DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
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MAY 26 2022

MEMORANDUM FOR THE SECRETARY OF THE ARMY

SUBJECT: Tacoma Harbor Navigation Improvement Project, Washington

1. I submit, for transmission to Congress, my report on deep draft navigation improvements for Tacoma Harbor, Washington. It is accompanied by the report of the District Commander. This report is an interim response to the study authority of Section 209 of the Rivers and Harbors Act of 1962, Public Law 87-874, stating: "The Secretary of the Army is hereby authorized and directed to cause surveys for flood control and allied purposes, including channel and major drainage improvements, and floods aggravated by or due to wind or tidal effects, to be made under the direction of the Chief of Engineers, in drainage areas of the United States and its territorial possessions, which include the following named localities:...Puget Sound, Washington, and adjacent waters, including tributaries, in the interest of flood control, navigation, and other water uses and related land resources." Preconstruction, Engineering and Design (PED) activities, if funded, would be continued under this same authority.

2. Tacoma Harbor is at the mouth of the Puyallup River in Puget Sound's Commencement Bay, at Tacoma, Washington. The Blair Waterway is currently -51 feet Mean Lower Low Water (MLLW). In the past decade, ships calling at the Port of Tacoma have increased in size and draft at a dramatic pace. The larger vessels have draft requirements deeper than -51 feet MLLW when fully laden, and therefore face tidal delays and other transportation inefficiencies when arriving and departing the waterway. The Port of Tacoma is a rapidly expanding major port, currently ranking as the 25th largest U.S. port in terms of total tonnage (containerized and non-containerized), the 9th largest container port individually, and the 4th largest container gateway, when combined with the Port of Seattle as the Northwest Seaport Alliance. Tacoma Harbor is an essential part of the U.S. west coast and national transportation system and is a critical gateway for the import and export of goods moving between Asia and the Pacific Northwest, and the U.S. Midwest. Tacoma Harbor's channel depth of -51 feet MLLW in the Blair Waterway limits the efficiency of larger containerships (14,000 twenty-foot equivalent units (TEU) to 18,000 TEUs) that have draft requirements greater than -51 feet MLLW. As a result, the waterborne transportation system incurs higher costs as vessels either light-load and make more trips to transport the same cargo volume or fully-load and wait on high tides to transit the channel. There is insufficient capacity at other U.S. ports to divert larger containerships to deeper ports. Without the capacity to accommodate larger ships more efficiently at Tacoma Harbor, the U.S. may lose trade to deeper Canadian ports and face increasingly higher transportation costs.

3. The reporting officers recommend a project that will contribute to the economic efficiency of commercial navigation. The recommended plan is the National Economic Development (NED) Plan and includes deepening the channel project depth of the Blair Waterway to -57 feet Mean Lower Low Water (MLLW) and restoring up to 64 acres of nearshore and subtidal habitat through the beneficial use of dredged material at the Saltchuk site.

4. The project area is within the Commencement Bay, Nearshore/Tideflats Superfund Site, in Tacoma, Washington, listed by the U.S. Environmental Protection Agency (EPA) on the National Priorities List under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. §§ 9601-9675. Limited sampling conducted by USACE to support this study has indicated the presence of sediment unsuitable for open-water disposal. The EPA noted this in the Commencement Bay Nearshore/Tideflats Superfund Site Fifth Five Year Review conducted in 2020. EPA acknowledged in a letter dated 14 August 2020 that USACE could manage these sediments with the standard best management practices identified in the feasibility report for the Tacoma Harbor project, and used during typical navigation dredging projects with unsuitable material for open water disposal. During the PED Phase of the project, USACE will conduct a full sediment sampling and characterization to determine suitability of open water disposal associated with the project footprint. Given the current numerous state and Federal cleanup sites and current remedies in place, the sampling plan will have an independent review conducted by the Environmental and Munitions Center of Expertise (CEHNC) to advise that the plan is adequate and accounts for potential sources of environmental risk or liability from areas impacted by the project footprint. USACE will engage EPA Region 10 and the Toxics Cleanup Program at Washington Department of Ecology to review the sampling results in the context of CERCLA and the Commencement Bay Nearshore Tideflats Superfund project and other areas impacted by the footprint of the project. If the regulatory agencies determine that these results warrant further investigation or remedial response under CERCLA or other applicable Federal or State environmental laws, those activities would be a responsibility of the non-federal sponsor and would be coordinated with, and subject to the approval of, EPA Region 10 and the Toxics Cleanup Program at Washington Department of Ecology. Should a regulatory agency make such a decision, the non-Federal sponsor will be fully responsible for coordinating those efforts prior to USACE proceeding with the navigation project.

5. The non-federal sponsor fully supports the recommended plan. Based on Fiscal Year (FY) 2022 price levels, a 2.25 percent discount rate, and a 50-year period of analysis, the estimated project cost of the recommended plan is $295,328,000, with average annual benefits of $152,715,000; an average annual cost of $14,259,000; net benefits of $138,456,000; and a benefit-to-cost ratio of 10.7. The recommended plan

consists of the following navigation improvements to Blair Waterway:

a. Deepen the existing project channel in the Blair Waterway to -57 feet MLLW.

b. Widen portions of the existing channel in the Blair Waterway to between 450 feet to 865 feet.

c. Expand the existing turning basin at the end of the Blair Waterway to a diameter of up to 1,935 feet and deepen the turning basin to -57 feet MLLW.

d. Under the recommended plan, approximately 562,000 cubic yards of dredged material would be placed in the Commencement Bay Dredged Material Management Program (DMMP) open-water, non-dispersive site, and approximately 392,000 cubic yards would be placed at an upland facility. Additional sampling and characterization of the sediments will be conducted during the PED phase, in coordination with the EPA and other DMMP agencies, and the results may affect these estimates.

e. The recommended plan also includes beneficial use of the dredged material. Approximately 1,850,000 cubic yards of the dredged material that would otherwise be placed in Commencement Bay open water disposal site, under the least cost method, will be used to restore approximately 64 acres of nearshore intertidal and subtidal substrate conditions at the Saltchuk site for fish and wildlife species, including Endangered Species Act listed species, to provide 14.5 Average Annual Habitat Units (AAHUs). As noted above, this will also result in only 562,000 cubic yards of material being placed in Commencement Bay in the recommended plan (compared with full placement of an estimated 2,412,000 cubic yards suitable for open-water disposal), thereby preserving capacity at the Commencement Bay open-water disposal site for other uses in the future. If in the PED phase the Saltchuk site is found to not be feasible, the project would revert to the base plan of full placement of an estimated 2,412,000 cubic yards at the Commencement Bay open-water disposal site. A Monitoring and Adaptive Management Plan has been prepared to evaluate the ecological effectiveness of beneficial use of dredged material placement at the Saltchuk site during and post-construction.

6. Pursuant to Section 7 of the Endangered Species Act (ESA) of 1973, as amended, USACE initiated consultation under the Endangered Species Act on 20 March 2019 and received a letter of concurrence from the U.S. Fish and Wildlife Service on 02 February 2022 and a Biological Opinion from the National Marine Fisheries Service on 16 February 2022. The Biological Opinion included an Incidental Take Statement with Reasonable and Prudent Measures (RPMs) and Terms and Conditions (T&Cs) for USACE to implement to minimize impacts from incidental take as a result of the

proposed action. All RPMs and T&Cs resulting from this consultation will be implemented. USACE will continue coordination with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, state agencies, and the Puyallup Indian Tribe as design of the recommended plan is finalized.

7. The Port of Tacoma is the non-federal cost sharing sponsor for all features.

8. Project costs for the recommended plan are allocated to the commercial navigation purpose and to beneficial use of dredged material for ecosystem restoration and are based on October 2021 price levels.

a. Project First Cost. The estimated first cost of the recommended plan, which includes the beneficial use of dredged material, is $295,328,000. This project first cost estimate includes the cost of construction of $269,541,000; the cost of lands, easements, rights-of-way and relocations (LERRs) of $307,000; planning, engineering, and design costs of $10,530,000; and construction management costs of $14,950,000. The estimated project first cost for the general navigation features (GNF) is $285,479,000, and the estimated project first cost for the beneficial use of dredged material that is above the least cost placement is $9,542,000, which includes an estimated $142,000 for monitoring. The operation, maintenance, repair, replacement, and rehabilitation (OMRR&R) estimate is $4,755,000 per 25-year dredge cycle or $9,510,000 over the 50-year period of analysis.

b. Estimated Federal and Non-Federal Share. The federal share of the project first cost of the recommended plan including beneficial use is estimated to be $120,701,000 and the non-federal share is estimated to be $174,627,000 (including the payment described below in Paragraph d). In accordance with the cost sharing provisions in Section 101(a) of the Water Resources Development Act (WRDA) of 1986, as amended (33 U.S.C.§ 2211(a)), which includes a 50 percent federal and an initial 50 percent non-federal cost-share for GNF greater than -50 feet MLLW (as amended by Section 1111 of WRDA 2016), the federal share of the navigation features is estimated to be $142,740,000 and the non-federal share of the navigation features is estimated to be $142,740,000. In accordance with the cost sharing provisions of Section 103(c)(7) of WRDA 1986, as amended (33 U.S.C. § 2213(c)(7)), where the cost of beneficial use is shared based on ecosystem restoration, the federal share of the beneficial use of dredged material is estimated to be $6,202,000 and the non-federal share is estimated to be $3,340,000, which is based on a 65 percent federal and 35 percent non-federal share. The non-federal sponsor is also required to provide 50 percent of the excess costs attributable to GNF maintenance over -50 feet MLLW. Operation, maintenance, rehabilitation, repair, and replacement of the beneficial use site is not anticipated at this time, but is a non-federal responsibility. The value of LERR is 100 percent non-federal

and is estimated to be $307,000.

c. Should any necessary investigations or response actions under CERCLA or other applicable Federal or State environmental laws be found necessary through sampling during PED, as described under paragraph 4, above, or if contaminants that constitute hazardous, toxic or radioactive waste (HTRW) are identified during any Phase II Environmental Site Assessment associated with upland sites warranting federal or state regulatory action, the non-Federal sponsor will be 100 percent responsible for all response actions, including investigations, the conduct of removal or remedial actions, and the protection of existing remedial components, prior to construction.

d. Additional 10 Percent Payment. In addition to payment by the non-federal sponsor of its share of the total cost of design and construction of the GNFs during design and construction, the non-federal sponsor must pay an additional 10 percent of the cost of the GNFs in cash over a period not to exceed 30 years, with interest, in accordance with Section 10l(a)(2) of WRDA 1986, as amended (33 U.S.C. 221 l(a)(2)). The value of LERRs and the costs of utility relocations, should they become necessary, will be credited toward this amount in accordance with Section 10l(a)(3) of WRDA 1986, as amended (33 U.S.C.§ 221 l(a)(3)). The additional 10 percent less LERR is estimated to be $28,241,000.

e. Local Service Facilities. The associated cost for local service facilities is approximately $112,101,000 for berthing area deepening outside of the federal channel and for dock slope strengthening, which benefit from a deeper channel. These costs are 100 percent non-federal and are not included in the project first costs of the recommended plan.

9. The recommended plan was developed in coordination and consultation with federal, state, and local agencies and numerous tribes. Risk and uncertainty were addressed during the study by completing a cost and schedule risk analysis and a sensitivity analysis. Risk includes project scope, schedule, additional environmental remediation requirements due to environmental response action requirements, costs to address a range of potential outcomes of ongoing environmental compliance, and cost changes if the non-federal sponsor is unable to acquire real estate parcels owned by the Puyallup Tribe that are required for construction. The non-federal sponsor has coordinated with the Puyallup Tribe, and design analysis in PED may avoid the need to acquire this real estate for the project.

10. In accordance with USACE guidance on the review of decision documents, all technical, engineering, and scientific work underwent an open, dynamic, and rigorous review process to ensure technical quality. This includes District Quality Control review, an Agency Technical Review, and USACE policy and legal compliance review. An

exclusion from Independent External Review was granted. All comments from the above referenced reviews have been addressed and incorporated into the final documents.

11. Washington-level review indicates that the plan recommended by the reporting officers is technically sound, environmentally acceptable, and economically justified. The plan complies with all essential elements of the U.S. Water Resources Council's Economic and Environmental Principles and Guidelines for Water and Land Related Resources Implementation Studies. The recommended plan complies with other administration and legislative policies and guidelines. The views of interested parties including federal, state, and local agencies have been considered. Additional information will be developed during the PED phase that will determine how these factors may be affected.

12. I recommend that the plan for navigation improvements for Tacoma Harbor be authorized in accordance with the reporting officers' recommended plan at an October 2021 estimated project first cost of $295,328,000 with such modifications as in the discretion of the Chief of Engineers may be advisable. My recommendation is subject to cost sharing and other applicable requirements of Federal laws, regulations, and policies. Federal implementation of the project for commercial navigation includes, but is not limited to, the following items of local cooperation to be undertaken by the non-Federal sponsor in accordance with applicable Federal laws, regulations, and policies:

a. Provide the non-Federal share of construction costs, as further specified below:

1) Provide, during design, 50 percent of the costs of design for cost-shared features of the project in accordance with the terms of the design agreement for the project;

2) Provide, during construction, 50 percent of the costs of the general navigation facilities allocated to that portion of the project with a channel depth in excess of 50 feet, and 35 percent of the costs to construct the open water beneficial use site for suitable dredged material;

b. Provide all lands, easements, and rights-of-way, including those required for relocations and dredged material placement facilities, acquire or compel the removal of obstructions, and perform or ensure the performance of all relocations, including utility relocations, as determined by the Federal government to be necessary for the construction, operation, and maintenance of the general navigation features;

c. For each relocation of a utility, or portion thereof, located in or under navigable waters of the United States that is required to accommodate a channel depth over 45 feet, pay to the owner of the utility at least one half of the owner's relocation costs, unless the owner voluntarily agrees to waive all or a portion of the non-Federal sponsor's contribution;

d. Pay, with interest over a period not to exceed 30 years following completion of construction of the general navigation features, an additional amount equal to 10 percent of the construction costs of the general navigation features less the amount of credit afforded by the Federal government for the value of the real property interests and relocations, including utility relocations, provided by the non-Federal sponsor for the general navigation features, except for the value of the real property interests and relocations provided for mitigation, which is included in the construction costs of the general navigation features;

e. For general navigation features in excess of 50 feet (MLLW), pay 50 percent of the excess cost of operation and maintenance of the project, which includes operation and maintenance of dredged material placement facilities, over that cost which the Federal government would have incurred for operation and maintenance of the project if the channel had a depth of 50 feet;

f. Ensure that the local service facilities are constructed, operated, and maintained at no cost to the Federal government, and that all applicable licenses and permits necessary for construction, operation, and maintenance of such work are obtained;

g. Give the Federal government a right to enter, at reasonable times and in a reasonable manner, upon the real property interests that the non-Federal sponsor owns or controls for the purpose of operating and maintaining the project;

h. Hold and save the Federal government free from all damages arising from design, construction, operation and maintenance of the project, except for damages due to the fault or negligence of the Federal government or its contractors;

i. Perform, or ensure performance of, any investigations for hazardous, toxic, and radioactive wastes (HTRW) that are determined necessary to identify the existence and extent of any HTRW regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. 9601-9675, and any other applicable law, that may exist in, on, or under real property interests that the Federal government determines to be necessary for construction, operation and maintenance of the general navigation features;

j. Agree, as between the Federal government and the non-Federal sponsor, to be solely responsible for the performance and costs of cleanup and response of any HTRW regulated under applicable law that are located in, on, or under real property interests required for construction, operation, and maintenance of the project, including the costs of any studies and investigations necessary to determine an appropriate response to the contamination, without reimbursement or credit by the Federal government;

k. Perform the non-Federal sponsor's responsibilities in a manner that will not cause HTRW liability to arise under applicable law to the maximum extent practicable; and

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, (42 U.S.C. 4630 and 4655) and the Uniform Regulations contained in 49 C.F.R Part 24, in acquiring real property interests necessary for construction, operation, and maintenance of the project including those necessary for relocations, and placement area improvements; and inform all affected persons of applicable benefits, policies, and procedures in connection with said act.

13. The recommendation contained herein reflects the information available at this time and current departmental policies governing the formulation of individual projects. It does not reflect program and budgeting priorities inherent in the formulation of the national Civil Works construction program or the perspective of higher levels within the Executive Branch. Consequently, the recommendations may be modified before they are transmitted to Congress for authorization and implementation funding. However, prior to transmittal to Congress, the state, interested federal agencies, and other parties will be advised of any significant modifications in the recommendations and will be afforded an opportunity to comment further.

SCOTT A. SPELLMON
Lieutenant General, USA
Chief of Engineers