DEPARTMENT OF THE ARMY
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DAEN

DEC 1 8 2015

SUBJECT: Los Angeles River Ecosystem Restoration, Los Angeles, California

THE SECRETARY OF THE ARMY

1. I submit for transmission to Congress my report on ecosystem restoration in and along the Los Angeles River in Los Angeles, California. It is accompanied by the report of the district and division engineers. This report is in partial response to a resolution by the Senate Committee on Public Works approved 25 June 1969, requesting review of "the report of the Chief of Engineers on the Los Angeles and San Gabriel Rivers and Ballona Creek, California, published as House Document numbered 838, Seventy-sixth Congress, and other pertinent reports, with a view to determining whether any modifications contained therein are advisable at the present time, in the interest of providing optimum development of all water and related land resources in the Los Angeles County Drainage Area." Further authority is provided by Section 4018(a) of the Water Resources Development Act (WRDA) of 2007, Public Law 110-114, 121 Stat. 1175-1176, which provides authorization for a study "for environmental ecosystem restoration, flood risk management, recreation, and other aspects of Los Angeles River revitalization that is consistent with the goals of the Los Angeles River Revitalization Master Plan published by the city of Los Angeles…." The city of Los Angeles is the non-federal cost sharing sponsor for the project. Pre-construction engineering and design activities will be continued under the authority provided by the resolutions cited above.

2. The Los Angeles River is the 51-mile-long backbone of an 870-square-mile watershed. It once anchored a system of riparian and freshwater marsh habitat that carried seasonal rains and subterranean flows across the coastal plain to the Pacific Ocean. Over time, a cycle of urban development, flooding, and channelization has diminished aquatic and riparian habitat, reduced plant and wildlife diversity, and disconnected the river from its historic floodplain and nearby significant ecological zones. An 11-mile stretch of the river from Griffith Park to Downtown Los Angeles was identified as having the greatest potential for restoration.

3. The western cottonwood-willow forest association, a riparian ecosystem habitat type once prominent in the Los Angeles River, has been identified as one of the rarest forest types in North America, and one of most endangered ecosystems in the United States. The Los Angeles River study area is within a globally scarce Mediterranean ecosystem which is characterized by hot, dry summers and mild, wet winters and supports evergreen or drought deciduous shrublands and associated habitats. Over 90 percent of the riparian habitat and over 95 percent of the region's wetlands including freshwater marsh have been lost. Due to this large-scale habitat conversion, natural riparian communities persist only as isolated remnants of what was once a vast, interconnected system of rivers, streams, marshes, and vegetated washes. Although they occupy a very small area, these riparian ecosystems in the southwest are very important systems as they

support the majority of biodiversity in the region through their ecological and hydrologic connectivity. Approximately 80 percent of all wildlife uses the riparian ecosystem at some life stage, with more than 50 percent of bird species nesting primarily in riparian habitats. Restoration in the study area has the potential to create and improve habitat for select native fish species including the federally threatened Santa Ana sucker. In addition, the Los Angeles River was selected to be one of seven nationwide first-phase pilots for the Environmental Protection Agency's (EPA) Urban Waters Federal Partnership.

4. The reporting officers recommend a plan authorizing ecosystem restoration and recreation for an approximately 11-mile stretch of the Los Angeles River, from Griffith Park to Downtown Los Angeles, Los Angeles County, California. The recommended plan for ecosystem restoration includes restoration of habitat within 719 acres within and adjoining the river through the following measures and features:

- Riparian habitat corridor restoration throughout the 11 miles;
- Restoration of the Arroyo Seco confluence;
- Restoration of the Verdugo Wash confluence;
- Restoration of riparian habitat, the historic wash and its braided channels in the Los Angeles Trailer and Container intermodal facility site;
- Removal of channel concrete and riverbed restoration for 0.75 miles;
- Restoration of freshwater marsh in the Los Angeles State Historic Park;
- Restoration of riparian habitat and reconnection to the historic floodplain in Taylor Yard;
- River widening;
- Restoration of 13 minor tributaries through stream daylighting;
- Establishment of side channels; and
- Removal of invasive vegetation throughout the project area.

The restoration measures will substantially increase valley foothill riparian strand and freshwater marsh habitat, reestablish connectivity between the river and its historic floodplain, and restore habitat connections to significant habitat areas of the Santa Monica, Verdugo and San Gabriel Mountains. Monitoring and adaptive management of the environmental resources is required to ensure success of the project. The monitoring and adaptive management period will begin upon completion of construction of each feature and continue until ecological success criteria are met, but for no more than ten years. The recommended plan is a deviation from the National Ecosystem Restoration (NER) Plan and is the Locally Preferred Plan (LPP) for ecosystem restoration with a corresponding recreation plan. The recreation features include trails and other features for passive recreation that are compatible with the restored environment.

5. The LPP is greater in cost and scope than the NER Plan. Based upon October 2015 price levels, the NER Plan has an estimated total first cost for ecosystem restoration of $694,114,000 and provides restoration outputs of 5,989 average annual habitat units (AAHUs) measured using the Combined Habitat Assessment Protocols (CHAP) approach. The LPP has an estimated total first cost for ecosystem restoration of $1,338,554,000 and provides restoration outputs of 6,782

AAHUs. In addition to ecosystem restoration, the recommended LPP includes approximately $18,054,000 for recreation, for an estimated total first cost of $1,356,608,000. The non-federal sponsor would be responsible for the operation, maintenance, repair, replacement, and rehabilitation (OMRR&R) of the respective ecosystem restoration and recreation features after construction, a cost currently estimated $2,530,000 on an average annual basis.

6. The non-federal sponsor has voluntarily offered to forgo reimbursement for its costs that exceed the non-federal statutory share of project costs. Upon request by the non-federal sponsor, the U.S. Army Corps of Engineers (Corps) recommended and the Assistant Secretary of the Army for Civil Works (ASA(CW)) granted an exception to policy in 2013 to allow the non-federal sponsor to voluntarily forgo reimbursement for non-federal real estate costs in excess of its statutory 35 percent share of the costs of ecosystem restoration. In 2014, based on the request of the non-federal sponsor for an LPP, the Corps specifically requested an exception to policy to recommend the LPP and the ASA(CW) granted this exception to policy. Furthermore, the ASA(CW), citing the unique aspects of the project, permitted the Corps to also consider modified, increased cost sharing of the ecosystem restoration plan, with the continued policy of the non-federal sponsor forgoing reimbursement or credit of lands, easements, rights of way, relocations, and disposal sites (LERRD) which may exceed 35 percent of the LPP.

7. I am recommending federal cost sharing of the LPP, with a 50 percent cost share, modified by the credit limit of 35 percent of ecosystem restoration costs for the value of LERRD provided by the non-federal sponsor, and by the non-federal sponsor's forgoing of reimbursement for LERRD value that may exceed 35 percent of ecosystem restoration costs.

8 The estimated total first cost for the recommended LPP, including recreation is $1,356,608,000. The recreation features have an estimated first cost of $18,054,000, with the federal and non-federal shares estimated at $9,027,000 and $9,027,000 respectively. The first cost for the ecosystem portion of the LPP is currently estimated to be $1,338,554,000, which includes $567,529,000 for design and construction of ecosystem restoration features, and $771,025,000 for LERRD. Equal cost sharing of the ecosystem restoration portion of the LPP between the federal government and the non-federal sponsor would total $669,277,000 each. The non-federal credit for LERRD is limited to 35% of the LPP ecosystem restoration cost, or $468,494,000. The sponsor is required to provide funding for the balance of the non-federal share above this amount, currently estimated to be $200,783,000. The result of this requirement is an estimated non-federal share of project costs of $971,808,000 and a federal share of project costs of $366,746,000 for the ecosystem portion of the LPP. The federal share of the total LPP cost of $1,356,608,000 is estimated at $375,773,000, or 28 percent of the total, and the overall non-federal share is estimated at $980,835,000, or 72 percent of the total.

9. Based on a 3.125 percent discount rate and a 50-year period of analysis, the total average annual costs of the project is estimated to be $58,647,000, with $57,703,000 for the ecosystem restoration purpose and $944,000 for the recreation purpose. Ecosystem restoration benefits for the selected plan include generating an estimated 6,782 AAHUs and restoring 719 acres.

Average annual recreation benefits are estimated to be $3,510,000, with net average annual benefits of $2,566,000 and a benefit/cost ratio of 3.72.

10. The recommended plan was formulated and developed in coordination and consultation with various federal, state and local agencies to restore the ecosystem in and along the 11-mile stretch of the river within project constraints. Study formulation looked at a wide range of structural and non-structural alternatives. The study was conducted using a watershed perspective to examine ecosystem changes and connections within the watershed. CHAP and our cost effectiveness and incremental cost analysis techniques were used to formulate and evaluate restoration solutions. Goals and objectives included in the Environmental Operating Principles and the Campaign Plan of the Corps have been integrated into the Los Angeles River ecosystem restoration study process. The recommended plan would have substantial beneficial impacts for biological, water, aesthetic, and recreation resources and for environmental justice. The recommended plan would result in unavoidable significant adverse impacts to existing land use designations by converting land currently used for industrial purposes to riparian habitat.

11. The project would modify features of an existing federal project, the Los Angeles County Drainage Area (LACDA) project, authorized by the Flood Control Acts of 1936, 1938, and 1941, as amended. The modifications to this project will not impair the purposes for which it was authorized or the benefits it currently provides. The recommended plan is not currently estimated to result in an incremental increase in Corps OMRR&R costs for the existing LACDA project maintenance activities. Sea level rise is not expected to directly affect this project.

12. In accordance with Corps Engineer Circular (EC) 1165-2-214 (12 December 2012) on review of decision documents, all technical, engineering and scientific work underwent an open, dynamic and rigorous review process to ensure technical quality. This included District Quality Control (DQC), Division Quality Assurance (DQA) reviews, Agency Technical Review (ATR), an Independent External Peer Review (IEPR) (Type I), Cost Engineering Review and Certification, policy and legal compliance review, and model review and approval. All concerns of the ATR have been addressed and incorporated in the final report. The IEPR was completed by Battelle Memorial Institute. Battelle selected and managed an IEPR panel of experts with technical expertise in arid region riverine system ecology, socioeconomics, hydrologic and hydraulic (H&H) modeling, and geotechnical engineering. A total of 18 comments were documented. In summary, the panel felt that the engineering, economics and environmental analysis were adequate. However, following public review of the draft feasibility report, the panel recommended additional connectivity analysis be conducted and documented in the final report. The IEPR review comments and the recommended connectivity analysis did not result in significant changes to the plan formulation, engineering assumptions, and environmental analyses that supported the decision-making process and plan selection. All comments from the above referenced reviews have been addressed and incorporated in the final documents. Overall, the reviews resulted in improvement to the technical quality of the report. Since the project would modify features of the LACDA, which has associated levees, a safety assurance review (Type II IEPR) will be conducted during the design and construction phase of the project.

13. Washington-level review indicates that the project recommended by the reporting officers is technically sound, environmentally and socially acceptable, and economically justified. The plan complies with all essential elements of the U.S. Water Resources Council's 1983 Economic and Environmental Principles and Guidelines for Water and Land Related Resources Implementation Studies and complies with other administrative and legislative policies and guidelines. The views of interested parties, including federal, state, and local agencies have been considered. State and agency comments received during review of the final report and environmental impact report primarily expressed support for the project and appreciation for addressing previous comments.

14. I concur with the findings, conclusions, and recommendations of the reporting officers. Accordingly, I recommend that the plan for ecosystem restoration and recreation for the Los Angeles River, California, be authorized at an estimated project first cost of $1,356,608,000 with such modifications as in the discretion of the Chief of Engineers may be advisable. This recommendation is consistent with applicable requirements of federal laws and policies, except with regard to the cost sharing of the ecosystem restoration features. The cost sharing that I have recommended departs from that required by Section 103 of WRDA 1986, as amended (33 U.S.C. 2213). Therefore, implementation of my recommendation will require the enactment of express statutory language authorizing cost sharing that deviates from Section 103. In making this recommendation, I have carefully considered the unique aspects of the project. Federal implementation of the recommended project also would be subject to the non-federal sponsor agreeing to comply with all applicable federal laws and policies, including, but not limited to, the following:

a. Provide a minimum of 50 percent of total LPP costs as further specified below:

1. Provide 35 percent of design costs in accordance with the terms of a design agreement entered into prior to commencement of design work for the project;

2. Provide all LERRD determined by the government to be necessary for construction, operation, and maintenance of the project, and provide relocation assistance, all in compliance with applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 U.S.C. 4601-4655), and the regulations contained in 49 C.F.R. Part 24;

3. Provide, during construction, a contribution of funds necessary to make its total contribution of ecosystem restoration costs equal to 50 percent, where credit for LERRD is limited to 35 percent of the total ecosystem restoration cost;

4. Provide, during construction, a contribution of funds necessary to make its contribution of recreation costs equal to 50 percent;

5. Provide, during construction, 100 percent of excess recreation costs in the event that the federal share of total recreation costs exceeds 10 percent of the federal share of total ecosystem restoration costs;

b. Prevent obstructions or encroachments on the project (including prescribing and enforcing regulations to prevent such obstructions or encroachments) such as any new developments on project lands, easements, and rights-of-way or the addition of facilities which might reduce the outputs produced by the ecosystem restoration features, hinder operation and maintenance of the project, or interfere with the project's proper function;

c. Shall not use the ecosystem restoration features or lands, easements, and rights-of-way required for such features as a wetlands bank or mitigation credit for any other project;

d. Keep the recreation features, and access roads, parking areas, and other associated public use facilities, open and available to all on equal terms;

e. For so long as the project remains authorized, operate, maintain, repair, rehabilitate, and replace the project, or functional portions of the project, including any mitigation features, at no cost to the government, in a manner compatible with the project's authorized purposes and in accordance with applicable federal and state laws and regulations and any specific directions prescribed by the government;

f. Hold and save the United States free from all damages arising from the construction, operation, maintenance, repair, rehabilitation, and replacement of the project and any betterments, except for damages due to the fault or negligence of the United States or its contractors;

g. Perform, or ensure performance of, 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), as amended (42 U.S.C. 9601-9675), that may exist in, on, or under lands, easements, or rights-of-way that the government determines to be required for construction, operation, and maintenance of the project. However, for lands that the government determines to be subject to the navigation servitude, only the government shall perform such investigations unless the government provides the non-federal sponsor with prior specific written direction, in which case the non-federal sponsor shall perform such investigations in accordance with such written direction;

h. Assume, as between the government and the non-federal sponsor, complete financial responsibility for all necessary remediation and response costs of any hazardous substances regulated under CERCLA that are located in, on, or under lands, easements, or rights-of-way that the government determines to be required for construction, operation, and maintenance of the project; and

i. Agree, as between the government and the non-federal sponsor, that 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, rehabilitate, and replace the project in a manner that will not cause liability to arise under CERCLA.

15. 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 Congress, the non-federal sponsor, the state, interested federal agencies, and other parties will be advised of any significant modifications and will be afforded an opportunity to comment further.

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Chief of Engineers