

APPENDIX C

Environmental Evaluation and Compliance

TABLE OF CONTENTS

Paragraph	Page C-
<a href="#">Environmental Evaluation and Compliance</a> .....	1
C-1. Introduction and Overview.....	1
C-2. Procedures for Environmental Evaluation .....	2
C-3. Ecological Resources. ....	4
C-4. Cultural Resources. ....	24
C-5. Aesthetic Resources .....	37
C-6. Water Quality and Related Requirements .....	41
C-7. Air Quality and Related Requirements .....	47

LIST OF EXHIBITS

<a href="#">Exhibit C-1. Recommended Outline For Section 404(B)(L) Evaluation</a> .....	48
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## APPENDIX C

### Environmental Evaluation and Compliance

#### C-1. Introduction and Overview

a. Purpose. This appendix addresses the integration of environmental evaluation and compliance requirements, pursuant to national environmental statutes, applicable executive orders and other Federal planning requirements, into the planning of Civil Works water and related land resources comprehensive plans and implementation projects. (Note: Every effort has been made to eliminate all inconsistencies between the main body of the ER and the appendices. If any inconsistencies are found, the information in the main body of the ER will prevail over the one in the appendices. Please, notify CECW-PD immediately of any inconsistencies for correction.)

b. Overview. The nation is attuned to the many ways healthy ecosystems support the economy and provide for the public good. The Water Resources Planning Act, as amended (WRPA) (42 U.S.C. 1962a-2) and the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321-4347) guide the Civil Works planning process, serving to focus the critical evaluation of the cost of today's activities in terms of tomorrow's resources. In 1962, Congress recognized the need for coordinated planning related to the conservation, development, and utilization of water resources and, through the WRPA, required the establishment and use of principles, standards and procedures for the formulation and evaluation of water and related land resources projects. In 1969, by way of the NEPA, Congress recognized the profound impact of human activity on the interrelations of all components of the natural environment as well as the critical importance, to humans, of restoring and maintaining environmental quality. The Federal Government was charged with using all practicable means and measures in a manner calculated to foster and promote the general welfare, create and maintain conditions under which humans and nature can exist in productive harmony, and fulfill the social, economic and other requirements of present and future generations of Americans. Numerous other laws, regulations and Administration initiatives, have echoed this National environmental policy. Integrated, the implementing regulations for the WRPA and the NEPA provide an effective framework for the formulation and evaluation of water resources comprehensive plans and implementation projects, which is responsive to the challenge of sustainable development in our Nation and the world.

c. Federal Objectives. The Federal objective for water and related land resources planning was established in the Water Resource Council's *Economic and Environmental Principles for Water and Related Land Resources Implementation Studies* (Principles), and is further discussed in the *Economic and Environmental Guidelines for Water and Related Land Resources Implementation Studies* (Guidelines).

(1) The [Principles and Guidelines](#) (P&G) provide that planning, which is to contribute to national economic development, is to be consistent with protecting the Nation's environment, pursuant to national environmental statutes, applicable executive orders, and other Federal planning requirements. With respect to "protecting the Nation's environment", the Corps has adopted the standard that it "is achieved when damage to the environment is eliminated or avoided and important cultural and natural aspects of our nation's heritage are preserved".

(2) Since implementation of the P&G, Ecosystem Restoration has become a primary mission of the Corps. The Federal objective for this mission is to increase the net quantity and/or quality of desired ecosystem resources. The planning of these projects must also be pursuant to national environmental statutes, applicable executive orders, and other Federal planning requirements.

d. Evaluation Procedures. Evaluation procedures are discussed in Section C-2. Sections C-3 through C-5 provide additional details for addressing the ecological, cultural and aesthetic resources included in the evaluation procedures. Section C-6 addresses additional evaluation procedures related to water quality.

e. Compliance Requirements. Requirements for complying with environmental statutes are also referenced throughout the P&G. Specific procedures for major related environmental compliance requirements are presented in Sections C-3 through 6.

## C-2. Procedures for Environmental Evaluation

a. Purpose. Environmental evaluation is a process that integrates considerations of environmental considerations, impacts and opportunities throughout the planning process. This section provides guidance on applying the environmental evaluation procedures to planning water resources implementation projects while at the same time fulfilling the requirements of the NEPA and other statutory requirements. The P&G, 40 CFR Parts 1500-1508 and [ER 200-2-2](#), discussed below, provide detailed guidance and are incorporated into this appendix.

b. Environmental Planning. Implementing regulations for the WRPA are the P&G, found at: <http://www.wrsc.usace.army.mil/iwr/pdf/p&g.pdf>. Provisions for environmental considerations are integrated throughout the P&G and are specifically addressed in discussions of the Environmental Quality (EQ) Account (Section 7 of the Principles and Chapter II, Section 1.7.3, of the Guidelines) and the EQ Procedures (Chapter III of the Guidelines). The EQ procedures should be applied early in the planning process so that the significant natural and cultural resources of the study area can be identified and inventoried, used in developing planning objectives, and accommodated in a reasonable set of alternative plans, which achieve the

planning objectives. In later stages of planning, the procedures will be used to evaluate the alternative plans and aid in plan selection. The final use of the procedures is in the decision process that leads to plan selection.

c. NEPA Process. The NEPA requires that decision making should proceed with full awareness of the environmental consequences that follow from a major Federal action, which significantly affects the environment. Provisions for complying with the NEPA are found in the Council of Environmental Quality Regulations (40 CFR Parts 1500-1508) and are supplemented by [ER 200-2-2](#).

(1) The NEPA compliance process, following [ER 200-2-2](#), will begin with an assessment of potential environmental impacts as judged by comparing the with and without project conditions. These potential impacts help define the study area, and should be addressed over the whole of that area. Also, the physical impacts (air and water quality, soils and slope) should be explicitly addressed early in the assessment process, because of their potential influence on any, or all, of the resource analyses. Potential significant impacts on any of these physical attributes should be evaluated and made explicit in the decision process, in the same manner as are the ecological, cultural and aesthetic attributes under the EQ procedures.

(2) The impact assessment process may lead to a determination that an environmental impact statement (EIS) is required. The preparation and coordination of these is also detailed in [ER 200-2-2](#).

(3) Measures to avoid, lessen, mitigate or compensate for environmental impacts should be described in the decision document. The major and significant measures should be summarized in one table that is part of the environmental appendix. This table should describe each measure to be taken, the objective that it is intended to fulfill, and the impact to which it applies. If any of these are a requirement for specific compliance with a statute, legal decision, or formal commitment, that should also be indicated in the table.

d. Additional Requirements. The integrated EQ procedures and NEPA process provide a framework for compliance with other environmental elements with specific statutory compliance requirements. The majority of these are listed as sources of institutional recognition in Table 3.4.3, Chapter III, of the P&G. For additional information concerning environmental statutes and Executive Orders refer to the Civil Works Environmental Desk Reference (IWR Report 96-PS-3, updated July 1997).

### C-3. Ecological Resources.

a. Purpose. This section supplements the guidance for evaluation of the ecological attributes under the EQ evaluation procedures. This section has emphasis on ecological resources and ecosystem restoration, with particular consideration of fish and wildlife resources, in Civil Works planning studies.

#### b. Explanation of Terms.

(1) Ecological Resources. A natural form, process, system or other phenomenon that is related to land, water, atmosphere, plants or animals that has attributes or properties which sustain and enrich human life. These properties are components of the environment and the interactions among all its living (including people) and nonliving components that directly or indirectly sustain dynamic, diverse, viable ecosystems. In this category are functional and structural aspects that require special consideration because of their unusual characteristics. Ecological Resources include fish and wildlife resources, which are provided special consideration under various environmental statutes.

(2) Ecosystem Restoration Planning Objectives. Ecosystem restoration objectives are clearly written statements that prescribe specific actions to be taken to improve the ecosystem, or fish and wildlife resources, and describe units of measurement (e.g. habitat units), to be used to evaluate contributions proposed actions make toward the stated objective.

(3) Enhancement. Enhancement is the net improvement an alternative plan, or project, makes to ecological resources (singularly or collectively) compared with the "without" plan or project condition. Policy under current budgetary constraints does not provide for implementation of separable features for enhancement of fish and wildlife resources unless such enhancement falls within the definition of fish and wildlife habitat restoration.

(4) Essential Fish Habitat: Related to marine resources, it is those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity (Magnuson-Stevens Act, 16 U.S.C. 1801 et seq).

(5) Fish and Wildlife Resources Stewardship. Fish and wildlife resources stewardship is the level of preservation, conservation and protection afforded fish and wildlife resources on project lands, consistent with the Conservation of Forest Lands Act, Public Law 86-717. Stewardship of project lands is a Federal responsibility and should be considered when describing the "with" and "without" project condition.

(6) Ecosystem Restoration. Ecosystem restoration consists of separable features undertaken to return a degraded condition to a less degraded condition. The goal of ecosystem restoration is to reverse the adverse impacts of human activity and restore ecological resources, including fish and wildlife habitats, to previous levels of productivity but not a higher level than would have existed under natural conditions in the absence of human activity or disturbance.

(7) Incremental Analysis. Incremental analysis is the investigation and documentation of the relationship between costs (dollars) incurred to realize each unit of output (improvement) associated with the implementation of each plan increment.

(8) Incremental Cost. Incremental (or marginal) cost means extra cost. Incremental cost is the increase in cost incurred when output is increased by one unit. For example, if it costs \$100 to produce 10 units (\$10/unit) and \$115 to produce 11 units, then \$15 is the incremental cost of the 11th unit.

(9) Justification. The determination that the combined monetary and non-monetary value of the last increment of benefits realized from an ecosystem or a fish and wildlife management action or feature (hereafter actions are included under management features) exceeds the combined monetary and non-monetary costs of the last added increment so as to reasonably maximize overall project benefits. For mitigation, "benefits" shall be interpreted as being the same as "losses prevented or replaced".

(10) Management Features. Management features are established ecosystem, including fish and wildlife resources, management procedures, activities or techniques that contribute to mitigation and ecosystem restoration planning objectives. Examples are fencing to prevent habitat damage by livestock or human activities; land cover manipulation designed to increase habitat quality; fish ladders; lands acquired which provide preservation credit and/or opportunities for achieving other mitigation or ecosystem restoration objectives, and the development and enforcement of fish and wildlife conservation-related regulations.

(11) Management Plan Increment. A management plan increment consists of one or more management features. Plan increments may interrelate and complement one another, but they can not be functionally dependent upon another increment. For example, if the fencing out of livestock is required before a constructed food plot can be effective, then the fence and the food plot would be considered as being functionally dependent and, therefore, combined into a single plan increment.

(12) Mitigation. Mitigation includes:

(a) Avoiding the impact altogether by not taking a certain action or part of an action;

(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation;

(c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;

(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;

(e) Compensating for the impact by replacing or providing substitute resources or environments. "Replacing" means the replacement of fish and wildlife resources in-kind. "Substitute" means the replacement of fish and wildlife resources out-of-kind. Substitute resources, on balance, shall be at least equal in value and significance as the resources lost.

(13) Mitigation Planning Objectives. Mitigation planning objectives are clearly written statements that prescribe specific actions to be taken to avoid and minimize adverse impacts, and identifies specific amounts (units of measurement, e.g., habitat units) of compensation required to replace or substitute for remaining, significant unavoidable losses.

(14) Project Lands. For preauthorization studies, "project lands" are lands determined to be required to realize benefits attributed to alternative plans. For authorized projects, project lands are lands required for authorized project purposes. For projects under construction, or those that have been completed, project lands are lands that have been acquired for project purposes.

(15) Public Lands. Public lands are owned or otherwise legally entrusted to a local, State or Federal agency.

(16) Resource Categorization. Resource categorization consists of describing and assigning values and significance to resources. Ecological resource categorization is used to determine if ecosystem restoration opportunities exist, if losses warrant mitigation considerations, and for making decisions to either mitigate losses in-kind, or to allow for substitute resource trade-offs.

(17) Separable Features. Separable features are single purpose components of a plan designed to address ecological resources management objectives. Separable features include lands acquired specifically for fish and wildlife resources management purposes, engineering features, and management actions performed.



(18) Significant Resources and Effects. The criteria for determining the significance of resources and effects are provided in Chapter I, Section 1.7.3 and Chapter III, Sections 3.4.12 and 3.4.14 of the P&G, 40 CFR Part 1508.27 and section d(4) below.

(a) Significant National Economic Development (NED) Resources. Ecological resources having substantial commercial and/or recreational value.

(b) Significant Environmental Quality (EQ) Resources. Ecological resources, including fish and wildlife resources and associated habitats, that are technically, institutionally, or publicly recognized as having substantial non-monetary value from either an ecological, cultural or aesthetic standpoint.

(c) Significant Effects. Effects an alternative plan has on ecosystems or ecological resources, including fish and wildlife, that are determined to have a material bearing on the decision-making process.

c. Coordination, Consultation and Public Involvement. District commanders shall initiate general public participation procedures, for ecosystem restoration or ecological resources conservation purposes, consistent with guidance set forth in Appendix B of this regulation. Such coordination and public involvement shall include, but not be limited to, government entities at the Federal, regional, State, and local levels, and national and local public and private organizations, including Indian tribes. Special coordination and consultation requirements are discussed below.

(1) Fish and Wildlife Coordination Act (FWCA): Coordination and Funding. The District Commander shall coordinate with the U.S. Fish and Wildlife Service (FWS), the National Marine Fisheries Service (NMFS), and the appropriate head of the State agency exercising administration over the fish and wildlife resources beginning with the initiation of the reconnaissance report phase, and continuing through the feasibility, and planning/engineering/design phases of project development.

(a) The District Commander shall invite the above agencies to participate in study scoping, to identify fish and wildlife concerns, to identify available information, to obtain their views concerning the significance of fish and wildlife resources and anticipated impacts, and to determine those resources which shall be evaluated in the study. The District Commander shall provide the appropriate offices of the above agencies with relevant information developed in investigations included in reconnaissance, feasibility, and planning/engineering/design studies, and shall provide these agencies an opportunity to comment on the formulation and evaluation of alternative plans. Full consideration shall be given to Federal and State agency comments and recommendations resulting from this coordination.

(b) Funding arrangements between the Corps and FWS for FWCA activities associated with Civil Works feasibility and planning/engineering/design studies shall be implemented consistent with procedures set forth in the current Corps/FWS Transfer Funding Agreement. The Corps/FWS Transfer Funding Agreement is applicable to the reconnaissance report phase, and should be used to scope out FWCA compliance requirements for FWS involvement during the cost-shared feasibility study, consistent with Article III of the Agreement.

(2) Endangered Species Act (ESA): Section 7 Coordination/Consultation. Section 7 provides for specific coordination and consultation with the FWS and NMFS. The District Commander shall initiate specific coordination and consultation, as needed, for endangered and threatened species and designated critical habitat. Coordination, consultation and implementation of Section 7 of the ESA does not require the transfer of funds from the Corps to the FWS or NMFS.

(a) The District Commander shall formally request from the FWS/NMFS information on any listed or proposed species or designated or proposed critical habitat that may be in the project area.

(1) If the FWS/NMFS identifies listed or proposed species or designated or proposed critical habitat, then the District Commander shall conduct a biological assessment to determine if the proposed project may affect any such species and or critical habitat. The biological assessment should be completed within 180 days unless an extension of time is mutually acceptable to the District and FWS/NMFS.

(2) Upon completion, the District Commander shall send the biological assessment and conclusions to the FWS/NMFS, advising them whether plans being considered may affect or will not affect the listed or proposed species or designated or proposed critical habitat.

(b) During the conduct of the biological assessment the District Commander, in coordination with the FWS/NMFS and the appropriate State resource agency(s), shall identify the location in the study area of listed and proposed endangered and threatened species and designated or proposed critical habitat.

(1) If listed and proposed species or designated or proposed critical habitat are identified in the study area, these data shall be used to identify areas that should be avoided or critically considered and to determine what opportunities exist for conserving these resources during the formulation of alternative plans.

(2) If the biological assessment indicates that an alternative plan(s) may affect a listed endangered or threatened species or critical habitat, the District Commander shall request formal consultation with the FWS/NMFS. If the biological assessment determines the alternative plan(s) is not likely to adversely affect endangered or threatened species or critical habitat, then the District Commander may request informal consultation with FWS/NMFS to receive their written concurrence with the determination of no adverse affect. If the FWS/NMFS does not concur with the District Commander's no adverse determination, the FWS/NMFS may request the District Commander to initiate formal consultation with the FWS/NMFS. This request must be documented in a letter either from FWS/NMFS to the District Commander or from the District Commander to FWS/NMFS which acknowledges an oral request from FWS/NMFS made during a meeting or telephone conversation.

(c) If the biological assessment indicates that the action is likely to jeopardize the continued existence of a proposed species or result in the destruction or adverse modification of proposed critical habitat, the District Commander shall initiate a conference with the FWS/NMFS. The FWS/NMFS will review the information and make advisory recommendations, if any, on ways to avoid or minimize the adverse impact. If the species is subsequently listed or critical habitat designated prior to completion of the action, the District Commander must review the action to determine if formal consultation is required.

(d) The District Commander can formally request a formal conference on the proposed species or proposed critical habitat with the FWS/NMFS. The conference may be conducted in accordance with the procedures for formal consultation. An opinion issued at the conclusion of the conference may be adopted as the biological opinion when the species is listed or critical habitat is designated, but only if no significant new information is developed and no significant changes to the proposed action are made that would alter the content of the opinion. An incidental take statement provided with a conference opinion does not become effective unless the FWS/NMFS adopts the opinion once the listing is final.

(e) The incidental take provision, resulting from the Endangered Species Amendments of 1982, is provided in all biological opinions, where an anticipated take may occur, whether there is a "no jeopardy" or a "likely jeopardy". This provision permits the District Commander to "take" a specified number of the protected species, or impact a specified acreage of habitat in the project area, without being subject to the prohibitions (penalties) established in Section 4(d) and 9(a)(1-2) of the Act. The incidental take statement will also specify "reasonable and prudent" measures necessary to minimize impacts; set forth the terms and conditions, including, but not limited to, reporting requirements that must be complied with by the District Commander in order to implement reasonable and prudent measures; and, specify the procedures to be used to handle or dispose of any individuals of a species taken.

(f) If the FWS/NMFS biological opinion indicates that an alternative plan would have the positive effect of conserving listed species or critical habitat, the District Commander shall consider this important feature during subsequent formulation and selection of the recommended plan.

(g) If the FWS/NMFS provides conservation recommendations for an alternative plan to create enhancement opportunities for listed species or critical habitat, the District Commander shall have the discretion either to accept or reject the recommended modification. However, a decision to reject such FWS/NMFS recommendations shall be clearly documented and the rationale provided.

(h) In compliance with Section 7(d) of the Act, the District Commander shall not make any irreversible or irretrievable commitment of resources during consultation which, in effect, would preclude formulation or implementation of reasonable alternatives concerning listed endangered and threatened species. The spending of dollars for planning studies does not constitute an irreversible or irretrievable commitment of resources.

(i) If the FWS/NMFS biological opinion indicates that an alternative plan is likely to jeopardize listed species or to destroy or otherwise have an adverse impact on critical habitat, the District Commander shall either respond with additional information in support of the proposed plan, drop the alternative plan from further consideration, accept the FWS/NMFS recommended reasonable and prudent alternative and modify the alternative plan accordingly, or seek an exemption. See 50 CFR, Parts 450-453, for specific guidance for seeking an exemption.

(j) For emergency actions District commanders shall meet the consultation requirements related to the ESA to the fullest extent practicable, unless they determine that the resulting delays will lead to unacceptable risks to health, life, property, or unacceptable economic losses.

(1) When emergency circumstances mandates the need to consult in an expedited manner, consultation may be conducted informally by contacting the FWS/NMFS by telephone and requesting advice. This provision applies to situations involving acts of God, disasters, casualties, national defense or security emergencies, etc. Carrying out the directive of this paragraph is crucial, since compliance with the ESA cannot be waived by the Corps of Engineers.

(2) Formal consultation shall be initiated as soon as practicable after the emergency is under control.

(3) The District Commander shall submit information on the nature of the emergency action(s), the justification for the expedited consultation, and the impacts to endangered or

threatened species and their habitats. The FWS/NMFS will evaluate the information and issue a biological opinion including the information and recommendations given during the emergency consultation.

(3) Food Security Act of 1985: Wetlands Protection and Conversion Determination Under the Swampbuster Provisions of the Act. The Food Security Act of 1985 (Public Law 99-198) contains provisions designed to discourage the conversion of wetlands into non-wetland areas. These, collectively, are commonly referred to as "Swampbuster" provisions, and are implemented under Department of Agriculture (USDA) final rule, effective 17 September 1987 (7 CFR 12). The final rule sets forth the terms and conditions under which a farmer, who has produced an agricultural commodity on converted wetlands, shall be declared ineligible for certain benefits provided by USDA.

(a) Farmers who plant commodity crops, after 23 December 1985, on lands that were converted from a wetland to a non-wetland condition by a Corps project will trigger "Swampbuster" considerations, which may lead to the cited USDA program ineligibility.

(b) District commanders shall coordinate with the Department of Agriculture, Natural Resources Conservation Service, to determine the applicability of Swampbuster to Corps flood control projects that provide protection to agricultural lands, either through design or incidental to other project purposes.

(c) Correspondence developed in association with this coordination shall be included in project reports, and all pertinent information discussed in appropriate environmental documents.

(4) National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668)(Public Law 89-669). Part 668dd, paragraph (d), authorizes the Secretary of the Interior (Secretary) to issue use permits for activities performed on National Wildlife Refuge whenever he determines that such uses are compatible with the major purposes for which such areas were established.

(a) District commanders shall initiate coordination with the Regional Director, U.S. Fish and Wildlife Service, immediately upon determining that a Corps project feature or activity would likely involve the use of refuge lands. This coordination shall be designed to obtain a formal written response from the Regional Director on whether or not the Corps activity will require a compatibility determination; and, if so, the procedures that must be followed to obtain the necessary compatibility determination.

(b) Correspondence associated with seeking a compatibility determination shall be included in project reports, and all pertinent information shall be discussed fully in appropriate environmental documents.

(5) Magnuson Fishery Conservation and Management Act of 1976, as amended: Section 110 Coordination/Consultation: Public Law 99-659, Section 104, and Public Law 104-297, Section 110, amends the 1976 Act to provide for specific coordination and consultation with a Regional Fishery Management Council (Council) and the National Marine Fisheries Service (NMFS), respectively. Consultation/coordination is relative to impacts a Federal activity may have on the habitat of fishery resources. The District Commander shall coordinate and consult with the Council relative to impacts a Federal activity may have on habitat under the Council's jurisdiction and with the NMFS with respect to any action federally authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, that may adversely affect any essential habitat identified under the Act, as amended.

(a) Coordination and consultation with the Council shall be in accordance with the formal coordination procedures established between District Commanders and appropriate Councils in his or her area. Such procedures shall be modified as appropriate to ensure inclusion of review and comment procedures for feasibility reports involving coastal area development and to respond within 30 days to comments and recommendations made by a Council.

(b) Coordination and consultation with the NMFS shall be initiated specifically, as needed, or concurrent with activities under the FWCA and/or the ESA. Coordination, consultation and implementation of Sections 104 or 110 does not require the transfer of funds from the Corps to the Council or the NMFS.

(c) Correspondence shall be included in project reports, and all pertinent information shall be discussed fully in appropriate environmental documents.

d. Plan Formulation and Evaluation.

(1) General.

(a) It is national policy that ecosystem restoration, particularly that which results in the conservation of fish and wildlife resources, be given equal consideration with other study purposes in the formulation and evaluation of alternative plans. Current planning guidance specifies that the 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, and applicable executive orders. Protecting the Nation's environment is achieved when damage to the environment is eliminated or avoided; i.e., mitigated, and unavoidable adverse effects are compensated. Mitigation requirements shall be pursued consistent with guidance set forth below.

(b) Ecological resources shall be described and evaluated consistent with current policy and planning guidance. Evaluation of ecological resources shall be based upon the significance of the resources involved; the significance of impacts (positive and negative) alternative plans have on these resources; and the contribution project features make toward fulfillment of established ecological resource-oriented management objectives. Evaluation of management features shall be based upon the features' completeness, effectiveness, efficiency and acceptability in fulfilling established management (mitigation or enhancement) objectives.

(2) Reconnaissance Study Phase. Ecological resources considerations during the reconnaissance stage of planning shall be of sufficient scope and detail to:

(a) Identify the presence and general location of known resources within the study area that should be approached with care;

(b) Make a preliminary appraisal of measures for restoration including an assessment of consistency with Army policies, costs, monetary and non-monetary benefits, impacts and potential for local sponsorship.

(c) Make preliminary determinations of likely impacts potential alternative plans would have on these resources;

(d) Briefly describe potential mitigation features that would address these impacts; and,

(e) Scope out resources surveys, studies and analyses to be conducted during the feasibility study stage.

(3) Feasibility Study Phase. Ecological resources consideration during this stage of planning will be of sufficient scope and detail to effectively quantify impacts the NED, NER and recommended plan (if not one of the same) will have on the resources, and to justify mitigation and restoration features being recommended. In compliance with this guidance, District commanders shall:

(a) Conduct appropriate coordination, studies and analyses throughout the planning process to determine the significance of ecological resources likely to be affected by alternative plans, and the significance of these effects;

(b) Comply with the Fish and Wildlife Coordination Act by giving full consideration to reports and recommendations furnished by the Secretary of the Interior (U. S. Fish and Wildlife Service), the Secretary of Commerce (National Marine Fisheries Service), and the appropriate head of the State agency exercising administration over the fish and wildlife resources;

(c) Give special consideration, as described in section c(2)(i) above, to the reports and recommendations of the Secretary of the Interior (U.S. Fish and Wildlife Service) and the Secretary of Commerce (National Marine Fisheries Service) on the conservation of Federally listed and proposed listed endangered and threatened species, and their designated critical habitat, furnished in compliance with the Endangered Species Act;

(d) Consider comments furnished by local public officials and the general public and use the information, as appropriate, to supplement information and recommendations provided by the above Federal and State fish and wildlife resources agencies;

(e) Determine the need for mitigation by assessing ecological resources gains and losses attributed to alternative plans;

(f) Assess the extent to which beneficial ecosystem management features of alternative plans offset adverse impacts (losses) before consideration is given to separable mitigation features;

(g) Formulate justifiable ecological resource management features based upon thorough professional evaluations;

(h) Consider including separable ecological resources management features only when adverse effects exceed beneficial effects, or when the adverse effects include such significant ecological values the specific features are justified;

(i) Formulate specific ecological resources mitigation and restoration plans using generally known and established techniques to address specific, clearly defined management objectives;

(j) Give full consideration to the establishment of wetland habitat in alternative involving the disposal of dredge material;

(k) For alternatives involving existing projects, give full consideration to modifications in the structures and operations of such projects for purposes of ecosystem restoration;

(l) Demonstrate that damages to significant ecological resources have been avoided or minimized to the extent practicable; that unavoidable damages to these resources have been compensated to the extent justified; and, that restoration opportunities for significant ecological resources have been given appropriate consideration;



(m) Demonstrate that damage to wetland resources has been avoided or minimized to the extent practicable; that unavoidable adverse impacts to wetlands have been compensated; and, that wetland restoration opportunities associated with the study have been properly addressed.

(4) Significance Determination.

(a) Resources. The significance of ecological resources shall be based upon both their monetary (NED) and non-monetary (EQ) values. Both monetary and non-monetary values shall be identified and clearly described. Monetary value shall be based upon the contribution the resources makes to the Nation's economy. Non-monetary value shall be based upon technical, institutional, and public recognition of the ecological, cultural and aesthetic attributes of resources within the study area. Criteria for determining significance shall include, but not be limited to, the scarcity or uniqueness of the resource from a national, regional, State and local perspective. Non-monetary values associated with ecological resources are subjective, and depend on the value society places on them. Different publics may express differing values and concerns for the non-monetary and monetary values associated with similar fish and wildlife resources. Such differences shall be documented, including the rationale used to select values chosen to determine resource significance.

(b) Impacts. The significance of impacts of alternative plans shall be evaluated based upon the extent, intensity and duration of the impact on significant ecological resources, compared to the "future without plan" condition. Refer to Section C-3, c, (3) if farmed or converted (Swampbuster) wetlands are involved.

(5) Methodology. Monetary, as well as a number of non-monetary, values associated with ecological resources arise primarily from the quantity and quality of fish and wildlife habitat within the study area. Therefore, habitat-based evaluation methodologies, supplemented with production, user-day, population census, and/or other appropriate information, shall be used to the extent possible to describe and evaluate ecological resources and impacts associated with alternative plans. Specific guidance for analyses required to evaluate and describe recommended mitigation and restoration features are described below.

e. Mitigation Planning and Recommendations.

(1) General. District commanders shall ensure that project-caused adverse impacts to ecological resources have been avoided or minimized to the extent practicable, and that remaining, unavoidable impacts have been compensated to the extent justified. The recommended plan and the NED plan, if not one in the same, shall contain sufficient mitigation to ensure that either plan selected will not have more than negligible adverse impacts on

ecological resources (Section 906(d), WRDA`86). Any such mitigation measures will be fully justified.

(2) Justification. Justification of mitigation features recommended for inclusion in projects shall be based upon analyses that demonstrate the combined monetary and non-monetary values of the last increment of losses prevented, reduced, or replaced is at least equal to the combined monetary and non-monetary costs of the last added increment so as to reasonably maximize overall project benefits. In addition, an incremental cost analysis, to the level of detail appropriate, will be used to demonstrate that the most cost effective mitigation measure(s) has been selected.

(3) Separable Features. Full credit shall be given to the beneficial aspects of an alternative plan, or project, before consideration is given to adding separable mitigation features. The significance of the ecological resources affected by an alternative plan/project, and the significance of adverse impacts to these resources shall be evaluated to determine the need for separable mitigation features. Evaluation of a separable mitigation feature is appropriate when it is determined that the net adverse impacts of an alternative plan/project exceed its net beneficial effects, and/or when the resulting losses include values (monetary and non-monetary) of such significance that specific consideration is justified.

(4) Range of Alternatives. To properly evaluate and compare mitigation features, and to determine remaining unmitigated losses if any, mitigation planning shall address a range of alternatives up to the full compensation of significant ecological resource losses. Appropriate units of measure shall be specified in mitigation planning objectives to aid in this evaluation. Examples of units of measure include habitat units, or other habitat quality indicators, numbers of animals, pounds of fish, user-days, etc.

(5) Land Requirements. The District Commander shall consider utilization of both public and private lands, and select the lands that represent the best balance of costs, effectiveness, and acceptability consistent with incremental cost analysis guidance described below.

(6) Special Requirements for Bottomland Hardwoods. Mitigation plans shall ensure that adverse impacts to bottomland hardwood forests are mitigated in-kind, to the extent possible. The intent is that the bottomland hardwood forest as an ecological system be mitigated rather than mitigating for faunal species in an upland hardwood forest habitat type. In this instance "to the extent possible" shall take into consideration the availability of manageable units of existing or restorable bottomland hardwood forests and the practicability and feasibility of implementing management measures to accomplish in-kind mitigation. In-kind does not necessarily mean acre-for-acre, but may be restoration or the increased management of bottomland hardwood

forests to compensate for the loss of biological productivity (habitat quality). Consultation with appropriate Federal and non-Federal agencies is required in complying with this requirement.

(7) Wetlands. District commanders shall ensure that adverse impacts to wetland resources are fully mitigated. Mitigation shall be accomplished through appropriate actions taken to avoid, minimize, and compensate for unavoidable losses as required to clearly demonstrate efforts made to meet the administration's goal of no net loss of wetlands.

(8) Incremental Cost Analysis. An incremental cost analysis shall be performed for all recommended mitigation plans. The purpose of incremental cost analysis is to discover and display variation in costs, and to identify and describe the least cost plan. Mitigation analysis shall be presented in an analytical framework commensurate with other project benefits and costs so that rational decisions regarding mitigation can be made. The least cost mitigation plan that provides full mitigation of losses specified in mitigation planning objectives, and which is unconstrained except for required legal and technical constraints, shall always be identified and displayed. The recommended plan, if different, will be compared to it. Planning methods and data shall be used which yield cost estimate accuracy and reliability commensurate with that of other cost analysis components of the overall study. District commanders shall clearly describe sources of data and information used in performing incremental cost analysis.

(a) Procedures. These or similar steps are required to conduct and document incremental cost analysis. All reports recommending mitigation shall demonstrate such steps have been performed and documented under appropriate paragraph headings.

(1) Inventory and Categorize Ecological Resources. Conduct or update, as appropriate, ecological resources inventories. Group resources into categories based on their relative significance considering National, regional, State or local perspectives. Categorize into groups that distinguish resources that must be mitigated in-kind from those that need not be. Clearly describe criteria used in the categorization of resources.

(2) Determine Significant Net Losses. Give full credit to the beneficial effects of the water resources project. Specify in quantitative terms the amount (units) of significant net losses, by resource category.

(3) Define Mitigation Planning Objectives. Develop mitigation planning objectives that reflect the specific losses to be addressed. Use a single unit of measurement to describe losses being addressed by each mitigation planning objective. For example, if the mitigation planning objective is to replace lost habitat quality, the unit of measurement must be in habitat units, or something equivalent. These objectives shall be clearly stated and used to guide plan formulation, to determine appropriate mitigation management features, and to establish

benchmarks for evaluating the performance of each increment of management included in alternative plans. Distinguish between those objectives that address losses that must be mitigated in-kind from those that need not be. Mitigation credit shall be given only to plan increments that contribute towards meeting stated mitigation planning objectives.

(4) Determine Unit of Measurement. The output of mitigation plan increments shall be described in the same units of measurement used to calculate specific ecological resource losses, and to define mitigation planning objectives. More than one unit of measurement (i.e., habitat units, production units, acres of like habitat, user days, etc.) may be appropriate for inclusion in an overall mitigation plan. However, the same unit of measurement must be used for describing increments addressing a single objective, as discussed in (c) above.

(5) Identify and Assess Potential Mitigation Strategies. Identify suitable management features responsive to mitigation objectives. Identify potential project lands, other public lands, and separable private lands determined suitable for applying each candidate management feature. The identification of potential mitigation sites should not be constrained for analysis purposes. This analysis should focus on determining the management potential of each candidate site relative to its ability to meet mitigation objectives. For the purpose of analysis preference shall not be given to the management of project and other public lands over the use of suitable private lands.

(6) Define and Estimate Costs of Mitigation Plan Increments. Properly defining cost associated with each plan increment is critical to incremental analysis. The goal is to discover and reveal variations in their costs. This requires establishing estimates of the cost of implementation of the management features on selected candidate sites. The cost of implementation includes development, operation and maintenance, and acquisition cost, if any. Express incremental cost as the annual equivalent of the present worth of costs, in dollars per unit of output, for example \$/HU. Define plan increments so that cost differences are evident when comparing plan increments with one another. Certain features should always be considered either a separate plan increment, or the first added feature of a separate plan increment, e.g., land acquisition, fish hatcheries or ladders, etc. If a given mitigation feature has differing unit costs depending on where or when it is implemented, these cost differences imply separate plan increments for cost analysis purposes. For example, two plan increments would generally result if on project lands a given management feature, e.g., a food plot, has a cost of \$.50/HU at site A and \$1.00/HU at site B. The same management measure applied to different properties (project vs public vs private lands) shall be treated as separate increments regardless of similarity in their relative costs. This is necessary to allow decision makers an opportunity to choose among these properties when factors other than cost effectiveness must be considered.

(7) Display Incremental Costs. Once costs have been estimated for mitigation plan increments, array them from lowest to highest cost per unit of output. Incremental costs shall be graphically displayed so that readers can easily see and compare the unit cost of each plan increment. For example, incremental cost can be displayed as a bar graph from lowest to highest cost per unit. The reader must be able to tell, either from the display itself or through accompanying text, pertinent facts about each increment's output and cost.

(b) Documentation. All reports recommending mitigation features shall document the above or similar steps used to perform incremental analysis, and discuss findings under the same or comparable paragraph headings.

(9) Timing of Implementation. For all water resources development projects, on which construction has not commenced as of 17 November 1986, authorized ecological resource mitigation features, including the acquisition of lands or interest in lands to mitigate losses to ecological resources, shall be undertaken or acquired either:

(a) Before any construction of the project (other than such mitigation land acquisition) commences; or

(b) Concurrently with the acquisition of lands and interests in lands for project purposes (other than mitigation of fish and wildlife losses); whichever the Secretary, determines is appropriate except that any physical construction required for the purpose of mitigation may be undertaken concurrently with the physical construction of such project. Any project authorized before 17 November 1986, on which more than 50 percent of the land needed for the project, exclusive of mitigation lands, has been acquired shall be deemed to have commenced construction.

(c) Mitigation measures will generally be scheduled for accomplishment concurrently with other project features in the most efficient way. Circumstances warranting the accomplishment of mitigation as the first or last elements of project construction will require prior approval by HQUSACE.

(10) Monitoring. Monitoring is appropriate for all mitigation actions to insure that those actions have achieved the objective. The level of monitoring should be consistent with the magnitude of the project and the degree of risk and uncertainty with the probable success of the mitigation. Forecast methods and techniques have been identified that are applicable to Corps projects that include state-of-the-art techniques and are generally acceptable to the resource agencies. The District Commander shall include the cost of a monitoring program in the estimate of O&M cost for mitigation measures, if such a program has been adopted in accordance with 40 CFR part 1505.2(c) and 1505.3.

(11) Allocation and Apportionment of Mitigation Costs. Ecological resources mitigation costs incurred after 17 November 1986 shall be allocated among the authorized purposes which caused the requirement for mitigation, and shall be cost shared to the same extent as project costs allocated to these purposes.

(a) Allocation. The impact analysis shall identify the project purposes which cause losses to be mitigated. If practicable, the analysis shall identify the extent of losses separable or specific to each purpose. Mitigation costs not associated with specific purposes will be included with other joint project costs.

(b) Apportionment. Once the proportionate amounts of losses and corresponding amounts of mitigation and costs are assigned to the appropriate purposes, joint costs of mitigation should be allocated among the causative purposes on the same basis as other joint costs.

(12) Mitigation Cost Sharing.

(a) LERRD. Non-Federal interests shall be required to provide lands, easements, rights-of-way, relocations and disposal areas (LERRD) where this is a requirement of the purpose that necessitates the mitigation except where otherwise agreed for the Corps to accomplish with non-Federal funds. As Title I of Public Law 99-662 contains a generic requirement that non-Federal interests provide LERRD, all future mitigation features will require non-Federal interests to provide LERRD, if required, unless the project authorization after 17 November 1986 provides differently for mitigation.

(b) Construction. Construction costs for mitigation will be treated the same as other project construction costs for cost sharing purposes.

(c) OMRR&R. Non-Federal interests will be responsible for all costs of operation, maintenance, repair, rehabilitation, and replacement of mitigation features except for:

(1) Inland navigation projects and harbor projects with depths up to 45 feet, which have no requirement for non-Federal sharing of these costs; and,

(2) Harbors with depths over 45 feet which require a 50 percent non-Federal share for those costs assigned to increments in excess of a 45-foot project.

(d) Exception. No cost sharing will be imposed without the consent of the non-Federal interests where contracts have previously been signed for repayment of costs or until such contracts are complied with or renegotiated.

(13) Preconstruction Environmental Protection and Mitigation Fund. This fund was established by Section 908 of WRDA '86. Implementation of the fund has not been sought since timing of implementation of mitigation features will assure that mitigation features will be available to mitigate for unavoidable adverse project impacts as they occur.

(14) Operation, Maintenance, Repair, Rehabilitation and Replacement (OMRR&R) of Mitigation Features.

(a) Federal Responsibility. Execution and performance of OMRR&R for ecological mitigation features of a project shall be a Corps responsibility whenever the project authorization, or recommendation for authorization, provides for the Corps to operate, maintain, repair, rehabilitate or replace other project features. The manner in which the District Commander exercises this authority and responsibility will vary widely, depending on the location of the fish and wildlife mitigation features and the type of ecological management and administration required. Plans recommended for authorization in this category shall identify the Corps OMRR&R responsibility. OMRR&R of ecological resources features included in an alternative plan to mitigate losses associated with an existing Federal program (e.g., National Migratory Bird Management Program) shall be the responsibility of the Federal agency that administers that program.

(b) Non-Federal Responsibility. OMRR&R of fish and wildlife mitigation features shall be a non-Federal responsibility whenever the project authorization or recommendation for authorization provides for non-Federal interests to operate and maintain other project features, and in some cases where there is a Federal OMRR&R responsibility but no Federal (Corps) presence, e.g., no Corps project management office located on site. Assignment of such responsibility shall be a part of the items of local cooperation for the project, to be fulfilled by either a local sponsor or another agency which will provide the necessary assurances to the Corps.

(15) Postauthorization Mitigation. Section 906(b) of the Water Resources Development Act of 1986 authorizes the Secretary of the Army to mitigate damages to fish and wildlife without further specific Congressional authorization within certain limits. Current budgetary constraints do not provide for the implementation of Section 906(b).

f. Applicability of FWCA and ESA to Postauthorization Activities.

(1) FWCA Applicability. The FWCA applies to postauthorization activities if the activity meets the threshold test outlined in Section 2(a) of the FWCA, i.e., the authorized plan is modified or supplemented, and these changes relate to Federal construction which would divert, modify, impound, or otherwise control a waterway.

(2) Section 2(b) Report and Section 2(e) Funding. Sections 2(b) and (e) of the FWCA normally apply during post-authorization activities for Federal projects where the Section 2(a) threshold test has been met.

(a) Mandatory Compliance. Section 2(b) of the FWCA is mandatory when changes to the authorized plan meets the Section 2(a) threshold test and the proposed changes to the authorized plan or project require a report to Congress, or the approval of the Chief of Engineers, or above.

(b) Discretionary Compliance. In all other instances where Section 2(a) applies, compliance with Section 2(b) requirements would be discretionary. However, it is Corps policy to fund the FWS for it's FWCA Section 2(b) activities associated with Corps studies and projects, consistent with procedures set forth in the 1980 Transfer Funding Agreement, as amended effective 21 September 1982.

(3) Discretionary Compliance Determination Criteria. The following criteria are considered appropriate for District commanders to use for determining when Section 2(b) and (e) of the FWCA applies to postauthorization project activities. First, the proposed activity must meet the Section 2(a) threshold test. Second, a project document must be under preparation that requires approval by at least the Division Commander, or above, and any of the following factors exist:

(a) The acknowledgment by the Corps in the feasibility report, or accompanying NEPA document, that sufficient uncertainty exists concerning impacts the recommended plan could have on fish or wildlife resources to warrant further investigations and analysis during postauthorization planning, engineering and design activities;

(b) Modification or supplementation of the authorized plans require the development of a supplement to the FEIS;

(c) New information or factors are identified during postauthorization project activities that appreciably change the extent to which the authorized project would or could impact upon fish and wildlife resources beyond what was documented in the feasibility report;



(d) The authorized project contains major fish and wildlife mitigation or enhancement features, and the further planning, siting, designing and construction of such features would benefit from involving the FWS, NMFS or State resources agencies in these activities; or,

(e) District and Division professional staff determine that continued involvement of the FWS, NMFS or State resources agencies during postauthorization project activities would better assure public and agency acceptance of the water resources development project, including authorized fish and wildlife features included in the project.

(f) The new or supplemented Section 2(b) report, planning aid letter, etc., shall accompany the project document throughout the decision-making process.

(4) ESA Applicability. Section 7 of the ESA is applicable for any project, or unit thereof, regardless of when the project was authorized or completed.

g. Reporting.

(1) General. Feasibility reports shall describe specific considerations given to fish and wildlife resources conservation during the study. All factors which the reporting officer considered as contributing to the justification of the expenditures recommended for mitigation and restoration features shall be explicitly described. Specifically, the report shall:

(a) Describe fish and wildlife resource features included in the recommended plan, including the basis for justification, consistent with guidance set forth in this section;

(b) Include appropriate letters and reports furnished by the FWS/NMFS and State agencies;

(c) Describe recommendations furnished by the FWS/NMFS and affected States in compliance with the FWCA and Section 7 of the ESA, discuss specifically how each recommendation was addressed in appropriate alternative plans, and provide reasons for adoption or non-adoption of each recommendation;

(d) Include, as appropriate, provisions for monitoring mitigation features included in the recommended plan;

(e) Describe consideration given to the protection and restoration of wetland resources, including the establishment of wetlands in connection with recommended plans that include the disposal of dredged material;

(f) Include the necessary letters of intent from agencies and non-Federal sponsors participating in fish and wildlife mitigation and restoration features; and,

(g) Describe how such features will be operated, managed and funded over the life of the project.

(2) Mitigation. Reports seeking authorization or approval of any water resources development project shall contain either:

(a) A determination that such project will have negligible adverse impacts on fish and wildlife; or,

(b) A recommendation with a specific plan to mitigate fish and wildlife losses created by such project.

(3) Wetlands. Feasibility reports and accompanying environmental documents shall, as applicable, describe specific consideration given to protect, reserve, conserve, mitigate adverse impacts, and restore wetland resources associated with the recommended plan. This information shall be in sufficient detail to quantify (acres and appropriate quality indicator) to what extent the recommended plan will contribute to the National goal of no net loss of wetland resources.

(4) Water Rights. If required by State water laws, rights for the use or release of stored water, to maintain reservoir pools or regulate stream flows for fish and wildlife mitigation or restoration, shall be provided by non-Federal sponsors. Reasonable costs of rights for water to accomplish initial filling of the reservoir, including water for mitigation requirements, are eligible for credit in cost sharing determinations. The computation is dependent on the manner of repayment. Non-Federal sponsors are also required to furnish assurance that appropriate action will be taken to prevent downstream withdrawals of water that would negate fishery benefits credited to such releases.

#### C-4. Cultural Resources.

a. Introduction. This section provides guidance for consideration of cultural resources in Civil Works planning studies, along with compliance requirements relevant to the identification, evaluation and treatment of these resources. This guidance is applicable to Corps of Engineers' Reconnaissance studies, Feasibility studies and Preconstruction Engineering and Design studies. It also applies to projects pursued under the Continuing Authority Program. This section does not apply to operating projects or Regulatory programs administered by the Corps of Engineers.

b. Definitions.

(1) Historic Property. An historic property is any prehistoric or historic district, site, building, structure or object included in or eligible for inclusion on the National Register of Historic Places (National Register). Such properties may be significant for their historic, architectural, engineering, archeological, scientific or other cultural values, and may be of national, regional, state, or local significance. The term includes artifacts, records, and other material remains related to such a property or resource. It may also include sites, locations, or areas valued by Native Americans, Native Hawaiians and Alaska Natives because of their association with traditional religious or ceremonial beliefs or activities.

(2) Cultural Resources Study. A cultural resources study is a scientific investigation conducted for the purposes of: discovering cultural resources; confirming their location, extent, and character; evaluating their significance; determining their research potential; determining potential project effects; and developing alternative preservation and/or mitigation plans. Such studies are performed at varying levels of intensity and specificity, and include archival, above-ground field examination, sub-surface testing, laboratory studies, and other scientific and analytic investigations. These studies should utilize professionally accepted and "state-of-the-art" methods and techniques as well as employing or testing innovative strategies when possible. The major study types for Civil Works planning studies are described in the following subparagraphs. Although timing of execution and level of detail will vary according to the nature of a particular project, general guidelines are provided by phase of planning study.

(a) Literature and Records Review. A search undertaken to determine what resources are known (or considered likely by informed sources), to be located within the planning area and to appraise the type, extent, and validity of any cultural resources investigations already accomplished.

(b) Sample Survey. Field examination of a representative portion of the planning area (which may be coupled with aerial, subsurface or waterborne remote sensing applications as appropriate), adequate to assess and predict, in general terms, the numbers, locations, affiliations, component(s), spatial distribution, data potential and other salient characteristics of historic properties or historic resources. The degree of coverage will be based on scientific and systematic sampling principles. Sampling strategies "should be predicated on knowledge of where pertinent resources are likely to be found, as well as on the degree to which they may be impacted by . . . land use activities." (CERL Technical Note 98/88). They may include strategies for identifying below-ground resources and additional requirements for evaluation and testing.

(c) Evaluation and Testing. Limited or restricted subsurface excavations to determine National Register eligibility of above-ground and below-ground resources by assessing and

appraising their extent and depth, their data potential, potential project effects, and other relevant characteristics that cannot be ascertained by pedestrian or surface examination alone. To evaluate significance, mapping, archival research, detailed laboratory analysis, and controlled surface collection of artifacts may precede, accompany or supplement such tests and evaluations. Evaluation and testing may also extend to the preparation of measured drawings, photographs, written data, and historical documentation to determine the National Register eligibility of structures and/or buildings.

(d) Intensive Survey/Inventory. A comprehensive, systematic, and detailed physical examination of an area as may be needed to identify and evaluate all historic properties which must be taken into account. This may include pedestrian survey, subsurface testing, archival research, and architectural studies. The inventory may be accompanied and/or followed by analytical studies such as artifact typing, radiocarbon dating, geomorphological mapping, archeobotanical analysis, and zooarcheology. It will also provide data required to develop preservation and/or mitigation plans.

(3) Mitigation. Mitigation is the minimization of losses of significant scientific, prehistoric, historic, architectural or archeological resources which will be accomplished through preplanned actions to avoid, preserve, protect, minimize, or compensate for impacts upon such resources, or to recover a representative sample of the data they contain by implementation of scientific study and other professional techniques and procedures.

(4) Historic Preservation. Historic preservation is the act of identification, evaluation, recordation, documentation, curation, acquisition, protection, management, rehabilitation, restoration, stabilization, maintenance, research, interpretation, conservation and education and training for cultural, built and/or engineered environments.

(5) Advisory Council on Historic Preservation (ACHP). The ACHP is a body of the Executive branch of the Federal government that issues regulations to implement Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The Council also consults with Federal agencies and comments on undertakings and programs that affect historic properties.

(6) State Historic Preservation Officer (SHPO). The SHPO reflects the interests of a State and its citizens in the preservation of their cultural heritage. In accordance with NHPA provisions, the SHPO advises and assists Federal agencies in carrying out their NHPA responsibilities.

(7) Tribal Historic Preservation Officer (THPO). The THPO is appointed or designated in accordance with the NHPA and is the official representative of an Indian tribe for the purposes

of Section 106 of the NHPA. If an Indian tribe has assumed the responsibilities of the SHPO for section 106 on tribal lands, Federal agencies shall consult with the THPO in lieu of the SHPO regarding undertakings occurring on, or affecting historic properties on, tribal lands.

(8) Indian tribe. An Indian tribe is a tribe, band, nation, or other organized group or community, including a Native village, Regional Corporation or Village Corporation, as those terms are defined in Section 3 of the Alaska Native Claims Settlement Act (43 U.S.C. 1602), which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians.

(9) Native Hawaiian organization. A Native Hawaiian organization is any organization which serves and represents the interests of Native Hawaiians; has a primary and stated purpose of the provision of services to Native Hawaiians; and, has demonstrated expertise in aspects of historic preservation that are significant to Native Hawaiians. "Native Hawaiian" means any individual who is a descendant of the aboriginal people who, prior to 1778, occupied and exercised sovereignty in the area that now constitutes the State of Hawaii.

(10) One Percent of the Total Amount Authorized to be Appropriated for Such Project. This is the statutory level set by the Archeological and Historic Preservation Act of 1974 (Public Law 93-291) on Corps of Engineers' general authority to make expenditures for data recovery. The Department of the Interior defines "data" as "evidence about historic and prehistoric periods which are buried in the ground" and recovery as "the scientific excavation or removal and preservation of that evidence . . . when construction projects pose threats that would result in their irreparable loss or destruction." Activities to survey, test and evaluate archeological resources are considered to be project planning activities, not data recovery activities. Further, mitigation, including but not limited to, protection of historic structures and engineering elements, built environment documentation, real estate support, and engineering support may all be appropriate activities, but, they are not data recovery activities subject to the one percent accounting established by Public Law 93-291. Section 208 of the National Historic Preservation Act Amendments of 1980 authorizes data recovery in excess of the one percent level when the Assistant Secretary of the Army (Civil Works) seeks the concurrence of the Secretary of the Interior (through the Departmental Consulting Archeologist) and notification of Congress.

(11) Significance. Significance is a term attributable to properties listed in or determined to be eligible for listing in the National Register. Significance criteria for the purpose of this regulation shall be those provided in 36 CFR Part 60.4. According to these criteria for evaluation, "(t)he quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and

(a) that are associated with events that have made a significant contribution to the broad patterns of our history; or

(b) that are associated with the lives of persons significant in our past; or

(c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(d) that have yielded, or may be likely to yield, information important in prehistory or history."

(12) Undertaking. An undertaking, for purposes of compliance with Section 106 of the NHPA, means a project, activity or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including: those carried out by or on behalf of the agency; those carried out with Federal financial assistance; those requiring a Federal permit, license or approval; and, those subject to State or local regulation administered pursuant to a delegation or approval by a Federal agency.

(13) Collection. A collection is the composite of all material remains that are recovered from a cultural resources study as well as the associated records that are prepared or assembled in connection with that study.

(14) Collections management and curation. Collections management and curation are those services such as processing, cataloging and accessioning, as well as the application of specialized techniques necessary for conserving and maintaining collections.

(15) Collections Management Center. A collections management center is a facility where material remains and associated records are curated and maintained.

c. Overview. The National Historic Preservation Act (NHPA) of 1966, as amended, states that it is the policy of the Federal government to "provide leadership in the preservation of the prehistoric and historic resources of the United States . . .". These are finite, non-renewable resources which must be considered in formulating recommendations for project authorization and implementation. Significant cultural resources, also known as historic properties, are those listed in, or eligible for listing on the National Register of Historic Places. As early in the planning process as is possible, historic properties should be identified, characterized and taken into account in accordance with Section 106 of the NHPA and its implementing regulations at 36

CFR Part 800. Consistent with this process, and as appropriate to comply with other cultural resources laws and regulations, Corps undertakings shall be fully coordinated with State Historic Preservation Officers (SHPO), Tribal Historic Preservation Officers (THPO), the Advisory Council on Historic Preservation (ACHP), and all other appropriate interested parties and/or individuals.

d. Cultural Resources Studies.

(1) Principal investigators and key consultants conducting cultural resource studies shall meet the minimum qualifications cited in the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. Principal investigators shall be responsible for the validity of material presented in their reports.

(2) Draft reports on the results of cultural resources studies shall be distributed for review and comment to appropriate agencies, institutions and individuals, including, but not limited to, the State and/or Tribal Historic Preservation Offices, the Advisory Council, and the Department of the Interior.

(3) Copies of final reports shall be furnished to any appropriate individuals, agencies, and organizations. Final reports should be organized to include appendices or stand-alone volumes containing maps, site forms, references to specific site locations or other sensitive resource data. Appendices or stand-alone volumes may warrant protection from public disclosure under Exemption 3 of the Freedom of Information Act (FOIA), 5 U.S.C.A '552(b)(3) and Section 304 of the National Historic Preservation Act, as amended, 16 U.S.C.A '470w-3(a).

(4) Reconnaissance Phase Studies. Cultural resources investigations conducted during the Reconnaissance Phase of planing shall usually be limited to observations and general predictions regarding the types, variety and frequency of cultural resources that may be affected by potential solutions to water resources problems. These observations and predictions should be supported by a review of in-house information, records and available data. Cultural resources input during this phase of planning should also include projections of costs to accomplish the necessary studies, investigations, consultations and coordination that could occur during the subsequent planning phase.

(5) Feasibility Phase Studies.

(a) Cultural resources investigations during the Feasibility Phase of planning shall usually begin with a literature and records review. This literature and records review shall include manual and/or electronic searches of the National Register of Historic Places, the State archives, State site files, other files of the SHPO/THPO and other available public records of

prior cultural resource investigations within the planning area. It may also include interviews with persons knowledgeable about related topics; contacts with appropriate Native Americans, Native Hawaiians and Alaska Natives; field checks of site locations, and examinations of old photographs, maps and other documents.

(b) In consultation with the SHPO and/or the THPO, Corps Commands shall also design and implement such studies as are necessary to evaluate alternative plans in terms of their relative impact on historic properties. These studies should, when conducted on a sampling basis, provide for the efficient planning of any further cultural resource investigations that may be needed prior to initiation of construction.

(c) The Feasibility Phase studies shall normally be accomplished on a sampling basis formulated within a research strategy tailored to insure adequate coverage of the environmental zones within the alternative plan impact areas. However, when considered necessary or appropriate, a sample survey may be waived in favor of an intensive survey/inventory during the Feasibility Phase.

(d) Sample surveys will be designed to obtain such information as is necessary to identify and predict the presence of historic properties; to evaluate effects to such properties; and to evaluate impacts of alternative plans and assist in plan selection.

(1) The sampling strategy shall consider costs of survey with respect to the number of viable alternatives and the extent of the known area of potential effects.

(2) If this approach delays timely identification of historic properties and project impacts for consideration in a NEPA document or Feasibility Report, a Programmatic Agreement can be developed between the Corps Command, the SHPO and/or THPO, the ACHP and other consulting parties. This Agreement should specify the process by which required surveys, testing, evaluation, effect determination, mitigation planning, and coordination shall be achieved.

(e) The Feasibility Report and NEPA document shall briefly describe identified and predicted historic properties which would be impacted by the alternative plans. Where the extent, scope or significance of potentially impacted resources influence the commander's recommendation, these considerations should be clearly set forth in the feasibility report. If properties listed in, or eligible for listing on the National Register will be affected by the recommended plan, comments of the SHPO and/or THPO, the ACHP, and other interested parties shall be sought pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, and 36 CFR 800. Comments shall also be sought in the event that for the recommended plan, there will be "no effect" on historic properties.



(F) Cultural resources studies completed during this phase of planning, may indicate that the cost of data recovery could exceed one percent of the total Federal amount authorized for appropriation. In those cases, the Feasibility Phase Report shall include a narrative on the potential need to exceed the one percent level. This narrative shall include, but may not be limited to, the factual basis for concern and the need or likelihood of seeking a waiver under Section 208 of the National Historic Preservation Act Amendments of 1980.

(6) Preconstruction Engineering and Design Phase Studies.

(a) During the period between completion of the Feasibility Report and initiation of construction, intensive surveys/inventories, if required or not previously conducted, shall be accomplished in the area of potential environmental impact of the recommended plan or authorized project. The results of such inventories serve as the basis for formulation of plans for management of historic properties prior to or during the construction and operational stages of projects.

(b) Such inventories shall be accomplished within the context of an explicit research design, formulated in recognition of prior work by the Corps of Engineers and others, and shall include such testing and other comparisons and evaluations as may be required to formulate a program which provides a defensible basis to:

(1) Seek determinations of eligibility of resources for the National Register of Historic Places.

(2) Determine when a project will have "no effect" on historic properties.

(3) Determine the need to mitigate adverse project effects on National Register and eligible properties in light of their historic or architectural significance or their potential to further archeological knowledge.

(4) Develop plans and cost estimates for such mitigation or other treatment of historic properties affected by the project.

(5) Serve as the basis for negotiation of a Memorandum of Agreement (if no Memorandum has been previously prepared) with the SHPO/THPO, and, if appropriate, the ACHP specifying actions which will be taken by the Corps of Engineers prior to or during the project construction period to mitigate adverse effects on National Register and eligible properties.

(c) Should the cost of data recovery exceed one percent of the total estimated Federal appropriation required for construction of a project, a waiver request shall be submitted in accordance with Section 208 of the National Historic Preservation Act Amendments of 1980.

(1) The waiver shall be submitted, through channels, to the Corps Federal Preservation Officer (FPO), who shall serve as the headquarters technical specialist and liaison. The FPO will review the waiver request, coordinate with all appropriate headquarters elements, informally coordinate with the Department of the Interior, and develop any additional documentation for approval by the Assistant Secretary of the Army (Civil Works). The waiver shall then be submitted to the Secretary of the Interior, through the National Park Service Departmental Consulting Archeologist, for concurrence and Congressional notification.

(2) The waiver request should be in the form of a letter report with supporting documentation as deemed necessary. The letter report should include detailed descriptions of the historic properties that will be adversely affected; descriptions of previous studies in the study area; proposed data recovery efforts for each effected property; estimated data recovery costs per property; and a detailed justification for the need to exceed the one percent level.

(3) While early planning and preparation of a waiver request is desirable, it is not always possible. It is important to note that Corps Commands may expend data recovery funds up to the one percent level prior to the completion of the waiver process.

e. Native American Considerations.

(1) When cultural resources studies examine lands held in fee title (or controlled to the same extent as fee title lands) by the Corps, provisions of Section 3 of the Native American Graves Protection and Repatriation Act (NAGPRA), Public Law 101-601, and its implementing regulations found at 40 CFR Part 10, will apply.

(2) NAGPRA does not apply to lands in which the Corps has merely been provided access, or a right of entry, by a landowner and/or local sponsor, for water resources development studies or projects. A full discussion of NAGPRA applicability can be found in a 7 Dec 1995, CECW-AO/CECW-PD/CECC Memorandum and Legal Opinion, subject: Application of the Native American Graves Protection and Repatriation Act to Water Resources Development Activities.

(3) A Presidential Memorandum on Government-to-Government Relations, dated 29 April 1994, reaffirmed the United States "unique legal relationship with Native American tribal governments." In recognition of the special considerations due to tribal interests, the President directed Federal agencies to operate within a government-to-government relationship with

federally recognized Indian tribes; consult, to the greatest extent practicable and permitted by law, with Indian tribal governments; assess the impact of agency activities on tribal trust resources and assure that tribal interests are considered before the activities are undertaken; and remove procedural impediments to working directly with tribal governments on activities that affect trust property or governmental rights of the tribes. In the Planning process for water resources development, there may be many points of connection between the Corps and Indian tribes. The following Tribal Policy Principles, developed with the Office of the Assistant Secretary of the Army (Civil Works), shall guide Corps-Indian tribe interaction during project planning.

(a) Tribal Sovereignty. The U.S. Army Corps of Engineers recognizes that Tribal governments are sovereign entities, with rights to set their own priorities, develop and manage Tribal and trust resources, and be involved in Federal decisions or activities which have the potential to affect these rights. Tribes retain inherent powers of self-government.

(b) Trust Responsibility. The U.S. Army Corps of Engineers will work to meet trust obligations, protect trust resources, and obtain Tribal views of trust and treaty responsibilities or actions related to the Corps, in accordance with provisions of treaties, laws and Executive Orders as well as principles lodged in the Constitution of the United States.

(c) Government-to-Government Relations. The U.S. Army Corps of Engineers will ensure that Tribal Chairs/Leaders meet with Corps Commanders/Leaders and recognize that, as governments, Tribes have the right to be treated with appropriate respect and dignity, in accordance with principles of self-determination.

(d) Pre-Decisional and Honest Consultation. The U.S. Army Corps of Engineers will reach out, through designated points of contact, to involve Tribes in collaborative processes designed to ensure information exchange, consideration of disparate viewpoints before and during decision making, and utilize fair and impartial dispute resolution mechanisms.

(e) Self Reliance, Capacity Building, and Growth. The U.S. Army Corps of Engineers will search for ways to involve Tribes in programs, projects and other activities that build economic capacity and foster abilities to manage Tribal resources while preserving cultural identities.

(f) Natural and Cultural Resources. The U.S. Army Corps of Engineers will act to fulfill obligations to preserve and protect trust resources, comply with the NAGPRA, and ensure reasonable access to sacred sites in accordance with published and easily accessible guidance.

(4) When Civil Works cultural resource studies include the examination of “Federal lands,” as defined by Executive Order 13007, “Indian Sacred Sites”, the provisions of that Executive Order apply. For the purposes of Executive Order 13007, Federal lands are any land or interest in land owned by the United States, including leasehold interests held by the United States, except Indian trust lands.

(a) Executive Order (EO) 13007 directs Federal agencies to accommodate access to, and ceremonial use of, Indian sacred sites by Indian religious practitioners. It directs agencies to avoid adversely affecting the physical integrity of such sacred sites and to maintain confidentiality of information pertaining to such locations.

(b) Corps policy on EO 13007 is contained in Policy Guidance Letter Number 58, dated 28 June 1998. That policy is incorporated herein, by reference. In brief, though, it is Corps policy to utilize all reasonable means to accommodate Indian tribes by providing meaningful access to sacred sites on Federal lands. Corps Commands will ensure that Indian tribes have reasonable opportunities to review plans for activities and projects on Federal lands that could potentially adversely affect sacred sites. In the event that the Federal lands examined are owned or leased by another Federal agency, Corps Commands shall ensure that representatives from these other agencies will have a reasonable opportunity to participate in EO 13007 consultations.

(c) Corps cultural resources studies, conducted for planning purposes, on lands subject to the provisions of EO 13007, shall include narratives on the results of tribal consultations regarding access, and potential affects to, Indian sacred sites. These narratives shall include, but may not be limited to: nature and extent of sacred sites within the study area (subject to tribal approval and confidentiality concerns), access accommodations required under “with/without” project conditions, potential affects of the project, and feasible measures to ensure the avoidance of potentially adverse affects.

f. Curation. Collections recovered from lands in which the Corps merely has a right of entry (i.e. no real property interest) are the property of the landowner, unless otherwise specified. Corps Commands conducting cultural resources studies associated with these lands should ensure that collections are properly curated in appropriate collections management centers as long as there is a Corps interest in the collections. When the Corps interest in collections ends, landowners should be encouraged to arrange for permanent curation with collections management centers in a manner consistent with Federal curation requirements.

g. Continuing Authority Projects. Identification, evaluation, and mitigation of effects on historic properties within the impact area of projects planned and implemented under Continuing Authorities for flood control, navigation, streambank erosion control and shore protection shall be accomplished as follows.

(1) Section 103, 107, 111, 205. The implementation of projects under these authorities includes two planning phases (reconnaissance and feasibility), preparation of plans and specifications, and construction.

(a) Cultural resources investigations during the reconnaissance phase of planning should be consistent with the overall objectives of the study as well as time and cost limitations. Investigations during this phase of planning shall usually be limited to observations and general predictions regarding the types, variety and frequency of cultural resources that may be affected by a proposed undertaking. These observations and predictions should be supported by a review of in-house information, records and available data. The review of available information may assist in the design of more intensive investigations of the planning area and the development of cost figures for later implementation phases. In some cases, the results of reconnaissance phase investigations may indicate that the cost of data recovery could exceed the one percent level specified in Section 7a of the Archeological and Historic Preservation Act of 1974 (Public Law 93-291). In those cases, the reconnaissance report shall include a narrative on the potential need to exceed the one percent level. This narrative shall include, but may not be limited to, the factual basis for concern and the need or likelihood of seeking a waiver under Section 208 of the National Historic Preservation Act Amendments of 1980.

(b) The feasibility phase should complete the plan formulation process and result in the preparation of a Detailed Project Report (DPR). If the limited observations and predictions documented in the reconnaissance planning phase reveal the presence, or likely presence, of historic properties within the areas of potential project effect, the Corps Command shall conduct an intensive survey/inventory. The results of the intensive survey/inventory shall be presented in the DPR along with the proposed plan for mitigation if adverse effects on historic properties will occur.

(1) If historic properties will be effected by the recommended plan, comments of the SHPO and/or THPO and the Advisory Council on Historic Preservation shall be sought pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, and 36 CFR Part 800. Comments shall also be sought in the event that for the recommended plan, there will be "no effect" on historic properties.

(2) Should the cost of data recovery exceed one percent of the total Federal appropriation required for construction of a project for which Congress has not specifically authorized expenditures in excess of this amount, a waiver request shall be submitted in accordance with Section 208 of the National Historic Preservation Act Amendments of 1980. For Continuing Authorities Projects, Corps Commands shall use the same waiver process described in paragraph d(6)(c) above.

(2) Section 14 and 208. Projects considered pursuant to these Continuing Authorities are subject to a single planning phase prior to the preparation of plans and specifications. Section 14 and 208 projects are not exempt from compliance with the National Historic Preservation Act of 1966 and 36 CFR Part 800.3 through 800.6. When Corps projects are in response to a disaster or emergency declared by the President, a tribal government, or the governor of a State or another immediate threat to life or property; and, when the undertaking will be implemented within 30 days after the disaster or emergency has been formally declared by the appropriate authority, Corps Commands can follow accelerated procedures established in 36 CFR Part 800.12 "Emergency situations."

h. Costs, Apportionment, and Accountability.

(1) Funds expended for cultural resource investigations during the Reconnaissance Phase of Planning shall be a full Federal expense.

(2) Funds expended during the Feasibility Phase for sample surveys, intensive surveys, or other necessary cultural resource investigations are cost-shareable. These may be treated as planning costs and thus, are not accountable under the statutory one percent data recovery expenditures.

(3) Data recovery of significant archeological properties is a full Federal cost up to the one percent level specified in Section 7a of Public Law 93-291. In the event that data recovery costs exceed the one percent level, those costs that exceed the one percent level will be shared by the Federal government and the local sponsor.

(a) For projects that will exceed the one percent level and a Project Cooperation Agreement (PCA) has not been executed, the PCA shall include a specific provision for data recovery cost sharing. In order to determine the cost share formula, the Corps Command shall identify the project purpose which caused the need for the data recovery and cost share the amount over the one percent as if it were a separate project for that purpose.

(b) For projects that will exceed the one percent level and a PCA is in place, but does not specifically address data recovery, the Local Sponsor share of the amount over one percent shall be dictated by the Sponsor's overall financial responsibilities as enumerated in the PCA.

(4) Cultural resources mitigation, other than data recovery, shall not be included in the one percent accounting specified in Section 7a of Public Law 93-291. Cultural resources mitigation, other than data recovery, shall be cost shared between the Corps and the Local Sponsor using the same cost sharing formula established for the project purpose.

(a) For projects that require cultural resources mitigation, other than data recovery, and a PCA has not been executed, the PCA shall include a specific provision for mitigation cost sharing.

(b) For projects that require cultural resources mitigation, other than data recovery, and a PCA is in place, the Local Sponsors share of the mitigation costs shall be dictated by the Sponsor's overall financial responsibilities as enumerated in the PCA.

(5) For Continuing Authorities projects, when cultural resources mitigation costs increase the Federal cost to a level in excess of the Federal Funding Limits, all mitigation costs in excess of the specified Limits shall be the responsibility of the local sponsor. For those Continuing Authorities efforts that are below specified Limits, funding formulas established in paragraph h(3) and (4), above, apply.

#### C-5. Aesthetic Resources

a. Purpose. This section provides guidance for consideration of aesthetic resources in Civil Works planning studies.

b. Definitions.

(1) Aesthetic Resources. Those natural resources, landform, vegetation and man-made structures in the environment which generate one or more sensory reactions and evaluations by the observer, particularly in regard to pleasurable response. These sensory reactions are traditionally categorized as visual, auditory and olfactory responses; more simply-sight, sound and smell. The visual sense is so predominant in the observers reaction and evaluation that aesthetic resources, for the purpose of this section, will be referred to as visual resources. The other sensory stimulants, sound and smell, should be dealt with to the extent their presence is perceivable.

(2) Aesthetic Quality. The significance given to aesthetic resources based on the intrinsic physical attributes of those specific features and recognized by public, technical and institutional sources.

(3) Landscape Unit. A distinct and visually connected portion of land which may include compatible vegetation, water, wildlife, land use and man-made structures and forms a distinct and describable visual component.

(4) Procedures. The methods or process used to evaluate aesthetics for Corps of Engineers planning studies. A procedure should be capable of being used to: (1) Identify and assess the existing visual resources conditions affected by a Corps study; and, (2) Assess (describe magnitude, location, duration) and appraise (determine if beneficial or adverse) the visual impacts caused by alternatives; and, (3) Provide a replicable basis of support for any recommended mitigation.

(5) Mitigation. For the purpose of this section, the definition of mitigation includes:

- (a) Avoiding the impact altogether by not taking a certain action or part of an action.
- (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- (e) Compensating for the impact by replacing or providing substitute resources or environments.

c. Guidance.

(1) General. It is National policy that aesthetic resources be protected along with other natural resources. Current planning guidance specifies that the Federal objective of water and related resources planning is to contribute to National Economic Development consistent with protecting the Nation's environment. The Corps established a number of environmental goals, including: (1) Preservation of unique and important aesthetic values; and, (2) Restoration and maintenance of the natural and man-made environment in terms of variety, beauty, and other measures of quality ([ER 200-2-2](#)). However, in meeting these goals, a standard of reasonableness must be applied in defining the appropriate level of expenditures for aesthetic quality at Civil Works projects. Current budgetary constraints and the intense competition for Federal funds dictate that a greater level of discipline be applied in meeting the Corps responsibilities to harmoniously blend projects with the surrounding environment while avoiding excessive expenditures. The guidance and procedures presented herein implement these planning and environmental policies and goals and complement the procedures developed for planning, economic evaluation and other environmental resource evaluation.



(2) Aesthetic Resources in Planning. Consideration of Aesthetic resources shall be consistent with current planning guidance. Review of a study (e.g. study area, alternatives) by a landscape architect or trained environmental resources personnel early in the planning process can provide valuable input to the study by identifying significant visual resources as well as other planning issues related to aesthetics that impact on plan formulation, design and engineering. Procedures for consideration of aesthetic resources shall occur throughout the planning process and be documented to reflect the continued effort throughout all phases of the project. This procedure departs from the traditional practice which introduced beautification only during the design stage.

(3) Mitigation. Appropriate mitigation shall be undertaken for adverse effects to significant aesthetic resources. Aesthetic mitigation measures, features, and actions shall be evaluated according to their ability to either avoid, minimize or compensate for adverse effects on significant aesthetic resources, or to mitigate damage to these resources shall be considered a part of the project and allocated to the project in the same manner as other project costs.

(4) Project Relationship. Any aesthetic project features must be related to harmoniously blending the project into the project setting and not aimed at "beautifying" the surrounding area. This is not an issue with measures that are integral to project design but is an important consideration for measures that are not integral. For example, plant materials can be used to reduce visual contrast or screen projects. Landscape plantings must be limited to the land required for the project and plantings will not extend to adjacent property even if the adjacent property is a public park or recreation area.

(5) Project Setting. The acceptability and compatibility of aesthetic features of project design are affected by the project setting and the expectation of the users and viewers of the project. The land use in the area surrounding the project is an important consideration in determining the appropriate measures for aesthetics. For example, a concrete channel without aesthetic treatment may not be visually objectionable in a heavy industrial area but a concrete channel in a residential area may require texturing and screening with trees and shrubs to be visually compatible with the residential land use. Linear projects such as levees and channels may incorporate different aesthetic features in different reaches of the same project depending on the visual qualities and land uses of the adjacent property in that reach with an appropriately designed transition between different treatment reaches.

(6) Partnership. Project aesthetic features will be closely coordinated with the non-Federal project sponsor. The objectives, goals, desires and values of the local sponsor will be carefully considered in formulating the aesthetic features of the project within the limits of a uniform application of standard Corps practices for aesthetic quality. A summary of standard

Corps practice is contained in Appendix R. This does not preclude the incorporation of measures into a project that would exceed the normal Corps practice if the non-Federal sponsor is willing to bear all of the incremental costs of such measures as elements of a locally preferred plan. Equity is also an important consideration in working in partnership with local sponsors. The preservation and enhancement of aesthetic quality must be an important goal in all projects regardless of the socio-economic conditions in the project area.

(7) Compatibility. All aesthetic measures must be designed so that they are fully compatible with the project purpose and in no way compromise the safety, integrity or function of the project. For example, it may be appropriate to screen a floodwall with vegetative plantings but it would be inappropriate to plant trees directly on a levee that might endanger its structural integrity or diminish its hydraulic characteristics.

(8) Cost Allocation. Costs for aesthetic measures that are in accordance with standard Corps practices are shared as project costs. Cost allocation would be an issue in multi-purpose projects where aesthetic costs would be shared in accordance with the purpose to which the costs are allocated. An example would be a hiking trail on a flood control levee. The addition of recreation as a project purpose may introduce the need for an increased consideration of aesthetics since it results in increased public visibility and use of the project. In these cases, any incremental aesthetic costs associated with the recreation purpose should be allocated to the recreation purpose and cost-shared with the non-Federal sponsor on a 50 percent basis.

d. Procedures.

(1) General. A procedure such as the Visual Resources Assessment Procedure (VRAP), WES Instructional Report EL-88-1, or comparable method, to assess aesthetic resources shall be included as a regular part of planning studies. The purpose of using a procedure is to have a systematic approach to consider aesthetic resources. Advantages of a systematic and quantifiable approach include the ability to assign a visual resource value to all of the landscape units within a study area, identify significant aesthetic resources, and to determine causes of adverse impact. Such a procedure provides a clear, tractable basis for including aesthetics in plan formulation, design, reformulation, and mitigation planning.

(2) Level of Detail. The level of effort or detail used in a Procedure will vary dependent on project size, geographical scale, costs, phase of a study, and on the availability of data, identified alternatives, and forecasts of future conditions. The level of detail will increase with the phase of planning and engineering, as the Planning data required, e.g., impact measurements, increases in detail. The procedure used may vary from development of narrative descriptions of the visual resources of a study area to implementation of a visual impact assessment study.

(3) Reporting Requirements. Project measures to preserve and restore aesthetic quality should be fully defined (i.e. described and displayed) in the feasibility report and reflected in the project cost estimate. The feasibility report should include a description of the project setting and the relationship of aesthetic features of the project to the setting. To the extent practical, all the incremental costs of the project aesthetic features should be identified recognizing that some aesthetic considerations are completely integral to the project design and are not separable. This complete description and display of costs will allow any issues on the reasonableness of the aesthetic measures to be addressed prior to project authorization and be reflected in the authorizing document. Increases in levels of project costs for aesthetics during pre-construction engineering and design, beyond inflation, will not be approved.

#### C-6. Water Quality and Related Requirements

a. Purpose. This section provides guidance for the consideration of water quality and related programs in Civil Works planning studies. It incorporates water quality policies embodied in Sections 102, 401 and 404 of the Federal Water Pollution Control Act, Section 319 of the Water Quality Act of 1987, and Sections 102 and 103 of the Marine Protection, Research and Sanctuaries Act, which are applicable to Corps of Engineers feasibility studies and preconstruction planning and engineering.

b. Discharge of Dredged or Fill Material into Waters of the United States. Corps of Engineers proposed projects involving the discharge of dredged or fill material into waters of the United States shall be developed in accordance with guidelines promulgated by the Administrator of the Environmental Protection Agency (EPA) in conjunction with the Secretary of the Army under the authority of Section 404(b)(1) of the Clean Water Act, as amended, unless these activities are exempted by Section 404(f).

c. Conducting the Section 404(b)(1) Evaluation in the Planning Process. During feasibility planning, District commanders shall conduct and, to the fullest extent practicable, complete the investigations and analyses required by the Section 404(b)(1) Guidelines. Water quality and related information used in the evaluation will provide documentation to demonstrate that the recommended plan is in compliance with the Clean Water Act. A suggested format for the Section 404(b)(1) evaluation is included as Exhibit C-1.

d. Clean Water Act: Section 404. Feasibility reports recommending projects involving the discharge of dredged or fill material into waters of the United States, including wetlands, shall be developed consistent with Section 404(b)(1) Guidelines. For navigation projects, if compliance with 404(b)(1) Guidelines alone prohibit the designation of a proposed dredged material disposal site, then the economic impact on navigation and anchorage shall be evaluated

and the District Commander may recommend using the proposed site, even if it cannot be officially designated under 404(h)(1) Guidelines (Section 404(b)(2)).

e. Section 404(b)(1) Evaluation Documentation. District commanders shall include in their feasibility planning reports analyses and documentation necessary to demonstrate that the recommended plan is in compliance with 404(b)(1) Guidelines. The 404(b)(1) analysis and compliance determination shall be updated as required during post authorization planning and included in appropriate project documents. Full compliance with the Clean Water Act (CWA), Section 404(b)(1) Guidelines, must be completed prior to the initiation of project construction. A suggested format for the required 404(b)(1) evaluation and compliance determinations is included in Exhibit C-1.

f. State Water Quality Certification. Section 401 of the CWA sets forth requirements and procedures for obtaining State water quality certification for activities which result in any discharge into navigable waters. Section 404(t) provides further guidance relative to navigation projects. State water quality certification requires the District Commander to accomplish the following three tasks:

(1) Complete an evaluation of the effects of the proposed discharge consistent with the Section 404(b)(1) Guidelines;

(2) Issue a public notice, with opportunity for public hearings for the proposed discharge, including or referencing the preliminary Section 404(b)(1) evaluation; and,

(3) Obtain certification, including any required conditions, from the State or interstate water pollution control agency that the proposed action is in compliance with established effluent limitations and water quality standards. If the State in question has assumed responsibilities for the 404 regulatory program, a State 404 permit shall be obtained, if applicable, which will serve as the certification of compliance. District commanders shall provide the State with necessary detailed information it may need to issue the water quality certification.

g. Section 404(r) Exemption. Section 404(r) of the Clean Water Act, waives the requirement to obtain either the State water quality certificate or the 404 permit if:

(1) Information on the effects of the discharge of dredged or fill material into waters of the United States, including the application of the Section 404(b)(1) Guidelines, are included in an environmental impact statement (EIS) on the proposed project; and,

(2) The EIS is submitted to Congress before the actual discharge takes place and prior to either authorization of the proposed project or appropriation of funds for its construction.

(3) District commanders shall clearly document in the feasibility report when the 404(r) exemption criteria have been met, regardless of whether or not the District plans to obtain State water quality certification.

h. Section 404/NEPA Documentation. Evaluation of the effects of the discharge of dredged or fill material, including consideration of the Section 404(b)(1) Guidelines, shall be included in an EA, EIS or EIS Supplement prepared for all Corps actions in planning, design and construction where the recommended plan or approved project involves the discharge of dredged or fill material into waters of the United States.

(1) For feasibility reports going to Congress for authorization, the Section 404(b)(1) evaluation will be discussed in the, body of the EA, EIS or EIS Supplement and included, in full, in an Appendix to the Main Report. The degree to which the proposed project is in compliance with the Act will be noted in the EA (FONSI), or in the Record of Decision (ROD) when an EIS is involved.

(a) If full compliance is noted in the ROD, this will satisfy the Section 404(r) exemption criteria.

(b) If full compliance is not reached during feasibility planning, i.e., the Section 404(b)(1) evaluation is not completed or Section 404(r) requirements are not satisfied, then complete compliance will not be noted until the Section 404(b)(1) evaluations are completed and included in an EIS Supplement filed with EPA prior to project construction.

(2) To aid states and agencies in their review draft feasibility reports that include a draft EIS shall indicate whether or not the District Commander plans to seek exemption under 404(r) once Section 404(b)(1) compliance is met.

(3) Feasibility reports going to Congress, that includes an EA (FONSI) rather than an EIS, must include a State water quality certificate to be in compliance with the Clean Water Act; i.e., Section 404(r) of the, Act does not apply unless an EIS is involved.

(4) For continuing authority projects involving the disposal of dredged or fill material into the waters of the United States, Section 404(b)(1) compliance will be included in the EA, EIS or EIS Supplement consistent with guidance set forth above. Since Section 404(r) does not apply to continuing authority projects (since these reports do not go to Congress) an appropriate State water quality certification or State permit must be obtained before a decision is made on the project.

(5) There may be instances when the District Commander determines that it would be prudent to seek State water quality certification even when an exemption for obtaining such certification is possible under 404(r). In such instances, the District commanders shall accomplish all actions necessary to obtain State water quality certification, and to meet Section 404 (r) exemption requirements. A State water quality certificate shall be obtained prior to requesting project construction funding unless the State is legally unable, or is unwilling to Certify the project even after receiving the necessary Section 404(b)(1) evaluation information from the Corps. In these cases, the District Commander shall officially inform the State of his/her intention to initiate Section 404(r) exemption procedures, and acknowledge this in the appropriate NEPA document.

(6) States requiring final Congressional or Corps action prior to issuing a water quality certification must be advised early in the planning process of the reporting requirements discussed above. In those instances the State must furnish a conditional water quality certification before Sections 401 and 404 requirements are considered met. This issue must be resolved and appropriate documentation included before the Division Commander approves the report and sends it forward to HQUSACE for Washington level review, approval and processing.

i. General Permits. Nationwide and regional permits fall under the category of general permits. A general permit is issued subject to the Section 404(b)(1) Guidelines and to any conditional standards pursuant to Section 404(e) of the Clean Water Act. The conditions of a general permit shall be used in lieu of this regulation for those Federal activities which the District Commander determines to be applicable. However, the use of a general permit shall not substitute for or eliminate the need for the preparation of an appropriate NEPA document, i.e., EIS or EA FONSI.

j. Protection of Wetlands. Executive Order 11990 has declared wetlands to be an important national resource warranting specific preservation measures. Policy and guidance for considering wetland resources in the planning process is found in Section C-3 of this appendix.

k. Aquatic Disposal of Dredged Material.

(1) For projects where discharge of dredged material into the territorial sea is for the primary purposes of fill (e.g., beach nourishment, or replenishment, underwater berm or island construction), the discharge will be evaluated under Section 404 of the Clean Water Act.

(2) For projects involving transportation of dredged material through the territorial sea for the purpose of ocean disposal, or involving dredged material discharge within the territorial sea for the primary purpose of disposal, the discharge will be evaluated under Section 103 of the Marine Protection, Research and Sanctuaries Act (MPRSA). Required consideration for

establishing the need for ocean disposal includes compliance with applicable environmental criteria of 40 CFR Part 227 relating to the effects of disposal, navigation, economic and industrial development, foreign and domestic commerce and availability of practicable alternatives to ocean disposal.

(3) In considering feasible ocean sites for the disposal of dredged material, the District Commander will utilize ocean sites designated by EPA to the maximum extent practical. Where no EPA designated site is available or where such sites are determined not to be feasible for use based on the NED Plan, the District Commander may select a suitable ocean disposal site or sites under authority of Section 103 of the MPRSA using procedures and outlined criteria in 40 CFR 228.4(e), 228.5 and 228.6. Appropriate NEPA documentation should be used to support site selections; preferably incorporating these considerations into the project NEPA document.

(4) Where ocean disposal is determined to be necessary, the District Commander will, to the fullest extent practicable, specify potential disposal sites in the feasibility report. The feasibility report must fully demonstrate that there are acceptable potential disposal sites which incorporate both economic and environmental considerations, within the zone of siting feasibility for the project. District commanders shall conduct and, to the fullest extent practicable, complete the Section 103 evaluation during feasibility planning when ocean dumping alternatives are being considered. Data developed in this manner will facilitate the comparison of alternative ocean disposal plans. If the Section 102 evaluation has not been completed for projects currently in preconstruction planning and engineering, it shall be completed as an integral part of the decisionmaking process for initiating or implementing the project.

(5) Dredged material will be evaluated to ensure that it is suitable for aquatic disposal. Evaluation, and any subsequent sediment testing that may be required, will be performed in accordance with USEPA/USACE "Evaluation of Dredged Material Proposed for Ocean Disposal (Testing Manual)" or USEPA/USACE "Evaluation of Dredged Material Proposed for Discharge in Inland and Near-Coastal Waters - Testing Manual".

#### 1. Water Quality Standards.

(1) Standards. The District Commander shall consider applicable Federal, State and local effluent limitations, water quality standards and management practices, as part of the formulation of alternative plans in feasibility and preconstruction planning and engineering studies. (See E.O. 12088, 13 October 1978.)

(2) Streamflow Regulation. There are two categories of reservoir capacity for the regulation of streamflow, pursuant to Section 102(b)(1) of the Clean Water Act: (a) That which is associated with identifiable project outputs such as navigation, recreation, fish and wildlife or the

prevention of salt water intrusion, and (b) That which is associated with water quality control. The need for and value of storage for the regulation of streamflow for water quality control may be taken into account in a project only if so determined by the Administrator of EPA. Costs allocated to streamflow regulation for water quality control are nonreimbursable if the benefits of such regulation are widespread. (See Chapter 2, Section III regarding deletion or modification of reservoir storage for water quality purposes in accordance with Section 65, Public Law 93-251.)

m. Water Quality Enhancement Costs. Costs for water quality enhancement must be assigned to the appropriate project purposes and shared in the same percentages as the purposes to which the costs are assigned (See Section 103(d) of Public Law 99-662.)

n. Exclusions for Emergencies. District commanders shall meet the evaluation and coordination requirements related to the Sections 404 and 102 guidelines to the fullest extent practicable, unless they determine that the resulting delays will lead to unacceptable risks to health, life, or property or severe and unacceptable economic losses. To further reduce administrative burdens and to expedite meeting these requirements, the District Commander should establish procedures in cooperation with the appropriate Federal and State agencies as recommended in ER 500-1-1. Carrying out the directives of this paragraph is crucial, since compliance with Section 401(a) of the Clean Water Act cannot be waived by the Corps of Engineers. Currently, Section 14 emergency stream bank erosion is the only element of the Civil Works planning program subject to emergency procedures.

o. Non-Point Source Pollution Program. The Water Quality Act of 1987 (Section 319) requires that Federal assistance programs and development projects be consistent with State non point source (NPS) management programs, for those States which have such Environmental Protection Agency (EPA) approved programs. Federal agencies are required to assure that their programs and projects are consistent with those programs. To assist in this process, EPA has developed a "Nonpoint Source Guidance" document dated December 1987 (52 FR 47971).

p. Coastal Zone Management. Sections 307c(1) and (2) of the Coastal Zone Management Act require that each Federal agency conducting, supporting, or undertaking development activities that are in, or directly affect, the coastal zone of a state shall insure that the project is, to the maximum extent practicable, consistent with approved state management plans. Civil Works activities of the Corps of Engineers in the coastal zone fall within this classification.

q. National Estuary Program. In 1987, Congress amended the Clean Water Act formally establishing the National Estuary Program. The purpose of the Program is to identify nationally significant estuaries, protect and improve their water quality, and enhance their living resources. Section 320 of the Act allows a state's governor to nominate an estuary and convene a management conference to develop a Comprehensive Conservation and Management Plan



(CCMP) for the estuary. Under the law, a management conference must result in the assurance that Federal assistance and development programs are consistent with the goals of the CCMP.

**C-7 Air Quality and Related Requirements.**

a. Purpose. This section provides guidance for the consideration of air quality in Civil Works planning studies.

b. Clean Air Act. Section 176(c) of the Clean Air Act (CAA) requires that Federal agencies assure that their activities are in conformance with Federally-approved CAA state implementation plans for geographical areas designated as “non-attainment” and “maintenance” areas under the CAA. The EPA General Conformity Rule to implement Section 176(c) is found at 40 CFR Part 93. The rule addresses how Federal agencies are to demonstrate that activities in which they engage conform to Federally approved CAA state implementation plans. The EPA rule contains a number of “exempted” or “presumed to conform” activities which include a number of Corps activities. As applicable and required, CAA conformity determinations will be completed during feasibility studies and included in feasibility reports.

ER 1105-2-100  
22 Apr 2000

[Exhibit C-1](#). Recommended Outline for Section 404(b)(1) Evaluation Using 24 December 1980 Guidelines (40 CFR 230) 1/

I. Project Description

a. Location

b. General Description

c. Authority and Purpose

d. General Description of Dredged or Fill Material

(1) General Characteristics of Material (grain size, soil type)

(2) Quantity of Material (cu. yds.)

(3) Source of Material

e. Description of the Proposed Discharge Site(s)

(1) Location (map)

(2) Size (acres)

(3) Type of Site (confined, unconfined, open water)

(4) Type(s) of Habitat

(5) Timing and Duration of Discharge

f. Description of Disposal Method (hydraulic, drag line, etc.)

II. Factual Determinations (Section 230.11) 2/

a. Physical Substrate Determinations (consider items in sections 230.11(a# and 230.20 Substrate)

(1) Substrate Elevation and Slope

Exhibit C-1 (Continued)

- (2) Sediment Type.
- (3) Dredged/Fill Material Movement
- (4) Physical Effects on Benthos (burial, changes in sediment type, etc.)
- (5) Other Effects
- (6) Actions Taken to Minimize Impacts (Subpart H)

b. Water Circulation. Fluctuation and Salinity Determinations

(1) Water (refer to sections 230.11(b), 230.22 Water, and 230.25 Salinity Gradients; test specified in Subpart G may be required). Consider effects on:

- (a) Salinity
- (b) Water Chemistry (PH. etc.)
- (c) Clarity
- (d) Color
- (e) Odor
- (f) Taste
- (g) Dissolved Gas Levels
- (h) Nutrients
- (i) Eutrophication
- (j) Others as Appropriate

(2) Current Patterns and Circulation (consider items in sections 230.11(b), and 230.23), Current Flow and Water Circulation.

ER 1105-2-100  
22 Apr 2000

Exhibit C-1 (Continued)

(a) Current Patterns and Flow

(b) Velocity

(c) Stratification

(d) Hydrologic Regime

(3) Normal Water Level Fluctuations (tides, river stage, etc.) (consider items in sections 230.11(b) and 230.24)

(4) Salinity Gradients (consider items in sections 230.11(b) and 230.25)

(5) Actions That Will Be Taken to Minimize Impacts (refer to Subpart H)

e. Suspended Particulate/Turbidity Determinations

(1) Expected Changes in Suspended Particulates and Turbidity Levels in Vicinity of Disposal Site (consider items in sections 230.11(c) and 230.21)

(2) Effects (degree and duration) on Chemical and Physical Properties of the Water Column (consider environmental values in section 230.21, as appropriate)

(a) Light Penetration

(b) Dissolved Oxygen

(c) Toxic Metals and Organics

(d) Pathogens

(e) Aesthetics

(f) Others as Appropriate

(3) Effects on Biota (consider environmental values in sections 230.21, as appropriate)

(a) Primary Production, Photosynthesis

Exhibit C-1 (Continued)

(b) Suspension/Filter Feeders

(c) Sight Feeders

(4) Actions taken to Minimize Impacts (Subpart H)

d. Contaminant Determinations (consider requirements in section 230.11(d))

e. Aquatic Ecosystem and Organism Determinations (use evaluation and testing Procedures in Subpart G, as appropriate)

(1) Effects on Plankton

(2) Effects on Benthos

(3) Effects on Nekton

(4) Effects on Aquatic Food Web (refer to section 230.31)

(5) Effects on Special Aquatic Sites (discuss only those found in project area or disposal site)

(a) Sanctuaries and Refuges (refer to section 230.40)

(b) Wetlands (refer to section 230.41)

(c) Mud Flats (refer to section 230.42)

(d) Vegetated Shallows (refer to section 230.43)

(e) Coral Reefs (refer to Section 230.44)

(f) Riffle and Pool Complexes (refer to section 230.45)

(6) Threatened and Endangered Species (refer to section 230.30)

(7) Other Wildlife (refer to section 230.32)

ER 1105-2-100  
22 Apr 2000

Exhibit C-1 (Continued)

(8) Actions to Minimize Impacts (refer to Subpart H)

f. Proposed Disposal Site Determinations

(1) Mixing Zone Determination (consider factors in section 230.11(f)(2))

(2) Determination of Compliance with Applicable Water Quality Standards (present the standards and rationale for compliance or non-compliance with each standard)

(3) Potential Effects on Human Use Characteristic

(a) Municipal and Private Water Supply (refer to section 230.50)

(b) Recreational and Commercial Fisheries (refer to section 230.51)

(c) Water Related Recreation (refer to section 230.52)

(d) Aesthetics (refer to section 230.53)

(e) Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves (refer to section 230.54)

g. Determination of Cumulative Effects on the Aquatic Ecosystem (consider requirements in section 230.11 (g))

h. Determination of Secondary Effects on the Aquatic Ecosystem (consider requirements in section 230.11(h))

III. Findings of Compliance or Non-Compliance With the Restrictions on Discharge 3/

a. Adaptation of the Section 404(b)(1) Guidelines to this Evaluation

b. Evaluation of Availability of Practicable Alternatives to the Proposed Discharge Site Which Would Have Less Adverse Impact on the Aquatic Ecosystem (Briefly discuss alternatives considered and that are available and practical and state why the one selected would result in the least amount of significant impacts. Reference should be made to other appropriate sections on alternatives in EIS or Main Reports when the 404 Evaluation is contained in these documents.)

Exhibit C-1 (Continued)

c. Compliance with Applicable State Water Quality Standards

d. Compliance with Applicable Toxic Effluent Standard or Prohibition Under Section 307 Of the Clean Water Act

e. Compliance with Endangered Species Act of 1973

f. Compliance with Specified Protection Measures for Marine Sanctuaries Designated by the Marine Protection, Research, and Sanctuaries Act of 1972

g. Evaluation of Extent of Degradation of the Waters of the United States

(1) Significant Adverse Effects on Human Health and Welfare

(a) Municipal and Private Water Supplies

(b) Recreation and Commercial Fisheries

(c) Plankton

(d) Fish

(e) Shellfish

(f) Wildlife

(g) Special Aquatic Sites

(2) Significant Adverse Effects on Life Stages of Aquatic Life and Other Wildlife Dependent on Aquatic Ecosystems

(3) Significant Adverse Effects on Aquatic Ecosystem Diversity, Productivity and Stability

(4) Significant Adverse Effects on Recreational, Aesthetic, and Economic Values

h. Appropriate and Practicable Steps Taken to Minimize Potential Adverse Impacts of the Discharge on the Aquatic Ecosystem

ER 1105-2-100  
22 Apr 2000

Exhibit C-1 (Continued)

i. On the Basis of the Guidelines, the Proposed Disposal Site(s) for the Discharge of Dredged or Fill Material (specify which) is (select one)

- (1) Specified as complying with the requirements of these guidelines; or,
- (2) Specified as complying with the requirements of these guidelines, with the inclusion of appropriate and practical conditions to minimize pollution or adverse effects on the aquatic ecosystem; or,
- (3) Specified as failing to comply with the requirements of these guidelines.

Notes:

1/ This outline is furnished for guidance in preparing 404(b)(1) evaluations under the December 1980 Guidelines. The outline should be considered flexible. Each evaluation should be tailored to fit project specific characteristics.

2/ The primary subheadings in this section (II) should be contained in every section 404(b)(1) evaluation since these items are specified to be included by the guidelines. If a particular item is not applicable to a project (such as salinity considerations at a freshwater site), so state.

3/ The Findings and Compliance or Non-Compliance with Restriction on the Discharge should be a narrative and cover the items listed in Section III of the outline. The data presented in the Factual Determination should be compared to the restrictions on the discharge in paragraph 230.10, and a determination should be made as to whether the discharge will or will not be in compliance. Do not repeat data given in the Factual Determination in the Finding of Compliance. See attached example of a Finding of Compliance.



(EXAMPLE)  
FINDING OF COMPLIANCE  
FOR  
NO NAME PROJECT

1. No significant adaptations of the guidelines were made relative to this evaluation.
2. Three alternative open water disposal sites were available for this project. Use of alternative sites one and three (Figure 1) would have resulted in significant alteration of water circulation patterns and consequently, salinity patterns. These changes would have adversely affected oyster beds and other benthic and fishery populations in the bay. Also, use of site one would cause siltation of shellfish beds due to expected tidal transport of dredged material into these areas. Site two, the selected disposal area, would be the least costly site to use for disposal because it is nearer to the channel dredging area.
3. The planned disposal of dredged material at site two would not violate any applicable State water quality standards with the exception of turbidity. Turbidity standards would be violated outside the allowable mixing zone under extreme tidal conditions, i.e., spring tides. Dredging will be suspended during these periods. The disposal operation will not violate the Toxic Effluent Standards of Section 307 of the Clean Water Act.
4. Use of the selected disposal site will not harm any endangered species or their critical habitat or violate protective measures for the Long Bay Marine Sanctuary.
5. The Proposed disposal of dredged material will not result in significant adverse effects on human health and welfare, including municipal and private water supplies, recreation and commercial fishing, plankton, fish, shellfish, wildlife, and special aquatic sites. The life stages of aquatic life and other wildlife will not be adversely affected. Significant adverse effects on aquatic ecosystem diversity, productivity and stability, and recreational, aesthetic and economic values will not occur.
6. Appropriate steps to minimize potential adverse impacts of the discharge on aquatic systems include cessation of disposal activities during extreme tidal velocities associated with spring tides.
7. On the basis of the guidelines the proposed disposal site for the discharge of dredged material is specified as complying with the inclusion of appropriate and practical conditions to minimize pollution or adverse effects to the aquatic ecosystem.

## TABLE OF CONTENTS

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