

DOCUMENTATION OF REVIEW FINDINGS

HUDSON-RARITAN ESTUARY

LIBERTY STATE PARK, NEW JERSEY

**FINAL INTEGRATED FEASIBILITY REPORT
AND
ENVIRONMENTAL IMPACT STATEMENT**

OCTOBER 2005

Documentation of Review Findings
Hudson-Raritan Estuary, Liberty State Park
May 2006

Table of Contents

<u>Item</u>	<u>Page</u>
1. Background	
a. Policy Compliance Review Findings	2
b. Authority	2
c. Study Purpose	2
d. Plan Formulation	2
e. Study Recommendation	2
f. Project Cost Estimates	2
g. October 28, 2005 teleconference call.	3
2. Review Comments on the October 2005 Final Report and FEIS	
a. Land and Water Conservation Act Funds	3
b. Non-Federal Sponsor's Use of Grant Money	3
3. Review Comments on the August 2005 Draft Report and DEIS	
a. Discrepancy in Acreage of Restored Areas	4
b. Study of Urban Forestry	4
c. Attractive Nuisance Issue with Proposed Bio-filter Wetland	4
4. Review Comments on the June 2005 Draft Report and DEIS	
a. HTRW Considerations	5
b. Compliance with Environmental Requirements	9
c. Independent Technical Review	10
d. Real Estate	11
e. Appendix D, Real Estate Plan	11
f. Relationship of Upland Areas to Aquatic Restoration Benefits	16
g. Habitat for Federal Listed Species under ESA	22
h. Evaluation of Building Blocks	23
i. Recreation	25
j. Future Without Project Condition	26
k. Restoration Benefits	28
l. CE/ICA, Table 6A	28
m. Screening of Plans	33
n. Average Cost of Remaining Plans	33
o. Cost Estimate	34

**Documentation of Review Findings
Hudson-Raritan Estuary, Liberty State Park
Final Integrated Feasibility Report and Environmental Impact Statement**

1. BACKGROUND

a. Policy Compliance Review Findings. The following summarizes the final HQUSACE policy compliance review findings for the final feasibility report and final environmental impact statement on the proposed ecosystem restoration project for Liberty State Park. This summary includes the concerns and the related resolutions of those concerns for the HQUSACE reviews of the October 2005 final feasibility report and FEIS and the June 2005 and August 2005 draft feasibility report and draft EIS. In the opinion of the policy compliance review team, all policy review concerns have been adequately addressed for this phase of project development. The final report review information was documented in the CECW-PC Project Guidance Memorandum dated November 17 2005. The documentation that follows comprises the HQUSACE policy compliance review record.

b. Authority. The study is being carried out under the authority of a resolution of the Committee on Transportation and Infrastructure of the U.S. House of Representatives, dated 15 April 1999.

c. Study Purpose. The Liberty State Park project area is within the scope of the ongoing comprehensive Hudson-Raritan Estuary study. The Liberty State Park site has been identified as a “building block”, i.e., a project that could be built while the larger Hudson-Raritan Estuary study is still being formulated. The purpose of the “building block” projects would be to facilitate the implementation of important near-term ecological benefits in the estuary.

d. Plan Formulation. A total of 10 different management measures were developed for three different habitat types that could be implemented at the site, consisting of tidal creek/salt marsh, freshwater wetlands and uplands. The various combinations of these measures and the no-action alternative were developed into a suite of 25 alternatives. These 25 alternatives were evaluated using the CE/ICA process and other tools, and 3 alternatives were identified as possible solutions.

e. Study Recommendation. The tentatively selected NER plan is Alternative 20, as shown on Figure 6.4, page 82 of the report.

f. Project Cost Estimates. The estimated initial cost for the NER plan is \$31,687,000, as shown on Table 9.1, page 121 of the report. The Federal share of the project cost would be \$20,591,000 (65%). The non-Federal sponsor for the construction of the project, the New Jersey Department of Environmental Protection (NJDEP), would provide \$11,088,000 (35%) of the project cost.

g. October 28, 2005 teleconference call. A teleconference call between CENAN, NAD and HQUSACE was held on the morning of 28 October 2005 in an attempt to clarify and resolve a number of outstanding issues with the Liberty State Park project prior to the Civil Works Review Board presentation scheduled for 31 October 2005. All outstanding issues were resolved in concept, and HQUSACE agreed that the existing final report could be released for State and Agency review in order to keep the project on schedule for contingent authorization should a Water Resources Development Act be passed for 2005. Given the need to document the issues resolved in concept during the teleconference call, HQUSACE asked that the final feasibility report and final environmental impact statement be revised to incorporate the agreed-upon resolutions concurrent with the State and Agency review period. Further, HQUSACE asked that the revised feasibility report and final environmental impact statement be submitted for HQUSACE review and approval prior to the signing of the chief's report. All parties agreed to this request, and agreed to work together using the vertical team process as needed to accomplish this task.

2. HQUSACE Policy Review Comments on the Final Feasibility Report and EIS.

a. Mr. Frank Gallagher, representing the non-Federal sponsor during the Civil Works Review Board meeting of 31 October 2005, stated that the Liberty State Park site is located on lands purchased with Land and Water Conservation Act Funds. This statement of the non-Federal sponsor appears to be at odds with the table on page 129 of the final feasibility report, that shows an N/A designation with regard to the Land and Water Conservation Fund. The status of any LWCA lands on the project site should be clarified. Should the project site include LWCA lands, the revised report should add new text explaining the extent of LWCA lands, and should also include documentation that the Corps has coordinated with the Secretary of the Interior, to insure that the Secretary concurs that any land conversions (including restoration activities) undertaken on the project site are compatible with LWCA lands. The concurrence of the Secretary of the Interior with the recommended plan is a critical point of compliance with the LWCA.

Action: The New Jersey Green Acres Bureau of Planning and Information, the agency in charge of administering LWCA monies in the state, has determined that the proposed restoration of Liberty State Park is in keeping with the LWCFA encumbrance of the property.

HQUSACE Assessment: The issue is resolved.

b. Mr. Gallagher mentioned at one point during the October 31, 2005 Civil Works Review Board meeting that the non-Federal sponsor had money to meet the cost-share requirements, and that this money was derived, in part, through various grants. The revised final report should provide assurance that the grants referred to by Mr. Gallagher are not Federal grants. Normally, Federal grants cannot be used to fund a non-Federal cost share, unless the sponsor obtains a letter from the granting agency specifically authorizing the use of the grant for this purpose.

Action: A \$1.5 million grant for the restoration and enhancement of the fresh water wetlands component of the Liberty State Park plan was the result of an application to the New Jersey Freshwater Wetlands Mitigation Council. The Council receives funds through wetland damage

assessments. The collected monetary contribution dollars are deposited into the Wetland Mitigation Fund. (13:9B 9B-14. of the New Jersey Wetlands Act). The Council is responsible for the management and disbursement of dollars from the Wetland Mitigation Fund to finance mitigation projects. The Council has the power to purchase land, to provide areas for enhancement or restoration of degraded freshwater wetlands, to engage in the enhancement or restoration of degraded freshwater wetlands on any public lands, including public lands other than those acquired by the Council, and to preserve freshwater wetlands and transition areas determined to be of critical importance in protecting freshwater wetlands.

HQUSACE Assessment: HQUSACE has determined that the grant discussed above originates from non-Federal sources. The issue is resolved.

3. HQUSACE Policy Review Comments on the August 2005 Draft Documents.

1. Discrepancy in acreage of restored areas. The acreage of habitats restored as stated in the Foreword do not correspond to the figures given in the Recommended Plan section of the report in section 8.1, page 116.

Action: The discrepancy has been corrected.

HQUSACE Assessment: The issue is resolved.

2. Study of urban forestry. The second page of Foreword, last complete paragraph, states that the restoration of maritime forest at this site will provide a unique opportunity for a long-term study of urban forestry. This statement should be revised to clarify that this opportunity may be pursued by other parties, but will not be done as part of the recommended project.

Action: The foreword was revised accordingly:

“The restoration of maritime forest at this site will provide a unique opportunity for a long-term study of urban forestry, which is not part of the recommended plan, but may be pursued by other parties.”

HQUSACE Assessment: The issue is resolved.

3. Attractive nuisance issue with proposed bio-filter wetland. The bio-filter wetland, as discussed on page 96 of the report, would be designed to remove particulate pollutants, phosphorus and nitrogen. HQUSACE notes that the design of this wetland would make it attractive to waterfowl and other animals, and we request that the report address the degree to which this wetland would have the potential to adversely affect wildlife species (i.e., would be an attractive nuisance).

Action: The bio-filter wetland is composed of *Phragmites australis*, which is notable for its general lack of attractiveness for most species, and is thus unlikely to adversely affect wildlife species. This aspect of the biofilter has been added to its description

HQUSACE Assessment: The issue is resolved.

4. HQUSACE Policy Review Comments on the Draft Documents.

a. HTRW Considerations. The project as formulated does not appear to be consistent with general Corps policy as set forth in paragraph 6.b. of ER 1165-2-132, which states that construction of Civil Works projects in HTRW-contaminated areas should be avoided where practicable. It is not clear why it is not practicable to develop environmental restoration and protection alternatives within the New York and New Jersey Port District that avoid HTRW. Further, as required by paragraph 8 of ER 1165-2-132, at least one alternative plan should be formulated to avoid HTRW sites to the maximum extent possible, consistent with project objectives. Subparagraph 14.b.(2) of EP 1165-2-502 provides that Civil Works project funds are not to be employed for HTRW-related activities. Corps participation in cost-shared cleanup as part of water resources development is limited to situations where such participation will not result in the Corps being liable under CERCLA or require its involvement with RCRA hazardous waste. Subparagraph 6.b.(1) of ER 1165-2-132 requires that the local sponsor 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.

Also, Section 5.2.2.3, page 60 of the report, Environmental Criteria, contains a reference to ER 1165-2-132, regarding considerations of contaminants in planning CW projects. The text specifically references applicability to the PED and Construction phases, but appears to omit the applicability to the plan formulation stage. The ER states, in part, “*Construction of Civil Works projects in HTRW-contaminated areas should be avoided where practicable.*” The plans formulated in this study must be evaluated for compliance with this requirement.

CENAN Initial Response: Based upon preliminary testing and in accordance with ER 1105-2-100, ER 1165-2-501, ER1165-2-132, and PGL 34, the dredged materials previously placed on the site are not classifiable as HTRW materials for purposes of CERCLA. Additional site characterization testing during PED will serve as the basis for any cost apportionment adjustments, as warranted.

The actions in the recommended plan do not fall under the category of HTRW responses, as defined by section 4b of the Hazardous, Toxic and Radioactive Waste (HTRW) Guidance for Civil Works Projects (ER1165-2-132), which defines the response action for HTRW as including “remediation and removal.” No material is being removed from the site, and remediation does not apply to Liberty State Park, as will be detailed below.

Liberty State Park is formulated as a restoration project, not remediation, according to the guidance in Civil Works Ecosystem Restoration Policy (ER1165-2-501), part 15: “Remediation differs from ecosystem restoration in terms of goals and decision frameworks. Remediation, or site cleanup of hazardous, toxic and radioactive waste (HTRW), is typically for the purpose of meeting some target criteria for contaminants or regulatory condition related to human health and safety, rather than for ecosystem quality.” The goals of the Liberty State Park study featured

restoration and protection of degraded aquatic habitat, rather than target criteria for contaminants related to human health and safety, which was not a project goal in the formulation process.

The materials at Liberty State Park do not fall under the classification of HTRW per HTRW Guidance for Civil Works Projects (ER1165-2-132). ER1165-2-132 defines HTRW as any material listed as a “hazardous substance” under CERCLA except for “dredged material and sediments beneath navigable waters proposed for dredging” (4a(1)). The ACOE project area covered by the Consent Decree is referred to as the “dredged materials area” (Part 25). Additionally, this dredge material is not within the geographical boundaries of a CERCLA site (4a(2)). Descriptions of the deposition sequence of dredged materials can be found in the Environmental Appendix of the Feasibility Report/Environmental Impact Statement, in the *Final Phase 1 Environmental Site Assessment (ESA) of Priority Sites, Part 1 - Liberty State Park, Jersey City, New Jersey*, Section 7.4.2.2. The dredged material in question comes primarily from a previous ACOE project at Liberty State Park to create the Liberty Walk seawall in the 1980s. The ESA describes in further detail how the material was determined by USEPA and NJDEP to be non-hazardous. The materials at Liberty State Park under the Consent Decree are not HTRW under CERCLA, which is covered by the guidance in ER1165-2-132. Therefore, cost-sharing provisions detailed in this guidance are not applicable to Liberty State Park.

Given the situation, the appropriate guidance to apply to Liberty State Park is Planning Guidance Letter 34, Non-CERCLA Regulated Contaminated Materials at Civil Works Projects. As directed in PGL 34, part 2: “For all contaminants not regulated under CERCLA, but for which there is a validly promulgated Federal, State, or local requirement necessitating special action which would apply to the Government and others pursuing similar initiatives, the cost of the special action necessary to comply with the requirements will be included in project cost.” Under this guidance, the ecosystem restoration plan at Liberty State Park has been properly formulated with respect to cost-sharing between the Federal and non-Federal partners.

During the course of additional testing during the PED phase, if material governed by CERCLA or RCRA is observed, cost apportionment will be modified as necessary in accord with regulations.

Discussion: HQUSACE advised that PGL 34 had been superseded and the guidance to use in the situation is ER1165-2-132, namely Section 4 (the definition of HTRW) and Section 6 (guidance that HTRW should be avoided to the extent practicable). The clause 4a(1) of ER1165-2-132, which provides an exemption for dredged material, is not applicable because the dredged material has been on land for a period of time. HQUSACE expressed concerns about the potential liability issues, specifically that USACE should not be involved in actions for which NJDEP would be the responsible party, such as the one foot cap mentioned in the Consent Decree. A few other actions in the tentatively recommended plan were cited as creating the impression that New York District is participating in remediation.

CENAN re-affirmed the purpose of Liberty State Park as restoration, not remediation. The proposed actions do not differ from restoration projects. The New York District used ecological guidelines, not CERCLA/RCRA, in determining necessary restoration actions at LSP. For instance, the cap over the dredged materials is for site preparation to give the plantings a better

chance of surviving and not for remediation. However, in this case, the restoration actions will incidentally solve the contaminants problem.

Additionally, CENAN clarified that this is not a CERCLA or HTRW site. There are levels of materials that are listed under CERCLA, but not at CERCLA action levels. This case has implications for all projects in the New York area, because substances listed under CERCLA are present everywhere in the New York District area, but not at Federal action levels. CENAN looks forward to more coordination with and guidance from HQUSACE on how to approach this situation. The mention of RCRA in the Consent Decree may have contributed to concerns about USACE involvement at Liberty State Park. The Consent Decree mentions RCRA to give the Federal courts jurisdiction over the case, and in no way constitutes any finding that this is a RCRA site. NJDEP is not a Responsible Party in the CERCLA/RCRA sense. Indeed, Paragraphs 1-3 specifically state the Consent Decree shall not be construed as an admission of any violation of RCRA, CERCLA, or any other statute.

Regarding paragraph 6b of ER1165-2-132, which recommends the avoidance of HTRW at Civil Works sites to the extent practicable, the study team narrowed the restoration study area from the approximately 520 terrestrial acres to 234 acres, avoiding 286 acres that, among other items, contain two chromium sites and other areas of concern also mentioned in the Consent Decree. Study of the dredged materials area was necessary for meeting aquatic habitat restoration goals and was therefore included in the formulation despite the presence of contaminants.

The key points in dealing with HTRW are that the Corps will not participate in remediation of CERCLA or RCRA materials as part of a water resources project, projects will be designed to limit (avoid) incurring any Federal liability relating to HTRW, the cost of clean up of materials not covered by CERCLA and RCRA will be considered when determining if the proposed project is justified, and a Federal project is not to be used to implement or pay for actions that are clearly the responsibility of another party. The District has established that the materials in question are not of a nature that they are regulated under CERCLA or RCRA. The report provides basic background on past uses of the study area and indications of several types of contaminants in the area. Given the situation with the Interfaith Community Organization lawsuit and the resulting Consent Decree, it is clear that at least some of these materials is of significant concern to the general public and any proposed project can expect continued public scrutiny. Also significant portions of the proposed project including the north cove, the tidal wetlands, and a significant portion of the surrounding upland areas where excavated materials from the tidal wetlands are placed have as part of their design a minimum of one foot of clean cover to provide a suitable growing substrate. It is not as clear if the remaining upland and fresh water wetland areas have any similar requirements as part of the proposed project or as a result of the consent decree. The CENAN response to comment f. indicates existing concerns within upland areas and potential for contaminated run-off. To address these issues, the report needs to be significantly revised to fully address issues related to the presence of HTRW, liability concerns, and identification of additional costs relating to handling HTRW materials.

Action: CENAN will revise the report to clarify in the HTRW section the nature and extent to which HTRW and, specifically, hazardous substances as defined in section 101(14) of CERCLA (42 U.S.C. § 9601(14)) are present in the soil or ground or surface water. CENAN will further

revise the report to clarify that the project lands have not been determined by Federal, state, or local regulators to require cleanup under CERCLA or RCRA. CENAN will clearly identify areas where there are materials of potential concern, both in terms of surface and subsurface locations that may affect formulation of a plan. The report requires additional background formulation context to better explain how the study team avoided contamination to the extent practicable. For any project features that involve disturbing HTRW, the report needs to identify any increased costs associated with handling contaminated materials and explicitly state the cost-sharing implications. With respect to the consent decree between the non-Federal sponsor and Interfaith Community Organization, the report must identify any non-Federal requirements associated with activities on the affected property and the responsible parties. If the proposed project actions impact areas or materials covered by the consent decree, the report must fully explain the necessity for the actions, how the plan addresses or obviates the requirements of the decree, and any impacts on project cost sharing resulting from responsibilities imposed by the decree. This would include at a minimum expanding on the ecological roles of the cap and other restoration components that currently appear to be HTRW response or corrective actions.

Regarding the NJDEP's responsibilities, the non-Federal sponsor will be required to indemnify the Government for all response costs for which the Government is found liable under CERCLA as part of any Project Cooperation Agreement, except for such response costs which result from the negligence of the Government or its contractors during construction.

Extent of Compliance: These issues are discussed in the foreword to the draft report. Additional text changes in the main body of the text will be completed for the final feasibility report.

HQUSACE Assessment: The concern is partially resolved. The District indicates that the issues in the required action are discussed in the forward to the draft report. It does not appear from the nature and extent of the discussion that additional text changes are likely to be made to the main body of the final feasibility report that will sufficiently address the issues raised in the HQUSACE Policy Compliance Review Comment. For example, the forward indicates that "contaminants are present but not at high enough levels to classify as HTRW under CERCLA/RCRA." The designation of a substance as hazardous under CERCLA does not depend upon its concentration in a particular medium such as soil or groundwater. Substances designated as hazardous in 40 C.F.R. § 302.4 should be considered HTRW for civil works project planning purposes and the definition of HTRW set forth in paragraph 4.a. of ER 1165-2-132. The fact that there may not be a release or threatened release of a reportable quantity and that a response or corrective action is not required under CERCLA or RCRA or other environmental laws and regulations is pertinent to the discussion of the issues posed by the presence of HTRW in the study area but it is not determinative of whether there is HTRW present. The forward indicates that two contaminated sites were avoided (Chromium Site 15 and Chromium Site 17) but it does not indicate that it was impracticable to develop environmental restoration alternatives that avoid HTRW in the study area. Lastly, it is unclear from the forward whether there will be any discussion of the impact, or lack thereof, of HTRW and/or the consent decree on material handling requirements, costs or cost sharing.

Action: The following text has been added to the foreword and to Section 3.12 HTRW of the report:

There are substances listed under CERCLA/RCRA on the within the study area, but not at high enough levels to require CERCLA/RCRA action. It was not possible to avoid these substances during the formulation of complete and ecologically sensitive restoration measures

HQUSACE Assessment: The issue has been resolved in concept, pending additional clarification in the text of the report to be accomplished during the State and Agency review period. HQUSACE requests that additional text be added to the report explaining the steps that CENAN took to avoid HTRW areas, and why the recommended plan is the most feasible plan to pursue, even though it includes some parcels containing HTRW materials. Specifically, the revisions should address why total avoidance was impracticable at this site, and also explain that while some HTRW materials would be excavated as part of the restoration effort, this action would not trigger the need to comply with CERCLA or RCRA.

Action: Passage revised for HTRW section (p.52) and in the beginning of the Plan Formulation section (p.64)

The study team screened approximately 520 terrestrial acres at Liberty State Park to arrive at 160 acres of direct project area, avoiding 360 acres that, among other items, contain two chromium sites. It should be noted that the busy industrial history of New York Harbor has left its imprint throughout the region in the ubiquitous nature of contaminants in the water and land. Accordingly, there are substances listed under CERCLA/RCRA within the study area, but not at high enough levels to require CERCLA/RCRA action. The consideration of the 160 acres was necessary for meeting aquatic habitat restoration goals and was therefore included in the formulation despite the presence of contaminants. Excavation of these materials will not trigger any CERCLA/RCRA action.

HQUSACE Assessment: The issue is resolved.

b. Compliance with Environmental Requirements. Section 11 of the draft report indicates that a number of environmental statutes such as CERCLA, SARA, and RCRA are not applicable to the project. The list should be re-evaluated for the applicability of the statutes referenced therein. There is apparently a consent decree entered into by the State of New Jersey as a result of a complaint filed in the U.S. District Court by Interfaith Community Organization alleging that areas of Liberty State Park constituted an imminent and substantial endangerment to health or the environment under Section 7002(a)(1)(B) of RCRA.

CENAN Initial Response: The Interfaith Community Organization used the citizen lawsuit provision in RCRA to file claim against NJDEP. Section 7002(a)(1)(B) of RCRA is that statute's citizen lawsuit provision. It was cited to confer standing on the Interfaith Community Organization. It is not a substantive provision of RCRA. Moreover, Paragraph 2 of the Consent Decree recites that the parties do not make any admission of law, fact, or liability, and Paragraph 3 recites that no law, fact, or finding of liability has been finally adjudicated by the court. The Consent Decree does not constitute a legal admission of liability for CERCLA, SARA or RCRA purposes, and as such since no designation exists, Section 11 of the draft report contains the appropriate and applicable statutes. NJDEP has complied with all of the requirements of the

Consent Decree. Guidance is issued that must govern all on-site activities. The Areas of Concern in the Consent Decree were avoided to the extent possible.

Discussion: See related discussion in comment 2.a. No additional discussion is provided.

Action: The report should clearly and accurately address the need for and compliance with all appropriate environmental requirements.

Extent of Compliance: Noted. Section 11 of the main report addressed relevant requirements.

HQUSACE Assessment: The District's action does not resolve the concern. It's unclear why RCRA, for example, continues to be shown as not applicable in section 11 of the report if, as the District indicates in the forward, a Federal court determined it had jurisdiction under RCRA to approve a Consent Decree involving measures to address contamination of the site of the proposed project.

Action: The following text was added to Section 11:

C* Resource Conservation and Recovery Act of 1976 (42 USC 6901-6987)

* Although Liberty State Park is not a RCRA site, RCRA is noted because it was used for determining Federal jurisdiction in the matter of the Consent Decree. The mention of RCRA in the Consent Decree in no way constitutes a finding of fact or law that this is RCRA site.¹ Implementation of the recommended project will satisfy the Consent Decree and any requirements of RCRA.

HQUSACE Assessment: The proposed change to the text in the final report resolves the concern.

c. Independent Technical Review. The Real Estate Study Member shown on page vii of draft report is the same individual who signed the Certification of Review for the Chief, Real Estate Division. It is not clear whether the real estate aspects of the proposed project received an independent technical review.

CENAN Initial Response: Noted – appropriate ITR documentation for Real Estate will be provided.

Discussion: None

Action: CENAN-RE will provide a Certification of Review signed by someone other than the Real Estate Study Team Member.

Extent of Compliance: Appropriate Certification of Review has been documented.

HQUSACE Assessment: The issue is resolved

¹ Stated in Paragraphs 1-3 of the Consent Decree.

d. Real Estate. The nature of the LERRD requirements and the estimated value thereof as stated in Section 8.2 of the draft report should be re-evaluated in light of the comments on the Real Estate Plan, below.

CENAN Initial Response: Please see answer to comment 2.e.2).

Discussion: See responses to comments on the Real Estate Plan.

Action: CENAN-RE should re-evaluate the LERRD requirements and the estimated value thereof.

Extent of Compliance: The Real Estate Appendix has been revised along with Section 8.2 of the main report. The conclusion remains that LERRD is \$0, but additional justification is provided.

HQUSACE Assessment: The issue is resolved. The text added in response to comment 2.e.2, below has resolved the issue.

e. Appendix D, Real Estate Plan (REP).

1) Study Authority. The authority cited in paragraph A of the Preamble is study authority rather than project implementation authority. The reference should be clarified.

CENAN Initial Response: Concur – the cited Authority will be corrected.

Discussion: None.

Action: The nature of the authority cited should be clarified.

Extent of Compliance: The REP has been revised accordingly.

HQUSACE Assessment: The issue is not resolved. The Real Estate Plan still states that "Hudson-Raritan Estuary Ecosystem Restoration was authorized..." and then goes on to cite a House resolution. The issue could be resolved by indicating that the *study* was authorized by the resolution, as stated in Section 1.1 of the main report.

Action: The REP has been revised with the insertion of "study" after "Ecosystem Restoration."

HQUSACE Assessment: The issue has been resolved by the above change to the text.

2) LER Requirements. Paragraphs 2.C. and 4. of the REP identify a temporary work area easement as the only LERRD required for the project. This seems to confuse LERRD requirements with LERRD ownership. The lack of a need to *acquire* a particular interest in real property for a project does not mean that such an interest is not *required* for the project. This concept is fundamental to the real estate planning effort. With regard to Paragraph 17.b of EP 1165-2-502 that states "Complete and permanent control over the future use of lands required for an environmental project or feature is typically required for the long-term implementation of

such project or feature. Therefore, the interest in real property generally necessary to support permanent environmental features is fee simple, using the standard fee simple estates contained in Chapter 5 of ER 405-1-12." This paragraph also states that lesser interests may be appropriate, provided that a justified proposal for a lesser interest is included in the Real Estate Plan for the decision document. The REP for the project does not appear to contain such a justification. Similar guidance is found in ER 1105-2-100, paragraph E-30.j.(1) and ER 405-1-12, paragraph 12-9.b.(6). The acreage of the estate(s) required for the project also should be stated.

CENAN Initial Response: Concur. Fee simple acquisitions or in some cases permanent conservation easements are generally required for ecosystem restoration projects. Since the non-Federal sponsor owns and controls these lands, there will be no expense involved in acquisition, but the areas will require project designation. As such, the report will be revised to indicate these necessary estates.

Discussion: None.

Action: CENAN should revise the report to include appropriate description of necessary estates and, if needed, justification for lesser interests than fee simple. The acreage of the estate(s) required for the project also should be stated.

Extent of Compliance: The draft report and REP have been revised for non-standard conservation easements.

HQUSACE Assessment: The District's action does not resolve the concern. The justification for a non-standard estate is wholly lacking. Citation to another project where a non-standard estate was approved is not sufficient. The project requirements and facts and circumstances of the proposed project supporting the recommended less-than-fee interest are not presented. Thus, we believe the standard fee state is appropriate.

Action: The report and REP have been revised for standard fee state.

HQUSACE Assessment: The proposed revision for standard fee in the final report resolves the concern.

3). LER Value. The value of the LER in paragraph 2.D. of the REP must be reconsidered in light of Comment 2.e.2), above.

CENAN Initial Response: Noted. The issue of LER value and crediting is complicated by a number of factors. If the subject LER had an alternative use other than project utilization, then a value and LER credit would be ascribed to the estates. However, assumptions were initially made concerning land use limitations, and this documentation may be provided for clarification. The prior entity charged with investigating potential development options within the Park has been dissolved by the State of New Jersey, giving credence to their assertion that parkland will remain parkland. Furthermore, Green Acres and Land and Water Conservation funds were utilized in the creation and enhancement of this site. As such, the lands involved must

predominantly remain for conservation and recreation purposes without diversion, in accord with the Liberty State Park charter. The REP will be revised to clarify the LER issues and why no LER credit was apportioned.

Discussion: None.

Action: The REP will be revised to clarify the factors affecting the estimated value of LER for crediting purposes including LER previously provided as an item of local cooperation; with Federal funds; or contaminated with hazardous substances or waste. The REP will also be revised to clarify why any non-economic highest and best use assumptions are appropriate and consistent with paragraph 4-7.b. of ER 405-1-12 and Section B-3, *Uniform Appraisal Standards for Federal Land Acquisitions*, Interagency Land Acquisition Conference (2000).

Extent of Compliance: The REP and Section 8.2 of the main report have been revised.

HQUSACE Assessment: The issue is not resolved. A number of the factors apparently offered in support of the \$0 estimated LERRD value would appear to have nothing to do with fair market value i.e. the sponsor owns the LER required for the project and the LER required was acquired more than five years ago. The concept of offsetting benefits is hinted at but its application should be clarified e.g. whether it relates to the requirements of the Consent Decree. The issue of the non-economic highest and best use assumption is not addressed at all.

Action: Section 8.2 of the report has been revised to read:

“As described in the Real Estate Plan (Appendix D) and summarized in Table 8.2, the prospective non-Federal sponsor, NJDEP, owns all the lands within the project boundary lines. Accordingly, no further acquisitions of real property, or interests in real property (including site access), are required for this project. Upon signing a PCA, the Corps (NY District) will provide the Sponsor with a legal description of the required project area (approx. 234 acres) and NJDEP, in turn, will submit a formal *Authorization for Entry for Construction* to the NY District. As a State Park, the project area’s highest and best use is as State Parkland. It is limited by New Jersey law (NJSA 13:8A-48) to open space uses and is precluded from non-park related uses and from ordinary commercial, industrial, or residential development. Neither can it sold by the State except under specific, limited circumstances. Because the 1) landowner’s (Sponsor’s) utility derived from the land will be enhanced (rather than diminished) by the proposed project, 2) the project would result in no greater restrictions on the land than are currently in place under New Jersey law, and 3) the Sponsor-owned land was acquired more than five years ago, for cost-sharing crediting purposes, the estimated value of the Project LERRD is zero (\$0).”

The Real Estate Plan has been revised accordingly.

HQUSACE Assessment: The comment has been resolved in concept, but revisions to the text of the report/REP are needed to clarify the issue of LER values. Specifically, the revisions should explain how the highest and best use of the site as state parkland translates into a \$0 value estimate, and how this determination is consistent with the provision on non-economic highest and best use assumptions in paragraph. 4-7.b of ER 405-1-12.

Action: As described in the Real Estate Plan (Appendix D) and summarized in Table 8.2, the prospective non-Federal sponsor, NJDEP, owns all the lands within the project boundary lines. Accordingly, no further acquisitions of real property, or interests in real property (including site access), are required for this project. Upon signing a PCA, the Corps (NY District) will provide the Sponsor with a legal description of the required project area (approx. 160 acres) and NJDEP, in turn, will submit a formal Authorization for Entry for Construction to the NY District. As a State Park, the project area's highest and best use is as State Parkland. It is limited by New Jersey law (NJSA 13:8A-48) to open space uses and is precluded from non-park related uses and from ordinary commercial, industrial, or residential development. Neither can it be sold by the State except under specific, limited circumstances. Because the 1) landowner's (Sponsor's) utility derived from the land will be enhanced (rather than diminished) by the proposed project, 2) the project would result in no greater restrictions on the land than are currently in place under New Jersey law, and 3) the Sponsor-owned land was acquired more than five years ago, for cost-sharing crediting purposes, the estimated value of the Project LERRD is zero (\$0).²

4). Maps. The maps referenced in paragraph 8 of the REP were not found.

CENAN Initial Response: Concur. The map reference will be corrected so that the narrative text in Paragraph 8 and the actual attached maps conform.

Discussion: None.

Action: CENAN will correct the map reference so that the text in Paragraph 8 and the attached maps conform.

Extent of Compliance: Maps have been included with references.

HQUSACE Assessment: The issue is resolved.

5). Utility Relocations. Paragraph 16 of the REP indicates that there are no anticipated facility or utility relocations. Section 3.13 of the draft report, however, indicates that a utility plan of Liberty State Park produced by PANYNJ in 1975 shows subsurface electrical, water, telephone, and sanitary sewer service throughout the project area. Paragraph 20.c. of the REP, which indicates that there are no known existing encumbrances, may also require revision in this regard.

CENAN Initial Response: Although there is a subsurface sanitary sewer in the park, it will not be affected in any way by the actions associated with implementation of the recommended plan, as this sewer falls outside of the proposed excavation areas, and implementation will not obstruct access to this line. Section 3.13 of the draft report will be modified to clarify this point. Paragraphs 16 and 20.c. of the REP do not require revision in this regard.

Discussion: None.

² This determination is consistent with the provision on non-economic highest and best use assumptions in paragraph. 4-7.b of ER 405-1-12.

Action: CENAN will modify section 3.13 of the draft report to clarify that a review of the utility plan indicates either (1) that no utilities not otherwise identified as relocations or removals are located within the boundaries of the proposed project or (2) that any utilities located within said boundaries and not otherwise identified as relocations or removals do not require alteration, relocation or removal and section 3.13 will be modified to explain why they do not.

Extent of Compliance: Section 3.13 of the main report has been revised to clarify that the utilities would be unaffected.

HQUSACE Assessment: The issue is resolved.

6). Hazardous, Toxic and Radioactive Waste (HTRW). Paragraph 17 of the REP references an Exhibit "D" which was not found. See also Comment 2.a., above. The effect, if any, of HTRW on the value of project LERRD under applicable crediting rules should be discussed in accordance with paragraph 12-16.c.(17) of ER 405-1-12.

CENAN Initial Response: HTRW is not anticipated to have an effect on the value of project LERRD because it is not present. Please see response to comment 1 regarding HTRW. Exhibit D will be attached to the REP.

Discussion: See comment 2.a.

Action: CENAN will attach Exhibit D to the REP and discuss, as appropriate, the effect, if any, of any HTRW contamination on the value of LER.

Extent of Compliance: Exhibit D has been attached to the REP.

HQUSACE Assessment: The issue is not resolved. An Exhibit "D" is still referenced in section 17 of the Real Estate Plan, but no such exhibit was found. It is not listed as an Exhibit in the Table of Contents. We disagree with the statement that there is no HTRW in the project area. See Comment 2.a., above.

Action: Exhibit D has been deleted from the table of contents, as it can also be found in Appendix B. The statement on HTRW has been added to the REP section 17.

HQUSACE Assessment: The proposed change to the text in the final report resolves the concern.

7). Notification to Non-Federal Sponsor. The typographical error in paragraph 19 of the REP involving the timing of the sponsor notification should be corrected.

CENAN Initial Response: Concur. The typographical error in paragraph 19 will be corrected

Discussion: None.

Action: CENAN should correct the typographical error in paragraph 19.

Extent of Compliance: Noted. Typographical error corrected.

HQUSACE Assessment: The issue is resolved.

f. Relationship of upland areas to aquatic restoration benefits. A strong rationale and justification is needed to support the inclusion of the proposed upland habitats to the aquatic restoration objectives. This task is very important because 163 acres of the 234 acres proposed for restoration are described as upland habitat. As stated in paragraph 7.1 of EP 1165-2-502, those restoration opportunities that are associated with wetlands, riparian and other floodplain and aquatic systems are likely to be most appropriate for Corps involvement.

CENAN Initial Response: Noted. The primary restoration objective is associated with tidal and freshwater wetlands creation, about 70 acres. Beneficial reuse of material excavated from the tidal creek will be placed on site to create an upland berm of about 50 acres, an incidental benefit. This is considered a beneficial reuse of the dredged materials in the containment area, and the berm serves to control runoff that may lead to water quality and habitat degradation. The berm further includes recreational features as a viewing platform (not Federally funded). The remaining upland habitat (50%) actually comprises a small percentage of project effort (less than 10%) for enhancement of terrestrial communities that would act as a buffer zone to protect the primary wetlands, aquatic and riparian systems from encroachment by invasive species. The Pertinent Data sheet containing the figure of 163 acres will be revised to clarify the associations between terrestrial and aquatic habitat.

Discussion: HQUSACE requested more detail in the discussion of the relationship of the upland areas to the aquatic portions, and recommended focusing the least cost placement aspect of the berm for the tidal system. This is an important issue with relation to ultimate approval and future budgeting for the project. Portions of the upland habitat are actually seasonally produced wetlands, appearing during the summer and drying up in the winter. Accordingly, work on the upland habitat (especially in the south east quadrant of the restoration study area) is also work on freshwater wetlands. It is worth noting that the berm will funnel water to these seasonal freshwater wetlands, producing a more reliable source of freshwater than currently exists.

As indicated, Corps involvement in ecosystem restoration opportunities should be associated with wetlands, riparian, and other floodplain and aquatic systems. Further, there must be a strong demonstration of the significance of the resources to be restored, specifically to the proposed site. HQUSACE concurs that the proposed habitat types have public, scientific, and national significance, but that does not automatically mean a particular project is worth Corps participation at any cost. The project as presented is essentially construction of about 70 acres of priority habitat types (submerged aquatic habitats – 13.5 acres, tidal wetland habitats – 31.6 acres, and freshwater wetlands – 25.6 acres) with surrounding upland habitats (163.3 acres) providing a buffer and other habitat related benefits. Although approximately 82% (\$25,995,000) of the project cost is associated with the construction of the 32 acres of tidal wetlands at a cost of roughly \$823,000 per acre. There have been two recent examples in NAD alone, Muddy River, Massachusetts, and Flushing Meadows, New York, in which the Assistant Secretary has not supported ecosystem restoration projects at similar costs. The Office of Management and Budget is on record as not supporting habitat restoration projects that are

significantly less costly. Arguments can be made for the importance of the entire mixture of aquatic and upland habitats both directly within the proposed project construction footprint as well as the surrounding habitats in the overall Park area as well as the harbor. Such discussions may ameliorate the first blush high project cost. However, the report as written does not provide any convincing arguments. Nor do we believe this can be done with minor cosmetic changes to the existing report write-up.

There are also concerns with relation to the effectiveness of the proposed project. Two significant adverse conditions are cited in the discussions of the existing and without-project conditions. These include the relative isolation of the proposed site, limiting the movement of mainly terrestrial species, and the adverse affects of discharges from the Morris Canal area with effluent from combined sewer overflows. For the most part, nothing in the proposed plan would appear to change these conditions. Additionally, the report is weak on its discussion of the relation of the work at this particular site to other areas of similar priority habitat that might identify how this site could be important in migration of individuals or populations, or that there may be a significant population nearby that may be able to take advantage of this more isolated site.

Action: CENAN will revise the report to focus on the least cost placement aspect of the dredged materials in the description of the berm. Additionally, CENAN will also expand on the need for preserving enough upland habitat for the six state listed species that currently use the site, and will clarify that portions of the upland habitat are actually seasonally produced wetlands, appearing during the summer and drying up in the winter.

Additional information must be included to fully demonstrate the significant of habitat development at this site that would justify the high per acre cost of the project. This discussion should include additional information on existing and potential areas of similar habitat in the full HRE study area.

Extent of Compliance: This comment is addressed in the foreword of the main report.

HQUSACE Assessment: The issue is not resolved. HQUSACE notes that approximately 70% of the total restored acreage, and 38% of the total habitat outputs from the project, derive from upland habitat types. HQUSACE concerns are summarized as follows:

- There is little information in the report tying the ecosystem outputs of the upland areas to improvements in the functions of the proposed aquatic restoration sites. Adding upland habitats to a Corps ecosystem restoration plan is OK, provided that it can be demonstrated that these upland areas significantly enhance the functions of the wetland areas. Based upon review of the report, and especially the review of Appendix B, this demonstration has not been accomplished. Pages 116 through 119 of Appendix B discuss the benefits of the various upland communities, but do not address the beneficial interaction between the upland and wetland communities.

Other than a few references to the use of both uplands and wetlands by the northern harrier, the report is silent on the upland/aquatic relationship. In addition, referring to

the upland habitats as “maritime grasslands” and “maritime forest” does little to support a functional link between the upland and aquatic components. Based upon the review of the guidance of paragraph 7.1 of EP 1165-2-502, as reinforced by the 29 July 2005 memorandum from Assistant Secretary of the Army John Paul Woodley, Jr. (see Attachment), HQUSACE does not believe that the report has demonstrated that the proposed upland restorations are appropriate for Corps participation. These upland components would be appropriate as part of a locally-preferred plan, with the non-Federal sponsor paying 100% of the costs.

- HQUSACE questions whether the recommended plan is supportable from a policy standpoint. The proposed upland restoration areas constitute the major difference between the recommended plan S20, and one of the other cost-effective plans, S16. The cost difference between plan S16 and plan S20 is \$4.97 million dollars, representing a 20% difference in costs. Please be advised that if the habitat values contributed by the upland areas cannot be tied to an increase in aquatic habitat values, HQUSACE may not be able to support the choice of plan S20 as the recommended plan.

Action: *There are two nearby salt marshes that have been used reference sites and will ensure the success of the proposed project. As the foreword states:*

“One of the largest remaining marshes is within Liberty State Park, and has been included in New Jersey’s Natural Areas system. In addition, a four-acre wetland system has been created as mitigation for waterfront development at a property adjoining the park, and is functioning at a high level. These two sites provide excellent reference for the proposed salt marsh and will help to ensure the success of the project.”

Section 6.4.1 (Tidal Marsh) refers to the reference sites twice:

“Thriving wetland communities throughout the Hudson-Raritan Estuary were used to collectively establish the general environmental design criteria and flow prescription for the four proposed tidal wetland communities. To account for varying local conditions, two sites were used as reference sites for the tidal salt marsh: One was in the South Cove of Liberty State Park and the second was just south west of the site in Port Liberté. Their characteristics were documented by Ecosystem Restoration Consultants (ERC) on 17 and 25th September 2003 and 14 October 2003. The results of this biobenchmarking effort is documented in Appendix G of the ERI, and is summarized in Figure 6.5 and Figure 6.6.”

“Components of Proposed Alternatives

Not only was the South Cove tidal marsh used as a biobenchmarking reference site, correlations between the width of the channel (at high and low tide) and the upstream channel length, drainage area and tidal prism were examined and used as a guide to laying out the proposed 36 acre salt marsh.”

The Pertinent Data sheet and Table 8.1 have been revised to more accurately reflect the relationship between the plan components:

Direct Project Area	234 acres
<u>Habitat Restored/Created:</u>	
Tidal Marsh (High Marsh and Low Marsh)	32 ac
Berm (ancillary component to tidal marsh)	50 ac
Tidal Creek, Estuarine Subtidal, and Mudflat	14 ac
Freshwater Wetland (Deep and Shallow Emergent Marsh)	26 ac
Related upland buffers and improved seasonal wetlands	112 ac

Sections of the report have also been revised to clarify the nature of the work being done in the upland section and emphasize the link between work in this section and the aquatic habitat. The work in the upland section is minimal, and additional graphics have been added to the foreword to better illustrate the full extent of work in the uplands. Many of the benefits claimed in the upland are from the seasonal wetlands, which will be cleared of the invasive species that dominate them now and provided with upland buffers. The increased flow of water from the presence of the berm also ensures that these seasonal wetlands will remain wetlands.

6.1.2.1 Restoration Areas

- Terrestrial buffers and enhanced wetlands

The tidal system is proposed to replace the extensive fill on the eastern side of Liberty State Park, concentrating on the 45-acre undeveloped, fenced-in portion of the site. Tidal system options address the restoration of lost salt marsh and tidal creek and flats. Some freshwater wetlands currently exist, but they are small and too poor in quality to reliably sustain the listed species that use them now. Upland options are designed to act as buffer zones to protect the resource investment in the tidal system and freshwater wetlands. Some species in the tidal and freshwater wetlands also use nearby upland habitat, so there is a direct ecological tie to the aquatic habitat described above. Seasonal wetlands were included in what are designated terrestrial or upland zones, because of their seasonal nature. The freshwater wetland system refers to a specific set of wetlands near the Liberty Science Center that are interconnected and function as a system.

6.2.2. Screening of Plans

- A-1: 50' Inlet Tidal Creek with On-Site Placement, and
- A-2: 50' Inlet Tidal Creek with Off-Site Placement.

The placement of dredged material is limited by the contaminated nature of the area within the fenced-off 45 acres, and the high cost of remediation, off-site transport, and placement. The contamination of the soil makes off-site placement comparatively expensive without any corresponding advantage. As a result, the study team had to formulate alternatives that would allow for the placement of dredged material from the tidal creek on site in an environmentally sensitive manner. The berm creates an opportunity to replace this material in an environmentally

sensitive manner for the long term. For this reason, the Berm and Tidal Creek/Salt Marsh are linked because the berm functions as the placement opportunity that allows for less expensive Tidal Creek/Salt Marsh creation, while also providing an additional buffer from surrounding park activities. The berm would also be contoured in such a way as to increase water flow to the seasonal wetlands scattered throughout the park interior.

Upland Buffer Management & Seasonal Wetlands:

The upland management alternatives for the Liberty State Park site are designed to protect the salt marsh component and freshwater wetlands from invasive species encroachment, restore underrepresented habitat to the area, and increase overall diversity. For the purposes of this report, Upland refers to areas of the site not designated for tidal or freshwater system options. However, this does not mean that upland management options were formulated for their own sake. There are pockets of successful upland habitat for which no action is planned. The options focus on parcels within the upland area that will act as buffer zones for vulnerable wetlands and as foraging zones for species that use the wetlands. The uplands also include seasonal wetlands, particularly in the southern half of the study area (see Figure 3.8). In addition to needing an increased water supply, they also require clearing of invasive species and protective buffers. The study team considered four alternatives for Upland Management:

- C-1: Removal of invasive species;
- C-2: Option C-1 plus landscaping and planting;
- C-3: Option C-1 plus topsoil and erosion control; and
- C-4: Option C-2 plus topsoil, landscaping and planting, and erosion

“Upland Buffer Management & Seasonal Wetlands:

The upland management alternatives for the Liberty State Park site are designed to protect the salt marsh component and freshwater wetlands from invasive species encroachment, restore underrepresented habitat to the area, and increase overall diversity. For the purposes of this report, Upland refers to areas of the site not designated for tidal or freshwater system options. However, this does not mean that upland management options were formulated for their own sake. There are pockets of successful upland habitat for which no action is planned. The options focus on parcels within the upland area that will act as buffer zones for vulnerable wetlands and as foraging zones for species that use the wetlands. The uplands also include seasonal wetlands, particularly in the southern half of the study area (see Figure 3.8). In addition to needing an increased water supply, they also require clearing of invasive species and protective buffers. The study team considered four alternatives for Upland Management:”

6.4.1 Tidal Marsh

“The material excavated for the creation of the tidal creek will be placed on-site in a berm in the southwest corner of the site. The berm will be contoured in such a way as to increase water flow to the seasonal wetlands in the southern half of the site. To ensure stability, the material will be encapsulated above and below in a clay layer, as the soil tends to be porous. Following the clay layer, a layer of sand will be placed on the berm and seeded with native vegetation. These measures will add stability to the structure in an ecologically sensitive manner.”

6.4.3 Upland Buffer and Seasonal Wetlands

Within the project areas not designated for the tidal system or the freshwater wetland systems, invasive species such as *Phragmites* and mugwort are thriving. The presence of these very aggressive invasive species, so close to the proposed tidal and fresh water wetlands, imposes a great risk to the sustainability of these communities. Therefore, in order to ensure the integrity of the restoration, upland buffer zones for the tidal wetlands and the freshwater wetlands throughout the site (including the freshwater wetland system and the seasonal wetlands) are included as a necessary part of project implementation. Where monitoring of the cleared upland areas show that additional measures are required, a mixture of clean fill and topsoil could be brought in where needed, and maritime scrub/shrub plants could be planted in the places where vegetation of low habitat value currently exists, to create a protective buffer for these water resource solutions. Some of the seasonal wetlands themselves are infested with invasive species, and will require clearing and grubbing to function properly. This area, along with the tidal and fresh water systems, will be managed in the years following construction to minimize the reintroduction of invasive species. The location of these buffer zones will be refined in the Pre-Construction Engineering and Design (PED) phase.

Although the berm is technically a byproduct of the tidal marsh construction, the result will be an upland environment and is consequently discussed in this section. Its functions are directly linked to the aquatic habitat portions of the site, as it increases water flow to the now seasonal wetlands. The berm also protects the tidal marsh and freshwater wetland habitats from the industrial activities right outside the park. It should be noted that there are vast swaths of successful upland habitat with no wetlands. Nothing is planned for these swaths.

There is proposed trail that is part of NJDEP's General Management Plan that will be planned and constructed at 100% non-Federal cost. NJDEP will coordinate with USACE to ensure that the recreational feature is compatible with the ecosystem features.

Please see the foreword for the additional graphics.

HQUSACE Assessment: The above additions to the text did not resolve the concern about the contribution of the terrestrial restoration measures to improvements in aquatic habitat function. In addition, the proposed plan still appears to include approximately 100 acres of terrestrial restoration that does not appear to be consistent with Corps mission areas.

Discussion: A teleconference call was held between CENAN, NAD and HQUSACE on October 28, 2005 to discuss the various unresolved issues of the LSP project, including terrestrial restoration. CENAN explained that the 100-acre figure for terrestrial restoration cited in the final report consisted of approximately 40 acres of buffer areas around both the seasonal freshwater wetlands and the restored tidal marsh, and approximately 60 acres of terrestrial forestland and shrubland that would receive incidental benefits due to the buffer areas. It was further clarified that the recommended plan does not contain any measures to be implemented on this 60 acres of uplands. HQUSACE stated that this clarification resolved the issue, but that it

was very important to revise the final report to include this information before the chief's report is signed.

The issue has been resolved, pending clarification of the report prior to the signing of the chief's report.

Action: Additional information clarifying the location and role of the 100 acres of terrestrial habitats, as described in the above discussion section.

HQUSACE Assessment: The issue is resolved.

g. Page xiv of the Executive Summary states that the project will improve habitat for Federally listed species; however, page 46 states there are no known federally listed species or critical habitats in the project area. This inconsistency should be rectified.

CENAN Initial Response: Noted. There are no Federal listed species currently utilizing the proposed project area (Section 3.7.2.4, p 46). However, as implied, though not explicitly stated in Sections 7.1.7.1 and 7.1.7.2 (p 107), the restoration proposal will enhance habitat functional value for all species capable of utilizing the proposed site, including Federally endangered species.

Discussion: Use of restored habitats by Federally Endangered species is a strong indicator of significant of the habitat and can be helpful in justifying the proposed project. However, it would not be sufficient to say that it is a habitat generally used by endangered species. Additional information would be required throughout the report that describes the historic habitat and use by now endangered species as well as a more thorough analysis of the potential for use by endangered species including the amount, quality, and location of similar habitat that demonstrates the project is not just providing an isolated "island" of potential habit. Corroborating evidence from other expert agencies or organizations on the potential and likelihood for use of Liberty State Part by Federally endangered species would be beneficial to the arguments.

Action: CENAN should reconcile the inconsistency in references to Federal threatened and endangered species. If it believes that use may be made of the site by endangered species in the future, additional information needs to be added to the report.

Extent of Compliance: This issue will be addressed for the final report.

HQUSACE Assessment: The issue not resolved. Page xiv of the Executive Summary still states that the project would increase the habitat for Federal-listed species. Stating that the proposed plan would benefit State-listed species is appropriate because two such species are found on the site (northern harrier and Torrey's rush). This issue could be resolved by deleting the statement in question on page *xiv* of the Executive Summary.

Action: The District's National Ecosystem Restoration (NER) plan will result in a significant increase in wildlife habitat value and diversity and estuarine functional value when compared to

existing habitat. The NER plan will increase the availability of cover, foraging, nesting and breeding habitat for State threatened and endangered species; restore USEPA designated priority wetlands (e.g., salt marsh); improve water quality; increase the value and availability of spawning and nursery habitat for anadromous fish species; enhance wetland habitat for migratory waterfowl; assist in the enhancement of wildlife habitat corridors; and increase aesthetics and opportunities for passive recreation; and promote science education

HQUSACE Assessment: The issue has been resolved. The sentence in question has been deleted from page *xiv* of the report.

h. Evaluation of Building Block Projects. As noted in section 1.2 of the report, Liberty State Park is identified as a “building block” under a Hudson-Raritan Estuary comprehensive study. A total of 13 potential building block projects are identified in Table 1.1 of the report. HQUSACE recommends that a programmatic assessment be developed to evaluate the identified building block projects in order to demonstrate that these projects would be implemented in logical manner. Factors that should be considered include prioritization among the building block projects, scale of each particular project, the environmental outputs, and incremental costs of the various projects. Similar evaluations have been required for several recent comprehensive and/or large-scale proposals, including the Everglades CERP and the Louisiana Coastal Area plans.

CENAN Initial Response: It is noted that the term “building block” may be misconstrued, and therefore, the “separate implementable elements” terminology will be employed in the report instead. As outlined in the approved Project Management Plan, interim responses to the study authority, for up to 13 specific high priority sites (including Liberty State Park), as warranted, shall allow for adaptive management techniques and utilization of iterative lessons learned by advancing separable components on a fast track basis prior to the completion of the long term “master watershed plan”. The process that will guide the team in developing recommendations is termed the Comprehensive Restoration Implementation Plan (CRIP).

In setting HRE overall formulation goals and objectives there is recognition that potential project implementation efforts will not achieve the result of a specific, restored historic ecological point in time that would replicate those exact conditions. However, as a starting point, the HRE study will strive to attain a future state balance in the overall proportions of ecological functions and habitat values that prevailed at the earliest point for which we have reliable documentation. The balance is defined in terms of restoring the proportion various aquatic habitat types had to one another circa 1840. Given the history of this particular tract of land (wetland bordered by open water) at Liberty State Park and given the paucity of such habitat in the current period, it is fairly obvious that restoration of this particular site would be a major contributor to any management plan or strategy to restore the habitat balance in HRE. Therefore, the District is confident that the implementation of Liberty State Park is required by the overall logic of HRE.

Discussion: HQUSACE requested more clarification about the role of Liberty State Park in the overall HRE, particularly why Liberty State Park was the first response to HRE, with its apparently high construction cost and technical constraints relative to the benefits provided. Another site could have been chosen with a lower construction cost and fewer technical

considerations, such as contaminants. There are practical reasons for advancing Liberty State Park, including the availability of a willing and funded non-Federal sponsor, but HQ requests the development of an overall HRE study strategy prior to advancing any other interim responses.

CENAN referenced the HRE Project Management Plan, in which the 13 sites were approved for implementation prior to completion of the CRIP. The original intent was to implement the sites in order of availability, not necessarily ecological priority. As these 13 sites were not prioritized ecologically, Liberty State Park was not advanced out of order. The construction cost of any project in the New York metropolitan area is high relative to the rest of the country, so the approximately \$31 million construction cost estimate is not necessarily relatively high in this context. Additionally, the high visibility of Liberty State Park with its proximity to Ellis Island and the Statue of Liberty will serve to showcase the Corp's mission of ecosystem restoration.

HQUSACE believes there is an overall misconception of the nature of the 13 sites, whether termed building blocks or separable implementation elements. The list of 13 sites developed over time, having varied both in number and proposed locations between the reconnaissance phase and the PMP. The sites were developed as part of a collaborative effort to identify sites with potential and importance to various interests groups. In any case, however, no sites can be approved for implementation without a full feasibility level analysis that demonstrates significance of the resources involved and also the technical feasibility, environmental acceptability and, in the case of ecosystem restoration projects, cost effectiveness of the proposed projects, and receipt of project authorization and funding. The final list of the 13 sites are a starting point to make a determination of potential to pursue implementation of some projects during the completion of the overall HRE study, not an approved list for construction. HQUSACE continues to believe that there may be potential for advance construction, but these would be those sites that would provide significant (and preferably large amounts of) resources in a cost effective manner. The high cost of the Liberty State Park project does not appear to meet that criterion. Further, when the issue of hazardous or toxic wastes, whether or not to the CERCLA level, should have raised questions at the start of this study that this site was not a slam dunk and should have been coordinated earlier in the process.

HQUSACE requested more explicit details in the report about the background and importance of Liberty State Park to the HRE study, and buffering the technical details of Liberty State Park's importance, such as adding more information on the scarcity of tidal marsh in NY Harbor. CENAD identified the lack of overall HRE context as a main source of difficulty in justifying the case for Liberty State Park, and suggested the dissemination of a working strategy document for the CRIP to the vertical team in FY05 to provide that context for future efforts. As a working document, it could be a living document with a program of updates, structured similarly to the Dredged Material Management Plan or Lake Champlain Watershed Study.

Action: CENAN will revise the report to include more detail about the background and importance of Liberty State Park as related to the HRE Study, and will provide more substantial discussions, including historic conditions, current situation, and any future potential conditions regarding Liberty State Park's importance to the New York area as discussed. Beyond the LSP report modifications, CENAN will provide the vertical team with a working strategy document

for the HRE-CRIP for discussion and coordination prior to advancing any of the other 13 interim sites.

Extent of Compliance: This issue was addressed during IRC discussions at CENAN. The CRIP Process of Analysis white paper will provide a working strategy document.

HQUSACE Assessment: The issue is resolved.

i. Recreation. Section 3.10 of the report states that recreation components are built into the recommended plan. These components need to be identified in the descriptions of the plans and in the cost estimates. The costs need to be supported by an economic justification per ER 1105-2-100, the recommended facilities or improvements need to be in compliance with the approved list of facilities, and it must be demonstrated that the proposed improvements are compatible with the ecosystem restoration objectives. In addition, recreation features are discussed in the summary text and in the QA comments (trails, viewing platforms) but there is no description of these features in, Section 6.2, Selected NER Plan. A brief description of these features should be added to this section of the report.

CENAN Initial Response: Noted. The non-Federal sponsor is independently proposing to construct a trail around the salt marsh; as such, this feature is not a project cost, nor is it a cost shared item in the apportionment tables. The walkways proposed in proximity of the freshwater wetlands will be utilized for post construction monitoring purposes and these costs are included in the total project costs. The proposed observation decks in the freshwater wetland system have a largely recreational purpose. In accord with guidance, the report will be revised to show these costs as 100% non-Federal.

Discussion: HQUSACE indicated an interest seeing more detail of the relationship of recreation to restoration features at Liberty State Park, particularly the interaction of the restoration features with the Liberty Science Center, the proposed trail, and Liberty State Park Interpretive Center. HQ would not object to seeing recreational components included as part of the incremental cost analysis and potentially part of the cost-sharing.

The proposed trail is part of the General Management Plan of the prospective implementation non-Federal sponsor, NJDEP. As such, while NJDEP will coordinate with USACE to ensure that the proposed trail at Liberty State Park would not adversely affect the ecological outputs of the restoration features, NJDEP already has plans for the trail and is not expected to subject their plans to the USACE incremental cost analysis process. Therefore, the contribution of recreational features at Liberty State Park will not be quantified in the report, but the report will contain more detail about the relationship between the recreational and restoration features in the plan formulation section and the recreation sections.

Action: CENAN and NJDEP will coordinate to ensure that the proposed non-project trail at Liberty State Park would not adversely affect the ecological outputs of the restoration features, however, the contribution of recreational features at Liberty State Park will not be quantified in the report. The report will contain more detail about the relationship between the recreational and restoration features in the plan formulation section and the recreation sections.

Extent of Compliance: Section 7.1.10 discusses recreation components. However, this comment will be addressed for the final report.

HQUSACE Assessment: The issue is not resolved. HQUSACE could not find any added information concerning the recreation plan in the latest version of the report. The proposed fix to this issue would be for the District to add a statement to the report noting that there is no recreation plan at this time, and that any recreation features constructed on the site would be undertaken at 100% non-Federal cost. Also, add a statement similar to the first sentence of the required action section above, stating that any future recreation features would be coordinated with the District to ensure compatibility with the ecosystem restoration features.

Action: The following statement was added to section 7.1.10 of the report

7.1.10 Recreation

There is no USACE recreation plan at this time, although NJDEP is planning recreational features to be undertaken at 100% non-Federal expense. Any future recreational features will be coordinated with USACE to ensure compatibility with ecosystem restoration measures.

HQUSACE Assessment: The addition of the text to the report described in the above action has resolved the concern.

j. Future Without Project Condition. The future without-project condition (page 55) with respect to the HTRW material on the site needs to be clarified. Page 69, paragraph 4 states “the area from which the tidal creek would be excavated is currently capped with physically unstable material that will need to be replaced within the next five years if the project (i.e., the future with-project condition) does not go forward.” Given that the material capping the HTRW materials is unstable, the consequences of this condition should be discussed in the report. The most likely future-without project condition serves as the basis for the Corps formulation process and the NEPA evaluation, and the clarification of this issue is very important to the study. The apparent contradiction of these areas of the report should be rectified.

CENAN Initial Response: Noted. The sentence on page 69 will be revised to reflect the effect of the Consent Decree upon plan formulation. The Without Project condition identified in report is continuing ecosystem degradation, with wetland areas increasingly dominated by invasive species and associated loss of high value aquatic habitat. The Consent Decree describes two possible scenarios. In the first, the Corps of Engineers proceeds with its restoration project in the dredged materials area. In the second scenario, if construction has not begun by December 31, 2007, NJDEP must either cover, remediate, or dispose of the dredged materials area as described in Section 26 of the Consent Decree. Section 27 describes the least effort and therefore most likely solution of covering the dredged material, in which NDJEP is ordered to “cover the entire dredged materials area and the surrounding trench with one foot of clean soil and permanently vegetate the clean soil cover.”

The water resources problem identified in the Feasibility Report is lost aquatic habitat. As such, the Without Project conditions describe the consequences of no Federal project to lost and threatened aquatic habitat and related resources. Addressing the aquatic habitat issue has the incidental benefit of satisfying the conditions of the Consent Decree. The covering solution described in the consent decree only results in more upland habitat of a type that tends to be susceptible to invasive species. From the viewpoint of ecosystem restoration, more detailed consideration of the Consent Decree does not change the identification of Without Project conditions.

Additionally, it should be noted that the covering solution described in Section 27 of the Consent Decree is already in effect. As described in the ESA, Section 7.4.2.3, NJDEP capped the dredged material and established vegetative cover in August 1993. The Consent Decree orders another foot of clean fill on top of the current cap, thereby reinforcing the less desirable and less productive upland habitat. The implementation of this measure would not halt the degradation of habitat. At best, the Without Project conditions would not require revision from its current state. At worst, the degradation of habitat would be accelerated through the implementation of the adding more cover to the dredged materials.

Discussion: HQUSACE raised the possibility that given the density of the New York Metropolitan area, some entity would eventually develop the study area at Liberty State Park for recreational purposes if the USACE restoration project were not implemented, and suggested the inclusion of this possibility into the Without Project Conditions. CENAN acknowledged the possibility, but at this moment there is no evidence that anyone is planning to develop the park. Additionally, the Consent Decree, which requires remediation if the restoration project is not implemented, places some technical constraints on the development of the park. It is worth noting that the Liberty State Park Development Commission (LSPDC) investigated the feasibility of turning the study area into a golf course in the 1970s, but was ultimately dissuaded by strong public sentiment. The LSPDC has since been dissolved, and with the technical constraints of the Consent Decree, development of the restoration along these recreational lines would probably be more difficult than the habitat restoration anticipated in the Consent Decree. HQUSACE accepted the District's explanation of the potential for recreation development of the site.

Concern was still expressed about the responsibility of the non-Federal interests for complying with the consent decree and potential for the project to relieve them of their legal obligations for covering the material whether it remained in place or if it was excavated and used in the berms. Because there was concern over the material, as expressed by the lawsuit and consent decree requirements, moving the material could still require capping. Any expenses relating to the capping of the material, whether in place or used for project features should remain a non-Federal responsibility. The District pointed out that actions necessary to stabilize the structures, including vegetation cover, require a certain level of capping with appropriate soil materials and nutrients. This is required for the project and as a benefit should solve the capping requirement. However, New York District was to address the specifics of the final design and determine if any additional material would be required to satisfy capping requirements of the consent decree beyond that needed to establish the project vegetation cover. Such additional costs would be a non-Federal responsibility.

Action: CENAN will consider incorporating the recreational possibility into the Without Project conditions, but will add that given the information available now, the most likely Without Project Condition is a state characterized by continuing water resources problems and associated habitat degradation. This section will also contain more information about the Consent Decree and its relationship to Without Project conditions.

Extent of Compliance: This is clarified in the foreword and also on page 57 of the main report (Section 4).

HQUSACE Assessment: The issue is resolved. The District has characterized the most likely future without condition as further habitat degradation, without any new recreation components.

k. Section 6.2.1, Restoration Benefits. The habitat scores are based on a series of 16 functions and values (plus “synergy scores” in Table 6C), and are collectively referred to as habitat units (HUs). The term habitat unit is the generally recognized standard term used to refer to the outputs generated by the Habitat Evaluation Program developed by the USFWS, which by definition cannot exceed one HU per acre. The habitat scores computed for this study should be given another name because they are based on a different methodology, and to avoid a potentially misleading interpretation of the results.

CENAN Initial Response: Concur. The District will re-label the ecological outputs as “Habitat Index Numbers” and revise the report accordingly.

Discussion: HQUSACE encouraged re-labeling the ecological outputs, but cautioned that the term “index” could potentially be inconsistent with how benefits were calculated. CENAN acknowledged the potential inconsistency.

Action: CENAN will develop an alternative terminology for the ecological outputs that better reflects the nature of these outputs and avoids confusion with other methods of calculating outputs.

Extent of Compliance: Different terminology will be applied for the final report.

HQUSACE Assessment: The issue is not resolved. See HQUSACE Assessment for comment (l.) below.

Action: The ecological outputs have been re-labeled, “Ecological Functional Unit” and the report has been revised accordingly.

HQUSACE Assessment: The issue has been resolved, see HQUSACE Assessment for comment 4. (l), below.

l. Section 6.2.1, Table 6A. This section appears to suggest a uniform improvement per acre (for each criterion) applied across all alternatives (and a uniform base condition across all acres). Alternatives need to be evaluated on their actual contribution to ecosystem restoration, not based

on averages applied to all acres. This would defeat the purpose of CE/ICA, which is intended to identify differences in ecosystem response and relative productivity/efficiency across alternatives and scales. This is reflected in the relatively uniform average costs (Figure 6.3) and the more conventional IWR-PLAN output depicting Best Buy Plans (not included in this section).

In addition, the relevance of the “synergy scores” should be discussed in this section of the report. This is an interesting approach to including additional factors in the analysis, however, it is unclear how the benefit to public infrastructure warrants inclusion in a habitat score. It may be a useful and pertinent criterion for screening and comparison, but it does not reflect habitat conditions. Such effects would appear to be better described as incidental NED benefits.

CENAN Initial Response: Noted. Table 6A presents the minimum target improvement per habitat type per acre for the alternatives. Each alternative incorporates differing proportions of habitat types, so the improvement per acre of habitat type may be greater than indicated in table 6A. However, CENAN chose a conservative approach in forecasting future benefits, hence the presentation of the minimum target habitat improvement figures.

In response to the comment that there are relatively uniform average costs among the solutions presented in Table 6.3, the mean is \$9,632/HU, the standard deviation is \$4,957/HU, and the coefficient of variation is 1.943. As the standard deviation and coefficient of variation are greater than zero, the average costs are not uniform. This may be better illustrated by rescaling the chart, which will be done before the document is released. The last sentence seems to conflate average costs with average improvement.

The benefit to public infrastructure was cited as a potential incidental NED benefit, but was not factored into the habitat score. CENAN will revise the text by taking the reference to public infrastructure out of p. 66 to avoid future confusion.

Discussion: HQUSACE requested more explanation on the working of “synergy scores”, given the label in Table 6A that suggests all acres are uniformly affected by all alternatives.

Action: CENAN will provide more narrative on how synergy scores affect the ecological outputs by incorporating additional text from the biological appendix. Also, CENAN will modify Table 6A to clarify how acreages of habitat are affected by the various alternatives.

Extent of Compliance: This issue will be addressed in the final report.

HQUSACE Assessment: The issue is not resolved. The uniform assessment of habitat scores under without project conditions (and, importantly, for all alternatives); plus the application of the "synergy" scores. Appendix B offers extensive documentation of the field surveys - yet it appears this information has been collapsed to gross averages in the plan evaluation and comparison. Treating all acres within a community type with a uniform score suggests they cannot be distinguished in quality; and treating all alternatives as having the exact same response suggests no difference in alternatives, except in extent (quantity). Bringing in the synergy scores then adds an element of quality of the ecosystem response to distinguish among alternatives, thus focusing interest on the makeup of the synergy scores themselves. This suggests a stronger need

to describe the validity and reasonableness of this aspect of the assessment. In Table 6C it appears that the "Total Interaction Grade" only accounts for the Water Management and T & E synergy scores - it is unclear why Biodiversity is excluded from the tally. Additionally, examination of Table 6B reveals that a number of non-ecosystem variables (e.g., recreation, education, heritage and aesthetics) are included in the habitat scores. These variables may be important attributes in assessing the merit of alternatives and may relate to the significance of the resource, but they do not represent ecosystem response, as quantified in habitat units.

Action: More text was added on how synergy, or interaction, terms work. Tables 6A and 6B were relegated to the appendices. Section 6.2.1 now reads:

6.2.1. Derivation of Restoration Benefits and Costs

This section describes the derivation of restoration benefits and costs, upon which the Cost Effectiveness/Incremental Cost Analysis will be based.

Restoration Benefits

To quantify effects to the Liberty State Park ecosystem that would result from the proposed alternative plans, an analysis was performed on each of the site's ecological communities for both the existing conditions (No-action Alternative) and proposed alternative plans using a modified version of the USACE New England Highway Methodology. The ecological outputs of the modified New England Methodology are termed Ecological Functional Units (EFUs). This analysis had three major objectives: (1) identify the functions and values provided by the existing communities; (2) evaluate functions and values of the proposed alternative plans; and (3) compare the change in functions and values of the proposed alternative plans versus existing conditions. (The analysis can be found, in full, in Appendix B).

Based on a delineation of the site, it was determined that 12 different ecological communities exist in the project area. In addition, three ecological community types that do not exist in the project area are proposed. Each type was evaluated and assigned a numerical score for 16 functions and values (ERI, Appendix B) and the scores were summed for each type. The results of the functional analysis (the per-acre numerical scores) were used to ascertain the effectiveness of the proposed alternative plans by calculating the numerical difference between the existing conditions and the proposed alternative plans.

Proposed alternative plans consist of one or more of the following habitats: the restoration of a salt marsh, the enhancement of on-site freshwater wetlands, the creation of deep emergent marshes, as well as the enhancement of upland areas immediately adjacent to the proposed marshes and wetlands. Each proposed habitat type is composed of one or more ecological community. The score for each habitat was calculated by multiplying its component communities' score by their sizes and summing the products. The score of the existing conditions (at the location of each habitat) was subtracted from each habitat score, resulting in the net Ecological Functional Units (or benefit) for each proposed habitat. For each proposed alternative plan, the net EFUs were summed, resulting in total EFUs for each plan. This was done for all of the 75 possible combinations of the proposed alternative plans.

Each alternative was further assessed for potential additional benefits resulting from synergistic interactions between its components (freshwater wetlands, salt marsh, etc) that were not already reflected in the sum of its components. This assessment resulted in three additional benefits:

1. Increased biodiversity
2. Water management
3. Threatened or endangered species

For each category, alternatives were assessed using a simple question and, similar to the assessment in the ERI, each alternative was assigned a score (0: none, 1: low, 2: medium, or 3: high) as to how it contributed to the interaction.

Biodiversity

Biodiversity increases as the variety of habitats increases. On this site, the proposed berm, upland management area, and the tidal wetland all add significantly to the diversity of the site. The created and enhanced freshwater wetlands, while valuable additions to the ecosystem, do not add significantly to the diversity because many already exist onsite. For this category, the question was “Does this alternative increase the biodiversity of the site?” If yes, a positive score was assigned based on the relative magnitude of the contribution. The biodiversity scores were assigned as follows:

<u>Alternative</u>	<u>Score</u>
Tidal Creek/Salt Marsh	1
Tidal Creek/Salt Marsh plus Berm	2
Upland Management Area	1
Tidal Creek/Salt Marsh + Berm + Upland Management Area	3

Water management

Alternatives containing both the proposed berm and freshwater wetlands components utilize innovative techniques to gather water that would support the ecological function of adjacent components. Because the site is rather permeable, this is an important project component. The proposed berm is designed in such a way as to direct sheetflow toward the site rather than out of the site and into the stormwater system. In this way, the existence of the berm would improve water availability in other adjacent site components, such as the upland management area. To enhance and create freshwater wetlands, water would be diverted from adjacent parking lots. This will not only support the wetland in question, but by keeping water nearer the surface in these areas, would support improved water availability for adjacent habitats. For this category, the question was “Does this alternative improve the management of onsite water for ecosystem benefit?” If yes, a positive score was assigned based on the relative magnitude of the contribution. The positive water-management scores were assigned as follows:

<u>Alternative</u>	<u>Score</u>
Berm	2
Berm + Freshwater Wetland #4	3

Threatened or endangered species

While general benefits to threatened and endangered species were already assessed in the ecological functional units for the component habitats of each alternative, some additional specific benefits would accrue due to the interaction between the components in some of the alternatives. Specifically, two State-listed species, short-eared owl (*Asio flammeus*) and northern

harrier (*Circus cyaneus*), will benefit from certain characteristics of the proposed component habitats, including large grassy areas, shrub areas, and production of small mammals and birds. For this category, the question was “Does this alternative provide specific benefits to short-eared owl or northern harrier?” If yes, a positive score was assigned based on the relative magnitude of the contribution. The positive threatened-and-endangered-species scores were assigned as follows:

<u>Alternative</u>	<u>Score</u>
Tidal Creek/Salt Marsh + Berm	2
Upland Management Area	1
Tidal Creek/Salt Marsh + Berm + Upland Management Area	3

For each alternative, the additional benefits for each category were summed, multiplied by the size of the alternative, and added to its original value (EFUs) as determined above. This process is illustrated in Table 6A and the results are displayed in table 6.1.

Table 6A - Example evaluation showing: 1) the EFUs resulting from the initial analysis, 2) the addition of synergistic interactions; and 3) the EFUs resulting from the synergistic interactions.

Proposed Alternative Plan Combinations	Ecological Functional Units (EFUs)	Size (acres)	Synergistic Interactions			Total Interaction Grade	Total Interaction EFUs (grade x size)	Total EFUs
			<i>Biodiversity</i>	<i>Water Management</i>	<i>Threatened/ Endangered Species</i>			
			grade	grade	grade			
No A + No B + No C	0	0.0	0	0	0	0	0	
A ₁ + No B + No C	1616	83.9	2	2	2	6	503	2120
A ₂ + No B + No C	1336	44.9	1	0	1	2	90	1426
No A + B ₁ + No C	62	2.9	0	0	0	0	0	62
A ₁ + B ₁ + No C	1678	86.8	2	2	2	6	521	2199
A ₂ + B ₁ + No C	1398	47.8	1	0	1	2	96	1494
No A + B ₂ + No C	66	2.9	0	0	0	0	0	66
A ₁ + B ₂ + No C	1682	86.8	2	2	2	6	521	2203
A ₂ + B ₂ + No C	1402	47.8	1	0	1	2	96	1498
No A + B ₃ + No C	156	6.9	0	0	0	0	0	156
A ₁ + B ₃ + No C	1772	90.7	2	2	2	6	544	2316
A ₂ + B ₃ + No C	1492	51.8	1	0	1	2	104	1595
No A + B ₄ + No C	415	14.7	0	0	0	0	0	415
A ₁ + B ₄ + No C	2031	98.6	2	3	2	7	690	2721
A ₂ + B ₄ + No C	1751	59.6	2	0	1	3	179	1930

The table was corrected for the computational error. Please note that the correction did not affect the calculation of benefits in the draft as those numbers were correct. This is easiest to verify by looking at Table 6.4.

Discussion: This issue was resolved in concept during the teleconference call of October 28, 2005. HQUSACE requested that the CE/ICA analysis for the project be redone to confirm that the new information would not change the results of the plan formulation/plan selection process. CENAN stated that they were confident that the new information would have no effect on the plan formulation/plan selection process, and agreed to re-run the CE/ICA for the project. The revised CE/ICA will be included in the revisions to the final feasibility report that will be submitted to HQUSACE prior to the signing of the chief’s report.

Action: The CE/ICA analysis has been redone as described above, and provided to HQUSACE for approval.

HQUSACE Assessment: The issue has been resolved.

m. Section 6.2.2, Screening of Plans, Tidal Creek/Salt Marsh/Berm Creation. Removal of the statue and necessity of the bridge are supported qualitatively. This discussion would be more convincing if the two plans were compared based on their costs and respective benefits to demonstrate the differences supporting screening out the lower cost measure.

CENAN Initial Response: From hydrologic investigations, the creek would work less efficiently if it had to go around the statue, resulting in fewer habitat benefits. Moreover, the cost of going around the statue would be higher than simply relocating it. As for the bridge, it should be clarified that this is actually a wide culvert that is necessary to replace the portion of the road that the tidal creek will flow under. An incidental benefit of this particular culvert design, which is wide enough to permit the necessary tidal flow and to lower the need for more intensive operations and maintenance, is that it is as aesthetically pleasing as a bridge, but for fraction of the price. The bridge designation is misleading, and CENAN will revise the description of the culvert by clarifying the details of its design and refraining from calling it a bridge.

Discussion: HQUSACE requested more explanation on why it is necessary to relocate the statue.

Action: CENAN will provide more technical detail on why the tidal creek would function less efficiently if it had to go around the statue, namely, that the ability of the tidal creek to penetrate into interior portions of the park would be curtailed, resulting in fewer habitat benefits. CENAN will also provide preliminary construction estimates on routing the creek around the statue instead of relocating the statue. The study team assessed that a circuitous alignment routing the creek around the statue would provide less habitat benefit for the same, if not higher, construction cost.

Extent of Compliance: Additional information will be provided with the final report.

HQUSACE Assessment: The issue is resolved.

n. Section 6.3.7 Average Costs of Remaining Plans. This section appears to be manually replicating the identification of “Best Buy Plans” (sequential lowest average cost) that are automatically computed and displayed by IWR-PLAN. Table 6.8 appears to identify the “Best Buy” plans. HQUSACE requests an explanation of the purpose served by this section of the report.

CENAN Initial Response: These tables were included to show that average costs were minimized among the remaining alternatives, as required. If this is confusing, CENAN will omit these tables in the next version of the document and discuss this qualitatively.

Discussion: HQ made the comment to alert the team to the fact that IWR-PLAN can now perform these computations automatically and identify “Best Buy” plans, saving the team some number-crunching effort and generating standard graphics to depict the results. No action required, since the procedures are fine, but displaying the iterative process is probably more than is needed in the report and might be more effectively explained if the IWR-PLAN “Best Buy” procedures and graphics are used in its place.

Action: None.

HQUSACE Assessment: The issue is resolved.

o. Cost Estimate.

1). There is a discrepancy in the contingency factor used in the analysis. Table 9.1, page 121, Vol. 1., shows a 25% contingency factor for Feature 01, however, the amount of \$8,400 does not reflect this factor. The contingency factor used to arrive at the \$8400 figure appears to be 20%. The appropriate contingency factor should be clarified, and the figures updated to reflect the correct calculation. Also, it is not clear whether all cost components were adjusted to a common price level date. Clarify and make the necessary correction. This discrepancy should be evaluated and corrected as this has considerable impact about the accuracy of the total project costs and on the economic evaluation of the projects. Also, the pricing date for the Total Project Cost is not stated. A price level date should be indicated on tables when Total Project Costs are presented. This information will allow the reviewers to know immediately whether the costs are in constant dollar or inflated.

CENAN Initial Response: Noted and concur. The correct contingency factor is 20%, and Table 9.1 will be revised accordingly. The cost components have been corrected for a common price level date. The pricing date for the Total Project Cost is January 2004. This date will be added to text and tables in the report where pertinent.

Discussion: None.

Action: The requested data will be added to text and tables in the report where pertinent.

Extent of Compliance: The appropriate contingency factor is 20%, and these figures have been revised.

HQUSACE Assessment: The issue is resolved.

2). The escalation factor stated in the cost estimate notes (Appendix F) is not fully supported. It is not clear how this rate was calculated. Also, there is no information about the construction duration of the project. Please explain how this rate was determined and provide construction duration. The latest version of CWCCIS, should be used for escalating costs to provide a more realistic funding forecast.

CENAN Initial Response: Noted. A first cost table and fully-funded cost table will be included to show the calculation of escalation to midpoint.

Discussion: None

Action: The requested information will be added to text and tables in the report where pertinent.

Extent of Compliance: Additional information being added to text.

HQUSACE Assessment: The issue is resolved.

3). Notes on Real Estate states “all costs include an area cost factor of 3.6% to account for the higher cost of living in the project area.” However, Table 8.2 (p. 116, Vol.1) shows costs pertains to permits/licenses/rights-of-way, and admin costs. Please explain how the area cost factor is being applied.

CENAN Initial Response: The Real Estate Note is misnamed, as this is actually the cost area factor. CENAN will revise “Real Estate” to say “Cost Area Factor.” Table 8.2 does not require revision in this regard.

Discussion: None.

Action: None.

Extent of Compliance: Real Estate note revised.

HQUSACE Assessment: The issue is resolved.

4). Notes states “ Preliminary Engineering and Design (PED) and Management during construction are assumed as 8% and 7% respectively, of the total construction costs”. However, the amounts shown in Table 9.1 and MCACES estimate for these features do not reflect these percentages. This discrepancy should be verified, and all calculations corrected as necessary.

CENAN Initial Response: The Construction Management cost will be recalculated to 7.85% in MCACES estimate. The percentage for Construction Management for Civil Works Projects is the following formula: $(17-(2.1*\text{LOG}(\text{CC}/1000)))/100$, where CC is the construction costs. So, for a \$30M project, the construction management costs are %7.85. The PED will be at 8% of construction cost. Table 9.1 will be adjusted accordingly.

Discussion: None.

Action: The requested information will be added to text and tables in the report where pertinent.

Extent of Compliance: Cost Tables have been revised in the report.

HQUSACE Assessment: The issue is resolved.

5). Page 13 of the estimate shows quantity for dewatering for Fresh Water Wetland as 120 days whereas the notes stated 90 days (3 months). The costs for this task could be overstated and should be verified and corrected.

CENAN Initial Response: Noted. Quantity for dewatering will be revised to 90 days.

Discussion: None.

Action: The corrected information will be added to text and tables in the report where pertinent.

Extent of Compliance: Corrected quantity of 90 days incorporated.

HQUSACE Assessment: The issue is resolved.

6). Page 48 of MCACES estimate shows a contingency factor for Feature 30 (PED) of 10%. The correct factor is 8%. Verify and make the necessary correction.

CENAN Initial Response: Noted. 10% contingency factor for PED was used per Engineering Instructions (EI) 01D010 - Construction Cost Estimates, dated 1 Sept 1997, Table 13.1.

Discussion: None

Action: The statement in Appendix F (sentence number 6) should be corrected to read “Preliminary Engineering and Design (PED) and Management during construction were assumed as 10% and 7% respectively, of the total construction costs.”

Extent of Compliance: Appendix F will be revised for the final report.

HQUSACE Assessment: The issue is resolved.

7). Notes on the estimate stated several prices are obtained from bid abstracts. It is not clear whether these prices have been properly adjusted since no price level date was indicated about the bid abstracts. This issue needs to be verified and evaluated to ensure the costs are not understated.

CENAN Initial Response: Concur. These prices were verified with respect to price levels and notes have been added in the MCACES where pertinent.

Discussion: None.

Action: The requested information will be added to text and tables in the report where pertinent.

Extent of Compliance: Additional updates will be made for the final report. October 2004 price levels will be noted in parentheses in the pertinent data with a footnote for the draft report.

HQUSACE Assessment: The issue is resolved.