BAY DELTA CONSERVATION PLAN EIR/EIS

WORK PLAN

PREPARED FOR:

California Department of Water Resources
901 P Street Suite 411
Sacramento, CA 95814
Contact: Russell Stein
916/651-9560
rstein@water.ca.gov

U.S. Bureau of Reclamation
901 P Street Suite 411
Sacramento, CA 95814
Contact: Federico Barajas
916/978-5113
fbarajas@mp.usbr.gov

PREPARED BY:

ICF International
630 K Street Suite 400
Sacramento, CA 95814
Contact: Ken Bogdan
916/737.3000
kbogdan@icfi.com

August 2011

ICF INTERNATIONAL

ICF International. 2011. *Bay Delta Conservation Plan EIR/EIS Work Plan*. August. (ICF 00558.11.) Sacramento, CA. Prepared for California Department of Water Resources, Sacramento, CA.

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Section 1
Introduction

The California Department of Water Resources (DWR) and the U.S. Department of the Interior, Bureau of Reclamation (Reclamation), U.S. Fish and Wildlife Service (USFWS), and National Marine Fisheries Service (NMFS) (Lead Agencies) began preparing the environmental impact report/environmental impact statement (EIR/EIS) for the Bay Delta Conservation Plan (BDCP) in 2008. The purpose of this work plan is to provide the Lead Agencies and other project participants a clear understanding of the EIR/EIS document revision goals, assumptions, and procedures to guide efficient completion of work assignments. Prior to this draft work plan, ICF International (ICF) prepared an initial scope of work and cost estimate for the Lead Agencies. This draft work plan documents our recommended approach for completing the EIR/EIS based on:

- Initial review of the current administrative draft of the EIR/EIS chapters, as contained in the Scope of Work provided to the Lead Agencies on June 3, 2011.
- Detailed evaluation of the current administrative draft of the EIR/EIS chapters, appendices, and related files (that were made available for this review— files received on or before July 18, 2011)[1].
- Review of the comments from the Lead Agencies and program management on the current administrative draft of the EIR/EIS chapters.

The goal of this work plan is to present a methodology for completing the BDCP EIR/EIS resource chapters, appendices, and related files, as appropriate, that will assist the Lead Agencies in issuing a Draft EIR/EIS for public review by June 29, 2012, and a Final EIR/EIS for public review by December 20, 2012, that complies with the requirements of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) within a timely and efficient budget and schedule. This work plan will assist the Lead Agencies in permit decision-making, and support other regulatory compliance needed for the Lead Agencies to issue the Notice of Determination (NOD) under CEQA and Record of Decision (ROD) under NEPA for approval of the BDCP by February 15, 2013.

One of the keys to preparing an EIR/EIS on the BDCP that meets the requirements of CEQA and NEPA and the objectives of the BDCP is creating a management program that is well coordinated with the BDCP. Completion of this work plan will result in environmental compliance that supports the BDCP process and provides the necessary analysis to support issuance of incidental take permits for covered species.

This work plan is organized as follows:

- Section 1, "Introduction."
- Section 2, "Approach to Document Preparation." This section provides an overview of the important delivery activities ICF is implementing to meet the requirements of the EIR/EIS scope

[1] The files reviewed included what are thought to be the primary elements of the prior consultant's work product. However, ICF has received files subsequent to July 18, on July 25, 28, 29, and August 1, 2011 (containing 343 files). We have made every effort to consider the content of these files but have not been able to provide a thorough review of these additional files prior to preparation of this work plan.

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of work and ensure that deliverables and service provided by ICF meet the Lead Agencies' expectations. This section provides an overview of the key activities, assumptions, and contractor and DWR roles that are the foundation for service delivery.

- Section 3, "EIR/EIS Recommendations and Completing the CEQA/NEPA Process." This section provides an overview of the detailed EIR/EIS chapter evaluations conducted by ICF resource specialists, as well as the general and specific recommendations for revising the previous administrative draft EIR/EIS content and analyses. The recommendations contained in this section will guide the specific revisions and updates needed to meet the Lead Agencies' needs and CEQA and NEPA requirements. An overview of the work plans to complete the CEQA/NEPA is provided at the end of the section.
- Section 4, "Modeling Needs and Data Gap Analysis." This section provides an overview of modeling analyses used to support the EIR/EIS impact evaluations. It provides a process to identify the additional modeling needs that will be necessary to complete the evaluations in the EIR/EIS. In addition, this section identifies the process necessary for review of all supporting information for the resource chapter analysis and for identifying the informational and data gaps of the current administrative draft EIR/EIS chapters.
- Section 5, "Project Management and Decision-Making." This section provides an overview of the project management and technical leadership structure that will be responsible for deliverables and services. The ICF project management team for the BDCP EIR/EIS will be responsible for adhering to a defined communication protocol, implementing a quality assurance and control process, facilitating the agency review and decision-making process, and implementing an information management and systematic recordkeeping process that documents the overall CEQA and NEPA process.
- Section 6, "Project Budget." This section provides a detailed description of the staff hours and estimated cost for each task and subtask needed to complete the EIR/EIS to facilitate issuance of the NOD and ROD by the Lead Agencies by February 15, 2013.
- Section 7, "Project Schedule." This section provides a detailed Microsoft Project schedule for the entire EIR/EIS process, including coordination with the BDCP document preparation schedule.

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Section 2
Approach to Document Preparation

This section provides the approach to the EIR/EIS document preparation and presents a description of key activities and assumptions that influence the deliverables and services ICF will provide as a part of implementing this work plan. This approach to document preparation will present the ICF EIR/EIS project team, including resource chapter authors and describe how the team will interact with the Lead Agencies. This section also presents our recommended approach to ensure deliverables are legally adequate for CEQA and NEPA purposes. Details about how we will manage the team, budget, and schedule are presented in Sections 5, 6, and 7.

Foundational Activities

ICF will organize implementation of the work plan around the following foundational activities.

- Clarifying and revising the current description of project alternatives to provide a clear basis for the CEQA/NEPA analysis.
- Reorganizing the outline for the EIR/EIS.
- Evaluating and recommending changes to the analysis in the previous administrative draft EIR/EIS and implementing the approved changes.
- Coordinating with the BDCP Agency Program Management Team and the BDCP conservation plan and effects analysis team internal to ICF on project decisions and analysis approaches.
- Delivering work products and revising analysis based on review comments by the Lead Agencies.

Our general approach to these activities is described briefly below and detailed in Sections 3–7.

Alternatives Description Revisions

An initial step in refining the alternatives description will be to confirm and possibly refine the purpose and need statement (for NEPA purposes) and project objectives (for CEQA purposes). ICF will review the Federal purpose and need statement and confirm the use of this statement with the Federal Lead Agencies (and possibly U.S. Army Corps of Engineers [USACE] and U.S. Environmental Protection Agency [EPA]); ICF will assist DWR and the BDCP program management team in revising the project objectives for CEQA.

ICF will assist DWR, BDCP program management team, and CH2M HILL in finalizing the description of the alternatives that will be considered the "reasonable range of alternatives" for detailed analysis in the EIR/EIS. The alternatives description revisions also will require working with the Lead Agencies to:

- Expand the description of conveyance facility alternatives.
- Prepare a screening matrix for the various intake locations.
- Clarify the water supply operations description.

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- Expand and clarify restoration program components for the program-level analysis.

Please refer to Section 3, "EIR/EIS Recommendations and Completing the CEQA/NEPA Process," of this work plan for specific recommendations for revising Chapters 2 and 3 of the previous administrative draft EIR/EIS.

EIR/EIS Chapter Revisions

This work plan presents ICF's review of the previous administrative draft chapters of the EIR/EIS, appendices, and related files and provides recommendations for revising the draft chapters (refer to Section 3 of this work plan for specific recommendations). This work plan is a draft identifying key recommendations to improve the document; we will confirm our recommended approach with the Lead Agencies prior to beginning EIR/EIS revisions.

Our approach to chapter revisions includes the following steps that may vary in terms of priority depending on specific issues raised in each resource chapter of the previous administrative draft EIR/EIS.

- Revise the EIR/EIS outline with detailed chapter outlines identifying impact conclusions and recommended mitigation measures.
- Conduct interviews with previous authors on the prior consultant team, where relevant, to address methods, assumptions, and questions for each topical chapter.
- Assign an ICF task leader for all EIR/EIS chapters to direct technical specialists; ICF will direct, oversee, and review all chapters completed by other contractors or subcontractors prior to DWR and Federal Lead Agency review.
- Compile requests for information and data from chapter authors and, where appropriate, compile it into one master request.
- Begin revisions to resource chapters, concurrent with revisions to the alternatives descriptions, and consistent with the schedule for submittals (as discussed below and presented in Section 7, "Schedule").
- Revise Environmental Setting/Affected Environment sections to incorporate agency comments on the previous administrative draft EIR/EIS and ICF reviewer comments, with the ultimate goal of presenting additional or missing setting information to support the impact analyses to meet the requirements of CEQA and NEPA.
- Reorganize the Environmental Consequences sections to address the combined effects of BDCP conservation elements and, where appropriate, eliminate the synthesis of impacts analysis.
- Use *near-term, early long-term*, and *late long-term* impact horizons only in chapters for which various restoration stages clearly would result in distinguishable impact differences on resources (e.g., Chapter 11, "Fish and Aquatic Resources," Chapter 12, "Terrestrial Resources").
- Revise the resource chapters, continuing to present the impact analysis in a NEPA-style format and populate a separate chapter with CEQA compliance information (including significance criteria and impact conclusions).
- Provide the Lead Agencies with a status update for each resource chapter that will present the current state of the chapter and approach to completing the chapter (including suggested impact methodology, significance criteria, and mitigation).

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- Provide the Lead Agencies with regular updates on EIR/EIS revision status and issues at weekly EIR/EIS coordination meetings.

Use of BDCP and Effects Analysis in EIR/EIS

The scope of the BDCP for the covered species, activities, and geographic area is determined by the applicants (sometimes referred to as the potentially regulated entities [PREs]), with input from the resource agencies, Reclamation, and interested participants. Although endangered species laws require conservation plans to assess the effects of the covered activities within the proposed conservation plan from take of the covered species (within the geographic scope), CEQA and NEPA require that the Lead Agencies perform a broader assessment of the potential direct, indirect, cumulative, and growth-inducing impacts, and their significance, of the underlying proposal and alternatives on the physical environment (for CEQA purposes) and the human environment (for NEPA purposes). Therefore, where appropriate, the EIR/EIS will use the effects assessment performed for the BDCP, but the analysis will need to be broader in scope to meet the requirements of CEQA and NEPA.

In addition, ICF understands that the level of detail of the proposed components (i.e., covered activities) of the BDCP varies. The description of the habitat restoration actions within the BDCP is not as detailed as the construction elements of the major improvements to the conveyance facilities of the State Water Project (SWP). The degree of specificity required in the EIR/EIS will correspond to the degree of specificity within the description of the proposed action in the BDCP. We anticipate that the EIR/EIS will analyze all aspects of the proposed improvements to the conveyance facilities of the SWP on a project-specific level, while the restoration activities of the BDCP, because they are described more qualitatively, will be analyzed on a programmatic level.

EIR/EIS Deliverables[2]

ICF is responsible for delivering the BDCP EIR/EIS on an expedited schedule according to the approved scope of work (see Section 7, "Schedule"). Agreement on the internal process between ICF and Lead Agencies for ICF to complete deliverables and for Lead Agency review and comment on deliverables will be important to ensure quality work products are delivered and agency comment and review are effective and result in the needed analyses and conclusions. Key deliverables identified in this work plan are:

- Alternatives Description revisions
- North Delta Intake Locations constraints analysis
- Revised EIR/EIS outline
- Draft chapters of the EIR/EIS (submitted in batches per the project schedule)
- 1st Administrative draft EIR/EIS

[2] The scope does not include fulfillment of the permitting requirements that will be necessary for implementation of the BDCP, such as Section 7 of the federal Endangered Species Act (ESA), Section 106 of the National Historic Preservation Act (NHPA), and Section 1602 of the California Fish and Game Code. Although this work plan does not cover the specific deliverables that will be necessary for BDCP compliance with Section 404 of the Clean Water Act and Section 408 pursuant to Section 12 of the Rivers and Harbors Act, a task within the work plan is included to work with DWR to develop a detailed scope of work for assisting in the completion of the USACE's permit processes.

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- 2nd Administrative draft EIR/EIS
- Draft EIR/EIS check copy
- Public Draft EIR/EIS
- Responses to Comments on the Draft EIR/EIS
- Administrative draft Final EIR/EIS
- Check copy Final EIR/EIS
- Public Final EIR/EIS
- Mitigation Monitoring and Reporting Program (MMRP)
- Response to Comments on the Final EIR/EIS
- DWR CEQA Findings of Fact
- DWR Statement of Overriding Considerations
- Federal Lead Agencies' ROD

ICF will deliver a pre-administrative draft of chapters of the EIR/EIS in batches to facilitate early review of chapter revisions and to reduce the time needed for the Lead Agencies' review of a complete administrative draft. The proposed list of chapters in batches A and B is approximate and may require minor modification depending on specific issues encountered during the revision process, alternatives refinement, and availability of subcontractors. ICF's internal quality assurance/quality control (QA/QC) process includes ICF senior project management review of all chapters to be included in the Draft EIR/EIS, including all work products produced directly by ICF, or by ICF subcontractors or agency staff; each chapter will be reviewed by one of the two deputy project managers and by the project manager before the chapter is submitted to DWR. The first partial administrative draft chapter, batch A, is anticipated to consist of the following chapters (please refer to the schedule for additional information):

- Introduction (Chapter 1)
- Purpose and Need/Project Objectives (Chapter 2)
- Description of the Alternatives (Chapter 3)
- Approach to the Environmental Analysis (Chapter 4)
- Recreation (Chapter 15)
- Visual Resources (Chapter 17)
- Growth Inducement (Chapter 30)

As the Lead Agencies are reviewing the batch A chapters of the partial administrative draft EIR/EIS, ICF will prepare additional chapters for review. Batch B is anticipated to consist of the following chapters:

- Geology and Seismicity (Chapter 9)
- Soils (Chapter 10)
- Land Use (Chapter 13)
- Agriculture (Chapter 14)

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- Cultural and Historic Resources (Chapter 18)
- Transportation (Chapter 19)
- Public Services and Utilities (Chapter 20)
- Energy (Chapter 21)
- Air Quality and Greenhouse Gas Emissions (Chapter 22)
- Noise (Chapter 23)
- Hazards and Hazardous Materials (Chapter 24)
- Mineral Resources (Chapter 26)
- Paleontological Resources (Chapter 27)
- Climate Change (Chapter 29)

As the Lead Agencies are reviewing the batch B chapters of the partial administrative draft EIR/EIS, ICF will prepare the remaining chapters. Batch C is anticipated to consist of the following chapters:

- Water Supply (Chapter 5)
- Surface Water (Chapter 6)
- Groundwater (Chapter 7)
- Water Quality (Chapter 8)
- Terrestrial Biological Resources (Chapter 12)
- Fish and Aquatic Resources (Chapter 11)
- Socioeconomics (Chapter 16)
- Public Health (Chapter 25)
- Environmental Justice (Chapter 28)
- CEQA Effects of the Proposed Project and Alternatives (Chapter 31)
- Other CEQA/NEPA Required Sections (Chapter 32)
- Public Involvement, Consultation, and Coordination (Chapter 33)
- List of Preparers (Chapter 34)
- References, Acronyms and Abbreviations, Glossary, Index (Chapters 35–37)
- Executive Summary

Following receipt of comments on batches A and B, ICF will prepare a complete administrative draft EIR/EIS that incorporates revisions to the chapters provided in batch A and batch B and the remaining chapters provided in batch C for submittal to the Lead Agencies for review.

Following receipt of comments from the Lead Agencies on the administrative draft, ICF will prepare a second administrative draft for review by the Lead Agencies. Following receipt of comments from the Lead Agencies on the second administrative draft, ICF will prepare a check copy (screen check) of the Public Draft EIR/EIS for Lead Agency approval to publish.

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The timing for delivery of these batches is presented in Section 7, "Schedule."

For each deliverable, ICF will employ a formalized delivery method that includes multiple level review and revision steps for the project manager, deputy project managers, task leaders, technical experts, and our QA/QC process. This method, as described further in Section 5, "Project Management and Decision-Making," and depicted in Figure 5-1 requires EIR/EIS managers to provide clear direction and assistance for task leaders and technical specialists in developing (or confirming) the approach, format, and analysis conclusions for each chapter in the EIR/EIS. ICF oversight will extend to other contractors involved in authoring sections of the EIR/EIS. This review process also allows for DWR, Responsible Agency, Federal Lead Agency, and Cooperating Agency input through the DWR project manager and Federal agency coordinator as the primary conduit to inform topical analyses prior to ICF's product delivery to the Lead Agencies.

ICF recommends that review and comment on deliverables be strictly controlled by DWR's project manager and Federal agency coordinator, with assistance by the ICF project management team, to ensure that the review and comment process is as efficient as possible in order to meet the proposed schedule. After ICF receives the coordinated and reconciled comments from the Lead Agencies, ICF will track the status of the responses to Lead Agency comments and revisions by entering all comments in the comment-tracking spreadsheet, presenting the comment and how the comment was addressed within the EIR/EIS. Revisions will be performed and then reviewed with the Lead Agencies to ensure the revisions accurately address the agency comments.

Scope of Work Assumptions

The following key scope of work assumptions reflect a refinement of the assumptions assumed in ICF's June 3, 2011, proposal. Authorization and understanding of these assumptions provide the foundation for the entire EIR/EIS scope of work.

- The ICF scope of work and cost estimate address work required to prepare two administrative drafts, a check-copy draft, and the Public Draft EIR/EIS, responses to comments on the Final EIR/EIS, administrative draft of the Final EIR/EIS, a check-copy draft, and the Public Final EIR/EIS; this draft work plan currently does not include preparing the CEQA Findings of Fact, CEQA Statement of Overriding Considerations, CEQA mitigation monitoring or reporting program, or the NEPA ROD.
- The Lead Agencies' points of contact for coordination and decision-making for EIR/EIS analysis revisions will be Russell Stein, DWR project manager, and Federico Barajas, federal agency project manager.
- DWR and federal agencies will collate and reconcile all agency comments on administrative draft deliverables and transmit one single set of comments to ICF. No "live edit" will be performed as a part of responding to agency comments on the administrative draft deliverables.
- The project area will not change from what is described in Chapter 1 of the January 2011 administrative draft chapters of the BDCP EIR/EIS. The project area consists of the Sacramento–San Joaquin River Delta (Delta) region, upstream of the Delta, and the Central Valley Project (CVP) and SWP export service areas.

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- The project alternatives, as of August 8, 2011, will not change[3]. This includes five (5) action alternatives (several with variations on operations) and a no-action alternative, with seven potential locations for intakes related to the conveyance facility alternatives.
- Description of the construction and operations for the alternatives, provided to ICF, will be in enough detail to facilitate an appropriate level of analysis to comply with CEQA and NEPA at a project level for the conveyance facilities and at a programmatic level for conservation measures identified in the BDCP.
- The CEQA and NEPA baselines for impact analysis in the EIR/EIS (and effects analysis in the BDCP) will not change. Each of the six action alternatives and a no-action alternative will be evaluated and compared to both baselines. The baselines are defined as a baseline with the Operations Criteria and Plan (OCAP) Biological Opinions (BOs) in place and fall X2 requirements implemented, and a baseline with the OCAP BOs in place without fall X2 requirements implemented.
- The overall format and structure of the EIR/EIS will be preserved; modifications to the organization will be permissible where they are to simplify and clarify the alternatives presentation and impact analyses provided by ICF.
- Physical and biological modeling efforts for the near-term, early long-term and late long-term periods will be available for use in the water supply, surface water, water quality, and aquatics resources chapters of the EIR/EIS.
- Results for all modeling (e.g., CALSIM II, DSM2, temperature and biological models) provided for the BDCP and EIR/EIS are assumed to have been reviewed and approved by the Lead Agencies prior to receipt by ICF; ICF will interpret and apply modeling output for impact analyses but will not peer review modeling results or assumptions.
- ICF staff will have access to modelers for purposes of interpreting and clarifying output and assumptions.
- ICF staff will have access to all technical specialists used by the previous contractor in preparing the current administrative draft of the EIR/EIS chapters (dated January 2011) for purposes of clarifying assumptions and analysis.
- All data and resource information produced by current DWR contractors and DWR staff will be available to ICF prior to finalizing the work plan and beginning EIR/EIS chapter revisions.
- No additional biological, cultural, or other resource field surveys are required to complete EIR/EIS analyses.
- The previous contractor adequately reviewed and incorporated all scoping comments relevant to EIR/EIS impact analyses. This work plan assumes that the EIR/EIS consultant team will not be supporting any additional scoping efforts. It does not include consideration of additional scoping comments as a result of ongoing scoping efforts of the Lead Agencies or working groups related to the BDCP (outside the public review period for the Draft EIR/EIS).
- ICF staff will have appropriate access to the PCE share point site by August 15, 2011; website construction and/or maintenance are not required as a part of this scope of work.

[3] It is our understanding that the location of intakes 3, 4, and 5 are being reevaluated, and some of the details related to the support facilities of intakes 6 and 7 are not yet final.

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EIR/EIS Contractors

ICF has assigned internal chapter leads for every chapter of the EIR/EIS. These chapter leads will be responsible for implementing chapter plans and directing ICF and subcontractor authors' work. This approach will reduce the management time for contractors, streamline the chapter delivery process, ensure continuity of current work efforts, help meet schedule requirements, and provide the needed expertise for specific EIR/EIS chapters. ICF will be taking the lead on all of the chapters of the EIR/EIS, with assistance from CH2M Hill for CALSIM II, DSM2, and other modeling and from ESA for growth inducing impacts. As the work plan is implemented, additional subcontractors may be added at the direction of and approval from the Lead Agencies.

DWR and Federal Lead Agencies Collaboration

As stated above, the ICF EIR/EIS project manager, Ken Bogdan will take direction directly from the DWR EIR/EIS manager, Russell Stein, and Federal agency coordinator, Federico Barajas, for all decision-making related to the content and process requirements of the EIR/EIS. ICF will participate in weekly meetings with agency staff as appropriate for the purpose of coordinating CEQA and NEPA strategy and decision-making, project decision-making, and review and comment on EIR/EIS deliverables. The ICF EIR/EIS project manager also will attend other coordination meetings as requested, including weekly program management meetings, and permit strategy meetings.

ICF recommends that the Lead Agencies resume the BDCP Environmental Coordination Team ("BECT") meetings to engage the Responsible and Cooperating Agencies. ICF's EIR/EIS project manager will participate in these meetings and will assist the Lead Agencies in determining the appropriate agenda for the meetings. It is expected that the meetings will occur at least on a monthly basis with the Lead Agencies, Responsible Agencies, and Cooperating Agencies to provide EIR/EIS status briefings and receive input on CEQA and NEPA compliance and content of the EIR/EIS. It is anticipated that these meetings may involve ICF's EIR/EIS technical leads to present methodology and approach for the particular resource chapter. All coordination with agencies will be under the direction of DWR's project manager and the Federal agency coordinator.

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Section 3
EIR/EIS Recommendations and Completing the CEQA/NEPA Process

This section provides a detailed evaluation of the January 2011 BDCP administrative draft EIR/EIS[4] and presents recommendations for revising and updating the current document content to meet requirements of CEQA and NEPA. Recommendations are also provided for improving the readability and format of the EIR/EIS to better organize impact discussions and supporting material. The recommendations ICF has presented in this section should be considered to be in draft form. Our intent is to review the recommendations with the Lead agencies to day-light document issues and gain a historical perspective about certain aspects of the EIR/EIS that have already been decided or for which extensive discussion and decision-making has already occurred. ICF understands that the extent to which the EIR/EIS is revised should be based on a reasonable and pragmatic approach aiming to produce a defensible EIR/EIS that meets the requirements of CEQA and NEPA within the BDCP schedule.

Detailed EIR/EIS evaluations and recommendations were conducted by ICF resource specialists under the direction of the project management team. Each chapter of EIR/EIS underwent a thorough review to:

- Identify content gaps, major errors and missing or inaccurate information
- Assess adequacy of approach and methodology
- Assess CEQA/NEPA adequacy
- Assess section organization and structure for readability and logical structure
- Assess the extent to which the Environmental Setting/Affected Environment section supports the Environmental Consequences section,
- Assess the level of detail presented for alternatives descriptions and impact evaluations, and
- Develop a work plan for completing the chapter in compliance with CEQA and NEPA.

Specialists also reviewed the agency comments on the EIR/EIS chapters and identified key comments that could involve additional analysis or substantial revisions.

This section also provides recommendations by ICF's project management team for improving Chapters 1–4 (Introduction, Purpose and Need/Project Objectives, Description of Alternatives, Approach to the Environmental Analysis) and Chapter 31, CEQA Effects of the Proposed Project and Alternatives. Once each chapter evaluation was completed, ICF attempted to summarize some of the most important issues in the General Recommendations section, below.

A discussion of the CEQA/NEPA process is provided at the end of this section under "Completion of CEQA/NEPA Process".

[4] As stated previously, the files reviewed included what are thought to be the primary elements of the prior consultant's work product. However, it does not include files received after ICF has received subsequent to July 18, although we have made every effort to consider the content of these files in the preparation of this work plan.

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General Recommendations

Common themes and revisions that would affect all of the EIR/EIS chapters are based on the detailed chapter evaluations and recommendations recorded below. ICF recommends:

- Organizing Alternatives 1, 2, and 4 to include various pipeline/canal and intake options rather than treating each sub-alternative as a separate alternative.
- Combining the sub-alternatives for Alternatives 1 and 2 for lined and unlined canals because options for lining or not lining canals likely would be relevant only to water supply and drainage/seepage related effects.
- Substantially improving the level of detail for Chapter 3 conveyance facilities descriptions, construction methods and facility operations to allow for project-specific resource analyses.
- Revising Environmental Setting/Affected Environment sections to provide only what is needed to support the Environmental Consequences sections; place extraneous material or detailed data sets in appendices, if needed, or elsewhere in the administrative record.
- Organizing Environmental Consequences by resources affected versus project element to capture the overall effect for additive effects on a resource.
- Omitting the Synthesis of Effects Analysis section and provide needed synthesis for each impact issue.
- Removing the headings for near term (NT), early long term (ELT) and late long term (LLT) timeframes for evaluation in the chapters for which impact distinctions are not made; only retaining the differentiation between these impact horizons for the chapters where there are distinctions (notably water supply, surface water, water quality, fish and aquatic resources, and terrestrial resources).
- Defining the study area clearly for each resource chapter.
- Correcting EIR/EIS organizational inconsistencies to ensure major chapter headings are adhered to consistently for every resource chapter.
- Revising the resource sections where elements of the project or some location in the project area were excluded from being analyzed to add the explanation and support necessary to substantiate the conclusion. This task would include editing Table 4-1, to provide the supporting information for the generalized impact conclusions.
- Incorporating cumulative impact analyses into each resource chapter.
- Revising the alternatives analysis to add substantial evidence to support the existing conclusory statements related to the alternative impact conclusions.
- Providing an overall update for resource chapters to include all tables, figures, appendices and references throughout the EIR/EIS.

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Chapter Evaluation and Recommendations

Chapter 1, "Introduction"

Evaluation

The introduction chapter has an appropriate level of information for the first portion of the chapter. However, it may be that there is too much detail on "programs and policies influencing Delta Operations" and "water development effects on Delta systems" for members of the public to digest. The discussion of "statutory basis for the EIR/EIS" is silent on the uses of the EIR/EIS in terms of the Lead Agencies' and Responsible and Cooperating Agencies' decision-making; it does not reference to the section on required permits for the BDCP. The discussion of difference and similarities for CEQA and NEPA is appropriate to prepare the reader for the fact that this is a joint document. The six figures for the project area discussion may be more than necessary to direct the reader to the environmental study area.

- **Percent complete:** This chapter is approximately 75% complete.

Recommendations

It is recommended that the discussions under "programs and policies influencing Delta Operations" and "water development effects on Delta systems" be compiled (and added to other information) to create an appendix entitled "Primer on California Water Delivery Systems and the Delta" The "statutory basis for the EIR/EIS" section should be combined with the section "intended uses of the EIR/EIS". The CEQA and NEPA discussion should be edited to include an emphasis for the CEQA reader on how the document addresses CEQA compliance (through a separate chapter). It may be appropriate to combine several of the figures for a more simple presentation of the project location.

Chapter 2, "Purpose and Need/Project Objectives"

Evaluation

It is our understanding the version of the purpose and need statement in the January 2011 administrative draft EIR/EIS has been substantially revised. Therefore, this was not evaluated in detail. The CEQA project objectives were reviewed in detail and, as presented; it may not provide an adequate description of DWR's underlying objectives for proposing to implement the BDCP. Also, the project objectives as currently written may not provide the support for screening and developing the reasonable range of alternatives for CEQA compliance. In addition, the project objectives would not appear to be in the detail necessary to support the preparation of Findings of Fact or Statement of Overriding Considerations necessary prior to project approval. There are no references in the current version to the project objectives to underlying documents or other support for how the objectives were defined.

- **Percent complete:** This chapter is approximately 60% complete.

Recommendations

ICF recommends working with the Federal Lead Agencies to review the most current version of the purpose and need statement (for NEPA purposes). ICF will confirm the use of this statement with

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the Federal Lead Agencies (and, if appropriate, USACE and EPA). Based on these discussions, ICF will revise the purpose and need statement. ICF recommends convening a work group with DWR staff, including counsel, to develop a more robust statement of project objectives to better suit the requirements of CEQA. As a result of these work group meetings, ICF will take the lead on drafting a new set of project objectives that have the detail necessary to meet the requirements of CEQA. In addition ICF will create better references to the administrative record supporting how these objectives are developed.

Chapter 3, "Description of Alternatives"

Evaluation

Where there is information in this section, the chapter appears to contain unnecessary detail for the reader to understand the variety of alternatives and then is weighed down by unnecessary headers with no information other than a reference to another alternative that contains the description.

- **Percent complete:** This chapter is approximately 50% complete.

Recommendations

This section currently has many placeholders for information to come. It is our understanding that two of the alternatives, related to an operational scenario proposed by Contra Costa Water District (CCWD) and one proposed by State Water Resources Control Board (State Water Board), are still in flux. In addition, we understand that the location of intakes 3, 4, and 5 are currently being re-evaluated; and some of the detail related to the support facilities of intakes 6 and 7 are not yet final.

ICF will assist the Lead Agencies, BDCP program management team, and CH2M HILL in finalizing the description of the alternatives that will be considered within the "reasonable range of alternatives" for detailed analysis in the EIR/EIS. In the Draft EIR/EIS, ICF will summarize the alternatives screening process for the EIR/EIS; this will include a presentation of those alternatives considered but rejected from detailed evaluation. This work plan assumes that the alternatives screening report (to be included in the EIR/EIS as an appendix) has been completed by CH2M HILL.

ICF's project team will work with DWR, BDCP program management team, and CH2M HILL to ensure that each alternative is screened and meets the fundamental requirements of CEQA and NEPA (reasonably meets the purpose and need and most of the project objectives, avoids or substantially reduces environmental effects, and is potentially feasible). ICF will work with DWR's legal counsel to ensure the range of alternatives reasonably meets the intent of statutes and case law related to alternatives development. The intent of this activity will be to ensure that alternatives evaluated in the EIR/EIS are defensible and meet the Lead Agencies' needs. Although coordination with the USACE has only recently gained traction for BDCP compliance with Section 404 of the Clean Water Act and "Section 408" (related to Section 12 of the Rivers and Harbors Act), ICF's approach also considers integrating the alternatives analysis requirements under the USACE's Section 404 and 408 programs.

The alternatives description revisions will also require ICF working with the Lead Agencies to:

- Expand the description of conveyance facility alternatives; appurtenant facilities; and construction, operations, and maintenance practices to include additional site-specific detail needed to clearly describe alternatives to support the project-level impact analysis.

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- Prepare a screening matrix for the various intake locations. Based on the results of the screening, update the north Delta intake locations and design for intakes 3, 4, and 5 and the detail for possible new intake locations 6 and 7.
- Clarify, reorganize, and update the water supply operations description.
- Incorporate graphic figure descriptions to accompany all figure references.
- Expand and clarify restoration program components for the program-level analysis.
- Edit the No Action Alternative and remove some of the information that might be better presented in the "Delta Primer" Appendix proposed as part of revising the introduction.
- Edit the alternatives descriptions to remove much of the detail and create an additional appendix. Editing the alternatives descriptions would also remove the repetitive headings and statements throughout (with headers that contain nothing underneath except for a reference to the preceding alternative section for detail). The alternatives description appendix could roll-up the common elements of the alternatives in one place and then discusses the differences of the alternatives.
- Present the alternatives with a shorter summary (possibly in table format).

Chapter 4, "Approach to Environmental Analysis"

Evaluation

In general, this chapter is very helpful in assisting the reader to understand how the resource chapters and analysis are organized. It includes a helpful lay-out of the various subheading that will be found in each of the resource chapters, including environmental setting, consequences, and commitments. The framework for environmental consequences analysis is also very helpful for the reader to understand the levels of analysis, modeling tools and alternatives that will be analyzed in the resource chapters.

- **Percent complete:** This chapter is approximately 60% complete.

Recommendations

The approach says that direct and indirect effects are addressed in the EC sections, but it is not always done very clearly within each resource chapter. The project vs. program level analysis of the project-level elements (conveyance and intake facilities, and changes in operations) and the program-level elements (conservation actions) are not discussed consistently between chapters. ICF recommends revising the resource chapters to better reflect how the impact analysis and levels of that analysis are first presented in this chapter.

As stated in the general recommendations, ICF recommends removing the headings for "near term," "early long term," and "late long term" timeframes for evaluation in the chapters for many of the resource chapters because the impact distinctions are not relevant. ICF recommends only retaining the differentiation between these impact horizons for the chapters where there are relevant distinctions (notably water supply, surface water, water quality, fish and aquatic resources, and terrestrial resources).

The Environmental Commitments section is divided into Design Commitments and Mitigation Measures, presumably so that both make it into the MMRP. The Approach chapter states that design

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commitments have been incorporated into the project design. In reviewing the resource chapters, it is apparent that these measures likely will include general "best management practices", like a traffic management plan during construction (e.g., "call before you dig", coordinating with service providers and land owners, etc.), that may need to be referenced in multiple chapters. There is a potential for inconsistency and redundancy. ICF recommends that a list of these more general Design Commitments be added to the Approach chapter (or appendix) and then just cross referenced in the appropriate resource chapters. For the CEQA chapter, ICF recommends adding a clarification regarding whether incorporating a design measure into the project description avoids the occurrence of or lessens the significance of an impact, or if the design measure will be treated like a mitigation measure and need to be adopted in the Findings of Fact to reduce a significant impact.

Chapter 5, "Water Supply"

Evaluation

Environmental Setting/Affected Environment (4.1.1)

The environmental setting includes a review of basic California hydrology. The CVP and SWP facilities are described in detail. Individual CVP/SWP reservoir operations are summarized with existing conditions CALSIM results. Every project purpose for each reservoir is described with a paragraph. No historical data describing inflow hydrology to reservoirs, or reservoir operations or deliveries, are provided.

The regulatory setting includes a paragraph for every major law that affects water operations in California.

Analysis Methodology (4.1.3)

The CALSIM model is the basic analysis tool for evaluating the effects of operation of new Delta conveyance facilities and system reservoir and Delta operations. The methodology of comparing existing conditions in 2010 to the project in 2025 is not clearly described and does not appear to consider the effects of climate change on CVP/SWP hydrology in the future. CALSIM is the tool for describing the changes in operations and tracking the reasons for these changes. The methodology lacks a clear description of the assumed rule changes. The current description does not link the changes in CALSIM output to new conveyance facilities and rules.

The introduction to this section includes a premise that any reduction in water deliveries "is assumed to be a significant effect" and does not draw distinction related to the magnitude of the delivery deficit. This suggests that any change in hydrologic conditions is considered a significant change and would require mitigation.

Environmental Consequences (5.4)

The existing conditions (2010) CALSIM results are not fully described in terms of how the results were evaluated for accuracy. There is no reference to recent historical conditions or to CALSIM results from recent State Water Board Water Right Decision 1641 (D-1641) simulation cases (e.g., 2009 SWP Reliability Report) as a reference of recent conditions.

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The preliminary CALSIM results demonstrate that the CALSIM baseline runs for 2010, 2020, 2025, and 2060 are nearly identical. The long-term average Delta exports are 2% higher in 2020 than 2010 (because of increased CVP demands) and 2% lower in 2025. The modeled factors that caused deliveries to be reduced by 4% between 2020 and 2025 should be identified. The changes between 2025 and 2060 associated with global warming should be identified. Although these changes in existing conditions may be of interest to EIR/EIS reviewers, they are not linked to the effects of the BDCP alternatives.

No effects were simulated for the San Joaquin River inflows to the Delta. No major effects are expected in the Sacramento Valley because the BDCP would have few effects on reservoir operations; however, these results are not explained. Appendix 6B shows the CALSIM results in a series of 185 tables. The appendix does not provide an explanation of the reasons for the CALSIM changes.

Deliveries are not separately reported for north of Delta, in-Delta diversions, and south of Delta. More than the grand average or water year type, annual deliveries should be shown and described. It appears that the BDCP project shows very high exports (>8 million acre-feet [maf]) in some wet years that cannot likely be stored and/or used. The nomenclature for referring to the multiple CALSIM cases is complicated.

- **Percent Complete:** The Water Supply chapter is 50% complete.

Recommendations

Environmental Setting/Affected Environment

The summary of monthly flows by water year type may not be as useful for environmental evaluations of flows and diversions because it is the probability or range of flows that might be encountered during a specific month that more fully characterize the potential effects of monthly flows on water quality and fish habitat conditions. If 5 monthly numbers are given for summarizing the 82-year results, they should be the minimum, 25%, median, 75%, and maximum monthly flows. If water years are used, the percentage of years in the types should be included in the labels (i.e., wet 31.7%, above normal 14.6%, below normal 17.1%, dry 22%, critically dry 14.6%).

Only the regulatory rules and limits that are relevant to the existing water supply conditions need to be mentioned in the water supply chapter. The chapter would be more readable if the regulatory framework for water operations were introduced as part of the existing conditions, with regulations that control water rights, minimum releases, flood control rules, and contracted amounts described along with the operations of each facility. The focus of the chapter should be on water supply operations (seasonal storage and delivery patterns). Other hydrologic-related resources, including hydropower, recreation, and flood control operations should be reviewed in the respective chapters.

In addition to identifying technical issues, the review of the water supply section also looked for ways to scale back or summarize relevant background data contained in the body of the EIR/EIS. As an example, CVP/SWP facilities descriptions could be replaced by references to existing documentation such as the 2008 OCAP BO documents. Concurrently, the water supply chapter could shift focus to water supply demand, and the existing deficits in the contract and full Table A deliveries, and the causes of hydrological and operating constraints.

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A more informative picture of California's hydrology and individual river flows would be to show the historical monthly inflows for the Sacramento, San Joaquin River, Mokelumne, and Yolo as percentiles (minimum, 10%, 20%...90%, maximum). Unimpaired flows, historical exports, and outflow can be shown as tables and charts (combined). This type of explanation was used in DWR's South Delta Improvements Program EIR/EIS.

ICF recognizes the labor and time requirements to implement these suggested changes to the water supply environmental setting section.

Analysis Methodology

The environmental setting should focus on the variations (deficits) in the existing deliveries that are caused by the hydrology sequence—this is the major challenge that prevents making full delivery in every year and also providing sufficient water in the rivers for fish. ICF suggests that the historical annual delivery patterns be used along with the CALSIM existing results to show this dominant hydrology effect on CVP/SWP operations. Presumably there would be little or no change from the 2010 case to the 2020 case because these runs have the same facilities and operating rules as existing conditions. If the 2025 baseline case is identical to the 2020 case, ICF suggests that the 2025 case be summarized or eliminated.

The major topic that should be described more fully in this methods section is the changes in the Delta operation rules and new facilities that are being evaluated for each alternative.

Environmental Consequences

ICF recognizes the labor and time requirements to implement these suggested changes to the water supply environmental setting, methodology, and environmental consequences sections. Our concerns and suggested changes are based on review of the EIR/EIS chapter and supporting appendices and were not supplemented by discussions with the author(s) of the sections. We also are sensitive to the planning and discussions between DWR and the EIR/EIS contractor that likely occurred as the chapter was written.

ICF recommends a meeting with DWR to better understand the purpose behind the format and content of the chapter.

Chapter 6, "Surface Water"

Evaluation

Environmental Setting/Affected Environment

The environmental setting topics in this chapter include upstream flood control, Delta hydraulics, Delta sedimentation and channel scour, and Delta flood control (i.e., levee protection and levee stability). The chapter includes a lengthy description of the rivers and reservoirs of California and a review of basic California hydrology. The CVP and SWP facilities are described in detail. Individual CVP/SWP reservoir operations are summarized with the use of existing conditions CALSIM results. The project purpose for each reservoir is described. No historical data are provided for inflow hydrology to reservoirs, reservoir operations, or deliveries.

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The regulatory setting includes flood control and reclamation district regulations. There are no other government regulations controlling water flows or tidal hydraulics. The reservoir and Delta operational guidelines are already described in Chapter 4.1.2 (Water Supply).

Analysis Methodology

The methodology focuses on CALSIM and DSM2 modeling results for selected rivers and Delta channels.

The introduction to this section includes a premise that any reduction in water deliveries is assumed to be a significant effect, which does not address the magnitude of the delivery deficit and implies that any change would be a significant impact requiring mitigation (also see "Water Supply").

As with Water Supply, the CALSIM model is described as the basic analysis tool and the evaluation compares existing conditions in 2010 to the project in 2025 and does not address future changes due to climate change.

Environmental Consequences

The existing conditions (2010) CALSIM results are not fully described. The preliminary CALSIM results demonstrate that the CALSIM baseline runs for the 2010, 2020, 2025, and 2060 are nearly identical. The long-term average Delta exports are 2% higher in 2020 than 2010 (because of increased CVP demands) and 2% lower in 2025. The modeled factors that caused deliveries to be reduced by 4% between 2020 and 2025 should be identified. The changes between 2025 and 2060 associated with global warming are not identified.

No effects were simulated for the San Joaquin River inflows to the Delta. The section concludes that no major effects are expected in the Sacramento Valley because the BDCP would have few effects on reservoir operations. Appendix 6B shows the CALSIM results in a series of 185 tables but provides no explanation of the causes of the CALSIM changes.

Deliveries are not reported separately for north of Delta, in-Delta diversions, and south of Delta. The BDCP project shows very high exports (>8 maf) in some wet years without an explanation of how the exports would be used or stored. The nomenclature for referring to the multiple CALSIM cases is not simple.

- **Percent Complete:** The Surface Water chapter is 50% complete.

Recommendations

Environmental Setting/Affected Environment

Upstream flood control can be eliminated, and most of the description of the rivers and reservoirs of California can be summarized.

A discussion of a Delta levee maintenance and dredging plan/program perhaps should be developed for the BDCP. This major policy discussion about earthquake risk and water facility and levee integrity should be described.

The flood control and reclamation district regulations should be cross-referenced with the geology and seismicity chapter.

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However, only tidal hydraulic and sedimentation/scour effects in the Delta channels are described, and therefore there appears to be no basis for evaluation of the modeled effects on tidal elevations, velocities, and flows. A stronger discussion is needed of what effects can be identified as environmental impacts.

The upstream effects on flood control could be eliminated, in the same way that other upstream flow effects could be eliminated, because differences between alternatives are so small.

The main differences in tidal hydraulics may result from sea level rise (SLR) and habitat restoration. The potential effects of SLR should be cross-referenced to the Climate Change chapter.

Because tidal hydraulic changes result only from tidal habitat expansion or from operational changes, most of the alternatives will have identical tidal hydraulic effects (changes). These should be shown incrementally as existing conditions, existing with new intakes or channel changes, and new intakes and habitat restorations. These three cases would be the only DSM2 or RMA modeling needed. Keep it as simple as possible.

This section should consider how the existing channels and levees will be maintained with the BDCP. If an isolated facility or a dual facility will allow less dredging and less levee maintenance, there could be a difference in flooding impacts that should be described in relation to the Delta Risk Management Strategy (DRMS) results (recently released Phase ii) and the Delta Stewardship Council Plan (DSCP). Because Alternative 5 requires considerable dredging of Middle River and Victoria Canal, there would be an associated program for levee strengthening along this portion of the separate water supply corridor.

Only the regulatory rules and limits that are relevant to the existing water supply conditions need to be mentioned in the Water Supply chapter. It might be smoother if the regulatory framework for water operations were introduced as part of the existing conditions, with regulations that control water rights, minimum releases, flood control rules, and contracted amounts described along with the operations of each facility. The water supply operations (seasonal storage and delivery patterns) should be the focus of this chapter.

Analysis Methodology

The environmental setting should focus on the variations (deficits) in the existing deliveries that are caused by the hydrology sequence—this is the major challenge that prevents making full delivery in every year and also providing sufficient water in the rivers for fish. ICF suggests that the historical annual delivery patterns be used along with the CALSIM existing results to show this dominant hydrology effect on CVP/SWP operations. There presumably would be little or no change from the 2010 case to the 2020 case because these runs have the same facilities and operating rules as existing conditions. The 2025 baseline case also should be identical to the 2020 case and could be summarized.

The major topics that should be described more fully in this methods section are the changes in the Delta operation rules and new facilities that are being evaluated for each alternative. The origin (basis) and selection of these new Delta rules should be described.

Environmental Consequences

Similar to the review of the water supply assessment, ICF recognizes the labor and time requirements to implement these suggested changes to the surface water environmental setting,

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methodology, and environmental consequences sections. Our concerns and suggested changes are based on review of the EIR/EIS chapter and supporting appendices and were not supplemented by discussions with the author(s) of the sections. We also are sensitive to the planning and discussions between DWR and the EIR/EIS contractor that likely occurred as the water supply assessment methodology was written.

ICF recommends a meeting with DWR to better understand the purpose behind the format and content of the chapter and to finalize the steps necessary to complete the assessment of surface water resources.

Chapter 7, "Groundwater"

Evaluation

Environmental Setting/Affected Environment

The environmental setting includes a description of groundwater in the Sacramento Valley, Bay-Delta, and San Joaquin and Tulare Valley regions. This is a readable and logical organization.

The quality of the groundwater in these basins is described briefly. Historical water quality issues are mentioned.

The section includes a description of the general lack of groundwater management in the state of California. No Federal laws govern groundwater management. Local (county or water basin) groundwater management plans are required. The Federal and State water quality regulation of groundwater is mentioned.

Analysis Methodology

The U.S. Geological Survey (USGS) groundwater model of the Central Valley (CVHM) was used to demonstrate that if more water was applied to Westlands Water District and other Tulare basin lands, the groundwater pumping would be reduced (in these years) and the groundwater elevations would be increased. The CVHM uses a 1–square mile grid for the entire Central Valley. The CVHM can show changes in groundwater elevations between dry years and wet years (it simulates groundwater elevations during 1962–2003), and from increases in irrigation (infiltration) or increases in pumping.

A new model of the Delta groundwater elevations was developed by CH2M HILL for the BDCP. The grid resolution was 1/16 square mile. The surface groundwater is directly connected with the tidal channels, so groundwater elevation is nearly sea level. The model cannot resolve the seepage and drainage issues in the Delta because the surface layer of the model is uniform and 50 feet deep.

The major groundwater effects are described as (1) construction effects from dewatering, and (2) seepage or drainage effects from the conveyance facilities (i.e., seepage from canal or forebay), but the models are not detailed enough to address these localized issues.

Environmental Consequences

No effects on groundwater are expected to occur in the Sacramento Valley.

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General increases in agricultural deliveries likely will increase groundwater levels below some irrigated lands in the San Joaquin River and Tulare basins.

Construction effects and conveyance effects are expected in the Delta, but the magnitude cannot be identified prior to construction. These impacts will require monitoring and adjustments in drainage and seepage mitigation measures.

- **Percent Complete:** The Groundwater chapter is 60% complete.

Recommendations

Environmental Setting/Affected Environment

The potential linkages between the BDCP (conveyance changes, operational changes, and habitat conversion) and groundwater elevations should be presented at the beginning to allow the analysis to be focused. A brief indication of the amount of groundwater used in each basin area would help focus on potential changes associated with the BDCP.

The description of groundwater uses in the Delta and surrounding counties should be strengthened. The municipal uses in Stockton, Tracy, and Contra Costa County are not mentioned. No quantities of groundwater supplies are given. No information on the depth of the aquifers or the recharge potential or the seasonal drawdown (elevation change) is given.

Actual groundwater data (well elevations, pumping rates, and observed recharge) from recent (10–25) years should be summarized. Examples of agricultural drainage pumping and seepage problems in the Delta (e.g., Jones Tract flooding) should be described.

The groundwater quality regulations should be described as part of the water quality section.

Analysis Methodology

The details of seepage and drainage of the lowlands with pumping for agriculture need to be described better. The groundwater analysis is focused on temporary, localized effects from dewatering during construction or after the conveyance is constructed. Increased seepage under levees to adjoining lands is an issue that requires more detailed analysis. Flooding of 65,000 acres of current agricultural lands to become tidal wetlands will require more serious evaluation of adjacent flooding.

The CVHM was used to demonstrate that if more water was applied to Westlands Water District and other Tulare basin lands, the groundwater pumping would be reduced (in these years) and the groundwater elevations would be increased. Perhaps the results could be described generally for each water district or CV unit without needing the CVHM model results. The increased groundwater results are project benefits, and not environmental impacts on other areas. The model results are simply a mass balance for each square mile. The groundwater elevation change is:

Groundwater elevation change = reduced pumping (taf) x porosity (0.25) / irrigated area (acres)

Because the CVHM-Delta relies on the same vertical mass balance, it appears not to resolve the details of agricultural drainage and seepage issues in the Delta. Because the Delta groundwater is directly connected to the surface and tidal channels, the regional groundwater elevations will not change with the BDCP.

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Environmental Consequences

The groundwater models may not be needed for evaluating BDCP effects on groundwater in the Delta or in the San Joaquin River/Tulare basins. The major groundwater effects will be localized near-surface changes in seepage and required drainage for agricultural lands. Tile drains may be needed. Seepage monitoring and increased drainage pumping likely will be required. The methods used for the Delta Wetlands or for the DRMS analysis of levee stability in the Delta might be used. The emphasis of this section could shift to a monitoring and seepage pumping management plan. As an example, a management plan similar to the Delta Wetlands seepage monitoring and seepage plan could be developed. Many of the shallow groundwater and levee seepage evaluations in the DRMS studies could be used.

The major agency comments from Reclamation and USFWS were concerned with using the CVHM and the CVHM-Delta models. The model results for the historical conditions and the EBC cases were not clearly shown. No verification of the accuracy of the model results was given or described. No description of how the CALSIM results for the BDCP alternatives would change the model inputs. These comments could be addressed by not using the groundwater models, in favor of actual measured data, including the effects of drought periods (1987–1992 and 2004–2010) on groundwater levels, groundwater use, and seasonal recharge (elevations changes).

Chapter 8, "Water Quality"

Evaluation

Environmental Setting/Affected Environment

The water quality of the Central Valley and Delta is generally described. The Sacramento and San Joaquin River inflow quality is properly emphasized. Water quality effects are described separately for upstream watershed contributions (Sacramento and San Joaquin Rivers), within the Bay-Delta and within the CVP/SWP service areas. About 25 water quality parameters (e.g., salinity, temperature, turbidity, pesticides, trace metals, mercury, selenium) are separately described in: (1) the Sacramento and San Joaquin Rivers, (2) the Bay-Delta region, and (3) the CVP/SWP service area.

A thorough description of the three applicable Basin plans (Central Valley, Bay-Delta, San Francisco) and the 303(d) listings and water quality monitoring stations/programs is included. Monthly graphs of many parameters are given for up to 20 locations. Many of these data show a seasonal pattern that may be related to flow, although flows are not included in the graphs. There is no general description of how the seasonal or flow effects would be characterized.

An extensive list of references is good evidence that there is a high level of concern (and many investigations of individual parameters) about water quality in the Delta. Separate appendices were provided for applicable water quality criteria and basin plan objectives and State inventory of pesticide uses.

EPA and the State Water Board and Regional Water Quality Control Boards(RWQCBs) (laws and programs) are described in 8 pages. Most of these regulations are related to drinking water and aquatic species protection. A good summary of these water quality regulatory programs is given, but the linkages between these water quality regulations and water quality impact assessment details (e.g., how to interpret "compliance" with water quality criteria) are not described.

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Analysis Methodology

The analysis methods are very well described in this section. The major water quality effects from the BDCP are characterized as being caused by: (1) construction effects from soil disturbance, stormwater runoff or contaminant discharges; (2) operational changes with the new intakes and reduced south-Delta exports; (3) habitat conversion from farmland to tidal marsh; or (4) beneficial effects from specific water quality control measures included in the BDCP.

A very good screening analysis for the water quality parameters is given. Some parameters have an established criteria or objectives and can be compared quantitatively. If the parameter concentrations in the Delta are less than the criteria, this parameter may be eliminated from the assessment list. Some parameters have enough historical data to be used with CALSIM and DSM2 results in a quantitative evaluation. Some parameters have adequate historical data but cannot be estimated using DSM2 because they are not conservative, so a more general qualitative assessment would be appropriate. Some do not have enough data to compare to criteria, so a general qualitative level of concern is the only possible evaluation.

Environmental Consequences

The environmental consequences section for water quality is an expanded outline. The section is organized by study period (existing, NT, ELT, and LLT) and then by build alternative. Changes in water quality would be evaluated from the NA for the ELT or LLT period. Each alternative therefore would be evaluated twice, once for ELT (2025) and once for LLT (2060), but the evaluation presumably would encompass a full range of hydrology variations (wet and dry years). The changes would be described for the three areas (upstream, Delta, service), and the changes for a parameter would be described separately for construction effects, operation effects, habitat effects, and water quality conservation measures. Therefore, for each of about 15 parameters, this outline results in about 24 sections (totaling 360 sections for 15 parameters) for each alternative. This outline is not efficient for clearly focusing and describing the major water effects of the BDCP.

- **Percent Complete:** The Water Quality chapter is 45% complete.

Recommendations

Environmental Setting/Affected Environment

The general effects of watershed hydrology (runoff) on water quality can be introduced, but this chapter should focus on the effects of reservoir operations on water quality (temperature and dilution of contaminants) and on the primary water quality parameter in the Delta (salinity, EC). The basic relationship between Delta outflow and salinity should be emphasized. The analytical concept of tracking the water from the Delta inflows to the exports and outflow also should be summarized, from surface water (tidal hydraulics).

Most of the parameters should be eliminated from the environmental setting/affected environment and environmental consequences sections by introducing a BDCP water quality effects diagram. This diagram (chart) would show the potential effects the BDCP (construction, Delta operations, habitat restoration) would have on specific water quality parameters in the upstream, Delta, and service areas. Only water quality effects that already are identified with sufficient data to represent the existing and no-action conditions can be used in an impact assessment framework. This allows water quality impact assessment to focus on clearly identified water quality effects (about 10). One

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example would be selenium—it originates from the San Joaquin River, and the BDCP would reduce the export of San Joaquin River water so much more will enter Suisun Bay. The existing selenium concentrations can be compared to the criteria (5 micrograms per liter [µg/l]), and the changes caused by the reduction in south Delta exports can be calculated with CALSIM and DSM2 results.

Because the BDCP will not change upstream reservoir operation rules, there will be very small changes in upstream storage or releases, and little change in temperature or dilution effects. Therefore, temperature could be eliminated as an upstream parameter in the impact assessment.

A much-reduced hierarchy of water quality effects sections would provide a much more readable and understandable chapter. Only parameters that are changed by BDCP measures in the upstream or Delta or service area should be discussed.

The applicable water quality regulations related to water quality criteria and compliance monitoring locations are already included in the affected environment section. The general water quality regulatory framework should be moved to the recommended regulatory setting chapter.

Analysis Methodology

The analysis methodology is properly described. Possible parameters should be screened (with available data and models) to determine quantitative effects or qualitative effects from each BDCP alternative. Introduction of the BDCP effects diagram would allow many of the 17 parameters to be eliminated from the assessment.

Environmental Consequences

The water quality environmental consequences section has not been completed. The evaluation of BDCP conservation measures related to water quality should be described separately. The assessment should focus on targeted water quality parameters.

Only the changes in water quality that are caused by the BDCP alternatives should be included in a EIR/EIS. A much smaller list of water quality parameters with clearly identified thresholds or evaluation scales for judging the importance (or significance for CEQA) of changes in water quality caused by the BDCP (frequency, magnitude, extent) will be adequate and will better serve to focus water quality concerns on the most substantial effects of the BDCP alternatives.

Major Agency Comments

Extensive comments on the environmental setting/affected environment generally suggested more details about the descriptions of the regulatory programs and criteria and general concerns for each water quality parameter. All of these improvements should be incorporated. Some comments may not be applicable if the analysis is focused on a list of water quality parameters.

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Chapter 9, "Geology and Seismicity"

Evaluation

Environmental Setting/Affected Environment

Much of the setting information for this chapter is contained in the environmental consequences section rather than the setting section, including maps of the major hazards. The section contains placeholders for graphics that were identified as data gaps at the time of writing.

The writing and use of terminology in this setting section are not consistent with a clear understanding of geologic and seismic conditions. There is frequent intermixed discussion of soils and recent geologic mapping units. Also, there is intermittent use of very technical seismic measurement factors that are not adequately explained for the lay reader. Finally, there is no clear definition of the ground failure and seismically induced soil instability factors that are considered seismic risks. The setting indicates that these factors can be evaluated only on a site-specific basis, so no information is provided.

The regulatory setting section contains a discussion of federal mapping and other information programs that have no regulatory bearing on the geologic/seismic impact analysis.

Analysis Methodology

The methodology section generally presents the approaches used to evaluate a series of geologic or seismic hazards that could be affected by the alternatives. The section is divided into hazards created by construction, hazards associated with the presence of the new water conveyance structures, and hazards associated with operating and maintaining these structures. Very little discussion of methods used to evaluate restoration and conservation measures is presented to describe how programmatic analyses are addressed. The analysis is intended to be based on information provided in the draft Conceptual Engineering Report (CER) and will be revised once the final CER is available.

The methods presented include a list of the impact mechanisms, and some of the data sources used to analyze effects. There is little in this section that identifies specific evaluation methods or criteria. The operations and maintenance discussion does not sufficiently describe the impact methodology.

Reference is made in this section to impact analyses in the soils, surface water and groundwater sections of the document that relate to geology and seismicity. However, there is no clear identification of what effects are addressed in these other sections.

Environmental Consequences

The geologic and seismic hazards impact analysis is presented primarily as a programmatic evaluation. The author indicates that additional site-specific analysis is needed to predict potential adverse conditions. Design criteria for hazard avoidance will be developed once site-specific investigations are available.

The introduction to the environmental consequences section provides a simplistic explanation for impacts that would not be evaluated and does not sufficiently support the rationale for dismissing certain impact analyses. For example, this section indicates that changes in water operation and

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delivery outside of the Delta would not increase geologic or seismic hazards and therefore do not warrant analysis. The No Project impact discussion also indicates that development and implementation of the various activities already approved for the Delta will have no potential effect on geologic or seismic hazards. The rationale for these assertions needs to be clearly described and supported.

The analysis of the alternatives is very general, and frequent references are made about impact analyses being presented at a programmatic level of detail versus a project-level analysis. For example, the introduction to this section states that the effects of restoration activities are not predicted at this time because of the programmatic nature of these actions. The introduction also states that the analysis is programmatic for all covered activities beyond water delivery operations because these activities are not described in sufficient detail. This level of analysis does not appear to be sufficient to support a project-level impact evaluation. Many of the potential seismic risk factors are not currently analyzed, pending the results of surface water and groundwater analyses.

- **Percent Complete:** The Geology and Seismicity chapter is 50% complete.

Environmental Commitments

The only mitigation contained in this section is to undertake detailed design work and develop appropriate measures to avoid geologic hazards. This recommendation does not appear to be adequate for CEQA/NEPA purposes.

Recommendations

Environmental Setting/Affected Environment

It is recommended that this section be rewritten to provide setting information relevant for a project-level impact analysis. Geologic and seismic hazard terminology and content should be clarified, expanded, and described to be understandable to a lay reader. Clear definitions should be inserted for all geologic and seismic risk factors. Setting materials that are contained only in the environmental consequences section should be either referenced or moved to the setting section and referenced in the environmental consequences section. Information should be sought that can identify more specifically the locations of ground failure and seismically induced soil instability conditions in construction zones. Missing maps should be found or developed and inserted into this section.

Analysis Methodology

ICF recommends that this section be rewritten by a qualified geologic/seismic analyst. Where programmatic analysis is appropriate for restoration activities, for example, an explanation should be provided about the approach to this analysis and the reasons for not presenting a project-level analysis. Impact mechanism discussions should be augmented by evaluation methods and criteria appropriate for geologic and seismic hazard discussions. Where seismic-related discussions are contained in other sections of the document, the impacts contained in that section should be identified.

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Environmental Consequences

It is recommended that the environmental consequences section be rewritten and updated to present a project-level impact analysis of geologic and seismic hazards that could result from conveyance facility construction and operations. Where analyses are presented in a programmatic manner for restoration activities, the analysis should clearly describe the types of geologic hazards that could be associated with or could affect restoration activities. This section should be restructured to present all potential geologic and seismic effects that could result from the overall project rather than separating impacts by alternative component.

Environmental Commitments

ICF recommends that project-specific mitigation measures be presented based on recommendations in an approved geotechnical report for project facilities. Recommended environmental commitments or mitigation measures should address specific approaches to avoiding and minimizing the potential for geologic and seismic hazards.

Chapter 10, "Soils"

Evaluation

Environmental Setting/Affected Environment

The setting section contains a very well-written and relevant discussion of soils and their properties. Some of the maps that support the discussion use a color scheme that makes it difficult to differentiate between the categories. The section contains an extensive discussion on land subsidence that seems out of place in this chapter.

The regulatory setting does not contain a discussion of local plan policies relative to preservation of soil resources. This information may be contained in the agricultural resources chapter.

Analysis Methodology

The methodology section is well written. However, there is no reference to a quantitative approach (perhaps geographic information systems [GIS]) to analyzing the effects of soil loss, due either to coverage by new facilities or inundation from restoration activities. Also, the section refers to an analysis of land subsidence, but there is no explanation of why this topic is covered in the soils section. A statement that there would be no effects related to expansive or corrosive soils is not supported by relevant information or data.

Environmental Consequences

The entire section relies on a qualitative discussion of effects on soil resources and the hazards associated with soil properties. There is no use of GIS to calculate soil loss. A quantification of effects would greatly improve the ability to compare soil impacts across the various alternatives. The text also refers to several data gaps (biological oxidation potential adjacent to unlined canals, soil erosion relative to restoration activities), so some of the analyses are incomplete. At several points in the analysis, it is mentioned that site-specific analysis of soil limitations cannot be completed until site-specific geotechnical investigations are complete. The analysis of the effects of alternatives is very general and provides no basis for comparison of alternatives. Finally, the analysis assumes that

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there would be no soil-related effects from operational changes outside of the conservation plan area.

- **Percent Complete:** The Soils chapter is 50% complete.

Environmental Commitments

No mitigation or environmental commitments are proposed because the generalized impact analysis concludes that no significant soils effects would result from the alternatives. Reference is made to design measures that would be developed once site-specific geotechnical investigations are completed.

Recommendations

Environmental Setting/Affected Environment

ICF recommends that some of the current mapping should be redone to provide clearer differentiation between mapped properties. The information on land subsidence may be relocated following internal discussions. The general plans of affected counties will be reviewed to determine whether relevant policies on soil loss should be added to the regulatory discussion.

Analysis Methodology

ICF recommends that the methodology section be expanded to explain further why no effects from expansive or corrosive soils would result from implementing project alternatives. Following a review of the available GIS information, the method for assessing effects on soils may need to be modified to present a more quantitative approach to the impact analysis, including a tabular listing of soil loss for the various project alternatives. The discussion of land subsidence may need to be removed following further discussion within the team regarding the appropriate place for this analysis.

Environmental Consequences

It is recommended that GIS information be used to develop a more quantitative assessment of soil loss from erosion and displacement. If the data are available, this section should be rewritten to contain a series of tables that indicate soils lost to erosion and displacement for the various alternatives. Also, data gaps relative to biological oxidation potential and erosion should be filled to provide a more thorough discussion of effects. The conclusions in this section that suggest geotechnical investigations are needed to assess site-specific soil conditions should be reviewed with the team to determine whether they are justified. Additional data should be sought to improve the analysis of soil geotechnical conditions if the conclusions are not justified.

Environmental Commitments

Environmental commitments should be reevaluated to determine whether mitigation is needed once the impact analysis has been updated. Design measures should be reviewed to verify whether they are appropriate to avoid adverse soil effects.

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Chapter 11, "Fish and Aquatic Resources"

Evaluation

Environmental Setting

The environmental setting will require fairly significant reorganization so that the geographic regions and subregions described are consistent with draft BDCP Analytical Framework descriptions—the Delta, the Sacramento River and the San Joaquin River, and the various subregions associated with these regions. The setting section also will have to describe and analyze effects on fish and aquatic resources across a much broader area, including San Francisco Bay and nearshore marine areas, descriptions of which will need to be developed/refined.

Numerous primary references are missing from the section; instead, the citations simply refer to citations or sections of the Draft BDCP (e.g., Smith 2007 in SAIC 2009).

The environmental setting refers to six appendices (4.7a–4.7f). Appendix 4.7c is the covered fish species description. This appendix should be revised and updated to be consistent with the species profiles being developed in the BDCP, as will the EIR/EIS sections summarizing this appendix.

There are more than 400 agency comments on the environmental setting for the fish and aquatic resources section that will require resolution. In addition, the section will need a careful cross-referencing for consistency with the BDCP and the terrestrial resources sections (which is referred to numerous times, mostly as part of the descriptions of natural communities.

Analysis Methodology

An analysis methodology for fish and aquatic resources was not provided in the EIR/EIS files received for this evaluation. The primary analytical methods will reflect the methods that will be described in the BDCP effects analysis and associated appendices as they are developed through the BDCP process. The EIR/EIS will broaden this methodology to ensure it is applicable to other alternatives and to cover those common species and geographic impact areas not covered in the BDCP effects analysis.

Environmental Consequences

A draft environmental consequences section for the fish and aquatic resources chapter was not provided in the EIR/EIS files received. A draft annotated outline for the environmental consequences section was provided to ICF on July 25, 2011. Because of the draft nature of this outline and the approach that is being revised for the BDCP effects analysis ICF did not evaluate the contents of the outline.

- **Percent Complete:** The Fish and Aquatic Resources chapter is 45% complete.

Recommendations

Environmental Setting/Affected Environment

The section should be revised to fit the geographic areas outlined in the BDCP. The section requires development of an overall introduction and several secondary introductory paragraphs/statements

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to better guide the reader through the environmental setting. Use of simpler graphs/figures illustrating processes, facilities, and geographical locations also would help inform the reader. There likely will need to be proactive communication with agency staff who commented on the draft setting for clarification of comments. As a first step we recommend that a new expanded outline be prepared that includes the overall revised structure, major points, and data issues (including comments needing resolution).

Analysis Methodology

The methodology section should reflect the use of information from the BDCP effects analysis as well as the surface water and water quality analysis. The critical path for preparing the methods and consequently the environmental consequences is defining the appropriate method for analyzing water quality effects, which has to be resolved with the agencies. Once a plan is determined, the methods should describe clearly how the information from these sources would be used to inform the evaluation of the alternatives analysis.

Environmental Consequences

The environmental consequences section should be prepared based on the results of the surface water and water quality sections of the EIR/EIS, the BDCP effects analysis, and other sources. The section should evaluate each alternative for each species life stage, based on the geographic and temporal scales set in the BDCP. In addition to the listed species, the analysis should evaluate effects to non-covered fish and aquatic species, other fish species of management concern, essential fish habitat, and marine mammals. To this end, the section should be subdivided by alternative and then by effects on natural communities, covered species, and non-covered species, etc. A cumulative effects analysis should be included and also be subdivided into natural communities, covered species, and non-covered species.

As part of the analyses, the environmental effects of the construction and maintenance of facilities and infrastructure should be evaluated for each species.

We recommend an expanded outline of the environmental consequences section for agency review and concurrence. The outline should briefly describe each section and indicate potential data gaps. This would insure consistency with the data sources, and with other impact analyses in the EIR/EIS. In basic terms the section should evaluate changes in operations, construction operation and maintenance of the conveyance, implementation of other conservation measures, covered activities, and other federal and joint federal and non-federal actions. Where warranted, mitigation measures should be recommended.

Environmental Commitments

The environmental commitments section should be written to reflect the nature and degree of residual impact following implementation of all BDCP design and conservation measures. The information should be written in language appropriate for inclusion in the CEQA chapter.

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Chapter 12, "Terrestrial Biological Resources"

Evaluation

Environmental Setting/Affected Environment

The setting information is based primarily on BDCP information and limited field surveys. There are numerous specific comments from resource agencies to modify and improve the descriptions in this section. The primary issue is that the material and references are now a few years out of date. Additional literature review and discussions with resource agency technical experts will be needed to ensure that the setting is up to date. The setting mapping and descriptions do not address conditions either upstream or downstream of the conservation plan area. To the extent that there may be changes in terrestrial biological resources as a result of hydrologic changes from BDCP, some setting description may be necessary for these areas.

Analysis Methodology

The current methodology section for terrestrial biological resources is clear on most issues, but it needs to better address how terrestrial biological resources effects in areas outside of the conservation plan area would be reconciled with the BDCP effects analysis. The impacts addressed in the EIR/EIS that are outside the conservation plan area are related primarily to changes in upstream river flows and reservoir operations, and downstream changes in service area water deliveries. The methodology section clearly states that the impact analysis associated with conservation and restoration activities will be programmatic and that non-covered species will be addressed through changes in natural communities. This section also notes that field surveys were not conducted for all proposed construction locations because of lack of access to some private lands.

Environmental Consequences

The current environmental consequences section provides a large volume of information, but its internal organization and consistency in level of analysis across alternatives need improvement. The analysis is based on species models that are being modified in the BDCP effects analysis, and it does not include analyses of water operations changes (including upstream and downstream changes in reservoir operations, streamflows, and agricultural use of water) and construction of transmission corridors. It is likely that the footprints used for new water conveyance features will be modified. Effects upstream and downstream of the conservation plan area are not addressed, and there are general assumptions about the similarity of effects between alternatives that do not seem warranted for a project-level CEQA analysis. The effects of Alternative 4 are not included in the current draft. The analysis is not informed by field surveys of all facilities sites.

Environmental Commitments

The environmental commitments are identified as preliminary and will need to be modified and expanded extensively for the Draft EIR/EIS, once the impacts are defined more clearly. The format for the measures seems appropriate in that it describes implementing party, timing, and relationship to specific impacts.

- **Percent Complete:** The Terrestrial Biological Resources chapter is 50% complete.

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Recommendations

Environmental Setting/Affected Environment

The environmental setting discussion should be modified to address comments received from reviewing agencies and expanded to include adequate information to consider effects in upstream reservoirs and streams and in downstream service areas that might experience changes in agricultural operations. All setting material should be reviewed to ensure that it is current. Changes in species accounts and descriptions of natural communities that are made in the BDCP should be used to describe species and natural communities in the EIR/EIS.

The regulatory setting information should be modified to state clearly the relationship between the law/rule/regulation and the terrestrial biological resources impact analysis. The information in this section that does not clearly relate to the impact analysis should be removed.

Analysis Methodology

It is recommended that the methodology section be updated to describe clearly how project-level effects both upstream and downstream of the conservation plan area will be integrated with the BDCP effects analysis and the analysis of non-covered species. The methodology section should clearly describe how BDCP terrestrial biology appendices and effects analysis will be used to prepare impact analyses in the EIR/EIS, including how the analysis will be conducted for alternative construction sites that were not subject to field surveys.

Environmental Consequences

ICF recommends that the internal organization of the environmental consequences section be modified to facilitate the use of the BDCP effects analysis to address impacts on covered species. The section should be subdivided by alternative and then by effects on natural communities, covered species, and non-covered species. The analysis and findings in the BDCP effects analysis and appendices should be critically reviewed for technical accuracy and appropriateness for use in an EIR/EIS. It is assumed that the BDCP effects analysis will adequately address all BDCP effects both inside and outside the conservation plan area except for possible effects in the CVP and SWP service areas for the preferred alternative (Alternative 1A). A cumulative effects analysis should be included after the discussion of non-covered species, and it will be subdivided into natural communities, covered species, and non-covered species. Each of the current discussions of effects on natural communities, covered species, and non-covered species for alternatives should be expanded to include a qualitative analysis of effects from changes in water operations both upstream and downstream of the conservation plan area. Water operations changes should include reservoir fluctuations, river flow modification below dams, and increases in water available to agriculture in the CVP and SWP water service areas.

The analysis of alternatives and their effects on terrestrial biological resources should be modified to more clearly identify and discuss the differences in effect between alternatives, and an analysis of Alternative 4 should be added. Project-level effects of constructing conveyance facilities should be included by modifying the acreage totals associated with water conveyance system construction. All acreage tables should be reviewed and modified as necessary to reflect changes being made in the

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BDCP effects analysis, and the missing acreages associated with changes in agriculture should be added.

Environmental Commitments

The environmental commitments section should be completely rewritten to reflect the nature and degree of residual impact following implementation of all BDCP design and conservation measures. The information should be written in language appropriate for inclusion in Chapter 31, "CEQA Effects of the Proposed Project and Alternatives."

Chapter 13, "Land Use"

Evaluation

Environmental Setting/Affected Environment

The setting section provides an extensive and overly detailed description of land uses, land use plans, and the social characteristics of communities in the five-county Delta study. The setting also includes information that is frequently included in other resource sections, including farmland classification (agriculture), community characteristics (socioeconomics and social resources), historical background information for communications and regions (cultural and historic resources), and water distribution systems (water supply). In some geographic areas (water delivery areas), the setting does not address land uses, land management, and/or land use plans but focuses primarily on describing water supply agencies.

The land use setting focuses on describing existing land uses and is silent regarding future conditions within planning areas.

The regulatory setting is very extensive and overly detailed for the five-county Delta study area and less detailed for areas outside the five-county study area.

Analysis Methodology

The current methodology section for the land use section is not clear on approach or how certain tools will be used to support the impact assessment. As an example, the methodology indicates that the Land Evaluation Site Assessment (LESA) and California LESA models will be used to assess the loss of farmland as a result of the project and alternatives; however, the impact section makes no mention of using these tools. Another example is the assessment of community character. This portion of the methodology describes only that data will be collected to describe community characteristics but does not describe how that information will be used in the impact assessment. The methodology also does not provide a description of how all the information contained in the environmental setting section will be used to support the impact analysis.

Environmental Consequences

The current land use environmental consequences section focuses on assessing the consistency of the alternatives with land use plans, policies, and regulations and only for one alternative. The focus of this discussion is on the five-county Delta study area and does not include an assessment of impacts occurring north of the Delta or export areas. The section does not draw upon or apply the

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wide range of information described in the setting section, including historical information, farmland classification, or community characteristics.

- **Percent Complete:** The Land Use chapter is 50% complete.

Recommendations

Environmental Setting/Affected Environment

The section includes a wide range of information that usually is included in other setting sections of a typical environmental document, including cultural resources, socioeconomics, recreation, water supply, and agriculture. Readers of these other sections may not be able locate all the pertinent setting information supporting the impact discussions. The land use setting needs to include a discussion of the linkages between the information contained in the land use section and other resource topics.

The land use setting section also contains much information that does not appear to be considered in the environmental consequences section. The land use setting section should be modified to eliminate this extraneous information. Examples of this information are noted in the setting discussion above.

Analysis Methodology

The methodology needs to be updated to clearly describe how the impact analysis will be conducted, the linkages between the information contained in the setting and the impact section, and the application of models such as LESA.

Environmental Consequences

The land use impact section discloses only consistency issues with plans and policies for the five-county Delta study area. The impact assessment needs to be expanded to include the additional land use–related resources identified in the setting section and assessment tools partially described in the methodology section. The impact assessment also needs to be expanded to include all alternatives.

Environmental Commitments

The environmental commitments section should be completed if significant land use impacts are identified. The current version of the environmental commitments section is blank.

Chapter 14, "Agricultural Resources"

Evaluation

Environmental Setting/Affected Environment

The Environmental Setting/Affected Environment section for agricultural resources provides information on agricultural productivity, crop types, and crop production practices for the statutory Delta, nine restoration opportunity areas, and the SWP and CVP water delivery regions; however, in general, the focus of the discussion is the statutory Delta. The "potential environmental effects area"

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is vaguely defined upfront. It appears that much of the detailed data provided in tabular form for this section is unnecessary because there's no explanation for why it is included and how it will inform the impact analysis. For example, for four regions of the Delta (north, east, central/west, and south), data tables are provided for average maximum and minimum monthly temperatures; average monthly solar radiation; average monthly relative humidity; and average total rainfall. In addition, data on crop type root depth and pesticides commonly applied (pounds applied, number of applications, and method) in the Delta and ROAs are also presented. It is unclear how much of this information would support the analysis methodology or the impact analysis. Crop acreages are based on 2007 data and older.

The regulatory setting appears sufficient. The Regional and Local Plans, Policies, and Regulations section is exceedingly brief and provides only a general statement regarding general plan policies as they related to agriculture for the project area counties. Only five counties, Contra Costa, San Joaquin, Solano, and Yolo counties are mentioned; Alameda County was omitted from both the general plans discussion as well as the county right-to-farm ordinances discussion.

Analysis Methodology

The agricultural resources Analysis Methodology section does not provide a description of how much of the information in the setting section would be used to support the impact analysis. As described above, some of the data/information presented in the Environmental Setting section seems superfluous. Further, much of this section merely describes what will be analyzed in the Environmental Consequences section of the agricultural resources chapter as well as other resource chapters as it relates to effects/impacts on agriculture, rather than presenting a detailed methodology for approaching the impact analysis.

Environmental Consequences

There are inconsistencies between the Analysis Methodology and Environmental Consequences sections in terms of the effects/impacts analysis. For example, the analysis methodology indicates that conversion of Williamson Act-contracted lands and Important Farmland would not be addressed in the agricultural resources impact analysis, but instead in Land Use. However, conversion of those lands is addressed in the agricultural resources effects/impact analysis. Further, the analysis methodology indicates that the potential for water seepage from an aboveground conveyance to cause saturated soils to affect agricultural practices would be addressed in the effects/impact analysis, but it is not. There is a mitigation measure for this potential effect, but the analysis was not done. Although there are author's notes that indicate that analyses for groundwater and salinity effects on agriculture will be forthcoming pending hydrologic modeling, it is not apparent that seepage would be discussed in those missing sections. In addition to the inconsistencies between the analysis methodology and the effects/impact analysis, there is a great deal of explanatory text in the introduction to the effects analysis, which indicates what will not be analyzed (e.g., the effect of water supply on agricultural users within the Delta Region), that should be included or moved to the Analysis Methodology section to provide clarification.

It is concluded upfront that it would be too speculative to evaluate impacts associated with changes in SWP/CVP operations on agricultural resources. It seems that at least a qualitative analysis should be done.

With regard to the Alternative 1A "Direct Effect" effects/impact analysis as it pertains to conversion of agricultural land for habitat restoration purposes, under Evaluation Topic 14-3: Loss of

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Farmlands Due to Project Features and Facilities, it is stated that habitat restoration would provide many of the same benefits that agriculture provides as open space and wildlife habitat, and because this conversion would not constitute a permanent loss of the use of land for agricultural purposed, this conversion would not be considered an adverse environmental effect. Whether or not the conversion of agricultural land to habitat would be an adverse effect, and the more general issue of whether or not reduction or termination of agricultural land use for agriculture is an adverse/significant impact requiring mitigation should be discussed and evaluated further with DWR.

The overall organization of this section makes it challenging to follow, and also results in unnecessary redundancies (e.g., restating, for certain project components shared among the alternatives, that there will be no early long-term and/or late long-term effects). In addition, effects conclusions are missing for several of the effects discussions.

- **Percent Complete:** The Agricultural Resources chapter is 50% complete.

Recommendations

Environmental Setting/Affected Environment

As described above, the agricultural resources setting section seems to contain extraneous data because it is unclear how this data would be used in the analysis methodology or considered in the impact analysis. As such, the agricultural resources setting section should be modified to eliminate any data that will not be used to inform the effects/impact analysis. Examples of this information are noted in the setting discussion above. Additionally, crop acreages should be updated where possible and ROAs should be confirmed.

Analysis Methodology

The analysis methodology should be revised to provide more detail on approach/methods; to make it consistent with the effects/impact analysis; and to provide the linkages between the information contained in the agricultural resources setting section and the effects/impacts analysis section.

Environmental Consequences

It is recommended that the agricultural resources Environmental Consequences section be revised as follows:

- Reorganize to make the analysis easier to follow and to reduce redundancy.
- Provide clear effects conclusions for all of the effects discussions.
- Consider revising the direct effects discussion and conclusion for Evaluation Topic 14-3: Loss of Farmlands Due to Project Features and Facilities, as described above. If conclusion changes, develop appropriate mitigation measures.
- Provide a qualitative assessment for how changes in SWP and CVP operations will affect agricultural resources within the SWP and CVP Export Service Areas.

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Environmental Commitments

Once the environmental consequences relating to agricultural effects due to changes in groundwater levels and salinity have been developed, the Environmental Commitments section may need revision to incorporate mitigation if these effects are considered to be adverse/significant. Similarly, if it is decided that the effects discussion and conclusion regarding the conversion of agricultural land to non-agricultural use due to habitat restoration should be revised, mitigation would need to be developed.

Chapter 15, "Recreation"

Evaluation

Environmental Setting/Affected Environment

This section is generally logical, well-written, and thorough. The setting focuses on recreation in the Delta region, which is described as the physical environment, recreational facilities, and associated recreation activities and opportunities in Suisun Marsh and the Yolo Bypass, areas upstream of the Delta, and the SWP and CVP export areas. The setting is further described in terms of water-based and land-based recreation. Recreational fishing is a primary recreational activity in the Delta region and upstream tributaries and presumably the setting information for game fish would be found in the Fish & Aquatic Resources chapter; however, there are no references here to that chapter.

This section provides a detailed accounting of recreational facilities; however, quantitative data for use are very generalized and regionalized (by county) rather than by facility or activity. This may make a project-level analysis unsubstantiated and difficult to make determinations beyond the programmatic setting. There is no discussion of whether project alternatives have the potential to affect upstream flows and reservoir levels, the critical thresholds for recreation activities (like flows for rafting) and facilities (like water surface elevation for boat ramps and marinas).

Analysis Methodology

There is no separately identified methods section. An extensive regulatory section describes facility plans and municipal plans.

Environmental Consequences

The majority of the discussion is incomplete pending completion of modeling. The layout of the discussion by alternatives and near- and long-term effects is confusing and repetitive.

Recreational fishing is identified as a primary recreational activity, but the change in recreational fishing based on species abundance and distribution due to project alternatives is not specifically discussed as an effect. Overall, the effect statements are too generalized, given the broad geography potentially affected by the project alternatives and diversity of recreation facilities and activities.

It is unclear how quantitative analysis is intended to be applied, such as identification of user days and effects on user days, and how this information may feed into socioeconomic effects.

There is no discussion of cumulative effects.

- **Percent Complete:** The Recreation chapter is 60% complete.

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Environmental Commitments

Four design measures are identified.

Five mitigation measures are identified. The mitigation, in some cases, is tied more directly to effects on other resource topics. For example, MM-Rec-15-1: Provide Waterway Construction Notification, Prepare Waterway Traffic Control Plan, and Prepare Temporary Channel Closure Plan, may be more appropriate as a design measure or as a best management practice incorporated into the project description.

Recommendations

Environmental Setting/Affected Environment

Cross references to the Fish and Aquatic Resources chapter should be added to the discussion of recreational fishing.

Quantitative data on recreational use, organized by facility should help substantial a project-level analysis. Critical thresholds for recreation activities (like flows for rafting) and facilities (like water surface elevation for boat ramps and marinas) should be discussed if the project alternatives could affect upstream flows and reservoir levels. The regulatory discussion should be expanded with a discussion of any policies or agreements related to upstream recreation flows.

Analysis Methodology

It is recommended that a methodology section be added describing the basis for the analysis and the evaluation. The evaluation should explain how the quantitative analysis, such as identification of user days and effects on user days, will be applied.

Environmental Consequences

The evaluation should state whether the project alternatives would result in changes in recreational fishing based on species abundance and distribution. Effect statements should be more specific, possibly broken-out more specifically by effect mechanism. If it is used for the evaluation of socioeconomic effects or other analyses, cross references should be provided.

Environmental Commitments

Once the environmental consequences are completely known, the environmental commitments section should be expanded to include mitigation, if feasible, that reduces or replaces demand for resources. The existing measures on avoidance should be expanded to provide clearer information and be more closely tied to specific effects.

A cumulative analysis should be completed.

Design Measure 15-4: Noise Management should be cross-checked to the noise analysis. Mitigation Measure Rec-15-4: Use Vegetation Screening and Interpretation at Gate on Threemile Slough should cross-reference the visual analysis.

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Chapter 16, "Socioeconomics"

Evaluation

Environmental Setting/Affected Environment

The setting provides a comprehensive and generally complete detailed description of socioeconomic and social conditions within the Delta study area SWP and CVP south of Delta export areas. The discussion also includes a discussion of socioeconomic variables related to agricultural production within the Sacramento Valley. However, the section does not include a discussion of the socioeconomic conditions related to recreation or other activities occurring north of the Delta that may have result in socioeconomic activities. A change in operation of the CVP and SWP may result in changes in river flows and reservoir storage and associated changes in water-related and water-dependent recreation, abundance of fish, or abundance of wildlife (waterfowl, etc.). As an example, the Land Use section provides includes a discussion of land management around the CVP and SWP storage reservoirs. If, the alternatives would result in changes in conditions at along rivers or at reservoirs upstream of the Delta, this should direct the existing conditions that should be described in the setting.

The regulatory setting is complete and does not warrant modification.

Analysis Methodology

The current methodology section for socioeconomics is clear on the approach to conducting most of the assessment proposed in the impact section. However with the exception of changes in agricultural production, the methodology is silent regarding the approach to address effects upstream of the Delta. This includes consideration of changes in river and reservoir-related recreation opportunities and changes in abundance in fish and wildlife.

Environmental Consequences

Disregarding the organization concerns with all the chapters of the EIR/EIS, the current socioeconomic section does not include an impact assessment. The current section provides an overview of the primary issues that will be addressed in the section by simply providing impact discussion statements. These statements appear to be comprehensive in that they cover the breadth of topics discussed in the environmental setting. Depending on resolution of the scope of the socioeconomic analysis discussed above, the proposed impact assessment may need to be expanded to include upstream of Delta recreation-related activities.

- **Percent Complete:** The Socioeconomics chapter is 45% complete.

Recommendations

Environmental Setting/Affected Environment

The environmental setting discussion will be modified to address comments received from reviewing agencies and will be expanded to include the information necessary to support the assessment of socioeconomic impacts expected to occur upstream of the Delta. This would include a discussion of economic activity associated with recreation occurring at the major CVP and SWP reservoirs and Sacramento River.

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The regulatory setting information is complete and does not warrant modification.

Analysis Methodology

The methodology will be updated to clearly describe how project-level socioeconomic effects upstream of the Delta are being addressed.

Environmental Consequences

The socioeconomic impact section will be modified to expand the discussion of the changes in economic activity occurring upstream of the Delta. The impact assessment methods and models to support the assessment have been identified. ICF recommends that the modeling be conducted and the assessment methods be applied complete the socioeconomics assessment.

Environmental Commitments

The environmental commitments section will be completed if significant socioeconomic effects are identified. As indicated above, the current version of the environmental consequences section does not include the results of the socioeconomics analysis.

Chapter 17, "Visual Resources"

Evaluation

Environmental Setting/Affected Environment

The setting section is well-written, but it could benefit from some slight refinements, as discussed below under Recommendations. The regulatory setting section is comprehensive and complete.

Analysis Methodology

The introductory description of the methodology employed for determining visual impacts is somewhat confusing. Photo simulations were used to assess the existing visual quality of landscaped areas, elements, and features of the project area. This section indicates that the impact analysis relies on assessing the alternatives' effects based on the level of visual dominance a project feature would present to the landscape, and the landscape sensitivity level. Visual resource change can also be determined by changes in visual character, but this discussion is lacking.

Environmental Consequences

The environmental consequences section does not use terminology introduced in the methodology section or is very inconsistent in its use. In addition, although the analysis methodology section indicated that the impact analysis relies on assessing the effects of the alternatives based on identifying the level of visual dominance a project feature would present to the landscape, and the landscape sensitivity level, there is often no mention of visual dominance or landscape sensitivity changes in the environmental consequences analysis. Further, impacts on viewer groups are often not discussed. Although the appendix includes discussion of visual dominance and landscape sensitivity changes, the discussion does not tie back in to the analysis.

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There are no project figures, so it is difficult to tell whether the analysis is covering site-specific, project-level effects or is more of a program-level analysis.

There is inconsistency in the use of terminology for effects findings. For example, in some cases "substantial" effects on visual resources are referred to, and in other cases, effects are referred to as "adverse."

There is no cumulative analysis.

Environmental Commitments

There is no environmental commitments section, and no environmental commitments or mitigation measures are discussed.

- **Percent Complete:** The Visual Resources chapter is 50% complete.

Recommendations

Environmental Setting/Affected Environment

It is recommended that the setting section be revised as follows.

- Include a concepts and terminology section.
- Include a discussion on protected vernal pool habitats, such as Jepson Prairie. Vernal pool habitats are of visual significance.
- Include an in depth discussion of the Yolo Bypass. The bypass can appear to be an inland bay when flooded, and can be seen traveling across the Yolo Causeway (Interstate 80) or along levee roadways. The Yolo Bypass is also a part of the Pacific Flyway and is an important location for bird watchers.
- Refine the Folsom Lake discussion, consistent with discussion of other locations, to identify views.
- Revise the section Characterization of Viewers to include the qualifiers *low, moderate,* or *high* in the discussion of viewer sensitivity. For example, some of the roadway travelers are classified as not being sensitive when, in fact, their sensitivity should be low; there is a distinction between the viewer sensitivity of roadway travelers who are driving for pleasure or on scenic routes (moderate to high sensitivity) and commuters or truck traffic (low sensitivity).

The regulatory setting information is complete and does not warrant revision.

Analysis Methodology

It is recommended that the methodology section be revised as follows.

- Provide clarification in the introduction to the analysis methodology as to how the alternatives' effects on visual resources will be assessed (see evaluation of analysis methodology above).
- Provide a brief discussion of visual character and how a change in visual character is a visual resource change.
- Indicate clearly that the NEPA analysis will use CEQA impact criteria (State CEQA Guidelines Appendix G) if that is the case. It appears that the environmental consequences section uses the

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CEQA Appendix G environmental checklist criteria as impact headers for the NEPA analysis. It also should be clearly stated that the CEQA analysis is provided in a later chapter.

Environmental Consequences

In general, this section could benefit from some consolidation in parts, and from reorganization to improve the flow. For example, in the section that addresses effects in the near term from construction, operation, and maintenance, landscape scale changes and project effects on visual character and quality of the project area and surroundings are discussed in separate subsections. Landscape scale changes directly affect/are a change in visual character, and, as such, these two subsections should be consolidated into one subsection. Similarly, because many of the alternatives have the same impact, there is a great deal of repetition under each alternative. This could be reorganized, revised, and greatly consolidated. The environmental consequences section could be streamlined by first discussing the impact analysis for 1A, B, and C, etc., and where the effects for the other alternatives are the same as Alternative 1, simply state that in a short paragraph rather than repeatedly under different subheads for each alternative. This should cut down greatly on the number of pages, yet relay the same information across in a way that is easier to read. This should help readers easily find the similar alternatives and then jump to the ones that differ more, such as Alternative 5. Because the alternatives would constitute a relatively large-scale, complex project, the analysis needs to be presented in an organized, easy-to-follow format. Supporting graphics or tables, and relating the effects to viewer groups that would be affected throughout the entire environmental consequences section, should make the analysis easier to follow and the potential project effects easier to gauge.

Terminology introduced in the setting section should be carried over and used as applicable in the environmental consequences section and throughout the chapter.

A cumulative analysis should be completed.

Environmental Commitments

Once the environmental consequences are completely known, the environmental commitments section should be expanded to include mitigation, if feasible, that avoids or reduces the impact.

Chapter 18, “Cultural and Historic Resources”

Evaluation

Environmental Setting/Affected Environment

This section has a lot of background about the history of the Delta but very little actual information about the resources that are known to be present. The results of the field visits to the archaeology sites and the windshield survey for historic buildings are not thoroughly described (Note: We do not have any of the technical reports, including BDCP Conveyance Alignment Options Historic Architectural Inventory Report [DHCCP 2010] and any results of the field visits including any site records. This architectural report is mentioned only in the environmental consequences section and not in the setting or methods). A table of all the previously recorded resources is referenced in an appendix (to which we do not have access) but does not describe where surveys have been

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conducted, where areas of known sensitivity are located, or known resource significance (Note: some of this information may be included in the Appendix that has not yet been provided to us).

Analysis Methodology

This chapter does not provide a separate methodology section. An analysis methodology discussion is included in the environmental consequences section.

Environmental Consequences

The section has quite a bit of information that belongs in the setting section. Currently, the analysis is organized by impacts on types of resources, and while the analysis captures the ways that resources would be affected, it provides no discussion of the magnitude of impacts or information useful for comparing the impacts of each of the alternatives. Much of the analysis is deferred and does not support a project level evaluation of effects.

Environmental Commitments

There is no discussion of environmental commitments, and it appears the work needed to comply with NEPA, CEQA, and Section 106 is being deferred.

- **Percent Complete:** The Cultural Resources chapter is 50% complete.

Recommendations

It is recommended that ICF be provided with the complete information on the cultural resources studies conducted for the previous administrative draft EIR/EIS. We recommend that our cultural resources specialist meet with the Lead Agency cultural resources staff to review the work that has been done to date to provide a better understanding of how any additional work, if planned, might be incorporated into the environmental documents. After our cultural resources specialist has reviewed the missing information, we recommend meeting with the Lead Agencies regarding the approach to compliance with Section 106 of the National Historic Preservation Act and consultation with the State Historic Preservation Office because compliance with Section 106 is necessary for a ROD.

Environmental Setting/Affected Environment

This section has a lot of background about the history of the Delta but very little actual information about the resources that are known to be present. This general history should be winnowed down to what is needed to provide an understanding of the types and general locations of resources that are present in the Delta.

Once the missing data are made available, the results of the field visits to the archaeology sites and the windshield survey for historic buildings should be described more fully in this section, including a qualitative review of resource locations and the determination of areas of sensitivity for various known resource types. This would be needed particularly if no other inventory data are available before the Draft EIR/EIS is released. This qualitative analysis should include revising the current section to include a discussion of where surveys have occurred, areas of known sensitivity, and preliminary assessments of resource significance for known resources—usually available information to predict where prehistoric and historic resources are located in the Delta. Additional

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information should be sought from sources (such as historic and geologic maps, Google Earth, etc.) to pinpoint other locations where resources are likely to be found. These include areas with topographic relief, as mounds are often the locations of prehistoric habitation. Similarly, historic buildings and features are often observable using aerial imagery. Historic map research, if not previously completed, could be helpful in showing areas of historic development that have not been previously recorded. Geology maps showing the locations of Piper Sand Deposits (known to often contain prehistoric burials) also should be plotted. Pinpointing these locations on maps to show areas of prehistoric and historic sensitivity would be important to provide adequate project-level analysis for specific project components. The two other resource types requiring additional analysis are resources of importance to Native Americans (Traditional Cultural Properties [TCPs]) and historic period cultural landscapes. Both of these resource types require specific research and outreach to determine their locations as well as to document any concerns of local interested parties.

Analysis Methodology

It is recommended that a methodology discussion be added describing the methods for determining the project area of potential effect and the data collection and evaluation methods.

Environmental Consequences

There is quite a bit of setting information in this section that needs to be extracted and subsumed into the proper section. There are also reports that are only cited here but should be described in the setting and methods sections. Once the previous obtained information and the data from the additional sensitivity research are plotted, it should be possible to analyze the project components in terms of potential effects on a variety of types of resources known and predicted in the project areas. Currently, the analysis is organized by impacts on types of resources, and while the analysis captures the ways that resources would be affected, it provides no discussion of the magnitude of impacts or information useful for comparing the impacts of each of the alternatives. The ultimate goal of revisions to this section would be to reduce the amount of analysis being deferred so as to support the project-level analysis that is needed.

Environmental Commitments

Once the environmental consequences are completely known, the environmental commitments section should be expanded to include feasible mitigation developed in coordination with the Section 106 process.

Chapter 19, “Transportation”

Evaluation

Environmental Setting/Affected Environment

There are many data gaps in the transportation setting section. For example, no AM peak hour traffic volumes are provided; there are several roadways for which no daily or PM peak hour traffic volumes were available; and existing roadway segment level of service (LOS) data are not provided. Additionally, there is no analysis of intersection operations; a number of relevant interstate and

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state highways are omitted from the description of general roadway characteristics; and there is no description of relevant roadway improvements that are planned in the study area.

The discussion of existing navigation conditions should be expanded and present information and data on key ship channels, boat traffic volumes, and ferry services.

Analysis Methodology

The analysis methodology section does not clearly identify the significance criteria associated with each potential impact. The list of potential impacts does not fully address all transportation modes (roads, transit, rail, air, and water) under both project construction and operations conditions. The significance criteria are not entirely consistent with the latest version of the State CEQA Guidelines.

Environmental Consequences

The impact discussion in its current form is difficult to read, and much of this is due to the format. The impact analysis does not provide a summary of relevant impacts for each alternative or a conclusion on level of significance. Traffic impacts during construction are assessed only qualitatively. There is no identification of roadways to be closed or relocated.

The effects analysis is almost entirely qualitative with no project-level analysis provided for project-level CEQA clearance. As such, it is sometimes difficult to conclude whether the discussion about an "evaluation topic" would result in a significant or less-than-significant impact according to CEQA. In most cases, because the analysis is vague and general, the conclusions for most impacts discussed as they currently read are potentially significant under CEQA.

- **Percent Complete:** The Transportation chapter is 45% complete.

Recommendations

Environmental Setting/Affected Environment

The figures presenting existing transportation conditions should be revised (e.g., focus on relevant roadway information, eliminate superfluous information) to improve readability and usefulness.

The environmental setting discussion should be modified to address comments received. Traffic counts and existing traffic LOS should be provided for all key roadways potentially affected by the project. This information should cover AM and PM peak hour conditions. The analysis should include key roadway sections and intersections. In addition to existing conditions, future conditions without the project (2020, 2025, and 2050) should be described. The methodology used to derive future traffic volumes should be clearly documented.

The discussion of the rail system should include data on train volumes. The discussion of navigation conditions should be expanded to provide data on the number of ships using the main channels.

Analysis Methodology

The significance criteria and thresholds of significance should be revised for consistency with the 2011 State CEQA Guidelines (Appendix G—Environmental Checklist Form).

The LOS analysis should be performed based on the criteria presented in Table 19-1 of the analysis methodology section.

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Each impact assessment should clearly indicate whether mitigation is triggered. Impacts should be assessed in terms of their level of significance before and after mitigation.

Environmental Consequences

For analysis of traffic construction impacts, the recommended approach includes the following steps: identify key locations (intersections and roadway segments) likely to be affected during construction; assemble existing traffic counts or collect new counts if needed; report existing LOS during AM and PM peak hours; evaluate future LOS without the project based on traffic volume forecasts for the various timeframes (2020, 2025, 2060); revise estimates of number of workers and construction trucks; distribute construction trips to the roadway system based on assumptions regarding location of workers and sources of construction material; evaluate construction traffic impacts in terms of LOS changes and assess level of significance; if needed, identify and evaluate appropriate mitigation measures.

The potential for changes in the traffic circulation system associated with constructing and operating conveyance facilities needs to be evaluated. Specifically, the analysis should identify what roads would be temporarily or permanently closed, and what detour routes would be in place during construction. Under the canal alternatives, the analysis should discuss how the crossings between the proposed canal and the transportation infrastructure (roadways, rail) would be handled to maintain connectivity.

Navigation impacts on commercial boat traffic and ferry services should be analyzed. The analysis should consider potential impacts on waterway capacity, as well as safety, during the construction period and during operations and maintenance.

All transportation modes should be studied under operations conditions in addition to construction conditions. Even though impacts are expected to be higher during construction, impacts during operations and maintenance also should be studied and disclosed. Examples of such impacts may be permanent changes in circulation and access patterns due to roadway closures, roadway relocations or new roadway construction, and increased freight movements by trucks due to reduced waterway capacity.

Chapter 20, “Public Services and Utilities”

Evaluation

Environmental Setting/Affected Environment

The public services setting focuses on law enforcement, fire protection, hospitals, and schools. There is excessive detail presented in the narrative describing fire protection services and funding for those services. Much of this could be deleted because the impact analysis does not go into this level of detail or cover much of what is presented for this public service. Similarly, a great deal of detail is presented for schools in the Plan Area, both in narrative and tabular form. However, none of it is addressed in the impact analysis.

The regulatory setting section presents some regulations that are not relevant to the impact analysis (e.g., Penal Code). Certain policies relating to utilities and infrastructure identified in the Land Use and Resource Management Plan for the Primary Zone of the Delta may be relevant, but are not presented in this section.

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Analysis Methodology

In general, the analysis methodology is very detailed. However, this detail does not appear to carry over into the impact analysis. In part, this may be because the headings in each section, Analysis Methodology and Environmental Consequences, are not parallel. For example, the analysis methodology is presented by the major subheads Law Enforcement, Hospitals, Schools, etc., whereas this organization is not mirrored in the impact analysis. The methodology states that both construction and operations are evaluated, but it is unclear why an operational analysis is necessary. Furthermore, it is unclear in the analysis where it is analyzed (perhaps early long term and short long term?). Further, the methodology section introduces public services and utilities that were not discussed in the setting (e.g., libraries, wastewater, water supply), and new terms are introduced that were not discussed in the setting (e.g., *Restoration Opportunity Areas*). Some assumptions presented in the methodology lack support. For example, it is not explained why the potential environmental effects area includes a 1- or 5-mile buffer zone around the Delta Region boundary, depending on the public service being analyzed.

Environmental Consequences

It is indicated that operations of the proposed water delivery system would not be addressed in the impact analysis because operations would not adversely affect public services and utilities. However, the discussion goes on to say that operations associated with the conveyance features and facilities of the alternatives would be addressed in the impact analysis. The difference between operating the proposed water delivery system and operating the proposed conveyance facility is unclear.

As previously described, the impact analysis does not appear to parallel the setting and analysis methodology in many cases, in terms of both detail and content. Further, this section could benefit from reorganization so that it parallels the organization of the project description with regard to the project's major components and proposed activities.

There are general statements and/or assumptions regarding whether certain project activities or components would have an impact on public services and/or utilities, but no supporting explanation is provided for those statements and assumptions. For example, it is concluded that hauling dirt would not affect public roadways because it is "assumed to occur off-road"; however, there is no support provided for this assumption.

Similarly, it is concluded that habitat restoration will not be addressed in the impact analysis because it would not have a substantive adverse effect on public services or utilities or result in the inability to provide an adequate level of service, but this is not supported.

Environmental Commitments

The two mitigation measures identified call for construction of a replacement fire station and library should construction of a proposed setback levee or fish screen warrant demolition of the existing fire station and library, respectively. The discussion for each of these mitigation measures is minimal and does not identify who would be responsible for implementing them (i.e., constructing new facilities) or where the facilities would be constructed.

- **Percent Complete:** The Public Services chapter is 60% complete.

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Recommendations

Environmental Setting/Affected Environment

It is recommended that the following revisions be made to the public services and utilities environmental setting/affected environment section.

- Clarify that libraries, wastewater, and water supply were included in the impact analysis, or if not, in what resource chapter (e.g., Chapter 5, "Water Supply") analysis they would be covered.
- Remove all public services and utilities funding discussion unless the project will affect funding.
- Condense the discussion about fire departments serving Contra Costa County, San Joaquin County, Sacramento County, Solano County and Yolo County. Some of that text could be incorporated into the existing tables and/or moved to an appendix.
- Remove discussions pertaining to inapplicable or irrelevant regulations or standards (e.g., Penal Code, State Architect Standards). Consider including relevant utilities and infrastructure policies identified in the Land Use and Resource Management Plan for the Primary Zone of the Delta.

Analysis Methodology

It is recommended that the analysis methodology section be revised as follows.

- Revise to clearly explain how the study area was defined and what assumptions were used in the analysis.
- Revise to focus only on those potential impacts that are discussed in the impact analysis.
- Remove all discussion of water service from this chapter and instead reference Chapter 5, "Water Supply."
- Discuss engineering/design assumptions regarding the type of solid waste that would be generated during project implementation, the quantity, and where it would be disposed of. This would facilitate a thorough solid waste analysis.

Environmental Consequences

It is recommended that the environmental consequences section be revised as follows.

- Reorganize to parallel the organization of the environmental setting and project description sections.
- Provide support for assumptions regarding why effects on public service and utilities would not occur as a result of certain project components (e.g., habitat restoration actions, covered activities). In general, review each statement of effect to clarify and support associated assumptions.
- Expand the solid waste impact analysis discussion based on the recommended changes to the analysis methodology section pertaining to solid waste.
- Provide a discussion for the potential effects associated with demolishing the Courtland Fire Station #92 should this be needed due to installation of a setback levee on the Sacramento River. Similarly, the potential effects associated with demolishing the Walnut Grove Library, should that be necessary, should be described.

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Environmental Commitments

It is recommended that the mitigation measures calling for construction of a replacement fire station and library be expanded to include details such as who would be responsible for that mitigation, and where the facilities would be built.

Chapter 21, "Energy Resources"

Evaluation

Environmental Setting/Affected Environment (4.17.1)

The setting section describes the CVP and SWP facilities. This is a repeat of the CVP/SWP description that already appears many times in the document. The energy facilities are described by location and capacity. No operations data, historical uses, and generation data are given. The section includes a lengthy discussion of energy regulatory agencies and laws.

Analysis Methodology

The methodology states that the energy analysis summarizes the existing energy uses and generation, and then uses CALSIM to estimate the changes in energy uses and generation for each alternative.

Environmental Consequences

The environmental consequences section for energy has not been prepared.

- **Percent Complete:** The Energy chapter is 50% complete.

Recommendations

Environmental Setting/Affected Environment

The setting should be expanded to describe the CVP and SWP generation and pumping facilities that consume power. While the CVP is basically self-sustaining, the SWP requires supplemental power for the Tehachapi pumps. Only the energy facilities of the CVP and SWP should be described.

The historical CVP and SWP energy generation and use for recent years (2005–2010) with high flows and low flows should be reviewed and summarized.

The energy regulations are not applicable to the analysis and need to be focused on regulatory requirements, if any, governing additional energy consumed by water pumping.

Analysis Methodology

The CALSIM-based estimates of hydrogenation and pumping uses should be compared to the historical conditions to fully describe the baseline (EBC) conditions for energy.

Groundwater pumping in the SWP and CVP agricultural districts should be included to allow the energy savings from reduced pumping to be identified.

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The analysis methods would be simple spreadsheets of water operations related to power generation, pumped back generation, and pumping energy uses. The additional energy consumption for each conveyance alternative must be clearly linked to the north Delta intakes.

Environmental Consequences

The environmental consequences section for energy must be completed by evaluating monthly patterns of (1) reduced hydropower generation (with greenhouse gas [GHG] impact) and (2) additional pumping energy uses (with GHG impact) caused by each alternative. This discussion should identify the likely source for the additional power. If hydropower or wind sources are not likely, the magnitude of the energy necessary for the project must be tracked to likely GHG sources (from coal- or gas-fired sources). The analysis likely will conclude that reduced groundwater pumping energy will offset some of the additional energy uses for increased water deliveries in some years.

Chapter 22, "Air Quality and Greenhouse Gas Emissions"

Evaluation

Environmental Setting/Affected Environment

The air quality setting section includes information for all applicable air basins, but in some cases, the information is out-of-date and incomplete. For example, the air quality monitoring data includes neither statistics through 2010 nor data for all monitoring stations in the project area. Likewise, Tables 4.18-3, 4.18-7, and 4.18-11 do not indicate the severity of nonattainment/maintenance areas; this information is necessary to determine the appropriate *de minimi*s thresholds for the NEPA analysis. The discussions of anticipated future pollutant trends in each air basin also are lacking supporting data.

This section lacks a clear definition of global warming and descriptions of key greenhouse gases (GHGs). The national and statewide emissions inventories are also out-of-date and presented in a tabular format that is inconsistent with the supporting text.

The air quality regulatory setting includes a comprehensive overview of applicable regulations but should be reviewed for consistency and accuracy. A clearer explanation of how *de minimis* thresholds are considered in the environmental analysis should be provided. Text related to the California ambient air quality standards also focuses on State Implementation Plans and at times is disorganized and rambles. References to the Bay Area Air Quality Management District (BAAQMD) and Sacramento Metropolitan Air Quality Management District (SMAQMD) CEQA handbooks are out-of-date.

Analysis Methodology

The analysis methodology currently lacks sufficient detail to support an adequate evaluation of criteria pollutants and GHG emissions. The section should clearly define the individual construction and operational elements of the project and describe the methodology and assumptions used to estimate emissions for each element. The methodology currently presents generalized approaches for the emissions analysis, rather than specific assumptions and methods. While there are project- and programmatic-levels of analyses, the methodology should specify which elements have enough

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data to be evaluated at the project level, and which elements must be evaluated programmatically because of lack of data.

In addition to providing limited technical details, the criteria pollutant analysis inappropriately quantifies electricity emissions and does not include rationale for performing qualitative analyses. Calculation of criteria pollutant emissions associated with electricity emissions is not required as electricity generators are subject to federal permitting requirements. The text currently states that dispersion modeling was not conducted for the project but does not explain why. Likewise, a description of the qualitative odor analysis is not provided. Finally, the criteria pollutant analysis considers the regionally significant component of general conformity, which was removed during the most recent update to the general conformity regulation.

The GHG analysis methodology does not provide sufficient detail to support understanding of the analyses that were conducted. For example, Section 4.18, Air Quality, indicates that gallons of fuel consumed during construction were used to estimate GHG emissions. A reference is provided to Section 4.17, Energy Resources, for more detail, but Section 4.17 does not provide any information on how gallons of fuel for the construction period were estimated. Emission factors for the construction analysis, including sequestration rates, likewise are missing. Specific assumptions used to quantify operational emissions are absent (e.g., number of employee commute trips, kilowatt-hours of electricity consumed).

The methodology used to quantify GHG emissions from construction equipment does not appear to be consistent with air district CEQA guidelines. The current analysis uses the California Air Resources Board's (ARB's) Regulation for the Mandatory Reporting (MR) of GHG Emissions to estimate carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) emissions. The MR Regulation is required for large stationary sources and therefore includes fuel consumption emission factors for stationary equipment, such as generators (as opposed to construction equipment). The BAAQMD, SMAQMD, Yolo-Solano Air Quality management District (YSAQMD), and San Joaquin Valley Air Quality management District (SJVAPCD) recommend using the OFFROAD2007, URBEMIS2007, or the General Reporting protocol to quantify exhaust emissions. A rationale for using the MR Regulation, rather than district-recommended analysis producers, should be provided.

Environmental Consequences

The organization and scope of the environmental consequences section prevent an analysis of project-generated emissions to appropriate CEQA and NEPA thresholds. Both the criteria pollutant and GHG analyses are confusing, as it is unclear what specific activities are being evaluated in each jurisdiction. The BAAQMD, SMAQMD, YSAQMD, and SJVPACD all have specific CEQA thresholds and assessment requirements.[5] The current criteria pollutant analysis appears to use only the SMAQMD thresholds to determine significance under CEQA; the GHG analysis does not cite any thresholds. Dividing the impacts section by separate project elements (e.g., Restoration Activities, Long-Term) is also confusing and may be misleading in terms of the magnitude of emissions occurring at any one time.

In additional to the inappropriate use of CEQA thresholds, two apparent methodological flaws may cause the analysis to be deficient for a project-level EIR/EIS. Page 22-1 states that "estimates for

[5] Note that only the BAAQMD and SJVAPCD have GHG thresholds, but all air districts have criteria pollutant thresholds.

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each period include [GHG] emissions from prior years beginning at project initiation." This approach is inconsistent with local air district guidance and will prohibit a comparison of project-generated GHG emissions to annual district thresholds. The analysis should provide annual GHG emissions totals for each of the analysis years (i.e., net emissions generated *in* 2020, not *by* 2020). The criteria pollutant analysis also appears to be lacking a general conformity analysis, which is required pursuant to the Federal General Conformity regulation (40 CFR Parts 5, 51, and 93).

The setting and methodology sections are at times inconsistent with the impact analysis. For example, asbestos is not discussed in the setting or methodology sections but is evaluated in criteria pollutant analysis. Likewise, the air quality setting and methodology focus on health risks of diesel particulate matter and particulate matter 10 microns in diameter or less (PM10), while the impact analysis includes a discussion of both PM10 and particulate matter 2.5 microns in diameter or less (PM2.5). The GHG impact analysis does not appear to contain a qualitative, program-level analysis of conservation activities, as indicated in Section 5.5.3. The operational GHG analysis also seems to indicate that only electricity was considered; however, Section 5.5.3 states that the operational analysis should include changes in electricity, natural gas, and vehicle trips.

Finally, cumulative impacts for the criteria pollutant analysis (GHG impacts assumed to be cumulative) and environmental commitments for the criteria pollutant and GHG analyses appear to be missing.

- **Percent Complete:** The Air Quality chapter is 45% complete.

Recommendations

Environmental Setting/Affected Environment

The environmental setting should be updated to include the most recent air quality monitoring data and regulatory information, and a clearer definition of global warming and description of key GHGs (e.g., carbon dioxide). Nonattainment and maintenance tables should be revised to indicate the severity of the designation. All tables and supporting text should be reviewed for internal consistency and revised as necessary. GHG regulatory information duplicated in the Climate Change chapter should be reviewed to determine the most appropriate chapter for presentation (i.e., Climate Change or Air Quality and Greenhouse Gas Emissions).

Analysis Methodology

The analysis methodology should be revised to include sufficient technical detail to support an adequate CEQA/NEPA determination. The methodology should be as specific as possible and should detail the modeling assumptions, inputs, and sources of data. A clear explanation of how emissions were estimated and what calculations were performed should be provided. A discussion of how and why emissions are categorized by geographic scope and activity should be presented. Thresholds of significance and air district analysis requirements should be presented early in the text so the reader has a clear understanding of why specific assessments are performed.

The current methodology should be evaluated for technical accuracy and consistency with State and Federal analysis requirements. For example, use of the MR Regulation to quantify GHG construction exhaust emissions should be reviewed. If warranted, exhaust emissions should be recalculated using district-recommended models (e.g., URBEMIS, OFFROAD). Criteria pollutant emissions from electricity consumption should be removed.

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Environmental Consequences

The environmental consequences section should be revised to provide a better discussion of impacts by geographic area, both for CEQA (individual air district thresholds) and NEPA (General Conformity), as well as by time period and alternative. Appropriate air district thresholds should be used to determine the significance level of project-generated emissions in each air district. The NEPA analysis should include a general conformity analysis if total emissions are determined to exceed the *de minimis* thresholds. The impact analysis should be made consistent with the setting and methodology sections. Likewise, any extraneous methodology text should be removed from the environmental consequences section and placed in the analysis methodology chapter. Cumulative criteria pollutant impacts should be evaluated and appropriate mitigation, including SMAQMD, YSAQMD, BAAQMD, and SJVAPCD dust control measures, should be required as necessary.

Chapter 23, "Noise"

Evaluation

Environmental Setting/Affected Environment

The discussion of existing conditions appears to be generally adequate. Applicable noise standards for the city of Isleton are not provided.

Analysis Methodology

The construction noise analysis makes a single sound level and construction configuration assumption that is then applied to all construction activities. Although this is a generally conservative approach, it does not capture high noise levels associated with pile driving or other high–noise level sources. The environmental consequences section for noise indicates that pile driving will occur. As such, the single assumption for construction noise underestimates noise from pile driving.

No information on noise source assumptions is provided for operational noise sources. Although EPA 1971 is cited as an information source, there is no information on the types of noise sources associated with project operations or what operational noise levels might be.

Environmental Consequences

Thresholds of significance are not clearly defined in advance of the impact discussion. Pile driving is described as a potential construction activity but high noise from pile driving is not addressed in the construction noise assumption (83 dBA L_{eq} at 50 feet) described in the analysis methodology section for noise.

The noise contours appear to be incorrect or the scales on the figures are incorrect. Based on the construction assumption in analysis methodology for noise, and the calculations in Table 4.19-14, the 50 dBA contour should be at about 3,900 feet and the 60 dBA contour should be at about 1,200 feet. Figure 23-8 identifies the noise contours as 40 and 50 dBA and the other figures identify 50 and 60 dBA. There is no explanation as for using the different contours levels.

Adverse impacts from project traffic are identified, but these impact conclusions are not based on any quantitative information. There is no information on how operation and maintenance noise

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levels were developed. They appear to be the same as the construction noise levels, which is not correct. There appear to be similar scale and consistency issues with figures.

Environmental Commitments

Design Measure 23-1 mandates the use of a noise barrier under certain conditions. This may not be the best approach in all cases. The contractor should be allowed flexibility in selecting the most effective and efficient measures for reducing noise. Mitigation Measures 23-1 and 23-2 are very broad and should be refined. Measure 23-2 requires repairing to original condition without defining how original condition is determined. Any repairs should be tied damage that is known to be caused by the project.

- **Percent Complete:** The Noise chapter is 50% complete.

Recommendations

Environmental Setting/Affected Environment

Noise standards should be updated, as necessary, and standards for the city of Isleton should be added.

Analysis Methodology

The assumptions for evaluating construction noise should be updated to include noise from pile driving. To the extent that additional information on construction equipment to be used can be provided, additional construction scenarios for construction noise should be developed. To the extent that construction-related trucks trips will be quantified, a method for evaluating noise impacts from trucks trips should be identified.

Based on available information, noise sources associated with project operation should be identified along with source noise levels. A method for evaluating operational noise should be identified.

Environmental Consequences

Thresholds of significance should be clearly defined for both construction and operational activities. Pile driving and other construction sources (if data are available) should be identified and evaluated. Tables rather than graphic noise contour maps should be used to summarize construction noise impacts.

If information on construction truck trips can be provided, a quantitative evaluation of truck trip noise should be made. Based on available information, noise from project operation should be evaluated and summarized in tables.

Environmental Commitments

Design Measure 23-1 should be updated to allow the contractor more flexibility in selecting the most effective and efficient measures for reducing noise. Mitigation Measures 23-1 and 23-1 should provide more detail.

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Chapter 24, "Hazards and Hazardous Materials"

Evaluation

Environmental Setting/Affected Environment

In general, the information/data provided in the Environmental Setting/Affected Environment section does not parallel the effects analysis. The analysis focuses on contaminated sediment and contaminated water, whereas the setting is organized by land uses which have resulted in hazards and hazardous materials (agriculture, oil and gas production and processing, hazardous materials transportation, urban land uses, and mining) in the Delta. Much of the information provided in the Environmental Setting/Affected Environment section is superfluous. For example, there is a discussion on mining as a land use, however, there is no relationship between mining and the project—the project will not include mining. Similarly, agriculture and its influence on soil, sediment, and groundwater contamination are discussed extensively in relatively great detail. However, much of the information presented in that discussion is not referred to in the effects analysis, and is generally ancillary to the analysis. Further, it is not clear how information on pesticide, herbicide, and fertilizer batch plants and supply companies are relevant to the analysis. The project and alternatives do not include development of these facilities, and the analysis does not identify where these facilities are in the Delta and thus whether or not conveyance facilities would affect with them by potentially causing some type of hazard.

There needs to be a better linkage between regulations presented in the Regulatory Setting section, the effects analysis, and the analysis methodology. The effects analysis refers to "regulations" generally, but does not refer to any one specifically.

Analysis Methodology

This section would benefit from clarification and support for why certain methods and/or standards would be employed in assessing the project's and alternatives' effects on the environment as they relate to hazards and hazardous materials. Further, there is no discussion regarding how the locations of areas known to have concentrated use of pesticides were identified (e.g., database, information from specific industries). The Analysis Methodology section also lacks a discussion of effects thresholds. Although the Environmental Consequences section is organized by "Evaluation Topics", this term is not defined or discussed in the methodology; this a disconnect between the methodology and effects analysis, and makes the analysis difficult follow. Similarly, there is a disconnect between the project description and the analysis methodology; the project description states that there would be "proposed activities to reduce contaminants", but these activities are not discussed in the methodology section as part of the project, and thus it appears that they are not incorporated into the effects analysis.

Environmental Consequences

The effects analysis in general and the "Evaluation Topics" in particular appear to be overly focused on historical contamination and rerelease of contaminants rather than potential contamination resulting from implementation of the alternatives and this results in redundancy in this section. For example, there are three separate "Evaluation Topics" pertaining to rerelease of historical contaminants. These could be consolidated into one. There are several instances in the analysis section where subsections could be refined by removing text that seems more related to analysis

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methodology than effects analysis. For example, some of the discussion about the programmatic analysis of restoration activities should be included in the methodology. If programmatic and project level analysis is part of each chapter, boiler plate text should be included in the methodology section of each chapter to indicate the level of analysis associated with the different project components.

The effects analysis for the No Action Alternative is not well supported. Although it may be true that hazardous impacts are unknown, it might be worthwhile to identify that the other projects would undergo CEQA and they would be subject to all regulations the alternatives would be subject to. Similarly, there are other instances in the effects analysis where information is lacking, but supported assumptions could be provided to add strength to, or at least refine, the overall analysis.

- **Percent Complete:** The Hazards chapter is 50% complete.

Recommendations

Environmental Setting/Affected Environment

The Hazards and Hazardous Materials Environmental Setting/Affected Environment section should be revised as follows:

- Limit the discussion of historical land uses that have resulted in environmental contamination; and
- Ensure that the setting and the effects analysis are parallel. The setting should fully support the effects analysis and not contain superfluous information that will not be used in the analysis.

Analysis Methodology

It is recommended that the Hazards and Hazardous Materials Analysis Methodology section be revised as follows:

- Include any design features or assumptions that are incorporated into the effects analysis for construction and operation. This would include citing the regulations and requirements the project would follow and referring the reader back to the regulation section for additional information. It may be worthwhile to include the design measures in the analysis as these are part of the project design and should be accounted for in the analysis;
- Define and discuss "Evaluation Topics" in the methodology section; and
- Explain why specific methods and/or standards were used.

Environmental Consequences

It is recommended that the Hazards and Hazardous Materials Environmental Consequences section be revised as follows:

- Consolidate the number of "Environmental Topics" discussions focused on the rerelease of historical contaminants, and place additional focus instead potential effects that may result from project and alternatives implementation. This would include a discussion of the quality of muck generated by the tunnel boring machine; spills potentially generated during construction activities; interference with pipelines; and hazardous materials route disruption.
- Refine effects analysis in instances where specific information is lacking (e.g., volume of fuel/lubricant that could potentially leak onsite) by providing supported assumptions.

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- Reorganize the effects analysis where appropriate (e.g., as described above, move text pertaining to methods to the Analysis Methodology section).
- Where "applicable regulations" are cited, the applicable regulations should be specified and a cross reference to the Regulatory Setting section should be included.

Chapter 25, "Public Health"

Evaluation

Environmental Setting/Affected Environment

The environmental setting/affected environment section is very thorough and addresses the appropriate topics at the appropriate level of detail. The setting section cross-references other resource sections that address related topics in order to convey to the reader that it is not the intent of this public health chapter to duplicate information in other resource chapters (e.g., Surface Water, Air Quality, and Hazards and Hazardous Materials). However, there is no cross-reference anywhere in this chapter with the Environmental Justice chapter. See recommendations for suggestions on the context in which to cross-reference the Environmental Justice chapter in the public health setting section.

In the bioaccumulation section, it is indicated that analyses of fish fillets are commonly used for evaluation of risks to human health , and that the analysis should be performed on the form that fish is consumed, which may be culturally and species-dependent (e.g., for some species or ethnic groups, whole-body analyses may be appropriate). However, there is no further discussion indicating why whole-body analysis is not conducted or not presented here.

The regulatory setting is generally concise. The regulatory setting presents the California Public Utilities Commission's Electric and Magnetic Fields (EMF) Policy, which requires utilities in the state to update their EMF design guidelines. The EMF design guidelines for utilities in the Delta region may be useful.

Analysis Methodology

The existing methodology section for the public health chapter is missing the actual methods for how analyses will be conducted for effects of the project and alternatives associated with water quality and toxins or pathogens; bioaccumulation of toxins in fish and aquatic organisms that are consumed by humans; disease-carrying vectors (e.g., mosquitoes); and electromagnetic field exposure from transmission lines. For example, the methodology section currently provides that "[t]he Public Health assessment evaluated how the water quality results may affect public health in regards to potable water and accumulation of toxins in fish populations." However, this section does not discuss the methodology or the standards or criteria to evaluate effects. The setting section for public health provides great contextual information, but the methodology section does not bridge the information in the setting section with the impact analysis.

Environmental Consequences

The environmental consequences section for public health is largely incomplete. For all evaluation topics in this chapter, the current text provided is a brief annotation of the analysis to come.

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The format seems to be a deviation from the other resource sections (i.e., separate analyses for each of the alternatives identified in Chapter 3, "Description of Alternatives"). The no-action alternative is briefly addressed first, followed by a brief discussion of Build Alternative X. There is an author's note in Section 4.21.4.3, Build Alternative Y, essentially explaining why the format (specifically topics and discussions presented) of the public health environmental consequences section is different from the Description of Alternatives chapter, but the justification for the different format could apply to many resources besides public health, as the different format is attributable to the alternatives having similar major categories of physical changes. It is likely that this format is in place because it has not been completed, and serves as an annotated outline.

Environmental Commitments

There are currently no public health environmental commitments, and there is a placeholder marking the mitigation measures section.

- **Percent Complete:** The Public Health chapter is 45% complete.

Recommendations

Environmental Setting/Affected Environment

Certain topics presented in the public health environmental setting/affected environment section need to be cross-referenced in the Environmental Justice chapter. For example, bioaccumulation in fish may disproportionately affect minority and low-income populations because certain minorities and low-income demographics rely on fish caught from the Delta as a source of food (i.e., subsistence fishing). As a starting point, the following sources of information may provide additional information:

- *Bioaccumulation of Pollutants in California Waters: A Review of Historic Data and Assessment of Impacts on Fishing and Aquatic Life* (State Water Board).
- *Long-Term Monitoring of Pollutants in Fish and Mussels Documents Major Improvements and Persistent Problems FACT SHEET* (State Water Board's Surface Water Ambient Monitoring Program).

The bioaccumulation section discussion should be enhanced to explain why whole-body fish analysis (vs. fish fillet analysis) is not conducted, despite that for some fish species and for some ethnic groups, fish is consumed whole-body. If such information is available, it should be presented here. This information may be useful in the evaluation topic associated with public health effects from increased bioaccumulation.

It is also recommended that clarification be provided on whether the utilities in the Delta updated their EMF Design Guidelines. If they did, any other pertinent information related to EMF and Delta utilities should be provided

Analysis Methodology

The public health analysis methodology section should be updated to clearly describe the impact analysis methodology and the linkages between the information contained in the setting and the impact analysis section. Further, the methodology needs to clearly describe how certain effects analyzed in other resource sections of the EIR/EIS relate to human health. In the methodology

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section, it is stated that information is not duplicated but will be referenced to discuss those impacts contained in other resource sections in the context of human health; however, it is not made clear what that analysis is or how the impact analysis will be conducted.

Environmental Consequences

The existing environmental consequences section is essentially an annotated outline. Each evaluation topic needs to address potential effects of that topic (e.g., increase in vector breeding habitat, bioaccumulation of toxins, etc.) on public health as a result of the alternatives.

The deviation in the format of the analysis, as described above, should be reexamined. For example, it appears to focus on no action and certain build alternatives in this current version. During the completion of the impact analysis, particular attention should be paid to the potential public health impacts of Alternative 4 with an enhanced aquatic conservation, habitat restoration, and other conservation measures.

Environmental Commitments

Environmental commitments and/or mitigation measures should be developed, if necessary, upon completion of the impact analysis.

Chapter 26, "Mineral Resources"

Evaluation

Environmental Setting/Affected Environment

The setting information related to mineral resources contains current and very thorough information on oil and gas extraction, but relies, in some cases, on 1980s information regarding the demand for and availability of aggregate resources. The information on MRZs is restricted to lands within the CPA; however, it is likely that aggregate resources outside the CPA would be called upon to supply construction and maintenance materials. The mapped information is not consistent with the mapped information in the environmental consequences section, and MRZ-2 zones are not included on the maps.

The regulatory setting section does not include any mineral-related policies from the Delta Protection Commission or the Suisun Marsh Protection Plan.

Analysis Methodology

The methodology section of the Mineral Resources chapter is clear and well-written. However, it includes an element related to the use of borrow areas. It is not clear why borrow areas are being addressed in the Mineral Resources chapter; no specific mineral resource is identified.

Environmental Consequences

This section is organized to separate the effects on resources by the various elements of the project (conservation measures, construction, and operation). This organization is similar to the other resource chapters. The organization does not lend itself to a clear understanding of the project's overall effects on each mineral resource.

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The consequences section contains a thorough and very well–presented discussion of effects on oil and gas extraction within the CPA. The analysis of effects on aggregate resources is limited by the fact that estimates of aggregate demand for construction and maintenance have not been developed. There is no information available on the demand for quarried rock for levee or reservoir construction, or long-term maintenance of levees. Also, the potential for effects to occur outside the CPA is not addressed. There is no mention of whether changes in water operations outside the CPA would require use of aggregate (new structures, added rock for levee protection). Comparison of aggregate resource effects of the various alternatives is not provided because the aggregate demand of the various alternatives has not been calculated.

The environmental consequences section does not contain a clear cumulative effects analysis. It does contain discussions related to the use of borrow and fill material, but this does not seem appropriate for a mineral resources section.

Environmental Commitments

The commitments section is very brief. It contains no measures that would reduce or replace the demand for these resources; it focuses on measures to avoid construction activities that either cut off access to or overlie mineral resources.

- **Percent Complete:** The Minerals chapter is 60% complete.

Recommendations

Environmental Setting/Affected Environment

The information contained in the setting regarding aggregate resources should be reviewed and updated as much as possible to reflect a more current view of the status of aggregate resources, both within the CPA and in adjacent resource areas. This should be obtained through contacts with the California Department of Conservation, California Geological Survey and county planning agencies. The mapped information should be reconciled with that contained in the environmental consequences section, and MRZ-2 zones should be mapped to the extent mapping is available.

The setting should be expanded to include information on quarried rock or other rock sources used for levee construction or stabilization.

Analysis Methodology

The methodology section should be revised to remove the approach for considering borrow and fill impacts.

Environmental Consequences

The environmental consequences section should be reorganized to bring the analysis of specific resources together in one place rather than spreading it over the various elements of the project. The main sections should be oil and gas extraction, aggregate resources, and quarried rock.

The impact analysis should be expanded to include estimates of aggregate and rock tonnage needed to construct project facilities and to provide erosion protection and periodic maintenance. This information should be provided in tabular form to facilitate comparison of alternatives. Where necessary, the effects should be expanded to include construction or mining activities that may

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occur outside of the CPA. Cumulative effects should be added to the current direct and indirect effects. Impacts that relate to borrow and fill activities should be removed and relocated to the soils section.

A cumulative analysis should be completed.

Environmental Commitments

Once the environmental consequences are completely known, the environmental commitments section should be expanded to include mitigation, if feasible, that reduces or replaces demand for resources. The existing measures on avoidance should be expanded to provide clearer information and be tied more closely to specific effects.

Chapter 27, "Paleontological Resources"

Evaluation

Environmental Setting/Affected Environment

The setting section does not include graphics that depict the geologic periods and geologic units referenced throughout the section. The use of undefined terminology and the absence of graphics make it difficult for the reader to understand the information. There is no table that correlates sensitivities with the various units.

Analysis Methodology

The methodology is clearly written. It assumes there would be no paleontological resource effects from implementing the actions contained in the no-action alternative. This assumption needs to be verified.

Environmental Consequences

The impact analysis includes several assumptions that need to be verified. Rationale for these conclusions is lacking. The section assumes absence of effects from no action, from operational activities upstream and downstream of the CPA, and from restoration activities. The section is organized to focus on the effects of constructing similar elements of the various alternatives rather than on the effects of each alternative independently. Most of the impact discussions are a description of construction locations and techniques rather than specific effects.

There is no discussion of cumulative effects.

Environmental Commitments

The mitigation discussion does not relate individual mitigation measures to specific project alternatives or specific impacts.

- **Percent Complete:** The Paleontology chapter is 50% complete.

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Recommendations

Environmental Setting/Affected Environment

Graphics and maps should be developed to properly display the geologic time periods and the geologic units that are referenced throughout the section. Definitions of key terms should be added either to the text of this section or to a glossary of terms. A table should be added that relates paleontological sensitivity to the geologic units within the study area.

Analysis Methodology

The methodology should be updated if needed to reflect the likelihood of effects from the no project alternative.

Environmental Consequences

The environmental consequences section should be reorganized to focus the analysis on the individual project alternatives. A table should be developed so that the reader can also relate the effects to the individual components of the various project elements common to several alternatives. This change should make the organization consistent with other resource chapters. The individual impact discussions should be modified to remove lengthy information about construction techniques and conditions and should focus on the presence or absence of effects at various segments of project features. This may include extensive use of tables to relate segments of construction features to the presence of sensitive paleontological resources.

The potential for adverse effects from the no-project alternative, the restoration activities, and the operational activities outside of the CPA should be reviewed and, if appropriate, impact discussions should be created. This re-analysis should be based on more thorough descriptions of construction activities associated with these project elements.

A cumulative analysis should be completed.

Environmental Commitments

The environmental commitments section should be reviewed and expanded as necessary to account for the revised impact analysis. Mitigation measures should be tied to specific potential impacts and to appropriate alternatives.

Chapter 28, "Environmental Justice"

Evaluation

Environmental Setting/Affected Environment

The environmental justice setting focuses on the "Delta Region" (the statutory Delta and the BDCP Restoration Opportunity Areas), whereas it is indicated in Chapter 4 (Table 4.1) that in addition to the Delta Region, the "Upstream of the Delta Region" and the "SWP and CVP Export Service Area" will be included in the environmental justice study area. The setting lacks a description of environmental justice (including history), which is necessary to provide context for all of the demographic and other applicable data that are provided in this section. Similarly, the setting does

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not adequately provide terminology definitions (e.g., *environmental justice population* is not defined) and parameters, including methodology for data collection).

Analysis Methodology

The analysis methodology does not discuss the types of impacts that may disproportionately affect minorities or low-income populations.

Environmental Consequences

The environmental consequences section is incomplete. It was noted that the impact analysis would be completed pending completion of other resource chapters. For example, it is indicated that the no-action alternative analysis is deferred pending completion of the socioeconomic analysis. There is no discussion of cumulative effects.

Environmental Commitments

The environmental commitments section is brief and merely indicates that design measures and mitigation measures relevant to the alternatives' potential effects related to environmental justice are identified in other resource chapters, including Water Quality, Land Use, Visual Resources, Cultural Resources, Transportation, Noise, and Public Health. It also indicates that additional mitigation measures may be identified after all other "related disciplines" have finalized impact analyses and mitigation measures.

- **Percent Complete:** The Environmental Justice chapter is 60% complete.

Recommendations

Environmental Setting/Affected Environment

The environmental justice environmental setting/affected environment section should be revised to include the entire study area, as indicated in Chapter 4, Table 4-1, and to focus on relevant census blocks where direct impacts are anticipated. In addition, this section should be revised to expand the discussion of the history and background of environmental justice. Definitions and explanations of key should be added to the chapter.

It is recommended that the appendix of scoping meeting comments/summary be referenced so that the reader can review actual comments regarding environmental justice issues pertaining to this project.

Analysis Methodology

It is recommended that this section be revised to provide a description of the approach used in identifying the study area. Additionally, the types of impacts that may disproportionately affect minorities or low-income populations should be discussed.

Environmental Consequences

It is recommended that the following revisions be made to the environmental justice environmental consequences section.

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- Complete the impact analysis.
- Add cross references to pertinent impact discussions of other resource chapter so that readers can easily find the full discussion, or add it to the chapter. For example, per comments by DWR, there is no discussion of what type of employment the various populations described in the text are engaged in and this information should be cross-referenced if it appears in other chapters, or it should be added to the environmental justice chapter.
- Add a discussion of cumulative effects.

Environmental Commitments

Once the impact analysis has been completed, the environmental commitments section should expanded, as necessary, to include appropriate mitigation for all adverse effects.

Chapter 29, "Climate Change"

Evaluation

Environmental Setting/Affected Environment

The regulatory and environmental settings include a substantial amount of detail but need to be condensed, reorganized, and more focused. The environmental setting is broken into two sub-sections: (1) factors contributing to climate change and (2) existing climatic conditions and observed trends. These sections include a robust summary of technical factors that influence and contribute to climate change but lack unifying narrative and connections to the project. A high level of technical detail and jargon also is presented, which is more appropriate for an appendix or technical study. There are several comments from resource agencies that describe the need to condense the environmental setting and present the information more clearly and at a level that is understandable to the general public.

The regulatory section presents a long list of Federal, State, and local regulations, several of which have limited applicability to the project. The dates and information cited in the section are also out-of-date, duplicated in other chapters (e.g., Chapter 22), and in some cases, inaccurate. The local regulatory section presents general plan policies related to climate change for Yolo and Solano Counties but is missing information for other project-area counties, including Alameda, Contra Costa, Sacramento, and San Joaquin.

Analysis Methodology

The analysis methodology generally focuses on describing the Intergovernmental Panel on Climate Change (IPCC) global circulation model (GCM) and does not include a clear explanation of how the project analysis was performed. Without additional detail on assumptions and specific procedures, it is difficult for the reader to discern how the IPCC climate projections were used to evaluate climate change impacts in the project area.

The methodology section also does not clearly define the scope of the analysis. Summaries of various climate change effects, such as sea level rise and increased risk of flooding, are presented but not tied to the project. A few key impact areas appear to be missing. For example, there is no discussion of climate change impacts on ecosystems, water quality, and wildlife. Considering the purpose of the

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project, these impact areas should be integral to the analysis; failure to analyze them could be viewed by some as a deficiency for a project-level EIR/EIS. The methodology section also needs to include a more comprehensive description of analysis limitations.

Environmental Consequences

The environmental consequences section discusses anticipated changes in climatic conditions, but fails to evaluate how those changes will affect proposed infrastructure or the project's ability to meet its purpose and need. While there is limited Federal and State guidance regarding the analysis of climate change impacts, the Council on Environmental Quality (CEQ) recommends that lead agencies consider whether environmental effects or design parameters may be affected by changing climatic conditions. The section is lacking an evaluation of how climate change may affect ecosystems and other study area resources. A significance determination and statement as to whether adaptation or mitigation is required are not presented.

- **Percent Complete:** The Climate Change chapter is 65% complete.

Recommendations

Environmental Setting/Affected Environment

The environmental setting should be reorganized, condensed, and updated to provide a clearer understanding of how changing climatic conditions relate to global warming, GHGs, and future project operations. Technical details and jargon should be placed in an appendix or rewritten at level that is more appropriate for a CEQA/NEPA document. Agency comments should be addressed to ensure the setting section is focused and includes only information necessary to adequately understand and evaluate project-level impacts. Information that does not clearly relate to the impact analysis or that is duplicated in other chapters should be removed. All setting material should be reviewed to ensure that it is current.

Analysis Methodology

The methodology section should be revised to clearly describe how project-level effects were evaluated. Summary information related to climatic modeling should be condensed, moved to an appendix, or eliminated. Consistent with agency comments, a literature review of state-specific models and climate change research should be performed and integrated into the analysis as appropriate. The scope of the climate change analysis should be clearly defined. Topics most relevant to the project and the BCDC planning area, including ecosystems, terrestrial and aquatic biology, water quality, habitat, and sea level rise, should receive the greatest attention. As necessary, staff should coordinate with resource agencies to ensure the scope of the climate change analysis is adequate and considers all available scientific literature. Analysis limitations should be documented at the conclusion of the section.

Environmental Consequences

Methodology and summary detail should be removed so that the environmental consequences chapter focuses on clearly evaluating potential impacts of climate change on the project. Climate change effects on resource areas most relevant to the project and the BCDC planning area should be assessed within the confines of available literature and data. The chapter should follow the current organization to allow each resource area to be subdivided into its own section and analyzed

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separately. A conclusion as to the significance of climate change effects on the project should be documented, as well as the need for potential adaptation and/or mitigation.

A few key textual changes should be made to facilitate reader comprehension and understanding. First, the concept that climate change effects apply equally to all project alternatives should be made clearer by defining the analysis header as Project Alternatives rather than the No Project Alternative. Additionally, the chapter title should be modified to highlight that projected climate change impacts "on the alternatives" are evaluated, rather than climate change impacts on "California water resources."

Chapter 30, "Growth Inducement"

Evaluation

The growth inducement chapter was prepared by ESA consultants. The growth inducement chapter is clearly presented for the sections which currently exist. It has a good introduction for the reader to understand the relationship of land use planning and water supply. The chapter sets out a good approach to the growth analysis by first presenting the urban land use and water use by hydrologic region; however, the chapter readability is affected by the series of charts and figures for the numerous regions described. The analysis methodology section presents a good overview of the approach to determining the potential growth impacts (specifically related to the "indirect" aspects related to growth from the BDCP. This approach is consistent with the requirements of CEQA and NEPA. ICF was able to review the annotated outline for the growth analysis results but this did not contain any substantive analysis.

Recommendations

ICF recommends editing the "hydrologic region" section of this chapter to streamline the discussion of the subregions. This information may be best presented within the appendix that discusses the modeling for the water delivery operations. ICF recommends continuing to subcontract with ESA to complete the chapter.

It is our understanding that DWR counsel is currently developing internal policy related to the growth analysis required by CEQA. ICF will convene a meeting with DWR, DWR counsel, and ESA to determine if the approach currently proposed in the analysis methodology is consistent with this policy. If the analysis methodology requires revision, ICF will convene a meeting with the Lead Agencies and ESA to review the proposed changes and confirm that any revisions meet the requirements of CEQA and NEPA.

- **Percent Complete:** The Growth chapter is 45% complete.

Chapter 31, "CEQA Effects of the Proposed Project and Alternatives"

Evaluation

No file was transmitted for this section within the first rounds of file transfers for ICF review. ICF received a file containing an annotated outline of Chapter 31 on July 27, 2011. No separate files contained the resource analysis related to the CEQA requirements to present thresholds of

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significance, significance determinations, and adequacy of mitigation to reduce the impacts to less-than-significant levels. This chapter is 5% complete.

Recommendations

Although not the preferred method of preparing a joint EIR/EIS for CEQA compliance, ICF understands that the decision to remove any CEQA-specific language for the resource chapter impact analysis from the body of the document and present it in this chapter will not be revisited. As such, ICF recommends revisiting each resource chapter with direction to develop the specific CEQA analysis in order to make sure the information is consistent with what is in the body of the impact analysis and appropriate references can be created from the CEQA chapter back to the relevant sections of the resource chapters. A tabular format may continue to be appropriate for this chapter's resource by resource presentation of the significance thresholds, but it may need to be revisited as the chapter is populated with the detail for the CEQA information.

Completion of CEQA/NEPA Process

ICF's work plan includes assisting the Lead Agencies on all of the work efforts required to complete the CEQA/NEPA process. ICF will assist the Lead Agencies in preparing and issuing all public notices required for the draft and final EIR/EIS. Once revisions to the administrative draft EIR/EIS are completed and the Public Draft EIR/EIS is released for public review, ICF will prepare deliverables and assist in the CEQA/NEPA process related to:

- Attending any public meetings on the Draft EIR/EIS (limited to ICF project manager, Ken Bogdan, and two additional ICF staff as appropriate).
- Organizing and vetting all comments received on the public and agency review of the Draft EIR/EIS through ICF's content analysis team.
- Working with the Lead Agencies to assign authors, including ICF and ICF subcontractors (it is expected that some comments related to agency policies or engineering will require response directly from the Lead Agencies), to respond to all comments.
- Preparing an administrative draft, check copy, and public review Final EIR/EIS.
- Attending any public meetings on the Final EIR/EIS (limited to ICF project manager, Ken Bogdan, and two additional ICF staff as appropriate).

Although ICF's June 3, 2011, scope of work[6] did not include efforts past the release of the Final EIR/EIS, ICF will assist the Lead Agencies in completing the CEQA and NEPA processes as follows.

- Creating a record that all comments received through any public meetings on the Final EIR/EIS, as well as part of the Federal agency notice period for the final EIR/EIS, were considered and, if appropriate, document that no reasons for recirculation or preparing a supplement were raised.
- Preparing a draft and final MMRP.

[6] The original cost estimate included in the June 3, 2011, scope of work (and included in Section 6 of this work plan) did not include these efforts. A separate cost submittal will be prepared by ICF and approved by DWR prior to work effort.

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- Preparing a draft and final Findings of Fact, as required by CEQA, if DWR decides to approve the project.
- Preparing a draft and final Statement of Overriding Considerations, as required by CEQA, if DWR decides to approve the project with significant and unavoidable impacts.
- Preparing a draft and final ROD, as required by NEPA.

Public Notices for the Draft and Final EIR/EIS

ICF will prepare and assist in circulation of all of the notices required by the Lead Agencies for compliance with CEQA and NEPA, including notices of availability (under CEQA and NEPA), notice of completion (under CEQA), and for EPA filing in the *Federal Register* (utilizing the EPA's 2011 amended procedures). This will include CEQA's notice of determination, which, if DWR determines to approve the project (after certification and adoption of the Findings of Fact, MMRP, and Statement of Overriding Considerations), is filed with the State Clearinghouse in the Governor's Office of Planning and Research.

Response to Comments on the Draft EIR/EIS

This work plan provides an approach for handling processing and responding to comments received on the Draft EIR/EIS. As required by CEQA and NEPA, ICF will assist the Lead Agencies in responding to all of the substantive comments received to ensure public and agency input is considered and incorporated into the environmental analysis of the BDCP EIR/EIS. Resource specialists and managers that have worked on the EIR/EIS analyses and the habitat conservation plan effects analysis will aid the Lead Agencies in responding to all substantive comments, including those involving specialized technical expertise and compliance with CEQA, NEPA, and the ESA. As the BDCP is the project description for the EIR/EIS, ICF will coordinate with the BDCP team and share resources, as appropriate, to make sure all aspects of the comments received are addressed. ICF expects that some comments related to agency policies or engineering will require response directly from the Lead Agencies.

For a project of this scope and magnitude, we are anticipating the potential for a substantial number of comments. ICF proposes to makes use of a formal content analysis process to facilitate responding to comments received during the public review period for the Draft EIR/EIS. ICF will work with the Lead Agencies to create a project-specific coding structure and utilize an existing database system that will be run by our experienced content analysis team. This system will allow ICF to efficiently receive, sort, and analyze the public comment so that specialists responsible for responding to the issues can do so efficiently. Because the coding structure is customized to the particular needs of the project, ICF is able to sort comments in almost any way that the project demands. This might include sorting comments by resource area, geographic area, or document. The content analysis team will ensure that the response-to-comment process is efficient and accurate and creates an appropriate tracking system for the administrative record.

Final EIR/EIS

ICF will revise the Draft EIR/EIS and incorporate, where appropriate, comments received during the public review period. All of the responses to comments developed under Task 8 will be published for review by the Lead Agencies. The Final EIR/EIS will take the format of a re-publication of the draft

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EIR/EIS, incorporating changes from responses to comments and any other updates, and including an additional chapter presenting the comments and the responses to substantive comments.

Consistent with the process for the Draft EIR/EIS, ICF will prepare an administrative draft version of the Final EIR/EIS for Lead Agency review. ICF assumes that these review comments will come as one set that has been compiled and reconciled by the Lead Agencies prior to transmittal. Based on comments received on this administrative draft, ICF will make revisions and prepare a check-copy version of the Final EIR/EIS that will be circulated to the Lead Agencies for confirmation that the review comments have been addressed. Once approval is provided, ICF will prepare the Final EIR/EIS that will be released for public review for a minimum of 30 days (this will incorporate CEQA's requirement to transmit responses to comments of public agencies 10 days prior to certification). Our work plan assumes that ICF will prepare 150 copies of the public Final EIR/EIS and an electronic copy for the Lead Agencies' use.

Mitigation Monitoring and Reporting Program

At the same time as the Final EIR/EIS is being prepared, ICF will prepare an MMRP that will describe the measures (either project commitments or mitigation measures) required to mitigate or avoid significant environmental impacts of the proposed project. The MMRP will provide an overview of measures for which reporting is required and those that will require ongoing monitoring. The MMRP necessarily will be closely coordinated with the monitoring and adaptive management program developed for the BDCP.

ICF, under a separate contract, is also leading the effort to complete the BDCP, including Chapter 3 and the discussion of the Monitoring and Research Program and Adaptive Management Program. Therefore, the MMRP for the EIR/EIS will integrate processes where appropriate with Chapter 3 of the BDCP and delineate measures proposed as part of the BDCP, required by the impact analysis under CEQA and NEPA, or required by other permits or regulatory processes. The MMRP will be presented in a tabular format describing who, when, where, and how required mitigation measures will be implemented, including performance standards for mitigation measures where appropriate. The MMRP will include an implementation plan to direct specific responsibilities for carrying out the measures, as well as what form monitoring will be appropriate for documentation of implementation as well as success in meeting specified performance standards.

ICF will prepare an administrative draft version of the MMRP for Lead Agency review. ICF assumes that these review comments will come as one set that has been compiled and reconciled by the Lead Agencies prior to transmittal. Based on comments received on this administrative draft, ICF will make revisions and prepare a check-copy version of the MMRP that will be circulated to the Lead Agencies for confirmation that the review comments have been addressed. Once approval is provided, ICF will prepare the final MMRP that will be released with the Final EIR/EIS deliverable.

CEQA Findings of Fact

ICF will work with DWR and DWR counsel to prepare a draft version of the Findings of Fact (for purposes of project approval). As part of this effort, and prior to EIR/EIS certification[7], ICF will assist DWR in creating a record that all comments received through any public meetings on the Final

[7] Although not specifically identified as a separate task in the work plan, ICF will assist DWR in developing the appropriate certification document for the EIR/EIS.

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EIR/EIS, as well as part of the Federal agency notice period for the Final EIR/EIS, were considered and, if appropriate, document that no reasons for recirculation or preparing a supplement were raised. The Findings of Fact will list each significant impact identified in the EIR/EIS and will include one or more of the findings identified in the State CEQA Guidelines Section 15091: (1) changes or alterations have been required for the project that avoid or substantially lessen the significant effect, (2) changes or alterations to the project that are within the responsibility of another jurisdiction or public agency and have been or should be adopted by another agency, and (3) specific economic, legal, social, technological and other considerations. These Findings of Fact will reference the appropriate mitigation identified within the particular resource chapters, as well as Chapter 31. ICF will prepare an administrative draft version of the Findings of Fact for DWR's review. ICF assumes that DWR's review comments will come as one set that has been compiled and reconciled by DWR prior to transmittal. Based on comments received on this administrative draft, ICF will make revisions and prepare a check-copy version of the Findings of Fact that will be circulated to DWR for confirmation that the review comments have been addressed. Once approval is provided, ICF will prepare the final Findings of Fact that will accompany DWR's project approval.

CEQA Statement of Overriding Considerations

ICF will work with DWR and DWR counsel to prepare a draft version of the Statement of Overriding Considerations (for purposes of approving the project with significant and unavoidable impacts). Per the requirements of State CEQA Guidelines Section 15093, the Statement of Overriding Considerations will describing why economic, legal, social, technological, or other benefits, including regional or statewide environmental benefits, justify approving a project that would result in unavoidable risks. The Statement of Overriding Considerations will reference the appropriate portions of the administrative record that supports these overriding considerations. ICF will prepare an administrative draft version of the Statement of Overriding Considerations for DWR's review. ICF assumes that DWR's review comments will come as one set that has been compiled and reconciled by DWR prior to transmittal. Based on comments received on this administrative draft, ICF will make revisions and prepare a check-copy version of the Statement of Overriding Considerations that will be circulated to DWR for confirmation that the review comments have been addressed. Once approval is provided, ICF will prepare the final Statement of Overriding Considerations that will accompany DWR's project approval.

NEPA Record of Decision

ICF will work with the Federal Lead Agencies and Federal agency counsel to prepare the ROD that meets the needs of Reclamation, USFWS, and NMFS. The ROD will present an explanation of the Federal Lead Agencies' decision on the BDCP. The ROD will meet the requirements of the CEQ's NEPA regulations (40 CFR 1505.2) and include:

- An explanation of the decision on the proposed action.
- Factors considered in making the decision, including a record of all comments received through any public meetings on the Final EIR/EIS and the notice period for the Final EIR/EIS and, where appropriate, responses to issues raised.
- Alternatives considered and the environmentally preferred alternative.
- Adopted mitigation measures and an explanation of why recommended mitigation measures were not adopted.

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- A monitoring and enforcement plan for adopted mitigation measures.

ICF will prepare an administrative draft version of the ROD for Federal Lead Agency review. ICF assumes that these review comments will come as one set that has been compiled and reconciled by the Federal Lead Agencies prior to transmittal. Based on comments received on this administrative draft, ICF will make revisions and prepare a check-copy version of the ROD that will be circulated to the Federal Lead Agencies for confirmation that the review comments have been addressed. Once approval is provided, ICF will prepare the final ROD that will accompany the Federal agency actions to approve the BDCP.

Permitting Assistance

ICF will assist DWR in developing an approach to Section 404 and 408 compliance, including strategies for incorporating the 404(b)(1) alternatives analysis into the alternatives screening process for the EIR/EIS. As part of this effort, ICF will work with DWR and Permit Manager, Cassandra Enos, to develop a detailed scope of work[8] to identify the specifics of ICF's involvement in the permitting assistance necessary for the BDCP. At a minimum, ICF's scope of work will include:

- Review and update of the BDCP permit matrix and cross check with responsible parties for implementation.
- Attendance of Ken Bogdan at meetings related to the USACE permitting process to comply with Section 404 of the Clean Water Act.
- Attendance of Chris Elliott at meetings related to the USACE permitting process to comply with Section 408, related to levee work under Section 12 of the Rivers and Harbors Act.
- Assistance in integrating into the EIR/EIS the results of the process to obtain the USACE jurisdictional determination for compliance with Section 404, including the completion of the modified California Rapid Assessment Method (CRAM) for wetlands identification currently being implemented by DWR and its consultants.
- Assistance in developing the elements of the alternatives analysis required to document the least environmentally damaging practicable alternative (LEDPA) as required by EPA's Section 404(b)(1) guidelines; integration of the Section 404(b)(1) Alternatives Analysis with the alternatives discussion in the EIR/EIS.

[8] The original cost estimate included in the June 3, 2011 scope of work (and include in Section 6 of this work plan) did not include these efforts. A separate cost submittal will be prepared by ICF and approved by DWR as part of the development of the permitting assistance scope of work developed as part of the implementation of this task.

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Section 4
Modeling Needs and Data Gap Analysis

Chapter 4, "Approach to Environmental Analysis of the EIR/EIS," provides an overview of the modeling tools and general approach to modeling for the EIR/EIS impact analyses. The EIR/EIS includes numerous modeling efforts to support the environmental impact assessment. The models are critical to support the more complex and controversial resource assessments, including aquatics, water quality, energy, air quality, and socioeconomics. Completing the models within a timely period is critical to completing the impact assessments and meeting the EIR/EIS schedule.

Our assessment of the modeling needed to complete the BDCP EIR/EIS included a review of Chapter 4, "Approach to the Environmental Analysis"; review of the existing conditions, methods, and impact assessment for each resource addressed in the EIR/EIS; and conversations with DWR and CH2M HILL staff. ICF was not afforded access to HDR staff or their other subcontractors as part of this review effort.

Model Descriptions and Modeling Gaps

Our review identified the following models and status.

- **CALSIM II**: Lead—CH2M HILL. Modeling is mostly complete. Output is in the QA/QC process. Model output is not interpreted by CH2M HILL. CH2M HILL will complete this modeling effort under their existing Task Order HDR 42.
- **DSM2/ANN/VIC:** Lead—CH2M HILL. Modeling is mostly complete. Output is in the QA/QC process. Model output is not interpreted by CH2M HILL. CH2M HILL will complete the modeling effort under their existing Task Order HDR 42.
- **LT-GEN SWP Power:** Lead—CH2M HILL (CALSIM-linked) Modeling is mostly complete. Output is in the QA/QC process. Model output is not interpreted by CH2M HILL. CH2M HILL will complete the modeling effort under their existing Task Order HDR 42.
- **CVHM/CVHM-D**: Modeling not complete. Groundwater module linked to CALSIM II. CH2M HILL will complete this assessment. CH2M HILL has been working with the U.S. Geological Survey (USGS). If necessary, CH2M HILL will subcontract to ICF to complete this effort.
- **CVPM, LCPSIM, LCRBWQM:** Modeling not complete. Modeling efforts used to support the socioeconomics assessment. CH2M HILL is willing to complete the modeling efforts.
- **SRWQM:** Reclamation Monthly Temperature Model—Sacramento River: Modeling mostly complete. Sacramento River temperature model based on CALSIM II output. CH2M HILL may continue to lead this effort, but the need for this model's output has not been identified.
- **IMPLAN:** Modeling not complete. IMPLAN is used to support the socioeconomics assessment. CH2M HILL is willing to complete the modeling effort.
- **Water Quality:** Modeling not complete. Various models. CH2M HILL is willing to continue to provide methylmercury and selenium modeling support.

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- **Air Quality:** Various models. Modeling not complete. ICF or subcontractors will complete these modeling efforts, including the San Joaquin San Joaquin Air Quality Management District model and URBEMIS.
- **Noise**: Various models. Modeling not complete. ICF has reviewed the noise section of the EIR/EIS and has concluded that the noise modeling should be changed because of inconsistencies in the graphic representations in the chapter. We propose to conduct a noise assessment by applying the Federal Highway Administration (FHWA) Roadway Construction and the FHWA Traffic Noise Model. These modeling efforts will be dependent on construction information developed by DWR.
- **Geomorphology**: Modeling not complete. We propose that DWR complete the velocity modeling effort.

Because most of the modeling efforts were or will be performed by CH2M HILL and ICF, we propose to meet again with CH2M HILL staff to refine these modeling efforts, develop an internal delivery schedule, and identify data needs and potential changes to impact methods if data needed to support the analysis is not available.

Additional Data Gap Analysis

ICF did not have access to the PCE and majority of data files and other supporting information for the resource chapters from the January 2011 administrative draft version of the BDCP EIR/EIS. ICF will need to review the data and other supporting information in order to determine the adequacy of the information and if any additional data collection will be necessary to complete the resource chapters.

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Section 5

Project Management and Decision-Making

Project Management Team

ICF recommends a project management team that is focused on providing service to the lead agencies and that is able to coordinate EIR/EIS tasks with those being performed for the BDCP. ICF's project manager, Ken Bogdan, has the ability to facilitate decisions for the EIR/EIS and connect the appropriate BDCP approach and analyses. Figure 5-1 shows the structure of our management team and key contacts responsible for delivering the EIR/EIS and associated deliverables.

Contact information for the EIR/EIS project management team and DHCCP team that will contribute to completion of the EIR/EIS is provided in Table 5-1.

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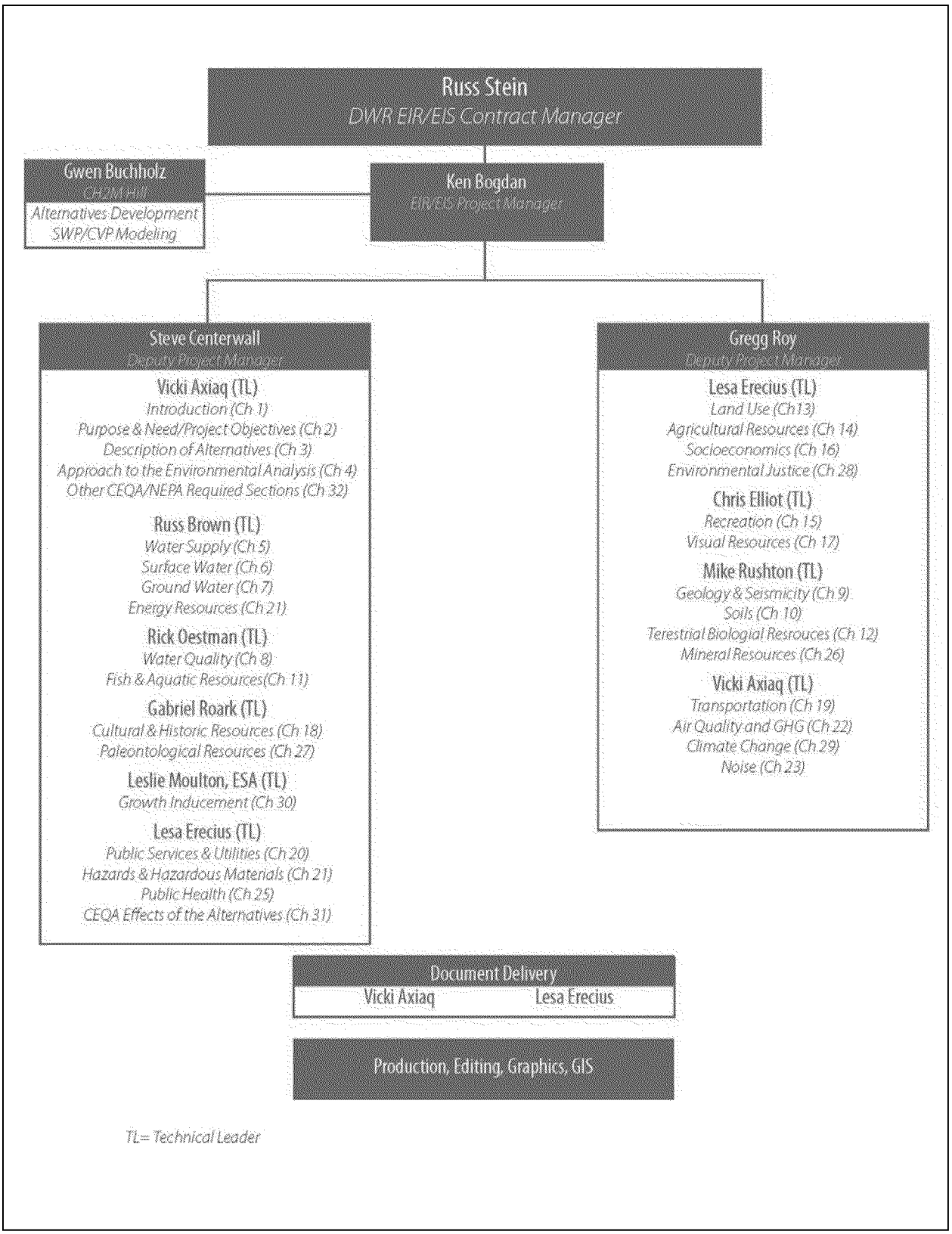

Figure 5-1. EIR/EIS Management Team

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Table 5-1. Contact List for EIR/EIS Management Team

Name	Project Role	Address	Telephone	Fax	E-mail
California Department of Water Resources					
Russell Stein	BDCP EIR/EIS Project Manager	901 P Street, Room 432 Sacramento , CA 95814	(d) 916/651-9560	916/651-9563	rstein@water.ca.gov
Sue Ramos	DWR Contract Manager	901 P Street, Room 446 Sacramento CA 95814	(d) 916/651-2981 (m)559/647-2286	916/651-9563	sramos@water.ca.gov
Dale Hoffman-Floerke	Chief of the Division of Environmental Services	1416 Ninth Street, Room 1155A Sacramento, CA 95814	(d)916/653-8045		dalehf@water.ca.gov
Michelle Morrow	EIR/EIS staff Counsel	1416 Ninth Street, Sacramento, CA 958114	(d)916/653-7352		mmmorrow@water.ca.gov
Cassandra Enos	BDCP Permitting Lead	901 P Street, Room 428 Sacramento CA 95814	(d)916/651-2987	916/651-9563	cenos@water.ca.gov
Bureau of Reclamation					
Federico Barajas		901 P Street, Room 447 Sacramento CA 95814	(d)916/651-2980		fbarajas@usbr.gov
Patricia Idlof					pidlof@usbr.gov
Ron Milligan			(m)916/799-4896		rmilligan@usbr.gov
National Marine Fisheries Service					
Michael Tucker	BDCP, Branch Chief		(d)916/930-3604		Michael.Tucker@noaa.gov
Shelby Mendez					
Maria Rea					Maria.Rea@noaa.gov
Yvette Redler					Yvette.Redler@noaa.gov
Melanie Rowland					Melanie.Rowland@noaa.gov
USFWS					
California Department of Fish and Game					
Scott Cantrell					

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Name	Project Role	Address	Telephone	Fax	E-mail
ICF International					
David Zippin	Program Manager	620 Folsom St., Suite 200, San Francisco, CA 94107	(d) 415/677-7179 (m) 510/220-3786		dzippin@icfi.com
Chris Elliott	Deputy Program Manager	630 K Street, Ste. 400 Sacramento, CA 95814	(d) 916/231-9587 (m) 916/208-5065	916/737-3030	celliott@icfi.com
Ken Bogdan	Project Manager	630 K Street, Ste. 400 Sacramento, CA 95814	(d) 916/231-7625 (m) 916/501-7707	916/737-3030	kbogdan@icfi.com
Gregg Roy	Deputy Project Manager	630 K Street, Ste. 400 Sacramento, CA 95814	(d) 916/231-9606 (m) 916/752-0949	916/737-3030	groy@icfi.com
Steve Centerwall	Deputy Project Manager	630 K Street, Ste. 400 Sacramento, CA 95814	(d) 916/231-7650 (m) 916/501-7527	916/737-3030	scenterwall@icfi.com
Lesa Erecius	Project Coordinator	630 K Street, Ste. 400 Sacramento, CA 95814	(d) 916/231-9616 (m) 916/607-6978	916/737-3030	lerecius@icfi.com
Vicki Axiaq	Project Coordinator	630 K Street, Ste. 400 Sacramento, CA 95814	916/231-9545	916/737-3030	vaxiaq@icfi.com
Jennifer Pierre	BDCP EIR/EIS Liaison	630 K Street, Ste. 400 Sacramento, CA 95814	707/280-9673	916/737-3030	jpierre@icfi.com
CH2M HILL					
Gwen Buchholz	Alternatives Development/CALSIM Modeling		(m)916/468-3441		gwendolyn.buchholz@ch2m.com
Remy, Thomas, Moose and Manley					
Jim Moose	DWR Counsel				jmoose@rtmmlaw.com
ESA					
Leslie Moulton	Growth Inducement Analysis				
HDR					
Betty Dehoney	Project Manager		(m)619/540-3152		betty.dehoney@hdrinc.com

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Communication Protocol

This section sets forth communication and correspondence protocols both internally (within ICF, DWR, and Federal Lead Agencies) and externally (Responsible and Cooperating Agencies, local government organizations, and general public). These protocols also apply to team communications between ICF and ICF sub contractors.

Internal Communications

The ICF Project Manager, Ken Bogdan, will be the primary point of contact responsible for communicating with the DWR project manager, Russ Stein, federal agency coordinator, Federico Barajas, and the DHCCP program manager, Chuck Gardner, both informally and formally, with most communications occurring in written form or using email. Communications between ICF and the Lead Agencies will include all aspects of project management needed for the work effort, including contracting and invoicing, EIR/EIS preparation and scope of work, public disclosure issues, relevant permitting issues, data requests, budget, and schedule issues. The Lead Agencies will direct all work products produced by ICF and ICF subcontractors working on the EIR/EIS. SAIC, CH2MHill and HDR will assign one point of contact for contact with ICF's project manager and deputy project managers, Gregg Roy and Steve Centerwall.

Table 5-2. Main and Secondary Contacts for Internal Communications

Organization	Main Contact	Secondary Contacts
DWR	Russell Stein	Chuck Gardner, Marcus Yee, Cassandra Enos
USBR	Federico Barajas	To Be Determined
USFWS	TBD	TBD
NMFS	TBD	TBD
ICF	Ken Bogdan	Gregg Roy, Steve Centerwall
SAIC	Rick Wilder	Monica Hood, Pete Rawlings
CH2M HILL	Gwen Buchholtz	TBD
HDR	Betty Dehoney	TBD

Email Correspondence

It is anticipated that much of the communication for the project will be done by email, so that all key organizations and individuals (DWR, Reclamation, USFWS, National Marine Fisheries Service [NMFS] Resources Agency, and Contractors) can receive information simultaneously, if needed. Email will be used for day-to-day correspondence as well as distribution of preliminary documents such as draft meeting minutes and progress reports as well as memoranda and information requests/responses. The ICF project manager and deputy project managers should be copied on all email correspondence related to this project. All substantive project correspondence will be placed in the hard copy project file by ICF. E-mail addresses of key project members are shown in Table 5-1.

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Postal Mail Correspondence

If billing materials are sent by express mail through the U.S. Post Office, ICF will use the following addresses:

Russell Stein
Chief Environmental Management, DHCCP
Department of Water Resources
901 P Street, Room 432
Sacramento , CA 95814

Charles R. Gardner, Jr.
Program Manager, DHCCP
Hallmark Group
1901 Royal Oaks Drive, Suite 200
Sacramento, CA 95815

Major report deliverables and monthly invoices will be provided in electronic and hardcopy. Written communications should be addressed to Russell Stein, DWR. Copies of formal written correspondence as well as telephone and email communications with significant information or outcomes will be kept in ICF's files for reference.

External Communications

External communications refer to conversations, correspondence, email, faxes, or transmittals between the Lead Agencies, ICF and the other public agencies and the general public. Any telephone conversations between a member of ICF and a public agency representative with significant information or outcomes should be followed up with a written record of the telephone conversation (see subheading Records and Information Management in this section) as well as by email to the EIR/EIS management team so that there is written verification and communication to all parties.

Formal letters to public agencies regarding the BDCP EIR/EIS generally would be transmitted from DWR, or other Lead Agency as appropriate, on its letterhead with the signature of the appropriate representative. ICF may assist in preparing draft letters on behalf of the DWR, or other Lead Agency as appropriate, and in all cases, the particular agency or agencies will review the letter prior to mailing. Members of the EIR/EIS management team should be copied on the letters as well as on any responses received to those letters. ICF will direct any correspondence or phone calls from public agencies and the public to the Lead Agencies unless expressly approved by the Lead Agencies to allow for timely completion of work products.

Review and Quality Assurance

To ensure a high level of professional quality and technical accuracy, the ICF project manager, Ken Bogdan, will be responsible for the review and quality control of deliverables and services provided to the Lead Agencies. Ken will be supported by Gregg Roy, deputy project manager and Steve Centerwall, deputy project manager for document delivery. Ken will interact directly with Russell Stein, DWR, and Federico Barajas, federal agency coordinator, to implement the QA/QC process.

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ICF provides internal review and quality assurance for all of its work products using a multiple level review process that includes management direction of work approaches, outlines, and conclusions during task initiation; senior-level resource-specific and regulatory-compliance peer reviews; and a QA/QC review. As shown in Figure 5-1, direction provided to EIR/EIS chapter authors will be provided by senior task leaders under the direction of two ICF deputy project managers. Key decisions on approach and required content will be recommended to Ken Bogdan and approved by Russell Stein and Federico Barajas. This recommended review sequence and decision process will provide the needed oversight for high quality deliverables while simplifying the decision process for most of the EIR/EIS chapters. It is anticipated that Chapter 11, "Fish and Aquatic Resources," and Chapter 12, "Terrestrial Biological Resources," will require a slightly modified review and decision process to incorporate the BDCP Chapter 5, "Effects Analysis," as described in Section 2 and 3 of this Work Plan.

Once the technical and management reviews are completed, all EIR/EIS chapters will be reviewed by Ken Bogdan and Jennifer Pierre to provide a final QA/QC confirmation. Ken and Jennifer will review chapters to make sure the EIR/EIS: (1) meets DWR's CEQA requirements and each of the Federal Lead Agencies' NEPA requirements, (2) addresses needed issues appropriately and contains defensible impact methodologies and analyses, (3) supports other Responsible and Cooperating Agency discretionary approvals, and (4) supports approval of the BDCP.

It is our goal to produce documents that read as if written by one author, when in fact there will be many authors. To achieve this goal, a technical editor will conduct an additional level of review and edit all major EIR/EIS deliverables and technical reports for consistency in language and writing style, word usage, and subject tense. Our editing and production specialists will work closely with the ICF project management team to communicate clear expectations on the quality and specifications required for each deliverable.

EIR/EIS Deliverables

ICF will prepare the following deliverables:

- Draft and final work plan
- Draft and final Alternatives Description
- Draft and Final copies of Notices for CEQA and NEPA compliance
- Partial administrative draft EIR/EIS chapters (batch A, batch B, batch C)
- Complete (1st draft) administrative draft EIR/EIS
- Revised (2nd draft) administrative draft EIR/EIS
- Check copy draft EIR/EIS
- Draft EIR/EIS for public review
- Draft and Final Mitigation Monitoring and Reporting Program
- Administrative draft Final EIR/EIS, including draft responses to comments
- Check copy Final EIR/EIS
- Final EIR/EIS

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- Draft and Final CEQA Findings of Fact
- Draft and Final CEQA Statement of Overriding Considerations
- Draft and Final NEPA Record of Decision

All administrative draft deliverables will be provided in PDF format by email or for download from ICF's secure site of the PCE. We will provide 150 printed copies and one electronic version of the Draft EIR/EIS and Final EIR/EIS.

Records and Information Management

Information management and systematic recordkeeping will provide documentation of the overall CEQA/NEPA process. In addition, it will allow ICF to maintain efficient and comprehensive communication among the various participating agencies and firms. This section discusses project documentation and file management, the project library and bibliography, administrative record, background materials and base maps, document security, and project close-out procedures.

Project Documents and File Management

ICF will maintain a system for identifying, tracking, and filing all documentation for the project, including both hard copies (paper) and electronic copies. A complete project file and the Administrative Record (for CEQA/NEPA compliance) will be maintained by ICF's project management team through the PCE. Copies of key deliverables and all major correspondence will also be kept by the Lead Agencies through the existing BDCP protocols.

All electronic documentation for major deliverables from ICF shall be in the Microsoft Office XP (operating system) format. The electronic file-naming convention will indicate the document subject and date; electronic revisions and comments to the document will be noted in track changes mode (where appropriate). All deliverables and project materials, including scopes of work/task orders and schedules will be sent to the SFPUC and MEA simultaneously.

All technical documentation for the EIR/EIS, including administrative, draft, and final copies of the scope of work deliverables, and meeting agendas/notes and progress reports, will be made available to the Lead Agencies first before any documents are reviewed by the Responsible and Cooperating Agencies. All project documentation should include the date, status (i.e., administrative draft, draft, or final), originator, and the recipients. Most of the documents prior to public review of the Draft EIR/EIS will need indication of confidentiality status. Removal of this status indicator will not be done until the document has been reviewed and approved for public distribution by the Lead Agencies.

Document tracking will be based on the date of the document and the designated review path for the document. ICF will maintain files of transmittals and the distribution list as well as tracking dates and responses to all deliverables.

The core project management team of Russell Stein, Federico Barajas, Charles Gardner, and Ken Bogdan will be copied on all deliverables and major correspondence. Additional staff may be included on copies of major deliverables, including potential direct delivery of these copies to the reviewing staff member, as determined by the Lead Agencies.

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Important personal communications and telephone calls (e.g., with regulatory agencies) should be documented with a *record of phone conversation* and put into the project file (forward these to the project manager at ICF, who will forward them to the Lead Agencies).

Project Library and Bibliography

There is an extensive database of existing information available to support the BDCP and EIR/EIS effort, as well as substantial new information to be developed during the course of the EIR/EIS process. ICF will use the BDCP PCE share point site as the project library and bibliography. Copies of all EIR/EIS materials, reference documents used in preparation of the EIR/EIS, and source materials including maps will be centralized on the BDCP PCE share point site. Requests for copies of documents will be handled through the DWR project manager and federal agency coordinator.

Administrative Record

The Administrative Record for the EIR/EIS will be maintained continuously throughout the project duration in accordance with CEQA requirements (as determined by counsel for DWR) and NEPA requirements (as determined by counsel for the Federal agencies). It will consist of elements of the EIR/EIS files and library stored on the PCE share point site. Only the most current versions of reports will be kept as part of the Administrative Record; prior administrative draft versions will be discarded subject to the Lead Agencies' approval.

ICF will work with DWR, Reclamation, USFWS, and NMFS to establish their agency- specific guidelines and procedures for assembling and maintaining the EIR/EIS Administrative Record.

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Section 6
Project Budget

ICF's estimated budget and labor to complete the BDCP EIR/EIS are summarized by major work efforts below. This estimate reflects the current best available information regarding access to existing information, participation of the BDCP EIR/EIS prime contractor, and use of current BDCP EIR/EIS subcontractors. Our estimate is based on the following assumptions and limitations:

- The current EIR/EIS prime contractor will not participate in completing the EIR/EIS beyond project management.
- The current EIR/EIS prime contractor, through a separate agreement with its subcontractor, will continue to be responsible for completing hydrologic modeling of the alternatives.
- ICF will direct all questions related to approach, data, and methodologies through the current prime contractor's project manager.
- ICF was not granted access to the project PCE.

Our review of the EIR/EIS methodologies and impact discussion for each of the resource topics suggests modeling efforts are required to support aquatics, terrestrial, socioeconomics, air quality, and noise assessments. We have assumed that these modeling efforts have been completed and ICF will be responsible for evaluating and incorporating these results in the impact assessments.

Table 6-1 provides a detailed breakdown of our estimated labor effort and cost to complete the EIR/EIS[9]. We have retained the task numbering to be consistent with the cost estimate in our initial proposal. Task 1.0 in our initial proposal addressed preparation of this work plan, and therefore Table 6-1 begins with Task 2.0, EIR/EIS preparation.

[9] This cost estimate does not include ICF efforts necessary to prepare the Mitigation Monitoring and Reporting Program, CEQA Findings of Fact, CEQA's Statement of Overriding Considerations, and NEPA's Record of Decision. This estimate also does not include the coordination assistance or preparation of the alternatives analysis or other information necessary for BDCP's compliance with USACE's Section 404 or 408 permitting processes. As described previously in the work plan , separate scopes of work, cost estimates, and detailed work plans will be prepared for these efforts.

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Table 6-1. Cost Estimate for Completing Bay Delta Conservation Plan Draft and Final Environmental Impact Statement/Report

	Bogdan	Centerwal	Roy Gre																
Project Role	Project Manager	Deputy Project Manager	Deputy Project Manager	Project Assistant	Project Coordinator	Aquatics - Lead	Aquatics - Delta species	Aquatics - Salmonids	Aquatics - Salmonids/ Delta	Aquatics - Centeroids/ Sturgeon	Aquatics - Salmon	Aquatic Other	Terrestrial - Lead	Terrestrial - Wildlife	Terrestrial - Wildlife	Terrestrial - Wildlife	Terrestrial - Vegetation/ Wetlands	Terrestrial - Vegetation/ Wetlands	Terrestrial Vegetation/ Wetlands
Task *Labor Classification*	Sr Proj Dir	Sr Proj	Proj Dir	Sr Consult	Sr Consult	Proj Dir	Sr Consult	Tech Dir	Proj Dir	Sr Tech	Sr Consult	Assoc Consult	Sr Consult	Sr Consult I	Sr Consult	Sr Consult	Sr Consult	Sr Consult I	Assoc
Task 2.0 EIR/EIS Proposed Action and Alternatives																			
Subtask 2.1 Prepare proposed action description	80	100	100	100	100	40							40						
Subtask 2.2 Prepare alternatives description	100	150	150	160	160	40			40				40						
Task 3.0 Administrative Drafit EIR/EIS																			
Subtask 3.1 Incroporate revised proposed action and alternat	24	40	30	24															
Subtask 3.2 Prepare and revise EIR/EIS sections	100	150	150	150	100	100	80	40	80	40	40	40	80	40	40	40	40	40	40
3.2.1 Introduction	24	40	40	80	80														
3.2.2 Purpose and Need/Objectives	40	40	24	80	60														
3.2.3 Analysis Approach	40	40	60	80	80	80	40	40					80						
3.2.4 Water Supply			100																
3.2.5 Surface Water			100																
3.2.6 Water Quality			100																
3.2.7 Geology, Seismicity and Soils				80															
3.2.8 Terrestrial Biology		100		100									220	200	200	200	200	200	200
3.2.9 Aquatics		200				300	300	300	250	200	200	200							
3.2.10 Land Use			60																
3.2.11 Agriculture			60																
3.2.12 Recreation				60															
3.2.13 Socioeconomics			60																
3.2.14 Visual Resoruces				60															
3.2.15 Cultural Resources		60																	
3.2.16 Transportation and Circulation		30																	
3.2.17 Public Services and Utilities				30															
3.2.19 Energy				30															
3.2.20 Air Quality		30																	
3.2.21 Noise		30																	
3.2.22 Hazards and Hazadout Materials				30															
3.2.23 Public Health and Safety				30															
3.2.24 Minerals				30															
3.2.25 Paleontology				30															
3.2.26 Environmental Justice			16																
3.2.27 Climate Change and GHG Emissions		40																	
3.2.28 Growth Inducing Effects			40																
Task 4.0 Adminstrative Draft EIR/EIS																			
Subtask 4.1 Review client/agency comments	100	100	100	100	100	100	100		100				100	40			40		
Subtask 4.2 Incorporate/consider comments	40	80	60	60		120	80	20	80	20	20	20	100	80	20	20	80	20	20
Task 5.0 Prepare Draft EIR/EIS	100	100	100	100	100	100	100		100				100						
Task 6.0 EIR/EIS Public Hearings																			
Subtask 6.1 Prepare for and attend meetings	160	160	160	160	160	160	150		150				160						
Subtask 6.2 Prepare notices	40	40	40	80	80														
Task 7.0 Review and Respond to Agency/Public Comments																			
Subtask 7.1 Review and classify comments	150	250	250	250	200	200	200	100	200				200						
Subtask 7.2. Respond to comments	80	200	200	200	200	240	180	180	180	100	100	140	120	100	100	100	100	80	80
Task 8.0 Prepare Administrative Final EIR/EIS	100	150	150	150	150	120	100	80	100	60	60	80	100	100	100	100	100	80	80
Task 9.0 Prepare Final EIR/EIS	60	80	80	80	80	100	60	40	80	60	60	80	80	60	60	60	60	60	40
Task 10.0 Project Management and Coordination																			
Subtask 10.1 ICF Communications	100	150	100	200	150														
Subtask 10.2 Administrative record				100	100														
Subtask 10.3 Internal team management	100	200	200	200	80														
Subtask 10.4 Status Reports		60		100	100														
Subtask 10.5 Client/Agency meetings	300	350	350	250	200	80	80		80				80						
Total hours	1,738	2,970	2,880	3,184	2,280	1,780	1,470	800	1,440	480	480	560	1,500	620	520	520	620	480	460
ICF E&P 2011 Billing Rates	$275	$275	$245	$180	$155	$245	$155	$220	$245	$215	$155	$130	$180	$145	$155	$180	$155	$145	$130
Subtotals	$477,950	$816,750	$705,600	$573,120	$353,400	$436,100	$227,850	$176,000	$352,800	$103,200	$74,400	$72,800	$270,000	$89,900	$80,600	$93,600	$96,100	$69,600	$59,800
Direct Expenses																			
500.00 Subcontractor																			
521.00 Meals, and Lodging																			
522.00 Airfares																			
523.01 Computer/Faxes																			
523.02 Reproductions																			
523.03 Equipment Rental																			
523.04 Postage and Delivery																			
523.05 Travel, Auto, incld. Mileage at current IRS rate (.51/mile)																			
523.06 GIS/CAD/MAC																			
523.07 Surveys and Reports																			
523.08 Per Diem at $175/day																			
523.09 Project Supplies																			
529.00 Other Reimbursable Expenses																			
Mark up on all non-labor costs and subcontractors:																			
Direct expense subtotal																			
Total price																			

Table 6-1. Cost Estimate for Completing Bay Delta Conservation Plan Draft and Final Environmental Impact Statement/Report

Project Role / **Task** / *Labor Classification*	Terrestrial - Wetlands Sr Consult	Hydrology/ Water Supply Sr Consult I	Hydrology/ Water Supply Tech Dir	Soils/ Geology Sr Consult I	Agriculture/ Public Health Sr Consult	Recreation/ Visual Proj Dir	Recreation/ Visual Sr Consult I	Socioeconomics Sr Consult	Land Use/ Public Services Mng	Cultural Resources - Lead Sr Consult	Cultural Resources Proj Dir	Cultural Resources Sr Consult	Cultural Resources Assoc	Tranportation/Air Quality Sr Consult II	Energy Mng	Air Quality - Lead Sr Consult	Hazards Proj Dir	Geology/ Soils Sr Consult	Paleontology Sr Consult
Task 2.0 EIR/EIS Proposed Action and Alternatives																			
Subtask 2.1 Prepare proposed action description		24	16											8					
Subtask 2.2 Prepare alternatives description		24	16											8					
Task 3.0 Administrative Drafit EIR/EIS																			
Subtask 3.1 Incroporate revised proposed action and alternat																			
Subtask 3.2 Prepare and revise EIR/EIS sections	40	80	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
3.2.1 Introduction																			
3.2.2 Purpose and Need/Objectives																			
3.2.3 Analysis Approach		40	40	8	16	8		8	16	8				8	8	8	8		8
3.2.4 Water Supply		200	200																
3.2.5 Surface Water		180	220																
3.2.6 Water Quality			200																
3.2.7 Geology, Seismicity and Soils				180														100	
3.2.8 Terrestrial Biology	200																		
3.2.9 Aquatics																			
3.2.10 Land Use									240										
3.2.11 Agriculture					300														
3.2.12 Recreation						80	250												
3.2.13 Socioeconomics								250											
3.2.14 Visual Resoruces						100	250												
3.2.15 Cultural Resources										250	200	140	140						
3.2.16 Transportation and Circulation														300					
3.2.17 Public Services and Utilities									200										
3.2.19 Energy															200				
3.2.20 Air Quality														200		200			
3.2.21 Noise																			
3.2.22 Hazards and Hazadout Materials																	200		
3.2.23 Public Health and Safety					140														
3.2.24 Minerals																		160	
3.2.25 Paleontology																			150
3.2.26 Environmental Justice																			
3.2.27 Climate Change and GHG Emissions																			
3.2.28 Growth Inducing Effects																			
Task 4.0 Adminstrative Draft EIR/EIS																			
Subtask 4.1 Review client/agency comments		100	100	24	30		30	30	30	60	30	30	30	30	30	30	30	30	30
Subtask 4.2 Incorporate/consider comments	20	100	100	16	32	20	24	24	60	100	40	40	40	40	40	40	24	40	16
Task 5.0 Prepare Draft EIR/EIS		100				100		100	100	100	100			100		100	100		
Task 6.0 EIR/EIS Public Hearings																			
Subtask 6.1 Prepare for and attend meetings		100																	
Subtask 6.2 Prepare notices																			
Task 7.0 Review and Respond to Agency/Public Comments																			
Subtask 7.1 Review and classify comments		200	200			150		80	80	200				80		100			
Subtask 7.2. Respond to comments	60	200	200	40	80	32	60	80	80	100	40	40	40	40	40	60	40	40	32
Task 8.0 Prepare Administrative Final EIR/EIS	80	100	100	60	60	40	80	100	100	80	40	40	40	60	40	80	100	60	40
Task 9.0 Prepare Final EIR/EIS	40	60	60	40	40	16	40	60	60	60	40	40	40	40	40	40	40	40	40
Task 10.0 Project Management and Coordination																			
Subtask 10.1 ICF Communications																			
Subtask 10.2 Administrative record																			
Subtask 10.3 Internal team management																			
Subtask 10.4 Status Reports																			
Subtask 10.5 Client/Agency meetings		80	80			24	24	40	40	40				24	24	24	24	24	24
Total hours	440	1,588	1,572	408	738	610	798	812	1,046	1,038	530	370	370	978	462	722	606	534	380
ICF E&P 2011 Billing Rates	$155	$145	$220	$145	$155	$245	$145	$155	$200	$155	$245	$155	$130	$155	$200	$180	$245	$155	$155
Subtotals	$68,200	$230,260	$345,840	$59,160	$114,390	$149,450	$115,710	$125,860	$209,200	$160,890	$129,850	$57,350	$48,100	$151,590	$92,400	$129,960	$148,470	$82,770	$58,900
Direct Expenses																			
500.00 Subcontractor																			
521.00 Meals, and Lodging																			
522.00 Airfares																			
523.01 Computer/Faxes																			
523.02 Reproductions																			
523.03 Equipment Rental																			
523.04 Postage and Delivery																			
523.05 Travel, Auto, incld. Mileage at current IRS rate (.51/mile)																			
523.06 GIS/CAD/MAC																			
523.07 Surveys and Reports																			
523.08 Per Diem at $175/day																			
523.09 Project Supplies																			
529.00 Other Reimbursable Expenses																			
Mark up on all non-labor costs and subcontractors:																			
Direct expense subtotal																			
Total price																			

Table 6-1. Cost Estimate for Completing Bay Delta Conservation Plan Draft and Final Environmental Impact Statement/Report

Task / Project Role / Labor Classification	Env. Justice Sr Consult	Climate Change Proj Dir	Growth Tech Dir	Noise Proj Dir	Comments Sr Consult	Comments Intern	Comments Intern	GIS Assoc	Graphics Assoc	BDCP Liaison Sr Consult	Subtotal	Lead Editor	Support	Lead Pub Spec	Admin Tech	Subtotal	Labor Total	Direct	Total Price
Task 2.0 EIR/EIS Proposed Action and Alternatives											$0					$0	$0		
Subtask 2.1 Prepare proposed action description										60	$143,540	200		200		$38,000	$181,540		
Subtask 2.2 Prepare alternatives description										60	$204,940	200		200		$38,000	$242,940		
Task 3.0 Administrative Drafit EIR/EIS											$0					$0	$0		
Subtask 3.1 Incroporate revised proposed action and alternat								240	180	24	$88,190	300		200		$47,500	$135,690		
Subtask 3.2 Prepare and revise EIR/EIS sections	40	100	40	40						200	$508,800	400		400		$76,000	$584,800		
3.2.1 Introduction											$54,200					$0	$54,200		
3.2.2 Purpose and Need/Objectives											$51,580					$0	$51,580		
3.2.3 Analysis Approach	8	8	8								$150,820					$0	$150,820		
3.2.4 Water Supply											$97,500					$0	$97,500		
3.2.5 Surface Water											$99,000					$0	$99,000		
3.2.6 Water Quality											$68,500					$0	$68,500		
3.2.7 Geology, Seismicity and Soils											$56,000					$0	$56,000		
3.2.8 Terrestrial Biology											$298,100					$0	$298,100		
3.2.9 Aquatics											$402,250					$0	$402,250		
3.2.10 Land Use											$62,700					$0	$62,700		
3.2.11 Agriculture											$61,200					$0	$61,200		
3.2.12 Recreation											$66,650					$0	$66,650		
3.2.13 Socioeconomics											$53,450					$0	$53,450		
3.2.14 Visual Resoruces											$71,550					$0	$71,550		
3.2.15 Cultural Resources											$144,150					$0	$144,150		
3.2.16 Transportation and Circulation											$54,750					$0	$54,750		
3.2.17 Public Services and Utilities											$45,400					$0	$45,400		
3.2.19 Energy											$45,400					$0	$45,400		
3.2.20 Air Quality											$75,250					$0	$75,250		
3.2.21 Noise				250							$69,500					$0	$69,500		
3.2.22 Hazards and Hazadout Materials											$54,400					$0	$54,400		
3.2.23 Public Health and Safety											$27,100					$0	$27,100		
3.2.24 Minerals											$30,200					$0	$30,200		
3.2.25 Paleontology											$28,650					$0	$28,650		
3.2.26 Environmental Justice	120										$22,520					$0	$22,520		
3.2.27 Climate Change and GHG Emissions		140									$45,300					$0	$45,300		
3.2.28 Growth Inducing Effects			250								$64,800					$0	$64,800		
Task 4.0 Adminstrative Draft EIR/EIS											$0					$0	$0		
Subtask 4.1 Review client/agency comments	30	30	30	30						80	$365,380					$0	$365,380		
Subtask 4.2 Incorporate/consider comments	24	40	40	40	40			100	100	40	$403,660					$0	$403,660		
Task 5.0 Prepare Draft EIR/EIS	100	100		100				100	100	100	$476,500	200		200		$38,000	$514,500		
Task 6.0 EIR/EIS Public Hearings											$0					$0	$0		
Subtask 6.1 Prepare for and attend meetings								100	100	100	$367,300	100		100		$19,000	$386,300		
Subtask 6.2 Prepare notices											$58,600	100		100		$19,000	$77,600		
Task 7.0 Review and Respond to Agency/Public Comments											$0					$0	$0		
Subtask 7.1 Review and classify comments	80	100		80	200	300	300				$757,300					$0	$757,300		
Subtask 7.2. Respond to comments	40	40	40	40							$788,400	140		80		$20,900	$809,300		
Task 8.0 Prepare Administrative Final EIR/EIS	60	100	100	100				250	250	150	$780,250	350		350		$66,500	$846,750		
Task 9.0 Prepare Final EIR/EIS	40	40	40	40							$425,920	400		400		$76,000	$501,920		
Task 10.0 Project Management and Coordination											$0					$0	$0		
Subtask 10.1 ICF Communications											$152,500					$0	$152,500		
Subtask 10.2 Administrative record											$33,500			250		$23,750	$57,250		
Subtask 10.3 Internal team management											$179,900					$0	$179,900		
Subtask 10.4 Status Reports											$50,000	80		80		$15,200	$65,200		
Subtask 10.5 Client/Agency meetings	24	24	24	24					80	80	$537,180	40		40		$7,600	$544,780		
											$0					$0	$0		
Total hours	566	722	572	744	240	300	300	790	810	894		2,510	0	2,600	0		$0		
ICF E&P 2011 Billing Rates	$155	$245	$220	$245	$155	$60	$60	$130	$130	$180		$95	$95	$95	$70		$0		
Subtotals	$87,730	$176,890	$125,840	$182,280	$37,200	$18,000	$18,000	$102,700	$105,300	$160,920	$8,622,780	$238,450	$0	$247,000	$0	$485,450	$9,108,230		
Direct Expenses																			
500.00 Subcontractor																			
521.00 Meals, and Lodging																		$15,000	
522.00 Airfares																		$20,000	
523.01 Computer/Faxes																			
523.02 Reproductions																		$97,500	
523.03 Equipment Rental																			
523.04 Postage and Delivery																			
523.05 Travel, Auto, incld. Mileage at current IRS rate (.51/mile)																		$35,700	
523.06 GIS/CAD/MAC																		$20,000	
523.07 Surveys and Reports																			
523.08 Per Diem at $175/day																		$35,000	
523.09 Project Supplies																			
529.00 Other Reimbursable Expenses																			
Mark up on all non-labor costs and subcontractors:																		$22,320	
Direct expense subtotal																		$245,520	
Total price																			$9,353,750

Section 7
Project Schedule

The schedule below identifies the major tasks and subtasks necessary to complete the alternatives description and necessary revisions to the previous administrative draft EIR/EIS. The schedule, prepared in Microsoft Project, identifies dates and durations for preparation of the revised chapters, agency reviews, public reviews, and other key milestones to complete the CEQA/NEPA process. The dates and durations are consistent with the BDCP EIR/EIS Schedule (dated August 9, 2011).

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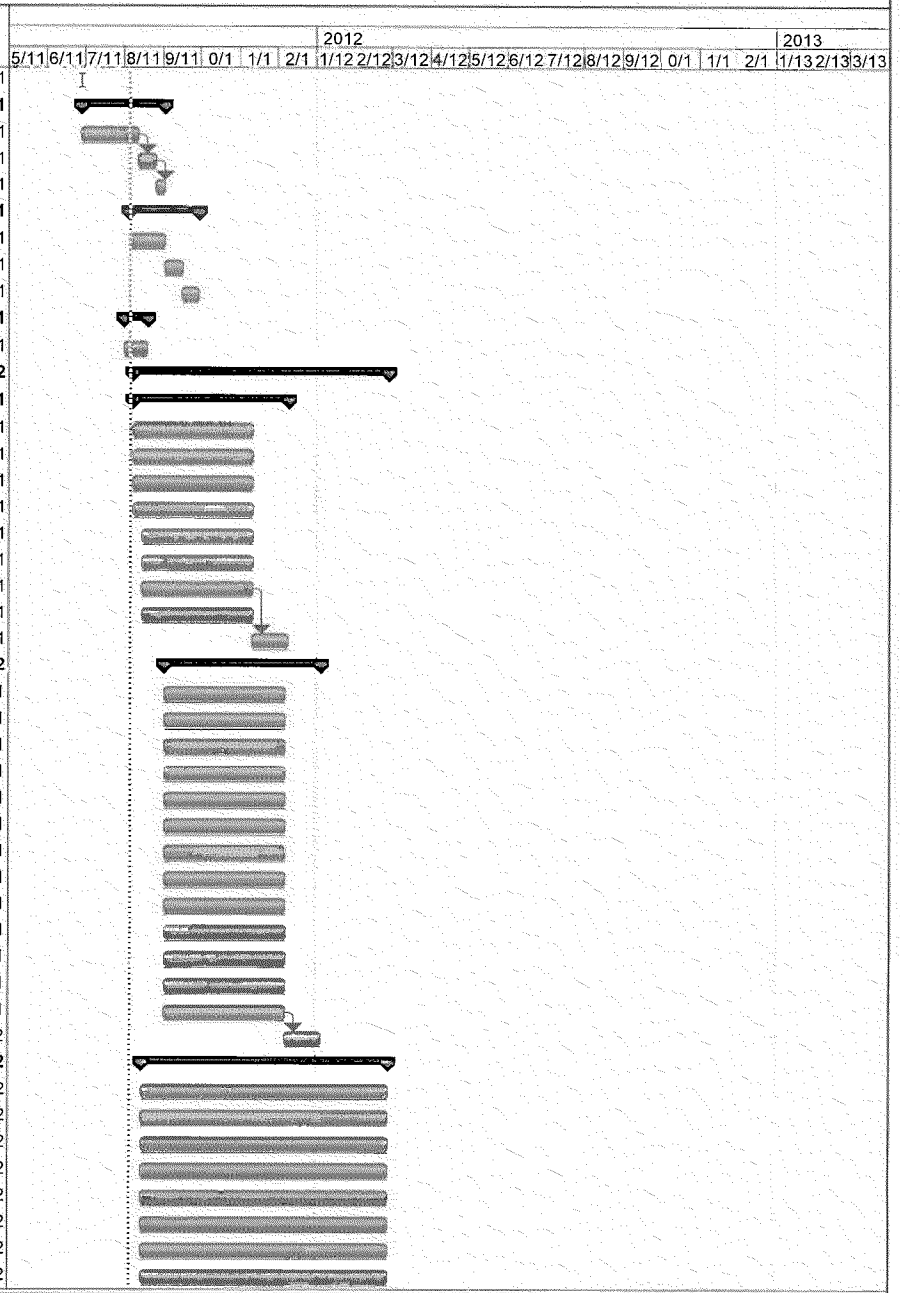
BDCP EIR/EIS Schedule

ID	Task Name	Duration (Working Days)	Start	Finish
1	**Notice to Proceed**	1 day	Tue 6/28/11	Tue 6/28/11
2	**EIR/EIS Work Plan & Schedule**	**49 days**	**Tue 6/28/11**	**Fri 9/2/11**
3	Prepare Draft Work Plan & Schedule	34 days	Tue 6/28/11	Fri 8/12/11
4	Agency Review	11 days	Fri 8/12/11	Fri 8/26/11
5	Revise Work Plan	6 days	Fri 8/26/11	Fri 9/2/11
6	**Alternatives Description**	**40 days**	**Fri 8/5/11**	**Thu 9/29/11**
7	Prepare Alternatives Description	21 days	Fri 8/5/11	Fri 9/2/11
8	Agency Review	11 days	Fri 9/2/11	Fri 9/16/11
9	Revise Alternatives Description	10 days	Fri 9/16/11	Thu 9/29/11
10	**Constraints Analysis**	**15 days**	**Mon 8/1/11**	**Fri 8/19/11**
11	Prepare Intake Constraints Analysis	15 days	Mon 8/1/11	Fri 8/19/11
12	**Admin Draft EIR/EIS**	**146 days**	**Mon 8/8/11**	**Mon 2/27/12**
13	**Prepare Batch A Chapters (partial Admin Draft EIR/EIS)**	**90 days**	**Mon 8/8/11**	**Fri 12/9/11**
14	Introduction (Ch. 1)	70 days	Mon 8/8/11	Fri 11/11/11
15	Purpose and Need/Project Objectives (Ch 2)	70 days	Mon 8/8/11	Fri 11/11/11
16	Description of the Alternatives (Ch 3)	70 days	Mon 8/8/11	Fri 11/11/11
17	Approach to the Environmental Analysis (Ch 4)	70 days	Mon 8/8/11	Fri 11/11/11
18	Recreation (Ch 15)	65 days	Mon 8/15/11	Fri 11/11/11
19	Visual Resources (Ch 17)	65 days	Mon 8/15/11	Fri 11/11/11
20	Public Services and Utilities (Ch 20)	65 days	Mon 8/15/11	Fri 11/11/11
21	Growth Inducement (CH 30)	65 days	Mon 8/15/11	Fri 11/11/11
22	Agency Review	21 days	Fri 11/11/11	Fri 12/9/11
23	**Prepare Batch B Chapters (partial Admin Draft EIS/EIR)**	**89 days**	**Fri 9/2/11**	**Wed 1/4/12**
24	Geology and Seismicity (CH 9)	69 days	Fri 9/2/11	Wed 12/7/11
25	Soils (Ch 10)	69 days	Fri 9/2/11	Wed 12/7/11
26	Land Use (Ch 13)	69 days	Fri 9/2/11	Wed 12/7/11
27	Agriculture (Ch 14)	69 days	Fri 9/2/11	Wed 12/7/11
28	Cultural and Historic Resources (Ch 18)	69 days	Fri 9/2/11	Wed 12/7/11
29	Transportation (Ch 19)	69 days	Fri 9/2/11	Wed 12/7/11
30	Energy (Ch 21)	69 days	Fri 9/2/11	Wed 12/7/11
31	Air Quality and Greenhouse Gas Emissions (Ch 22)	69 days	Fri 9/2/11	Wed 12/7/11
32	Noise (Ch 23)	69 days	Fri 9/2/11	Wed 12/7/11
33	Hazards and Hazardous Materials (Ch 24)	69 days	Fri 9/2/11	Wed 12/7/11
34	Mineral Resources (Ch 26)	69 days	Fri 9/2/11	Wed 12/7/11
35	Paleontological Resources (Ch 27)	69 days	Fri 9/2/11	Wed 12/7/11
36	Climate Change (CH 29)	69 days	Fri 9/2/11	Wed 12/7/11
37	Agency Review	21 days	Wed 12/7/11	Wed 1/4/12
38	**Prepare Batch C Chapters (partial Admin Draft EIS/EIR)**	**141 days**	**Mon 8/15/11**	**Mon 2/27/12**
39	Water Supply (Ch 5)	141 days	Mon 8/15/11	Mon 2/27/12
40	Surface Water (Ch 6)	141 days	Mon 8/15/11	Mon 2/27/12
41	Groundwater (Ch 7)	141 days	Mon 8/15/11	Mon 2/27/12
42	Water Quality (Ch 8)	141 days	Mon 8/15/11	Mon 2/27/12
43	Terrestrial Biological Resources (Ch 12)	141 days	Mon 8/15/11	Mon 2/27/12
44	Fish and Aquatic Resources (Ch 11)	141 days	Mon 8/15/11	Mon 2/27/12
45	Socioeconomics (Ch 16)	141 days	Mon 8/15/11	Mon 2/27/12
46	Public Health (Ch25)	141 days	Mon 8/15/11	Mon 2/27/12



Task Progress Milestone Summary

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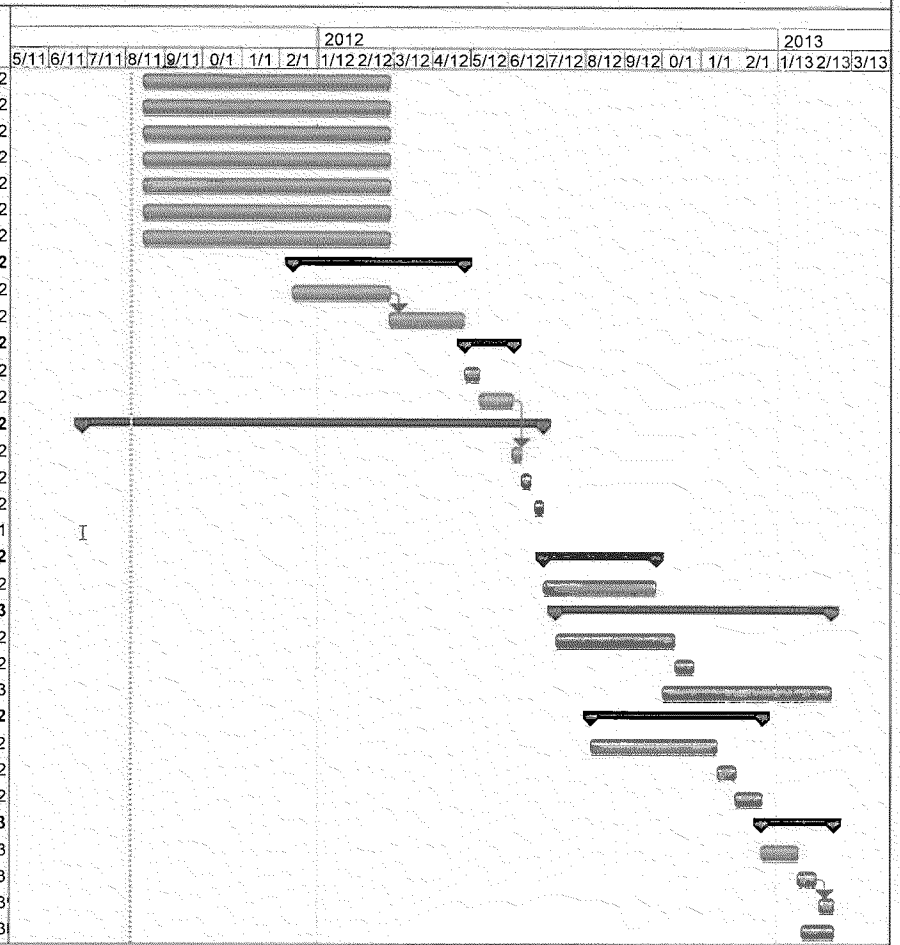
BDCP EIR/EIS Schedule

ID	Task Name	Duration (Working Days)	Start	Finish
47	Environmental Justice (Ch28)	141 days	Mon 8/15/11	Mon 2/27/12
48	CEQA Effects of the Proposed Project and Alternatives (CH 31)	141 days	Mon 8/15/11	Mon 2/27/12
49	Other CEQA/NEPA Required Sections (Ch 32)	141 days	Mon 8/15/11	Mon 2/27/12
50	Public Involvement, Consultation, and Coordination (Ch 33)	141 days	Mon 8/15/11	Mon 2/27/12
51	List of Preparers (Ch 34)	141 days	Mon 8/15/11	Mon 2/27/12
52	References, Acronyms & Abbrev, Glossary, Index (Chs 35-37)	141 days	Mon 8/15/11	Mon 2/27/12
53	Executive Summary	141 days	Mon 8/15/11	Mon 2/27/12
54	**1st Administrative Draft EIR/EIS**	**99 days**	**Mon 12/12/11**	**Thu 4/26/12**
55	Prepare Complete (1st) Administrative Draft EIR/EIS	56 days	Mon 12/12/11	Mon 2/27/12
56	Agency Review	44 days	Mon 2/27/12	Thu 4/26/12
57	**2nd Administrative Draft EIR/EIS**	**27 days**	**Fri 4/27/12**	**Mon 6/4/12**
58	Prepare Revised (2nd) Admin Draft EIR/EIS	8 days	Fri 4/27/12	Tue 5/8/12
59	Agency Review	19 days	Wed 5/9/12	Mon 6/4/12
60	**Check Copy Draft EIR/EIS**	**263 days**	**Tue 6/28/11**	**Thu 6/28/12**
61	Prepare Check Print Draft EIR/EIS	6 days	Mon 6/4/12	Mon 6/11/12
62	Agency Review	6 days	Mon 6/11/12	Mon 6/18/12
63	File Public Draft EIR/EIS with EPA	5 days	Fri 6/22/12	Thu 6/28/12
64	EPA Publishes Draft EIS	1 day	Tue 6/28/11	Tue 6/28/11
65	**Draft EIR/EIS Review Period**	**64 days**	**Fri 6/29/12**	**Thu 9/27/12**
66	Public Review and Conduct Hearings (90 days)	90 edays	Fri 6/29/12	Thu 9/27/12
67	**Response to Comments on Draft EIR/EIS**	**158 days**	**Mon 7/9/12**	**Thu 2/14/13**
68	Prepare Response to Comments on Draft EIR/EIS	69 days	Mon 7/9/12	Thu 10/11/12
69	Agency Review	11 days	Fri 10/12/12	Fri 10/26/12
70	Initiate Formal Consultation	135 edays	Tue 10/2/12	Thu 2/14/13
71	**Final EIR/EIS**	**99 days**	**Mon 8/6/12**	**Thu 12/20/12**
72	Prepare Admin Draft Final EIR/EIS	73 days	Mon 8/6/12	Wed 11/14/12
73	Agency Review	11 days	Thu 11/15/12	Thu 11/29/12
74	Prepare Final EIR/EIS	16 days	Thu 11/29/12	Thu 12/20/12
75	**Final EIR/EIS Review**	**42 days**	**Thu 12/20/12**	**Fri 2/15/13**
76	Public Review and Conduct Hearings (30 days)	30 edays	Thu 12/20/12	Sat 1/19/13
77	Prepare Response to Comments	11 days	Fri 1/18/13	Fri 2/1/13
78	Agency Review	10 days	Mon 2/4/13	Fri 2/15/13
79	Prepare ROD (Final EIR/EIS Complete)	20 days	Mon 1/21/13	Fri 2/15/13



Task Progress Milestone Summary

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