

SEATTLE DISTRICT, CORPS OF ENGINEERS
Technical Liaison Office
MUtual 2-2700 Ext 371
1519 Alaskan Way South
Seattle, Washington 98134

FACT SHEET
March 1, 1967

Libby Dam Contract (Bid Opening March 1, 1967)

Involved in the Libby Dam construction contract will be the concrete gravity-type dam containing approximately 3,900,000 cubic yards of concrete, two spillway gates, three sluice gates, two powerhouse intake gates, steel penstocks, trash racks, a concrete stilling basin, tailrace channel 4,200 feet long, 280 acres of clearing, two earth-fill cofferdams, and other embankments containing 3,500,000 cubic yards of earth and rock fill.

Also in this contract is a Great Northern Railway shoofly (detour, or temporary unit), about 3,200 feet of single-line track, and Montana State Highway No. 37 unit 3A from Kootenai River bridge to the dam, about three miles, surfaced. The dam work will include about 5,280,000 cubic yards of excavation; the highway work will involve 60 acres of clearing, 600,000 cubic yards of excavation, 600,000 cubic yards of embankment, drainage structures and crushed-gravel surfacing. Length of this contract is 2,190 calendar days.

Libby Dam height will be 420 feet above bedrock and 2,900 feet long at the crest. The powerhouse for eight 105,000-kilowatt generating units (four in the initial installation), will be constructed adjacent to the dam's downstream face, but by a later and separate contract.

Total Federal investment for the project was estimated at \$352,000,000 at 1966 prices.

Filling of the reservoir, or lake, behind Libby Dam is scheduled to begin in the Spring 1972; first power on the line is scheduled for 1973; and the total project completion is listed for 1974.

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FEATURE STORY
June 19, 1967

Army Engineers Provide Special Facilities for Salmon at Lower Monumental Dam:

The annual summer run of salmon destined for upper Snake River tributaries are getting a special helping hand by the Army Engineers this year. The help, at Lower Monumental Dam near Kahlotus, is in the form of an emergency fish ladder and a rubber-lined chute.

It's all necessary because a higher-than-normal runoff was predicted for the Snake River this spring and the Lock gates at Lower Monumental project were opened to allow river flow to pass through the lock chambers. This additional discharge capacity reduces the chance that the second stage cofferdam will be overtopped during the flood period.

However, high flow passing through the lock chambers creates a barrier for upstream migrating salmon. Without the special facilities the fish would be attracted to the lower end of the lock. From there they would be unable to pass upstream through the lock because of high water velocities.

Overtopping of the cofferdam would have presented other complications, too. Upstream-bound salmon could have been trapped within the cofferdam. The one-year delay resulting from overtopping would also cause problems with the temporary fish facilities at Little Goose Dam, under construction by the Army Engineers about 30 miles upstream. The temporary fish passage facilities at Little Goose are dependent on the Lower Monumental pool being raised on

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schedule. Therefore, a schedule delay at Lower Monumental could also have affected the Little Goose schedule.

The special emergency facilities are to help assure that the fish reach their destination and that construction remains as close to schedule as possible.

Professor Milo C. Bell, Professor, School of Fisheries, University of Washington and well-known engineering Consultant on fishery engineering matters is being retained by the Seattle District. He assisted in planning of the special fish facilities. With Mr. Bell's assistance, and in co-ordination with State and Federal fish agencies, it was decided that stoplogs would be placed on the lower end of the lock to create a fish barrier.

Fish trapped below the lock are attracted to the temporary ladder where they traverse the ladder to a large tank at the top of the lock wall. From here, the fish are attracted into a rubber-lined chute, made of canvas, which will take them 96 feet across the lock approach channel where they'll drop into the river just downstream of the south shore fishway.

The fish are then attracted into the temporary south shore fishway and can make their way upstream through the dam.

Fish facilities have been an important consideration throughout the planning and construction of Lower Monumental Dam. When completed, the dam will have two permanent fish ladders. One will be located between the spillway and navigation lock on the south shore and the other will be near the powerhouse on the north shore. An extensive fish collection system is being built along the powerhouse as an integral part of the north shore ladder.

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During construction, two temporary facilities have been in use. On the south shore a temporary ladder connects the permanent fishway to the forebay. A fish tramway, - consisting of a short fish ladder, a holding pool, two cylindrical tanks and buckets, and an overhead tramway, - is in use at the north shore cofferdam. The fish are collected in the buckets and moved by the overhead tramway to the forebay where they are released. The tramway is scheduled to be removed this summer - along with the second stage cofferdam. It will be replaced by a temporary ladder on the north shore, for the remainder of the construction period.

Most of the annual run of spring Chinook salmon destined for the Upper Snake River tributaries have passed the project prior to high flows, while fish passage conditions at Lower Monumental was reasonably favorable. However, the run of summer Chinook salmon is now passing the project. Numbers of summer Chinook have been critically low for about three years and no commercial or sport fishing has been permitted for this reason. Emergency passage facilities presently being used at Lower Monumental Dam will help assure that this important run reaches its destination.

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NEWS
July 11, 1967

Upper Columbia River Navigation Report Goes to Division:

The Corps of Engineers' report on Upper Columbia River Navigation has been forwarded to the North Pacific Division Engineer in Portland, for review, it was reported today by Colonel C. C. Holbrook, Seattle District Engineer.

For the past three years the Seattle District has been studying a proposal to extend navigation from McNary Dam Pool, near the Tri-Cities area, to Wenatchee. This study was ordered by the committee on Public Works of the U. S. Senate.

The economic findings and the District Engineer's recommendation will be made available to the public upon completion of the Division Engineer's review. At that time, the Division Engineer will issue a public notice giving interested parties the opportunity to review the report and furnish any comment they desire. These comments will be included in the record prior to the submittal to Congress.

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N E W S
August 18, 1967

Corps of Engineers Change-Of-Command Due About September 2nd:

Colonel Richard E. McConnell has arrived in Seattle and will assume the post of Seattle District Engineer, Army Corps of Engineers, on September 2nd. Colonel Charles C. Holbrook, present District Engineer, will depart that date for his new assignment as Engineer for the U. S. Military Assistance Command, Thailand.

Colonel McConnell served in Vietnam the past year as Commander of the 159th Engineering Group (Construction). He was born in Cliffside Park, New Jersey and commissioned in the Army Corps of Engineers in 1945 after graduation from the United States Military Academy at West Point. He holds a masters degree in Engineering Management from New York University and a master's degree in International Relations from George Washington University, Washington, D. C.

Colonel Holbrook has served as District Engineer in Seattle since August 1964. During that period the annual construction placements doubled and Water Resources Planning tripled.

Some 360-million dollars worth of construction was started during the period. These civil works projects - all scheduled for completion by 1973 - will provide flood control, power and other public benefits to the Pacific Northwest.

Most notable of the construction starts in this period is the Libby Dam Project on the Kootenai River in Northwest Montana. It will provide almost 5-million acre feet of usable flood control storage to protect downstream areas from frequent flooding, while providing power and a large recreational reservoir.

Helping to plan for the area's water resources needs of the future has been an important part of Colonel Holbrook's Seattle assignment. In a study which

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began in 1964 the Seattle District is cooperating with some 30 other State and Federal Agencies to determine the water resources needs of the Puget Sound area until the year 2000 and beyond. This is known as the Puget Sound and Adjacent Waters Study. The District is also contributing to the Columbia-North Pacific Study, a comprehensive resources study which encompasses most of the Pacific Northwest. In addition many smaller congressionally authorized studies and projects have been undertaken during this period.

In March of this year a new flood-plain management service was established to aid Federal, State and local Governmental agencies in making decisions on the wise use of flood plains. This service - part of a nationwide program initiated by the President - is designed to accelerate efforts for gathering and disseminating flood plain information.

In addition to this large program of civil works projects, Colonel Holbrook has been responsible for Army and Air Force military construction projects in the four northwest states.

During his assignment in Seattle, Colonel Holbrook has been active in community affairs. He was President of the Seattle Chapter of the Society of American Military Engineers and Vice Chairman of the Community Projects Committee of the American Society of Civil Engineers. Colonel Holbrook, a registered professional engineer in the State of Washington and the District of Columbia, is a member of the Washington State Professional Engineers. He is a graduate of the University of Maryland and holds Masters degrees in International Affairs and Engineering Administration from George Washington University, Washington, D. C. During his Seattle assignment, he served one term as vice chairman of the Seattle Federal Executive Board and was a vestryman and a Lay Reader at Saint Paul's Episcopal Church.

Colonel Holbrook's wife, Jane, and their son will accompany him during his two year Thailand assignment, residing in Bangkok.

Colonel McConnell and his wife, the former Lyn G. Hartley, of Baker, Oregon, and their son Richard are residing in Seattle.

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FOR RELEASE AT NOON, December 12, 1967

SUNNYSIDE, WASH. -- The extension of navigation on the Columbia River above the McNary pool to Wenatchee is NOT dependent on construction of Ben Franklin Dam, the Sunnyside Chamber of Commerce was told today by Colonel R. E. McConnell, Seattle District Engineer, Corps of Engineers. Colonel McConnell told the luncheon audience that "if the navigation project can be proved economically feasible and if Congress sees fit to authorize and provide funds for its construction, approximately four to six years would be required to complete detailed designs and award the first construction contract."

"Seattle District, Corps of Engineers, is currently conducting an economic and engineering study of the proposed 125-mile navigation extension," Colonel McConnell said.

"The plan of improvement being considered for the 125 mile reach of the Columbia includes locks at Priest Rapids, Wanapum and Rock Island Dams and an open navigation channel 57 miles long between the head of McNary pool and Priest Rapids dam.

"The feasibility of constructing Ben Franklin Dam is being investigated under separate authorization," he said. "If and when this dam is authorized for construction, improvements for extension of barge navigation beyond Ben Franklin Dam will require a lock at this site."

"The District's studies to date indicate that the navigation extension is apparently economically justified -- that is, savings and other benefits will exceed the cost."

Colonel McConnell explained, however, that he is not able, at this time, to release details of the study regarding commodity tonnages or movements and similar economic findings. He said economists at both the North Pacific Division in Portland and Office of the Chief of Engineers in Washington, D. C., would review the study before acceptance. The economic findings and other report details will be available following the review by the North Pacific Division, which will be made in consultation with specialists at the Washington, D. C. level. At that time, the Division Engineer will issue a public notice, giving interested parties an opportunity to review the report and to furnish further comments for inclusion in the record prior to submittal to Congress.

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FOR P.M.'S RELEASE MAY 10, 1968

A public hearing on the proposed Ben Franklin Lock and Dam on the Columbia River near Richland, Washington, will be held the evening of June 11.

Colonel Richard E. McConnell, Seattle District Engineer, Corps of Engineers, said the hearing will get underway at 7 p.m. in the auditorium of the Richland Federal Office Building. All interested parties are invited to be present or represented and will be given full opportunity to express their views on the proposed project. Oral statements will be heard, but for accuracy of the record, all facts and arguments should be presented in writing.

The proposed project, if built, would be the last on the main stem of the Columbia. The dam would consist of a powerhouse section with 16 generating units having a total rated capacity of 848,000 kilowatts, a 15 bay concrete spillway and earthfill sections connecting to the abutments on each side of the river. A fish ladder would be provided on each side. Normal headwater would be 400 feet above mean sea level giving a nominal gross head of 59 feet.

Recreational facilities would be included in the project and a navigation lock would be provided on the east side of the river if extension of navigation on the Upper Columbia is authorized. The lock, which would match other Columbia and Snake River locks above Bonneville Lock and Dam, would be 86 feet wide and 675 feet long and have a 59 foot lift. Estimated cost of the project is \$281 million.

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NOTE TO EDITORS: A copy of the notice of Public Hearing and Information Bulletin on the project are inclosed.



DEPARTMENT OF THE ARMY
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SEATTLE, WASHINGTON 98134

IN REPLY REFER TO

NPSEN-PL-R

8 May 1968

NOTICE OF PUBLIC HEARING

BEN FRANKLIN LOCK AND DAM
RICHLAND, WASHINGTON

Pursuant to a resolution adopted 28 May 1959 by the Committee on Public Works of the United States Senate, the District Engineer has been directed to:

"***review the report of the Chief of Engineers on the Columbia River and Tributaries, Northwestern United States, published as House Document Numbered 531, Eighty-first Congress, Second Session, with a view to determining whether any modification of the existing project within the reach of the Columbia River between McNary Reservoir and Priest Rapids Dam is advisable at this time, with particular reference to construction of a multiple-purpose dam and reservoir at the Ben Franklin site for navigation, hydroelectric power development, and allied purposes."

In order that our report may fully cover views on the proposed project, a public hearing will be held in the auditorium of the Federal Office Building, Richland, Washington, on 11 June 1968 at 7:00 p.m.

The proposed project would provide for a powerhouse containing 16 generating units with a total rated capacity of 848,000 kw, a 15-bay spillway, earth-fill dams connecting to the abutments on each side, and a fish ladder on each side of the river. Normal headwater would be 400 and low-flow tail-water 341 feet above mean sea level, giving a nominal gross head of 59 feet. Recreation facilities would be provided. A navigation lock would be included if extension of navigation on the Upper Columbia is authorized. The attached bulletin gives further details on the plan of development and its accomplishments.

All interested parties are invited to be present or represented at the above time and place, including representatives of Federal, State, county, and municipal agencies, and those of commercial, industrial, civic, highway, railroad, water transportation, water quality, fish and wildlife, recreation and power interests, and property owners concerned. They will

be afforded full opportunity to express their views concerning the character and extent of the improvement desired and the need for and advisability of its construction.

All interests are urged to present pertinent, factual material bearing upon the general plan of improvement and to submit detailed supporting data on the economic justification of the undertaking. Opposing interests, if any, are also urged to state the reasons for their position.

Oral statements will be heard, but, for accuracy of the record, all important facts and arguments should be submitted in writing, as a record of the hearing will be forwarded to the Chief of Engineers for consideration. In general, oral presentation should summarize any extensive written material so there will be time for all interested parties to be heard. Written statements may be handed to me at the hearing or mailed to me prior to the hearing.

Please bring the foregoing to the attention of persons known to be interested in the matter.



1 Incl
Information Bulletin

R. E. MC CONNELL
Colonel, Corps of Engineers
District Engineer

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IMMEDIATE RELEASE
December 13, 1968

Construction of a permanent levee to prevent flooding of the Marmes archaeological site by the Lower Monumental Dam Reservoir is progressing well ahead of schedule according to an announcement by Colonel Richard E. McConnell, District Engineer of the Seattle District, Army Corps of Engineers.

On October 31, 1968 a contract for construction of the levee was awarded to Peter Kiewit Sons' Company with a completion date no later than February 28, 1969. Just a day before the contract was awarded, the Corps of Engineers was authorized by Presidential Order to construct the levee which is required to protect the Marmes Rockshelter diggings at about 500 feet above sea level. When the Lower Monumental Pool is raised in February 1969 the normal pool will be at elevation 540.

The permanent levee will be a horseshoe-shaped structure running from the rock bank east of the rockshelter to a similar bank on the west side. It will consist basically of:

- an impervious trench (slurry trench) about 35 feet deep
- a gravel fill with an impervious core over the slurry trench

Using the slurry trench method to construct the impervious trench below grade will result in a trench with sides and bottom coated with impervious clay and a trench cavity backfilled with an impervious gravel and clay mixture. The landside surface of the core constructed over the slurry trench will be faced with an 8-foot-thick filter section. Normal

section of the levee is illustrated in Figure #1.

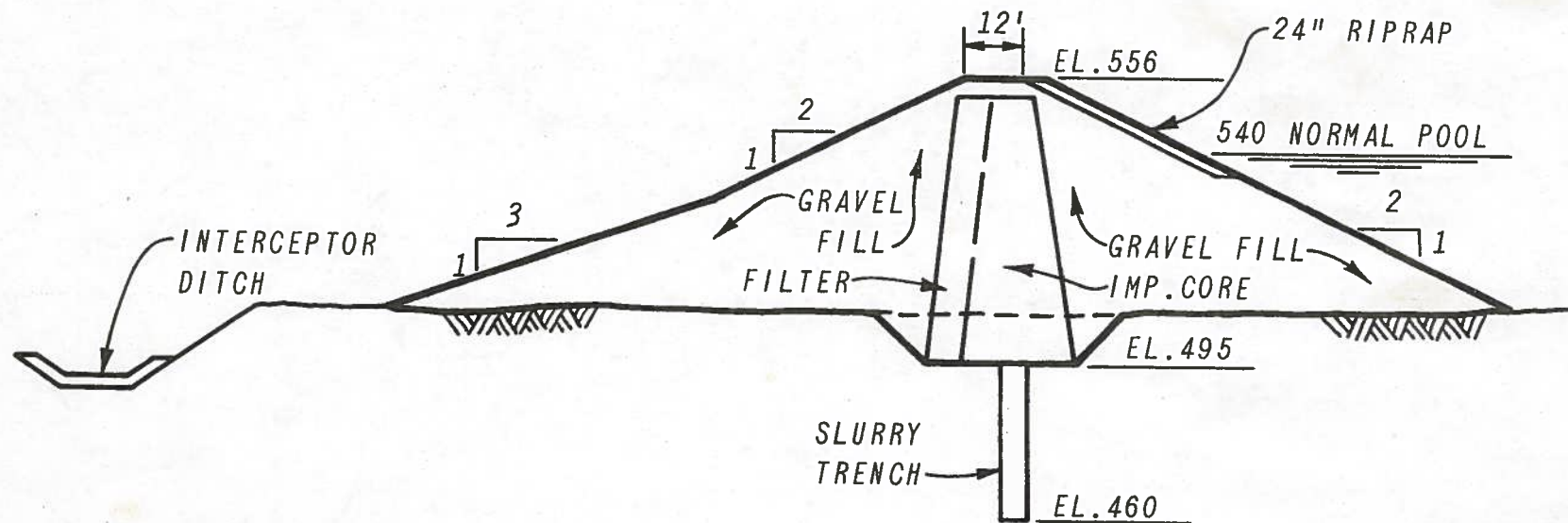
Regardless of how well an "impervious" trench is constructed, some seepage is to be expected. To insure a water-free site from this seepage plus runoff and ground water, a drainage ditch is being constructed on the landside of the levee to intercept water that filters in from the pool. This ditch, to be from 10 to 15 feet deep, will be drained by four electrically-driven pumps which will waste the water back into the pool.

Due to the possibility of floods in the Palouse and Snake Rivers during late December and early January, the contractor has constructed a temporary dike on the pool side of the permanent levee to elevation 512 and has installed temporary pumping facilities to protect his work and the archaeological diggings in case of high water.

To enable the contractor to work at the Rockshelter site it was necessary to delay the Lower Monumental pool raising date from December 1968 to February 28, 1969. This delay in pool raising results in a number of problems that would not have developed had the pool been raised at the scheduled time.

The greatest of these problems will develop if flooding occurs in late December or early January. High water of about 100,000 cubic feet per second would make it necessary to discontinue the water flow through the skeleton bays on Lower Monumental Dam power house and pass it over the spillways, resulting in a pool elevation of approximately 502 feet.

If it becomes necessary to partially fill the pool, the existing temporary fish facility would be inoperative. Because only a small number of fish normally migrate past the project during December, January and February, no attempt will be made to install an additional temporary fish passage system. Permanent fish passage facilities will be operational at full pool by February 28, 1969.



MARMES ROCKSHELTER LEVEE

FIG. 1