Purpose: Technical Memorandum No. 4: Environmental, provides a summary of the recommended methods for preparing an Environmental Constraints Memorandum (ECM).

**Intent of the Environmental Constraints Memorandum (ECM)**

The intent of the ECM is to identify and depict the natural and community resources in the project area that could be adversely impacted by project development. In particular, the ECM is to evaluate resources afforded regulatory protection that may affect the feasibility of the project by constraining the design, or by introducing regulatory authority or processes that may prolong or inhibit the project’s environmental clearance process. This information will allow the project team to:

- Anticipate future environmental requirements for the project and the approximate timeline for obtaining project approvals, thereby making the environmental process more predictable, and allowing for accurate incorporation of the process into the project development and construction schedules.
- Establish the most appropriate environmental clearance document and the required accompanying technical reports.
- Consider design changes early in the process that will reduce budget and time for project implementation.
- Gain a more accurate picture of the regulatory requirements and costs associated with different alternative designs and to discard alternatives for which the environmental constraints would be too great.

**Technical Analysis Approach**

Environmental clearance (design phase) and regulatory compliance (permitting phase) have the potential to directly impact a project’s scope, schedule and budget. Therefore, depicting and presenting the existing environmental resources early on is the key to avoiding and minimizing environmental effects and to facilitating design decisions by the project team. The ECM should provide materials to the project team on:

- Locations of environmental constraints and identification of areas to avoid if possible.
- The regulatory authority associated with each constraint identified, and a compatible list of agency thresholds (if any) that the designers and project owner/project management team should be aware of during project design.
- The scope of studies necessary to address the constraints identified, and the likely environmental process that would be required through the permitting and construction phase (more than one path may be defined and assumptions listed for each).
- Opportunities for early coordination with regulatory agencies to develop consensus on the approach to resource avoidance and potential mitigation.
- Other strategies that could reduce the overall project schedule, the scope of future studies, and the project budget.
Consistent communication between the engineering team and the environmental constraints analysis team is key at this phase. Monthly meetings should be scheduled to discuss and verify project assumptions, right of way, construction methodology being considered, and access points and easements. Initially, assumptions may need to be made (and clearly stated on maps and in text of report) regarding the project limits, including access and construction staging areas, and the types and duration of disturbances.

It is recommended that the most current CEQA Appendix G topics (or a local agency CEQA checklist if available) be used as a starting point for identifying the environmental resources that may represent constraints. If Federal funds are being considered, NEPA topics (such as environmental justice and Section 4(f) resources) should also be addressed.

Typically, research to determine environmental constraints requires a multi-pronged approach that includes contacting City and County planning departments, reviewing existing zoning and general plan designations; as well as other applicable resources code or public code regulations that will apply to the project. If the regulations are scheduled to be updated (or if a permit requirement is changing on a certain date), this should be indicated.

Recently certified environmental documents in the project vicinity should be reviewed to get an idea of the trends in the area and the lessons learned and identify any potential planning conflicts. Discussions with state, federal, and local regulatory agencies using an inter-agency forum is a suggested means of initiating engagement and early coordination.

The following data collection activities are commonly used in preparing an ECM:

1) Site visit
2) Request GIS/AutoCAD project area boundary from design team
3) Determine if the project is in the California Coastal Zone (and applicable requirements if so)
4) Identify any watercourses (including blueline streams and other U.S. waters) in the project area and what the condition is (channelized, riparian, degraded)
5) Determine if Caltrans has jurisdiction in any portion of the project area
6) Review of other pending and approved environmental documents from projects in the immediate project area
   a) Identify resources encountered
   b) Review contacts and data sources
7) Review of other pending and approved environmental documents from similar projects in the region
   a) Identify sensitive species and habitat or mitigation programs
   b) Review operational stormwater requirements from RWQCB
8) Contact the planning department/assessors to:
   a) obtain all available database layers
   b) ask about habitat conservation programs and local ordinances
   c) discuss nearby community resources
   d) obtain noise ordinance
   e) obtain tree ordinance, if applicable
9) Contact the air district to determine requirements
10) Request record search from California Historical Resource Information System (CHRIS)

11) Download information from the California Natural Diversity Database

12) If possible, informally consult with ACOE, CDFG, and USFWS to verify baseline findings

**Environmental Constraints Memorandum Format**

The ECM should be approximately 20-40 pages in length and include a spatial database in either ArcGIS or AutoCAD format. The text portion of the ECM report will contain the following information, submitted in the format shown below, or in a similar format that provides all of the requested information.

*Sample Format: Text Discussions*

1) Executive Summary
   a) Purpose of the ECM
   b) Overview of environmental process and constraints for similar projects in the region
   c) Summary of Findings
   d) A tabular presentation of environmental constraints for each alternative that directly relates to the accompanying special database.

2) Project Understanding
   a) Brief Description of Project Alternatives
   b) Project Objectives

3) Natural Resource Constraints
   a) Floodplain
   b) Biological Resources
      i) Sensitive species and plant habitat
      ii) Wetlands
      iii) Documented special habitats (critical habitat designations, mitigation sites)
   c) Cultural Resources
      i) General sensitivity for archaeological and paleontological resources
      ii) Known historic or prehistoric resources

4) Community Resources
   a) Parks, Schools, and other Community Facilities
   b) Section 4(f) resources

5) Permitting
   a) Jurisdiction
   b) Estimated permitting requirements
   c) Permitting timelines
   d) Opportunities to reduce permitting requirements

6) Conclusions and Recommendations
   a) For each alternative:
      i) Environmentally-sensitive areas to avoid
      ii) Design considerations or changes to reduce environmental impacts or effects to jurisdictional resources
Anticipated environmental process and document, relative cost and timeline related to environmental compliance

List of required technical reports and regulatory permits (tabular format)

Opportunities for early coordination with regulatory agencies

Data Gaps

Summary of locations and/or resources requiring additional study due to limits of available data

References and Agencies Consulted

Annotated list of sources, including dates, authors, and points of contact

The spatial database should provide the database layers shown below, plus any other layers that the consultant considers important in providing information on the project-area constraints. It is also helpful if the database includes hyperlinked photographs of resources identified during field visits. To reduce printing costs, the database may be provided on DVD-ROM disks or flash drive.

Sample Format: Spatial Database Layers

1) Aerial photographic base image

2) Project boundaries

3) Floodplain

4) Wetlands

5) Biological species occurrences

6) Watersheds

7) Land Use
   a) Prime agricultural land
   b) Community facilities, including parks and schools
   c) Roads
   d) Assessor’s Parcel Number
   e) Zoning
   f) Utility Easements

8) Documented special habitats (critical habitat designations, habitat mitigation sites)

9) Regulatory Jurisdiction (CDFG, ACOE, Flood Control)

Assumptions

- These environmental topics and database layers are considered to be a suggested list, and are not all inclusive. The consultant should add discussions and topics that are relevant to environmental constraints. Other resources may be identified pursuant to the CEQA checklist or the NEPA process.
- It is assumed that these database layers can be obtained from existing sources; no new data should be developed.
- No protocol studies for sensitive species or cultural resource surveys are required at this phase of project development. Field work should be limited to foot and windshield surveys.