

DRAFT/FINAL (INTERIM)
FEASIBILITY REPORT AND
ENVIRONMENTAL IMPACT
STATEMENT
AUTHORIZED NAME OF STUDY
COUNTY, STATE

Name District
South Pacific Division

Date

COVER SHEET
DRAFT/FINAL (INTERIM)
FEASIBILITY REPORT AND ENVIRONMENTAL IMPACT
STATEMENT
AUTHORIZED NAME OF STUDY
COUNTY, STATE

The responsible lead Federal agency for this study is the U. S. Army Engineer District, Insert name. The non-Federal sponsor for the study is insert name. The responsible cooperating Federal agency is the Insert name. This report is a combined feasibility report and environmental impact statement complying with requirements of the U.S. Army Corps of Engineers (Corps) and the Council of Environmental Quality, and is intended to reduce duplication and paperwork. An asterisk in the table of contents notes paragraphs that are required for National Environmental Policy Act compliance.

Abstract: Insert single paragraph abstract

Purpose, findings, recommendations

THE OFFICIAL CLOSING DATE FOR THE RECEIPT OF COMMENTS IS 45/30 DAYS FROM THE DATE ON WHICH THE NOTICE OF AVAILABILITY OF THIS DRAFT/FINAL FEASIBILITY REPORT/ENVIRONMENTAL IMPACT STATEMENT APPEARS IN THE FEDERAL REGISTER.

If you would like further information regarding this document, please contact:

Name of District Contact Person

Address

Telephone number

E-Mail Address

AUTHORIZED NAME OF STUDY

SUMMARY

1.0 SUMMARY INTRODUCTION

This report was prepared as an (*interim/final*) response to the study authorization contained in *reference study authority*. The report presents the results of studies for *indicate purpose(s)* in the *indicate location*. In response to the study authority the reconnaissance phase of the study was initiated on *indicate date*. The reconnaissance resulted in the finding that there was an interest in continuing the study into the feasibility phase. The *indicate study partner*, as the non-Federal sponsor, and the U.S. Army Corps of Engineers (Corps) initiated the feasibility phase of the study on *indicate date*. The feasibility phase study cost was shared equally between the Corps and the sponsor.

This summary is intended to inform the reader of the major factors which were considered in the investigation and influenced the decisions documented in this report.

2.0 MAJOR CONCLUSIONS AND FINDINGS

a. Planning Objectives

The investigation of the problems and opportunities in the study area led to the establishment of the following planning objectives:

* *list planning objectives*

*

*

b. Alternatives

A wide range of alternatives was formulated to address the planning objectives. Findings relative to these alternatives are as follows:

1) Identification of the NED Plan

The Federal objective in water resources planning is to contribute to the National economic development (NED) consistent with protecting the Nation's environment, pursuant to national environmental statutes, applicable executive orders and other planning requirements. Accordingly, it was found that the *describe plan* best meets the NED objective. This plan, referred to as *name plan*, is the NED plan.

2) Identification of the National Ecosystem Restoration (NER) Plan

The *describe plan* reasonably maximizes net ecosystem restoration benefits. This plan, referred to as *name plan* is designated as the National Ecosystem Restoration Plan.

3) Identification of the Optimum Trade-off Plan

The *describe plan* provides the best-mix of contributions to net national economic development and ecosystem restoration. This plan, referred to as *name plan* is designated as the Optimum Trade-off Plan.

4) Identification of the Locally Preferred Plan

The *describe plan* is the plan that, in the opinion of the sponsor best meets the needs of the local community because it *provide basis*. This plan, referred to as *name plan* is designated as the Locally Preferred Plan.

5) Identification of the *(Tentatively)* Selected Plan

The plan that best *provide rationale for selection* is *describe plan* and is *(tentatively)* selected for implementation. This plan, referred to as *name plan*, is the *(tentatively)* selected plan.

c. Features of the *(Tentatively)* Selected Plan

Primary features of the *(tentatively)* selected plan are shown on Plate 1 and are summarized below:

- * *Describe plan features, including mitigation and real estate*
- *
- *
- *

d. Benefits and Costs of the *Tentatively* Selected Plan

The *tentatively* selected plan would provide *describe types of benefit(s) and location(s)*. Estimated total annual costs and annual benefits are calculated at an interest rate of *rate* percent, over a 50-year period of economic analysis. Table 1 shows a breakdown of first and annual costs and benefits of the *tentatively* selected plan, along with the ecosystem restoration benefits, net economic benefits and benefit-to-cost ratio.

TABLE 1
ECONOMIC SUMMARY OF *TENTATIVELY*SELECTED PLAN
(October *year* Price Levels)

I. Project Costs	
a. Project First cost	
1. Federal	\$ -
2. Non-Federal	\$ -
Total First Cost	\$ -
b. Annual Costs	
1. Interest and Amortization (On First Cost)	\$ -
2. Interest During Construction	\$ -
3. OMRR&R	\$ -
Total Annual Project Costs	\$ -
II. Total Benefits	
a. Annual NED Benefits	\$ -
b. Ecosystem Restoration Benefits	
III. Net Annual NED Benefits	\$ -
IV. Benefit/Cost Ratio (B/C)	#DIV/0!

e. Local Support

The *provide name of sponsor* has expressed the desire for implementing the project and sponsoring project construction in accordance with the items of local cooperation that are set forth in this report. The financial analysis indicates that the non-Federal sponsor is financially capable of participating in the *tentatively* selected plan.

f. Findings Regarding Section 404(b), Clean Water Act, as amended.

Insert findings

- g. Findings Regarding Section 7, Endangered Species Act

Insert findings

- h. Findings Regarding the Clean Air Act, as amended

Insert findings

- i. Findings Regarding Executive Order 11988

An evaluation has been made in accordance with Executive Order 11988 – Flood Plain management – to determine the effect of the selected plan on the base flood plain. It was found that the plan would insert findings.

- j. Findings Regarding Executive Order 11990

Insert findings

3.0 AREAS OF CONTROVERSY

Describe the issues that were the subject of major disagreement among agency and public interests during the course of the study, including the outcome of any resolved controversies.

4.0 UNRESOLVED ISSUES

Describe the unresolved major disagreements among study area interests and actions proposed or taken to resolve disagreements.

AUTHROIZED NAME OF STUDY
FEASIBILITY STUDY

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AUTHORIZED NAME OF STUDY
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1.0 STUDY INFORMATION

This chapter provides basic background for the study. It also lists the steps in the Corps planning process and relates them to the organization of this report.

1.1 STUDY AUTHORITY

This report was prepared as an *(interim/final)* response to the following *(authority/authorities)*:

Reference authority, which reads:

“Provide the full text of the principle resolution(s) or other study authority.”

1.2 PURPOSE AND SCOPE

The purpose of this report is to present the findings of a feasibility investigation which was conducted to determine if there is a Corps interest in providing *purpose(s)* improvements *indicate where*. This report analyzes the problems and opportunities and expresses desired outcomes as planning objectives. Alternatives are then developed to address these objectives. These alternatives include a plan of no action and various combinations of structural and non-structural measures. The economic and environmental impacts of the alternatives are then evaluated and a feasible plan is *(tentatively)* selected. The report also presents details on Corps and sponsor participation needed to implement the plan. The report concludes with a recommendation for authorization.

1.3 LOCATION OF THE STUDY AREA

Short paragraph description along with a Map

1.4 HISTORY OF THE INVESTIGATION

In response to the study authority the reconnaissance phase of the study was initiated on *indicate date*. This phase of the study resulted in the finding that there was a Federal interest in continuing the study into the feasibility phase. The *indicate study partner*, as the non-Federal sponsor, and the U.S. Army Corps of Engineers (Corps) initiated the feasibility phase of the study on *indicate date*. The feasibility phase study cost was shared equally between the Corps and the sponsor. This report presents the results of both phases of study.

1.5 PRIOR REPORTS AND EXISTING PROJECTS

a. The following reports are being reviewed as directed in the study authorization:

* Short paragraph discussion of each report.

*

*

b. This study is investigating potential modifications of the following Corps project(s):

* Short paragraph discussion with MAP

*

1.6 PLANNING PROCESS AND REPORT ORGANIZATION

The planning process consists of six major steps: (1) Specification of water and related land resources problems and opportunities; (2) Inventory, forecast and analysis of water and related land resources conditions within the study area; (3) Formulation of alternative plans; (4) Evaluation of the effects of the alternative plans; (5) Comparison of the alternative plans; and (6) Selection of the recommended plan based upon the comparison of the alternative plans.

The chapter headings and order in this report generally follow the outline of an Environmental Impact Statement. Chapters of the report relate to the six steps of the planning process as follows:

* The second chapter of this report, Need for and Objectives of Action, covers the first step in the planning process (Specification of water and related land resources problems and opportunities).

* The third chapter of this report, Alternatives, is the heart of the report and is therefore placed before the more detailed discussions of resources and impacts. It covers the third step in the planning process (Formulation of alternatives), the fifth step in the planning process (Comparison of alternative plans), and the sixth step of the planning process (Selection of the recommended plan based upon the comparison of the alternative plans).

* The fourth chapter of this report, Affected Environment, covers the second step of the planning process (Inventory, forecast and analysis of water and related land resources in the study area).

* And, the fifth chapter of this report, Environmental Consequences, covers the fourth step of the planning process (Evaluation of the effects of the alternative plans).

2.0 NEED FOR AND OBJECTIVES OF ACTION

This chapter presents the results of the first step of the planning process, the specification of water and related land resources problems and opportunities in the study area. The chapter concludes with the establishment of planning objectives and planning constraints, which is the basis for the formulation of alternative plans.

2.1 NATIONAL OBJECTIVES

The national or Federal objective of water and related land resources planning is to contribute to national economic development consistent with protecting the nation's environment, pursuant to national environmental statutes, applicable executive orders, and other Federal planning requirements. Contributions to national economic development (NED) are increases in the net value of the national output of goods and services, expressed in monetary units. Contributions to NED are the direct net benefits that accrue in the planning area and the rest of the nation.

The Corps has added a second national objective for Ecosystem Restoration in response to legislation and administration policy. This objective is to contribute to the nation's ecosystems through ecosystem restoration, with contributions measured by changes in the amounts and values of habitat.

2.2 PUBLIC CONCERNS

A number of public concerns have been identified during the course of the study. Initial concerns were expressed in the study authorization. Additional input was received through coordination with the sponsor, coordination with other agencies, public review of draft and interim products, and through workshops and public meetings. A discussion of public involvement is included in Chapter 6, Public Involvement, Review and Consultation. The public concerns that are related to the establishment of planning objectives and planning constraints are:

- *
- *
- *

2.3 PROBLEMS AND OPPORTUNITIES

The evaluation of public concerns reflects a range of needs, which are perceived by the public. This section describes these needs in the context of problems and opportunities that can be addressed through water and related land resource management. The problems and opportunities are based upon the without project conditions that are described in Chapter 4, Affected Environment. The problems and opportunities that have been identified are:

a. Provide a discussion of each problem and opportunity – include maps and charts as appropriate

- b.
- c.

2.4 PLANNING OBJECTIVES

The national objectives are general statements and not specific enough for direct use in plan formulation. The water and related land resource problems and opportunities identified in this study are stated as specific planning objectives to provide focus for the formulation of alternatives. These planning objectives

reflect the problems and opportunities and represent desired positive changes in the without project conditions. The planning objectives are specified as follows:

a. To reduce

b. To increase

2.5 PLANNING CONSTRAINTS

Unlike planning objectives that represent desired positive changes, planning constraints represent restrictions that should not be violated. The planning constraints identified in this study are as follows:

a. Compliance with local land use plans

b. Applicable Executive Orders, Statutes and Regulations

3.0 ALTERNATIVES

This chapter describes the development of alternative plans that address the planning objectives, the comparison of those plans and the *tentative* selection of a plan. It also describes the *tentatively* selected plan and its implementation requirements.

3.1 PLAN FORMULATION RATIONALE

A wide variety of management measures were developed that would address one or more of the planning objectives. These measures were then evaluated and then screened. Alternative plans were then developed which comprised one or more of the management measures.

3.2 MANAGEMENT MEASURES AND PRELIMINARY PLANS

a. No Action

The Corps is required to consider the option of “No Action” as one of the alternatives in order to comply with the requirements of the National Environmental Policy Act (NEPA). With the No Action plan, which is synonymous with the “Without Project Condition,” it is assumed that no project would be implemented by the Federal Government or by local interests to achieve the planning objectives. The No Action Plan forms the basis which all other alternative plans are measured against. Since this plan is required by NEPA to be included among the candidate plans in the final array of alternatives, it is described in more detail in Paragraph 3.3 c. of this chapter.

b. Measures to address identified planning objectives

A management measure is a feature or activity at a site, which address one or more of the planning objectives. A wide variety of measures were considered, some of which were found to be infeasible due to technical, economic, or environmental constraints. Each measure was assessed and a determination made regarding whether it should be retained in the formulation of alternative plans. The descriptions and results of the evaluations of the measures considered in this study are presented below:

- (1) Non-Structural
- (2) Structural
- (3) Separable features
- (4) Additional Measures

With the management measures described above, there are design requirements that must be included for the formulation of complete alternative plans. These measures include the following:

- *
- *
- *

c. Preliminary Plans eliminated from further consideration

- *
- *
- *

d. Conclusions from the Preliminary Screening

3.3 FINAL ARRAY OF ALTERNATIVES

a. Basis for Final Alternatives

With those management measures or plans that survived the screening described above, a final array of alternatives was formulated. This array of plans demonstrate the trade-offs between (describe the major variables that differentiate the alternatives. For instance if multiple purposes were being considered, alternative plans would reflect different combinations of the planning objectives (these alternatives would also be used to determine separable and joint costs). Significant breaks in the cost curve may be the basis for alternatives. Alternatives may be developed to better meet formulation criteria – less efficient plan to meet local acceptability concerns (development issues, environmental concerns, locals can only afford so much), less efficient plan to increase effectiveness (locals buy up outputs greater than the NED Plan), etc.

b. Optimization and Incremental Analysis

Incremental analysis would provide array of best buy plans to be included in the final array. Sub-optimal plans that are not effected by potential trade-offs to better meet other formulation criteria should not be included in the final array. Appropriate charts and graphs should be included.

c. Alternative __: No Action

The alternative of no action assumes that that no project would be implemented by either the Corps or by local interests to achieve the planning objectives. The no action alternative is synonymous with the without project condition. Critical assumptions in defining the no action alternative include:

- *
- *
- *

d. Alternative __:

Provide a concise description of the alternative. Don't forget to include appropriate maps and drawings.

e. Alternative __:

f. Alternative __:

3.4 COMPARISON OF ALTERNATIVES

Comparison is the fifth step in the planning process, which is based on the evaluation of the impacts of the alternatives, the fourth step in the planning process. The more detailed evaluations of the impacts of the alternatives are presented in Chapter 5, Environmental Consequences.

a. Comparison of Plan Features

Features of the alternative plans are displayed in a comparative format on Table 3-1. The costs of these features are included on Table 3-2, also in a comparative format.

TABLE 3-1
COMPARISON OF ALTERNATIVE PLAN FEATURES

	Characteristic	Plan ____	Plan ____	Plan ____	Plan ____
1	<i>Exceedance Probability</i>				
2	<i>Project Length (ft)</i>				
3	<i>Floodwall Height (ft)</i>				
4	<i>Annual Dredging (c.y.)</i>				
5	<i>Land Acquisition (Acres)</i>				
a.	<i>Permanent Easement</i>				
b.	<i>Temporary Easement</i>				
6	<i>Mitigation Area (Acres)</i>				

TABLE 3-2
COMPARISON OF ALTERNATIVE PLAN COSTS

Account	Item	Plan ____	Plan ____	Plan ____	Plan ____
1	Lands and Damages				
2	Relocations				
#	<i>Construction</i>				
#	<i>Construction</i>				
#	<i>Construction</i>				
18	Cultural Resources				
	Subtotal	\$ -	\$ -	\$ -	\$ -
30	E&D				
31	S&A				
	Subtotal	\$ -	\$ -	\$ -	\$ -
	Associated Costs				
	Total First cost	\$ -	\$ -	\$ -	\$ -
	Annual OMRR&R Cost				

b. System of Accounts

(1) Methodology

A method of displaying the positive and negative effects of various plans is to use the System of Accounts as suggested by the U.S. Water Resources Council. The accounts are categories of long-term impacts, defined in such a manner that each proposed plan can be easily compared to other. The four accounts used to compare proposed water resource development plans are the national economic development (NED), environmental quality (EQ), regional economic development (RED) and other social effects (OSE) accounts.

(2) National Economic Development (NED)

The intent of comparing alternative flood control plans in terms of national economic development is to identify the beneficial and adverse effects that the plans may have on the national economy. Beneficial effects are considered to be increases in the economic value of the national output of goods and services

attributable to a plan. Increases in NED are expressed as a the plans economic benefits and the adverse NED effects are the investment opportunities lost by committing funds to the implementation of a plan. Comparison of the plans under consideration using the NED account is shown on Table 3-3. The values for net benefits shown on the table are the differences between the average annual economic benefits associate with each plan and the average annual cost of the plans. The table indicates that Plan __ has higher average annual net benefits than the other action alternatives.

Table 3-3_
NATIONAL ECONOMIC DEVELOPMENT ACCOUNT

		Plan ____	Plan ____	Plan ____	Plan ____
1	Average Annual Beneficial Impacts				
	a. <i>Benefit type</i>				
	b. <i>Benefit type</i>				
	c. <i>Benefit type</i>				
	d. <i>Benefit type</i>				
	e. <i>Benefit type</i>				
	f. <i>Benefit type - recreation</i>				
	Total Annual Benefits	\$ -	\$ -	\$ -	\$ -
2	Project Costs				
	a. Project First Costs				
	b. Annual Costs				
	1 Interest & Amortization				
	2 Interest During Construction				
	3 OMRR&R				
	Total Annual Project Costs	\$ -	\$ -	\$ -	\$ -
3	Net Annual Benefits	\$ -	\$ -	\$ -	\$ -
4	Benefit/Cost Ratio	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

(3) Environmental Quality (EQ)

The environmental quality account is another means of evaluating the alternatives to assist in making a plan recommendation. The EQ account is intended to display the long-term effects that the alternative plans may have on significant environmental resources. Significant environmental resources are defined by the Water Resources Council as those components of the ecological, cultural and aesthetic environments which, if affected by the alternative plans, could have a material bearing on the decision-making process. A comparison of the effects that the proposed plans may have on the EQ resources is shown on Table 3-4.

Table 3-4
ENVIRONMENTAL QUALITY ACCOUNT

	Plan ____	Plan ____	Plan ____	Plan ____
1. Physical Environment				
Sedimentation and Erosion				
Flooding				
Water Quality				
Air Quality				
Noise				
2. Biological Environment				
Aquatic Habitat				
Riparian Habitat				
Wetland Habitat				
Upland Habitat				
Endangered Species				
3. Cultural Environment				
Cultural Resources				
Aesthetics				

(4) Regional Economic Development (RED)

The regional economic development account is intended to illustrate the effects that the proposed plans would have on regional economic activity, specifically, regional income and regional employment. The comparison of possible effects that the plans may have on these resources is shown in Table 3-5.

TABLE 3-5
REGIONAL DEVELOPMENT ACCOUNT

	Plan ____	Plan ____	Plan ____	Plan ____
Employment & Labor Force				
Business and Industrial Activity				
Local Government Finance				

(5) Other Social Effects (RED)

The other social effects (OSE) account typically includes long-term community impacts in the areas of public facilities and services, recreational opportunities, transportation and traffic and man-made and natural resources. A comparison of the effects that the proposed alternatives would have on OSE resources is shown on Table 3-6.

TABLE 3-6_
OTHER SOCIAL EFFECTS ACCOUNT

	Plan ____	Plan ____	Plan ____	Plan ____
Public Health and Safety				
Public Facilities and Services				
Recreation and Public Access				
Traffic and Transportation				
Man made Resources				
Natural Resources				

c. Formulation Criteria

The final array of alternative plans are compared using four formulation criteria suggested by the U.S. Water Resources Council. These criteria are completeness, effectiveness, efficiency and acceptability.

(1) Completeness

Completeness is a determination of whether or not the plan includes all elements necessary to achieve the objectives of the plan. It is an indication of the degree that the outputs of the plan are dependent upon the actions of others. Compare the plans with respect to this criteria.

(2) Effectiveness

All of the plans in the final array provide some contribution to the planning objectives. Effectiveness is defined as a measure of the extent to which a plan achieves its objectives. Compare the plans with respect to this criteria.

(3) Efficiency

All of the plans in the final array provide net benefits. Efficiency is a measure of the cost effectiveness of the plan expressed in net benefits. Compare the plans with respect to this criteria.

(4) Acceptability

All of the plans in the final array must be in accordance with Federal law and policy. The comparison of acceptability is defined as acceptance of the plan to the local sponsor and the concerned public. Compare the plans with respect to this criteria. The plans are either more or less acceptable than other plans. Since all plans meet Federal criteria, they are considered minimally acceptable.(plans that do not meet this criteria should have been screened at the preliminary plan stage..

d. Trade-off Analysis

The first trade-offs to be considered in evaluating the final alternative plans is to distinguish between the No Action Alternative and the other action alternatives. This is followed by the trade-off between the action alternatives.

(1) Action versus No Action

The no action alternative ranks lower than the action alternatives in that it is not effective in meeting any of the planning objectives. It has no positive benefits or impacts, since it is the basis from which the impacts and benefits are measured. It does not, however, involve incurring the implementation cost or adverse impacts of the action alternatives.

(2) Trade-Offs between Action Alternatives

The second level of trade-offs to consider is those between the action alternatives. Of the action alternatives considered, there is an obvious trade-off between describe trade-offs. Compare responses to the formulation criteria – efficiency versus effectiveness, efficiency versus acceptability.

3.5 PLAN SELECTION

The following designations are made in the selection process:

a. Rationale for Designation of the NED Plan

The ____Plan is the plan that maximizes net national economic benefits. This plan is, therefore, designated as the NED Plan.

b. Rationale for Designation of the National Ecosystem Restoration (NER) Plan

The ____Plan is the plan that reasonably maximizes net ecosystem restoration benefits by having the maximum excess of beneficial ecosystem effects for the costs. It is, therefore, designated as the National Ecosystem Restoration Plan.

c. Rationale for Designation of the Optimum Trade-off Plan

The ____Plan is the plan that provides the best mix of contributions to net national economic development and ecosystem restoration. It attempts to maximize the sum net of net economic and ecosystem effects. This plan is, therefore, designated as the Optimum Trade-off Plan.

d. Rationale for Designation of the Locally Preferred Plan

The ____Plan is the plan that, in the opinion of the sponsor, best meets the needs of the local community. The designation is based on the following considerations:

*

*

d. Rationale for Designation of the Selected Plan

The ____ Plan is designated as the selected plan for the following reasons:

*

*

3.6 RISK AND UNCERTAINTY

Areas of risk and uncertainty are analyzed and described so that decisions can be made with knowledge of the degree of reliability of the estimated benefits and costs and of the effectiveness of alternative plans. Areas of risk and uncertainty are described in the following table.

Table 3-7
AREAS OF RISK AND UNCERTAINTY

Area of Concern	Likelihood	Potential Impacts	Mitigation Measures

3.7 DESCRIPTION OF THE (TENTITIVELY) SELECTED PLAN

a. Plan Components (including mitigation)

Include descriptions with appropriate maps and drawings

b. Design and Construction Considerations

Make reference to Engineering Appendix in discussion.

c. Real Estate Requirements

Describe gross appraisal and real estate plan

d. Local Betterments

Costs and Features over the NED Plan

e. Operations, Maintenance and Replacement Considerations

Include monitoring and adaptive management in description

f. Economic Summary

The estimated first costs and OMRR&R costs have been developed using the Corps MACACES cost estimating system. The costs are allocated between the project purposes. These costs, along with total annual costs, annual benefits, net economic benefits and the benefits-to-cost ratios are shown on the following table. These values are based on October ___price levels, an interest rate of ___% and a 50-year period of economic analysis.

TABLE 3-8
ECONOMIC ANALYSIS OF THE TENTATIVELY SELECTED PLAN

ESTIMATE OF FIRST COSTS						
Act	Item	LOOD CONTR	RESTORATION	RECREATION	BETTERMENTS	TOTAL
1	Lands and Damages					\$ -
2	Relocations					\$ -
#	<i>Feature</i>					\$ -
#	<i>Feature</i>					\$ -
#	<i>Feature</i>					\$ -
18	Cultural Resources					\$ -
	Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -
30	E&D					\$ -
31	S&A					\$ -
	Subtotal First Cost	\$ -	\$ -	\$ -	\$ -	\$ -
	Associated Cost					\$ -
	Total First Cost	\$ -	\$ -	\$ -	\$ -	\$ -
ESTIMATE OF ANNUAL COSTS						
	Interest and Amoritazon					\$ -
	Interest During Construction					\$ -
	OMRR&R					\$ -
	Total Annual Costs	\$ -	\$ -	\$ -	\$ -	\$ -
AVERAGE ANNUAL BENEFITS						
	<i>Benefit Categories</i>					\$ -
	<i>Benefit Categories</i>					\$ -
	<i>Benefit Categories</i>					\$ -
	<i>Benefit Categories</i>					\$ -
	<i>Benefit Categories</i>					\$ -
	Recreation					\$ -
	Total Annual Benefits	\$ -	NA	\$ -	NA	\$ -
	NET ANNUAL BENEFITS	\$ -	NA	\$ -	NA	\$ -
	BENEFIT-TO-COST RATIO	#DIV/0!	NA	#DIV/0!	NA	#DIV/0!

g. Ecosystem Restoration Benefits

Provide Discussion

h. Environmental Commitments

Table 3-9 is a listing of the significant environmental resources of principal national concern. Environmental commitments that are incorporated into the *tentatively* selected plan are listed as follows:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

TABLE 3-9
EFFECTS ON NATURAL AND CULTURAL RESOURCES

<u>Types of Resources</u>	<u>Authorities</u>	<u>Measurement of Effects</u>
Air Quality	Clean Air Act, as amended	<i>Enter area in square miles where classification</i>
Areas of Concern within the coastal zone	Coastal Zone Management Act of 1973, as amended	<i>gains and losses in appropriate units</i>
Endangered and Threatened Species	Endangered Species Act of 1973, as amended	<i>List of species affected and are of critical habitat types gained or lost</i>
Fish and Wildlife Habitat	Fish and Wildlife Coordination Act	<i>Enter are of each habitat type gained or lost in acres</i>
Floodplains	Executive Order 11988, Floodplain Management	<i>Enter area gained and lost in acres</i>
Historical and Cultural Properties	National Historic Preservation Act of 1966, as amended	<i>Enter number and type of National Register properties affected (listed or eligible)</i>
Prime and Unique Farmland	CEQ Memorandum of 1-Aug-80	<i>Acres of farmland type and gained and lost</i>
Water Quality	Clean Water Act of 1977, as amended	<i>Enter length in miles for water course, and a</i>
Wetlands	Executive Order 11990, Clean Water Act of 1977, as amended	<i>Area of each wetland type gained or lost</i>
Wild and Scenic Rivers	Wild and Scenic Rivers Act, as amended	<i>Enter length of each river type gained and lo</i>

"Not present in the planning area" indicates that a type of resource is not present.

"No effect" indicates that a type of resource is not affected.

i. Relationship to environmental requirements

The degree to which the *tentatively* selected plan complies with the applicable laws, policies and plans is summarized in Table 3-10.

TABLE 3-10
DEGREE OF COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

	Environmental Requirement	Status
Federal		
1	National Environmental Policy Act	
2	Clean Air Act	
3	River and Harbor Act	
4	Clean Water Act, Section 404(b)	
5	CEQ Policy on Prime or Unique Farmlands	
6	Federal Water Project Recreation Act	
7	Land and Water Conservation Fund Act	
8	Marine Research and Sanctuaries Act	
9	Watershed Protection and Flood Prevention Act	
10	Wild and Scenic Rivers Act	
11	EO 11988 - Flood Plain Management	
12	Archaeological and Historic Preservation Act	
13	EO 11593 - Protection and Enhancement fo the Cultural Environment	
14	National Historic Presevation Act	
15	Coastal Zone Managment Act	
16	Fish and Wildlife Coordination Act	
17	Estuary Protection Act	
18	Endangered Species Act	
19	Executive Order 11990 - Wetlands	
20	Chief of Engineers Wetlands Policy	
State		
21	State of California Wetlands Policy	
Local		
22	Local Land Use Plans	

Legend:

FC= Full Compliance – All requirements of the law, policy, or related regulations have be

PC= Partial Compliance – Some requirements of the law, policy, or related regulations h been met.

N/A= Not applicable – The law, policy, or related regulations do not apply.

3.8 IMPLEMENTATION REQUIREMENTS

a. Institutional Requirements

The schedule for project implementation assumes authorization in the proposed Water Resources Development Act of _____. After project authorization, the project would be eligible for construction funding. The project would be considered for inclusion in the President's budget based: on national priorities, magnitude of the Federal commitment, economic and environmental feasibility, level of local support, willingness of the non-Federal sponsor to find its share of the project cost and the budget constraints that may exist at the time of funding. Once Congress appropriates Federal construction funds, the Corps and the non-Federal sponsor would enter into a project cooperation agreement (PCA). This PCA would define the Federal and non-Federal responsibilities for implementing, operating and maintaining the project.

The Corps would officially request the sponsor to acquire the necessary real estate immediately after the signing of the PCA. The advertisement of the construction contract would follow the certification of the real estate. The final acceptance and transfer of the project to the non-Federal sponsor would follow the

TABLE 3-11
IMPLEMENTATION SCHEDULE

<u>ITEM</u>	<u>Completion Date</u>
Plans and Specifications Complete	
Approval of New Construction Start	
PCA Signed	
Real Estate Acquisitions Completed	
Advertise Construction Contract	
Completion of Construction	

delivery of an O&M manual and as-built drawings. The estimated schedule for project implementation is shown in the following table:

b. Credit Provisions

Describe sponsors request, ASA(CW) approval etc.

c. Cost Apportionment

To be determined based on project purposes

TABLE 3-12
COST APPORTIONMENT

FLOOD CONTROL	FEDERAL	NON_FEDERAL	TOTAL
Lands and Damages			\$ -
Relocations			\$ -
Construction			\$ -
Subtotal	\$ -	\$ -	\$ -
E & D			\$ -
S & A			\$ -
Subtotal	\$ -	\$ -	\$ -
5% Cash	\$ -	\$ -	NA
Subtotal	\$ -	\$ -	\$ -
Additional Cash			NA
Subtotal	\$ -	\$ -	\$ -
Percent of first Cost	#DIV/0!	#DIV/0!	#DIV/0!
Adjustments			NA
Adjusted Total	\$ -	\$ -	\$ -
Adjusted % of First Cost	#DIV/0!	#DIV/0!	#DIV/0!

RESTORATION	FEDERAL	NON_FEDERAL	TOTAL
Lands and Damages			\$ -
Relocations			\$ -
Construction			\$ -
Subtotal	\$ -	\$ -	\$ -
E & D			\$ -
S & A			\$ -
Subtotal	\$ -	\$ -	\$ -
Adjustment			NA
Total Restoration	\$ -	\$ -	\$ -
Percent of Final Cost	#DIV/0!	#DIV/0!	#DIV/0!

RECREATION	FEDERAL	NON_FEDERAL	TOTAL
Lands and Damages			\$ -
Relocations			\$ -
Construction			\$ -
Subtotal	\$ -	\$ -	\$ -
E & D			\$ -
S & A			\$ -
Subtotal	\$ -	\$ -	\$ -
Adjustment			NA
Total Recreation	\$ -	\$ -	\$ -
Percent of Final Cost	#DIV/0!	#DIV/0!	#DIV/0!

BETTERMENTS	FEDERAL	NON_FEDERAL	TOTAL
Lands and Damages	NA		\$ -
Relocations	NA		\$ -
Construction	NA		\$ -
Subtotal	NA	\$ -	\$ -
E & D	NA		\$ -
S & A	NA		\$ -
Total Betterments	NA	\$ -	\$ -

1% CULTURAL RES		NA	
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ASSOCIATED COSTS	NA		\$ -
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	FEDERAL	NON_FEDERAL	TOTAL
Total First Cost	#VALUE!	#VALUE!	#VALUE!
Percent of Total	#VALUE!	#VALUE!	#VALUE!

d. Fully Funded Cost Estimate

The fully funded estimate for the *(tentatively)* selected plan includes price escalation using Office of Management and Budget inflation factors. Project funding requirements by fiscal year are summarized in Table 3-12, as fully funded estimates.

TABLE 3-13
FUNDING BY FISCAL YEAR

Federal	FY __	FY__	FY__	FY__	Total
E&D					\$ -
S&A					\$ -
Construction					\$ -
Cultural Resources					\$ -
Non-Federal Up Front Cash ()	\$ -	\$ -	\$ -	\$ -	\$ -
Federal LERRD					\$ -
Total Federal	\$ -	\$ -	\$ -	\$ -	\$ -
Non-Federal					
E&D					\$ -
S&A					\$ -
Construction					\$ -
Lands					\$ -
Non -Federal Up Front Cash					\$ -
Federal LERRD ()	\$ -	\$ -	\$ -	\$ -	\$ -
Total Non-Federal	\$ -	\$ -	\$ -	\$ -	\$ -
Total Project	\$ -	\$ -	\$ -	\$ -	\$ -

c. Permits

Provide discussion of permit requirements

d. Views of non-Federal sponsors and any other agencies having implementation responsibilities.

The *provide name of sponsor* has expressed the desire for implementing the project and sponsoring project construction in accordance with the items of local cooperation that are set forth in the recommendations chapter of this report. The financial analysis indicates that the non-Federal sponsor is financially capable of participating in the *tentatively* selected plan.

4.0 AFFECTED ENVIRONMENT

4.1 ENVIRONMENTAL SETTING OF THE STUDY AREA

The major characteristics of the study area's natural and human resources are provided to promote a general understanding of the area. This should normally not exceed one page in length.

4.2 SIGNIFICANT RESOURCES

This section will briefly describe the existing and without project conditions with respect to each resource. Assumptions regarding future projects need to be highlighted. Each resource is to be described in terms of its location, quantity and quality. It should explain what is significant and why it is significant. Items listed below are examples and need to be tailored to the study.

a. Physical Environment

- 1) Sedimentation and Erosion
- 2) Flooding
- 3) Water Quality
- 4) Air Quality
- 5) Noise

b. Biological Environment

- 1) Aquatic Habitat
- 2) Riparian Habitat
- 3) Wetland Habitat
- 4) Upland Habitat
- 5) Endangered Species

c. Cultural Environment

- 1) Cultural Resources
- 2) Aesthetics

d. Social-Economic Resources

- 1) Employment & Labor Force
- 2) Business and Industrial Activity
- 3) Local Government Finance
- 4) Public Health and Safety

5) Recreation and Public Access

6) Traffic and Transportation

7) Man-made Resources

8) Natural Resources

5.0 ENVIRONMENTAL CONSEQUENCES

5.1 ENVIRONMENTAL EVALUATION METHODOLOGY

The evaluation of impacts is based upon a comparison of conditions with and without the implementation of an alternative plan. Each description of an impact describes whether the impact is beneficial or adverse. In addition, the discussions identify direct, indirect and cumulative impacts, as well as, mitigation measures.

5.2 EFFECTS ON SIGNIFICANT RESOURCES

a. Physical Environment

- 1) Sedimentation and Erosion
- 2) Flooding
- 3) Water Quality
- 4) Air Quality
- 5) Noise

b. Biological Environment

- 1) Aquatic Habitat
- 2) Riparian Habitat
- 3) Wetland Habitat
- 4) Upland Habitat
- 5) Endangered Species

c. Cultural Environment

- 1) Cultural Resources
- 2) Aesthetics

d. Social-Economic Resources

- 1) Employment & Labor Force
- 2) Business and Industrial Activity
- 3) Local Government Finance
- 4) Public Health and Safety
- 5) Recreation and Public Access
- 6) Traffic and Transportation

7) Man-made Resources

8) Natural Resources

6.0 PUBLIC INVOLVEMENT, REVIEW AND CONSULTATION

6.1 PUBLIC INVOLVEMENT PROGRAM

To announce the start of the feasibility phase, a public notice was issued to residents, Federal, State and local agencies and interested groups. The recipients were invited to comment on the results of the earlier completed reconnaissance study and to provide input to the feasibility study, including the scoping of the environmental issues that should be address throughout the study. The notice announced a public workshop, which was held on date in the location, where the public was given the opportunity to comment.

A final public meeting was/will be held in location on date to present the findings of the feasibility study and to provide the public an opportunity to express their views on the results and recommendations of the feasibility study. Concerns expressed at the public meeting include:

*
*
*

6.2 INSTITUTIONAL INVOLVEMENT

a. Study Team

During the feasibility study, staff from the local sponsor's name participated as members of the study team. They participated directly in the study effort and on the Executive Committee. This involvement has led to support for the implementation of the tentatively selected plan.

b. Agency Participation

During the feasibility study, coordination with the U.S. Fish and Wildlife Service (USFWS) was conducted in accordance with the Fish and Wildlife Coordination Act. The USFWS has provided the Corps with a draft/final Coordination Act Report that includes their views on the tentatively selected plan. All USFWS recommendations have been given full consideration. The USFWS has coordinated their report with the National Marine Fisheries Service and the California Department of Fish and Game. The views of Federal and Regional agencies are summarized as follows:

* Short paragraph discussion
*
*

6.3 ADDITIONAL REQUIRED COORDINATION

Include a discussion of coordination requirements that have not yet been completed. If the draft report is to be used as the vehicle to initiate required coordination, then this should be explained.

6.4 REPORT RECIPIENTS

The following Federal, State, County, local and regional agencies, environmental organizations, and interested groups and individuals will receive notice of the availability of this document:

6.5 PUBLIC VIEWS AND RESPONSES

A complete list of public comments and responses is contained in Appendix ___.

7.0 LIST OF PREPARERS

The individuals listed in the following table were primarily responsible for the preparation of this report.

TABLE 7-1
LIST OF PREPARERS

<u>Name</u>	<u>Discipline</u>	<u>Experience</u>	<u>Role in Preparing Report</u>
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8.0 INDEX

9.0 RECOMMENDATIONS

I recommend that the *Plan name* plan be authorized for implementation as a Federal project, with such modifications thereof as in the discretion of the Commander, USACE may be advisable. The estimated first cost of the recommended plan is \$_____ and the estimated annual OMRR&R cost is \$_____. The Federal portion of the estimated first cost is \$_____. The non-Federal sponsor shall, prior to implementation, agree to perform the following items of local cooperation:

a. Provide 35 percent of total project costs allocated to nonstructural flood control and at least 35 percent but no more than 50 percent of total project costs allocated to structural flood control, as further specified below:

(1) Enter into an agreement which provides, prior to execution of the project cooperation agreement, 25 percent of design costs;

(2) Provide, during construction, any additional funds needed to cover the non-federal share of design costs;

(3) Provide all lands, easements, and rights-of-way, including suitable borrow and dredged or excavated material disposal areas, and perform or assure the performance of all relocations determined by the Government to be necessary for the construction, operation, and maintenance of the project;

(4) Provide or pay to the Government the cost of providing all retaining dikes, wasteweirs, bulkheads, and embankments, including all monitoring features and stilling basins, that may be required at any dredged or excavated material disposal areas required for the construction, operation, and maintenance of the project; and

(5) Provide, during construction, any additional costs as necessary to make its total contribution equal the percent of total project costs allocated to nonstructural flood control and at least 35 percent but no more than 50 percent of total project costs allocated to structural flood control.

b. Give the Government a right to enter, at reasonable times and in a reasonable manner, upon land which the local sponsor owns or controls for access to the project for the purpose of inspection, and, if necessary, for the purpose of completing, operating, maintaining, repairing, replacing, or rehabilitating the project.

c. Assume responsibility of operating, maintaining, replacing, repairing, and rehabilitating (OMRR&R) the project or completed functional portions of the project, including mitigation features without cost to the Government, in a manner compatible with the project's authorized purpose and in accordance with applicable Federal and State laws and specific directions prescribed by the Government in the OMRR&R manual and any subsequent amendments thereto.

d. Comply with Section 221 of Public Law 91-611, Flood Control Act of 1970, as amended, and Section 103 of the Water Resources Development Act of 1986, Public Law 99-662, as amended, which provides that the Secretary of the Army shall not commence the construction of any water resources project or separable element thereof, until the non-Federal sponsor has entered into a written agreement to furnish its required cooperation for the project or separable element.

e. Hold and save the Government free from all damages arising from the construction, operation, maintenance, repair, replacement, and rehabilitation of the project and any project-related betterments, except for damages due to the fault or negligence of the Government or the Government's contractors.

f. Keep and maintain books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to the project to the extent and in such detail as will properly reflect total project costs.

g. Perform, or cause to be performed, any investigations for hazardous substances that are determined necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 USC 9601-9675, that may exist in, on, or under lands, easements or rights-of-way necessary for the construction, operation, and maintenance of the project; except that the non-Federal sponsor shall not perform such investigations on lands, easements, or rights-of-way that the Government determines to be subject to the navigation servitude without prior specific written direction by the Government.

h. Assume complete financial responsibility for all necessary cleanup and response costs of any CERCLA regulated materials located in, on, or under lands, easements, or rights-of-way that the Government determines necessary for the construction, operation, or maintenance of the project.

i. Agree that, as between the Federal Government and the non-Federal sponsor, the non-Federal sponsor shall be considered the operator of the project for the purpose of CERCLA liability, and, to the maximum extent practicable, operate, maintain, repair, replace, and rehabilitate the project in a manner that will not cause liability to arise under CERCLA.

j. Prescribe and enforce regulations to prevent obstruction of or encroachment on the Project that would reduce the level of protection it affords or that would hinder operation or maintenance of the Project.

k. Comply with the applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public law 91-646, as amended by title IV of the Surface Transportation and Uniform Relocation Assistance Act of 1987 (Public Law 100-17), and the Uniform Regulations contained in 49 CFR part 24, in acquiring lands, easements, and rights-of-way, and performing relocations for construction, operation, and maintenance of the project, and inform all affected persons of applicable benefits, policies, and procedures in connection with said act.

l. Comply with all applicable Federal and State laws and regulations, including Section 601 of the Civil Rights Act of 1964, Public Law 88-352, and Department of Defense Directive 5500.11 issued pursuant thereto, as well as Army Regulation 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army," and Section 402 of the Water Resources Development Act of 1986, as amended (33 U.S.C. 701b-12), requiring non-Federal preparation and implementation of flood plain management plans.

m. Provide the nonfederal cost share of that portion of total cultural resource preservation mitigation and data recovery costs attributable to structural and nonstructural flood control that are in excess of one percent of the total amount authorized to be appropriated for structural and nonstructural flood control.

n. Inform affected interests, at least annually, regarding the limitations of the protection afforded by the project.

o. Publicize flood plain information in the areas concerned and provide this information to zoning and other regulatory agencies for their guidance and leadership in preventing unwise future development in the flood plain and in adopting such regulations as may be necessary to ensure compatibility between future development and protection levels provided by the project.

p. Do not use Federal funds to meet the non-Federal sponsor's share of total project costs unless the Federal granting agency verifies in writing that the expenditure of such funds is authorized.

q. Agree that any part of the project identified as approved for proposed advanced work for credit under Section 104 of Public Law 99-662 must be compatible with recommended flood control project, and that any credit granted shall not relieve the non-Federal sponsor of its requirement to pay, in cash, 5 percent of total project costs allocated to structural flood control.

The recommendations contained herein reflect the information available at this time and current departmental policies governing formulation of individual projects. They do not reflect program and budgeting priorities inherent in the formulation of a national Civil Works construction program nor the perspective of higher review levels within the Executive Branch. Consequently, the recommendations may be modified before they are transmitted to the Congress as proposals for authorization and implementation funding. However, prior to transmittal to the Congress, the sponsor, the States, interested Federal agencies, and other parties will be advised of any modifications and will be afforded an opportunity to comment further.

NAME OF DISTRICT COMMANDER
Colonel, Corps of Engineers
District Engineer