CENWP-PM-E

MEMORANDUM FOR RECORD

SUBJECT: **Bonneville Dam Bradford Island B-Branch Adult Fishway Bank Erosion Project, Multnomah County, Oregon**

No Adverse Effect.

DATE PREPARED: September 27, 2016

1. This memorandum for record (MFR) documents the reasons why, in accordance with Section 106 of the National Historic Preservation Act (NHPA), the proposed **Bonneville Dam Bradford Island B-Branch Adult Fishway Bank Erosion Project** will result in *no adverse effect* to the qualities that make Bonneville Dam eligible for listing on the National Register of Historic Places (NRHP). This MFR addresses the issues and guidance specified in 36 CFR 800 and documents the fulfillment of the U.S. Army Corps of Engineers, Portland District's (Corps') Section 106 of the NHPA obligations and requirements in regard to this project.

2. Bonneville Dam is located on the Columbia River at River Mile 146, approximately 40 miles east of Portland, Oregon. The dam spans the river between Multnomah County, Oregon and Skamania County, Washington. Bonneville Dam and its associated structural components were completed in 1938 as a Public Works Administration project designed to improve navigation on the Columbia River and provide hydropower to the Pacific Northwest. A second powerhouse (B2) was completed in 1981, and a larger navigation lock was completed in 1993. The Bonneville Dam Historic District (BDHD) was listed on the National Register of Historic Places in 1986 (i.e. National Register No. 86000727) and subsequently declared a National Historic Landmark in 1987. BDHD's principal elements consist of Bonneville Dam, Bonneville Powerhouse #1, Navigation Lock #1, Administration Building, Auditorium Building, Bonneville's fishways, fish hatchery and the surrounding landscape.

3. The Corps is proposing to conduct emergency repairs to a small section of eroding riprap revetment/foundation located beneath the B-Branch Adult Fishway (fish ladder) at Bonneville Dam, located along the north shore of Bradford Island approximately 75 meters west of the dam spillway in Sections 21-22 of Township 2 North, Range 7 East, Multnomah County, Oregon (see Attachments 1 [Enclosures 1-2] and 2). All proposed work will take place in water and along a narrow stretch of Bradford Island's riprap revetment-lined, north side shoreline within the Oregon boundary. The cumulative area of potential effect (APE) will cover approximately 4.0 acres – 3.2 acres of which will be conducted in-water via barge, 0.4 acre will be the maximum extent of repair work on the existing riprap revetment and up to 0.4 acre of nearby, on-land paved parking lot area will be available for possible additional equipment or vehicle staging. The proposed repair work is considered an emergency and is scheduled to begin as early as December 1, 2016.

4. Two scour holes have developed along a -16-meter-long (E-W) stretch of the existing riprap revetment foundation beneath and in front of the eastern end of the Bradford Island fish ladder. The eastern (upstream) scour hole consists of a ~6-meter long (E-W) x ~6-meter high (N-S) x ~2.5-meter deep, partially-submerged chasm; about six meters downstream (westward) is another slightly-smaller, ~4-meter long (E-W) x ~4-meter high (N-S) x ~2.5-meter deep, partially-submerged erosion cavity. A number of factors have contributed to the ongoing erosion along the revetment edge, particularly hydraulic forces generated by scheduled spills designed to enhance juvenile fish passage and water flows directed by the dam's existing spillway deflector – both of which have been temporarily modified until the proposed repairs have been completed . If erosion is allowed to continue, the potential for further undermining could lead to a structural collapse which could damage the fish ladder and/or cause it to fail. Damage to or failure of the structure would prevent passage of adult Threatened and Endangered Fish Species, thereby causing the Corps to be out of compliance with key provisions of the Endangered Species Act Section 7(a)(2) Supplemental Biological Opinion.

5. The location and extent of the scour holes require that the proposed repairs take place as soon as possible. If further erosion occurs and affects the structural integrity of the fish ladder and/or causes it to fail, the adjacent spillway would have to be shut down indefinitely, adversely affecting spring fish passage (i .e. juvenile salmonids). A spillway shutdown would also create an unsafe situation because a functional spillway is necessary for maintaining flood control (pool level regulation) and powerhouse by-pass when the turbines' flow capacities are exceeded and/or when turbines are taken out of service.

6. Although specific repair plans are still being developed, it is anticipated that approximately 4,900 tons of riprap (i .e. ~4 ft diameter x ~3-ton boulders) will be placed within the two growing scour holes and along the outside periphery to stem the continuing erosion and to bolster the stability of the fish ladder's existing, underlying riprap foundation. The proposed rock repair/stabilization will be restricted to stabilizing the existing riprap-lined periphery for a maximum E-W distance of approximately 45.7 meters (150 ft) between the joint with the existing (eastside) structural concrete apron (lower left) and immediately downstream of the western scour hole. The existing, grouted riprap slope is about 1.0 meter thick and extends about ~6.0 meters (N-S) between the surface and submerged bedrock foundation. Repair work will involve removal of selected portions of the revetment's eroding, grouted rock face and replacement with newer and larger, free-standing (grout less) riprap.

7. No work will take place on the fish ladder structure. Access to the scour holes and all riprap repair locations will be conducted in-water from two barges (i.e. one vessel will carry a stockpile of riprap material while a floating crane will be used to place the rock in strategic locations within and around the scour holes). The in-water APE is expected to cover about 3.2 acres immediately north of the fish ladder and riprap-covered shoreline. The revetment repair APE may extend to up to 0.4 acre of the existing riprap structure, but the primary focus will be on repairs to the actively-eroding, ~16-meter-long (E-W) x ~6-meter high (N-S) x ~2.5-meter deep scour areas. If necessary (although currently not anticipated), the 0.4-acre, paved parking lot located about 200 meters WSW of the westside scour hole may also be used for additional equipment or vehicle staging.

8. A similar but broader scour hole repair project was conducted at Bonneville Dam on the adjacent concrete spillway and stilling basin in 2012 (see Attachment 1 [Enclosure 5 – SHPO Case No. 12-1248 **Bonneville Dam Spillway Stilling Basin Repair Project**]). In that case, planned efforts to repair 11 scour holes that had developed in eight spillway bays and along the fish ladder periphery were consulted with the Oregon State Historic Preservation Office (SHPO) and Washington Department of the Archaeology & Historic Preservation (DAHP). These related actions were determined by the Corps to have *no adverse effect* on BDHD and its contributing structural components, to which SHPO and DAHP both concurred. Unfortunately, multiple factors related to unforeseen, ongoing hydraulic forces and the use of improperly-sized riprap materials during the 2012 repairs have led to the current scour hole situation along the Bradford Island fishway revetment.

9. In accordance with Section 106 of the NHPA, the Corps has determined the Bradford Island fish ladder revetment and in-water construction, repair and excavation work associated with the proposed **Bonneville Dam Bradford Island B-Branch Adult Fishway Bank Erosion Project** meets the definition of an undertaking as defined by 36 CFR 800.16(y). Per 36 CFR Part 800.5[b], the Corps has also determined that the proposed undertaking will have *no adverse effect* on BDHD and will not adversely affect the property's NHPA eligibility. The planned repair work within the designated in-water and undercut/ revetment repair area will not cause any physical changes or impacts to the nearby fish ladder structure. Moreover, allowing the existing scour holes and revetment perimeter to further erode without attempting to implement stabilization measures would likely undermine the stability of the fish ladder foundation and cause it to eventually subside – resulting in an *adverse effect* to the structure.

10. Although the disposal location of excess sediment and rock material to be excavated from the fish ladder revetment's submerged side slope and adjacent spillway basin floor remains undetermined, such action would be considered as having *no potential to effect* the historic integrity of BDHD as long as the designated disposal location is (a) in-water within the spillway basin, (b) within a pre-approved disposal area, or (c) transported by the Contractor to an approved, non-Corps property disposal location. Designation of any other, non-approved on-land or upland location may require additional NHPA review or consultation prior to approval to proceed.

11. The Corps has coordinated (see Attachment 1), in accordance with Section 106 of the NHPA and 36 CFR 800.3(b) and (c), as well as within provisions of the *Programmatic Memorandum of Agreement (PMOA) for Construction of the New Navigation Lock and for the Operation and Maintenance of the Bonneville Dam Historic District, Between the Corps of Engineers, the State Historic Preservation Officers of Washington and Oregon, and the Advisory Council on Historic Preservation* (as executed on February 28, 1987) (see Attachment 1 [Enclosure 4]), the *no adverse effect* determination via official letter notifications (dated September 1, 2016) with SHPO, DAHP, the Confederated Tribes of the Grand Ronde Community of Oregon (Grand Ronde), Confederated Tribes of the Warm Springs Reservation of Oregon (CTWSRO), Confederated Tribes and Bands of the Yakama Nation (Yakama), Confederated Tribes of the Umatilla Indian Reservation (CTUIR) and Nez Perce Tribe.

12. On September 15, 2016, SHPO offered verbal agreement to the *no adverse effect* determination for BDHD's subsurface archaeological resources during a telephone consultation between Daniel Mulligan, Corps District Archaeologist, and Dr. Dennis Griffin, SHPO State Archaeologist. CTWSRO responded with a similar "no concerns" email to the Corps on September 15, 2016 (see Attachment 3). An official SHPO concurrence letter (dated September 20, 2016) was also received by the Corps for the *no adverse effect* determination regarding potential impacts to BDHD's above-ground historic resources (see Attachment 3). DAHP declined to offer comment (presumably deferring to the decision of SHPO) and the other Tribes chose to not offer comments within the 30-day comment period. The Corps has completed NHPA obligations and requirements in regard to this project, and no further Section 106 considerations are required.

13. In the unlikely event that cultural resources and/or human remains are uncovered during the project implementation and construction activities, all work must stop at the scene of the discovery until assessed by a Portland District archaeologist. The Corps will comply with procedures outlined in 36 CFC 800.13, the Portland District *Inadvertent Discovery Plan* and provisions of NAGPRA, as applicable, if human remains are discovered.

MULLIGAN.DANIEL.MICHAEL.1298000888

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Daniel M. Mulligan, MA
Portland District Archaeologist

Attachment 1 (CENWP-PPPMD SHPO CONSULTATION LETTER, 01 SEP 2016)
Attachment 2 (CENWP-PM-E MEMORANDUM FOR RECORD, 20 SEP 2016)
Attachment 3 (SHPO CONCURRENCE LETTER, SHPO CASE NO. 16-1586, 20 SEP 2016)

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, PORTLAND DISTRICT
PO BOX 2946
PORTLAND OR 97208-2946

SEP 0 1 2016

Planning, Programs and Project
Management Division

Dr. Dennis Griffin
Oregon State Historic Preservation Office
725 Summer St. NE, Suite C
Salem, Oregon 97301-0707

SUBJECT: *Bonneville Dam Bradford Island B-Branch Adult Fishway Bank Erosion Project*, Multnomah County, Oregon.

Dear Dr. Griffin:

The U.S. Army Corps of Engineers, Portland District (Corps) is proposing to conduct emergency repairs to a small section of eroding riprap revetment/foundation located beneath the B-Branch Adult Fishway (fish ladder) at Bonneville Dam, located along the north shore of Bradford Island approximately 75 meters west of the dam spillway in Sections 21-22 of Township 2 North, Range 7 East, Multnomah County, Oregon (Enclosures 1 and 2). Bonneville Dam is located on the Columbia River at River Mile 146, approximately 40 miles east of Portland, Oregon. The dam spans the river between Multnomah County, Oregon and Skamania County, Washington, but all proposed work will take place in-water and along a narrow stretch of Bradford Island's riprap revetment-lined, north side shoreline within the Oregon boundary. The cumulative area of potential effect (APE) will cover approximately 4.0 acres – 3.2 acres of which will be conducted in-water via barge, 0.4 acre will be the maximum extent of repair work on the existing riprap revetment and up to 0.4 acre of nearby, on-land paved parking lot area will be available for possible additional equipment or vehicle staging (Enclosures 1-3). The proposed repair work is considered an emergency and is scheduled to begin as early as December 1, 2016.

The Corps is initiating consultation on this project under the programmatic memorandum of agreement entitled, *Programmatic Memorandum of Agreement (PMOA) for Construction of the New Navigation Lock and for the Operation and Maintenance of the Bonneville Dam Historic District, Between the Corps of Engineers, the State Historic Preservation Officers of Washington and Oregon, and the Advisory Council on Historic Preservation*, executed on February 28, 1987 (Enclosure 4). The Bonneville Dam Historic District was listed on the National Register of Historic Places in 1986 (i.e. National Register No. 86000727). The Historic District consists of features constructed from 1934 to 1937, with principal elements consisting of Bonneville Dam, Bonneville Powerhouse #1, Navigation Lock #1, Administration

Building, Auditorium Building and the surrounding landscape. Bonneville's fishways and fish hatchery are considered part of the Bonneville Dam Historic District.

Two scour holes have developed along a ~16-meter-long (E-W) stretch of the existing riprap revetment foundation beneath and in front of the eastern end of the Bradford Island fish ladder (Enclosure 3). The eastern (upstream) scour hole consists of a ~6-meter long (E-W) x ~6-meter high (N-S) x ~2.5-meter deep, partially-submerged chasm; about six meters downstream (westward) is another slightly-smaller, ~4-meter long (E-W) x ~4-meter high (N-S) x ~2.5-meter deep, partially-submerged erosion cavity. A number of factors have contributed to the ongoing erosion along the revetment edge, particularly hydraulic forces generated by scheduled spills designed to enhance juvenile fish passage and water flows directed by the dam's existing spillway deflector – both of which have been temporarily modified until the proposed repairs have been completed. If erosion is allowed to continue, the potential for further undermining could lead to a structural collapse which could damage the fish ladder and/or cause it to fail. Damage to or failure of the structure would prevent passage of adult Threatened and Endangered Fish Species, thereby causing the Corps to be out of compliance with key provisions of the Endangered Species Act Section 7(a)(2) Supplemental Biological Opinion.

Although specific repair plans are still being developed, it is anticipated that approximately 4,900 tons of riprap (i.e. ~4 ft diameter x ~3-ton boulders) will be placed within the two growing scour holes and along the outside periphery to stem the continuing erosion and to bolster the stability of the fish ladder's existing, underlying riprap foundation. The proposed rock repair/stabilization will be restricted to stabilizing the existing riprap-lined periphery for a maximum E-W distance of approximately 45.7 meters (150 ft) between the joint with the existing (eastside) structural concrete apron (lower left) and immediately downstream of the western scour hole (Enclosure 3). The existing, grouted riprap slope is about 1.0 meter thick and extends about ~6.0 meters (N-S) between the surface and submerged bedrock foundation. Repair work will involve removal of selected portions of the revetment's eroding, grouted rock face and replacement with newer and larger, free-standing (grout less) riprap.

No work will take place on the fish ladder structure. Access to the scour holes and all riprap repair locations will be conducted in-water from two barges (i.e. one vessel will carry a stockpile of riprap material while a floating crane will be used to place the rock in strategic locations within and around the scour holes). The in-water APE is expected to cover about 3.2 acres immediately north of the fish ladder and riprap-covered shoreline. The revetment repair APE may extend to up to 0.4 acre of the existing riprap structure, but the primary focus will be on repairs to the actively-eroding, ~16-meter-long (E-W) x ~6-meter high (N-S) x ~2.5-meter deep scour areas. If necessary (although currently not anticipated), the 0.4-acre, paved parking lot located about 200 meters WSW of the westside scour hole may also be used for additional equipment or vehicle staging.

The location and extent of the scour holes require that the proposed repairs take place as soon as possible. If further erosion occurs and affects the structural integrity of the fish ladder and/or causes it to fail, the adjacent spillway would have to be shut down indefinitely, adversely affecting spring fish passage (i.e. juvenile salmonids). A spillway shutdown would also create an unsafe situation because a functional spillway is necessary for maintaining flood control (pool level regulation) and powerhouse by-pass when the turbines' flow capacities are exceeded and/or when turbines are taken out of service.

A similar but broader scour hole repair project was conducted at Bonneville Dam on the adjacent concrete spillway and stilling basin in 2012 (Enclosure 5 – SHPO Case No. 12-1248 Bonneville Dam Spillway Stilling Basin Repair Project). In that case, planned efforts to repair 11 scour holes that had developed in eight spillway bays and along the fish ladder periphery were consulted with the Oregon State Historic Preservation Office (SHPO), Washington Department of the Archaeology & Historic Preservation (DAHP) and affected Tribes. These related actions were determined by the Corps to have *No Adverse Effect* on the Bonneville Dam Historic District and its contributing structural components, to which SHPO and DAHP both concurred. Unfortunately, multiple factors related to unforeseen, ongoing hydraulic forces and the use of improperly-sized riprap materials during the 2012 repairs have led to the current scour hole situation along the Bradford Island fishway revetment.

Record searches of historical records and previous investigation reports on file at the Corps Environmental Resources Branch in Portland, Oregon, SHPO's *Oregon Archaeological/GIS Online Database* and DAHP's *WISAARD and Historic Property Inventory* indicate that no previous cultural resource investigations, cultural resources or archaeological sites have been previously-documented within or near the proposed APE. Similarly, the Corps is not aware of any Tribal areas of traditional, religious or cultural significance within or near the proposed APE. On August 18, 2016, Corps District Archaeologist Daniel Mulligan conducted an on-site inspection of the project APE and immediate surroundings at Bonneville Dam. Although the revetment repair area was not physically accessible due to its location within the active spillway, an overhead, visual inspection from the nearby dam spillwall revealed the growing extent of the scour holes along the revetment's northside edge. The turbulent water flowing westward away from the dam spillwall within the spillway was observed to be exerting tremendous hydraulic forces against the scour holes and edge of the exposed riprap revetment immediately north of the fish ladder (Enclosure 3). Based on the visual inspection, it was obvious that the planned work would not physically impact or cause negative structural changes to the nearby fishway. A ~1.0-meter wide "buffer" area will be left unaltered between the base of the concrete fish ladder and existing grouted riprap revetment edge. All rock repair work will occur along the northside portion of the revetment, away from physical contact with the concrete structure. An intuitive, meandering pedestrian transect conducted throughout the nearby paved, 0.4-acre

parking area being considered as a possible on-land staging area also revealed no cultural resources or historic features; however, it is very unlikely that the proposed on-land staging area will be used or considered necessary during the planned revetment repair work.

The Corps is notifying you of the proposed repairs to the eroding riprap revetment/foundation located adjacent to and beneath the B-Branch Adult Fishway within the Bonneville Dam Historic District per Stipulation I.C.1. of the PMOA (Enclosure 4). Accordingly, the Corps is providing "sufficient information and documentation to permit the SHPO to understand the undertaking and its effects on the historic property." In accordance with the PMOA, SHPO and DAHP have 10 days from receipt of this letter to object to the planned work. Per 36 CFR Part 800.5, the Corps has determined that the proposed undertaking will have *no adverse effect* on the Bonneville Dam Historic District. The planned repair work within the designated in-water and undercut/revetment repair area APE will not cause any physical changes or impacts to the nearby fish ladder structure. Moreover, allowing the scour holes and revetment perimeter to further erode without attempting to implement stabilization measures would likely undermine the stability of the fish ladder foundation and cause it to eventually subside – resulting in an *adverse effect* to the structure.

The Corps recognizes that the Confederated Tribes of the Grand Ronde Community of Oregon, Confederated Tribes of the Warm Springs Reservation of Oregon, Confederated Tribes and Bands of the Yakama Nation, Confederated Tribes of the Umatilla Indian Reservation and Nez Perce Tribe may have special concerns and information about cultural resources in the vicinity of the proposed *Bonneville Dam Bradford Island B-Branch Adult Fishway Bank Erosion Project* APE. The Corps values the opinions, comments and information the Tribes may wish to provide during our consultations regarding this project and other undertakings at Bonneville Dam. The Corps invites and encourages the Tribes' continued participation in identifying and addressing any additional issues of concern. We recognize that some cultural information may be considered sensitive and will be treated with confidentiality.

Concurrent copies of this letter are being sent to Ms. Jessica Gabriel, Oregon State Historic Preservation Office, 725 Summer St. NE, Suite C, Salem, Oregon 97301-0707; Mr. Briece Edwards, Confederated Tribes of the Grand Ronde Community of Oregon, 9615 Grand Ronde Road, Grand Ronde, Oregon 97347; The Honorable Robert Brunoe, Confederated Tribes of the Warm Springs Reservation of Oregon, P.O. Box C, Warm Springs, Oregon 97761-0078; Mr. Johnson Meninick, Confederated Tribes and Bands of the Yakama Nation, P.O. Box 151, Toppenish, Washington 98948-0151; Ms. Teara Farrow Ferman, Confederated Tribes of the Umatilla Indian Reservation, 46411 Timine Way, Pendleton, Oregon 97801-0638; and Mr. Keith Patrick Baird, Nez Perce Indian Tribe, P.O. Box 365, Lapwai, Idaho 83540-0365. Concurrent electronic copies of this letter are also being emailed to Dr. Robert Whitlam, Washington State Department of

Archaeology & Historic Preservation (106@dahp.wa.gov); Ms. Roberta Kirk, Confederated Tribes of the Warm Springs Reservation of Oregon (THPO@ctwsbnr.org); and Mr. Jon Shellenberger, Confederated Tribes and Bands of the Yakama Nation (jons@yakama.com).

If you have any questions or require additional information, please contact Mr. Daniel M. Mulligan, Corps District Archaeologist, at (503) 808-4768 or by email at daniel.m.mulligan@usace.army.mil. Thank you for your assistance and expedited review of this undertaking.

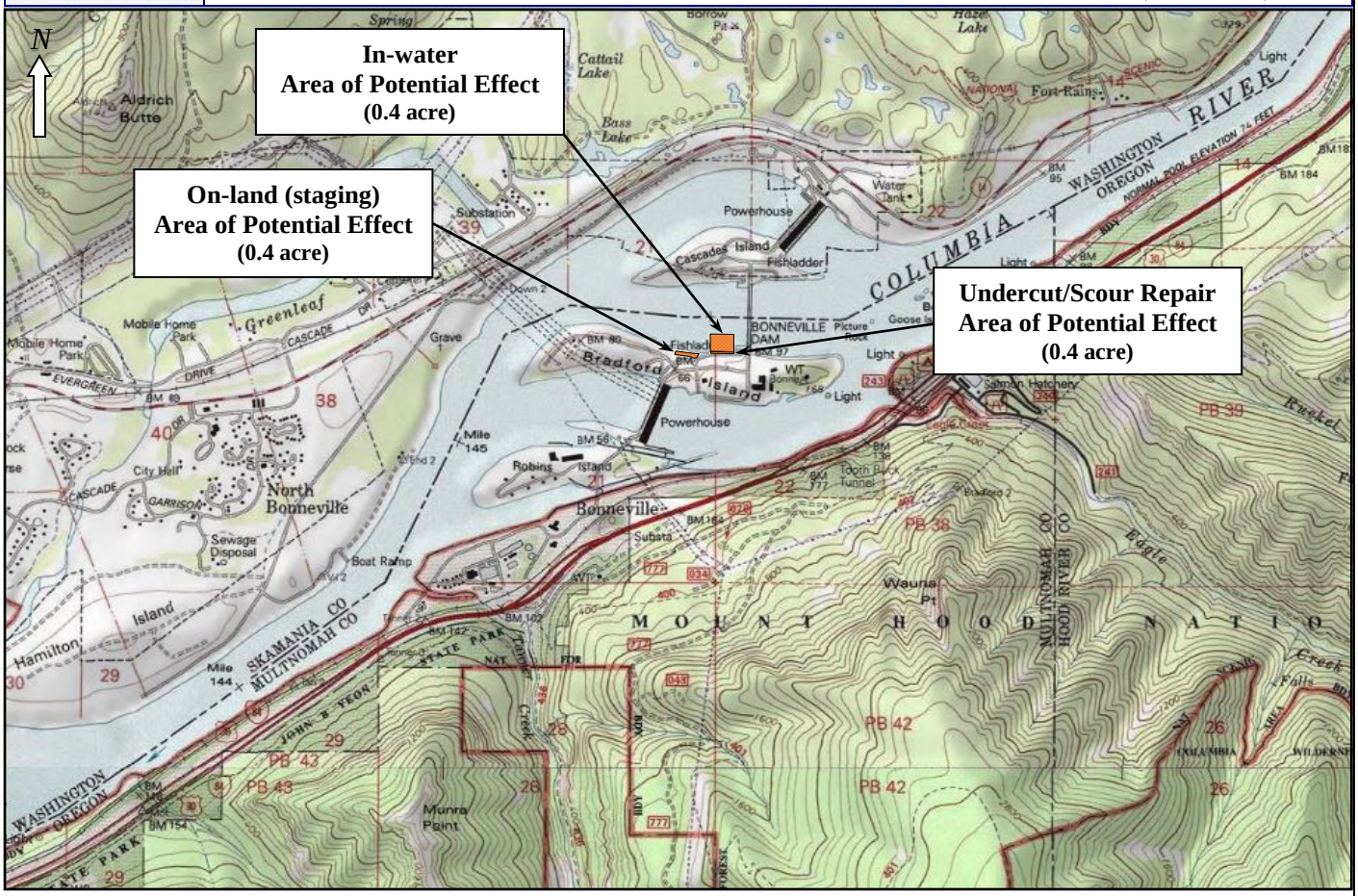
Sincerely,

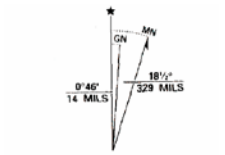
Joyce E. Casey
Chief, Environmental Resources Branch

Enclosures

Bonneville Dam Bradford Island B-Branch Fishway Bank Erosion Project Area Map

PROJECT NAME:	**Bonneville Dam Bradford Island B-Branch Fishway Bank Erosion Project**							
LOCATION INFORMATION:				Township	Range	Sections	Project Acres	
County:	Multnomah	State:	OR	2N	7E	21, 22	Total	4.0 acres
USGS Topo:	Bonneville Dam, WA-OR 7.5' (1994)						APE	4.0 acres
Operating Project:	Bonneville Lock and Dam						Surveyed	N/A
Division:	Operations	Project Manager:		Natalie Richards, USACE (503-808-4755)				
Contact Address:	USACE-Portland District Cultural Resources Team, P.O. Box 2946, CENWP-PM-E, Portland, OR 97208-2946 (503-808-4710)							





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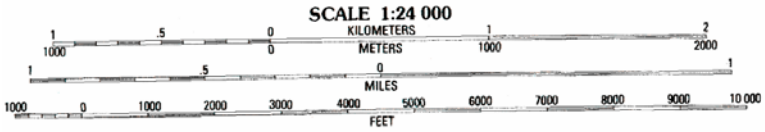

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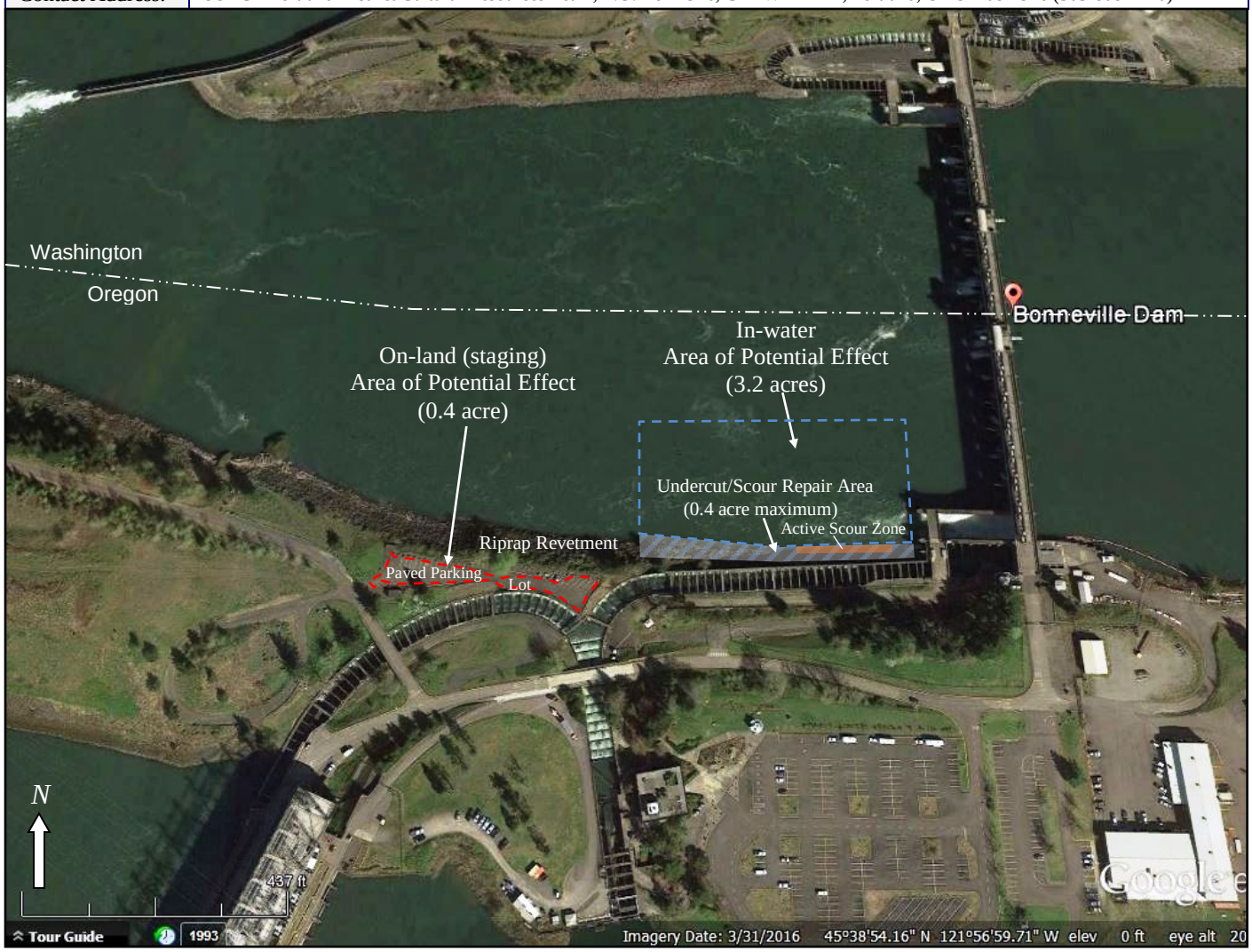
NATIONAL GEODETIC VERTICAL DATUM OF 1929
TO CONVERT FEET TO METERS MULTIPLY BY 0.3048

QUADRANGLE LOCATION

Bonneville Dam Bradford Island B-Branch Fishway Bank Erosion Project Area Aerial Photo Map

PROJECT NAME:	**Bonneville Dam Bradford Island B-Branch Fishway Bank Erosion Project**							
LOCATION INFORMATION:				Township	Range	Sections	Project Acres	
County:	Multnomah	State:	OR	2N	7E	21, 22	Total	4.0 acres
USGS Topo:	Bonneville Dam, WA-OR 7.5' (1994)						APE	4.0 acres
Operating Project:	Bonneville Lock and Dam						Surveyed	N/A
Division:	Operations	Project Manager:		Natalie Richards, USACE (503-808-4755)				
Contact Address:	USACE-Portland District Cultural Resources Team, P.O. Box 2946, CENWP-PM-E, Portland, OR 97208-2946 (503-808-4710)							



Bonneville Dam Bradford Island B-Branch Fishway Erosion Project
Multnomah County, Oregon
Photograph Continuation Pages

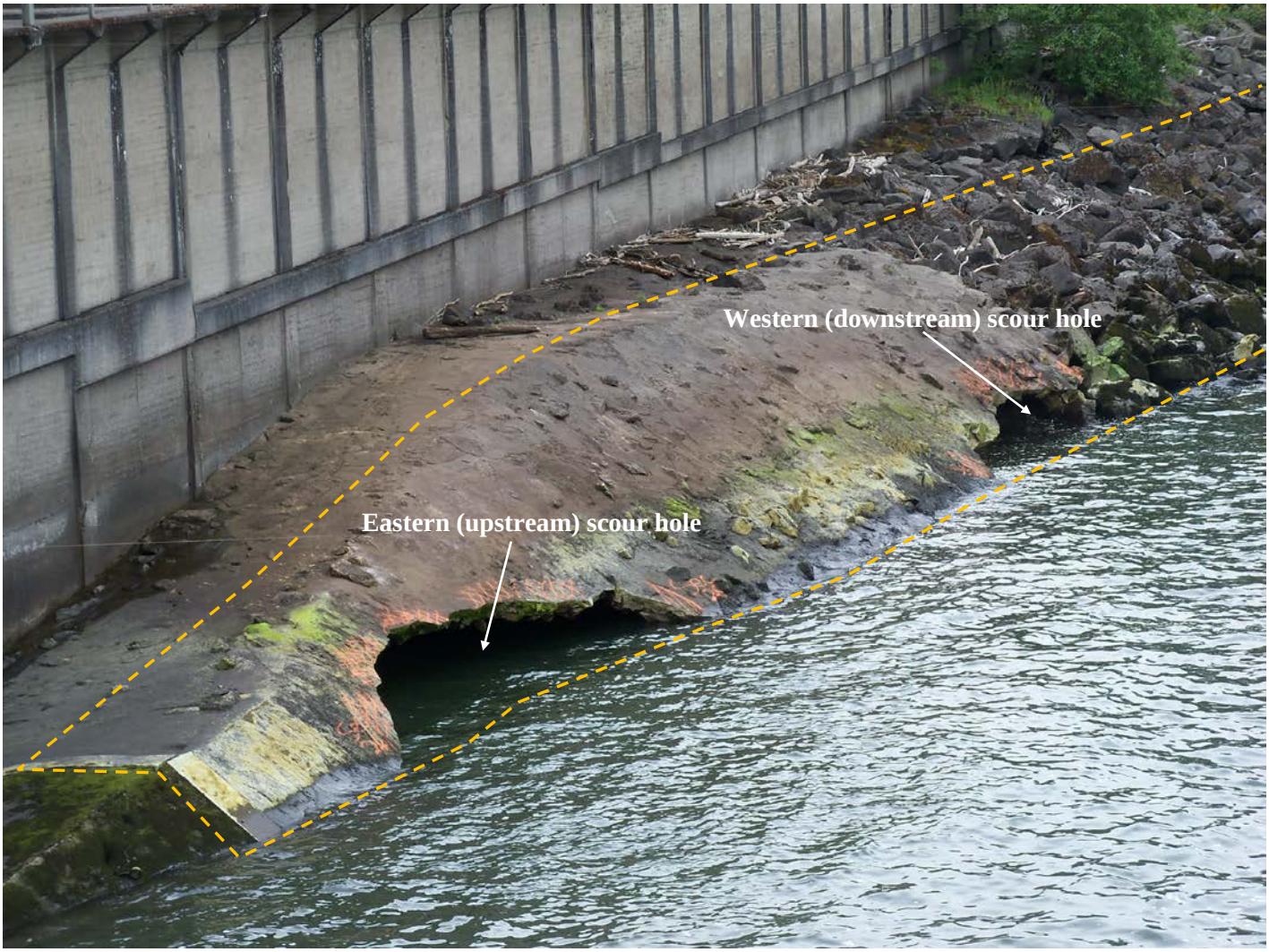


Photo 104-1464. Twin scour holes to be repaired along northside base of Bonneville Dam Bradford Island B-Branch Fishway riprap revetment. Dashed yellow polygon denotes extent of proposed riprap repair. Proposed rock repair/stabilization work will extend for a maximum distance of approximately 45.7 meters (150 ft) between the joint with the existing structural concrete apron (lower left) to immediately downstream of the western scour hole (upper right outside of photo). Photo taken 17 June 2016. Facing southwest.

Bonneville Dam Bradford Island B-Branch Fishway Erosion Project
Multnomah County, Oregon
Photograph Continuation Pages

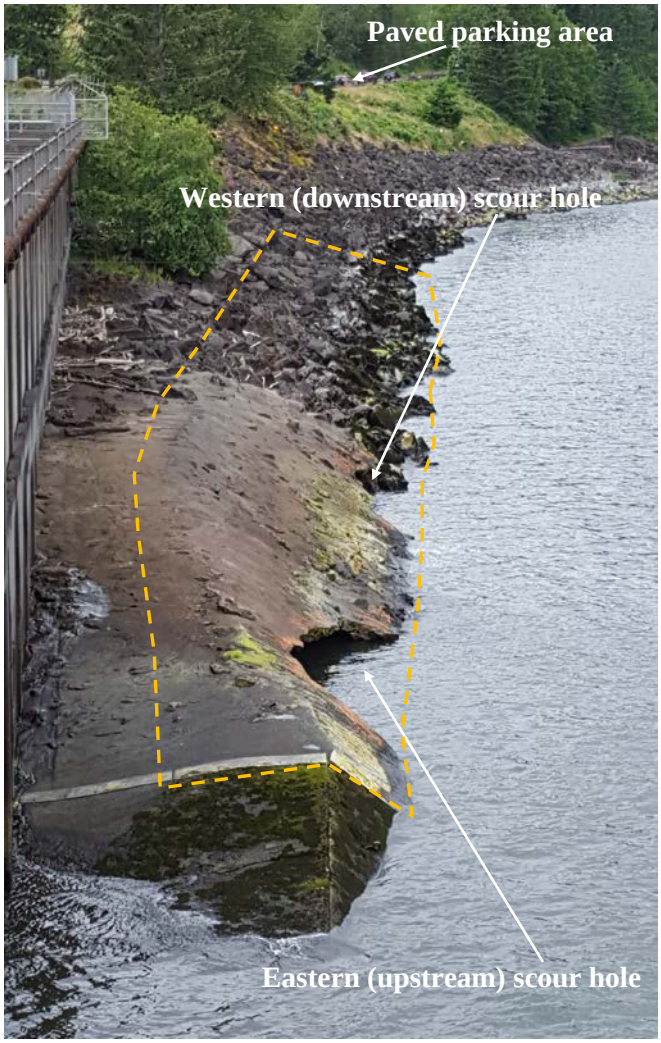


Photo 112224. Downstream view of twin scour holes to be repaired along northside base of Bonneville Dam Bradford Island B-Branch Fishway riprap revetment. Dashed yellow polygon denotes extent of proposed riprap repair. Proposed rock repair/stabilization work will extend for a maximum distance of approximately 45.7 meters (150 ft) between the joint with the existing structural concrete apron (lower center) to immediately downstream of the western scour hole (upper center). Photo taken 17 June 2016. Facing west.

Bonneville Dam Bradford Island B-Branch Fishway Erosion Project
Multnomah County, Oregon
Photograph Continuation Pages

Photo 104-1456. Water level view of twin scour holes to be repaired along northside base of Bonneville Dam Bradford Island B-Branch Fishway riprap revetment. Eastern (upstream) scour hole is located at left-center and western (downstream) scour hole is located at right-center. Photo taken 17 June 2016. Facing SSE.

Bonneville Dam Bradford Island B-Branch Fishway Erosion Project
Multnomah County, Oregon
Photograph Continuation Pages

Photo 104-1443. Close-up view of eastern (upstream) scour hole at northside base of Bonneville Dam Bradford Island B-Branch Fishway riprap revetment. Photo taken 17 June 2016. Facing south.

Photo 105211. Close-up view of western (downstream) scour hole at northside base of Bonneville Dam Bradford Island B-Branch Fishway riprap revetment. Photo taken 17 June 2016. Facing southwest.

Advisory Council On Historic Preservation

The Old Post Office Building
1100 Pennsylvania Avenue, NW, #809
Washington, DC 20004

Reply to: 730 Simms Street, Room 450
Golden, Colorado 80401

Enclosure 4

March 10, 1987

Mr. Michael F. Kidby
Chief, Natural Resources Branch
Corps of Engineers, Portland District
P.O. Box 2946
Portland, OR 97208-2946

REF: Programmatic Memorandum of Agreement regarding the operations and management of the Bonneville Dam Historic District in Oregon and Washington

Dear Mr. Kidby:

The Enclosed Programmatic Agreement has been accepted by the Council. This document constitutes the comments of the Council required by Section 106 of the National Historic Preservation Act and the Council's regulations. A copy of the Agreement and this letter have also been sent to the Washington and Oregon State Historic Preservation Officers.

On behalf of the Chairman, we commend the Corps efforts in developing this Programmatic Agreement, and we appreciate the responsive manner in which the Corps has developed this program for managing the historic values at Bonneville Dam. We look forward to working with the Corps on future projects.

Sincerely,

Robert Fink
Chief, Western Division
of Project Review

Enclosure

PROGRAMMATIC MEMORANDUM OF AGREEMENT (PMOA)
FOR CONSTRUCTION OF THE NEW NAVIGATION LOCK AND
FOR THE OPERATION AND MAINTENANCE
OF THE BONNEVILLE DAM HISTORIC DISTRICT,
BETWEEN THE CORPS OF ENGINEERS, THE
STATE HISTORIC PRESERVATION OFFICERS OF
WASHINGTON AND OREGON, AND THE
ADVISORY COUNCIL ON HISTORIC PRESERVATION

WHEREAS, the Corps of Engineers has determined that operation and maintenance of the Bonneville Lock, Dam, Spillway, Hatchery, and Administrative Area will affect properties included in or eligible for inclusion in the National Register of Historic Places and has requested the comments of the Advisory Council on Historic Preservation (Council) pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C. 470) and its implementing regulations, "Protection of Historic and Cultural Properties" (36 CFR Part 800); and,

WHEREAS, the Corps of Engineers nominated and the Keeper of the National Register of Historic Places listed the Bonneville Dam Historic District in the National Register of Historic Places; and,

WHEREAS, the Corps of Engineers will construct a new navigation lock at Bonneville Dam which may adversely affect properties signficant to the Historic District; and,

WHEREAS, the entire area included in the provisions of this Programmatic Memorandum of Agreement (PMOA) has been surveyed for archeological properties and no such properties have been identified;

NOW, THEREFORE, the Corps, the Oregon and Washington State Historic Preservation Officers (SHPO), and the Council agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

STIPULATIONS

The Corps will ensure that the following measures are carried out:

I. HISTORIC BUILDINGS AND STRUCTURES IN THE HISTORIC DISTRICT

A. Where possible,work on these buildings and structures will be carried out in accordance with the standards and "recommended" guidelines in The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings.

B. All repair and maintenance work which does not result in destruction of the fabric of historic properties or which results in repairs in-kind of historic properties shall be considered to have no effect on the historic properties and shall not require consultation with the appropriate SHPO prior to implementation.

C. 1. For undertakings which require alterations to (including window replacement projects), or demolition of parts of, or additions to historic structures, the Corps will notify the appropriate SHPO of the proposed undertaking and will proceed with the undertaking if the SHPO does not object to the proposed work within 10 working days. The Corps will provide sufficient information and documentation to permit the SHPO to understand the undertaking and its effects on the historic property. The notification to the SHPO will cite this PMOA and inform the SHPO that in accordance with the PMOA there are 10 days during which the SHPO may object to the proposed work.

2. If there are no standards or guidelinesin <u>The Secretary of the Interior's Standards</u>... applicable to the proposed work, the Corps will consult with the appropriate SHPO to develop a mutually acceptable approach which results in the continued use and preservation of the building or structure.

D. Unless otherwise provided in this PMOA, when the "recommended" approaches in <u>The Secretary of the Interior's Standards</u>. . . cannot be met, or the proposed approach is abandonment or demolition of a building or structure which contributes to the historic district, or the Corps or SHPO determines that the proposed work will not be in keeping with the historic hydropower generation and water control characteristics of the facility, the Corps will consult further with the appropriate SHPO and the Council to develop a mutually acceptable resolution of the situation.

E. The Corps will, each fiscal year, provide Council and SHPOs a report briefly detailing the repair and maintenance activities and any other work carried out in accordance with Stipulation I of this PMOA.

II. HISTORIC LANDSCAPING WITHIN THE HISTORIC DISTRICT

A. The historic landscaping in the historic district will be managed and maintained to assure its continued preservation and vitality.

B. Flora which dies will be replaced with the same or a similar plant, but the plant will be allowed to mature in-place and need not be replaced with a mature plant.

C. Where operation and maintenance work will temporarily disrupt the historic landscaping of the historic district, consultation with the SHPO need not be conducted if the Corps can and will restore the historic landscaping to its former appearance.

D. In any new construction projects such as the proposed new navigation lock, the Corps will consult with the Oregon SHPO to develop measures to protect and, if necessary, restore the significant landscaping features of the historic district. Prior to alteration of the historic district and its landscaping due to any project, the Corps will record the landscaping in accordance with Section 110(b) of the National Historic Preservation Act and Stipulation III.A of this PMOA to the standards of the Historic American Buildings Survey (HABS) or Historic American Engineering Record (HAER), as appropriate.

III. HABS AND HAER DOCUMENTATION OF AFFECTED HISTORIC PROPERTIES IN ACCORDANCE WITH SECTION 110.b. OF THE NATIONAL HISTORIC PRESERVATION ACT

A. Except for normal operation and maintenance projects as described in stipulation I.B. above, the Corps shall request the HABS or HAER office of the National Park Service, as appropriate, to determine what documentation shall be required for each historic property covered by this PMOA which shall be demolished, altered, permitted to deteriorate, or transferred out of Federal ownership. The Corps shall ensure that, unless otherwise agreed to by the National Park Service, all documentation is completed and accepted by HABS or HAER prior to the demolition, alteration, substantial deterioration, or transfer, and that copies of this documentation are made available to the appropriate SHPO and a maximum of two local repositories designated by the SHPO.

B. The Corps will work with the HAER office of the National Park Service to develop a program for recordation of the electrical and other equipment used

for control, generation, and transmission of electricity and operations at Bonneville Dam. Recordation is required only when equipment is removed, demolished, or altered, but the Corps may choose to develop a program for comprehensive recordation of the historic equipment in order to avoid continual piecemeal recordation. All documentation must be completed and accepted by the National Park Service, unless otherwise agreed to by the National Park Service, prior to any demolition, removal, or alteration of this equipment.

C. If the Corps, in consultation with HAER, comprehensively records the Bonneville Dam, electrical and other equipment used for control, generation, and transmission of electricity, then it need not consult further with the appropriate SHPO regarding changes to the electrical and power generation systems. If the Corps chooses to record the Dam, electrical and other equipment piecemeal, then the Corps will consult with the appropriate SHPO in accordance with Stipulation I.C. above.

IV. ARCHEOLOGICAL SITES

If prehistoric or historic archeological data are discovered during any project development in the area, the Corps will consult with the appropriate SHPO to determine whether the data are significant. If it is determined that the data are significant, a data recovery program which takes into account the principles in "Part III: Recommendations for Archeological Data Recovery" of the Council's Treatment of Archeological Properties: A Handbook will be developed in consultation with the SHPO. The data recovery program will be implemented when it is acceptable to the SHPO and before any further damage to the archeological data occurs.

V. DISPUTE RESOLUTION

If a dispute arises regarding implementation of this PMOA, the Corps will consult with the objecting party to resolve the issues. If any consulting party determines that the dispute cannot be resolved, the Corps shall request the further comments of the Council pursuant to 36 CFR 800.6(b).

VI. FAILURE TO CARRY OUT THE TERMS OF THIS PMOA

Failure to carry out the terms of this PMOA requires that the Corps again request the Council's comments in accordance with 36 CFR Part 800. If the Corps cannot carry out the terms of the PMOA, it will not take or sanction any action or make an irreversible commitment that would result in an adverse effect with respect to the historic properties

covered by the PMOA or would foreclose the Council's consideration of modifications or alternatives that could avoid or mitigate any adverse effects on the historic properties until the commenting process has been completed.

VII. AMENDMENT OF THE PMOA

If any of the signatory to this PMOA determines that the terms of the PMOA cannot be met or believes a change is necessary, that signatory will immediately request the consulting parties to consider an amendment or addendum which will be executed in the same manner as the original PMOA.

VIII SUSPENSION OF THE PMOA

Any signatory may suspend this PMOA upon 30-day written notice. The written notice of suspension shall explain the reasons for the suspension and explain whether it appears the suspension can or cannot be lifted through amendment of the PMOA.

Execution of this PMOA evidences that the Corps has afforded the Council a reasonable opportunity to comment on the operation and maintenance of the Bonneville Dam Historic District and Locks, and effects on historic properties and that the Corps has taken into account the effects of its undertaking on historic properties.

Corps of Engineers — 18 Dec 86 (date)

Oregon State Historic Preservation Officer — Jan 13 '87 (date)

Washington State Historic Preservation Officer — Jan. 5, 1986 (date)

Advisory Council on Historic Preservation — 28 Feb. 87 (date)

Draft revised 10-1-86

Oregon
John A. Kitzhaber, MD, Governor

Parks and Recreation Department
State Historic Preservation Office
725 Summer St NE, Ste C
Salem, OR 97301-1266
(503) 986-0671
Fax (503) 986-0793
www.oregonheritage.org

August 22, 2012

RECEIVED
AUG 24 2012
CENWP-PM-E

Ms. Joyce Casey
USACE
P.O. Box 2946
Portland, OR 97208-2946

RE: SHPO Case No. 12-1248
Bonneville Dam Spillway Stilling Basin Repair Proj
FOE/repairs to stilling basin
USACE
, Portland vicinity, Multnomah County

Dear Ms. Casey:

We have reviewed the materials submitted on the project referenced above, and we concur with the determination that the property (Bonneville Dam) is listed in the National Register of Historic Places. We also concur with the finding of no adverse effect for the proposed project.

Unless there are changes to the project, this concludes the requirement for consultation with our office under Section 106 of the National Historic Preservation Act (per 36 CFR Part 800) for above-ground historic resources. Please feel free to contact me if you have any questions, comments or need additional assistance.

Sincerely,

Jason Allen, M.A.
Historic Preservation Specialist
(503) 986-0579
jason.allen@state.or.us

CENWP-PM-E

MEMORANDUM FOR RECORD

SUBJECT: **Bonneville Dam Bradford Island B-Branch Adult Fishway Bank Erosion Project, Multnomah County, Oregon –** ***Revetment Toeslope/Spillway Sedimentation Debris Removal and Excavation Addendum*** **SHPO Case #16-1586**

No Potential to Cause Effects.

DATE PREPARED: September 20, 2016

1. This memorandum for record (MFR) documents the reasons why, in accordance with Section 106 of the National Historic Preservation Act (NHPA), the *Revetment Toeslope/Spillway Sedimentation Debris Removal and Excavation* proposed on September 14, 2016 as additional work to be included in the **Bonneville Dam Bradford Island B-Branch Adult Fishway Bank Erosion Project** *does not* have the potential to cause effects to the qualities that make Bonneville Dam eligible for listing on the National Register of Historic Places (NRHP). This MFR addresses the issues and guidance specified in 36 CFR 800.3(a)(1) and completes the U.S. Army Corps of Engineers, Portland District's (Corps') Section 106 of the NHPA obligations and requirements in regard to this project.

2. On September 1, 2016, an Area of Potential Effect (APE)/*No Adverse Effect* Determination of Effect concurrence request letter for SHPO Case #16-1586 was sent to Oregon State Historic Preservation Office (SHPO), Washington Department of Archaeology & Historic Preservation (DAHP), the Confederated Tribes of the Grand Ronde Community of Oregon, Confederated Tribes of the Warm Springs Reservation of Oregon, Confederated Tribes and Bands of the Yakama Nation, Confederated Tribes of the Umatilla Indian Reservation and Nez Perce Tribe. At that time, only the described rip rap revetment work detailed in the letter was part of the proposed project. In that letter, the Corps detailed justifications and enclosed supporting documentation as to why it had been determined that the planned undertaking activities would result in *No Adverse Effect* to the nearby B-Branch adult fishway (i.e. fish ladder) and The Bonneville Dam Historic District.

3. On September 15, 2016, Daniel Mulligan, Corps District Archaeologist, consulted with Dr. Dennis Griffin, SHPO State Archaeologist, via telephone about the proposed project. After discussing the details of the planned work, both reached a verbal consensus that the undertaking would result in a *No Adverse Effect* determination. Dr. Griffin noted, though, that SHPO's official concurrence with the determination would be contingent on review and agreement from Ms. Jessica Gabriel, SHPO Above Ground/Historic Preservation Specialist. Dr. Griffin indicated that he would forward his copy of the submitted SHPO Case #16-1586 concurrence request documentation to Ms. Gabriel and discuss details of the phone discussion.

4. During the September 15, 2016 phone consultation, Mr. Mulligan also informed Dr. Griffin of additional in-water, underwater work proposed within the adjacent spillway that had not been included in the original September 1, 2016 APE/determination of effect consultation

letter. Mr. Mulligan explained that this additional work had only been proposed and detailed to him on September 14, two weeks after the consultation letter had already been mailed to SHPO. Upon review of the additionally-proposed work, Mr. Mulligan and the Corps determined that the planned in-water, underwater work would result in *No Potential To Effect* (NPTE) any historic properties, the nearby B-Branch adult fishway (i.e. fish ladder) nor any qualities that make The Bonneville Dam Historic District eligible for inclusion on the National Register of Historic Places (NRHP). And while at NPTE determination as specified in 36 CFR 800.3(a)(1) completes the Corps' Section 106 of the NHPA obligations and requirements in regard to this particular undertaking component, the Corps also determined it would be appropriate and demonstrate due diligence to promptly inform SHPO of (a) the additional work proposal, (b) the Corps' determination of effect and justifications for that determination, and (c) request SHPO's concurrence with the original *No Adverse Effect* determination and our additional NPTE determination for the planned in-water work.

5. The following is a brief description of the newly-proposed *Revetment Toeslope/Spillway Sedimentation Debris Removal and Excavation* work and justifications for a NPTE determination:

   (a) Rip rap material to be placed within and downslope (underwater) of the twin revetment scour holes must be "keyed" into the toe of the spillway slope to prevent further erosion and scouring. The submerged slope extending between the scour area and the spillway bottom is currently blanketed by an undetermined amount of previously-placed rip rap debris that has failed (i.e. moved downslope), assorted boulders (12" diameter), cobbles (3" diameter), gravels (1" diameter) and accumulated alluvial material that has traveled through the nearby spillway during periods of high flow (see Figure 1). Removal of the loose rock and alluvial material from near the bottom of the slope is necessary for the successful installation of the proposed revetment rip rap repairs and toe slope "key".

   (b) The toe slope "key" area will consist of a ~150' long (E-W) x ~7' wide (N-S) x ~7' deep trench to be excavated north of the existing rip rap revetment within the spillway basin (see Figures 2-7); the "key" excavation area is situated approximately 33-53 ft below mean water level at the base of the spillway; approximately 1,586 cubic yards of accumulated rock material will be removed/excavated; preparation of the toe slope "key" will require removal of accumulated debris down to the slope bedrock.

   (c) Excavation of the toe slope "key" area and spillway slope will be accomplished with a barge mounted crane and "clamshell' bucket similar to that used during the 2012 Bonneville-Bradford Island Fish Ladder revetment repairs (Figures 8-9).

   (d) The steep slope extending from the top of the revetment down to the toe slope "key" within the spillway is highly-disturbed by previous construction (see Figures 10-13). Multiple phases of construction (ca. 1935-1965) and subsequent spillway slope repair work (ca. 1965-2013) have repeatedly stripped the slope and spillway bottom down to bedrock; over time, sedimentation and rock debris accumulations have continually blanketed and re-blanketed the slope and spillway bottom. It is extremely unlikely that intact, original sediment deposits are present along the slope extending between the north

side of the Bradford Island Fish Ladder revetment and the base of the spillway. Furthermore, the slope area to be excavated and stabilized lies approximately 17+ ft below the present and pre-dam mean water level – far below the known historic and prehistoric mean water levels.

(e) All rock and sediment material to be removed from the revetment/spillway slope during the undertaking will be transported to a to-be-determined disposal location that will be identified by the contractor and approved by the Corps, in compliance with all applicable environmental compliance laws and regulations.

6. The nearby Bradford Island Fish Ladder, along with Bonneville's other fishways and fish hatchery, Bonneville Dam, Bonneville Powerhouse #1, Navigation Lock #1, Administration Building, Auditorium Building and the surrounding landscape, comprise the principal elements of The Bonneville Dam Historic District (i.e. National Register No. 86000727). In addition, a Programmatic Memorandum of Agreement entitled *Programmatic Memorandum of Agreement for Construction of the New Navigation Lock and for the Operation and Maintenance of the Bonneville Dam Historic District between the Corps of Engineers, the State Historic Preservation Officers of Washington and Oregon, and the Advisory Council on Historic Preservation* was executed in 1987.

7. Being located in a low-visibility area (i.e. beneath the water surface within the spillway pool), and constituting a very minimal, non-visible portion of Bonneville Dam's overall presentation, the submerged slope where the proposed *Revetment Toeslope/Spillway Sedimentation Debris Removal and Excavation* work will take place does not possess strong architectural values found on other structures and historic features of Bonneville Dam and contributes very minimally, if at all, to the property's National Register values. Very importantly, through consultation with the project design team and guidance from the NWS-TCX Preservation of Historic Structures and Buildings, it has been determined that the planned revetment slope stabilization work *will not* be conspicuous and *will not* detract from Bonneville Dam's overall historic integrity and significance. The planned *Revetment Toeslope/Spillway Sedimentation Debris Removal and Excavation* work will have *no potential to affect* the overall historic appearance of this low-visibility area.

8. In accordance with Section 106 of the NHPA, the Corps has determined that proposed Bonneville Dam Bradford Island Fish Ladder *Revetment Toeslope/Spillway Sedimentation Debris Removal and Excavation* undertaking meets the definition of an undertaking as defined at 36 CFR 800.16(y). Based on review of prior construction documents and historic photographs showing that vast disturbances and reconfigurations have taken place along the revetment slope and spillway basin since Bonneville's initial construction phases, it has been further determined that the proposed underwater stabilization/excavation work will not impact qualities directly associated with the essential design and operational qualities that were present during Bonneville's historic period which began in 1938. Based on conformance with the Secretary of the Interior's Standards for the Rehabilitation of Historic Buildings, and given the minimal visual impact of the work area, the actions will not change the integrity of the architectural qualities, fundamental engineering principles, or historical associations that made Bonneville Dam eligible for listing in the National Register.

Therefore, in accordance with 36 CFR 800.3(a)(1), the Corps finds that the proposed undertaking does not have the potential to cause effects, and no further Section 106 considerations are required.

9. In the unlikely event that cultural resources and/or human remains are uncovered during the underwater excavation and stabilization activities, all work shall halt at the scene of the discovery until assessed by a Portland District archaeologist and procedures outlined in 36 CFC 800.13 and the Portland District *Inadvertent Discovery Plan* are complied with.

MULLIGAN.DANIEL.MICHAEL.1298000888

Digitally signed by MULLIGAN.DANIEL.MICHAEL.1298000888
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=MULLIGAN.DANIEL.MICHAEL.1298000888
Date: 2016.09.20 18:52:56 -07'00'

Daniel M. Mulligan, MA
Portland District Archaeologist

BONNEVILLE DAM BRADFORD ISLAND B-BRANCH ADULT FISHWAY BANK EROSION PROJECT
MULTNOMAH COUNTY, OREGON
Revetment Toeslope/Spillway Sedimentation Debris Removal and Excavation Addendum – SHPO Case #16-1586

Figure 1. Example of failed rip rap debris, boulders, rock and alluvial material accumulations to be removed from the Bonneville Bradford Island Fish Ladder revetment slope key and spillway side slope area.

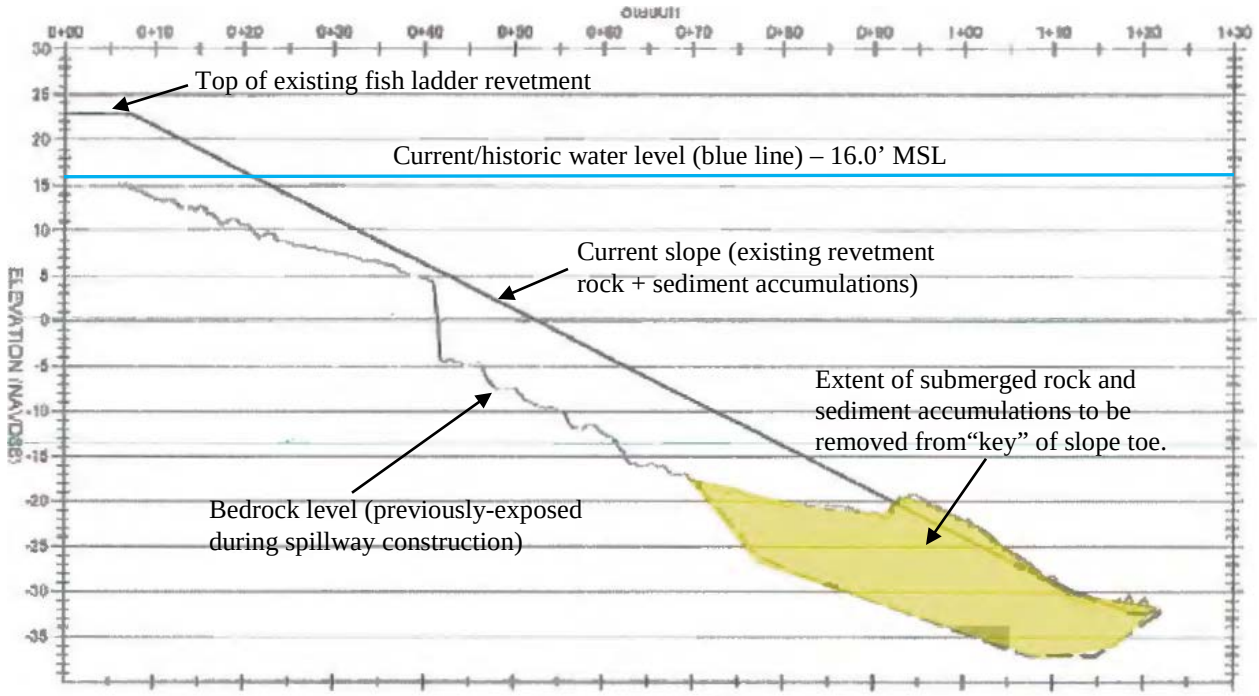


Figure 2. Horizontal cross-section view of toe of (submerged) slope excavation (yellow area). Note that excavation area is located approximately 33-53 ft below mean water level. Facing west (downstream).

BONNEVILLE DAM BRADFORD ISLAND B-BRANCH ADULT FISHWAY BANK EROSION PROJECT
MULTNOMAH COUNTY, OREGON
Revetment Toeslope/Spillway Sedimentation Debris Removal and Excavation Addendum – SHPO Case #16-1586

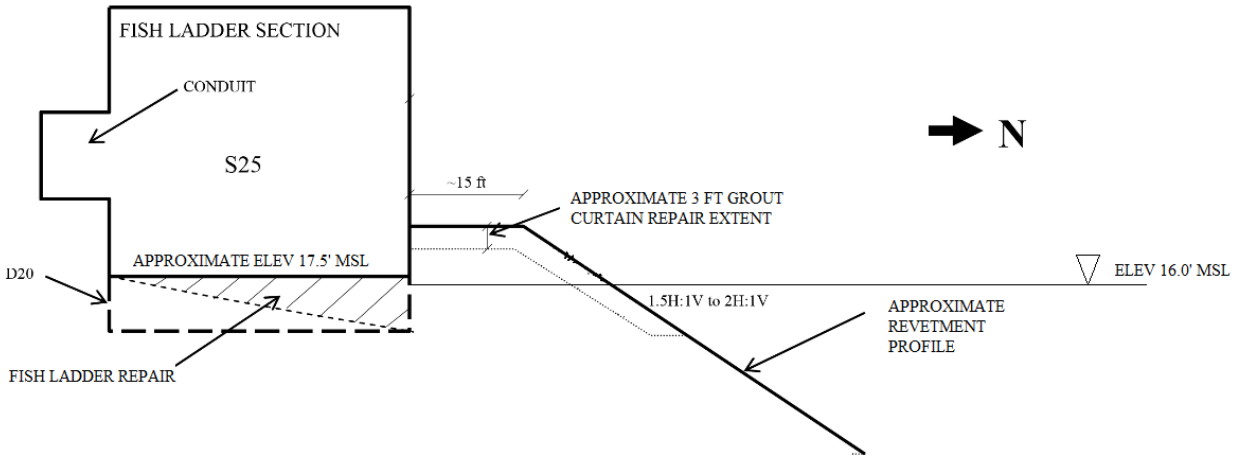


Figure 3. Horizontal cross-section profile of revetment/toeslope repair area. Facing west (downstream).

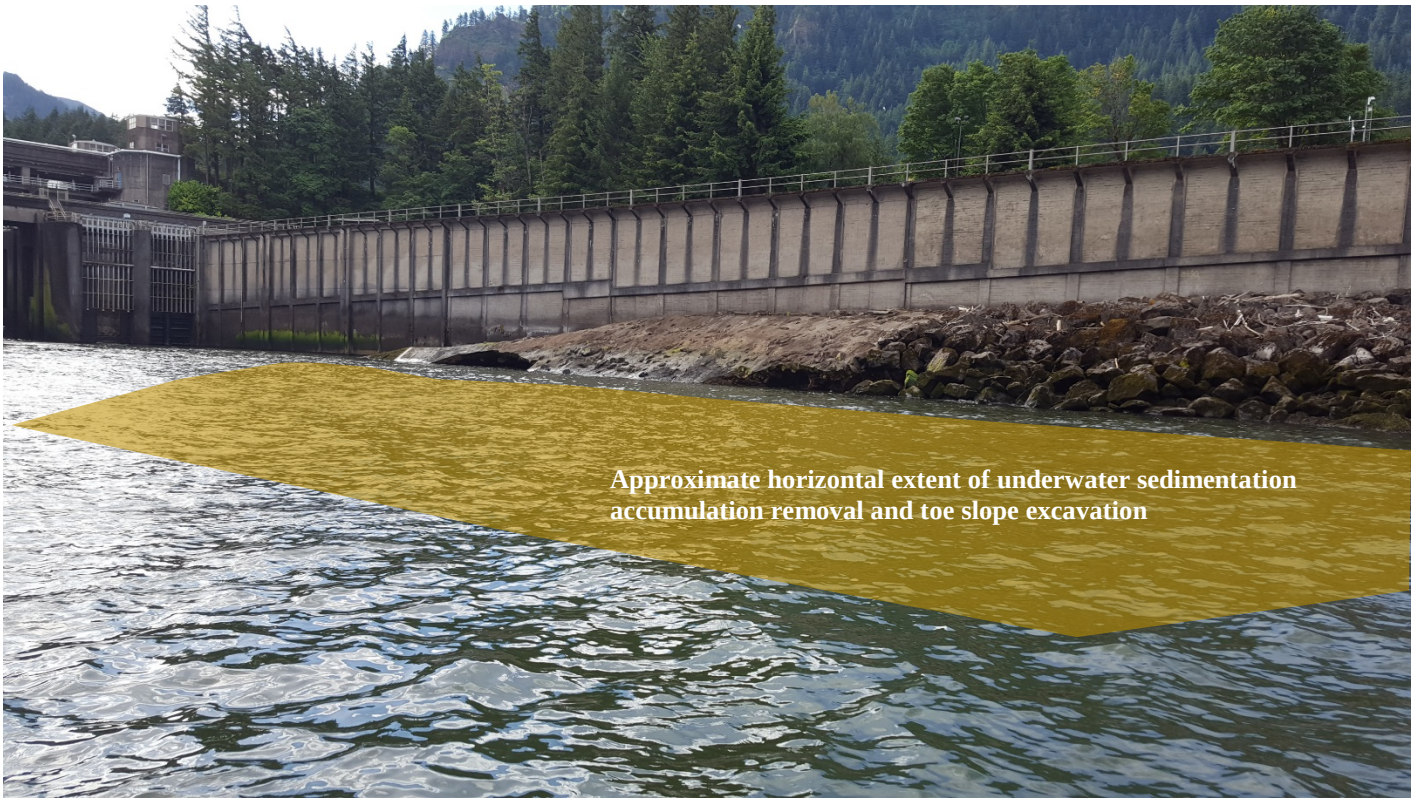


Figure 4. Surface view of revetment submerged slope excavation (yellow area). Sedimentation removal and excavation area is located within spillway approximately 33-53 ft below mean water level.

BONNEVILLE DAM BRADFORD ISLAND B-BRANCH ADULT FISHWAY BANK EROSION PROJECT
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Revetment Toeslope/Spillway Sedimentation Debris Removal and Excavation Addendum – SHPO Case #16-1586

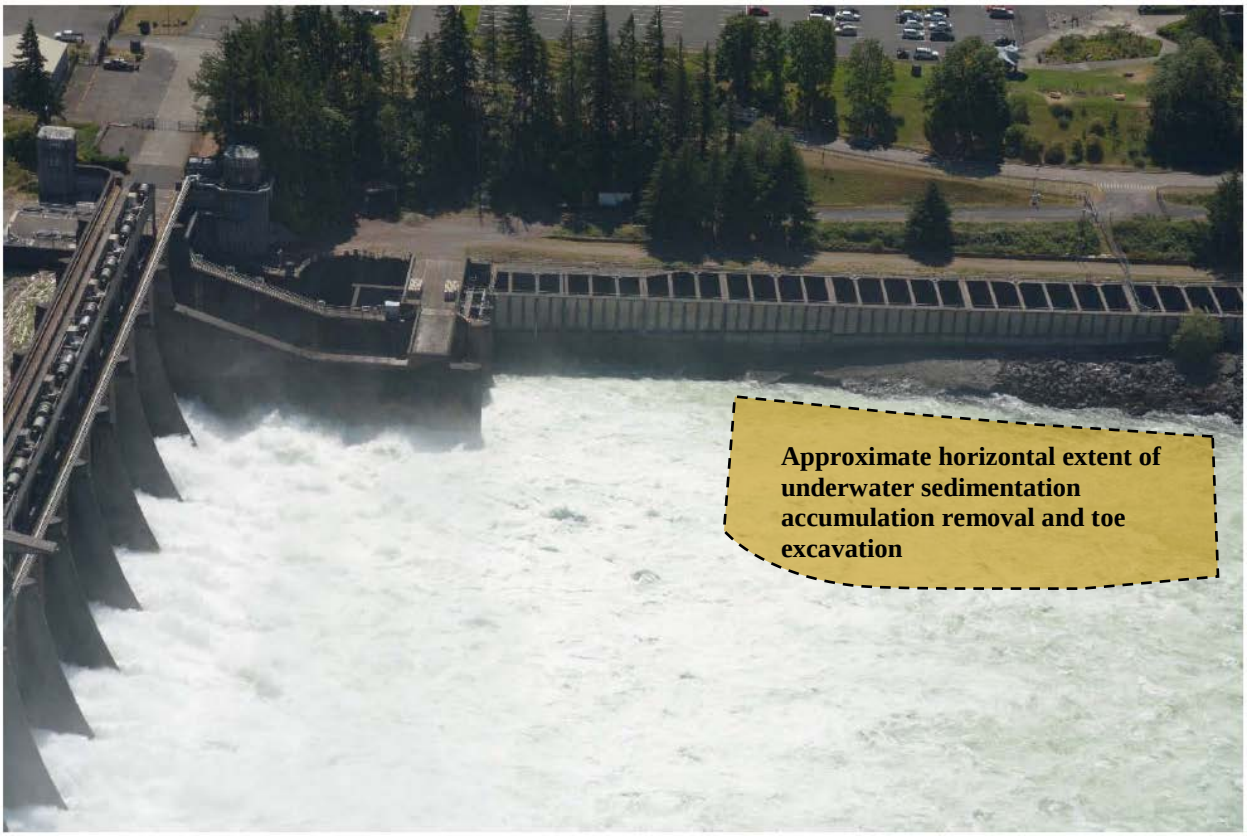

Figure 5. Overhead view of Bradford Island Fish Ladder (upper-center) and revetment submerged slope excavation (yellow area). Sedimentation removal and excavation area is located approximately 33-53 ft below mean water level within spillway.

BONNEVILLE DAM BRADFORD ISLAND B-BRANCH ADULT FISHWAY BANK EROSION PROJECT
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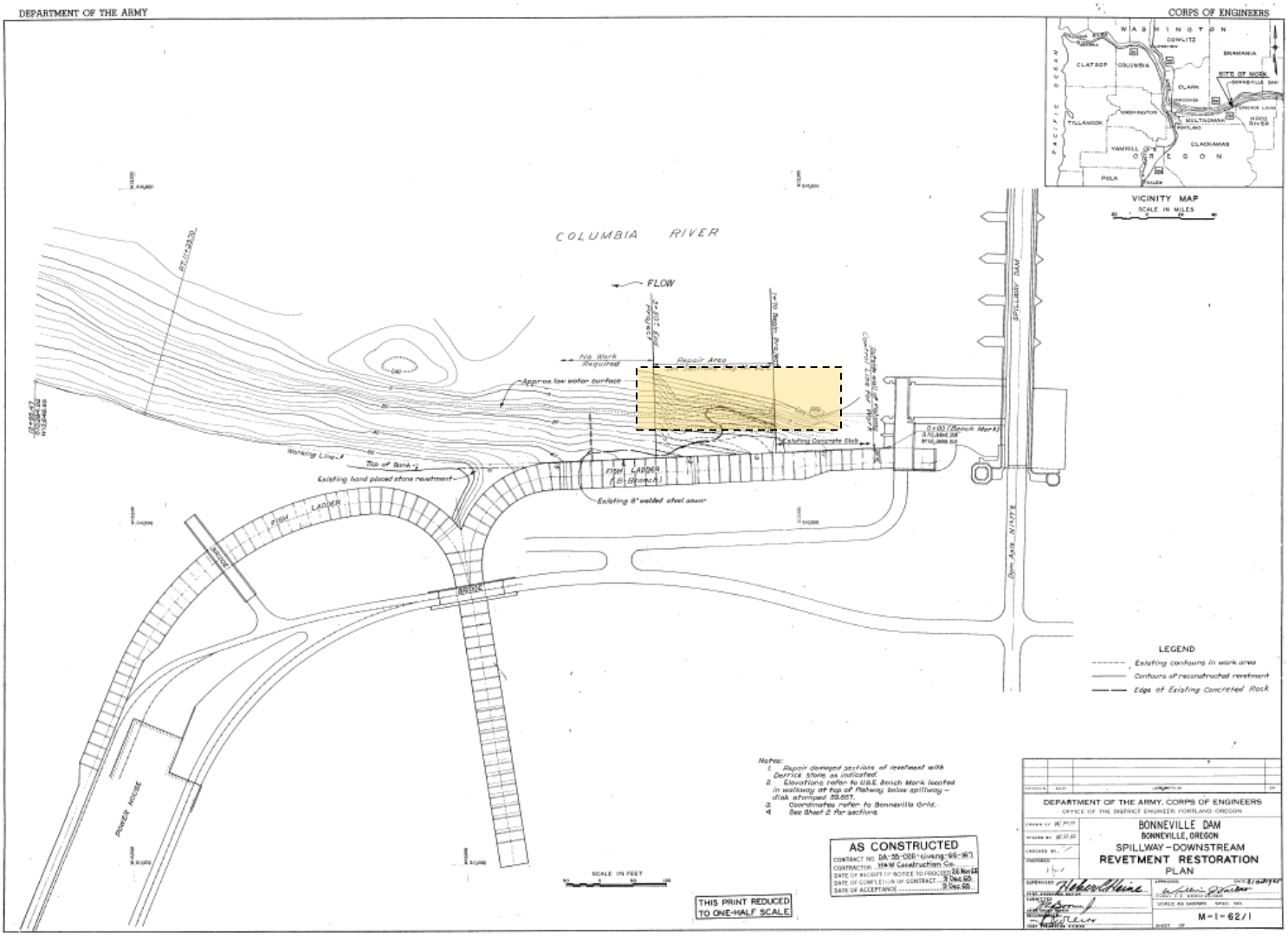

Figure 6. As-built drawing prepared for 1965 Bonneville-Bradford Island Fish Ladder revetment repairs and spillway dredging. Current proposed sedimentation removal and excavation area within spillway is depicted by yellow rectangle.

BONNEVILLE DAM BRADFORD ISLAND B-BRANCH ADULT FISHWAY BANK EROSION PROJECT
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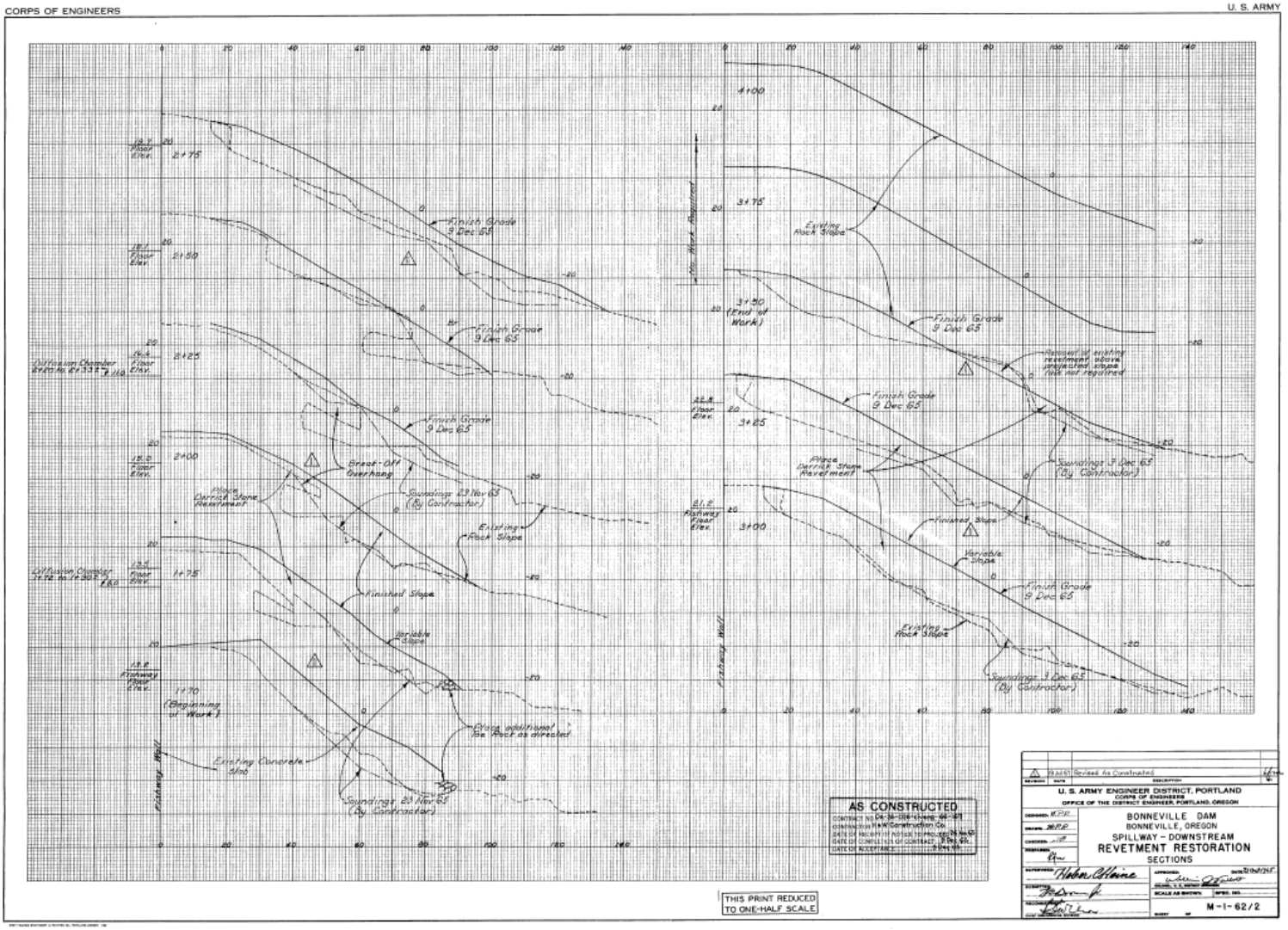

Figure 7. Cross-sectional as-built drawing prepared for 1965 Bonneville-Bradford Island Fish Ladder revetment repairs and spillway dredging.

Figure 8. Typical barge mounted crane and "clamshell' bucket to be used during *Revetment Toeslope/Spillway Sedimentation Debris Removal and Excavation* work. (Photo courtesy of Sun Machinery Corp. 2015 http://sunmachinery.com/crane_barges_for_sale.html).

Figure 9. Barge-mounted crane and "clamshell" bucket being used in spillway during 2012 repairs of the Bonneville-Bradford Island Fish Ladder revetment. Proposed sedimentation removal and excavation area within the spillway is situated immediately below the barge's pictured location.

BONNEVILLE DAM BRADFORD ISLAND B-BRANCH ADULT FISHWAY BANK EROSION PROJECT
MULTNOMAH COUNTY, OREGON
Revetment Toeslope/Spillway Sedimentation Debris Removal and Excavation Addendum – SHPO Case #16-1586

Figure 10. Historic photograph showing construction and heavy disturbance in the Bonneville spillway directly in front of the current Bradford Island fish ladder location. Photo shows excavation within cofferdam for south half of the main dam. Photo taken 10 September 1935. (Photo OR-11-F-49, from *Historic American Engineering Record – Bonneville Project, Bonneville Dam HAER No. OR-11-F, Index to Photographs*).

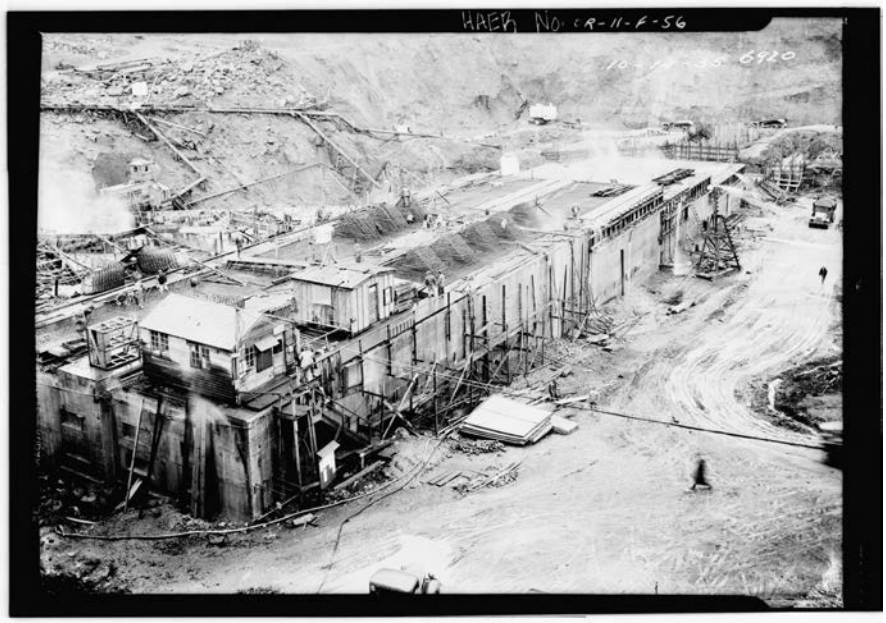

Figure 11. Historic photograph showing construction and heavy disturbance in the Bonneville spillway directly in front of the current Bradford Island fish ladder location. Photo shows concrete blocks of south half of spillway showing steel reinforcing of baffles. Photo taken 14 October 1935. (Photo OR-11-F-56, from *Historic American Engineering Record – Bonneville Project, Bonneville Dam HAER No. OR-11-F, Index to Photographs*).

BONNEVILLE DAM BRADFORD ISLAND B-BRANCH ADULT FISHWAY BANK EROSION PROJECT
MULTNOMAH COUNTY, OREGON
Revetment Toeslope/Spillway Sedimentation Debris Removal and Excavation Addendum – SHPO Case #16-1586

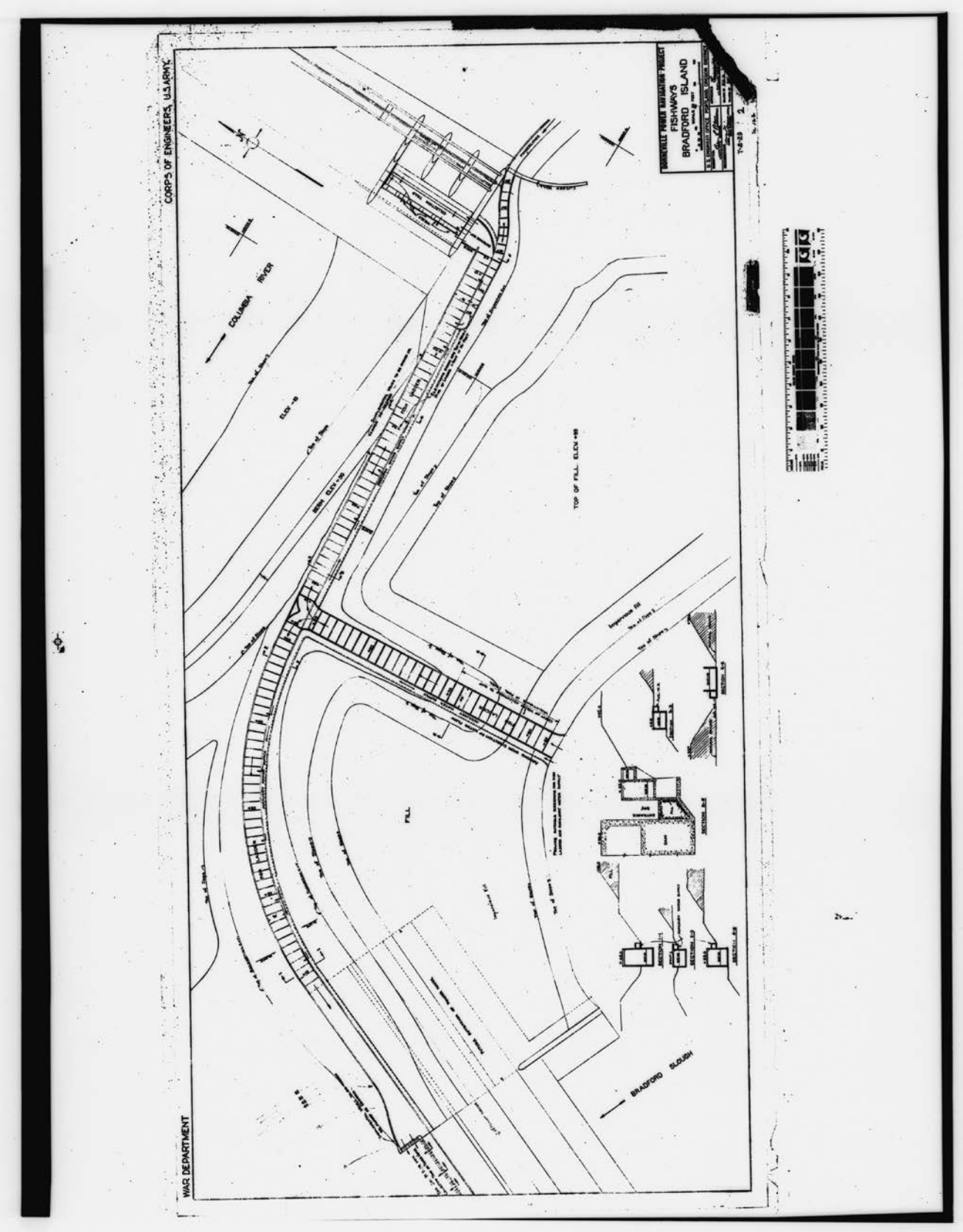

Figure 12. Photocopy of original construction drawing, date unknown (?1935). Note location of Bradford Island Fish Ladder and spillway elevations. (Photo OR-11-F-95, from *Historic American Engineering Record – Bonneville Project, Bonneville Dam HAER No. OR-11-F, Index to Photographs*).

BONNEVILLE DAM BRADFORD ISLAND B-BRANCH ADULT FISHWAY BANK EROSION PROJECT
MULTNOMAH COUNTY, OREGON
Revetment Toeslope/Spillway Sedimentation Debris Removal and Excavation Addendum – SHPO Case #16-1586

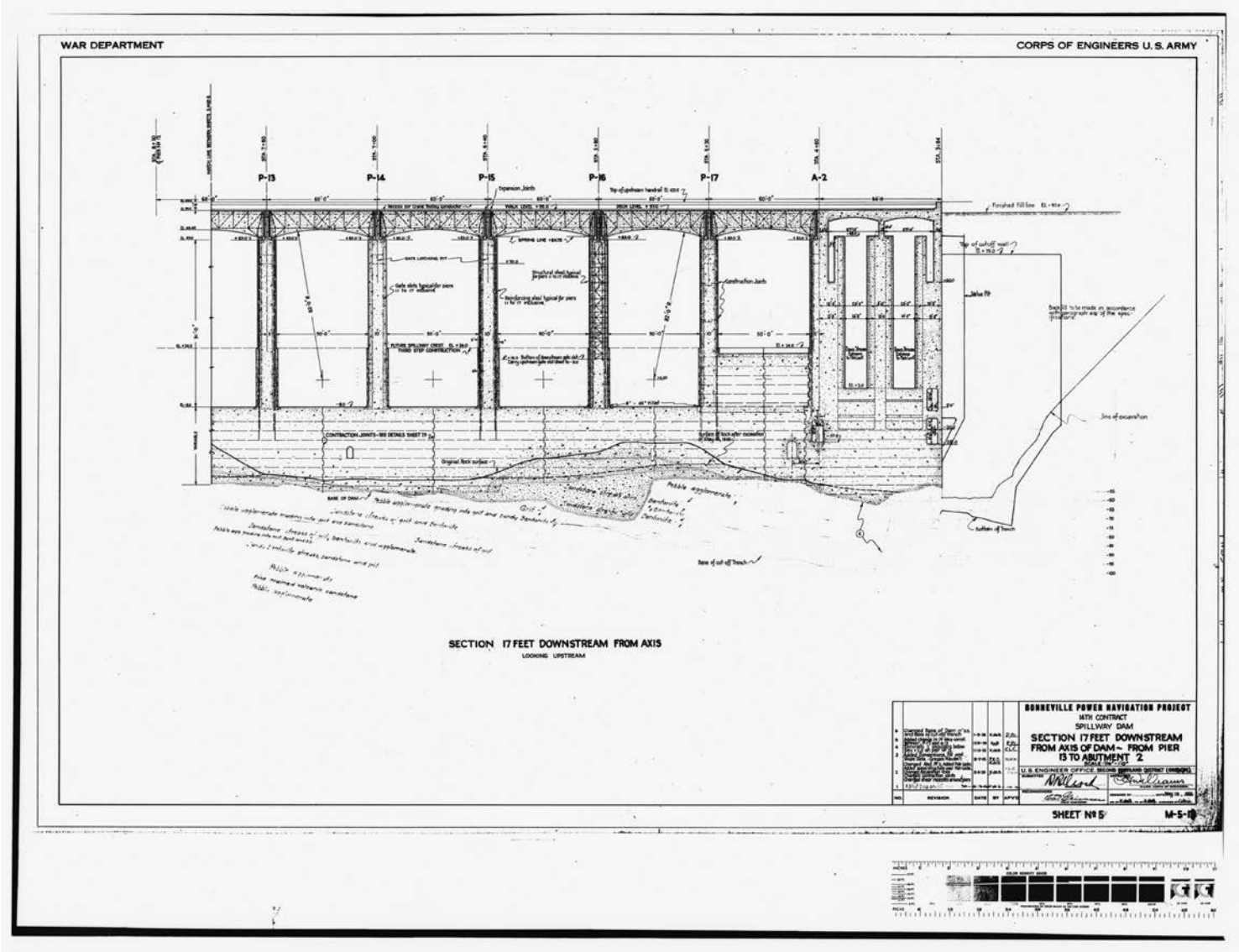

Figure 13. Photocopy of original construction drawing, 29 May 1935. Bradford Island Fish Ladder and slope are depicted at far right-center. Note "line of excavation" and "Bottom of Trench" notations along Bradford Island Fish Ladder's northern slope (far right-center). Drawing facing east (upstream). Original description is "Spillway Dam Section 17 feet downstream from axis of dam – from Pier 13 to Abutment 2". (Photo OR-11-F-121, from *Historic American Engineering Record – Bonneville Project, Bonneville Dam HAER No. OR-11-F, Index to Photographs*).

Oregon
Kate Brown, Governor

Parks and Recreation Department
State Historic Preservation Office
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Salem, OR 97301-1266
Phone (503) 986-0690
Fax (503) 986-0793
www.oregonheritage.org

September 20, 2016

Ms. Joyce Casey
USACE
PO Box 2946
Portland, OR 97208-2946

RE: SHPO Case No. 16-1586
COE/BPA, Bonneville Dam Bradford Island B-Branch Adult Fishway Bank Erosion Repair
Repair eroding riprap revetment/foundation
2N 7E 21, 22, Multnomah County

Dear Ms. Casey:

We have reviewed the materials submitted on the COE/BPA, Bonneville Dam Bradford Island B-Branch Adult Fishway Bank Erosion Repair project as referenced above, and we concur with the determination that the Bonneville Dam, including its associated fishways and hatchery, is listed in the National Register of Historic Places. We also concur with the finding of no adverse effect for the proposed project.

Unless there are changes to the project, this concludes the requirement for consultation with our office under Section 106 of the National Historic Preservation Act (per 36 CFR Part 800) for above-ground historic resources. Local regulations, if any, still apply and review under local ordinances may be required. Please feel free to contact me if you have any questions, comments or need additional assistance.

Sincerely,

Jessica Gabriel
Historian
(503) 986-0677
Jessica.Gabriel@oregon.gov

From:	GABRIEL Jessica * OPRD
To:	Mulligan, Daniel M NWP
Cc:	GRIFFIN Dennis * OPRD
Subject:	[EXTERNAL] RE: SHPO Case#16-1586 (Bonneville Bradford Island B-Branch Adult Fishway) - NEW CHANGES/ADDITIONAL INFORMATION
Date:	Wednesday, September 21, 2016 8:33:37 AM
Attachments:	SHPO Response Letter Case No. 16-1586.pdf

Hello Dan,
Thank you for compiling the additional information regarding the Bonneville Bradford Island B-Branch Adult Fishway Bank Erosion Project. Attached is the above-ground SHPO response for the project which serves as your file copy. If you have any questions, please feel free to contact me.

Thank you!
Jessica Gabriel
Historian

Oregon State Historic Preservation Office
725 Summer St NE, Suite C
Salem, OR 97301
503.986.0677

-----Original Message-----
From: Mulligan, Daniel M NWP [mailto:Daniel.M.Mulligan@usace.army.mil]
Sent: Tuesday, September 20, 2016 7:17 PM
To: CLEARANCE ORSHPO * OPRD
Cc: GRIFFIN Dennis * OPRD; GABRIEL Jessica * OPRD
Subject: SHPO Case#16-1586 (Bonneville Bradford Island B-Branch Adult Fishway) - NEW CHANGES/ADDITIONAL INFORMATION
Importance: High

Hello Dennis and Jessica,

Attached is the additional information regarding additional work that has recently been added to SHPO Case#16-1586. The additional work has been determined to have minimal to no potential to cause effects, and should cause no changes to the No Adverse Effect determination request that the Corps sent you on September 1, 2016. Please let me if you can still send a concurrence letter to the Corps by the end of September as Dennis and I discussed.

Thank you both ---

Sincerely,
--- Dan

Daniel M. Mulligan
Archaeologist/NAGPRA Coordinator
US Army Corps of Engineers, Portland District Environmental Resources Branch P.O. Box 2946 (CENWP-PM-E)
Portland, OR 97208-2946
(503) 808-4768 daniel.m.mulligan@usace.army.mil

-----Original Message-----
From: Mulligan, Daniel M NWP
Sent: Friday, September 16, 2016 5:14 PM
To: 'GRIFFIN Dennis * OPRD' <Dennis.Griffin@oregon.gov>; 'Jessica.Gabriel@oregon.gov' <Jessica.Gabriel@oregon.gov>
Subject: RE: SHPO Case#16-1586 (Bonneville Bradford Island B-Branch Adult Fishway) - NEW

CHANGES/ADDITIONAL INFORMATION to be forwarded

Hello Dennis and Jessica,
My apologies, but I won't be able to forward the additional information that I described below until Monday (9/19). I have come across additional information today that I would like to include to further illustrate the Corps' NPTE determination for the additional in-water/subsurface sediment-debris removal from the bottom of the heavily-disturbed stilling basin.

Thank you --- Dan

Daniel M. Mulligan
Archaeologist/NAGPRA Coordinator
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Portland, OR 97208-2946
(503) 808-4768 daniel.m.mulligan@usace.army.mil

-----Original Message-----
From: Mulligan, Daniel M NWP
Sent: Thursday, September 15, 2016 3:05 PM
To: 'GRIFFIN Dennis * OPRD' <Dennis.Griffin@oregon.gov>; 'Jessica.Gabriel@oregon.gov' <Jessica.Gabriel@oregon.gov>
Subject: SHPO Case#16-1586 (Bonneville Bradford Island B-Branch Adult Fishway) - NEW CHANGES/ADDITIONAL INFORMATION to be forwarded
Importance: High

Hello Dennis and Jessica,
Just a quick heads-up follow-up to our phone conversation this afternoon, Dennis. As an addition to the "No Adverse Effect" determination the Corps is requesting SHPO's concurrence with, I'll be emailing both of you some additional information tomorrow about what the Corps considers a "No Potential To Effect" undertaking in the spillway basin immediately north the rip rap revetment to be repaired (i.e. this is the subsurface, in-water work that we talked about and agreed would likely be a "NPTE" action, Dennis). The additional work is removal of sediment deposits and eroded rip rap material that has accumulated at the base of the rip rap revetment (20+' deep below the water surface); the location of the removal is the bottom of the stilling basin which was heavily excavated and completely reconfigured during Bonneville's construction, that's why that particular work is being determined as NPTE. Anyway, I'll send you both the full details tomorrow. In short, we're hoping you will still be able to send us your concurrence - as long as you agree with the overall revetment work "No Adverse" determination - within the next two weeks (before end of September).

Thank you! --- Dan

Daniel M. Mulligan
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Portland, OR 97208-2946
(503) 808-4768 daniel.m.mulligan@usace.army.mil

From: Mulligan, Daniel M NWP
To: "CTWS THPO R&C"
Subject: Re: Bonneville Dam Bradford Island B-Branch Adult Fishway Bank Erosion Project - USACE-Portland District
Date: Thursday, September 15, 2016 3:19:00 PM

Hello Maralee,

Thank you for comments, we'll definitely keep you and CTWSRO informed if anything unexpected is exposed during the planned repair work at Bonneville.

Sincerely,
--- Dan

Daniel M. Mulligan
Archaeologist/NAGPRA Coordinator
US Army Corps of Engineers, Portland District
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P.O. Box 2946 (CENWP-PM-E)
Portland, OR 97208-2946
(503) 808-4768 daniel.m.mulligan@usace.army.mil

-----Original Message-----
From: CTWS THPO R&C [mailto:THPO@ctwsbnr.org]
Sent: Thursday, September 15, 2016 2:52 PM
To: Mulligan, Daniel M NWP <Daniel.M.Mulligan@usace.army.mil>
Subject: [EXTERNAL] Re: Bonneville Dam Bradford Island B-Branch Adult Fishway Bank Erosion Project - USACE-Portland District

Good afternoon, Dan,

Thank you for the opportunity to review materials for the Bonneville Dam Bradford Island Fishway Bank Erosion Project in Multnomah County.

As the technical reviewer for the Tribal Historic Preservation Office, we have no known concerns with this project at this time as it appears that all work will consist of in-kind replacement and access and staging areas will not create any ground-disturbance. If during construction human remains, historic properties or cultural resources are observed, cease work and have the area evaluated by a qualified archeologist and notify this office.

Maralee Wernz, MA

Tribal Historic Preservation Office
Confederated Tribes of the Warm Springs
Reservation of Oregon
PO Box 460
Warm Springs, OR 97761
541.553.4921 / 541.553.3555
THPO@ctwsbnr.org <mailto:THPO@ctwsbnr.org>

The Confederated Tribes of the Warm Springs Reservation of Oregon have retained treaty-protected interest in the co-management of Ceded Lands, as well as Usual and Accustomed Lands, as set forth through the Treaty with the Middle Tribes of Oregon, 1855, and the “reserved rights doctrine”, U.S. v. Winans, 198 U.S. 371 [1905].

Find us on the web: Blockedhttps://wsgeov.com/

On Sep 1, 2016, at 6:38 PM, Mulligan, Daniel M NWP <Daniel.M.Mulligan@usace.army.mil <mailto:Daniel.M.Mulligan@usace.army.mil> > wrote:

Hello Roberta,

Attached is a .pdf copy of the consultation/concurrence request letter for the U.S. Army Corps of Engineers-Portland District's proposed "Bonneville Dam Bradford Island B-Branch Adult Fishway Bank Erosion Project" in Multnomah County, Oregon.

Please let us know if you have any questions or comments.

Hope you are well!

Sincerely --- Dan

Daniel M. Mulligan
Archaeologist/NAGPRA Coordinator
US Army Corps of Engineers, Portland District
Environmental Resources Branch
P.O. Box 2946 (CENWP-PM-E)
Portland, OR 97208-2946
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