| 295.45 | Post-Construction Traffic Operations Activities |
| 295.45.05 | Speed Survey Records |
| 295.45.05.05 | Speed Survey |
| 295.45.05.10 | Signed Speed Survey |
| 295.45.10 | Commission TMS Elements |
| 295.99 | Other Accept Contract/ Prepare Final Construction Estimate And Final Report |
| 300 | Final Right of Way Engineering |
| 300.05 | Right of Way Monumentation |
| 300.05.05 | Right of Way Monumentation Survey |
| 300.05.10 | Filed Monumentation Record of Survey |
| 300.10 | Trial Exhibits and Testimony |
| 300.25 | Relinquishment and Vacation Maps |
| 300.30 | Deed Package for Excess Land Transactions |

# Appendix E

| WBS | WBSName |
|---|---|
| 300.35 | Right of Way Record Map |

# Appendix F – WBS Glossary

| Term | Definition |
|---|---|
| Activity | A component of work performed during the course of a project. [1]For example, in PRSM use, it denotes the lowest level in the Work Breakdown Structure. |
| Capital Outlay Support | Staff resources (salaries, operating expenses and personnel years) required to plan, design, acquire rights of way, and contract capital outlay projects. Includes engineering, right of way, day labor, and other staff support services necessary to accomplish each project. This term is replaced by Capital Project throughout this manual |
| Capital Project | A temporary endeavor undertaken to create a unique physical improvement to the transportation system in California. The word "project" refers to the work that is performed. Projects produce products. |
| Level | The point where the WBS has been decomposed. The higher the level number the lower the decomposition |
| OBS | The Organizational Breakdown Structure is a hierarchical organized description of the project organization arranged so as to related the work packages to the performing organizational units.[2] |
| Pseudo Activities | In certain cases, it is helpful to allow addition of an activity to represent a small grouping of activities when reporting to each one might be onerous. |
| Task | A discrete unit of work or summary of activities that, when completed, produce some product or decision. In PRSM use, it denotes a unit of work that has lower level breakdown. It is a summary. Since an activity can become a summary task by adding lower level activities, these terms are relative to the discussion and may be used interchangeably in most circumstances. |
| Template | An outline or master plan of tasks and activities that can be modified for a specific project. The template can contain the usual set of activities for some type of project or it can contain all possible activities. |
| Work package | A deliverable or project work component at the lowest level of each branch of the work breakdown structure[3]. |

[1] *A Guide to the Project Management Body of Knowledge (PMBOK Guide)* – Fourth Edition, 2008:436

[2] *A Guide to the Project Management Body of Knowledge (PMBOK Guide)* – Fourth Edition, 2008:438

[3] *A Guide to the Project Management Body of Knowledge (PMBOK Guide)* – Fourth Edition, 2008:453

# Appendix F

| Term | Definition |
|---|---|
| PRSM | Abbreviation for the software package Project Resource and Schedule Management that is selected for statewide management of Capital Projects. |
| WBS | Abbreviation for Work Breakdown Structure |

# Appendix G – Common Acronyms

| | |
|---|---|
| **AA** | After Acceptance |
| **AAC** | Airspace Advisory Committee |
| **AADD** | Authority to Advertise District Delegation |
| **AHCP** | Advisory Council of Historic Preservation |
| **APCD** | Air Pollution Control District |
| **APE** | Archaeological of Potential Effects |
| **ARB** | Air Resources Board |
| **ASR** | Archaeological Survey Report |
| **BCDC** | Bay Conversation and Development Commission |
| **BEES** | Basic Engineering Estimate System |
| **CADD** | Computer Aided Design & Drafting |
| **CCUA** | Consent to Common Use Agreement |
| **CEQA** | California Environmental Quality Act |
| **CHP** | California Highway Patrol |
| **CMS** | Changeable Message Sign |
| **CO** | Carbon Monoxide |
| **COS** | Certificate of Sufficiency |
| **COZEEP** | Construction Zone Enhanced Enforcement Program |
| **CPT** | Cone Penetrometer Test |
| **CR** | Constructability Review |
| **CRIPS** | Cost Reduction Incentive Proposal |
| **CSNP** | Construction Staking Notes Package |
| **CTC** | California Transportation Commission |
| **DCC** | Draft Contract Comments |
| **DED** | Draft Environmental Document |
| **DES** | Division Engineering Services |
| **DPGR** | District Preliminary Geotechnical Report |
| **DRB** | Dispute Review Board |
| **DTM** | District Traffic Manager |
| **ECR** | Environmental Commitments Record |
| **ESA** | Environmental Sensitive Areas |
| **ESR** | Environmental Study Report |
| **E-FIS** | Enterprise Resource Planning Financial Infrastructure |
| **FE** | Final Estimate |
| **FED** | Final Environmental Document |
| **FHWA** | Federal Highway Administration |
| **FOE** | Finding of Effect |
| **FR** | Foundation Report |
| **GDR** | Geotechnical Design Report |
| **HABS** | Historic American Building Survey |
| **HAER** | Historic American Engineering Record |
| **HAR** | Highway Advisory Roles |
| **HDM** | Highway Design Manual |
| **HOV** | High Occupancy Vehicle |
| **HPSR** | Historic Property Survey Reports |
| **HQOE** | Headquarters Office Engineer |
| **HRCP** | Historic Resource Compliance Report |
| **HRER** | Historic Resource Evaluation Reports |
| **HSDD** | Hazardous Substance Disclosure Document |
| **HWMP** | Hazardous Waste Management Plan |
| **ISA** | Initial Site Assessment |
| **JUA** | Joint Use Agreement |
| **LEDPA** | Least Environmental Damaging, Practicable Alternative |
| **LOS** | Level Of Service |
| **LOTB** | Log Of Test Borings |
| **MIH** | Materials Information Handout |
| **MMRR** | Mitigation Monitoring & Reporting Record |
| **MOU** | Memorandum Of |

# Appendix G

| | |
|---|---|
| | Understanding |
| **MPO** | Metropolitan Planning Organization |
| **MUTCD** | Manual of Uniform Traffic Control Devices |
| **NBSSR** | Noise Barrier Scope Summary Report |
| **NEPA** | National Environmental Policy Act |
| **NES** | National Environment Study |
| **NOD** | Notice of Determination |
| **NOI** | Notice of Intent |
| **NOP** | Notice of Preparation |
| **NPDES** | National Pollutant Discharge Elimination System |
| **NRHP** | National Register of Historic Places |
| **OOE** | Office of the Office Engineer |
| **OPPD** | Office of Project Planning and Design (obsolete) |
| **OSFP** | Office of Special Funded Projects |
| **P&Q** | Plans and Quantities |
| **PAAR** | Preliminary Architectural & Aesthetics Report |
| **PA&ED** | Project Approval & Environmental Document |
| **PAM** | Permits, Agreements, & Mitigation |
| **PDPM** | Project Development Procedure Manual |
| **PDT** | Project Development Team |
| **PDWTM** | Project Delivery Workflow Task Manual |
| **PE** | Project Engineer |
| **PER** | Paleontological Evaluation Report |
| **PERT** | Project Evaluation & Review Technique |
| **PES** | Preliminary Environmental Study |
| **PFE** | Proposed Final Estimate |
| **PFR** | Preliminary Foundation Report |
| **PHR** | Preliminary Hydraulics Report |
| **PI** | Preliminary Investigations |
| **PID** | Project Initiation Document |
| **PIR** | Paleontological Identification Report |
| **PMBOK** | Project Management Body of Knowledge |
| **PMCS** | Project Management Control System |
| **PMD** | Project Management Directives |
| **PMP** | Paleontological Monitoring Plan |
| **PMS** | Pavement Management System |
| **PPDG** | Storm water Project Planning & Design Guide |
| **PR** | Project Report |
| **PRSM** | Project Resource and Schedule Management |
| **PS&E** | Plans Specifications & Estimates |
| **PSI** | Preliminary Site Investigation |
| **PSR** | Project Study Report |
| **PSSR** | Project Scope Summary Report |
| **PWBS** | Project Work Breakdown Structure |
| **RAP** | Remedial Action Plan |
| **RE** | Resident Engineer |
| **RFP** | Request For Proposal |
| **RFQ** | Request For Qualifications |
| **ROD** | Record of Decision |
| **ROI** | Report of Investigation |
| **RTIP** | Regional Transportation Improvement Plan |
| **RTL** | Ready To List |
| **RTP** | Regional Transportation Plan |
| **RTPA** | Regional Transportation Planning Agency |
| **RWPS** | Right of Way Property System |
| **SER** | Standard Environmental Reference |
| **SF** | Semi Final Estimate |
| **SHPO** | State Historic Preservation Officer |
| **SI** | Site Investigations |
| **SIP** | State Implementation Plan |
| **SPGR** | Structure Preliminary Geotechnical Report |
| **SPS&E** | Structures Plans Specifications & Estimates |
| **SRE** | Scenic Resource Evaluation |
| **SSP** | Standard Special Provision |

# Appendix G

| | |
|---|---|
| **STEVE** | Standard Tracking and Exchange Vehicle for Environmental |
| **SWPPP** | Storm Water Pollution Protection Plan |
| **TASAS** | Traffic Accident Surveillance and Analysis System |
| **TCR** | Traffic Congestion Relief |
| **TERO** | Tribal Employment Right Office |
| **TMC** | Traffic Management Center |
| **TMP** | Traffic Management Plan |
| **TMS** | Traffic Monitoring Status |
| **TRPA** | Tahoe Regional Planning Agency |
| **VIA** | Visual Impact Assessment |
| **WBS** | Work Breakdown Structure |
| **WEN** | Work Estimating Norms |
| **WP** | Work Package |

# Appendix H - Milestones Associated with WBS 11.1 Tasks

*Note: This Appendix should serve as a general point of reference, some variation may exist. In some circumstances, the relationship between milestone and activity can be tailored to fit the project.

| I.D. | Abbreviated Milestone Name | Milestone Name | Milestone Definition | WBS Level 4/Phase | WBS Level | Main Milestone to WBS Logic Tie | Environmental Document Type | Status (see note) |
|---|---|---|---|---|---|---|---|---|
| M000 | ID NEED | IDENTIFY NEED | Date District identifies project need and begins project studies. | K | 5 | Start-K.150 | CE-ND-MND-EIR-CA-EIS | Optional |
| M010 | APPROVE PID | APPROVE PID | Date District approves Project Initiation Documents. | K | 5 | Finish-K.150 | CE-ND-MND-EIR-CA-EIS | Optional |
| M015 | PROG PROJ | PROGRAM PROJECT | Date Project is programmed as part of workload document. | 0 | 5 | Start-0.160 | CE-ND-MND-EIR-CA-EIS | HQ Mandatory |
| M020 | BEGIN ENVIRO | BEGIN ENVIRONMENTAL | Date District begins Environmental Studies. | 0 | 5 | Start-0.165 | CE-ND-MND-EIR-CA-EIS | HQ Mandatory |
| M030 | NOP | NOTICE OF PREPARATION (NOP) | Date Notice of Preparation (NOP) filed with State Clearinghouse—CEQA Requirement. | 0 | 5 | Start-0.165 with ”x” number of days lag determined by Project Team. Related within 165.05.10. | EIR only | HQ Mandatory |
| M035 | NOI | NOTICE OF INTENT (NOI) | Date Notice of Intent (NOI) published in Federal Register FHWA—NEPA Document. | 0 | 5 | Start-0.165 with ”x” number of days lag determined by Project Team. Related within 165.05.10. | EIS | HQ Mandatory |
| M040 | BEGIN PROJ | BEGIN PROJECT | Date District initiates Draft Project Report | 0 | 5 | Start-0.160 | ND-MND-EIR-CA-EIS | Optional |
| M060 | CIRC DPR & DED INT | CIRC DPR & DED INTERNALLY IN DIST | Date District circulates Draft Project Report & Draft Environmental Document Internally within the District | 0 | 7 | Finish-0.165.25.20 | ND-MND-EIR-CA-EIS | Optional |
| M100 | APPROVE DPR | APPROVE DPR | Date District approves Draft Project Report | 0 | 5 | Finish-0.160 | ND-MND-EIR-CA-EIS | Optional |
| M120 | CIRC DED EXT | CIRCULATE DED EXTERNALLY | Date of Draft Environmental Document circulation. | 0 | 6 | Finish-0.175.05 | ND-MND-EIR-CA-EIS | HQ Mandatory |
| M140 | PUBLIC HEARING | PUBLIC HEARING | Date District conducts the public hearing. | 0 | 5 | Finish-0.175 | ND-MND-EIR-CA-EIS | Optional |
| M160 | APPROVE FED | APPROVE FED | Date of approval of Final Environmental Document (FED). | 0 | 6 | Finish-0.180.10 | ND-MND-EIR-CA-EIS | Optional |

# Appendix H

| I.D. | Abbreviated Milestone Name | Milestone Name | Milestone Definition | WBS Level 4/Phase | WBS Level | Main Milestone to WBS Logic Tie | Environmental Document Type | Status (see note) |
|---|---|---|---|---|---|---|---|---|
| M200 | PA & ED | PA & ED | Project Approval and Environmental Document (PA&ED). Date of approval to proceed with PS&E. Final Environmental Document has NEPA approval. | 0 | 5 | Finish-0.180 | CE-ND-MND-EIR-CA-EIS | HQ Mandatory |
| M210 | BEGIN DESIGN | BEGIN DESIGN | Date District starts Design efforts in phase 1 | 1 | 5 | Start of 1.185 or 1.230 or 1.240, whichever is earliest | CE-ND-MND-EIR-CA-EIS | HQ Mandatory P1B only |
| M215 | BEGIN STRUCTURE | BEGIN STRUCTURE | Date DES starts Design efforts in phase 1 | 1 | 5 & 6 | Start-1.185.30 and Start 1.240 | CE-ND-MND-EIR-CA-EIS | HQ Mandatory Structure only |
| M220 | GEO BASE MAP | GEO BASE MAP | Date District completes the geometric base maps. | 1 | 6 | Finish-1.185.15 | CE-ND-MND-EIR-CA-EIS | Optional |
| M221 | BRIDGE SITE DATA COMPLETED | BRIDGE SITE DATA COMPLETED | Date Division of Engineering Services completes the District's bridge site data. | 1 | 6 | Finish-1.185.30 | CE-ND-MND-EIR-CA-EIS | Optional |
| M224 | R/W REQTS | RIGHT OF WAY REQUIREMENTS | Date District sends Right of Way Requirements to Right of Way Engineering. | 1 | 6 | Finish-1.185.25 | CE-ND-MND-EIR-CA-EIS | Optional |
| M225 | REGULAR R/W | REGULAR RIGHT OF WAY | Date District Right of Way initiates Right of Way appraisals. | 2 | 5 | Start-2.225 | CE-ND-MND-EIR-CA-EIS | Optional |
| M260 | SKELETON LAYOUT | SKELETON LAYOUT | Date the District distributes geometric base maps to functional units | 1 | 5 | Finish-1.185 | CE-ND-MND-EIR-CA-EIS | Optional |
| M265 | FINAL R/W REQTS | FINAL RIGHT OF WAY REQUIREMENTS | Date District sends final Right of Way Requirements to Right of Way Engineering. | 2 | 6 | Finish-2.220.25 | CE-ND-MND-EIR-CA-EIS | HQ Mandatory P1B only * |
| M275 | GENERAL PLANS | GENERAL PLANS | Date DES sends structures general plans to District. | 1 | 6 | Finish-1.240.75 | CE-ND-MND-EIR-CA-EIS | Optional |
| M300 | CIRC PLANS IN DIST | CIRCULATE PLANS IN DISTRICT. | Date District circulates plans for review. | 1 | 5 | Finish-1.230 | CE-ND-MND-EIR-CA-EIS | Optional |
| M310 | DESIGN SAFETY REVIEW | DESIGN SAFETY REVIEW | Date District completes Safety Review | 1 | 6 | Finish-1.255.05 | CE-ND-MND-EIR-CA-EIS | Optional |
| M311 | 30% CONST REVIEW COMPLETED | 30% CONST REVIEW COMPLETED | Date District completes the 30% Constructability Review | 1 | 7 | Start-1.185.05.05 with ”x” number of days lag determined by Project Team. | CE-ND-MND-EIR-CA-EIS | HQ Mandatory P1B only |

# Appendix H

| I.D. | Abbreviated Milestone Name | Milestone Name | Milestone Definition | WBS Level 4/Phase | WBS Level | Main Milestone to WBS Logic Tie | Environmental Document Type | Status (see note) |
|---|---|---|---|---|---|---|---|---|
| M313 | 60% CONST REVIEW COMPLETED | 60% CONST REVIEW COMPLETED | Date District completes the 60% Constructability Review | 1 | 6 | Start-1.230.60 with ”x” number of days lag determined by Project Team. | CE-ND-MND-EIR-CA-EIS | HQ Mandatory P1B only |
| M315 | 95% CONST REVIEW COMPLETED | 95% CONST REVIEW COMPLETED | Date District completes the 95% Constructability Review | 1 | 6 | Finish-1.255.05 | CE-ND-MND-EIR-CA-EIS | HQ Mandatory P1B only |
| M360 | ENV REEVAL | ENV REEVAL | Date District completes the environmental re-evaluation | 1 | 6 | Finish-1.255.15 | CE-ND-MND-EIR-CA-EIS | Optional |
| M377 | PS&E TO DOE | PS&E TO DOE | Date District completes PS&E and sends to District Office Engineer. | 1 | 6 | Start 1-255.20 | CE-ND-MND-EIR-CA-EIS | HQ Mandatory |
| M378 | DRAFT STRUC PS&E | DRAFT STRUCTURES PS&E | Date DES Structures Design sends structures PS&E to District. | 1 | 5 | Finish-1.240 | CE-ND-MND-EIR-CA-EIS | Optional |
| M380 | PROJ PS&E | PROJECT PS&E | Date Project Submittal requirements are verified as complete by DOE. | 1 | 6 | Finish-1.260.50 | CE-ND-MND-EIR-CA-EIS | Optional |
| M390 | DCC | DRAFT CONTRACT COMMENTS | Date DOE provides Draft contract comments to District. | 1 | 6 | Finish-1.260.60 | CE-ND-MND-EIR-CA-EIS | Optional |
| M400 | DIST RESP | DISTRICT CONTRACT COMMENT RESPONSES | Date District resolves contract comments with DOE. | 1 | 6 | Finish-1.260.70 | CE-ND-MND-EIR-CA-EIS | Optional |
| M410 | R/W CERT | RIGHT OF WAY CERTIFICATION | Date District obtains Right of Way Certification. | 2 | 5 | Finish-2.225 | CE-ND-MND-EIR-CA-EIS | HQ Mandatory |
| M412 | R/W CERT - READY TO AWARD | RIGHT OF WAY CERTIFICATION - READY TO ADVERTISE AND AWARD | Date District obtains Right of Way Certification as a R/W Cert 1, 2, or 3 with work around. | 2 | 5 | Start-2.245 with ”x” number of days lag determined by Project Team. | CE-ND-MND-EIR-CA-EIS | HQ Mandatory P1B only |
| M430 | DCR | DRAFT CONTRACT READY | Date draft contract comment changes are incorporated & permits secured. | 1 | 6 | Finish-1.260.80 with ”x” number of days lead determined by Project Team. | CE-ND-MND-EIR-CA-EIS | Optional |
| M460 | RTL | READY TO LIST | Date RTL requirements are verified as complete by DOE. | 1 | 6 | Finish-1.260.90 | CE-ND-MND-EIR-CA-EIS | HQ Mandatory |
| M470 | FUND ALLOCATION | FUND ALLOCATION | Date funds are allocated either by the CTC or through delegation or by other means. | 1 | 6 | Finish-1.260.95 with ”x” number of days lead determined by Project Team. | CE-ND-MND-EIR-CA-EIS | HQ Mandatory |

# Appendix H

| I.D. | Abbreviated Milestone Name | Milestone Name | Milestone Definition | WBS Level 4/Phase | WBS Level | Main Milestone to WBS Logic Tie | Environmental Document Type | Status (see note) |
|---|---|---|---|---|---|---|---|---|
| M480 | HQ ADVERT | HEADQUARTERS ADVERTISE | Date DES - Office Engineer advertises contract. | 1 | 6 | Start-1.265.55 | CE-ND-MND-EIR-CA-EIS | HQ Mandatory |
| M490 | BIDS OPEN | BIDS OPEN | Date DES-Office Engineer opens bid. | 1 | 6 | Finish-1.265.60 | CE-ND-MND-EIR-CA-EIS | Optional |
| M495 | AWARD | AWARD | Date DES-Office Engineer Awards Contract to Contractor. | 1 | 6 | Finish-1.265.65 | CE-ND-MND-EIR-CA-EIS | HQ Mandatory |
| M500 | APPROVE CONTRACT | APPROVE CONTRACT | Date Caltrans approves construction contract. | 1 | 6 | Finish-1.265.70 with ”x” number of days lead determined by Project Team. | CE-ND-MND-EIR-CA-EIS | HQ Mandatory |
| M550 | FINAL SAFETY REVIEW | FINAL SAFETY REVIEW | Date District Completes Final Review | 3 | 6 | Finish-3.270.55 | CE-ND-MND-EIR-CA-EIS | Optional |
| M580 | OPEN TO TRAFFIC | OPEN TO TRAFFIC | Date District Opens for Traffic | 3 | 6 | Within-3.270.33 | CE-ND-MND-EIR-CA-EIS | Optional |
| M600 | CONTRACT ACCEPT | CONTRACT ACCEPTANCE | Date District accepts completed construction project. | 3 | 5 | Finish-3.270 | CE-ND-MND-EIR-CA-EIS | HQ Mandatory |
| M650 | PROJECT CLOSEOUT INITIATED | PROJECT CLOSEOUT INITIATED | Date District initiates Project Close Out efforts | 3 | 5 | Start 3.295 | CE-ND-MND-EIR-CA-EIS | HQ Mandatory P1B only |
| M700 | FINAL REPORT | FINAL REPORT | Date District completely prepares final project files. | 3 | 5 | Finish-3.295 | CE-ND-MND-EIR-CA-EIS | Optional |
| M800 | END PROJ | END PROJECT | All work complete from all functions including Env., R/W, and Surveys. Earliest Date Project can be archived. | 2,3 | 5 | Finish-3.295 and 2.300 | CE-ND-MND-EIR-CA-EIS | HQ Mandatory |

Note: M265 - Mandatory milestone for all P1B Projects

Office of Project Management Application Systems

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http://www.dot.ca.gov/hq/projmgmt