

Scott Carey

From: Bill Calderwood <BCalderwood@whitepinecountynv.gov>
Sent: Thursday, March 4, 2021 3:12 PM
To: Scott Carey
Subject: FW: White Pine Hydro Project Updates
Attachments: White Pine Pumped Storage- Feb 2021 Handout.pdf

Scott,

Sorry for missing the last third of Monday's SLUPAC meeting, had an emergency meeting that my attendance was required.

Attached is an update for the White Pine Pumped Storage Project to share with the Advisory Council. This information I would have shared under item #12, County Planning Updates. Thank You.

From: Brett Burgess [mailto:bburgess@rplusenergies.com]
Sent: Thursday, March 04, 2021 9:48 AM
To: Bill Calderwood <BCalderwood@whitepinecountynv.gov>
Cc: Matthew Shapiro <mshapiro@rplusenergies.com>
Subject: White Pine Hydro Project Updates

Hello Bill,

I received your voicemail yesterday and wanted to provide you the attached update regarding the White Pine Hydro project. The updates are located at the end of the document and I would highlight that at our last Board of County Commissioners meeting in February a unanimous agreement was reached between the County and rPlus Hydro to approve the lease of water for the project (short and long term).

I have also cc'd Matthew Shapiro on this email if you have additional questions regarding the status of the project.

Thanks,

Brett

Brett Burgess | Permitting Manager
307-797-3201 | www.rplusenergies.com



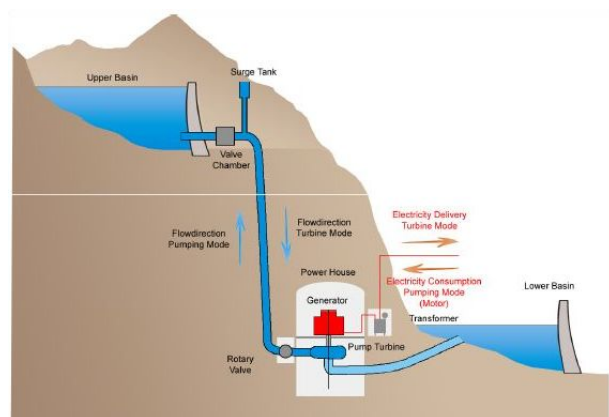
White Pine Pumped Storage

What is White Pine Pumped Storage?

- An energy storage project that involves the construction of two reservoirs separated by 2,000 feet of elevation; tunnels; an underground powerhouse; and a transmission line.
- The project would be capable of producing 1000 megawatts (MW) for up to 8 hours. 1000 megawatts is equal to about **1/8 of the state's peak power demand** on a hot summer afternoon.
- The project would require a one-time fill of about 5,000 acre-feet, with an estimated ongoing annual need of about 500 acre-feet for evaporation loss make-up.
- Investment of \$2.3 billion in White Pine County.
- Target construction timeframe is 2025-2030.
- **Project would bring very significant economic benefits to White Pine County and the Ely area with small footprint and minimal negative impact.**

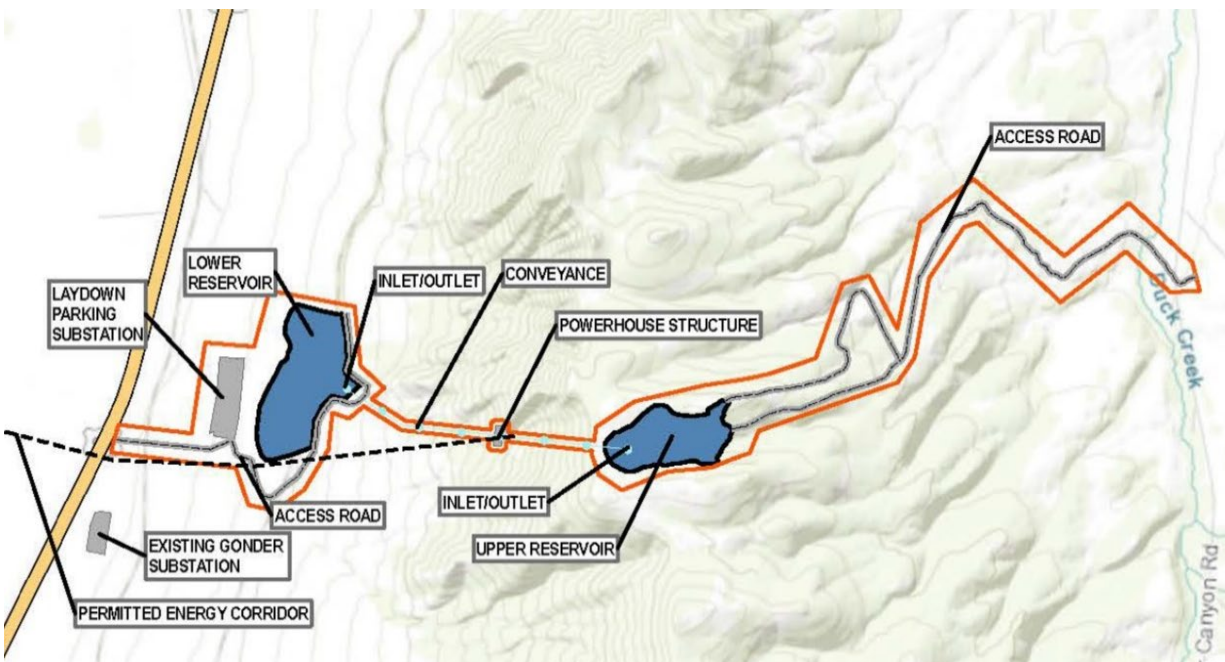
Why Pumped Storage, and Why Here?

- Nevada is shifting its electric generation away from fossil fuels and toward renewable energy like solar. This is creating a great **need for energy storage** to help with reliable power supply.
- **Pumped storage is the best-proven, most economical form of large energy storage**, with 43 plants operating in the US. It works by shifting water between a lower and an upper reservoir—pumping up using less valuable electricity, and releasing it when power is needed.
- **Good pumped storage sites are rare.** They require the right combination of high vertical drop over short distance, landscape that minimizes the size of dam to be built, a source of fill water, and good location on the electric grid. **The White Pine Pumped Storage site meets all of these requirements.**
- White Pine is in an **important location** on the state's existing and to-be-expanded transmission system.

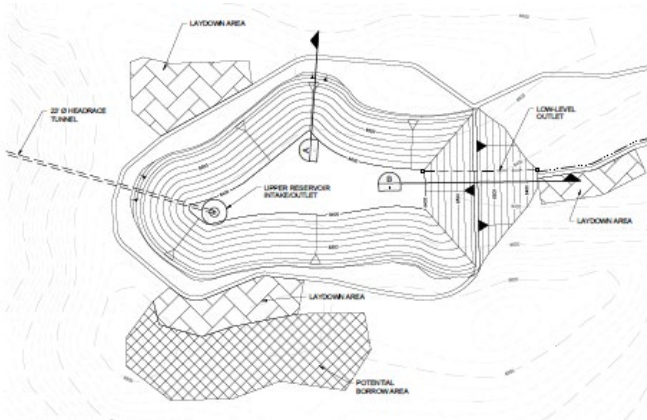


Where would this project be located, and what are its key features?

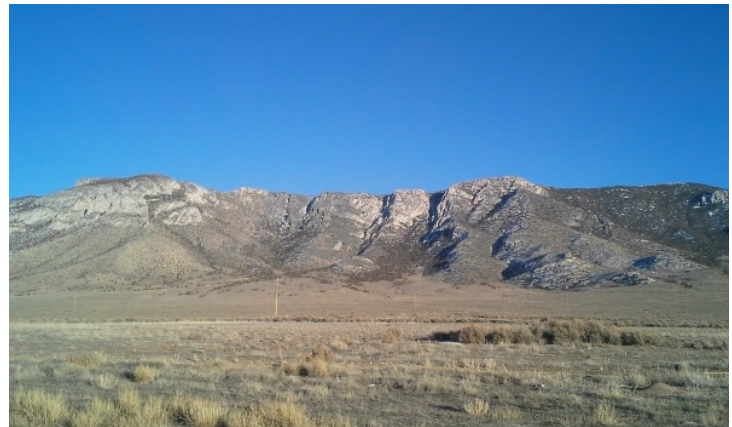
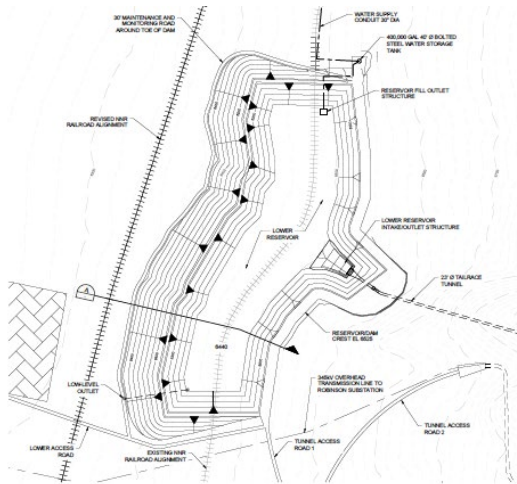
- 7 miles north of Ely
- 3-1/2 miles south of McGill
- Lower reservoir just north of Gonder Substation, 300' upslope of Highway 93.



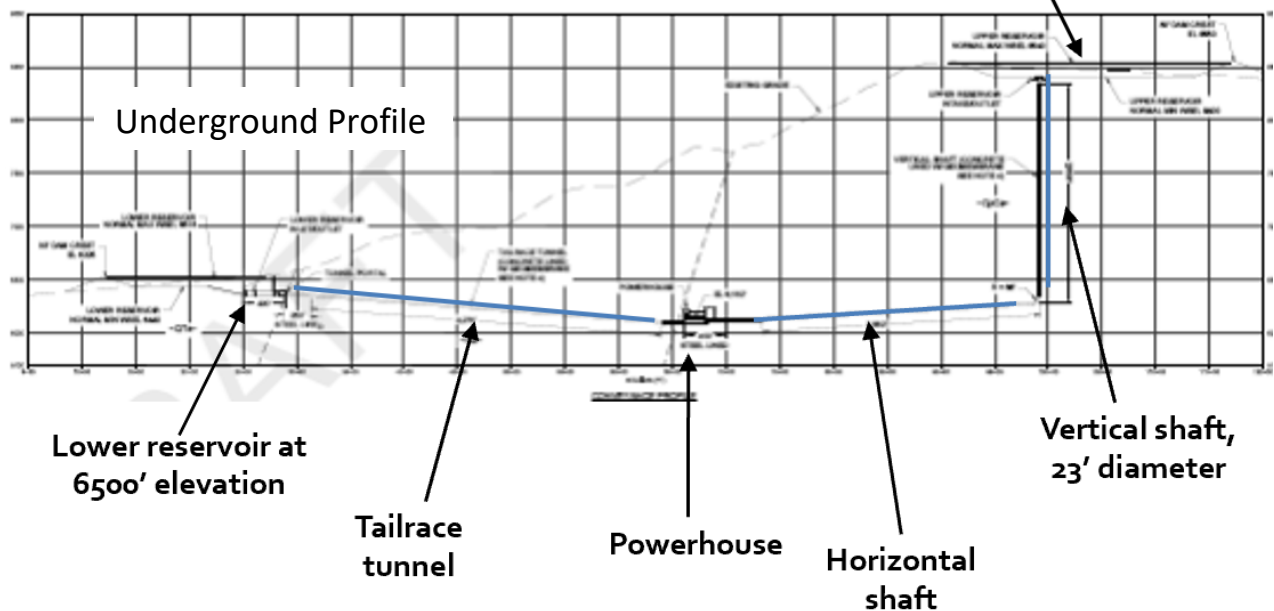
Upper Reservoir: 60 acres, formed by dam 170' high in wide ravine.



Lower Reservoir: 80 acres set against hillside, formed with embankment 10' to 130' high.



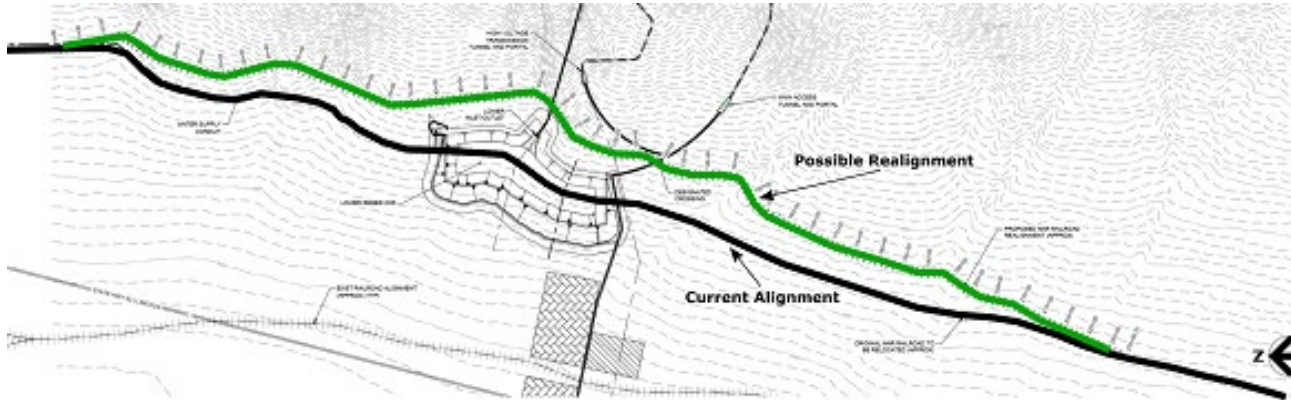
Upper reservoir at 8500' elevation



The Nevada Northern Railway

How would this project affect the Nevada Northern Railway?

The current design would require re-aligning a 5-mile section of the Nevada Northern Railway (“Railway”) between Ely and McGill. The current plan would be for that re-alignment to run *above* the new lower reservoir, which would give riders an elevated view of the valley and a “lakeside” view of the reservoir.



What is the status of discussion with the Railway and the City of Ely?

- We have been speaking with the Railway’s president since February 2020, when the current project design was created.
- The concerns and requests of the Railway were then used to guide the next step in design.
- In early December, we met with the Railway and the Mayor of the City of Ely to propose a formal working relationship to help ensure that project development would minimize negative impact to the Railway and possibly enhance it.
- rPlus proposed a Memorandum of Understanding between rPlus/White Pine Waterpower, the Railway and the City.
- A set of terms was sent to the Railway and the City, and have been under review by the City’s attorney.

What about the fee title land under the Railway?

- The City of Ely and the Railway owns fee title to the land under the track.
- In the event that a section of it realigned, rPlus has proposed a land swap to the BLM (manager of the relocation area) so that the City and Railway will continue to have fee title to the land under the new section. The BLM has indicated an openness to this arrangement.

Water

How much water will this project need?

Construction-Phase: The project is still early in design, so water needed for construction is not fully known. However, we estimate that during the 5-year construction period, the water requirement for construction would be about 900 acre-feet per year.

Reservoir Fill and Evaporation Make-Up: The current estimated *initial fill* volume required is about 5,300 acre-feet. This would be drawn over a 6- to 12-month period, depending on construction schedule. Following that, the evaporation make-up requirement is estimated at 500 to 750 acre-feet per year.

How does this compare with the County's current water rights?

- The amount of water that this project would require during the entire 6-year construction and initial fill phase = less than half of one year's worth of County water right.
- The amount of water this project would require over its first 50 years = **3%** of the rights granted to the County for economic development (in other words, 3% of what one of the coal plants would have used over the same time period).

Where would this water physically come from?

The current County groundwater rights have permitted points of diversion at well sites north of McGill. To save on the substantial cost of a 12-mile water supply pipe and further disturbance to local landowners, we are proposing to move the point of diversion to a location close to the lower reservoir site.

What would be the impact of water withdrawal?

The impact of water withdrawal will be modeled to guide the well location and to ensure no negative impact to nearby water users. The timing of water withdrawal for reservoir fill may also be adjustable seasonally to ensure no negative impact.

Why should the County provide water to this project?

The project will not happen without a source of fill water. The County was granted water permits for 25,000 acre-feet *per year* for industrial beneficial uses and the purpose of economic development—specifically, for the previously planned coal plants. The County's water permits cannot be held indefinitely and could become subject to cancellation by the State Engineer. To ensure the water permits are preserved, those rights need to be put to use for economic development.

Under the current proposal, White Pine Waterpower/rPlus will pay the County for the future right to use a *modest amount* of the County's water for construction and for reservoir fill and future make-up, even though none will be used at all until construction begins, an estimated 4-5 years into the future. If the water is not eventually used, the right will revert to the County. Further, the minimal 750 acre-feet purchased are irrevocably tied for use only at the Project, with any other use resulting in the 750 acre-feet being reverted immediately back to the County. In sum, **a County agreement to sell water to the Project helps the County hold on to its water rights while earning revenue, at no risk to the County.**

Impacts During and After Construction

During construction, there would be significant activity around the lower reservoir area off Highway 93 and at the upper reservoir site. This would primarily involve earth-moving activity. Underground activity would be primarily tunneling.

An existing road to the upper site, accessed off Duck Creek Highway, will need to be improved for construction access. Any other road improvements needed to minimize dust, etc. will be made.

To avoid creating water truck traffic on Duck Creek Highway, our current plan is to pump water from the Steptoe side directly up to the upper reservoir construction site.

After construction, the project would produce no emissions, noise or light pollution, and traffic would be very minimal. We expect that the upper reservoir dam, since it would be set inside a ravine, would not be visible from Duck Creek Valley from most angles. The lower reservoir embankment would be set against the hillside and landscaped to minimize visual impact. The primary traffic to the project would be during crew changes for staffing the powerhouse, which would be accessed from Highway 95. Visits to the upper reservoir site would be minimal.

Workforce Housing

Where would the construction workers be housed?

We know that housing is in short supply in the Ely area. To house the construction workforce, we will be looking at a range of options, from man-camps to the use of trailer parks. We will work closely with local government on development and implementation of the workforce housing plan.

The Market for this Project

Who would this project be serving? Where would the power go?

The project is intended to serve Nevada residents. As for specific market, a project of this type and size requires a large utility – one with a very large power demand and a need for energy storage that will be large enough. The pumping energy would be drawn from any number of sources—solar, wind, geothermal—that are feeding energy into the grid at times or in amounts when it is less useful. The power produced by the plant would go to serve demand statewide.

Would any of the power from this project be used locally?

White Pine Pumped Storage is not the type of project from which various amounts of energy can be sold to different parties. White Pine will be a giant battery that balances power on the state-wide high-voltage system. During peak electric demand periods, the project would be producing up to 20 times the peak demand of Mt. Wheeler—the utility that serves Ely. The plant also needs its customer or ultimate owner to be able to supply up to 1000 MW of pumping energy for extended periods. For all of these reasons, Mt. Wheeler would not be a market for this type of project at this scale.

The project will need to *purchase* a substantial amount of power from Mt. Wheeler for its facility operations (e.g., air conditioning, lighting, etc.)

Why can't this project be built closer to the big load centers like Reno?

While White Pine County is not a major electric load center, it is strategic in the electric grid because of existing and planned transmission lines. The Robinson Summit Substation where this project would tie into will be a major “hub” connecting the state’s largest transmission lines (see image on page 1). The project is therefore in a valuable location for helping the state use and balance its electric power

resources. Also, pumped storage projects have very specific siting requirements. This site has characteristics that are unique in the state.

Benefits to White Pine County and to Ely

How many jobs, and of what kind, will this job create?

During the development phase, we've already begun engaging local expertise and will continue this as much as possible. There will also be many visitors to the area to support project development. These include engineers, environmental support staff, and others. The spend at hotels, restaurants, and gas stations will help support local jobs long before project construction.

During the five-year construction period, we estimate there will be between 300 and 500 full-time construction jobs. Many of these positions will be skilled labor, and many could use the kinds of skills that the local mining industry already has. *Indirect* job creation and income (lodging, food, etc.) would be substantial. These employment-related benefits will be quantified in greater detail as the project progresses.

Following construction, we estimate that the project would require a full-time staff of up to 20. These will be specialized staff living in the area and spending income in the area.

How much property tax revenue will this project produce?

The value of the project—an estimated **\$2.3 billion**—guarantees that tax revenues will be substantial. We do not yet have final figures on this. One reason is that we don't yet know how the real property portion of the project, located on BLM land, will be treated for tax purposes. However, based on the value of the personal property (equipment) alone, we expect that revenue to local government will amount to **several million dollars per year**, assuming the project qualifies for a tax abatement. An abatement, if granted, would expire in 20 years and this amount would increase. Tax revenue would continue for the lifetime of the project, which is at least 75 years and likely much longer.

Major Permits & Agreements Needed, and Progress to Date

Party	Requirement or Project Need	Status
Federal Energy Regulatory Commission (FERC)	License (dependent on satisfying full range of federal environmental, cultural, etc. studies, sign-off by all federal agencies)	Pre-Licensing steps taken. Exhibits to be prepared this year will go into a Draft License Application filed end of 2021/early 2022.
BLM	Right-of-Way for project major features	Application for project filed Nov. 2020. Not yet in processing, which will be connected to FERC licensing.
BLM	Right-of-Way for railway land swap	Application not yet prepared, pending MOU with City & Railroad and final re-alignment location.

Board of County Commissioners	Lease of water for project construction & fill, sale of water for long-term make-up	Commission resolution of support Aug. 2020. Agreement approved by BOCC in late February.
County Public Works Dept	Agreement on road protections, improvements, etc.	Early discussion to identify needs
City/County Planning Commission	Special Use Permit / County Development Agreement	Application filed and tabled per completion of BLM permitting. County Development Agreement determined not needed at this junction.
City of Ely/Railway	Agreement to realign 5 miles of railway (tentative plan) and pursue land swap to maintain City ownership of right-of-way.	Discussion with NNRY since Feb 2020. Terms of an MOU under review by City attorney and NNRY.
NV State Engineer	Approval of change of point of diversion and use of water.	Approvals to be sought after County approval of water sourcing agreement.
Nevada PUC	Certificate of Public Convenience and Necessity	PUC notice filed.

About rPlus Energies and rPlus Hydro

rPlus Hydro is a leading developer of new pumped storage hydro projects nationwide. We were formed through a partnership of Boise-based Gridflex Energy—a pioneer in pumped storage development since 2009—and rPlus Energies, a leading renewable energy developer and subsidiary of the Salt Lake-based Gardner Company, one of the largest developers of commercial real estate in the Intermountain West.

Project Contacts

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