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HISTORIC AMERICAN ENGINEERING RECORD

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Columbia Basin Project
Grand Coulee
Grant County
Washington

HAER No. WA-139

Jet Lowe, HAER Photographer, May 1996
Note: Negatives copied from photographs

WA-139-1 Panoramic view from bluff south of Grand Coulee Dam; this segment of the panorama shows Franklin D. Roosevelt Lake, looking northeast.

WA-139-2 Panoramic view from bluff south of Grand Coulee Dam; this segment of the panorama shows the westernmost extend of Franklin D. Roosevelt Lake and part of Grand Coulee Dam, looking north.

WA-139-3 Panoramic view from bluff south of Grand Coulee Dam; this segment of the panorama shows Crescent Bay Lake (in the foreground), the southern limits of the town of Grand Coulee, and Grand Coulee Dam, looking north.

WA-139-4 Panoramic view from bluff south of Grand Coulee Dam; this segment of the panorama shows the western end of Crescent Bay Lake (in the foreground), the western limits of the town of Grand Coulee, part of Grand Coulee's transformer yard (center in the distance), and the concrete-lined feeder canal that extends to Banks Lake, looking northwest.

WA-139-5 Panoramic view from bluff south of Grand Coulee Dam; this segment of the panorama shows the terminus of the concrete-lined feeder canal and entrance to Banks Lake at the head of the Grand Coulee. The southernmost limits of the town of Grand Coulee are seen in the middle.

WA-139-6 Panoramic view from bluff south of Grand Coulee Dam; this segment of the panorama shows the terminus of the concrete-lined feeder canal and entrance to Banks Lake at the head of the Grand Coulee. Note the earthen embankment at the easternmost section of Banks Lake, looking northwest.

WA-139-7 Panoramic view from bluff south of Grand Coulee Dam; this segment of the panorama shows Banks Lake and part of Electric City, looking west.

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ADDENDUM TO: HAER WA-139
COLUMBIA BASIN PROJECT
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Photographs no. HAER WA-139-1 through HAER WA-139-7 were previously transmitted to the Library of Congress. The original prints of the historic photographs seen in HAER WA-139 -8 through HAER WA-138-44 are held at the Denver Federal Records Center, Broomfield, Colorado. The original prints of the historic photographs seen in HAER WA-139-45 through HAER WA-139-58 are held at the Grand Coulee Power Office, Grand Coulee Dam, Washington.

WA-139-8	Photographic copy of photograph, photographer unknown, July 1935. "Drillers at work on east abutment."
WA-139-9	Photographic copy of photograph, photographer unknown, September 1935. "The heavy timber struts between the sheet steel walls in section 'F'. Excavation to bedrock, 60 feet deep, is going on below these struts."
WA-139-10	Photographic copy of photograph, photographer unknown, September 1935. "Suspension bridge for transporting sand and gravel to the west side mixing plant. The two spans shown here are each 1437 feet long -- total length of the bridge 3,500 feet. This belt is 36 inches wide and will deliver 700 tons per hour."

WA-139-11 Photographic copy of photograph, photographer unknown, September 1935. "General view of contractor's sand and gravel plant. Electric shovels will load directly into hopper on farther end of the 200' conveyor boom, discharging to a conveyor on top of the trestle shown at the top of the picture and which in turn discharges to a raw stock pipe directly below; a 60" belt in a tunnel under this stock pile carries this material to the scalping screens and crusher in the house directly in the center of the picture where plus 6" rock is reduced to the sizes required...; from this point to two conveyors in tunnels under the balancing pile transport the sand and gravel to the screening and washing plant which built in duplicate; the aggregate is then classified, drained of surplus water and placed in stock piles some 6,000' upstream near the east end of the dam. On the hillside is shown the surge tank at the end of the 16" water supply line from pup 690' below on the Columbia River. The dump in the foreground is the beginning of waste pile."

WA-139-12 Photographic copy of photograph, photographer unknown, September 1935. "The building to the right is the crusher plant from which the conveyor runs to the balancing pile over the two tunnels carrying conveyors to the top floor of the screen house where it is washed, screened and classified and then delivered to stock piles. Below the crusher plant is a 100,000 gallon water supply surge tank and below that are the two 3.6 million gallon clarifier tanks; between the clarifier units is the 130,000 gallon equalizer tank, to the left of which is the sludge pumping plant. The straight line running to the river is the 16-inch water supply pipe. The airport can be seen in the distance."

WA-139-13 Photographic copy of photograph, B.D. Glaha, photographer, September 1935. "Bird's eye view of Grand Coulee Wash., boom town near Grand Coulee Dam."

WA-139-14 Photographic copy of photograph, photographer unknown, November 1935. "Heavy timber bracing which spans the special box type steel structure in block 40. This bracing forms a strut between two steel sheet pile walls 80' apart, average depth of wall 60'."

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WA-139-15	Photographic copy of photograph, K.S. Brown, photographer, 28 January 1936. "A general view of the west side showing concrete plant and placing trestles. Block 40 is shown in the foreground where a whirley crane is handling a 4-yard bucket of concrete."
WA-139-16	Photographic copy of photograph, K.S. Brown, photographer, 3 February 1936. "A general view of the east side showing the cofferdam and exposed rock on the abutment."
WA-139-17	Photographic copy of photograph, photographer unknown, 29 April 1936. "A general view of the area between blocks 31 and 40, showing concrete poured in block 40 to elev. 965-970 and the timber crib tie-in structure completed to elev. 951."
WA-139-18	Photographic copy of photograph, K.S. Brown, photographer, 26 May 1936. "Formwork and pipe arrangement for a 42-inch diameter cooling shaft. Cooling of the concrete is accomplished by pumping water through a network of one-inch pipes, laid horizontally across every block, at each 5-ft. lift. The irregular layout of pipes shown converging at the center will eventually be connected to a system of main feeder pipes, located in the vertical shaft."
WA-139-19	Photographic copy of photograph, photographer unknown, 26 August 1936. "General view of government camp and Mason City with the sand and gravel plant in the rear."

WA-139-20 Photographic copy of photograph, K.S. Brown, photographer, 2 December 1936. "The entire dam site, viewed from the upstream side. Description left to right: on the extreme left are shown benches cut in rock for pumping plant foundations; below the placing trestle is shown the status of concrete work one year after the first concrete was poured, concrete placed amounting to 1,700,000 cubic yards; the full diversion channel is shown with excavation and pile extracting equipment working on removal of cofferdam section 'C', upstream, and section 'H', downstream; a full view of the upstream cross-river cofferdam appears on the right where a timber crib is being maneuvered into position by cables, and near the center of the picture, where stream is rising, is the downstream cross-river cofferdam and a short distance above are two foundation cribs ready for placement. East side concrete placing trestles are shown extending out a distance of about 300 feet from the abutment."

WA-139-21 Photographic copy of photograph, K.S. Brown, photographer, 24 April 1937. "Filling in progress below the ice dam. The dam has served its usefulness and is soon to be dismantled."

WA-139-22 Photographic copy of photograph, K.S. Brown, photographer, 6 October 1937. "A second mechanical screed being placed in position preparatory to finishing off a bucket section block."

WA-139-23 Photographic copy of photograph, K.S. Brown, photographer, 9 March 1938. "Looking westerly over the dam from above the right tailrace slopes, showing the downstream face, with the river flowing through the low blocks of the spillway section."

WA-139-24 Photographic copy of photograph, K.S. Brown, photographer, 10 May 1938. "The men responsible for the completion of the dam. Left to right, F.A. Banks, Construction Engineer, USBR; C.P. Bedford, General Superintendent, CBI; E.F. Kaiser, General Manager, CBI; A.F. Darland, Field Engineer, USBR."

WA-139-25 Photographic copy of photograph, K.S. Brown, photographer, 6 February 1939. "Diversion gate almost in position for lowering to shut off flow of water through one of the diversion slots."

WA-139-26	Photographic copy of photograph, F.B. Pomeroy, photographer, 27 March 1939. "Panorama of damsite looking west, showing, left to right, dam, pumping plant excavation, Government and contractor's shop areas, aggregate stock piles (center foreground), Coulee Dam (Engineer's town), and Mason City (Contractor's town)."
WA-139-27	Photographic copy of photograph, H.C.R., photographer, 30 October 1939. "Looking southwesterly over dam and right powerhouse section from above right tailrace area."
WA-139-28	Photographic copy of photograph, F.B. Pomeroy, photographer, 6 November 1939. "Close-up view of steam-heating plant ('Iron Duke') used by contractor to protect concrete during cold weather."
WA-139-29	Photographic copy of photograph, F.B. Pomeroy, photographer, 12 January 1940. "Outlet works gates in place, ready to be concreted in when concrete placing is resumed in spring."
WA-139-30	Photographic copy of photograph, H.C.R., photographer, 29 July 1940. "General view of the back side of the pumping plant structure showing the bulkheaded ends of the 14-foot diameter pump inlet pipes and the steel reinforcement dowels which are for future construction."
WA-139-31	Photographic copy of photograph, H.C.R., photographer, 2 August 1940. "The first cars drive along a completed portion of the roadway atop the Grand Coulee Dam, now rapidly nearing completion in central Washington. The 30-foot-wide roadway now stretches 700 feet along the dam's crest. As additional blocks reach their ultimate elevation 550 feet above lowest bedrock, the roadway will be lengthened until, by 1942, when it is opened to the public, it will span the Columbia River, reaching 4300 feet from abutment to abutment."

WA-139-32	Photographic copy of photograph, photographer unknown, 8 October 1940. "A part of the spiral casing for one of the Grand Coulee Dam's power turbines. The casing weighs 291 tons, and is the largest steel casing casting ever attempted. Before shipment to the dam in special cars, it was sectionalized into 14 parts. Work on the first of the dam's main generating units has just begun. By March of 1942, three huge generators will be in operation."
WA-139-33	Photographic copy of photograph, photographer unknown, December 1940. "A skin plate is hoisted into position during the structural steel erection of a spillway drum gate."
WA-139-34	Photographic copy of photograph, photographer unknown, 7 January 1941. "A section of the scroll case for a 150,000-horsepower hydraulic turbine is lowered into position."
WA-139-35	Photographic copy of photograph, photographer unknown, 25 June 1941. "Erection of steel transformer portal frames on transformer deck of left powerhouse."
WA-139-36	Photographic copy of photograph, photographer unknown, 6 August 1941. "General view of Grand Coulee Dam with Government Camp in right foreground."
WA-139-37	Photographic copy of photograph, photographer unknown, 31 October 1941. "Rotor for unit L-2 generator being lowered into position, left powerhouse."
WA-139-38	Photographic copy of photograph, photographer unknown, 14 January 1942. "Winter at Grand Coulee Dam causes little interference with construction of right powerhouse transformer deck."
WA-139-39	Photographic copy of photograph, photographer unknown, 11 February 1942. "Bays LY-1 to LY-8 in the 230-kv. Left switchyard. The relay house appears in the left foreground, and the steel tower in the center is the last tower of the Bonneville-Grand Coulee 230-kv. Line No. 1."

WA-139-40 Photographic copy of photograph, photographer unknown, 26 May 1942. "Breaking a hole in Axis' front line is figuratively what breaking through this wall of the Grand Coulee Dam power house may signify. It is through it that a steel elbow will be laid to carry water from the 18-foot penstock, at the left, to the turbines of one of the two new Shasta Dam generators, installation of which will be rushed to increase the production of planes, ships, guns and explosives. The alteration was necessary because the design of the 75,000-kilowatt California units differs from that of Grand Coulee's 108,000-kilowatt machines. Transfer of the two generators was judged to be the best method of quickly increasing the output at the dam, already sending a huge load of energy to many Pacific Northwest war industries. Crane cables are being lowered to lift out a large section of concrete."

WA-139-41 Photographic copy of photograph, photographer unknown, 3 April 1943. "Assembly building at Grand Coulee Dam nearing completion. Located a short distance from the west abutment of the dam, this building will be used to receive heavy incoming equipment and machinery, and as a place of assembly for same."

WA-139-42 Photographic copy of photograph, photographer unknown, 24 August 1943. "One to sixty hydraulic model of Grand Coulee Dam. This view taken from the right tailrace bank shows the spillway section, left abutment sections of the dam and the channel lining immediately downstream from the dam."

WA-139-43 Photographic copy of photograph, Art Bauman, photographer, 30 April 1946. "View of pumping plant. One whirley crane under construction on wing dam and one completed."

WA-139-44 Photographic copy of photograph, H.W. Fuller, photographer, 3 June 1949. "This photograph was taken from the east abutment and looks to the northwest across the Right 230-kv Switchyard. Erection of the 'C' line towers was in progress when this picture was taken. Other members of the steel bus structure, columns and beams, have been pre-assembled and can be seen on the ground throughout the yard awaiting erection. In the left center of the photograph near the Service Building, the contractor's crews are busy embedding in concrete some of the conduit in trenches. The work is being performed by Morrison-Knudsen Company, Inc. And Peter Kiewit Sons' Company, contractors under Specifications No. 2075, Contract 12r-17902. Grand Coulee Dam, Columbia Basin Project, Washington."

WA-139-45 Photographic copy of photograph, H.S. Holmes, photographer, 27 June 1968. "Discussing the architectural design of the Third Powerplant and surrounding area from left are: Mr. Hamilton Smith, Marcel Breuer Associates, New York; Mr. Kenneth Brooks, Spokane Architect; Mr. Harold Arthur, Denver USBR Office; Mr. Otis Peterson, Assistant to the Commissioner-Information, Washington, D.C.; and Mr. Marcel Breuer, Architect, New York."

WA-139-46 Photographic copy of photograph, H.S. Holmes, photographer, 8 October 1968. "Aerial view southeastward of Forebay Cut. Marina Way Berm (on backslope) is at elevation 1310±, as is top of dam; airtrack drills are working at elevation 1240±; power shovels are working at elevation 1200±. Spec. DC-6590 Contractor Green Construction Company."

WA-139-47 Photographic copy of photograph, Bob Isom, photographer, 28 January 1970. "Grand Coulee Dam Third Powerplant Construction Office Administration Building will be open for business on February 2, 1970. Landscaping of the grounds and the hill side [sic] behind the building will be accomplished the summer of 1970. Contr. George A. Grant, Inc."

WA-139-48 Photographic copy of photograph, Roderick, photographer, 27 February 1971. "Bringing section of penstock down tracks in penstock slot."

WA-139-49 Photographic copy of photograph, Bob Isom, photographer, 9 July 1971. "Grand Coulee Dam Third Powerplant construction area as seen from Crown Point, with a little help of a telephoto lens. Penstock steel has been placed in four of the six penstock slots. One section of the Turbine Erection Bay (the concrete nearest the right powerplant) has reached the service area level. Contr. Vinnell-Dravo-Lockheed-Mannix."

WA-139-50 Photographic copy of photograph, Bob Isom, photographer, 27 July 1971. "Aerial view of Industrial Area with dam and towns in background; looking northeast."

WA-139-51 Photographic copy of photograph, H.S. Holmes, photographer, 19 November 1971. "View showing station 11+09± general view of arch, end of concrete. Specs. No. DC-6810 Contr. Vinnell-Dravo-Lockheed-Mannix (Subcontractor Kemper Const. Co.)."

WA-139-52 Photographic copy of photograph, Bob Isom, photographer, 2 March 1972. "Lifting beam used to pick exterior form for Super Structure [sic]. Specs. No. DC-6790 Contr. Vinnell-Dravo-Lockheed-Mannix."

WA-139-53	Photographic copy of photograph, H.S. Holmes, photographer, 3 March 1972. "Larry Bateman, Project Supervisor for Scott-Buttner Corp., the contractor for installation of the Pump/Turbines at the Grand Coulee Dam Pumping Plant, looks down on some of the scroll case and turbine parts to be installed. Bateman has worked on other Bureau of Reclamation Powerplant projects at San Louis and Dos Amigos in California and Flaming Gorge in Utah, so is no stranger to the type of work involved at Grand Coulee Dam. He comes to Grand Coulee after 3½ years at the Robert S. Kerr Lock and Dam in Oklahoma. In the background may be seen a dust barrier being constructed between the existing pumps and the new Pump/Turbines to separate the work area and protect the present motors and pumps. The new Pump/Turbines will be used to pump water up into Banks Lake and then by reversing the flow of the waters, become turbines to generate power for peak power demands. Specs. No. DC-6909 Contractor Scott-Buttner."
WA-139-54	Photographic copy of photograph, Bob Isom, photographer, 5 March 1973. "Siphon breakers."
WA-139-55	Photographic copy of photograph, H.S. Holmes, photographer, 12 December 1973. "Traveling crane in Third Power Plant."
WA-139-56	Photographic copy of photograph, H.S. Holmes, photographer, 28 August 1974. "Aerial view looking east Tailrace, Powerhouse, Penstocks and Forebay Dam. Specs. No. DC-6790 Contr. Vinnell-Dravo-Lockheed-Mannix."
WA-139-57	Photographic copy of photograph, Bob Isom, photographer, 15 November 1976. "Generator Erection Bay -- Unit 22 Rotor Steel Stacking."
WA-139-58	Photographic copy of photograph, Bob Isom, photographer, 16 May 1977. "Visitor Arrival Center construction progress installation of precast concrete roof and wall panels. Spec. No. DC -1173 Contr. R. Redding Construction Co., Inc."