WORKPLAN STANDARDS GUIDE

RELEASE 11.2

California Department of Transportation
HQ Division of Project Management

Office of Project Management Application Systems (PMAS)
1120 N Street, Mail Station 28
Sacramento, CA 95814
http://www.dot.ca.gov/projmgmt/index.html

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Foreword

The Workplan Standards Guide for the Delivery of Capital Projects, Release 11.2, July 2016 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 WSG11.2:

- Only M221 milestone name and definition changes for both Roadway Design and Structure Design tasks were adopted (Finish WBS 185.30)
- Minor changes were made to milestone definition for M380, M390, M400 and M460 for clarification of roles of DES and District Office Engineer Tasks (WBS 260) (see Appendix H) to comply with the AADD process.
- New optional Milestone M475 (Construction Contract Package Submitted to DES-OE for Advertisement) was added to make project delivery process efficient
- M800 End Project was changed to End Project Expenditures to comply with new Milestone M900 Final Project Closeout process
- New mandatory Milestone M900 (Final Project Closeout) was added to comply with the new proposed Project Delivery Directive

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 11.2, will be effective as of July 8, 2016. Periodic updates (revisions) will be displayed in the on-line version on the Intranet (internal) website:
http://projmgmt.onramp.dot.ca.gov/project-management-application-systems-pmas/workplan-standards
OR the Internet (external) website at: http://www.dot.ca.gov/projmgmt/reports.html

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 2015-2016 Committee members for their contribution in development of this revision: Robert McMillan, Esmail Hadjihabib, Reza Hajjari, Philip Kuo, Laura Luce, Charles Olson, Tammy Messengale, Neil Peacock, Chris Rice, Harlan Woo, Muhammad Din, Zairen Luo, Eaman Atebar, Ping Qiu, and Rochelle Vierra.

Sincerely,
Dave Singh and Mohammad U. Sadiq, PE
WSG Committee Chair

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Purpose	The purpose of the Workplan Standards Guide (WSG) Release 11.2, 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. Subsequent updates to the WBS were published in June 1995 (WBS Release 2.0), May 1996 (WBS Release 3.0), May 1999 (WBS Release 4.0), June 2000 (WBS Release 5.0), April 2001 (WBS Release 5.1), August 2002 (WBS Release 6.0), July 2003 (WBS Release 6.1), July 2004 (WBS Release 6.2), September 2005 (WBS Release 7.0), July 2006 (WBS 8.0), July 2007 (WBS 9.0), August 2007 (WBS 9.1), August 2008 (WBS 10.0), June 2009 (WBS 10.1), June 2012 (WSG 10.2), August 2014 (WSG 11.0) and November 2015 (WSG 11.1). 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 11.1 to version 11.2, 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 from level 5 through 8. Appendix F shows terms and definitions and Appendix G lists common acronyms. Appendix H lists all milestones associated with WBS 11.2 tasks used to develop and monitor project workplans.

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?
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. 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.

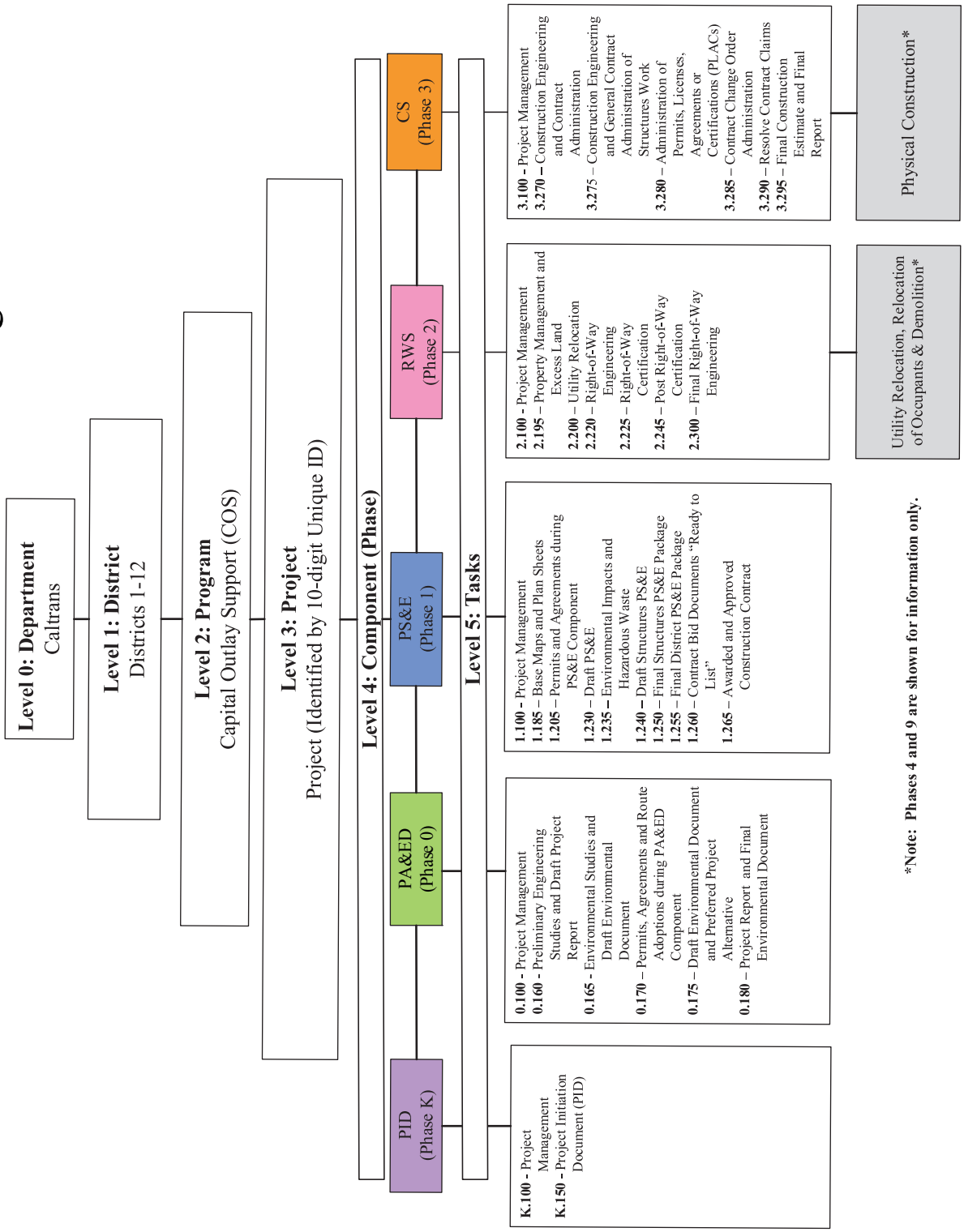
Level 6, 7, and 8 - the Task and Activity Levels

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



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. 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. 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. 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. 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. 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] – One clear accomplishment (deliverable) – One owner – Easy to identify resources for its completion – 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.

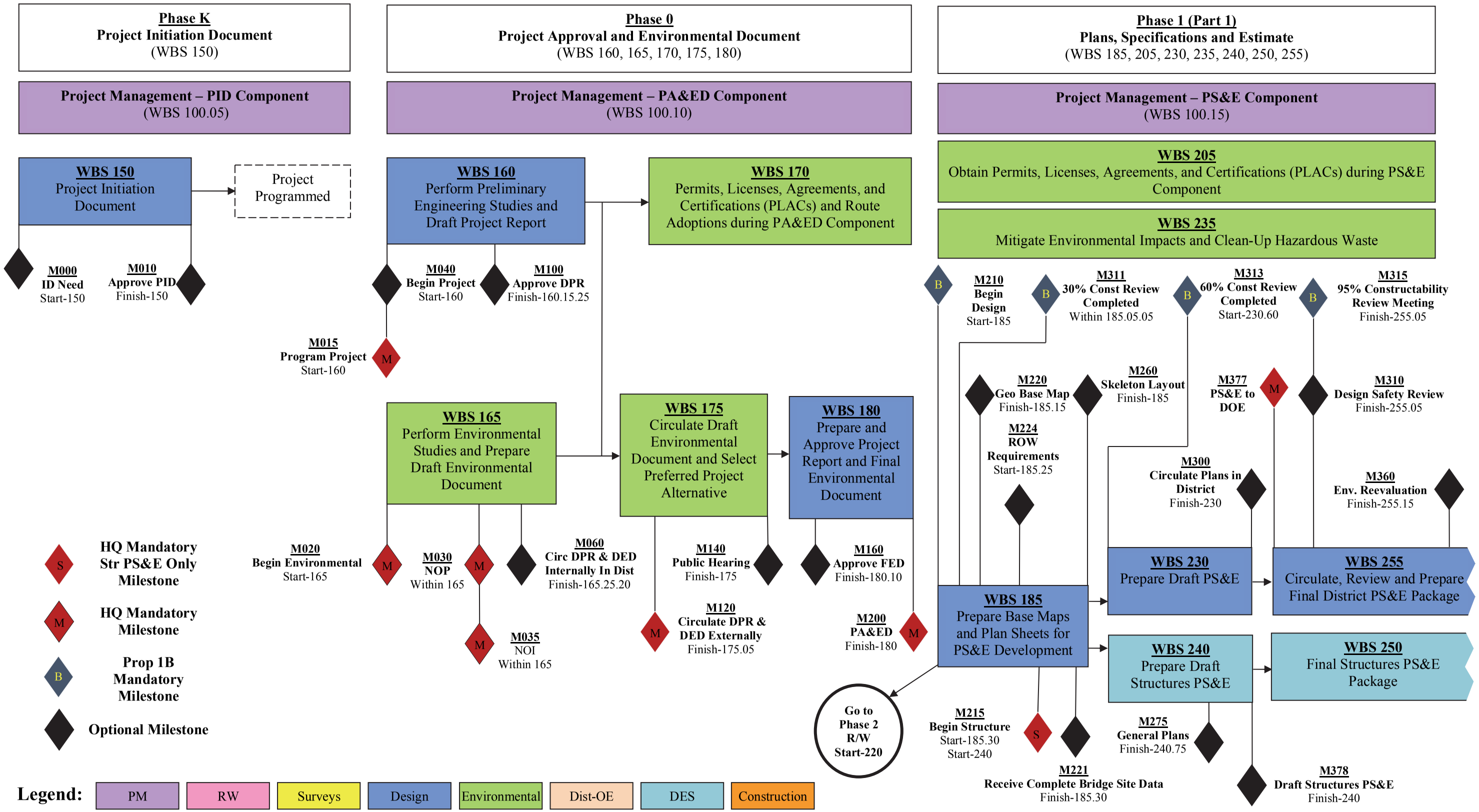
Charging Project Work Using WBS	The Project Manager will determine the minimum level of detail in WBS to which each portion of a project will be scheduled beyond the mandatory Level 5. A functional or Task manager may elect to schedule activities for their portion of the work at a more detailed (lower) 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. 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. 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. 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. 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: Design is an activity. Plans, Specifications and Estimates are deliverables or products. Surveying is an activity. Maps are products. 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.

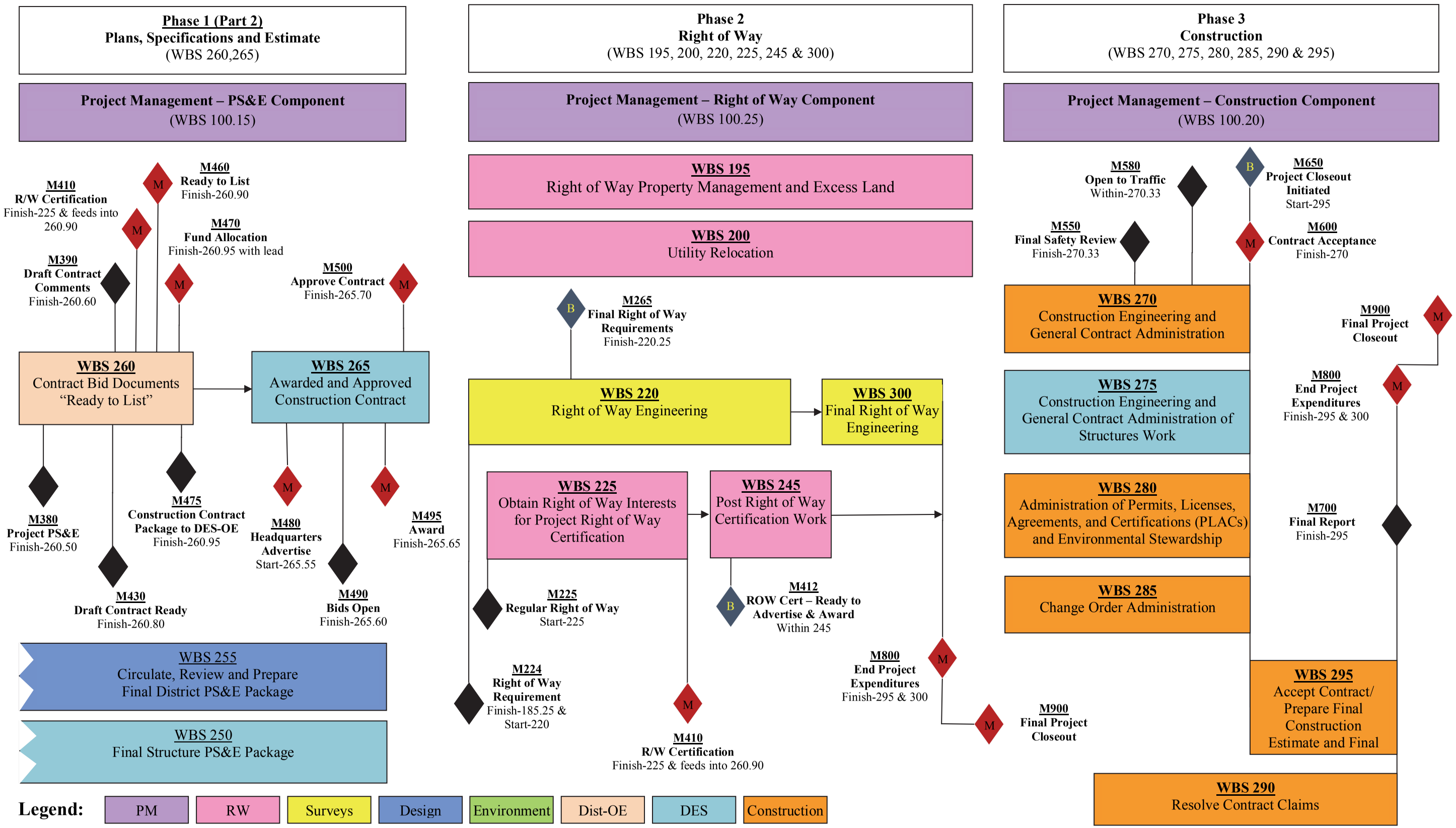
Overview of Phases, Level 5 Work Breakdown Structure Elements, and Milestones

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

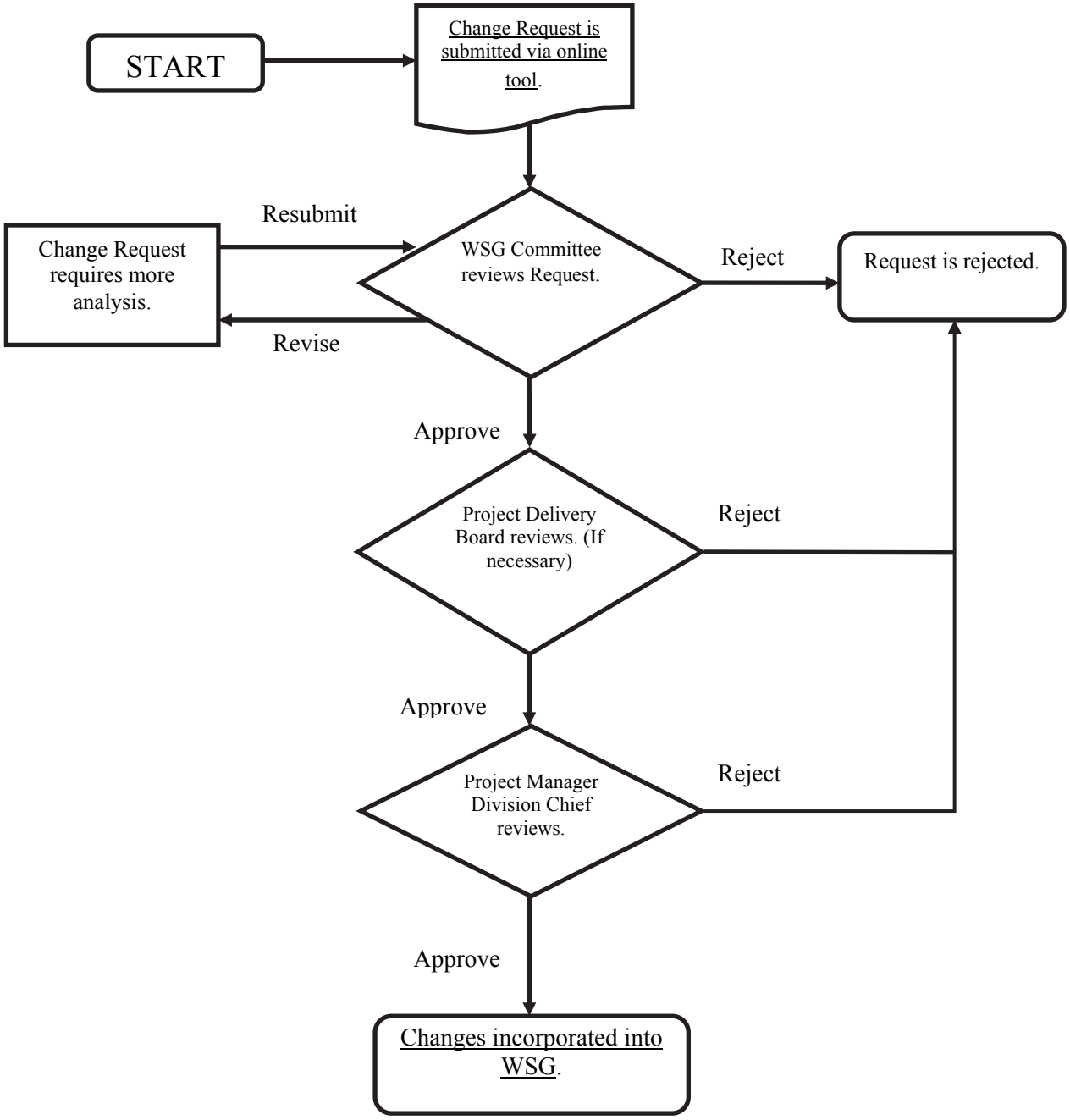
It may be necessary to revise the Workplan Standards Guide (WSG) from time to time in order to adapt to the changing business environment in which we operate. With that in mind, the WSG Committee has established a website as a collaboration tool that allows anyone in Caltrans to submit a change request 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.

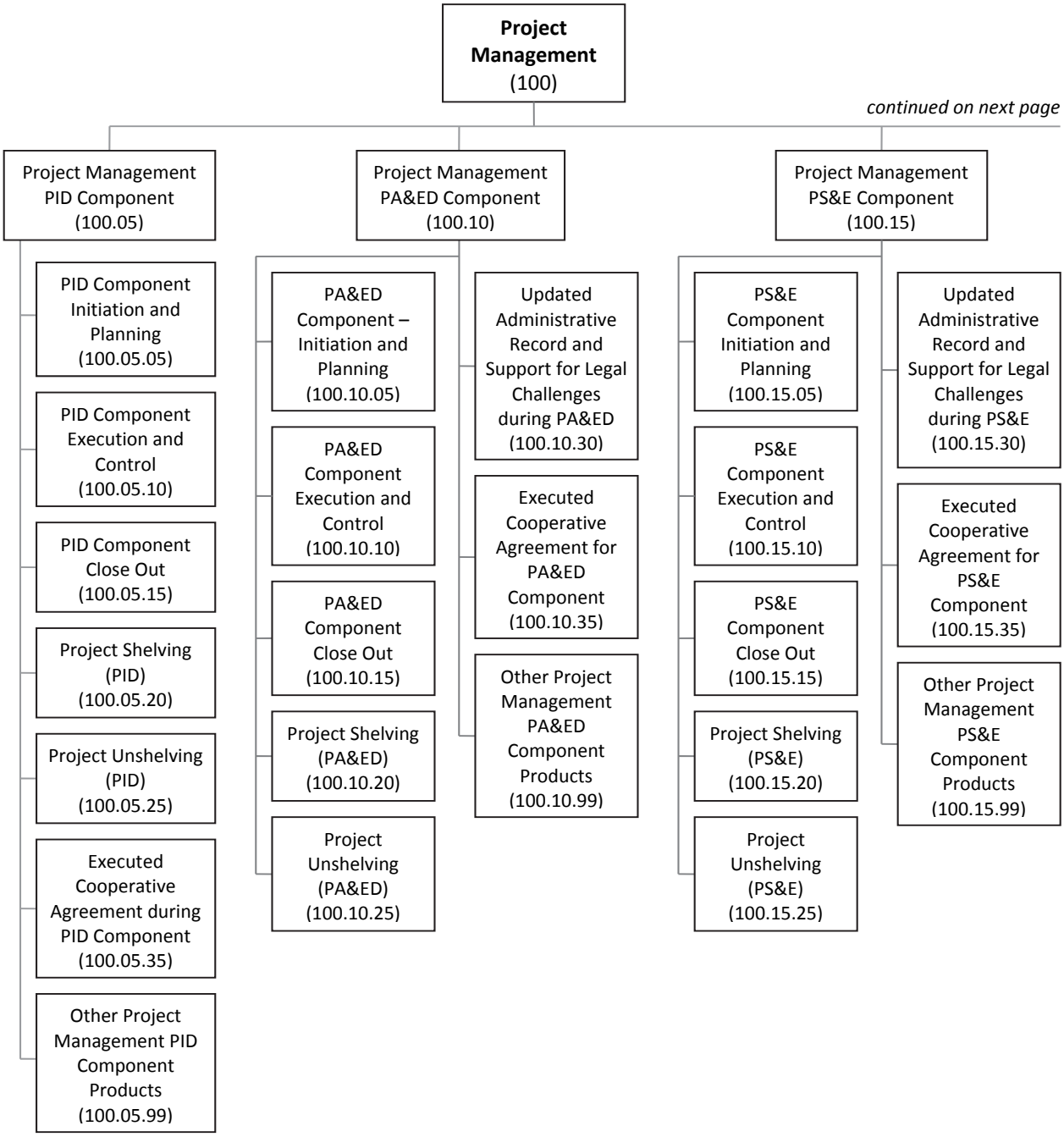

START
Change Request is submitted via online tool.
Resubmit
Change Request requires more analysis.
WSG Committee reviews Request.
Reject
Request is rejected.
Revise
Approve
Project Delivery Board reviews. (If necessary)
Reject
Approve
Project Manager Division Chief reviews.
Reject
Approve
Changes incorporated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

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: – Monitor expenditures, time charges, progress, schedule, quality of the tasks. – Take preventive and/or corrective action to stay within approved scope, schedule, budget and quality standards of the task. – Request and analyze changes to the scope, schedule, and budget of the tasks. – Report progress and status of the task. – Manage lower level Task Managers and/or resources which may be cross functional. – Coordinate with higher level Task Managers, cross functional Task Managers, or Project Managers regarding task deliverables, resources, or schedule. – 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.

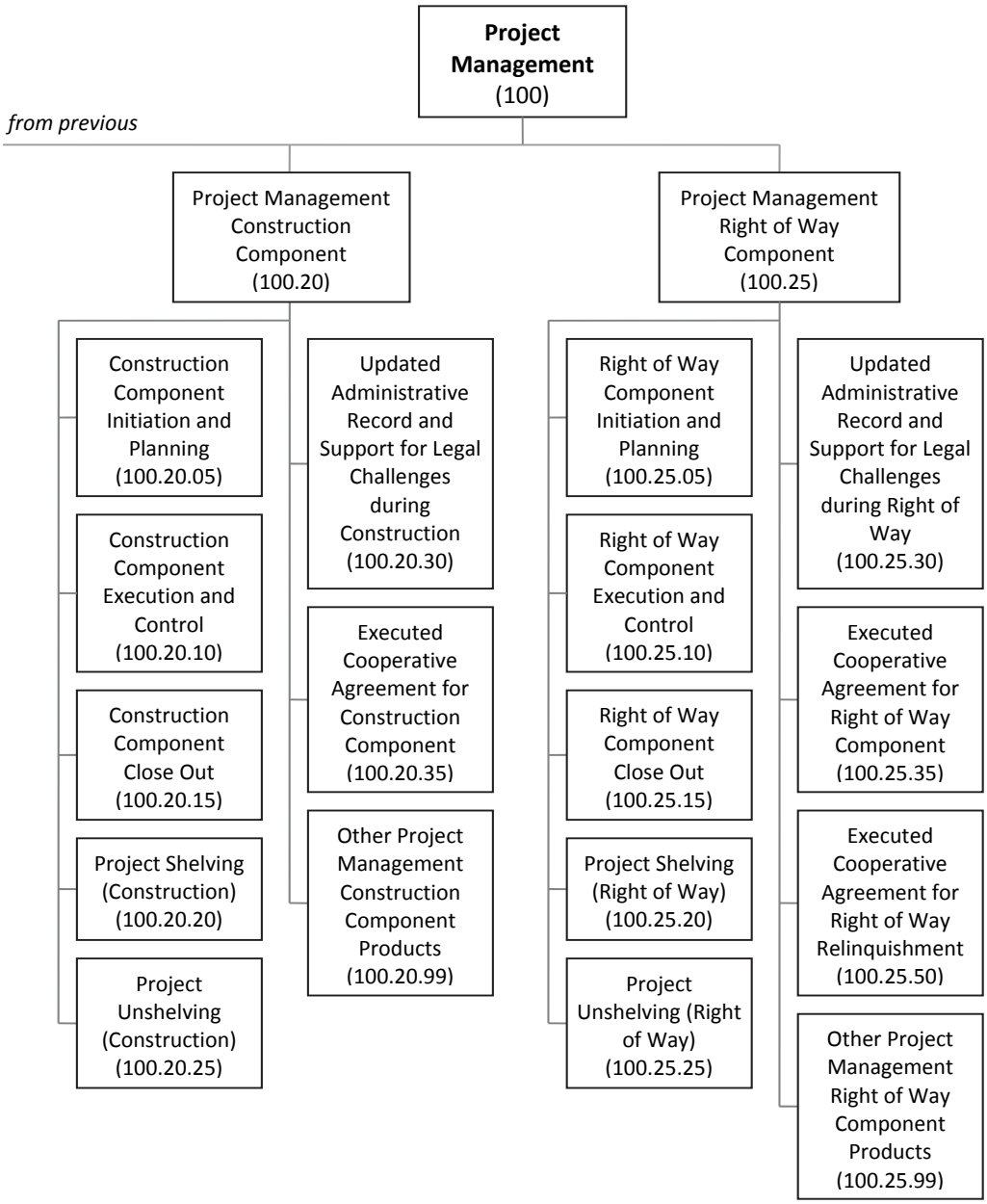
WBS 100	Project Management	Project Initiation	PA&ED	PS&E	Right of Way	Construction
Project Phase		K	0	1	2	3
SB45 Component	0	1	2	3	4	5

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 • Project Communication Plan • Risk Management Plan • Status Reports on Project Cost Scope and Schedule • Project Management Records • Closeout
Major Milestones	♦ M000 Identify Need (Start: WBS 150) ♦ M010 Approve PID (Finish: WBS 150) ♦ M015 Program Project (Start: WBS 160) ♦ M650 Project Closeout Initiated (Start: WBS 295) ♦ M700 Final Report (Finish: WBS 295) ♦ M800 End Project Expenditures (Finish: WBS 295 and WBS 300)
References	– Caltrans Project Development Procedures Manual: http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm – Caltrans Project Management Handbook: http://www.dot.ca.gov/hq/projmgmt/documents/pmhb_5thed.pdf – Capital Project Workplan Handbook: http://onramp/hq/pm/dpmwp/content/PM/COS_Overview/Guides/Project_Workplan_Handbook.pdf – Project Risk Management Handbook: A Scalable Approach: http://onramp/hq/pm/dpmwp/content/PMR/RiskManagement/PRM_Handbook.pdf – Project Management Directives & Memos: http://projmgmt.onramp.dot.ca.gov/ – Project Management Project Communication Handbook: http://projmgmt.onramp.dot.ca.gov/pm-resources – Project Management Resources (PMR): http://projmgmt.onramp.dot.ca.gov/pm-resources – Caltrans Directors Policies and Deputy Directives: http://onramp/sw_policy/ – Accounting Manual: http://accounting.dot.ca.gov/accounting-manual-0 – Cooperative Agreement Manual - For reference only: http://www.dot.ca.gov/hq/oppd/pdpm/chap_pdf/chapt16.pdf

	– Caltrans Project Delivery Workplan Standards Guide: http://www.dot.ca.gov/projmgmt/reports.html – Construction Manual: http://www.dot.ca.gov/hq/construc/constmanual – Right of Way Manual: http://www.dot.ca.gov/hq/row/rowman/manual/index.htm – Caltrans Surveys Manual: http://www.dot.ca.gov/hq/row/landsurveys/SurveysManual/Manual_TOC.html – 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 • Executable Cooperative Agreement for Future Components • Project Management Plan • Project Communication Plan • 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 – Project Development Procedures Manual, Appendices L and S, Section 5, Scoping Tools – Project Delivery Directive 09 - Risk Management – Project Risk Management Handbook: A Scalable Approach – Project Management Project Communication Handbook – Project Management Directive 002 - Project Initiation – Project Management Directive 007R - Capital Project Charter Process and Innovation Checklist – Project Management Directive 20 - Cooperative Agreement Funding Commitment Process – Project Management Memo - Conflict Management Planning for Projects – Project Management Memo - Project Risk Management in Project Delivery – 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 – Directors Policy 22 - Context Sensitive Solutions – Deputy Directive 23R1 - Roles and Responsibilities for Development of Projects on the State Highway System – Deputy Directive 46 - External Advisory Committees – Deputy Directive 64R1 - Complete Streets - Integrating the Transportation System – 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 • Workplan for PID • Quality Management Plan • Project Communication Plan • Risk Management Plan • Risk Register • Project Scope and Elements • Completed Scoping Tools • 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 – Project Communication Task Manager Assignment – Initiation in Accounting's Financial Database System for Phase K – Charter for Project PID (Phase K) – Project Management's project database system – Resource Management Plan – 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 – 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 • Updated Project Management Plan • Updated Project Communication Plan • Project Records, Using the Caltrans Uniform File System • Risk Register Certification for PID
References	–
Subtasks	– Quality Assurance/Quality Control – Status Project – Communication and Distribution of Project Records or information – Quality Management Plan – Procure Consultant Resources for PID Component – Later Phase Component Plan Development – Monitor and Control Workplan – Preparing Project for Programming – 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 • Archived Records • Project Performance Output Table • Asset Management Table • 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 • 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 – Project Management Project Communication Handbook – Capital Project Workplan Handbook – 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 • Closeout of Phase K • Project Work Elements/Products (Files, Documents, Designs, etc.) Wrapped-up for Hiatus • Update Project Communication Plan • 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 • Updated Draft PID • Updated Project Workplan • Updated Project Communication Plan • Project Work Elements/Products (Files, Documents Designs, etc.) Reactivated • 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 • Cooperative Agreement Transmittal Memo • Approved Cooperative Agreement for PID Work • 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 – Cooperative Agreements Manual – Deputy Directive 102: Cooperative Agreements – 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 • Updated Project Management Plan • Updated Project Workplan
References	– Caltrans Project Management Handbook – Project Management Project Communication Handbook – Project Delivery Directive 09 - Risk Management – Project Risk Management Handbook: A Scalable Approach – Project Management Directive 20 - Cooperative Agreement Funding Commitment Process – Project Management Memo, signed by Richard Land - Conflict Management Planning for Projects – 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 • Updated Workplan • Quality Management Plan • Updated Project Communication Plan • Risk Management Plan • Cooperative Agreement for Phase 0 • Scope of Work for A&E Contracts or Agreements for PA&ED Phase • Project Performance Output Table (SHOPP Only) • 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 – Project Workplan in Project Resource and Schedule Management (PRSM) – 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 • Project Records, Using the Caltrans Uniform File • Risk Register Certification for PA&ED • Update Project Communication Plan
References	–
Subtasks	– Quality Assurance/Quality Control – Status Project – Communication and Distribution of Project Records or information – Quality Management Plan – Procure Consultant Resources for PA&ED Component – 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 • Sponsor, Team and Stakeholder Evaluations of PA&ED Component • Lessons Learned • Records Archived • Project Performance Output Table (SHOPP Only) • Asset Management Table (SHOPP Only) • Closeout Report for Phase 0 • Planned Vs. Actual Reports • 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 – Project Management Project Communication 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

	– Capital Project Workplan Handbook – 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 • Close of Phase 0 • Project Work Elements/Products (Files, Documents, Designs, etc.) Wrapped-up for Hiatus • 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 • Project Workplan • Project Communication Plan • Project Work Elements/Products (Files, Documents, Designs, etc.) Reactivated • 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 • 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 • 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 – Cooperative Agreements Manual – Deputy Directive 102: Cooperative Agreements – 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

	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 Project Management Plan • Updated Project Communication Plan • Fund Varification • Updated Project Workplan
References	– Caltrans Project Management Handbook – Project Management Project Communication Handbook – Project Delivery Directive 09 - Project Risk Management Manual: A Scalable Approach – Project Management Directive 20 - Cooperative Agreement Funding Commitment Process – Project Management Memo - Conflict Management Planning for Projects – 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 • Updated PRSM Workplan • Quality Management Plan • Updated Project Communication Plan • Risk Management Plan • Risk Register • Resource Management Plan • Cooperative Agreement for Phase 1 Work • 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 – 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 • Updated Project Communication Plan • Project Records, Using the Caltrans Uniform File • Risk Register Certification for PS&E
References	
Subtasks	– Quality Assurance/Quality Control – Status Project – Communication and Distribution of Project Records or Information – Procure Consultant Resources for PS&E Component – 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 • Sponsor, Team and Stakeholder Evaluations of PS&E Component • Lessons Learned • Records Archived • Updated Project Performance Output Table (SHOPP Only) • Updated Asset Management Table (SHOPP Only) • Closeout Report for Phase 1 • Planned Vs. Actual Reports • 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 – Project Management Project Communication Handbook – 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	**100.15.20 Project Shelving (PS&E)**
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 • Close of Phase 1 • Project Work Elements/Products (Files, Documents, Designs, etc.) Wrapped-up for Hiatus • 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 • Updated Cost Estimate and Plans • Draft or Completed Technical Studies and Reports • Updated Project Workplan • Updated Project Communication Plan • Project Work Elements/Products (Files, Documents, Designs, etc.) Reactivated • 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 • 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 • 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 – Project Management Project Communication Handbook – Project Delivery Directive 09 - Project Risk Management Manual: A Scalable Approach – Project Management Directive 20 - Cooperative Agreement Funding Commitment Process – Project Management Memo - Conflict Management Planning for Projects – 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

	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	**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 • Updated Project Management Plan • Updated Project Communication Plan • Updated Project Workplan
References	– Caltrans Project Management Handbook – Project Management Project Communication Handbook – Project Delivery Directive 09 - Project Risk Management Manual: A Scalable Approach – Project Management Directive 20 - Cooperative Agreement Funding Commitment Process – Project Management Memo - Conflict Management Planning for Projects – 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 • Updated PRSM Workplan • Quality Management Plan • Project Communication Plan • Risk Management Plan • Risk Register • Resource Management Plan • Cooperative Agreement for Phase 3 Work • 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 – 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 • Updated Project Communication Plan • Project Records, Using the Caltrans Uniform File • Risk Register Certification for RE File Handoff
References	– Surveys Manual Chapter 12
Subtasks	– Quality Assurance/Quality Control – Status Project – Communication and Distribution of Project Records or information – Quality Management Plan – Procure Consultant Resources for Construction Component – 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 • Sponsor, Team and Stakeholder Evaluations of Construction Component • Lessons Learned • Records Archived • Project Performance Output Table (SHOPP Only) • Asset Management Table (SHOPP Only) • Close out Report for Phase 3 • Planned Vs. Actual Reports • 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 – Project Management Project Communication 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

	– Capital Project Workplan Handbook – 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 • Close of Phase 3 • Project Work Elements/Products (Files, Documents, Designs, etc.) Wrapped-up for Hiatus • 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 – 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 • Project Plans, Specifications and Estimates • Draft or Completed Technical Studies and Reports • Resident Engineer's File • Project Workplan • Project Communication Plan • Project Work Elements/Products (Files, Documents, Designs, etc.) Reactivated • 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 • 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 • Approved Cooperative Agreement • Interagency Agreements • Joint Powers Agreements • Escrow Agreements • Contribution Agreements • 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 – Cooperative Agreements Manual – Deputy Directive 102: Cooperative Agreements – 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	–

	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	**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 • Executed Right of Way Cooperative Agreement • Updated Project Management Plan • Updated Project Communication Plan
References	– Caltrans Project Management Handbook – Project Delivery Directive 09 - Project Risk Management Manual: A Scalable Approach – Project Management Directive 20 - Cooperative Agreement Funding Commitment Process – 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 • Updated PRSM Workplan • Quality Management Plan • Project Communication Plan • Risk Management Plan • Resource Management Plan • Cooperative Agreement for Phase 2 and/or Phase 9 Work • 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 – Caltrans Right of Way Manual Chapter 6 – Caltrans Surveys Manual Chapter 10
Subtasks	– Phase 2 and Phase 9 initiation in Accounting's financial database system – 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 • Updated Project Communication Plan • Project Records, Using the Caltrans Uniform Filing System
References	–
Subtasks	– Quality Assurance/Quality Control – Status Project – Communication and Distribution of Project Records and Information – Quality Management Plan – 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 • Sponsor, Team and Stakeholder Evaluations of Right of Way Component • Lessons Learned • Records Archived • Close out Report for Phase 2 and 9 • Planned Vs. Actual Reports • 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

	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 Project Communication Handbook – Capital Project Workplan Handbook – 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 • Close out Phase 2 and 9 • Project Work Elements/Products (Files, Documents, Designs, etc.) Wrapped-up for Hiatus • 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 • Parcel Acquisition Maps or Deeds • Parcel Appraisals • Updated Project Workplan • Updated Project Communication Plan • Project Work Elements/Products (Files, Documents, Designs, etc.) Reactivated • 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 • 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 • Approved Cooperative Agreement • Interagency Agreements • Escrow Agreements • 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 – Cooperative Agreements Manual – Right of Way Manual Chapter 6 – Surveys Manual Chapter 10 – Plans Preparation Manual Chapter 4 – Deputy Directive 102: Cooperative Agreements – 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

	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

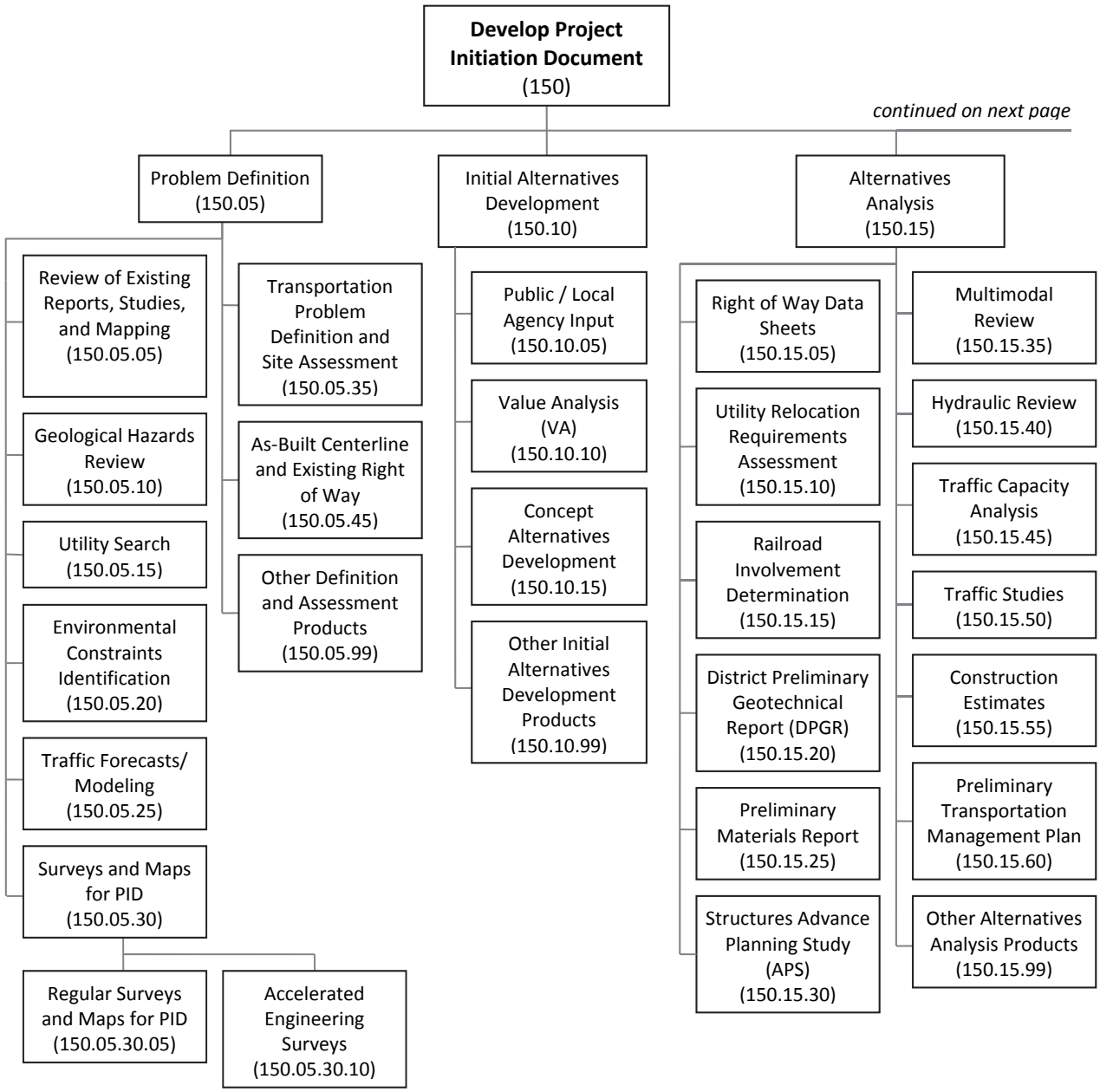
	• Cooperative Agreement Transmittal Memo • Approved Cooperative Agreement • Interagency Agreements • Escrow Agreements • Contribution Agreements
Business Practices	The detailed work for this element includes all discussions and issue resolution with local agencies concerning relinquishment features, 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 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	–

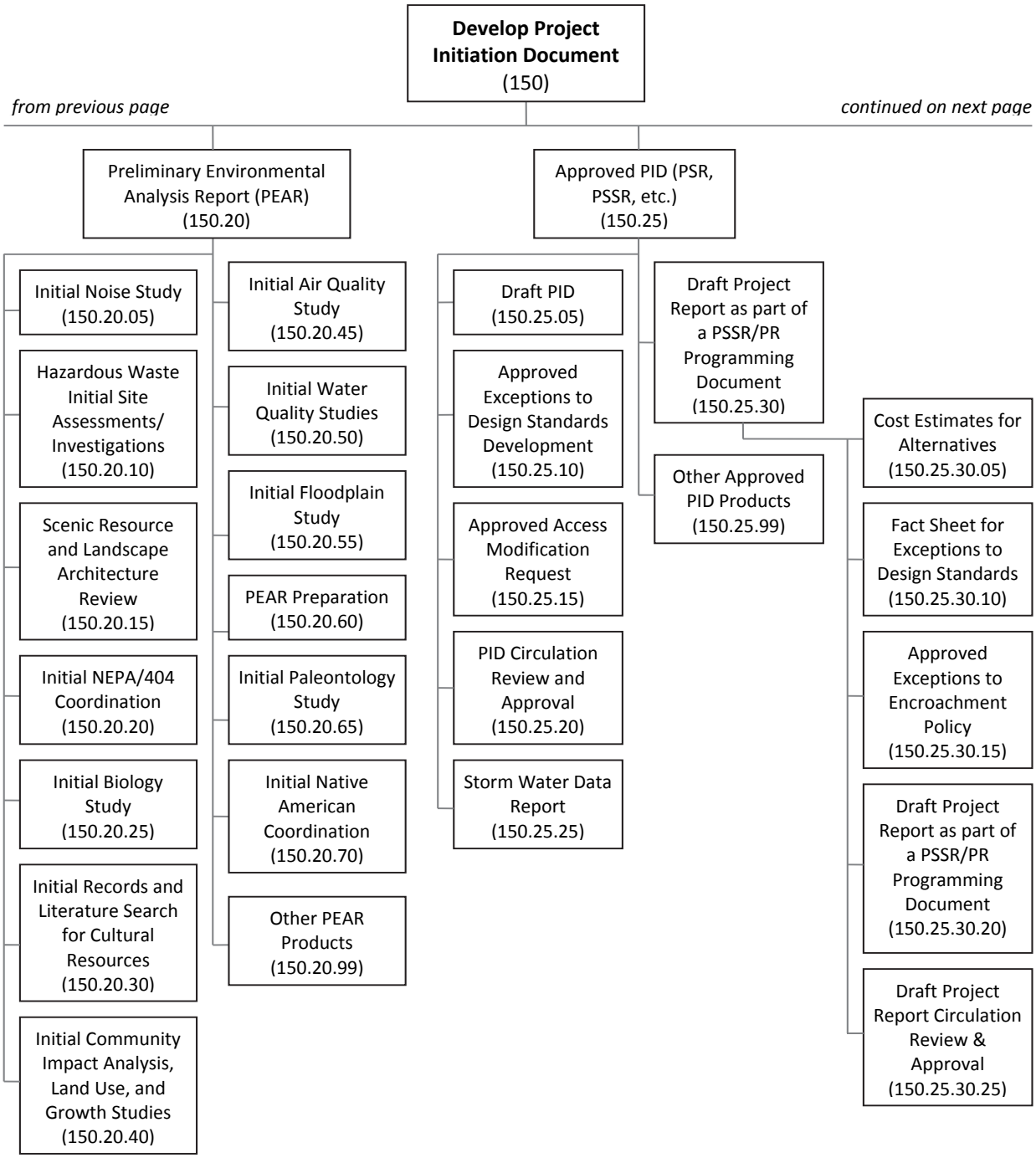
WBS 150

	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)

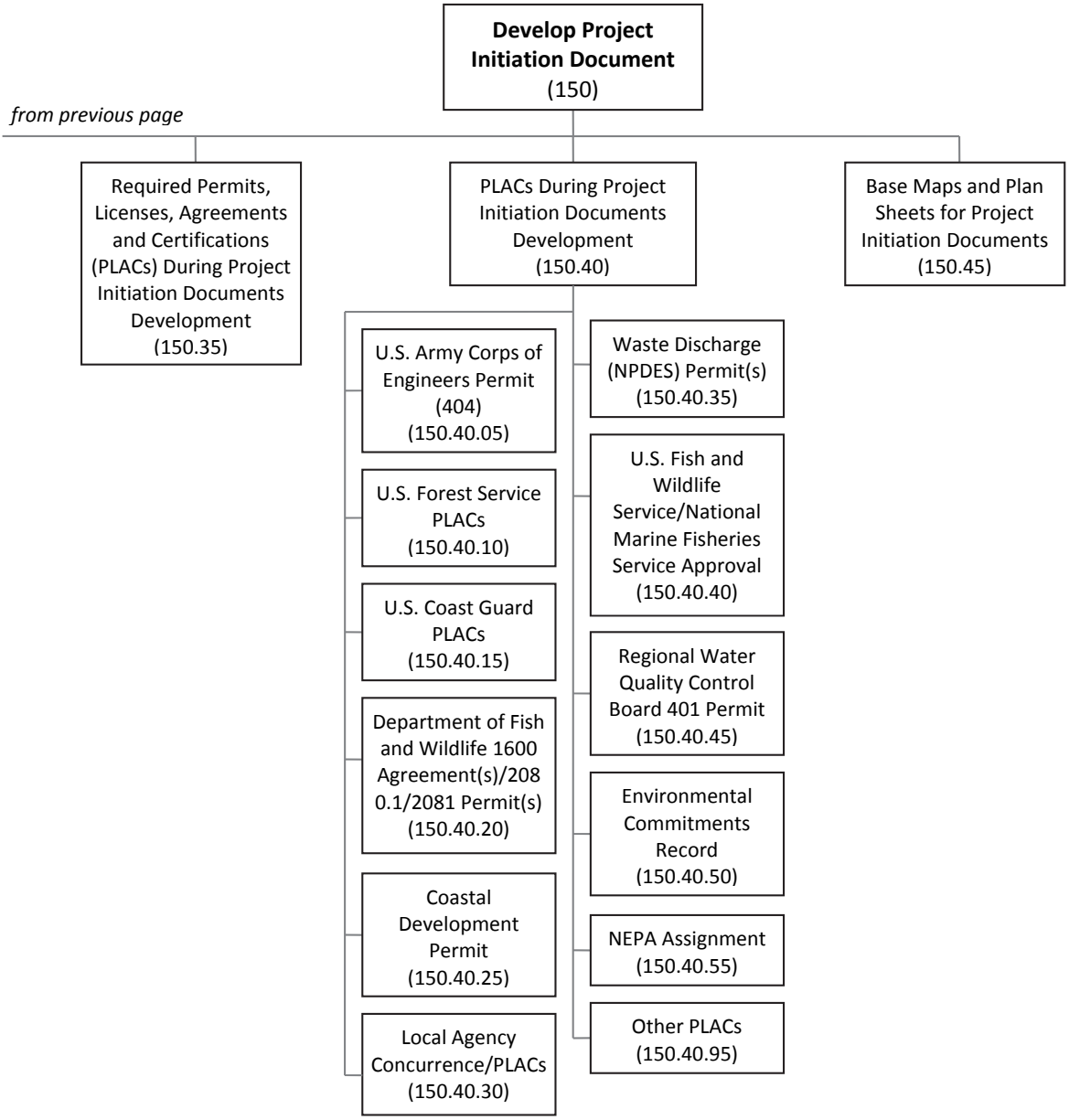


	Project Management	Project Initiation	PA&ED	PS&E	Right of Way	Construction
Project Phase		K	0	1	2	3
SB45 Component	0	1	2	3	4	5



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. 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) ♦ 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 – Caltrans Bridge Design Details: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-design-details/bdd.html – Caltrans Bridge Memos to Designers: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-memo-to-designer/bmd.html – Caltrans Bridge Design Specifications: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-design-specifications/bds.html – Caltrans Director's Policy 22, Context Sensitive Solutions: http://admin.dot.ca.gov/bfams/admin_svcs/sw_policy/dp/dp_22.pdf – Caltrans Deputy Directive 60: Transportation Management Plans: http://dot.ca.gov/hq/traffops/trafmgmt/tmp_lcs/index.htm – Caltrans Purpose and Need Team Final Report and Recommendations: http://www.dot.ca.gov/ser/downloads/general/PN_Report.pdf – Caltrans Guidelines for Applying Traffic Microsimulation Modeling Software: http://www.paramics-online.com/downloads/technicaldocs/Caltrans%20Microsimapps%202002.pdf – Caltrans Guidelines for Structures Foundation Reports: https://crqmxli.files.wordpress.com/2015/08/caltrans-guidelines-structures-foundation-reports.pdf – Caltrans Project Management Handbook: http://www.dot.ca.gov/hq/projmgmt/documents/pmhb_5thed.pdf – Caltrans Highway Design Manual (HDM): http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm – 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 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://dot.ca.gov/hq/traffops/trafmgmt/tmp_lcs/index.htm
- 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.
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 • Review and Presumably Prepare A List of Issues
References	– Project Development Procedures Manual (PDPM), Chapter 1, Sections 4 & 5; Chapter 2, All Sections – User's Guide to Photogrammetric Services – 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	• Review of Geological Hazards
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 – 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 • List of Known Environmental Constraints
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 4. – 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 – Highway Design Manual (HDM) Chapter 600 – California Department of Transportation Travel Forecasting Guidelines – NCHRP 255 Highway Traffic Data for Urbanized Area Project Planning and Design

	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	**150.05.30 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. 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. • Engineering Surveys Products as Listed in WBS 160.20.60 - 160.20.70 and 185.10.60 - 185.10.70 • Photogrammetric Products as Listed in WBS 160.20.55 or 185.10.55. • 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 – Right of Way Manual Chapter 6 – 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 – Right of Way Manual Chapter 6 – Plans Preparation Manual Chapter 4

WBS Level 8	**150.05.30.10 Accelerated Engineering Surveys**
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 • Photogrammetric Products as Listed in WBS 160.20.55 or 185.10.55.
Business Practices	This project work element will only be charged: – when the use of alternate data sources that have 1 meter or greater vertical accuracy will not be suitable, and – where risk assessment justifies the cost and time savings of early surveying/mapping. 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. 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: – Compiling and analyzing existing background information, system and corridor planning, and data on transportation deficiencies that validate the need for the project. – 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. – 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
Deliverables	• Problem Definition • Site Assessment/Statement of Context • 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 – Caltrans Project Management Handbook, Chapter 1, Understanding the Project Environment – Project Development Procedures Manual (PDPM), Chapter 9, Article 4, (Purpose and Need Defining the Transportation Problem) – 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. • 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 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: – Development of Community Involvement Plan – Initial information or preliminary Scoping Meetings w/public & local agencies – 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 – Caltrans Project Management Handbook, Chapter 4 – Project Communication Handbook

	– Project Development Procedures Manual (PDPM), Chapter 22, Article 4 – 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
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 – Project Development Procedures Manual (PDPM), Chapter 9, Article 2 – PDPM, Chapter 8, Section 6 – PDPDM, Chapter 9, Article 4 – PDPM, Chapter 10, Section 4 – 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 for Presentation in the PID and Programming. • Review and Presumably Prepare A List of Issues
References	– PDPM, Chapter 8, Section 6 – PDPM, Chapter 9, Article 4 – 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 • 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 – 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

	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	• R/W Data Sheet. Cost Estimate, Right of Way Needs, Preliminary Utility Relocation Schedule.
References	– Right of Way Manual - Forms and Exhibits, Chapter 13 – Right of Way Manual - Reference Version, Chapter 13 – 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
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 – Right of Way Manual - Reference Version, Chapter 8 – 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 – 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 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 – Caltrans Bridge Design Details, Sections 1-3 – Caltrans Bridge Design Memos to Designers, Sections 1, 2, & 17 – Caltrans Bridge Design Specifications, All Sections – Caltrans OSFP Information & Procedures Guide, Chapter 3-02 – Pumping Plant Design Manual, Appendix 7 – Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 8 – Caltrans Guidelines for Structure Foundation Reports, Chapter 2
Subtasks	– Prepare Preliminary Design – Prepare Preliminary Plan Sheets – 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: ▪ Project Location ▪ Summary of Site Geology and Subsurface Condition ▪ Scour Evaluation ▪ Corrosion Evaluation ▪ Preliminary seismic data and recommendations

- As-Built Foundation Data
- Preliminary Foundation Recommendation
- Additional Field Work and Laboratory Testing

– Prepare Structures Preliminary Hydraulics Report (PHR)
– Prepare Structures Preliminary Architectural and Aesthetics Report (PAAR)
– Prepare Structures Preliminary Maintenance Report (PMR)
– Prepare Preliminary Quantities
– Prepare Preliminary Estimate
– Prepare Structures Advance Planning Study package
– Perform Constructability Review (CR) of the APS package
– Obtain APS approval
– Distribute approved APS package for inclusion in the PID
– 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: – Pedestrian facilities – Bicycle facilities – Transit facilities – Park and Rides – Equestrian Facilities – Weight/Inspection Facilities – 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 – HOV Guidelines – Ramp Metering Design Guidelines – Project Development Procedures Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 7 – Caltrans Guidelines for Applying Traffic Microsimulation Modeling Software – 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 • Preliminary Traffic Design • Traffic Operational and Safety Analysis • Traffic System and Signal System Review • Skid Test Analysis
References	– Traffic Manual, Ch.7 – Highway Capacity Manual – HOV Guidelines – Ramp Metering Design Guidelines – Traffic Bulletins – California Manual on Uniform Traffic Control Devices – 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	**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): – Adequate scoping for each alternative – Worst case scenario – Reconstruction of existing features – Right of Way costs, including utility relocation – Mitigation costs for hazardous materials and other environmental impacts – Existing and forecasted traffic – Geotechnical design, especially foundation and slope stability features – Materials – Pavement structural sections design – Noise barriers – Retaining walls – Major storm drains – Proposed Structures – Traffic handling and traffic management – 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 – Draft Workflow Task Manual

WBS Level 7	**150.15.60 Preliminary Transportation Management Plan**
Description	This plan includes: – Review and approve TMP Data Sheet – Prepare itemized estimate of proposed TMP strategies and their respective costs for the Project Initiation Document – 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 – Form and meet with TMP team, which may include the District TMP Manager,District Traffic Manager (DTM), Project Engineer (PE), and the Maintenance representative – Coordinate lane closures for multiple projects in the same area to determine impact on this project – Coordinate major closures with neighboring Caltrans districts, CHP, and local agencies to determine impact on this project

	– Update TMP/lane closure database
Lead Function	PID Unit
Deliverables	• TMP Data Sheet
References	– Deputy Directive 60 regarding TMP Requirements – TMP Guidelines – Traffic Manual, Ch.7 – Highway Capacity Manual – HOV Guidelines – Ramp Metering Design Guidelines – Traffic Bulletins – California Manual on Uniform Traffic Control Devices – 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. • 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
Deliverables	• Initial Noise Study to Be Included in PEAR • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol.1, Chap. 12 – Preliminary Environmental Analysis Report Handbook – Traffic Noise Analysis Protocol and Technical Noise Supplement – 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) • 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 – Preliminary Environmental Analysis Report Handbook – 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. – Highway Design Manual (HDM) Chapter 900 – Storm Water Project Planning and Design Guide (PPDG) – Highway Design Manual (HDM) Chapter 890 – 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: ▪ Verification of information from the RTP stage; ▪ Identification of possible scenic resources and the project's potential visual impact(s); ▪ 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) ▪ Identification of Officially Designated State Scenic Highways in the project area ▪ 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. ▪ For projects off the State Highway System, a Preliminary Environmental Study (PES) form is completed. – The Landscape Architectural Review typically includes recommendations regarding: ▪ Design strategies that integrate the project with the surrounding environment. ▪ Erosion control, slope design, and Storm Water Data Report recommendations. ▪ Replacement Highway Planting and Mitigation Planting requirements ▪ Integration with the Comprehensive Corridor Plan, if available ▪ Traveler and Worker Safety ▪ Preservation of Historic Period Landscapes

	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	**150.20.20 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 • Updated STEVE Database
References	– Guidance Papers on Implementation of NEPA/404 MOU – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 15 – 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 14 – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 3, Chap. 2 – Preliminary Environmental Analysis Report Handbook – 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 • Updated STEVE Database

References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 4 – Preliminary Environmental Analysis Report Handbook – 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.
Lead Function	Environmental
Deliverables	• Initial Community Impact Assessment Documentation • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 4 – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 24 – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 25 – Preliminary Environmental Analysis Report Handbook – 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER) covers some, but not all, AQ issues
Subtasks	– Preliminary Environmental Analysis Report Handbook – Standard Environmental Reference (SER) - Environmental Handbook Vol. 1, Chap. 11

	– 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 • Updated STEVE Database
References	– Preliminary Environmental Analysis Report Handbook – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 9 – 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 – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1 Chap. 17 – 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 • Updated STEVE Database

References	– Preliminary Environmental Analysis Report Handbook – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 5 – 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 • Paleontological Identification Report (PIR) • Updated STEVE Database
References	– Preliminary Environmental Analysis Report Handbook – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 8 – 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 – Geologic map review – Field survey – 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1

	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chap. 3 – 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 • 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 – Highway Design Manual (HDM), Chapter 80, Topic 82 – 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 – 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

	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	**150.25.30 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
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 – 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. 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

	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	• 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. • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER) – 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: – Discussions and negotiations with the permitting agency with jurisdiction – Preparation of the PLACs such as exhibits, maps, etc. – Obtain funds for any required PLAC fees – Submit PLACs application
Lead Function	Various
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 • U.S. Army Corps of Engineers Permit (404/10) • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 3, Chap. 3 – 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 • U.S. Forest Service Permit(s) • 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 • U.S. Coast Guard Permit/PLACs • 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 • Department of Fish and Game 1600 Agreement(s)/2080.1/2081 Permit(s) • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 3, Chap. 3 – 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 • Coastal Development 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

	• Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 18 – 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 • Concurrence/PLACs • 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	**150.40.35 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 • Waste Discharge (NPDES) Permit(s) • 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

	• U.S. Fish and Wildlife Service/National Marine Fisheries Service Approval(s) • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 18 – 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 • Regional Water Quality Control Board 401 Permit • 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	**150.40.50 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 39

	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	**150.40.55 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 • All Products and Actions Required to Comply with NEPA Assignment • Updated STEVE Database
References	– Standard Environmental Reference – FHWA California Division Home Page

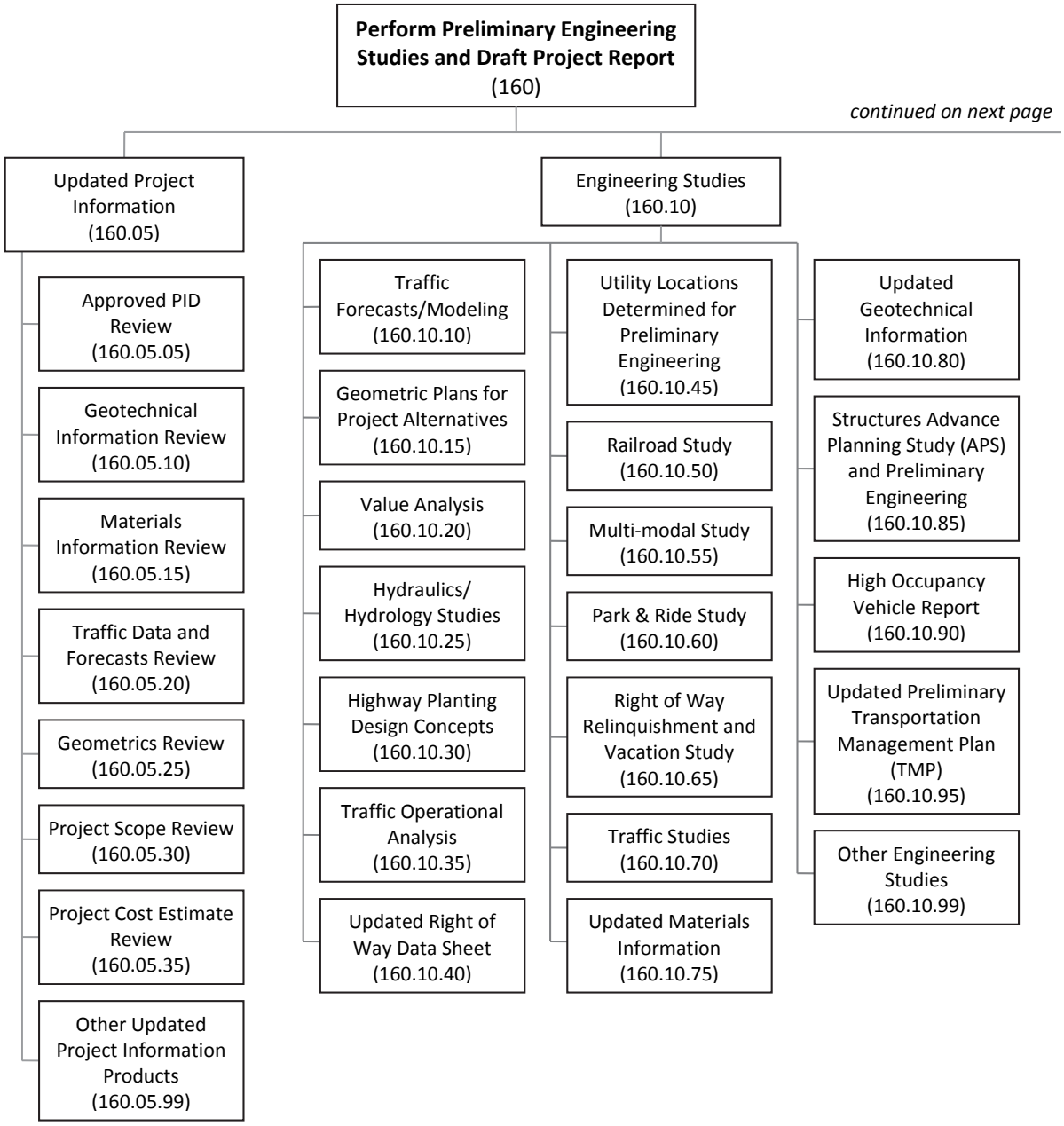
WBS Level 7	**150.40.95 Other PLACs**
Description	Includes all PLACs not listed above, such as Bay Conservation and Development Commission (BCDC) permit, Tahoe Regional Planning Agency (TRPA) permit, and flood control district permits.
Lead Function	Various
Deliverables	• Coordination as to Need for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

WBS 160

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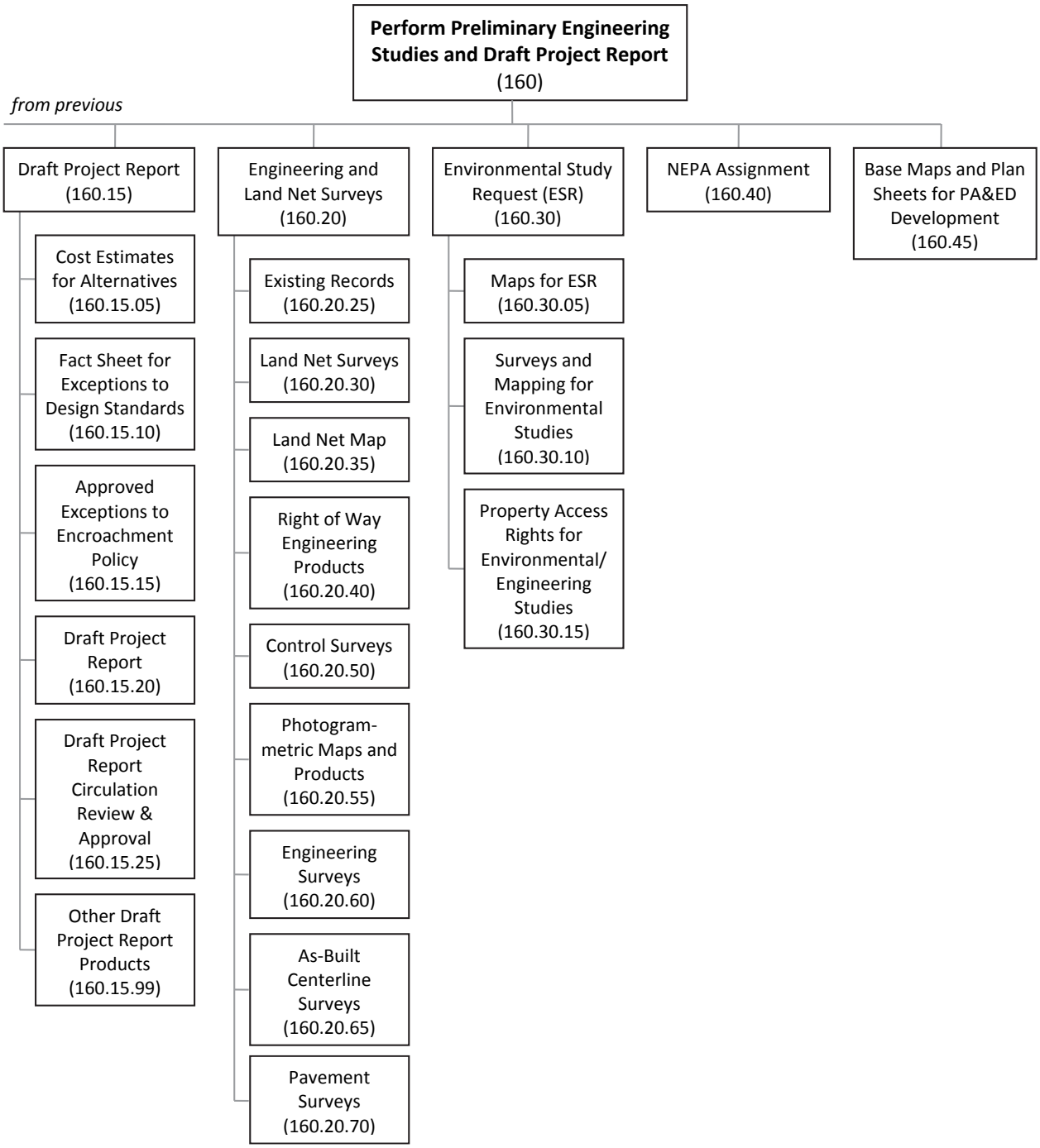
	Project Management	Project Initiation	PA&ED	PS&E	Right of Way	Construction
Project Phase		K	0	1	2	3
SB45 Component	0	1	2	3	4	5



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) ♦ M040 Begin Project (Start: WBS 160) ♦ 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 – Caltrans Bridge Design Details: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-design-details/bdd.html – Caltrans Bridge Design Specifications: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-design-specifications/bds.html – Caltrans Bridge Memos to Designers: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-memo-to-designer/bmd.html – Caltrans CADD Users Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/caddman/default.htm – Caltrans Chief Engineer memo dated November 28, 2001 regarding Beginning Environmental Studies: http://www.dot.ca.gov/ser/downloads/memos/FelkerBeginEnvMemo.pdf – Caltrans Deputy Directive 60: Transportation Management Plans: http://dot.ca.gov/hq/traffops/trafmgmt/tmp_lcs/index.htm – Caltrans Highway Design Manual (HDM): http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm – Caltrans Guidelines for Applying Traffic Microsimulation Modeling Software: http://www.paramics-online.com/downloads/technicaldocs/Caltrans%20Microsimapps%202002.pdf – Caltrans Guidelines for Structures Foundation Reports: https://crqmxli.files.wordpress.com/2015/08/caltrans-guidelines-structures-foundation-reports.pdf – Caltrans Highway Design Manual (HDM): http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm

- 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://dot.ca.gov/hq/traffops/trafmgmt/tmp_lcs/index.htm
- 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
- 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 – Professional Land Surveyors' Act, Business and Professions Code: http://www.bpelsg.ca.gov/laws/pls_act.pdf – 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

	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	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	**160.05.20 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 – 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: – Analysis of travel-demand model data using Regional Transportation Planning Agencies (RTPA) traffic models when available. – Preparation of future traffic projections for intersections, highway mainlines and ramps for project level documents. – 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 – Caltrans Highway Design Manual (HDM), Chapter 600

	– Caltrans Travel Forecasting Guidelines – 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 – 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 – Caltrans Highway Design Manual, Chapter 900 – 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 – Caltrans HOV Guidelines – Caltrans Ramp Metering Design Manual – Caltrans Traffic Manual – Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 8 – Caltrans Guidelines for Applying Traffic Microsimulation Modeling Software – FHWA Traffic Analysis Toolbox, Vol. III: Guidelines for Applying Traffic Microsimulation Modeling Software – 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 • 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.

	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	Cost Estimate Maps shall meet or exceed specifications and standards as set forth in the Caltrans Plans Preparation Manual, Section 4-2.
References	– Plans Preparation Manual Section 4-2 – 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 – Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 13; Chapter 8, Section 7 – 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 – 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: – Pedestrian facilities

	– Bicycle facilities – Transit facilities – Equestrian Facility – Weight/Inspection Facilities – 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: – Preparation of preliminary traffic design – Performance of Safety Analysis – Traffic system and signal system review – 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

	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 Traffic Manual, Chapter 7 – Highway Capacity Manual – Caltrans HOV Guidelines – Caltrans Ramp Metering Design Manual – Caltrans Traffic Bulletins – California Manual on Uniform Traffic Control Devices – 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 – 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
References	– Caltrans Bridge Design Aids, Sections 10 and 11 – Caltrans Bridge Design Details, Sections 1-3 – Caltrans Bridge Memos to Designers, Sections 1, 2 and 17 – Caltrans Bridge Design Specifications – Caltrans OSFP Information & Procedures Guide, Section 3-2 – Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 8 – Caltrans Guidelines for Structures Foundation Reports, Chapter 2
Subtasks	– Prepare Preliminary Design – Prepare Preliminary Plan Sheets – 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 – Preliminary Foundation Recommendations – Additional Field Work and Laboratory Testing – Prepare Structures Preliminary Hydraulics Report (PHR) – Prepare Structures Preliminary Architectural and Aesthetics Report (PAAR) – Prepare Structures Preliminary Maintenance Report (PMR) – Prepare Preliminary Quantities – Prepare Preliminary Estimate – Prepare Structures Advance Planning Study package – Perform Constructability Review (CR) of the APS package. – Obtain APS approval – Distribute approved APS package for inclusion in the PID – 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

	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 3, Section 7; Chapter 8, Section 7

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 – Caltrans Transportation Management Plan Guidelines – Caltrans Traffic Manual, Chapter 7 – Highway Capacity Manual – Caltrans HOV Guidelines – Caltrans Ramp Metering Design Manual – Traffic Bulletins – California Manual on Uniform Traffic Control Devices – 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 – Determine feasibility of using surface streets for traffic diversion – Develop traffic handling plans with local agencies – Review and update the TMP Data Sheet – Coordinate lane closures for multiple projects in the same area to determine impact on this project – Coordinate major closures with neighboring districts, Headquarters, and local agencies to determine impact on this project – Coordination with TMP team (TMP Manager, District Traffic Manager, Project Engineer, and Maintenance). – Begin preparation of traffic contingency plan – Update TMP/lane closure database – 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 – Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Section 2; Chapter 21

	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	**160.15.15 Approved Exceptions to Encroachment Policy**
Description	Prepare and document any exceptions to Encroachment Policy
Lead Function	District Design Branch
Deliverables	• Draft Project Report
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 • Retracement Map • Project Control Network • Photogrammetric Control Surveys • 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). 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 – Surveys Manual, Chapters 5, 10 and 11, and Figure 5.1 – 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 • 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

	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

	– 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. 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 • Notice of Intent to Survey • Field Package • Adjusted Land Net Field Survey • Perpetuated Monuments or Evidence • Corner Records • Monument Perpetuation List. List Should Contain All Survey and Land Net Monuments That Will Be Disturbed during Any Element of the Project • 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. 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 – For Notice of Intent to Survey: Caltrans Surveys Manual, Section 10.8 – For Field Package: Caltrans Surveys Manual, Section 10.9 – For Adjusted Land Net Field Survey: Caltrans Surveys Manual, Sections 5.4, 10.10, 10.11-5, and Figure 5.1

	– 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 – For Monument Perpetuation List: Caltrans Surveys Manual, Section 10.10-7 – 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, 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: ▪ Record Data (WBS 220.05.05) ▪ Land Net Survey Results (WBS 220.05.10) ▪ 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 – Caltrans Right of Way Manual, Section 06.03.02.00 – 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 • Correctory Deeds • Utility Agreements (Including Joint Use Agreement and Consent to Common Use Agreement) • 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 – Caltrans CADD Users Manual Section 2.4.E – 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 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 • Project Control Diagram and/or Control Record of Survey • Project Control Report • Inclusion of Control Points in Electronic Control Database
Business Practices	Horizontal project control should be created as a single adjusted network. The department's preferred level of accuracy for horizontal project control is 1st Order. 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 • Pre-Marking Control Survey

	• Design Project File • 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.
References	– Caltrans Surveys Manual, Chapters 5, 8 and 9, and Figure 5.1 – 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: ▪ Topography ▪ Structures ▪ Utility Locations ▪ Monitoring Surveys ▪ Vertical Clearance ▪ Hydrologic Surveys ▪ Preliminary Investigations Report ▪ 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**

	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	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. • 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	**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. 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)**

WBS

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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 • 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**
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. • 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 – Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 and 4
Subtasks	– Project Vicinity Map – Project Location Map – Proposed Project/Alternatives Plans – Project R/W and adjacent parcel mapping – Hydrologic and flood plain mapping – Seismic and environmental geology – 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.

	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	Surveys
Deliverables	• Site Maps for Environmental Studies
References	– Caltrans Surveys Manual – 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. – 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) • Informal Entry Documents, Including Verbal Agreements, etc. • Personnel Identification Documents
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1 – Caltrans Right of Entry Guidelines for Environmental Work, Joint R/W and DEA Memo, May 22, 2002 – Clarification of Caltrans Right of Entry Guidelines for Environmental Work, Joint R/W and DEA Memo, January 7, 2003 – Caltrans Right of Way Manual, Chapter 8
Subtasks	– Identify properties where access is needed and the types of studies required. – Identify location on property where access is needed. – Identify the type of document needed to gain access to the property. – Determine time frame when access is required. – Contact property owners and obtain access rights. – Provide identification documents for field personnel to use when requesting informal entry permission.

WBS Level 6	**160.40 NEPA Assignment**

WBS

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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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER) – 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 plan sheets required for the PA&ED development efforts.
Lead Function	District Design Branch
Deliverables	• DPR and Final Project Report
References	–

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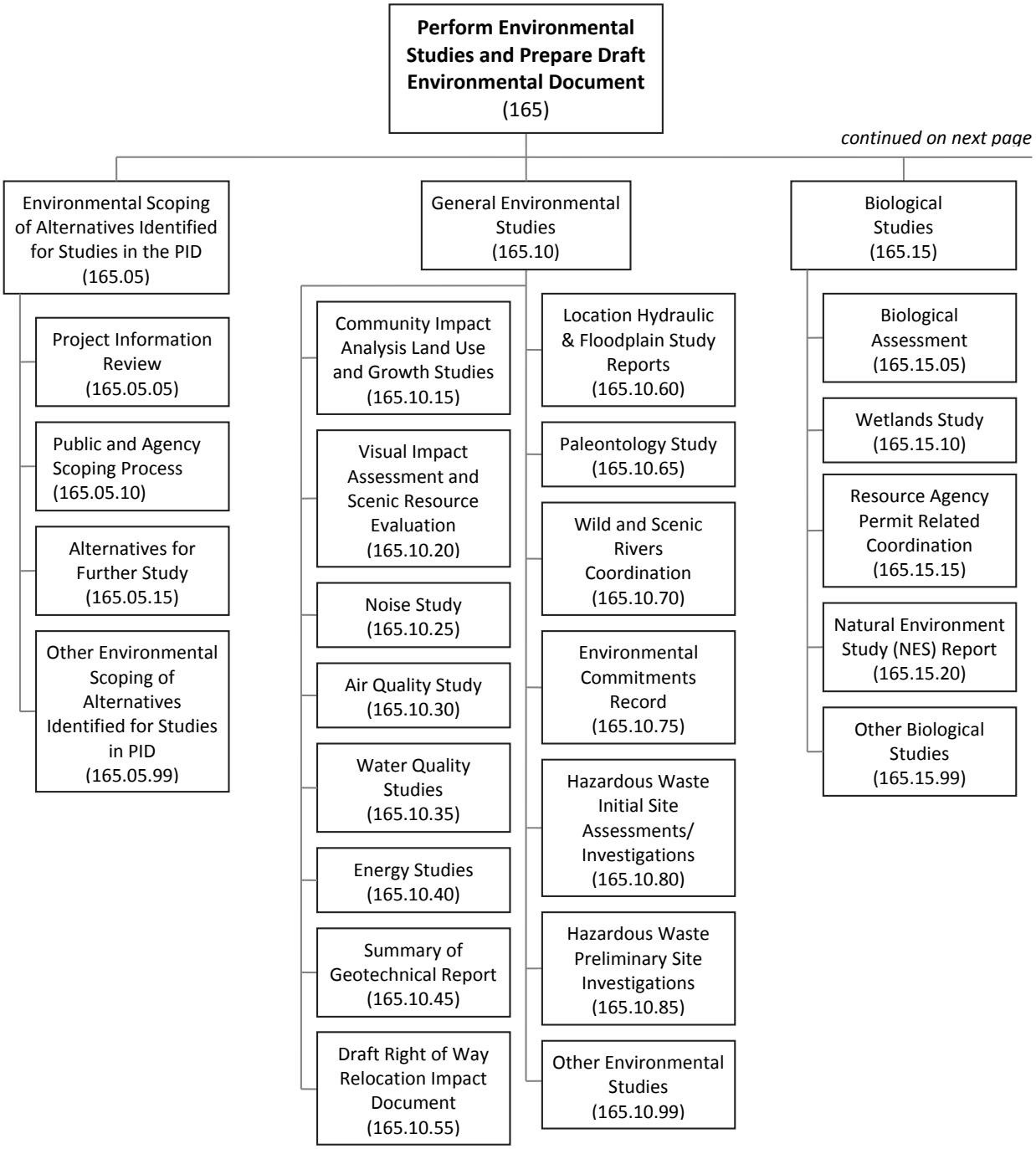
	Project Management	Project Initiation	PA&ED	PS&E	Right of Way	Construction
Project Phase		K	0	1	2	3
SB45 Component	0	1	2	3	4	5

165 Perform Environmental Studies and Prepare Draft Environmental Document



WBS

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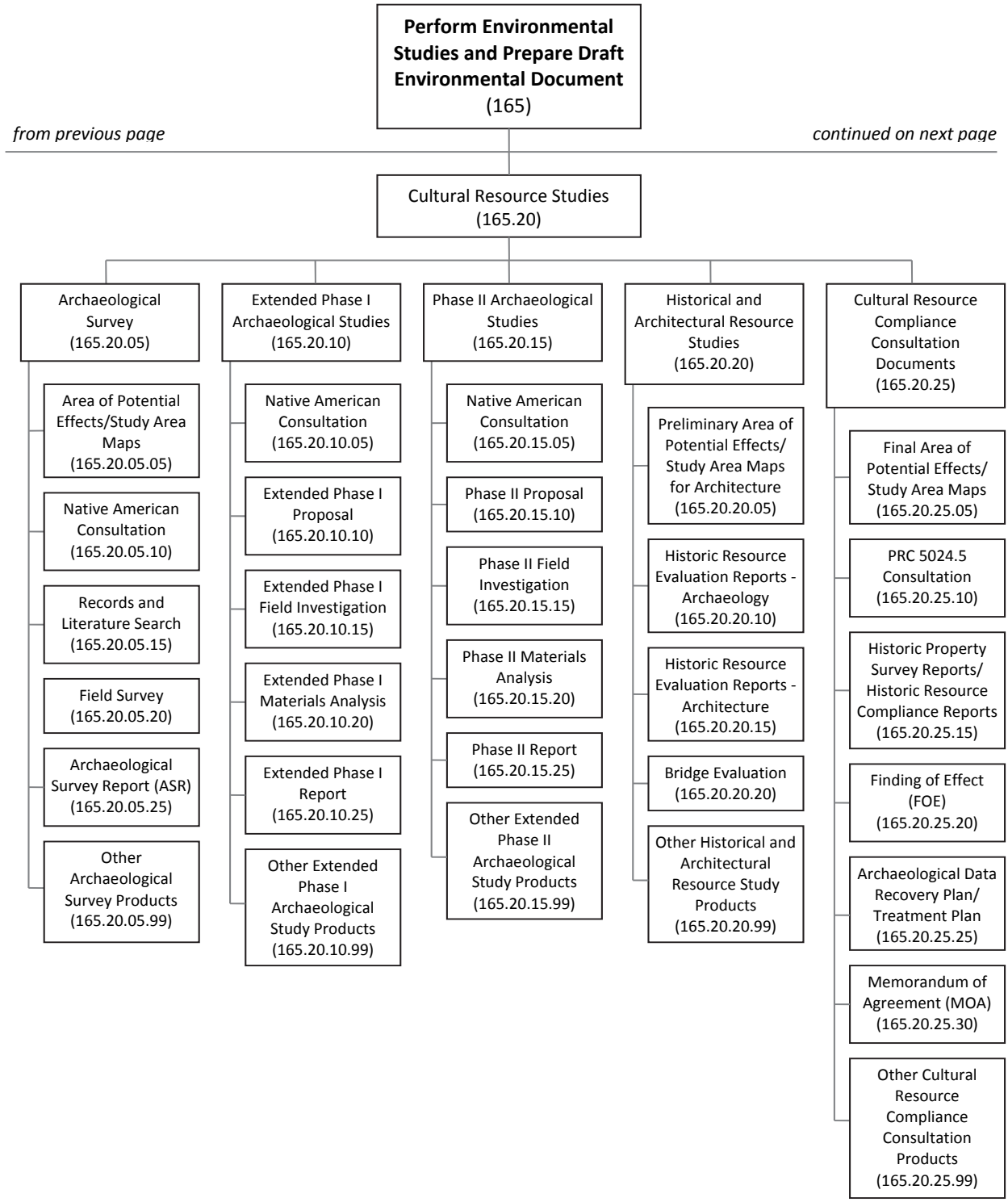
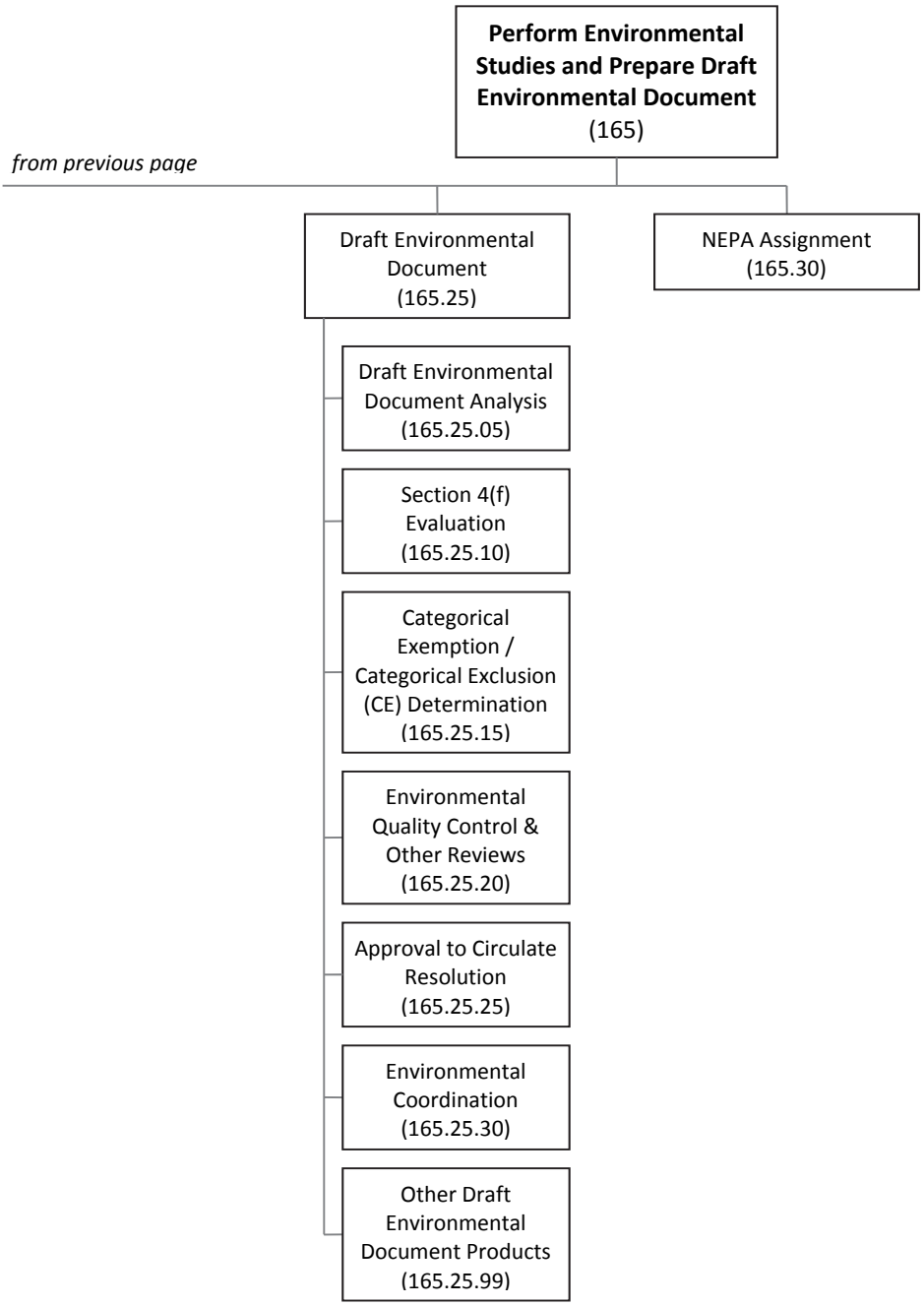

Perform Environmental Studies and Prepare Draft Environmental Document (165)
from previous page
continued on next page
Cultural Resource Studies (165.20)
Archaeological Survey (165.20.05)
Area of Potential Effects/Study Area Maps (165.20.05.05)
Native American Consultation (165.20.05.10)
Records and 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
Project Phase		K	0	1	2	3
SB45 Component	0	1	2	3	4	5



WBS

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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 • Updated STEVE Database
Major Milestones	♦ M020 Begin Environmental (Start: WBS 165) ♦ M030 Notice of Preparation (Lag after M020, number of days determined by PDT; related to WBS 165.05.10) ♦ M035 Notice of Intent (Lag after M020, number of days determined by PDT; related to WBS 165.05.10) ♦ 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 – Caltrans Preliminary Environmental Analysis Report (PEAR) Handbook: http://www.dot.ca.gov/ser/pear.htm – Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm – 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 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 – Caltrans Technical Noise Supplement: http://www.dot.ca.gov/hq/env/noise/pub/Technical%20Noise%20Supplement.pdf

	– Caltrans Traffic Noise Analysis Protocol: http://www.dot.ca.gov/hq/env/noise – FHWA California Division website: http://www.fhwa.dot.gov/cadiv – 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 – 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37 – Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 and 4
Subtasks	– Obtain and examine PID and related documents – Obtain and examine project plans from earlier stages – Discuss and verify initial Purpose and Need, Alternatives, and previous environmental evaluations with Project Development Team – Obtain and examine Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP) listings, regional emissions analyses – Verify compliance with NEPA/404 Memorandum of Understanding (MOU) process at prior stages – Verify Clean Air Act conformity status of project and alternatives – Environmental Generalist/Coordinator, Field Review

	– 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 • Published Notice of Preparation with Mailing List and State Clearinghouse Documentation. • Public Participation Plan • MPO/Air Pollution Control District (APCD) Comments on and Concurrence with Public Participation Plan. • Minutes, Records of Meeting, Newsletters, Press Materials, and Public Participation Reports for Meetings and Other Public Participation Activities. • Project Mailing List • Updated STEVE Database • 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 – Caltrans Standard Environmental Reference (SER), Forms and Templates, EIR/EIS Scoping Checklist – FHWA/FTA SAFETEA-LU Environmental Review Process Final Guidance – Caltrans Standard Environmental Reference (SER), Forms and Templates, Annotated Outlines – 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 – Prepare Draft Notice of Intent (NOI) (NEPA requirement - Environmental Impacts Statement EIS only) and submit to FHWA for Federal Register publication – Prepare and circulate Notice of Preparation (NOP) (California Environmental Quality Act [CEQA] requirement - Environmental Impact Report EIR only) – Conduct and document Public and Agency environmental scoping meeting(s)

	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

	– 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 – Prepare and send invitation letters to applicable federal, state, tribal, regional, and local governments – Conduct and document public and agency open house and workshop meetings during development of the environmental document – 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 – Prepare and circulate newsletters and other public informational and press materials – 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 • NOP/NOI Alternatives Discussion (EIR/EIS Projects Only)
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37 – Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 and 4
Subtasks	– Perform preliminary alternatives analysis – Consider public comment and participation (via the scoping process in WBS 165.05.10) – Review alternatives analysis with Project Development Team – Prepare and review alternative selection documentation – Preliminary alternatives analysis report (used by PDT and public) – Public and PDT Review of documentation and comments – 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 – 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). • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Vols. 1-4 – 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) • Technical Report Abstract for Use in Environmental Document Text • 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.

	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. 24 – Caltrans Standard Environmental Reference (SER), Vol. 1, Chap. 25 – Caltrans Standard Environmental Reference (SER), Vol. 4 – Traffic Volume Data – 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 – 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 – Perform growth impact studies – Prepare interim reports for internal and peer review – Prepare technical report with mapping and other graphics – Prepare abstract for inclusion in Environmental Document text – Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures – Coordinate with local and regional agencies, ethnic and community groups, and business organizations – 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 • Technical Report • Technical Report Abstract for Use in Environmental Document • 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 – Perform a visual impact assessment (VIA)

	– Perform a scenic resource evaluation (SRE) – Prepare a technical report documenting VIA and SRE results – Prepare visual simulations of the proposed alternatives – Coordinate with local agencies, citizens groups, and business groups related to community design and scenic issues – Prepare abstract for inclusion in Environmental Document – 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 • Technical Report • Technical Report Abstract for Use in Environmental Document • Transmittal Memo • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 12 – Caltrans Highway Design Manual (HDM), Chapter 1100 – Caltrans Technical Noise Supplement – Caltrans Traffic Noise Analysis Protocol – Caltrans Project Development Procedures Manual (PDPM), Chapter 30
Subtasks	– Identify sensitive receptors and analysis locations – Collect existing noise information, including monitoring data from Air Resources Board (ARB) and Air Pollution Control District (APCD) sites – Perform noise modeling – Develop estimates of effectiveness for alternative mitigation measures – Prepare technical report with preliminary barrier plans – Prepare abstract for inclusion in Environmental Document text – 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.

	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
Deliverables	• Monitoring Report • Technical Report • Technical Report Abstract for Use in Environmental Document • Air Quality Conformity Checklist • Transmittal Memo • Evidence of Coordination with and Concurrence by MPO and Air Quality Agencies
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 11 – Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 and 4
Subtasks	– Identify sensitive receptors and analysis locations – Collect existing carbon monoxide (CO) data – Perform CO or other monitoring. Note that scheduling of this activity should take into account appropriate study windows. – Identify sensitive receptors and analysis locations – Collect existing CO data – 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) • Permit Application Materials, If Required • Technical Report • Technical Report Abstract for Use in Environmental Document Text • Transmittal Memo • Evidence of Coordination with and Concurrence by MPO and Water Quality Agencies • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chaps. 9 and 15 – Stormwater Pollution Protection Plan Guidelines for Environmental Planning – Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 and 4

Subtasks	– Identify receiving waters, their regulatory status, and their uses – Collect existing water quality information, including monitoring data from other agencies as available – If necessary due to inadequate existing information, conduct on-site sampling or monitoring – Perform modeling, if necessary and appropriate, to predict future pollutant concentrations with no project and all applicable alternatives – Verify applicability of Sole Source Aquifer, NPDES, and other laws and regulations to the project and design of drainage facilities – Develop estimates of effectiveness for alternative drainage facilities and mitigation measures – Prepare technical report with mapping and other graphics – Prepare abstract for inclusion in Environmental Document text – 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 • Technical Report Abstract for Use in Environmental Document Text • 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 – Verify applicability of energy-related laws and regulations to the project and design of drainage facilities – Prepare technical report – Prepare abstract for inclusion in Environmental Document text – 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
Project Phase		K	0	1	2	3
SB45 Component	0	1	2	3	4	5

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 – 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 • Technical Report • Technical Report Abstract for Use in Environmental Document • 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 – Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 and 4 – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 4, Chap. 4, Section 7
Subtasks	– Prepare technical report – Prepare abstract for inclusion in Environmental Document text – 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.

WBS

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Lead Function	Various
Deliverables	• Technical Report • Technical Report Abstract for Use in Environmental Document Text • 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 – Caltrans Highway Design Manual (HDM), Chapter 800, Topic 804 – Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 2, 3 and 4
Subtasks	– Prepare technical report – Prepare abstract for inclusion in Environmental Document text – 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. • Paleontological Identification Report (PIR), If Not Prepared for PID (A Combined PIR/PER May Be Prepared in These Cases) • Paleontological Evaluation Report (PER) • 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

	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

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 – Literature search of paleontological resources in the region – Consultation with paleontologists with expertise in the region – Develop preliminary mitigation recommendations, if necessary – Geological map review – Field survey – 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 – 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 • 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). • Technical Report(s) • Technical Report Abstract for Use in Environmental Document • Transmittal Memo • 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 – Caltrans Preliminary Environmental Analysis Report (PEAR) Handbook – 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) • Technical Report Abstract for Use in Environmental Document Text • Transmittal Memo • 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.

	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 – Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 and 4; Chapter 18
Subtasks	– Review and update, if necessary, the Initial Site Assessment – Transfer funding from project to hazardous waste contract to cover task order cost – Prepare technical report – Prepare abstract for inclusion in Environmental Document text – 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) • Technical Report Abstract for Use in Environmental Document Text • Transmittal Memo • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Vols. 1-4 – 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. • 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 • Documentation of Coordination • Abstract(s) for Inclusion in the Natural Environmental Study and Environmental Document • Memo Discussing Recommended and/or Required Mitigation Measures • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 14; Vol. 3, Chap. 4 – Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 and 4
Subtasks	– Obtain endangered species list for project area – Perform presence/absence and other field studies – Determine effect on species – Perform formal and informal coordination with resource agencies – 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 • Prepare Technical Report • Wetland Delineation Materials • Abstract(s) for Inclusion in Natural Environment Study and Environmental Document • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chaps. 15 and 37; Vol. 3, Chap. 3 – 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 – Delineate wetlands in the project area to US Army Corps of Engineers standards and obtain approval of the delineation – Determine effect on species and amount and type of wetlands affected – 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. • 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. 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 – 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 – Coordinate work with Biological Assessment (WBS 165.15.05), Wetlands Study (WBS 165.15.10), and Natural Environment Study (WBS 165.15.20) work – Perform Section 7 and Section 10 consultation with the U.S. Fish and Wildlife Service – Perform formal consultation and obtain concurrence in biological and wetland studies under the NEPA/404 Coordination MOU process – Perform early consultation with California Department of Fish and Wildlife regarding biology issues related to possible Section 1600 permits – Perform formal and informal biology-related coordination with other resource agencies as needed – 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 • Technical Report Abstract for Use in Environmental Document Text • Memorandum Summarizing Technical Report, Discussing Impacts and Their Potential Significance, and Recommending or Requiring Mitigation Measures • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 14; Vol. 3, Chap. 2 – Caltrans Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 and 4
Subtasks	– Review other biological study work – Prepare technical report – Prepare abstract for inclusion in Environmental Document text – 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) • Technical Report Abstract for Use in Environmental Document Text • Transmittal Memo • 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

	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. • 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 • 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 • Abstract(s) for Inclusion in the Environmental Document • Memo Discussing Recommended and/or Required Mitigation Measures • 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 • 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) • Technical Report Abstract for Use in Environmental Document Text • Transmittal Memo • 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. • 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.

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

	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	**165.20.10.99 Other Phase I Archaeological Study Products**
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. • 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 • Abstract(s) for Inclusion in the Environmental Document • Memo Discussing Recommended and/or Required Mitigation Measures • 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) • Technical Report Abstract for Use in Environmental Document • Transmittal Memo

	• 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) • Technical Report Abstract for Use in Environmental Document • Transmittal Memo with Proposed Mitigation Measures and Mitigation Effectiveness Evaluation • 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.
Lead Function	Environmental
Deliverables	• Technical Report(s) • Technical Report Abstract for Use in Environmental Document Text • Transmittal Memo • 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) • Technical Report Abstract for Use in Environmental Document Text • Transmittal Memo • 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) • Technical Report Abstract for Use in Environmental Document Text • Transmittal Memo • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chap. 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 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.
Lead Function	Environmental
Deliverables	• Technical Report(s) • Technical Report Abstract for Use in Environmental Document Text • Transmittal Memo • 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

	• Abstract(s) for Inclusion in the Environmental Document • Memo Discussing Recommended and/or Required Mitigation Measures • Updated STEVE Database
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) • Technical Report Abstract for Use in Environmental Document Text • Transmittal Memo • 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 • Abstract(s) for Inclusion in the Environmental Document • Memo Discussing Recommended and/or Required Mitigation Measures • 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

	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	• Plan
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chaps. 5 and 6

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) • Technical Report Abstract for Use in Environmental Document Text • Transmittal Memo • 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 – DEA Internet SER Page > Forms and Templates

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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 – 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) • Documentation of Coordination, If Appropriate • Technical Report Aabstract for Use in Environmental Document • Transmittal Memo • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chaps. 20 and 37 – 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 • Finalized CE/CEs • Notice of Exemption • CE Checklist • 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

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. 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 • Environmental Document Review Checklist • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37 – 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37 – 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 • Updated STEVE Database

References	– Caltrans Standard Environmental Reference (SER), Vol. 1 – 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Vol. 1 – 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER) – FHWA California Division website

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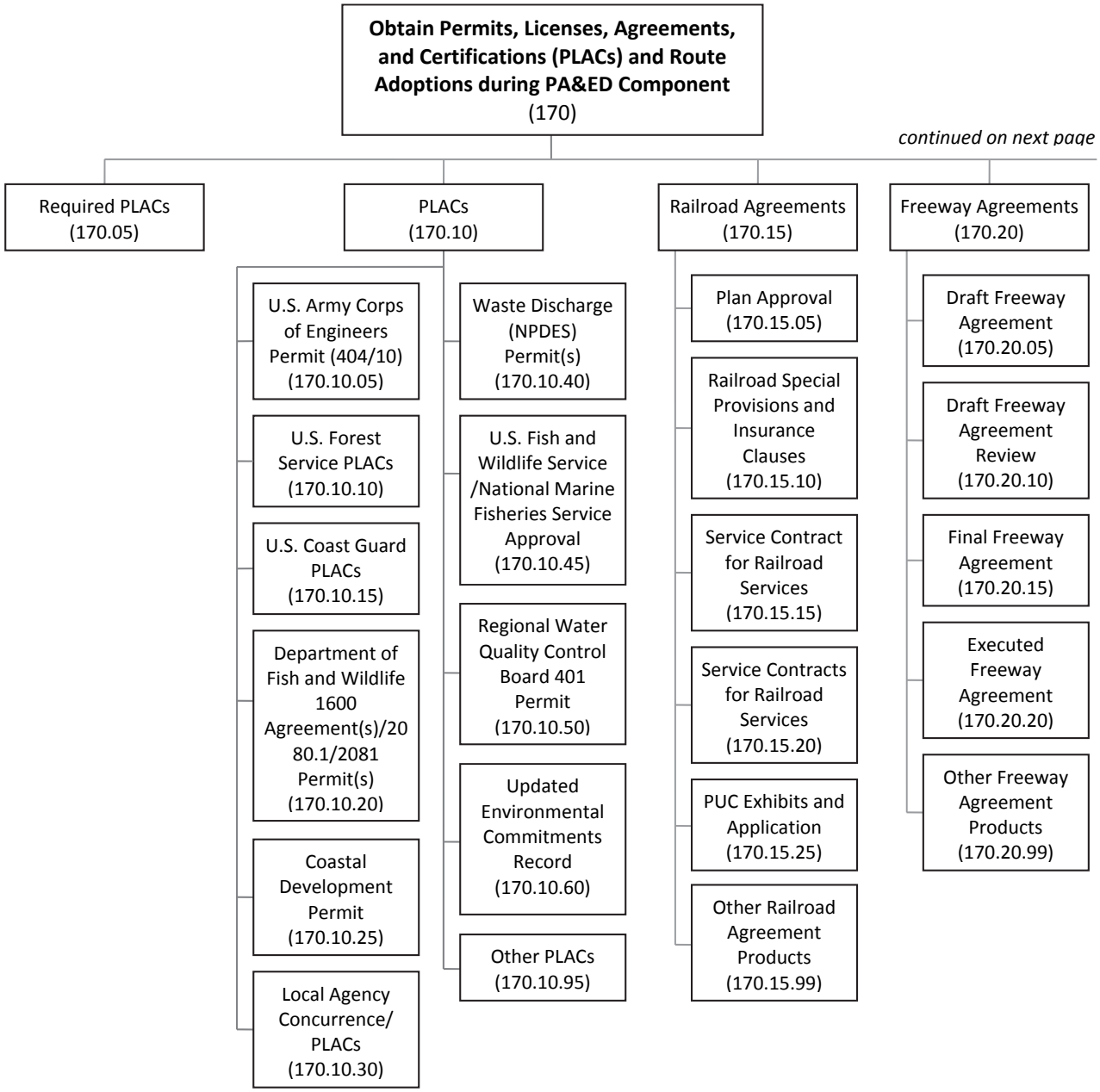
	Project Management	Project Initiation	PA&ED	PS&E	Right of Way	Construction
Project Phase		K	0	1	2	3
SB45 Component	0	1	2	3	4	5

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



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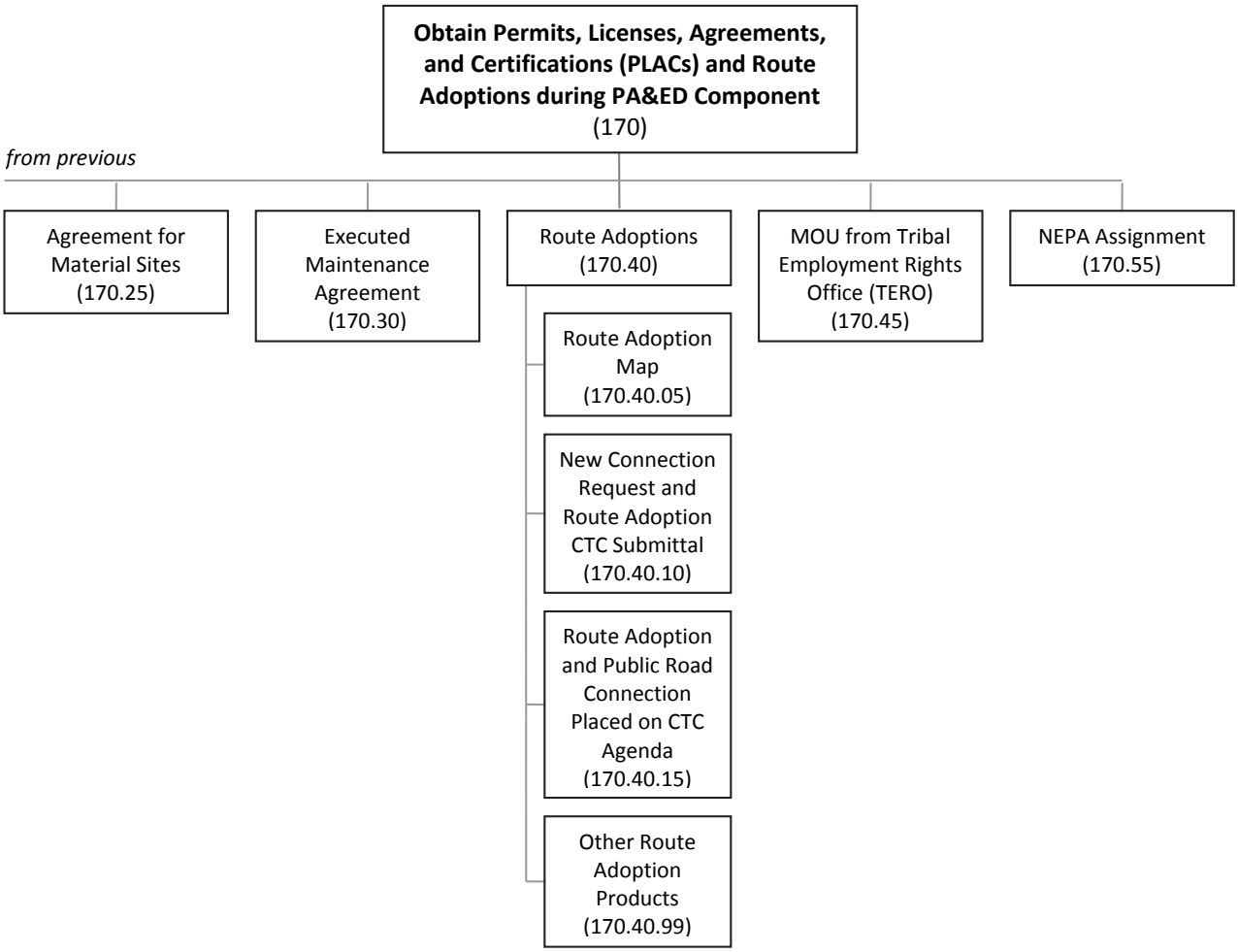
Obtain Permits, Licenses, Agreements, and Certifications (PLACs) and Route Adoptions during PA&ED Component (170)
from previous
Agreement for Material Sites (170.25)
Executed Maintenance Agreement (170.30)
Route Adoptions (170.40)
MOU from Tribal Employment Rights Office (TERO) (170.45)
NEPA Assignment (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 • 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 – Caltrans Highway Design Manual (HDM): http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm – Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm – 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 – 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 • 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 – 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: – Discussions and negotiations with the agency with jurisdiction – Preparation of the PLACs and attachments such as exhibits, maps, etc. – Acquisition of funds for any required PLACs fees – Submission of PLAC applications
Lead Function	Various
Deliverables	• Received PLACs from Each Agency with Jurisdiction • Coordination as to Need for PLACs • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Vol. 1 – DEA Intranet SER Page > Library > Permits, Licenses, Agreements, and Certifications Subpage – 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: – Discussions and negotiations with the US Army Corps of Engineers – Preparation of the PLACs and attachments such as exhibits, maps, etc – Submission of PLAC application – Quarterly Status Meetings – Field reviews
Lead Function	Environmental
Deliverables	• Coordination as to Need for PLACs • Receipt of PLACs • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 3, Chap. 3

	– 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 • Updated STEVE Database • 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 • Updated STEVE Database • 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: – Discussions and negotiations with the Department of Fish and Wildlife – Preparation of the permit and attachments such as exhibits, maps, etc. – Submission of permit application – Quarterly Status Meetings – Field reviews

Lead Function	Environmental
Deliverables	• Coordination as to Need for PLACs • Updated STEVE Database • Receipt of PLACs
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 3, Chap. 3 – 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 • Updated STEVE Database • Receipt of Permit
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 18 – 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 • Updated STEVE Database • 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 • Updated STEVE Database • 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: – Discussions and negotiations with the US Fish and Wildlife Service and/or National Marine Fisheries Service – Preparation of the permit and attachments such as exhibits, maps, etc. – Submission of permit application – Quarterly Status Meetings – Field reviews
Lead Function	Environmental
Deliverables	• Coordination as to Need for PLACs • Updated STEVE Database • Receive Approval(s)
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 18 – 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 • Updated STEVE Database • 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 • 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 • Updated STEVE Database • 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. • Determine right of way requirements with plat and legal description and deed. • Negotiate with railroad for right of way purchase – permanent and temporary easements.

	• Submit PUC application pursuant to the guidelines of General Order No. 88-D for work within an existing railroad crossing. • Submit formal PUC application for all new crossing work, which will requirement extensive involvement with HQ Legal. • Obtain railroad letter of approval for final design. • Develop final draft railroad agreement that will incorporated special project and railroad requirements. • Develop final draft railroad specification based on the final draft railroad agreement. • Follow through with submitted final draft till executed agreement is obtained. • Submits final draft railroad agreement to railroad and, if applicable, other involved stakeholders for execution. • 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. – 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. • 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. • After execution, railroad invoices are received in HQ R/W for payment. • 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 – 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 – 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	• Railroad Agreement Products.
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 – 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	

	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 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 – Caltrans Project Development Procedures Manual (PDPM), Chapter 13, Article 3; Chapter 16 – Caltrans Right of Way Manual
Subtasks	– Negotiate material or disposal royalties – Prepare and review Materials Agreement – Execute Materials Agreement – Environmental clearance – 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 – Negotiate agreement with local agencies – 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: – New public road connections – New route adoptions – Adopted freeway route denominated to a "controlled access highway" – Traversable Highway Adoption – Adoption of a temporary connection – Route re-designations – Modifications to an existing adopted route – Route rescissions – 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 – 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

	– 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

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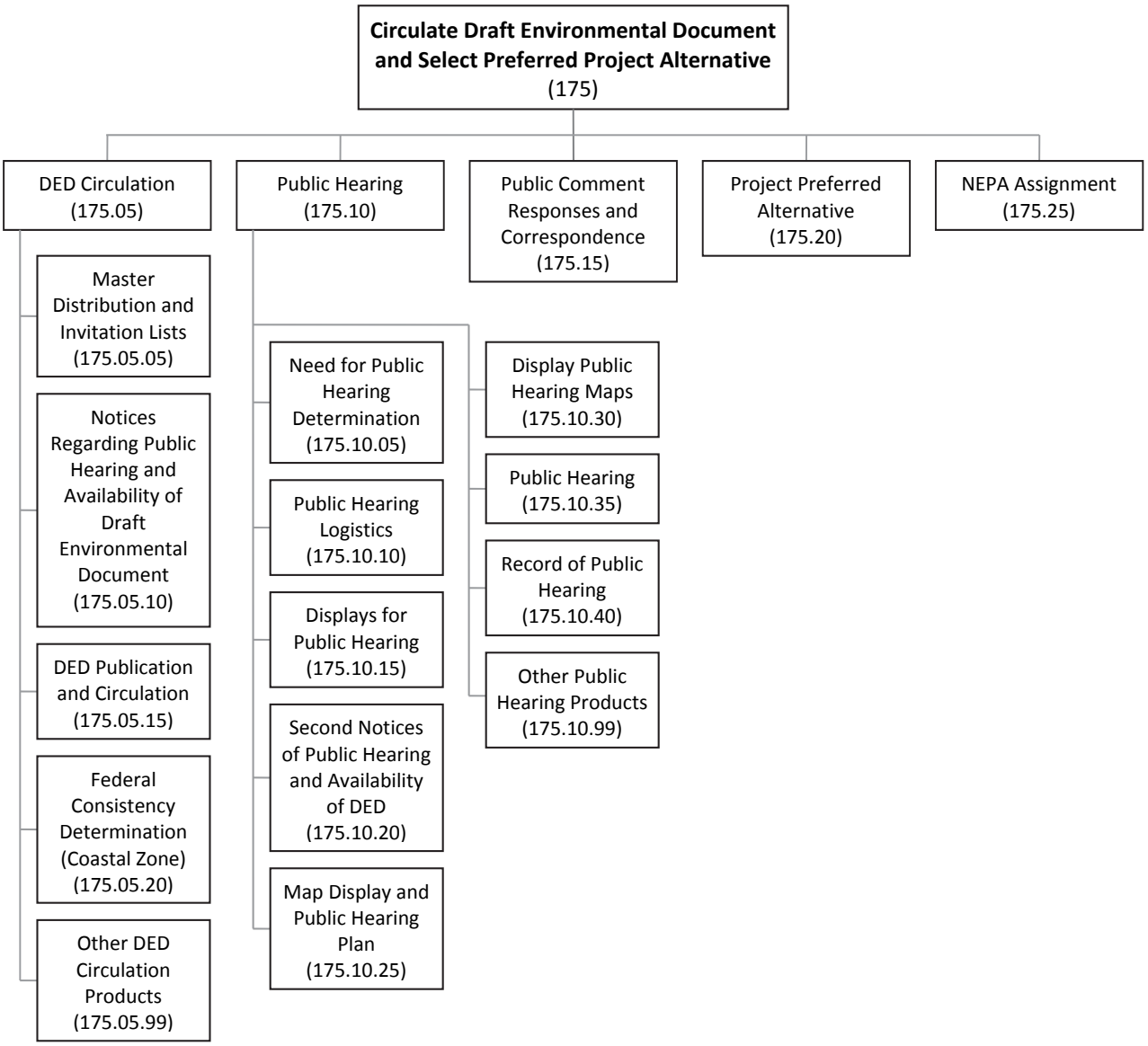
	• Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER) – FHWA California Division website

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
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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 • Updated STEVE Database
Major Milestones	♦ M175 Public Hearing (Finish: WBS 175) ♦ 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 – Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser/envhand.htm – 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 • 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 – 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 • 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 – 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37 – 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 • 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 • Updated STEVE Database

References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 18 – 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 • Updated STEVE Database
References	– – Caltrans Standard Environmental Reference (SER), Vol. 1 – 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 • 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37 – Caltrans Project Development Procedures Manual (PDPM), Chapter 11

WBS Level 7	175.10.10 Public Hearing Logistics

	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	Arrangement of Public Hearing Logistics. This Includes all formal arrangements for the public hearing, including: – Select and obtain public hearing officer – Obtain hearing room – Obtain security – Obtain court reporter – Obtain language interpreters
Lead Function	Environmental
Deliverables	• Logistics (E.G., Secured Public Hearing Officer, Hearing Room, Court Reporter(S), and/or Language Interpreters) • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37 – 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37 – 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: – Display ads – Flyers or newsletters mailed/distributed to residents and interested parties – Notices on bulletin boards in public places – Press release to all media – Distribution of notices through schools and service clubs – Copies of the notice sent pursuant to SER and PDPM – Availability of DED noticed pursuant to SER and PDPM

Lead Function	Environmental
Deliverables	• Notices • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37 – 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 – 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 – 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37 – 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37 – 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 • 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. • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37 – 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).

WBS

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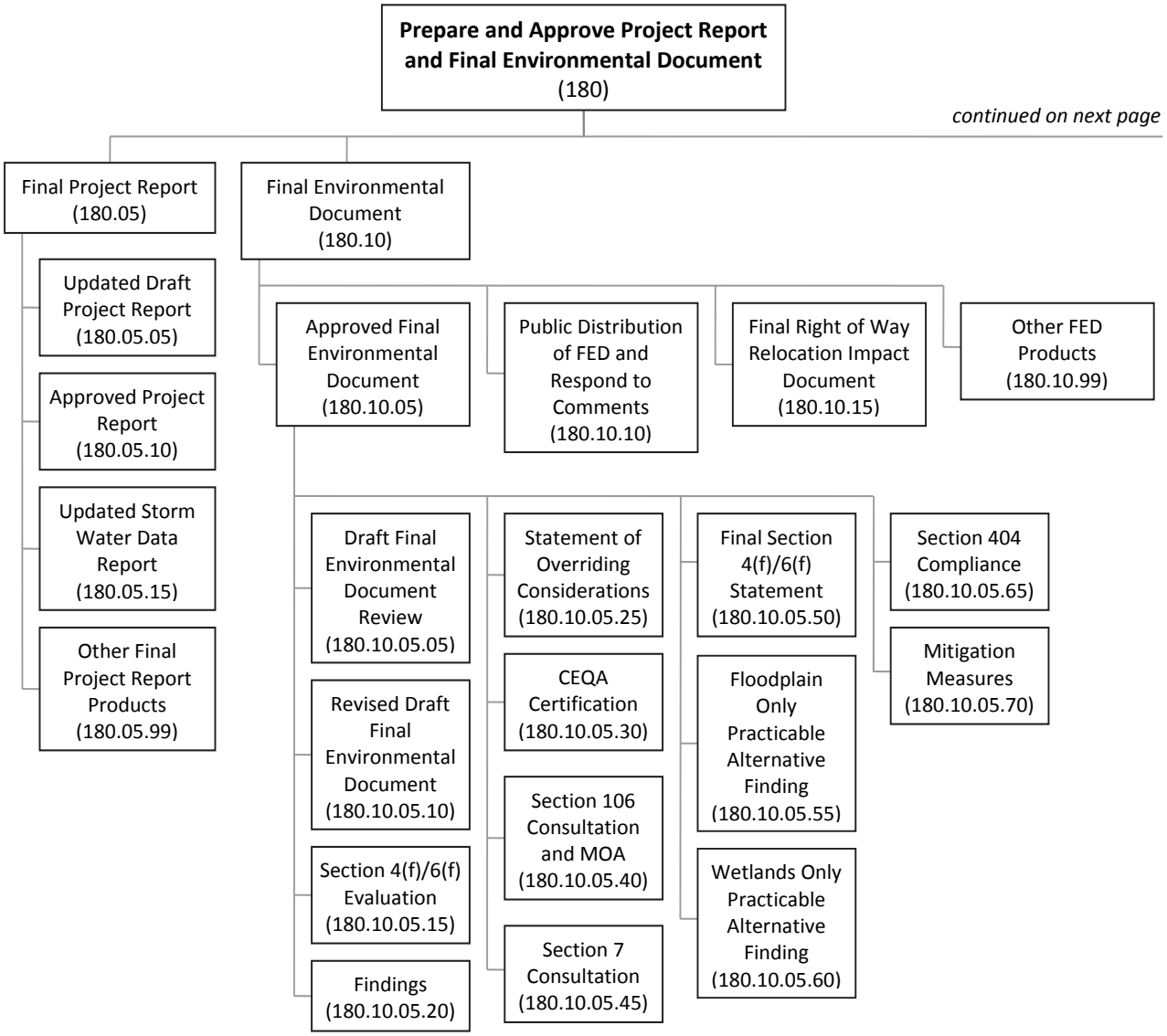
Lead Function	Environmental
Deliverables	• Minutes of the Project Development Team (PDT) Meeting Documenting the Selection and Agreements with Other Agencies
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 37 – Caltrans Project Development Procedures Manual (PDPM), Chapter 12, Section 2
Subtasks	– Assemble all the data needed to make the selection of the preferred alternative – PDT and other meetings to select the preferred alternative – 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER) – 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

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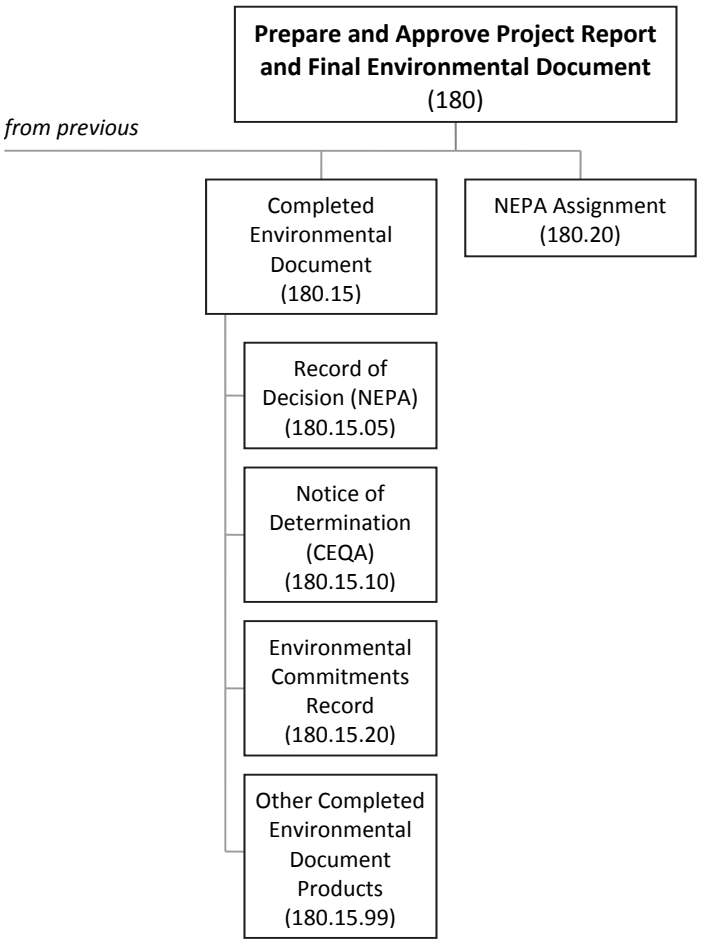
Prepare and Approve Project Report and Final Environmental Document (180)
from previous
Completed Environmental Document (180.15)
NEPA Assignment (180.20)
Record of Decision (NEPA) (180.15.05)
Notice of Determination (CEQA) (180.15.10)
Environmental Commitments Record (180.15.20)
Other Completed Environmental 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 • Updated STEVE Database
Major Milestones	♦ M160 Approve FED (Finish: WBS 180.10) ♦ M200 PA&ED (Finish: WBS 180)
References	– Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm – 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 Storm Water Quality Handbook: Project Planning and Design Guide (PPDG): http://www.dot.ca.gov/hq/oppd/stormwtr/ppdg/swdr2012/PPDG-May-2012.pdf – Caltrans Traffic Noise Analysis Protocol: http://www.dot.ca.gov/hq/env/noise/pub/ca_tnap_may2011.pdf – 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

	• Approved Copies Are Made and Distributed • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook , Vol. 1, Chap. 37 – 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chaps. 31, 32, 35, 36, and 37 – 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 • 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 • 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 • 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 • 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 • 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 • 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. 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 • 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). – 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)). – 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 • 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 • 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

	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	• Document • Updated STEVE Database
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. • 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 • 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

	• Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook , Vol. 1, Chap. 37 – 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER) – Caltrans Standard Environmental Reference (SER), Vol. 1 – 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 For CEs, work required to prepare the CE or CE/CEs.
Lead Function	Environmental
Deliverables	• Executed Notice of Determination • Approved Record of Decision • Quality Control Certification • Environmental Document Review Checklist • Updated STEVE Database

	• CE • Notice of Exemption (NOE)
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) – Caltrans Standard Environmental Reference (SER), Vol. 1 – 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook , Vol. 1, Chap. 37 – 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 • 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 – Caltrans Traffic Noise Analysis Protocol – 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. 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 • 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER) – Caltrans Standard Environmental Reference (SER), Vols. 1-4 – 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER) – FHWA California Division website

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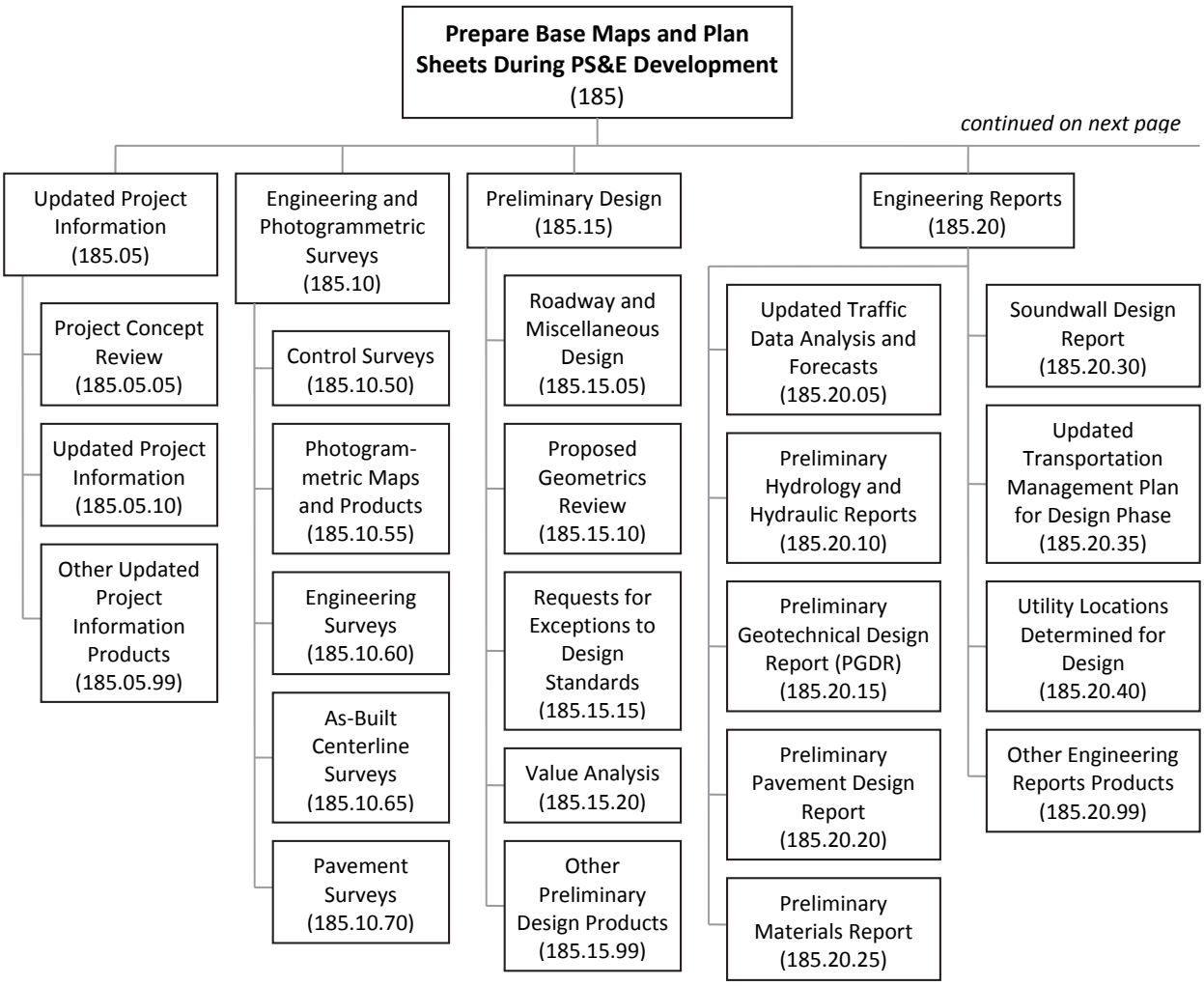
	Project Management	Project Initiation	PA&ED	PS&E	Right of Way	Construction
Project Phase		K	0	1	2	3
SB45 Component	0	1	2	3	4	5

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



WBS

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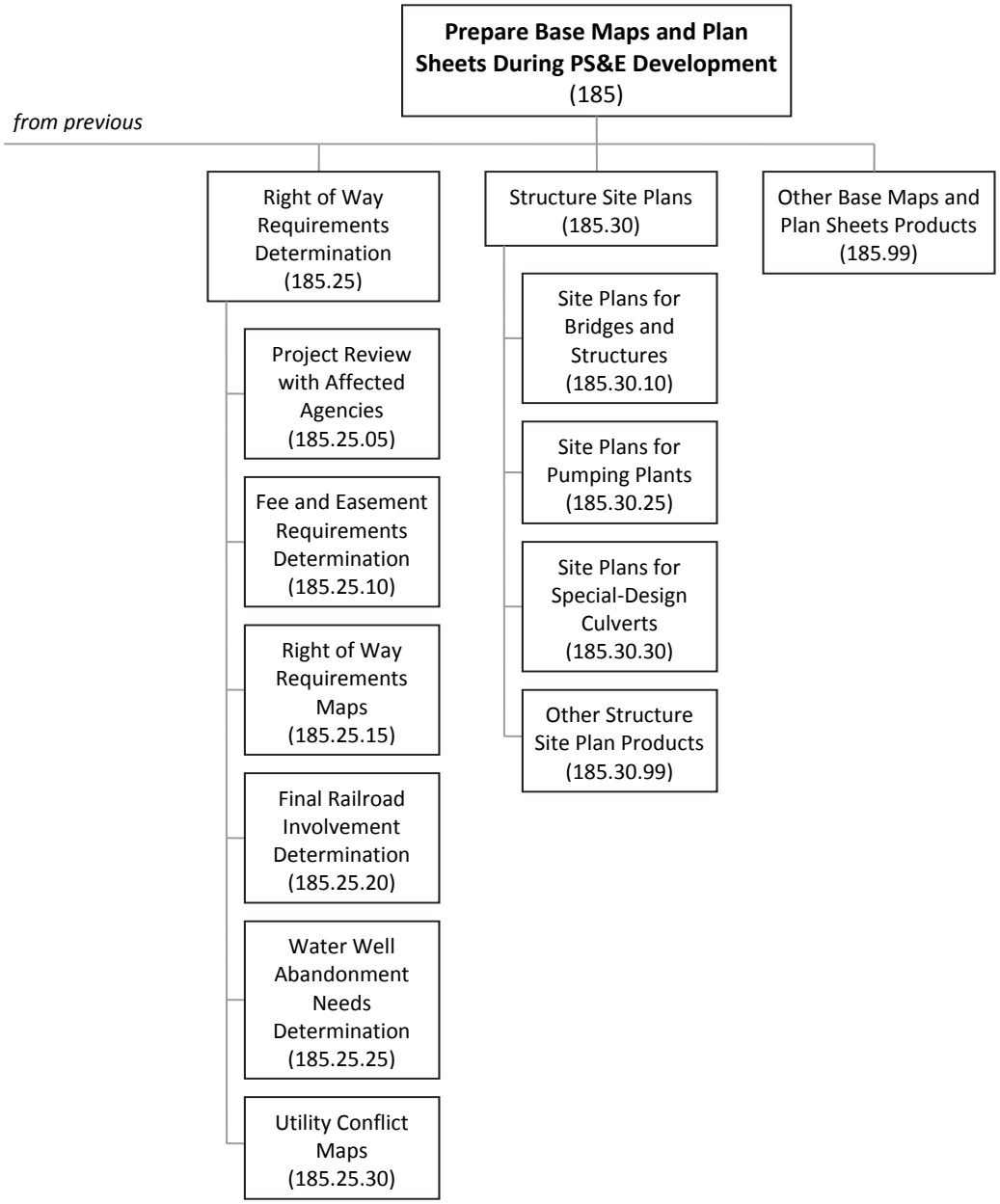
Prepare Base Maps and Plan Sheets During PS&E Development (185)
from previous
Right of Way Requirements Determination (185.25)
Structure Site Plans (185.30)
Other Base Maps and Plan Sheets Products (185.99)
Project Review with Affected Agencies (185.25.05)
Fee and Easement Requirements Determination (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) ♦ M215 Begin Structure (Start: WBS 185.30 and WBS 240) ♦ M220 Geo Base Map (Finish: WBS 185.15) ♦ M221 Receive Complete Bridge Site Data (Finish: WBS 185.30) ♦ M224 ROW Requirements (Start: WBS 185.25) ♦ M260 Skeleton Layout (Finish: WBS 185) ♦ M311 30% Constructability Review Completed (Within WBS 185.05.05)
References	– Caltrans Construction Manual: http://www.dot.ca.gov/hq/construc/constmanual – Caltrans Deputy Directive 60: Transportation Management Plans: http://dot.ca.gov/hq/traffops/trafmgmt/tmp_lcs/index.htm – Caltrans Design Information Bulletins: http://www.dot.ca.gov/hq/oppd/dib/dibprg.htm – Caltrans Drafting and Plans Manual of Instruction: http://www.dot.ca.gov/hq/oppd/cadd/usta/ppman/default.htm – Caltrans Guidelines for Preparing Geotechnical Design Reports: http://www.dot.ca.gov/hq/esc/geotech/requests/gdrguidelines20061220.pdf – Caltrans Highway Design Manual: http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm – 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 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 – Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm

	– 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://dot.ca.gov/hq/traffops/trafmgmt/tmp_lcs/index.htm – 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 • 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 ▪ Review Project Reports ▪ Review Post Miles and Description of Project ▪ Review Planning Alignments ▪ Review Freeway Agreement ▪ Review Traffic Capacity Requirements ▪ Review Project Site ▪ Review/update Project Cost Estimate – 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 • 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 • Project Control Diagram and/or Control Record of Survey • Project Control Report • Inclusion of Control Points in Electronic Control Database
Business Practices	Horizontal project control should be created as a single adjusted network. The department's preferred level of accuracy for horizontal project control is first order. 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 • Pre-Marking Control Survey • Design Project File • 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. For Photogrammetric Products, refer to Caltrans' Users Guide to Photogrammetric Services.
References	– Caltrans Surveys Manual: Chapters 5, 8, and 9; and Figure 5.1 – 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: • Topography • Structures • Utility Locations • Monitoring Surveys • 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. • 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 • 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. 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	**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: – Horizontal and Vertical Alignment

	– Typical Cross Sections – Superelevations – Earthwork – Intersection/Interchange Design – Review of Geometric Design – Exceptions to Design Standards – Delineation Support – Conceptual stage construction plans
Deliverables	• Completed Base Maps (Which Become Skeleton Plan Sheets) for Functional Units, Suitable for Developing the Functional PS&E. • 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 • Alignments and Intersection/Interchange Design
References	– Caltrans Highway Design Manual (HDM), Chapter 80, Topic 82 – 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 – Caltrans Highway Design Manual (HDM): Chapter 80, Topic 82; Chapter 100, Topic 111 – 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 – 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	–

	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	**185.20.05 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 – 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 – 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 – Caltrans Highway Design Manual: Chapter 100, Topics 113 and 114; Chapter 200, Topics 203, 208 and 210; Chapter 800, Topics 802 and 805 – 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 – 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

	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	• Noise Abatement Decision Report (NADR)
References	– Caltrans Technical Noise Supplement, Chapters 6 and 7 – Caltrans Project Development Procedures Manual (PDPM), Chapter 30, all sections

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 – Caltrans Transportation Management Plan Guidelines – Caltrans Traffic Manual, Chapter 7 – Highway Capacity Manual – Caltrans HOV Guidelines – Caltrans Ramp Metering Design Manual – Caltrans Traffic Bulletins – 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	• 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: – Caltrans representative, normally from Design or Utilities, is present during the potholing efforts. – Representative will set reference points to the uncovered utilities, noting the horizontal and vertical offsets between reference point and utility. – 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.

	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 – Caltrans Ready to List Guide, Section 1.3.2

	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

	– Caltrans Right of Way Manual

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 – Caltrans Highway Design Manual (HDM): Chapter 200, Topic 205; Chapter 700, Topic 701 – Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1, 2, and 3 – 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 – 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) – 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	• Complete 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

	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	• Complete Bridge Site Submittal to Structures
References	– Caltrans Drafting and Plans Manual of Instruction, Article 3-3.2 – Caltrans Highway Design Manual (HDM): Chapter 200, Topic 208; Chapter 1000 – 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 – Prepare site plan drawings – Prepare Bridge Site Data Submittal form – 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	• Complete Site Plans for Retaining Wall or Non-Standard Earth Retention Systems
References	– Drafting and Plans Manual of Instruction, Article 3-3.2 – Highway Design Manual (HDM), Chapter 200, Topic 210 – OSFP Information & Procedures Guide, Chapters 2, 5 & 6 – Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 3
Subtasks	– Collect and calculate required information – Prepare site plan drawings – Prepare Bridge Site Submittal Form for Retaining Walls – 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	• Complete Site Plans for Soundwalls on Retaining Systems or Structures
References	– Drafting and Plans Manual of Instruction, Article 3-3.2 – Highway Design Manual (HDM), Chapter 1100 – Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 3 – Traffic Noise Analysis Protocol – OSFP Information & Procedures Guide, Chapters 2, 5 & 6
Subtasks	– Collect and calculate required information – Prepare site plan drawings – Prepare Request form – 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: – Proposed location of the pump house and storage box – Location of the pump outfall line – Location and elevation of the lowest edge of pavement In addition to the requested information, any special circumstance or important information should be noted and included.
Lead Function	District Design Branch
Deliverables	• Complete Bridge Site Submittal to DES
References	– Caltrans Drafting and Plans Manual of Instruction, Article 3-3.2 – Caltrans Highway Design Manual (HDM), Chapter 800, Topics 805 and 839 – Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 3 – Caltrans OSFP Information & Procedures Guide, Chapters 2, 5 and 6 – Caltrans Pumping Plant Design Manual, Required Design Data
Subtasks	– Collect and calculate required information – Prepare site plan drawings – Prepare request form

	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

	– 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	• Complete Bridge Site Submittal to DES
References	– Caltrans Drafting and Plans Manual of Instruction, Article 3-3.2 – 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 – Prepare site plan drawings – Prepare Bridge Site Data Submittal Form – 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	• Complete 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	• Complete various Reports and Submittals to Other Functional Units.

WBS

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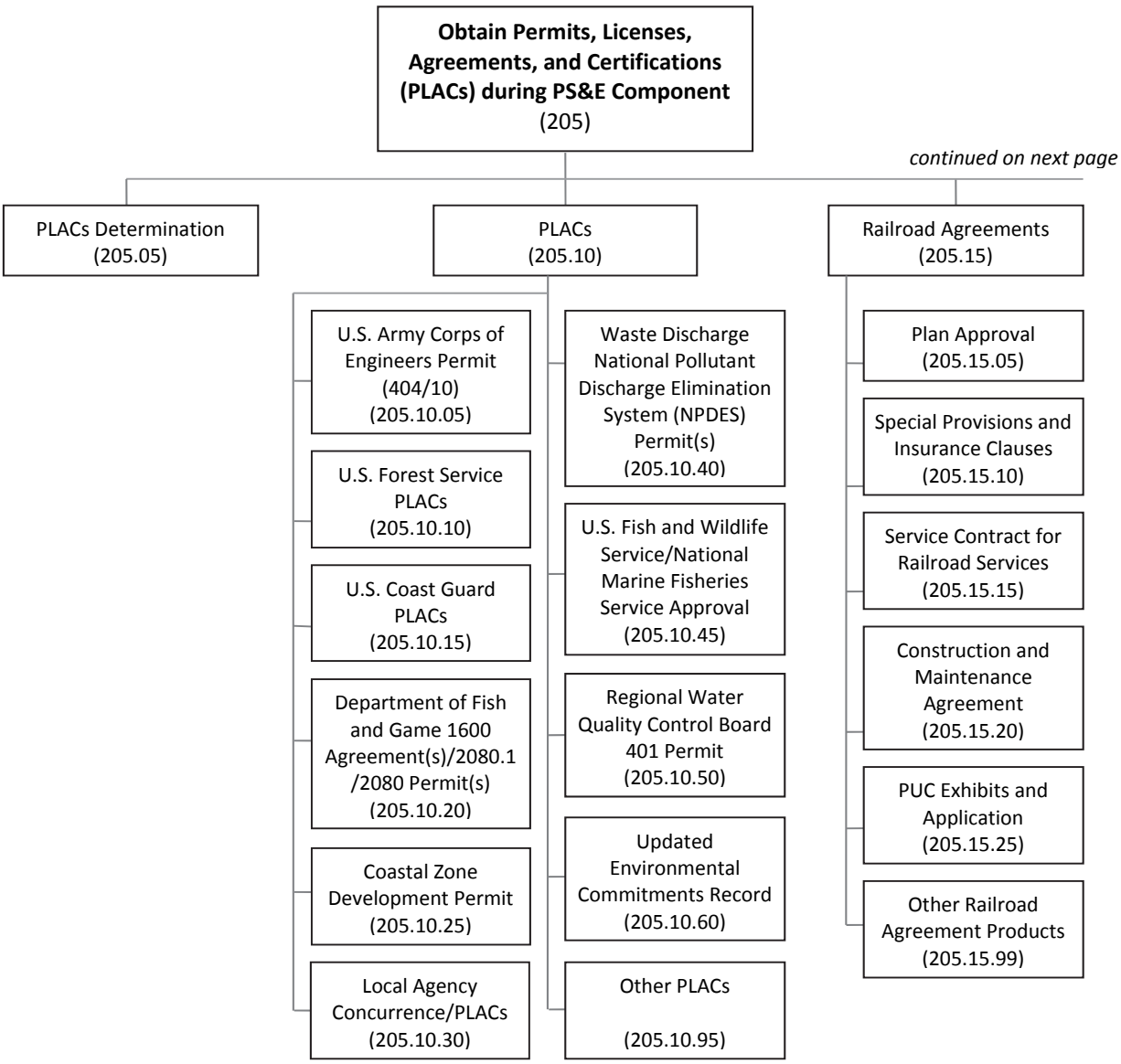
References –

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



WBS

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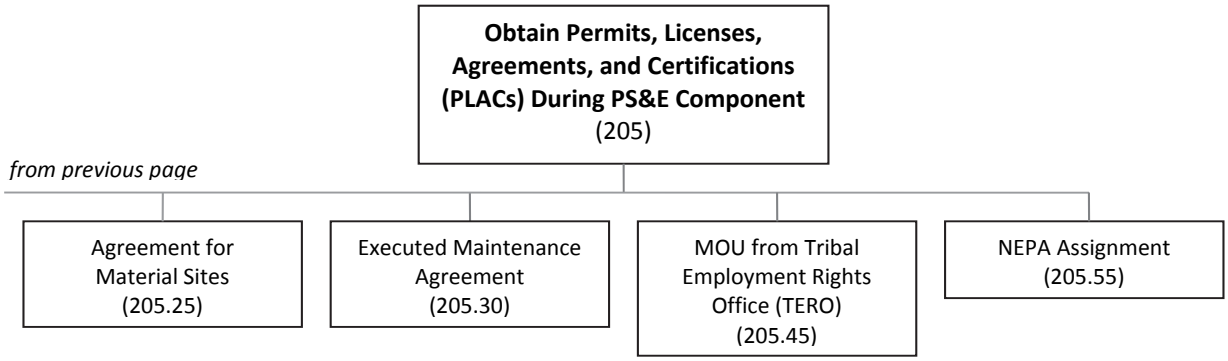

Obtain Permits, Licenses, Agreements, and Certifications (PLACs) During PS&E Component (205)
from previous page
Agreement for Material Sites (205.25)
Executed Maintenance Agreement (205.30)
MOU from Tribal Employment Rights Office (TERO) (205.45)
NEPA Assignment (205.55)

	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	**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 • Updated STEVE Database
Major Milestones	♦ None.
Notes	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 – Caltrans Highway Design Manual: http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm – Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm – 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/ – 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: – Determine what permits may or may not be required – Obtain permits if necessary
Lead Function	Various
Deliverables	• A Listing of the Required Permits, Licenses, Agreements, and Certifications (PLACs) Required for the Project. • 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.

References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 3, Chaps. 3 and 4 – 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: – Discussions and negotiations with agencies with jurisdiction – Preparation of the permit and attachments such as exhibits, maps, etc. – Acquisition of funds for any required permit fee – Submission of permit application
Lead Function	Various
Deliverables	• Receipt of Permits from Each Applicable Permitting Agency. • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Vol. 1 – DEA Intranet Page > Library > Permits, Licenses, Agreements, and Certifications Subpage – 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 3, Chap. 3 – 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) • 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 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 • 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) • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 3, Chap. 3 – 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 18 – 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
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 • 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 • 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 14 – 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

	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	• 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 • 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 • 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	–

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 – 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	**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 – Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 3 and 8 – 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 – Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 3 and 8 – Caltrans Right of Way Manual
Subtasks	– Negotiate material or disposal royalties – Prepare and review Materials Agreement – Execute Materials Agreement – Environmental clearance – Prepare reclamation plan

WBS Level 6	205.30 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 – Negotiate agreement with local agencies – Draft and execute agreement

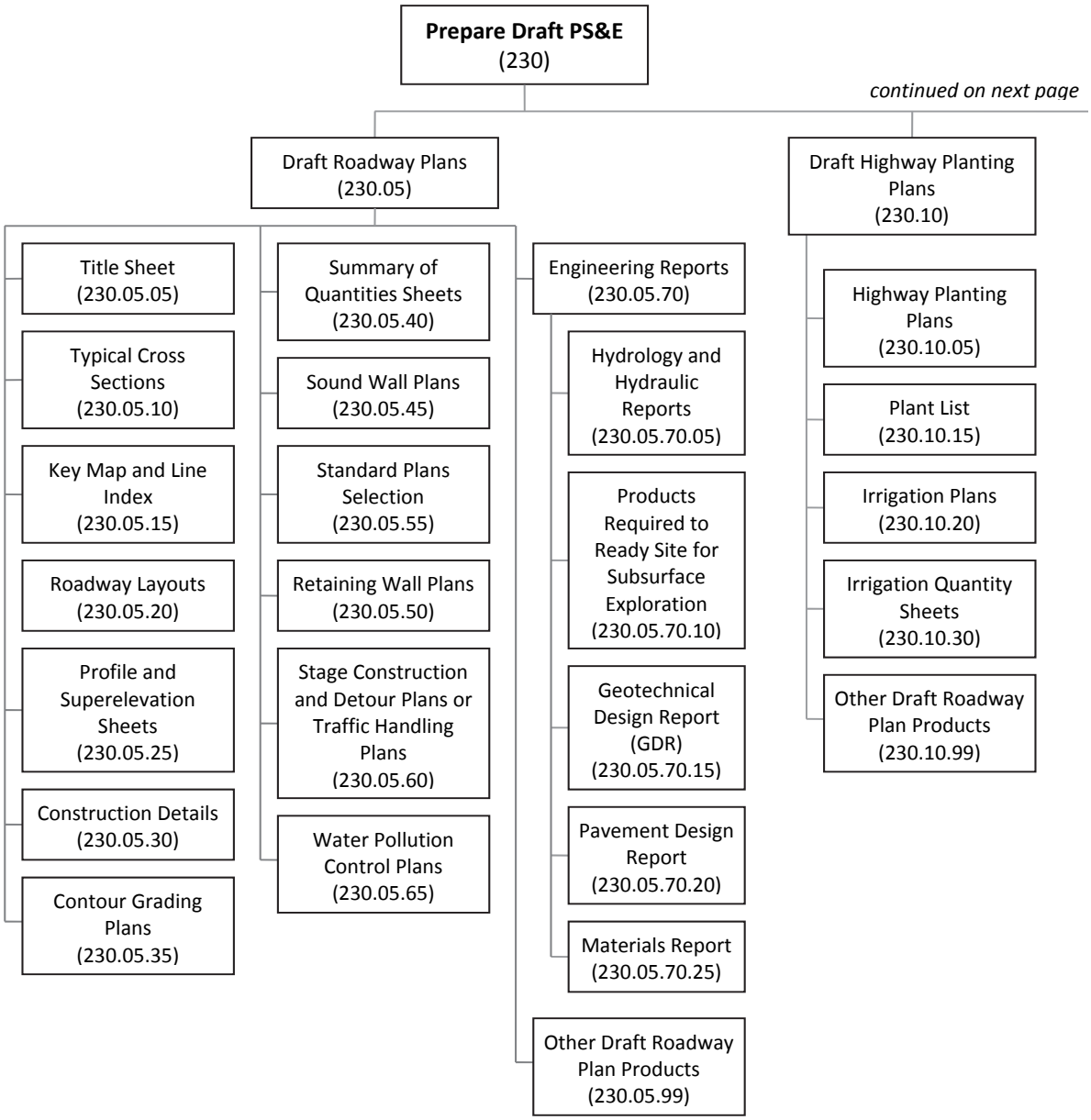
WBS Level 6	205.45 MOU from Tribal Employment Rights Office (TERO)
Description	Acquisition of Memorandum of Understanding from either the tribal government or the Tribal Rights Office (TERO) for Native American preference in hiring and for TERO Tax if on a reservation.
Lead Function	Right of Way, Utilities
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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER) – 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



WBS

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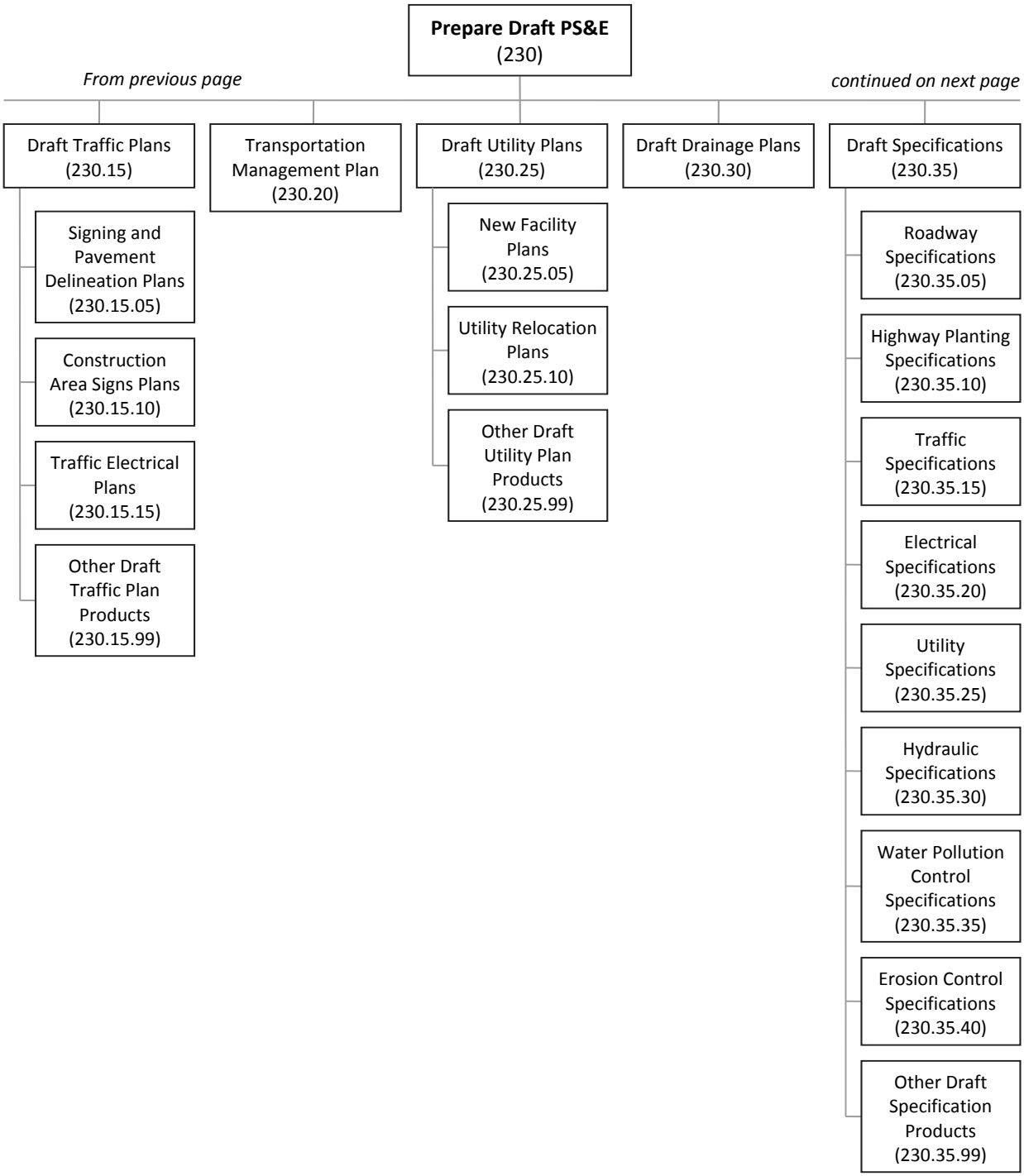
Prepare Draft PS&E (230)
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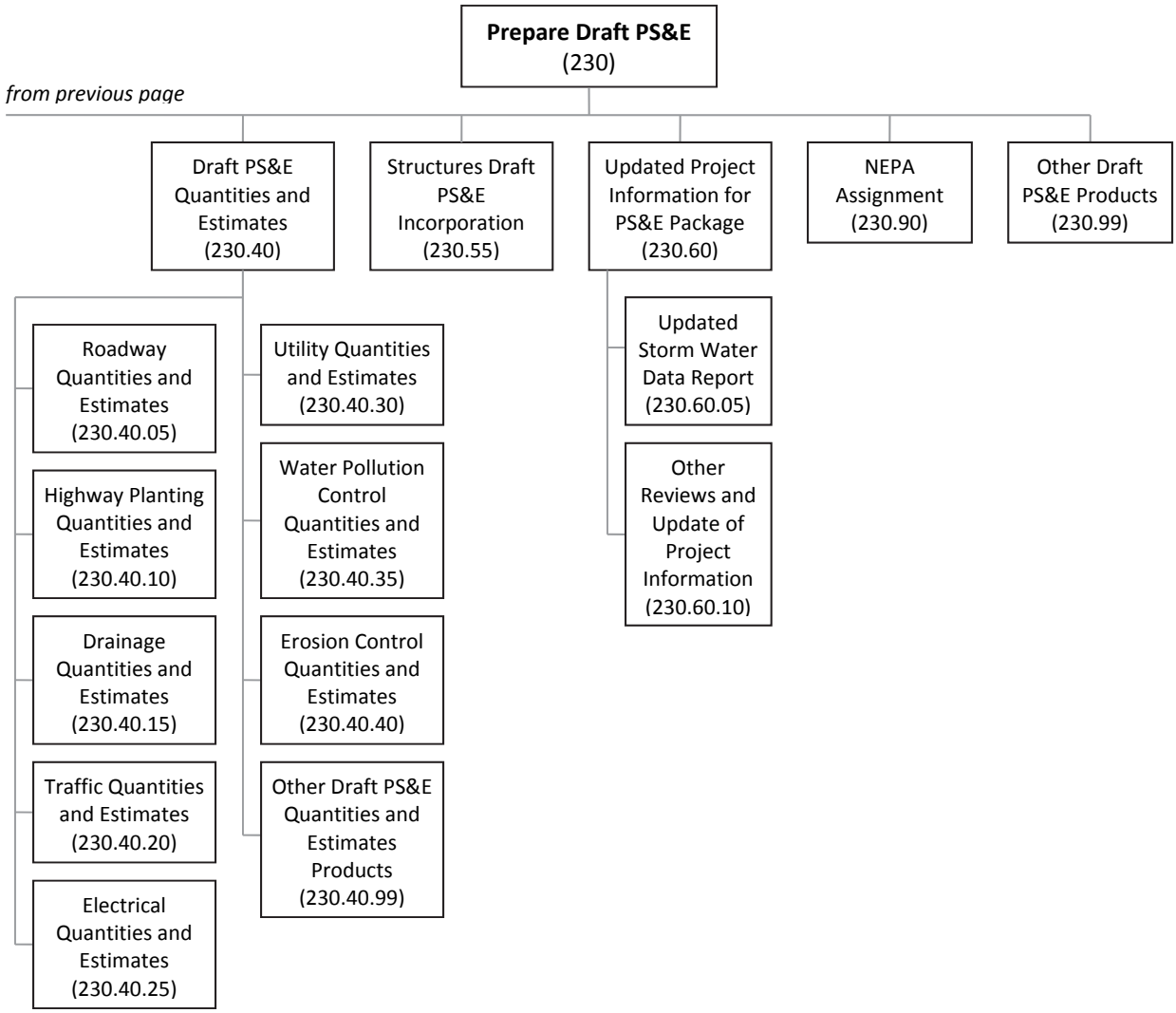
continued on next page
Draft Traffic Plans (230.15)
Transportation Management Plan (230.20)
Draft Utility Plans (230.25)
Draft Drainage Plans (230.30)
Draft Specifications (230.35)
Signing and Pavement Delineation Plans (230.15.05)
Construction Area Signs Plans (230.15.10)
Traffic Electrical Plans (230.15.15)
Other Draft Traffic Plan Products (230.15.99)
New Facility Plans (230.25.05)
Utility Relocation Plans (230.25.10)
Other Draft Utility Plan Products (230.25.99)
Roadway Specifications (230.35.05)
Highway Planting Specifications (230.35.10)
Traffic Specifications (230.35.15)
Electrical Specifications (230.35.20)
Utility Specifications (230.35.25)
Hydraulic Specifications (230.35.30)
Water Pollution Control Specifications (230.35.35)
Erosion Control Specifications (230.35.40)
Other Draft Specification Products (230.35.99)

	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

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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) ♦ 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/ – Caltrans Code of Safe Drilling Practices: http://www.dot.ca.gov/hq/esc/geotech/drilling_services/page/CoSDP_September2015.pdf – Caltrans Construction Manual: http://www.dot.ca.gov/hq/construc/constmanual/ – Caltrans Cooperative Agreement Manual: http://dot.ca.gov/hq/oppd/ca/resources.htm – Caltrans Deputy Directive 60: Transportation Management Plans: http://dot.ca.gov/hq/traffops/trafmgmt/tmp_lcs/index.htm – Caltrans Plans Preparation Manual: http://www.dot.ca.gov/hq/traffops/engineering/safety-devices/index.htm – Caltrans Guidelines for Preparing Geotechnical Design Reports: http://www.dot.ca.gov/hq/esc/geotech/requests/gdrguidelines20061220.pdf – Caltrans Highway Design Manual (HDM): http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm – Caltrans HOV Guidelines: http://www.dot.ca.gov/hq/traffops/systemops/hov/hov_sys/guidelines/ – 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 – 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 ROW and DEA Memo, May 22, 2002: http://www.dot.ca.gov/ser/downloads/memos/ClarificationROEEnvWork.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 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: http://www.dot.ca.gov/hq/traffops/engineering/safety-devices/index.htm
- 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://dot.ca.gov/hq/traffops/trafmgmt/tmp_lcs/index.htm
- 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.
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 – Caltrans Highway Design Manual (HDM): Chapter 100, Topic 103; and Chapter 600, Topic 602 – 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 – 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 – 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 – 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
References	– Plans Preparation Manual, Section 2-2.9 – 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 – 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 – Caltrans Highway Design Manual (HDM), Chapter 1100 – 2010 Standard Plans – Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2, Chapter 29, Sections 1 and 2 – Caltrans Technical Noise Supplement – 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

	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	• Retaining Wall Plan Sheets
References	– Caltrans Standard Plans 2010 – Plans Preparation Manual, Section 2-2.20 – Caltrans Highway Design Manual (HDM), Chapter 200, Topic 210 – 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 – Caltrans Construction Manual, Section 2-30 – Plans Preparation Manual, Section 2-2.16 – Caltrans Highway Design Manual (HDM), Chapter 100, Topic 106, Index 110.6 – Caltrans Ready to List Guide, Section 5.3 – Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2 – Caltrans Traffic Manual, Chapter 7 – 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).
Lead Function	Design Branch
Deliverables	• Water Pollution Control Plans
References	– Project Planning and Design Guide (PPDG) – 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 – 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 • Permit to Enter • Environmental Clearance or Compliance
References	– Caltrans Standard Environmental Reference (SER)

	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 Right of Entry Guidelines for Environmental Work, Joint ROW and DEA Memo, May 22, 2002 – Clarification of Caltrans Right of Entry Guidelines for Environmental Work, Joint ROW and DEA Memo, January 7, 2003 – Caltrans Right of Way Manual - Forms and Exhibits, Chapter 8 – Caltrans Right of Way Manual - Reference Version, Chapter 8 – Caltrans Project Development Procedures Manual (PDPM): Chapter 2, Section 7; Chapter 3, Section 2; and Chapter 13, Articles 1 and 2 – Caltrans Deputy Directive 60: Transportation Management Plans – Caltrans Transportation Management Plan Guidelines – Caltrans Traffic Manual – Highway Capacity Manual – Caltrans HOV Guidelines – Caltrans Ramp Metering Design Manual – Caltrans Traffic Bulletins – California Manual on Uniform Traffic Control Devices – Caltrans Construction Manual, Section 2-30 – Plans Preparation Manual, Section 2-2 – Caltrans Highway Design Manual (HDM), Chapter 100, Topic 110, Index 110.6 – Caltrans Code of Safe Drilling Practices
Subtasks	Activities include, but are not limited to: – Developing a subsurface exploration plan (drilling and geophysics) – Obtaining rights of entry for access to private and public lands – Obtaining permits from applicable permitting agencies – Determining if the site contains hazardous waste – Preparing traffic management plans and providing traffic control, if needed – Providing physical access for drilling and other exploration equipment (grubbing and clearing, grading, fence removal, etc.) – Clearing utilities – 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
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 – Caltrans Highway Design Manual: Chapter 100, Topics 113 and 114; Chapter 200, Topics 203, 208 and 210; and Chapter 800, Topics 802 and 805 – Caltrans Code of Safe Drilling Practices – Caltrans Guidelines for Preparing Geotechnical Design Reports
Subtasks	The GDR shall provide, but not be limited to, the following: – Description of the project – Summary of existing facilities and proposed improvements – Summary of pertinent reports and investigations – Physical setting – Discussion of field exploration – Summary of geotechnical testing – Geotechnical conditions – Geotechnical analysis and design – Material sources – Material disposal – Construction considerations – 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 • Final Structural Section Recommendations
References	– Caltrans Highway Design Manual, Chapters 060 and 610 through 670

	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	**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: – Pavement structural section recommendations and/or pavement studies – Culverts (or other drainage materials) – Corrosion studies – Materials disposal sites – Slide-prone areas with erosive soils 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 – 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
Lead Function	Landscape Architecture
Deliverables	• Final Highway Planting Plan Sheets
References	– Caltrans Standard Plans – Caltrans Drafting and Plans Manual of Instruction, Articles 4-2.2, 4-2.8 and 4-2.9 – Caltrans Highway Design Manual (HDM), Chapter 900 – Caltrans Ready to List Guide, Section 5.3 – Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2, Chapter 29 – Caltrans Ready To List Guide – 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

	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	**230.10.99 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 – 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 – Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2 – 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 – Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2

	– California Manual on Uniform Traffic Control Devices

WBS Level 7	230.15.15 Traffic Electrical Plans
Description	Traffic Electrical Plans
Lead Function	Traffic Electrical Unit
Deliverables	• Traffic Electrical Plan Sheets
References	– Caltrans Standard Plans – Caltrans Drafting and Plans Manual of Instruction, Articles 4-1.2 and 4-2.22 – Caltrans Ready to List Guide, Section 5.3, Appendix H.3.c – Caltrans Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 and 2 – 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 – Caltrans Transportation Management Plan Guidelines – Caltrans Traffic Manual, Chapter 7 – Highway Capacity Manual – Caltrans HOV Guidelines – Caltrans Ramp Metering 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

	– Caltrans Traffic Bulletins – California Manual on Uniform Traffic Control Devices – Caltrans Construction Manual, Section 2-30 – Caltrans Drafting and Plans Manual of Instruction, Article 4-2.14 – 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) – Identify SSPs to be included in contract document – Coordinate lane closures for multiple projects in the same area to determine impact on this project – Coordinate major closures with neighboring districts, HQ, and local agencies to determine impact on this project – Refine/finalize traffic contingency plan pending contractor's contingency plan – 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 – 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 – Plans Preparation Manual, Section 2-2.13 – Caltrans Highway Design Manual (HDM), Chapter 800, Topic 803 – 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 Location Contract Plans. For effort to identify location of existing utilities, use WBS 200.05 and 200.10.
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 – Caltrans Cooperative Agreement Manual – Plans Preparation Manual, Section 2-2.10 – Caltrans Highway Design Manual (HDM), Chapters 800, 820 and 850 – 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	–

	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	**230.35.05 Roadway Specifications**
Description	Roadway Specifications
Lead Function	Design/Dist. Office Engineer
Deliverables	• Roadway Special Provisions
References	– Caltrans Standard Special Provisions (SSPs) – Caltrans Standard Specifications – 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) – Caltrans Standard Specifications – Caltrans Ready to List Guide, Sections 1, 2 and 6 – Caltrans Ready To List Guide – 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) – Caltrans Standard Specifications – 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) – Caltrans Standard Specifications – Caltrans Ready to List Guide, Sections 1, 2 and 6

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) – Caltrans Standard Specifications – 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) – Caltrans Standard Specifications – 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

	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	• Erosion Control Special Provisions
References	– Caltrans Standard Special Provisions (SSPs) – Caltrans Standard Specifications – Caltrans Ready to List Guide, Sections 1, 2 and 6 – 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 • Basic Engineer's Estimate Summary (BEES)
References	– Caltrans Standard Plans – Plans Preparation Manual, Section 2-2.19 – Caltrans Ready to List Guide, Section 7.5 – Caltrans Project Development Procedures Manual (PDPM): Chapter 14, Section 2, Article 5; and Chapter 20, Section 3 – 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 • Basic Engineer's Estimate Summary (BEES)
References	– Caltrans Standard Plans – Caltrans Ready to List Guide, Section 7.5 – Caltrans Project Development Procedures Manual (PDPM): Chapter 14, Section 2, Article 5; and Chapter 20, Section 3 – Caltrans Standard Specifications – 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 • Basic Engineer's Estimate Summary (BEES)
References	– Caltrans Standard Plans – Caltrans Drafting and Plans Manual of Instruction, Article 4-2.11 – Caltrans Ready to List Guide, Section 7.5 – Caltrans Project Development Procedures Manual (PDPM): Chapter 14, Section 2, Article 5; and Chapter 20, Section 3 – 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 • Basic Engineer's Estimate Summary (BEES)
References	– Caltrans Ready to List Guide, Section 7.5 – Caltrans Project Development Procedures Manual (PDPM): Chapter 14, Section 2, Article 5; and Chapter 20, Section 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

WBS Level 7	**230.40.25 Electrical Quantities and Estimates**
Description	Electrical Quantities and Estimates
Lead Function	Traffic Electrical
Deliverables	• Electrical Quantity Plan Sheets • Basic Engineer's Estimate Summary (BEES)
References	– Caltrans Standard Plans – Caltrans Drafting and Plans Manual of Instruction, Article 4-2.11 – Caltrans Ready to List Guide, Section 7.5 – Caltrans Project Development Procedures Manual (PDPM): Chapter 14, Section 2, Article 5; and Chapter 20, Section 3 – 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 • BEES
References	– Caltrans Standard Plans – Plans Preparation Manual, Section 2-2.12 & 13 – Caltrans Highway Design Manual (HDM), Chapter 600, Topic 602, Index 602.1 – Caltrans Ready to List Guide, Section 7.5 – Caltrans Project Development Procedures Manual (PDPM): Chapter 14, Section 2, Article 5; and Chapter 20, Section 3 – 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 • 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 • BEES
References	– Landscape Architecture PS&E Guide

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 • 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 – 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.

	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	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 – 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 • 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	–

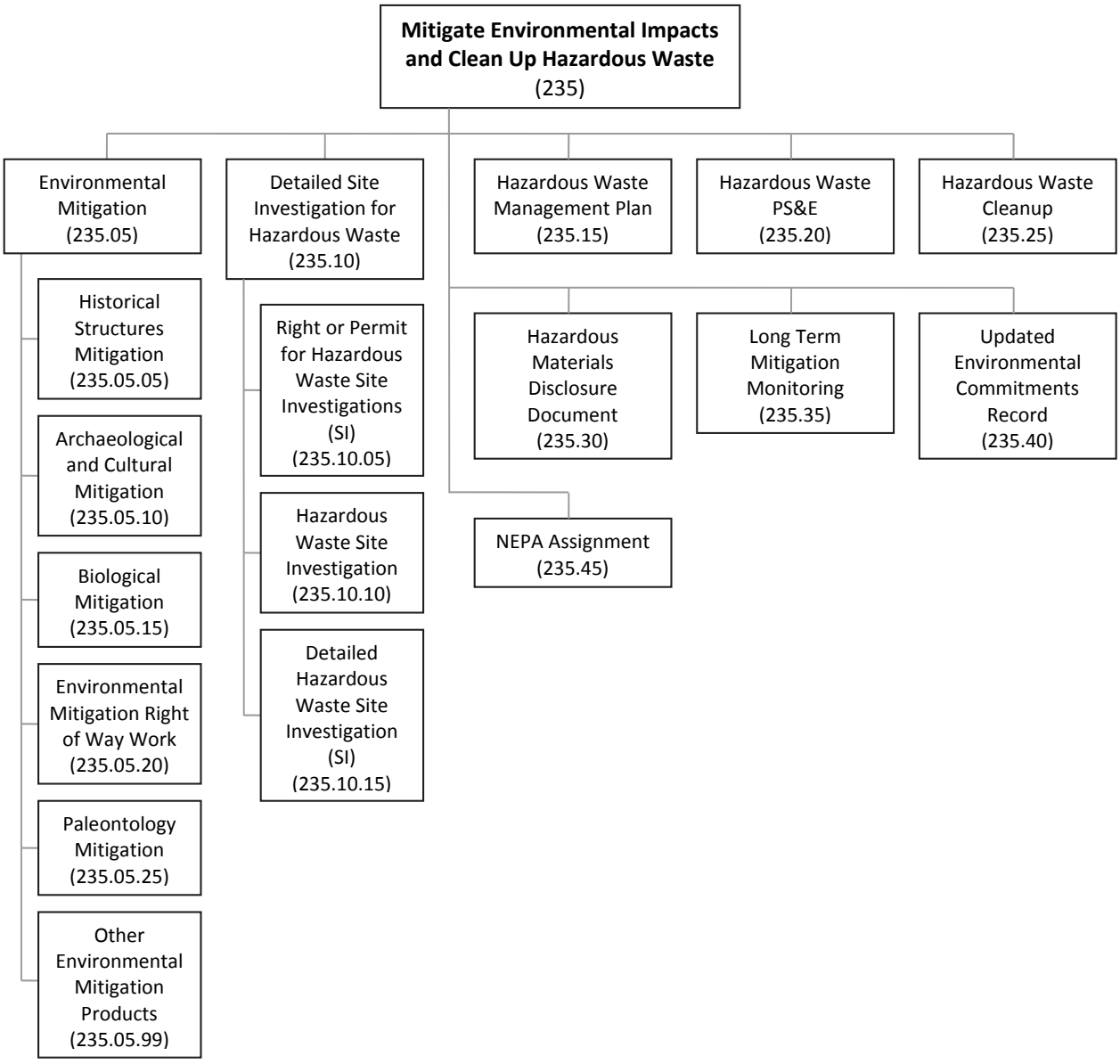
WBS Level 6	**230.90 NEPA Assignment**
Description	Includes all WBS 165.30, 175.25, 180.20, 205, 235.45, and 255.35 work previously performed by FHWA but which is now the Department's responsibility as a result of full NEPA Assignment under MAP-21.
Lead Function	Environmental
Deliverables	• All Products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

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 • 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 – Caltrans General Guidelines for Identifying and Evaluating Historic Landscapes: http://www.dot.ca.gov/hq/env/cultural/landscape/indxfram.htm – Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm – 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 – 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Vol. 1 – DEA Intranet Page/ Library, Permits, Licenses, Agreements and Certifications Subpage – 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) • Updated STEVE Database
References	– Caltrans General Guidelines for Identifying and Evaluating Historic Landscapes – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 2, Chaps. 2, 5 and 6
Subtasks	– Marketing Plan – Historic American Building Survey (HABS) recordation – 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 • Curated Collection • Fulfillment of Mitigation Requirements • 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. – Arrangements for Native American monitors. – Curation agreement

	– Site mapping. – Right of Entry, if needed. – Site visit with consultants and Native Americans. – All field work. – Analyses of recovered materials. – Repatriations of human remains and sacred objects, if recovered. – Preparation, submittal, and review of draft report on excavations – Publish Phase III final report. – Transfer collection and field notes and pay fees to curation facility. – Transmit final report to FHWA, SHPO, ACHP, tribes, and the scientific community, and obtain approval letters if required. – 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 • Updated STEVE Database
References	– Caltrans Construction Manual, Section 2-05 – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 3, Chap. 5
Subtasks	– Prepare Mitigation Monitoring Plan – Design and delineation of mitigation measures into project plans – Preparation of special provisions – Reviews by affected units and regulatory agencies – Prepare and distribute monitoring reports – 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). • Updated STEVE Database
References	– Caltrans Right of Way Manual - Chapter 6 – Caltrans Right of Way Manual - Forms and Exhibits, Chapters 7 and 8 – Caltrans Right of Way Manual - Reference Version, Chapters 7 and 8 – Caltrans Surveys Manual – Caltrans Plans Preparation Manual - Chapter 4
Subtasks	– Surveys of Mitigation parcel – R/W Engineering of Mitigation parcel (Appraisal Maps, Acquisition Documents, Disposal Documents, WBS300 Closeout) – Appraise Mitigation parcel – Acquire Mitigation parcel – 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 • Paleontological Stewardship Summary • 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. 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.

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) – Contract development and oversight – 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 – DEA Intranet Page > Library > Permits, Licenses, Agreements and Certifications Subpage – 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. • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Vol. 1 – DEA Intranet Page > Library > Permits, Licenses, Agreements and Certifications Subpage – DEA Intranet Page > Hazardous Waste Subpage – 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. 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 • Updated STEVE Database
References	– Caltrans Project Development Procedures Manual (PDPM), Chapter 18 – Caltrans Right of Way Manual - Forms and Exhibits, Chapter 8 – Caltrans Right of Way Manual - Reference Version, Chapter 8 – 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 • Updated STEVE Database
References	– Caltrans Surveys Manual – Caltrans Project Development Procedures Manual (PDPM), Chapter 18 – 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 10 – 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 • Remedial Action Design • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1, Chap. 10 – Caltrans Project Development Procedures Manual (PDPM), Chapter 18
Subtasks	– Develop RAP, which may involve developing a task order – Review RAP and determine scope of HWMP – Develop HWMP – 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. 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 – Caltrans Project Development Procedures Manual (PDPM), Chapter 18
Subtasks	– Review HWMP – Determine how the PS&E will be prepared, either in-house or by contract consultant – Consultation with PS&E preparer – Task Order oversight and administration – 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 • 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 – 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). 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 – R/W Manual Chapter 6
Subtasks	– Review of R/W Certification for consistency with prior project scope. – Field review of site – Verification of status of any recommended remediation (tank removal) by owner – 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. • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER)
Subtasks	– Field review of site – Develop and submit performance reports to the regulatory agency – 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 • 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER) – FHWA California Division website

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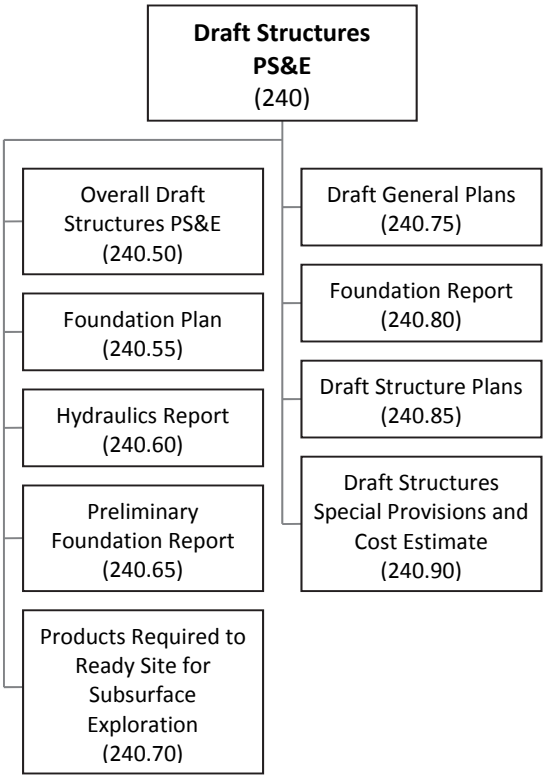
	Project Management	Project Initiation	PA&ED	PS&E	Right of Way	Construction
Project Phase		K	0	1	2	3
SB45 Component	0	1	2	3	4	5

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) ♦ M275 General Plans (Finish: WBS 240.75) ♦ 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 – Caltrans Bridge Design Details: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-design-details/bdd.html – Caltrans Bridge Design Practice Manual: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-design-practice/bdp.html – 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 – Caltrans Bridge Design Specifications: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-design-specifications/bds.html – Caltrans Bridge Memos to Designers: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-memo-to-designer/bmd.html – Caltrans Code of Safe Drilling Practices: http://www.dot.ca.gov/hq/esc/geotech/requests/codedrillpractice.pdf – Caltrans Construction Manual: http://www.dot.ca.gov/hq/construc/constmanual – Caltrans Deputy Directive 60-R1: Transportation Management Plans: http://admin.dot.ca.gov/bfams/deputydirectives/Internal/dd_60_r1_signed.pdf – Plans Preparation Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/ppman/toc.htm

- Caltrans Guidelines for Structures Foundation Reports: https://crqmxli.files.wordpress.com/2015/08/caltrans-guidelines-structures-foundation-reports.pdf
- Caltrans Highway Design Manual (HDM): http://www.dot.ca.gov/hq/traffops/trafmgmt/hov/hov_sys/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 Construction Contract Development Guide: http://www.dot.ca.gov/des/oe/guidance.html
- 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://www.dot.ca.gov/hq/esc/oe/construction_contract_standards/std_specs/2015_StdSpecs/2015_StdSpecs.pdf
- 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

	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 Transportation Management Plan Guidelines: http://dot.ca.gov/hq/traffops/trafmgmt/tmp_lcs/index.htm
- 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
- 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 Emergency Management Agency (FEMA): http://www.fema.gov/national-flood-insurance-program-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): https://www2.usgs.gov/water/

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 Practices	Activities under this task are tracked on an overall project basis. Typically this work is 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 – Bridge Design Details, Sections 1-20 – Bridge Design Memo to Designers, Sections 1- 22 – Bridge Design Practice – California Amendments (to the AASHTO LRFD Bridge Design Specifications - Fourth Edition) Caltrans Bridge Design Specifications – Building Specifications – MEWW Standard Drawings – OTA Design Manual – OTA Standard Drawings – Pumping Plant Design Manual, Chapters 10-16 – Pumping Plant Design Manual, Appendices 1-6 – Highway Design Manual, Chapter 200, Topic 210 – Soil and Rock Logging, Classification, Description, and Presentation Manual – Project Development Procedures Manual (PDPM), Chapter 14, Section 3
Subtasks	Activities include, but are not limited to: – Technical coordination of the project – Technical project meetings with DES and District representatives – 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 – Bridge Design Details, Sections 1, 2, & 3 – Bridge Design Memo to Designers, Sections 1 & 17 – California Amendments (to the AASHTO LRFD Bridge Design Specifications - Fourth Edition) – Caltrans Bridge Design Specifications – OSFP Information & Procedures Guide, Chapters 2, 3 & 4 – Soils and Rock Logging Classification Manual (Field Guide) – Area Bridge Maintenance Engineer Manual, Sections 3.1 & 3.3 – Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 3
Subtasks	Activities include, but are not limited to:

	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

- 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.
- 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.
- 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: – California Amendments (to the AASHTO LRFD Bridge Design Specifications - Fourth Edition) – Caltrans Bridge Design Specifications – Hydraulic Design transportation engineering index guidance by Federal Highway Administration (FHWA) – Hydraulic Design software by Federal Highway Administration (FHWA) – Hydraulic Design policy memos by Federal Highway Administration (FHWA) – The Hydraulic Design library by FHWA – California Department of Water Resources, Division of Flood Management – National Flood Insurance Program: Flood Hazard Mapping by Federal Emergency Management Agency (FEMA) – Central Valley Flood Protection Board (CVFPB) – California Code of Regulations - Title 23 - Waters – Manuals, guides and publications on Hydraulics Design by US Army Corp. of Engineers – 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: – Project Location – Summary of Site Geology and Subsurface Conditions – Scour Evaluation – Corrosion Evaluation – Preliminary Seismic Data and Recommendations – As-Built Foundation Data – Preliminary Foundation Recommendations – 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 – Joint R/W and DEA Memo Dated May 22, 2002 regarding Rights-to Enter – Joint R/W and DEA Memo dated January 7, 2003, Clarifying Memo Dated May 22, 2002 – Right of Way Manual - Forms and Exhibits, Chapter 8 – Right of Way Manual - Reference Version, Chapter 8 – Standard Environmental Reference

	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 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2 – Deputy Directive 60 regarding TMP Requirements – TMP Guidelines – Traffic Manual – Highway Capacity Manual – Caltrans HOV Guidelines Ramp Metering Design Guidelines – Design Information Bulletins – Manual on Uniform Traffic Control Devices – Construction Manual, Section 2-30 – Drafting and Plans Manual of Instruction, Article 4-2.14 – Highway Design Manual (HDM), Chapter 100, Topic 110, Index 110.6 – Code of Safe Drilling Practices
Subtasks	Activities include, but are not limited to: – Developing a subsurface exploration plan (drilling and geophysics), – Obtaining rights of entry for access to private and public lands, – Obtaining permits from applicable permitting agencies, – Determining if the site contains hazardous waste, – Preparing traffic management plans and providing traffic control, if needed, – Providing physical access for drilling and other exploration equipment (grubbing and clearing, grading, fence removal, etc.), – Clearing utilities, – 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 – Bridge Design Details, Sections 1, 2, & 3 – Bridge Design Memo to Designers, Sections 1 through 22 – Bridge Design Practice

	– California Amendments (to the AASHTO LRFD Bridge Design Specifications - Fourth Edition) – Caltrans Bridge Design Specifications – OSFP Information & Procedures Guide, Chapters 2 through 6 – Pumping Plant Design Manual, Chapters 1 through 9 – Pumping Plant Design Manual, Appendix 8 – Project Development Procedures Manual (PDPM), Chapter 14, Section 2, Article 3
Subtasks	Activities include, but are not limited to: – Prepare Preliminary Design – Prepare Preliminary Plan Sheets – Prepare Preliminary Quantities – Prepare Preliminary Estimates – Prepare Preliminary Specifications – Prepare Type Selection Report or Seismic Retrofit Strategy Report – Perform a Constructability Review (CR) of project General Plans – Conduct Type Selection Meeting or Seismic Retrofit Strategy Meeting – Update General Plans and General Plan Estimate – Obtain Preliminary Plan Approval – 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. 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.

	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 2-70, Section 20, Article 30 – Bridge Design Aids, Sections 10, 11, & 15 – Bridge Design Details, Sections 1, 2, & 3 – Bridge Design Memo to Designers, Sections 1 through 22 – Bridge Design Practice – California Amendments (to the AASHTO LRFD Bridge Design Specifications - Fourth Edition) – Bridge Design Specifications – Seismic Design Criteria, Section 6 – OSFP Information & Procedures Guide, Chapters 2 through 6 – Pumping Plant Design Manual, Chapters 1 through 9 – Pumping Plant Design Manual, Appendix 8 – Highway Design Manual, Chapter 200, Topic 210 – Code of Safe Drilling Practices – Soil and Rock Logging, Classification, Description, and Presentation Manual – Guidelines for Structure Foundation Reports. Chapter 3 – Caltrans Standard Environmental Reference (SER)
Subtasks	The FR shall provide, but not be limited to, the following: – Summary of Site Geology and Subsurface Conditions – Ground Water – Scour Evaluation – Corrosion Evaluation – Seismic Data and Recommendations – As-Built Foundation Data – Foundation Recommendations – Slope Stability Analyses – General Notes to the Designer – Construction Considerations – Project Location 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.

WBS

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Lead Function	Structure Design, OSFP for oversight /local projects
Deliverables	• Completed Draft Structure Plans and Checked Quantities
References	– Standard Plans – Standard Specifications – Bridge Design Aids, Sections 1-9, 11, & 13-15 – Bridge Design Details, Sections 1-20 – Bridge Design Memo to Designers, Sections 1- 22 – Bridge Design Practice – California Amendments (to the AASHTO LRFD Bridge Design Specifications - Fourth Edition) – Caltrans Bridge Design Specifications – Building Specifications – MEWW Standard Drawings – OTA Design Manual – OTA Standard Drawings – Pumping Plant Design Manual, Chapters 10-16 – Pumping Plant Design Manual, Appendices 1-6 – Soils and Rock Logging Classification Manual (Field Guide) – Project Development Procedures Manual (PDPM), Chapter 20, Section 3 – OSFP Information & Procedures Guide , Chapter 4.
Subtasks	Prepare Unchecked Details (65%) – Perform structural analysis and develop draft Design – Prepare draft Structure Plan Sheets – Perform a Constructability Review (CR) of the Unchecked Details – Prepare updated quantities – Prepare Unchecked Detail Cost Estimate – Prepare Unchecked Detail Item List – Prepare Unchecked Detail Working Day Schedule – Distributed Unchecked Details package to District, including plan sheets & cost estimate Prepare Draft Structures Plans & Quantities (P&Q) – Perform an independent structural analysis – Check the Design and Plan Sheets – Prepare draft Quantities – Perform an independent check of the draft Quantities – Prepare Memorandum to Specification Engineer/Cost Estimator – Update Type Selection Report or Seismic Retrofit Strategy Report – Transmit P&Q package to Structure Office Engineer

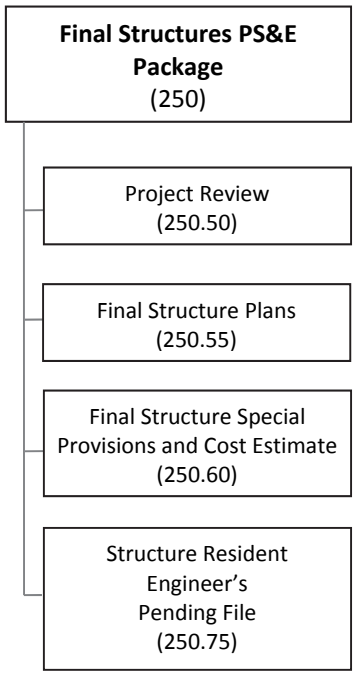
	Project Management	Project Initiation	PA&ED	PS&E	Right of Way	Construction
Project Phase		K	0	1	2	3
SB45 Component	0	1	2	3	4	5

WBS Level 6	**240.90 Draft Structures Special Provisions and Cost Estimate**
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 – Standard Specifications – Caltrans Construction Contract Development Guide – Bridge Design Aids, Sections 1-9, 11, & 13-15 – Bridge Design Details, Sections 1-20 – Bridge Design Memo to Designers, Sections 1- 22 – Bridge Design Practice – California Amendments (to the AASHTO LRFD Bridge Design Specifications - Fourth Edition) – Caltrans Bridge Design Specifications – Building Specifications – MEWW Standard Drawings – OTA Design Manual – OTA Standard Drawings – Pumping Plant Design Manual, Chapters 10-16 – Pumping Plant Design Manual, Appendices 1-6 – Soils and Rock Logging Classification Manual (Field Guide) – Project Development Procedures Manual (PDPM), Chapter 20, Section 3 – OSFP Information & Procedures Guide, Chapter 4.
Subtasks	Activities include, but are not limited to: – Review of the Structure Plans and Quantities – Review Memorandum to Specification Engineer/Cost Estimator – Update Structure Contract Item list – Prepare draft special provisions – Update cost estimate for Structure Contract Items and Working Days summary – 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. Activities include, but are not limited to: – Project Review by DES project development team – Constructability Review Meeting for draft SPS&E package – Revisions to the Plans, Special Provisions, and Cost Estimates – Transmittal of final SPS&E package to District Office Engineer, DES Office Engineer, or appropriate agencies for an external review – 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 • 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/des/techpubs/bda.html – Caltrans Bridge Design Details: http://www.dot.ca.gov/des/techpubs/bdd.html – Caltrans Bridge Memos to Designers: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-memo-to-designer/bmd.html (Sections 1-22) – Caltrans Bridge Design Practice Manual: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-design-practice/bdp.html – Caltrans Bridge Design Specifications: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-design-specifications/bds.html – Caltrans Construction Contract Development Guide: http://www.dot.ca.gov/des/oe/guidance.html – Building Specifications: http://oe.dot.ca.gov/occs.html#spec as Section 99 of 2010 Standard Special Provisions – MEWW Standard Drawings:

	– OTA Design Manual: – OTA Standard Drawings: – Caltrans Pumping Plant Design Manual, Chapters 10-16 and Appendices 1-6: – Caltrans Soil and Rock Logging, Classification, and Presentation Manual: http://www.dot.ca.gov/hq/esc/geotech/sr_logging_manual/srl_manual.html
Subtasks	Activities include, but are not limited to: – Project Review by DES project development team – Constructability Review Meeting for draft Structures Plan, Specifications, and Estimates (SPS&E) package – Revisions to the Plans, Special Provisions, and Cost Estimates – Transmittal of final SPS&E package to District Office Engineer, DES Office Engineer, or appropriate agencies for an external review – 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 – Caltrans Bridge Design Details – Caltrans Bridge Memos to Designers – Caltrans Bridge Design Practice Manual – Caltrans Bridge Design Specifications – Caltrans Construction Contract Development Guide – Building Specifications – MEWW Standard Drawings – OTA Design Manual – OTA Standard Drawings – Caltrans Pumping Plant Design Manual, Chapters 10-16 and Appendices 1-6 – Caltrans Soil and Rock Logging, Classification, and Presentation 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

Subtasks	Activities include, but are not limited to: – Review of draft SPS&E package – Final review of Hydraulic Report, Foundation Report and any other project-specific reports – Final review and updating of the Structure Type Selection Report or the Seismic Retrofit Report – Constructability Review of all final documents – 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 – Caltrans Bridge Design Details – Caltrans Bridge memo to Designers – Caltrans Bridge Practice Manual
Subtasks	Activities include, but are not limited to: – Update plan sheets based on final Project Review (95% Constructability Review) – Review and incorporate District Office Engineer and Structure Office Engineer comments into Final Structure Plans and Quantity calculations – Update Memorandum to Specifications Engineer – Update Type Selection Report or Seismic Retrofit Strategy Report – Update quantities for contract bid items – Resolution of Draft Contract Comments – Revise plans in accordance with Caltrans and/or FHWA standards and applicable laws and regulations and/or document why suggested changes were not incorporated. – 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: – Update specifications based on final Project Review (95% Constructability Review) – Update Basic Engineering Estimating System (BEES) estimate – Transmit final SPS&E package to District Office Engineer, DES Office Engineer and/or appropriate agencies for an external review – Respond to Draft Comments from DES or District OE – Resolution of Draft Contract Comments – 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. – 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: – Joint Movement Rating Calculations for bridge expansion joints (using Caltrans Form DSD-D-0129) prepared in accordance with Bridge Memo to Designers. – Final Foundation Report – Final Hydraulics Report

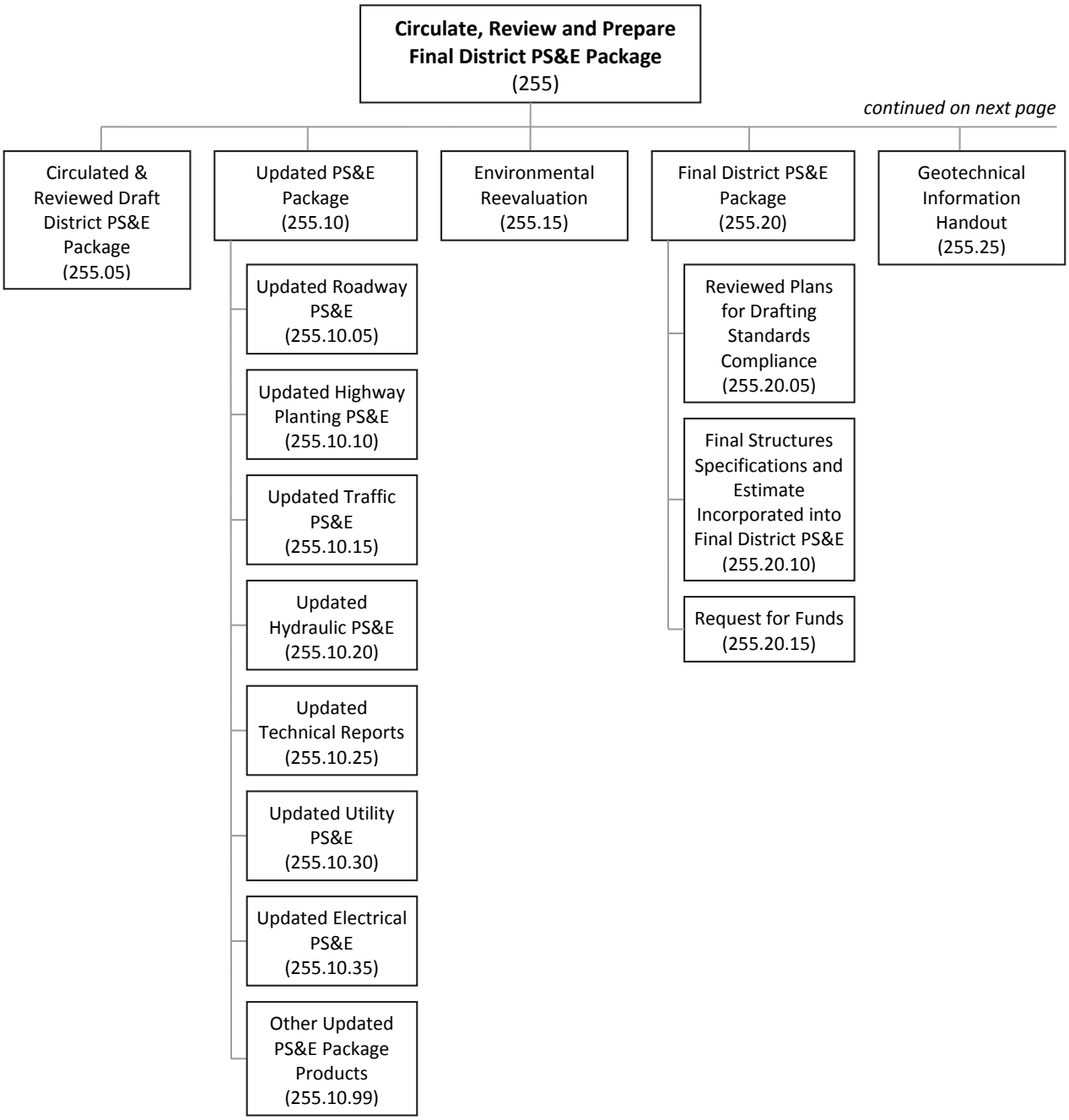
	Project Management	Project Initiation	PA&ED	PS&E	Right of Way	Construction
Project Phase		K	0	1	2	3
SB45 Component	0	1	2	3	4	5

- 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.

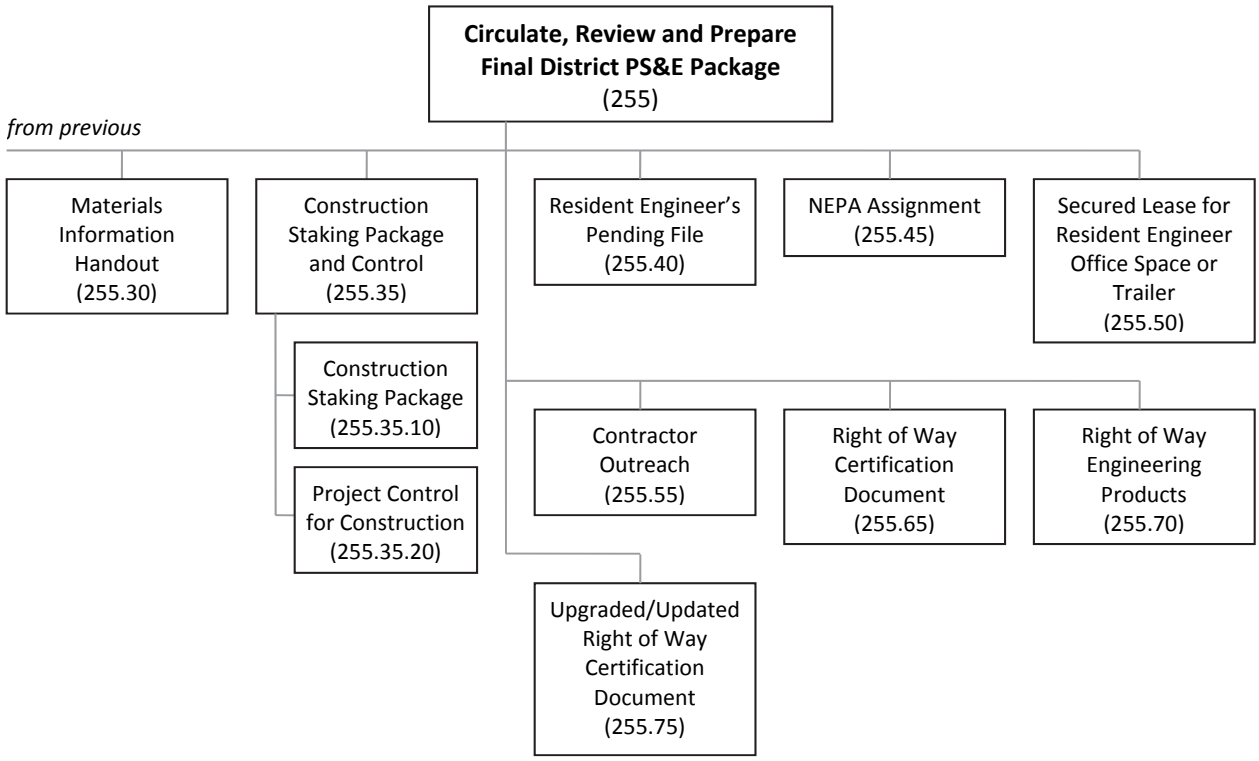
WBS 255

	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) ♦ M315 95% Constructability Review Meeting (Finish: WBS 255.05) ♦ M360 Environmental Reevaluation (Finish: WBS 255.15) ♦ 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 – Caltrans CADD Users Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/caddman/default.htm – Caltrans Construction Manual: http://www.dot.ca.gov/hq/construc/constmanual – Caltrans DES Decision Document 39, Funding Package (January 15, 2003): http://des.onramp.dot.ca.gov/node/303 – Caltrans Highway Design Manual (HDM): http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm – Caltrans Plans Preparation Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/ppman/default.htm – Caltrans Construction Contract Development Guide: http://www.dot.ca.gov/des/oe/guidance.html – Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm – Caltrans Construction Contract Development Guide: http://www.dot.ca.gov/des/oe/guidance.html – 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 – FHWA California Division website: http://www.fhwa.dot.gov/cadiv/ – Landscape Architecture PS&E Guide: http://www.dot.ca.gov/hq/LandArch/16_la_design/guidance/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 – Caltrans Highway Design Manual (HDM), Chapter 100, Topic 110, Index 110.7 and 110.8 – Caltrans Construction Contract Development Guide – 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 – Review Project for Final Permit Needs – Review Aesthetics – Review the Final Traffic Management Plan (TMP) – Review All Specifications and Estimates – Review Hydrology and Hydraulic design elements and specifications – Review Geotechnical design elements and specifications – Review Pavement design elements and specifications – Review Materials design elements and specifications – Review for Conformity with Environmental Commitments – Perform Safety Review – 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

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

	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. • 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 – 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. – Drafting review and approval of the reevaluation. – 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 – 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 Construction Contract Development Guide – Caltrans Construction Contract Development Guide

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 Construction Contract Development Guide

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 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 – Caltrans Construction Contract Development Guide
Subtasks	– Transmit project strip map and proposed typical cross sections to the Materials Unit, requesting available materials information for the project. – Request that the Materials Unit prepare a Materials Information Handout. – 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 • Construction Staking Electronic Data File • 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 – Surveys Manual, Chapter 12 – 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 • Electronic Alignments for Roadway and Drainage • Slope Stake/Finish Grade Hard Copies • Drainage/Structure Detail Sketches

	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 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	– – Project Development Procedures Manual, Appendix QQ – Surveys Manual, Chapter 12 – 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 (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. – 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.) – 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 • Updated STEVE Database
References	– Caltrans Standard Environmental Reference (SER) – 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

References	– Caltrans Construction Manual, Chapter 1-4.02 – 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 – Caltrans Right of Way Manual: Reference Version – Caltrans Ready to List Guide, Section 1.3.2 – 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 • Correction Deeds • Utility Agreements (Including Joint Use Agreements and Consent to Common Use Agreements)

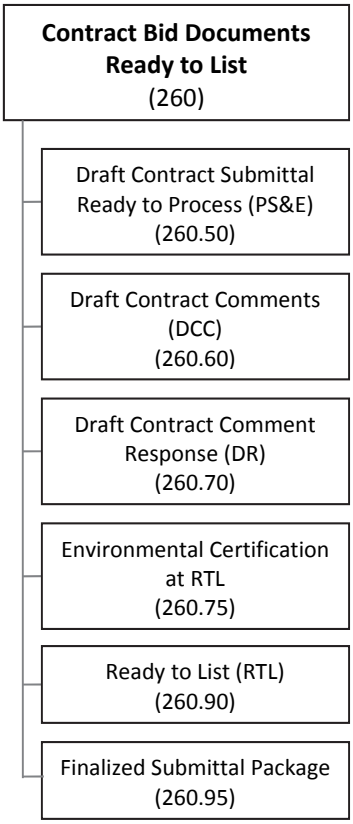
Business Practices	Maps produced must meet all requirements as set forth in the Caltrans Plans Preparation Manual, Chapter 4, the Caltrans CADD Users Manual, Section 2.4.E (all), and the Caltrans Right of Way Manual, Chapter 6. Document preparation will be performed in accordance with accepted professional land surveying practices and applicable laws.
References	– Caltrans Plans Preparation Manual, Chapter 4 – Caltrans CADD Users Manual, Section 2.4.E – 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 – Caltrans Right of Way Manual: Reference Version – Caltrans Ready to List Guide, Section 1.3.2 – 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

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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 • Contract Bid Documents Ready to List • Fund Allocation
Major Milestones	♦ M380 Project Plans, Specifications and Estimate (Finish: WBS 260.50) ♦ M390 Draft Contract Comments (Finish: WBS 260.60) ♦ M400 Draft Contract Comment Response (Finish: WBS 260.70) ♦ M430 Draft Contract Ready (Finish: WBS 260.80) ♦ M460 Ready to List (Finish: WBS 260.90) ♦ M470 Fund Allocation (Finish: WBS 260.95, with ”x” number of days lead determined by Project Team) ♦ M475 Construction Contract Package Submitted to DES-OE for Advertisement (Finish 260.95)
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 – Caltrans Plans Preparation Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/ppman/default.htm – Caltrans Construction Contract Development Guide: http://www.dot.ca.gov/des/oe/guidance.html – Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser/ – Caltrans Standard Plans: http://www.dot.ca.gov/hq/esc/oe/construction_standards.html – Caltrans Standard Special Provisions (SSPs): http://www.dot.ca.gov/hq/esc/oe/construction_standards.html – Caltrans Standard Specifications: http://www.dot.ca.gov/hq/esc/oe/standards.php – Caltrans Standard Specifications Style Guide: http://www.dot.ca.gov/des/oe/guidance.html

	– Legal and Cost Avoidance Construction Quality Standards:

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 – Caltrans Construction Contract Development Guide
Subtasks	– Validate that project submittal is complete – 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 Construction Contract Development Guide – Caltrans Plans Preparation Manual – Caltrans Standard Specifications – Caltrans Standard Plans – Caltrans Standard Special Provisions – Caltrans QC/QA Standards – Caltrans Standard Specifications Style Guide – Caltrans Best Bid Standards (BBS) Guide
Subtasks	– Assign project to independent reviewer – Submit Electrical and Landscape Architecture specialty portions to specialty group. – Verify that combined Basic Engineering Estimating System (BEES) items are accurate and complete. ▪ All contract pay items in BEES are as specified in Standard Special Provisions (SSPs) and as shown on plans

- Item description and units of measure agree with Standard Specifications, SSPs, and plans
- 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

	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	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 Construction Contract Development Guide – Caltrans Plans Preparation Manual – Caltrans Standard Specifications, Standard Plans, Standard Special Provisions – Caltrans QC/QA Standards – Caltrans Specifications Style Guide. – Caltrans Best Bid Standards (BBS) Guide
Subtasks	– Verify that deviations to District QC/QA Standards were addressed. – Verify that all requested information has been received, including all executed permits that affect the contract. – Verify that revisions are in accordance with Caltrans and/or FHWA standards and applicable laws and regulations. – Verify that revisions are not in conflict with other portions of the PS&E. – Verify that FHWA comments have been appropriately addressed. – 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 • Updated STEVE Database • 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 Construction Contract Development Guide – Caltrans Standard Environmental Reference (SER), Environmental Handbook, Vol. 1 – Project Development Procedures Manual (PDPM)

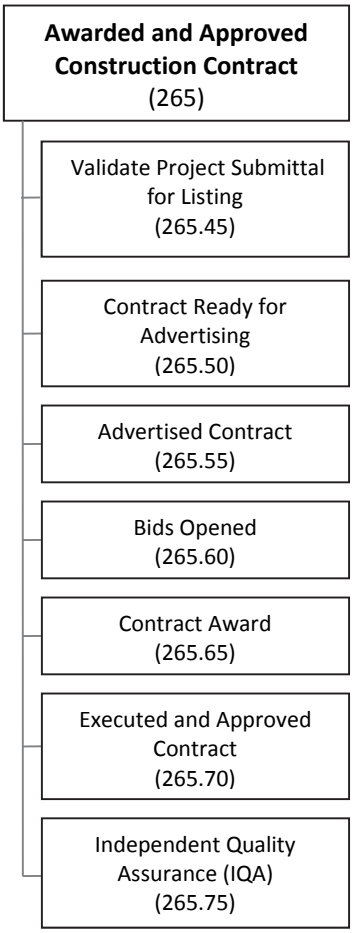
WBS Level 6	260.90 Ready to List (RTL)
Description	The product from this activity is a draft contract with constraints cleared ready for funding request. This activity includes validating that all RTL requirements have been met.
Lead Function	District Office Engineer
Deliverables	• Final RTL Certification
References	–
Subtasks	– Notify designer of outstanding RTL requirements – Validate completion of RTL requirements – Signature & Seal Sheet for Special Provisions – Job File Contents Verified – AADD database inputs completed and verified – 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 Construction Contract Development Guide
Subtasks	– DOE Submits Federal Requirements to the Federal Liaison – Submit Fund Request – Fund Verification – Incorporate Construction Contract Standards Updates into Contract – Construction Contract Submittal for Advertisement Signed – Authority to Advertise Form signed by District Director and Project Manager – Complete project submittal package – Submit project to DES-OE – Project is logged into DES-OE database

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
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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) ♦ M490 Bids Open (Finish: WBS 265.60) ♦ M495 Award (Finish: WBS 265.65) ♦ 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 – California Streets and Highways Code: http://leginfo.legislature.ca.gov/faces/codes.xhtml – Caltrans Construction Manual: http://www.dot.ca.gov/hq/construc/constmanual – Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm – Caltrans Construction Contract Development Guide: http://www.dot.ca.gov/des/oe/guidance.html – Caltrans Standard Specifications: http://www.dot.ca.gov/hq/esc/oe/construction_standards.html – Civil Rights Program (Goals): http://www.dot.ca.gov/hq/bep/ – 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 Construction Contract Development Guide
Subtasks	– Validate that project submittal is complete – 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) – Caltrans Construction Manual, Chapter 9, Section 9-03, Page 9-03-1 – Code of Federal Regulations, Title 49, Part 23, Pages 222-263 – California Public Contract Code, Sections 10115-10115.10, 14838-14838.6, and 999-999.9 – California Streets and Highways Code, Sections 94.3 and 94.4 – Caltrans Construction Contract Development Guide
Subtasks	– Verify funding is available in an amount equal to or greater than the construction estimate – Prepare list of projects tentatively proposed for advertisement – Distribute the above list to other units and obtain input and concurrence – Finalize advertisement list and set advertising and bid opening dates – Set and distribute target dates to be met by various units in preparing projects for advertisement – 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 – Determine items of work and materials that will most likely be performed by the prime contractor – Estimate the percentage of work available that DBE or DBVE firms can perform – Recommend project participation goals to OBEO for approval

	– Generate and incorporate electronic Engineer's Estimate – Merge project data – Incorporate contract boilerplate – Scan and incorporate Engineer's seals – Format for reproduction – Reproduce contract books and Plans – Maintain Office Engineer (OE) Database Import electronic plan files – Plot final electronic files – Send to Reprographics – Print project ticket/tentative list for specific advertising date – Verify funding source(s) – Compare authorized funding amount to estimate total – Obtain contributor number – Coordinate AADD project submittal with districts – Coordinate Bid Book Review with Districts – 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 – Caltrans Construction Contract Development Guide – Caltrans Standard Specifications, Section 2, Pages 2-1 through 2-6
Subtasks	– Distribute bid documents – Districts respond to bidders' inquiries – Districts post responses on Caltrans website – Process addenda – Reproduce and publish addenda – 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 – Include addenda in undistributed contract documents

	– Perform red-lined Basic Engineering Estimating System (BEES) corrections – Update Project Database to reflect changes (e.g., items, working days, call-outs, etc. – Maintain plan holder lists – 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 – Caltrans Construction Contract Development Guide – Caltrans Standard Specifications, Section 2, Pages 2-1 through 2-6
Subtasks	– Receive bids – Open bids at public bid opening, record bid results and perform cursory check for responsiveness and completeness of bid – Read and record bids – Enter bid data into Bid Opening System to verify each bid and to store bid data on computer – Perform license check – Confirm small business certification – Apply small business preference – Produce bid summary information and distribute to bidders and Districts – Recommend rejection of all bids if necessary – 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 Construction Contract Development Guide – Caltrans Project Development Procedures Manual (PDPM), Chapter 15, Section 1

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	– California Public Contract Code, Sections 3300, 6100-9202, and 10180-10285.5; Sections 10115-10115.10, 14838-14838.6, and 999-999.9 – Caltrans Standard Specifications – Code of Federal Regulations, Title 49, Part 23, Pages 222-263 – California Streets and Highways Code, Sections 94.3 and 94.4 – Caltrans Construction Manual: Chapter 2, Section 2-03; Chapter 9, Section 9-03
Subtasks	– Determine bidder responsibility – Analyze all bids if necessary – Prepare Award recommendation – Perform funding analysis – Receive contractor Disabled Veteran Business Enterprise (DVBE)/Disadvantaged Business Enterprise (DBE) submittals and forward to the Department's Business Enterprise Program (BEP) for evaluation – Notify contractor when BEP has determined that a good faith effort was not made and arrange reconsideration/appeal meetings – Chair Department's Good Faith Effort Reconsideration Committee and provide staff to the Committee – Prepare Reconsideration Committee findings for signature – Respond to bid protests – Analyze relief of bid requests and prepare findings for Relief of Bid Committee – Analyze requests for subcontractor substitution – Prepare pre-award qualification reports for committee – Notify bidder of determination – Verify that contractor is not debarred or suspended – Perform license verification – Confirm bid bond from California Bidder Surety – Conduct responsibility hearings and notify bidder of determination – Obtain Project Phase 4 certification – Process G-11 or G-12 – Award contract – Assemble award package – Assemble contract documents – Obtain contract award signature – Mail to contractor – Distribute award information to 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

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 – California Public Contract Code, Section 10220 – Caltrans Standard Specifications – Caltrans Construction Manual: Chapter 2, Section 2-03
Subtasks	– Contractor signs contract – Contractor provides Payment and Performance Bonds – Contractor returns contract – Process forfeiture of bid bond if contractor fails to execute – Verify Surety of payment and performance bonds – Office Engineer signs contract for the Director – Legal signs contract for Attorney General – Mail contract to contractor and Division of Construction – 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 – Caltrans Best Bid Standards (BBS) – Caltrans IQA Review Checklist – Caltrans IQA Review Manual
Subtasks	– Perform IQA review to validate conformance to the Best Bid Standards (BBS) – Coordinate with Districts about IQA findings and issue addendum to correct errors and omissions as needed

WBS

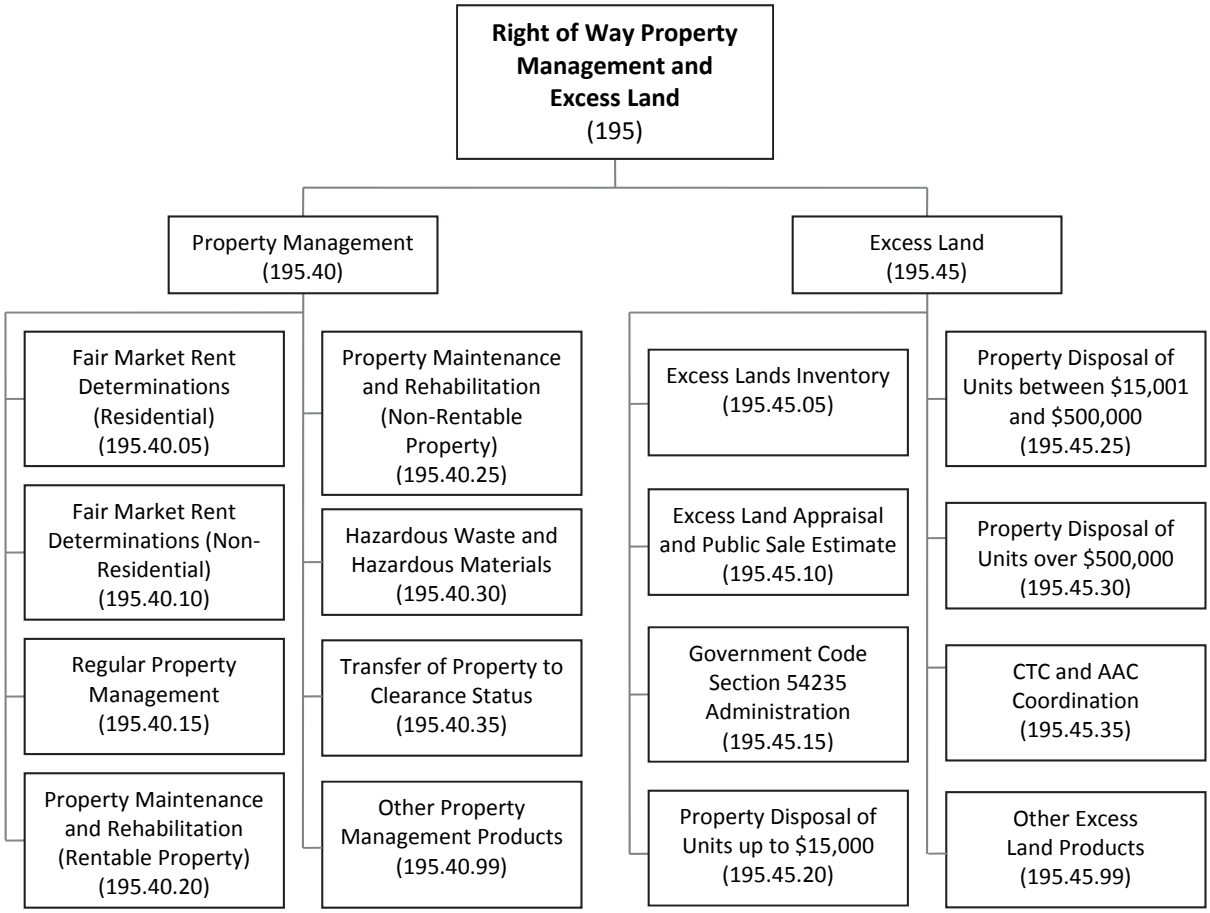
265

- Issue project quality report
- Issue performance report
- 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



WBS
195

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 – Caltrans Right of Way Manual, including Forms and Exhibits: http://www.dot.ca.gov/hq/row/rowman/manual/ – 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 – Caltrans Project Development Procedures Manual (PDPM), Chapter 3, Section 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 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 – 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 – 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 – 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

Deliverables	• Maintenance of Property
References	– Caltrans Right of Way Manual, Chapter 11 – 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 – Right of Way Manual - Reference Version, Chapter 11 – 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 – 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	

	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	**195.45 Excess Land**
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 – Caltrans Project Development Procedures Manual (PDPM), Chapter 26 – 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 – 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
Deliverables	• Sell Properties under the Roberti Act
References	– Caltrans Right of Way Manual, Chapter 16 – 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 – Caltrans Project Development Procedures Manual (PDPM), Chapter 26 – 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 – Caltrans Project Development Procedures Manual (PDPM), Chapter 26 – Caltrans Standard Environmental Reference (SER)

WBS Level 7	**195.45.30 Property Disposal of Units over $50,000**

	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	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 – Caltrans Project Development Procedures Manual (PDPM), Chapter 26 – Caltrans Standard Environmental Reference (SER)

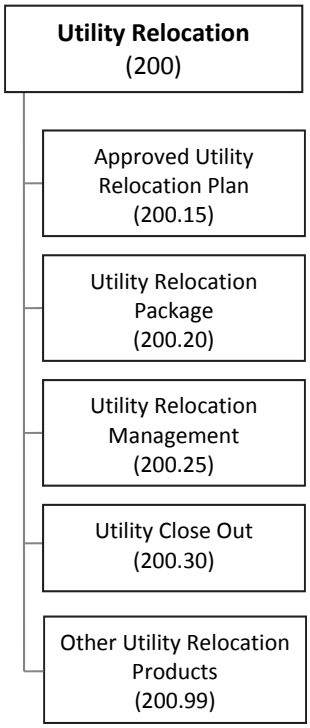
WBS Level 7	**195.45.35 CTC and AAC Coordination**
Description	Activities necessary to make presentations to the California Transportation Commission (CTC) and the Airspace Advisory Committee (AAC) on excess land issues. This includes preparation time and any additional work done at the specific request 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 • Approval of Sale of Property
References	– Caltrans Right of Way Manual, Chapter 16 – 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



	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	**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 – Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm – 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 – Caltrans Project Development Procedures Manual (PDPM), Chapter 12 – 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 • Director's Deeds • Utility Joint Use Agreements • Conveyance Documents
References	– Caltrans Right of Way Manual, Chapter 13

WBS Level 6	**200.99 Other Utility Relocation Products**

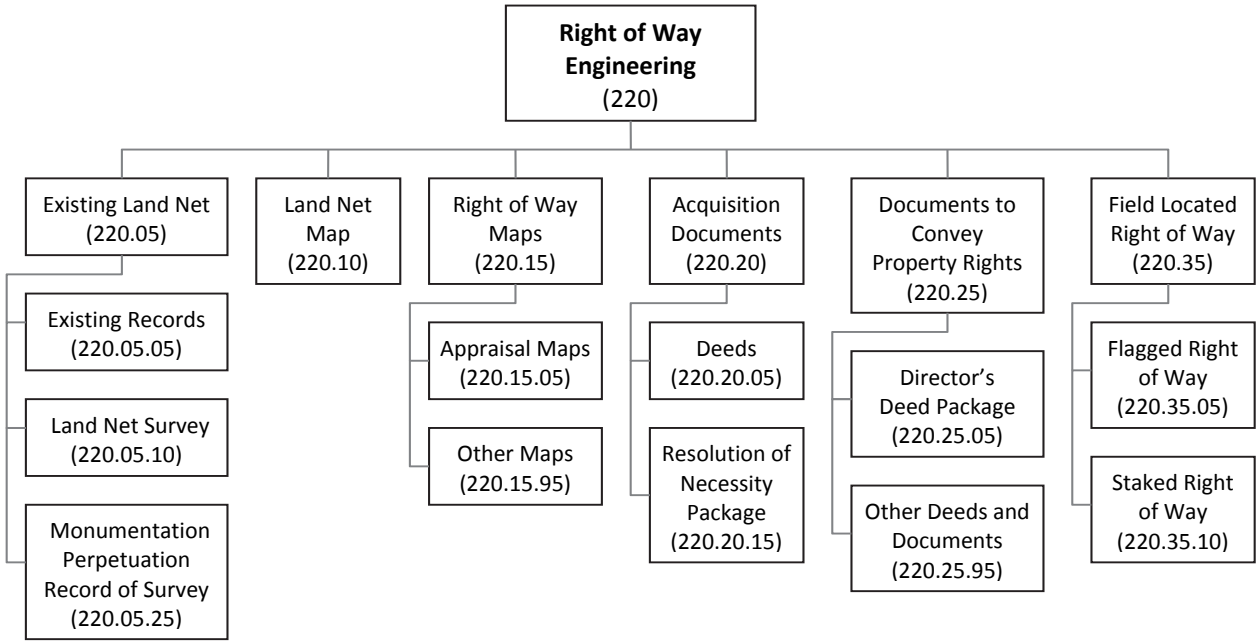
	Project Management	Project Initiation	PA&ED	PS&E	Right of Way	Construction
Project Phase		K	0	1	2	3
SB45 Component	0	1	2	3	4	5

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



	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	**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 • Land Net Map • Right of Way Maps • Acquisition Documents • Documents to Convey Property Rights • Field Located Right of Way
Major Milestones	♦ M224 Right of Way Requirement (Finish: WBS 185.25 and Start: WBS 220.15) ♦ M225 Regular Right of Way (Finish: WBS 220.20) ♦ 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 – Caltrans CADD Users Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/caddman/default.htm – Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser – Caltrans Right of Way Manual: http://www.dot.ca.gov/hq/row/rowman/manual – Caltrans Plans Preparation Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/ppman/default.htm – Caltrans Project Development Procedures Manual: http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm – Professional Land Surveyors' Act, Business and Professions Code: http://www.bpelsg.ca.gov/laws/pls_act.pdf – 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

Deliverables	• Land-Net Survey • 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). 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 – 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 • 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 – For Land Net Survey Monument Search Map: Caltrans Surveys Manual, Section 10.6 and 10.7. – 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.

	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	Surveys and Right of Way Engineering
Deliverables	• Marked Land-Net Survey Monument Search Map • Notice of Intent to Survey • Field Package • Adjusted Land-Net Field Survey • Perpetuated Monuments or Evidence Corner Records • Monument Perpetuation List; List Should Contain All Survey and Land-Net Monuments That Will Be Disturbed during Any Element of the Project. • 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. 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 – For Notice of Intent to Survey: Caltrans Surveys Manual, Section 10.8 – For Field Package: Caltrans Surveys Manual, Section 10.9 – For Adjusted Land-Net Field Survey: Caltrans Surveys Manual, Sections 5.4, 10.10, 10.11-5, and Figure 5.1A. – For Perpetuated Monuments or Evidence Corner Records: ▪ Caltrans Surveys Manual, Section 10.10-6 ▪ California State Land Surveyors Act, Section 8771 ▪ Rules of the California Board of Professional Engineers and Land Surveyors – For Monument Perpetuation List: Caltrans Surveys Manual, Section 10.10-7 – 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 Practices	The department's preferred method is filing a Record of Survey. 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. 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). 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 – Caltrans Right of Way Manual, Section 6.03.02.00 – 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

	• State or Federal Application Maps • Hardship Maps • Protection Maps • 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). 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 – Caltrans CADD User Manual Section 2.4.E – 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 • Certificate of Sufficiency (CoS) • 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 ▪ Caltrans RW Manual, Section 6.07.00.00 ▪ Caltrans Plans Preparation Manual, Section 4-5 ▪ Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 4. – For CoS: ▪ Caltrans RW Manual, Section 6.07.04.00 ▪ Caltrans Plans Preparation Manual, Section 4-5

	▪ Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 4. – For Hazardous Material Disclosure Document - Acquisition (HMDD-A): ▪ Caltrans Right of Way Manual, Section 6.07.04.00 ▪ Project Development Procedures Manual (PDPM), Chapter 18, Article 4 ▪ Caltrans form ENV-0001 ▪ 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 • Federal Lands Application Maps • Freeway Lease Area Maps • Right of Way Hardship Maps • Right of Way Protection Maps • Transfer of Jurisdiction Maps • Miscellaneous Right of Way Maps • Cost Estimate Map • Resolution of Necessity • Court Exhibits
References	– Caltrans Plans Preparation Manual – Caltrans CADD User Manual Section 2.4.E – 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 • Legal Descriptions • 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

	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	**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 • 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 ▪ Sections 6.08.00.00 and 6.09.00.00 ▪ 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 – 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 • Utility Deeds and Plats • Other Deeds
References	– Right of Way Manual, Section 6.15.00.00 and Exhibit 6-EX-2 – Caltrans Plans Preparation Manual, Section 4-10

WBS Level 7	220.25.05 Director's Deed Package
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 ▪ Section 6.15.00.00 ▪ Exhibit 6-EX-2 – 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 • Correctory Deeds • 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 – Caltrans CADD Users Manual, Section 2.4.E – 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. • Permanent Right of Way Lines Marked by the Placement of Monuments.
References	– Surveys Manual, Section 10.10

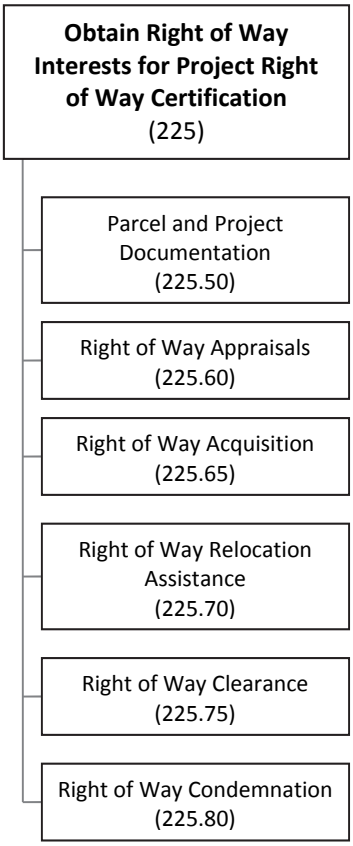
	Project Management	Project Initiation	PA&ED	PS&E	Right of Way	Construction
Project Phase		K	0	1	2	3
SB45 Component	0	1	2	3	4	5

WBS Level 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 ▪ Sections 10.15-1 and 10.15-2 ▪ 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 ▪ Sections 10.15-3 and 10.15-4 ▪ 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



	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	**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) ♦ M410 Right of Way Certification (Finish: WBS 225)
References	– Plan Preparation Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/ppman/default.htm – Caltrans Ready to List Guide: http://www.dot.ca.gov/hq/esc/oe/rtl_guide.html – Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm – Caltrans Right of Way Manual: http://www.dot.ca.gov/hq/row/rowman/manual – 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 – Caltrans Ready to List Guide, Section 1.3.2 – 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 • Hardship and Protection Appraisal

	• Review or Revise Contract Appraisal Work • Goodwill Appraisal • 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 – 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 • Obtain Real Property Interest by Right of Way Contract • Perform/Revise Miscellaneous Acquisitions • Obtain Resolution of Necessity and Order of Possession
References	– Caltrans Right of Way Manual, Chapter 8 – 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 • 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

	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

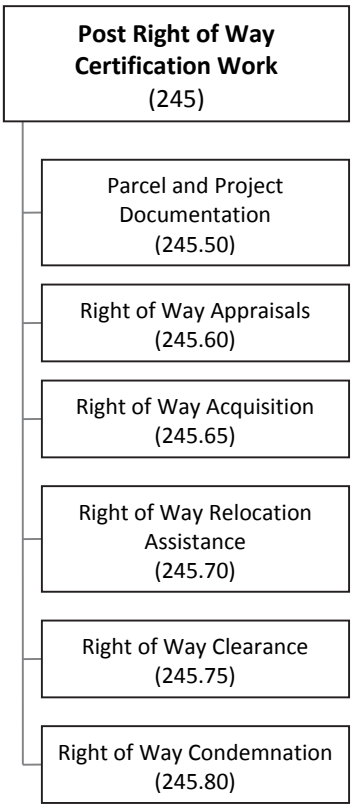
Deliverables	• Cleared Property
References	– Caltrans Right of Way Manual, Chapter 12

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 • Confer with Attorneys • Review Condemnation Appraisal • Appear as Expert Witness
References	– Caltrans Right of Way Manual, Chapter 9 – Staking Information – Caltrans Surveys Manual – 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



	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	**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 – Caltrans Ready to List Guide: http://www.dot.ca.gov/hq/esc/oe/rtl_guide.html – Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm – Caltrans Right of Way Manual: http://www.dot.ca.gov/hq/row/rowman/manual – 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 – Caltrans Ready to List Guide, Section 1.3.2 – 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 • Hardship and Protection Appraisal • Review or Revise Contract Work and/or Appraisal Work • Goodwill Appraisals

	• Appraisal Revisions • Miscellaneous Appraisals
References	– Caltrans Right of Way Manual, Chapter 7 – 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 • Obtain Real Property Interest by R/W Contract • Perform/Revise Miscellaneous Acquisition
References	– Caltrans Right of Way Manual, Chapter 8 – 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 • 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

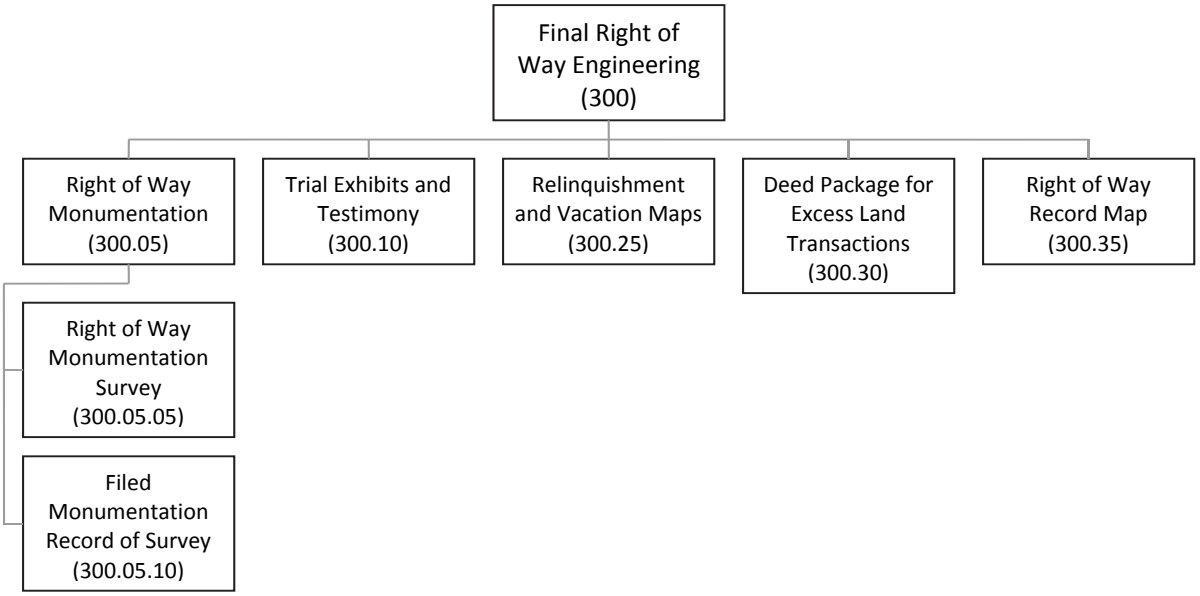
	Project Management	Project Initiation	PA&ED	PS&E	Right of Way	Construction
Project Phase		K	0	1	2	3
SB45 Component	0	1	2	3	4	5

WBS Level 6	**245.80 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 • Confer with Attorneys • Review Condemnation Appraisal • Appear as Expert Witness
References	– Caltrans Right of Way Manual, Chapter 9 – Staking Information – Caltrans Surveys Manual – 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



	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	**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 • Court Exhibits • Relinquishment and Vacation Maps and Documents • Excess Lands Documents • Right of Way Record Maps
Major Milestones	♦ M800 End Project Expenditures (Finish: WBS 300)
References	– Caltrans Surveys Manual: http://www.dot.ca.gov/hq/row/landsurveys/SurveysManual/Manual_TOC.html – Caltrans Right of Way Manual: http://www.dot.ca.gov/hq/row/rowman/manual – Professional Land Surveyors' Act, Business and Professions Code: http://www.bpelsg.ca.gov/laws/pls_act.pdf – 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 – 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 completion of project construction.
Lead Function	Surveys
Deliverables	• Field Package • 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 – For Field Package: Caltrans Surveys Manual, Section 10.9 – 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. 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 – 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.

	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 Engineering
Deliverables	• Right of Way Trial Exhibits • 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 – 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 • Vacation Maps • Corresponding Documentation • 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. For closed projects try the following in order shown: – Attempt to have original Project reopened. – 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. – Charge time to Project 00 0000 0838.
References	– Caltrans Right of Way Manual, Sections 6.17.00.00 and 6.18.00.00 – 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.

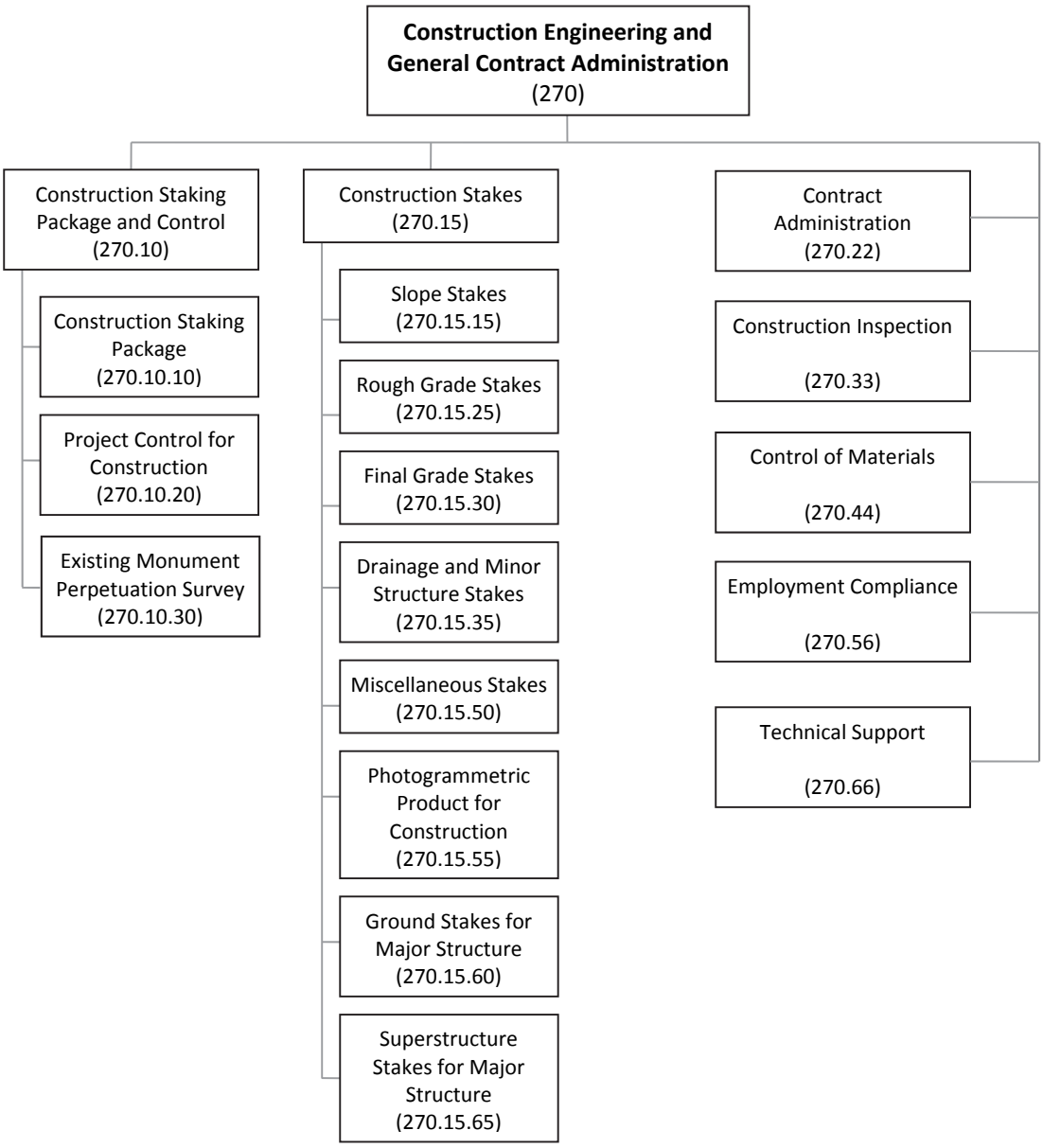
Lead Function	Right of Way Engineering
Deliverables	• Excess Land Deed and Plat.
Business Practices	Effort should be made to complete deeds and plats for all identified excess land parcels prior to close of Project. If Project has been closed, an effort should be made to reopen Project for charging work for this WBS element. For closed projects try the following in order shown: – Attempt to have original Project reopened. – 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 – 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 Plans Preparation Manual, Chapter 4, and the Caltrans CADD Manual Section 2.4.E – 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



WBS

270

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) ♦ M580 Open to Traffic (Within: WBS 270) ♦ M600 Contract Acceptance (Finish: WBS 270)
References	– Caltrans Construction Manual: http://www.dot.ca.gov/hq/construc/constmanual – Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser – California Manual on Uniform Traffic Control Devices: http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp – Caltrans Traffic Manual: http://www.dot.ca.gov/hq/traffops/signtech/signdel/trafficmanual-current.htm – Caltrans Transportation Management Plan Guidelines: http://dot.ca.gov/hq/traffops/trafmgmt/tmp_lcs/index.htm – Caltrans Labor Surcharge and Equipment Rental Rates: http://www.dot.ca.gov/hq/construc/equipmnt.html – California General Prevailing Wage Determinations (Director of Industrial Relations): http://www.dir.ca.gov/oprl/DPreWageDetermination.htm – Caltrans Surveys Manual: http://pd/row/offices/landsurveys/Standards_&_Procedures/Manuals/Survey_Manual – Caltrans Material Plant Quality Program: http://www.dot.ca.gov/hq/construc/hma/MPQP.pdf – Caltrans Quality Control Manual for Hot Mix Asphalt: http://www.dot.ca.gov/hq/construc/publications/qcqaman1.pdf – Caltrans Quality Control Quality Assurance Manual: http://www.dot.ca.gov/hq/construc/publications/qcqaman2002.pdf – Caltrans Field Guide to Construction Site Dewatering: http://www.dot.ca.gov/hq/construc/stormwater/DewateringGuide.pdf – 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 – Caltrans Construction Site Monitoring Program Guidance Manual January 2012: http://www.dot.ca.gov/hq/construc/stormwater/manuals.htmF

	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	**270.10 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 • Construction Staking Electronic Data File • Electronic Alignments for Structures • Roadway and Drainage • Slope Stake/Finish Grade Hard Copies • 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 – 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 • Roadway and Drainage • Slope Stake/Finish Grade Hard Copies • 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 – Caltrans Construction Manual – Caltrans Surveys Manual
Subtasks	– Obtain and examine PID and related documents – Obtain and examine project plans from earlier stages – Discuss and verify initial Purpose and Need, Alternatives, and previous environmental evaluations and approvals with Project Manager – Obtain and examine Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP) listings, regional emissions analyses – Verify compliance with NEPA/404 Memorandum of Understanding (MOU) process at prior stages – Verify Clean Air Act conformity status of project and alternatives – Environmental Generalist/Coordinator, Field Review – 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. – Caltrans Construction Manual – 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-

	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

	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 • Monument perpetuation Surveys • Complete Survey Documentation • Perpetuated Monuments • Filed Pre-Construction Record of Survey or Pre-Construction Corner Records • 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. 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 – 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

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 • Notes Resulting from Construction Staking Requests • Electronic Alignments for Structures • Staking and Setting Control Points for Roadway and Drainage Facilities • Slope Stake/Finish Grade Hard Copies • Drainage/Structure Detail Sketches • 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 • 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. – 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 – Caltrans Construction Manual

WBS Level 7	**270.15.30 Final Grade Stakes**

	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	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 • Slope Stake Notes Resulting from Construction Staking Request
References	– Caltrans Surveys Manual – 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. • Staking and Setting Control Points for Drainage and Minor Structure Facilities
References	– Caltrans Surveys Manual 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 – 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

Deliverables	• Photogrammetric Product as Requested.
References	– Caltrans Surveys Manual – 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. • 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 – 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 • 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 – Caltrans Construction Manual

WBS Level 6	270.22 Contract Administration
Description	Work required administrating a construction contract.
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	• Documents or Records Produced under Subtasks Appropriately Filed in the Construction Project Records.
References	– Caltrans Construction Manual – Caltrans Standard Environmental Reference (SER) – California Manual on Uniform Traffic Control Devices – Caltrans Traffic Manual – Caltrans Transportation Management Plan Guidelines – Caltrans Labor Surcharge and Equipment Rental Rates – California General Prevailing Wage Determinations (Director of Industrial Relations) – Caltrans Surveys Manual – Caltrans Material Plant Quality Program – Caltrans Quality Control Manual for Hot Mix Asphalt – Caltrans Quality Control Quality Assurance Manual – Caltrans Independent Assurance Manual, Procedures for Accreditation of Laboratories and Qualification of Testers – Caltrans Construction Site Monitoring Program Guidance Manual January 2012 – Caltrans Standard Operating Procedures for Turbidity, pH, Dissolved Oxygen, and Conductivity January 2012 – Caltrans Summary of Changes - Revision of SWPPP & WPCP Preparation Manual, SWPPP and WPCP Templates May 2012 – Caltrans SWPPP/WPCP Preparation Manual March 2011 – Caltrans Construction Site BMP Manual March 2003 – Caltrans SWPPP/WPCP Review Guidance Manual – Caltrans Stormwater Management Enforcement Guidance Manual and Appendices – Caltrans Construction Stormwater Coordinators Guidance Manual – Caltrans Guidance for Temporary Soil Stabilization – Caltrans BMP Field Manual and Troubleshooting Guide – Caltrans Field Guide to Construction Site Dewatering
Subtasks	Activities include, but are not limited to: – Reviewing resident engineer file and project plans including right of way agreements. – Building project files. Ensuring that complete and accurate records of the work are retained. – Securing office space and associated service contracts. – Arranging and conducting the pre-construction meeting with the contractor. – Analyzing the contract plan and specifications. Identifying corrections. – Changed field condition engineering.

- 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

	– Caltrans Standard Environmental Reference (SER) – California Manual on Uniform Traffic Control Devices – Caltrans Traffic Manual – Caltrans Transportation Management Plan Guidelines – Caltrans Labor Surcharge and Equipment Rental Rates – California General Prevailing Wage Determinations (Director of Industrial Relations) – Caltrans Surveys Manual – Caltrans Material Plant Quality Program – Caltrans Quality Control Manual for Hot Mix Asphalt – Caltrans Quality Control Quality Assurance Manual – Caltrans Independent Assurance Manual, Procedures for Accreditation of Laboratories and Qualification of Testers
Subtasks	Activities include, but are not limited to: – Interpreting contract documents. – Field inspection and observation. – Jobsite material inspection, sampling and release as required. – Inspection using established lines and grade control. – Taking progress photographs of the jobsite and the contractors' operation. – Inspecting the contractor's operations related to traffic control to ensure public safety and compliance with contract provisions for public convenience. – Completing assistant resident engineer daily reports and documentation. – Inspecting the plant establishment phase of a project including monitoring plant growth, irrigation operation and direction of remedial work. – 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. – Safety inspections, Cal/OSHA related issues, accident or incident reporting, and ADA compliance. – 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

	– Caltrans Material Plant Quality Program – Caltrans Quality Control Manual for Hot Mix Asphalt – Caltrans Quality Control Quality Assurance Manual – Caltrans Independent Assurance Manual, Procedures for Accreditation of Laboratories and Qualification of Testers
Subtasks	Activities include, but are not limited to: – Mix Design review and comment. – Material plant 109 certification and testing. – Sampling and testing material at the source or at the construction project site. – Inspecting material source plants or facilities – Sampling and testing as part of quality assurance and independent assurance. – 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 – California General Prevailing Wage Determinations (Director of Industrial Relations)
Subtasks	Activities include, but are not limited to: – 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. – Contractor Licensing – Subcontracting including approving subcontracting requests, verifying that subcontractors have not been debarred, and confirming percentages of work performed are as required by contract. – Subcontractor substitution including evaluating request for substitution of subcontractors and/or equal evaluations. – Tribal Employment Rights Ordinance (TERO) administration. – Equal employment opportunity (EEO) administration per the provisions of the contract This includes the "Federal-Aid Highway Construction Contractors Annual

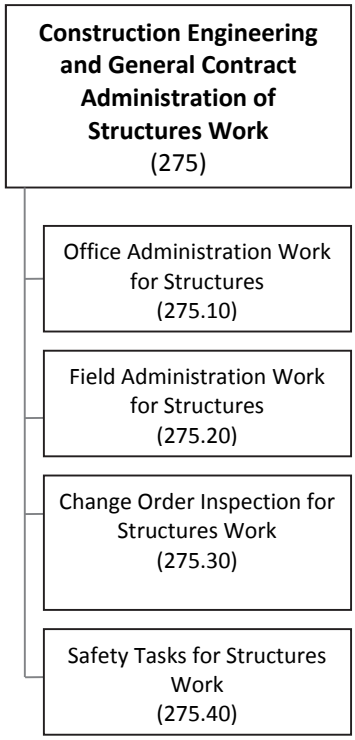
EEO Report" , employee interviews, investigation and referral of EEO complaints, and any EEO deduction recommendations.

– 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 – Caltrans Standard Environmental Reference (SER)
Subtasks	Activities include, but are not limited to: – Functional unit support to construction. Includes responses to requests for information and authorization of shop drawings. – Pre-construction meeting between construction and functional units. – Public information officer/outreach including public meetings, open houses, and other meetings concerning construction impacts. – 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 275	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



	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	**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 – California Test Methods: http://www.dot.ca.gov/hq/esc/ctms – Caltrans Bridge Construction Records and Procedures: http://www.dot.ca.gov/manuals.htm – Caltrans Bridge Deck Construction Manual: http://www.dot.ca.gov/manuals.htm – Caltrans Construction Manual: http://www.dot.ca.gov/hq/construc/constmanual – Caltrans Construction Manual Supplement for Local Agency Resident Engineers: http://www.dot.ca.gov/hq/construc/CPDirectives/LARE.pdf – Caltrans Construction Site Best Management Practices Manual: http://www.dot.ca.gov/manuals.htm – Caltrans Falsework Manual: http://www.dot.ca.gov/hq/esc/construction/manuals – Caltrans Foundation Manual: http://www.dot.ca.gov/hq/esc/construction/manuals – Caltrans Local Agency Structure Representative Guidelines: http://www.dot.ca.gov/hq/construc/CPDirectives/LASR_Guidelines.pdf – Caltrans Prestress Manual: http://www.dot.ca.gov/hq/esc/construction/manuals – 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 – 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 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 – Project Plans Special Provisions and Estimate Review: ▪ Caltrans Construction Manual, Chapters 1 and 3 – Clerical Work and Structure Construction Project Files: ▪ Caltrans Construction Manual, Chapters 1 and 5 ▪ Caltrans Bridge Construction Records and Procedures, Sections 4 and 5 – Pre-construction Meeting: ▪ Caltrans Construction Manual, Chapter 5 ▪ Caltrans Standard Environmental Reference (SER), Sections 1-2.8 – Progress Pay Estimates and Pay Quantities for Structures Items: ▪ Caltrans Construction Manual, Chapters 1 and 3 ▪ Caltrans Bridge Construction Records and Procedures, Sections 3, 4, 5, 6 and 130 – Correspondence: ▪ Caltrans Bridge Construction Records and Procedures, Sections 2-7.0 – Structures Submittal and Shop Plan Review: ▪ Caltrans Construction Manual, Chapters 3 and 7 ▪ Caltrans Trenching and Shoring Manual ▪ Caltrans Bridge Construction Records and Procedures, Sections 3 ▪ Caltrans Prestress Manual ▪ Caltrans Falsework Manual ▪ Concrete Technology – Cost Reduction Incentive Proposals (CRIP) for Structures Review: ▪ Caltrans Construction Manual, Chapter 3 – Labor Compliance Activities: ▪ Caltrans Construction Manual, Chapters 3 and 8 – Civil Rights Contract Compliance:

	▪ Caltrans Construction Manual, Chapter 8 – Weekly Statement of Working Days: ▪ Caltrans Construction Manual, Chapter 3 – Coordination: ▪ Caltrans Construction Manual, Chapters 1 and 2 ▪ Caltrans Bridge Construction Records and Procedures, Sections 8 – Pile Mitigation: ▪ Caltrans Foundation Manual, Chapter 9
Subtasks	– Structures Resident Engineer Pending File Review. ▪ Structure Representative reviews the resident engineer's file and structures resident engineer's file. – Project Plans Special Provisions and Estimate Review. ▪ Work involved in reviewing the project plans, special provisions and the estimates to become familiar with the contract documents. – Clerical Work and Structure Construction Project Files. ▪ Involves the initial work to develop the contract administration files for structures items. – Pre-construction Meeting. ▪ Includes in-house meeting after Pre-Construction meeting to establish Partnering Agreement, and the use of a Dispute Review Board (DRB). – Progress Pay Estimates and Pay Quantities for Structures Items. ▪ 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. – Correspondence. ▪ Letters and e-mails providing correspondence between State representatives and the Contractor. – Structures Submittal and Shop Plan Review. ▪ 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. – Cost Reduction Incentive Proposals (CRIP) for Structures Review. ▪ 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 – Line and Grade Control ▪ Caltrans Surveys Manual ▪ Caltrans Bridge Deck Construction Manual ▪ 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

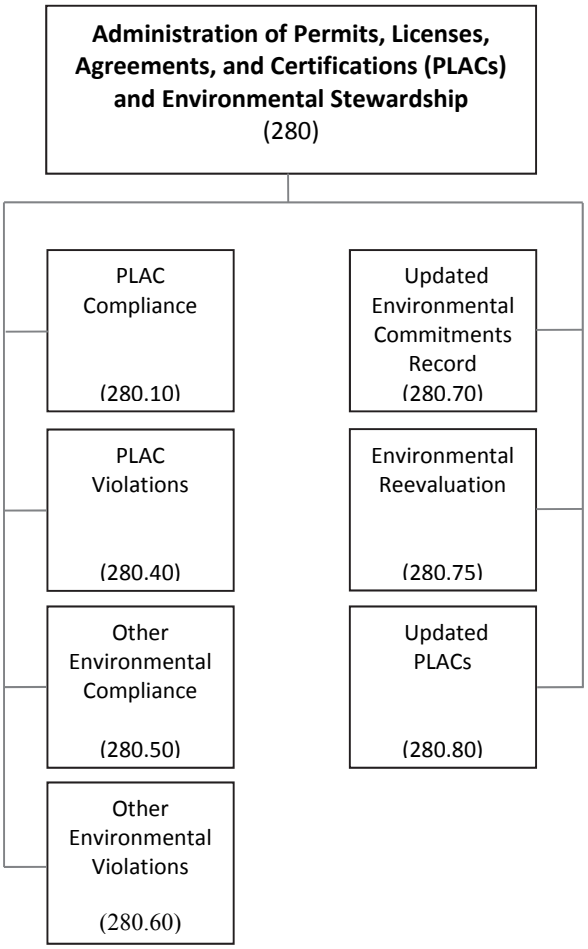
WBS Level 6	275.40 Safety Tasks for Structures Work
Description	Federal and State laws require Caltrans to provide a safe place of employment that is reasonably free from danger to life or health.
Lead Function	Structure Construction
Deliverables	• Completed Safety Tasks for Structures Work
Business 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 – Contractors' Operations Relative to Safety Requirements Documentation ▪ Caltrans Bridge Construction Records and Procedures, Section 14 – Safety Diaries ▪ Caltrans Construction Manual, Chapter 2 ▪ Caltrans Bridge Construction Records and Procedures, Section 14 – Project Safety Program Statement ▪ Caltrans Construction Manual, Chapter 2 – Code of Safe Practices ▪ Caltrans Construction Manual, Chapter 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

	– Tailgate Safety Meetings ▪ Caltrans Construction Manual, Chapter 2 ▪ Caltrans Bridge Construction Records and Procedures, Section 14
Subtasks	– Contractors' Operations Relative to Safety Requirements Documentation. – Safety Diaries – Project Safety Program Statement. – Code of Safe Practices. – 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



	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	**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 – Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser – Caltrans Field Guide to Construction Site Dewatering: http://www.dot.ca.gov/hq/construc/stormwater/DewateringGuide.pdf – Caltrans Construction Site Monitoring Program Guidance Manual January 2013: http://www.dot.ca.gov/hq/construc/stormwater/caltrans_guidance_manual-rev1.pdf – 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 – 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 – Caltrans SWPPP/WPCP Preparation Manual March 2011: http://www.dot.ca.gov/hq/construc/stormwater/documents/SWPPP_Prep_ManualJune2011.pdf – Caltrans Construction Site BMP Manual March 2003: http://www.dot.ca.gov/hq/construc/stormwater/CSBMPM_303_Final.pdf – Caltrans SWPPP/WPCP Review Guidance Manual: http://www.dot.ca.gov/hq/construc/stormwater/reviewguidance.pdf – 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. 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 – Caltrans Standard Environmental Reference (SER) – Caltrans Construction Site Monitoring Program Guidance Manual January 2012 – Caltrans Standard Operating Procedures for Turbidity, pH, Dissolved Oxygen, and Conductivity January 2012 – Caltrans Summary of Changes - Revision of SWPPP & WPCP Preparation Manual, SWPPP and WPCP Templates May 2012 – Caltrans SWPPP/WPCP Preparation Manual March 2011 – Caltrans Construction Site BMP Manual March 2003 – Caltrans SWPPP/WPCP Review Guidance Manual – Stormwater Management Enforcement Guidance Manual and Appendiceslist 9: Caltrans Construction Stormwater Coordinators Guidance Manual – Caltrans Guidance for Temporary Soil Stabilization – Caltrans BMP Field Manual and Troubleshooting Guide – Caltrans Field Guide to Construction Site Dewatering
Subtasks	Activities include, but are not limited to:

- All work to ensure compliance with PLACs including document review, field inspections, documentation, mitigation, and certification.
- Hazardous materials and waste management including aerially deposited lead and oncall cleanup. Refer to Section 7-106 of the Construction Manual for more information.
- Reviewing contractor-property owner agreements for compliance with the contract and regulatory-related PLACs, field inspections, and documentation.
- 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.
- Compliance with PLACs (e.g., air, noise, biological resources, paleontological resources, and archaeological resources.)
- 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. 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. • If Necessary, Processed Noncompliance Withholds or Deductions Appropriately Taken from Progress Payments or Final Payment.
References	– Caltrans Construction Manual – Caltrans Standard Environmental Reference (SER) – Caltrans Construction Site Monitoring Program Guidance Manual January 2012 – Caltrans Standard Operating Procedures for Turbidity, pH, Dissolved Oxygen, and Conductivity January 2012

	– Caltrans Summary of Changes - Revision of SWPPP & WPCP Preparation Manual, SWPPP and WPCP Templates May 2012 – Caltrans SWPPP/WPCP Preparation Manual March 2011 – Caltrans Construction Site BMP Manual March 2003 – Caltrans SWPPP/WPCP Review Guidance Manual – Stormwater Management Enforcement Guidance Manual and Appendiceslist 9: Caltrans Construction Stormwater Coordinators Guidance Manual – Caltrans Guidance for Temporary Soil Stabilization – Caltrans BMP Field Manual and Troubleshooting Guide – Caltrans Field Guide to Construction Site Dewatering
Subtasks	– Field review of site – Develop and submit performance reports to the regulatory agency – 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. 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 – Caltrans Standard Environmental Reference (SER) – Caltrans Construction Site Monitoring Program Guidance Manual January 2012 – Caltrans Standard Operating Procedures for Turbidity, pH, Dissolved Oxygen, and Conductivity January 2012 – Caltrans Summary of Changes - Revision of SWPPP & WPCP Preparation Manual, SWPPP and WPCP Templates May 2012 – Caltrans SWPPP/WPCP Preparation Manual March 2011 – Caltrans Construction Site BMP Manual March 2003 – Caltrans SWPPP/WPCP Review Guidance 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

	– Stormwater Management Enforcement Guidance Manual and Appendices – Caltrans Construction Stormwater Coordinators Guidance Manual – Caltrans Guidance for Temporary Soil Stabilization – Caltrans BMP Field Manual and Troubleshooting Guide – Caltrans Field Guide to Construction Site Dewatering
Subtasks	Activities include, but are not limited to: – All work to ensure compliance with related environmental requirements, not addressed in PLACs, including document review, field inspections, documentation, mitigation, and certification. – 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. – Reviewing contractor-property owner agreements for compliance with the contract and environmental requirements not specifically addressed in PLACs related requirements, field inspections, and documentation. – 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. – 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. – 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. 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.

Lead Function	Construction
Deliverables	• Documents or Records Produced under Subtasks Appropriately Filed in the Construction Project Records. • If Necessary, Processed Noncompliance Withholds or Deductions Appropriately Taken from Progress Payments or Final Payment.
References	– Caltrans Construction Manual – Caltrans Standard Environmental Reference (SER) – Caltrans Construction Site Monitoring Program Guidance Manual January 2012 – Caltrans Standard Operating Procedures for Turbidity, pH, Dissolved Oxygen, and Conductivity January 2012 – Caltrans Summary of Changes - Revision of SWPPP & WPCP Preparation Manual, SWPPP and WPCP Templates May 2012 – Caltrans SWPPP/WPCP Preparation Manual March 2011 – Caltrans Construction Site BMP Manual March 2003 – Caltrans SWPPP/WPCP Review Guidance Manual – Stormwater Management Enforcement Guidance Manual and Appendices – Caltrans Construction Stormwater Coordinators Guidance Manual – Caltrans Guidance for Temporary Soil Stabilization – Caltrans BMP Field Manual and Troubleshooting Guide – Caltrans Field Guide to Construction Site Dewatering
Subtasks	– Field review of site – Develop and submit performance reports. – Develop and submit responses or corrective action plans as warranted – Performance of actions to correct deficiencies – 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 • 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

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).
References	– Caltrans Construction Manual – Caltrans Standard Environmental Reference (SER)

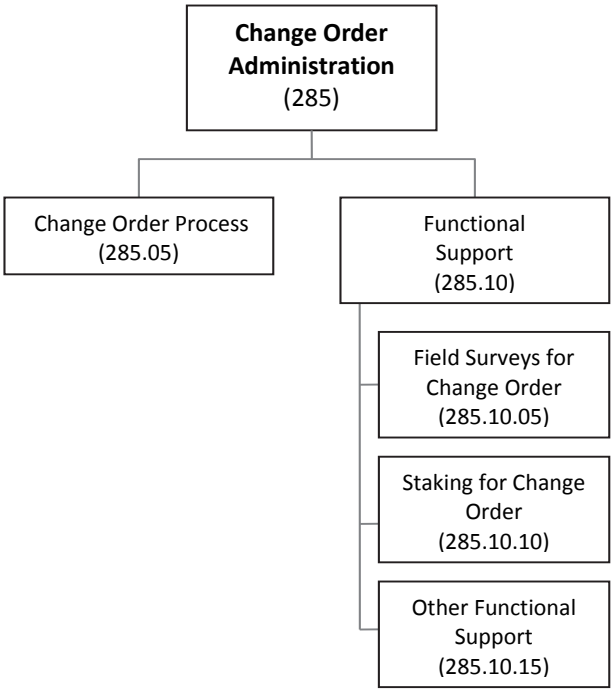
WBS Level 6	**280.75 Environmental Reevaluation**
Description	This activity is initiated when there are changes in any factors that might affect the validity of the project's Environmental Document (ED) or CE (Categorical Exemption under the California Environmental Quality Act, or Categorical Exclusion 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 • 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 – 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 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. 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 • PLACs Extensions • Updated Environmental Commitments Records, Signature Page, and Similar Documents If PLAC Conditions Change • Updated STEVE Database
Notes	Changes may also trigger an Environmental Reevaluation (WBS 280.75).
References	– Caltrans Construction Manual – 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



WBS
285

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 – Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser – Caltrans Labor Surcharge and Equipment Rental Rates: http://www.dot.ca.gov/hq/construc/equipmnt.html – 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 – Caltrans Standard Environmental Reference – Caltrans Labor Surcharge and Equipment Rental Rates – California General Prevailing Wage Determinations (Department of Industrial Relations)
Subtasks	Activities include, but are not limited to:

	– Analyzing the change order for cost, time and other related impacts and filing the completed analysis with the change order in the project files. – 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." – Obtaining the proper authorization to approve the change order and the work. – 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 – Caltrans Standard Environmental Reference (SER) – Caltrans Labor Surcharge and Equipment Rental Rates – 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

	– Caltrans Surveys Manual

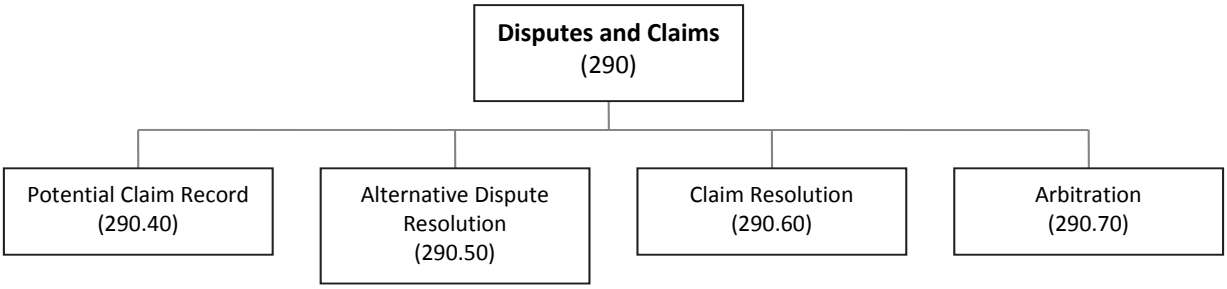
WBS Level 7	285.10.10 Staking for Change Order
Description	Construction staking operations performed at the construction site needed for change order(s) and includes re-staking for change order.
Lead Function	Surveys
Deliverables	• Construction Staking of Planned Lines and Grades • Notes Resulting from 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 – Caltrans Standard Environmental Reference – Caltrans Labor Surcharge and Equipment Rental Rates – 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



WBS
290

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 – 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: ▪ Initial Potential Claim Record (Form CEM 6201D) ▪ Supplemental Potential Claim Record (Form CEM 6201E) ▪ Full and Final Potential Claim Record (Form CEM 6201F)
References	– Construction Manual, Chapters 3 and 5 – 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)

	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

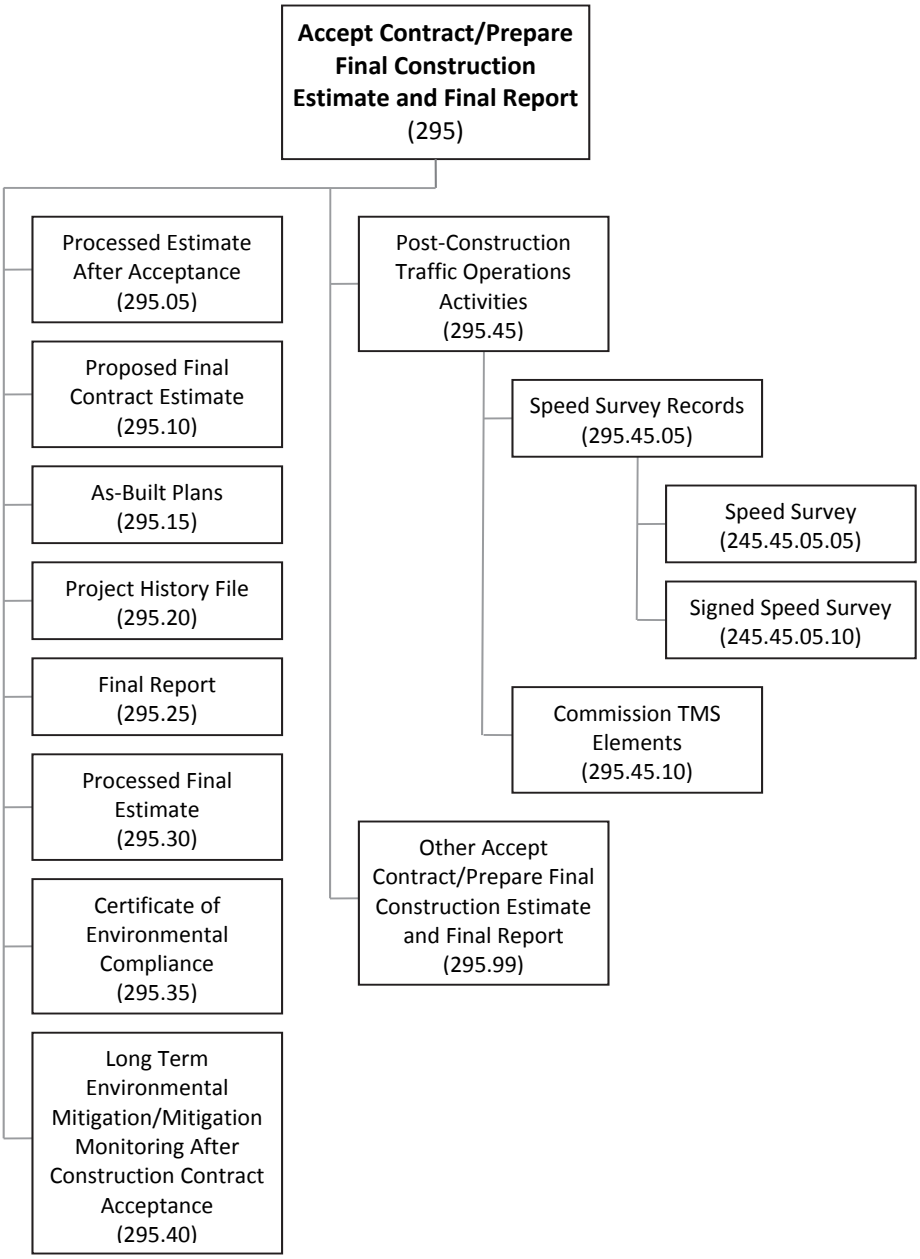
References	– Construction Manual, Chapters 3 and 5 – Caltrans Forms Used for Contract Administration web site

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. 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 • Change Order When Appropriate: ▪ Change Order (Form CEM 4900) ▪ Change Order Input (Form CEM 4901) ▪ Change Order Memorandum (Form CEM 4903)
References	– Construction Manual, Chapters 3 and 5 – 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: ▪ Change Order (Form CEM 4900) ▪ Change Order Input (Form CEM 4901) ▪ Change Order Memorandum (Form CEM 4903)
References	– Construction Manual, Chapters 3 and 5 – 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



	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	**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) ♦ M700 Final Report (Finish: WBS 295) ♦ M800 End Project Expenditures (Finish: WBS 295)
References	– California General Prevailing Wage Determinations (Director of Industrial Relations): http://www.dir.ca.gov/oprl/DPreWageDetermination.htm – California Manual on Uniform Traffic Control Devices (MUTCD): http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/ca_mutcd2012.htm – California Vehicle Code (CVC): http://www.dmv.ca.gov/pubs/vctop/vc/vc.htm – 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 – 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 – Caltrans CADD Users Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/caddman/default.htm – Caltrans Bridge Construction Records and Procedures: http://www.dot.ca.gov/manuals.htm – Caltrans Construction Manual: http://www.dot.ca.gov/hq/construc/constmanual/ – Caltrans Plans Preparation Manual: http://www.dot.ca.gov/hq/oppd/cadd/usta/ppman/default.htm – Caltrans Project Development Procedures Manual (PDPM): http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm – Caltrans Standard Environmental Reference (SER): http://www.dot.ca.gov/ser/ – Caltrans Standard Specifications: http://www.dot.ca.gov/hq/esc/oe/standards.php

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. 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) • Processed Semifinal Estimate(s)
Business Practices	Preparation and processing of the proposed final estimate is in WBS 295.10.
References	– Caltrans Construction Manual – Standard Specifications
Subtasks	– Ensure after-acceptance or semifinal estimate includes: ▪ Payment for any work completes since the previous estimate ▪ Corrects for any errors that may have discovered ▪ Clears any labor compliance, equal employment opportunity program or outstanding documents deficiencies or includes appropriate deductions as required – 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 – 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 • Roadway as-Built Plans Archived in the District
References	– Caltrans Construction Manual – Caltrans Bridge Construction Records and Procedures Manual – Caltrans Project Development Procedures Manual (PDPM), Chapter 15, Section 3 – Caltrans CADD Users Manual – 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

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 • 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 – 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 • A District Roadway Report of Completion Recorded and Stored in the District Office
References	– Caltrans Bridge Construction Records and Procedures – 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 – Caltrans Standard Specifications

	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	**295.35 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. 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. 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: – Brief project descriptions, including county, route, project manager, and project identifier – Impacts – Mitigation associated with each impact – Mitigation completed according to agreements and the agency with which that agreement was reached and the date it was completed. – Mitigation not completed according to agreements, why it was not so accomplished, what was done instead, and when that was completed. – 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 • Updated STEVE Database • Updated ECR
References	– Caltrans Standard Environmental Reference (SER) – Caltrans Division of Environmental Analysis (DEA) memo dated June 2005 regarding Environmental Commitments Record

	– 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 • 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 – Develop and submit performance reports to the regulatory agency – Perform remedial action to correct deficiencies – 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 • Updated Speed Zones • Sign Orders for Speed Limit Sign Installation • Operating TMS Elements
References	– California Manual on Uniform Traffic Control Devices (MUTCD)

	– 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 • Speed Survey • Justification
References	– California Manual on Uniform Traffic Control Devices (MUTCD) – 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 • Survey Mapping • 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) – 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 • Speed Survey • Justification

References	– California Manual on Uniform Traffic Control Devices (MUTCD), Section 2B.13 – California Vehicle Code (CVC), Sections 22352, 223455, and 627(a)

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 11.2 Tasks

Appendix A - List of Changes Matrix

Milestone/WBS Task ID	NEW-Release 11.2 Revised Attribute(s)	Old-Release 11.1 Prior Text	Change Description
M221, Finish 185.30	RECEIVE COMPLETE BRIDGE SITE DATA • Date DES receives the complete District's Bridge Site Data.	BRIDGE SITE DATA COMPLETED • Date DES completes District's Bridge Site Data.	Modified Milestone Definition & Name
M380, Finish 1.260.50	PROJECT PS&E • Date Project Submittal requirements are verified as complete by DES-OE for Informal (Emergency) Projects and by DOE for AADD Projects.	PROJECT PS&E • Date Project Submittal requirements are verified as complete by DOE.	Modified Milestone Definition
M390, Finish 1.260.60	DRAFT CONTRACT COMMENTS • Date DOE provides Draft Contract Comments to DES-OE for Informal Emergency) Projects and DOE for AADD Projects.	DRAFT CONTRACT COMMENTS • Date DOE provides Draft Contract Comments to DOE	Modified Milestone Definition
M400, Finish 1.260.70	DISTRICT CONTRACT COMMENT RESPONSES • Date District resolves contract comments with DES-OE for Informal (Emergency) Projects and with DOE for AADD Projects.	DISTRICT CONTRACT COMMENT RESPONSES • Date District resolves Contract Comments with DOE.	Modified Milestone Definition
M460, Finish 1.260.90	READY TO LIST (RTL) • Date RTL requirements are verified as complete by DES-OE for Informal (Emergency) Projects and by DOE for AADD Projects.	READY TO LIST (RTL) • Date RTL requirements are verified as complete by DOE.	Modified Milestone Definition

Appendix A

Milestone/WBS Task ID	NEW-Release 11.2 Revised Attribute(s)	Old-Release 11.1 Prior Text	Change Description
M475, Finish 260.95	CONSTRUCTION CONTRACT PACKAGE SUBMITTED TO DES-OE FOR ADVERTISEMENT • Date DES - OE validates Construction Contract Package requirements and logs the project into DES-OE database.	None	New Milestone Addition
M800, Finish 3.295 and 2.300	END PROJECT EXPENDITURES (EP) • All work complete from all functions including Env., R/W, and Surveys. Earliest Date Project can be archived.	END PROJECT (EP) All work complete from all functions including Env., R/W, and Surveys. Earliest Date Project can be archived.	Modified Milestone Name
M900	FINAL PROJECT CLOSEOUT Date when HQ Accounting Final Voucher process is completed by HQ Accounting for last FV	None	New Milestone Addition

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://projmgmt.onramp.dot.ca.gov/project-management-application-systems-pmas/workplan-standards
OR the Internet Website at:
http://www.dot.ca.gov/projmgmt/reports.html
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	WBS Name
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

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WBS	WBS Name
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	WBS Name
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	WBS Name
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	WBS Name
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

Appendix E

WBS	WBS Name
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

Appendix E

WBS	WBS Name
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

Appendix E

WBS	WBS Name
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

Appendix E

WBS	WBS Name
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

Appendix E

WBS	WBS Name
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	WBS Name
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	WBS Name
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	WBS Name
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	WBS Name
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	WBS Name
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	WBS Name
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.

[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

Appendix F

Term	Definition
Work package	A deliverable or project work component at the lowest level of each branch of the work breakdown structure[3].
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

[3] *A Guide to the Project Management Body of Knowledge (PMBOK Guide)* – Fourth Edition, 2008:453

Appendix G – Common Acronyms

AA	After Acceptance
AAC	Airspace Advisory Committee
AADD	Authority to Advertise District Delegation
AED	FHWA Agreement End Date
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
CED	Construction Expenditure Done
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
DED	District Expenditure Done
DES	Division Engineering Services
DPGR	District Preliminary Geotechnical Report
DRB	Dispute Review Board
DTM	District Traffic Manager
ECR	Environmental Commitments Record
EP	End Project Expenditures
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
FPC	Final Project Closeout
FV	Final Voucher
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

Appendix G

LOS	Level Of Service
LOTB	Log Of Test Borings
MIH	Materials Information Handout
MMRR	Mitigation Monitoring & Reporting Record
MOU	Memorandum Of 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

Appendix G

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
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 11.2 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

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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)
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
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
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	RECEIVE COMPLETE BRIDGE SITE DATA	RECEIVE COMPLETE BRIDGE SITE DATA	Date DES receives the complete 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

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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)
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
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 DES-OE for Informal (Emergency) Projects and by DOE for AADD Projects.	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 DES-OE for Informal Emergency) Projects and DOE for AADD Projects.	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 DES-OE for Informal (Emergency) Projects and with DOE for AADD Projects.	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

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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)
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 DES-OE for Informal (Emergency) Projects and by DOE for AADD Projects.	1	6	Finish 1.260.95	CE-ND-MND-EIR-CA-EIS	Optional
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
M475	CONST CONTR PACKAGE TO DES-OE	CONSTRUCTION CONTRACT PACKAGE SUBMITTED TO DES-OE FOR ADVERTISEMENT	Date DES - OE validates Construction Contract Package requirements and logs the project into DES-OE database.	1	6	Finish-1.260.95	CE-ND-MND-EIR-CA-EIS	Optional*
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

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)
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 EXP	END PROJECT EXPENDITURES	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
M900	FINAL PROJ CLOSEOUT	FINAL PROJECT CLOSEOUT	Date when HQ Accounting Final Voucher process is completed by HQ Accounting for last FV	None	None	Finish-3.M800 with up to 21 months lag determined by Accounting	None	HQ Mandatory**

*M475 - Informal (Emergency) Projects are excluded.

**M900 - For federally funded capital outlay projects, M900 has to be achieved before the Federal Highway Administration (FHWA) Agreement End Date (AED). For more details on Final Project Closeout, refer to new Project Delivery Directive and the guidance for Capital Outlay Projects.

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.

Office of Project Management Application Systems

1120 N Street, Mail Station 28, Sacramento, CA 95814
http://www.dot.ca.gov/projmgmt/index.html