

Appendix C
Environmental Evaluation and Compliance

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Environmental Evaluation and Compliance

C-1. Introduction

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. Under NEPA, Federal agencies were directed to consider all practicable means and measures to avoid adverse effects to the environment, 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 and Executive Orders have complemented this National environmental policy. The WRPA and NEPA provide a framework for the formulation and evaluation of water resources comprehensive plans and implementation projects.

a. Purpose and Applicability. 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. This guidance is applicable to all Civil Works water resources planning studies, including Feasibility studies conducted under the General Investigation business line, those studies conducted under the Continuing Authorities Program (CAP), and studies that require a decision document that are conducted during PED, construction, or operations, such as post authorization change reports.

While compatible with the ecosystem restoration mission of the Corps, Appendix C is not intended to specifically address ecosystem restoration formulation. Specific guidance for any of the Corps' primary missions, including ecosystem restoration, is found in Appendix E of this document. Additional guidance for ecosystem restoration is also found in ER 1165-2-501.

b. Federal Objectives. Collectively referenced as the Principles & Guidelines (P&G), the Water Resource Council's Economic and Environmental Principles for Water and Related Land Resources Implementation Studies (Principles) of 1983, and the Economic and Environmental Guidelines for Water and Related Land Resources Implementation Studies (Guidelines), establish that the federal planning objective, 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".

c. Evaluation Procedures. Evaluation procedures are discussed in Section C-2. Sections C-3 through C-7 provide additional details for addressing the ecological, physical, cultural and aesthetic resources included in the evaluation procedures.

d. 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. All final environmental compliance decision documents, and supporting documents including technical reports and assessments will be posted to a publicly available website.

e. Explanation of Concepts and 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 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) Enhancement. Enhancement is the net improvement an alternative plan, or project, makes to ecological resources (singularly or collectively) compared to the "without" plan or project condition.
- (3) 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.
- (4) Ecosystem Restoration. Ecosystem restoration consists of projects or separable features undertaken to return a degraded condition to a less degraded condition. The goal of ecosystem restoration is to restore ecological resources, including fish and wildlife habitats, to a more naturalistic, functioning and self-regulating state (see Appendix E).
- (5) Hazardous, Toxic and Radioactive Wastes (HTRW). Consistent with the guidance in ER 1165-2-132, the Corps will not participate in clean-up or other response actions related to materials regulated by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or that otherwise qualify as HTRW. Assessments during the feasibility phase to investigate the existence, nature and extent of such materials within the project area shall be cost shared. If an area where HTRW substances are present cannot be avoided, the area must be remediated prior to and outside the project, performed by and at the sole expense of local interests, and satisfy the requirements of local regulators.
- (6) Management Features. Management features are activities or techniques that contribute to mitigation and planning objectives. Examples are fencing to prevent habitat damage by livestock or human activities; vegetation planting or other 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.
- (7) Management Plan Increment. A management plan increment consists of one or more management features. Plan increments may interrelate and complement one another, but they cannot 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.
- (8) Mitigation. Mitigation refers to actions necessary to reduce unavoidable impacts to the quality of the human environment, including but not limited to ecological resources. 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 the same habitat upon which fish and wildlife resources depend in-kind. "Substitute" means the replacement of fish and wildlife resources out-of-kind. Substitute resources, on balance, shall be at least equal in ecological functions and values and significance as the resources lost.
- (9) *Mitigation Planning Objectives.* Mitigation planning objectives are clearly written statements that prescribe specific actions to be taken to avoid and minimize adverse impacts, and identify specific amounts (units of measurement, e.g., habitat units) of compensation required to replace or substitute for remaining significant unavoidable losses.
- (10) *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, including lands required for compensatory mitigation. For projects under construction, or those that have been completed, project lands are lands that have been acquired for project purposes, to include mitigation lands. Per existing Corps policy, all project lands must be obtained prior to construction start. This includes the acquisition of any required property to implement mitigation linked to a construction element.
- (11) *Public Lands.* Public lands are owned or otherwise legally entrusted to a local, State or Federal agency.
- (12) *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.
- (13) *Significant Resources.* 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 1983 P&G, 40 CFR 1508.27 and section C-3 d below.
- (a) *National Economic Development (NED) Resources.* Significant ecological resources have substantial commercial and/or recreational value.
 - (b) *Environmental Quality (EQ) Resources.* Significant ecological resources, including fish and wildlife resources and associated habitats, are technically, institutionally, or publicly recognized as having substantial non-monetary value from either an ecological, cultural or

aesthetic standpoint. Identifying EQ Resources is a key factor in identifying the National Ecosystem Restoration (NER) plan (see Appendix E).

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

Pre-Publication Draft

C-2. Procedures for Environmental Evaluation

a. Purpose. Environmental evaluation is a process that integrates environmental considerations, resource impacts, and resource opportunities throughout the planning process. This section provides guidance on applying the environmental evaluation procedures to planning water resources projects while at the same time fulfilling the requirements of compliance with all applicable Federal environmental laws, including but not limited to, NEPA, Endangered Species Act, Clean Water Act, and other statutory requirements. The P&G, 40 CFR Parts 1500-1508 and 33 CFR Part 230 (ER 200-2-2 within Corps' Engineering Regulations), discussed below, provide detailed guidance and are incorporated by reference into this appendix. Environmental evaluation and coordination with appropriate Federal or state agencies administering Federal laws should be initiated as early in the process as practicable to fully integrate environmental considerations into the planning process, identifying early on critical information and requirements needed for the planning decision, and maximizing opportunities to avoid and minimize impacts to the human environment to the extent practicable.

b. Planning Process. Implementing regulations for the WRPA are the P&G. The plan formulation process is found in the main body of ER 1105-2-100. 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. The procedures will then 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 National Environmental Policy Act (NEPA) of 1969 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. The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore and enhance the environment (40 CFR 1500.1(c)). Provisions for complying with the NEPA are found in the Council of Environmental Quality (CEQ) Regulations (40 CFR Parts 1500-1508) and are supplemented by ER 200-2-2; 33 CFR Part 230 (Corps procedures for implementing NEPA for the Civil Works Program), and other applicable CEQ guidance (see CEQ website "NEPA.gov").

- (1) The NEPA compliance process will begin with an assessment of potential environmental impacts as judged by comparing the environmental impacts of the project alternatives in comparative form, including the alternative of no action. These potential impacts help define the study area, and should be addressed over the whole of that area. This includes the physical, biological, ecological, and cultural impacts to 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 attributes should be evaluated and made explicit in the decision process.
- (2) Some Corps actions have been determined, individually and cumulatively, to not have a significant effect on the quality of the human environment and are categorically excluded from NEPA documentation. These approved actions are listed in ER 200-2-2, and at 33 CFR 230.9. The applicability of a categorical exclusion to a specific action and the absence of extraordinary circumstances that dictate the need for an EA or an EIS should be documented

in the administrative record for that action. However, categorical exclusion from NEPA documentation does not exclude these actions from compliance with other applicable Federal environmental laws and regulations.

- (3) The impact assessment process may lead to a finding of no significant impact determination, or the determination that an environmental impact statement (EIS) is required. The preparation and coordination of an EIS is also detailed in ER 200-2-2, and at 33 CFR 230.13.

d. Documentation. The environmental evaluation should be integrated into both the discussion and the evaluation of plan formulation, and documented specifically in the main report and associated appendices of a water resources study. All reports shall clearly articulate how environmental effects were considered in making the final recommendations and provide the status of project compliance with all applicable environmental laws. All final environmental compliance decision documents, and supporting documents including technical reports and assessments will be posted to a publicly available website. Technical reports and assessments used in the NEPA documentation should be incorporated by reference.

Compliance with all environmental statutory requirements shall be completed prior to the final decision unless otherwise approved by the ASA(CW).

The decision documents shall also:

- (1) Identify measures to avoid, lessen, mitigate or compensate for environmental impacts;
- (2) Include the major measures, summarized in one table, that are 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, that should also be indicated in the table.
- (3) Comply with 33 U.S.C. 2283(d), including those amendments set forth in Section 2036 of the Water Resources Development Act (WRDA) of 2007, Section 1040 of the Water Resources Reform Development Act of 2014 (WRRDA 2014), and Section 1162 of WRDA 2016, and comply with 33 U.S.C. 2317b, including the amendment set forth in Section 1163 of WRDA 2016.

e. Additional Requirements. The integration of EQ procedures and the NEPA process provide a framework for compliance with other environmental elements with specific statutory requirements. A number of these statutory requirements are listed as sources of institutional significance recognition in Table 3.4.3, Chapter III, of the 1983 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 January 2002). An updated list of all executive orders related to environmental compliance is also available at the CEQ website, "NEPA.gov".

C-3. Procedures for Environmental Compliance – Ecological Resources.

a. Purpose. This section supplements the guidance for evaluation and coordination of the ecological attributes under the EQ evaluation procedures. This section has emphasis on the process for integrating compliance with the most common regulations for ecological resources with particular consideration of fish and wildlife resources, in Civil Works planning studies. The following discussions should not be interpreted to mean that the environmental laws referenced are the only environmental laws that require compliance. Additional procedures for water, air and sediment quality, Cultural, and Tribal resources follow in sections C-5 through C-7.

b. Coordination, Consultation and Public Involvement. District Commanders or their designee shall initiate general public participation procedures for 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. Consultation with Tribes shall be initiated consistent with guidance. Special coordination and consultation requirements are discussed below.

c. National Environmental Policy Act (NEPA). Implementing regulations provided by CEQ are in 40 CFR Parts 1500-1508. The USACE Civil Works Policy and Procedures for Implementing the NEPA is described in ER 200-2-2, codified at 33 CFR Part 230. Additional CEQ guidance for implementing NEPA is available on the CEQ website – NEPA.gov. In order to comply with the Act, the NEPA and Civil Works Planning processes are integrated, when possible. Documentation of both the process and the evaluation required by NEPA is required for all major Federal actions, regardless of the study or construction phase. The main requirements are summarized below.

- (1) Part 1501 of the implementing regulations require process integration, which is implement at the earliest possible time (initiation of a study) to ensure the planning and decisions reflect environmental values, avoid delays, and avert potential conflicts. Project scoping typically will incorporate both the NEPA process required for EIS preparation, if a determination has been made that an EIS is the appropriate NEPA level of effort and plan formulation scoping for public and agency involvement. This scoping helps define the resources of significance in a project area as well as measures for the scope of the study.
- (2) Section 1501.6 Cooperating agencies. A cooperating agency shall be any Federal agency other than the lead agency that has jurisdiction by law or special expertise with respect to the environmental impacts expected by the proposed action. In conducting environmental review for an applicable study, the District shall identify potential cooperating agencies early in the scoping process in accordance with Section 1501.6, ER 200-2-2 Paragraph 16, and Section 1005 of WRRDA 2014.
- (3) Part 1502, while specific to EIS preparation, is applicable to and should be scoped appropriately for all decision documents. It requires full and fair discussion of significant environmental impacts to inform the decision maker and public of reasonable alternatives that avoid or minimize adverse impacts or enhance the quality of the human environment. Mitigation measures are integrated into alternatives and evaluated for project benefit and impacts. Mitigation measures should have appropriate monitoring and adaptive management measures, and be reported clearly in reports for public and agency review and comment. See section C-4 on mitigation planning.
- (4) Part 1503 states that as a federal decision and draft EIS is being prepared, Federal agencies

with jurisdiction by law, enforcement of environmental standards, or with special expertise with respect to a specific environmental impact or resource must be consulted with and comments obtained. Additionally, in preparation of the draft decision and EIS, the comments of appropriate State and local agencies, Tribes, and public must be requested. Comments potentially could modify alternatives, supplement alternatives, identify mitigation, and ultimately inform the decision. Section 1506 provides guidance on public noticing and involvement of availability of draft documents. ER 200-2-2 discusses the integration of the environmental review process and consultation of other Federal agencies, States agencies and Tribes, interested parties, and the public. The draft reports, including the NEPA documentation, are circulated for comment. In the case of an EA, this includes the unsigned draft FONSI.

- (5) Part 1505 requires relevant environmental documentation, comments, and responses to be included in the record and accompany the proposal through the agency review process.
- (6) Section 1506.1 of the CEQ NEPA regulations includes limitations on actions that would have adverse environmental impacts or limiting the choice of reasonable alternatives before a Record of Decision is issued.

d. Fish and Wildlife Coordination Act (FWCA) (16 U.S.C. 661-666c). The purpose of the FWCA consultation is to consider a view to the conservation of wildlife resources by preventing loss of and damage to such resources as well as providing for the development and improvement thereof in connection with such water-resource development (16 U.S.C. 662(a)). The District Commander shall coordinate with the U.S. Fish and Wildlife Service (FWS), the National Marine Fisheries Service (NMFS), *and* the State agencies exercising administration over the fish and wildlife resources beginning with the initiation of the study, as practicable, and through the planning, engineering, and design phases of project development.

- (1) Feasibility Phase: The District Commander or designee 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 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.
- (2) Funding. The transfer of funds from the Corps to the FWS and the NMFS for FWCA activities is authorized by Section 2(e) of the FWCA (16 U.S.C. 662(e)). The established procedures for transferring funds are set forth in the Agreement between the FWS and Corps for Conducting FWCA Activities, also known as the 2003 transfer fund agreement. At the beginning of a study, a scope of work is completed, which formally establishes time schedules, information transfer requirements, tasks to be accomplished, reporting requirements, and funding amounts. Note: With the passage of Section 1002(a) of WRRDA 2014, which repealed Section 905(b) of WRDA 1986, the Corps is no longer authorized to conduct a full Federal reconnaissance phase. Any reference in the 2003 transfer fund agreement to activities to take place during the reconnaissance phase shall instead take place as part of scoping for a feasibility study.

(3) Applicability of FWCA Post-authorization Activities.

- (a) The FWCA applies to post-authorization activities if the activity meets the threshold test outlined in Section 2(a) of the FWCA (16 U.S.C. 662(a)), 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.
- (b) Section 2(b) Report and Section 2(e) Funding. Sections 2(b) (16 U.S.C. 662(b)) and (e) (16 U.S.C. 662(e)) of the FWCA normally apply during post-authorization activities for Federal projects where the Section 2(a) threshold test has been met.
- (c) 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.
- (d) 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 and/or the NMFS for its FWCA Section 2(b) activities associated with Corps studies and projects, consistent with procedures set forth in the January 2003 Transfer Funding Agreement.
- (e) 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 post-authorization project activities. First, the proposed activity must meet the Section 2(a) threshold test. Second, a project document must be under preparation that any of the following factors exist:
 - i. 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 post-authorization planning, engineering and design activities;
 - ii. Modification or supplementation of the authorized plans require the development of a supplement to the FEIS;
 - iii. New information or factors are identified during post-authorization 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;
 - iv. 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,
 - v. District and Division professional staff determine that continued involvement of the FWS, NMFS or State resources agencies during post authorization 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.

(4) Reporting. Decision documents 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, discuss specifically how each recommendation was addressed in appropriate alternative plans, and provide responses for 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 and managed over the life of the project.
- (5) Documentation. The new or supplemented Section 2(b) report, planning aid letter, etc., shall accompany the project document throughout the decision-making process.
- (6) Mitigation. Reports seeking authorization or approval of any water resources development project shall contain either a determination that such project will have negligible adverse impacts on fish and wildlife; or a recommendation with a specific plan to mitigate fish and wildlife losses created by such project. Additional Information on accounting for mitigation is in Section C-4.

e. Endangered Species Act (ESA) - Section 7 Coordination/Consultation (16 U.S.C. 1536). The following focuses on Section 7(a)(2) of the ESA, which provides for specific coordination and consultation with the FWS and/or NMFS (collectively “the Services”), and to ensure Federal actions will not jeopardize the continued existence of any listed species or adversely modify designated critical habitats. The District Commander shall initiate specific coordination and consultation, as needed, for threatened and endangered species and designated critical habitat. Unless specifically authorized by Congress, no federal agency may transfer funds to FWS or NMFS to conduct coordination, consultation and implementation of Section 7 of the ESA.

- (1) ESA Applicability. Section 7 of the ESA is applicable to any project, or unit thereof, regardless of the study phase or whether the project was previously authorized or completed. Any new federal action requires a review of ESA compliance. The effects of the proposed project or action determines the type of consultation.
- (2) Informal Consultation Process. Most consultations are conducted informally to clarify whether and what listed, proposed and candidate species or designated or proposed critical habitats may be in the action area; determine what effect the action may have on these species or critical

habitats; explore ways to modify the action to reduce or remove adverse effects to the species or critical habitats; determine the need to enter formal consultation; or to explore the design or modification of an action to benefit the species. The informal consultation process could include phone contacts, conversations, meetings, letters, project modifications and concurrences that occur prior to (1) initiation of formal consultation or (2) the Service's concurrence that formal consultation is not necessary.

- (a) The District Commander shall request in writing from the Services information on any listed or candidate species or designated or proposed critical habitat that may be in the project area. Given that many Service offices make available species data on the internet, the District may also prepare a list, in lieu of the request, and provide it to the Services with a request for concurrence on the identified species and critical habitat in the potential project area. If it is determined that there are no identified species or critical habitat affected, then a "no effect" determination can be made by the Corps, and no further consultation is required. In the case of a "no effect" determination, it is recommended that once the District makes this determination, they seek concurrence from the appropriate Service.
- (b) If the FWS/NMFS identifies or concurs on listed or candidate species or designated or proposed critical habitat, then the District Commander shall develop a biological assessment to determine if the proposed project may affect any such species and or critical habitat. The biological assessment should be completed and coordinated with the Services concurrent with the draft report for a federal action being evaluated.
- (c) When developing the biological assessment, particular attention should be paid to how the "action" and the "environmental baseline" are defined. It is important to precisely describe the Corps action to ensure that any measures intended to minimize adverse impacts pursuant to the ESA only account for those activities over which the Corps has discretion. The mere perpetuation of the existence of an already constructed Corps project cannot reasonably be said to cause modifications of the land, water, or air within the meaning of the ESA regulations. Thus, the continued existence of the project should be within the environmental baseline. However, if the Corps has discretion in how the projects are maintained, how and when those maintenance activities are conducted may be subject to Section 7 consultation.
- (d) During the development of the biological assessment, the District Commander, in coordination with the FWS/NMFS, shall identify the location in the study area of listed or candidate threatened and endangered species and designated or proposed critical habitat. The District and the Services should work closely in determining the extent of species presence and potential effects of a federal action.
- (e) If listed or candidate species or designated or proposed critical habitat are identified in the study area, this 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.
- (f) Potential actions to protect and avoid impacts to species and critical habitat should be identified explicitly. These measures, if appropriate, should be integrated into the alternatives development and analysis.
- (g) The biological assessment and agency determination of effects shall be sent 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.

(3) Formal Consultation.

- (a) 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) may affect but 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 for the proposed action. If the FWS/NMFS does not concur with the District Commander's no adverse effect 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.
 - (b) If the biological assessment indicates that the action is likely to jeopardize the continued existence of a candidate 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.
 - (c) The District Commander can request a formal conference on the candidate 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.
 - (d) All requests to initiate formal consultation with the FWS/NMFS should include explicit request that the Corps receive a draft biological opinion for review and comment before the biological opinion is finalized and signed. The Corps should closely review the draft biological opinion to ensure that: it accurately reflects how the Corps has defined the action; any reasonable and prudent alternatives are consistent with the intended purpose of the Corps action, can be implemented consistent with the scope of Corps authority and jurisdiction, and is economically and technically feasible; and that any reasonable and prudent measures and terms and conditions are related to minimizing the amount or extent of take, monitoring the amount or extent of take, or disposition/salvage of individuals or habitat taken. A District Commander can forgo making such a request to review a draft biological opinion if it is necessary in order to meet project deadlines, but this should be a rare occurrence and the District should strive to coordinate closely with the FWS/NMFS on these issues identified above.
- (4) 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 amount 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 (ITS) will also specify "reasonable and prudent" measures (RPMs) necessary to minimize impacts; set forth the terms and conditions designed to assist in implementation of the RPMs, including, but not limited to, reporting requirements and procedures to be used to handle or dispose of any individuals of a species taken. The Districts shall work closely with the FWS/NMFS early in the process to ensure the scope of the RPMs must be practicable and clearly demonstrate that implementation of the RPM will minimize impacts to the federally listed species or designated habitat.

Occasionally, information on a listed species is not sufficient to predict and prepare take provisions. Without doing a lengthy, usually multiyear, inventory, it may be appropriate to use surrogate species that behave similarly and are dependent on similar habitat conditions. Surrogate species information can be used to predict and prepare RPMs for an ITS. Additionally, changes in the ecological parameters or habitat functions can have a strong link to population viability. As such, RPMs may express take and restrict actions in terms of reaching a threshold in operations or construction that exceed these thresholds, as there is evidence to support numbers of take at that point. An example could be an aquatic species take occurs at a specific turbidity level over a stated duration of time or expressed at a density or diameter of plant stems at which a viable population of listed insect species can avoid jeopardy. These thresholds can be put in terms of RPMs.

The District shall work closely with the FWS/NMFS early in the process of developing RPAs to ensure that they accurately reflects the Corps' action, authorities, practicability, and the feasibility of implementation. The District should formally request a draft biological opinion for review and comment to ensure the view of the Corps is appropriately considered.

(5) Recommendations and Conclusion.

- (a) 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 information during subsequent formulation and selection of the recommended plan.
- (b) 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.
- (c) Following the issuance of a biological opinion, the District Commander shall determine whether and in what manner to proceed with the proposed action in light of the Corps' ESA Section 7 obligations and the service's biological opinion. 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 by deciding: a) to adopt one of the reasonable and prudent alternatives for eliminating the jeopardy or adverse modification of critical habitat; b) to not undertake the action; c) to reinstate consultation by proposing modifications of the action or offering reasonable and prudent alternatives not yet considered; d) to take other action if they determine, after a review of the biological opinion and the best available scientific

information, such action satisfies ESA Section 7(a)(2); or e) request an exemption from the Endangered Species Committee. See 50 CFR, Parts 450-453, for specific guidance for seeking an exemption.

- (d) Any incorporated recommendations, Reasonable and Prudent Alternatives, or Reasonable and Prudent Measures will be fully documented in the body of the decision document, as well as summarized or referenced within the Finding of No Significant Impact (FONSI)/Record of Decision (ROD) to capture compliance and commitments.
 - (6) Emergency Actions. For emergency actions, District Commanders shall meet the consultation requirements related to the ESA to the fullest extent practicable prior to any emergency actions being taken, unless they determine in writing that the resulting delays will lead to unacceptable risks to health, life, property, or unacceptable economic losses. Emergency actions can only be those taken to address imminent risks to health, life, property, or unacceptable economic losses. Emergency actions exist only so long as there is an imminent risk to health, life, property, or unacceptable economic losses.
 - (a) When emergency circumstances mandate 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.
 - (b) Formal consultation shall be initiated as soon as practicable after the emergency is under control.
 - (c) 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.
 - (7) Programmatic consultations. Programmatic or ecoregion consultations under section 7 of ESA allow for the Corps to consult on multiple actions within an ecoregion. While development of a programmatic consultation may be complex, the long-term benefits of programmatic consultations often improve predictability of the ESA requirements and expedite the consultation times for individual projects. When programmatic consultations are used, the Corps shall provide appropriate documentation showing the project compliance with the programmatic consultations with the project document.
 - (8) Reporting. ESA section 7 consultation shall be completed prior to finalizing the feasibility / NEPA report. The Corps determination of effect and Services final concurrence or biological opinion shall, at a minimum, be incorporated by reference into the decision document.
 - (9) Documentation: All pertinent correspondence and assessments associated with ESA section 7 compliance for “no effect”, information or formal consultations, programmatic consultations or emergency actions shall accompany the project document.
- f. Farmland Protection Policy Act of 1981 (Public Law 97-98) (FPPA). The purpose of FPPA is to minimize to the extent to which federal programs contribute to the unnecessary and irreversible

conversion of farmland to nonagricultural uses, and to assure that Federal programs are administered in a manner that, to the extent practicable, will be compatible with State, local government, and private programs and policies to protect farmland (7 U.S.C. 4201(b)). Federal agencies are to analyze impacts to and conversion of agricultural lands by federal actions during planning and NEPA documentation. Specifically, prime and unique farmlands, as defined in the Act, and farmlands of statewide and local importance, must be an integral part of the environmental assessment process and part of the decision as to whether significant impacts occur and require an EIS. Effects to be described include direct and indirect effect and cumulative impacts, as well as mitigation components that could be taken to lessen the impacts on prime and unique farmlands.

- (1) If an action is to affect agricultural lands, coordination with the appropriate U.S. Department of Agriculture, Natural Resources Conservation Service (USDA/NRCS) office for a proposed project to determine extent of prime or unique farmlands in a project study area and probable impacts to those lands will occur. Fill in Part I and Part III on a Farmland Conversion Impact Rating Form, Form AD 1006, and supply it to NRCS with a transmittal letter that describes the project, alternatives, and a map of the study area.
- (2) The NRCS will determine if the site, or parts of the project site, are subject to the Act. If NRCS determines the site is subject to the Act, Parts II, IV, and V of form will be filled in by NRCS, including the measure of relative value of the site as farmland to assist the Corps in determining conversion and overall effects. If sites are not subject to the Act, coordination is complete.
- (3) After the receipt of NRCS scores of proposed project area's relative value, Site Assessment Criteria is applied (section IV) by the Corps to determine total scoring, and Section VII of form is filled in using both Corps and NRCS values for each alternative. This provides the suitability, and therefore significance for consideration of protection. The results of coordination and ratings, as well as the form, should be included within the decision document or NEPA document being prepared, and attached as an appendix to the report.
- (5) While the Act does not require a Federal Agency to modify any project solely to avoid or minimize the effects of conversion of farmland to non-agricultural uses, the District Commander should consider avoidance and minimization options, where practicable and consistent with the proposed project purpose and need. The Act does require an agency to examine the effects and consider alternatives to lessen any adverse effects. Coordination should occur early in the planning process when project siting is being considered.
- (6) Reporting. FPPA coordination shall be completed prior to the decision document approval. The District Commander determination and the NRCS final assessment shall, at a minimum, be incorporated by reference into the decision document.
- (7) Documentation: All pertinent correspondence and assessments associated with FPPA coordination shall accompany the project document.

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

- (1) 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.

- (2) Reporting. National Wildlife Refuge System Administration Act compatibility determination shall be completed prior to the decision document approval. The District Commander's assessment and the FWS final compatibility determination shall, at a minimum, be incorporated by reference into the decision document.
- (1) Documentation: All pertinent 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.

h. Magnuson-Stevens Fishery Conservation and Management Act, as amended. The MSFCMA, 16 U.S.C. 1801 et seq., provides for management and conservation of marine fisheries in U.S. Federal waters through Regional Fishery Management Councils. The Act requires a Federal agency to consult with the Secretary of Commerce if an action may adversely affect any Essential Fish Habitat (EFH) identified under the Act.

- (1) Essential Fish Habitat. Related to marine resources, it is those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity.
- (2) Coordination and Consultation. The Department of Commerce guidelines for implementing the EFH coordination and consultation provisions of the MSFCMA are at 50 C.F.R. 600.905-930. Coordination and Consultation regarding EFH will be conducted with the National Oceanic Atmospheric Administration, National Marine Fisheries Service (NMFS). Early coordination between the District and NMFS is necessary to determine what type of EFH may be located in the study area. Consultation consists of the District Commander notifying the NMFS if it is determined that a selected plan may adversely affect EFH (50 C.F.R. 600.920(a)(3)). If it is determined that the action may adversely affect EFH, the District Commander shall provide NMFS with the EFH Assessment. The EFH Assessment provides the analysis of the effects of the action on EFH. The level of detail in the EFH Assessment should be commensurate with the complexity and magnitude of the potential adverse effects of the planning action. Where the maintenance of the project could repeatedly impact EFH, the EFH assessment should explicitly recognize that fact and should presume permanent loss of EFH within the area of the project or the area that will be impacted by the routine maintenance of the project. Required best management practices for operation and maintenance will be incorporated into the NEPA document. Any required mitigation will be incorporated into the NEPA document along with language as to when and under what conditions consultation with the NMFS will be initiated during operations and maintenance of the project.
- (3) Notification. The EFH Assessment shall be included in the draft NEPA document, and shall include a cover letter to NMFS indicating that this notice initiates consultation under the MSFCMA.
- (4) Recommendations. The NMFS will respond by providing the District with EFH Conservation Recommendations to avoid and/or minimize adverse effects to EFH. Once the District receives the NMFS Conservation Recommendations, there is an established process with timelines for completing consultation that shall be followed (50 C.F.R. 600.920(k)(1)).
- (5) Reporting. In accordance with 50 CFR 600.920, EFH consultation must be completed prior to

the federal lead agency signing its NEPA decision. For a Civil Works feasibility study, EFH consultation will be complete prior to finalizing the feasibility/NEPA report. The District Commanders' determination of effect on EFH and associated NMFS recommendations and District Commander response to the recommendations shall, at a minimum, be incorporated by reference into the NEPA decision.

- (6) Documentation. All pertinent correspondence and assessments associated with EFH consultation shall accompany the project document.
- (7) ESA Overlap. There may be situations where designated EFH overlaps with the habitat (including critical habitat) of species listed as threatened or endangered under the ESA. In this case, the proposed action could affect both a listed species and its designated critical habitat and adversely affect EFH, necessitating consultation under both Section 7 of the ESA and section 305(b)(2) of the MSA. Because of this dual obligation, the District should work with the FWS and NMFS to find efficiencies by integrating EFH and ESA consultations.
- (8) Funding. Unless specifically authorized by Congress, no federal agency can transfer funds to NMFS to conduct consultation under the MSFCMA.

i. Coastal Barrier Resources Act (1982) (16 U.S.C. 3501 et seq.) The Act restricts Federal expenditures that might encourage or support development, including flood insurance, within the Coastal Barrier Resources System (CBRS), which consists of undeveloped coastal barriers along the Atlantic, Gulf, and Great Lakes coasts. The District Commander shall coordinate with the FWS early in the study process to determine if the project lies within a designated CBRS zone. If the opportunity exists, the District shall work with the FWS to determine if there may be opportunities within the CBRS such as ecosystem restoration, shoreline stabilization, and beach nourishment or other activities where dredged material may be used beneficially.

- (1) Reporting. Coordination and documentation of applicability of the CBRA shall be completed prior to the decision document approval. The District Commander's determination and FWS coordination shall, at a minimum, be incorporated by reference into the NEPA decision.
- (2) Documentation. For activities within the CBRS, the District must document in the feasibility report that the study is in compliance with this Act.

j. Marine Mammal Protection Act of 1972, as amended (16 U.S.C. 1361 et seq.) The Act prohibits take, including the harassment, of any marine mammal. Coordination with the FWS or NMFS for species under their purview should initiate early in the study process to formulate appropriate measures to avoid take.

- (1) Coordination. During the preparation of the NEPA document, coordination with the FWS and NMFS will include the discussion of potential impacts to any species covered by this Act. FWS and NMFS will provide their comments in the form of a letter or through the FWCA Report. Comments or recommendations of each agency must be addressed. All practicable efforts to avoid taking a marine mammal will be taken. If it is determined that a marine mammal taking is unavoidable, the District Commander and NMFS / FWS should coordinate closely throughout the feasibility study process.
- (2) Incidental take authorization (ITA) can be granted by NMFS / FWS for species under their jurisdiction for those actions that only impact small numbers of a population, have no more than negligible impacts on species not listed as depleted, and do not have unmitigable adverse

impacts on subsistence harvests. These are authorized in ITA or Letter of Authorization permits. The process for obtaining a permit should be initiated as soon as the analysis indicates unavoidable impacts to marine mammals will occur. If an ITA is required, the District Commanders should coordinate with the respective agency to identify a reasonable timeline for the agency to consider the take request.

- (3) Noticing. A permit for take of a marine mammal requires formal noticing by FWS / NMFS and is coordinated with the Marine Mammal Commission, Committee of Scientific Advisors on Marine Mammals, and the public. This process can take more than a year.
- (4) Reporting. Coordination with FWS and NMFS including the receipt of the incidental take authorization, where applicable, shall be completed prior to the decision document approval. For feasibility studies, where preconstruction engineering and design level of detail is needed to obtain an ITA, a project risk assessment will be conducted. With HQ concurrence, the NEPA decision may be finalized with a condition to complete the MMPA ITA in the next phase but prior to construction.
- (5) Documentation. The District Commanders determination shall be incorporated into the NEPA decision. All pertinent correspondence and assessments associated with MMPA coordination shall accompany the project document.

k. Federal Aviation Administration Advisory Circular 150/5200-33. The advisory circular provides guidance on locating certain land uses having the potential to attract hazardous wildlife to or in the vicinity of public-use airports. Recommend contacting the FAA if your project is within 10 miles of an active civilian or military airport. The circular provides guidance for projects in and around airports and establishes notification procedures if reasonably foreseeable projects either attract or may attract wildlife.

- (1) Memorandum of Agreement. In response to the Advisory Circular, the Corps and other Federal Agencies signed a Memorandum of Agreement (MOA) in 2003 with the Federal Aviation Administration (FAA) to address aircraft-wildlife strikes. The MOA establishes procedures necessary to coordinate their missions to more effectively address existing and future environmental conditions contributing to aircraft-wildlife strikes throughout the U.S.
- (2) For ecosystem restoration and /or compensatory mitigation projects for unavoidable impacts to ecological resources within the vicinity of public-use airports, including small craft airports, as defined in the advisory circular, the District should make reference to the siting criteria noted in Section 1-2, 1-3, and 1-4 to determine the distance between the airport area and the study area. FAA recommends that wetland mitigation projects that may attract hazardous wildlife be sited outside of the separations identified in the siting criteria in 1-2, 1-3, and 1-4. The District shall coordinate with FAA and the associated airport to determine if plans present potential wildlife hazards to airport operations.
- (3) Reporting. Coordination with the FAA including a written concurrence from FAA confirming no wildlife new hazards to airports, where applicable, shall be completed prior to the decision document approval. The District Commander determination and FAA concurrence shall, at a minimum, be incorporated by reference into the NEPA decision.
- (4) Documentation. Information, analysis and coordination efforts related to potential effects that may cause or contribute to aircraft and wildlife strikes, including written concurrence from

FAA where applicable, must be included in the project document.

Pre-Publication Draft

C-4. Mitigation Planning

Mitigation planning is an integral part of the overall planning process and should be considered as part of the alternatives development throughout the plan formulation process.. The mitigation planning process includes avoiding an impact altogether by not taking a certain action or part of an action; minimizing impacts by limiting the degree or magnitude of an action; rectifying the impact by repairing, rehabilitating or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; compensating for lost non-negligible resources through in-kind mitigation to the extent incrementally justified employing a watershed approach in mitigation planning; and, identifying the features of a mitigation plan and how it will be implemented in the project decision document. In-kind is not acre-for-acre, but will be restoration or the increased management of bottomland hardwood forests to compensate for the loss of biological productivity (habitat quality).

a. Policy. It is the policy of the Corps Civil Works program to demonstrate that impacts to all significant ecological resources, both terrestrial and aquatic, have been avoided and minimized to the extent practicable, and that any remaining unavoidable impacts have been compensated to the extent possible. Mitigation planning will be accomplished in a watershed context. The ultimate goal of the watershed approach is to maintain and improve the quality and quantity of the natural resources in the watershed. Mitigation planning efforts should identify and prioritize natural resource restoration as well as preserve existing natural resources that are important for maintaining or improving the ecological functions of the watershed.

b. General. District Commanders shall ensure that project-caused adverse impacts to the quality of the human environment, including but not limited 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 a specific plan to mitigate ecological resource losses created by the project to ensure that the plan will not have more than negligible adverse impacts. Specific mitigation plans shall ensure that impacts to ecological resources are mitigated to not less than in-kind conditions, to the extent possible. Unless it has been determined that the project will have negligible adverse impacts, all decision documents shall contain a specific recommendation with a specific plan to mitigate fish and wildlife losses. An adaptive management plan (i.e. contingency plan) will be developed for all mitigation plans. Mitigation plans shall comply with the mitigation standards and policies established pursuant to the Corps regulatory program (Section 906(d), WRDA1986 as amended by Section 2036, WRDA 2007 (33 U.S.C. 2283(d)); Section 1040, WRDA 2014; and Section 1162, WRDA 2016. Any such mitigation measures will be fully justified.

c. Justification. Justification of compensatory 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. For mitigation, "benefits" shall be interpreted as being the same as "losses prevented or replaced".

d. Significance Determination.

- (1) Resources. If an impact to a resource is determined to be significant, compensatory mitigation will be required. The significance of 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 resource 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, and State perspective. Non-monetary values associated with ecological resources are subjective, and depend on the value society places on them. Different stakeholders 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.

- (2) Impacts. Once the significance of the resource is determined, the significance of impacts of alternative plans shall be evaluated based upon the extent, intensity and duration of the impact on those significant ecological resources, compared to each other and the "future without plan" condition. When considering potential compensatory mitigation alternatives outside the impacted watershed, a representative sample of the reasonable alternatives to meet compensatory mitigation needs both within and outside the watershed will be evaluated to include potential compensatory mitigation needs that might require the use of eminent domain.

e. Compensatory Mitigation Alternatives Formulation

- (1) Range of Compensatory Mitigation Alternatives. To properly evaluate and compare mitigation features, and to determine remaining unmitigated functional losses if any, mitigation planning shall address a range of reasonable 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 and will be the same units used for determining the unavoidable impacts of the proposed action. Examples of units of measure include habitat units, or other habitat quality indicators, numbers of animals, pounds of fish, user-days, etc. The identification of potential compensatory mitigation needs and the compensatory mitigation alternatives, including mitigation alternatives that might require the use of eminent domain, shall be considered early in the planning process along with the identification of plan alternatives. The level of detail in the compensatory mitigation alternatives analysis should be scaled appropriately to meet the needs of the next planning decision.
- (2) 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.
- (3) 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. The District Commander will consider reasonable alternatives for compensatory mitigation, to include those that may require the acquisition of property by eminent domain.

(4) Out-of-kind/Out-of-Watershed Mitigation. If there is a high risk that in-kind and/or in-watershed compensatory mitigation for the adverse non-negligible impacts to ecological resources will not be practicable to implement, the District Commander may consider out-of-kind and/or out-of-watershed compensatory mitigation as a potential risk management option. The District Commander must provide an appropriate rationale presented in the environmental compliance documentation for consideration in the decision document. The rationale should focus on the following factors that may limit the availability of in-kind or in-watershed mitigation options: the availability of suitable lands, to include lands acquired through the use of eminent-domain, the availability of water or other resources needed to support the mitigation effort, construction costs, risks, operation and maintenance costs, engineering feasibility, technical difficulty, timelines for realization of mitigation benefits, and the inability to identify a *cost-effective* alternative in-kind or in-watershed. Other factors may also apply. The rationale should focus on documenting how the out-of-kind and or out-of-watershed mitigation will adequately and *cost-effectively* compensate for the non-negligible impacts to ecological resources to an equivalent of not less than in-kind conditions. The rationale should also consider any other potential issues or concerns with out-of-kind or out-of-watershed compensatory mitigation that may be raised during the public review.

f. 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. The use of habitat-based evaluation methodologies must meet Corps model certification and approval requirements. Specific guidance for analyses required to evaluate and describe recommended mitigation and restoration features are described below.

(1) 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) 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.

(b) 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.

g. 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, considering a watershed context of maintaining and improving the quality and quantity of the natural resources in the watershed. 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. Mitigation planning objectives guide the plan formulation, determine the appropriate mitigation management features and establish performance standards for evaluating each increment of mitigation management. The performance standards form the basis for determining ecological success. Use a single unit of measurement to describe losses and the mitigation being addressed by each mitigation planning objective. For example, if the mitigation planning objective is to replace lost habitat function and 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 considering a watershed context of maintaining and improving the function, quality and quantity of the natural resources in the watershed. 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 alternatives 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., native plant revegetation, 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. Feasibility level cost estimates are necessary for different properties and different increments to allow decision makers an opportunity to compare and choose among these properties/increments 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.
- (8) Recommended Compensatory Mitigation Plan. The recommended mitigation plan will be described in the project decision document and shall include:
 - a. A description of the physical action to be undertaken to achieve the mitigation objectives within the watershed in which such impacts occur and, in any case in which mitigation must take place outside the watershed, a justification detailing the rationale for undertaking the mitigation outside of the watershed;
 - b. The type, amount, and characteristics of the habitat being restored;
 - c. ecological success criteria for mitigation based on replacement of lost functions and values of the habitat, including hydrologic and vegetative characteristics. The ecological success criteria shall be included in the draft project report to allow for meaningful evaluation and review of the compensatory mitigation plan target for success.
 - d. A plan for monitoring to determine the success of the mitigation, including the cost and duration of any monitoring and the entities responsible for any monitoring. If it is not practicable to identify the entities responsible for any monitoring in the project decision document, the responsible parties will be identified in the project partnership agreement (see paragraph C-4.k.).
 - e. A contingency plan (i.e. adaptive management) for taking corrective actions in cases where monitoring demonstrates that mitigation measures are not achieving the ecological success (See paragraph C-4.k.).
 - f. Should land acquisitions be proposed as part of the mitigation plan, a description of the lands or interests in lands to be acquired for mitigation and the basis for a determination that such lands are available for acquisition.

h. Special Resources Requirements.

- (1) General. Mitigation will be investigated and incorporated into all feasibility studies and supplemental planning documents, including all environmental compliance documents, for all impacted resources.
- (2) 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 is not acre-for-acre, but will 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.
- (3) Wetlands. District Commanders shall ensure that adverse functional impacts to wetland resources are fully mitigated. Feasibility reports and accompanying environmental documents shall, as applicable, describe specific consideration given to protect, avoid, minimize, 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 water rights are required to fulfill the purposes of a proposed plan, for example, ecosystem restoration, or to accomplish mitigation, the plan must indicate that the non-Federal interests will be responsible for obtaining the rights in question under State water law. Reasonable costs of rights for water to accomplish project purposes are considered part of the costs of real estate interests to be provided credit in cost sharing determinations. If the water rights are needed for fish and wildlife mitigation, the reasonable costs of such rights are shared as construction costs under Section 906(c) of WRDA 1986, as amended (33 U.S.C. 2283(c)). See Memorandum dated September 19, 2006, Subject: Cost Sharing for Lands Associated with Fish and Wildlife Mitigation.
- (5) Water for the environment. If necessary, some projects may need water to meet certain restoration or mitigation objectives. Depending on what part of the US the project is located in, these may be water rights as per the above (4) or may be protected by some other mechanism which provides no property rights as water rights sometimes do. The District should be aware of this issue as the study develops.

i. Timing of Implementation. In accordance with Section 906 of WRDA 1986, as amended, (33 U.S.C. 2283), for any water resources development project which requires mitigation for fish and wildlife losses, including the acquisition of lands or interests in lands to mitigate for fish and wildlife, such mitigation, including acquisition of the lands or interests in lands, shall be undertaken or acquired before the physical construction that causes the impacts for which mitigation is required. However, any physical construction required for the purpose of fish and wildlife mitigation may be undertaken prior to or concurrently with the physical construction of such project. For all water resources development projects which require mitigation for impacts to wetlands and for which the purchase of in-kind credits from mitigation banks and in-lieu fee programs is determined to be the appropriate form of mitigation, the Corps will purchase these credits concurrently with the physical construction that causes the impacts for which mitigation is required. However, where there are technical or cost-efficiencies or by request of the

non-Federal sponsor, mitigation bank credits may be purchased prior to the physical construction that causes the impacts for which mitigation is required. Mitigation measures will be scheduled for accomplishment prior to or concurrently with other project features in the most efficient way.

j. Mitigation Cost Sharing.

- (1) *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.
- (2) Construction. Construction costs for mitigation will be treated the same as other project construction costs for cost sharing purposes.
- (3) Operation, Maintenance, Repair, Rehabilitation and Replacement (*OMRR&R*) of Mitigation Features (*OMRR&R*).
 - (a) Non-Federal interests will be responsible for all costs of operation, maintenance, repair, rehabilitation, and replacement of mitigation features except for:
 - i. Inland navigation projects and harbor projects with depths up to 50 feet, which have no requirement for non-Federal sharing of these costs; and,
 - ii. Harbors with depths over 50 feet which require a 50 percent non-Federal share for those costs assigned to increments in excess of a 50-foot project.
 - iii. 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. In instances in which a mitigation bank or in-lieu fee arrangement is used to provide mitigation, the mitigation provider will be solely responsible for the *OMRR&R* of that mitigation, and the Corps and the non-Federal interest will have no responsibility for that portion of the mitigation.
 - (b) 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. Where mitigation occurs on Federal lands, the Corps shall enter into a Memorandum of Agreement with the Federal agency owning the land to define long term *OMRR&R* responsibilities.
 - (c) Non-Federal Responsibility. One hundred percent of *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.

- (d) If mitigation requirements will be satisfied in whole or in part through payments to a mitigation bank or in-lieu fee arrangement, OMRR&R for that mitigation will be the responsibility of the mitigation provider under the terms of the mitigation banking instrument or in-lieu fee instrument.
- (4) Post-authorization 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. Requests for post-authorization mitigation must be coordinated and approved by the ASA(CW).

k. Allocation and Apportionment of Mitigation Costs. Ecological resources mitigation costs incurred after 17 November 1986, including lands, easements, rights-of-way, and relocations, 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 (Section 906(c) of WRDA 1986, as amended, 33 U.S.C. 2283).

- (1) Allocation. The impact analysis shall identify the project purposes which cause unavoidable impacts to be mitigated. If practicable, the analysis shall identify the extent of impacts separable or specific to each purpose. Mitigation costs not associated with specific purposes will be included with other joint project costs.
- (3) Apportionment. Once the proportionate amounts of impacts 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.

l. Monitoring and Adaptive Management

- (1) Monitoring is required for all mitigation measures. Monitoring is part of the O&M of a project. Monitoring is appropriate for all mitigation actions to insure that those actions have achieved the objective. It is required per WRDA 2007, Section 2036, to determine project success in achieving ecological goals. 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.
- (2) Monitoring Plan. A monitoring plan will be developed for all mitigation plans in consultation with the non-Federal Sponsor during plan formulation to monitor the ecological success for each mitigation measure. Monitoring plans are generally not complex, but the scope and duration should include the minimum monitoring actions necessary to evaluate success. Monitoring plans should be developed in consultation with other Federal and State agencies and the non-Federal sponsor. The monitoring plan must be included with the decision document and must include the following in accordance with 33 U.S.C. 2283(d):
 - a. The rationale for monitoring, including key project specific parameters to be measured;

- b. How the parameters relate to achieving the desired outcomes or making a decision about ecological success;
- c. The intended use(s) of the information obtained;
- d. The nature of the monitoring, including duration and/or periodicity, the disposition of the information and analysis;
- e. The disposition of the information and analysis;
- f. The cost of the monitoring plan;
- g. The party responsible for carrying out the monitoring plan and;
- h. A project closeout plan.

The appropriateness of a monitoring plan will be reviewed as part of the decision document review.

- (3) Adaptive Management Plans. An adaptive management plan (i.e., a contingency plan) will be developed for all mitigation plans. The adaptive management plan must be appropriately scoped to the scale of the project. If the need for a specified adjustment is anticipated due to high uncertainty in achieving the desired outputs/results, the nature and cost of such actions should be explicitly described in the decision document for the project requiring authorization. The reasonableness and cost of the adaptive management plan will be reviewed as part of the decision document. Costly adaptive management plans may indicate the need to reevaluate the formulation of the mitigation measures. The information generated by the monitoring plan will be used by the District Commander in consultation with the Division Commander to guide decisions on operational or structural changes (adaptive management) that may be needed to ensure that the mitigation measures meet the success criteria of the mitigation plan.
- (4) Implementation. Monitoring includes the systematic collection and analysis of data that provides information useful for assessing project performance, determining whether ecological success has been achieved, or whether adaptive management may be needed to attain project benefits. In rare cases, an adaptive management measure may include an operational change to project features in order to meet ecological success of the mitigation measures. In these cases, the non-Federal sponsor must agree that an operational change to the project is an appropriate adaptive management measure to achieve ecological success. To the extent feasible, adaptive management of mitigation measures will be limited to only the area of mitigation. Identified physical modifications will be cost-shared and must be agreed upon by the non-Federal sponsor. Any changes to the adaptive management plan approved in the decision document must be coordinated with HQ. Significant changes to the project required to achieve mitigation success and which cannot be appropriately addressed through operational changes, agreed to by the non-Federal Sponsor, or through the approved adaptive management plan may need to be examined under separate authority, such as Section 216, River and Harbor and Flood Control Act of 1970. In these rare cases, the ASA(CW) will be immediately notified.
- (5) Costs. 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 1505.2(c) and 1505.3. The rationale and cost of mitigation and an adaptive management plan are considered in the justification of the recommended plan, and will be reviewed as part of the decision document. The monitoring costs will be identified per action, with the schedule and responsible party identified for monitoring actions. Adaptive management features will also identify costs and be included in the total project costs.
- (6) Monitoring of Mitigation Results. Monitoring shall continue until it has been demonstrated that the mitigation has met the ecological success criteria, in consultation with the appropriate Federal and State agencies, as documented by the District Commander. Most mitigation

measures will only require periodic inspection as part of normal O&M to monitor to determine if ecological success is being achieved. Monitoring is part of the O&M of a project, and monitoring to determine the success of mitigation measures is primarily the responsibility of the non-Federal sponsor. The cost for such monitoring will be included in the O&M cost for the mitigation plan and described in the O&M manual. For some mitigation measures, cost-shared monitoring may be appropriate where risk and uncertainty of achieving ecological success is high due to the complexity of the mitigation measures. Recommendations for cost shared monitoring must be submitted to the ASA(CW) for consideration and approval during the review of the decision document. Monitoring costs for navigation projects will be consistent with the apportioned O&M costs between the Federal and non-Federal interests.

- (a) Consultation. The District Commander shall be responsible for consulting with the Federal and State agencies concerning the success of mitigation efforts, and prepare a report summarizing the results of the consultations(s). The report shall evaluate the ecological success of the mitigation as of the date on which the report is submitted; the likelihood that the mitigation will achieve success as defined in the mitigation plan; the projected timeline for achieving success; and any recommendations for improving the likelihood of success. . The results of the consultation(s) shall be reported on an annual basis through the Divisions to the HQ, no later than 1 October of each year, for inclusion in the status report discussed in section C-4.n.
- (b) Mitigation Database. In addition to the District Consultation Report discussed above, data and information concerning the mitigation would be entered by the District into the Corps Works Project Mitigation Database on an annual basis. The data and information required for entry into this database are specified within the database itself.

m. Use of Mitigation Banks or In-Lieu Fee Arrangements.

- (1) Mitigation Banks and In-Lieu Fee Programs. The purchase of credits from mitigation banks and in-lieu fee programs established by others shall be considered, where appropriate, when providing compensatory mitigation for environmental impacts to ecological resources resulting from construction of a Corps Civil Works project (Section 2036(c), WRDA 2007, as amended by Section 1163 of WRDA 2016). Section 1163 of WRDA 2016 provides for consideration of the entire amount of potential in-kind credits available at mitigation banks and in-lieu fee programs as a part of the feasibility study process. The service area of a mitigation bank and in-lieu fee program, to the maximum extent practicable, shall be in the same watershed as the habitat impacted by the Civil Works project. If the mitigation credits are not available in the same watershed or there are compelling reasons to provide mitigation in a different watershed, the documentation of the analysis and of the rationale for that decision shall be included in the decision document. A policy waiver from the ASA(CW) for approval to go outside of the watershed area will be obtained. All representative array of the reasonable alternatives must be analyzed in the expanded watershed. Further information is found in paragraph C-4.l.

The following are key planning considerations when proposing the use of mitigation banks or in-lieu fee programs:

- a. The use of credits from a mitigation bank or in-lieu fee program to meet the compensatory mitigation requirements must be evaluated in accordance with requirements for project specific mitigation, as described below, especially the use of habitat-based methodologies

to evaluate mitigation needs and measures. Credits available from mitigation banks should be included as part of the incremental cost analysis. A habitat assessment of the mitigation bank utilizing the same Corps certified habitat assessment model that is used to determine the functional impacts of the proposed action must be completed. The District Commander must review and approve the assessment results based upon science and in consultation with the appropriate Federal and State agencies.

- b. Credits. The acquisition of “credits” from a mitigation bank or in-lieu fee program may be used to meet compensatory mitigation requirements for Civil Works projects. The determination of credits needed will be conducted in accordance with Corps Civil Works mitigation assessment policies. . However, there will be no division of costs for credits into its components for cost sharing purposes. All costs associated with the acquisition of credits from the mitigation bank or in-lieu fee program will be classified as a one-time construction cost of the Civil Works project for which the mitigation is being provided. The costs for acquisition of credits will be shared in accordance with the cost sharing applicable to construction cost for that project purpose.
- c. The primary purpose of most mitigation banks is to create, restore, or enhance habitat. However, some mitigation banks also create, restore or enhance streams, riparian zones and upland resources. FWS has approved some mitigation banks as well for the purpose of offsetting impacts to designated critical habitat under ESA. Credits for impacts to upland resources may be available within a mitigation bank on a limited basis and may be used to compensate for upland impacts of Civil Works projects, if determined to be appropriate and the rationale is documented by the District Commander.
- d. The purchase of credits from a mitigation bank or in-lieu fee program for a water resources project relieves the Corps and the non-Federal sponsor from the responsibility of monitoring the mitigation measure and demonstrating that the mitigation measure is successful, as long as the Secretary or designee determines that monitoring is being conducted by the owner or operator of the mitigation bank or in-lieu fee program.
- e. The purchase of mitigation credits must comply with any applicable Federal procurement laws and regulations such as the Federal Acquisition Regulation (FAR) codified at 48 CFR.
- f. Advanced in-kind credit consideration: In accordance with Section 221 of the Flood Control Act of 1970, as amended by Section 2003 of WRDA 2007, non-Federal sponsors can contribute work in-kind prior to construction if an in-kind memorandum of understanding (MOU) is executed prior to the non-Federal sponsor carrying out such work (See ER 1165-2-208). Once an in-kind contribution MOU is executed, a non-Federal sponsor may choose to purchase mitigation bank credits prior to federal appropriation for a specifically authorized project. For projects authorized under the Continuing Authorities Program, a non-Federal Sponsor may purchase mitigation bank credits prior to the design and implementation phase once an in-kind contribution MOU is executed. On a case-by-case basis, the non-Federal sponsor may seek to release the mitigation bank credits from the in-kind contribution MOU for use as mitigation for other appropriate purposes. The non-Federal sponsor will be required to cost-share the mitigation as appropriate during construction.

n. Mitigation Annual Status Report. The Corps must submit an annual status report to the ASA(CW) for transmittal to Congress with the President’s annual request for appropriations for the Civil Works Program. This report will include the status of all projects under construction, all projects for which

the President requests funds for the next fiscal year, and all projects that have undergone or completed construction, but have not yet completed mitigation. In addition, the status report will include the results of the consultations with appropriate Federal agencies and each State in which the applicable project is located to determine if a mitigation plan is successful (see paragraph C-4.k.(6)(a)). In order to help inform the budgeting process, HQ shall submit a draft of the annual mitigation report shall be provided to the ASA(CW) by 1 August of every year, understanding that updates may occur for projects with actions being completed between August and September of any year. For the final report, Districts shall complete all final entries no later than 1 November of each year for Division QA/QC. Divisions shall complete QA/QC of District entries no later than 1 December of each year. HQ shall submit the final report to OASA(CW) no later than 15 January of each year.

Pre-Publication Draft

C-5. Procedures for Environmental Compliance – Non – Living Resources

a. Purpose. This section provides guidance for the consideration of water, air, and sediment 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 feasibility studies and preconstruction planning and engineering. It also includes the analysis for Clean Water Act (CWA) compliance, and Hazardous Toxic and Radiological Waste review.

b. Water Quality and Related Requirements.

- (1) Section 401 of the Clean Water Act of 1972 (State Water Quality Certification (WQC) sets forth requirements and procedures for obtaining State WQC for activities which result in any discharge into navigable waters to ensure compliance with established effluent limitations and water quality standards. State WQC requires the District Commander to accomplish the following three tasks:
 - (a) Complete an evaluation of the effects of the proposed discharge consistent with the Section 404(b)(1) Guidelines;
 - (b) Issue a public notice, with opportunity for public hearings for the proposed discharge, including or referencing the preliminary Section 404(b)(1) evaluation; and;
 - (c) Obtain certification, including any required conditions, from the State that the proposed action is in compliance with established effluent limitations and water quality standards.
- (d) Reporting. For projects where information necessary to request and obtain WQC is practicably available during the feasibility phase, District Commander shall provide the State with necessary detailed information it may need to issue the WQC. The WQC will be obtained prior to the NEPA decision for the feasibility study. In the event that information necessary to obtain WQC is beyond the scale conducted in a feasibility study, requires detailed designs, or otherwise is not practicably available, District Commander shall document coordination with the State in the form of a letter outlining the information that would be developed after feasibility for submittal to the State to meet the requirements of a request for WQC for Corps Civil Works projects. The State should acknowledge coordination with the study team and issue a letter of confirmation and potential preliminary findings or intent to issue. Where such certification is required, WQC is required prior to the initiation of project construction.
- (e) Documentation. The WQC approval and all pertinent correspondence shall be included in the project document. Where WQC is not practicably obtainable during the feasibility phase, the project document shall outline the information that would be developed after feasibility for submittal to the State and include the correspondence documenting coordination with the State and the State's letter of confirmation. This appropriate documentation must be included in the final report before the Division Commander approves the report and sends it forward to HQ for Washington level review, approval and processing.
- (f) General Permits. Where the State has provided conditions for WQC for general permits that cover work analogous to a proposed Federal activity, this WQC shall be used in lieu of project-specific WQC provided that the District Commander determines the general permit WQC to be

applicable.

- (2) Clean Water Act, Section 404. Discharge of Dredged or Fill Material into Waters of the United States. Corps 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 (CWA) of 1972, unless these activities are exempted by Section 404(f) (40 CFR 230.1(a)). The purpose of Section 404(b)(1) CWA Guidelines is to restore and maintain the chemical, physical, and biological integrity of waters of the United States through the control of discharges of dredged or fill material (40 CFR 230.1(a)). For navigation projects, if compliance with 404(b)(1) Guidelines alone prohibits 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(b)(1) Guidelines (Section 404(b)(2) of CWA).

(a) Feasibility Phase. During feasibility planning, District Commander shall conduct and, to the fullest extent practicable, complete the investigations and analyses required by the Section 404(b)(1) Guidelines. Information on the physical, biological and chemical conditions of the waters of the United States and the potential impacts of the recommended plan used in the evaluation will provide documentation to demonstrate that the recommended plan is in compliance with the Clean Water Act.

(b) Use of General Permits. Water resources projects developed by the Corps do not obtain Department of the Army permits through a self-permitting process. Instead, the project documentation (i.e., report) and environmental compliance work performed by the Corps serves as the functional equivalent of self-permitting, ensuring that the same level of review is performed. However, District Commander may refer to and apply permit conditions established by the Corps Regulatory Program for general permits for similar categories of activities along with a Section 404(b)(1) Guidelines analysis to comply with Section 404 of the Clean Water Act.

(c) State Administered Section 404 CWA Programs. If a state agency has assumed responsibilities for the Section 404 CWA regulatory program, a Section 404 CWA permit shall be obtained, if applicable. The Section 404 CWA permit will serve as the certification of compliance with section 404 CWA.

(d) Subsection 404(r). Subsection 404(r) of the CWA exempts a discharge of dredged or fill material from the requirements of CWA Sections 404, 301(a), and 402, and from state water quality certification (WQC) under CWA Section 401, if: 1) it is part of a federal project specifically authorized by Congress; 2) the project is covered by a EIS that discusses the project's discharges of dredged or fill material, including consideration of the Section 404(b)(1) guidelines; and 3) the EIS is submitted to Congress before the actual discharge and prior to either the project authorization or an appropriation of construction funds for the project. The 404(r) exemption has been invoked on a relatively few occasions. If a District Commander recommends through HQUSACE to the ASA(CW) that it is prudent to seek a 404(r) exemption, there must be a compelling justification.

Any determination of whether it is appropriate to pursue a 404(r) exemption is entirely and solely within the discretion of the ASA(CW). If the ASA(CW) determines that a 404(r) exemption is appropriate, the following criteria shall be satisfied:

- i. 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, shall be included in both the draft EIS and the final EIS for the proposed project;
- ii. The final EIS has been submitted to Congress before the actual discharge takes place and prior to either authorization of the proposed project or appropriation of funds for project construction; and
- iii. The draft EIS has been provided to EPA for review. If the EPA has submitted comments to the District regarding the 404(b)(1) analysis contained in the draft EIS, the District shall provide in writing its responses to those EPA comments, for the consideration of HQUSACE and the ASA(CW).

After the ASA(CW) has confirmed that all requisite criteria have been satisfied and if the ASA(CW) decides to proceed with a project under 404(r), the District Commander will officially inform the State of the Army's decision. The ASA(CW) will then submit the final EIS to Congress, and notify Congress that a Subsection 404(r) exemption is being invoked for the project.

Documentation. Prior to the ASA(CW) deciding on whether to invoke the 404(r) exemption, HQUSACE shall submit appropriate documentation to the ASA(CW) indicating whether the above exemption criteria have been satisfied, and the rationale for the exemption request. The District Commander's request to HQUSACE should clearly document when a proposed project is eligible for the 404(r) exemption, whether the requisite information for section 404(r) exemption is included in the EIS, and if the proposal is consistent with section 404(b)(1) guidelines, regardless of whether or not the District plans to seek water quality certification from the State agency. However, the Corps' submission to the ASA(CW) should explain and document that the District has made reasonable and appropriate efforts to coordinate with the affected state(s) to comply with state(s) water quality standards. .

Congressional Notification. The ASA(CW) will notify Congress in writing of the Army's intention to invoke 404(r) with the transmittal to Congress of the final EIS prior to authorization of the project, and/or prior to appropriation of construction funds for the project.

Exclusion. The Subsection 404(r) exemption does not apply in the following situations:

Where a feasibility report going to Congress seeking specific authorization includes an EA likely to result in a FONSI. Proposed projects in which an EA was completed must obtain a WQC or a State letter of confirmation and potential preliminary findings or intent to issue (See Paragraph C-5.b.(1)) prior to the NEPA decision associated with the feasibility study. .

Any projects authorized under the continuing authorities program or other programs where specific authorization from Congress is not required. These projects must obtain a WQC prior to the NEPA decision unless otherwise approved and consistent with the guidance in Paragraph

C-5.b.(1).

Subsection 404(t) and Subsection 511(a)(2) provide further guidance relating to navigation projects.

(f) Reporting. The District Commander's Section 404(b)(1) evaluation finding of compliance shall be completed prior to the decision document approval, prior to project construction. The Corps' finding of compliance shall be discussed in the decision document and included, in full, in an appendix to the integrated feasibility/NEPA report. The degree to which the proposed project is in compliance with the CWA will be noted in the FONSI where an EA is involved and in the ROD where an EIS is involved.

(g) Documentation. District Commanders shall include in their evaluation of the effects of the discharge of dredged or fill material, including consideration of the section 404(b)(1) guidelines in the decision document 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. The 404(b)(1) analysis and compliance determination shall be updated as required during post authorization planning and included in appropriate project documents.

(3) 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.

(4) Aquatic Disposal of Dredged Material.

(a) 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.

(b) 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.

(c) 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.

(d) 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 Commander 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 decision making process for initiating or implementing the project.

- (e) 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".
- (f) Where State water quality and/or dredged material standards are more stringent than EPA standards, the District will consult with HQ and ASA(CW) on appropriate resolution.

(5) Water Quality Standards.

- (a) Standards. The District Commander shall comply with applicable Federal laws, as part of the formulation of alternative plans in feasibility and preconstruction planning and engineering studies. The District Commander shall consult with State and local governments concerning best techniques and methods for the prevention, control, and abatement of environmental pollution. (See E.O. 12088, 13 October 1978.)
- (b) 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 the EPA. Costs allocated to streamflow regulation for water quality control are non-reimbursable 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.)
- (c) National Pollution Discharge Elimination System (NPDES) Storm Water Discharge Permit Requirements. Point source discharge of pollutants into "navigable water" is regulated through the NPDES. All point source discharges must have an NPDES permit (33 U.S.C. 1311). Ordinarily, dams are not considered "point sources" that discharge "pollutants" requiring NPDES permits. Moreover, water transfer activities that connect or convey waters of the United States without subjecting those waters to any intervening industrial, municipal, or commercial use are not subject to regulation under the NPDES permitting program. This latter exclusion does not apply to pollutants introduced by the water transfer activity itself to the water being transferred. All Corps facilities and activities that meet the definition of an "industrial activity" under 40 C.F.R. 122.26(b)(14) are subject to the requirement to obtain storm water permits. One Corps activity covered by the storm water rule is any construction activity that disturbs five acres or more of land. Storm water permits are issued by the states

if they have an authorized NPDES storm water permit program or by the EPA for areas not covered by an authorized state program. Activities regulated under Section 404 of the CWA do not require permits under the NPDES program.

(6) 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.)

(7) Exclusions for Emergencies. There are no waivers or exceptions for complying with Federal law in times of emergencies. Some laws and regulations include particular compliance procedures that can be followed during emergencies. In addition to complying with all applicable laws and regulations during emergencies, District Commander shall meet the evaluation and coordination requirements related to the CWA Section 404 and MPRSA Section 102 guidelines to the fullest extent practicable, unless they determine and document (Determination of Imminent Threat) 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 emergency consultation 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. Currently, Section 14 emergency stream bank erosion is the only element of the Civil Works planning program that has established emergency procedures.

(8) 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 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).

c. Coastal Zone Management Act (16 U.S.C. 1451 et seq.) Sections 307c(1) and (2) of the Coastal Zone Management Act require that each Federal agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone or any Federal development project in the coastal zone of a state shall, to the maximum extent practicable, be consistent with approved state management plans. Civil Works activities of the Corps in the coastal zone fall within this classification. Note: Lands in Federal ownership are not considered to be part of the coastal zone subject to State management plans under CZMA.

Compliance is achieved by preparing and coordinating a Coastal Consistency Determination (CCD) with the State agency administering the CZMA.

- (1) Using existing processes, the consistency determination should be coordinated as early as practical. However, the determination of consistency should be summarized in the draft main report and draft EA/EIS and made available if requested. (See 40 CFR 1502.25).

The CCD shall be forwarded to the State agency responsible for CCD review. At a minimum, the Act requires a consistency determination to be provided to the state 90 days prior to an Agency's decision, unless the agencies mutual agree to an extended review process.

- (2) The State's coastal commission will prepare a report to concur or recommend against approving the determination.

- (3) If the determination is that the project is consistent with the State's Coastal Management Plan, then compliance is complete.
 - (4) For projects determined to be inconsistent with the State's Coastal Management Plan, a Conflict Resolution Process may be initiated to address inconsistency. The mediation process will be chaired by the Secretary of Commerce with cabinet level agency representation. The ASA(CW) can decline to enter into the mediation process and the issue will remain unresolved. For unresolved situations the Corps would proceed with the proposed action.
 - (2) Reporting. The District Commander shall complete the CZM consistency determination coordination process with the State prior to the NEPA decision document approval. The Corps statement of consistency shall, at a minimum, be incorporated by reference into the decision document.
 - (3) Documentation: All pertinent correspondence and assessments associated with CZM consistency determination shall accompany the project document.
- d. National Estuary Program. In 1987, Congress amended the Clean Water Act formally establishing the National Estuary Program (NEP). 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.
- (1) Reporting. Where projects occur within a national estuary, the District Commander shall in consultation with NEP staff complete all applicable coordination to show that the project is consistent with the goals of the CCMP prior to the decision document approval.
 - (2) Documentation. All pertinent assessments, correspondence and coordination to show the project is consistent with the goals of the CCMP shall accompany the project document.
- e. Air Quality and Related Requirements.
- (1) Purpose. This section provides guidance for the consideration of air quality in Civil Works planning studies.
 - (2) Clean Air Act (42 U.S.C. 7401 et seq.) 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.

- (a) Reporting. For areas designated as being in nonattainment the District Commander shall prepare a Clean Air determination that provides an analysis of the quantity of pollutants that will be generated as a result of the completion of the Corps project prior to the completion of the project document.
- (b) Documentation. The Clean Air determination and all pertinent correspondence to show compliance with the Clean Air Act shall accompany the project document.

f. Hazardous, Toxic and Radioactive Wastes (HTRW). Consistent with the guidance in ER 1165-2-132, the Corps will not participate in clean-up or other response actions related to materials regulated by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or that otherwise qualify as HTRW. Assessments during the feasibility phase to investigate the existence, nature and extent of such materials within the project area shall be cost shared. If an area where HTRW substances are present cannot be avoided, the area must be remediated prior to and outside the project, performed by and at the sole expense of local interests, and satisfy the requirements of local regulators.

- (1) Reporting. District Commander shall ensure that at a minimum Phase I assessments are completed for all phases of a project and completed prior to the NEPA decision document.
- (1) Documentation. At a minimum, a summary of the HTRW assessment will be included in the main report with more detailed assessments incorporated by reference. The report shall clearly note that for cost-shared projects, the local sponsor shall be responsible for ensuring that the development and execution of Federal, state, and/or locally required HTRW response actions are accomplished at 100 percent non-project cost. No cost sharing credit will be given for the cost of response actions.

Pre-Publication Draft

C-6. Procedures for Environmental Compliance - Cultural Resources and Tribal Coordination

1. 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 section does not apply to Operating Projects administered by the Corps or to any Department of the Army Permit actions or activities administered by the Corps.

2. Definitions.

(a) Historic Preservation means 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.

(b) Cultural Resources means historic properties, as defined below and in the National Historic Preservation Act (NHPA) of 1966; cultural items as defined in the Native American Graves Protection and Repatriation Act (NAGPRA); archeological resources as defined in the Archeological Resources Protection Act (ARPA); sacred sites as defined in Executive Order 13007; and, collections and associated records as defined in 36 CFR Part 79, "Curation of Federally-owned and Administered Archaeological Collections."

(c) Historic Property means 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, archaeological, 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.

(d) Cultural Resources Study means 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, surface field examination, sub-surface excavation, 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.

(1) Literature and Records Review means 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.

(2) Sample Survey means a 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. 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.

(3) Evaluation and Testing means 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.

(4) Intensive Survey/Inventory means 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, pollen and botanical analyses, and zoo-archeology. It will also provide data required to develop preservation and/or mitigation plans.

(e) Mitigation means 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. Mitigation may include, but is not limited to, data recovery, protection of historic structures and engineering elements, built environment documentation, real estate support and engineering support.

(f) Data Recovery is the principal means by which archeologists gather information about the past from below the ground surface. While site discovery methods such as archival research, surface inspection, subsurface testing and sampling, geophysical prospecting, and predictive models may provide evidence of buried features, almost the only way to verify the presence and characteristics of subsurface data is through excavation. Data recovery for mitigation is usually conducted when archeological resources are threatened with destruction by such human activities as construction or related activities. The idea is to take the site apart in reverse order to that in which it was formed. According to the Law of Superposition, the further below the surface a soil stratum or layer lies the older it, and the materials contained within it, are. Data retrieved through excavation are important since subsurface remains are usually the best preserved and the least disturbed. Artifacts recovered from the ground surface are seldom in primary context that is, in the same soil layer and location as when they were originally deposited and are usually poorly preserved. Surface features such as roads or walls may be in primary context, but are most likely less well preserved than buried features. Excavation often reveals how artifacts, ecofacts, and features are related to each other within their primary context. The two basic goals of data recovery are: To reveal the three-dimensional patterning or structure in the deposition of artifacts, ecofacts, and features, and to assess the functional, temporal, and possibly the symbolic significance of this patterning. Determination of this three-dimensional patterning depends on documenting provenience and associations of the individual artifacts, ecofacts, and features with respect to each other and their surrounding environment. From this documentation archeologists can assess context. By knowing what elements were found together and by inferring how these elements got there and how and why they were used, archeologists can reconstruct past human behavior. Data recovery is a process, and no one size fits all. Archaeologists must determine methods, establish research designs and define scopes of work in Historic Preservation Treatment Plans reviewed and coordinated with SHPOs and the ACHP. Other activities may include site

mapping, gridding, formal record keeping, bagging and labeling of artifacts and other remains, artifact, ecofact and other processing and analysis, artifact classification, data reporting, radiocarbon dating, and curation (Ashmore and Sharer 1996).

(g) One percent of the total amount authorized to be appropriated for such project means a level of expenditure accounting for data recovery only, as first established by Section 7 of the Archeological and Historic Data Preservation Act of 1974 (Public Law 93-291, 16 USC 469), and replaced by Section 208 of the NHPA Amendments of 1980 (Public Law 96-515) (54 U.S.C. Chapter 3125, Sections 312507 and 312508). A more thorough treatment of the one percent “rule” is in section 4(h) below.

(h) One percent waiver means an administrative process provided by Section 208 of the NHPA Amendments of 1980 that authorize data recovery expenditures in excess of the one percent level limitation under Section 312507 of this title 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 (54 U.S.C. 312507 and 312508).

(i) Advisory Council on Historic Preservation (ACHP) means an independent agency 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 ACHP also consults with Federal agencies and comments on undertakings and programs that affect historic properties. ACHP regulations implementing Section 106 are found in 36 CFR Part 800, “Protection of Historic Properties.”

(j) State Historic Preservation Officer (SHPO) means a State representative who 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.

(k) Tribal Historic Preservation Officer (THPO) means a tribal representative appointed or designated in accordance with the NHPA as 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.

(l) Federal Preservation Officer means designated agency representative to coordinate the agency’s preservation activities. The ASA(CW) is the designated Federal Preservation Officer for the Corps Civil Works program. The ASA(CW) has designated a Deputy Federal Preservation Officer (DFPO) in the Office of the ASA(CW) and in HQ. See the current ASA(CW) delegation memorandums for a list of delegated responsibilities.

(l) Indian tribe means 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.

(m) Native Hawaiian organization means 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.

(n) Anthropological Archaeology occurs when through ethnography, ethnohistory and other approaches

archeologists consider perspectives and interpretations that come directly from descendants of people who once occupied a site or the area around a site. The contributions of these descendants to our understanding arise from elicited traditions and stories passed orally from generation to generation, and from deeply felt spiritual and cultural connections (Nichols:xiv). In many instances, these connections emerge from active collaboration and participation by these descendants. These connections inspire living descendants to ensure that their culture and ancestors are properly respected, interpreted, and protected. Ethnographic studies make it possible to ensure that the cultural knowledge and experience of associated groups is considered when planning archeological research and permitting activities, management approaches for culturally sensitive archeological resources such as human remains and grave goods, and treatments and disposition of such materials in archeological collections. Archeological studies may also provide data on the cultural affiliation of contemporary native American and ethnic groups to prehistoric and historic archeological resources, human remains, and objects in collections.

(n) “Significance” for NHPA purposes means a term attributable to properties listed in, or determined to be eligible for listing on, the National Register. Significance criteria for the purpose of this regulation shall be those provided in 36 CFR 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; that,

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

(2) Are associated with the lives of persons significant in our past; or

(3) 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

(4) Have yielded, or may be likely to yield, information important in prehistory or history."

(o) Undertaking 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.

(p) Collection means the composite of all material remains that are recovered from a cultural resource and/or historic property investigation and the associated records that are prepared or assembled in connection with those investigations.

(1) Material remains means artifacts, objects, specimens and other physical evidence that are excavated or removed in connection with efforts to locate, evaluate, document, study, preserve or recover cultural resources and/or historic properties.

(2) Associated records means original records or copies that are prepared or assembled that document efforts to locate, record, study, preserve or recover cultural resources and/or historic properties. Classes of associated records are listed in 36 CFR 79.4(a)(2) and include but are not limited to paper, photographic images, cartography, micro format information, audiovisual materials, and digital information.

(q) Collections management and curation means those services that manage and preserve a collection according to professional museum and archival practices. This includes, but is not limited to, processing, cataloging, inventorying and accessioning as well as the application of specialized techniques necessary for conserving and maintaining collections.

(r) Repository means a collections management facility such as a museum, archeological center, laboratory or storage facility managed by a university; museum; other scientific or educational institution; a Federal, State or local government agency; or, Indian tribe that can provide professional, systematic, and accountable collections management and curation services on a long-term basis as defined in 36 CFR Part 79.

(1) Digital Archive or Digital Repository means a facility providing long-term preservation of digital data as well as providing approved access to such data.

(s) Memorandum of Agreement means the document that records the terms and conditions agreed upon to resolve the adverse effects of an undertaking upon historic properties in accordance with 36 CFR 800.5.

(t) Programmatic Agreement means a document that records the terms and conditions agreed upon to resolve the potential adverse effects of a Federal agency program, complex undertaking or other situations in accordance with 36 CFR 800.14. Their use should be undertaken only after steps are taken to determine that significant historic properties and adverse effects are identified at an early planning stage when mitigation, beginning with avoidance, can reasonably be contemplated and accomplished.

(u) The Sunken Military Craft Act (SMCA) means Title XIV of the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005 (P.L. 108-375). The SMCA:

(1) Codifies U.S. / International law so that title to a sunken military craft remains with the country of origin unless expressly divested;

(2) Prohibits unauthorized activities that disturb, remove or injure U.S. sunken military craft, or foreign sunken military craft in U.S. waters and establishes civil penalties for violations:

(3) Authorizes the Secretaries of the Army, Navy, Air Force and Coast Guard to issue permits authorizing disturbance for archaeological, historical, or educational purposes; and,

(4) Exempts actions taken by, or at the direction of, the United States from prohibitions and permitting requirements.

(v) Sunken Military Craft (SMC) means those resources and properties defined within the SMCA. Those resources and properties are:

(1) Any sunken warship, naval auxiliary, or other vessel that was owned or operated by a government on military noncommercial service when it sank;

(2) Any sunken military aircraft or military spacecraft that was owned or operated by a government when it sank; and,

(3) The associated contents of a craft referred to in items (1) and (2) above, if title thereto has not been abandoned or transferred by the government concerned. Associated contents means the equipment, cargo and contents of a SMC that are within its debris field and the remains and personal effects of the crew and

passengers of a SMC that are within its debris field.

3. Overview.

The National Historic Preservation Act (NHPA) of 1966, as amended (54 U.S.C. Chapter 3001 et seq.), 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 800.¹ 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 consulting parties, interested parties and/or individuals.

4. Cultural Resources Investigations Conducted During Planning.

(a) Cultural resources investigations 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, State archives and site files, other files of the SHPO/THPO such as special collections and historic records, census records, locality tax and property title records 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, District Commanders shall design and implement cultural resources fieldwork necessary to evaluate tentative and selected 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) Sample surveys will be designed to obtain such information as is necessary to identify and predict the presence of historic properties; to evaluate levels of effects to such properties; and, if possible to determine appropriate avoidance, minimization or mitigation measures for historic properties that will be subjected to unavoidable adverse effects. The resolution of adverse effects for a historic property or multiple historic properties shall be documented in one or more Memorandum of Agreement. That portion of the Section 106 Process outlining the identification of historic properties, assessment of effects and the resolution of adverse effects can be found in 36 CFR 800.4 through 800.6.

(c) The integrated Feasibility Report and NEPA document shall describe identified and predicted historic properties which would be impacted by the selected plan. Where the extent, scope or significance of potentially impacted resources influence the commander's recommendation, these considerations should be clearly set forth in writing. If properties listed in, or eligible for listing on the National

¹ To assist Corps Commands in meeting their Section 106 responsibilities, specialized services and expertise can be found at the Mandatory Center of Expertise (MCX) for Curation and Management of Archeological Collections (CMAC), St. Louis District; the Technical Center of Expertise (TCX) for the Preservation of Historic Buildings and Structures (PHBS), Seattle District; and, the Land and Heritage Conservation Branch, Construction Engineer Research Lab (CERL).

Register will be affected by the selected plan, comments of the SHPO and/or THPO, the ACHP, and other consulting or interested parties shall be sought pursuant to Section 106 and 36 CFR Part 800. Comments shall also be sought in the event that for the selected plan, there will be "no historic properties affected," as defined in 36 CFR 800.4(d)(1).

(d) Costs of identification, survey and evaluation activities during feasibility studies will be shared with the study cost sharing sponsor in accordance with Section 105a of WRDA 1986. Costs of identification, survey, and evaluation activities following preconstruction engineering and design (PED) studies will be shared with the project sponsor in accordance with Section 105c of WRDA 1986 as stipulated in Policy Guidance Letter No. 18, Cost Sharing for Historic Preservation (1989).

(e) When full compliance with Section 106 is not attainable prior to the completion of the Feasibility Phase of Planning, District Commanders may implement the provisions contained in 36 Part 800.14(b), "Programmatic agreements." With the concurrence of the ACHP, a District Commander "may negotiate a Programmatic Agreement to govern the implementation of a particular program or the resolution of adverse effects from certain complex project situations or multiple undertakings." In accordance with 36 CFR 800.14(b), a Programmatic Agreement may be used:

- (1) When effects on historic properties are similar and repetitive or are multi-State or regional in scope;
- (2) When effects on historic properties cannot be fully determined prior to the approval of an undertaking;
- (3) When non-Federal parties are delegated major decision making responsibilities; and
- (4) Where other circumstances warrant a departure from the normal Section 106 process.

(f) Cultural resources investigations, including but not limited to, intensive surveys/inventories shall be accomplished in the area(s) of potential effect of the selected plan or authorized project. Prior to the initiation of construction, District Commanders shall complete the Section 106 Process when:

- (1) There are no historic properties discovered;
- (2) The selected plan or authorized project will have no effect on historic properties;
- (3) There are historic properties discovered but they will not be subject to adverse effects by the selected plan or authorized project;
- (4) There are historic properties discovered that will be subject to adverse effects by the selected plan and a Memorandum of Agreement is created to mitigate for those adverse effects: and/or,
- (5) A Programmatic Agreement is created and implemented to complete the requirements of the Section 106 Process.

(g) Such investigations, as defined in a Programmatic Agreement, shall be accomplished within the context of explicit research designs, formulated in recognition of prior work by the Corps 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 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, historic and built environment knowledge.
- (4) Serve as the basis for negotiation of a Memorandum of Agreement (if no Agreement has been previously prepared) with the SHPO/THPO, and, if appropriate, the ACHP specifying actions which will be taken by the Corps prior to or during the project construction period to mitigate adverse effects on National Register and eligible properties.
- (5) Develop cost estimates for such mitigation or other treatment of historic properties affected by project alternatives for inclusion in the computation of total project cost; the projected Benefit Cost Ratio; and, the comparison of all alternatives and the selection of the proposed project plan.²
- (g) The costs of recovery and mitigation activities associated with historic preservation will be treated as non-reimbursable project construction costs, up to the one percent limitation specified in Section 208 of the NHPA Amendments of 1980 (Public Law 96-515) (54 U.S.C. Chapter 3125, Sections 312507 and 312508). Non-reimbursable project costs are to be kept separate from other project construction costs, and are not subject to cost sharing as stipulated in Policy Guidance Letter No. 18, Cost Sharing for Historic Preservation.
- (h) Cultural resources investigations may indicate that the cost of data recovery could exceed one percent of the total Federal amount authorized for appropriation. The Corps will seek a waiver from the one percent data recovery limitation under the National Historical Preservation Act, when applicable, and upon receiving a waiver, will proceed with data recovery at full federal expense while still allowing the Non-Federal Sponsor to voluntarily contribute to costs associated with data recovery that exceed the 1 percent limitation. .
- (1) The one percent level is a full Federal cost and the level is calculated using the total Federal appropriations (and not the total cost) for a project or environmentally linked (i.e. ecosystem/river basin) set of projects. The one percent level for data recovery shall be calculated only when the District Commander can document the factual basis for concern about data recovery and not as a contingency cost within preauthorization cost estimates or project costs.
- (2) In the event that intensive excavation (data recovery) of archeological resources is the only acceptable mitigation strategy and the one percent level is projected to be exceeded, expenditures in excess of the one percent level can be treated as follows:
- (i) The Federal government may use authorized appropriations to account for the entire amount up to, and in excess of, the one percent level limitation specified in Section 208 of the NHPA Amendments of 1980 (Public Law 96-515) (54 U.S.C. Chapter 3125, Sections 312507 and 312508) as follows:
- (ii) The non-Federal partner may contribute all costs in excess of the one percent level; or,
- (iii) The Federal government and non-Federal partner may share the costs of amounts in excess of the one percent level. The cost share formula shall be based on the project purpose creating the need for data recovery and compliance with Section 208 of the NHPA Amendments of 1980 (Public Law 96-515)

² Cost estimates are developed for planning purposes only and should never appear as a goal, objective and/or target within a Programmatic Agreement or any Section 106 agreement document.

(54 U.S.C. Chapter 3125, Sections 312507 and 312508):

(3) If the Federal government and the non-Federal partner agree on either (h)(2)(i) or (h)(2)(iii), above, the Corps shall be required to submit a waiver request to the ASA(CW). The ASA(CW) will seek concurrence from the Secretary of the Interior (through the Departmental Consulting Archaeologist) who will notify Congress as directed in Public Law 93-291.

(4) Should a one percent Waiver request be necessary, it shall be:

(i) In the form of a Letter Report with supporting documentation. The Letter Report shall include, but may not be limited to, detailed descriptions of the historic properties that will be adversely affected, descriptions of previous studies within the project Area of Potential Effect; descriptions of the negotiation/consultation/coordination of data recovery parameters with the SHPO(s), ACHP, Indian tribes and the public; proposed data recovery efforts for each historic property; estimated data recovery costs per historic property; a detailed justification for the need to exceed the one percent level; and, a narrative discussing cost apportionment when non-Federal and Federal expenditures are contributing to the amount in excess of one percent.

(ii) Policy waiver requests shall be submitted, through the Major Subordinate Command (MSC) to the Corps Deputy Federal Preservation Officer (DFPO) in the Directorate of Civil Works, Planning and Policy Division. The DCG-CEO shall request a waiver from the ASA(CW). The ASA (CW) will coordinate with Department of the Interior as necessary. Once approved by the ASA(CW), the waiver will be provided to the Department of the Interior for concurrence and congressional notification.

(iii) Once a waiver is obtained from the ASA(CW), expenditures for recovery and mitigation activities over the one percent limitation will be apportioned on the same basis as other joint and separable costs. The costs assigned to the Federal Government are considered non-reimbursable project construction costs. The costs assigned to the non-Federal sponsor are to be borne entirely by the non-Federal sponsor, and are not to be included in total project construction costs as specified in Policy Guidance Letter No. 28, Cost Sharing for Historic Preservation (5 Jul 1989).

C6 Tribal Consultation

5. Native American, Alaska Native and Native Hawaiian Considerations and Section 106 of the National Historic Preservation Act.

(a) The unique legal relationship that exists between Indian tribes (including Alaska Natives and Native Hawaiians) and the Federal government flows from provisions in the Constitution of the United States, treaties, statutes and court decisions. Taken together, these instruments form the legal foundation for the Federal "Trust Responsibility" in our Government-to-Government relations with Indian tribes. The Trust Responsibility is the cornerstone of the Corps relations with Indian tribes. It carries the duty to act in good faith and in the best interests of tribes and Native American peoples.

(b) Relative to the Corps Planning process, the Trust Responsibility is expressed most notably in the Corps compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966. Pursuant to the Corps' authorities to engage in planning activities 36 CFR 800.2 identifies Indian tribes and Native Hawaiians as having a "consultative role" in the Section 106 process. Section 101(d)(6)(B) of the NHPA and its implementing regulatory language at 36 CFR 800.2(c) requires the Corps to consult with any Indian tribe or Native Hawaiian Organization that attaches religious and cultural significance to historic properties that may be affected by an undertaking.

(c) The essential directive language concerning tribal consultation in the Section 106 Process can be found in 36 CFR 800.2(c)(2)(ii)(C):

“Consultation with an Indian tribe must recognize the government-to-government relationship between the Federal Government and Indian tribes. The agency official shall consult with representatives designated or identified by the tribal government or the governing body of the Native Hawaiian organization. Consultation with Indian tribes should be conducted in a manner sensitive to the concerns and needs of the Indian tribe or Native Hawaiian organization.”

(d) Throughout the Section 106 Process, the Council regulations detail the Corps’ obligation to consult with Indian tribes and Native Hawaiian organizations. Consultation should begin with initial scoping (36 CFR 800.3); through the identification, evaluation and effect assessments for historic properties (36 CFR 800.4 and 800.5); and, for the resolution of adverse effects (36 CFR 800.6) to ensure an effective and efficient consultation process, District Commander may:

(1) Develop a set of protocols or umbrella agreements with Indian tribes and Native Hawaiian organizations that specify how Section 106 consultation will be carried out for all, or a majority of, Planning efforts. Protocols or agreements may cover all aspects of tribal participation in the Section 106 Process and they may grant an Indian tribe or Native Hawaiian organization special rights to participate or concur in Corps decisions beyond those afforded to other consulting parties. The development and implementation of these types of protocols and agreements may facilitate an Indian tribe’s or Native Hawaiian organization’s ability to advocate the outcome it would like to see the Corps take in the final project Planning decisions.

(2) Establish a schedule of face-to-face consultation sessions with tribal or Native Hawaiian representatives timed to ensure government-to-government interaction keyed to critical points along the Planning and decision making pathway. District Commander should recognize that consultation interactions may be in the form of group participation and/or for individual tribes or organizations. It should be noted that some tribes and organizations cannot or will not participate in telephone conference calls or communicate via electronic mail. District Commander should recognize that these tribes and organizations require specialized attention that ensures the Federal government has made a “reasonable and good faith effort” to receive views and input.

(3) When the Corps is seeking the views of an Indian tribe and/or Native Hawaiian organization to fulfill a legal obligation to consult, the agency is not required to pay the tribe or organization for providing its views. If the Corps has made a reasonable and good faith effort to consult with a tribe and/or organization, and if the tribe and/or organization refuses to respond without receiving payment, the Corps has met its obligation to consult and may continue on with the Section 106 process.

6. Native American Graves Protection and Repatriation Act (NAGPRA).

NAGPRA applies to the ownership or control of Native American human remains and cultural items (funerary objects, sacred objects and objects of cultural patrimony) which are discovered and/or excavated on Federal or Tribal lands [25 U.S.C. 3002(a)]. NAGPRA does not apply to land for which the Corps has been provided access by a private landowner and/or a non-Federal sponsor to conduct investigations associated with a study or authorized project. The Corps has no real property interest in these lands other than a simple right of entry and these lands lack the quantum of Federal or Tribal control to trigger procedures required by NAGPRA. Native American human remains and cultural items discovered within non-Federal lands but within an Area of Potential Effect may be subject to State burial site statutes and may be subject to the Section 106 Process.

7. The Sunken Military Craft Act (SMCA) of 2004.

(a) The Sunken Military Craft Act (SMCA), P.L. 108-375, recognizes Sunken Military Craft (SMC) as being of historical importance to the Nation, having served in all of its most critical moments. SMC are also often war graves and memorials to the men and women who served aboard them.

(b) When SMC are found to be within the Area of Potential Effect of a Corps Planning study and/or investigation it will be treated as an historic property and shall be subject to the Section 106 Process. In addition, SMC are under the jurisdiction of the Secretary of the Navy through the Naval History and Heritage Command (NHHC). The policies and procedures established by the Department of the Navy for managing SMC and their associated contents are in 32 CFR Part 767, "Guidelines for Permitting Archaeological Investigations and Other Activities Directed at Sunken Military Craft and Terrestrial Military Craft Under the Jurisdiction of the Department of the Navy." Corps actions regarding SMC should be guided by 32 CFR 767.6(g) when "carrying out activities that disturb, remove, or injure sunken military craft or terrestrial military craft. . ."

(c) While the Corps "need not follow the permit application procedures set forth in this section" (32 CFR Part 767.6(g)) it shall be Corps policy to coordinate and consult with the NHHC whenever SMC are found to be within the Area of Potential Effect of a Corps Planning study and/or investigation. Consultation and coordination with NHHC shall ensure that roles and responsibilities are clearly identified and memorialized in interagency documents and that all reasonable actions necessary to avoid, minimize and/or mitigate adverse effects are implemented.

8. Collections Management and Curation.

(a) Collections created during Planning are the property of the landowner. Landowners may be other Federal agencies, the non-Federal partner, a State or local government or agency, and/or a private landowner or landowners.

(1) Collections recovered from lands in which the Corps has no real property interest other than a simple right of entry are not to be the permanent responsibility of the Corps and are only the responsibility of the Corps as long as there is a Corps interest or responsibility in a project.

(2) District Commander conducting investigations of cultural resources and/or historic properties shall ensure that collections are properly processed and curated in a manner consistent with provisions of 36 CFR Part 79 and in repositories as long as there is a Corps interest in the collection.

(3) Since the Corps is not responsible for permanent management and curation of collections created during Planning, prior to conducting investigations that have the potential to create collections, the Corps and the non-Federal sponsor will develop a clear understanding (or additionally with the landowner when the landowner is not the non-Federal partner) as to the disposition of collections when the Corps interest in those collections ends. The Corps should encourage the landowner to arrange for permanent collections management and curation within repositories adhering to the standards of 36 CFR Part 79 and Corps specialists may assist landowners in arranging for permanent curation.

(b) The consolidation of Corps collections in the fewest number of repositories as possible is an agency-wide interest. The USACE Mandatory Center of Expertise (MCX) for Curation and Management of Archeological Collections (CMAC), St. Louis District, has initiated a process that will ultimately lead to a national consolidation of Corps collections. During the Planning process, collections developed by District Commanders should be managed in repositories that demonstrate professional standards consistent with 36 CFR Part 79 and that are identified by MCX CMAC as consolidation repositories.

District Commanders seeking collections management and curation services during Planning are encouraged to consult with MCX CMAC regarding the conditions for appropriate collections management as well as repositories that would be most advantageous for Corps use.

(c) Sunken Military Craft (SMC) and associated contents, as defined herein, may be discovered during Planning and pre-construction of a Corps project or program. Neither SMC nor their associated contents shall be considered to be Corps property subject to Corps management in perpetuity. Upon discovery of a SMC, the Corps will coordinate with Naval History and Heritage Command (NHHC), which is responsible for managing Department of Navy SMC, and has developed a comprehensive program that includes conservation and curation (32 CFR 767.5(a)). In some cases, the Corps may negotiate agreements with the Navy concerning the stabilization of SMC and their associated contents, but this work should only be viewed within the context and development of the specific Corps project or program.

9. Information Management Associated with Collections Management and Curation.

(a) District Commanders shall create digitized versions of final reports on cultural resources/historic property investigations as well as digitized versions of all records, images and supporting information pertaining to those investigations during all Planning phases. Digital information should be stored in a manner that ensures current and future access to information and archival standards should be applied for hardware, software and media storage.

(b) Digital information shall be maintained separately from the physical collections that remain the property of the landowner. Digital information shall serve as a permanent record of Corps cultural resources/historic property efforts performed in support of planning studies.

(c) As with other collections management and curation processes, District Commanders are encouraged to consult with MCX CMAC regarding the conditions necessary to create, manage and archive digital information in a manner that ensures the permanency, security and accessibility of the digital records.

10. Continuing Authority Projects.

Identification, evaluation, and mitigation of effects on historic properties within the impact area of projects planned and implemented under Continuing Authorities shall be accomplished similarly to individually authorized projects.

(a) During Planning the first step is to make 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 both in-house and external information sources, 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.

(b) When the presence, or likely presence, of historic properties within the Area(s) of Potential Effect is documented, the District Commander shall conduct an intensive survey/inventory. The results of the intensive survey/inventory shall be presented in the decision document 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 within the selected plan, there will be "no historic properties affected," as defined

in 36 CFR Part 800.4(d)(1).

(2) When within the Continuing Authorities Program, cultural resources mitigation (including data recovery) increases the Federal cost to a level in excess of the statutory one percent Federal limit (54 USC 312507), all mitigation (including data recovery) in excess of 1 percent of the total amount authorized to be appropriated for the project” may be the responsibility of the non-Federal sponsor.

(3) Within the “Federal Funding Limits,” should the cost of data recovery exceed one percent of a project’s total Federal appropriation and when 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 (54 USC 312508). For Continuing Authorities, District Commanders shall use the same Waiver process described in paragraph 4(h), above.

11. Emergencies.

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 imminent 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, District Commanders can follow accelerated procedures established in 36 CFR Part 800.12 “Emergency situations.” Normally, Section 14 projects do not meet this criterion.

12. Cost and Accounting Considerations in Cultural Resources Investigations.

(a) The costs of identifying, surveying and evaluating cultural resources (excluding mitigation and/or data recovery) shall be treated as Planning costs, in accordance with Section 208 of the NHPA Amendments of 1980. Costs of these activities during pre-authorization Planning will be shared with the study non-Federal sponsor in accordance with Section 105a of WRDA 1986. Costs of these activities during post-authorization Planning shall be shared with the non-Federal sponsor in accordance with Section 105c of WRDA 1986.

(b) Data recovery is the only form of cultural resources mitigation subject to consideration under Section 7a. of the Archaeological and Historic Data Preservation Act of 1974, Public Law 93-291. Cultural resources mitigation other than data recovery shall not be the subject of one percent accounting, and accounting for non-data recovery mitigation will be separate from that of data recovery. All cultural resources mitigation costs, other than data recovery, shall be shared with the non-Federal sponsor.

(1) When Project Partnership Agreements (PPA) are prepared for projects that require cultural resources mitigation (including data recovery), those agreements shall include specific provisions for sharing non-data recovery mitigation and, when appropriate, cost sharing for data recovery.

(2) For projects that require cultural resources mitigation (including data recovery), and for which an existing PPA does not include a specific provision for mitigation cost sharing, the non-Federal sponsor’s share of the non-data recovery mitigation costs shall be consistent with the sponsor’s overall financial responsibilities as enumerated in the PPA. The Corps will seek a waiver from the one percent data recovery limitation under the National Historical Preservation Act, when applicable, and upon receiving a waiver, will proceed with data recovery at full federal expense while still allowing the Non-Federal Sponsor to voluntarily contribute to costs associated with data recovery that exceed the one percent limitation.

C-7. 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 observer's 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 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: minimizing impacts by limiting the degree or magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; 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. 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.
- (3) **Mitigation.** Appropriate mitigation shall be undertaken for adverse effects to significant aesthetic resources. Avoidance and minimization measures shall be incorporated to the extent practicable to mitigate for adverse impacts to significant aesthetic resources. Compensatory mitigation will be identified for unavoidable adverse impacts or damages to significant aesthetic resources. . Mitigation for 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 under a locally preferred plan 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.