

FINDING OF NO SIGNIFICANT IMPACT (FONSI)

Howard A. Hanson Dam – Eagle Gorge Reservoir Project Master Plan

King County, Washington

EAXX-202-0-G3O-1754388950

The U.S. Army Corps of Engineers, Seattle District (USACE) has conducted an environmental analysis in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended. The Draft Environmental Assessment (EA) dated June 2026, for the Howard A. Hanson Dam – Eagle Gorge Reservoir Project (HAHD) addresses an update to the Project's Master Plan in King County, Washington.

The Draft EA, incorporated herein by reference, evaluated two reasonable alternatives to provide strategic comprehensive management and development of all project natural, and cultural resources throughout the life of the HAHD Project. The MP update is a major Federal action that requires NEPA compliance. This FONSI documents the analysis that the Federal action will not significantly affect the human or natural environment such that an Environmental Impact Statement is required and the EA analysis is summarized below.

Proposed Action: The preferred alternative (Alternative 2) seeks to replace the 1999 Master Plan, outlining changes and updates necessary to maintain the project and surrounding lands while developing and managing the natural resources and cultural resource programs at HAHD (Section 2.1 of the draft EA). The proposed action would address important updates in response to changes in project authorizations, current environmental conditions, and pertinent laws and policies. The proposed action would provide strategic comprehensive management and development of the project's natural and cultural resources throughout the life of the project. It would also guide planning for efficient and cost-effective management and development for comprehensive use, responsible stewardship, and sustainability.

Under the proposed action, the updated Master Plan organization is by management area with site-specific resource objectives and recommended development needs. Up to nine development needs were identified as routine/small scale actions associated with operations and maintenance activities.

Alternatives: In addition to a "no action" plan, one alternative was evaluated to revise/Update Master Plan. After reviewing the qualities, characteristics, potentials, and authorized purposes of the project, USACE determined it was acceptable to move forward with two alternatives. The potential effects were evaluated for the No Action and Update Master Plan Alternatives. See Section 2 of the Draft EA for alternative formulation and selection. A summary assessment of the potential effects of the Preferred Alternative is listed in Table 1.

Table 1. Summary of Potential Effects of the Proposed Action

	Insignificant effects	Insignificant effects because of mitigation	Resource unaffected by action
Air Quality and Greenhouse Gas Emissions	☒	☐	☐
Geomorphology	☒	☐	☐
Hazardous, Toxic, and Radioactive Waste	☒	☐	☐
Land Use, Utilities, and Infrastructure	☐	☐	☒
Noise Levels	☐	☐	☒
Transportation and Traffic	☒	☐	☐
Water Quantity and Quality	☐	☐	☒
Benthic Invertebrates	☒	☐	☐
Cultural Resources	☐	☐	☒
Fish and Wildlife	☐	☐	☒
Threatened and Endangered Species	☐	☐	☒
Vegetation and Wetlands	☐	☐	☒
Invasive Species	☒	☐	☐
Aesthetics	☒	☐	☐
Public Health and Safety	☒	☐	☐
Recreation and Scenic Value	☒	☐	☐

Impact Minimization: All practicable and appropriate means to avoid or minimize adverse environmental effects were analyzed and incorporated into the preferred alternative (Section 3 of the Draft EA). Best management practices, as detailed in Section 4 of the Draft EA, would be implemented to minimize impacts. Measures include maintaining and cleaning maintenance equipment prior to use near the water, inspecting equipment for drips or leaks, keeping at least one fuel spill kit onsite at all times, and refueling a minimum of 100 feet from the water. Additionally, in-water work will be conducted during the summer when the river level is lowest and the reservoir pool has receded. USACE will implement BMPs to ensure impacts are no greater than minimal, short-term effects as described in Section 4 of the draft EA.

Mitigation: No compensatory mitigation is proposed for this action as no loss of wetlands, no effects on ESA-listed species, and no significant impacts to commercially important species are anticipated to occur based on the analyses in the EA...

Public Review: USACE invites submission of comments on the environmental impact of the proposed action as outlined in the Draft EA/FONSI. USACE will consider all submissions received during the comment period. The nature or scope of the proposal may be changed upon consideration of the comments received. If significant effects on the quality of the human environment are identified and cannot be mitigated, USACE would initiate an Environmental Impact Statement (EIS) and afford all the appropriate public participation opportunities attendant to an EIS.

Treaty Tribes: The Confederated Tribes and Bands of the Yakama Indian Nation, Muckleshoot Indian Tribe, Nisqually Indian Tribe, Puyallup Tribe of the Puyallup Reservation, and the Squaxin Island Tribe of the Squaxin Island Reservation were contacted regarding the proposed action. USACE requested review of the updated Master Plan and draft EA on June 30, 2026 and will continue to coordinate throughout the project to meet Tribal Treaty obligations.

Compliance:

a. Endangered Species Act:

The National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS), and the U.S. Fish and Wildlife Service (USFWS) are responsible for the Endangered Species Act of 1973 (ESA). USACE initially evaluated potential effects to endangered species in an April 2000 Programmatic Biological Assessment (BA) for continued operations and maintenance and Phase I of the AWSP. NMFS and USFWS both issued biological opinions (BiOPs) in October 2000. In February 2014, USACE prepared a Supplemental BA to document changes to cost sharing, redesignation of project elements, and changes in species listing and critical habitat designations. NMFS and USFWS both issued BiOPs in February 2019 and February 2022, respectively.

b. Magnuson-Stevens Fishery Conservation and Management Act:

USACE determined that the Proposed Action will not affect EFH in the Green River because there are no in-water activities and actions in the Master Plan will not reduce the quality or quantity of EFH.

c. Clean Water Act:

USACE determined that the proposed action is not subject to regulation under the Clean Water Act (CWA). The project footprint does not contain regulated wetlands but is adjacent to surface waters regulated under CWA Section 404. All proposed routine O&M and small-scale actions, including pesticide applications, are in the uplands above the ordinary high water mark (OHWM). No activities in the Proposed Action involve discharges below the OHWM.

d. Coastal Zone Management Act:

The proposed project occurs on land owned by the Federal government and is outside the coastal zone (15 CFR 923.33(a)). Because these actions do not affect uses or resources of the coastal zone, no consistency determination is required. A negative determination is not

required. In the future when further site-specific planning is conducted on activities that are generally addressed in the Master Plan, USACE will address CZMA consistency as warranted.

e. National Historic Preservation Act:

Section 106 (54 U.S.C. § 306108) of the National Historic Preservation Act (NHPA) of 1966 (54 U.S.C. § 300101) requires that Federal agencies evaluate the effects of Federal undertakings on historical, archeological, and cultural resources and afford the Advisory Council on Historic Preservation opportunities to comment on the proposed undertaking if there is an adverse effect to an eligible Historic Property. Due to HAHD's eligibility to the National Register, proposed ground-disturbing projects or modifications to the dam structure are reviewed for adverse effects. Depending on the size, scope, and location of the project at HAHD, a cultural resource survey may need to occur to determine if there will be an adverse effect to any of the known cultural resources within the area of potential effects.

The Master Plan is a planning and guidance document and any proposed ground-disturbing projects or modifications to the dam structure associated with the Master Plan are reviewed for adverse effects. Therefore, the Master Plan is in compliance with Section 106 of the NHPA

Draft Determination:

a. Summary of Impacts and Compliance:

The proposed action will seek to replace the 1999 Master Plan and balance operational needs with conservation of natural resources. The updated Master Plan will address important updates in response to changes in regional demographics, current environmental conditions, and pertinent laws and policies. The proposed action will provide strategic comprehensive management and development of HAHD Project lands and their associated natural and cultural resources. It will also guide planning for efficient and cost-effective management and development for comprehensive use, responsible stewardship, and sustainability. No discharges will occur below the OHWM and in-water work or shoreline work occurs on Federal property outside of a coastal zone, so the proposed action complies with the CWA and the CZMA. The HAHD's presence on the Green River affects both Chinook salmon and steelhead, however, development needs for the MP will not affect federally listed species or their critical habitats, and so the project is in compliance with ESA and MSA. The Master Plan is a planning and guidance document, so only undertakings (i.e., projects) resulting from the Master Plan would undergo Section 106 review and SHPO consultation as appropriate. The project complies with the National Historic Preservation Act and USACE has coordinated the work with the Washington SHPO and affected Indian Tribes.

Draft District Engineer's Findings and Conclusion: All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives. Based on the analysis presented in the EA, which has incorporated or referenced the best information available; the reviews by other Federal, State and local agencies, Tribes; input of the public; and the review by my staff, it is my determination that the recommended plan would not cause significant adverse effects on the quality of the human environment. Therefore, preparation of an Environmental Impact Statement is not required.

Date

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Colonel, Corps of Engineers
District Commander

DRAFT ENVIRONMENTAL ASSESSMENT

HOWARD A. HANSON DAM MASTER PLAN KING COUNTY, WASHINGTON

NEPA ID Number: EAXX-202-0-G3O-1754388950

June 2026



**US Army Corps
of Engineers®**

Draft Environmental Assessment

Howard A. Hanson Dam Master Plan

King County, Washington

Responsible Agency: The responsible agency for this Civil Works project is the U.S. Army Corps of Engineers, Seattle District.

In accordance with the National Environmental Policy Act (NEPA), this Draft Environmental Assessment (EA) evaluates the potential effects of the proposed Howard A. Hanson Dam Master Plan.

This document is available online:

<http://www.nws.usace.army.mil/Missions/Environmental/Environmental-Documents/>

Contents

1 PROPOSAL FOR FEDERAL ACTION	8
1.1 PROJECT LOCATION	8
1.2 AUTHORITY	9
1.3 PURPOSE AND NEED	10
1.4 MASTER PLANS.....	11
1.5 LAND ALLOCATION AND LAND CLASSIFICATIONS IN MASTER PLANS	12
1.5.1 Resource Objectives of Master Plans.....	13
1.5.2 Maintenance of Facilities and Area Lands in Master Plans	13
1.5.3 Past Master Plan	13
2 PROPOSED ACTION AND ALTERNATIVES	14
2.1 Alternatives	14
2.2.1 Land Allocation and Land Classification	15
2.2.2 Resource Objectives.....	15
2.2.3 Maintenance of Facilities and Area Lands	15
Alternatives Removed from Further Consideration	16
3.1 LAND USE, UTILITIES, AND INFRASTRUCTURE	18
3.2 CULTURAL RESOURCES.....	19
3.3 ALTERNATIVE 1: NO ACTION ALTERNATIVE (EXISTING MASTER PLAN)	19
3.4 ALTERNATIVE 2: UPDATE MASTER PLAN – PREFERRED ALTERNATIVE.....	20
3.5 FISH AND WILDLIFE	20
3.6 LTERNATIVE 1: NO ACTION ALTERNATIVE (EXISTING MASTER PLAN)	20
3.7 ALTERNATIVE 2: UPDATE MASTER PLAN – PREFERRED ALTERNATIVE.....	21
3.8 THREATENED AND ENDANGERED SPECIES.....	21
3.9 ALTERNATIVE 1: NO ACTION ALTERNATIVE (EXISTING MASTER PLAN)	25
3.10 ALTERNATIVE 2: UPDATE MASTER PLAN – PREFERRED ALTERNATIVE.....	25
3.11 VEGETATION AND WETLANDS.....	26
3.12 ALTERNATIVE 1: NO ACTION ALTERNATIVE (EXISTING MASTER PLAN)	26
3.13 ALTERNATIVE 2: REVISE MASTER PLAN – PREFERRED ALTERNATIVE	26
4 MITIGATION	26

5 UNAVOIDABLE ADVERSE EFFECTS	27
6 COORDINATION	27
7 ENVIRONMENTAL COMPLIANCE.....	28
7.1 AMERICAN INDIAN RELIGIOUS FREEDOM ACT	28
7.2 BALD AND GOLDEN EAGLE PROTECTION ACT.....	28
7.3 CLEAN AIR ACT	28
7.4 CLEAN WATER ACT FEDERAL WATER POLLUTION CONTROL	28
7.5 COASTAL ZONE MANAGEMENT ACT	30
7.6 ENDANGERED SPECIES ACT	30
7.7 FISH AND WILDLIFE COORDINATION ACT	30
7.8 MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT	31
7.9 MARINE MAMMAL PROTECTION ACT.....	31
7.10 MIGRATORY BIRD TREATY ACT OF 1918 AND EXECUTIVE ORDER 13186, RESPONSIBILITIES OF FEDERAL AGENCIES TO PROTECT MIGRATORY BIRDS	32
7.11 NATIONAL ENVIRONMENTAL POLICY ACT	32
7.12 NATIONAL HISTORIC PRESERVATION ACT	33
7.13 AMERICAN TRIBAL TREATY RIGHTS & TRIBAL CONSULTATION UNDER EO 13175, CONSULTATION AND COORDINATION WITH INDIAN TRIBAL GOVERNMENTS	33
7.14 EXECUTIVE ORDER 11988 FLOODPLAIN MANAGEMENT	33
7.15 EXECUTIVE ORDER 11990 PROTECTION OF WETLANDS.....	34
7.16 EXECUTIVE ORDER 13007 NATIVE AMERICAN SACRED SITES	34

LIST OF FIGURES

Figure 1. Location of the Howard A. Hanson Dam in Washington state.....	9
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LIST OF TABLES

Table 1. List of resources considered for detailed effects analysis and rationale for inclusion or exclusion.	17
Table 2. ESA-listed species and designated critical habitat that may be present at or near the HAHD action area.....	21

ACRONYMS AND ABBREVIATIONS

AC-FT	Acre-Feet
AQI	Air Quality Index
AWSP	Additional Water Storage Project
BA	Biological Assessment
BMP	Best Management Practices
CA	Cooperation Agreement
CFR	Code of Federal Regulation
cfs	cubic feet per second
CAA	Clean Water Act
CY	Cubic yards
CZMA	Coastal Zone Management Act
DAHP	Washington State Department of Archeology and Historic Preservation
dB	Decibel
DBH	Diameter at breast height
EA	Environmental Assessment
Ecology	Washington State Department of Ecology
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EO	Executive Order
ER	Engineering Regulation
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
FONSI	Finding of No Significant Impacts
HTL	High Tide Line
LWM	Large Woody Material
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service/NOAA Fisheries
NWP	Nationwide Permit

O&M Operations and Maintenance

OHWM Ordinary High-Water Mark

RM River Mile

sp./spp Species (singular and plural)

SRKW Southern Resident Killer Whale

U.S.C. United States Code

USACE U.S. Army Corps of Engineers, Seattle District

USFWS United States Fish and Wildlife Service

USGS U.S. Geological Survey

WDFW Washington Department of Fish and Wildlife

WRDA Water Resources Development Act

1 PROPOSAL FOR FEDERAL ACTION

The U.S. Army Corps of Engineers, Seattle District (USACE), has prepared this Environmental Assessment (EA) in accordance with (1) the National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S.C. § 4321 et seq.), and (2) USACE procedures for implementing NEPA (33 CFR 230, <https://www.federalregister.gov/select-citation/2021/12/16/7-CFR-1>). The then-existing NEPA regulations apply because the EA preparation began prior to the July 3, 2025 rescission and replacement of the USACE regulations implementing NEPA (90 FR 29463), which states that “Actions that were ongoing as of July 3, 2025 will continue to use the rule in place at the time the action was stated”. This effort began on April 23, 2025, therefore, this EA was prepared in accordance with the Corps' procedures implementing NEPA for the Civil Works program (53 Fed. Reg. 3120-3137 (Feb. 3, 1988), and the NEPA statute. (42 U.S.C. §4321 et seq.)" Pursuant to Section 102(C) of NEPA, this assessment evaluates the environmental consequences of the proposed development and management of natural and cultural resources under a revised Master Plan at Howard A. Hanson Dam.

1.1 Project Location

The Howard A. Hanson Dam (HAHD) is in Western Washington, 45 miles southeast of Seattle and 64.3 river miles (RM) above the mouth of the Green-Duwamish River system in Section 28, Township 21 North, Range 8 East (Figure 1). The dam lies within the Tacoma municipal watershed, a primary drinking water supply for the region, and access to much of the over 220 square miles of watershed above HAHD is closed to the public.

HAHD is located within the Green-Duwamish River watershed. The entire watershed is approximately 486 square miles (WDOE 2019), and the overall length of the Green-Duwamish River is approximately 93 miles, with the headwaters of the Green River on the west flank of Blowout Mountain. There are 48 tributaries that enter the system above HAHD with the largest being the North Fork of the Green River. These tributaries lie within the snow zone and exhibit two distinct discharge peaks associated with fall rainstorms and spring snowmelt. Beyond the Tacoma municipal watershed within the Green-Duwamish River watershed, the rest of the area is owned by private timber companies, the Burlington Northern and Santa Fe Railway Company, the Washington State Department of Natural Resources, and the US Forest Service (USFS). USFS land is managed as part of the Mt. Baker-Snoqualmie National Forest. Downstream of

HOWARD A HANSON DAM - GREATER VICINITY

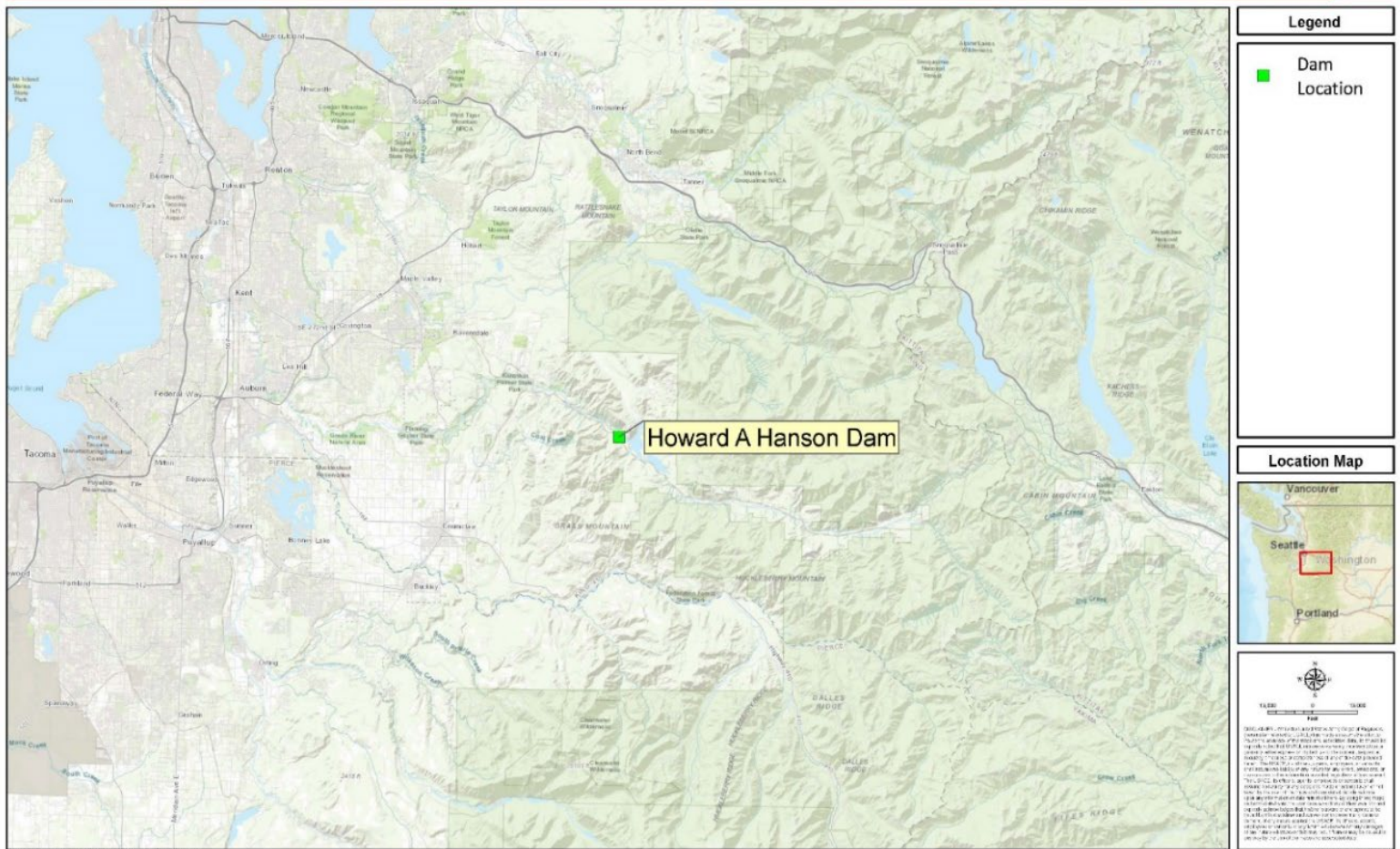


Figure 1. Location of the Howard A. Hanson Dam in Washington state.

HAHD, development increases as the Green River becomes the Duwamish River at the former confluence with the Black and White Rivers around RM 12.

1.2 Authority

In 1949, the USACE Chief of Engineers recommended in House Document 271 (81st Congress, 1st Session) the creation of the Eagle Gorge Reservoir, including a flood control dam, on the Green River in Washington state. The Flood Control Act of 1950 (Public Law 516, 81st Congress, Title II, Section 204), approved May 17, 1950, authorized the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and for other purposes, to include the Eagle Gorge Reservoir and dam. President Truman approved the construction of the dam on May 14, 1952.

Legislation to name the dam after Howard A. Hanson, the prominent attorney, civic leader, and active project sponsor, was signed August 6, 1958 (Public Law 85-592).

Utility relocations were initiated in 1955 and USACE began construction of the dam in 1959. It became operational for flood control in 1961. USACE completed construction in April 1962.

1.3 Purpose and Need

The purpose of the draft EA is to document environmental compliance for the revised HAHD Master Plan. The HAHD Master Plan will guide and direct the future use, development and management of the natural resources and cultural resources programs of HAHD, which also includes the lands of Eagle Gorge Reservoir. The Eagle Gorge Reservoir and watershed above the dam is restricted from public access to protect the City of Tacoma's water supply. Recreation is not allowed within the reservoir or surrounding shoreline. Due to the limited amount of fee-owned land, protected watershed, and lack of recreation, there are very few options for variations in land management. Most of the fee-owned lands are improved land for HAHD operational purposes, including access roads, the dam, and associated structures. The remaining fee-owned land is unimproved with steep slopes and is maintained for native forest habitat as a buffer to keep material and pollutants from entering the municipal water supply.

The existing HAHD Master Plan was completed in 1999 with no comprehensive revision to the Master Plan in more than 20 years. As such, the current Master Plan provides an inadequate basis with which to evaluate contemporary proposals. In addition, two additional authorizations, Section 1135 and Phase I of the AWSP, have also been implemented since 1997 and 1999, respectively. The HAHD Master Plan has been updated to document current operations at HAHD. This draft EA does not evaluate impacts from the Section 1135 projects because they are completed nor the AWSP due to documentation within the 1998 EIS.

The revised Master Plan would also incorporate current USACE land use classification standards, updated authorizations, include contemporary requirements mandated by federal environmental laws, and better reflect USACE's Environmental Operating Principals, natural resource management mission, environmental stewardship, and ecosystem management principles. Activities carried out at HAHD in support of the Master Plan resource objectives include: facilities and road maintenance, resource surveys, invasive species management, embankment monitoring, log boom repair, timber management, maintenance of infrastructure and utilities, management of spawning gravel and large woody material, boundary maintenance, and maintenance of riparian areas for minimum flow and shade required by fish. Section 5 of the Master Plan describes operation and maintenance activities as well as development needs in more detail. This draft EA evaluates various alternatives to provide strategic, comprehensive management, and development of natural and cultural resources and project activities at HAHD as identified in the revised Master Plan (USACE 2025).

1.4 Master Plans

Master Plans are required for civil works projects and other government-owned lands for which USACE has administrative responsibility for management of natural and human-made resources. Engineer Pamphlet (EP) 1130-2-550 (USACE 1996) establishes guidance for the preparation of Master Plans. As stated therein, the primary goals of the Master Plans are to prescribe an overall land and water management plan, resource objectives, and associated design and management concepts, which:

- (1) Provide the best possible combination of responses to regional needs, resources capabilities and suitabilities, and expressed public interests and desires consistent with authorized project purposes;
- (2) Contribute towards providing a high degree of recreation diversity within the region;
- (3) Emphasize the particular qualities, characteristics, and potentials of the project; and
- (4) Exhibit consistence and compatibility with national objectives and other state and regional goals and programs.

The Master Plan provides guidance for future project development and use, and is based on authorized project purposes (flood control, fish conservation, municipal & industrial water storage, ecosystem restoration), USACE policies and regulations on the operation of USACE projects (USACE 1985; 1996; 1999), responses to regional and local needs, resource capabilities and suitable uses, and expressed public interests consistent with authorized project purposes and pertinent legislation. The Master Plan provides policy on use of USACE operating project lands consistent with national objectives and other state and regional goals and programs.

A Master Plan is a dynamic operational document projecting what could and should happen over the life of the project and is flexible based upon changing conditions. The Master Plan deals in concepts, not details, of design or administration. Detailed management and administration functions are addressed in a five-year Operational Management Plan (OMP), which implements the concepts defined in a Master Plan. Tiered analysis of the OMP is the primary way that future detailed, site-specific actions would be addressed fully under NEPA.

An updated Master Plan for the HAHD Project would not address regional water quality, water level management, shoreline management, the operation and maintenance (O&M) of project operations facilities (i.e., dam and/or spillway), or the O&M of the fish passage facility.

1.5 Land Allocation and Land Classifications in Master Plans

Land allocation at all USACE Civil Works water resource projects is based on the congressionally authorized purpose for which the project lands were acquired. There are four land allocation categories applicable to USACE projects: (1) Operations, (2) Recreation, (3) Fish and Wildlife, and (4) Mitigation. At HAHD, USACE administered lands allocated as Operations were acquired for the construction and operations of the project for flood control. Lands allocated for Fish and Wildlife are managed for vegetation to protect and enhance fish and wildlife habitat. The HAHD Project does not have lands open to the public for recreation in order to protect the water supply. The lands comprising each individual USACE-administered property have been further classified (“zoned”) to provide for development and resource management consistent with authorized purposes, the provisions of applicable regulations, and the specific features and amenities within each area. Land-use classifications were revised in 2013 (USACE 2013) after the previous Master Plan was approved, and the classifications applicable to the HAHD Project are the following:

- **Project Operations** – This category includes those lands required for the dam, spillway, offices, maintenance facilities, and other areas used solely for the operation of the Project.
- **High Density Recreation** – Lands developed for intensive recreational activities for the visiting public such as day use areas and/or campgrounds. HAHD is not open for public access so no land is managed for recreation.
- **Environmentally Sensitive Areas** – Areas where scientific, ecological, cultural, or aesthetic features have been identified. Designation of these lands is not limited to just lands that are otherwise protected by laws such as Endangered Species Act (ESA), the National Historic Preservation Act (NHPA) or applicable State statutes. These areas must be considered by management to ensure they are not adversely impacted.
- **Multiple Resource Management (MRM)** – This classification allows for the designation of a predominate use as described below, with the understanding that other compatible uses described below may also occur on these lands. Land classification maps must reflect the predominant sub-classification, rather than just Multiple Resource Management. There is one MRM subcategory at the HAHD Project as described in the following bullet:
 - o **Vegetation** – These lands are managed to protect and enhance habitat for fish and wildlife.
- **Water Surface** – Administration of a surface water zoning program.

- o No river areas directly upstream or downstream of HAHD are designated as hazardous zone or restricted since the area is not open to the public.

Project Easement Lands – All lands for which USACE holds an easement interest, but that are not government owned. Planned use and management of easement lands would be in strict accordance with the terms and conditions of the easement estate acquired for the HAHD Project. Easements were acquired for specific purposes and do not convey the same rights or ownership to USACE as other lands. For the HAHD Project, USACE retains rights to lands necessary for project operations. The majority of easements around HAHD are flowage or inundation easements and the rest are for road and utility rights-of-way.

1.5.1 Resource Objectives of Master Plans

Resource objectives are realistically attainable outcomes for the use, development, and management of natural and anthropogenic resources. Resource objectives are developed with full consideration of authorized project purposes, applicable Federal laws and directives, resource capabilities, regional needs, plans and goals of regional and local governmental units, and expressed public desires. These objectives enhance project benefits, meet public needs, and foster environmental sustainability. Project-wide resource objectives are statements that are specific to the HAHD Project which specify the selected options for resource use, development, and management as determined through study and analysis of regional needs, resource capabilities and potentials, and public desires.

1.5.2 Maintenance of Facilities and Area Lands in Master Plans

As resource managers, USACE is required to maintain and/or repair existing facilities and infrastructure to continue to provide a safe working and recreational environment. In addition, USACE is required to protect natural areas and natural resources.

1.5.3 Past Master Plan

The premier Master Plan of the HAHD Project was completed in August 1999 as Design Memorandum No. 27 (USACE 1999). The 1999 Master Plan contained plans for development, operation, and administration of Project lands and water areas for the best use of the land in the interest of the public.

The 1999 Master Plan established the policies and procedures for administration and operation set forth to assure preservation of the scenic, biological, and cultural resources. Coordination with interested Federal, state, and local agencies also occurred. The plan was intended to be flexible and would be revised to meet changing needs and conditions. It provided a guide for the use, development, and management of the natural and human-made resources of the HAHD Project that has been in effect for more than 25 years.

Land classifications were allocated for HAHD Project lands and specific recommendations for both short- and long-term development and resource management were identified for each classification area. These recommendations included maintenance and operations and cooperative planning with Federal, state, local and citizen interests. The HAHD Project was evaluated for inclusion on the National Register of Historic Places in 2010 and the Howard Hanson Dam Archaeological District eligibility for the National Register is complete. The 1999 Master Plan therefore included resource objectives and land management measures related to these designations for the purpose of preservation. An objective of the 1999 Master Plan was to increase resource management effectiveness and provide the basis for preparation of other USACE operational plans.

2 PROPOSED ACTION AND ALTERNATIVES

The National Environmental Policy Act of 1969 requires Federal agencies, including USACE, to consider the potential environmental impacts of their proposed actions and any reasonable alternatives before undertaking a major Federal action. The law was enacted on January 1, 1970. NEPA requires Federal agencies to include a description and analysis of a “no action” alternative; to identify the preferred alternative; and briefly summarize alternatives that were considered, but eliminated from further study, and why they were eliminated. The two alternatives evaluated in this EA are described in each section below:

2.1 Alternatives

Alternative 1: No Action Alternative (Existing Master Plan)

The no action alternative being evaluated is considered “no change” from current management direction or level of management intensity covered under the 1999 Master Plan. Therefore, the “no action” alternative would continue the present course of action under the 1999 Master Plan until that action is changed under an updated (revised) Master Plan. Because a Master Plan provides the basis for evaluating contemporary land management proposals, the 1999 document cannot account for changes that may have occurred over the past 26 years. Therefore, the 1999 Master Plan provides less support to the development and management of the project.

Under the no action alternative, development and management of the project would generally follow the practices of the proposed updated Master Plan. Therefore, it is reasonable to assume the same environmental effects. Depending on the types of future developments or resource management policies, these could be evaluated on a case-by-case basis.

2.1.1.Land Allocation and Land Classification

Analysis of land allocation and land classification under Alternative 1 is addressed in the 1999 Master Plan and incorporated by reference.

2.1.2 Resource Objectives

Analysis of resource objectives under Alternative 1 is addressed in the 1999 Master Plan and incorporated by reference.

2.1.3 Maintenance of Facilities and Area Lands

Analysis of maintenance of facilities and area lands under Alternative 1 is addressed in the 1999 Master Plan and incorporated by reference.

Alternative 2: Update Master Plan (Preferred Alternative)

Under the preferred alternative (Alternative 2), an updated Master Plan would balance project authorizations with conservation of natural and cultural resources. It would also guide planning for efficient management and development for comprehensive use, responsible stewardship, and sustainability of these resources. The Proposed Revised Master Plan would address important updates in response to authorizations implemented since 1999, current environmental conditions, and pertinent laws and policies. The Preferred Alternative would provide strategic, comprehensive management and development of all natural and cultural resources throughout the life of the USACE project. The 2026 Master Plan meets regional goals associated with good stewardship of land and water resources and allows for continued use and development of USACE lands without violating national policies or public laws.

2.2.1 Land Allocation and Land Classification

USACE land use classifications were updated in 2013. Analysis of land allocation and land classification under Alternative 2 is addressed in the Master Plan and incorporated by reference.

2.2.2 Resource Objectives

Activities related to the Project's land classification resource objectives have expanded to incorporate natural resource inventories and invasive species management. Analysis of resource objectives under Alternative 2 is addressed in the Master Plan and incorporated by reference.

2.2.3 Maintenance of Facilities and Area Lands

An assessment of Project facilities and lands for fire resilience and monitoring of easement lands for unauthorized activity (looting) have been incorporated in the updated Master Plan. Analysis of maintenance of facilities and area lands under Alternative 2 is addressed in the Master Plan and incorporated by reference.

Alternatives Removed from Further Consideration

A master plan is a stewardship-driven document that land managers use to balance operational development and use with the protection and conservation of natural and cultural resources. The updated Master Plan identifies the natural resources at HAHD and their management and conservation.

Reasonable alternatives for this EA must conform to USACE policy to meet the stated purpose and need. After reviewing the qualities, characteristics, potentials, and authorized purposes of the project, USACE determined it was acceptable to move forward with two alternatives. Due to restricted public access to the watershed and the Project's current authorizations, no other alternatives were considered.

3 ALTERNATIVES COMPARISON

This section provides information on the existing conditions of resources within the project area and issues relevant to the decision process for selecting the preferred alternative. Existing conditions are the physical, biological, and socioeconomic characteristics of the project area. Factors for selecting the preferred alternative can include, but are not limited to, which of the alternatives meet the purpose and need for the project and the Federal standard. The resources evaluated for detailed analysis and a rationale for inclusion or exclusion are presented in Table 1. USACE excluded resources from detailed analysis if they are not potentially affected by the alternatives or have no material bearing on the decision-making process.

Table 1. List of resources considered for detailed effects analysis and rationale for inclusion or exclusion.

Resource	Included in Detailed Analysis (Y/N)	Rationale for inclusion or exclusion
Air Quality and Greenhouse Gas Emissions	N	The proposed action and alternatives in the updated Master Plan are not anticipated to have a measurable effect on air quality nor greenhouse gas emissions.
Geomorphology	N	The proposed Master Plan actions in the Green River are not anticipated to affect geomorphological processes (sediment transport, bank erosion, channel migration, channel aggradation).
Hazardous, Toxic, and Radioactive Waste	N	The proposed action and alternatives in the updated Master Plan are not anticipated to have a measurable effect on hazardous, toxic, and radiological waste.
Land Use, Utilities, and Infrastructure	Y	The proposed actions in the updated Master Plan may affect utilities such as the Tacoma Headworks dam downstream.
Noise Levels	N	The proposed action and alternatives in the updated Master Plan are not anticipated to have a measurable effect on noise.
Transportation and Traffic	N	The proposed action and alternatives in the updated Master Plan are not in an area available to the public.
Water Quantity and Quality	N	The proposed actions and alternatives in the updated Master Plan are not anticipated to have a measurable effect on water quantity or water quality.
Benthic Invertebrates	N	The proposed actions in the updated Master Plan are not anticipated to have a measurable effect on benthic invertebrates.
Cultural Resources	Y	The proposed actions in the updated Master Plan may affect cultural resources in the HAHD reservoir and along the bank of the Green River.

Fish and Wildlife	Y	The proposed actions in the updated Master Plan may affect fish and amphibians in the Green River through maintenance activities near or on the shore.
Threatened and Endangered Species	Y	The proposed actions in the updated Master Plan may affect species listed under the Endangered Species Act (ESA) and/or their designated critical habitat, particularly steelhead trout and Puget Sound Chinook salmon.
Vegetation and Wetlands	Y	The proposed actions in the updated Master Plan may affect vegetation growth patterns and wetlands in and adjacent to the HAHD reservoir.
Invasive Species	N	The proposed action and alternatives in the updated Master Plan are not anticipated to have a measurable effect on the abundance, type, or distribution of invasive species.
Aesthetics	N	The proposed action and alternatives in the updated Master Plan are not anticipated to have a measurable effect on aesthetics.
Public Health and Safety	N	The proposed actions in the updated Master Plan are not anticipated to affect public health and safety.
Recreation and Scenic Value	N	The proposed action and alternatives in the updated Master Plan are not anticipated to have a measurable effect on scenic value or recreation.

3.1 Land Use, Utilities, and Infrastructure

Under the Flood Control Act of 1950 (PL 81-516), USACE acquired large acreages of land for HAHD. Property acquired by USACE consists of approximately 3,435.1 acres of land and water areas located along the Green River including 430.6 acres fee, 2499.9 acres of various easements, and the remaining acreage is comprised of lesser interests (lease, license, and permit). Outgrants have been granted to cities, states, other Federal agencies, logging companies for utilities, fish and wildlife management, and access to cross lands or for joint use of roads. HAHD and fee-owned lands surrounding the dam are closed to public access.

3.1.1 Alternative 1: No Action Alternative (Existing Master Plan)

Under this alternative, impacts to land use, utilities, and infrastructure from management and development activities are anticipated to be minor and temporary and would remain unchanged from current conditions. HAHD would continue to follow the resource objectives and land classifications identified in the 1999 Master Plan. Operation and maintenance projects at HAHD not identified in the 1999 Master Plan would be evaluated and documented for NEPA and compliance with other laws, regulations, and Executive Orders. Development and use of project lands by others outside of USACE may be allowed when in accordance with the resource objectives and land classifications identified in the 1999 Master Plan.

3.1.2 Alternative 2: Update Master Plan – Preferred Alternative

Under the Preferred Alternative, land use, utilities, and infrastructure impacts would be similar to the No Action Alternative. Existing infrastructure would not be altered to prevent its intended purpose or use with effects similar to those of the No action alternative. New agreements regarding zoning, ownership, use plans, or land use changes on adjacent lands would be evaluated for impacts to natural and cultural resources. The Baldi Habitat Boom would continue to be maintained every 4 – 5 years.

3.2 Cultural Resources

Cultural resources are defined as sites, structures, objects, or practices that reflect prehistoric or historic habitation, and traditional knowledge and practices by humans. Cultural resources are non-renewable and therefore must be managed with sufficient care to ensure their preservation.

NEPA instructs Federal agencies to assess the probable impacts of their actions on the human environment, defined as the natural and physical environment and the relationship of people with that environment (42 U.S.C. § 4321 et seq.). Similarly, under the National Historic Preservation Act (NHPA) of 1966 (54 U.S.C. § 300101 et seq.), Federal agencies must take into consideration the potential effect of an undertaking on historic properties, which refers to cultural resources listed in or eligible for inclusion in the National Register of Historic Places (NRHP).

For the purposes of cultural resources at HAHD, the area of potential effects (APE) is the 430.6 acres under Federal ownership and the 2499.9 acres in easements USACE has for the reservoir, road access, and monitoring locations.

3.3 Alternative 1: No Action Alternative (Existing Master Plan)

Under this alternative, impacts to cultural resources from management and development activities would remain unchanged from current conditions. HAHD would continue to follow the resource objectives and land classifications identified in the 1999

Master Plan and the 2003 memorandum of agreement (MOA 2003) among USACE, the State Historic Preservation Officer, and Tacoma for the AWSP.

3.4 Alternative 2: Update Master Plan – Preferred Alternative

Under the Preferred Alternative, cultural resource impacts would be similar to those of the No Action Alternative. The Howard Hanson Dam Archaeological District is eligible for the National Register, data has been recovered from sites within the reservoir, an ethnohistory study has been completed, and an Inadvertent Discovery Plan has been created to address newly discovered human remains.

3.5 Fish and Wildlife

More than 30 species of fish inhabit the Green River, including resident and anadromous stocks (TPU 2001). Wild anadromous fish were present up the full length of the Green River until 1911 when Tacoma constructed a water diversion dam at RM 61. Because HAHD was built above this upstream limit of fish migration, fish passage facilities were not included as part of the initial construction of the dam. Green River fish populations affected by USACE operations and facilities include those that rear both above and below HAHD. Natural spawning of fish above the reservoir is presently limited to resident cutthroat, rainbow trout and steelhead, and mountain whitefish. Resident species of common loons, ducks, and Canada geese (*Branta canadensis*) nest and rear their young on and around the lake. The project area also hosts wading birds such as great blue herons (*Ardea herodias*); shorebirds such as killdeer (*Charadrius vociferus*); substantial populations of nesting raptors including hawks, owls, bald eagles (*Haliaeetus leucocephalus*), and osprey (*Pandion haliaetus*); upland game birds such as quail and grouse; multiple woodpecker species; and a myriad of passerine birds.

Other resident large mammals include mule deer (*Odocoileus hemionus*) and white-tailed deer (*Odocoileus virginianus*); numerous small mammals such as shrews, mice, squirrel, coyotes (*Canis latrans*), raccoons (*Procyon lotor*), and skunks. Aquatic furbearers including beaver (*Castor canadensis*) and river otter (*Lontra canadensis*) are prevalent in the reservoir around the dam and in wood debris storage areas. Of note, pika (*Ochanta princeps*) have been observed on the rock slopes along the railroad grade (USACE 1998) and most recently in 2019, in a rock pile adjacent to the river (Niepert 2019). Several species of riparian and wetland-dependent amphibians are also present (USACE 1999; TPU 2001; Dickerson et al. 2019).

3.6 Alternative 1: No Action Alternative (Existing Master Plan)

Under this alternative, impacts to fish and wildlife from management and development activities would remain unchanged from current conditions. Fish and wildlife impacts associated with management and development activities over 121 acres of multiple resource management lands are anticipated to be minor and temporary. HAHD would continue to follow the resource objectives and land classifications identified in the 1999 Master Plan.

3.7 Alternative 2: Update Master Plan – Preferred Alternative

Under the Preferred Alternative, fish and wildlife impacts would be similar to those of the No Action Alternative. 135 acres of HAHD multiple resource management lands, the sum of the vegetative area acreages, are managed for vegetation to protect and enhance fish and wildlife habitat. Proposals to restore or enhance fish and wildlife habitat will be addressed through studies and with approval from authorities outside of the HAHD operations.

3.8 Threatened and Endangered Species

In accordance with Section 7(a)(2) of the Endangered Species Act (ESA), Federally funded, constructed, permitted, or licensed projects must take into consideration impacts to federally listed proposed, threatened, and endangered species. The species listed in Table 2 are protected under the ESA and may occur in the project area. The following sections briefly summarize relevant information about the protected species, current knowledge on the presence and use of the project action areas by these species. ESA consultation with the National Marine Fisheries Service and U.S. Fish and Wildlife Service assesses how the proposed project may affect these species, concluding with a determination of effect. Section 8 provides details about project compliance with the ESA.

Table 2. ESA-listed species and designated critical habitat that may be present at or near the HAHD action area.

Common Name and (Scientific Name)	ESA Status & Year	Critical Habitat in Action Area	Potential Occurrence* (Likely, Unlikely, or Absent)
Puget Sound Chinook salmon (<i>Oncorhynchus tshawytscha</i>)	Threatened 2005 (70 FR 37160-37204), Critical Habitat Designated 2005 (70 FR 52630-52685)	Yes	Present below the Tacoma Diversion Dam
Puget Sound steelhead (<i>Oncorhynchus mykiss</i>)	Threatened 2007 (72 FR 26722-26735), Critical Habitat Designated 2016 (81 FR 9252-9325)	Yes	Present below Tacoma Diversion Dam
Coastal/Puget Bull Trout (<i>Salvelinus confluentus</i>)	Threatened 1998	Yes	Likely up to River Mile 43 (21 miles

Common Name and (Scientific Name)	ESA Status & Year	Critical Habitat in Action Area	Potential Occurrence* (Likely, Unlikely, or Absent)
	(63 FR 31647-31674), Critical Habitat Designated 2010 (75 FR 63898-64070)		downstream HAHD)
Killer Whale (<i>Orcinus orca</i>)	Endangered, Critical Habitat Designated	No	Absent
Marbled murrelet (<i>Brachyramphus marmoratus</i>)	Threatened 1992 (59 FR 58982-59028), Critical Habitat Designated 2016 (81 FR 51348-51370)	No	Unlikely
Northern spotted owl (<i>Strix occidentalis caurina</i>)	Threatened 1990 (55 FR 26114-26194), Critical Habitat Designated 1992, Revised 2012 (77 FR 71875-72068)	No	Likely
Yellow-billed cuckoo (<i>Coccyzus americanus</i>)	Threatened 2014 (79 FR 59992-60038), Critical Habitat Designated 2020 proposed does not include WA	No	Absent
Canada lynx (<i>Lynx canadensis</i>)	Threatened 2000 (65 FR 16052-06086), Critical Habitat Designated 2006 (70 FR 68294-68328), revised 2014 (79 FR 54781-54846)	No	Absent
North American wolverine (<i>Gulo gulo luscus</i>)	Threatened 2024 (88 FR 83726- 83772), No Critical Habitat Designated	No	Absent
Grizzly bear	Threatened 1975	No	Absent

Common Name and (Scientific Name)	ESA Status & Year	Critical Habitat in Action Area	Potential Occurrence* (Likely, Unlikely, or Absent)
<i>(Ursus arctos horribilis)</i>	(40 FR 31734-31736), No Critical Habitat Designated		
Suckley cuckoo bumble bee <i>(Bombus suckleyi)</i>	Endangered (proposed 2024 (89 FR 102074)), No Critical Habitat Designated	No	Absent
Monarch butterfly <i>(Danaus plexippus)</i>	Threatened (proposed 2024 (89 FR 100662)), Critical Habitat Does Not Include WA	No	Unlikely

*Likely means the species could be present in the action area. Unlikely means the species could be present in the action area but due to lack of habitat preference and/or food is not expected to be present. Absent means that the species is not present in the action area.

Even though several of the species have the potential to occur within the HAHD Master Plan actions area, it is unlikely that any listed species in sections 2.9 – 2.12 in the Master Plan (USACE 2025) would be impacted by activities proposed. Currently, there are no listed fish in the action area due to blockages caused by dams. Even if fish passage via trap and haul methods or other means is established, the Master Plan activities will occur in upland areas or “in the dry” after the reservoir pool has receded. With the implementation of BMPs, all impacts from the implementation of management measures in the Master Plan should completely avoid impacts to ESA-listed fish and critical habitat.

The proposed action will have no effect on the northern spotted owl or the Canada lynx (USACE 2000). Due to a lack of presence in the area or their designated critical habitat (which are not found in the project area), the proposed action will have no effect on killer whales, marbled murrelet, yellow-billed cuckoo, wolverine, grizzly bear, Suckley cuckoo bumble bee, or monarch butterflies because of their specialized habitat requirements (which are not found in the project area), their lack of tolerance for human development or activities (which would preclude their presence in the project area), or both.

Killer whales occupy coastal and pelagic waters (WDFW 2025a) and are not found in the action area. It is anticipated that there will be no effect to ESA-listed fish, including Chinook, and therefore there will be no effect to the killer whale’s prey base by

implementing actions described in the Master Plan. Marbled murrelets are seabirds that nest in mature and old-growth conifer forests (WDFW 2024a). Yellow-billed cuckoos prefer riparian zones with cottonwoods, willows, fir woodlands and open brushy hillsides (WDFW 2024b). Wolverines occupy alpine and subalpine forest habitats throughout the Cascade Mountain Range (WDFW 2024c). Grizzly bear are currently present in northeast Washington's Selkirk Mountains and have not been confirmed in the North Cascades since 1996 (WDFW 2025b). The Suckley's cuckoo bumble bee parasitizes other *Bombus* hosts, primarily the western bumble bee and the Nevada bumble bee. The survival of Suckley's cuckoo bumble bee is dependent on the survival and health of the host colony (WDFW 2025c) and trends across North America suggest *Bombus* species are experiencing widespread decline (USFWS 2025). In Washington, monarch butterflies breed and travel through the state, but do not overwinter in the state. Monarchs need secure patches of milkweed because they only lay eggs on milkweed plants, and monarch caterpillars only feed on milkweed leaves (WDFW 2025d). Adult monarch butterflies are generalists and will feed on the nectar from a variety of flowers like coneflowers, sunflowers, and zinnias. The preferred habitats for these species are not known to be present in the project area. Consequently, these species and their critical habitats will not be affected by the proposed action and are not discussed further in this document. If activities or actions are modified with a potential to impact ESA-listed species or their critical habitat, consultations with the Services would occur.

Existing Conditions for Threatened and Endangered Species

Chinook Salmon

The Puget Sound Chinook salmon was listed as threatened on March 24, 1999, and revised on June 28, 2005. (NMFS 1999, NMFS 2005). The Green River has been designated as critical habitat for Chinook salmon (NMFS 1999, NMFS 2005).

Chinook salmon are most often found in large streams or rivers, and many stocks spawn far inland. Chinook salmon are considered main channel spawners, although they will use smaller channels and streams with sufficient flow. Due to their large size, Chinook salmon can spawn in larger substrate (up to 14 cm) than most other salmon species (Anchor Environmental, L.L.C. 2003).

Downriver of HAHD, adult Chinook salmon migrate up to Tacoma's Diversion Dam at River Mile 61 in the Green River to spawn during summer and fall. Juvenile Chinook salmon outmigration occurs from winter through early summer.

Steelhead

The Puget Sound steelhead was listed as threatened in 2007 (NMFS 2007). Critical habitat is designated for steelhead on this section of the Green River (81 FR 9252) adjacent to HAHD.

In the Green River, adults for the ESA-listed winter population typically enter freshwater between November and May (Hard et al. 2007). Spawning begins in March and continues into June with the peak of spawning typically in April. Juveniles are present in the river year-round and typically hatch in the spring and early summer. The majority remain in the river for two years and in the ocean for two years (Hard et al. 2007, Pautzke and Meigs, 1940). Outmigration timing generally peaks in April or May (Seiler et al. 2004). In recent years, significantly fewer steelhead have returned to Puget Sound. The current run is less than 5 to 10 percent of its historic size, and productivity continues to decline (Hard et al. 2015, NMFS 2016).

Bull Trout

Puget Sound bull trout was listed as threatened on November 1, 1999 (USFWS 1999). Final critical habitat for Puget Sound bull trout was designated in 2004 (69 FR 59995) and revised in 2010 (75 FR 63898) and includes all reaches of the Green River within the action area. Bull Trout have more specific habitat requirements than most other salmonids (Rieman and McIntyre 1993). Habitat components that particularly influence their distribution and abundance include water temperature, cover, channel form and stability, spawning and rearing substrate conditions, and migratory corridors (Fraley and Shepard 1989, Goetz 1989, Watson and Hillman 1997).

There are no Coastal/Puget Sound bull trout runs within the Green/Duwamish River. The lower Green/Duwamish River is known to be used for foraging and overwintering by bull trout. In 2004, WDFW documented bull trout upstream to RM40 on the Green River (WDFW 2004). In October 2017, Tacoma biologists recorded a single bull trout with an approximate total length of 350-400 mm at the upstream trap and haul facility at RM61, the Tacoma Headworks Dam (Patterson 2022). No additional bull trout have been recorded in this reach of the river. At present, a bull trout stock is not recognized in the Green River (WDFW 2004).

3.9 Alternative 1: No Action Alternative (Existing Master Plan)

Under this alternative, impacts to threatened and endangered species from management and development activities would remain unchanged from current conditions. HAHD would continue to follow the resource identified in the 1999 Master Plan. ESA-listed fish impacts associated with management and development activities i.e., riparian area maintenance, vegetation management, hazardous tree removal, etc., and are anticipated to be minor and temporary.

3.10 Alternative 2: Update Master Plan – Preferred Alternative

Under the Preferred Alternative, threatened and endangered species impacts would be similar to the No Action Alternative. The completed and ongoing habitat restorations

authorized in the Section 1135 and AWSP (Phase I) projects improve habitat for fish spawning, resting and foraging.

3.11 Vegetation and Wetlands

Within USACE managed lands, habitat types include mixed, deciduous and coniferous forests, grassland communities, a range of wetlands and riparian habitats, and open water. Above the typical reservoir high pool elevation of 1,167 feet, USACE fee-owned land and surrounding TPU holdings are typically characterized as conifer forest dominated by Douglas-fir (*Pseudotsuga menziesii*). Several upland habitats have been replaced with low quality or homogenous conifer stands and/or invasion of nuisance species such as reed canary grass (*Phalaris arundinacea*) and Scotch broom (*Cytisus scoparius*). There are nine wetland community types at HAHD (Philly *et al.* 2019) that are influenced by seasonal changes in the reservoir level.

3.12 Alternative 1: No Action Alternative (Existing Master Plan)

Under this alternative, impacts to vegetation and wetlands from management and development activities would remain unchanged from current conditions. HAHD would continue to follow the resource objectives and land classifications identified in the 1999 Master Plan. Wetland impacts associated with management and development activities are anticipated to be minor and temporary.

3.13 Alternative 2: Revise Master Plan – Preferred Alternative

Under the Preferred Alternative, vegetation and wetland impacts would be like the No Action Alternative. Updated actions for terrestrial habitat features, to include managing fuels levels for fire resilience, timber management in and around the reservoir, and non-native species management, ensure a more robust and healthier ecosystem. Completed habitat restoration projects around the reservoir associated with the Section 1135 project continue to be maintained by the City of Tacoma.

4 MITIGATION

Under the preferred alternative there is no compensatory mitigation required for implementing the revised Master Plan due to no loss of wetlands, no effects on ESA-listed species, and no significant impacts to commercially important species. USACE has identified Best Management Practices in the subsequent section to avoid, minimize, rectify, and reduce impacts from operations.

Best Management Practices

- USACE developed a list of best management practices (BMPs) that would be incorporated into the proposed action to reduce environmental impacts of the proposed action, including those to Endangered Species Act (ESA) listed species and designated critical habitat. These measures are the following:
- Equipment that will be used near the water will be cleaned prior to maintenance activities.

- Equipment will be regularly checked for drips or leaks.
- At least one fuel spill kit with absorbent pads will be onsite at all times.
- Refueling will occur a minimum of 100 feet away from the water.
- Maintenance of mechanical and construction equipment will be conducted away from the reservoir.

5 UNAVOIDABLE ADVERSE EFFECTS

Unavoidable adverse effects associated with the preferred alternative would be: (1) temporary, localized, and/or minor increases in noise, activity, and emissions which may temporarily affect fish and wildlife in the area; (2) irretrievable commitment of fuels and other materials for maintenance, operations, and projects.

6 COORDINATION

Preparation of this draft EA was coordinated with Tribal, Federal, and appropriate State agencies. The following Tribes, municipalities, and agencies have been involved with the environmental coordination of the proposed project.

- City of Enumclaw
- City of Tacoma
- Confederated Tribes and Bands of the Yakama Nation
- Muckleshoot Indian Tribe
- National Marine Fisheries Service
- Nisqually Indian Tribe
- Puyallup Tribe of the Puyallup Reservation
- Squaxin Island Tribe of the Squaxin Island Reservation
- U.S. Fish and Wildlife Service
- Washington State Department of Archeology & Historic Preservation (DAHP)

USACE is releasing this draft EA and Draft Finding of No Significant Impacts (FONSI) for the proposed project for a 30-day public review and comment period. Results from the comment period will be provided in the final EA.

7 ENVIRONMENTAL COMPLIANCE

This draft EA is being prepared pursuant to Sec. 102 (42 USC § 4332) of the National Environmental Policy Act of 1969 (NEPA), as amended, and includes compliance with other laws, regulations and Executive Orders as discussed below.

7.1 American Indian Religious Freedom Act

The American Indian Religious Freedom Act of 1978 (42 U.S.C. § 1996), as amended, establishes protection and preservation of Native Americans' rights of freedom of belief, expression, and exercise of traditional religions. Courts have interpreted the Act to mean that public officials must consider Native Americans' interests before undertaking actions that might impact their religious practices, including impact on sacred sites.

Neither alternative is expected to have any effect upon Native Americans' rights of freedom of belief, expression, and exercise of traditional religions. Therefore, the proposed updated Master Plan would not cause significant effects to the religious freedom of Native Americans.

7.2 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. § 668 et seq.) prohibits the taking, possession or commerce of bald and golden eagles, except under certain circumstances. Based on observations in iNaturalist (2026), no golden eagles and 10 bald eagles have been observed around the project area, with the closest observed bald eagle over 6 miles downriver. Implementation of the updated Master Plan would not adversely affect bald or golden eagles or their habitat as the activities are not different than current activities and the activities have little to no impact in respect to the effects on bald or golden eagles or their habitat.

7.3 Clean Air Act

The Clean Air Act of 1972, as amended (42 U.S.C. § 7401 et seq.) prohibits Federal agencies from approving any action that does not conform to an approved State or Federal implementation plan. Operation of heavy equipment and vehicles during actions to maintain or improve facilities would result in increased fugitive dust and engine emissions; however, these emissions would be short-term and small-scale. The project area is not located within a non-attainment area (EPA 2025). Therefore, the proposed updated Master Plan would not cause significant effects to the human environment.

7.4 Clean Water Act Federal Water Pollution Control

The Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.) is more commonly referred to as the Clean Water Act (CWA). This act is the primary legislative vehicle for Federal water pollution control programs and the basic structure for regulating

discharges of pollutants into waters of the U.S. The CWA was established to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” The CWA relies upon a cooperative federalism framework with key responsibilities for both the federal government and state to accomplish shared goals to eliminate discharges of pollutants into navigable waters, protect fish and wildlife, and prohibit the discharge of toxic pollutants in quantities that could adversely affect the environment.

Three sections of the CWA are pertinent to the proposed actions analyzed in this EA: Section 401 of the CWA provides states and authorized tribes with the authority to grant, deny, or waive certification of proposed federal licenses or permits that may discharge into waters of the United States assessing the effects regulated discharges would have on water quality standards; Section 402 addresses non-point discharges including, but not limited to, stormwater runoff from construction sites; and Section 404 addresses the discharge of dredge or fill material into Waters of the United States. Requirements of those three CWA sections are briefly discussed below.

Section 401 of the CWA: The USACE seeks a 401 water quality certification for discharges from an appropriate State and/or authorized Tribe for its operation and maintenance activities that are regulated under the CWA. 33 CFR 336.1(a)(1).

Section 404 of the CWA: The USACE does not issue itself Section 404 permits to itself for its own civil works activities, but USACE substantively complies with the CWA when conducting operations and maintenance activities at its civil works projects. See 33 CFR 335.2; 336.1(a).

Section 402 of the CWA: The National Pollutant Discharge Elimination System (NDPES) permit program addresses water pollution by regulating point sources that discharge pollutants into waters of the U.S. As federal operators, we seek to rely upon EPA Region 10’s general permit that addresses impacts attributable to construction activities and stormwater pollution, where applicable. It applies when the construction site would disturb one acre or more for development.

All proposed O&M conducted pursuant to the revised Master Plan would be above the OHWM, and would not result in one or more acre of ground disturbance. Additionally, any spill-over effects from pesticide or herbicide application will be avoided by following all applicable federal and state requirements, including but not limited to WAC 12-228, RCW 15.58, RCW 17.21, Federal Insecticide, Fungicide, and Rodenticide Act, and all product labels. The revised MP does not propose, and this EA therefore does not evaluate, any new work that would be regulated under the CWA

A Master Plan guides management of government-owned lands and does not extend guidance to the management of a reservoir. However, any future site-specific actions would be individually reviewed for compliance with the CWA prior to work commencing. If future proposed work at HAHD for O&M is subject to regulation under the CWA, the

USACE will follow substantive requirements, and seek to rely upon existing general permits authorized under Section 404 and 402, where applicable. See 33 CFR 337.5.

7.5 Coastal Zone Management Act

The Coastal Zone Management Act of 1972, as amended (16 U.S.C. §1451-1464) requires Federal agencies to conduct activities in a manner that is consistent to the maximum extent practicable with the enforceable policies of the approved State Coastal Zone Management Program (CZMP). USACE is substantively consistent with the enforceable policies of the King County Shoreline Master Program. Because HAHD is on lands owned or leased by the federal government, it is outside the coastal zone. (15 CFR 923.33(a)). In addition, implementation of the updated Master Plan) will have no direct or indirect spillover effects on coastal land use, water use, or any other coastal zone resource. Because this action does not affect uses or resources of the coastal zone, and is not a development project, and no consistency determination is required.

7.6 Endangered Species Act

In accordance with section 7(a)(2) of the Endangered Species Act of 1973, as amended, federally funded, constructed, permitted, or licensed projects must take into consideration impacts to federally listed or proposed threatened or endangered species and their critical habitats. For in-water activities associated with HAHD, ESA section 7(a)(2) consultations were completed with NMFS (2019) and USFWS (2022). These activities are separate from and not part of the Master Plan. The Master Plan focuses on development and management activities of the natural and cultural resources at the project.

The proposed updated Master Plan does not include any actions that would have adverse effects on listed or proposed threatened or endangered species or critical habitat. Impacts to listed species will be completely avoided. If it is determined that a future proposed O&M activity at HAHD may affect a listed species or critical habitat, USACE will initiate section 7 ESA consultation with the NMFS and/or the USFWS to address the effects of that future activity on ESA listed species and/or designated critical habitat.

7.7 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (FWCA) of 1934 as amended (16 U.S.C. §661-667e) requires that Federal agencies consult with USFWS, NMFS, and State wildlife agencies for activities that affect, control, or modify streams or bodies of water in order to minimize the adverse impacts on fish and wildlife resources and habitat. Section 2(b) requires the USFWS to produce a Coordination Act Report that describes fish and wildlife resources in a project area, potential negative effects of a proposed project, and recommendations for a project. Activities covered in the revised MP do not propose to

impound, divert, deepen, control, or modify any stream or other body of water in a manner would require consultation under FWCA.

7.8 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act of 1976, (16 U.S.C. § 1801 et seq.), as amended by the Sustainable Fisheries Act of 1996 (PL 104-267) requires Federal agencies to consult with the NMFS regarding actions that may adversely affect EFH for Pacific coast groundfish, coastal pelagic species, and Pacific salmon. The Act defined EFH as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” EFH is the habitat (waters and substrate) required to support a sustainable fishery and a managed species’ contribution to a healthy ecosystem. Waters include aquatic areas and their associated physical, chemical, and biological properties used by fish. Substrate includes sediment, hard bottom, structures underlying the waters, and associated biological communities. The Green River is designated as Essential Fish Habitat (EFH) for Pacific salmon, USACE determined that the actions proposed in the Master Plan will have no adverse effect to EFH. Since there are no in-water activities, there will no effect to waters and substrate necessary to Pacific salmon for spawning, breeding, feeding, or growth to maturity. Proposed actions in the Master Plan will not reduce the quality or quantify of EFH.

7.9 Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) of 1972 (16 U.S.C. §1361-1407) restricts harassment of marine mammals and requires interagency consultation in conjunction with the ESA consultation for Federal activities. All marine mammals are protected under the MMPA regardless of whether they are endangered, threatened, or depleted. USACE determined Southern Resident killer whales (SRKW) would be impacted by HAHD operations due to water quality changes and the reduced abundance and productivity of PS Chinook salmon, the SRKW preferred prey. USACE does not propose actions that could harass marine mammals under either alternative. USACE has incorporated the NMFS BiOp (2019) RPAs to decrease the risk of PS Chinook salmon extinction and avoid jeopardizing the existence of marine mammal predators, and incorporated habitat improvement projects to increase benefits to salmon spawning. Nothing in the revised Master Plan will alter implementation of that RPA. BMPs to reduce or avoid effects to aquatic animals, to include marine mammals, are included for projects near water in the revised Master Plan. Therefore, the revised Master Plan is in compliance with the MMPA.

7.10 Migratory Bird Treaty act of 1918 and Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds

The Migratory Bird Treaty Act of 1918, (16 U.S.C. § 703-712) as amended protects over 800 bird species and their habitat and commits that the U.S. will take measures to protect identified ecosystems of special importance to migratory birds against pollution, detrimental alterations, and other environmental degradations. EO 13186 directs Federal agencies to evaluate the effects of their actions on migratory birds, with emphasis on species of concern, and inform the USFWS of potential negative effects to migratory birds. The Eagle Gorge Reservoir is known to support avian species in and around the lake. USACE has determined migratory birds are not likely to be affected by HAHD operations and maintenance. In the revised Master Plan, USACE would continue to conduct annual mid-winter surveys to count bald eagles overwintering in the area. The surveys are conducted from roads and paths with binoculars and there would be no take of bald eagles. USACE would also avoid impacts to fish and wildlife during pesticide applications. There would be no take of migratory birds and this action would not conflict with the purpose of the MBTA or EO 13186. The revised Master Plan would be in compliance with the MBTA and EO 13186.

7.11 National Environmental Policy Act

NEPA (42 U.S.C. § 4321 et seq.) requires Federal agencies to consider, document, and publicly disclose the environmental effects of their actions on the quality of the human environment before proceeding with an applicable federal activity, known as a major federal action. It requires preparation of an Environmental Impact Statement (EIS) when a federal agency proposed to undertake a major Federal action that has the potential to significantly affect the quality of the human environment. Major Federal actions determined not likely to have significant adverse effects on the quality of the human environment may, instead, be evaluated through an Environmental Assessment (EA). This draft EA evaluates the environmental effects requiring NEPA compliance with the proposed Master Plan update for HAHD.

NEPA Summary

This draft EA/FONSI is made available for public review and comment. USACE invites submission of comments on the environmental impact of the proposed action. USACE will consider all submissions received during the comment period. The nature or scope of the proposal may be changed upon consideration of the comments received and this EA updated. If significant effects on the quality of the human environment are identified and cannot be mitigated for, USACE would initiate an EIS and afford all the appropriate public participation opportunities attendant to an EIS.

7.12 National Historic Preservation Act

Section 106 (54 U.S.C. § 306108) of the National Historic Preservation Act (NHPA) of 1966 (54 U.S.C. § 300101) requires that Federal agencies evaluate the effects of Federal undertakings on historical, archeological, and cultural resources and afford the Advisory Council on Historic Preservation opportunities to comment on the proposed undertaking if there is an adverse effect to an eligible Historic Property. The lead agency must examine whether feasible alternatives exist that avoid eligible cultural resources. If an effect cannot reasonably be avoided, measures must be taken to minimize or mitigate potential adverse effects. Due to HAHD's eligibility to the National Register, proposed ground-disturbing projects or modifications to the dam structure associated with the Master Plan are reviewed for adverse effects. Depending on the size, scope, and location of the project at HAHD, a cultural resource survey may need to occur to determine if there will be an adverse effect to any of the known cultural resources within the area of potential effect.

7.13 American Tribal Treaty Rights & Tribal Consultation under EO 13175, Consultation and Coordination with Indian Tribal Governments

EO 13175 (6 November 2000) reaffirmed the Federal Government's commitment to a government-to-government relationship with Indian Tribes and directed Federal agencies to establish procedures to consult and collaborate with Tribal governments when new agency actions would have Tribal implications. USACE has a government-to-government consultation policy to facilitate the interchange between decision makers to obtain mutually acceptable decisions. The Corps consults with, and consider views of, federally recognized American Indian Tribes when proposing an action that may have the potential to significantly affect tribal rights, resources and lands; including, but not limited to the impact of the proposed activity on tribal reserved treaty rights. Department of Defense Instruction (DODI) 4710.02, Subject: DOD Interactions with Federally Recognized Tribes (24 September 2018).

In accordance with the EO and DODI, the Corps consulted and coordinated with Tribal governments, as described in section 7 'Coordination'. USACE has and continues to coordinate with Indian Tribal Governments in regards to O&M activities at HAHD.

7.14 Executive Order 11988 Floodplain Management

EO 11988 requires Federal agencies to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. The creation of the Eagle Gorge Reservoir by a flood control dam was recommended in 1949. HAHD was authorized in 1950 and since 1961,

HAHD has been operational for flood control. None of the new proposed activities in the updated Master Plan would affect floodplains, and therefore Alternative 2 (Update Master Plan) is in compliance with the EO.

7.15 Executive Order 11990 Protection of Wetlands

EO 11990 encourages Federal agencies to take actions to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands when undertaking Federal activities and programs. In accordance with this EO, protection of wetlands was described in section 3 Alternatives Analysis, 'Wetlands'. The increased water storage authorized in the Section 1135 and AWSP (Phase I) projects impacted low gradient grassland and wetland sedge habitats along the reservoir and have been mitigated by Tacoma. No additional O&M actions at HAHD will affect wetlands. Therefore, the updated Master Plan would not cause significant effects to wetlands.

7.16 Executive Order 13007 Native American Sacred Sites

EO 13007, Native American Sacred Sites, directs Federal agencies to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners. Agencies are to avoid adversely affecting the physical integrity of such sacred sites and to maintain the confidentiality of sacred sites when appropriate. The act encourages government-to-government consultation with Tribes concerning sacred sites. Some sacred sites may qualify as historic properties under the NHPA. Proposed projects are reviewed for adverse effects or impacts to sacred sites. Depending on the size, scope, and location of the project at HAHD, a cultural resource survey may need to occur to determine if there will be an adverse effect to any of the known sacred sites within the area of potential effects.

8 SUMMARY OF ASSESSMENT

The No Action Alternative does not meet the project's purpose and need. The Preferred Alternative, an updated Master Plan, fulfills the project's purpose and need by balancing project authorizations with environmental and cultural resource considerations. An updated Master Plan prescribed by current USACE policy will direct future use, development and management of the natural resources and cultural resources at HAHD. Based on the analysis above, USACE does not expect the proposed updated Master Plan to constitute a major Federal action significantly affecting the quality of the human environment and therefore would not require preparation of an EIS. Public comments are invited on this draft EA and will be considered prior to the finalization of the EA and FONSI.

9 REFERENCES

- Anchor Environmental, L.L.C. 2003. Fish distribution and periodicity in WRIA 1.
Prepared for: City of Bellingham, Public Works Department Bellingham, WA.
- Cederholm, C.J., D.H. Johnson, R.E. Bilby, L.G. Dominguez, A.M. Garrett, W.H. Graeber, E.L. Greda, M.D. Kunze, B.G. Marcot, J.F. Palmisano, R.W. Plotnikoff, W.G. Percy, C.A. Simenstad, and P.C. Trotter. 2001. Pacific Salmon and Wildlife – Ecological Contexts, Relationships, and Implications for Management Chapter 26 2 in D.H. Johnson and T.A. O’Neil, eds. Wildlife Habitat Relationships in Oregon and Washington, Oregon State University Press, Corvallis, OR. Pp. 628-684.
- Chappell, C. B., R.C. Crawford, C. Barrett, J. Kagan, D.H. Johnson, M. O’Mealy, G.A. Green, H.L. Ferguson, W.D. Edge, E.L. Greda, and T.A. O’Neil. 2001. Wildlife Habitats: Description, Status, Trends, and System Dynamics. Chapter 2 in D.H. Johnson and T.A. O’Neil, eds. Wildlife Habitat Relationships in Oregon and Washington, Oregon State University Press, Corvallis, OR. Pp. 22-114.
- Dickerson, D. D., C. T. Theriot, D. S. D’Amato, and K. D. Philley. 2019. Western Toad Breeding Field Surveys: Howard A. Hanson Dam and Mud Mountain Dam, King and Pierce Counties, Washington. A report to USACE, Seattle District. USACE Engineer Research and Development Center, Environmental Laboratory.
- EPA. 2025. Washington Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants. Accessed June 2025, https://www3.epa.gov/airquality/greenbook/anayo_wa.html
- _____. 2024. National Pollution Discharge Elimination System (NPDES) Construction General Permit (CGP) Frequent Questions. Accessed May 2024, <https://www.epa.gov/npdes/construction-general-permit-cgp-frequent-questions#aboutpermitting> Website updated May 17 2024.
- Fraley JJ, and BB Shepard. 1989. Life history, ecology, and subpopulation status of migratory Bull Trout (*Salvelinus confluentus*) in the Flathead Lake and River system, Montana. Northwest Science 63:133-143.
- Goetz FA. 1989. Biology of the Bull Trout, *Salvelinus confluentus*: A literature review.
- Hard JJ, JM Myers, MJ Ford, RG Cope, GR Pess, RS Waples RS, GA Winans, BA Berejikian, FW Waknitz, PB Adams, PA Bisson, DE Campton, and

- RR Reisenbichler. 2007. Status review of Puget Sound steelhead (*Oncorhynchus mykiss*). U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-81, 117 p.
- Hard JJ, JM Myers, EJ Connor, RA Hayman, RG Kope, G Lucchetti, AR Marshall, GR Pess, and BE Thompson. 2015. Viability Criteria for Steelhead within the Puget Sound Distinct Population Segment. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-129.
- iNaturalist. Observations - Bald Eagle. https://www.inaturalist.org/observations?nelat=47.33595416715569&nelng=-121.50164298713207&subview=map&swlat=47.20783098982458&swlng=-122.02109031379223&taxon_id=5305. Accessed May 28, 2025.
- iNaturalist. Observations – Golden Eagle. https://www.inaturalist.org/observations?nelat=47.33595416715569&nelng=-121.50164298713207&subview=map&swlat=47.20783098982458&swlng=-122.02109031379223&taxon_id=5074. Accessed May 28, 2025.
- MOA (Memorandum of Agreement). 2003. Memorandum of Agreement Among The U.S. Army Corps of Engineers, The City of Tacoma, The Washington State Office of Archaeology and Historic Preservation Regarding Construction And Operation Activities At the Howard Hansom Dam Reservoir, King County, Washington. 4 p.
- Niepert, E. 2019. Biologist, USACE, Engineer Research and Development Center. June 9, 2019. Personal communication regarding an incidental sighting of a pika while conducting bird surveys at HAHD.
- National Marine Fisheries Service (NMFS). 2019. Endangered Species Act (ESA) Section 7(a)(2) Biological Opinion, Conference Opinion and NE Essential Fish Habitat (EFH) Consultation for the Howard Hanson Dam, Operations and Maintenance Green River (HUC 17110013) King County, Washington. NMFS Consultation Number WCR_2014-997. 15 February 2019. 167 p.
- _____. 2016. Endangered and Threatened Species: Designation of Critical Habitat for Lower Columbia River Coho Salmon and Puget Sound Steelhead; Final Rule. FR 81; 9252-9325.
- _____. 2007. Endangered and Threatened Species: Final Listing Determination for Puget Sound Steelhead; Final Rule. 72 FR 26722-26735.

- _____. 2005. Endangered and Threatened Species: Final Listing Determinations for 16 ESUs of West Coast Salmon, and Final 4(d) Protective Regulations for Threatened Salmonid ESUs: Final rule. Federal Register 70(123):37160-37204.
- _____. 1999. Endangered and Threatened Species: Threatened Status for Three Chinook Salmon Evolutionarily Significant Units (ESUs) in Washington and Oregon, and Endangered Status of One Chinook Salmon ESU in Washington; Final Rule, Title 50 CFR Part 17. Federal Register 65, No. 56., 14308-14328.
- Patterson, T. 2022. Environmental Programs Manager, Tacoma Public Utilities-Water Division, WA. January 6, 2022. Personal communication regarding a bull trout sighting at the Tacoma Water trap and sort facility at RM 61.
- Pautzke CF and RC Meigs. 1940. Studies on the Life History of the Puget Sound Steelhead. State of Washington, Department of Game, Seattle. 30 pp.
- Phillely, K. D, Berkowitz, J. F., and N. R. Beane. 2019. Level II habitat survey & wetland identification: Howard Hanson Dam and Mud Mountain Dam, King and Pierce Counties, Washington. Engineer Research & Development Center (ERDC), Vicksburg, Mississippi, pp 338.
- Rieman, B.E., and J.D. McIntyre. 1993. Demographic and habitat requirements for conservation of bull trout. USDA Forest Service, Intermountain Research Station. General Technical Report INT-302.
- Seiler D, Volkhardt G, Topping P, Fleischer L, Miller T, Schonning S, Rawding D, Groesbeck M, Woodard R, and Hawkins S. 2004. 2003 Juvenile Salmonid Production Evaluation Report Green River, Wenatchee River, and Cedar Creek. Washington Department of Fish and Wildlife. Prepared for the Washington Salmon Recovery Funding Board. November 2004. 90 pp.
- Tacoma Public Utilities (TPU). 2001. Tacoma Water Habitat Conservation Plan: Green River Water Supply Operations and Watershed Protection (HCP). Prepared by R2 Resource Consultants.
- USACE. 2025. Howard A. Hanson Dam Master Plan, Project Operations and Environmental Assessment. USACE, Seattle District. July 2025. 207 pp.
- _____. 2014. Supplemental Biological Assessment, Howard Hanson Dam Continued Operations, King County, Washington. USACE, Seattle District. February 2014. 175 pp.

- _____. 2004. Final Operation, Maintenance, Repair, Replace, and Rehabilitate Manual, Howard Hanson Dam 1135 Fish & Wildlife Restoration Project, Howard Hanson Dam, Washington. 16 pp.
- _____. 1999. Howard A. Hanson Dam – Eagle Gorge Reservoir Project Master Plan, Design Memorandum No. 27. USACE, Seattle District. August 1999. 145 pp.
- _____. 1998. Additional Water Storage Project, Final Feasibility Study Report & Final EIS. Howard Hanson Dam, Green River, Washington. USACE, Seattle District. August 1998. 118 pp.
- U.S. Fish and Wildlife Service (USFWS). 2025. Endangered and Threatened Wildlife and Plants; Endangered Species Status for Suckley's Cuckoo Bumble Bee. Proposed Rule. 89 Federal Register 102074.
- _____. 2022. Biological Opinion on Howard A. Hanson Dam Continued Operations. USFWS Consultation Number 01EWF00-2014-F-0198. February 2, 2022. 136 p.
- _____. 1999. Endangered and threatened wildlife and plants; determination of threatened status for bull trout in the coterminous United States. Final rule. Federal Register 64(210):58910-58933.
- U.S. Geological Survey (USGS). 2025. National Information System: Web Interface. Current Conditions for Washington Streamflow. Accessed on May 20, 2025. Available: <https://waterdata.usgs.gov/monitoring-location/12113000/#dataTypeId=continuous-00060-0&period=P365D&showMedian=true>.
- Washington Department of Fish and Wildlife (WDFW). 2025a. Species and habitats – killer whale. Accessed September 10, 2025 from: <https://wdfw.wa.gov/species-habitats/species/orcinus-orca>
- _____. 2025b. Species and habitats – grizzly bear. Accessed September 10, 2025 from: <https://wdfw.wa.gov/species-habitats/species/ursus-arctos>
- _____. 2025c. Species and habitats – Suckley's cuckoo bumblebee. Accessed September 10, 2025 from: <https://wdfw.wa.gov/species-habitats/species/bombus-suckleyi>
- _____. 2025d. Species and habitats – monarch butterfly. Accessed September 10, 2025 from: <https://wdfw.wa.gov/species-habitats/species/danaus-plexippus#desc-range>

_____. 2004. Washington State Salmonid Stock Inventory Bull Trout/Dolly Varden. October 2004. 449

Washington Department of Ecology (WDOE). 2025. Water Quality Atlas. Accessed on May 20, 2025. Available: <https://apps.ecology.wa.gov/waterqualityatlas/wqa/map>

_____. 2021. Watershed Restoration and Enhancement Plan WRIA 9 – Duwamish-Green Watershed. May 2021. 86 pp.

_____. 2019. HUC accessed <http://geo.wa.gov/datasets/waecy::hydrologic-accounting-units-8-digit-huc?geometry=-124.287%2C46.959%2C-117.739%2C48.255> Accessed 16 July 2019.

Watson G and Hillman TW. 1997. Factors Affecting the Distribution and Abundance of Bull Trout: An Investigation at Hierarchical Scales. *North American Journal of Fisheries Management* 17:237-252 <https://api.semanticscholar.org/CorpusID:83869716>.

Appendices

Appendix A

PROJECT COOPERATION AGREEMENT
BETWEEN
THE DEPARTMENT OF THE ARMY
AND
THE CITY OF TACOMA
FOR MODIFICATION OF THE
HOWARD HANSON DAM
FOR ECOSYSTEM RESTORATION
AND
MUNICIPAL & INDUSTRIAL (M&I) WATER SUPPLY

THIS AGREEMENT is entered into this 17th day of July, 2003, by and between the DEPARTMENT OF THE ARMY (hereinafter the "Government"), represented by the Principle Deputy Assistant Secretary of the Army (Civil Works) and the CITY OF TACOMA, DEPARTMENT OF PUBLIC UTILITIES (hereinafter the "Non-Federal Sponsor"), represented by the Director, Department of Public Utilities.

WITNESSETH, THAT:

WHEREAS, the Secretary of the Army completed construction of the HOWARD HANSON DAM (hereinafter the "Existing Project", as defined in Article I.A. of this Agreement) in 1961;

WHEREAS, modification of the Existing Project for ecosystem restoration and municipal and industrial water supply is authorized by Section 101 (b) (15) of Public Law 106-53 to be carried out by the Secretary substantially in accordance with the plans, and subject to the conditions, recommended in a final report of the Chief of Engineers;

WHEREAS, the Government and the Non-Federal Sponsor desire to enter into a Project Cooperation Agreement for implementation of the project for ecosystem restoration and municipal and industrial water supply at Howard Hanson Dam, Washington, (hereinafter the "Project Modifications", as defined in Article I.B. of this Agreement);

WHEREAS, Section 103 of the Water Resources Development Act of 1986, Public Law 99-662, as amended, specifies the cost-sharing requirements applicable to this Project Modification; and the Water Supply Act of 1958, as amended (43 U.S.C. 390b-f) specifies additional payment of costs by the Non-Federal Sponsor for the use of storage added to the Existing Project by action of this agreement for municipal and industrial water supply;

WHEREAS, Section 215 of the Flood Control Act of 1968, Public Law 90-483, as amended, provides that the Secretary of the Army may enter into an agreement to credit the costs of

certain work accomplished by States or political subdivisions thereof, which later is incorporated by the Government into an authorized project, when it is determined that such credit is in the public interest;

WHEREAS, Section 215 of the Flood Control Act of 1968, Public Law 90-483, as amended, limits Federal credit or reimbursement for a single project to not more than \$5,000,000 or one percent of the project costs, whichever is greater;

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

WHEREAS, Section 902 of Public Law 99-662 establishes the maximum amount of costs for the Project Modifications and sets forth procedures for adjusting such maximum amount;

WHEREAS, a Biological Opinion from the National Marine Fisheries Service (NMFS) dated October 24, 2000 specifies reasonable and prudent measures for protection of Puget Sound Chinook Salmon that are related to the operation of the existing project;

WHEREAS, the Government and Non-Federal Sponsor have the full authority and capability to perform as hereinafter set forth and intend to cooperate in cost-sharing and financing of the implementation of the Project Modification in accordance with the terms of this Agreement.

NOW, THEREFORE, the Government and the Non-Federal Sponsor agree as follows:

ARTICLE I - DEFINITIONS AND GENERAL PROVISIONS

For purposes of this Agreement:

A. The term "Existing Project" shall mean Howard Hanson Dam and Reservoir that was authorized on May 17, 1950, by Public Law 516, 81st Congress substantially in accordance with House Document 271 for the purpose of providing flood control and low flow augmentation.

B. The term "Project Modification" shall mean the project modifications for Ecosystem Restoration, and project modifications for Municipal and Industrial Water Supply, all as generally described in a final report of the Chief of Engineers, dated 13 August 1999, and "Additional Water Storage Project, Final Feasibility Study Report & Final EIS", dated August 1998.

C. The term "Mitigation Modifications" shall mean those modifications directly related to the existing project to reduce impacts of the existing project on the Puget Sound Chinook Salmon as identified in the Biological Opinion from the NMFS and consisting of that portion of a downstream juvenile Fish Passage Facility (FPF) that will operate between the reservoir elevations of 1080 and 1147 and other salmon habitat mitigation features such as gravel nourishment and placement of large woody debris downstream of Howard Hanson Dam and the monitoring thereof.

D. The term "Project Modification for Ecosystem Restoration" shall mean construction of fish habitat restoration sites on the Green River and its tributaries in the vicinity of Howard Hanson Dam; the storage of 9600 acre-feet of water behind Howard Hanson Dam for Ecosystem Restoration low flow augmentation; a portion of the north abutment drainage remedies and any other measures the District Engineer finds necessary to modify the dam to properly impound the additional storage for Ecosystem Restoration low flow augmentation, if necessary; and a portion of the downstream juvenile FPF that will operate between the reservoir elevations of 1169 to 1177, as necessitated by the Ecosystem Restoration low flow augmentation water storage pool.

E. The term "Project Modification for Municipal and Industrial Water Supply" shall mean the storage of an additional 22,400 acre-feet of water behind Howard Hanson Dam for Municipal and Industrial use; a portion of the north abutment drainage remedies and any other measures the District Engineer finds necessary to modify the dam to properly impound the additional water supply storage for Municipal and Industrial Water Supply in Phase 1 and Phase 2 Water Supply; that portion of a downstream juvenile FPF that will operate between the reservoir elevations of 1147 to 1169 as necessitated by the additional Municipal and Industrial water supply storage pool; and environmental mitigation features associated with the additional storage such as planting of sedge meadows and creation of sub-impoundments and monitoring of these sites. The project modification for Municipal and Industrial Water Supply will be executed in two operational phases. In Phase 1 the project will store 20,000 acre-feet of Municipal and Industrial water to an elevation of 1167 National Geodetic Vertical Datum (NGVD). In Phase 2 the project will store an additional 12,000 acre-feet of water to elevation 1177 NGVD of which 2,400 acre-feet will be for Municipal and Industrial water supply. Phase 2 will be executed in accordance with the authorizing documents.

F. The term "total project modification costs" shall mean all costs incurred by the Non-Federal Sponsor and the Government in accordance with the terms of this Agreement directly related to implementation of the Project Modification. Subject to the provisions of this Agreement, the term shall include, but is not necessarily limited to, all engineering and design costs, including those incurred in the Pre-construction Engineering and Design (PED) phase; the costs of investigations to identify the existence and extent of hazardous substances in accordance with Article XVI.A. of this Agreement; the costs incurred by the Government for clean-up and response in accordance with Article XVI.C. of this Agreement; costs of historic preservation activities in accordance with Article XIX.A. of this Agreement; actual implementation costs; the amount of credit afforded for the Section 215 work; supervision and administration costs; costs of

participation in the Project Modification Coordination Team in accordance with Article VI of this Agreement; costs of contract dispute settlements or awards; the value of lands, easements, rights-of-way, relocations, and suitable borrow and dredged or excavated material disposal areas for which the Government affords credit in accordance with Article V of this Agreement; and costs of audit in accordance with Article XI of this Agreement. The term does not include any costs for operation, maintenance, repair, replacement, or rehabilitation; any costs due to betterments; or any costs of dispute resolution under Article VIII of this Agreement.

G. The term "total project modification costs for Mitigation Modifications" shall mean those costs that the Government assigns to the Mitigation Modification for construction and monitoring of a downstream juvenile FPF that will operate between the reservoir elevations of 1080 and 1147, but does not include the costs of building the structure to operate above the elevation of 1147. It has been determined by an approved cost allocation analysis that the cost for construction of the downstream FPF that will operate between the reservoir elevations of 1080 and 1147 is 98.4 percent of the total costs for the construction of the downstream juvenile Fish Passage Facility. The term also includes costs for gravel nourishment and placement of large woody debris downstream of Howard Hanson Dam, and other measures in accordance with the project Biological Opinion from the National Marine Fisheries Service (NMFS) dated October 24, 2000 that specifies reasonable and prudent measures for protection of Puget Sound Chinook Salmon that are related to the existing project.

H. The term "total project modification costs for Ecosystem Restoration" shall mean that portion of the total project costs that the Government assigns to the Project Modification for Ecosystem Restoration. It includes all of the Ecosystem Restoration costs for construction and monitoring of fish restoration sites on the Green River and its tributaries in the vicinity of Howard Hanson Dam and 38.8 per cent of the total water supply project joint use construction cost. It does not include measures in accordance with the Biological Opinion from the National Marine Fisheries Service (NMFS) for protection of Puget Sound Chinook Salmon that are related to the existing project.

I. The term "total project modification costs for Municipal and Industrial Water Supply" shall mean that portion of the total project costs that the Government assigns to the Project Modification for Municipal and Industrial Water Supply, and includes 100 per cent of the specific water supply construction costs; 61.2 per cent of the total water supply project modification related joint use costs; and a share of the Existing Project Investment Costs;

J. The term "financial obligation for implementation" shall mean a financial obligation of the Government, or a financial obligation of the Non-Federal Sponsor for Section 215 work, other than an obligation pertaining to the provision of lands, easements, rights-of-way, relocations, and borrow and dredged or excavated material disposal areas, that results or would result in a cost that is or would be included in total project modification costs.

K. The term "implementation" shall mean all actions required to carry out the Project Modification including all actions required for modification in operations of the Existing Project,

but does not include operation, maintenance, repair, replacement and rehabilitation.

L. The term "non-Federal proportionate share" shall mean the ratio of the Non-Federal Sponsor's total cash contribution required in accordance with Article II.D of this Agreement to total financial obligations for implementation as projected by the Government.

M. The term "period of implementation" shall mean the time from the effective date of this Agreement to the date that the District Engineer notifies the Non-Federal Sponsor in writing of the Government's determination that implementation of the Project Modification is complete.

N. The term "highway" shall mean any public highway, roadway, street, or way, including any bridge thereof.

O. The term "relocation" shall mean providing a functionally equivalent facility to the owner of an existing utility, cemetery, highway or other public facility, or railroad when such action is authorized in accordance with applicable legal principles of just compensation or as otherwise provided in the authorizing legislation for the Project Modification or any report referenced therein. Providing a functionally equivalent facility may take the form of alteration, lowering, raising, or replacement and attendant removal of the affected facility or part thereof.

P. The term "fiscal year" shall mean one fiscal year of the Government. The Government fiscal year begins on October 1 and ends on September 30.

Q. The term "functional portion of the Project Modification" shall mean a portion of the Project Modification that is suitable for tender to the Non-Federal Sponsor to operate and maintain in advance of completion of the entire Project Modification. For a portion of the Project Modification to be suitable for tender, the District Engineer must notify the Non-Federal Sponsor in writing of the Government's determination that the portion of the Project Modification is complete and can function independently and for a useful purpose, although the balance of the Project Modification is not complete.

R. The term "betterment" shall mean a change, requested by the project Non-Federal Sponsor, in the design and construction of an element of the Project Modification resulting from the application of standards that the Government determines exceed those that the Government would otherwise apply for accomplishing the design and construction of that element.

S. The term "Section 215 Work" means Project work for which the Government will give credit pursuant to Section 215 of Public Law 90-483. The Section 215 work includes implementation of the authorized improvements for ecosystem restoration work on the Green River, large and small culvert replacements, provision of wood materials for habitat restoration, and installation of electrical utilities, as well as planning, engineering, design, supervision and administration, and other activities associated with implementation, but does not include the implementation of betterments or the provision of lands, easements, rights-of-way, relocations, or

suitable borrow and dredged or excavated material disposal areas associated with the Section 215 work.

T. The term "conservation season" shall mean the annual period at Howard Hanson Dam in which a percentage of reservoir inflows are stored and subsequently released to provide water for Municipal and Industrial use and/or low flow augmentation and is generally the period from late February to early November. It is the opposite of flood control season in which the reservoir storage space is kept evacuated until temporary storage of water is required to prevent flooding downstream of the dam.

U. The term "Specific costs" as used in this agreement shall mean the costs of Project Modification features serving only one particular Project Modification purpose. All of the costs associated with the Mitigation Modification are specific costs. For the Project Modification for Ecosystem Restoration, the specific costs are the costs associated with construction and monitoring of fish habitat restoration sites on the Green River and its tributaries in the vicinity of Howard Hanson Dam. For the Project Modification for Municipal and Industrial Water Supply, the specific costs are the costs associated with construction and monitoring of mitigation features associated with the inundation of existing habitat caused by Phase 1 additional water storage such as planting of sedge meadows and creation of sub-impoundments.

V. The term "Joint-use costs" shall mean the costs of features used for any two or more Project purposes. For the purposes of this agreement, the Joint-use costs shall mean the non-Specific costs of the Project Modification for Municipal and Industrial Water Supply and Ecosystem Restoration low flow augmentation such as north abutment drainage remedies and any other measures the District Engineer finds necessary to modify the dam to properly impound the additional storage for Municipal and Industrial Water Supply and Ecosystem Restoration low flow augmentation in Phase 1 and Phase 2; and that portion of a downstream juvenile FPF that will operate between the reservoir elevations of 1147 to 1177 as necessitated by the additional Municipal and Industrial Water Supply and Ecosystem Restoration low flow augmentation storage pool.

ARTICLE II - OBLIGATIONS OF THE GOVERNMENT AND THE NON-FEDERAL SPONSOR

A. The Government, subject to the availability of funds and using those funds and funds provided by the Non-Federal Sponsor, shall expeditiously implement the Mitigation Modification and the Project Modification, except for Section 215 Work, applying those procedures usually applied to Federal projects, pursuant to Federal laws, regulations, and policies.

1. The Government shall afford the Non-Federal Sponsor the opportunity to review and comment on the solicitations for all contracts, including relevant plans and specifications, prior to the Government's issuance of such solicitations. The Government shall not issue the solicitation for the first contract for implementation until the Non-Federal Sponsor

has confirmed in writing its willingness to proceed with the Project Modification. To the extent possible, the Government shall afford the Non-Federal Sponsor the opportunity to review and comment on all contract modifications, including change orders, prior to the issuance to the contractor of a Notice to Proceed. In any instance where providing the Non-Federal Sponsor with notification of a contract modification or change order is not possible prior to issuance of the Notice to Proceed, the Government shall provide such notification in writing at the earliest date possible. To the extent possible, the Government also shall afford the Non-Federal Sponsor the opportunity to review and comment on all contract claims prior to resolution thereof. The Government shall consider in good faith the comments of the Non-Federal Sponsor, but the contents of solicitations, award of contracts, execution of contract modifications, issuance of change orders, resolution of contract claims, and performance of all work on the Project Modification, with the exception of the Section 215 Work (whether the work is performed under contract or by Government personnel), shall be exclusively within the control of the Government.

2. Throughout the period of implementation, the District Engineer shall furnish the Non-Federal Sponsor with a copy of the Government's Written Notice of Acceptance of Completed Work for each contract for the Project Modification.

3. For Section 215 Work, the Government shall be afforded an opportunity to review and comment on the solicitations for all contracts, including relevant plans and specifications, prior to the Non-Federal Sponsor's issuance of such solicitations. No construction shall commence under this Agreement until the designs, detailed plans and specifications, and arrangements for prosecution of the Section 215 Work have been approved in writing by the District Engineer, or his representative. All bids received and proposed provisions of any contract shall be subject to review by the Government prior to contract award. In addition, all proposed changes in approved designs, plans, and specifications also must be reviewed and approved by the District Engineer or his representative in writing in advance of the related construction where practicable. To the extent possible, the Non-Federal Sponsor also shall afford the Government the opportunity to review and comment on all contract claims prior to resolution thereof. The Non-Federal Sponsor shall consider in good faith the comments of the Government made as a result of its review, but the contents of solicitations, award of contracts, execution of contract modifications, issuance of change orders, resolution of contract claims, and performance of all Section 215 Work shall be exclusively within the control of the Non-Federal Sponsor. However, the failure of the Non-Federal Sponsor to comply with direction received from the District Engineer with respect to the Section 215 Work may result in the costs associated with such work being determined ineligible for credit towards the Non-Federal Sponsor's share of total project costs. The District Engineer or his designee is authorized to inspect the work at any and all times.

B. The Non-Federal Sponsor may request the Government to accomplish betterments. Such requests shall be in writing and shall describe the betterments requested to be accomplished. If the Government in its sole discretion elects to accomplish the requested betterments or any portion thereof, it shall so notify the Non-Federal Sponsor in a writing that sets forth any applicable terms and conditions, which must be consistent with this Agreement. In

the event of conflict between such a writing and this Agreement, this Agreement shall control. The Non-Federal Sponsor shall be solely responsible for all costs due to the requested betterments and shall pay all such costs in accordance with Article VII.C. of this Agreement.

C. The Government shall allocate all costs between total project modification costs for Mitigation Modification and total project modification costs, and shall allocate all costs to be included in total project modification costs to total project modification costs for Ecosystem Restoration and total project modification costs for Municipal and Industrial Water Supply.

D. The Government shall contribute 100 percent of the total project modification costs for the Mitigation Modification and 65% of the total project modification costs for Ecosystem Restoration. The Non-Federal Sponsor shall contribute 100 percent of the total project modification costs allocable to Municipal and Industrial Water Supply, and 35 percent of total project modification costs allocable to Ecosystem Restoration.

1. In accordance with Article IV of this Agreement, the Non-Federal Sponsor shall provide all lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas that the Government determines must be provided for the implementation, operation, and maintenance of the Project Modification for Municipal and Industrial Water Supply and the Project Modification for Ecosystem Restoration, and shall perform or ensure performance of all relocations that the Government determines to be necessary for the implementation, operation, and maintenance of such modifications.

2. As authorized by Section 215 of Public Law 90-483, as amended, the Government may afford credit toward the Non-Federal Sponsor's total contribution required in accordance with paragraph D of this Article for Section 215 Work that may be performed to implement the Project Modification for Ecosystem Restoration. The affording of such credit shall be subject to a technical review by the Government to verify that the credited work was accomplished in a satisfactory manner and in accordance with the limitations contained in this Agreement. To afford any such credit, the Government, as further specified in Article VII.B of this Agreement, shall apply the actual amount of credit toward the Non-Federal Sponsor's contribution required by paragraph D of this Article. The actual amount of credit shall not exceed the Non-Federal Sponsor's actual costs attributable to the Section 215 Work. Such credit may be afforded in increments as useful increments of the Section 215 Work are completed by the Non-Federal Sponsor. The actual amount of credit shall be subject to an audit in accordance with Article XI.C of this Agreement to determine reasonableness, allocability, and allowability of costs. If the actual amount of credit exceeds the cash contribution required by paragraph D of this Article, the Government, subject to the availability of funds, shall, on behalf of the Non-Federal Sponsor, provide Project lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas, or perform Project relocations, equal in value to such excess credit amount. As an alternative, and in its sole discretion, the government may, subject to the availability of funds, reimburse the Non-Federal Sponsor in an amount equal to such excess credit amount.

3. If the Government projects that the value of the Non-Federal Sponsor's contributions under paragraph D.1 and D.2 of this Article and Articles VI, XI, and XVI.A of this Agreement will be less than the Non-Federal Sponsor's total contribution required in accordance with paragraph D of this Article, the Non-Federal Sponsor shall provide an additional cash contribution, in accordance with Article VII.B, in the amount necessary to make the Non-Federal Sponsor's total contribution equal to that required in accordance with paragraph D of this Article.

4. If the Government determines that the value of the Non-Federal Sponsor's contributions provided under paragraphs D.1 and D.2 of this Article and Articles VI, XI, and XVI.A of this Agreement has exceeded the Non-Federal Sponsor's total contribution required in accordance with paragraph D of this Article, the Government, subject to the availability of funds, shall reimburse the Non-Federal Sponsor for any such value in excess of the Non-Federal sponsor's total contribution required in accordance with paragraph D of this Article. After such a determination, the Government, in its sole discretion, may provide any remaining Project Modification lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas and perform any remaining Project Modification relocations on behalf of the Non-Federal Sponsor. Notwithstanding the provision of lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas or performance of relocations by the Government under this paragraph, the Non-Federal Sponsor shall be responsible, as between the Government and the Non-Federal Sponsor, for the costs of cleanup and response in accordance with Article XVI.C. of this Agreement.

E. The Government and the Non-Federal Sponsor shall operate, maintain, repair, replace, and rehabilitate the Project Modification and the Mitigation Modification according to this paragraph, Article III, and Article IX of this agreement.

1. When the District Engineer determines that the entire Fish Habitat component of the Project Modification for Ecosystem Restoration is complete or that a portion of the Fish Habitat component of the Project Modification for Ecosystem Restoration has become a functional portion of the Project Modification, the District Engineer shall so notify the Non-Federal Sponsor in writing and furnish the Non-Federal Sponsor with an Operation, Maintenance, Repair, Replacement, and Rehabilitation Manual (hereinafter the "OMRR&R Manual") and with copies of all of the Government's Written Notices of Acceptance of Completed Work for all contracts for the Fish Habitat component of the Project Modification for Ecosystem Restoration or the functional portion of the Fish Habitat component of the Project Modification for Ecosystem Restoration that have not been provided previously. Upon such notification, the Non-Federal Sponsor shall operate, maintain, repair, replace, and rehabilitate the Fish Habitat component of the Project Modification for Ecosystem Restoration or the functional portion of the Fish Habitat component of the Project Modification for Ecosystem Restoration in accordance with Article IX of this Agreement.

2. The Government shall operate, maintain, repair, replace, and rehabilitate the Mitigation Modifications.

3. The Government shall operate, maintain, repair, replace and rehabilitate the Project Modification for Municipal and Industrial Water Supply and Ecosystem Restoration low flow augmentation including OMRR&R of any measures to modify the dam to properly impound the additional storage of water. The Non-Federal Sponsor shall pay all costs of operation, maintenance, repair, replacement, and rehabilitation of the Project Modification for Municipal and Industrial Water Supply and Ecosystem Restoration low flow augmentation in accordance with Article III, VII, and IX of this document. The Non-Federal Sponsor shall also pay a share of the operation, maintenance, repair, replacement, and rehabilitation of the existing project, according to Articles III and VII of this document.

F. In addition to any other limitations contained in this Agreement, the affording and the amount of Section 215 credit is subject to the following additional limitations:

1. No credit shall be given until the District Engineer has certified that the work subject to the credit has been completed and performed in accordance with the terms of this Agreement.

2. This Agreement shall not be construed as committing the Government to assume any responsibilities placed upon the Non-Federal Sponsor or any other non-Federal entity by the conditions of Federal Project authorization or any other applicable statute or regulation or as committing the Government to reimburse the Non-Federal Sponsor if the Project Modification is not undertaken or is modified so as to make the work performed by the Non-Federal Sponsor no longer an integral part of the authorized Project.

3. The amount of credit or reimbursement, or combination thereof, to be provided by the Government to the Non-Federal Sponsor shall not exceed the Government's estimate of what the cost of the proposed work would be if it were to be accomplished by the Government as a component of the Project modification, or the Non-Federal Sponsor's actual auditable costs for the proposed work, whichever is less. Credit shall not be made for any work that does not, in the judgment of the Government, conform to the Project Modification.

4. The amount of credit provided by the Government to the Non-Federal Sponsor for the Proposed Work described herein, in combination with any credit or reimbursement provided pursuant to Section 215 for the Project Modification, shall not exceed the statutory limitation of \$5,000,000 or one percent of total project costs, whichever is greater.

5. The amount of credit or reimbursement for which the Non-Federal Sponsor may be eligible pursuant to this Agreement is neither subject to interest charges nor to adjustment to reflect changes in price levels between the time the proposed work is completed and the time that the credit or reimbursement is afforded.

6. No credit or reimbursement shall be afforded for costs incurred by the Non-Federal Sponsor before the effective date of this Agreement.

G. The Non-Federal Sponsor may request the Government to provide lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas or perform relocations on behalf of the Non-Federal Sponsor. Such requests shall be in writing and shall describe the services requested to be performed. If in its sole discretion the Government elects to perform the requested services or any portion thereof, it shall so notify the Non-Federal Sponsor in a writing that sets forth any applicable terms and conditions, which must be consistent with this Agreement. In the event of conflict between such a writing and this Agreement, this Agreement shall control. The Non-Federal Sponsor shall be solely responsible for all costs of the requested services and shall pay all such costs in accordance with Article VII.C. of this Agreement. Notwithstanding the provision of lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas or performance of relocations by the Government under this paragraph, the Non-Federal Sponsor shall be responsible, as between the Government and the Non-Federal Sponsor, for the costs of cleanup and response in accordance with Article XVI.C. of this Agreement.

H. The Government shall perform a final accounting in accordance with Article VII.D of this Agreement to determine the contributions provided by the Non-Federal Sponsor in accordance with paragraphs B, D, and G. of this Article and Articles VI, XI, and XVI.A of this Agreement and to determine whether the Non-Federal Sponsor has met its obligations under paragraphs B, D, and G of this Article.

I. The Non-Federal Sponsor shall not use Federal funds to meet its share of total project modification costs under this Agreement unless the Federal granting agency verifies in writing that the expenditure of such funds is expressly authorized by statute.

J. Crediting and/or reimbursement is subject to satisfactory compliance with applicable federal labor laws covering non-Federal construction, including, but not limited to applicable federal labor standards in 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)). Crediting and/or reimbursement may be withheld, in whole or in part, as a result of the Non-Federal Sponsor's failure to comply with its obligations under these laws.

K. The Non-Federal Sponsor shall prescribe and enforce regulations, within its authority, to prevent obstructions of or encroachment on the Project Modification and the Mitigation Modification that would reduce or hinder the operation or maintenance of the Project Modification and the Existing Project, including the Mitigation Modification.

ARTICLE III – WATER SUPPLY STORAGE

A. The Government, subject to the directions of Federal law and any limitations imposed thereby, shall modify the Existing Project so as to include the storage of water for use by the Non-Federal Sponsor. The Non-Federal Sponsor shall have the right to utilize the usable

storage space in the Project Modification between elevations 1147 feet and 1167 feet above National Geodetic Vertical Datum for Phase 1 Municipal and Industrial water supply, which usable storage space is estimated to contain 20,000 acre-feet after adjustment for sediment deposits; and the usable storage space in the Project Modification between elevations 1147 feet and 1177 feet above National Geodetic Vertical Datum for Phase 2 water supply, which usable storage space is estimated to contain 32,000 acre-feet after adjustment for sediment deposits, 22,400 acre-feet for Municipal and Industrial water and 9,600 acre-feet for Ecosystem Restoration low flow augmentation.

B. The Non-Federal Sponsor shall have the right to withdraw water from the lake, or to request releases to be made by the Government through the outlet works in the Dam, subject to the provisions of Article III.C and to the extent the aforesaid storage space will provide, and shall have the right to construct all such works, plants, pipelines, and appurtenances as may be necessary and convenient for the purpose of diversion or withdrawals, subject to the approval of the District Engineer as to design and location. The grant of an easement for right-of-way, across, in and upon land of the Government at the Howard Hanson Dam and Reservoir shall be by a separate instrument in a form satisfactory to the Secretary of the Army, without additional cost to the Non-Federal Sponsor, under the authority of and in accordance with the provisions of 10 U.S.C. 2669 and such other authorities as may be necessary. Subject to the conditions of such easement, the Non-Federal Sponsor shall have the right to use so much of the Howard Hanson Dam and Reservoir land as may reasonably be required in the exercise of the rights and privileges granted under this agreement.

C. The Government reserves the right to control and use all storage in the Existing Project or Project Modification in accordance with authorized purposes of Howard Hanson Dam and Reservoir. The Government further reserves the right to take such measures as may be necessary in the operation of the Howard Hanson Dam and Reservoir to preserve life and/or property, including the right not to make downstream releases during such periods of time as are deemed necessary, in its sole discretion, to inspect, maintain, or repair the Howard Hanson Dam and Reservoir.

D. The Non-Federal Sponsor recognizes that the Government provides storage space for raw water and makes no representations with respect to the quality or availability of water and assumes no responsibility therefore, or for the treatment of the water.

E. Sedimentation Surveys.

1. Sedimentation surveys will be made by the District Engineer at intervals not to exceed fifteen (15) years unless the District Engineer determines that such surveys are unnecessary. When, in the opinion of the District Engineer, the findings of such survey indicate any Project purpose will be affected by unanticipated sedimentation distribution, there shall be an equitable redistribution of the sediment reserve storage space among the purposes served by the Howard Hanson Dam and Reservoir including Municipal and Industrial water supply. The total available remaining storage space in the Howard Hanson Dam and Reservoir will then be divided

among the various Howard Hanson Dam and Reservoir features in the same ratio as was initially utilized. Adjusted pool elevations will be rounded to the nearest one-half foot. Such findings and the storage space allocated to Municipal and Industrial water supply shall be defined and described as an exhibit that will be made a part of this agreement and the water control manual will be modified accordingly.

2. The Government assumes no responsibility for deviations from estimated rates of sedimentation, or the distribution thereof. Such deviations may cause unequal distribution of sediment reserve storage greater than estimated, and/or encroachment on the total storage at the Project.

F. The regulation of the use of water withdrawn or released from the aforesaid storage space shall be the sole responsibility of the Non-Federal Sponsor. The Non-Federal Sponsor has the full responsibility to acquire in accordance with State laws and regulations, and, if necessary, to establish or defend, any and all water rights needed for utilization of the storage provided under this agreement. The Government shall not be responsible for diversions by others, nor will it become a party to any controversies involving the use of the storage space by the User except as such controversies may affect the operations of the Howard Hanson Dam and Reservoir by the Government.

G. The Government shall operate, maintain, repair, replace, and rehabilitate the Project Modification for Municipal and Industrial Water Supply and Ecosystem Restoration low flow augmentation and the Non-Federal Sponsor shall pay to the Government the costs to operate, maintain, repair, replace, and rehabilitate the project as provided in paragraph I of this Article. The Non-Federal Sponsor shall be responsible for operation and maintenance of all installations and facilities that it may construct for the diversion or withdrawal of water, and shall bear all costs of construction, operation and maintenance of such installations and facilities.

H. The Non-Federal Sponsor agrees to furnish and install, without cost to the Government, suitable meters or measuring devices satisfactory to the District Engineer for the measurement of water which is withdrawn from the Howard Hanson Dam and Reservoir by any means other than through the Howard Hanson Dam and Reservoir outlet works. The Non-Federal Sponsor shall furnish to the Government monthly statements of all such withdrawals. Prior to the construction of any facilities for withdrawal of water from the Howard Hanson Dam and Reservoir, the Non-Federal Sponsor will obtain the District Engineer's approval of the design, location and installation of the facilities including the meters or measuring devices. Such devices shall be available for inspection by Government representatives at all reasonable times. Releases from the water supply storage space through the Howard Hanson Dam and Reservoir outlet works shall be made in accordance with written schedules furnished by the Non-Federal Sponsor and approved by the District Engineer and shall be subject to Article III.C. The measure of all such releases shall be by means of a rating curve of the outlet works, or by such other suitable means as may be agreed upon prior to use of the water supply storage space.

I. In consideration of the right to utilize the Project Modification for Municipal and

Industrial Water Supply, the Non-Federal Sponsor shall pay to the government the applicable costs of the Project Modifications for Municipal and Industrial Water Supply and Ecosystem Restoration low flow augmentation; a share of the Existing Project Investment Costs; applicable Municipal and Industrial Water Supply and Ecosystem Restoration low flow augmentation Project Modification Operation, Maintenance, Repair, Rehabilitation, and Replacement (OMRR&R) Costs; and a share of the existing project OMRR&R costs; as described below and as listed in Articles II and IX of this agreement utilizing the methods of payment listed in this Article and Article VII of this agreement.

1. The Non-Federal Sponsor shall contribute 100 percent of the specific project modification costs for Municipal and Industrial Water Supply. In addition, the Non-Federal Sponsor shall pay 61.2 percent of the joint use costs for Municipal and Industrial Water Supply and Ecosystem Restoration low flow augmentation, in accordance with the provisions of Article VII of this agreement. The Non-federal sponsor's share of the joint use costs for Municipal and Industrial Water Supply and Ecosystem Restoration low flow augmentation includes 1.6 percent of the costs for the construction of the downstream juvenile Fish Passage Facility as determined by an approved cost allocation analysis.

2. The Non-Federal Sponsor shall pay a share of the existing project investment costs as required by law, equal to one half the difference of the least cost alternative of providing equivalent water supply less the present-worth cost of the total project modification costs for Municipal and Industrial Water Supply, in accordance with the provisions of this paragraph. At the time of authorization of the project, this amount was estimated to be \$842,000. This amount will be revised at the end of the period of implementation by adjusting it for inflation. The inflation factor is hereby set in this agreement to be 2.7 percent per year until such time as the District Engineer notifies the Non-Federal Sponsor in writing that the project for water supply is complete and that storage of water will commence. This cost shall be paid in accordance with Article VII.B of this agreement.

3. The Non-Federal Sponsor will be required to pay 100 percent of the cost of any repair, rehabilitation, or replacement of the water supply facilities for the Municipal and Industrial Water Supply and Ecosystem Restoration low flow augmentation project modifications including all costs required to repair, replace, and rehabilitate that part of the downstream juvenile FPF above elevation 1147 to elevation 1177. The cost of the repair, replacement, and rehabilitation of the additional structure of the downstream juvenile FPF required to operate above the elevation of 1147 to the elevation of 1177 shall be set by this agreement to be 2.2 percent of the total costs of the repair, replacement, and rehabilitation of the downstream juvenile FPF. In addition, the Non-Federal Sponsor will be required to pay 7.8% of the annual net costs of joint-use repair, rehabilitation, or replacement of existing project facilities during Phase 1 water storage and 8.8% of the annual net costs of joint-use repair, rehabilitation, or replacement of existing project facilities during Phase 2 water storage. Not less than 120 calendar days prior to the scheduled date for issuance of the solicitation for any construction contract required for the Repair, and/or Replacement, and/or Rehabilitation of specific or joint-use facilities, the Government shall notify the Non-Federal Sponsor in writing of such scheduled date and the

funds the Government determines to be required from the Non-Federal Sponsor for the construction. Not later than such scheduled date, the Non-Federal Sponsor shall provide the Government with the full amount of the required funds by delivering a check payable to "FAO, USAED, Seattle District" to the District Engineer. If at any time during the construction required for Repair, and/or Replacement, and/or Rehabilitation of specific or joint-use facilities the Government determines that additional funds will be needed from the Non-Federal Sponsor to cover the financial obligations for construction, the Government shall notify the Non-Federal Sponsor in writing of the additional funds required, and the Non-Federal Sponsor, no later than 60 calendar days from receipt of such notice, shall make the additional required funds available through the payment mechanism specified above in this paragraph.

4. The Non-Federal Sponsor will be required to pay 100 percent of the cost of Annual Operation and Maintenance (O&M) Expense of Municipal and Industrial Water Supply and Ecosystem Restoration low flow augmentation facilities, including all costs required to operate and maintain that part of the downstream juvenile FPF that will operate above elevation 1147 to elevation 1177, in accordance with Article IX of this Agreement. In addition, the Non-Federal Sponsor will be required to pay 7.8% of the annual experienced joint-use O&M expense of the project during Phase 1 water storage and 8.8% of the annual experienced joint-use O&M expense of the project during Phase 2 water storage. Payments for such O&M expenses are due and payable in advance of the annual reservoir conservation pool refill beginning date and shall be based on O&M costs for the Government fiscal year most recently ended. The amount of each annual payment will be the actual experienced O&M expense for Municipal and Industrial Water Supply and Ecosystem Restoration low flow augmentation plus the proper percentage of the actual experienced O&M expense for existing facilities for the preceding fiscal year or an estimate thereof when actual expense information is not available. Not later than such scheduled date, the Non-Federal Sponsor shall provide the Government with the full amount of the required funds by delivering a check payable to "FAO, USAED, Seattle District" to the District Engineer.

5. If the Non-Federal Sponsor shall fail to make any of the annual O&M Expense payments when due, then the overdue payments shall bear interest compounded annually until paid. The interest rate to be used for overdue payments due shall be that determined by the Department of Treasury's Treasury Fiscal Requirements Manual (1 TFRM 6-8000, "Cash Management"). The amount charged on payments overdue for a period of less than one year shall be figured on a monthly basis. For example, if the payment is made within the first month after being overdue after a 15-day grace period from the anniversary date of the date of notification, one month's interest shall be charged. Thereafter a month's interest will be charged for any portion of each succeeding month that the payment is delinquent. This provision shall not be construed as giving the Non-Federal Sponsor a choice of either making payments when due or paying interest, nor shall it be construed as waiving any other rights of the Government, at law or in equity, which might result from any default by the Non-Federal Sponsor.

J. Upon completion of contributions by the Non-Federal Sponsor, as provided in

Article II. D, and III.I.1 and 2, the Non-Federal Sponsor shall have a permanent right under the provisions of the Act of 16 October 1963 (Public Law 88-140, 43 USC 390e), to the use of the water supply storage space in the Howard Hanson Dam and Reservoir as provided in this Article, subject to the following:

1. The Non-Federal Sponsor shall continue payment of annual operation and maintenance costs allocated to specific and joint-use water supply.

2. The Non-Federal Sponsor shall bear the costs allocated to water supply of any necessary reconstruction, rehabilitation, or replacement of Project features which may be required to continue satisfactory operation of the Project. Such costs will be established by the District Engineer, and repayment arrangements shall be in accordance with the terms and conditions set forth in this Article and Article VII of this agreement for reconstruction, rehabilitation, and replacement costs, and be made a part of this agreement.

3. The District Engineer shall re-determine the storage space for Municipal and Industrial Water Supply in accordance with the provisions of Article III.E. Such re-determination of reservoir storage capacity may be further adjusted from time to time as the result of sedimentation resurveys to reflect actual rates of sedimentation.

4. The permanent rights of the Non-Federal Sponsor under this agreement shall be continued so long as the Government continues to operate Howard Hanson Dam and Reservoir. In the event the Government or its successor in interest in the Howard Hanson Dam and Reservoir no longer operates Howard Hanson Dam and Reservoir, such rights shall be continued subject to the execution of a separate agreement or additional supplemental agreement providing for:

(a) continued operation by the Non-Federal Sponsor of such part of the facility as is necessary for utilization of the water supply storage space allocated to it;

(b) if deemed necessary, terms which will protect the public interest; and

(c) effective absolvment of the Government by the Non-Federal Sponsor from liability in connection with such continued operation.

(d) no significant increase in cost or obligations to the Non-Federal Sponsor.

K. Transfers and Assignments.

1. The User shall not transfer or assign any water storage rights acquired under this Agreement, nor sub-allot said water supply storage space or any part thereof, nor grant any interest, privilege or license whatsoever in connection with this agreement, without the approval of the Secretary of the Army, or his duly authorized representative provided that, unless contrary to the public interest, this restriction shall not be construed to apply to any water that

may be obtained from the water supply storage space by the Non-Federal Sponsor and furnished to any third party or parties, nor any method of allocation thereof.

2. Regarding approval of assignments, references to restriction of assignments shall not apply to any transfer or assignment to the Rural Economic Community Development (RECD), formerly Farmers Home Administration, or its successor agency, or nominee, given in connection with the pledging of this agreement as security for any loans or arising out of the foreclosure or liquidation of said loans. The Non-Federal Sponsor will notify the Corps in writing 15 days prior to applying for a RECD loan. A copy of the final loan instrument will be furnished to the Corps for their record.

3. In the event Howard Hanson Dam is transferred to another entity, all rights, interests and responsibilities of the Government and the Non-Federal Sponsor are assignable, subject to Congressional authorization.

L. After the period of implementation is complete, should the Non-federal Sponsor desire to terminate its responsibilities for the Project Modification for Municipal and Industrial Water Supply, it shall give 180 day's written notice to the Government of its intent.

1. If the Government determines it to be in its best interests to terminate that part of the Agreement, the Government shall conduct a final accounting to determine the Non-Federal Sponsor's portion of costs for repair, rehabilitation and/or replacement of the construction related to Municipal and Industrial Water Supply, and furnish the Non-Federal Sponsor with the results of the final accounting.

2. In the event that the final accounting shows that the Non-Federal Sponsor is responsible for a portion of the costs of repair, rehabilitation and/or replacement any component of the Project Modification for Municipal and Industrial Water Supply, the Non-Federal Sponsor shall, no later than 90 calendar days after receipt of written notice, make a cash payment to the Government of whatever sum is required to meet the Non-Federal Sponsor's required share of such costs.

ARTICLE IV - LANDS, RELOCATIONS, DISPOSAL AREAS, AND PUBLIC LAW 91-646 COMPLIANCE

A. The Government, after consultation with the Non-Federal Sponsor, shall determine the lands, easements, and rights-of-way required for the implementation, operation, and maintenance of the Project Modification, including those required for relocations, borrow materials, and dredged or excavated material disposal. The Government shall indicate which of the required lands, easements, and rights-of-way are required for the Project Modification for Ecosystem Restoration and the Project Modification for Municipal and Industrial Water Supply. The Government in a timely manner shall provide the Non-Federal Sponsor with general written descriptions, including maps as appropriate, of the lands, easements, and rights-of-way that the Government determines the Non-Federal Sponsor must provide, in detail sufficient to enable the

Non-Federal Sponsor to fulfill its obligations under this paragraph, and shall provide the Non-Federal Sponsor with a written notice to proceed with acquisition of such lands, easements, and rights-of-way. Prior to the end of the period of implementation, the Non-Federal Sponsor shall acquire all lands, easements, and rights-of-way set forth in such descriptions. Furthermore, prior to issuance of the solicitation for each construction contract, the Non-Federal Sponsor shall provide the Government with authorization for entry to all lands, easements, and rights-of-way the Government determines the Non-Federal Sponsor must provide for that contract. The Non-Federal Sponsor shall ensure that lands, easements, and rights-of-way that the Government determines to be required for the operation and maintenance of the Project Modification and that were provided by the Non-Federal Sponsor are retained in public ownership for uses compatible with the authorized purposes of the Project Modification.

B. The Government, after consultation with the Non-Federal Sponsor, shall determine the improvements required on lands, easements, and rights-of-way to enable the proper disposal of dredged or excavated material associated with the implementation, operation, and maintenance of the Project Modification. The Government shall delineate which of the required improvements are associated with the Project Modification for Ecosystem Restoration and the Project Modification for Municipal and Industrial Water Supply. Such improvements may include, but are not necessarily limited to, retaining dikes, waste-weirs, bulkheads, embankments, monitoring features, stilling basins, and de-watering pumps and pipes. The Government in a timely manner shall provide the Non-Federal Sponsor with general written descriptions of such improvements in detail sufficient to enable the Non-Federal Sponsor to fulfill its obligations under this paragraph, and shall provide the Non-Federal Sponsor with a written notice to proceed with construction of such improvements. Prior to the end of the period of implementation, the Non-Federal Sponsor shall provide all improvements set forth in such descriptions. Furthermore, prior to issuance of the solicitation for each Government construction contract, the Non-Federal Sponsor shall prepare plans and specifications for all improvements the Government determines to be required for the proper disposal of dredged or excavated material under that contract, submit such plans and specifications to the Government for approval, and provide such improvements in accordance with the approved plans and specifications.

C. The Government, after consultation with the Non-Federal Sponsor, shall determine the relocations necessary for the implementation, operation, and maintenance of the Project Modification, including those necessary to enable the removal of borrow materials and the proper disposal of dredged or excavated material. The Government shall delineate which of the relocations are necessary for the Project Modification for Ecosystem Restoration and the Project Modification for Municipal and Industrial Water Supply. The Government in a timely manner shall provide the Non-Federal Sponsor with general written descriptions, including maps as appropriate, of such relocations in detail sufficient to enable the Non-Federal Sponsor to fulfill its obligations under this paragraph, and shall provide the Non-Federal Sponsor with a written notice to proceed with such relocations. Prior to the end of the period of implementation, the Non-Federal Sponsor shall perform or ensure the performance of all relocations as set forth in such descriptions. Furthermore, prior to issuance of the solicitation for each Government construction contract, the Non-Federal Sponsor shall prepare or ensure the preparation of plans

and specifications for, and perform or ensure the performance of, all relocations the Government determines to be necessary for that contract.

D. The Non-Federal Sponsor in a timely manner shall provide the Government with such documents as are sufficient to enable the Government to determine the value of any contribution provided pursuant to paragraphs A., B., or C. of this Article. Upon receipt of such documents the Government, in accordance with Article V of this Agreement and in a timely manner, shall determine the value of such contribution, include such value in total project modification costs, and afford credit for such value toward the Non-Federal Sponsor's share of total project modification costs for Ecosystem Restoration.

E. The Non-Federal Sponsor shall 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 C.F.R. Part 24, in acquiring lands, easements, and rights-of-way required for the implementation, operation, and maintenance of the Project Modification, including those necessary for relocations, borrow materials, and dredged or excavated material disposal, and shall inform all affected persons of applicable benefits, policies, and procedures in connection with said Act.

F. The Government shall make available to the Non-Federal Sponsor by lease those lands administered by the Government that the Government determines to be required for the implementation, operation and maintenance of the Project Modification. If there is an existing lease or license covering the property required for the Project Modification, such lease will be modified to delete this area prior to the issuance of the lease or license to the Non-Federal Sponsor of the Project Modification. No provision of this Agreement shall merge into any lease executed pursuant to this paragraph.

ARTICLE V - CREDIT FOR LANDS, RELOCATIONS, AND DISPOSAL AREAS

A. The Non-Federal Sponsor shall receive credit toward its share of total project modification costs for the value of the lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas that the Non-Federal Sponsor must provide pursuant to Article IV of this Agreement for the Project Modification for Ecosystem Restoration.

The Non-Federal Sponsor shall also receive credit for the value of the relocations that the Non-Federal Sponsor must perform or for which it must ensure performance pursuant to Article IV of this Agreement for the Project Modification for Ecosystem Restoration. However, the Non-Federal Sponsor shall not receive credit for the value of any lands, easements, rights-of-way, relocations, or borrow and dredged or excavated material disposal areas that have been provided previously as an item of cooperation for another Federal project, including the Existing Project. The Non-Federal Sponsor also shall not receive credit for the value of lands, easements, rights-of-way, relocations, or borrow and dredged or excavated material disposal areas to the extent that such items are provided using Federal funds unless the Federal granting agency verifies in

writing that such credit is expressly authorized by statute. For lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas that the Non-Federal Sponsor must provide pursuant to Article IV of this Agreement related to the Project Modification for Municipal and Industrial Water Supply, no credit shall be provided.

B. For the sole purpose of affording credit in accordance with this Agreement, the value of lands, easements, and rights-of-way, including those necessary for relocations, borrow materials, and dredged or excavated material disposal, shall be the fair market value of the real property interests, plus certain incidental costs of acquiring those interests, as determined in accordance with the provisions of this paragraph.

1. Date of Valuation. The fair market value of lands, easements, or rights-of-way owned by the Non-Federal Sponsor on the effective date of this Agreement shall be the fair market value of such real property interests as of the date the Non-Federal Sponsor provides the Government with authorization for entry thereto. However, for lands, easements, or rights-of-way owned by the Non-Federal Sponsor on the effective date of this Agreement that are required for the construction of the Section 215 work, fair market value shall be the value of such real property interests as of the date the Non-Federal Sponsor awards the first construction contract for the Section 215 work, or, if the Non-Federal Sponsor performs the implementation with its own labor, the date that the Non-Federal Sponsor begins implementation of the Section 215 work. The fair market value of lands, easements, or rights-of-way acquired by the Non-Federal Sponsor after the effective date of this Agreement shall be the fair market value of such real property interests at the time the interests are acquired.

2. General Valuation Procedure. Except as provided in paragraph B.3. of this Article, the fair market value of lands, easements, or rights-of-way shall be determined in accordance with paragraph B.2.a. of this Article, unless thereafter a different amount is determined to represent fair market value in accordance with paragraph B.2.b. of this Article.

a. The Non-Federal Sponsor shall obtain, for each real property interest, an appraisal that is prepared by a qualified appraiser who is acceptable to the Non-Federal Sponsor and the Government. The appraisal must be prepared in accordance with the applicable rules of just compensation, as specified by the Government. The fair market value shall be the amount set forth in the Non-Federal Sponsor's appraisal, if such appraisal is approved by the Government. In the event the Government does not approve the Non-Federal Sponsor's appraisal, the Non-Federal Sponsor may obtain a second appraisal, and the fair market value shall be the amount set forth in the Non-Federal Sponsor's second appraisal, if such appraisal is approved by the Government. In the event the Government does not approve the Non-Federal Sponsor's second appraisal, or the Non-Federal Sponsor chooses not to obtain a second appraisal, the Government shall obtain an appraisal, and the fair market value shall be the amount set forth in the Government's appraisal, if such appraisal is approved by the Non-Federal Sponsor. In the event the Non-Federal Sponsor does not approve the Government's appraisal, the Government, after consultation with the Non-Federal Sponsor, shall consider the Government's and the Non-Federal Sponsor's appraisals and determine an amount based thereon, which shall be deemed to

be the fair market value.

b. Where the amount paid or proposed to be paid by the Non-Federal Sponsor for the real property interest exceeds the amount determined pursuant to paragraph B.2.a. of this Article, the Government, at the request of the Non-Federal Sponsor, shall consider all factors relevant to determining fair market value and, in its sole discretion, after consultation with the Non-Federal Sponsor, may approve in writing an amount greater than the amount determined pursuant to paragraph B.2.a. of this Article, but not to exceed the amount actually paid or proposed to be paid. If the Government approves such an amount, the fair market value shall be the lesser of the approved amount or the amount paid by the Non-Federal Sponsor, but not less than the amount determined pursuant to paragraph B.2.a. of this Article.

3. Eminent Domain Valuation Procedure. For lands, easements, or rights-of-way acquired by eminent domain proceedings instituted after the effective date of this Agreement, the Non-Federal Sponsor shall, prior to instituting such proceedings, submit to the Government notification in writing of its intent to institute such proceedings and an appraisal of the specific real property interests to be acquired in such proceedings. The Government shall have 60 days after receipt of such a notice and appraisal within which to review the appraisal, if not previously approved by the Government in writing.

a. If the Government previously has approved the appraisal in writing, or if the Government provides written approval of, or takes no action on, the appraisal within such 60-day period, the Non-Federal Sponsor shall use the amount set forth in such appraisal as the estimate of just compensation for the purpose of instituting the eminent domain proceeding.

b. If the Government provides written disapproval of the appraisal, including the reasons for disapproval, within such 60-day period, the Government and the Non-Federal Sponsor shall consult in good faith to promptly resolve the issues or areas of disagreement that are identified in the Government's written disapproval. If, after such good faith consultation, the Government and the Non-Federal Sponsor agree as to an appropriate amount, then the Non-Federal Sponsor shall use that amount as the estimate of just compensation for the purpose of instituting the eminent domain proceeding. If, after such good faith consultation, the Government and the Non-Federal Sponsor cannot agree as to an appropriate amount, then the Non-Federal Sponsor may use the amount set forth in its appraisal as the estimate of just compensation for the purpose of instituting the eminent domain proceeding.

c. For lands, easements, or rights-of-way acquired by eminent domain proceedings instituted in accordance with sub-paragraph B.3. of this Article, fair market value shall be either the amount of the court award for the real property interests taken, to the extent the Government determined such interests are required for the implementation, operation, and maintenance of the Project Modification, or the amount of any stipulated settlement or portion thereof that the Government approves in writing.

4. Incidental Costs. For lands, easements, or rights-of-way acquired by the Non-Federal Sponsor within a five-year period preceding the effective date of this Agreement, or at any time after the effective date of this Agreement, the value of the interest shall include the documented incidental costs of acquiring the interest, as determined by the Government, subject to an audit in accordance with Article XI.C. of this Agreement to determine reasonableness, allocability, and allowability of costs. Such incidental costs shall include, but not necessarily be limited to, closing and title costs, appraisal costs, survey costs, attorney's fees, plat maps, and mapping costs, as well as the actual amounts expended for payment of any Public Law 91-646 relocation assistance benefits provided in accordance with Article IV.E. of this Agreement.

C. After consultation with the Non-Federal Sponsor, the Government shall determine the value of relocations in accordance with the provisions of this paragraph.

1. For a relocation other than a highway, the value shall be only that portion of relocation costs that the Government determines is necessary to provide a functionally equivalent facility, reduced by depreciation, as applicable, and by the salvage value of any removed items.

2. For a relocation of a highway, the value shall be only that portion of relocation costs that would be necessary to accomplish the relocation in accordance with the design standard that the State of Washington would apply under similar conditions of geography and traffic load, reduced by the salvage value of any removed items.

3. Relocation costs shall include, but not necessarily be limited to, actual costs of performing the relocation; planning, engineering and design costs; supervision and administration costs; and documented incidental costs associated with performance of the relocation, but shall not include any costs due to betterments, as determined by the Government, nor any additional cost of using new material when suitable used material is available. Relocation costs shall be subject to an audit in accordance with Article XI.C. of this Agreement to determine reasonableness, allocability, and allowability of costs.

4. Crediting for relocations performed within the Project boundaries is subject to satisfactory compliance with applicable federal labor standards in 40 U.S.C. 3141-3148 and 40 U.S.C. 3701-3701 (revising, codifying, and enacting without substantive change the provisions of the Davis-Bacon Act (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)). Crediting may be withheld, in whole or in part, as a result of the Non-Federal Sponsor's failure to comply with its obligations under these laws.

D. The value of the improvements made to lands, easements, and rights-of-way for the proper disposal of dredged or excavated material shall be the costs of the improvements, as determined by the Government, subject to an audit in accordance with Article XI.C. of this Agreement to determine reasonableness, allocability, and allowability of costs. Such costs shall include, but not necessarily be limited to, actual costs of providing the improvements; planning,

engineering and design costs; supervision and administration costs; and documented incidental costs associated with providing the improvements, but shall not include any costs due to betterments, as determined by the Government.

ARTICLE VI - PROJECT MODIFICATION COORDINATION TEAM

A. To provide for consistent and effective communication, the Non-Federal Sponsor and the Government, not later than 30 days after the effective date of this Agreement, shall appoint named senior representatives to a Project Modification Coordination Team. Thereafter, the Project Modification Coordination Team shall meet regularly until the end of the period of implementation. The Government's Project Manager and a counterpart named by the Non-Federal Sponsor shall co-chair the Project Modification Coordination Team.

B. The Government's Project Manager and the Non-Federal Sponsor's counterpart shall keep the Project Modification Coordination Team informed of the progress of implementation and of significant pending issues and actions, and shall seek the views of the Project Modification Coordination Team on matters that the Project Modification Coordination Team generally oversees.

C. Until the end of the period of implementation, the Project Modification Coordination Team shall generally oversee the Project Modification and the Mitigation Modification, including issues related to design; plans and specifications; scheduling; real property and relocation requirements; real property acquisition; contract awards and modifications; the Section 215 Work; contract costs; the application of and compliance with the standards in 40 U.S.C. 3141-3148 and 40 U.S.C. 3701-3701 (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)) for relocations and construction portion of the non-Federal Section 215 Work; the Government's cost projections; final inspection of the entire Project Modification or functional portions of the Project Modification; preparation of the proposed OMRR&R Manual; anticipated requirements and needed capabilities for performance of operation, maintenance, repair, replacement, and rehabilitation of the Project Modification; and other related matters.

D. The Project Modification Coordination Team may make recommendations that it deems warranted to the District Engineer on matters that the Project Modification Coordination Team generally oversees, including suggestions to avoid potential sources of dispute. The Government in good faith shall consider the recommendations of the Project Modification Coordination Team. The Government, having the legal authority and responsibility for implementation of the Project Modification and the Mitigation Modification, has the discretion to accept, reject, or modify the Project Modification Coordination Team's recommendations.

E. The costs of participation in the Project Coordination Team shall be included in total project costs according to project purpose and cost shared in accordance with the provisions of this Agreement.

ARTICLE VII- METHOD OF PAYMENT

A. The Government shall maintain current records of contributions provided by the parties and current projections of total project modification costs and costs due to betterments. By 15 January of each year and at least quarterly thereafter, the Government shall provide the Non-Federal Sponsor with a report setting forth all contributions provided to date and the current projections of total project modification costs, of total costs due to betterments, of the components of total project modification costs, of total project modification costs for the Mitigation Modifications, of total project modification costs for Ecosystem Restoration, of total project modification costs for Municipal and Industrial Water Supply, of each party's share of total project modification costs, of the Non-Federal Sponsor's total cash contributions required in accordance with Articles II.B, II.D, II.G and III.I.2 of this Agreement, of the non-Federal proportionate share, and of the funds the Government projects to be required from the Non-Federal Sponsor for the upcoming fiscal year. On the effective date of this Agreement, costs for the Mitigation Modifications and the Project Modification are projected to be \$83,825,000. Costs for the Mitigation Modification are projected to be \$53,271,000; total Project Modification costs are projected to be \$30,554,000, with \$12,186,000 projected for Ecosystem Restoration and \$18,368,000 projected for Municipal and Industrial Water Supply. The amount of credit for the Section 215 Work to be afforded against the Non-Federal Sponsor's required contribution towards the total project modification costs in accordance with Article II of this Agreement is projected to be \$5,000,000. The Non-Federal Sponsor's cash contribution required under Article II.D and Article III.I.2 of this Agreement is projected to be \$13,055,000. The above amounts are estimates subject to adjustment by the Government and are not to be construed as the total financial responsibilities of the Government and the Non-Federal Sponsor.

B. The Non-Federal Sponsor shall provide the cash contribution required under Article II.B, II.D, II.G, and Article III.I.2 of this Agreement in accordance with the provisions of this paragraph.

1. Not less than 60 calendar days prior to the scheduled date for issuance of the solicitation for the first construction contract, the Government shall notify the Non-Federal Sponsor in writing of such scheduled date and of the funds the Government, after consideration of any credit afforded pursuant to Article II.F of this Agreement, determines to be required from the Non-Federal Sponsor to meet the non-Federal proportionate share of projected financial obligations for implementation through the first fiscal year of implementation, including the non-Federal proportionate share of financial obligations for implementation incurred prior to the period of implementation and including a pro-rated portion of the share of the existing project investment costs identified in Article III.I.2 of this Agreement so that the total amount of the share of the existing project investment costs will be paid within the period of implementation of the Project Modification for Municipal and Industrial Water Supply. Not later than such scheduled date, the Non-Federal Sponsor shall provide the Government with the full amount of the required funds by delivering a check payable to "FAO, USAED, Seattle District" to the District Engineer.

2. For the second and subsequent fiscal years of implementation, the Government shall notify the Non-Federal Sponsor in writing, no later than 60 calendar days prior to the beginning of that fiscal year, of the funds the Government, after consideration of any credit afforded pursuant to Article II.F of this Agreement, determines to be required from the Non-Federal Sponsor to meet the non-Federal proportionate share of projected financial obligations for implementation for that fiscal year including a pro-rated portion of the share of the existing project investment costs identified in Article III.I.2 of this Agreement so that the total amount of the share of the existing project investment costs will be paid within the period of implementation of the Project Modification for Municipal and Industrial Water Supply. No later than 30 calendar days prior to the beginning of the fiscal year, the Non-Federal Sponsor shall make the full amount of the required funds for that fiscal year available to the Government through the funding mechanism specified in Article VII.B.1 of this Agreement.

3. The Government shall draw from the funds provided by the Non-Federal Sponsor such sums as the Government, after consideration of any credit afforded pursuant to Article II.F of this Agreement, deems necessary to cover: (a) the non-Federal proportionate share of financial obligations for implementation incurred prior to the period of implementation; and (b) the non-Federal proportionate share of financial obligations for implementation as they are incurred during the period of implementation, including the Non-Federal Sponsor's share of the existing project investment costs in accordance with Article III.I.2 of this Agreement.

4. If at any time during the period of implementation the Government determines that additional funds will be needed from the Non-Federal Sponsor to cover the non-Federal proportionate share of projected financial obligations for implementation for the current fiscal year, the Government shall notify the Non-Federal Sponsor in writing of the additional funds required, and the Non-Federal Sponsor, no later than 60 calendar days from receipt of such notice, shall make the additional required funds available through the payment mechanism specified in Article VII.B.1 of this Agreement.

5. Upon completion of the final accounting, the Government shall notify the Non-Federal Sponsor in writing of the remaining funds the Government determines to be required from the Non-Federal Sponsor in accordance with Article III.I.2 of this Agreement. No later than 60 calendar days after such notification, the Non-Federal Sponsor shall provide the Government with a check for the full amount of such required funds.

C. In advance of the Government incurring any financial obligation associated with additional work under Article II.B or II.G of this Agreement, the Non-Federal Sponsor shall provide the Government with the full amount of the funds required to pay for such additional work by delivering a check payable to "FAO, USAED, Seattle District" to the District Engineer. The Government shall draw from the funds provided by the Non-Federal Sponsor such sums the Government deems necessary to cover the Government's financial obligations for such additional work as they are incurred. In the event the Government determines that the Non-Federal Sponsor must provide additional funds to meet its cash contribution, the Government shall notify the

Non-Federal Sponsor in writing of the additional funds required. Within 30 calendar days thereafter, the Non-Federal Sponsor shall provide the Government with a check for the full amount of the additional required funds.

D. Upon completion of the Project Modification or termination of this Agreement, and upon resolution of all relevant claims and appeals, the Government shall conduct a final accounting and furnish the Non-Federal Sponsor with the results of the final accounting for the implementation of the Project Modification. The final accounting shall determine total project modification costs, total project modification costs for Ecosystem Restoration, total project modification costs for Municipal and Industrial Water Supply, each party's contribution provided thereto, and each party's required share thereof. The final accounting also shall determine costs due to betterments and the Non-Federal Sponsor's cash contribution provided pursuant to Article II.B of this Agreement.

1. In the event the final accounting shows that the total contribution provided by the Non-Federal Sponsor is less than its required share for the implementation of total project modification costs plus costs due to any betterments provided in accordance with Article II.B of this Agreement, as well as credits associated with the Section 215 Work provided in accordance with Article II.D.2 of this Agreement, the Non-Federal Sponsor shall, no later than 90 calendar days after receipt of written notice, make a cash payment to the Government of whatever sum is required to meet the Non-Federal Sponsor's required share of total project modification costs plus costs due to any betterments provided in accordance with Article II.B of this Agreement.

2. In the event the final accounting shows that the total contribution provided by the Non-Federal Sponsor exceeds its required share of total project modification costs plus costs due to any betterments provided in accordance with Article II.B of this Agreement, the Government shall, subject to the availability of funds, refund the excess to the Non-Federal Sponsor no later than 90 calendar days after the final accounting is complete. In the event existing funds are not available to refund the excess to the Non-Federal Sponsor, the Government shall seek such appropriations as are necessary to make the refund.

E. The method of payment for the Non-Federal Sponsor's financial responsibilities for the OMRR&R of the Project Modification for Municipal and Industrial Water Supply and Ecosystem Restoration low flow augmentation shall be as stated in Article III of this agreement.

ARTICLE VIII- DISPUTE RESOLUTION

As a condition precedent to a party bringing any suit for breach of this Agreement, that party must first notify the other party in writing of the nature of the purported breach and seek in good faith to resolve the dispute through negotiation. If the parties cannot resolve the dispute through negotiation, they may agree to a mutually acceptable method of non-binding alternative dispute resolution with a qualified third party acceptable to both parties. The parties shall each pay 50 percent of any costs for the services provided by such a third party as such costs are incurred. The existence of a dispute shall not excuse the parties from performance pursuant to

this Agreement.

ARTICLE IX - OPERATION, MAINTENANCE, REPAIR, REPLACEMENT,
AND REHABILITATION (OMRR&R)

A. Upon notification in accordance with Article II.E of this Agreement and for so long as the Project Modification remains authorized, the Non-Federal Sponsor shall operate, maintain, repair, replace, and rehabilitate the entire Fish Habitat component of the Project Modification for Ecosystem Restoration or the functional portion of the Fish Habitat component of the Project Modification for Ecosystem Restoration, at no cost to the Government, in a manner compatible with the Project Modification's authorized purposes and in accordance with applicable Federal and State laws as provided in Article XII of this Agreement and specific directions prescribed by the Government in the OMRR&R Manual and any subsequent amendments thereto.

B. The Government shall operate, maintain, repair, replace, and rehabilitate the project modifications for Municipal and Industrial Water Supply and Ecosystem Restoration low flow augmentation including OMRR&R of any measures to modify the dam to properly impound the additional storage of water. The Non-Federal Sponsor shall pay to the Government the total costs of OMRR&R allocated to Municipal and Industrial Water Supply and Ecosystem Restoration low flow augmentation in accordance with Article III and Article VII of this Agreement.

C. The Government shall operate, maintain, repair, replace and rehabilitate the Mitigation Modifications.

D. The Government shall operate, maintain, repair, replace and rehabilitate the downstream juvenile Fish Passage Facility. The Non-Federal Sponsor is responsible for all costs of the operation, maintenance, repair, replacement, and rehabilitation of the downstream juvenile Fish Passage Facility above elevation 1147 to elevation 1177 as part of the requirements of paragraph B of this Article, and Article III.L.3 and Article III.L.4 of this Agreement.

E. The Non-Federal Sponsor hereby gives the Government a right to enter, at reasonable times and in a reasonable manner, upon property that the Non-Federal Sponsor owns or controls for access to the Project Modification for the purpose of inspection and, if necessary, for the purpose of completing, operating, maintaining, repairing, replacing, or rehabilitating the Project Modification. If an inspection shows that the Non-Federal Sponsor for any reason is failing to perform its obligations under this Agreement, the Government shall send a written notice describing the non-performance to the Non-Federal Sponsor. If, after 30 calendar days from receipt of the notice, the Non-Federal Sponsor continues to fail to perform, then the Government shall have the right to enter, at reasonable times and in a reasonable manner, upon property the Non-Federal Sponsor owns or controls for access to the Project Modification for the purpose of completing, operating, maintaining, repairing, replacing, or rehabilitating the Project Modification. No completion, operation, maintenance, repair, replacement, or rehabilitation by

the Government shall operate to relieve the Non-Federal Sponsor's obligations as set forth in this Agreement, or to preclude the Government from pursuing any other remedy at law or equity to ensure faithful performance pursuant to this Agreement.

ARTICLE X - INDEMNIFICATION

The Non-Federal Sponsor shall hold and save the Government free from all damages arising from the implementation, operation, maintenance, repair, replacement and rehabilitation of the Project Modification, except for damages due to the fault or negligence of the Government or its contractors.

ARTICLE XI- MAINTENANCE OF RECORDS AND AUDIT

A. Not later than 60 calendar days after the effective date of this Agreement, the Government and the Non-Federal Sponsor shall develop procedures for keeping books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to this Agreement. These procedures shall incorporate, and apply as appropriate, the standards for financial management systems set forth in the Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments at 32 C.F.R. Section 33.20. The Government and the Non-Federal Sponsor shall maintain such books, records, documents, and other evidence in accordance with these procedures and for a minimum of three years after the period of implementation and resolution of all relevant claims arising therefrom. To the extent permitted under applicable Federal laws and regulations, the Government and the Non-Federal Sponsor shall each allow the other to inspect such books, documents, records, and other evidence.

B. Pursuant to 32 C.F.R. Section 33.26, the Non-Federal Sponsor is responsible for complying with the Single Audit Act of 1984, 31 U.S.C. Sections 7501-7507, as implemented by Office of Management and Budget (OMB) Circular No. A-133 and Department of Defense Directive 7600.10. Upon request of the Non-Federal Sponsor and to the extent permitted under applicable Federal laws and regulations, the Government shall provide to the Non-Federal Sponsor and independent auditors any information necessary to enable an audit of the Non-Federal Sponsor's activities under this Agreement. The costs of any non-Federal audits performed in accordance with this paragraph shall be allocated in accordance with the provisions of OMB Circulars A-87 and A-133, and such costs as are allocated to the Project Modification shall be included in total project modification costs and cost shared in accordance with the provisions of this Agreement.

C. In accordance with 31 U.S.C. Section 7503, the Government may conduct audits in addition to any audit that the Non-Federal Sponsor is required to conduct under the Single Audit Act. Any such Government audits shall be conducted in accordance with Government Auditing Standards and the cost principles in OMB Circular No. A-87 and other applicable cost principles and regulations. The costs of Government audits performed in accordance with this paragraph shall be included in total project modification costs and cost shared in accordance with

the provisions of this Agreement.

ARTICLE XII -FEDERAL AND STATE LAWS

In the exercise of their respective rights and obligations under this Agreement, the Non-Federal Sponsor and the Government agree to comply with all applicable Federal and State laws and regulations, including, but not limited to, Section 601 of the Civil Rights Act of 1964, Public Law 88-352 (42 U.S.C. 2000d), and Department of Defense Directive 5500.11 issued pursuant thereto, as well as Army Regulations 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army". The Non-Federal Sponsor is also required to comply with all applicable federal labor standards requirements including, but not limited to, the applicable federal labor standards in 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)).

ARTICLE XIII - RELATIONSHIP OF PARTIES

A. In the exercise of their respective rights and obligations under this Agreement the Government and the Non-Federal Sponsor each act in an independent capacity, and neither is to be considered the officer, agent, or employee of the other.

B. In the exercise of its rights and obligations under this Agreement, neither party shall provide, without the consent of the other party, any contractor with a release that waives or purports to waive any rights such other party may have to seek relief or redress against such contractor either pursuant to any cause of action that such other party may have or for violation of any law.

ARTICLE XIV - OFFICIALS NOT TO BENEFIT

No member of or delegate to the Congress, nor any resident commissioner, shall be admitted to any share or part of this Agreement, or to any benefit that may arise therefrom.

ARTICLE XV - TERMINATION OR SUSPENSION

A. If at any time the Non-Federal Sponsor fails to fulfill its obligations under Article II.B, II.D, II.G, VII, or XIX.C of this Agreement, the Assistant Secretary of the Army (Civil Works) shall terminate this Agreement or suspend future performance under this Agreement unless he determines that continuation of work on the Project Modification is in the interest of the United States or is necessary in order to satisfy agreements with any other non-Federal interests in connection with the Project Modification.

B. If appropriations are not available in amounts sufficient to meet the Government's share of Project Modification expenditures for the then-current or upcoming fiscal year, the

Government shall so notify the Non-Federal Sponsor in writing, and 60 calendar days thereafter either party may elect without penalty to terminate this Agreement or to suspend future performance under this Agreement. In the event that either party elects to suspend future performance under this Agreement pursuant to this paragraph, such suspension shall remain in effect until such time as the Government receives sufficient appropriations or until either the Government or the Non-Federal Sponsor elects to terminate this Agreement.

C. In the event that either party elects to terminate this Agreement pursuant to this Article or Article XVI of this Agreement, both parties shall conclude their activities relating to the Project Modification and proceed to a final accounting in accordance with Article VII.D. of this Agreement.

D. Any termination of this Agreement or suspension of future performance under this Agreement in accordance with this Article or Article XVI of this Agreement shall not relieve the parties of any obligation previously incurred. Any delinquent payment owed by the Non-Federal Sponsor, except for payments under Article III.I.2, III.I.3, III.I.4, shall be charged interest at a rate, to be determined by the Secretary of the Treasury, equal to 150 per centum of the average bond equivalent rate of the 13-week Treasury bills auctioned immediately prior to the date on which such payment became delinquent, or auctioned immediately prior to the beginning of each additional 3-month period if the period of delinquency exceeds 3 months.

E. The Non-Federal Sponsor may terminate this Agreement without giving cause for its own reasons provided that it gives 180 days written notice to the Government of its intent to terminate and satisfies all existing obligations (set forth in this Agreement) up to the date of termination.

ARTICLE XVI- HAZARDOUS SUBSTANCES

A. After execution of this Agreement and upon direction by the District Engineer, the Non-Federal Sponsor shall perform, or cause to be performed, any investigations for hazardous substances that the Government or the Non-Federal Sponsor determines to be necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (hereinafter "CERCLA"), 42 U.S.C. Sections 9601-9675, that may exist in, on, or under lands, easements, and rights-of-way that the Government determines, pursuant to Article IV of this Agreement, to be required for the implementation, operation, and maintenance of the Project Modification, except for any such lands, easements, or rights-of-way that are owned by the United States and administered by the Government, and except for any such lands that the Government determines to be subject to the navigation servitude. The Government shall perform, or cause to be performed, all investigations on lands, easements, or rights-of-way that are owned by the United States and administered by the Government. For lands that the Government determines to be subject to the navigation servitude, only the Government shall perform such investigations unless the District Engineer 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. All

actual costs incurred by the Non-Federal Sponsor or the Government for such investigations for hazardous substances shall be included in total project modification costs as applicable, and cost shared in accordance with the provisions of this Agreement, subject to an audit in accordance with Article XI.C. of this Agreement to determine reasonableness, allocability, and allowability of costs.

B. In the event it is discovered through any investigation for hazardous substances or other means that hazardous substances regulated under CERCLA exist in, on, or under any lands, easements, or rights-of-way, that the Government determines, pursuant to Article IV of this Agreement, the Non-Federal Sponsor must provide for the implementation, operation, and maintenance of the Project Modification, the Non-Federal Sponsor and the Government shall provide prompt written notice to each other, and the Non-Federal Sponsor shall not proceed with the acquisition of the real property interests until both parties agree that the Non-Federal Sponsor should proceed.

C. The Government and the Non-Federal Sponsor shall determine whether to initiate implementation of the Project Modification, or, if already in implementation, whether to continue with work on the Project Modification, suspend future performance under this Agreement, or terminate this Agreement for the convenience of the Government, in any case where hazardous substances regulated under CERCLA are found to exist in, on, or under any lands, easements, or rights-of-way that the Government determines, pursuant to Article IV of this Agreement, to be required for the implementation, operation, and maintenance of the Project Modification. Should the Government and the Non-Federal Sponsor determine to initiate or continue with implementation after considering any liability that may arise under CERCLA, the Non-Federal Sponsor shall be responsible, as between the Government and the Non-Federal Sponsor, for the costs of clean-up and response, to include the costs of any studies and investigations necessary to determine an appropriate response to the contamination. Such costs shall not be considered a part of total project modification costs. In the event the Non-Federal Sponsor fails to provide any funds necessary to pay for clean-up and response costs or to otherwise discharge the Non-Federal Sponsor's responsibilities under this paragraph upon direction by the Government, the Government may, in its sole discretion, either terminate this Agreement for the convenience of the Government, suspend future performance under this Agreement, or continue work on the Project Modification. The Government shall be responsible, as between the Government and the Non-Federal Sponsor, for the costs of clean up and response, to include the costs of any studies and investigations necessary to determine an appropriate response to the contamination on lands, easements, or rights of way owned by the United States and administered by the Government. All costs incurred by the Government shall be included in total project modification costs and cost shared in accordance with the terms of this Agreement.

D. The Non-Federal Sponsor and the Government shall consult with each other in accordance with Article VI of this Agreement in an effort to ensure that responsible parties bear any necessary cleanup and response costs as defined in CERCLA. Any decision made pursuant to paragraph C. of this Article shall not relieve any third party from any liability that may arise under CERCLA.

E. As between the Government and the Non-Federal Sponsor, the Non-Federal Sponsor shall be considered the operator of the Project Modification for purposes of CERCLA liability. To the maximum extent practicable, the Non-Federal Sponsor shall operate, maintain, repair, replace, and rehabilitate the Project Modification for Ecosystem Restoration in a manner that will not cause liability to arise under CERCLA.

ARTICLE XVII- NOTICES

A. Any notice, request, demand, or other communication required or permitted to be given under this Agreement shall be deemed to have been duly given if in writing and either delivered personally, or by telegram, or mailed by first-class, registered, or certified mail, as follows:

If to the Non-Federal Sponsor:

Director of Utilities
PO Box 11007
Tacoma, Washington 98411

If to the Government:

District Engineer
Department of the Army, Seattle District
PO Box 3755
Seattle, Washington 98124-3755

B. A party may change the address to which such communications are to be directed by giving written notice to the other party in the manner provided in this Article.

C. Any notice, request, demand, or other communication made pursuant to this Article shall be deemed to have been received by the addressee at the earlier of such time as it is actually received or seven calendar days after it is mailed.

ARTICLE XVIII- CONFIDENTIALITY

To the extent permitted by the laws governing each party, the parties agree to maintain the confidentiality of exchanged information when requested to do so by the providing party.

ARTICLE XIX - HISTORIC PRESERVATION

A. The costs of identification, survey and evaluation of historic properties, assigned to the Project Modifications for Municipal and Industrial Water Supply, shall be included in total

project modification costs for Municipal and Industrial Water Supply and cost shared in accordance with the provisions of this Agreement.

B. The costs of identification, survey and evaluation of historic properties, assigned to the Project Modifications for Ecosystem Restoration, shall be included in total project modification costs for Ecosystem Restoration and cost shared in accordance with the provisions of this Agreement.

C. The costs of identification, survey and evaluation of historic properties, assigned to the Mitigation Modification, shall be included in total project modification costs for Endangered Species and cost shared in accordance with the provisions of this Agreement.

D. Pursuant to Section 7(a) of Public Law 93-291 (16 U.S.C. Section 469c(a)), the costs of mitigation and data recovery activities associated with historic preservation shall be borne entirely by the Government and shall not be included in total project modification costs, up to the statutory limit of one percent of the total amount the Government is authorized to expend for the Project Modification.

E. The Government shall not incur costs for mitigation and data recovery that exceed the statutory one percent limit specified in paragraph D. of this Article unless and until the Assistant Secretary of the Army (Civil Works) has waived that limit in accordance with Section 208(3) of Public Law 96-515 (16 U.S.C. Section 469c-2(3)). Any costs of mitigation and data recovery that exceed the one percent limit shall be included in total project modification costs for Municipal and Industrial Water Supply, total project modification costs for Ecosystem Restoration, or total project modification costs for the Mitigation Modification, as appropriate, and shall be cost shared in accordance with the provisions of this Agreement.

ARTICLE XX -SECTION 902 PROJECT COST LIMITS

The Non-Federal Sponsor has reviewed the provisions set forth in Section 902 of Public Law 99-662, as amended, and understands that Section 902 establishes the maximum amount of total project modification costs at Howard Hanson Dam. Notwithstanding any other provision of this Agreement, the Government shall not make a new Project Modification financial obligation, make a Project Modification expenditure, or afford credit toward total project modification costs for the value of any contribution provided by the Non-Federal Sponsor, if such obligation, expenditure, or credit would result in total project modification costs exceeding this maximum amount, unless otherwise authorized by law. On the effective date of this Agreement, this maximum amount is estimated to be \$101,460,000, as calculated in accordance with ER 1105-2-100 using October 1, 1998 price levels and allowances for projected future inflation. The Government shall adjust this maximum amount in accordance with Section 902.

ARTICLE XXI - OBLIGATIONS OF FUTURE APPROPRIATIONS

A. Nothing herein shall constitute, nor be deemed to constitute, an obligation of

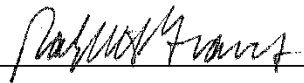
future appropriations by the City of Tacoma of the State of Washington, where creating such an obligation would be inconsistent with R.C.W. 35.34.200 or the City of Tacoma Charter for Tacoma, Washington.

B. The Non-Federal Sponsor intends to satisfy its obligations under this Agreement. The Non-Federal Sponsor shall include in its budget request or otherwise propose, for each fiscal period, appropriations sufficient to cover the Non-Federal Sponsor's obligations under this Agreement for each biennium, and will use all reasonable and lawful means to secure the appropriations for that biennium sufficient to make the payments necessary to fulfill its obligations hereunder. The Non-Federal Sponsor reasonably believes that funds in amounts sufficient to discharge these obligations can and will lawfully be appropriated and made available for this purpose. In the event the budget or other means of appropriations does not provide funds in sufficient amounts to discharge these obligations, the Non-Federal Sponsor shall use its best efforts to satisfy any requirements for payments under this Agreement from any other source of funds legally available for this purpose. Further, if the Non-Federal Sponsor is unable to satisfy its obligations hereunder, the Government may exercise any legal rights it has to protect the Government's interests related to this Agreement.

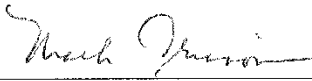
IN WITNESS WHEREOF, the parties hereto have executed this Agreement, which shall become effective upon the date it is signed by the Department of the Army.

THE DEPARTMENT OF THE ARMY

THE CITY OF TACOMA, DEPARTMENT
OF PUBLIC UTILITIES

BY: 

Ralph H. Graves
Colonel, Corps of Engineers
District Engineer

BY: 

Mark Crisson
Director of Utilities

DATE: 17 July 2003

DATE: 7-17-03

CERTIFICATE OF AUTHORITY

I, Mark Bubenik, do hereby certify that I am the principal legal officer of the City of Tacoma, Department of Public Utilities, that the City of Tacoma, Department of Public Utilities is a legally constituted public body with full authority and legal capability to perform the terms of the Agreement between the Department of the Army and the City of Tacoma, Department of Public Utilities in connection with the Howard Hanson Dam Ecosystem Restoration and Additional Water Storage Project, and to pay damages in accordance with the terms of this Agreement, if necessary, in the event of the failure to perform, as required by Section 221 of Public Law 91-611 (42 U.S. C. Section 1962d-5b), and that the persons who have executed this Agreement on behalf of the City of Tacoma, Department of Public Utilities have acted within their statutory authority.

IN WITNESS WHEREOF, I have made and executed this certification this

9th day of July 2003.



Mark Bubenik
Chief Assistant City Attorney

CERTIFICATION REGARDING LOBBYING

The undersigned certifies, to the best of his or her knowledge and belief that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.



Mark Crisson
Director of Utilities

DATE: 7-17-03