



AGENCY: City Council
MEETING DATE: November 28, 2022
DEPARTMENT: Public Works
PRESENTED BY: John Smith
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AGENDA ITEM SUMMARY

TITLE:

Receive Report and Consider Adoption of City Council Resolution Authorizing City Manager to Execute Related Documents for the Purchase of 582+/- Acres Currently Owned by Mendocino Coast Recreation and Park District and Approving Budget Amendment No. 2022/23-09, Amount Not to Exceed \$2,420,579

ISSUE:

The months of August, September and October are critical to determining how well Fort Bragg managed a drought emergency. These months also provide the City with invaluable information to prepare for what could be a third year of drought in the summer and fall of 2023. The impact from the high tides increases as the flows in the Noyo River drop over the course of the summer and early fall. At the start of August/September, the flows in the Noyo River are low, which means that even during low tides the amount of water the City is able to pump from the river is limited and at high tides the saline content means that the water is not able to be treated by the City's Water Treatment Plant.

The Summers Lane Reservoir levels are at capacity in the spring and are held for the late summer months to draw from to subsidize the limited amount of water available in the Noyo River. With the arrival and implementation of the Desalination-Reverse Osmosis Treatment System in 2021, we can now bridge the supply gap during high tides in the Noyo River.

Water Supply Available

As explained previously, the City of Fort Bragg's water supply system relies solely on three surface water sources: Waterfall Gulch (tributary to Hare Creek), Newman Gulch (tributary to Noyo River), and the Noyo River (diversion at Madsen Hole). In 2015, the City's water supply system could only store small amounts of water that provided enough to maintain proper water system pressure and to provide a safety margin for fire-fighting flows. Six years later, the City has made progress with water storage with the addition of a 1.5 million gallon finished water storage tank and the Summers Lane Reservoir with a raw water capacity of 14.7 million gallons (45 acre feet). This brings our total water storage capacity to 22.6 million gallons, which is approximately 45 days of storage, under emergency conditions with average daily use of 500k gallons/day.

During the winter and spring, pumping of the Noyo River is used only to supplement the Waterfall Gulch and Newman Gulch sources. The two tributary sources generally provide a higher quality of raw water and gravity-feed to the water treatment plant, whereas water from the City's Noyo River diversion must be pumped. As summer progresses and the flows in the tributary streams diminish, the Noyo River diversion is used more frequently and in greater quantities. In July, Waterfall Gulch and Newman Gulch provide approximately 40% of the City's water needs and 60% of summer water supply comes from the Noyo River. As

the water levels in the Noyo River drop and the high tide levels rise, increased salinity levels in the Noyo River impact the City's ability to pump from this water source. City water usage typically peaks July through September.

Over the past ten years of reduced rainfall, our spring fed sources have steadily declined. Both Newman Gulch and Waterfall Gulch have decreased in flow by more than half. Preparation for these cyclical weather patterns is essential for the safety of our customers and economic resilience.

ANALYSIS:

The City has been battling with water supply options for a number of years (since the 1990's). We've looked at utilizing train cars to transport water, trucking water, solar dehumidifiers, we have reviewed over 1000 wells in the area and studied related documents of old. Potential surface water sources and water rights have been looked through, and most recently, desalination of ocean water and raw water storage.

The City has done a great amount of work by completing several water projects and researched dozens of storage and new and innovative sources with some success. As our existing sources continue to be impacted by our current weather patterns, staff is pushing the limits of water source opportunities and water storage to secure safe drinking water for our customers and reserves for fire protection. Our City is geographically isolated, and staff makes decisions/recommendations that consider reliability and necessary resilience related to our location.

Most recently, we have been searching for a location that will provide space for a large water storage project. Several properties were reviewed according to our criteria. The Mendocino Coast Recreation and Park District (MCRPD) property was the best fit for the project. This property consists of 582 acres (six parcels) that are primarily zoned Timber Production/Forest Land. At just shy of one square mile, the property provides more than enough space for construction of three 45 acre foot reservoirs. These reservoirs are expected to be similar in size to that of our Summers Lane Reservoir. Three reservoirs will require approximately 30 acres of land. This location provides convenient connection to infrastructure allowing gravity flow to our raw water line, therefore conveying water to our treatment plant. Another benefit is the proximity to high power PG&E transmission lines. Our reservoirs require a floating cover to suppress algal growth and evaporation. The City's existing reservoir has floating balls to reduce the effects of sunlight which has worked extremely well. It is our hope to install floating solar panels on the new reservoirs to generate roughly 3 Mega Watts of electricity.

There is however, an elephant in the room that mustn't be ignored. These parcels support some of the most sensitive natural communities in the state and in some cases the world. The City has been working very closely with California Department of Fish and Wildlife (CDFW) on this project. They have provided the most available science to the City. CDFW has stated that given the irreplaceable and endemic nature of the Sensitive Natural Communities onsite, the cost to mitigate impacts to these Sensitive Natural Communities would be very high and given the limited amount of remaining habitat, potentially impossible

to secure. However, there are a few locations where transitional soils are present allowing for minimal impact to rare plant life. The City has also discussed this project with the California Department of Fish and Wildlife Lake and Streambed Alteration Division (CDFWLSA). This project provides off stream storage which greatly reduces impacts to the stream aquatic ecosystem. Both CDFW Divisions are very supportive of this project.

So what do we do with the other 550 acres? The vision is to develop a Community Forest with the remainder of the site. The property is expected to be preserved through a deed restriction or a conservation easement. The Sensitive Natural Communities on site and the plant species that comprise them are endemic to the Mendocino Coast and due to the oligotrophic soils composition, they are irreplaceable. There are grant funds available for preservation and protection of this property. Further, CDFW has provided recommendations for the protection and rehabilitation of plant life below.

They include:

1. Install wildlife-friendly protective fencing that would preclude illegal dumping and Off-Highway Vehicles (OHV). Illegal OHV and dumping has been responsible for much of the property's degradation.
2. Conduct restoration actions in the Mendocino Cypress Woodland to the east of Summers Lane that has been heavily impacted by illegal OHV use.
3. Remove debris including the concrete rubble and barriers used by MCRPD.
4. Install boardwalks on existing trails within the Mendocino Cypress Woodland.
5. Remove invasive species such as Scotch broom and pampas grass along Summers Lane and on the 'flats' or 'bulb' site north of the Hwy 20 entrance.
6. Establish an on-site resident/manager to bring full-time oversight to the property; this may dissuade illegal use of the property and/or increase reporting of trespass to law enforcement.

Additional Notes

- Addition of three 45 Acre Foot reservoirs = 44,000,000 gallons = sustainable drought tolerant water portfolio
 - Resilient/self-sustaining
 - Watershed protection
 - Off stream storage
 - Rain capture = 760,000 gallons/inch of rain
 - Community Fire protection – helicopter water access
 - Watershed protection and Riparian Habitat relief
 - Sensitive natural communities protection
 - Community Forest
 - Grant funds to fulfill management and maintenance needs for the property
 - Reservoir Solar cover – Floating cover to provide 3MW
 - Coastal (County) water support set aside – TBD
 - Tie in Blue Economy

- Water supply to the reservoirs
 - Use existing water sources to fill reservoirs in winter months. Lake and Streambed Alteration Division folks really like this. We will have a consultant under contract to provide us with an operations plan to show reduction in overall water use by pumping during winter months when the Noyo River has high flows.
 - To accomplish this, a pump station will be located inside the water treatment plant to pump raw water from our storage ponds at the plant. Another pump station will be located at our Newman source to pump water to the reservoirs or to the water plant.
- Structures
 - We expect to construct a building in an already disturbed location on the property near the Humane Society. There is an existing well and power nearby. The building will be used to house maintenance equipment, a care taker and potentially Conservation Corps folks when in the area. In the short term, we hope to have the caretaker at the location to monitor activity on the property.
- Regulatory
 - LAFCo Annexation process – a little bit faster than the normal process with no residents on the property
 - Water Rights - typical applications for change petition for re-diversion and off stream storage
 - Department of Drinking Water – pleased to see improvements in the system
 - Department of Fish and Wildlife – very excited to work with us on this storage and preservation project
 - Department of Fish and Wildlife, LSA – supportive of off-stream storage and reduced impact on fish and Riparian habitat

It is the City's responsibility to deliver safe drinking water to our customers from the source to the tap, every day. We will continue the pursuit of increasing water supply, providing resilient and sustainable produce while treading lightly. While we've experienced a few extreme droughts, we'll anticipate greater challenges are to come.

RECOMMENDED ACTION:

Adopt Resolution.

ALTERNATIVE ACTION(S):

1. Do not adopt Resolution.
2. Provide alternative direction to staff.

FISCAL IMPACT:

As of June 30, 2022, the Water Enterprise reserves were \$7.7 million. The Water Enterprise fund generates about \$1.5 million annually in Net income, which is set aside for Capital improvements. The FY 2022/23 Adopted Budget has \$3.3 million in committed funds to fund infrastructure improvements approved in the City's Capital Improvement Plan (CIP). Approving the Budget Amendment 2022/23-09 of \$2.4 million would reduce the Projected Water Enterprise Reserves balance as of June 30, 2023, to \$1.9 million.

GREENHOUSE GAS EMISSIONS IMPACT:

No impacts from this budget amendment.

CONSISTENCY:

Water infrastructure for a safer community.

IMPLEMENTATION/TIMEFRAMES:

Proceed with purchase agreement soon after Resolution has been signed.

ATTACHMENTS:

1. Resolution
2. Exhibit A

NOTIFICATION:

1. MCRPD