



Generation from Irrigation

Columbia Basin Hydropower



cbhydropower.org

**Testimony of Tim Culbertson, Secretary-Manager
Columbia Basin Hydropower
Before the U.S. House of Representatives
Committee on Natural Resources
Subcommittee on Water, Power, and Oceans**

Legislative Hearing on Discussion Draft H.R. _____

“Bureau of Reclamation Pumped Storage Hydropower Development Act”

Tuesday, April 4, 2017

Chairman Lamborn, Ranking Member Huffman:

Good morning. My name is Tim Culbertson, and I am the Secretary-Manager for Columbia Basin Hydropower. Thank you for the opportunity to be here with you this morning to provide testimony regarding the Discussion Draft to amend the Reclamation Project Act of 1939 to authorize pumped storage hydropower development utilizing multiple Bureau of Reclamation reservoirs.

Columbia Basin Hydropower is a separate legal entity created by the three irrigation districts (East, Quincy, and South Columbia Basin Irrigation Districts) that make up the Columbia Basin Project which delivers water to approximately 700,000 acres in central Washington State and has an economic value in excess of \$3 billion dollars annually.

The Districts own and Columbia Basin Hydropower manages 7 hydroelectric projects ranging in size from 2 MW to 95 MW with a total capacity of 150 MW. All of our projects are located on canals that are owned by the Bureau of Reclamation. The Districts have the operation and maintenance responsibility for those canals.

The foundation for energy supply in the Northwest has historically been hydroelectric generation. My career spans 47 years in the region and I have witnessed the construction and decommissioning of the Trojan Nuclear Power Plant in Oregon and the construction of most of the coal plants in the region. I am now witnessing the agreements that will provide for decommissioning of at least five of the coal plants in the Northwest by the early to mid-2020's. As a result, the generation landscape in the Northwest is changing significantly.

Over the past 10 years there has been over 7,000 MW of renewable generation constructed in our area. One of the primary reasons for wind development in the Northwest has been to have access to the flexibility that hydroelectric system can provide. It has been a good marriage of the two generation resource technologies; however the flexibility of the federal hydro system is nearly exhausted.

States in the west continue to enact increased renewable energy portfolio standards, which necessitates another resource to provide back-up generation and grid integration services. Most of the planning by utilities to provide those services is through the use of either simple cycle or combined cycle combustion turbines. They do not however provide the same flexibility that a hydro resource can, nor is the life cycle as long as a hydroelectric resource. Additionally hydro resources have a significantly lower carbon footprint than combustion turbines.

Columbia Basin Hydropower currently holds a FERC preliminary permit, No. 14329 to construct a pumped storage project in close proximity to Grand Coulee Dam and is known as the Banks Lake Pumped Storage Project. The project would be 500 MW and cost approximately \$800,000,000. The Banks Lake Project would take 8 – 10 years to construct, provide for 1500 – 2000 direct and indirect jobs during construction. After construction it would provide employment for 100 – 200 full time employees. The surrounding towns and communities would also receive significant tax revenues, as this project would likely be a public/private partnership.

Operationally, the Banks Lake Pumped Storage Project can provide the much needed capacity, ancillary services, and storage for the region that will be needed by the mid- 2020's. Of growing interest to all utility operations is the subject and value of energy storage. Right now the storage technology is being focused on batteries, but it is unlikely that battery technology will provide grid scale storage for quite some time. This project would use two existing Bureau of Reclamation Reservoirs, Lake Roosevelt and Banks Lake that have five million acre feet of storage and seven hundred thousand acre feet of storage respectively.

One of the challenges we face with this project is a duplicative licensing process that we will have to engage in absent the legislation that is being proposed and discussed today. Our project would encompass 90% Bureau of Reclamation facilities, and only a very small portion of the project falls within FERC's jurisdiction. Thus, we would also have an obligation to apply for and engage in a Lease of Power Privilege with the Bureau of Reclamation, and also using the FERC licensing process. While many or most of the requirements under each process are the same, the schedules and timelines are significantly different, which would add significant cost or require that FERC and the Bureau of Reclamation agree to a mutually align their processes. While this can be done, we have been advised by FERC, that when FERC did this with the Army Corps of Engineers it took the better part of two years to reach agreement on the process.

Having to engage in this duplicative process would certainly add significant costs, certainly delay the timeframe for construction of our project, and the ability to meet a timeline for projected needs of capacity, ancillary services, and storage for the utilities of the Northwest. I am hopeful that this draft legislation will clear up any federal agency confusion and redundancies.

Today's hearing could not have taken place at a better time. As the Congress and Administration are working toward a legislative strategy to reinvest in our nation's infrastructure, it is critical that hydropower development be included in this conversation.

Again, thank you for your time and the opportunity to provide comments this morning.

BANKS LAKE PUMPED STORAGE PROJECT

(FERC NO. P-14329)

Columbia Basin Hydropower (CBHP) provides administration, operations, and maintenance functions for hydroelectric generation facilities owned by the three Irrigation Districts of the Columbia Basin Irrigation Project in Central Washington State. As a wholesale power supplier, CBHP operates five hydropower projects on the Columbia Basin Project that provide electricity to Seattle and Tacoma.

PROJECT

CBHP is proposing the development of a hydroelectric pumped storage project rated up to 500 megawatts. Banks Lake Pumped Storage Project would be located in central Washington State and utilize two existing reservoirs—Banks Lake and Lake Roosevelt—to provide a new source of carbon-free capacity and ancillary services to the Pacific Northwest power grid. The project would be located on the west side of Lake Roosevelt just upstream of Grand Coulee Dam and near the Bureau of Reclamation's existing Keys pump-generation plant.

BENEFITS

The Banks Lake project would be capable of replacing retiring coal-fired generation and provide utilities with the flexibility to better integrate increasing amounts of intermittent generation coming online in the Pacific Northwest, while protecting the reliability of the region's bulk power system. Due to its location and design, the project also has several unique characteristics that provide additional value beyond that of a typical pumped storage facility, including the ability to conduct energy shifting operations across a weekly timeframe and generate up to 500 megawatts of electricity for 70 continuous hours. The project could be integrated into existing regional hydro coordination operations, and provide an additional source of water that could be released into Lake Roosevelt during periods of high regional electricity demand, creating additional sustained peaking benefits at multiple downstream dams.



HIGHLIGHTS

500 megawatt generating capacity.

TURBINE TYPE: Two 250 megawatt adjustable speed pump-generating units.

MAXIMUM TURBINE FLOW: 25,000 cubic feet per second.

POWERHOUSE: Located on the west side of Lake Roosevelt upstream of Grand Coulee Dam, near the Bureau of Reclamation's existing Keys Plant.

769,600 megawatt hours annual generation.

PROJECTED IN SERVICE DATE: 2025.

ECONOMIC IMPACT

Banks Lake Pumped Storage Project would generate up to 2,600 jobs during the construction phase and about 100 permanent jobs upon completion.

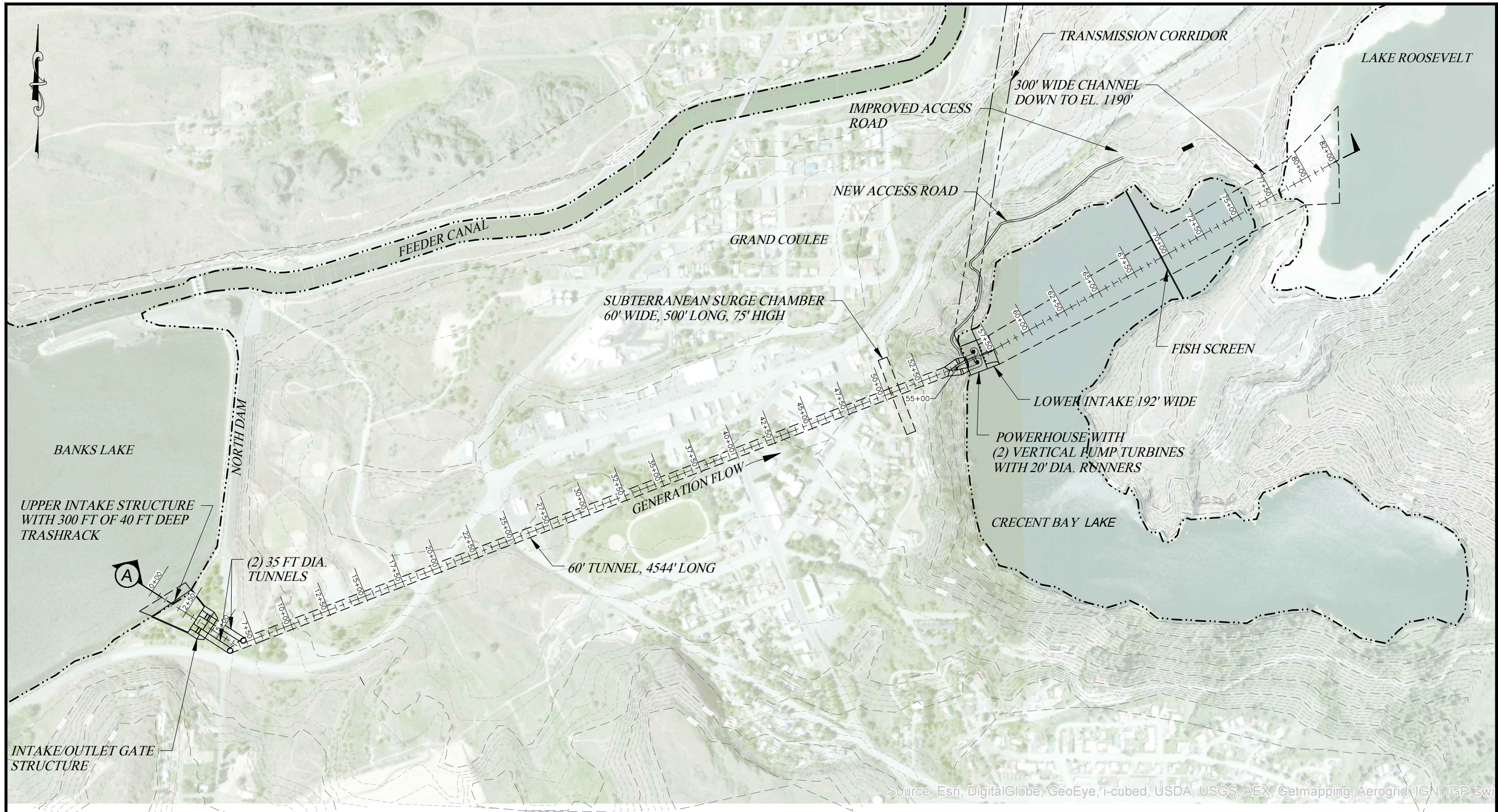
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 **Columbia Basin Hydropower**

3"
2"
1"
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22x34 = FULL SCALE



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swi

Designed: MSP Drawn: RL Reviewd: KAH

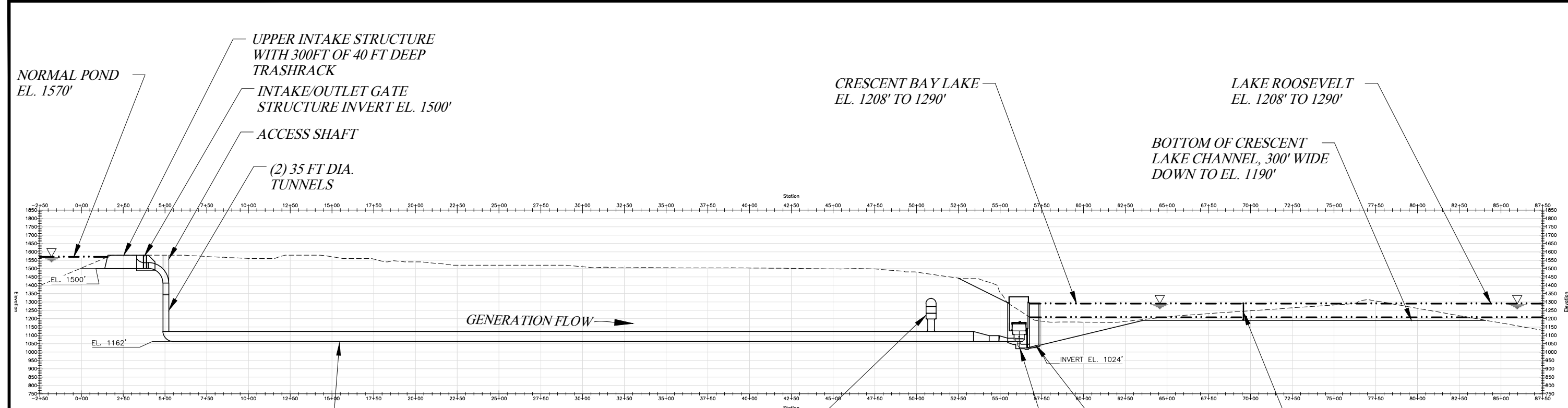


DRAFT BANKS LAKE PUMPED STORAGE
PROJECT PLAN VIEW

COLUMBIA BASIN HYROPOWER
EPHRATA, WA

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22x34 = FULL SCALE

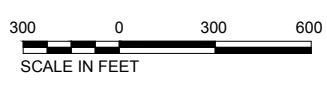


PROFILE **A**
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VERTICAL DATUM IS NGVD 29

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Designed: MSP Drawn: JAO Review: KAH



DRAFT BANKS LAKE PUMPED STORAGE
PROJECT SECTION

COLUMBIA BASIN HYDROPOWER
EPHRATA, WA

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