DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

REPLY TO
ATTENTION OF:
CECW-P (1105-2-10a)

SEP 2 7 2004

SUBJECT: Centralia, Chehalis River, Lewis County, Washington

THE SECRETARY OF THE ARMY

1. I submit for transmission to Congress my report on the study of flood damage reduction for Centralia and Chehalis, Washington. It is accompanied by the report of the district and division engineers. These reports are in response to a resolution adopted 9 October 1998 by the Committee on Transportation and Infrastructure of the House of Representatives, requesting review of past Corps of Engineers reports to determine whether any modifications of the recommendations contained therein are advisable in the interest of flood damage reduction and environmental restoration and protection, including non-structural floodplain modification. Preconstruction engineering and design activities will be continued under this authority. A flood control project for Centralia-Chehalis, Chehalis River and Tributaries, was previously authorized by Section 401(a) of the Water Resources Development Act (WRDA) of 1986.

2. The reporting officers recommend authorization of a plan to replace the project authorized in Section 401(a) of WRDA 1986. The reporting officers recommend a locally preferred plan (LPP), which consists of the plan that maximizes national economic development (NED) benefits and provides for additional reservoir storage and levee protection. The reporting officers' LPP consists of construction of a levee system along the Chehalis River from approximately river mile (RM) 75 to RM 64 and along most of the lower 2 miles of both Dillenbaugh Creek and Salzer Creek; construction of a levee along the lower approximately 2 miles of Skookumchuck River to the confluence with Coffee Creek; modification to the existing Skookumchuck Dam to add spillway gates and a short gated outlet tunnel to create about 20,000 acre-feet of flood control storage between pool elevations 455 and 492; and raising in elevation approximately eight structures that would incur induced damages from increased inundation as a result of the project. Unavoidable environmental impacts will include wetland and riparian habitat degradation and destruction resulting in the loss of approximately 105 habitat units. Mitigation for these losses will be accomplished through a combination of wetland creation, revegetation of riparian habitat, and reconnection of an isolated oxbow with the mainstem Chehalis River.

3. The reporting officers' LPP differs from the NED plan by including, at the request of the non-Federal sponsor, Lewis County, Washington, increased protection from two project features. The Skookumchuck Dam modification with the reporting officers' LPP would provide a total of

about 20,000 acre-feet of additional reservoir storage, 9,000 acre-feet more than with the NED plan. On the lower Skookumchuck River, the Skookumchuck River levee would be constructed to a height more than 4 feet above that identified in the NED plan. For both the LPP and NED plans, riparian and wetland communities and floodplain connectivity would be similarly adversely impacted and would be mitigated by the creation of approximately 68 acres of wetlands and 20 acres of riparian buffer around the wetlands and providing connections between the mainstem Chehalis River and a 21-acre oxbow near the intersection of SR-6 and South Scheuber Road.

4. Based on October 2003 price levels, the estimated first cost of the NED plan is $86,872,000, of which $56,467,000 is Federal and $30,405,000 is non-Federal. The estimated first cost of the reporting officers' LPP is $94,356,000. Both plans include approximately $9,800,000 for environmental mitigation responsibilities. The first cost of the reporting officers' LPP reflects the $7,484,000 increase in cost above the NED plan for the increased reservoir storage and levee protection, which is 100 percent non-Federal cost. Under existing policy, the Federal share of the cost of the recommended plan is limited to the Federal share of the cost of the NED plan; therefore, the Federal share of the reporting officers' LPP is $56,467,000. The non-Federal share of the cost of the reporting officers' LPP is $37,889,000. Total average annual charges for the reporting officers' LPP, based on a discount rate of 5.625 percent and a 50-year period of economic analysis, are estimated to be $6,815,000, including $653,000 for operation, maintenance, replacement, rehabilitation, and repair by the non-Federal sponsor. The reporting officers' LPP provides estimated annual benefits of $8,864,000, with net annual benefits of $2,049,000. The benefit-to-cost ratio is 1.3 to 1.

5. Estimated annual benefits of the reporting officers' LPP include a reduction of $6,696,000 in flood-related damages to structures and their contents, $2,071,000 in annual avoided costs associated with the need to elevate Interstate Highway 5 without the project, and an annual reduction of $97,000 in traffic delays related to flooding. In addition to protecting the local economy and keeping important transportation routes open, the levee system design incorporates setback levees to allow environmentally desirable floodplain and channel connectivity.

6. I generally concur in the findings, conclusions and recommendation of the reporting officers. However, the plan I recommend revises the reporting officers' LPP. The reporting officers' LPP dam feature needs additional evaluation, as the proposed conversion of the existing uncontrolled, fixed crest spillway to a gated spillway conflicts with Corps of Engineers guidance on spillway design. Accordingly, I recommend construction of improvements for flood damage reduction for Centralia and Chehalis, Washington, generally in accordance with the reporting officers' LPP, with such modifications as in the discretion of the Chief of Engineers may be advisable, but without the additional 9,000 acre-feet storage capacity at Skookumchuck Dam unless and until a determination is made pursuant to paragraph 11 below.

7. Based on October 2003 price levels, the estimated first cost of the LPP without the additional storage capacity is $91,268,000, which reflects the $4,396,000 increase in cost above the NED plan for the increased levee protection, and the estimated first cost of the LPP with the additional storage capacity is $94,356,000, which reflects the preliminary estimate of $3,088,000 for such additional capacity. Under existing policy, the Federal share of the cost of the plan I am recommending is limited to the Federal share of the cost of the NED plan; therefore, the Federal share of my recommended plan is estimated at $56,467,000. The non-Federal share of the cost of my recommended plan is estimated at $34,801,000. It continues to include approximately $9,800,000 for environmental mitigation responsibilities.

8. Based on a discount rate of 5.625 percent and a 50-year period of economic analysis, average annual costs for the plan I am recommending are estimated at $6,573,000, and average annual benefits are estimated at $8,731,000, which reflects a reduction of $6,500,000 in flood-related damages to structures and their contents. With net annual benefits of $2,159,000, the resultant benefit-to-cost ratio is 1.3 to 1. Annual operation, maintenance, replacement, rehabilitation, and repair costs are estimated at $620,000 for which the non-Federal sponsor, Lewis County, Washington, will be responsible.

9. The reporting officers note that there are some dam safety concerns with the existing Skookumchuck Dam. We continue to coordinate with the Federal Energy Regulatory Commission, the current owners of Skookumchuck Dam, and the non-Federal sponsor regarding seismic dam safety issues. Prior to execution of any PCA, the non-Federal sponsor will assure that Skookumchuck Dam meets all Corps of Engineers standards for adequate seismic stability and dam safety prior to implementation of construction of modifications for increased storage.

10. The plan I am recommending replaces the plan authorized in Section 401(a) of WRDA 1986 and renders that plan unnecessary. The plan authorized in WRDA 1986 was modified by Section 118 of Public Law 106-554 to authorize the Secretary of the Army to provide the non-Federal interest credit toward the non-Federal share of the cost of that project, for the cost of planning, design, and construction work carried out by the non-Federal interest before the date of execution of a cooperation agreement if the Secretary determines that the work is integral to the project. In light of this special crediting authority, I recommend that for the new plan recommended herein, that any new project authorization allow the Secretary of the Army to provide the non-Federal sponsor credit toward the non-Federal share of the project costs the cost of planning and design work carried out by the non-Federal sponsor in accordance with a) the Project Study Plan dated 28 November 1999, the credit for this work not to exceed $6,500,000; b) a design cost-sharing agreement for the new plan; and c) if after the date of execution of a PCA for the project, in accordance with the PCA; provided that the Secretary determines that the work carried out under each of these agreements is integral to the project. Any credit afforded the sponsor for approved in-kind services will be auditable, allowable, and allocable to the project. Accordingly, to provide credit for this in-kind work, I recommend that the authorized total project cost include an additional $13,000,000, of which $8,450,000 is Federal and $4,550,000 is non-Federal. The total cost for the NED plan to reflect the in-kind credit would be

$99,872,000 ($64,917,000 Federal, $34,955,000 non-Federal), and the total cost for the LPP plan that reflects the NED plan plus the increased levee protection and in-kind credit would be $104,268,000 ($64,917,000 Federal, $39,351,000 non-Federal).

11. It is recognized that the non-Federal sponsor desires 9,000 acre-feet of reservoir storage beyond that provided by the NED plan and the LPP that I am recommending. Additional evaluation of alternatives to increase the maximum design pool may be conducted. The preliminary estimate of the cost to modify the dam to increase the storage to 20,000 acre-feet is approximately $3,088,000. If an alternative is identified during the preconstruction, engineering and design phase of the project, it will be thoroughly evaluated, a post authorization change report will be prepared by the Corps prior to integrating the feature into the overall project, and all implementation costs in excess of the NED plan will be the responsibility of the non-Federal sponsor. Accordingly, I recommend that project authorization allow the Corps of Engineers to integrate into the overall project an alternative to provide additional storage capacity upon a determination by the Chief of Engineers that such alternative is technically feasible and environmentally acceptable; and, to provide for integration of this alternative, I recommend that the authorized total project cost include an additional $3,088,000, which is 100 percent non-Federal cost. Accordingly, to allow integration of the sponsor-preferred reservoir storage and crediting for in-kind planning and design work, I recommend that the Centralia, Chehalis River, project be authorized at an estimated total project cost of $107,356,000, with a Federal cost of $64,917,000 and a non-Federal cost of $42,439,000.

12. Washington level review indicates that the plan I am recommending is technically sound, economically justified, and environmentally and socially acceptable. The plan conforms with essential elements of the U.S. Water Resources Council's Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies and complies with other administrative and legislative policies and guidelines. Also, the views of interested parties, including Federal, State and local agencies, have been considered.

13. My recommendation is subject to cost sharing, financing, and other applicable requirements of WRDA 1986, as amended by Section 202 of WRDA 1996. Project cost sharing for flood damage reduction under this act requires a non-Federal sponsor share of a minimum of 35 percent. Further, the non-Federal sponsor would be responsible for 100 percent of the cost of operation and maintenance of the project. The recommendation is also subject to the non-Federal sponsor agreeing to comply with all applicable Federal laws and policies, including the following requirements:

a. Provide a minimum of 35 percent, but not to exceed 50 percent of total project costs allocated to the NED plan for flood control, as further specified below:

(1) Enter into an agreement which provides, prior to execution of the project cooperation agreement, 25 percent of design costs, either through a cash contribution or through acceptable and allowable in-kind work;

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

(3) Provide, during construction, a cash contribution equal to 5 percent of total project costs allocated to structural flood control;

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

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

(6) Provide, during construction, any additional costs as necessary to make its total contribution equal to at least 35 percent of total project costs allocated to structural flood control and a total of 35 percent of the total project costs allocated to non-structural flood control;

b. Pay 100 percent of the additional cost of the plan for flood control that is in excess of the costs of the NED plan;

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

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

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

f. Hold and save the Government free from all damages arising from the construction, operation, maintenance, repair, replacement, and rehabilitation of the project and any project-

related betterments, except for damages due to the fault or negligence of the Government or the Government's contractors;

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

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

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

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

k. Prevent obstructions of or encroachments on the project (including prescribing and enforcing regulations to prevent such obstructions or encroachments) which might reduce the level of protection the project affords, hinder its operation and maintenance, interfere with the fish and wildlife mitigation measures, or otherwise interfere with the project's proper function, such as any new development on project lands or the addition of facilities which would degrade the benefits of the project;

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

m. Comply with all applicable Federal and State laws and regulations, including, but not limited to: Section 601 of the Civil Rights Act of 1964, PL 88-352 (42 U.S.C. 2000d) and

Department of Defense Directive 5500.11 issued pursuant thereto; Army Regulation 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army;" and all applicable federal labor standards requirements including, but not limited to, 40 U.S.C. 3141-3148 and 40 U.S.C. 3701-3708 [revising, codifying and enacting without substantive change the provisions of the Davis-Bacon Act (formerly 40 U.S.C. 276a *et seq.*), the Contract Work Hours and Safety Standards Act (formerly 40 U.S.C. 327 *et seq.*) and the Copeland Anti-Kickback Act (formerly 40 U.S.C. 276c)];

n. Provide 35 percent of that portion of the costs of archeological recovery activities associated with historic preservation, that are in excess of 1 percent of the total amount authorized to be appropriated for the project, in accordance with the cost sharing provisions of the agreement;

o. Participate in and comply with applicable Federal floodplain management and flood insurance programs;

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

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

r. Provide and maintain necessary access roads, parking areas, and other public use facilities, open and available to all on equal terms.

14. The recommendation contained herein reflects the information available at this time and current departmental policies governing formulation of individual projects. It does not reflect program and budgeting priorities inherent in the formulation of a national civil works construction program or the perspective of higher review levels within the executive branch. Consequently, the recommendation may be modified before it is transmitted to the Congress as a proposal for authorization and implementation funding. However, prior to transmittal to the Congress, the sponsor, the State of Washington, interested Federal agencies, and other parties will be advised of any modifications and will be afforded the opportunity to comment further.

CARL A. STROCK
Lieutenant General, US Army
Chief of Engineers