

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM**

FOR FEDERAL PROPERTIES

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SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC

Bonneville Hatchery

Number of Contributing Resources: 2

AND/OR COMMON

Central Hatchery

Number of Non-Contributing Resources: 5

2 LOCATION

STREET & NUMBER

N/A

— NOT FOR PUBLICATION

CITY, TOWN

Bonneville

CONGRESSIONAL DISTRICT

STATE

Oregon

— VICINITY OF

CODE

41

COUNTY

Multnomah

CODE

51

3 CLASSIFICATION

CATEGORY

- DISTRICT
- BUILDING(S)
- STRUCTURE
- SITE
- OBJECT

OWNERSHIP

- PUBLIC
- PRIVATE
- BOTH

PUBLIC ACQUISITION

- N/A IN PROCESS
- N/A BEING CONSIDERED

STATUS

- OCCUPIED
- UNOCCUPIED
- WORK IN PROGRESS
- ACCESSIBLE**
- YES: RESTRICTED
- YES: UNRESTRICTED
- NO

PRESENT USE

- AGRICULTURE
- COMMERICAL
- EDUCATIONAL
- ENTERTAINMENT
- GOVERNMENT
- INDUSTRIAL
- MILITARY
- MUSEUM
- PARK
- PRIVATE RESIDENCE
- RELIGIOUS
- SCIENTIFIC
- TRANSPORTATION
- OTHER:

4 AGENCY

REGIONAL HEADQUARTERS: *(If applicable)*

U.S. Army Corps of Engineers, Portland District

STREET & NUMBER

319 SW Pine Street, P.O. Box 2946

CITY, TOWN

Portland

— VICINITY OF

STATE

Oregon 97208-2946

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE,

REGISTRY OF DEEDS, ETC. Multnomah County Courthouse

STREET & NUMBER

1021 SW Fourth Street

CITY, TOWN

Portland

STATE

Oregon 97204

6 REPRESENTATION IN EXISTING SURVEYS

TITLE The Bonneville Hatchery: A Historical Assessment for the Bonneville Navigation Lock Project

DATE

July, 1986

FEDERAL STATE COUNTY LOCAL

DEPOSITORY FOR

SURVEY RECORDS U.S. Army Corps of Engineers, Portland District

CITY, TOWN

Portland

STATE

Oregon

7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
<input type="checkbox"/> EXCELLENT	<input checked="" type="checkbox"/> DETERIORATED	<input type="checkbox"/> UNALTERED	<input checked="" type="checkbox"/> ORIGINAL SITE
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> RUINS	<input checked="" type="checkbox"/> ALTERED	<input type="checkbox"/> MOVED DATE <u>N/A</u>
<input type="checkbox"/> FAIR	<input type="checkbox"/> UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

In 1986 the "original hatchery facilities" at Bonneville contain structures, objects, and a landscape which date to the reconstruction of this site in 1935-36. The project area is a triangular tract of land constituting 9.2 acres in the eastern portion of the hatchery grounds, extending from the Union Pacific right-of-way on the south to the main entry corridor into the Bonneville administrative site and on the west is demarcated by the principal service road between the old facilities and the new complex of structures and rearing ponds (Batteries C and D) erected in 1974-75.

After the nomination of the Bonneville Dam Historic District to the National Register, additional research and documentation revealed that the old Bonneville Hatchery contained significant historic resources relating to the District. As a result, it is proposed that the historic Bonneville Hatchery be added to the District. The project area includes structures which are of historic significance (contributing features) as well as more recent features which do not contribute to the Historic District (Map 3).

A. Contributing Features

The two structures which contribute to the historic significance of the Bonneville Dam Historic District include (1) the incubation building (hatchery) and (2) the former office (now the gardener's building).

1. Incubation Building (Hatchery), Built 1936

This one and one-half story, rectangular, wood frame building measures 50 by 150 feet and is constructed in the Colonial Revival Style. This is also the architectural style of the auditorium and the administration building which are presently included in the Bonneville Dam Historic District. The incubation building is covered with beveled, cedar siding, ten-inch boards lapped for weather protection over shiplap walls. The building's north and south elevations are mirror images as are the east and west elevations. The building is rigidly symmetrical and has centered, double entry doors flanked by small closet lights. The wood doors are 2½ inches thick and are set in semi-elliptical openings. In the two principal incubation rooms (to the left and right of the entrances) are six large window bays. These bays contain twelve panes: the center four panes, mounted in a metal casement window, open on a swivel while the top and bottom tiers of panes remain fixed.

This building once possessed recessed, copper-lined gutters. The reroofing of the steep, gable roof in recent years has covered these

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gutters. It is anticipated that the gutters remain beneath the roof; the no-longer-functional downspouts are also in place. In the gable ends are pairs of six-pane, casement windows flanked by decorative wood shutters with cutouts in the shape of fish. The roof is broken in the center of the building by a prominent cross gable. In its upper half story, a view area into the incubation rooms, are six pairs of six-pane casement windows in both the north and south elevations. The attic is ventilated by a decorative louver in four gable ends. The shingle roof is surmounted by an octagonal cupola with decorative copper top surmounted by a fish weathervane and the capital letters of the cardinal directions. The eaves are boxed.

The interior of this building is finished in sheets of plywood. The structure has concrete floors and houses extensive incubation trays for hatching fish eggs. The large attic areas in this building are unfinished. The structure has a single brick flue which serves the furnace.

This structure, a handsome statement of the Colonial Revival Style, has had minor alterations. The viewing platform in the center of the building is currently enclosed in plywood, blocking a view into the incubation rooms. The east elevation of the building has dry rot in the main joists and wall materials at the concrete foundation. The weathervane is twisted and nonfunctional for indicating wind direction. The recessed gutters are covered, creating a situation where all the rain falling on the roof washes to the eaves and then pours down the exterior walls of the building, perhaps contributing to dry rot conditions at the base of those walls.

2. Office [Gardener's Building], Built 1936

This rectangular, one-story, wood frame building measures 14 x 32 feet. It faces south and has a short, projecting porch with supporting posts above its centered, main entry. The building has regular fenestration, primarily six-over-six, double hung, sash windows. It has two windows with three fixed upper panes and a lower, lifting sash containing six panes. These windows are located in the northeast corner of the building. The structure has a concrete foundation, ten-inch, lapped cedar siding over shiplap, and a steep gable roof covered with composition shingles. While this building may have once had recessed gutters, it presently has gutters on its north and south elevations. Its eaves are boxed and undecorated.

This former office is in good condition. The pairs of porch posts, however, are replacements not visually compatible with the style of the building.

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B. Non-contributing Features

The following features are within the old hatchery area but are either altered, resited, or of more recent construction. The two buildings are noncontributing, secondary features, lacking both (1) an integral function in the overall hatchery and (2) the Colonial Revival Style and wood finishes of the primary buildings in the old hatchery site.

1. Rest Room

This 25 by 25 feet concrete block building is situated between the former office and Battery B. The building has a low, gable roof covered with composition shingles. The building has a small, wood louver in its gable ends and has single pane windows. The building is painted white and is effectively concealed by landscaping materials. This rest room probably dates from the 1950s.

2. Shop-Garage Building

This one-story, concrete block building measures 60 x 25 feet. It has a gable roof covered with composition shingles and has three garage bays on its west (front) elevation. These bays are flanked on the north and the south by shop and storage rooms. The building has two-over-one casement windows. The building has gutters on its east and west elevations. The attic, lighted by windows in the gable ends, has wood louvers for ventilation. The building has a single brick chimney with terra cotta liner. An interior stairway leads to the attic. The garage bays are closed with metal doors. The buildings probably postdates 1950.

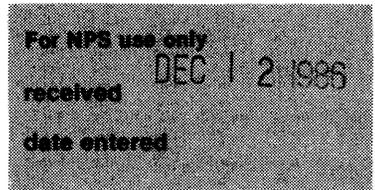
This building is in good condition and, though not compatible in style or exterior finishes with the Incubation Building and former Office, it is situated to the south of the main site complex and is screened from general view by vegetation in the public areas of the hatchery grounds.

3. Display Ponds

Three display ponds and an associated Settling Pond are located along the eastern margin of the old hatchery area. The display ponds were reconfigured out of part of the original rearing ponds and may date, largely in their shape and landscape, to the earliest years of the rearing program in the 1910s. The ponds are surrounded with rocks and plants indigenous to the Columbia Gorge. Two new kiosks which supply fish food for sale to visitors are situated in this area.

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Sturgeon, trout, and salmon are among the species displayed. Tourist traffic is very high in this part of the hatchery grounds. The paths surrounding the ponds are covered with blacktop.

4. Battery A [Rearing Ponds], Built 1954-55

This extensive set of concrete rearing ponds measures 460 by 100 feet and contains 22 units. It is located north of the Incubation Building. Excepting for superstructure (including such features as galvanized grates over water channels), providing access to the ponds for feeding, this unit remains very much as initially constructed in the 1930s. This battery is in good condition. Battery A is presently used for holding Chinook and Coho from January until releases in May when the fry have attained a size of approximately three inches. Each of the 22 ponds has a capacity of 300,000 fingerlings. The coho are held in these ponds from June until January and are usually 6 inches at release.

5. Battery B [Rearing Ponds], Built 1954-55

This set of concrete rearing ponds measures 165 x 80 feet and is located south of the Incubation Building. Historic photographs document that slight changes have occurred in the method of moving water through the sequence of ponds in this battery and in the pedestrian access across the top of the ponds for feeding. This battery is in good condition. Battery B is presently used from January until May for rearing Chinook. In November and December the ponds hold adult Chinook until spawning.

C. Former Associated Features

Scattered in the old hatchery grounds but outside the present project area are objects which date to earlier developments at this site. Because they have been removed from their original settings, they have technically lost their historic context. These features primarily serve a public relations purpose as they remain aesthetically pleasing and are of interest to the many visitors who view the hatchery site.

The most prominent of these objects are a handsome pair of rubblestone gateposts, each decorated with an inlaid bas relief of a carved salmon, which are now at the entrance to the hatchery parking lot. The Rotary Fountain, constructed of rubblestone, has been removed. The handsome sundial has been moved adjacent to the parking lot in the new hatchery area to the west. The original flagpole base

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was destroyed, and a short truncated one was reconstructed of the rubblestone in a rosebed adjacent to the Gardener's Cottage. Several other plaques and bas reliefs, commemorating the visit of Lewis and Clark and the establishment of the hatchery as well as bas reliefs in stone of a seine net fishing scene and the seal of the State of Oregon have been removed from the old hatchery area and are mounted in a new rubblestone wall near the railroad viaduct in the new hatchery area.

One other historic feature from the early 1910s remains in the old hatchery area. This is a set of wood crossbars and insulators in a tall fir tree to the east of the Garage. This feature was part of the distribution system from the original, water-powered electrical plant.

Because of the alteration, destruction, or resiting of these miscellaneous features, none still contribute to the feeling of the original landscape within the old hatchery area. While prominent, these features are, in a sense, isolated survivors of what was once a series of rubblestone landscape objects.

8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW			
<input type="checkbox"/> PREHISTORIC	<input type="checkbox"/> ARCHEOLOGY-PREHISTORIC	<input type="checkbox"/> COMMUNITY PLANNING	<input type="checkbox"/> LANDSCAPE ARCHITECTURE	<input type="checkbox"/> RELIGION
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> ARCHEOLOGY-HISTORIC	<input checked="" type="checkbox"/> CONSERVATION	<input type="checkbox"/> LAW	<input type="checkbox"/> SCIENCE
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> ECONOMICS	<input type="checkbox"/> LITERATURE	<input type="checkbox"/> SCULPTURE
<input type="checkbox"/> 1600-1699	<input checked="" type="checkbox"/> ARCHITECTURE	<input checked="" type="checkbox"/> EDUCATION	<input type="checkbox"/> MILITARY	<input type="checkbox"/> SOCIAL/HUMANITARIAN
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> ART	<input type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER
<input type="checkbox"/> 1800-1899	<input type="checkbox"/> COMMERCE	<input type="checkbox"/> EXPLORATION/SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input type="checkbox"/> TRANSPORTATION
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> COMMUNICATIONS	<input type="checkbox"/> INDUSTRY	<input checked="" type="checkbox"/> POLITICS/GOVERNMENT	<input type="checkbox"/> OTHER (SPECIFY)
		<input type="checkbox"/> INVENTION		

SPECIFIC DATES 1909-36

BUILDER/ARCHITECT Claussen and Claussen

STATEMENT OF SIGNIFICANCE

In 1909 the Oregon Legislature appropriated \$12,000, available on May 24, for the construction of a Central Hatchery on the Columbia River. "The matter of a location was thoroughly discussed by the Board," wrote the Master Fish Warden, "and I was instructed to investigate all streams tributary to the Columbia for the purpose." The Fish Warden, R. E. Clanton, accompanied by Henry O'Malley of the U.S. Bureau of Fisheries, examined Hood River, Eagle Creek, Tanner Creek, Plymton Creek, Big Creek, and Young's River in this reconnaissance. "After carefully considering the advantages of each stream" noted Clanton, "I decided to locate on Tanner Creek, at Bonneville due to its superior water and its close proximity to the Columbia River, which reduces the work of liberating the fry to a minimum" (Oregon Department of Fisheries 1911:22).

The project to select a site and build a state hatchery at Bonneville commenced in 1907 with the realization that the Oregon fishery in the Columbia River was steadily declining. H.G. Van Dusen, the Master Fish Warden, reported that year a decline of 17% in the harvest of Chinook, 39% in Silverside, 28% in Steelhead, and 68% in Bluebacks. "I have no figures from the State of Washington," he reported, "But I infer from close observation made, that the same conditions existed on both sides of the river, and that the entire river showed a general shortage with all varieties of salmon of about the same proportion" (Oregon Department of Fisheries 1908:5).

Van Dusen's anxiety in 1907 stemmed from a major downturn in the fish harvest from the preceding five years (Table 1). The catch mounted by nearly 7.8 million pounds between 1901 and 1903 and sustained a harvest of over 22 million pounds until the drop in 1907. Spelling out his concern, Van Dusen noted: "It is very plain to be seen that such a condition of affairs is alarming in the face of the extensive hatchery work that has been carried on since 1901, and the matter should be looked to and the wrongs corrected by our people before it is too late and this valuable food product is lost to us, and four or five thousand of our best and most loyal citizens lose their principal occupation" (Oregon Department of Fisheries 1908:6).

The State of Oregon had attempted at the turn of the twentieth century to tighten laws conserving the fishery resource. In 1901 the legislature created deadlines on all the coastal streams, closing them to commercial fishing several miles below the head of tidewater and permitting no fishing above that point except by hook and line. This regulation possessed a singular deficiency, however. It did not extend this regulation to the Columbia and thus the nation's greatest anadromous fish stream remained unregulated (Oregon Department of Fisheries 1908:6-7).

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Table 1. Pounds of Columbia River Fish (Oregon), 1901-1907.

Year	Chinook	Silverside	Steelhead	Blueback	Total
1901	13,181,318	1,284,526	1,702,033	267,558	16,725,495
1902	16,528,217	996,647	2,761,761	889,243	21,175,868
1903	20,601,939	1,007,444	2,666,375	299,470	24,575,228
1904	19,614,174	1,558,375	1,772,075	541,699	23,466,323
1905	20,768,977	478,119	2,797,218	380,997	24,425,291
1906	19,010,120	1,722,180	1,553,400	623,000	22,908,700
1907	15,798,116	1,045,516	1,112,000	196,102	18,151,741

Source: Oregon Department of Fisheries 1908:5

In efforts to sustain the Columbia River fishery, the Oregon Department of Fisheries established a major hatchery at Ontario on the Snake River and began salmon egg collecting programs at Ontario, the Grand Ronde, and the Willowa rivers. While these programs appeared, for a time, to stabilize the fishery, Fish Warden H.C. McAllister in 1907, presented his rationale for a special Columbia River hatchery:

I have had in mind for three or four years the matter of having a large central hatchery somewhere on the Columbia River below the cascades, where a considerable proportion of the salmon spawn collected at the different Columbia River hatcheries and egg collection stations could be taken and cared for in a set of hatchery buildings, and to enable the young fry raised therefrom to be kept and fed until they were good-sized fry or fingerlings before liberating them; and where a system of general experimental salmon fish culture could be carried on.

McAllister's purposes for such a hatchery were thus twofold: to experiment in artificial propagation of salmon and to collect salmon spawn at a central site for release of fry reared in ponds. His goal was to locate the Central Hatchery below the irrigation ditches, dams, and fishwheels which served as perilous obstacles to the fry released from the state hatcheries east of the Cascades. By establishing a major hatchery below those obstacles, he argued that the state could "insure the return to the sea of a greater percentage of all the young fish liberated" (Oregon Department of Fisheries 1908:30, 128-29).

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Once the Oregon Department of Fisheries had decided upon the Tanner Creek site, it had to secure access. The Oregon Railroad and Navigation Company owned the property in 1907. After several months of negotiation with J. P. O'Brien, the railroad's manager, the State of Oregon secured a lease contingent upon the provision demanded by the O.R.&N. Company: "The State hereby agrees that the location of the salmon fish hatchery and feeding station on the premises herein described, and the use of said premises for such purposes, shall in no way interfere with the fishing rights or privileges now exercised by the Navigation Company or its grantees or licensees, during the life of this lease, its extensions and renewals" (Oregon Fish Commission 1905-9:105-6, 109).

In July, 1908, the Fish Warden and a civil engineer visited the Tanner Creek site to plan the hatchery construction. The initial report was discouraging to the Fish Commission. The engineer reported that in order to secure an adequate water supply it would be necessary to construct a 24 inch pipeline for 2,700 feet, tapping the creek and diverting its flow into the hatchery grounds. The wooden line, the engineer estimated, would cost nearly \$5,000. Not having sufficient funds to proceed with a project that might run as much as \$15,000, the Fish Commission "decided to postpone any action until some later date" (Oregon Fish Commission 1905-9:135-36).

With the appropriation in the spring of 1909 for a Central Hatchery, the Fish Commission wrestled again with its choice of the right site. The Commission dispatched Ward McAllister to examine sites at Westport and Knappa, both of which he found unsuited. When the U. S. Fish Commissioner in Washington, D. C., advised that the hatchery be located as closely as possible to the natural spawning beds, the focus returned to Tanner Creek. "The Board duly considered the question from all sides," noted its secretary, "and feeling that the future welfare of the Salmon of the Columbia River depended upon the success of Centralizing the Hatcherywork, decided to locate at Bonneville or Hood River, leaving the selection to the Master Fish Warden" (Oregon Fish Commission 1905-09:177-78).

In July, 1909, McAllister advertised bids for construction of the Central Hatchery. The responses were as follows:

C. A. Gray & Co.	\$4,998.00
J. B. Tillotson	\$4,892.50
E. E. Angell	\$4,415.00
J. J. Richardson & Son	\$4,998.00

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Angell's low bid gained him the project and by August he was underway to erect the main incubation building, 55' 4" wide by 109' long. The contract included building 168 hatching troughs, each measuring 15' 8" long (Oregon Fish Commission 1905-09:183; Oregon Department of Fisheries 1908:30). The expenditures proceeded steadily. By September 7, 1909, the disbursements included \$5,990.14 for labor and supplies. The Commission purchased \$1,004.52 of lumber from the Standard Box Lumber Company, \$1,089.59 in materials for the diversion pipe from the Portland Wood Pipe Company, and miscellaneous amounts from other suppliers of materials. Seventeen to twenty workmen labored on the project during the summer of 1909 (Oregon Fish Commission 1901-11:178, 182, 186-87, 190).

The steady work of Angell and his crew enabled Warden McAllister to report on November 2, 1909, that the Central Hatchery was completed (Figure II-1) and that it could be opened to the public on November 15. The Fish Commission, pleased with this progress, extended an invitation to "every Canneryman, Packer, and Fish Dealer in the State," to attend the formal opening of the hatchery (Oregon Fish Commission 1905-09:194).

As 1909 drew to a close, H. C. McAllister, the Master Fish Warden, wrote optimistically about the accomplishments: "The Central Hatchery, made possible by the generosity of the last legislature, has been completed, with an egg capacity of 60,000,000. . .and is, I firmly believe, the largest and most modern hatchery in the world." McAllister confidently asserted that the salmon industry in Oregon had regained the "same high plane it occupied years ago." The enactments of the legislature and the hatchery program helped insure, in his view, "future generations the salmon their forefathers enjoyed" (State of Oregon 1909:466-68).

One of the unique features of the Central Hatchery, a factor which weighed in the consideration of its site, was its proximity to the railroad. In 1909 the Master Fish Warden worked out an agreement with the interests of Averill Harriman, principal owner of the rail lines in Oregon, that every time a messenger employed by the Oregon Department of Fisheries traveled on a first class ticket, the railroad offered free transportation in its baggage cars of any young fish in cans or fish eggs in crates. "This has helped very materially in moving the eggs from various points in the State to the Central Hatchery at Bonneville," McAllister concluded (Oregon Department of Fisheries 1911:6). Even more important was the building of the "Rainbow," a special car for carrying fish cans that for many years delivered the

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fry from Bonneville to other hatcheries or release points in Oregon. In June, 1915, for example, the "Rainbow" was loaded with 125,000 Rainbow trout and 75,000 Eastern Brook trout. Its destination was less than a mile east--the feeding ponds at Eagle Creek. The presence of the railroad made such movement of fish feasible (Clanton 1915c, 1915d).

One of the initial deficiencies in the Central Hatchery was its lack of electrical lighting. In 1909 the Master Fish Warden recommended the purchase of materials for the construction of an electric lighting plant to provide 50 sixteen candle lights. He also proposed moving the heating plant--engines, boilers, pumps, and pipes--from the Ontario Hatchery to Bonneville. The advent of the new facility spelled the end for the formerly important hatchery operations at Ontario on the Snake River. The Warden's concern was genuine. The Central Hatchery, situated in an area of extremely cold winters, was heated only by two large stoves, an insufficient source in Gorge weather conditions (Oregon Department of Fisheries 1911:8).

Among the finishing projects at the Central Hatchery were filling, fencing, and landscaping the site, especially around the buildings and ponds. This work, the Master Fish Warden said, "will make the station one of the show places of the State, and with the advertising which the railroad company has promised, it will attract the attention of thousands of our citizens." The goal beyond fish rearing was to use the Central Hatchery as a major means of public education about fish conservation and the integral role this resource played in the state's economy (Oregon Department of Fisheries 1911:24).

By 1910 the Central Hatchery had settled into its key role in the fisheries enhancement program in Oregon. During the fall and winter of 1909 this facility received 16,059,450 Chinook eggs. In spite of losses of eggs and fry in excess of 850,000, the hatchery staff was able to incubate and release an estimated 15.2 million fry into Tanner Creek or at nearby points along the Columbia. In the fall of 1910 the Central Hatchery began receiving new supplies of eggs: 2.1 million from the McKenzie River; 1.8 million from the Wallowa River; 232,000 from the Salmon River in Idaho; 2.5 million from the Umpqua; 600,000 early Chinook and 3.4 million late Chinook eggs from the U.S. Bureau of Fisheries. These combined sources meant that the hatchery employees had 10.7 million eggs to care for as well as 1.5 million Sockeye salmon eggs from Yes Bay Hatchery in Alaska. To cope with these rearing responsibilities, the staff worked hard to construct rearing ponds where they could feed the fry until their release into the Columbia (Oregon Department of Fisheries 1911:16-17).

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Pond rearing of salmon fry was first proposed in 1904 when, in spite of the release of millions of incubated fish, the returns did not increase. "When fish have been held (for short periods only) at some of the State hatcheries in years past," wrote Clanton, "it has only been upon a very limited scale--the number of fish held and fed being very small in proportion to the number hatched. . . ." H.C. McAllister was a proponent of a pond program but lacked funds to try this type of rearing. In 1910, however, Warden Clanton went to the cannerymen and packers along the Columbia to solicit their assistance and secured contributions of \$1,500. Using these funds, Clanton had the crews at the Central Hatchery construct three ponds, each 100 feet by 20 feet and three feet deep. "Upon completion of these ponds a substantial start was made toward the establishment of a practical system of propagation work at this station," concluded Clanton (Oregon Department of Fisheries 1913:13-14).

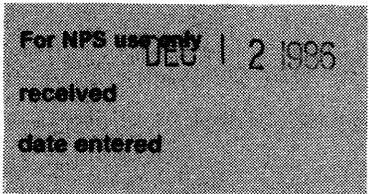
The ponds at Bonneville functioned so successfully that the Fish Warden proposed in 1911 that all hatcheries in Oregon construct rearing ponds. The pond system at the Central Hatchery was expanded steadily so that by the end of the year fifteen large ponds held the fry. The crews constructed a new flume to carry water from Tanner Creek to flush these rearing facilities. The Fish Warden contracted with the Warren Packing Company to purchase 10.5 tons of smelt from the Cowlitz River for the bargain sum of \$8.75 a ton. The smelt, processed in a meat grinder at Bonneville, became the primary food for the fry, except when eels could be secured from fishermen at the Willamette Falls in Oregon City (Oregon Department of Fisheries 1913:16-17). Four years later the steamer Tahoma delivered 30-35 boxes of smelt a week on Tuesday, Thursday, and Saturday to feed the fry (Wilson 1915b; Clanton 1915a, 1915b).

The Oregon hatcheries released in 1921 a total of 50,828,232 fry. The Central Hatchery incubated and reared more than 20% of all the fish artificially produced in the State (Table II-4; Figure II-5) and may have supplied stock for the releases at Herman Creek located to the east. The Herman Creek releases were in excess of five million fry (Oregon Fish Commission 1923:14-15).

By 1933 the Fish Commission realized that major changes were needed at the Bonneville Central Hatchery. Over the preceding 24 years, small appropriations had contributed to a slowly evolving hatchery facility. The main buildings--hatchery and residences--were in deteriorating condition. The constant flow of water through the facilities as well as the rugged winter conditions in the Gorge had taken their toll.

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More importantly the Army Corps of Engineers was moving ahead on the anticipated construction of Bonneville Dam, a project which raised questions of rights-of-way, access, fish passage, and the impacts of the work on the hatchery site. In addition, a group of Clatsop County fisheries men, primarily cannery owners and shippers, known as the "Bonneville Dam Committee," wanted to work with the Fish Commission on advising the Corps on the fishways or screens for inclusion in the new dam (Oregon Fish Commission 1928-38:121).

Corps investigations of the Cascades area had commenced with charting the river and drilling for geological information in the 1870s and the 1880s in conjunction with work on the Cascades Canal and Locks. The Bonneville project began, however, to take shape with field investigations in 1930 (Army Corps of Engineers 1937:3). Although the Corps examined sites between the mouth of the Sandy River and the upper Cascades, its principal focus was at the Lower Cascades near the head of the tidewater on the Columbia. By 1933 Bonny Rock, a portion of bedrock, and the lower end of Bradford Island, beckoned as one of the prime sites. "The rock forms a low mass extending along the shore of the channel on the south side of Bradford Island southward, and passes under the valley wall," noted Edwin T. Hodge. "It forms an excellent abutment for a dam," he concluded (Hodge 1932:38).

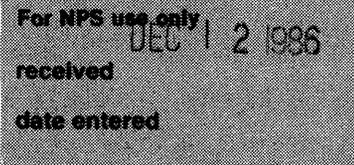
The location of the Central Hatchery, commonly known in the 1930s as the State Fish Hatchery or the Bonneville Hatchery, posed special challenges in the midst of the massive construction project which emerged at Bonneville in 1933. Congress authorized the Bonneville Project that year and appropriated \$31,000,000 for the Corps of Engineers to administer in the building of the dam, powerhouse, and related facilities.

Of critical concern to the State of Oregon was the Columbia River fishery. Never before had a major dam spanned a key salmon producing stream at tidewater. "It was at once realized, and frankly admitted" noted the Oregon Fish Commission, "that the great Columbia River salmon runs, and indirectly the industry itself, would be seriously menaced unless proper and adequate provisions were made for the passage of adult salmon upstream to their spawning areas and for passing seaward migrants downstream over this barrier" (Oregon Fish Commission 1934: 12-13).

In November, 1933, fishermen, packers, Oregon, Washington, and Idaho fish commissioners, and the U.S. Bureau of Fisheries joined to establish an eleven member committee to work with and advise the Corps of Engineers on the fisheries issues at Bonneville. The principal concern of this committee was to find the best options for assisting

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the fish in passing over, through, or around the dam (Oregon Fish Commission 1934:12-13). At this time, efforts focused on assisting the natural fish populations to cope with the hydroelectric dam, rather than emphasizing artificial propagation and stocking. In 1937, the Commissioner of Fisheries had observed that "at best [artificial propagation] is only a supplement for natural spawning" (Commissioner of Fisheries 1937:60). As a result, although a hatchery program was an element in the fish conservation program for Bonneville Dam at the time of its construction, it did not play as large a role as it would in later years.

The construction of the dam interfered with the continued operation of the Bonneville Hatchery by the State of Oregon, leading to its eventual acquisition by the federal government. The hatchery lay immediately adjacent to the construction workers' camp on the east, while to the south the projected new route for the railroad was to pass along Tanner Creek and over ponds and other facilities. The Oregon Fish Commission, which in March, 1934, suspended all licenses for set nets in the Bonneville area because of the construction, confronted the rapidly developing problems in its May meeting. Chairman John C. Veatch reported that the Corps needed part of the hatchery site and that he had asked Hugh C. Mitchell, the Director of the Department of Fish Culture, to prepare estimates "for the replacement of all properties at Bonneville." Veatch also proposed that the State of Oregon transfer its hatchery lands to the federal government "for a sufficient consideration to cover the costs of the replacements and new buildings." C.A. Leinenweber, and R.S. Farrell, also commissioners, joined Veatch in endorsing this proposal (Oregon Fish Commission 1928-38:129, 135).

On October 11, 1934, the Fish Commission received Mitchell's report on the Bonneville Hatchery. Mitchell recommended that the state dispose of its lands between Tyrrell's Tavern on the Columbia River Highway (lots 1, 2, 3) and "a certain parcel of land which due to the relocation of the Union Pacific Railroad by the U. S. Engineers as a result of the Bonneville project, was of no further value." The commissioners approved of the condemnation and disposal of these tracts, offering them for sale to the highest bidder on October 31 (Oregon Fish Commission 1928-38:143). These four acres, a strip 150' by 480' along the east boundary of the hatchery property near Tyrrell's Tavern, passed to the Corps for the new access road from the Columbia River Highway into the administrative headquarters at Bonneville. Within a short time the commissioners conveyed an additional 2.5 acres along the northern boundary of the hatchery site as well (Oregon Fish Commission 1934:14).

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Even though the Commission disposed of part of its lands, the presence of the hatchery and its ongoing functions shaped the railroad relocation. Where the simplest and least expensive solution to the right-of-way realignment would have been a fill, the hatchery buildings and ponds stood in the way. Engineers estimated the fill would require at least a corridor 250 feet wide, whereas a viaduct needed but 75 feet. Thus the Corps of Engineers projected a 900-foot-long, double track, earth-filled, spandrel arch viaduct. The Fish Commission agreed to dispose of this land and work commenced on the viaduct by Birkemeier and Saremal, subcontractors, in early October, 1934 (Anonymous n.d.: Tanner Creek Viaduct).

The impact of these events, the taking of nearly 10 acres of land, was keenly sensed by the Oregon Fish Commission. "It is not possible, without complete and detailed knowledge of the Commission's facilities at that point," wrote the commissioners, "to accurately visualize and fully comprehend to what degree the whole scheme has confined hatchery operations and necessitated rearranging and adjusting facilities not permanently abandoned." The various Corps projects and the moving of the railroad required the removal of the feed room (where fish food was processed), cold storage plant, ponds 14 and 17, three residences, and the replacement of the flume and two major pipe lines (12" and 24") from Tanner Creek. Because the viaduct would block the hatchery entrance, the Corps proposed that the hatchery be reoriented 180 degrees and open for access via the Bonneville administrative grounds from the north; the former entrance was projected as the "rear or back-door to the hatchery" (Oregon Fish Commission 1934:15).

To come to terms with these alterations, the Fish Commission secured the architectural firm of Claussen & Claussen of Portland, Oregon, to draw plans for a new cold storage facility, utility building housing the feed room, garage, shop, and store room, a cottage, and a modern hatchery building "to be located in a more scenic and commanding setting in the grove facing the residential district of the Bonneville Dam project." The Commission envisioned razing the original incubation building and constructing new rearing ponds. The overall goal was to make maximum use of the reduced land base, maintain or increase the propagation of fish--all the more critical an enterprise because of the nearby dam--and build a new hatchery complex which would be "favorably looked upon as a neighboring institution by those responsible for the Bonneville project." The Oregon Fish Commission was determined to create a salmon hatchery, the "efficiency, capacity and beauty of which is unsurpassed in the United States, and of which the Fish Commission and the State of Oregon may well feel proud" (Oregon Fish Commission 1934:15-16).

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Claussen & Claussen (sometimes listed as Clausen & Clausen) were Portland architects working between 1912 and 1935, primarily in urban designs. A dozen of their buildings were inventoried by the Planning Department of the City of Portland in the 1980's. Their work was, at best, ordinary. They specialized in Streetcar Era Style apartments, though at least two were rendered in the California Mission Style and the English Cottage Style. The most noteworthy of this firm's designs was for the Guardian Building (presently the Buyer's building), a 12-story structure erected in 1929 in the Chicago School Style (Bureau of Planning, City of Portland 1984; Clark 1983:108-9).

In 1935 construction commenced on the new hatchery facilities at Bonneville. The project was ambitious and involved a totally new configuration of the site. The original rearing ponds, situated at the base of the hillside immediately east of Tanner Creek and due north of the new railroad viaduct, were targeted for filling. The plan was to abandon several of these ponds. The three farthest to the northeast were retained and rebuilt as new display ponds. The old display ponds, situated in what by 1986 was the visitors' parking lot, were also slated for filling.

Phase I of the project commenced on February 19, 1935, with the awarding of bids for the new residential compound and the plumbing contract at Bonneville. The firm of Johnson & Pederson gained the construction award with a bid of \$5,827. The plumbing contract, \$777.00, went to J. M. Harder (Oregon Fish Commission 1928-38:153). The construction involved building a dwelling, a cottage and a two bay garage with similar stylistic finishes (Corps of Engineers 1974:Sheet 6; Oregon Fish Commission 1936:24). On September 17, 1935, the Commission contracted with the Parelus Construction Company, Inc., for \$14,484.00 to build the new hatchery facilities at Bonneville.

The new construction was finished by 1936. In its annual report for that year the Fish Commission noted that the dwelling and cottage were completed and in use for nearly a year. The utility building, cold storage plant, and new hatchery, described as "of distinct and pleasing architectural design" were also in service. The hatchery building was first used in the fall of 1936 with the installation of 120 cedar troughs, connected to the new filtered water supply. The final phase of the project was the building of an office with laboratory and storeroom for records. This project was nearly completed in 1936 (Oregon Fish Commission 1936:25).

The reconstruction of the Bonneville hatchery increased its capacity by an estimated 3,000,000 fingerlings. This was accomplished through the construction of ponds later identified as Batteries B and C.

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The Battery C complex, the last built, consisted of six ponds, 8 feet by 80 feet, each 3 feet deep. Battery C occupied the site of the former incubation building erected in 1909. The improvements also included a new 18-inch, stave wood pipe running for 2,250 feet from the diversion dam on Tanner Creek to a distributing pond constructed with cement walls and screens. A fifty-four feet deep well and pump, with both electrical and backup gas power, was prepared for emergency use. Additionally crews in 1936 cleared the grounds, installed electrical service, cribbed the waterline along Tanner Creek, blasted and removed obstacles in the creek, razed the old power house, removed debris, reroofed remaining buildings, painted all structures, and worked on the landscaping (Oregon Fish Commission 1936:25).

The routine at the new Bonneville hatchery was very much like that in the former facilities. The crews collected eggs, including those shipped to the hatchery from other locations, incubated the fish, transferred the fry to the rearing ponds, fed the fry, and eventually released the fish or shipped them to other release points. As in the past, the station was subjected to winter storms of wind, ice, and snow, and to periodic flooding. The worst of these floods was the 1948 freshet which destroyed Vanport near the confluence of the Willamette and Columbia rivers miles downstream. This flood poured into the cold storage plant, overflowed the ponds, and carried off the Silver Salmon fingerlings. This species, making its first appreciable return in 1946, was in a delayed holding cycle of 14 months. The flood required repair of equipment and cleaning of the ponds. This was also the occasion for laying the concrete floor in the garage and shop. In 1948 the Bonneville hatchery maintained two tanker trucks for hauling fry to release points or to distant rearing ponds (Oregon Fish Commission 1947:8; 1948:8).

Steadily in the 1940s and 1950s, the Corps of Engineers and the Bureau of Reclamation planned and built a number of dams in the Columbia watershed. The projects were of multiple purposes: flood control, manufacture of hydroelectric power, improvement of navigation, irrigation, and public works. Despite the conservation programs initiated with the construction of Bonneville Dam, these facilities proved to take a heavy toll of the fisheries resources as they converted the Columbia from a free-flowing stream into a series of massive lakes or reservoirs.

Before the construction of Bonneville Dam, the plight of the salmon runs had been seriously considered by the federal government as well as by the State of Oregon and private industry. The Commissioner of Fisheries had stressed the need to mitigate the effects of dam construction on the fish runs in its 1937 report to Congress.

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A major effort to protect the fish runs focused on providing fish passage facilities for Bonneville Dam. It was headed in 1933 by a committee of private industry and state representatives working with the U.S. Bureau of Fisheries and the Corps of Engineers to resolve the fisheries issues at Bonneville. The principal concern of this committee was to find the best option for fishways—gravity or lift-type—to assist the fish in gaining passage over the dam (Oregon Fish Commission 1934:12-13). The resulting solution included fish ladders, hydraulic fish lifts, and a novel collection system (Willingham 1983:195-196).

Fish biologists also tried to address the problem of the downstream migration of fingerlings in advance. Before construction of the dam, most researchers believed that a majority of the fingerlings could pass through the turbines or the spillway gates. Bypasses were also provided in the dam to allow fish to drop in stages from the dam pool to the river below. Time proved, however, that the upstream fish passage was more successful than the downstream passage. At least 15% of the migrating fish were killed at Bonneville Dam by various injuries. As more dams were built along the Columbia River, opposition by fishery interests and fish biologists grew to the existing fish passage programs at Bonneville and other dams. It soon became clear that fish passage structures alone could not mitigate the problems caused by the hydroelectric dams (Willingham 1983:197, 199ff).

In response to the inadequacies of the fish passage program, the Corps accelerated its hatchery program in 1949. The hatchery program at Bonneville Dam, acquired by federal government during dam construction, had been posed as a partial solution to the possibility of damage to the salmon fisheries in 1937 (Commissioner of Fisheries 1937:65), but the hatchery was not viewed as a major solution to the fish decline until after 1949. Even at that time, the benefits of a hatchery effort were still not fully proven (Smith 1979:79). From 1949 on, however, the Corps of Engineers assumed a major role in developing the hatchery mitigation program (Willingham 1983:199).

As a result of the increased efforts of the hatchery mitigation program, research has solved many problems of salmon propagation and management. One of the research milestones was the development of the Oregon Moist Pellet which inoculates juvenile salmon against disease using feed. Before the introduction of the Oregon Pellet in 1959, tuberculosis had been an increasing problem in the Columbia hatcheries, steadily increasing mortality rates (Smith 1979:79). Other researchers worked to increase the survival and return rate of the hatchery fish and to implant new runs on previously non-supporting drainages (Netboy 1980:106-114; Willingham 1983:199). Today, the tasks accomplished by hatcheries are many and varied, including fish tagging and population

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studies, control of parasites and disease, incubation and growth studies, water pollution, and rearing operations (Bell 1986:133ff).

Part of the new and continued emphasis on the Corps hatchery program included a major construction phase of new facilities at the Bonneville Hatchery, constructed to the west of the old complex and west of Tanner Creek. Funded as part of the John Day Lock and Dam project, the new facilities at Bonneville were planned in 1974 and constructed in 1974-75. The mid-1970s construction project preserved the 1935 incubation building, office building, and batteries A and B (redesigned and constructed anew in 1954-55). It also preserved two concrete block buildings, a public restroom and a three-bay service garage, both constructed in the early 1950s (but not architecturally compatible with the earlier major buildings). It razed, however, Battery C, Garage No. 1, House No. 2, Garage No. 2, House No. 3, Garage No. 3, the Freezer Building, and the Shop Building. The Upper Holding Pond, the old rearing ponds, and the old display ponds were all slated for filling and covering with landscaping, parking lots, or new facilities.

This project involved relocating several landscape features constructed in the 1930s. Workmen removed the plaques from the flagpole base and the Lewis and Clark monument and relocated them in a new wall. They moved the sundial across the site to a location adjacent to the public parking lot.

The new hatchery facilities included new Batteries C and D, a Spawning Building, offices, Mechanical Building, Upper and Lower Holding ponds, new residences, enlarged parking facilities, and alterations in the access and service roads. The new hatchery buildings, unlike those constructed of wood in the Colonial Revival Style in the 1930s, were largely concrete, flat-roofed, functional structures calculated to endure the weather conditions and the rigors of constant exposure to water in a hatchery setting (Corps of Engineers 1974:Sheet 8). This project cost an estimated \$8,000,000 and brought the hatchery to a new capacity of handling 34,000,000 eggs each year with rearing facilities for 19,000,000 Chinook and 2,000,000 coho salmon.

The old hatchery area at Bonneville remains intact and is eligible for incorporation into the Bonneville Dam Historic District which was recently placed on the National Register of Historic Places. The site has two primary contributing features:

1. Incubation Building
2. Office (Gardener's) Building

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It has two marginally compatible structures, less than 50 years old, not meriting inclusion even as secondary buildings. These non-contributing structures are the rest room and the shop-garage buildings, and Batteries A and B. The display ponds, while utilizing parts of the original rearing ponds, are of uncertain historical quality. Several original landscape features from the 1930s have been removed from their original context and moved outside the project area; as a result, none retains an integrity of site and function. While the grounds possess several tall firs, the configuration of walks, paved access roads, and plantings of shrubbery and flower beds has changed so frequently since the 1930s that the landscaping is not a significant feature.

The four features in the old hatchery area which contribute to the eligibility of the nomination meet the following criteria:

1. Architecture. The Incubation Building and the Office (Gardener's) Building are good examples of the Colonial Revival Style, reflecting an ideal common in federal and state government projects in the 1930's. These buildings were architecturally compatible with the nearby residential complex in the government town, Bonneville, Oregon, including the auditorium and administration building which are still standing. Although slightly altered, they are buildings which their original designers and builders could readily recognize.

2. Conservation. These buildings are physical remains from the most ambitious fish propagation program in Oregon and on the world's foremost salmon-producing stream, the Columbia. These buildings are the second of what is now a three-generation construction effort to build the most modern physical structures and technology to the artificial propagation of anadromous fish.

3. Education. Since its establishment as a hatchery in 1909, the facilities at Bonneville have played the leading role in fisheries education in Oregon for the general public. To the present, this site has interpretive signing and encourages visitation of school groups and the general public. Nearby Bonneville Dam is the most frequently visited site in Oregon, with the Bonneville Hatchery attracting many of the visitors. In 1974 there were about 300,000 visitors at the hatchery alone; it is estimated that the minimum annual cost-benefit to these visitors was \$125,000 (Cleaver 1977:90).

4. Government. This site, although it began as a State of Oregon endeavor, has had nearly constant impact by the federal government since 1933. The Bonneville Hatchery is now owned and managed by the Corps of Engineers, and as such the hatchery receives a substantial financial subsidy from the federal government. The hatchery at Bonneville represents a merger of state and federal efforts to maintain

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the runs of anadromous fish in the Pacific Northwest. At the same time, governing units have authorized and exercised the overseeing of projects such as dams which have had a major impact on the fisheries of the Columbia River and its tributaries.

The old hatchery complex should be nominated to the National Register of Historic Places for inclusion within the Bonneville Dam Historic District. Any future renovations to the buildings and facilities in this area of the hatchery site should be undertaken only with the commitment to preserve or restore the historic and architectural integrity of these features. The Incubation Building, in particular, presently needs restoration and stabilization. This work can be done in ways which will preserve and restore the features of this architecturally significant building.

Since 1910 the Bonneville Hatchery has played a key role in the propagation of salmon in the Pacific Northwest. Heralded as the largest hatchery in the world at the time of its construction (Oregon Department of Fisheries 1911:22), this facility has retained that reputation as it has evolved over the decades. This setting was the location of the successful experiments in pond rearing of fry prior to release. It has continued throughout its existence to be a major tourist mecca and singular location for the education of the general public about the value of the fishing industry to the state and the labor in artificial fish propagation. The Bonneville Hatchery, in its older section, retains structures which are in excess of 50 years old and which meet the criteria for nomination of that segment of the project site to the National Register.

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Beginning at a point just to the west of the project entryway, the district boundary parallels the roadway and runs north along the fenceline which separates the hatchery operation from the project grounds. After 450 feet, the boundary turns slightly to a north-northwesterly direction and continues for another 450 feet. At this point the boundary heads in a general northeasterly direction as it crosses the hatchery access road and continues for 1,350 feet while making two very slight angular changes. The boundary lies just south of and parallel to Mitchell's Ditch which once served as a fish-passage facility. At this point the boundary proceeds due north for 2,100 feet across the navigation lock's downstream approach and by the regulating out let of the powerhouse. The line continues across Bradford Island in a northeasterly direction for 1,500 feet towards the dam. The boundary then continues northward for 700 feet across the front of the dam spillway. After turning at a right angle, proceed westerly within the Columbia River for 300 feet, then northerly for 370 feet onto Cascade Island. The boundary runs easterly for 1,200 feet just north of the fish ladder facility, then south for 700 feet into the Columbia River. Proceed for 300 feet within the river towards the west, then south for 1,350 feet onto Bradford Island just west of the visitor center. The boundary continues westward for 1,350 feet south of the dam. Near the northeast corner of the powerhouse, the boundary proceeds for 1,200 feet to the south across the Columbia River. At a right angle, the line turns to the east for 1,300 feet paralleling the Oregon shoreline and upstream approach to the navigation lock. Turn again at a right angle to the south and proceed for 370 feet onto the Oregon shoreline. Once again turn at a right angle to the west and continue for 1,650 feet on a line parallel to and south of the navigation lock. Proceed in a south-westerly direction for 750 feet, then southeasterly for 250 feet until meeting the base of the railroad embankment. Continue in a south-southwesterly direction on a slightly curved line for 1,800 feet along the base of the railroad embankment (which coincides with the project boundary) until finally reaching the original starting point.