

PEAR Handbook



Guidelines for Preparing a Preliminary Environmental Analysis Report (PEAR)

Revised January 2009

PREFACE

This edition of the handbook has been updated to reflect new or revised regulations, policies, and guidance. This edition also includes the following changes that will make the Preliminary Environmental Analysis (PEAR) Handbook more useful to practitioners:

- The PEAR Handbook, PEAR outline, and environmental studies checklist (ESC) are organized to be more consistent with each other and the annotated environmental document outlines [see the [SER - Forms and Templates](#)]
- Information on Sections 6001 and 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) has been added
- The revised Environmental Study Request form (Exhibit 1) is linked to a downloadable form on the SER website
- The PEAR outline (Exhibit 2) contains updated and revised forms and links to downloadable forms
- PEAR Attachment B (Estimated Resources by Work Breakdown Structure Code) has been updated with the 2008 WBS codes, revised to include new categories and linked to a downloadable Excel workbook
- A section on geology/soils/seismic/topography has been added, with specific references to the need to review geotechnical site characterization methods for environmental and regulatory compliance
- A section on growth has been added to ensure early consideration of growth-related effects
- A section on cumulative impacts has been added to prompt consideration of the project's potential impacts on past, present, and reasonably foreseeable projects at the scoping phase
- A section on energy has been added to ensure early consideration of energy conservation and climate change
- A section on environmental commitments has been added to highlight documentation of environmental commitments made during the scoping phase
- Hyperlinks have been added to direct users to helpful resources or references

This edition of the handbook also addresses the need for risk planning and early coordination with participating agencies and other stakeholders. In addition to the requirements set forth in this handbook, each district/region may have other policies and guidelines for PEAR preparation. At minimum, the requirements in the PEAR Handbook must be met.

A PEAR is a concise (approximately 5 -15 pages) report used to document the issues that are anticipated to be addressed in the NEPA or CEQA documentation and the assumptions that were used to anticipate those issues. The PEAR also includes a best-estimate workplan that is the basis for requesting resources for the PA&ED phase. The PEAR is not an appropriate vehicle for conducting and reporting detailed environmental analyses.

TABLE OF CONTENTS

| | |
|---|----|
| INTRODUCTION | 1 |
| CHAPTER 1 PROJECT INITIATION AND THE PEAR | 2 |
| 1.1 Types of PIDs | 2 |
| 1.2 Project Development Kick-Off..... | 3 |
| 1.3 Project Development Plans..... | 3 |
| 1.4 The PEAR..... | 4 |
| 1.5 SAFETEA-LU and PEAR | 5 |
| CHAPTER 2 REQUESTING A PEAR | 7 |
| CHAPTER 3 ENVIRONMENTAL RESPONSIBILITIES | 8 |
| 3.1 Senior Environmental Planner | 8 |
| 3.2 Environmental Planner/Generalist..... | 8 |
| 3.3 Environmental Specialists..... | 9 |
| CHAPTER 4 PEAR GENERAL ANALYSIS METHODS | 11 |
| 4.1 Preliminary Review | 11 |
| 4.2 Level of Effort: Risks and Assumptions..... | 12 |
| CHAPTER 5 CONTENTS OF THE PEAR | 14 |
| CHAPTER 6 ENVIRONMENTAL STUDIES | 18 |
| 6.1 Land Use | 18 |
| 6.1.1 Existing and Future Land Use..... | 18 |
| 6.1.2 Consistency With State, Regional, and Local Plans | 18 |
| 6.1.3 Parks and Recreation..... | 18 |
| 6.2 Growth | 19 |
| 6.3 Farmlands/Timberlands | 19 |
| 6.4 Community Impacts..... | 19 |
| 6.4.1 Community Character and Cohesion | 20 |
| 6.4.2 Relocations..... | 20 |
| 6.4.3 Environmental Justice..... | 20 |
| 6.4.5 Utilities/Emergency Services/Public Facilities..... | 21 |
| 6.5 Visual and Aesthetics..... | 21 |
| 6.6 Cultural Resources | 22 |
| 6.7 Hydrology and Floodplain | 25 |
| 6.8 Water Quality and Stormwater Runoff..... | 26 |
| 6.9 Geology, Soils, Seismic, and Topography..... | 27 |
| 6.10 Paleontology | 28 |
| 6.11 Hazardous Waste/Materials | 29 |
| 6.12 Air Quality | 31 |
| 6.13 Noise and Vibration | 31 |
| 6.14 Energy and Climate Change | 32 |
| 6.15 Biological Environment..... | 34 |
| 6.16 Cumulative Impacts | 35 |
| 6.17 Context Sensitive Solutions | 36 |

| | | |
|-------------------|--|----|
| CHAPTER 7 | RESOURCES AND SCHEDULE BY WBS CODE | 37 |
| 7.1 | Estimating Resources | 37 |
| 7.2 | Estimating Project Schedule | 38 |
| 7.3 | Task Management | 38 |
| EXHIBIT 1: | Environmental Study Request | 39 |
| EXHIBIT 2: | PEAR Outline | 41 |
| Attachment A: | PEAR Environmental Studies Checklist | 47 |
| Attachment B: | Estimated Resources by Work Breakdown Structure (WBS) Code | 49 |
| Attachment C: | Sample Schedule (Gantt Chart) | 56 |
| Attachment D: | PEAR Environmental Commitments Cost Estimate | 57 |
| EXHIBIT 3: | Sample Section 8 PEAR Technical Summaries | 59 |
| EXHIBIT 4: | List of Acronyms and Abbreviations | 60 |

INTRODUCTION

The Preliminary Environmental Analysis Report (PEAR) makes a critical contribution to the Project Initiation Document (PID) because it provides the initial environmental “look” at a project and its feasible alternatives for programming in the State Transportation Improvement Program (STIP) or the State Highway Operation and Protection Program (SHOPP).

The PEAR serves two phases. First, for the Project Initiation phase (“K” phase), it anticipates the environmental constraints that may affect project design, alternatives, cost, schedule, and delivery. It estimates the scope, schedule, and costs associated with the subsequent environmental compliance process and it documents the assumptions and risks used to develop them. Second, for the Project Approval/Environmental Documentation phase (PA&ED) (“O” phase), the PEAR provides preliminary information to the environmental team to begin studies and facilitate early consultation with state and federal resource agencies.

This handbook is a guide for writing a PEAR, which provides critical scoping information for PIDs. A PEAR should be concise – normally approximately 5 to 15 pages, excluding the attachments. The PEAR itself is summarized in the PID and is included as an attachment.

The handbook contains background information, PEAR request requirements, a description of the contents of a PEAR, analytical methods, and responsibilities of environmental team members. The PEAR handbook includes links to helpful resources and to the following PEAR forms and templates:

- Environmental Study Request (ESR) form
- PEAR Outline, which includes the following attachments:
 - Attachment A: PEAR Environmental Studies Checklist
 - Attachment B: Estimated Resources by Work Breakdown Structure (WBS) Code
 - Attachment C: Schedule (Gantt Chart)
 - Attachment D: PEAR Environmental Commitments Cost Estimate (standard PSR only)

CHAPTER 1 PROJECT INITIATION AND THE PEAR

The Project Initiation phase (“K” phase) is the first formal project phase in developing a solution for a specific transportation problem. The outcome of this phase is a PID that establishes a well-defined purpose and need statement and a project scope that is tied to a reasonably foreseeable cost estimate and schedule. An approved PID is required for capital improvements on the State Highway System (SHS) using state funds as well as for any major work on the SHS regardless of funding type.

1.1 Types of PIDs

The PID is an outcome of the preliminary project scoping effort. It is an engineering or technical report that documents the scope, cost, and schedule of a project. The PID is a record of the purpose and need for the project, and the approach that will be taken to meet or reduce transportation deficiencies (alternatives). It is a record of the existing information, initial assumptions, identified risks, and constraints that drove the development of the project workplan. PIDs are used to obtain approval for inclusion of a project into a programming document or to get conceptual approval of a project-funded-by-others.

There are several types of PIDs: the “standard” Project Study Report (PSR); the Project Study Report – Project Development Support (PSR-PDS); the Project Scope Summary Report (PSSR), used for many SHOPP projects; the Capital Preventative Maintenance Project Report (CAPM-PR); and several other specialty types. Please see the Project Development Procedures Manual (PDPM) [Chapter 9](#) for more information.

A PID is required by state law as well as the California Transportation Commission (CTC) and Caltrans policies for projects programmed for funding in the STIP. (The term used in the law is “PSR”.) In 1997, state legislation mandated that all projects programmed in the STIP have a “PSR” that identifies the funding allocation for specified project development components, one of which is environmental studies and permits. The same legislation also prohibited programming funds for capital costs (right-of-way acquisition and construction) unless those two project development components could be completed during that STIP programming period. In response to that legislation, Caltrans developed the PSR-PDS to program only the support costs needed to achieve project approval.

The PSR-PDS facilitates programming of STIP projects by identifying only the scope, schedule, and estimated support costs and resources necessary to advance the project through PA&ED. All STIP projects requiring an environmental document (e.g., initial study (IS) or environmental impact report (EIR)) must use a PSR-PDS to program the capital support component of the project. Detailed right of way and construction cost estimates are deferred until after the project is approved. The project report (PR) is then used to program the remaining support and capital components (i.e., development of plans, specifications and estimates (PS&E), right-of-way

| |
|---|
| <p style="text-align: center;">PID</p> <p>Purpose: Programming</p> <p>Identifies:</p> <ul style="list-style-type: none">• Transportation Problem• Alternatives• Key Issues• Risks• Assumptions• Scope• Schedule• Estimated Cost |
|---|

(ROW) acquisition and construction) of the project. The cost of environmental permits and commitments is a capital expense and is programmed along with ROW and construction costs.

The standard PSR identifies the project's scope, schedule, and estimated cost, including the capital outlay components through ROW acquisition and construction. Standard PSRs are used for STIP projects that qualify for a categorical exemption (CE) and for some SHOPP projects.

Many SHOPP projects have adequate information at the PID phase to approve the project. These are projects for which there are few, if any, alternatives to the proposal. A PSSR and a CAPM-PR combines the PSR and PR documentation requirements into one report. Because these types of PIDs also approve a project, the environmental documentation must be completed before the PID is signed. Typically, SHOPP projects that employ a PSSR or a CAPM-PR 1) qualify for CE and 2) do not require environmental technical reports. In these cases, a PEAR is not required though one may be prepared at the discretion of the district/region.

A more detailed discussion of Project Initiation and its associated documents can be found in [Chapter 9](#) of the PDPM.

1.2 Project Development Kick-Off

PID development begins with an initial project development team (PDT) meeting. The PDT is composed of staff from the various Caltrans district/region functional divisions, including Environmental, and may include affected local and regional agencies and others. Early in the PID development process, the team develops the purpose and need and the preliminary scope of the project based on information contained in transportation plans. For projects involving the National Environmental Policy Act (NEPA), SAFETEA-LU and FHWA policy stipulate that the lead agency or agencies define the project purpose and need and range of alternatives to be considered.

Once the scope and initial project alternatives are identified, the Design office provides the Environmental office with appropriate mapping, typical cross sections, and other information. The Project Manager (PM) formally requests the PEAR on behalf of the PDT using the Environmental Study Request (ESR). (See [Standard Environmental Reference \(SER\) PEAR](#))

1.3 Project Development Plans

Caltrans policy recommends that the PM develop a number of project-specific plans during the "K" phase, including a risk management plan, a communications plan, and a conflict management plan. The conflict management plan is actually a component of the communications plan and involves key representatives of the Department, local agencies, consultants, and other stakeholders agreeing upon conflict resolution protocols. Refer to [Caltrans Division of Project Management guidance](#) for further information on these plans.

1.4 The PEAR

What a PEAR is and what is it not

The PEAR is a summary of specific, critical environmental issues that may affect project approval, programming, scheduling, design considerations, and cost. **The magnitude and complexity of the proposed project dictates the effort expended for PEAR documentation.**

A PEAR is a project-specific scoping document designed to identify potential environmental issues, constraints, assumptions, and risks that will need to be considered in the later phases of project development; the anticipated level of environmental document; and the estimated resources and schedule needed to complete the environmental document. In order to determine the appropriate level of environmental document, it will be necessary to make a preliminary determination of whether the project may have a significant effect on the environment. The information contained in the PEAR also serves as the foundation for the environmental team to begin studies in the PA&ED phase and to facilitate early consultation with federal and state resource agencies and other parties. Since there can be significant effects on the cost and schedule of future phases of work, the estimates in a PEAR should be as accurate and complete as possible, especially on complex projects and those involving multiple alternatives.

A PEAR is **not** an environmental document; it is **not** the equivalent of a Tier 1 NEPA document; it is **not** a report of environmental analyses. If potential impacts can be clearly expected based on preliminary information, a PEAR should include the anticipated mitigation measures or other commitments. A PEAR is a report of anticipated issues and constraints together with a workplan, reflecting those anticipated issues and constraints, on which to base project programming.

When used for a PSR-PDS, the PEAR includes all the information required for a standard PSR except the capital cost estimates.

When a PEAR is required

For projects on the SHS, a PEAR is mandated for STIP projects programmed with a PSR-PDS requiring an environmental document (IS or EIR). A PEAR is strongly recommended for projects programmed with a standard PSR¹; for projects qualifying for a CE with technical studies; and for large, complex SHOPP projects requiring an environmental document (non-CE), especially Long Lead SHOPP projects where project development will exceed the SHOPP programming period. A PEAR is not intended to be used with PSSRs or CAPM-PRs where the project clearly qualifies for a CE (without technical studies) and the CE is approved during the PID process. However, the PDT has the discretion to prepare a PEAR for any type of PID.

Under SAFETEA-LU and two memoranda of understanding, the Federal Highway Administration (FHWA) assigned all their responsibilities under the National Environmental Policy Act (NEPA) to Caltrans with certain exceptions. The assignment applies to all projects on the SHS and all federal-aid local assistance projects off the SHS. (See the [Local Assistance Procedures Manual](#) for federal-aid local assistance project requirements.) When determining the class of action (for complex EAs and EISs), the districts must obtain concurrence from

¹ [Memo, G.R. Winters, Caltrans Division of Environmental Analysis, December 27, 2001](#)

the appropriate Headquarters Environmental Coordinator. For further information regarding this concurrence, please see [Chapter 38](#) of Volume 1 of the Standard Environmental Reference.

1.5 SAFETEA-LU and PEAR

Sections 6001 and 6002 of SAFETEA-LU made some key changes to the transportation planning process, the scoping process, and the NEPA process. The PEAR is the creation of Caltrans to document preliminary environmental information and assumptions but it is neither a federal nor a state requirement. The PEAR acts as a bridge between the environmental coordination done during transportation planning and the environmental coordination done during the formal environmental process and provides critical information for programming the project.

Section 6001: Transportation Planning

Under SAFETEA-LU, metropolitan planning organizations (MPO) and the state are encouraged to consult or coordinate with planning officials responsible for other types of planning activities affected by transportation. SAFETEA-LU Section 6001 requires transportation plans to include a discussion of potential environmental mitigation activities, along with identification of potential sites to carry out the mitigation activities. The discussion must be developed in consultation with federal, state, and tribal governments and resource and regulatory agencies. MPOs are required to consult with state and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation concerning development of the transportation plans. Representatives of users of pedestrian walkways, bicycle transportation facilities, and the disabled are specifically added as parties to be provided with the opportunity to participate in the planning process. In California, federal metropolitan transportation plans are incorporated into regional transportation plans (RTPs).

The requirements of Section 6001 affect the transportation planning process and the public coordination component of the scoping process. The coordination and consultation with affected parties that occurs as part of the planning process will inform the preliminary environmental scoping described in the PEAR, as well as the subsequent, formal environmental review process.

For more information on SAFETEA-LU Section 6001, please see the [FHWA/FTA Statewide Transportation Planning, Metropolitan Transportation Planning, Final Rule](#). Please also see [Linking the Transportation Planning and NEPA Processes](#).

Section 6002: Efficient Environmental Review Process

SAFETEA-LU Section 6002 provides for a new NEPA environmental review process, which is mandatory for environmental impact statements (EIS) that have a notice of intent (NOI) published after August 10, 2005. Section 6002 requires the lead agency to invite participating agencies into the environmental review process. Participating agencies are any federal or non-federal agencies (including state, tribal, regional, and local agencies) that may have an interest in the project. Lead agencies are required to give participating agencies and the public an opportunity for involvement in the development of the project's purpose and need and range of alternatives. It also requires the development of a coordination plan to achieve the environmental compliance. While the *Section 6002 - SAFETEA-LU Environmental Review Process Final Guidance* leaves the option to provide this opportunity for involvement during the

transportation planning phase, the standard time frame for this will typically happen after the PEAR, during the NEPA scoping process and prior to the circulation of the draft EIS. For projects subject to the 6002 review process, the PDT members should bear in mind that the decisions regarding purpose and need and the range of alternatives made in the PID phase may be subject to further coordination with any previously unidentified participating agencies during the NEPA phase.

The 6002 process is initiated by notifying Caltrans Headquarters Division of Environmental Analysis (DEA) environmental coordinator for the district/region of the type of work, termini, length, general location of project, and list of anticipated federal permits.

For further information on SAFETEA-LU Section 6002, please see DEA's Environmental Management Office (EMO) [SAFETEA-LU page](#). Also, refer to [Section 6002 - SAFETEA-LU Environmental Review Process Final Guidance - FHWA](#).

CHAPTER 2 REQUESTING A PEAR

To initiate work on a PEAR, an environmental study request (ESR) is submitted by the PM to the appropriate senior environmental planner (SEP) or environmental designee. The content requirements of the ESR are shown in the textbox at the right. The [ESR form](#) is available for downloading on the SER website.

The ESR provides the information environmental staff needs to begin the PEAR. For example, aerial photographs and preliminary right-of-way maps should be included as attachments to the ESR. These maps show the Environmental Study Limits (ESL) and additional project information.

When all the information for the ESR is not yet available, the PDT must identify those issues where information is critical to establishing the viability of an alternative. The team needs to agree on the assumptions to be used in the absence of information, and agree on a timeframe for the validation of these assumptions. Assumptions should be made in consultation with Environmental staff to minimize delays later in project development. These assumptions and the risks associated with them must be documented in the PEAR.

The PM, project engineer (PE), and environmental planner/generalist (Generalist) coordinate with one another to determine how many copies of the request package are required for a particular project.

REQUIREMENTS FOR REQUESTING A PEAR

- Completed ESR form with transmittal memo summarizing the PEAR request and date needed.
- Project location map.
- Project description (as detailed as known at time of PEAR).
- Purpose and need statement (as known at time of PEAR).
- Project alternatives.
- A typical cross-section of the project.
- Target completion date for PID.
- Aerial photos (scale: 1/200) of the project. Include beginning and ending post miles and the names of cross roads.
- Existing and proposed centerline.
- Existing and proposed right-of-way.
- Utility relocations, if known.
- Location of cut and fill lines, if known.
- Staging areas and access roads, if known.
- Approximate limits of ground disturbance (project footprint).
- Drainage improvements.
- Topographic features.
- North arrow and scale.
- Easements, permanent and temporary, if known.
- Proposed borrow and disposal sites, if known.
- Proposed construction year, project category, and funding source (standard PSR only).
- ROW Maps, if available.

*Note: If some items noted above are not available at the time the PEAR is requested, The PDT, with significant input from Environmental, will identify issues where information is critical to establishing the viability of an alternative, document assumptions about missing information and establish a timeframe for validating assumptions.

CHAPTER 3 ENVIRONMENTAL RESPONSIBILITIES

GENERALIST RESPONSIBILITIES

- Attend PDT meetings as an Environmental representative.
- Coordinate with the Design team in developing PEAR request information and developing the draft purpose and need.
- Assist in making initial assumptions regarding environmental issues.
- Review PEAR request for completeness.
- Draft a schedule for completing studies.
- Distribute project information and PEAR schedule to the environmental specialists.
- Monitor and facilitate the progress of specialist studies for problems or delays.
- Write the PEAR; coordinate internal review of the PEAR.
- Transmit the PEAR to the SEP and the PM for approval.
- Transmit the approved PEAR to the PE, PM, and Environmental file.

3.1 Senior Environmental Planner

The SEP, or designee, is responsible for planning, estimating the necessary resources, and supervising the environmental personnel to complete the PEAR by the agreed-upon date. The SEP prioritizes and assigns work to generalists and/or specialists; monitors progress; attends meetings as required; and comments, reviews, and approves the PEAR and technical studies in a timely manner. Specialists from other district/region functions or offices may be needed to contribute to the PEAR.

3.2 Environmental Planner/Generalist

The generalist is the environmental team leader, coordinating the activities of a multi-disciplinary team of environmental specialists. The generalist writes a PEAR that accurately summarizes information the specialists provide, including schedules and resource estimates. The textbox at left lists the generalist's responsibilities related to PEAR preparation.

The generalist circulates the PEAR to the environmental specialists, PE, and PM for review. After review and revisions, the generalist submits the PEAR to the SEP and PM for approval. For projects scoped as an environmental assessment (EA) or environmental impact statement (EIS), the

generalist must obtain concurrence on the class of action from the Headquarters DEA environmental coordinator. (See SER [Chapter 38](#) for additional information on the class of action concurrence.) The generalist submits copies of the approved PEAR to the requesting PE, PM, and the Environmental file.

As a PDT representative, the generalist reports to the PE and the PDT on the status of special studies and current environmental issues; potential risks; how any potential problems are being handled and resolved; if assumptions were confirmed; and the ability to meet the agreed-upon deadline. In these meetings, the generalist discusses potential scheduling, cost, and consequences of project alternatives that may adversely affect identified environmental resources. The generalist identifies any additional data required to complete the PEAR.

The generalist shares research results among specialists as appropriate when that information may benefit another specialist's research efforts (e.g., water quality and biology) or when potential avoidance, minimization and/or mitigation measures for environmental impacts could

result in impacts to other resources. The generalist shares assumptions and the results of any studies provided by other functional units, such as Planning, Design or Geotechnical.

3.3 Environmental Specialists

Various environmental specialists identify potential issues and constraints for the PEAR (see PEAR Outline: PEAR Environmental Studies Checklist). Their responsibilities are much the same in terms of procedure and documentation as for the generalist, but they differ regarding contents.

The specialist documentation includes the project setting, type of survey conducted (such as photolog review or “windshield” survey), summary of background research and findings, and effects the project might have on resources within or adjacent to the project area. The documentation:

- 1) Identifies studies that are necessary for the NEPA or CEQA documentation;
- 2) Recommends environmental commitments and alternatives, if appropriate;
- 3) Identifies high risk issues and recommends actions to reduce the risks to the project scope, cost, and schedule.
- 4) Determines what permits, approvals and/or coordination will be needed;
- 5) Provides a resource estimate and time schedule for all activities as well as cost estimate for environmental commitments for standard PSRs; and
- 6) Concludes with a summary the generalist may include in the PEAR (see textbox below: Specialist Responsibilities).

SPECIALIST RESPONSIBILITIES

- Conduct background research
- Perform a windshield survey (or equivalent) and/or on-the-ground site visit
- Review Caltrans photo log and/or DHIPP
- Prepare documentation:
 - List assumptions made in preparing report
 - Known resources and their sensitivity
 - Anticipated effects, permits and environmental commitments
 - Identification of high risk environmental concerns and recommendation of how they may be addressed
 - Contacts/sources consulted
 - Recommendations
 - Summary
 - PEAR Environmental Studies Checklist
 - Estimated resources by WBS Code
 - Schedule (for completing studies in PA&ED phase)
 - PEAR Environmental Commitments Cost Estimate for standard PSRs

In addition to the above items, the documentation notes situations that might affect the alternatives, cost, or viability of the project. The specialist may plot all known resources or locations of potential resource sensitivity on the aerial map (provided by the generalist) and attach it to the documentation. To the maximum extent possible and in order to secure resources, the documentation attempts to address all anticipated post-construction, long-term maintenance or monitoring.

More detail on responsibilities of each specialist area is included in this Handbook, Chapter 6 Environmental Studies.

CHAPTER 4 PEAR GENERAL ANALYSIS METHODS

Environmental staff performs PEAR studies for a project **commensurate with the magnitude of potential impacts of the project and the environmental sensitivity of the area**. For a PSR-PDS, the completed PEAR provides sufficient information to accurately estimate the resources required for PA&ED. For a PSR and other types of PIDs, the PEAR also includes cost estimates and schedules for the entire capital project, including funds and resources needed to obtain permits and implement environmental commitments and monitoring.

4.1 Preliminary Review

The preliminary project review involves evaluating the project submittal, reviewing the Caltrans photo log and the Digital Highway Inventory Photography Program (DHIPP) (see [Caltrans State Highway Photo Log](#), and [DHIPP](#)), aerials, and performing a background search including the Geographic Information Systems (GIS) databases. The background search may involve contacting various governmental agencies with interest or expertise relevant to the project. Pertinent literature sources, such as previous environmental documents written for projects near the proposed project area and specialty-specific material are checked. The Caltrans photo log, DHIPP, and aerial photographs are used to determine potentially sensitive areas and possible areas to focus further studies. It is useful to review the Planning Scoping Checklist (if available), prepared by Transportation Planning, for information on the project's funding, inclusion in regional or metropolitan transportation plans, air quality conformity status, and proximity to tribal lands.

PRELIMINARY PROJECT REVIEW

- Evaluate PEAR request
- Review Caltrans photo log, DHIPP, and aerials
- Conduct background search (i.e., previous project files relevant to the project area)
- Make informal agency contacts as appropriate

SITE REVIEW

Projects with minimal Impact:

- Caltrans photo log, DHIPP, and aerials may suffice.
Need a closer look?
 - Windshield survey or equivalent -- may be the most practical method for a large project.
 - Windshield + on-the-ground field reviews – best for projects with potentially sensitive resources.

4.2 Level of Effort: Risks and Assumptions

The next step is to review the project site. A site visit is not necessary for projects with minimal impacts or if the season is such that a site visit would not yield adequate information. For these projects, the Caltrans photo log, DHIPP, and aerials may suffice to provide the information needed at the “K” phase.

For site visits, the level of effort will generally fall into two categories:

1. Windshield survey or equivalent only: You may choose to use this level of effort for larger projects where a windshield survey or equivalent is the most practical method; and
2. Windshield survey or equivalent plus on-the-ground field reviews: This approach is best for projects with potentially sensitive resources or in sensitive areas, when additional information is advisable. On-the-ground field reviews may be needed to examine specific resource issues. On-the-ground field reviews are **not** to be done at the level of detail of subsequent environmental studies.

The level of field review required for a specific project will be left to the professional judgment of the generalist and specialist(s). The higher the risk related to a project, the more consideration should be given to conducting more detailed field review for the PEAR.

But, remember, the higher the risk related to a project, the more consideration should be given to conducting detailed scoping for the PEAR.

In 2006, Caltrans Headquarters reviewed a sampling of transportation projects delayed at Notice of Preparation, Draft Environmental Document, and Final Environmental Document. The study team assessed each project’s general characteristics and causes for delay.

Based on the findings of the report, careful consideration should be given to the following when determining the level of effort for the PEAR:

Careful consideration should be given to the following when determining the level of effort for the PEAR:

- **Project Type:** projects that require acquisition of substantial amounts of right-of-way, relocation of utilities, roadway widening, bridge improvements, and/or drainage improvements are at higher risk for delay due to environmental issues
- **Project Location:** project is located within or adjacent to a sensitive area (i.e., a coastal zone. Refer to SER [Chapter 18](#) - Coastal Zone)
- **Internal Processes:** project scoping requirements, timing of key studies, and competing priorities
- **External Processes:** regulatory agency approval time, adding new alternatives, and partner agency decisions

NEED MORE DETAILED SCOPING?

The Department's [Guide to Project Delivery Workplan Standards](#) acknowledges that project-specific circumstances may indicate the need for conducting more detailed investigations during the "K" Phase. Since cost estimates developed in this phase will be used for programming purposes, the analysis should be of sufficient detail to identify all potential costs for all subsequent project phases.

The "K" Phase is not intended to provide resources to conduct the level of surveys needed for environmental compliance, however, the generalist may request an exception if more detailed information is required to make an informed decision. The PDPM [Chapter 8](#) provides guidance on obtaining exceptions.

Assumptions

The PEAR outline also requires documentation of any assumptions that were made while preparing the PEAR, particularly assumptions that would affect the cost, scope, and schedule. For example, the assumption could have been made that data recovery for an archaeological site would not be needed later in the project development process. The PEAR must document that assumption and briefly state the likely effect on the project's cost and schedule if that assumption proves incorrect.

Risk Management

Risk management is the systematic process of planning for, identifying, analyzing, responding to, and monitoring project risks. Project risk is an uncertain event or condition that, if it occurs, has a positive or negative effect on at least one project objective. Project risk management is most effective when first performed early in the life of the project and is continued throughout the course of project development. During PEAR preparation, consider the environmental risks that could be associated with the project, and document the risks in the PEAR as much as possible based on what is known at this early stage. Keep in mind that environmental risk identification will help the project development team to manage and monitor project risks as they arise and change throughout the life of the project. For more information, please see the [Project Risk Management Handbook](#). It is important to help the project team focus on specific issues that present a high risk to project scope, cost, or schedule and to recommend actions to reduce these risks.

CHAPTER 5 CONTENTS OF THE PEAR

Keeping in mind the purpose of the PEAR, conciseness and brevity are important. **The intent is not to create a cumbersome volume of paper to accompany every PID, but to clearly outline and estimate the cost, scope, and schedule for achieving PA&ED and, in the case of a standard PSR, for environmental commitments as well.** The information must be presented in a clear manner for easy inclusion in the PID.

The PEAR includes several key sections. The following discussion explains each PEAR component:

Project Information (Item 1)

The PEAR identifies the basic project information (Co/Rte/PM and EA) and the names and phone numbers of the PM, PE, SEP (or designee), and PEAR preparer.

Project Description (Item 2)

The PEAR includes a concise description of the proposed project, including purpose and need and proposed alternatives.

Anticipated Environmental Approval (Item 3)

Based on the project information and the specialist documentation, the generalist will make a preliminary determination as to the appropriate environmental determination or document and will prepare a workplan that summarizes the tasks, resources, and estimated time needed to complete environmental documentation and approval for the project. NEPA projects that require an EA or EIS must also have written approval from the Caltrans DEA environmental coordinator on the federal class of action (email is acceptable documentation). Identify whether an EA is anticipated to be a “routine” EA or a “complex” EA since this distinction will affect the project workplan. (Please see [Chapter 38](#) for additional information.)

Special Environmental Considerations (Item 4)

Identify special considerations that may affect project delivery and require unusual, exceptional, or extended environmental processes. These may include construction constraints due to work windows; seasonal constraints that affect sensitive resource studies; complex processes such as Section 106 of the National Historic Preservation Act (NHPA), Section 404 of the Federal Clean Water Act, Section 7 of the Federal Endangered Species Act (FESA), and Section 4(f) of the Department of Transportation Act (49 U.S.C. 303); other considerations such as biological monitoring or Native American monitoring; obtaining permits and approvals from resource agencies; and obtaining permits to enter property owned or controlled by others. See Level of Effort: Risks and Assumptions (below) for other important factors.

Environmental Commitments Summary (Item 5)

Prepare **brief** summaries for each resource area describing the environmental commitments that are anticipated to reduce, minimize, or compensate for permanent project impacts. In discussing anticipated environmental commitments, address only those that are above what would normally be expected. Standard practices, such as erosion control, avoidance of unstable materials, dust control, and traffic control are not included in the discussion.

An environmental commitment is a measure that Caltrans commits to implement in order to avoid, minimize, and/or mitigate a real or potential environmental impact. Environmental commitments may be identified during the preparation of the PEAR and would be updated as the project moves through the project delivery process. The Environmental Commitment Record (ECR) is used to track and document the completion of environmental commitments. It consolidates all the relevant environmental compliance information together in a single document, facilitating and ensuring implementation. An ECR is now required for all Caltrans projects that have environmental commitments. The format of the ECR is determined at the Caltrans district level.

For standard PSRs, the capital cost for environmental permits and commitments will be estimated and included in the PEAR. State the estimated cost (or range of costs) for each environmental commitment and the total cost of all environmental commitments, based information in the PEAR environmental commitments cost estimate. In addition to the estimated costs, include timelines and schedules, and remember to include monitoring and maintenance considerations, since these elements can have a critical bearing on the project's cost, schedule, and funding source; the identification of the preferred alternative; and the type of environmental approval.

If a PEAR is being prepared for a PSR-PDS, do not include cost estimates for environmental permits or commitments. These costs will be programmed later in the PR.

For additional guidance, see [Caltrans Chief Engineer Memo: ECR](#), and [SER Chapter 39 - Incorporating Environmental Commitments into Design](#).

Permits and Approvals (Item 6)

In this section, for each viable alternative, list the anticipated environmental permits and approvals and provide an estimate of the timeframe for obtaining them. Reference the PEAR Environmental Commitment Cost Estimate. If a PSR-PDS is being prepared, remember that a PSR-PDS is not going to program capital costs for environmental commitments. However, you need to consider time and cost involved in obtaining any necessary approvals for PA&ED, such as NEPA/404 and identification of the least environmentally damaging practicable alternative (LEDPA) concurrence.

Risks and Assumptions (Item 7)

In this section, discuss important factors that could affect the cost, schedule, level of effort and resources needed for the environmental document. This discussion is one of the most important aspects of the PEAR because it records the assumptions that were used in formulating the project

workplan, what environmental information was available at that time, what potential risks were anticipated by the PDT and how these risks may be handled as the project proceeds. For example, if federally-listed plant species are present, triggering FESA Section 7 consultation, it is possible that external factors beyond the Department's control, such as resources agency staffing shortages, may lengthen consultation timeframes.

Technical Summaries (Item 8)

Summarize all environmental specialist documentation. The order of technical summaries follows the annotated outlines [SER - Forms and Templates](#). See Exhibit 3 for sample summaries.

Summary Statement for PID (Item 9)

In the next section of the PEAR, present a concise summary of the environmental approval type, key environmental issues, special considerations, studies, permits, assumptions, and environmental commitments anticipated for each alternative. This statement is inserted directly into the PID.

Disclaimer (Item 10)

The PEAR outline (Item 10) has boilerplate language stating that the PEAR is not an environmental document but is a preliminary and cursory analysis of potential issues and effects for project scoping and programming purposes. The disclaimer explains that any changes in the project scope or environmental laws, processes, or permit requirements after completing the PEAR will require additional evaluation later in the project development process.

Preparer Review Signatures (Item 11)

This section lists the generalist and the specialists who contributed to the PEAR. These individuals sign and date the document to confirm that they have performed a quality control review of the entire PEAR and that it is satisfactory for their area of expertise.

Review and Approval Signatures (Item 12)

The SEP and the PM complete this section confirming that environmental cost, scope, and schedule have been satisfactorily completed and that the PEAR meets all Caltrans requirements. Also, if the project is scoped as an EA or EIS, their approval also confirms that the Headquarters DEA environmental coordinator has concurred with the federal class of action.

Attachment A: PEAR Environmental Studies Checklist

The PEAR Environmental Studies Checklist is a list of the environmental technical documentation that may be required for any project. The generalist, with the specialists' input, identifies on the checklist the areas that require special studies, memoranda to file, or that need no further evaluation.

Attachment B: Resource Estimates

The Estimated Resources by WBS Code provides information necessary to estimate capital outlay support (COS) personnel costs. This information is used to develop the project work plan. Based on specialist estimates and professional judgment, the generalist can record estimated personnel costs in hours for each environmental project development activity, from activities WBS 100 through WBS 185 (for a PSR-PDS) and through WBS 295 for a standard PSR. When calculating resource estimates, it is important to include hours for environmental construction liaisons and monitoring.

Attachment C: Schedule

The PEAR contains a schedule for the environmental work activities. The PEAR Handbook has a brief sample schedule, a snapshot of a project schedule in a Gantt chart format. It illustrates the estimated schedule for doing a biological assessment for a joint state/federal document. Check the appropriate district or region practice and procedures on the preferred method for preparing a project schedule. Include required review times for quality control/assurance reviews and legal reviews in the schedule. To the extent possible, estimate review times for external agency reviews.

Attachment D: PEAR Environmental Commitments Cost Estimate

If the PID is any type other than a PSR-PDS, the environmental commitments cost estimates include both staff support *and* capital costs. Generalists can complete the support costs estimates using their completed Estimated Resources by WBS Code. For example, if you estimated 80 hours for biological monitoring (WBS 235.35 Long Term Mitigation Monitoring) in the Estimated Resources by WBS Code, convert those hours to a dollar amount. The PM can provide current hour-to-dollar conversion rates. If the PID is a PSR-PDS, the environmental commitments cost estimate only includes support costs to complete the PA&ED phase.

With specialists' input, the generalist completes the table for each alternative. The PEAR Environmental Commitments Cost Estimate form includes an example. In Part 2 (Permits and Agreements), enter the cost of permits or approvals anticipated for the given alternative. In Part 3 (Environmental Commitments for Permanent Impacts), provide the estimated cost (or range of costs) for each environmental commitment.

CHAPTER 6 ENVIRONMENTAL STUDIES

While Chapter 5 of this Handbook is a general overview of the PEAR, the following discussion addresses the specifics of each technical area. Each “topic” chapter in the SER Volume I includes a section on “information needed for Project Initiation Document”. In addition to reviewing the following guidance for preparing the PEAR for their own disciplines, specialists should also review, at a minimum, Chapter 3, Section 3.3, and Chapter 4 of this Handbook. The information provided for the PEAR shall be brief and concise.

6.1. Land Use

Preparer: Socioeconomic specialist, qualified Generalist, or appropriate HQ DEA staff, depending on the size and location of the project.

The specialist evaluating these resources will conduct a pre-field background search (e.g., previous environmental documents), GIS data-bases, and make contacts with outside agencies. In most cases, the fieldwork will be limited to a windshield survey or equivalent. The preliminary analysis should briefly consider and address the following areas:

6.1.1 Existing and Future Land Use

Identify the existing and planned land uses and zoning in the project area.

6.1.2 Consistency With State, Regional, and Local Plans

Determine if the project and/or alternatives are consistent with state, regional, and local plans, and if the project and alternatives will result in incompatible land uses. Identify feasible avoidance, minimization, and/or mitigation measures.

LAND USE IMPACTS

- Conduct a background search
- Perform a windshield survey or equivalent
- Prepare documentation
 - Existing land use setting
 - Potential impacts
 - Recommendations
 - Summary
 - Land Use portion of the PEAR Environmental Studies Checklist
 - PEAR Environmental Commitments
 - Cost Estimate, for standard PSRs
 - Estimated Resources by WBS Code
 - Schedule for delivering studies

6.1.3 Parks and Recreation

Identify any park and/or recreational facilities within the project area, including equestrian trails, recreational bikeways, and other recreational trails. Determine if the project and/or alternatives would impact any of these facilities. Identify any proposed measures could be used to avoid, minimize, and/or mitigate impacts. Determine if the project could affect a Section 4(f) park or recreational facility and will require a Section 4(f) Evaluation as part of the NEPA document.

For additional guidance, see [SER - Chapter 20 - Section 4\(f\)](#) and [SER - Chapter 22 - Land Use](#) and the [U.S. DOT “Parks, Recreation Areas, Wildlife and Waterfowl Refuges, and Historic Sites; Final Rule \(23 CFR 771 and 774\) \(March 12, 2008\)](#)

6.2 Growth

Preparer: Socioeconomic specialist, qualified Generalist, or appropriate HQ DEA staff, depending on the size and location of the project.

Determine if the project and/or alternatives is likely to induce growth in the project area. Identify any local government “no growth” ordinances or policies. Assess the potential for the project to facilitate planned growth, and assess the potential for unplanned growth. Identify if the project will be located along a new alignment or provide new access. Identify any indirect impacts that could result from the project. The PEAR will identify whether a formal growth-related, indirect impact analysis is needed.

For additional guidance, see [SER - Guidance for Preparers of Growth-related, Indirect Impact Analyses](#) and [SER - Chapter 22 - Land Use](#).

6.3 Farmlands/Timberlands

Preparer: Socioeconomic Specialist, qualified Generalist, or appropriate HQ DEA staff, depending on the size and location of the project.

Identify any farmlands and/or timberlands existing in the project area. Determine if there are potential impacts to agricultural land or timberlands associated with the project and/or alternatives. For additional guidance, see [SER - Chapter 23 - Farmlands](#).

6.4 Community Impacts

Preparer: Socioeconomic Specialist, qualified Generalist, or appropriate HQ DEA staff, depending on the size and location of the project.

The specialist evaluating these resources will conduct a pre-field background search (e.g., previous environmental documents) and make contacts with outside agencies (e.g., city planning departments). In most cases, the fieldwork will be limited to a windshield survey or equivalent. The analysis may include a brief review of current census information.

The preliminary analysis should identify community impact issues and set the scope of subsequent socioeconomic/community analysis as outlined in [SER - Environmental Handbook Volume 4](#) (Community Impact Assessment). The analysis will address impacts related to economy, social considerations, environmental justice, relocation, farmlands/timberlands, and community services.

Summarize the results of the background review and fieldwork. Discuss the existing social and economic conditions in the area. Discuss number and type of structures potentially impacted and number of potential relocations, if any. Address impacts to neighborhoods, business districts, and ethnic, disabled or other minority groups. Note anticipated agency coordination, permits, and approvals. Make recommendations for environmental commitments. Include the type and magnitude of studies needed for the environmental document.

Provide a summary statement for inclusion in the PEAR. The summary should note issues that might affect the alternatives, cost, schedule, or viability of the project, risks, and assumptions. Include the approximate delineation of potential community impacts on the mapping provided by the generalist, and attach it to the report.

Include a resource estimate and a schedule by WBS code for completing studies for the environmental document and obtaining necessary approvals to achieve PA&ED. Include the following for the PEAR:

- Community Impact Study, Environmental Justice, Farmlands portions of PEAR Environmental Studies Checklist
- PEAR Environmental Commitments Cost Estimate, for standard PSRs
- Estimated Resources by WBS Code
- Estimated schedule for completing studies for the environmental document

6.4.1 Community Character and Cohesion

Identify the general demographic character of the project area and distinct neighborhoods. Identify any evidence that community cohesion exists in the project area. Determine if the project and/or alternatives could result in changes in neighborhoods, community character or cohesion. Assess project impacts on interaction between persons and groups in the community. Identify potential environmental commitment requirements and associated costs. For additional guidance, see [SER - Chapter 24 - Community Impacts](#).

6.4.2 Relocations

Determine if the project or alternatives would result in the relocation of housing, commercial, industrial, or non-profit businesses. If so, estimate the magnitude of future relocation efforts and the likely availability of replacement property. Identify potential environmental commitments and associated costs. For additional guidance, see [SER - Chapter 24 - Community Impacts](#).

6.4.3 Environmental Justice

Determine if the project area contains higher than average concentrations of low-income or minority individuals. Identify any potentially disproportionate impacts to these populations as a result of the project and/or alternatives. For more information, see [SER - Chapter 25 - Environmental Justice](#).

| COMMUNITY IMPACTS |
|--|
| <ul style="list-style-type: none">• Conduct a background search• Perform a windshield survey or equivalent• Prepare documentation<ul style="list-style-type: none">○ Existing social and community setting○ Potential impacts○ Recommendations○ Summary○ Community impacts portion of the PEAR Environmental Studies Checklist○ PEAR Environmental Commitments Cost Estimate for standard PSR○ Estimated Resources by WBS Code○ Schedule for delivering studies |

6.4.5 Utilities/Emergency Services/Public Facilities

Identify specific community and public facilities and emergency services including their service areas in the project area, such as police stations, fire stations, hospitals, community centers, schools, places of worship, libraries, etc. and determine whether the proposed project or alternatives would affect them. For additional guidance, see [SER - Chapter 24 - Community Impacts](#).

6.5 Visual and Aesthetics

Preparer: Qualified Landscape Architect

The Visual and Aesthetics evaluation for the PEAR consists of a background document review of the project area and contacts with appropriate external agencies and individuals. The fieldwork may be a windshield or on-the-ground field review. The former will be more applicable for large projects and in cases where time is a critical factor.

Documentation estimating the impacts (if any) of the project on scenic and visual resources is less detailed than a complete Visual Impact Assessment (VIA), but adequate to determine the scope of a VIA if one is needed. Include an overview of the visual environment and the scenic resources in the project area in the report. For example, identify whether the route is a designated scenic highway and, if so, the implications to the project design and schedule. Identify changes and adverse visual impacts the project may cause.

Describe anticipated agency coordination, including city, county or regional government (e.g., regional transportation planning agencies (RTPA) and MPOs) and anticipated permits and approvals needed for the environmental documentation. Outline a tentative schedule for completing such coordination or obtaining necessary permits and approvals such as a coastal development permit. Make recommendations for subsequent further studies, such as a VIA or Scenic Resource Evaluation (SRE) and any applicable environmental commitments.

Include a summary for inclusion in the PEAR. The summary contains a clear statement of situations, risks, and assumptions that may cause project delay or influence the type of environmental document that will be prepared during PA&ED.

VISUAL AND AESTHETICS

- Conduct a background document review
- Perform a windshield survey or equivalent or on-the-ground-field review
- Prepare documentation
 - Existing visual environment and scenic resources
 - Potential visual impacts and environmental commitments
 - Agency coordination
 - Summary
 - Identification of officially designated State Scenic Highways in project area
 - Visual and Aesthetics portions of the PEAR Environmental Studies Checklist
 - PEAR Environmental Commitments
 - Cost Estimate for standard PSRs
 - Estimated Resources by WBS Code
 - Schedule for completing studies

Identify the location of potential impacts on the map provided by the generalist and attach it to the documentation. Include a resource estimate and a schedule by WBS code for completing studies for the environmental document.

The landscape architect will complete the following attachments for inclusion with their documentation to the generalist:

- Visual Resources portion of the PEAR Environmental Studies Checklist
- PEAR Environmental Commitments Cost Estimate, for standard PSRs
- Estimated Resources by WBS Code
- Estimated schedule for completing studies for the environmental document

For additional guidance, see [SER - Chapter 27 - Visual & Aesthetics Review](#).

6.6 Cultural Resources

Preparer: Cultural resources specialist qualified in the specific resource type.

The cultural resources specialist conducts background research and fieldwork as appropriate, and prepares documentation. Background research includes literature and database searches (e.g., common references, ethnographic studies, bridge survey, photo logs or DHIPP, Sanborn maps), contacting record repositories (e.g., the appropriate regional Information Center and the Native American Heritage Commission (NAHC) regarding the Sacred Lands Inventory), and soliciting information or concerns from knowledgeable sources such as Native American contacts (tribes and interested parties), organizations (e.g. local historical societies), and individuals (e.g., local historians). In notifying tribes and interested Native American contacts of scoping efforts, ask if they have any known concerns beyond any archaeological properties that could affect the alternatives, cost, schedule, or viability of the project, while assuring the tribal representatives that this inquiry is a very early assessment of the environmental concerns for planning purposes.

Fieldwork as discussed here is essentially a preliminary review of the project area, although for small projects, fieldwork may comprise on-the-ground examinations. For larger projects, a windshield survey or equivalent is more appropriate.

Following the pre-field research and fieldwork, the specialists prepare documentation of their findings. The documentation lists the records consulted, contacts made and what was learned, notes the type of survey(s) performed, briefly describes the project setting and sensitivity for cultural resources. The documentation will include a section describing each cultural resource identified during the background research and fieldwork. The documentation discusses the potential effects of the project on resources within or adjacent to the project area and notes potential effects on Section 4(f) properties.

To help assess the anticipated cost and schedule for the PEAR, the cultural resource specialist is to:

- Include the time it would take ROW to acquire permits to enter for further studies,
- Identify any studies and consultation efforts with Native Americans or other affected groups that may be needed to characterize the significance or eligibility of the resource, the potential

for effects to the resources, and measures to mitigate those effects, if avoidance is not possible. Include archaeological and Native American monitoring efforts if applicable.

- Note any potential for Section 4 (f) resources.

Note whether the proposed project would be located on or affect tribal lands or whether a federal agency is involved. Such circumstances may affect the applicability of the Section 106 Programmatic Agreement. The regular Section 106 process must be followed if the proposed project is located on or affects tribal lands or if another federal agency would be the NEPA federal lead agency. On federal or tribal lands, federal or tribal requirements (e.g. Archaeological Resources Protection Act (ARPA) permits, Native American Graves Protection and Repatriation Act (NAGPRA) Action Plans, or Special Use permits) would also be applicable, depending on the anticipated work involved.

Explain concurrences needed in the environmental document and other coordination required such as consultation with the State Historic Preservation Officer (SHPO) for compliance with Sections 5024 and 5024.5 of the Public Resources Code (PRC) and Section 106 of the National Historic Preservation Act (NHPA).

For completing the document, the cultural resource specialist:

- Prepares a summary paragraph for inclusion in the PEAR which summarizes the potential cultural resources issues, risks, and assumptions that might affect the alternatives, cost, schedule, or viability of the project.
- Delineates known cultural resources or possible areas of resource sensitivity with due regard to the confidentiality of the archaeological or Native American cultural site information, on the mapping provided by the generalist, and attach it to the documentation.
- Includes a resource estimate and a schedule (by WBS codes) for completing studies for the environmental document and obtaining necessary approvals to complete PA&ED.

The cultural resources specialist will complete the following attachments for inclusion with their documentation to the Generalist:

- Cultural resources portion of PEAR Environmental Studies Checklist
- Cultural resources portion of the PEAR Environmental Commitments Cost Estimate, as appropriate
- Estimated Resources by WBS Code
- Estimated schedule for completing studies for the environmental document

For additional guidance, see [SER - Volume 2 Cultural](#), in particular Chapter 4 and Exhibit 4.1.

| CULTURAL RESOURCES |
|---|
| <ul style="list-style-type: none"> • Conduct a background search, including a record search • Perform a windshield survey or equivalent and/or on-the-ground examinations • Prepare documentation <ul style="list-style-type: none"> ○ Setting and sensitivity for resources ○ Cultural resources identified ○ Potential effects and environmental commitments ○ Anticipated studies and agency concurrence ○ Contacts/sources consulted ○ Recommendations ○ Summary ○ Cultural resources portion of the PEAR ○ Cultural resources portion of the PEAR Environmental Studies Checklist ○ PEAR Environmental Commitments Cost Estimate for standard PSR ○ Estimated Resources by WBS Code ○ Schedule for delivering studies and for completing agency coordination |

6.7 Hydrology and Floodplain

Preparer: Qualified hydraulic engineer

Evaluating floodplain issues includes a background document review of the project area, review of the Federal Emergency Management Agency (FEMA)/ National Flood Insurance Program flood maps, and contacts with outside agencies and individuals as necessary. A field visit should be performed by the Hydraulic Engineer for all but the simplest projects.

The documentation includes a description of the hydraulic and floodplain setting (including any special requirements described in the Basin Plan), describes potential impacts to local hydrology, and identifies additional studies and agency coordination that will be needed for the environmental document. Floodplain criteria as defined in 23 CFR 650, Subpart A (sections 650.101 thru 650.117) may also need to be consulted. The documentation also includes constraints and recommendations that may affect project design.

The hydraulic specialist:

- Provides a report summary statement for inclusion in the PEAR. The summary should note issues, risks, and assumptions that might affect the alternatives, cost, schedule, or viability of the project.
- Delineates on the mapping provided by the generalist, the base floodplain and other pertinent hydraulic data that should be considered during preliminary design by the PE. Attach this map to the documentation.

Include a resource estimate and a schedule (by WBS codes) for completing studies for the environmental document.

The hydraulic specialist will complete the following attachments for inclusion with their documentation to the generalist:

- Floodplain Evaluation portion of PEAR Environmental Studies Checklist
- PEAR Environmental Commitments Cost Estimate
- Estimated Resources by WBS Code
- Estimated schedule for completing studies for the environmental document

For additional guidance, see SER [Chapter 17 - Floodplains](#) for technical issues see: [Highway Design Manual, scroll to Topic 804, "Floodplain Encroachments"](#)

HYDROLOGY AND FLOODPLAIN

- Conduct a background document review
- Review floodplain maps
- Perform windshield survey or equivalent or ground survey
- Prepare documentation
 - Description of hydrology and project setting
 - Impacts to local hydrology
 - Presence of floodplains
 - Identify need for studies
 - Agency coordination
 - Recommendations
 - Summary
 - Hydrology and Floodplain portion of the PEAR Environmental Studies Checklist
 - PEAR Environmental Commitments Cost Estimate for standard PSRs
 - Estimating Resources by WBS Code
 - Schedule for completing studies
 - Consult with DES Structure Hydraulics if necessary
 - Consult with District NPDES if necessary

6.8 Water Quality and Stormwater Runoff

Preparer: National Pollutant Discharge Elimination System (NPDES) Coordinator, Caltrans Environmental Engineering staff, Biologist, or Generalist.

Evaluating potential water quality issues involves a discussion of the various environmental permits that will be required for the project to protect water quality, including pollution from stormwater runoff, waste discharges to land or surface waters, and hazardous waste sites. Details of work performed to identify and remediate hazardous waste properties and identified in Section 6.11. Hydrology and Floodplain evaluation is discussed in Section 6.7.

The documentation includes a description of the setting; the findings of background research and field visit; and identifies bodies of water, drainages, rivers and streams that might be impacted. The documentation references basin plans that are in effect and what existing discharge conditions could affect the project design, scheduling or construction techniques. The documentation discusses anticipated agency coordination, permits, and environmental commitments. This section of the PEAR should include a list of all anticipated waste discharge and dewatering requirements.

Minimization and avoidance of stormwater pollution impacts are achieved through compliance with the Department's statewide NPDES permit and Best Management Practices (BMPs) throughout design, construction, and long-term maintenance of Caltrans facilities ([Project Planning and Design Guide](#)). The report should note if the project will require structural BMPs; the project footprint may have to be revised to accommodate these features. Structural BMPs must be coordinated with the PE.

The preparer:

- Provides a report summary statement for inclusion in the PEAR. The summary should note issues, risks, and assumptions that might affect the alternatives, cost, schedule, or viability of the project.
- Delineates on the mapping provided by the generalist, the approximate limits of any constraints that should be considered during preliminary design by the PE. Attach this map to the documentation.
- Includes a resource estimate and a schedule (by WBS codes) for completing studies for the environmental document.

WATER QUALITY

- Conduct a background document review
- Prepare documentation
 - Describe project setting
 - Identify watersheds/Regional Board Basin Plan
 - Describe potential water discharges
 - Permits and agency coordination
 - Potential project impacts and environmental commitments
 - Recommendations
 - Summary
 - Water Quality portion of the PEAR Environmental Studies Checklist
 - PEAR Environmental Commitments Cost Estimate for standard PSR
 - Estimated Resources by WBS Code
 - Schedule for completing technical report

The preparer will complete the following attachments for inclusion with their documentation to the generalist:

- Water Quality portion of PEAR Environmental Studies Checklist
- PEAR Environmental Commitments Cost Estimate, for standard PSRs
- Estimated Resources by WBS Code
- Estimated schedule for completing studies for the environmental document

[SER Chapter 9 “Hydrology/Water Quality/Stormwater”](#) is being updated and will be available soon.

6.9 Geology, Soils, Seismic, and Topography

Preparer: Geotechnical Services or its consultants

Existing geologic and geotechnical reports and information may be reviewed, and preliminary geotechnical reports may be prepared by Geotechnical Services (GS) during the “K” phase. In preparing the PEAR, the generalist must coordinate with the PM, PE, and the PDT to identify if geotechnical site characterization may be required in subsequent project development phases. A geology study that assesses regional and site-specific geology, soils, seismic hazards, and topography may be required for the “0” Phase. See [SER Chapter 7 Geology/Soils/Seismic](#). Depending on the project, geotechnical site characterization may also be required during the “1” phase (Design).

GEOTECHNICAL SITE CHARACTERIZATION

- Generalist should coordinate with PM, PE and PDT to identify if geotechnical site characterization will or may be required.
- If geotechnical site characterization may be required for PA&ED or Design, review the proposed site characterization and subsurface investigation (drilling plan) for environmental and regulatory requirements.
- Identify any anticipated environmental or special use permits.
- Identify any requirements under 5024 and 5024.5 of the PRC and/or NHPA Section 106.
- Identify any CEQA and/or NEPA compliance requirements.

Whatever the method used during subsequent geotechnical site characterization, proposed drilling operations, sampling, and/or testing during subsurface explorations, these activities must be reviewed for environmental and regulatory compliance. If geotechnical site characterization requires environmental and/or special use permits, and/or environmental compliance under CEQA and/or NEPA, the PEAR should identify the anticipated permits and CEQA/NEPA requirements, along with the resources and schedule necessary for permit approval and environmental compliance. In addition, projects on federal land may require special use permits or similar

authorization under the Federal Land Policy and Management Act by the federal land managing agencies such as the U.S. Forest Service (USFS).

6.10 Paleontology

Preparer: Caltrans District/Region Paleontology Coordinator, private consultant, or other responsible party as assigned by the SEP.

Initial screening for, or identification of potential paleontological resources is best done during PEAR preparation. The level of effort involved is contingent on the type of project and the geologic setting of the project area. A paleontological identification report (PIR) may be prepared at any time during project development; however, the PIR is recommended during PEAR preparation in order to document the potential for presence or non-presence of paleontological resources in the project area.

Evaluating potential paleontological resources includes a review of databases and/or a background document review, as well as contact with outside agencies, museums, universities, and individuals. Conducting a windshield survey or equivalent of the project area, if appropriate, follows this work.

The preparer will describe the geologic and paleontological setting of the project area and the results of database/background/contact review. The report should also discuss tribal government, agency coordination, approvals, and permits (e.g., permits to conduct investigations on BLM, USFS, or USACOE-administered lands).

Provide a summary statement for inclusion in the PEAR. The summary should note issues, risks, and assumptions that might affect the alternatives, cost, schedule, or viability of the project.

Include a resource estimate by WBS activity code and a time estimate (also by WBS code) for completing studies for the environmental document.

PALEONTOLOGY

- Conduct a review of databases, background documents, and contact outside agencies/individuals as necessary to assess paleontological potential of project area
- Perform windshield survey or equivalent
- Prepare documentation (Paleontology Identification Report)
 - Geological and paleontological setting
 - Potential impacts and environmental commitments
 - Databases, background reviews, and contacts
 - Recommendations
 - Summary
 - Paleontology portion of the PEAR Environmental Studies Checklist
 - PEAR Environmental Commitments Cost Estimate, including monitoring, development award, and oversight time/cost factors for standard PSR
 - Estimated Resources by WBS Code
 - Schedule for completing studies

The specialist will complete the following attachments for inclusion with their documentation to the generalist:

- Paleontology portion of the PEAR Environmental Studies Checklist
- PEAR Environmental Commitments Cost Estimate
- Estimated Resources by WBS Code
- Estimated schedule for completing studies for the environmental document

For additional guidance, see [Chapter 8 Paleontology](#).

6.11 Hazardous Waste/Materials

Preparer: Caltrans District Hazardous Waste Coordinator or other Qualified Hazardous Waste Specialist

Evaluating hazardous waste issues includes a background document review of the project area, and an initial site assessment (ISA) as well as contacts with external agencies and individuals. The ISA/Memo determines if the project is in the minimal-risk category. Examples of these projects are street repaving or street patching, which do not involve excavation. If the project exceeds the minimal-risk category, the hazardous waste coordinator will prepare a risk analysis of potential hazardous waste sites within the project limits and cost, schedule and resource estimates. Under certain circumstances, contaminated sites could be a “fatal flaw” for an alternative or for the project schedule.

Summarize the findings of the ISA and identify those sites that will likely require a preliminary site investigation (PSI). If possible, identify the need for subsurface exploration and evaluations.

If the site is determined to be high risk, a PSI may be required. Conduct the PSI at the earliest possible time that funding and resources allow. The PSI consists of identifying environmental commitment options, general estimates for cleanup of the high risk site, a general estimate of duration of the cleanup, a resource estimate for the site investigation, and recommendations on the viability of cleanup alternatives.

NOTE TO GENERALIST

For some projects, drilling for soil samples and hazardous waste testing may be conducted during the “0” Phase; in these instances, the generalist will determine the need for an environmental determination or document for the drilling activity, prior to PA&ED for the overall project. Be sure to include this in the project schedule.

HAZARDOUS WASTE/MATERIALS

- Conduct a background document review
- Conduct an ISA
- Perform ground survey
- Prepare documentation
 - Results of background review
 - ISA
 - Presence of hazardous materials
 - Identify need for PSI (High-risk sites may require PSI for the PEAR)
 - Agency coordination
 - Recommendations
 - Summary
 - Hazardous Waste/Materials portion of the Environmental Studies Checklist
 - PEAR Environmental Commitments Cost Estimate for standard PSR
 - Estimated Resources by WBS Code
 - Schedule for completing studies

Other potential issues must be discussed including agency coordination and permits as necessary. Include preliminary constraints and recommendations with regard to project design.

Include a summary for inclusion in the PEAR and an estimate of the hours and time span required to evaluate hazardous waste issues for the environmental documentation by WBS activity code. The schedule should include acquiring permits to enter. On the aerial map indicate the location of any hazardous waste sites that may require further investigation. Mapping may be provided by the generalist or Design, depending on District policy/procedures.

Include a discussion of issues, risks, assumptions, and a resource estimate and a schedule by WBS code for completing studies for the environmental document.

The specialist will complete the following attachments for inclusion with their documentation to the generalist:

- Hazardous Waste/Materials portion of PEAR Environmental Studies Checklist
- PEAR Environmental Commitments Cost Estimate (for standard PSRs)
- Estimated Resources by WBS Code
- Estimated schedule for completing studies for the environmental document

For additional guidance see [SER Chapter 10 - Hazardous Waste](#).

AIR QUALITY

- Conduct background document review
- Perform a windshield survey or equivalent
- Prepare documentation
 - Project setting/sensitive receptors
 - Air quality/maintenance plan status and project RTP/RTIP conformity
 - “Hot spot” and MSAT review
 - Potential impacts and environmental commitments
 - Monitoring
 - Agency Coordination and permits
 - Recommendations
 - Summary
 - Air Quality Study portion of PEAR Environmental Studies Checklist
 - PEAR Environmental Commitments Cost Estimate for standard PSR
 - Estimated Resources by WBS code
 - Schedule for delivering studies and satisfying regulatory requirements

6.12 Air Quality

Preparer: Air Quality Engineer or Qualified Environmental staff

The specialist evaluating this resource will conduct a background document review of the project vicinity and make contacts, as necessary, with outside agencies and individuals. The specialist will perform a windshield survey or equivalent of the project. The specialist documentation will include the results of the background research and fieldwork.

The air quality documentation will discuss the attainment status of the project area, potential impacts, potential environmental commitments, and long-term monitoring that may be needed. The documentation will identify conformity, mobile source air toxics (MSATs), particulate matter (PM) 10 and PM 2.5, interagency participation and permits. Provide a summary statement for inclusion in the PEAR. The summary should note issues, risks, and

assumptions that might affect the alternatives, cost, schedule, or viability of the project.

The specialist will complete the following attachments for inclusion with their documentation to the generalist:

- Air Quality Study portion of PEAR Environmental Studies Checklist
- PEAR Environmental Commitments Cost Estimate for standard PSRs
- Estimated Resources by WBS Code
- Estimated schedule for completing studies for the environmental document

On mapping provided by the generalist, include the approximate location of constraints that should be considered during preliminary design. Attach this map to the documentation. For additional guidance see [SER - Chapter 11 - Air Quality](#).

6.13 Noise and Vibration

Preparer: Noise Engineer or Qualified Environmental staff

The specialist evaluating noise and vibration will conduct a background document review of the project vicinity and make contacts with outside agencies and individuals. The specialist will perform a windshield survey or equivalent of the project.

The specialist documentation will include the results of the background research and fieldwork. It will describe the project setting, identify and describe sensitive receptors, and discuss possible impacts, and potential abatement measures. The documentation will identify anticipated interagency coordination and permits to enter.

Provide a summary statement for inclusion in the PEAR. The summary should note issues, risks, and assumptions that might affect the alternatives, cost, schedule, or viability of the project. Include the approximate delineation of sensitive receptors on the mapping provided by the generalist, and attach it to the documentation.

Include a resource estimate and a schedule by WBS code for completing studies for the environmental document.

The specialist will complete the following attachments for inclusion with their documentation to the generalist:

- Noise and Vibration Study portion of the PEAR Environmental Studies Checklist
- Noise Abatement portion of PEAR Environmental Commitments Cost Estimate, for standard PSRs
- Estimated Resources by WBS Code
- Estimated schedule for completing studies for the environmental document

| |
|---|
| <p>NOISE AND VIBRATION</p> <ul style="list-style-type: none"> • Conduct background document review • Perform a windshield survey or equivalent • Prepare documentation <ul style="list-style-type: none"> ○ Project setting/sensitive receptors ○ Potential impacts ○ Potential abatement ○ Monitoring ○ Agency Coordination ○ Recommendations ○ Summary ○ PEAR Environmental Studies Checklist ○ PEAR Environmental Commitments Cost Estimate for standard PSR ○ Estimated Resources by WBS code ○ Schedule for delivering studies |
|---|

For additional guidance, see [SER - Chapter 12 - Noise](#), and for vibration impacts to fish species, see [Fisheries Bioacoustics](#).

6.14 Energy and Climate Change

Preparer: Environmental Engineer or Qualified Generalist

Energy

If the project is considered to be a “major project” for the consumption of energy during project construction or operation, an Energy technical report may be required for the subsequent NEPA

| |
|---|
| <p>ENERGY</p> <ul style="list-style-type: none"> • Determine the type and scale of the project • Recommendations • Summary • Energy portion of PEAR Environmental Studies Checklist • PEAR Environmental Commitments Cost Estimate for standard PSR • Estimated Resources by WBS code • Schedule for delivering studies |
|---|

analyses (Refer to [SER Chapter 13 “Energy”](#)). According to FHWA guidelines, “major projects” that would require a separate Energy technical report are large-scale, EIS projects. The PEAR should consider whether, due to the type and scale of the project, an energy technical will be required and, if so, what the scope of that report should be. For projects anticipated to be an EIR, read the guidance in the [CEQA Guidelines Appendix F](#) on the required scope of an energy study.

Climate Change

It is generally agreed that individual transportation projects, by themselves, do not yield sufficient greenhouse gas (GHG) emissions to have a significant impact on global climate change, but an individual project may make an incremental contribution to cumulative climate change impacts, along with all other global sources of GHG. At this time, there are no federal, state, or regional regulatory procedures or protocols for determining whether an individual project makes a considerable cumulative impact on GHG emissions and therefore on global climate change. In the absence of a protocol, analysts have used qualitative comparisons of projects versus the no-projects scenario, based on regional planning strategies, to address climate change. At a minimum, qualitative analysis will be done and discussed in the environmental document for most projects. Quantitative analysis, using ARB's EMFAC model, may be used to compare relative carbon dioxide (CO₂) emissions for different alternatives and the no-build alternative of an individual project and thereby make an inference about potential GHG emissions.

With regard to climate change issues, the PEAR should identify the type of project (see below) and the anticipated scope of qualitative and quantitative analyses that will be required for the subsequent environmental document. Based on the planning and preliminary scoping documents, briefly discuss as applicable how the project is designed to reduce congestion and/or vehicle time delays and give the supporting data. Review the Regional Transportation Plan and/or Regional Transportation Improvement Program for information on the reduction of vehicle hours traveled (VHT) and improved traffic flow for the region. If the environmental document for the RTP discusses climate change, it is permissible to "tier" the project-level environmental document from it.

- Congestion relief projects or capacity increasing projects

Note in the PEAR that a quantitative analysis for CO₂ emissions will be required and estimate the necessary resources in the workplan.

- Ramp metering or signalization projects

If the proposed project is expected to "smooth" traffic flow, it may not be necessary to run the EMFAC model during the environmental analysis. However, if the ramp metering or signalization is expected to create lengthy queues, it may be necessary to conduct a more in-depth analysis. In that case, note in the PEAR that a quantitative analysis for CO₂ emissions may be required and estimate the necessary resources in the workplan.

- Other projects

These types of projects most likely will warrant only a qualitative analysis:

- Pavement rehabilitation
- Shoulder widenings
- Culvert/drainage/stormwater work
- Landscaping
- CCTVs, Mtc vehicle pullouts
- Minor curve corrections
- Guardrail

These are likely to be minor SHOPP or CAPM projects that would not require preparation of a PEAR. However, if the PDT requests a PEAR of one of these projects, the PEAR should mention that the project is expected to have the low to no potential for climate change impacts and that the environmental document may require a qualitative discussion regarding the operation of the project.

| CLIMATE CHANGE |
|--|
| <ul style="list-style-type: none"> • Determine the type of project • Review the RTP, RTIP or STIP • Review the CEQA document for the RTP, and summarize discussion, if any, of climate change in that document (It may be possible to tier the project ED from the RTP ED) • Review guidance in SER & CEQA Guidelines to anticipate the type and scope of analyses required in the ED • Recommendations • Summary • Climate Change portion of PEAR Environmental Studies Checklist • PEAR Environmental Commitments Cost Estimate for standard PSR • Estimated Resources by WBS code • Schedule for delivering studies |

6.15 Biological Environment

Preparer: Biologist

The project biologist performs background research, fieldwork, evaluation and reporting. The fieldwork may be a windshield survey or equivalent, Caltrans photolog or aerial photo survey, and/or on-the-ground survey depending on the size and complexity of the project.

For the documentation, summarize the background review and the survey findings. Identify the type of survey used and provide a brief description of the setting and sensitive biological resources present.

Identify specific studies or focused surveys needed for the subsequent environmental document, noting seasonal restrictions or agency protocols that need to be considered in the project schedule. Include an explanation and estimated timeline of required resource agency coordination (e.g., Section 7). Note anticipated permits, agreements or approvals (e.g., 401, 404, 1602). In the preliminary evaluation, consider whether the proposed project may require an Individual 404 permit or qualify for a nationwide permit. Include a list of contacts and sources consulted during the PEAR analysis.

Discuss the project's potential effects on biological resources: recommended avoidance, minimization, and mitigation measures and potential environmental commitments. Identify changes to the project scope or costs that could be driven by biological commitments, such as wetland mitigation, compensatory or replacement habitat acquisition, and habitat restoration. When preparing a standard PSR, provide associated cost estimates and preliminary schedules for habitat acquisition, design, construction, and monitoring. Scheduling should take into consideration the time needed by ROW to acquire permits to enter.

Conclude with a summary paragraph for inclusion in the PEAR. The summary should note potential biological resources issues, risks, and assumptions that might affect the alternatives, cost, schedule, or viability of the project.

Include the approximate delineation of known sensitive biological resources on or near the project on the mapping provided by the generalist, and attach it to the documentation.

Include a resource estimate and a schedule by WBS code for completing studies for the environmental document and obtaining necessary approvals to achieve PA&ED.

| BIOLOGY |
|---|
| <ul style="list-style-type: none">• Conduct a background search• Perform appropriate level of survey• Prepare documentation<ul style="list-style-type: none">○ Setting and sensitive biological resources○ Specific surveys – schedule and protocol○ Agency contacts, sources consulted, coordination○ Potential effects and environmental commitments○ Anticipated permits or approvals○ Anticipated studies○ Summary and draft delineation (map or diagram)○ PEAR Environmental Studies Checklist○ PEAR Environmental Commitments Cost Estimate for standard PSR○ Estimated Resources by WBS code○ Schedule for delivering studies (including seasonal field surveys), and completing permits and consultations |

The biologist will complete the following attachments for inclusion with their documentation to the generalist:

- Biological portion of the PEAR Environmental Studies Checklist
- Biological Resources portion of the PEAR Environmental Commitments Cost Estimate
- Estimated Resources by WBS Code
- Estimated schedule for completing studies for the environmental document

For additional guidance, see SER [Chapter 14 - Biological Resources](#); and [SER - EH Vol 3 - Biological Resources; Chapter 2 - Natural Environmental Study](#).

6.16 Cumulative Impacts

Consideration of cumulative impacts as a result of the project and alternatives should be given during the preparation of the PEAR although the level of detail should be far less than is required for the NEPA or CEQA document. The [2007 Regional Transportation Plan Guidelines](#), published by the CTC, recommends that RTPs address plan-level cumulative impacts resulting from the proposed projects comprising the plan. If the project is listed in a RTP which included a plan-level cumulative impact analysis, that analysis should be reviewed to determine whether the subject project contributes to a cumulative impact.

In the PEAR, the environmental specialists' list of anticipated studies should provide a recommendation of whether a cumulative impact analysis is needed for the particular resource in the subsequent environmental document phase.

For additional guidance, see [Caltrans Guidance for Preparers of Cumulative Impact Analyses](#).

6.17 Context Sensitive Solutions

Caltrans uses Context Sensitive Solutions (CSS) as its approach to plan, design, construct, maintain, and operate its transportation system. CSS uses innovative and inclusive approaches that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals and is reached through a collaborative, interdisciplinary approach involving all stakeholders. In order to ensure that CSS is fully integrated into the project development process, careful, imaginative, and early planning is required along with continuous community involvement. Early agency coordination for each resource area as well as early outreach to the community will help to ensure a successful CSS outcome. CSS is an integral component of the PID stage and is coordinated by the PDT. The results of this approach need to be documented in the PEAR.

For additional guidance, see [Caltrans Division of Design - Context Sensitive Solutions](#).

CHAPTER 7 RESOURCES AND SCHEDULE BY WBS CODE

Caltrans uses various tools to plan and track projects as they progress through the project development process from inception to completion. One of these tools is the Work Breakdown Structure (WBS), which allows the PDT and project task managers to develop a workplan to identify resources and timeframes necessary to provide products necessary to deliver the project. The workplan is a resource-loaded schedule. The Resource Breakdown Structure (RBS) is also useful in developing the workplan. Hours are estimated for the completed environmental documentation, environmental permits, environmental review of final PS&E, environmental commitments compliance and monitoring before, during, and after construction, and the sub-tasks required to complete these activities.

The latest WBS guide is available in the [Guide to Project Delivery Workplan Standards](#)².

The WBS manual explains why and how to prepare project resources and schedule, and it defines the WBS activity codes, which are necessary to estimate resources and schedule for the PEAR.

In addition, the Caltrans Task Management Implementation Team (TMIT) is in the process of refining procedures to ensure the formal integration of task management methodology into the Caltrans project delivery process. The implementation of task management is intended to improve accountability for project delivery with respect to scope, schedule, and cost (see section 7.3).

7.1 Estimating Resources

The EP/Generalist estimates the hours necessary to complete Levels 5, 6, 7, and 8², taking into account the specialists' estimates. A number of tools are available to develop an estimate. The Guide to Project Delivery Workplan Standards (pages 12-14) provides an adjusted "best guess" method. For further information, see [Guide to Project Delivery Workplan Standards](#). Check the applicable region/district policy and procedures for developing environmental resource estimates. The WBS and RBS help identify what needs to be done by whom.

While the PEAR estimate is preliminary and subject to adjustments as the project progresses, it is important to strive for as much accuracy as possible in estimating resources and schedule. Underestimating environmental resources impacts project schedules, erodes customer confidence, and contributes to faulty historical data for future estimating efforts. On the other hand, overestimating may prevent other needed projects from being funded.

² Level 5 is the Major Task level, i.e. WBS 165 Perform Environmental Studies. Levels 6, 7, and 8 represent the major task broken down into further detail, i.e., 165.20 Perform Cultural Resource Studies (Level 6), 165.20.05 Perform Archaeological Survey (Level 7), and 165.20.05.10 Conduct Native American Consultation (Level 8). (reference: Guide to Project Delivery Workplan Standards)

7.2 Estimating Project Schedule

At the “K” phase, project milestones may have been identified and tentatively scheduled to reflect on-time project delivery. Conflicts between the PEAR’s estimated schedule and the project milestones must be clearly identified in the PEAR and resolved with the PM.

The duration of specific WBS activities are developed in consultation with the generalist, specialists, the PE and the PM. These project team members are encouraged to work toward a mutual agreement.

Itemizing the environmental process, with its multiple interrelated steps, is important for more accurately estimating the environmental compliance timeline. The PEAR information also is a helpful tool for the generalist to explain the environmental process to the project team and in negotiating schedule and resources with the PM.

7.3 Task Management

Task Management is the assignment of individuals to manage the scope, cost, and schedule of particular deliverables or tasks on a project. Task Managers (TM) are the individuals responsible for the quality, timeliness, and cost-effectiveness of particular elements of the project WBS. TMs are assigned at all levels of the WBS below the project level. The Task Management Implementation Team (TMIT) will be identifying procedures to improve the resource estimating process for all work packages. For more information on TMIT efforts, Caltrans users please see the Division of Engineering Services ([DES](#)) TMIT Caltrans Intranet website.

The PEAR will be very valuable to Task Management by identifying resources and schedule necessary for environmental compliance as an integral component of project delivery.



ENVIRONMENTAL STUDY REQUEST
(Rev. 12/08)

ORIGINAL REQUEST

REVISION NO. _____

| | | |
|---|--|---|
| TO: _____ Environmental Coordinator FROM: _____ Project Engineer UNIT: _____ | | ACTION Requested <input type="checkbox"/> Preliminary Environmental Assessment Report (Pear)(PSR/PSSR Information) <input type="checkbox"/> Environmental Compliance Document <input type="checkbox"/> Permits <input type="checkbox"/> Safety Project (010 Programming Code) |
| _____ CO/RTE/PM _____ EA | | |
| Unit/Senior TE Name _____ Project Manager _____ | Date Requested _____ Target PA and ED _____ | Funding Source (needed to insure compliance w/NEPA &/or CEQA) <input type="checkbox"/> State <input type="checkbox"/> Local <input type="checkbox"/> Other _____ <input type="checkbox"/> Federal <input type="checkbox"/> Measure Funded |

PROJECT DESCRIPTION/REASON FOR REVISION:

PURPOSE AND NEED STATEMENT:

PRELIMINARY DESIGN INFORMATION

Does the project involve any of the following? Please check the appropriate boxes and delineate on attached ESL map, plan or layout including any additional pertinent information:

- | | | | |
|--|--|---|---|
| <input type="checkbox"/> New alignment <input type="checkbox"/> Road realignment <input type="checkbox"/> Road widening <input type="checkbox"/> Bridge work <input type="checkbox"/> Road cut/fill <input type="checkbox"/> Detours <input type="checkbox"/> Grinding | <input type="checkbox"/> Construct access roads <input type="checkbox"/> Disposal/borrow site(s) <input type="checkbox"/> Equipment staging area <input type="checkbox"/> Drainage/culverts <input type="checkbox"/> 100 yr. floodplain <input type="checkbox"/> Est clear recovery zone <input type="checkbox"/> Railroad | <input type="checkbox"/> Ramp closure <input type="checkbox"/> R/W acquisition <input type="checkbox"/> Temporary easements <input type="checkbox"/> Utility relocation <input type="checkbox"/> Ground disturbance <input type="checkbox"/> Vegetation removal <input type="checkbox"/> Removal of trees | <input type="checkbox"/> Noise mitigation <input type="checkbox"/> Pile driving <input type="checkbox"/> Seasonal constr. window <input type="checkbox"/> Night work <input type="checkbox"/> Blasting <input type="checkbox"/> Stream channel work <input type="checkbox"/> Other: _____ |
|--|--|---|---|

DESCRIBE ADDITIONAL RIGHT OF WAY REQUIRED:

No. of Parcels Impacted: _____

Rights of Entry requested by: _____

Date of request: _____

WORK ON PUBLIC LANDS

- | | |
|--|-------------------------------------|
| <input type="checkbox"/> USFS | <input type="checkbox"/> State Park |
| <input type="checkbox"/> National Park | <input type="checkbox"/> Unknown |
| <input type="checkbox"/> Other _____ | <input type="checkbox"/> BLM |

TECHNICAL STUDIES REQUESTED

(or Expected Request Date)

Requested By:

| | | |
|--|-------|-------|
| <input type="checkbox"/> Flood Plain Encroachment Evaluation | <hr/> | <hr/> |
| <input type="checkbox"/> Traffic | <hr/> | <hr/> |
| <input type="checkbox"/> Geologic/Geotechnical | <hr/> | <hr/> |
| <input type="checkbox"/> Hazardous Waste | <hr/> | <hr/> |
| <input type="checkbox"/> Landscape Architecture/Planting | <hr/> | <hr/> |
| <input type="checkbox"/> Erosion Control | <hr/> | <hr/> |
| <input type="checkbox"/> NPDES | <hr/> | <hr/> |
| <input type="checkbox"/> Structures APS | <hr/> | <hr/> |
| <input type="checkbox"/> District/Structures Hydraulic Study | <hr/> | <hr/> |
| <input type="checkbox"/> Other _____ | <hr/> | <hr/> |

| ADDITIONAL DOCUMENTS ATTACHED | (Or Expected Date Available) | Comments |
|---|------------------------------|----------|
| <input type="checkbox"/> Project Location Map | _____ | _____ |
| <input type="checkbox"/> Preliminary Plans-Layouts | _____ | _____ |
| <input type="checkbox"/> PR, PSR, PSSR, Etc. | _____ | _____ |
| <input type="checkbox"/> Typical Cross Sections | _____ | _____ |
| <input type="checkbox"/> Right of Way maps | _____ | _____ |
| <input type="checkbox"/> Aerial photos showing limits of R/W | _____ | _____ |
| <input type="checkbox"/> Photos/Video | _____ | _____ |
| <input type="checkbox"/> Photos/Video | _____ | _____ |
| <input type="checkbox"/> Borrow/Disposal Site Location Map | _____ | _____ |
| <input type="checkbox"/> Specs.(i.e. clean & paint bridge work) | _____ | _____ |
| <input type="checkbox"/> Other _____ | _____ | _____ |

ADDITIONAL INFORMATION (i.e. If the project scope has changed since the PSR/PSSR, please explain.)

| | | |
|-------------------------------------|-----------------------------|---|
| Date of PDT Kick off Meeting | Date of Field Review | Date of Env/Design Scoping Meeting: (PE to schedule meeting) |
| | | |

THE FOLLOWING INFORMATION IS TO BE JOINTLY COMPLETED BY THE PROJECT ENGINEER AND THE ENVIRONMENTAL COORDINATOR:

ESR submittal includes: (Describe in general terms what has been submitted):

Environmental Studies will produce: (Describe in general terms what the Environmental Office will produce with this submittal information):

The following additional information is necessary to complete PA&ED (Describe what information is still needed, if any, to complete environmental studies, on schedule):

Estimated submittal date:

ENVIRONMENTAL STUDY REQUEST AGREEMENT

We have discussed the project described above and agree upon the information provided. Subsequent information may be provided, as it becomes available. Each submittal will have a new ESR form attached. We agree that the Project Approval and Environmental Document (PA&ED) phase must be a flexible, collaborative effort involving Design, Environmental and the entire Project Development team (PDT), and that we will work together to achieve the scope and schedule established for this project.

PROJECT ENGINEER

DATE

ENVIRONMENTAL
COORDINATOR

DATE



PRELIMINARY ENVIRONMENTAL ANALYSIS REPORT

1. Project Information

| | | | | |
|--|--------|-------|---------|----|
| District | County | Route | PM | EA |
| Project Title: <i>Brief descriptive phrase, e.g., CAPM, Curve Re-alignment, Passing Lane, etc.</i> | | | | |
| Project Manager | | | Phone # | |
| Project Engineer | | | Phone # | |
| Environmental Office Chief/Manager | | | Phone # | |
| PEAR Preparer | | | Phone # | |

2. Project Description

Purpose and Need

Write a concise statement of the project purpose and need. It should be consistent with the purpose and need statement in the PSR.

Description of work

Write a brief summary of the proposed work that will be done. Include work required that is incidental to the project, such as: access roads, utility relocation, de-watering, etc

Alternatives

Identify all project alternatives (including no-build). If alternatives are no longer being considered, state why. Do not select or identify a preferred alternative. Describe each alternative still under consideration.

3. Anticipated Environmental Approval

Check the anticipated environmental determination or document for the proposed project in the table below.

| CEQA | | NEPA | |
|--|--------------------------|---|--------------------------|
| Environmental Determination | | | |
| Statutory Exemption | <input type="checkbox"/> | | |
| Categorical Exemption | <input type="checkbox"/> | Categorical Exclusion | <input type="checkbox"/> |
| Environmental Document | | | |
| Initial Study or Focused Initial Study with proposed Negative Declaration (ND) or Mitigated ND | <input type="checkbox"/> | Routine Environmental Assessment with proposed Finding of No Significant Impact | <input type="checkbox"/> |
| | | Complex Environmental Assessment with proposed Finding of No Significant Impact | <input type="checkbox"/> |
| Environmental Impact Report | <input type="checkbox"/> | Environmental Impact Statement | <input type="checkbox"/> |
| CEQA Lead Agency (if determined): | | | |
| Estimated length of time (months) to obtain environmental approval: | | | |
| Estimated person hours to complete identified tasks: | | | |

4. Special Environmental Considerations

For each viable alternative, summarize below any special processes such as NEPA/404, seasonal constraints, Section 7, Section 4(f) that may affect project delivery and require unusual, exceptional, or extended environmental processes.

5. Anticipated Environmental Commitments

For each viable alternative, prepare briefly summarize the anticipated environmental commitments by impacted resource. If commitments have been made, include a copy of the ECR. For standard PSRs, include a cost estimate for each environmental commitment. Include the total cost of all environmental commitment costs in Item 8. PSR Summary Statement below. Reference PEAR Environmental Commitments Cost Estimate.

6. Permits and Approvals

Include timelines for acquiring permits or agreements. Reference PEAR Environmental Commitments Cost Estimate.

7. Level of Effort: Risks and Assumptions

See Section 5.2 PEAR Handbook regarding important considerations that can affect the level of effort and resources needed not only for the environmental document but also for the PEAR scoping document.

8. PEAR Technical Summaries

Use brief paragraphs focused on topics that will need environmental review. Indicate the absence of issues to document that they were considered. Refer to the Environmental Studies Checklist when preparing the following summaries. Make a separate statement for each viable alternative. See the PEAR Handbook Exhibit 3 for examples. These paragraphs should be based upon the technical summary provided by each specialist to the generalist who is writing the PEAR.

- 8.1 Land Use:
- 8.2 Growth:
- 8.3 Farmlands/Timberlands:
- 8.4 Community Impacts:
- 8.5 Visual/Aesthetics:
- 8.6 Cultural Resources:
- 8.7 Hydrology and Floodplain:
- 8.8 Water Quality and Storm Water Runoff:
- 8.9 Geology, Soils, Seismic and Topography:
- 8.10 Paleontology:
- 8.11 Hazardous Waste/Materials:
- 8.12 Air Quality:
- 8.13 Noise and Vibration:
- 8.14 Energy and Climate Change:
- 8.15 Biological Environment:
- 8.16 Cumulative Impacts:
- 8.17 Context Sensitive Solutions:

9. Summary Statement for PSR or PSR-PDS

For each practicable alternative write a brief summary of key environmental issues, studies required, permits, and anticipated environmental commitments for permanent impacts. Include a time and potential constraints or special considerations, such as construction windows, biological monitoring, Native American monitoring, acquisition of Permits to Enter, etc. For a standard PSR, include cost estimates for environmental permits and commitments. This statement will go directly into the PSR or PSR-PDS.

10. Disclaimer

This Preliminary Environmental Analysis Report (PEAR) provides information to support programming of the proposed project. It is not an environmental determination or document. Preliminary analysis, determinations, and estimates of mitigation costs are based on the project description provided in the Project Study Report (PSR). The estimates and conclusions in the PEAR are approximate and are based on cursory analyses of probable effects. A reevaluation of the PEAR will be needed for changes in project scope or alternatives, or in environmental laws, regulations, or guidelines.

11. List of Preparers

| | |
|--------------------------------------|-------|
| Cultural Resources specialist | Date: |
| Biologist | Date: |
| Community Impacts specialist | Date: |
| Noise and Vibration specialist | Date: |
| Air Quality specialist | Date: |
| Paleontology specialist/liaison | Date: |
| Water Quality specialist | Date: |
| Hydrology and Floodplain specialist | Date: |
| Hazardous Waste/Materials specialist | Date: |
| Visual/Aesthetics specialist | Date: |
| Energy and Climate Change specialist | Date: |
| Other: | Date: |
| PEAR Preparer (Name and Title) | Date: |

12. Review and Approval

I confirm that environmental cost, scope, and schedule have been satisfactorily completed and that the PEAR meets all Caltrans requirements. Also, if the project is scoped as a routine EA, complex EA, or EIS, I verify that the HQ DEA Coordinator has concurred in the Class of Action.

Environmental Branch Chief

Date: _____

Project Manager

Date: _____

REQUIRED ATTACHMENTS:

Attachment A: PEAR Environmental Studies Checklist

Attachment B: Estimated Resources by WBS Code

Attachment C: Schedule (Gantt Chart)

Attachment D: PEAR Environmental Commitments Cost Estimate (Standard PSR)

EXHIBIT 2: PEAR Outline

Attachment A: PEAR Environmental Studies Checklist

| Environmental Studies for PA&ED Checklist | | | | | |
|--|-----------------|--------------|-----------------|----------------|----------|
| | Not anticipated | Memo to file | Report required | Risk* L M H | Comments |
| Land Use | | | | | |
| Growth | | | | | |
| Farmlands/Timberlands | | | | | |
| Community Impacts | | | | | |
| Community Character and Cohesion | | | | | |
| Relocations | | | | | |
| Environmental Justice | | | | | |
| Utilities/Emergency Services | | | | | |
| Visual/Aesthetics | | | | | |
| Cultural Resources: | | | | | |
| Archaeological Survey Report | | | | | |
| Historic Resources Evaluation Report | | | | | |
| Historic Property Survey Report | | | | | |
| Historic Resource Compliance Report | | | | | |
| Section 106 / PRC 5024 & 5024.5 | | | | | |
| Native American Coordination | | | | | |
| Finding of Effect | | | | | |
| Data Recovery Plan | | | | | |
| Memorandum of Agreement | | | | | |
| Other: | | | | | |
| Hydrology and Floodplain | | | | | |
| Water Quality and Stormwater Runoff | | | | | |
| Geology, Soils, Seismic and Topography | | | | | |
| Paleontology | | | | | |
| PER | | | | | |
| PMP | | | | | |
| Hazardous Waste/Materials: | | | | | |
| ISA (Additional) | | | | | |
| PSI | | | | | |
| Other: | | | | | |
| Air Quality | | | | | |
| Noise and Vibration | | | | | |
| Energy and Climate Change | | | | | |
| Biological Environment | | | | | |
| Natural Environment Study | | | | | |
| Section 7: | | | | | |
| Formal | | | | | |
| Informal | | | | | |
| No effect | | | | | |
| Section 10 | | | | | |
| USFWS Consultation | | | | | |
| NMFS Consultation | | | | | |
| Species of Concern (CNPS, USFS, BLM, S, F) | | | | | |

Environmental Studies for PA&ED Checklist

| | Not anticipated | Memo to file | Report required | Risk* L M H | Comments |
|---|-----------------|--------------|-----------------|----------------|----------|
| Wetlands & Other Waters/Delineation | | | | | |
| 404(b)(1) Alternatives Analysis | | | | | |
| Invasive Species | | | | | |
| Wild & Scenic River Consistency | | | | | |
| Coastal Management Plan | | | | | |
| HMMP | | | | | |
| DFG Consistency Determination | | | | | |
| 2081 | | | | | |
| Other | | | | | |
| Cumulative Impacts | | | | | |
| Context Sensitive Solutions | | | | | |
| Section 4(f) Evaluation | | | | | |
| Permits: | | | | | |
| 401 Certification Coordination | | | | | |
| 404 Permit Coordination, IP, NWP, or LOP | | | | | |
| 1602 Agreement Coordination | | | | | |
| Local Coastal Development Permit Coordination | | | | | |
| State Coastal Development Permit Coordination | | | | | |
| NPDES Coordination | | | | | |
| US Coast Guard (Section 10) | | | | | |
| TRPA | | | | | |
| BCDC | | | | | |

Attachment B: Estimated Resources by Work Breakdown Structure (WBS) Code

(The sample form, below, can be downloaded at www.dot.ca.gov/ser/pear.htm)

ATTACHMENT B - Resources by WBS Code

| EA: | <i>NOTE: This WBS resource estimating tool is for Generalist use ONLY when a district-specific WBS estimating tool is not available. Check with your supervisor before using this form.</i> | | | | | | | | | | | WBS current 11/2008 | | | |
|---|---|--------|-------|---------|----------|-----------|----------------|-------------|-----------|-------|----------|---------------------|------------|----------|-----------------|
| Description: | Assigned Unit | Senior | Coord | Biology | Cultural | Haz Waste | Socio-Economic | Storm Water | Noise/Air | Paleo | Sup Svcs | Total | Begin Date | End Date | Duration (days) |
| Project Management | | | | | | | | | | | | | | | |
| 100.05.05 – Project Init. & Plng. | | | | | | | | | | | | 0 | | | 0 |
| 100.05.10 – PID Cmpnt Exec. & Ctrl. | | | | | | | | | | | | 0 | | | 0 |
| 100.05.15 – PID Cmpnt Closeout | | | | | | | | | | | | 0 | | | 0 |
| 100.10.05 – PA&ED Cmpnt Init. & Plng. | | | | | | | | | | | | 0 | | | 0 |
| 100.10.10 – PA&ED Cmpnt Exec. & Ctrl. | | | | | | | | | | | | 0 | | | 0 |
| 100.10.15 – PA&ED Cmpnt Closeout | | | | | | | | | | | | 0 | | | 0 |
| 100.10.20 – Project Shelving (PA&ED) | | | | | | | | | | | | 0 | | | 0 |
| 100.10.25 – Project Unshelving (PA&ED) | | | | | | | | | | | | 0 | | | 0 |
| 100.10.30 – Updd Admtv Rec during PA&ED | | | | | | | | | | | | 0 | | | 0 |
| 100.10.35 – Execd Coop Agre for PA&ED Process | | | | | | | | | | | | 0 | | | 0 |
| 100.15.05 – PS&E Cmpnt Init. & Plng. | | | | | | | | | | | | 0 | | | 0 |
| 100.15.10 – PS&E Cmpnt Exec. & Ctrl. | | | | | | | | | | | | 0 | | | 0 |
| 100.15.15 – PS&E Cmpnt Closeout | | | | | | | | | | | | 0 | | | 0 |
| 100.15.20 – Project Shelving (PS&E) | | | | | | | | | | | | 0 | | | 0 |
| 100.15.25 – Project Unshelving (PS&E) | | | | | | | | | | | | 0 | | | 0 |
| 100.15.30 – Updd Admtv Rec during PS&E | | | | | | | | | | | | 0 | | | 0 |
| 100.15.35 – Execd Coop Agre for PS&E Process | | | | | | | | | | | | 0 | | | 0 |
| 100.20.05 – Const. Cmpnt Init. & Plng. | | | | | | | | | | | | 0 | | | 0 |
| 100.20.10 – Const. Cmpnt Exec. & Ctrl. | | | | | | | | | | | | 0 | | | 0 |
| 100.20.15 – Const. Cmpnt Closeout | | | | | | | | | | | | 0 | | | 0 |
| 100.20.20 – Project Shelving (Construction) | | | | | | | | | | | | 0 | | | 0 |
| 100.20.25 – Project Unshelving (Construction) | | | | | | | | | | | | 0 | | | 0 |
| 100.20.30 – Updd Admtv Rec during Const | | | | | | | | | | | | 0 | | | 0 |
| 100.20.35 – Execd Coop Agre for Const Process | | | | | | | | | | | | 0 | | | 0 |
| 100.25.05 – R/W Cmpnt Init. & Plng. | | | | | | | | | | | | 0 | | | 0 |
| 100.25.10 – R/W Cmpnt Exec. & Ctrl. | | | | | | | | | | | | 0 | | | 0 |
| 100.25.15 – R/W Cmpnt Closeout | | | | | | | | | | | | 0 | | | 0 |
| 100.25.20 – Project Shelving (Right of Way) | | | | | | | | | | | | 0 | | | 0 |
| 100.25.25 – Project Unshelving (Right of Way) | | | | | | | | | | | | 0 | | | 0 |
| 100.25.30 – Updd Admtv Rec during R/W | | | | | | | | | | | | 0 | | | 0 |
| 100.25.35 – Execd Coop Agre for R/W Process | | | | | | | | | | | | 0 | | | 0 |
| 100.25.50 – Execd Coop Agre for R/W Rlnmnt | | | | | | | | | | | | 0 | | | 0 |
| Total Project Management | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 |
| Perform Preliminary Engineering Studies and Prepare Draft Project Report | | | | | | | | | | | | | | | |
| 160.05.05 – Approvd PID Review | | | | | | | | | | | | 0 | | | 0 |
| 160.05.10 – Geotechnical Information Review | | | | | | | | | | | | 0 | | | 0 |
| 160.05.20 – Traffic Data & Forecasts Review | | | | | | | | | | | | 0 | | | 0 |
| 160.05.30 – Project Scope Review | | | | | | | | | | | | 0 | | | 0 |
| 160.10.20 – Value Analysis | | | | | | | | | | | | 0 | | | 0 |
| 160.10.25 – Hydraulics/Hydro Study | | | | | | | | | | | | 0 | | | 0 |
| 160.10.30 – Hwy Planting Des Concepts | | | | | | | | | | | | 0 | | | 0 |
| 160.15.20 – Draft Project Report | | | | | | | | | | | | 0 | | | 0 |
| 160.15.25 – Draft PR Circ, Rev & App | | | | | | | | | | | | 0 | | | 0 |
| 160.30.05 – Maps for ESR | | | | | | | | | | | | 0 | | | 0 |
| 160.30.10 – Surveys/Maps for Env Studies | | | | | | | | | | | | 0 | | | 0 |
| 160.30.15 – Prop Access Rights for Env/Eng Studies | | | | | | | | | | | | 0 | | | 0 |
| 160.40 – NEPA Delegation | | | | | | | | | | | | 0 | | | 0 |
| Total Prelim Eng Studies | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 |

| Assigned Unit | Senior | Coord | Biology | Cultural | Haz Waste | Socio-Economic | Storm Water | Noise/Air | Paleo | Sup Svcs | Total | Begin Date | End Date | Duration (days) |
|---|--------|-------|---------|----------|-----------|----------------|-------------|-----------|-------|----------|-------|------------|----------|-----------------|
| Perform Environmental Studies and Prepare Draft Environmental Document | | | | | | | | | | | | | | |
| 165.05.05 – Project Information Review | | | | | | | | | | | 0 | | | 0 |
| 165.05.10 – Pub & Agency Scoping | | | | | | | | | | | 0 | | | 0 |
| 165.05.15 – Alts for Further Study | | | | | | | | | | | 0 | | | 0 |
| 165.10.15 – CIA, Land Use & Growth | | | | | | | | | | | 0 | | | 0 |
| 165.10.25 – Noise Study | | | | | | | | | | | 0 | | | 0 |
| 165.10.30 – Air Quality Study | | | | | | | | | | | 0 | | | 0 |
| 165.10.35 – Water Quality Studies | | | | | | | | | | | 0 | | | 0 |
| 165.10.40 – Energy/Climate Change Studies | | | | | | | | | | | 0 | | | 0 |
| 165.10.45 – Sum Geotech Report | | | | | | | | | | | 0 | | | 0 |
| 165.10.50 – Preliminary Site Investigation HW | | | | | | | | | | | 0 | | | 0 |
| 165.10.55 – Draft R/W Relocation Impact Eval | | | | | | | | | | | 0 | | | 0 |
| 165.10.65 – Paleontology Study | | | | | | | | | | | 0 | | | 0 |
| 165.10.70 – Wild & Scenic River Coordination | | | | | | | | | | | 0 | | | 0 |
| 165.10.75 – Envir Commitments Record | | | | | | | | | | | 0 | | | 0 |
| 165.10.99 - Other Env Studies | | | | | | | | | | | 0 | | | 0 |
| 165.15.05 – Biological Assessment | | | | | | | | | | | 0 | | | 0 |
| 165.15.10 – Wetlands Study | | | | | | | | | | | 0 | | | 0 |
| 165.15.15 – Resource Agency Coord | | | | | | | | | | | 0 | | | 0 |
| 165.15.20 – NES Report | | | | | | | | | | | 0 | | | 0 |
| 165.15.99 – Other Biological Studies | | | | | | | | | | | 0 | | | 0 |
| 165.20.05 – Archaeology Survey | | | | | | | | | | | 0 | | | 0 |
| 165.20.05.05 – APE Map | | | | | | | | | | | 0 | | | 0 |
| 165.20.05.10 – NA Consultation | | | | | | | | | | | 0 | | | 0 |
| 165.20.05.15 – Records & Literature Search | | | | | | | | | | | 0 | | | 0 |
| 165.20.05.20 – Field Survey | | | | | | | | | | | 0 | | | 0 |
| 165.20.05.25 – ASR | | | | | | | | | | | 0 | | | 0 |
| 165.20.05.99 – Other Archy Survey Products | | | | | | | | | | | 0 | | | 0 |
| 165.20.10 – Extended Phase I Archy Studies | | | | | | | | | | | 0 | | | 0 |
| 165.20.10.05 – Native American Consultation | | | | | | | | | | | 0 | | | 0 |
| 165.20.10.10 – Extended Phase I Proposal | | | | | | | | | | | 0 | | | 0 |
| 165.20.10.15 – XP1 Field Investigation | | | | | | | | | | | 0 | | | 0 |
| 165.20.10.20 – XP1 Materials Analysis | | | | | | | | | | | 0 | | | 0 |
| 165.20.10.25 – Extended Phase I Report | | | | | | | | | | | 0 | | | 0 |
| 165.20.10.99 – Other Phase I Archy Products | | | | | | | | | | | 0 | | | 0 |
| 165.20.15 – Phase II Archy Studies | | | | | | | | | | | 0 | | | 0 |
| 165.20.15.05 – NA Consultation | | | | | | | | | | | 0 | | | 0 |
| 165.20.15.10 – Phase II Proposal | | | | | | | | | | | 0 | | | 0 |
| 165.20.15.15 – Field Investigation | | | | | | | | | | | 0 | | | 0 |
| 165.20.15.20 – Materials Analysis | | | | | | | | | | | 0 | | | 0 |
| 165.20.15.25 – Phase II Report | | | | | | | | | | | 0 | | | 0 |
| 165.20.15.99 – Other Phase II Archy Products | | | | | | | | | | | 0 | | | 0 |
| 165.20.20 – Hist & Architectural Studies | | | | | | | | | | | 0 | | | 0 |
| 165.20.20.05 – Prelim APE/Study Area Maps - Archl | | | | | | | | | | | 0 | | | 0 |
| 165.20.20.10 – Hist Res Eval Rpt - Archy | | | | | | | | | | | 0 | | | 0 |
| 165.20.20.15 – Hist Res Eval Rpt - Archl | | | | | | | | | | | 0 | | | 0 |
| 165.20.20.20 – Bridge Evaluation | | | | | | | | | | | 0 | | | 0 |
| 165.20.20.99 – Other H & A Study Products | | | | | | | | | | | 0 | | | 0 |
| 165.20.25 – Cultural Res Comp Docs | | | | | | | | | | | 0 | | | 0 |
| 165.20.25.05 – Final APE Maps | | | | | | | | | | | 0 | | | 0 |
| 165.20.25.10 – PRC 5024.5 Consult | | | | | | | | | | | 0 | | | 0 |
| 165.20.25.15 – HPSR/HRCR | | | | | | | | | | | 0 | | | 0 |
| 165.20.25.20 – Finding of Effect | | | | | | | | | | | 0 | | | 0 |
| 165.20.25.25 – Archy Data Recovery Pln | | | | | | | | | | | 0 | | | 0 |
| 165.20.25.30 – MOA | | | | | | | | | | | 0 | | | 0 |
| 165.20.25.99 – Other Cult Res Comp Products | | | | | | | | | | | 0 | | | 0 |
| 165.25.05 – Draft ED Analysis | | | | | | | | | | | 0 | | | 0 |
| 165.25.10 – 4(f) Evaluation | | | | | | | | | | | 0 | | | 0 |
| 165.25.15 – CE/CE Determination | | | | | | | | | | | 0 | | | 0 |
| 165.25.20 – Env Quality Control & Other Reviews | | | | | | | | | | | 0 | | | 0 |
| 165.25.25 – Approval to Circ Resolution | | | | | | | | | | | 0 | | | 0 |

| Assigned Unit | Senior | Coord | Biology | Cultural | Haz Waste | Socio-Economic | Storm Water | Noise/Air | Paleo | Sup Svcs | Total | Begin Date | End Date | Duration (days) |
|--|--------|-------|---------|----------|-----------|----------------|-------------|-----------|-------|----------|-------|------------|----------|-----------------|
| 165.25.30 – Env Coordination | | | | | | | | | | | 0 | | | 0 |
| 165.25.99 – Other DED Products | | | | | | | | | | | 0 | | | 0 |
| 165.30 – NEPA Delegation | | | | | | | | | | | 0 | | | 0 |
| Total Env Studies & Prep DED | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 |
| Permits, Agreements, and Route Adoptions during PA&ED Cmpnt | | | | | | | | | | | | | | |
| 170.05 - Required Permits (list) | | | | | | | | | | | 0 | | | 0 |
| 170.10.05 - US Army Corps 404 Permit | | | | | | | | | | | 0 | | | 0 |
| 170.10.10 - US Forest Service Permit(s) | | | | | | | | | | | 0 | | | 0 |
| 170.10.15 - US Coast Guard Permit | | | | | | | | | | | 0 | | | 0 |
| 170.10.20 - DFG 1600 Agreement(s) | | | | | | | | | | | 0 | | | 0 |
| 170.10.25 - Coastal Zone Development Permit | | | | | | | | | | | 0 | | | 0 |
| 170.10.30 - Local Agency Concurrence/Permit | | | | | | | | | | | 0 | | | 0 |
| 170.10.40 - Waste Discharge (NPDES) Permit(s) | | | | | | | | | | | 0 | | | 0 |
| 170.10.45 - US Fish & Wildlife Service Approval | | | | | | | | | | | 0 | | | 0 |
| 170.10.50 - RWQCB 401 Permit | | | | | | | | | | | 0 | | | 0 |
| 170.10.60 - Updated ECR | | | | | | | | | | | 0 | | | 0 |
| 170.10.95 - Other Permits | | | | | | | | | | | 0 | | | 0 |
| 170.45 - MOU from TERO Office | | | | | | | | | | | 0 | | | 0 |
| 170.55 - NEPA Delegation | | | | | | | | | | | 0 | | | 0 |
| Total Permits, Agreements & Route Adoptions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 |
| Circulate Draft Environmental Document and Select Preferred Project Alternative | | | | | | | | | | | | | | |
| 175.05.05 – Master Dist & Invitation Lists | | | | | | | | | | | 0 | | | 0 |
| 175.05.10 – Notices Pub Hear & DED Avail | | | | | | | | | | | 0 | | | 0 |
| 175.05.15 – DED Pub & Circulation | | | | | | | | | | | 0 | | | 0 |
| 175.05.20 – Fed Consistency Det (Coastal) | | | | | | | | | | | 0 | | | 0 |
| 175.05.99 – Other DED Circulation Products | | | | | | | | | | | 0 | | | 0 |
| 175.10.05 – Need for Pub Hearing Determination | | | | | | | | | | | 0 | | | 0 |
| 175.10.10 – Pub Hearing Logistics | | | | | | | | | | | 0 | | | 0 |
| 175.10.15 – Displays for Pub Hearing | | | | | | | | | | | 0 | | | 0 |
| 175.10.20 – 2nd Notice Pub Hear & Avail | | | | | | | | | | | 0 | | | 0 |
| 175.10.25 – Map Display & Hearing Plan | | | | | | | | | | | 0 | | | 0 |
| 175.10.30 – Display Pub Hear Maps | | | | | | | | | | | 0 | | | 0 |
| 175.10.35 – Public Hearing | | | | | | | | | | | 0 | | | 0 |
| 175.10.40 – Record of Public Hearing | | | | | | | | | | | 0 | | | 0 |
| 175.10.99 – Other Pub Hearing Products | | | | | | | | | | | 0 | | | 0 |
| 175.15 – Responses to Pub Hear Comments | | | | | | | | | | | 0 | | | 0 |
| 175.20 – Project Preferred Alternative | | | | | | | | | | | 0 | | | 0 |
| 175.25 – NEPA Delegation | | | | | | | | | | | 0 | | | 0 |
| Total DED & Preferred Alt | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 |
| Prepare and Approve Project Report and Final Environmental Document | | | | | | | | | | | | | | |
| 180.05.10 – Approved Project Rep | | | | | | | | | | | 0 | | | 0 |
| 180.05.15 – Updated Stormwater Data Report | | | | | | | | | | | 0 | | | 0 |
| 180.10.05 – Approved FED | | | | | | | | | | | 0 | | | 0 |
| 180.10.05.05 – Draft FED Review | | | | | | | | | | | 0 | | | 0 |
| 180.10.05.10 – Revised Draft FED | | | | | | | | | | | 0 | | | 0 |
| 180.10.05.15 – Section 4(f) Evaluation | | | | | | | | | | | 0 | | | 0 |
| 180.10.05.20 – Findings Report | | | | | | | | | | | 0 | | | 0 |
| 180.10.05.25 – Statement of Overriding Consid | | | | | | | | | | | 0 | | | 0 |
| 180.10.05.30 – CEQA Certification | | | | | | | | | | | 0 | | | 0 |
| 180.10.05.35 – FHWA and Approval | | | | | | | | | | | 0 | | | 0 |
| 180.10.05.40 – Section 106 Cons & MOA | | | | | | | | | | | 0 | | | 0 |
| 180.10.05.45 – Section 7 Consultation | | | | | | | | | | | 0 | | | 0 |
| 180.10.05.50 – Final Section 4(f) Statement | | | | | | | | | | | 0 | | | 0 |
| 180.10.05.55 – Floodplain Only PAF | | | | | | | | | | | 0 | | | 0 |
| 180.10.05.60 –Wetlands Only PAF | | | | | | | | | | | 0 | | | 0 |
| 180.10.05.65 – Sect 404 Permit Compliance | | | | | | | | | | | 0 | | | 0 |
| 180.10.05.70 – Mitigation Measures | | | | | | | | | | | 0 | | | 0 |
| 180.10.10 – Public Dist & Resp to Comments | | | | | | | | | | | 0 | | | 0 |

| Assigned Unit | Senior | Coord | Biology | Cultural | Haz Waste | Socio-Economic | Storm Water | Noise/Air | Paleo | Sup Svcs | Total | Begin Date | End Date | Duration (days) |
|---|--------|-------|---------|----------|-----------|----------------|-------------|-----------|-------|----------|-------|------------|----------|-----------------|
| 180.10.15 – Final R/W Relo Impact Document | | | | | | | | | | | 0 | | | 0 |
| 180.10.99 – Other FED Products | | | | | | | | | | | 0 | | | 0 |
| 180.15.05 – ROD (NEPA) | | | | | | | | | | | 0 | | | 0 |
| 180.15.10 – NOD (CEQA) | | | | | | | | | | | 0 | | | 0 |
| 180.15.20 – Env Commitments Record | | | | | | | | | | | 0 | | | 0 |
| 180.15.99 – Other Complete ED Products | | | | | | | | | | | 0 | | | 0 |
| 180.20 – NEPA Delegation | | | | | | | | | | | 0 | | | 0 |
| Total App PR & FED | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Update Project Info for PS&E | | | | | | | | | | | | | | |
| 185.05.05 – Project Concept Review for PS&E | | | | | | | | | | | 0 | | | 0 |
| 185.05.10 – Updated Project Info for PS&E dev | | | | | | | | | | | 0 | | | 0 |
| Total Update for PS&E | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| ROW & Excess Land | | | | | | | | | | | | | | |
| 195.40.25 – Property Maint & Rehab (non-rental) | | | | | | | | | | | 0 | | | 0 |
| 195.40.35 – Transfer of Prop to Clear Status | | | | | | | | | | | 0 | | | 0 |
| 195.45.05 – Excess Lands Inventory | | | | | | | | | | | 0 | | | 0 |
| 195.45.20 – Prop Disp Units less than \$15 K | | | | | | | | | | | 0 | | | 0 |
| 195.45.25 – Prop Disp Units \$15 K - \$500 K | | | | | | | | | | | 0 | | | 0 |
| 195.45.30 – Prop Disp Units over \$500 K | | | | | | | | | | | 0 | | | 0 |
| Total ROW & Excess Land | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Utility Relocation | | | | | | | | | | | | | | |
| 200.15 – Approved Utility Relocation Plan | | | | | | | | | | | 0 | | | 0 |
| 200.20 – Utility Relocation Package | | | | | | | | | | | 0 | | | 0 |
| Total Coordinate Utilities | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Permits, Agreements, and Route Adoptions during PS&E Cmpnt | | | | | | | | | | | | | | |
| 205.10.05 - US Army Corps 404 Permit | | | | | | | | | | | 0 | | | 0 |
| 205.10.10 - US Forest Service Permit(s) | | | | | | | | | | | 0 | | | 0 |
| 205.10.15 - US Coast Guard Permit | | | | | | | | | | | 0 | | | 0 |
| 205.10.20 - DFG 1600 Agreement | | | | | | | | | | | 0 | | | 0 |
| 205.10.25 - Coastal Development Permit | | | | | | | | | | | 0 | | | 0 |
| 205.10.30 - Local Agency Concurrence/Permit | | | | | | | | | | | 0 | | | 0 |
| 205.10.40 - Waste Discharge (NPDES) permit | | | | | | | | | | | 0 | | | 0 |
| 205.10.45 - US Fish & Wildlife Service Approval | | | | | | | | | | | 0 | | | 0 |
| 205.10.50 - RWQCB 401 Permit | | | | | | | | | | | 0 | | | 0 |
| 205.10.60 - Updated ECR | | | | | | | | | | | 0 | | | 0 |
| 205.10.95 - Other Permits | | | | | | | | | | | 0 | | | 0 |
| 205.20.05 – Draft Fwy Agreement | | | | | | | | | | | 0 | | | 0 |
| 205.20.10 – Draft Fwy Agree Review | | | | | | | | | | | 0 | | | 0 |
| 205.20.15 – Final Fwy Agree | | | | | | | | | | | 0 | | | 0 |
| 205.20.20 – Executed Fwy Agreement | | | | | | | | | | | 0 | | | 0 |
| 205.40.10 - New Connections & Route Adopt SbtI | | | | | | | | | | | 0 | | | 0 |
| 205.55 - NEPA Delegation | | | | | | | | | | | 0 | | | 0 |
| Total Permits, Agreements, and Route Adoptions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |

| Assigned Unit | Senior | Coord | Biology | Cultural | Haz Waste | Socio-Economic | Storm Water | Noise/Air | Paleo | Sup Svcs | Total | Begin Date | End Date | Duration (days) |
|--|--------|-------|---------|----------|-----------|----------------|-------------|-----------|-------|----------|-------|------------|----------|-----------------|
| Right of Way Interests | | | | | | | | | | | | | | |
| 225.55.20 – Right of Way Clearance | | | | | | | | | | | 0 | | | 0 |
| Total Right of Way Interests | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Prepare Draft PS&E | | | | | | | | | | | | | | |
| 230.05.45 – Noise Barrier Plans | | | | | | | | | | | 0 | | | 0 |
| 230.10.05 – Hwy Planting Plans | | | | | | | | | | | 0 | | | 0 |
| 230.10.15 – Plant List | | | | | | | | | | | 0 | | | 0 |
| 230.35.10 – Hwy Planting Specs | | | | | | | | | | | 0 | | | 0 |
| 230.35.35 – Water Pollution Ctrl Specs | | | | | | | | | | | 0 | | | 0 |
| 230.35.40 – Erosion Control Specs | | | | | | | | | | | 0 | | | 0 |
| 230.60 – Updated Proj Info for PS&E Package | | | | | | | | | | | 0 | | | 0 |
| 230.60.05 - Updated Storm Water Data Report | | | | | | | | | | | 0 | | | 0 |
| 230.60.10 – Other Reviews/Updates Proj Info | | | | | | | | | | | 0 | | | 0 |
| 230.90 – NEPA Delegation | | | | | | | | | | | 0 | | | 0 |
| Total Prepare Draft PS&E | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Mitigate Environmental Impacts and Clean-up Hazardous Waste | | | | | | | | | | | | | | |
| 235.05.05 – Hist Structures Mitig | | | | | | | | | | | 0 | | | 0 |
| 235.05.10 – Archy & Cult Mitigation | | | | | | | | | | | 0 | | | 0 |
| 235.05.15 – Biological Mitigation | | | | | | | | | | | 0 | | | 0 |
| 235.05.20 – Env Mitigation R/W work | | | | | | | | | | | 0 | | | 0 |
| 235.05.25 – Paleontology Mitigation | | | | | | | | | | | 0 | | | 0 |
| 235.05.99 - Other Env Mitigation Products | | | | | | | | | | | 0 | | | 0 |
| 235.10.10 – Haz Waste Sites Survey | | | | | | | | | | | 0 | | | 0 |
| 235.10.15 – Detailed HW Sites Investigation | | | | | | | | | | | 0 | | | 0 |
| 235.15 – HW Management Plan | | | | | | | | | | | 0 | | | 0 |
| 235.20 – HW PS&E | | | | | | | | | | | 0 | | | 0 |
| 235.25 – HW Clean-up | | | | | | | | | | | 0 | | | 0 |
| 235.30 – Certification of Sufficiency (HW) | | | | | | | | | | | 0 | | | 0 |
| 235.35 – Long Term Mitigation Monitoring | | | | | | | | | | | 0 | | | 0 |
| 235.40 – Updated ECR | | | | | | | | | | | 0 | | | 0 |
| 235.45 – NEPA Delegation | | | | | | | | | | | 0 | | | 0 |
| Total Mitigation & HW Clean-up | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Permits for Subsurface Geotechnical Exploration | | | | | | | | | | | | | | |
| 240.70 – Site Ready for Subsurface Exploration | | | | | | | | | | | 0 | | | 0 |
| Total Geotechnical Permit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Circulate, Review and Prepare Final District PS&E Package | | | | | | | | | | | | | | |
| 255.05 – Circ & Rev Draft Dist PS&E | | | | | | | | | | | 0 | | | 0 |
| 255.10.25 - Updated Technical Reports | | | | | | | | | | | 0 | | | 0 |
| 255.15 – Env Reevaluation | | | | | | | | | | | 0 | | | 0 |
| 255.20.05 - Rev Plans for Stds Comp | | | | | | | | | | | 0 | | | 0 |
| 255.40 - Res Enqs Pending File | | | | | | | | | | | 0 | | | 0 |
| 255.45 – NEPA Delegation | | | | | | | | | | | 0 | | | 0 |
| Total PS&E | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |

| Assigned Unit | Senior | Coord | Biology | Cultural | Haz Waste | Socio-Economic | Storm Water | Noise/Air | Paleo | Sup Svcs | Total | Begin Date | End Date | Duration (days) |
|--|----------|----------|----------|----------|-----------|----------------|-------------|-----------|----------|----------|----------|------------|----------|-----------------|
| Prepare Contract Documents | | | | | | | | | | | | | | |
| 260.75 - Env Cert at RTL | | | | | | | | | | | 0 | | | 0 |
| Total Prepare Contract Documents | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Perform Construction Engineering and General Contract Administration | | | | | | | | | | | | | | |
| 270.20.50 – Technical Support | | | | | | | | | | | 0 | | | 0 |
| 270.55 – Final Inspect & Accept Rec | | | | | | | | | | | 0 | | | 0 |
| 270.70 – Update ECR | | | | | | | | | | | 0 | | | 0 |
| 270.75 – Permit Renewal & Extension | | | | | | | | | | | 0 | | | 0 |
| 270.80 – Long-Term Mitigation Contract | | | | | | | | | | | 0 | | | 0 |
| Total Const Engineering | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Prepare and Administer Contract Change Orders | | | | | | | | | | | | | | |
| 285.05.05 - Need for CCO Determination | | | | | | | | | | | 0 | | | 0 |
| 285.10.15 – Other Func Support | | | | | | | | | | | 0 | | | 0 |
| Total CCOs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Resolve Contract Claims | | | | | | | | | | | | | | |
| 290.35 – Provide Technical Support | | | | | | | | | | | 0 | | | 0 |
| Total Contract Claims | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Accept Contract, Prepare Final Construction Estimate & Prepare Final Report | | | | | | | | | | | | | | |
| 295.35 – Cert of Env Compliance | | | | | | | | | | | 0 | | | 0 |
| 295.40 – Long-Term Mitigation Contract | | | | | | | | | | | 0 | | | 0 |
| Total Final Construction | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Total Project Hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |

Attachment C: Sample Schedule (Gantt Chart)

Attachment B
Sample Schedule
(Perform Biological Assessment and Agency Coordination)
PEAR Handbook

| # | WBS | Task Name | Duration | Start | End |
|----|-----------|--|----------|-----------|------------|
| 1 | 165 | Perform Environmental Studies and Prepare DED | 214d | 3/6/2006 | 12/29/2006 |
| 2 | 165.15 | Biological Studies | 214d | 3/6/2006 | 12/29/2006 |
| 3 | 165.15.05 | Biological Assessment | 214d | 3/6/2006 | 12/29/2006 |
| 4 | 165.15.05 | Draft EA for USFWS | 60d | 3/6/2006 | 5/26/2006 |
| 5 | 165.15.15 | Submit Draft BA to USFWS for review | 21d | 5/29/2006 | 6/29/2006 |
| 6 | 165.15.05 | CT revise BA | 30d | 6/27/2006 | 8/7/2006 |
| 7 | 165.15.15 | USFWS reviews Final BA | 135d | 8/6/2006 | 21/2/2007 |
| 8 | 165.15.15 | USFWS issues BO | 1d | 21/3/2007 | 21/3/2007 |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | Assumptions: USFWS will not require additional information USFWS will be able to issue BO within 135 day timeframe | | | |
| 15 | | USFWS will issue BO prior to public circulation of DED | | | |
| 16 | | (Circulation of DED not dependent on issuance of EO) | | | |
| 17 | | USFWS review of Draft EA may result in shortening the 135 day review | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |

Attachment D: PEAR Environmental Commitments Cost Estimate

Standard PSR Only

(Prepare a separate form for each viable alternative described in the Project Study Report)

PART 1 PROJECT INFORMATION

| | |
|---|---------------|
| District-County-Route-Post Mile | EA: |
| Project Description: | |
| Form completed by (Name/District Office): | |
| Project Manager: | Phone Number: |
| Date: | |

PART 2 PERMITS AND AGREEMENTS

| | Permits and Agreements (\$\$) |
|--|----------------------------------|
| Fish and Game 1602 Agreement | |
| Coastal Development Permit | |
| State Lands Agreement | |
| Section 401 Water Quality Certification | |
| Section 404 Permit – Nationwide (U.S. Army Corps) | |
| Section 404 Permit – Individual (U.S. Army Corps) | |
| Section 10 Navigable Waters Permit (U.S. Army Corps) | |
| Section 9 Permit (U.S. Coast Guard) | |
| Other: | |
| | |
| | |
| | |
| | |
| Total (enter zeros if no cost) | \$ |

PART 3. ENVIRONMENTAL COMMITMENTS FOR PERMANENT IMPACTS

To complete the following information:

- Report costs in \$1,000s.
- Include all costs to complete the commitment:
 - Capital outlay and staff support. Refer to Estimated Resources by WBS Code. For example, if you estimated 80 hours for biological monitoring (WBS 235.35 Long Term Mitigation Monitoring), convert those hours to a dollar amount for this entry. For current conversion rates from PY to dollars, see the Project Manager.
 - Cost of right of way or easements.

- If compensatory mitigation is anticipated (for wetlands, for example), insert a range for purchasing credits in a mitigation bank.
- Long-term monitoring and reporting
- Any follow-up maintenance
- Use current costs; the Project Manager will add an appropriate escalation factor.
- This is an estimating tool, so a range is not only acceptable, but advisable.
- The example below illustrates costs of biological commitments.

Example of Cost Estimate

| Environmental Commitments Alternative X | | |
|--|-----------------------------|--|
| | Estimated Cost in \$1,000's | Notes |
| Noise abatement or mitigation | | |
| Special landscaping | | |
| Archaeological resources | | |
| Biological resources | | |
| • ESA fencing | \$1,500-2,500 | ESA fencing for riparian area |
| • Wetlands mitigation | \$15,000-\$20,000 | Purchase credits in mitigation bank assume 2:1 ratio (\$15,000-\$20,000) |
| • On-site riparian mitigation | \$5,000-\$7,000 | • On-site Mitigation (\$5,000) |
| • Mit Monitoring | \$2,000-\$2,500 | • Monitoring of on-site mitigation (\$2,000) (see Estimated Resources by WBS Code: 235.35) |
| ○ Maintenance | \$3,000-\$4,000 | Maintain on-site mit (\$3,000) (assume contract this out) |
| Historical resources | | |
| Scenic resources | | |
| Wetland/riparian resources | | |
| Res./bus. relocations | | |
| Other: | | |
| | | |
| Total (enter zeros if no cost) | \$ | |

EXHIBIT 3: Sample Section 8 PEAR Technical Summaries

The EP/Generalist summarizes all specialist reports, studies, and evaluations in Section 8 PEAR Technical Summaries of the PEAR Template. The EP/Generalist may use the technical summary provided by each specialist. The following examples are fictional scenarios with random estimates. **Note the brevity of each discussion.**

8.4 Community Impacts

8.4.2 Relocations

Alternative 1A would result in the loss of five single-family residences, 16 mobile home sites and four motel-apartments. The project would result in small losses of remnant orchard lands.

Alternative 1B would involve all of the same impacts and environmental commitments as Alternative 1A but Alternative 1B would involve additional encroachment on residential areas east of the freeway and loss of additional residential units; these losses would amount to an estimated 10 single-family residences, 25 mobile homes sites, and 11 motel-apartments.

8.11 Hazardous Waste/Materials (this example is for a Standard PSR)

A heavy metals/aerially deposited lead investigation and an ISA are recommended for both build alternatives. A PSI is recommended for one parcel on Alternative 2 if it is to be acquired as part of that alternative. See schedule for estimated timeline to complete studies for both alternatives. The PEAR Environmental Commitments Cost Estimate includes a comparison of costs required for studies and remediation on Alternatives 1 and 2.

8.14 Biological Environment (this example is for a Standard PSR)

Alternative A may affect sensitive state- and federally-listed biological resources associated with the Martin Slough; planned bridge construction will require USACOE and CDFG permits and associated consultation with USFWS and NMFS. Site surveys for sensitive wildlife and plant species and a wetlands delineation will be necessary for this alternative. A levee encroachment permit from the California Reclamation Board will also be required. Construction activity within the Martin Slough channel will need to be timed to correspond with agency work windows. Avoidance of swallow nests, or nest exclusion netting, may be required from March 1 through August 31. See Special Considerations and project schedule for estimated timeline to complete biological resources tasks, agency coordination, and permits/agreements for Alternative A. Estimated permit costs are included in the PEAR Environmental Commitments Cost Estimate.

Alternative B will require site surveys for sensitive state-listed species. No federally-listed species are expected on this alignment. No wetlands delineation would be necessary. Coordination with CDFG will be required. See project schedule for estimated timeline to complete biological resources tasks and agency coordination for Alternative B.

EXHIBIT 4: List of Acronyms and Abbreviations

| | |
|--------|--|
| ARPA | Archaeological Resources Protection Act of 1979 |
| BLM | Bureau of Land Management |
| BMPs | Best Management Practices |
| CDFG | California Department of Fish and Game |
| CE | Categorical Exemption (CEQA); Categorical Exclusion (NEPA) |
| CEQA | California Environmental Quality Act |
| COS | Capital Outlay Support |
| DEA | Division of Environmental Analysis (Caltrans Headquarters) |
| DHIPP | Digital Highway Inventory Photography Program |
| ECR | Environmental Commitment Record |
| EH | Environmental Handbook |
| EIR | Environmental Impact Report (CEQA) |
| EIR/S | Environmental Impact Report/Statement (a joint CEQA/NEPA document) |
| EIS | Environmental Impact Statement (NEPA) |
| EMO | Environmental Management Office |
| ESA | Environmentally Sensitive Area |
| ESL | Environmental Study Limits |
| ESR | Environmental Study Request |
| FEMA | Federal Emergency Management Agency |
| FONSI | Finding of No Significant Impact (NEPA) |
| GHG | Greenhouse Gas |
| GIS | Geographic Systems Information |
| GS | Geotechnical Services |
| IP | Individual Permit (404) |
| IS | Initial Study (CEQA) |
| ISA | Initial Site Assessment (Hazardous Waste) |
| LEDPA | Least Environmentally Damaging Practicable Alternative |
| LOP | Letter of Permission (404) |
| MPO | Metropolitan Planning Organization |
| MSAT | Mobile Source Air Toxics |
| NAGPRA | Native American Graves Protection and Repatriation Act of 1990 |
| NAHC | Native American Heritage Commission |
| ND | Negative Declaration (CEQA) |
| NEPA | National Environmental Policy Act |
| NHPA | National Historic Preservation Act |
| NMFS | National Marine Fisheries Service |
| NOI | Notice of Intent |
| NPDES | National Pollutant Discharge Elimination System |
| NWP | Nationwide Permit (404) |
| ODS | Office of Drilling Services |

| | |
|------------|--|
| PA&ED | Project Approval and Environmental Documentation |
| PDPM | Project Development Procedures Manual |
| PDT | Project Development Team |
| PE | Project Engineer |
| PEAR | Preliminary Environmental Assessment Report |
| PER | Paleontological Evaluation Report |
| PID | Project Initiation Document |
| PIR | Paleontological Identification Report |
| PM | Project Manager |
| PR | Project Report |
| PRC | Public Resources Code |
| PS&E | Plans, Specifications and Estimates |
| PSI | Preliminary Site Investigation |
| PSR | Project Study Report |
| PSR-PDS | Project Study Report—Project Development Support |
| PSSR | Project Scope Summary Report |
| ROE | Rights of Entry |
| ROW | Right of Way |
| RTP | Regional Transportation Plan |
| RTPA | Regional Transportation Planning Agency |
| RTIP | Regional Transportation Improvement Program |
| SAFETEA-LU | Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users |
| SEP | Senior Environmental Planner |
| SER | Standard Environmental Reference |
| SHOPP | State Highway Operations Protection Program |
| SHPO | State Historic Preservation Officer |
| SHS | State Highway System |
| SRE | Scenic Resource Evaluation |
| STIP | State Transportation Improvement Program |
| TM | Task Manager |
| TMIT | Task Manager Implementation Team |
| WBS | Work Breakdown Structure |
| USACOE | U.S. Army Corps of Engineers |
| USEPA | U.S. Environmental Protection Agency |
| USFS | U.S. Forest Service |
| USFWS | U.S. Fish and Wildlife Service |
| VIA | Visual Impact Assessment |