Water System Reconstruction Project – Water Supply and Storage Improvements

Final Subsequent Mitigated Negative Declaration

State Clearinghouse Number 2020080439

June 2023

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Mendocino Unified School District
Water System Reconstruction Project –
Water Supply and Storage Improvements

State Clearinghouse Number 2020080439

Prepared for:

Mendocino Unified School District
44141 Little Lake Road
Mendocino, CA 95460

Prepared by:

GHD
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Santa Rosa, California 95407

June 2023

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1. Project Information

Project Title	MUSD Water System Reconstruction Project – Water Supply and Storage Improvements
Lead Agency Name & Address	Mendocino Unified School District 44141 Little Lake Road Mendocino, CA 95460
Contact Person & Phone Number	Jason Morse, Superintendent Phone: (707) 937-5868 E-mail: jmorse@mcn.org
Project Location	44020 Little Lake Road Mendocino, CA 95460
General Plan Coastal Element Land Use Designation	Public and Semi-Public Facilities
Zoning	Public Facilities (PF)

1.1 Introduction and CEQA Requirements

The Mendocino Unified School District (MUSD), serving as the California Environmental Quality Act (CEQA) Lead Agency, has prepared this Subsequent Mitigated Negative Declaration (Subsequent MND) to provide the public, responsible agencies, and trustee agencies with information about the potential environmental effects of the Modified MUSD Water System Reconstruction Project – Water Supply and Storage Improvements ("Project" or "Modified Project").

The MUSD owns, operates, and maintains a potable and fire water system to serve its K-8 School, High School and District Office, as well as Friendship Park, the Community Center of Mendocino, and a number of irrigation areas affiliated with these primary consumers. A previous inspection conducted by the State Water Resources Control Board (SWRCB) identified certain system deficiencies at its water supply and storage site located at 44020 Little Lake Road in the Mendocino community, and key components of the MUSD's water system infrastructure are reaching the end of their useful life.

In 2020, the MUSD prepared an Initial Study/Proposed MND (State Clearinghouse No. 2020080439) for the Project (2020 MND). The 2020 MND evaluated replacement of existing water storage tanks, rehabilitating existing wells, operation of a new well, replacing a water treatment building, and other accessory improvements. The Initial Study/Proposed MND was made publicly available from August 26 to September 24, 2020 for a required 30-day public review period under CEQA. The MUSD Board of Trustees adopted the MND and approved the Project on October 15, 2020.

After adoption of the MND and approval of the Project, the MUSD agreed to coordinate with the Mendocino City Community Services District (MCCSD) to allow additional water supply and storge improvements on the MUSD property. The MCCSD is the groundwater management authority within its service area boundary and is responsible for the management of the local aquifer to help prevent overdraft and maintain equitable access to groundwater for the residents, business, and property

owners in the MCCSD service area.

In 2022, MCCSD, in cooperation with the MUSD, received a grant in response to a drought scenario from the State of California Department of Water Resources through the Urban and Multibenefit Drought Relief (UMBDR) grant program (Agreement No. 4600014624) to help serve emergency water needs of MCCSD customers. The UMBDR grant Agreement identifies the MUSD and MCCSD as Implementing Agencies. The UMBDR grant funding is for the development of 500,000 gallons of potable water storage at the MUSD's water supply and storage site for MCCSD use, the drilling of up to ten new groundwater supply wells at the MUSD's water supply and storage site for emergency water supply purposes, and a connection to the MUSD's water distribution system.

Given the additional improvements proposed at the MUSD's site, a reevaluation of the overall potable water storage strategy at the MUSD site was conducted to implement an improved and more integrated design solution. Through this review, the MUSD and MCCSD entered into a Memorandum of Understanding to combine the funded improvements into a single system for better long-term management, maximizing the available funding, leveraging economy of scale, and reducing the total number of water tanks and the project footprint. The grant administrators at the California State Water Resources Control Board and the State of California Department of Water Resources determined that combining the funding to create one project that achieves the overall goals of the improvements is acceptable, and confirmed that the MUSD should remain the CEQA Lead Agency. In the Memorandum of Understanding between MUSD and MCCSD, it was mutually agreed that the MUSD would remain the CEQA Lead Agency for the Modified Project.

Given all of the above considerations, the changes are considered modifications to the original project which was first evaluated pursuant to CEQA in 2020, and for which MUSD Board of Trustees previously adopted a Mitigated Negative Declaration for the Project on October 15, 2020. The MUSD is thus proposing to implement the Modified Water System Reconstruction Project – Water Supply and Storage Improvements ("Modified Project"), which includes both MUSD improvements to address existing identified MUSD water system deficiencies and improvements in conjunction with the MCCSD to provide an emergency water supply for MCCSD customers, all of which would be located at MUSD's water supply and storage site.

Because the current Project includes modifications from the previously evaluated Project, including changes in the size of proposed water storage tanks and additional water supply wells for emergency water supply and storage, as well as operation and maintenance changes, the MUSD determined that a Subsequent MND should be prepared to determine whether the previous conclusions remain valid considering the current Project. The Modified Project is evaluated in this Subsequent MND.

1.2 Project Background and Modifications

The MUSD has prepared a *Water System Plan Report* (GHD 2020a) to address water system deficiencies and to evaluate alternatives for water sources, water storage and water treatment design. MUSD plans to improve its potable water system operations, including meeting regulatory requirements, making system improvements to meet long-term service needs, protecting the integrity of the water system, and ensuring the health and safety of students, faculty and public who rely upon the potable water system.

In the 2020 MND, the MUSD evaluated plans to deconstruct and replace two existing water storage tanks with new water storage tanks that meet current seismic design standards and provide sufficient storage capacity for the recommended operational storage. The MUSD also evaluated plans to replace a water treatment building, redevelop an existing water supply well (Well #1), reconstruct an

existing well (Well #2), operate one new groundwater supply well (Well #6), widen an existing unimproved access road, and make other site improvements such as new fencing and security gates.

As noted in Section 1.1, ~~I~~in 2022, the MCCSD, in cooperation with the MUSD, received a grant from the State of California Department of Water Resources California Natural Resources Division of Regional Assistance Urban and Multibenefit Drought Relief Grant Program to help serve emergency water needs of MCCSD customers. ~~develop an emergency water supply for community use during periods of drought when many private wells may run dry.~~

As noted in the Grant Agreement, the proposed 500,000 gallons of water storage is estimated to store approximately three days of water at a conservation demand of 50 gallons per capita per day, based on the permanent population of 855 residents and an estimated daily tourism population of 2,500 people. The stated purpose of the grant improvements is in response to a drought scenario, as defined by Water Code Section 13198(a) and is intended to: 1) address immediate impacts on human health and safety; 2) address immediate impacts on fish and wildlife resources; or 3) provide water to persons or communities that lose or are threatened with the loss or contamination of water supplies.

~~The improvements identified in the grant include 500,000 gallons of water storage, up to ten new groundwater supply wells, and a connection to the MUSD water distribution system. The additional storage and groundwater wells would be located on the MUSD property located at 44020 Little Lake Road.~~

Given the additional improvements proposed at the Project site, a reevaluation of the overall potable water storage strategy at the MUSD site was conducted to implement an improved and more integrated design solution. Through this review it was recommended to merge the MCCSD project and funding with the existing MUSD project and funding to increase the size of the MUSD storage tanks and combine all improvements into a single system. A comparison of the 2020 Project to the 2023 Modified Project is provided in Table 1 below.

Table 1. 2020 Project vs. Proposed 2023 Modified Project

Project Elements	2020 Project Description	2023 Modified Project
Tank Material	Concrete or Steel	Steel
Combined Tank Storage Capacity	200,000 gallons	615,000 gallons
Outside Diameter of Tanks	25-32 feet	50 feet
Height of Tanks	20-25 feet	48 feet
Well #1 & Well #2	Redevelop / Reconstruct	No Change
New Groundwater Wells	Operate 1 new groundwater production well (MW #6)	Operate MW #6 and install and operate up to 10 new groundwater production wells
Water Treatment Building	Disinfection & chemical treatment	No change
Access and Security	Improved access road and fencing	Additional access roads to new groundwater wells and potential fencing around new tanks

1.3 Project Location and Site Description

The Project site is located near the community of Mendocino in unincorporated Mendocino County (see Figure 1, Regional Location Map). The Project would include improvements on portions of three MUSD-owned parcels, Assessor's Parcel Number (APN) 119-100-03, -04, and -23.

The Project site is bordered by residences as well as other nearby surrounding uses including Mendocino K-8 School, the MUSD District office, and commercial establishments along Little Lake Road. Highway 1 and the community of Mendocino are located approximately 0.75 mile to the west of the Project site.

Existing facilities at the Project site include two in-service water storage tanks (one wooden tank and one steel tank), two in-service groundwater supply wells, a water treatment building, water distribution piping, maintenance building, two shallow decommissioned/abandoned water supply wells, a pump house that has been converted into a student radio transmission station, and a graded access road (see Figures 2 and 3). The MUSD's in-service wooden tank is 24 foot in diameter, 16 feet high, and provides 50,000 gallons of water storage capacity. The MUSD's in-service steel tank is 26 feet in diameter, 16 feet high, and provides 65,000 gallons of water storage capacity. The installation date for the two in-service tanks is unknown, though it is likely that the tanks were constructed during the 1970s, and do not meet current seismic design standards.

1.4 Environmental Setting

The Project site is located within a designated coastal zone subject to the Coastal Zone Management Act. The Project area is underlain by groundwater basin number 1-021, the Fort Bragg Terrace Area (DWR 2019), which is not mapped by the Environmental Protection Agency (EPA) as a sole source aquifer recharge area and is not identified as an overdrafted groundwater basin. Topography and groundwater flow indicate that groundwater flows northwest towards Slaughterhouse Gulch and is

disconnected from the Big River Watershed located south of Mendocino. The Project site is not located within a mapped 100-year or 500-year flood zone (FEMA 2017).

In the Project area, bedrock seasonally forces groundwater to the surface as evident by the presence of springs on the MUSD property. The springs on the MUSD Project site represent a portion of the Slaughterhouse Gulch headwaters. Another distinct spring-fed branch to Slaughterhouse Gulch begins offsite approximately 1,000 feet to the northwest on the northeast portion of Gurley Lane. The two spring systems flow westerly downslope and converge near Calypso Lane to form the defined Slaughterhouse Gulch stream, with year-round surface flows. The stream drains directly to the Pacific Ocean at Agate Beach on the Mendocino coastline.

The local geology in the Project area generally consists of a thin layer of weathered marine terrace sediments (alluvium) ranging from 10 feet to 50 feet thick overlying impermeable Franciscan bedrock. The Project area is not located within an active Alquist-Priolo earthquake fault zone and no other active or potentially active faults have been mapped within the area.

No critical habitat has been designated for federally-listed species within the Project site. One sensitive natural community, Bishop pine forest (S3.2), was identified at the Project site. This community type is characterized by a Bishop pine overstory and evergreen huckleberry shrub layer in the northern portion of the Project site.

The Project site is located within the North Coast Mendocino County sub-basin of the North Coast Air Basin, which is within the jurisdiction of the Mendocino County Air Quality Management District (MCAQMD). The North Coast Mendocino County sub-basin, like the rest of Mendocino County, is designated as a non-attainment area for the State particulate matter (PM10) standard (ARB 2018). The sub-basin is in attainment for all other State standards and for all Federal criteria air pollutants (ARB 2018, U.S. EPA 2020).

The Project site is accessible via a graded access road from the maintenance building off Little Lake Road. The graded access road extends to the south side of an existing treatment building and to the south side of the existing tank site.

1.5 Modified Project Description

The Modified Project would replace MUSD's existing water system facilities at the Project site with newer facilities to make improvements to address existing identified MUSD water system deficiencies, as well as improvements in conjunction with the MCCSD to provide an emergency water supply for MCCSD customers. The Modified Project includes two replacement water storage tanks, redevelopment/reconstruction of two existing MUSD groundwater supply wells (MW #1 and MW #2), conversion of MUSD test well MW #6 to a production well, installation and operation of up to ten new MCCSD emergency groundwater supply wells, a replacement treatment building, new flow meters, an on-site MCCSD connection to the MUSD water distribution system near the replacement treatment building, improvement of an existing access road, new on-site access roads to new groundwater wells, and other site improvements such as potential new fencing and security gates near the proposed replacement tanks. These activities are based on the improvement plan (see Figure 4, Modified Site Plan).

Deconstruction of Existing Facilities

The two existing in-service water storage tanks at the Project site would be drained, removed from service, dismantled, and recycled to the extent possible. Removal of the tanks would be phased to maintain water service at all times. Pipelines, valves, vaults, concrete pads, and other infrastructure associated with the existing tanks would also be dismantled as required. An experienced tank demolition contractor would oversee the demolition process and ensure adherence to applicable federal, State and local regulations for worker safety and materials handling.

Safeguards would be provided for protection of personnel and the public during tank removal and construction activities, including temporary fences, warning signs, barricades, and other similar measures. The tanks would be recycled and any loose paint and debris would be collected, stored and disposed of according to local, State and federal regulations. Any asbestos- or lead-containing material requiring removal would be properly handled and disposed of according to local, State, and federal regulations. Materials with no practical reuse or that cannot be salvaged or recycled would be disposed of at a local landfill, or at an incinerator.

Installation of New Facilities

As shown in Table 2, the MUSD proposes to replace the existing water storage tanks at the site with two new steel tanks providing up to 615,000 gallons of potable water storage. Of that, 115,000 gallons is to meet the recommended operational storage for the MUSD water system. The remaining 500,000 gallons of water storage would be for use as an emergency water supply, managed by MCCSD for the MCCSD service area.

The new tanks would be approximately 50 feet in diameter and approximately 48 feet in height. The new tanks would be constructed in approximately the same locations as the existing tanks that would be removed. An approximately 10-foot wide gravel apron would be constructed around the perimeter of the proposed replacement tanks.

The proposed new tanks have been sized to provide sufficient storage capacity for the recommended operational storage as well as NFPA 1142 requirements and CFC CCR Title 24, Part 9 for fire flows. The tanks would also include water level sensors, flowmeters, chlorine analyzers, and tank level alarms that would be located within the water treatment building. The new tanks would be constructed using reinforced slab-on-grade or ring foundations resting on engineered fill materials. Seismic design of the new tanks would conform to the most recent version of the California Building Code (CBC), ASCE 7, ASCE-8, and the AWWA D103 design standards with any local amendments. The tanks would utilize flexible piping and other connections to minimize damage during a seismic event in accordance with site-specific geotechnical recommendations.

Table 2. Existing vs. Proposed Water Storage Tanks

Tank Feature	Existing Redwood Tank	Existing Steel Tank	Proposed Replacement Tanks
Material	Wood	Steel	Steel
Storage Capacity	50,000 gallons	65,000 gallons	615,000 gallons combined
Outside Diameter	24 feet	26 feet	50 feet
Height	16 feet	16 feet	48 feet

Water Source and Well Improvements

The Modified Project would redevelop one existing MUSD water supply well (Well #1), reconstruct a second MUSD water supply well (Well #2), connect MUSD Well #6 to the MUSD system, and install and operate up to ten additional groundwater wells at the Project site for emergency water supply use by MCCSD. Redevelopment of Well #1 would include procedures designed to provide sand-free water and maximize well yield. Reconstruction of Well #2 would include replacing power conduits and installing transducers and cables routed to the proposed new treatment building.

Each of the proposed new groundwater wells would have an approximately 6-inch diameter casing and would be drilled to a depth of approximately 30 to 50 feet below ground surface. Up to one deep well would be drilled to a depth of approximately 400 feet below ground surface. Based on the relatively shallow aquifer thickness, the shallow wells are anticipated to be constructed with a reduced sanitary surface seal (20-feet in depth) with approval from the Division of Drinking Water. The one potential deep well would have a standard sanitary surface seal. Each groundwater well would include a submersible vertical turbine pump and would have an anticipated capacity of approximately 3 to 10 gallons per minute per well.

The proposed well heads would be housed in above grade locking enclosures. Underground piping would be installed to connect the proposed new groundwater wells to the water treatment building and storage tanks. The proposed well connection pipelines would consist of 1-inch to 2-inch PVC pipe.

Please see Section 1.5.1, Project Construction, for additional information about the construction process for installation of groundwater production wells. Groundwater generated during redevelopment would be stored on site and used as water for dust suppression or otherwise allowed to infiltrate into on-site soils.

Water Treatment Building

The Modified Project would construct a new approximately 350 square foot concrete masonry unit (CMU) water treatment building on the Project site to house the water treatment, disinfection, chemical and monitoring equipment, as well as associated piping, valves, and controls. Chlorination of the storage tanks would be completed in accordance with one of the approved methods described in the AWWA Standard C652-22, Disinfection of Water-Storage Facilities. Sodium hypochlorite is recommended for disinfection and would be injected via a flow-paced chemical feed pump. The injection point would be located within the treatment building, and in close proximity to the storage tank to enable satisfactory mixing. An emergency back-up generator would be located adjacent to the water treatment building to provide a backup power source in the event of a power outage. The generator would be enclosed and would be equipped with an integrated diesel tank. No separate

underground or aboveground diesel storage tank is proposed.

Access Roads and Security Improvements

The Modified Project would improve the existing gravel access road within the Project site by widening the road to create a 20-foot-wide all-weather gravel road meeting fire department access requirements. The reconstructed access road would extend from the existing maintenance building to the proposed new tanks and treatment building. There would be space for approximately four parked maintenance vehicles, two at the tank site and one at existing wells MW #1 and MW #2. Additional access roads would be constructed to provide vehicle access to proposed new groundwater wells. The Modified Project may also include a new security fence around the perimeter of the replacement tanks, with a lockable chain link access swing gate.

1.5.1 Construction Information

The MUSD anticipates that Project construction would commence in 2023 and require approximately 10 months to complete. Construction activities would generally occur Monday to Friday, 7 AM to 5 PM. The Modified Project is not anticipated to require nighttime construction work or construction on weekends or legal holidays.

Prior to construction, the contractor would mobilize resources to a staging area within a portion of the Project site. This would include transport of construction vehicles and equipment, as well as delivery and storage of construction materials. The contractor may also secure a job site trailer and portable sanitary facilities at staging areas. The staging area would also be used for temporary stockpiling of demolition waste during dismantling of the tanks.

Project construction activities would include deconstruction / demolition of existing facilities, site preparation, tank construction, well installation, utility trenching, as well as truck trips to deliver / haul materials away and construction worker trips. These activities would require the use of construction equipment such as an excavator, bulldozer, backhoe, grader, concrete saws, truck-mounted drill rig, aerial lifts, boom truck, crane, and rough terrain forklift. Additional equipment likely to be used would include air compressors, generator sets, and pneumatic and electric powered tools. This equipment would be staged on-site, near the proposed tank area.

The proposed site preparation activities would involve excavation and removal of soil and construction debris from the site. The Modified Project would involve approximately 2,163 cubic yards of cut and 653 cubic yards of fill. MUSD anticipates up to approximately 20 haul truck trips for hauling off deconstructed tank components, and an additional 40 truck deliveries for import of concrete, gravel, building materials and other supplies to the site. Construction is estimated to require up to 10 workers on site. As described in Section 3.17, Transportation, prior to the start of construction, the contractor will be required to prepare and implement a construction traffic control plan.

Shallow well installations would involve drilling of approximately 6-inch diameter production boreholes to a depth of approximately 30 to 50 feet. The deep well installation would involve drilling of an approximately 6-inch diameter production borehole to a depth of approximately 400 feet. An impervious seal consisting of sand/cement grout would be placed in the well annular space above the filter pack. A well casing and well screen would be installed in the borehole of each groundwater well and the completed boreholes would be logged to confirm the hydrogeologic conditions.

Development of the wells would begin after the annular seal has set for an adequate amount of time. Initial development of the wells may be performed using airlift pumping and swabbing of the well screen. Final development of the wells may potentially be performed by surging and pumping using a temporary test pump. Various well pumping tests may be performed after final well development,

including pumping for durations of two hours each at different discharge rates (step-drawdown test), and continuous pumping at the final design capacity of a well (constant-discharge aquifer test). The wells will be constructed in accordance with the MCCSD Groundwater Management Plan, specifically Ordinance 2020-01. This includes notification of surrounding properties, and a 72-hour pump test as part of a hydro-geologic study during construction. Groundwater samples would be collected during the pumping tests to verify the water quality produced.

When the pumping tests have been completed and the test pumps removed, final activities would include video and alignment surveys, as well as disinfection of the completed wells. After disinfection, a mechanical plug would be installed within the well casings. The well sites would be cleaned, the baserock used for the drilling pad would be removed, and mulch would be spread over the site to prevent soil erosion.

The route for construction access and hauling activities would follow Highway 1 to Little Lake Road to the Project site. The site access driveway would be kept clear to allow ingress and egress for construction purposes.

To ensure that the water system remains operational during construction, demolition and construction of the new tanks would be phased to maintain water service at all times. If needed, a system of temporary water storage tanks may also be installed at the Project site prior to demolition of an existing tank. If temporary tanks were utilized, a concrete or gravel pad would be constructed to support the temporary tanks. The temporary tanks would be secured in place with guy line anchors or anchor bolts at the base of the tanks, helical anchors, or similar methods.

Approximately 120 trees, as well as bushes and other vegetation that would likely encroach on the proposed improvement areas, would either be trimmed back or removed. Prior to construction, protective fencing would be installed to form a continuous barrier around individual trees and groups of trees to be retained on the Project site. Pruning of select trees on the Project site may also be required to provide space for construction equipment. Removal of trees would be conducted in accordance with applicable Mendocino County Coastal Zone requirements.

1.6 Operation and Maintenance

Once constructed and operational, water would be treated by the MUSD's water treatment system, and operation and maintenance of the treatment system would remain the responsibility of the MUSD as part of its State permitted public water system.

Emergency water supplies would be accessed by MCCSD during a State or Federally proclaimed state of emergency based on drought conditions or when a MCCSD-declared water shortage emergency has been issued and interim or immediate relief is needed via hauled water. The proposed emergency water supply component of the Modified Project is not intended to replace previously used sources of emergency water supply, but rather, to supplement such supplies for greater reliability.

The volume of emergency water supplies associated with the Modified Project that would be used by MCCSD would depend on the severity of a drought condition, the interim or immediate relief needs of MCCSD customers, and the availability of emergency hauled water that could be imported from other water districts. During years when no drought conditions or water shortage emergency is in effect, no emergency water supplies would be used. During such years, people within the MCCSD service area that need supplemental water would continue to purchase water elsewhere, as is done currently and in the past, from such entities as the City of Fort Bragg or the City of Ukiah.

During the most recent drought condition, which was one of the worst in recorded State history,

approximately 28,000 gallons of potable water per day was being imported from other water districts to address water shortages within the MCCSD service area over a two-month period from late September to mid-November in 2021 (Personal Communication, Ryan Rhoades, MCCSD, June 20, 2023). During this period, up to 8 trucks loads of water per day was being transported into the MCCSD service area from the City of Fort Bragg and the City of Ukiah. Over the course of the peak two-month period, this equated to the import of approximately 5 acre-feet of potable water from other water districts. Records obtained from the County of Mendocino Executive Office also indicates that 414,500 gallons of potable water (1.27 acre-feet) was hauled from the City of Ukiah to address water shortages within the Mendocino community from September 2021 through August 2022. Using this most recent scenario as an evidentiary support for a range of potential volumes of emergency water to be used as part of the Modified Project, it is estimated that between 0 acre-feet and 5 acre-feet of potable emergency water from the Modified Project could be used during a drought condition.

The planned operation is to fill the tanks during the wet season and then maintain the tanks full during summer months when a drought condition is projected, so if the need arises and water from other local systems is unavailable, the supplemental emergency water stored in the tanks could be sustainably available for use.

The MUSD would operate and maintain the replacement tanks and water treatment improvements in a manner similar to the existing tanks and water system. MUSD maintenance personnel would periodically visit the site as part of a routine maintenance program, which would include the collection of water samples for testing, as required by the Division of Drinking Water.

MCCSD will operate and maintain the wells that are intended to provide an emergency water supply as part of the UMBDR grant funding. MCCSD will be responsible for costs associated with the maintenance, use, and replacement of the wells, and proportionate costs of operation and maintenance of the tanks and water treatment system, for water accessed by MCCSD.

~~For the purposes of evaluation, an approximate maximum annual extraction of 24.15 acre-feet per year from the proposed well field is anticipated (assuming an average flow of 5 gallons per minute per well, including the existing MUSD Wells 1, 2, and 6). The well pumping schedule would be revised as needed based on the actual capacity of individual wells, monitoring data, and measured aquifer response.~~

The MUSD and MCCSD would periodically ~~routinely~~ exercise the wells, when not in use, to ensure that the facilities are maintained and remain operational. Well exercising would be anticipated to occur either weekly or monthly. The wells would be exercised for one hour per week or for a single, four-hour period monthly. Operators may fine-tune the exercise schedule according to the characteristics of the well. Groundwater pumped during exercising would be treated and discharged into the storage tanks.

Operation and maintenance of the Modified Project would generate approximately one traffic trip per day on average, and approximately 10 hauled water truck trips per day when emergency water supplies were being provide for community use during a drought. Water deliveries would involve filling an approximately 3,500-gallon to 4,000-gallon water truck from a metered fire hydrant or from the MUSD's water supply and storage site, and delivery to public and private water tanks by a contracted hauling company. Off-loading would be no different than existing conditions where users have received water deliveries from the City of Fort Bragg and the City of Ukiah. ~~Water deliveries would involve off-loading potable water to public and private water tanks for community use.~~

Vehicle trips associated with operation and maintenance activities currently occur under existing conditions. Following construction of the replacement tanks and other system components, the

Project would not result in the need for substantial additional operation and maintenance-related vehicle trips. ~~Therefore, o~~ Operation of the Project would periodically ~~not~~ result in one new daily vehicle trips on local roadways for exercising and operation of the proposed emergency water supply wells and as noted above, up to 10 hauled water truck-trips per day when emergency water supplies were being provided during a drought condition.

A backup generator to be located in a sound attenuating enclosure next to the replacement water treatment building and would only be used if power is lost. The MUSD would utilize a generator that will be EPA or CARB certified and achieves emission standards for emergency standby sources, consistent with BAAQMD requirements.

1.7 Compliance with Existing Regulations and Standard BMPs

The Modified Project will abide by the following regulations and industry-accepted Best Management Practices (BMPs) to reduce or avoid potential adverse effects that could result from construction or operation of the Project. In addition to these BMPs, mitigation measures are presented in the analysis sections in Chapter 3, Environmental Analysis, to reduce potentially significant environmental impacts below a level of significance. The Modified Project's Mitigation Monitoring and Reporting Program will include these actions to ensure implementation.

Implementation of Geotechnical Design Recommendations: As part of the Project design process, the MUSD will engage a California-registered Geotechnical Engineer to conduct a design-level geotechnical study for the Project. The Project will be designed to comply with the site-specific recommendations made in the geotechnical report. This will include design in accordance with the seismic and foundation design criteria, as well as site preparation and grading recommendations included in the report. The geotechnical recommendations will be incorporated into the final plans and specifications for the Project and will be implemented during construction.

Implementation of Stormwater Pollution Prevention Plan: If the Modified Project disturbs more than one acre of soil, the MUSD/MCCSD and/or its contractor will obtain coverage under State Water Resources Control Board Order No. 2009-0009-DWQ, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities, as amended by Order No. 2012-0006. This will include submittal of permit registration documents (notice of intent, risk assessment, site maps, Storm Water Pollution Prevention Plan (SWPPP), annual fee, and certifications) to the State Water Resources Control Board. The SWPPP will address pollutant sources, non-storm water discharges resulting from construction dewatering, best management practices, and other requirements specified in the above-mentioned Order. The SWPPP will also include dust control practices to prevent wind erosion, sediment tracking, and dust generation by construction equipment. A Qualified SWPPP Practitioner will oversee implementation of the plan, including visual inspections, sampling and analysis, and ensuring overall compliance.

1.8 Required Agency Approvals

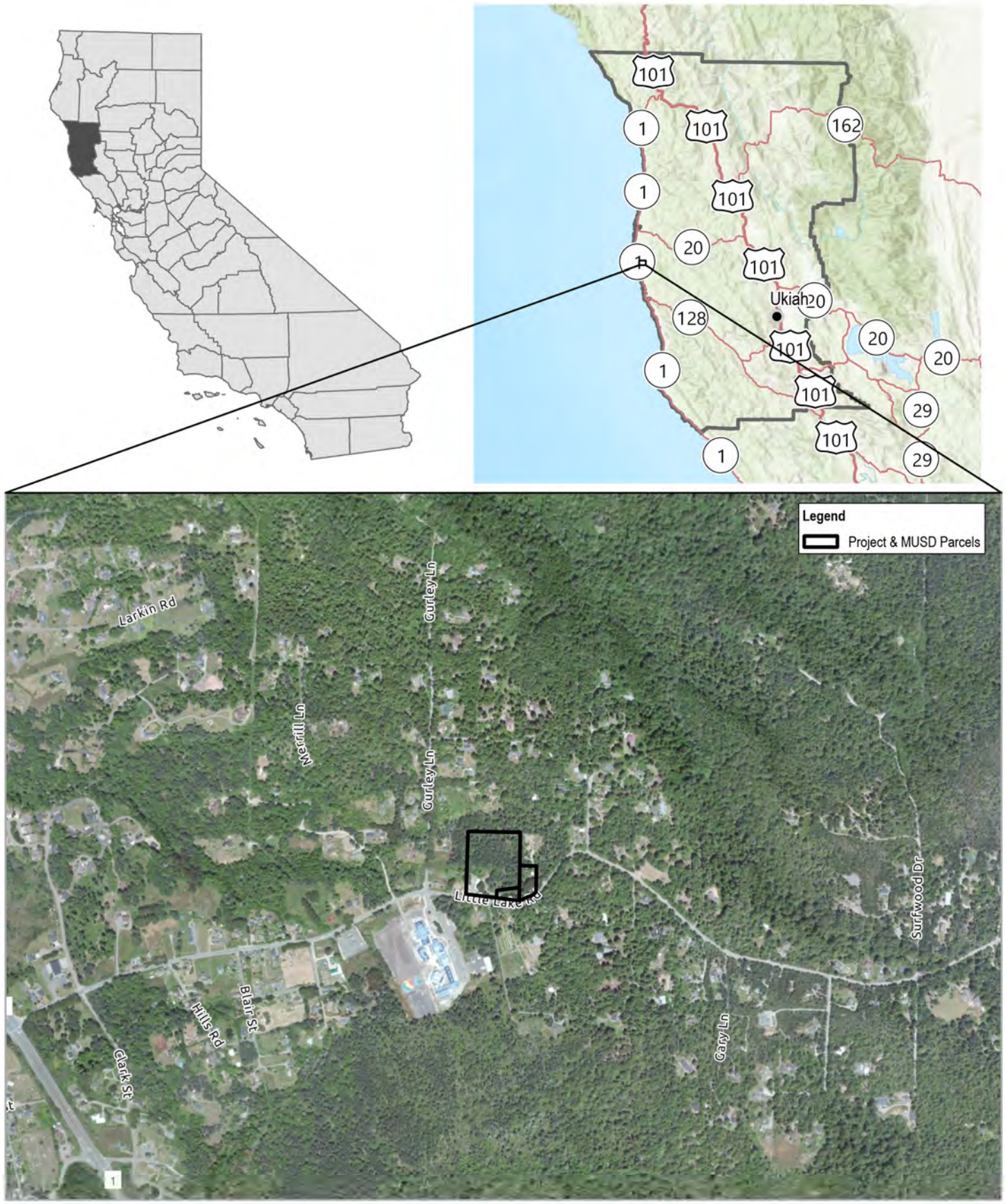
The Modified Project would require the following permits and approvals.

- Project approval by MUSD Board of Trustees and MCCSD Board of Directors;
- Mendocino County Planning and Building Services Department Coastal Development Permit, Building Permit, and Use Permit;
- California Department of Public Health and State Water Resources Control Board Domestic Water Supply Permit Amendment;

- State Water Resources Control Board Division of Financial Assistance State Revolving Fund Application and Consultations;
- State Water Resources Control Board Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities; and
- Mendocino County Air Quality Management District Renovation and Demolition Notification.

1.9 Tribal Consultation

The MUSD has no record of receiving requests for notification of proposed projects from California Native American tribes pursuant to Public Resources Code Section 21080.3.1. The MUSD nevertheless initiated contact with Native American tribes as part of preparing this Subsequent MND. Please refer to Section 3.5, Cultural Resources and Section 3.18, Tribal Cultural Resources, for additional information.



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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California II FIPS 0402 Feet

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MUSD
MUSD Water System Reconstruction Project
Water Supply and Storage Improvements

Project No. **12584992**
Revision No. -
Date **4/24/2023**

Vicinity Map

FIGURE 1

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Existing Redwood Tank

Existing Steel Tank

Well #1 Housing

Well #2 Concrete Caisson Enclosure with Wood Lid

MUSD
MUSD Water System Reconstruction Project
Water Supply and Storage Improvements

Project No. **12594992**
Revision No.
Date **2/17/2023**

Existing In-service Tanks and Wells

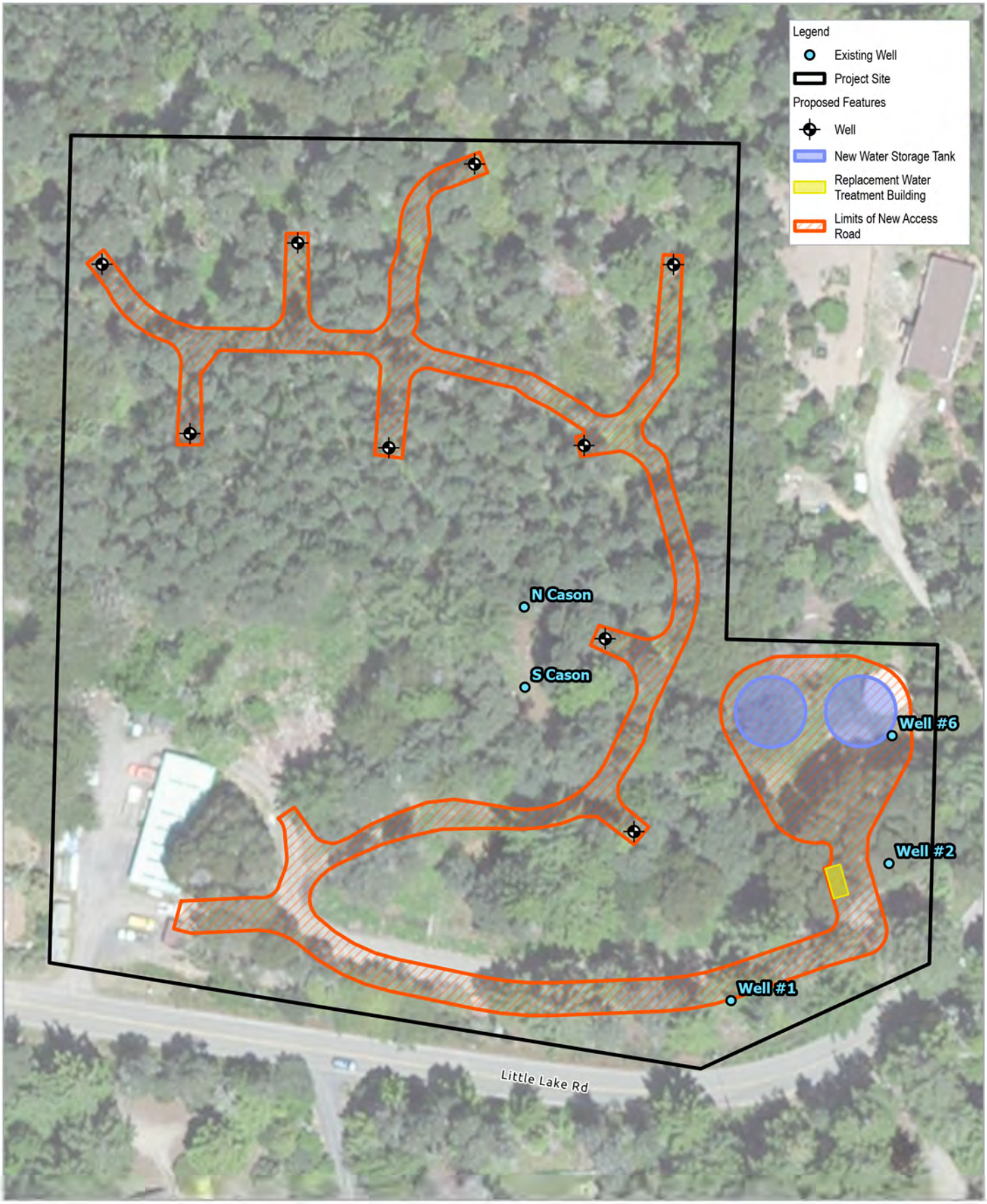
FIGURE 2

MUSD
MUSD Water System Reconstruction Project
Water Supply and Storage Improvements

Existing Treatment Building and Access Road

Project No. **12584992**
Revision No.
Date **2/17/2023**

FIGURE 3



Paper Size ANSI A

0 20 40 60 80

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California II FIPS 0402 Feet

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GHD

MUSD
MUSD Water System Reconstruction Project
Water Supply and Storage Improvements

Project No. 12584992
Revision No. -
Date 5/10/2023

Modified Site Plan

FIGURE 4

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Print date: 10 May 2023 - 10:13

2. Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages. Where checked below, the topic with a potentially significant impact will be addressed in an environmental impact report:

☐ Aesthetics	☐ Greenhouse Gas Emissions	☐ Public Services
☐ Agricultural & Forestry Resources	☐ Hazards & Hazardous Materials	☐ Recreation
☐ Air Quality	☐ Hydrology/Water Quality	☐ Transportation
☐ Energy	☐ Land Use/Planning	☐ Tribal Cultural Resources
☐ Biological Resources	☐ Mineral Resources	☐ Utilities/Service Systems
☐ Cultural Resources	☐ Noise	☐ Wildfire
☐ Geology/Soils	☐ Population/Housing	☐ Mandatory Findings of Significance

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION would be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there would not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION would be prepared.

☐ I find that the proposed MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect: (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect: (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

June 23, 2023

Date

3. Environmental Analysis

3.1 Aesthetics

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?			✓	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				✓
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public view of the site and its surroundings? (Public Views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?		✓		
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			✓	

a) Have a substantial adverse effect on a scenic vista? (Less than Significant)

The Mendocino County Coastal Element and the California Coastal Act seek to protect views to and along the ocean and scenic coastal areas to minimize alteration of natural landforms. The Project site is not located within a designated highly scenic area or within a coastal viewshed from public areas such as roads, parks and trails. The Project site is located approximately 0.75 mile east of State Route 1 and is not visible from the highway, and is not located within a visual resource area as designated in the Mendocino County Coastal Element. The proposed improvements would not block coastal views or views of ridgelines from public roadways or other vantage points. Similar to the conclusion of the 2020 MND, the impacts of the Modified Project on a scenic vista would be less than significant. See impact "c" below for a discussion of potential impacts relative to visual character or quality of public views of the site and its surroundings.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? (No Impact)

State Route 1 within Mendocino County is identified as eligible for official scenic highway designation (Caltrans 2023). The Project site is located approximately 0.75 mile east of State Route 1, and is not visible from the highway. Similar to the conclusion of the 2020 MND, no impact would result.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public view of the site and its surroundings? (Public Views are those that are experienced from publicly accessible vantage point) (Less than Significant with Mitigation)

The Project site and existing water storage tanks are visible from Little Lake Road. The Modified Project would replace two existing water storage tanks with two new larger capacity steel tanks in approximately the same location. The new water tanks would have a larger diameter than the existing tanks, and would be approximately 48 feet in height, which is approximately 32 feet taller than the existing water tanks. Additional visual changes include additional water supply wells, a widened gravel access road between an existing maintenance building and the reconstructed tanks, new access roads to the new groundwater wells, a potential new 6-foot high chain link security fence that would be constructed around the perimeter of the site, a lockable chain link access swing gate, and a new approximately 350 square foot water treatment building.

As discussed in Impact "a", the Project site is not located within a designated highly scenic area or within a coastal viewshed from public areas such as roads, parks, and trails. The proposed improvements would not block views of ridgelines from public roadways or other vantage points. Trees, bushes and other vegetation that may encroach on the proposed new tanks and groundwater wells would either be trimmed back or removed. Although Little Lake Road is not a designated scenic corridor, given the increased height of the proposed new tanks and the potential need for pruning and removal of select trees, views of the reconstructed tanks would be more prominently visible from Little Lake Road and adjacent vantage points.

Therefore, similar to the conclusion of the 2020 MND, the potential impact of the Modified Project on the quality of public views of the site and its surroundings would be significant.

Mitigation

Mitigation Measures AES-1 and AES-2 would reduce the impact of the Modified Project on public views to a less-than-significant level by minimizing tree loss, replanting trees, restoring areas disturbed during construction, and incorporating aesthetic elements into the proposed improvements.

Mitigation Measure AES-1: Minimize Tree Loss

The MUSD shall retain a certified arborist to oversee pruning techniques to minimize the potential for tree impacts and tree loss at the Project site. Construction activities within the dripline of trees shall be avoided to the extent feasible during construction. Pruning of trees shall be completed by either a certified arborist or by the contractor under supervision of either an International Society of Arboriculture qualified arborist, American Society of Consulting Arborists consulting arborist, or a qualified horticulturalist. Pruning shall be completed to the minimum degree necessary to accommodate construction vehicles and in a manner that helps preserve tree health. Replacement trees shall be planted on-site to provide visual screening of the site from Little Lake Road and adjacent properties. The MUSD shall ensure that plantings will be monitored annually for five years after Project completion to ensure that the replacement planting(s) has developed and that the trees survive.

Mitigation Measure AES-2: Minimize Visual Impacts

The MUSD shall restore or revegetate staging areas and other work areas disturbed by construction activities, including restoring pre-Project topographic features and reseeding with species comparable to those removed or disturbed during construction. To the extent feasible, the MUSD shall ensure that the proposed new tanks are of a color that would minimize visual contrast and blend in with the surrounding landscape. Access roads shall be designed with the minimum width needed for adequate maintenance and fire access.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? (Less than Significant)

Outdoor lighting on the Project site would include one low intensity motion-activated light on the replacement water treatment building. Project plans show that proposed lighting would be shielded or recessed and directed downward to reduce light spillage onto adjoining properties and public right-of-way. Similar to the conclusion of the 2020 MND, the lighting for the Modified Project would not substantially change from existing conditions and would be designed to be downcast and low intensity, and the impact would be less than significant.

3.2 Agriculture and Forest Resources

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				✓
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				✓
d) Result in the loss of forest land or conversion of forest land to non-forest use?				✓
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland, to non-agricultural use or conversion of forest land to non-forest use?				✓

a-e) Convert farmland or forest land? (No Impact)

The Modified Project would not be located on lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (CDC 2018), or on land under a Williamson Act contract (Mendocino County 2014). The Modified Project would not be constructed on land zoned for agricultural or forestland uses. Thus, the Modified Project would not convert Important Farmland, land under a Williamson Act contract, or forest land to other uses, nor conflict with zoning for agricultural or forestry uses. Similar to the conclusion of the 2020 MND, no impact to agriculture or forestry resources would result.

3.3 Air Quality

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporation	Less-Than-Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?		✓		
b) Result in a cumulatively considerable net increase in any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?			✓	
c) Expose sensitive receptors to substantial pollutant concentrations?			✓	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?				✓

Local Air Basin

The Project site is located within the North Coast Mendocino County sub-basin of the North Coast Air Basin, which is within the jurisdiction of the Mendocino County Air Quality Management District (MCAQMD). The North Coast Mendocino County sub-basin, like the rest of Mendocino County, is designated as a non-attainment area for the State particulate matter (PM10) standard. The sub-basin is in attainment for all other State standards and for all Federal criteria air pollutants (ARB 2023, U.S. EPA 2023).

According to the MCAQMD's Particulate Matter Attainment Plan (MCAQMD 2005a), the primary man-made sources of PM10 pollution in the North Coast Air Basin are wood combustion (woodstoves, fireplaces and outdoor burning), fugitive dust, and automobile traffic. Some of the automobile emissions are the result of "pass-though" traffic on US Highway 101 because of its nature as the major transportation corridor in this part of the State.

CEQA Thresholds

On June 3, 2010, the MCAQMD Air Pollution Control Officer issued new CEQA guidance which requested that Planning agencies and consultants use the Bay Area Air Quality Management District (BAAQMD) CEQA Thresholds adopted on May 28th, 2010, to evaluate air quality impacts, with

clarifications provided in 2013 (MCAQMD 2010, MCAQMD 2013). The BAAQMD CEQA Thresholds were subsequently invalidated by a trial court because the BAAQMD itself did not do a CEQA evaluation of the Thresholds before their adoption. The Court, however, did not rule on or question the adequacy of the BAAQMD Air Quality CEQA Guidelines, including the impact assessment methodologies, or the evidentiary basis supporting the Thresholds, which are included in the Guidelines. Therefore, the following air quality analysis utilizes in part the impact assessment methodologies presented in the BAAQMD Air Quality CEQA Guidelines.

a) Conflict with or obstruct implementation of the applicable air quality plan? (Less than Significant with Mitigation)

The California Clean Air Act of 1988 requires that any air district that does not meet the PM10 standard make continuing progress to attain the standard at the earliest practicable date. In response to this requirement, the MCAQMD adopted a Particulate Matter Attainment Plan in 2005 (MCAQMD 2005), which includes a description of local air quality, the sources of local PM emissions, and recommended control measures to reduce future PM levels. Control measures recommended in the Attainment Plan include measures related to woodstoves, campgrounds, unpaved roads, construction and grading activities, new residential development, and open burning emissions.

Construction activities associated with the Modified Project would include site preparation (e.g., demolition, clearing/grubbing), grading, excavation, utility trenching, and roadway widening. The types of air pollutants generated by these activities are typically nitrogen oxides and particulate matter, such as dust and exhaust. Because construction activities could temporarily increase levels of PM10 in a region designated as non-attainment for PM10, the impact is considered significant.

Mitigation

With implementation of Mitigation Measure AIR-1, construction activities would not conflict with or obstruct implementation of the 2005 Particulate Matter Attainment Plan. The impact following mitigation would be less than significant.

Mitigation Measure AIR-1: Dust Control Measures

In accordance with Rule 1-430(b) of the Mendocino County Air Quality Management District Regulations, the MUSD and its Contractor shall implement the following airborne dust control measures during construction activities:

- All visibly dry disturbed soil road surfaces shall be watered to minimize fugitive dust emissions.
- All unpaved surfaces~~, unless otherwise treated with suitable chemicals or oils,~~ shall have a posted speed limit of 10 miles per hour.
- Earth or other material that has been transported by trucking or earth moving equipment, erosion by water, or other means onto paved streets shall be promptly removed.
- ~~Asphalt, oil, w~~Water~~, or suitable chemicals~~ shall be applied on materials stockpiles and other surfaces that can give rise to airborne dusts.
- All earthmoving activities shall cease when sustained winds exceed 15 miles per hour.

- The operator shall take reasonable precautions to prevent the entry of unauthorized vehicles onto the site during non-work hours.
- The operator shall keep a daily log of activities to control fugitive dust.

b) Result in a cumulatively considerable net increase in any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard? (Less than Significant)

The Project site is located in an area that is in attainment for all criteria air pollutants, except for PM10. By its nature, air pollution is largely a cumulative impact, in that individual projects are rarely sufficient in size to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions may contribute to cumulative adverse air quality impacts.

The BAAQMD's CEQA guidelines and thresholds, which the MCAQMD uses as CEQA guidance, includes screening criteria to provide lead agencies with a conservative indication of whether a project could result in potentially significant air quality impacts. According to the guidelines, if a project's characteristics (i.e., square footage, acreage, number of dwelling units) are less than associated screening criteria, then the lead agency does not need to perform a detailed air quality assessment of the project's air pollutant emissions and a less-than-significant impact would occur (BAAQMD 2017).

For construction activities, several different screening criterions are recommended by the BAAQMD relative to air pollutant emissions (i.e., reactive organic gases [ROG], NOX, PM2.5, and PM10). For example, detailed air quality assessments are not required for construction of projects such as single family residential developments comprised of less than 114 dwelling units, City parks that are less than 67 acres in size, and construction of office and commercial buildings that are less than 277,000 square feet (BAAQMD 2017).

The BAAQMD CEQA thresholds do not include specific screening criteria for tank replacement or infrastructure improvement projects. However, when one compares the screening criteria established for the types of projects described above, it is reasonable to assume that the extent of construction activities associated with the Modified Project would be substantially less and would also not warrant a detailed air quality assessment. The Modified Project, for example, would be conducted during one construction season (i.e., approximately ten months) and the total construction disturbance area is estimated to be less than 5 acres – well below the screening criteria. Therefore, given the temporary nature of the Project's construction phase and the scale of the Project, it is not anticipated that construction activities would result in a cumulatively considerable net increase of PM10. The short-term impact would be less than significant. Additionally, dust control measures required by Mitigation Measure AQ-1 would further minimize fugitive dust and emissions during construction.

Following construction, the Modified Project would not result in a new stationary source of emissions and the Project would not result in a substantial increase in mobile trips to the site. Truck trips would be limited to that utilized by routine maintenance workers as they traveled to and from the site, which would generally require one maintenance visit per day when the wells are operating and monthly visits when wells are not in operation, and water truck trips during an emergency or drought when water supplies are being provided to the community. Water truck trips would only occur during an emergency or drought condition when emergency water supplies are being provided to MCCSD customers. During past drought conditions when emergency water supplies have been required, the City of Fort Bragg and City of Ukiah have supplied water to parcels within the community of Mendocino via water hauling. In comparison, hauling of a portion of the needed emergency water supply during a drought condition from within the community of Mendocino would result in a reduction

in mobile source air quality emissions from trucks due to shorter hauling distances, comparative to hauling from Fort Bragg or Ukiah. Therefore, the Modified Project would not result in a substantial increase in mobile pollutant emissions nor result in a cumulatively considerable increase in PM10 emissions. Similar to the conclusions of the 2020 ISMND, no long-term impact would result.

c) Expose sensitive receptors to substantial pollutant concentrations? (Less than Significant)

Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardio-respiratory diseases. Residential uses are also considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. The closest residential receptors are residences north and west of the project site. The two pollutants of concern for this impact are naturally occurring asbestos and diesel particulate matter.

Naturally Occurring Asbestos

Asbestos is a common name for a group of naturally occurring fibrous silicate minerals that are made up of thin, but strong, durable fibers. Asbestos is a known carcinogen and presents a public health hazard if it is present in the friable (easily crumbled) form. Naturally occurring asbestos (NOA) is most typically encountered in Franciscan ultramafic rock (primarily serpentinite) or Franciscan mélange. The MCAQMD has published mapping of areas of concern for NOA within Mendocino County. The Project site is not located within an area of concern for NOA. The nearest location of concern is approximately 20 miles inland from the Project site (MCAQMD 2005). Therefore, no human exposure to NOA is anticipated to occur during construction. No impact would result.

Diesel Particulate Matter

Construction equipment and heavy-duty truck traffic generate diesel particulate matter (DPM) exhaust, which is a known toxic air contaminant. DPM from equipment exhaust and $PM_{2.5}$ pose potential health impacts to nearby receptors. The majority of heavy diesel equipment usage would occur during the site clearing and demolition, and grading phases of construction. Because the limited scope and duration of the Project, no prolonged or intense construction activity would occur. Project construction would result in a less than significant impact from exposure to construction-generated DPM. Following construction, the Modified Project would not expose sensitive receptors to substantial pollutant concentrations as the Project does not include any stationary source emissions or a substantial increase in mobile emissions. No long-term impact would result.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? (No Impact)

Implementation of the Modified Project would not result in any major sources of odor. The Project is not one of the common types of facilities known to produce odors (e.g., landfill, coffee roaster, wastewater treatment facility, etc.). Construction activities could result in short-term odors, such as diesel exhaust from construction equipment. Such odors would be temporary, occurring only during the construction period, and would disperse rapidly. Therefore, construction would not create objectionable odors affecting a substantial number of people. Following construction, there would be no features included in the project that would, by their nature or design, result in a new source of odors. No impact would result.

3.4 Biological Resources

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		✓		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?		✓		
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		✓		
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			✓	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?		✓		
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?		✓		

Biological Resources Evaluation

A Biological Resources Evaluation was prepared for the Modified Project to identify special-status plant and wildlife species and sensitive habitats (including wetlands) that have the potential to occur on or in the vicinity of the Project site (GHD 2023a). The assessment included literature and database searches as well as site surveys to determine what species might have potential to be present on the Project site. The database searches encompassed six U.S. Geological Survey (USGS) quadrangles (quads) centered on the Project area quad (Mendocino) and the surrounding five quads (Elk, Mathison Peak, Noyo Hill, Albion, and Fort Bragg). In addition, citizen science databases such as eBird and iNaturalist were reviewed for additional local wildlife information.

Reconnaissance-level field surveys were conducted by a GHD Biologist/Botanist on September 29, 2022, October 11, 2022, and October 12, 2022. The survey methods were intended to identify sensitive habitat and detect wildlife activity. Where the habitat allowed the surveyor to walk without risk of damaging nests or dens and surrounding vegetation, the survey included a physical search of the area. This included inspecting the ground, shrubs, and trees for the presence of any wildlife species. Additionally, the bark of vegetation and the ground layer under vegetation were inspected for evidence of wildlife species, such as feathers, pellets, whitewash, scat, tracks, etc. Where the habitat was dense or otherwise impenetrable or inaccessible, observations were made from fixed locations.

The information and data collected for the assessment have been used as the basis of this biological resources analysis.

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? (Less than Significant with Mitigation)

Mendocino Cypress

Known rare or special status plant species within the Project site include ten (10) un-stunted Mendocino cypress (*Hesperocyparis pigmaea*, CRPR 1B.2) trees approximately 50 to 75 feet tall. Four (4) of the identified Mendocino cypress trees are presumed to be planted or landscaped from a local seed source as a windbreak or privacy screen along the parcel boundary and six (6) Mendocino cypress trees are presumed to be naturally occurring within a Bishop pine forest. Both naturally occurring and planted Mendocino cypress trees are considered special status plant species and may also be considered environmentally sensitive habitat areas (ESHA). The Modified Project would require removal of approximately four of the Mendocino cypress trees, which is considered a significant impact. Implementation of Mitigation Measure BIO-1 would reduce the impact of the Modified Project on Mendocino cypress to a less-than-significant level by avoiding removal of individual cypress trees where possible, and by replanting any removed Mendocino cypress trees to ensure no net loss of the species within the Project site.

Other Special-status Plant Species

A reconnaissance-level field survey was conducted by a GHD Biologist on September 29, 2022. Due to seasonal survey timing constraints, protocol-level field surveys for special status plants were not possible in 2022.

Based on a database and literature review, five (5) state listed or candidate plant species that are regulated by the CDFW under the California Endangered Species Act (three of which are also federally listed) were identified as potentially occurring on site. These include Humboldt County milk-vetch, Point Reyes blennosperma, Howell's spineflower, Menzies' wallflower, and Monterey clover. However, subsequent to the site-visit none of these species were identified as likely to occur within the Project site due to lack of suitable habitat and/or because the study area lies outside of the species' known current geographic range.

In addition, occurrences for sixty-nine (69) other plant species with special State protections or that are tracked via the CNDDB and CNPS were identified within the six-quad search area. Of these, the following twelve species have a moderate to high potential to occur within the Project study area.

- Pygmy Cypress (*Hesperocyparis pigmaea*), CRPR 1B.2
- Point Reyes ceanothus (*Ceanothus gloriosus var. gloriosus*), CRPR 4.3
- Bunchberry (*Cornus canadensis*), CRPR 2B.2
- Harlequin lotus (*Hosackia gracilis*), CRPR 4.2
- Baker's goldfields (*Lasthenia californica ssp. bakeri*), CRPR 1B.2
- Leafy-stemmed mitrewort (*Mitellastra caulescens*), CRPR 4.2
- Seacoast ragwort (*Packera bolanderi var. bolanderi*), CRPR 2B.2
- Bolander's beach pine (*Pinus contorta ssp. Bolanderi*), 1B.2
- California pinefoot (*Pityopus californicus*), CRPR 4.2
- Maple-leaved checkerbloom (*Sidalcea malachroides*), CRPR 4.2
- Siskiyou checkerbloom (*Sidalcea malviflora ssp. patula*), CRPR 1B.2
- Methuselah's beard lichen (*Usnea longissimi*), CRPR 4.2

Because of the proximity of the Project site to known populations of the above listed special status plant species, the impact of the Project is considered potentially significant. Implementation of Mitigation Measure BIO-1 would reduce the impact of the Modified Project on special-status plants to a less-than-significant level by requiring pre-construction surveys by qualified biologists prior to work in applicable habitats, as well as a compensation for loss of any habitat for special-status plant.

Special-status Wildlife Species

A database and literature review identified 46 special status wildlife species known to occur within a 6-quad vicinity of the Modified Project site. The following special status wildlife species detected in the database review were determined to have moderate to high potential to occur within the Project study area based on habitat components present.

Sonoma Tree Vole (*Arborimus pomo*), California State Species of Special Concern

Sonoma Tree Voles are primarily arboreal mammals that occur in coniferous forest habitat. Sonoma Tree Voles usually occur within the fog belt of northern California from Sonoma County to the Oregon border, and diet on needles of Douglas fir (*Pseudotsuga menziesii*) and grand fir (*Abies grandis*). Based on the location of the Project, the presence of Douglas fir trees onsite, and numerous historical records documenting species presence in the Project area, the Sonoma Tree Vole has a moderate likelihood of occurring, and vegetation removal and ground disturbance may result in potentially adverse effects to the species if present. The potential impact is considered significant. Implementation of Mitigation Measure BIO-2 and BIO-3 would ensure no direct effects no direct effects (mortality/take) of Sonoma tree vole would occur and thereby reduce impacts to a less-than-significant level.

Northern Red-legged Frog (*Rana aurora*), California State Species of Special Concern

Northern red-legged frogs are relatively common in and near coastal portions of Mendocino County and records have documented the species within three miles of the Project site on private timberlands and in Big River State Park. In the event this species were to disperse onto the Project site, vegetation removal and ground disturbance may result in potentially adverse effects to the species. The potential impact is considered significant. Implementation of Mitigation Measures BIO-2 and BIO-3 would ensure no direct effects (mortality/take) of Northern red-legged frogs would occur and thereby reduce impacts to a less-than-significant level.

Townsend's Big-eared Bat (*Corynorhinus townsendii)*, California State Species of Special Concern

Townsend's Big-eared Bats are medium-sized bats, distinguished from other co-occurring bat species by their large ears and a two-pronged horseshoe-shaped lump on the muzzle. Townsends' Big-eared Bats are typically associated with coastal redwood forests, foothill oak woodlands, inland deserts, pinyon-juniper and pine forests, and mixed coniferous-deciduous forests. The species roosts colonially in a variety of structures including hollow trees, buildings (barns), mines, and lava tubes. Forests near the Project site may serve as hibernacula for this species and requisite roosting and foraging habitat is present in the 6-quad search area. Foraging habitat for the species could be present in the Project site. Therefore, Townsend's Big-eared Bats have a moderate likelihood of occurring within the Project site, and vegetation and structure removal and ground disturbance may result in potentially adverse effects to the species if present. The potential impact is considered significant. Implementation of Mitigation Measure BIO-4 would reduce potential impacts to special status bats to a less-than-significant level.

Passerines and Raptors

Birds and raptors are protected under the federal Migratory Bird Treaty Act (50 CFR 10.13), and their nest, eggs, and young are also protected under the California Fish and Wildlife Code (§3503, §3503.5, and §3513). Marbled murrelet (*Brachyramphus marmoratus*) is a federally and state threatened species with several known occurrences recorded within Russian Gulch State Park, over 1 mile north of the Project site (CDFW 2020). Murrelets favor old-growth coniferous forests < 50 miles from the coast. Trees with a diameter at breast height greater than 19 inches are preferred for nesting (81 FR 51348). Stand size is also an important feature for nest site selection with stands greater than 500 acres preferred in California (57 FR 45328). The Project site is in an area without old-growth forest characteristics preferred by this species. Therefore, the Project would have no effect on the species.

The Northern spotted owl (*Strix occidentalis caurina*) is a federally and state threatened species with recorded occurrences from 2015 and 2016 less than 0.65 miles south of the Project site (CDFW 2020). The preferred habitat type of the Northern spotted owl consists of old growth forests with moderate to high canopy closure, a multi-species canopy with large over-story trees, large trees with numerous decadent features (i.e. broken tops, cavities, and snags), and a significant amount of open space beneath the canopy (USFWS 2008). No nesting habitat (e.g., mature contiguous coniferous forest) for this species exists within or adjacent to the Project site. Therefore, the Project will have no effect on this species.

The osprey (*Pandion haliaetus*) is a California State Watch List (Nesting) species with numerous recent occurrence records along the Big River and throughout the town of Mendocino, within 0.5 mile of the Project site. The purple martin (*Progne subis*) is a California Species of Special Concern with a recorded occurrence in 2018 on Big River near West Haul Road, within 0.5 mile of the Project site. The olive-sided flycatcher (*Contopus cooperi*) is a California Species of Special Concern with a moderate potential to occur in the Project area related to suitable nesting and forage habitat requirements in the project area.

Based on historical records and available habitat, the three above-mentioned species have a moderate potential to occur within the project site, as well as other common species protected under the MBTA and FGC. Potential project impacts to special status birds during construction may include visual disturbance, habitat destruction, and noise disturbance. The potential impact is considered significant. Implementation of Mitigation Measure BIO-5 would reduce the impact to nesting birds to a less-than-significant level.

Mitigation

Mitigation Measures BIO-1 through BIO-5 would reduce the Project impact on special-status plants and wildlife to less-than-significant levels by requiring pre-construction surveys by qualified biologists prior to work in applicable habitats, and measures to avoid take of species as well as compensation for loss of habitat for special-status plant and wildlife species.

Mitigation Measure BIO-1: Avoid Loss of Sensitive Plant Species

Removal of mapped occurrences of Mendocino cypress (*Hesperocyparis pigmaea*) on the Project site shall be avoided to the greatest extent practicable. If impacts are unavoidable to individual Mendocino cypress trees, a replanting ratio of 3:1 shall be implemented with an 80 percent survival rate over 5 years to ensure there is a no loss of Mendocino cypress trees within the Project site.

The MUSD shall also retain a qualified biologist to complete appropriate pre-construction surveys for special status plant species prior to construction within the area of disturbance for the Project, during the appropriate blooming time (spring or summer) for the target species. Survey methods shall comply with CDFW rare plant survey protocols, and shall be performed by a qualified field botanist. Surveys shall be Modified to include detection of juvenile (pre-flowering) colonies of perennial species when necessary. Any populations of special status plant species that are detected shall be mapped. Populations (if present) shall be flagged if avoidance is feasible and if populations are located adjacent to construction areas. The locations of any special status plant populations to be avoided shall be clearly identified in the contract documents (plans and specifications).

If avoidance is not feasible, a Special Status Plant Management Plan shall be prepared and implemented, in which recommendations shall be provided as to the feasibility of relocating the plants or collecting seeds prior to the start of construction. If seed collection is determined to be the more appropriate method for the specified species, seeds shall either be collected and spread on-site, or provided to a local native plant nursery for propagation then planting. For both relocating or seed collection, the MUSD shall indicate an area for relocation, establish success criteria, identify monitoring protocol of the site for one to two seasons, and determine appropriate action if the success criteria is not met.

Mitigation Measure BIO-2: Standard Construction Measures for Protecting Biological Resources

Steep-sided excavations capable of trapping mammals would be ramped or covered if left overnight. No poisons or other potentially injurious materials attractive to mammals shall be utilized or left unattended during construction or operation activities.

Mitigation Measure BIO-3: Protect Sonoma Tree Voles and Northern Red Legged Frog

The construction impact area shall be surveyed by a qualified biologist within seven days prior to the start of construction for any tree nests indicative of Sonoma tree voles and any Northern red-legged frogs. If any active Sonoma tree vole nests are found, the nest shall be avoided during construction activities with a buffer zone determined by a qualified biologist. In the event that a Northern red-legged frog is observed in an active construction zone, the contractor shall halt construction activities in the immediate area where observed

and the frog shall be moved by a qualified Biologist to a safe location in similar habitat outside of the construction zone.

Mitigation Measure BIO-4: Protect Bat Species

To the extent possible, removal of confirmed or presumed-occupied bat roost habitat shall occur during seasonal periods of bat activity (when bats are volant, i.e., able to leave roosts) between March 1 and April 15 or September 1 and October 15, when evening temperatures rise above approximately 45 degrees F, and when no rainfall greater than ½ inches has occurred in the last 24 hours.

If construction occurs during the bat maternity season (generally April 15th through August 30th), a qualified bat biologist shall conduct habitat surveys for special status bats. Survey methodology should include visual examination of suitable habitat areas for signs of bat use and may optionally utilize ultrasonic detectors to determine if special status bat species utilize the vicinity. Surveys shall be conducted within seven days prior to construction in any areas where potential maternity roosts may be disturbed/removed. Surveys shall be conducted by a qualified biologist. Surveys shall include a visual inspection of the impact area and any large trees/snags with cavities or loose bark. If the presence of a maternity roost is confirmed, roost removal will be prohibited during maternity season and no activity generating significant noise shall occur within 300 feet of the roost. If no bat utilization or roosts are found, then no further study or action is required. If bats are found to utilize the project area, or presence is assumed, a bat specialist should be engaged to advise the best method to prevent impact.

Mitigation Measure BIO-5: Prevent Disturbance to Nesting Birds

Ground disturbance and vegetation clearing shall be conducted, if possible, during the fall and/or winter months and outside of the avian nesting season (March 15 – August 15) to avoid any direct effects to special status and protected birds. If ground disturbance cannot be confined to work outside of the nesting season, a qualified ornithologist shall conduct pre-construction surveys within the vicinity of the construction footprint, to check for nesting activity of native birds and to evaluate the site for presence of raptors and special status bird species. The ornithologist shall conduct at minimum a one-day pre-construction survey within the 7-day period prior to vegetation removal and ground-disturbing activities. If ground disturbance and vegetation removal work lapses for seven days or longer during the breeding season, a qualified ornithologist shall conduct a supplemental avian pre-construction survey before project work is reinitiated.

If active nests are detected within the construction footprint or up to 500 feet from construction activities, the ornithologist shall flag a buffer around each nest (assuming property access). Construction activities shall avoid nest sites until the ornithologist determines that the young have fledged or nesting activity has ceased. If nests are documented outside of the construction (disturbance) footprint, but within 500 feet of the construction area, buffers will be implemented as needed (buffer size dependent on species). In general, the buffer size for common species would be determined on a case-by-case basis in consultation with the CDFW and, if applicable, with USFWS. Buffer sizes will take into account factors such as (1) noise and human disturbance levels at the construction site at the time of the survey and the noise and disturbance expected during the construction activity; (2) distance and amount of vegetation or other screening between

the construction site and the nest; and (3) sensitivity of individual nesting species and behaviors of the nesting birds.

If active nests are detected during the survey, the qualified ornithologist shall monitor all nests at least once per week to determine whether birds are being disturbed. Activities that might, in the opinion of the qualified ornithologist, disturb nesting activities (e.g., excessive noise), shall be prohibited within the buffer zone until such a determination is made. If signs of disturbance or distress are observed, the qualified ornithologist shall immediately implement adaptive measures to reduce disturbance. These measures may include, but are not limited to, increasing buffer size, halting disruptive construction activities in the vicinity of the nest until fledging is confirmed or nesting activity has ceased, placement of visual screens or sound dampening structures between the nest and construction activity, reducing speed limits, replacing and updating noisy equipment, queuing trucks to distribute idling noise, locating vehicle access points and loading and shipping facilities away from noise-sensitive receptors, reducing the number of noisy construction activities occurring simultaneously, and/or reorienting and/or relocating construction equipment to minimize noise at noise-sensitive receptors.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? (Less than Significant with Mitigation)

One sensitive natural community, Bishop pine – Monterey pine forest and woodland (S3.2), was identified at the Project site. This community type was characterized by a Bishop pine overstory and evergreen huckleberry shrub layer in the northern and central portion of the Project site. Potential Project impacts to this sensitive natural community during construction may include removal of Bishop pine trees for construction of proposed groundwater wells and access roads. The potential impact is considered significant. Implementation of Mitigation Measure BIO-6 would reduce the impact to a less-than-significant level.

Mitigation Measure BIO-6: Avoid Loss of Sensitive Natural Communities

Removal of mapped occurrences of Bishop pine – Monterey pine forest and woodland shall be avoided to the greatest extent practicable. This alliance shall be managed to retain at least 30 percent *Pinus muricata* relative cover in the tree canopy to maintain species composition and/or dominance within the stand. Any proposed removals of *Pinus muricata* trees larger than 6 inches diameter at breast height (dbh) within this community shall be mitigated by planting *Pinus muricata* saplings within or adjacent to the Bishop pine forest. A replanting ratio of 1.5:1 shall be implemented for Bishop pine trees to be removed, with an 80 percent survival rate over 5 years. Landscaping on the Project site shall not include any invasive plants and shall ideally consist of native plants compatible with the adjacent plant communities. Removal and replacement of trees shall also be coordinated with CalFire with applicable approvals obtained prior to removal.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? (Less than Significant with Mitigation)

Searches of the National Wetland Inventory (NWI) revealed no known federal jurisdictional wetlands or waters within the Project area (NWI 2022). A reconnaissance level evaluation of aquatic resources within the Project site was completed in the field during a reconnaissance biological survey on September 29, 2022, and a formal wetland delineation was conducted on October 11 and 12, 2022.

During field investigations of the Project site, two (2) intermittent watercourses (springs) were identified in the southern portion of the Project site, running from east to west (upslope to downslope). The northern spring feeds a small intermittent watercourse corridor that was considered to be a federal jurisdictional 3-parameter wetland based on presence of hydrophytic vegetation, hydrology, and hydric soils, subject to agency determination. A narrow margin around this 3-parameter wetland can be considered a 1-parameter wetland under the Coastal Act and Mendocino County Coastal Element and General Plan, based on the presence of at least one wetland indicator. No work is proposed within watercourses or wetlands. However, potential project impacts to the wetlands during construction may include indirect impacts from construction activities such as contribution of sediment from erosion. The potential impact is considered significant. Implementation of Mitigation Measure BIO-7 would reduce the impact to a less-than-significant level by implementing standard BMPs to protect aquatic resources during construction.

Mitigation Measure BIO-7: Minimize Impacts to Aquatic Resources

A buffer zone shall be established adjacent to intermittent watercourses, wetlands, and associated riparian vegetation at the Project site in accordance with Mendocino County Coastal Zoning Code Section 20.496.020. Earthwork shall not occur within 50-feet of an aquatic resources. Earthwork within 100-feet of any aquatic resource shall adhere to standard methods of erosion and sediment control and, if possible, shall be completed during the dry season (April 15-October 15) to reduce sediment load downstream. Earthwork shall be halted during and 24-hours after a qualifying rain event (0.5 inches of precipitation over 24-hours).

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? (Less than Significant)

There is no suitable aquatic habitat at the Project site for any native resident or migratory fish species and there is no essential fish habitat present. Figure 4.4-7 of the Mendocino County General Plan EIR identifies major wildlife corridors in the County. The Project site is not located within a mapped major wildlife movement corridor, and no continuous barriers to terrestrial wildlife movement are anticipated. The Modified Project would not substantially interfere with migratory birds or aquatic species. The impact would be less than significant.

Please see impact “a” above for a discussion of birds and raptors are protected under the federal Migratory Bird Treaty Act.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? (Less than Significant with Mitigation)

No tree preservation policy or ordinance is applicable to the Project. The Mendocino County General Plan and Coastal Element contain numerous policies and action items to protect biological resources. General Plan Policy RM-28 requires that all discretionary public and private projects that identify special-status species in a biological resources evaluation (where natural conditions of the site suggest the potential presence of special-status species) shall avoid impacts to special-status species and their habitat to the maximum extent feasible. Where impacts cannot be avoided, Policy RM-28 states that projects shall include the implementation of site-specific or project-specific effective mitigation strategies developed by a qualified professional in consultation with State or federal resource agencies with jurisdiction (if applicable). Mendocino County Coastal Zoning Code Section 20.496.020 requires buffer areas to be established adjacent to environmentally sensitive habitat areas to protect against degradation.

Implementation of mitigation measures identified in this Subsequent MND would reduce Project-related impacts to special status species to a less-than-significant level. This includes mitigation measures for aquatic resources, sensitive natural communities, and special status wildlife and plant species. Therefore, within implementation of mitigation measures, no conflicts with local policies or ordinances protecting biological resources have been identified.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? (Less than Significant with Mitigation)

The Project site is not located within an area covered by an adopted Habitat Conservation Plan or Natural Community Conservation Plan. No federally designated critical habitat is present within or immediately adjacent to the Project site.

The Mendocino County Coastal Conservation Plan, adopted in 2003, includes goals and strategies to protect and restore natural communities, working landscapes, and scenic viewsheds within coastal watersheds and coastal terraces. The Project would not obstruct implementation of the Mendocino County Coastal Conservation Plan, and no conflicts with the Conservation Plan have been identified. No impact would result.

Per Impact “f” above, implementation of mitigation measures identified in this Subsequent MND would reduce Project-related impacts to environmentally sensitive habitat areas in accordance with requirements of Mendocino County Coastal Zoning Code Section 20.496.020. With implementation of mitigation measures, no conflicts with local plans protecting biological resources have been identified.

3.5 Cultural Resources

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?				✓
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		✓		
c) Disturb any human remains, including those interred outside of formal cemeteries?		✓		

Archaeological Resources Study

An Archaeological Resources Study was prepared for the Modified Project by the Anthropological Studies Center of Sonoma State University (ASC 2023). The study assessed the potential for surficial and/or buried archaeological and historical resources in the proposed improvement area through the completion of the following:

- Records and literature search at the Northwest Information Center (NWIC) of the California Historical Resources Information Center (CHRIS);
- Further literature review of publications, files, and maps for ethnographic, historic-era, and prehistoric resources and background information;
- Communication with the Native American Heritage Commission (NAHC) to request a review of the Sacred Lands File and contact information for the appropriate tribal communities;
- Contact with the appropriate local Native American Tribes; and
- Pedestrian archaeological survey of the Project area.

Study results were used as a technical basis for evaluating potential impacts to historic and cultural resources under CEQA.

a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5? (No Impact)

The existing water system facilities at the Project site are not included on the California Department of Parks and Recreation's California Inventory of Historic Resources, or the State of California Office of Historic Preservation Historic Properties Directory and Built Environment Resource Directory. The facilities are not listed, or determined eligible for listing, in the National Register of Historic Places or California Register of Historic Resources. The installation date for the two in-service tanks and the wooden water treatment building is unknown, though it is likely that the tanks were constructed during the 1970s. No information has become available to indicate that the existing tanks and water treatment building would be eligible under any of the established criteria. Therefore, removal of the two existing tanks and the water treatment building would not impact a historic resource. Similar to the conclusion of the 2020 MND, no impact to a historical resource would result.

The potential for historic-period archaeological resources are evaluated in impact "b" below.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? (Less than Significant with Mitigation)

The Archaeological Resources Study conducted for the Modified Project found no previously recorded cultural resources located within the proposed improvement area. On October 5, 2022, a pedestrian archaeological survey of the Modified Project site was conducted and identified no archaeological resources. The sensitivity for buried prehistoric archaeological resources in the improvement area is considered low (ASC 2023). The search of the NAHC's Sacred Lands File for Sacred Sites in the Project area was positive, however, no information suggesting the presence of sacred sites or archaeological resources was received from individuals or organizations contacted as part of the study. Such coordination included letters, faxes, and telephone calls to Native American contacts provided by the NAHC. Although no known archaeological resources were identified within the Project area, the potential exists for encountering previously undiscovered archaeological resources during Project construction. Therefore, similar to the conclusion of the 2020 MND, the potential impact of the Modified Project on archaeological resources would be significant.

Mitigation

Implementation of Mitigation Measure CR-1 would reduce the potential impact to previously undiscovered archaeological or tribal cultural resources to a less-than-significant level by outlining procedures to be taken in the event of inadvertent discovery of unrecorded resources consistent with appropriate laws and requirements.

Mitigation Measure CR-1: Minimize Impacts to Unknown Archaeological or Tribal Cultural Resources

In the event that any subsurface archaeological features or deposits, including locally darkened midden soil, are discovered during construction-related earth-moving activities, all ground-disturbing activity in the vicinity of the resource shall be halted, a qualified professional archaeologist shall be retained to evaluate the find, and the appropriate tribal representative(s) shall be notified. If the find qualifies as a historical resource, unique archaeological resource, or tribal cultural resource as defined by CEQA, the archaeologist shall develop appropriate measures to protect the integrity of the resource and ensure that no additional resources are affected. In considering any suggested measures proposed by the consulting archaeologist in order to mitigate impacts to historical resources or unique archaeological resources, the MUSD shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project while mitigation for unique archaeological resources is being carried out.

c) Disturb any human remains, including those interred outside of formal cemeteries? (Less than Significant with Mitigation)

No human remains are known to exist within the Project area. However, excavation and earthmoving activities may occur within previously undisturbed areas. The possibility of encountering human remains cannot be discounted, and the potential impact is considered significant.

Mitigation

Implementation of Mitigation Measure CR-2 would reduce the potential impact to previously undiscovered human remains to a less-than-significant level by outlining procedures to be taken in

the event of inadvertent discovery of unrecorded resources consistent with appropriate laws and requirements.

Mitigation Measure CR-2: Protect Human Remains if Encountered during Construction

If human remains, associated grave goods, or items of cultural patrimony are encountered during construction, work shall halt in the vicinity of the find and the County Coroner shall be notified immediately. The following procedures shall be followed as required by Public Resources Code § 5097.9 and Health and Safety Code § 7050.5. If the human remains are determined to be of Native American origin, the Coroner shall notify the Native American Heritage Commission within 24 hours of the determination. The Native American Heritage Commission shall then notify the Most Likely Descendant (MLD), who has 48 hours to make recommendations to the landowner for the disposition of the remains. A qualified archaeologist, the MUSD and the MLD shall make all reasonable efforts to develop an agreement for the treatment, with appropriate dignity, of any human remains and associated or unassociated funerary objects. The agreement would take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, and final disposition of the human remains and associated or unassociated funerary objects.

3.6 Energy

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			✓	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				✓

a) Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? (Less than Significant)

Construction of the Modified Project would involve grading, drilling, trenching, excavation and temporary use of heavy machinery. Construction would require the use of fuels, primarily gas, diesel, and motor oil. Construction is not anticipated to require a large amount of fuel or energy usage given the moderate number of construction vehicles and equipment, worker trips, and truck trips that would be required for a project of this scale. Use of fuels for construction would not be wasteful or unnecessary because their use is necessary to complete the Modified Project. Equipment idling times would be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes or less (as required by the California airborne toxics control measure (Title 13, Section 2485 of the CCR). Therefore, similar to the conclusion in the 2020 MND, construction of the Modified Project would not result in the use of large amounts of fuel and energy in a wasteful manner, and the impact would be less than significant.

Following construction, energy consumption would include electricity needed to continue operating the water system and fuels for water truck trips during an emergency. The Modified Project would include pumping from up to ten additional groundwater supply wells and associated submersible pump. The amount of electricity that would be utilized to operate the well pumps would not be substantial as the proposed pump sizes are small and would be required to meet current energy efficiency standards. Fuel consumption would be limited to that utilized by routine maintenance workers as they traveled to and from the site, which would generally require one maintenance visit per day when the wells are operating and monthly visits when wells are not in operation, and to water truck trips during an emergency. Therefore, similar to the conclusion of the 2020 MND, operation of the Modified Project would not result in the use of large amounts of fuel and energy in a wasteful manner, and the impact would be less than significant.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? (No Impact)

In 2003, the California Energy Commission (CEC), the California Power Authority (CPA), and the California Public Utilities Commission (CPUC) jointly adopted an Energy Action Plan (EAP) that listed goals for California's energy future and set forth a commitment to achieve these goals through specific

actions (CEC 2003). In 2005, the CPUC and the CEC jointly prepared the EAP II to identify the further actions necessary to meet California's future energy needs. Additionally, the CEC prepared the State Alternative Fuels Plan in partnership with the California Air Resources Board and in consultation with the other state, federal, and local agencies. The alternative fuels plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production (CEC 2007).

Locally, the *Mendocino County General Plan* includes goals to promote energy conservation in the County and to increase use of renewable energy resources (Goal RM-9). Construction and operation of the Modified Project would not conflict with or obstruct implementation of either the EAP, EAP II, the State Alternative Fuels Plan or local County general plan goals. Project construction would not require a large amount of fuel or energy usage because of the limited extent and nature of the proposed improvements and the minimal number of construction vehicles and equipment, worker trips, and truck trips that would be required for a Project of this small scale. Project operation would not result in a significant change in the level of energy consumption and no conflicts with a state or local plan for renewable energy or energy efficiency have been identified. Therefore, similar to the conclusion of the 2020 MND, the Modified Project would not conflict with a state or local plan for renewable energy or energy efficiency, and no impact would result.

3.7 Geology and Soils

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?				✓
ii) Strong seismic ground shaking?			✓	
iii) Seismic related ground failure, including liquefaction?			✓	
iv) Landslides?			✓	
b) Result in substantial soil erosion or the loss of topsoil?			✓	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on, or off, site landslide, lateral spreading, subsidence, liquefaction or collapse?			✓	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?			✓	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				✓
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		✓		

a, i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. (No Impact)

The Project site is not located within a designated Alquist-Priolo Earthquake Fault Zone and no other active or potentially active faults have been mapped passing through the Project site. The Modified Project does not include structures intended for human occupancy and would not change the

exposure of people or structures to risk of loss, injury, or death from fault rupture. Similar to the conclusion of the 2020 MND, no impact would result.

a, ii) Strong seismic ground shaking? (Less than Significant)

The nearest active faults to the Project site are the Maacama Fault Zone located approximately 25 miles to the east, and the San Andreas Fault Zone located approximately 20 miles to the south with fault traces approximately 4 miles offshore. Future strong seismic ground shaking is anticipated at the Project site. By applying geotechnical techniques and appropriate engineering practices, potential injury and damage from seismic ground shaking can be diminished, thereby exposing fewer people and less property to the effects of a major damaging earthquake. The design and construction of the proposed replacement tanks and other structures would be subject to engineering standards of the California Building Code, which take into account soil properties, seismic shaking and foundation type. As described in Section 1.5, Project Description, the seismic design of the new tanks would conform to the most current version of the California Building Code design standards with any local amendments. The new replacement tanks would utilize flexible piping and other connections to minimize damage during a seismic event in accordance with site-specific geotechnical recommendations. In addition, as described in Section 1.7, "Compliance with Existing Regulations and Standard BMPs," the Modified Project would be designed and constructed in conformance with the site-specific recommendations contained in a design-level geotechnical study report to be completed for the Project and any subsequent Project-related geotechnical reports. Because the Modified Project would be constructed in accordance with applicable design standards and with the Project-specific recommendations contained in a design-level geotechnical study, the impact related to strong seismic ground shaking would be less than significant.

a.iii, a.iv, c, d) Seismic-related Ground Failure, Liquefaction, Landslides, or otherwise Unstable Soils? (Less than Significant)

The Modified Project would construct new and replacement water facilities, including two new replacement tanks, a replacement water treatment building, new groundwater wells, and new and reconstructed on-site access roads. Mapping of liquefaction susceptibility in Mendocino County indicates that the Project site is located in an area where soils are susceptible to liquefaction (County of Mendocino, 2008). Therefore, liquefiable and otherwise unstable soils may be encountered at the Project site. By applying required geotechnical evaluation techniques and appropriate engineering practices, potential injury and damage from seismic activity and unstable soils can be diminished, thereby exposing fewer people and less property to the effects of a major damaging earthquake. The design and construction of new structures are subject to engineering standards of the CBC, which take into account soil properties and foundation type. As described in Section 1.7, Environmental Protection Actions Incorporated into the Project, the Modified Project would be designed and constructed in conformance with the site-specific recommendations contained in a design-level geotechnical study report to be completed for the Project and any subsequent Project-related geotechnical reports, which would include ground improvement and pipe bedding and backfill criteria. Therefore, similar to the evaluation in the 2020 MND, because the Modified Project would be constructed in accordance with the applicable design standards and with the Project-specific recommendations contained in a design-level geotechnical study, the impact related to strong seismic ground shaking and unstable soils would be less than significant.

b) Result in substantial soil erosion or the loss of topsoil? (Less than Significant)

Construction activities would involve minor grading for the improved gravel access road and foundation-related excavations for the reconstructed tanks and treatment building, and drilling of new groundwater wells. Following construction, the Modified Project site would be redeveloped and areas of exposed soil vulnerable to erosion would not be present. Similar to the evaluation in the 2020 MND, the overall impact of the Modified Project relative to soil erosion or loss of topsoil would be less than significant.

Refer to Section 3.10, Hydrology and Water Quality, for a discussion of construction impacts to water quality associated with soil erosion.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? (No Impact)

The Modified Project would not involve the use of septic tanks or other alternative wastewater disposal systems. Similar to the evaluation in the 2020 MND, no impact would result.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (Less than Significant with Mitigation)

The proposed improvements would not require modification of unique geologic features, however, excavation and earthmoving activities would occur within previously undisturbed areas and at depths where paleontological resources may potentially be encountered. The possibility of encountering paleontological resources during construction cannot be discounted, and if such resources were encountered, a potential significant impact could result.

Mitigation

Implementation of Mitigation Measure GEO-1 would reduce the potential impact to undiscovered paleontological resources to a less-than-significant level by addressing discovery of unanticipated buried resources and preserving and/or recording those resources consistent with appropriate laws and requirements.

Mitigation Measure CR-1: Protect Paleontological Resources if Encountered during Construction

If fossils are encountered during construction (i.e., bones, teeth, or unusually abundant and well-preserved invertebrates or plants), construction activities shall be diverted away from the discovery within 50 feet of the find, and a professional paleontologist shall be notified to document the discovery as needed, to evaluate the potential resource, and to assess the nature and importance of the find. Based on the scientific value or uniqueness of the find, the paleontologist may record the find and allow work to continue, or recommend salvage and recovery of the material, if it is determined that the find cannot be avoided. The paleontologist shall make recommendations for necessary treatment that is consistent with currently accepted scientific practices. Any fossils collected from the area shall then be deposited in an accredited and permanent scientific institution where they would be properly curated and preserved.

3.8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			✓	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				✓

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (Less than Significant)

On April 20, 2022, the BAAQMD adopted new thresholds of significance for climate impacts and substantiated the new thresholds in the *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans (Justification Report)* (BAAQMD 2022). The BAAQMD analyzed what would be required of new land use development projects to achieve California's long-term climate goal of carbon neutrality by 2045 and identified specific measures for new land use development to address its "fair share" of implementing the goal of carbon neutrality by 2045.

The BAAQMD provides that a lead agency should not use the 2022 BAAQMD-adopted threshold when the agency is, "faced with a unique or unusual project for which the analysis supporting the thresholds as described in this report do not squarely apply." The BAAQMD recommends that in such cases, the lead agency should develop an alternative approach that is more appropriate to the particular project before it, considering all the facts and circumstances of the project on a case-by-case basis. The proposed Modified Project is unique as a water utility project and is not suitable for thresholds that would apply to a standard land use project or typical commercial/residential development. The Modified Project does not fit the activity, use, or emissions inventory profiles of typical commercial or residential land uses. Therefore, for this Project, MUSD proposes the use of a 1,100 metric tons of carbon dioxide equivalent (MTCO2e) per year threshold. This threshold is consistent with BAAQMD's prior threshold.

There is currently no applicable federal, State, or local threshold pertaining to construction-related greenhouse gas (GHG) emissions, and the BAAQMD CEQA Guidelines [used by the Mendocino County Air Quality Management District] do not include screening criteria or significance thresholds for construction. Therefore, similar to the evaluation in the 2020 MND, this analysis uses a qualitative approach in accordance with Section 15064.4(a)(2) of the CEQA Guidelines.

Construction activities for the Modified Project would result in a temporary (approximately 10 to 12 months) increase in GHG emissions, including exhaust emissions from on-road haul trucks, worker commute vehicles, and off-road heavy duty equipment. Project emissions during construction would not be a considerable contribution to the cumulative GHG impact, given that construction would be temporary and would require standard clearing, earthmoving, hauling, and delivery equipment, as used for similar projects, and which have been accounted for in the State's emission inventory and reduction strategy outlined in the California Air Resources Board (CARB) Climate Scoping Plan (see

discussion below). Therefore, similar to the evaluation in the 2020 MND, the impact from construction GHG emissions for the Modified Project would be less than significant.

Following construction, the Modified Project would not result in a new source of substantial GHG emissions. The well pumps and treatment building would be powered by electricity, therefore, no direct on-site GHG emissions would occur during operation. The proposed treatment building would have provisions for a backup generator so that in the event of a power failure the well pumps and treatment facilities could continue to run if needed. The generator would only be used if power were lost, and the Modified Project would utilize a generator that is EPA or CARB certified and achieves emission standards for emergency standby sources, consistent with BAAQMD requirements.

The amount of electricity utilized by the proposed well pumps would not be substantial as the pump sizes are small, and would be required to meet current energy efficiency standards. Other operational GHG emissions would be limited to emissions from periodic maintenance vehicles and from periodic water transport during droughts or emergency conditions. Water truck trips would only occur during an emergency or drought condition when emergency water supplies are being provided to MCCSD customers. During past drought conditions when emergency water supplies have been required, the City of Fort Bragg and City of Ukiah have supplied water to parcels within the community of Mendocino via water hauling. In comparison, hauling of a portion of the needed emergency water supply during a drought condition from within the community of Mendocino would result in a reduction in greenhouse gas emissions from trucks due to shorter hauling distances, comparative to hauling from Fort Bragg or Ukiah. Maintenance visits would generally require one visit per day when the wells were operating, and monthly visits when the wells are not in operation. Such trips would be combined with routine maintenance trips to the Project site, further minimizing energy related to maintenance of the Project. Project operational emissions would be less than the 1,100 MTCO2e/year threshold applied. Similar to the evaluation in the 2020 MND, the Modified Project would not generate substantial amounts of GHG pollutants, and the operational impact on GHG emissions would be less than significant.

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases? (No Impact)

Mendocino County has not adopted a GHG reduction plan and the MCAQMD has not developed CEQA guidelines or significance thresholds for use in GHG analyses. Therefore, similar to the evaluation in the 2020 MND, this analysis utilizes evaluation criteria specified in Senate Bill 32 (SB32) and the CARB 2022 Climate Change Scoping Plan (CARB 2022).

The CARB 2022 Scoping Plan includes measures to move to a zero-emissions (decarbonized) transportation sector and to phase out the use of natural gas in residential and commercial buildings. The 2022 Scoping Plan also aims to reduce emissions of short-lived climate pollutants (SLCPs) and includes mechanical CO2 removal and carbon capture and sequestration actions, as well as natural working lands management and nature-based strategies. The Scoping Plan measures are statewide and programmatic in nature and largely advisory, as CARB does not directly regulate many of the sectors identified by the Plan's measures. The measures would be implemented at the State level and do not relate to the construction and operation of individual projects such as the Modified Project. Although Project construction and operation may be affected by State level regulations and policies that would be implemented, such as the Phase 2 heavy-duty truck greenhouse gas standards proposed to be implemented within the transportation sector, the Modified Project would not impede the State from developing or implementing the GHG reduction measures identified in the 2022 Scoping Plan. Therefore, the Project would not conflict with SB32 or the 2022 Scoping Plan.

The Mendocino County General Plan also includes several policies and action items for reducing GHG emission. General Plan Action Item DE-65.2 directs the County to work cooperatively with industrial facilities to identify greenhouse gas impacts from their operations and develop a long-term plan for reducing emissions. Because the Project is not a type of industrial development, Action Item DE-65.2 would not apply to the Project. General Plan Policy RM-43 and Action Items RM-43.1 through RM-43.3 direct the County to create an inventory of existing and historical GHG emissions, to create a GHG reduction plan, and to reduce the County's GHG footprint. As of the date this Subsequent MND, the County has not completed such an inventory and has not developed a GHG reduction plan.

Similar to the evaluation in the 2020 MND, no conflicts between the Modified Project and an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases have been identified. Therefore, no impact would result.

3.9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		✓		
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		✓		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			✓	
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			✓	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				✓
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				✓
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?		✓		

a, b) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or upset and accident conditions? (Less than Significant with Mitigation)

The Modified Project would include reconstruction of two existing in-service water storage tanks, which would be drained, removed from service, dismantled, and recycled to the extent possible. Similar to the evaluation in the 2020 MND, the existing tanks may potentially contain lead-based

paint, and Project soils and sands located beneath the tanks may contain elevated levels of hydrocarbons and lead. If present, such materials would be classified as California non-RCRA hazardous waste requiring disposal at a landfill facility that is permitted to accept such waste. Demolition of the tanks and excavation of potentially contaminated soil could expose workers and potentially adjacent residential areas to airborne emissions of lead. Similar to the evaluation in the 2020 MND, the impact is considered significant. Implementation of Mitigation Measure HAZ-1 would reduce the impact to a less-than-significant level by requiring the MUSD and its contractor to develop and implement a waste management and disposal plan for the existing tanks and soils to ensure proper safety during the handling, transport, and disposal of the waste.

Construction activities would also involve the use of hazardous materials such as fuels, lubricants, paints and solvents. Routine transport of hazardous materials to and from the Project site during construction could result in an incremental increase in the potential for accidents. However, numerous laws and regulations ensure the safe transportation, use, storage and disposal of hazardous materials. For example, the California Department of Transportation and the California Highway Patrol regulate the transportation of hazardous materials and wastes, including container types and packaging requirements, as well as licensing and training for truck operators, chemical handlers, and hazardous waste haulers. Worker safety regulations cover hazards related to the prevention of exposure to hazardous materials and a release to the environment from hazardous materials use. The California Division of Occupational Safety and Health (Cal-OSHA) also enforces hazard communication program regulations, which contain worker safety training and hazard information requirements, such as procedures for identifying and labeling hazardous substances, communicating hazard information related to hazardous substances and their handling, and preparation of health and safety plans to protect workers and employees. Similar to the evaluation in the 2020 MND, because contractors would be required to comply with existing and future hazardous materials laws and regulations covering the transport, use and disposal of hazardous materials, the Modified Project's construction-related impact would be less than significant.

Following construction, operation of the Modified Project would not result in the need for new hazardous materials that would need to be transported, used, or disposed. No operational impact would occur.

Mitigation

Implementation of Mitigation Measure HAZ-1 would reduce the impact to a less-than-significant level by requiring the MUSD and its contractor to develop and implement a waste management and disposal plan for the existing tanks and soils to ensure proper safety during the handling, transport, and disposal of the waste.

Mitigation Measure HAZ-1: Waste Management and Disposal

Prior to the start of construction, the MUSD and/or its Contractor shall develop and then implement a waste management and disposal plan to control and prevent releases of lead paint and lead-laden soil during construction activities that could pose a risk to human health and the environment. At a minimum, the plan shall specify that the existing tanks be dismantled without removing the paint on the tanks. During dismantling, handling, and transporting the tank to the disposal facility, the tank surface shall be stabilized by wrapping and securing the tank pieces in plastic sheeting or coating the outer tank surface with a stabilizer compound to mitigate the potential for friable paint to flake off during transport. The management and disposal of the tank debris shall be conducted in accordance with the off-site facility receiving the dismantled tanks. If the paint is to be removed from the

tanks prior to tank removal, TCLP leaching tests shall be performed to determine if the paint is RCRA hazardous waste.

The plan shall specify proper soil management and handling protocols that shall be implemented to minimize airborne dust and protect construction workers and neighboring residents from exposure to hazardous material emissions during tank deconstruction and soil excavation/grading activities. The plan shall identify and implement protocols to protect workers from exposure to chemicals above the applicable federal and state Occupational Safety and Health Administration's (OSHA) Permissible Exposure Limits (PELs), such as the use of personal protective equipment requirements, worker decontamination procedures, and air monitoring strategies to ensure that workers are adequately protected.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? (Less than Significant)

The Modified Project site is located approximately 0.15 mile east-northeast of Mendocino K-8 School. Similar to the evaluation in the 2020 MND, construction activities would include the use of materials such as fuels, lubricants, paints, and solvents, which are commonly used during construction, are not acutely hazardous, and would be used in small quantities. Operation would include the storage of disinfection and pH chemicals, which are not acutely hazardous, and temporary use of a backup generator during power outages. Numerous laws and regulations ensure the safe transportation, use, storage, and disposal of hazardous materials (see Impact "a" and "b" above). Although construction or operation activities could result in the inadvertent release of small quantities of hazardous construction chemicals, a spill or release would not be expected to endanger individuals at a school given the nature of the materials and the small quantities that would be used. Because contractors would be required to comply with existing and future hazardous materials laws and regulations covering the transport, use, and disposal of hazardous materials, and because of the nature and quantity of the hazardous materials to be potentially used by the Modified Project, the impact related to the use of hazardous materials during construction within one-quarter mile of a school would be less than significant.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? (Less than Significant)

The provisions in Government Code Section 65962.5 are commonly referred to as the "Cortese List." A search of the Cortese List was completed to determine if any known hazardous waste sites have been recorded on or adjacent to the Modified Project site, including review of:

- Department of Toxic Substances Control EnviroStor database;
- List of Leaking Underground Storage Tank Sites from the Water Board GeoTracker database;
- List of solid waste disposal sites identified by the Water Board with waste constituents above hazardous waste levels;
- List of "active" Cease and Desist Orders and Cleanup and Abatement Orders from the Water Board; and
- List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code.

The Modified Project site was not identified on or adjacent to any parcels on lists compiled by the

California Environmental Protection Agency, Regional Water Quality Control Board, California Department of Toxic Substances Control, or the CalRecycle Waste Management Board Solid Development Waste Information System. The nearest such site was a former hazardous materials investigation and cleanup that occurred at the MUSD office and bus barn. An investigation of that site was conducted related to a former diesel fuel release, and case closure was granted in 2011 in compliance with the Health and Safety Code. Similar to the evaluation in the 2020 MND, the impact of the Modified Project would be less than significant.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area? (No Impact)

The Project site is not located within the Mendocino County Airport Comprehensive Land Use Plan or within two miles of a public use airport. The nearest airport, Little River Airport, is located approximately 3.5 miles to the south. Similar to the evaluation in the 2020 MND, no impact would result.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? (No Impact)

The Mendocino County Emergency Operations Plan serves as the primary guide for coordinating and responding to all emergencies and disasters within the County's jurisdiction, while the Mendocino County Evacuation Plan describes the strategies for managing evacuations which exceed the day-to-day capabilities of the various public safety agencies in Mendocino County. As dictated by the County's Emergency Operations Plan, the Sheriff's Office is charged with the responsibility of evacuation in response to a major event threatening the life safety of residents and visitors of Mendocino County. The Modified Project site is located within Evacuation Planning Area 4, West Central and Coastal Region, and Little Lake Road is identified as a key route for wildfire evacuations relative to nearby areas located east of Highway 1, which includes approximately 200 homes and the Mendocino elementary and high schools.

Similar to the evaluation in the 2020 MND, the Modified Project would not impair or physically interfere with implementation of Mendocino County's Emergency Operations Plan and Evacuation Plan. During construction, no work would occur within Little Lake Road or other local roadways, and the Modified Project would not change existing circulation patterns, would not generate new traffic, and would not affect emergency response routes. Similar to the evaluation in the 2020 MND, no impact would result.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? (Less than Significant with Mitigation)

Based on current CAL FIRE mapping, the Project site is located within a State Responsibility Area (SRA) and in an area designated as a "moderate" fire hazard severity zone (CAL FIRE 2007). The Mendocino Volunteer Fire Department provides emergency response within the Project area, and the nearest fire station is located on Little Lake Road east of Highway 1. Similar to the evaluation in the 2020 MND, it is possible that fire ignition could occur during construction (e.g. related to heavy machinery usage), and given the vegetation at the Project site and the proximity of nearby residences, the construction-related impact is considered significant.

Following construction, the Modified Project would not result in changes to growth patterns or

residential densities. The use of the property would be substantially the same as the existing site. The planned operation is to fill the tanks during the wet season and then maintain the tanks full during summer months when a drought condition is projected, so if the need arises and water from other local systems is unavailable, the supplemental emergency water stored in the tanks could be sustainably available to serve the local community with emergency water. This would prevent intrusive pumping of groundwater during the summer months. Based on the nature of the project, depletion or chronic lowering of groundwater levels would not result and would not relatedly increase the potential for elevated wildfire risks. Similar to the findings in the 2020 MND, the operational impact of the Modified Project would be less than significant.

Mitigation

Implementation of Mitigation Measure HAZ-2 would require the use of construction techniques that would reduce the likelihood of wildland fires during construction of the project. Therefore, with implementation of Mitigation Measure HAZ-2, the impact related to wildland fires would be less than significant.

> **Mitigation Measure HAZ-2: Reduce Wildland Fire Hazards During Construction**
>
> Prior to construction, the MUSD and its contractor(s) shall remove and/or clear away dry, combustible vegetation from the construction site. Grass and other vegetation less than 18 inches in height above the ground shall be maintained where necessary to stabilize the soil and prevent erosion. Vehicles shall not be parked in areas where exhaust systems contact combustible materials. Fire extinguishers shall be available on the construction site to assist in quickly extinguishing any small fires. The contractors shall have on site the phone number for the local fire department(s).

3.10 Hydrology and Water Quality

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?		✓		
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?		✓		
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) Result in substantial erosion or siltation on- or off-site?		✓		
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			✓	
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			✓	
iv) Impede or redirect flood flows?			✓	
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				✓
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				✓

a, c.i) Violate any water quality standards or waste discharge requirements, otherwise substantially degrade surface or ground water quality, or result in substantial erosion or siltation on- or off-site? (Less than Significant with Mitigation)

Construction activities have the potential to degrade water quality as a result of erosion caused by earthmoving activities or the accidental release of hazardous construction chemicals. If not properly managed, construction activities could result in erosion, as well the discharge of chemicals and materials, such as concrete, mortar, asphalt, fuels, and lubricants. Applicable water quality standards and waste discharge requirements could be violated, and polluted runoff could substantially degrade

water quality. Similar to the evaluation in the 2020 MND, the impact is considered significant. Implementation of Mitigation Measure HWQ-1 would reduce potential impacts relative to water quality standards and waste discharge requirements from construction activities to a less-than-significant level by requiring implementation of best management practices and compliance with applicable State and local requirements.

Following construction, water quality treatment would be provided on-site as needed to meet State and federal drinking water standards. The proposed treatment systems are designed to be capable of providing required levels of disinfection, pH adjustment, reduction in iron and manganese concentrations, and other constituents so that State and federal drinking water standards would be met. The groundwater to be pumped from the proposed wells would, therefore, be required to meet Title 22 drinking water standards, and would not violate drinking water standards.

A search of databases providing information about the location of known hazardous materials release sites indicates that there are no open hazardous sites within the construction area boundaries of the Project site or within 1,000 feet of the Project site (see impact "d" in Section 3.8 of this Initial Study). There are three closed leaking underground storage tank (UST) environmental sites within 1,000-feet of the site, all located to the southwest and within the MUSD K-8 School. Based on the down gradient nature and closed status of the three UST sites, operation of the proposed groundwater wells would not entrain contaminated groundwater or cause a negative affect at an existing groundwater remediation site.

Groundwater generated during pump testing and maintenance would be discharged to the ground for infiltration back into the underlying groundwater basin. No discharge of groundwater to surface water or the storm drain system would result.

The impact associated with operation of the proposed municipal groundwater well would be less than significant.

Mitigation

Implementation of Mitigation Measure HWQ-1 would reduce potential impacts relative to water quality standards and waste discharge requirements from construction activities to a less-than-significant level by requiring implementation of best management practices and compliance with applicable State and local requirements.

Mitigation Measure HWQ-1: Implement Storm Water Control Measures during Construction

The MUSD and its contractor shall implement appropriate Best Management Practices to prevent the discharge of construction waste, debris or contaminants. Best Management Practices may include, but would not be limited to, the following:

- Existing vegetation on the construction site shall be maintained to the maximum extent feasible.
- Areas of disturbed soil shall be reseeded and covered as soon as possible after disturbance.
- Erosion control devices shall be installed in coordination with clearing, grubbing, and grading. Such devices shall include perimeter sediment controls (perimeter silt fence, fiber rolls), stabilized construction exits, stockpile management, wind erosion control, and sediment basins if needed to retain sediment on site.

- BMPs shall be implemented to prevent the release of hazardous construction chemicals during construction. Such BMPs shall include material handling and waste management, material stockpile management, management of any washout areas, control of vehicle/equipment fueling to contractor's staging area, vehicle and equipment cleaning performed off site, and spill prevention and control.
- If more than one acre of land would be disturbed, the MUSD shall obtain coverage under State Water Resources Control Board Order No. 2009-0009-DWQ, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities, as amended by Order No. 2012-0006. The MCCSD or MUSD shall comply with all provisions of the permit, including development and implementation of a Storm Water Pollution Prevention Plan.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? (Less than Significant with Mitigation)

A Hydrogeologic Report was prepared for the Modified Project to support the environmental review and the siting of a new well field at the Project site (GHD 2023b). The report summarizes the results of a hydrogeological investigation of groundwater data collect at the Project site and surrounding properties in 2022. The Hydrogeologic Report is included as Appendix A to this Subsequent MND.

The Project site is located within the Fort Bragg Terrace Area Groundwater Basin (Basin 1-021), which is not mapped by the EPA as a sole source aquifer recharge area and is not identified as an overdrafted groundwater basin.

The Project area is underlain by three principal aquifer types – alluvial aquifers, marine terrace aquifers, and Franciscan bedrock aquifers. An older, potentially distinct fourth marine terrace of up to 50-feet thick occupies the MUSD parcel and transmits relatively shallow groundwater within an unconfined aquifer ranging approximately 15 to 30 feet of aquifer depth that flows to the west (GHD 2023b). Topography and groundwater flow indicate that groundwater flows northwest towards Slaughterhouse Gulch and is disconnected from the Big River Watershed located south of Mendocino.

The primary method of recharge for the aquifer is precipitation infiltration with excess surface runoff flowing into creeks and ultimately the Pacific Ocean. Due to the topographic setting of the Mendocino Headlands, a major portion of the annual groundwater outflow is through shallow springs along the surrounding cliffs resulting in shallow aquifer(s). This means that the Mendocino groundwater supply is closely associated with year-to-year precipitation and is vulnerable to short period (single and multiyear) droughts.

The annual average rainfall for Mendocino is about 40 inches with 97 percent of annual rainfall occurring in the rainy season (October to May). Modeled groundwater elevations within the Project area are typically lowest in the fall prior to the first substantial rainfall of the season and begin to rise after about 9-inches of precipitation (GHD 2023b). During droughts, the highest groundwater levels occur during the winter and are several feet lower than the same months in an above average rainfall year. During severe droughts, the average depth-to-water falls below 20 feet and results in a number of dry wells in the area. Groundwater pumping is generally metered for both commercial and domestic uses with total annual extractions for the region ranging from 65 to 74 acre-feet over the last six years.

The Modified Project would include installation and operation of new groundwater wells to improve the reliability of water supplies and to serve as an emergency water supply for community use during periods of drought when private wells may run dry. Project improvements include up to 615,000

gallons of water storage, approximately ten new groundwater supply wells, a new connection to the water distribution system, and trucking of water to customers during periods of drought. The MCCSD and MUSD does not foresee substantial population growth in the community or within its school population in future years. Therefore, while the Modified Project would increase the ability to pump and store groundwater for emergency purposes, the Project would not result in an actual increase in water consumption.

Potential effects of the Modified Project on groundwater levels and sustainable groundwater management of the basin are evaluated below.

Groundwater Recharge

Groundwater levels in the underlying aquifer are highly dependent on seasonal precipitation. The annual average precipitation for the Mendocino area is 40 inches. The total area that drains through the Project site is approximately 12.4 acres with an estimated 1.0 acre of developed impermeable area. The ground cover at the Project site is dominated by heavy brush and vegetation with moderately fine to fine grained soils. Using the Soil Conservation Service (SCS) runoff method, this results in approximately 41 acre-feet of water infiltration annually on average. The proposed replacement water tanks would be constructed in substantially the same location as the existing tanks that would be replaced. The Modified Project would result in approximately 3,400 square feet of new impervious area. Given that the majority of the Project site would remain pervious and that the Modified Project would not result in a substantial increase in the amount of impervious surface at the site compared to existing conditions, the Modified Project would not interfere substantially with groundwater recharge at the Project site. The impact on groundwater recharge would be less than significant.

Saltwater Intrusion

Relative to saltwater intrusion, the Project site is located approximately one mile east of the Pacific Ocean on the Mendocino Headlands. The topographic elevation of the Project site ranges from 385 to 425 feet NAD88. The depth of the proposed wells would range from 30 to 50 feet below ground surface and would be located within a bedrock aquifer, with one deep well that would be drilled to a depth of approximately 400 feet below ground surface. Given these factors, the potential for influencing saltwater intrusion is very low. The impact would be less than significant.

Land Surface Subsidence

Land surface subsidence is a gradual settling or sudden sinking of land surface. Water production from hard rock does not yield substantial land subsidence. Therefore, land subsidence is not anticipated to occur due to the relatively shallow alluvial thickness at the surface in the Project area. The impact would be less than significant.

Groundwater Levels

In the Fall of 2022, MCCSD ~~MUSD~~ performed a public outreach effort to identify wells of interest based on their location relative to the proposed well field. In total, nine (9) nearby residents were identified as having wells adjacent to or downgradient of the proposed well field that may provide valuable data or that may potentially be impacted by the operation of the proposed well field. Six of the nine residents responded and had wellheads in sufficient condition to allow monitoring, two of which were capable of allowing the installation of a transducer.

Over three sampling events on September 29/30, October 19, and November 22, 2022, pressure transducer data was collected from existing MUSD wells (except MUSD Well 2 which was inaccessible and from which manual DTW measurements were collected), as well as from two adjacent private wells. Data collection involved obtaining relevant well information, wellhead

inspection, depth-to-water measurements, and installation of pressure transducers when possible. Additionally, two abandoned 36-inch diameter concrete caisson wells on the MUSD property were monitored (North Caisson and South Caisson). The North Caisson was determined to be in sufficient condition to allow the installation of a transducer while the South Caisson was only capable of manual depth-to-water measurements.

Manual depth-to-water measurements were taken from top of casing (TOC) from applicable wells. The TOC varied for each well but in general were less than 2 feet above the ground surface. Water levels around the Project area range from 4 feet to 40 feet below ground surface with wells in the shallow terrace deposits having water levels approximately 5 to 10 feet below TOC and bedrock wells having water levels approximately 15 to 20 feet below TOC. The exceptions to this are the three MUSD wells (Well 1, Well 2, and Well 6) which have water levels between 20 and 40 feet below their respective TOC.

Between October 28 and November 2, 2022, a 5-day continuous pumping period of both Well 1 and Well 2 was conducted. During the pumping period, SCADA database information indicated that the combined flow rate for both Well 1 and Well 2 was approximately 15 gallons per minute and electrical records indicated that both pumps were operating on a nearly identical schedule. During the pumping period, water levels in Well 1 indicated that an automatic shutoff occurred when water levels neared an elevation of 394 feet below mean sea level (msl), which equates to 28.5 feet below the top of casing of Well 1. During the sustained pumping period, the Well 1 pump rapidly cycled off and on to maintain water levels above the pump intake. During this period, Well 6 (located approximately 70 feet and 160 feet from Wells 1 and 2, respectively) experienced approximately 2.5 feet of drawdown after 4.5 days of continuous pumping from Well 1 and Well 2. The MUSD North Caisson, located 220 feet north of Well 1, was not affected by the pumping of Well 1 and Well 2 as the water levels appeared to trend upward during portions of the extended pumping period. Transducer data from the MUSD wells indicate that Well 6 (a non-pumping monitoring well) has interference drawdown effects from Well 1 (when actively pumping) of up to four feet. Wells located more than 285 feet from MUSD Well 1 showed no apparent effects from sustained pumping activities. Based on the pumping analysis, off-site residential domestic wells are not anticipated to experience drawdown associated by operation of the proposed well field. The impact would be less than significant. In addition, Mitigation Measure HWQ-2 includes implementation of best management practices identified in the Hydrogeologic Study prepared for the Modified Project, including spacing requirements between the wells to reduce the potential for wellfield interference, limitations on pumping, and monitoring of adjacent domestic wells.

Interconnected Surface Waters

Depletion of surface water from interconnected streams can occur when surface water depletion, caused by groundwater pumping within a Basin, exceeds historical streamflow depletion or adversely impacts the viability of groundwater dependent ecosystems or other beneficial users of surface water. Shallow groundwater elevations are used as a proxy for stream flow depletion. In the Project area, bedrock seasonally forces groundwater to the surface of the marine terrace, as evident by the presence of springs on the MUSD property. The springs on the MUSD Project site represent a portion of the Slaughterhouse Gulch headwaters. Another distinct spring-fed branch to Slaughterhouse Gulch begins offsite approximately 1,000-feet to the northwest on the northeast portion of Gurley Lane. The two spring systems flow westerly downslope and converge near Calypso Lane to form the defined Slaughterhouse Gulch stream, with year-round surface flows. Based on the analysis in the Hydrogeologic Study prepared for the Project, the potential impact of proposed groundwater pumping on interconnected surface waters is conservatively considered potentially significant.

Groundwater Quality

The proposed shallow groundwater wells would have a 20-foot sanitary seal to prevent degradation of the groundwater from surface contaminants, and the deeper well would have a 50-foot sanitary seal. Water produced from MUSD Well 1 and Well 2 have been tested intermittently for total coliform and Escherichia coli since 2008 and have predominately shown no bacteriological contamination. Water produced from the well field would be treated at the MUSD site to be compliant with maximum contaminant levels and Title 22 drinking water standards. The minimum thresholds for water quality would not be exceeded, and the impact on groundwater quality would be less than significant.

Mitigation

Implementation of Mitigation Measure HWQ-2 would reduce potential impacts of operational groundwater pumping on interconnected surface waters to a less-than-significant level by requiring implementation of best management practices that ensure no substantial surface water depletion and minimizes the potential for well interference.

Mitigation Measure HWQ-2: Implement Best Management Practices to Prevent Well Interference and Surface Water Depletion

The proposed wells shall be constructed with approximately 120-foot spacing, which is the anticipated radius of influence that would reduce the potential for wellfield interference. In coordination with the existing MUSD wells (Well 1, Well 2 and Well 6), initially no more than half of the well field (6 to 7 wells) shall be operated at one time to reduce the potential for adverse drawdown effects. Additionally, pumping of any one well shall not exceed 12 hours in a 24-hour period initially to allow for aquifer recharge within the well field.

In accordance with MCCSD's Ordinance 2020-1, the proposed well field shall be pump tested during the MCCSD hydrological testing period, which begins after August 20th and before a total of 6-inches of rainfall has been recorded.

Monitoring of adjacent domestic wells, MUSD wells, and the MUSD North Caisson shall be performed before, during and after the proposed test wellfield installation and pump testing is performed. MCCSD and MUSD shall continue to coordinate with additional adjacent property owners who were not able to install pressure transducers due to access issues to determine if future pressure transducers can be installed.

The MCCSD / MUSD and its contractor shall implement appropriate Best Management Practices to prevent surface water depletion during use of the proposed well field. This shall include, but would not be limited to, the following:

- Proposed groundwater wells shall be setback from surface waters by a minimum of 1.5 times their anticipated radius of influence.
- One stream gauge or staff plate shall be installed in upper Slaughterhouse Gulch, on the Project parcel just down gradient of the existing caisson wells and near the property boundary where observed surface water flows leave the parcel.
- MCCSD and MUSD shall perform monitoring of the stream gauge before, during and after the proposed test wellfield installation and pump testing is performed. The gauge should be periodically monitored during MCCSD’s hydrological testing period.
- MCCSD and MUSD shall convert an existing caisson well into a monitoring well to monitor groundwater levels in the vicinity of the mapped wetland and well field.

c, ii-iv) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? Impede or redirect flood flows? (Less than Significant)

Implementation of the Modified Project would not require alteration of a creek or other waterbody. The replacement water storage tanks would be constructed in the same general location as the existing tanks to be replaced. The Modified Project would not result in a substantial increase in the amount of impervious surface at the site compared to existing conditions. Operation of the Modified Project would not result in a new point discharge of storm water runoff. The potential for the Project to increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site, or exceed the capacity of existing or planned stormwater drainage systems, would be less than significant.

The Project site is not located within a 100-year flood hazard area or within a floodway or other special flood hazard zone. Therefore, implementation of the project would not impede or redirect flood flows.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? (No Impact)

The Project site is located in an area designated by FEMA as Zone X, which is an area of minimal flood hazard (FEMA 2017). The Project site is not located within a tsunami inundation zone as mapped by the California Office of Emergency Services (Cal OES 2009), nor close enough to a waterbody which would be exposed to risks from seiche. Therefore, implementation of the Modified Project would not risk release of pollutants due to project inundation. No impact would result.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? (Less than Significant)

The Project site is located within the Fort Bragg Terrace Area Groundwater Basin (Basin 1-021), which is not designated as a critically overdrafted groundwater basin and was assigned a “very low” priority ranking during the recent groundwater basin prioritization process. The Sustainable Groundwater Management Act (SGMA) does not require development of a groundwater sustainability agency (GSA) or groundwater sustainability plan (GSP) for the Fort Bragg Terrace Area Groundwater Basin. Thus, the Modified Project would not obstruct implementation of a sustainable groundwater management plan. No impact would result.

The Project site is located within the area subject to the North Coast Regional Water Quality Control Board’s Water Quality Plan (Basin Plan). The Basin Plan lists action plans and policies to achieve water quality objectives, protect present and future beneficial water uses, protect public health, and prevent nuisance. The Project site is located in the Mendocino Coast Hydrologic Unit as defined by the North Coast Regional Water Control Board, in which the Basin Plan defines the following beneficial uses for groundwater:

- Municipal and Domestic Water Supply
- Industrial Water Supply
- Industrial Process Water Supply
- Agricultural Water Supply
- Freshwater Replenishment to Surface Waters

No discharge of groundwater to surface water or the storm drain system would result. Erosion control BMPs would be required to be implemented during construction to prevent erosion and to protect overall water quality (see Impact “a”). Operation of the Modified Project is not anticipated to conflict with the Basin Plan. Impacts would be less than significant.

3.11 Land Use and Planning

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?				✓
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?		✓		

a) Physically divide an established community? (No Impact)

The Modified Project would include water supply and storage improvements within the confines of the existing MUSD property. The Modified Project does not include features that would physically divide an established community. Similar to the evaluation in the 2020 MND, no impact would result.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? (Less than Significant with Mitigation)

The Modified Project would consist of improvements on MUSD property currently developed with water system infrastructure. The Modified Project is located within the Mendocino County Coastal Element and the land use designation for the three Project parcels is "Public and Semi-Public Facility." The zoning designation for the Project parcels is Public Facilities (PF). The Modified Project would not involve a change of land use on the affected property. Specific policies and regulations adopted for the purpose of avoiding or mitigating environmental effects are evaluated in this document under the corresponding issue areas. Similar to the evaluation in the 2020 MND, with implementation of the recommended mitigation measures identified in this Subsequent MND, the Modified Project would not conflict with land use plans, policies, or regulations.

3.12 Mineral Resources

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				✓
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				✓

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. (No Impact)

The Modified Project site is not located in an area designated as a Mineral Resource Zone (MRZ)-2 by the Surface Mining and Reclamation Act, (i.e., areas where there is a high likelihood of significant mineral deposits). Similar to the conclusion of the 2020 MND, the Modified Project would not result in the loss of known mineral resources of value to the region or state. No impact would result.

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? (No Impact)

The most predominant minerals found in Mendocino County are aggregate resource minerals, primarily sand and gravel, found along Mendocino County rivers and streams. Although aggregate hard rock quarry mines are also found throughout the county, there are no locally important aggregate or mineral resources on or in the vicinity of the Project site (Mendocino County 2008). Similar to the conclusion of the 2020 MND, no impact on the availability of locally-important mineral resources would result.

3.13 Noise

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			✓	
b) Result in generation of excessive groundborne vibration or noise levels?			✓	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				✓

a) Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? (Less than Significant)

The County of Mendocino has not established quantified construction noise limits or limited allowable construction hours. Noise impacts resulting from construction depend upon the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive areas. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction lasts over extended periods of time, such as more than one year. In comparison, Modified Project construction is anticipated to begin in 2023 and require approximately 10 to 12 months to complete. Construction activities would generally occur Monday through Friday, 7 AM to 5 PM. The Modified Project would not require nighttime construction work or construction on weekends or legal holidays. Impact pile driving is not anticipated as a method of construction. Construction activities would be temporary in nature and would not exceed applicable established noise standards for public health and safety. Similar to the evaluation in the 2020 MND, the construction-related impact would be less than significant.

Following construction, the Modified Project would not involve new, noise sensitive land uses and would not expose persons to noise levels that exceed noise standards. The Modified Project site is surrounded by residential land uses to the north, east, and west. To the south, the Project site is bounded by Little Lake Road, across which lie additional residential land uses and a nearby K-8 school. The homes on adjacent parcels are built on large (1-2 acre) lots and are heavily forested. These homes represent sensitive noise receptors in the vicinity of the Project site.

Operational noise associated with the proposed new groundwater wells would be negligible and below noise standards in the Mendocino County General Plan as the well pumps would be submersed in water below ground near the bottom of the well and would be encased in a housing structure. Operational noise associated with the reconstructed water tanks would not result in a new substantial noise source. A backup generator would only be used if power was lost and the MUSD or MCCSD needed to continue utilizing the wells until power was restored. Typical noise levels associated with a backup generator would be approximately 78 dBA Leq at 50 feet from the source and the rate of attenuation (i.e., reduction) is approximately 6 dBA for every doubling of distance from a point source.

Noise from periodic truck trips during operation and maintenance and periodic water truck deliveries would be similar to existing vehicle noise and would be negligible due to the infrequency and short duration of the visits. Similar to the evaluation in the 2020 MND, the operational impact of the Modified Project would be less than significant.

b) Result in generation of excessive groundborne vibration or noise levels? (Less than Significant)

Vibration is the movement of particles within a medium or object such as the ground or a building. Groundborne vibrations may be described by amplitude and frequency. Vibration amplitudes are typically expressed in peak particle velocity (PPV) in inches per second (in/sec). PPV represents the maximum instantaneous positive or negative peak of a vibration signal and is most appropriate for evaluating the potential for building damage. Human response to groundborne vibration is subjective and varies from person to person. For structural damage, the California Department of Transportation recommends a vibration limit of 0.5 in/sec PPV for buildings that are structurally sound and designed to modern engineering standards. The exact age of nearby residences is unknown; however, based on development patterns and building architecture (i.e. relatively modern structures with perimeter foundations) they appear to have been constructed in the 1960's or 1970's. Therefore, ground borne vibration levels exceeding 0.5 in/sec PPV would have the potential to result in a significant vibration impact.

Construction of the Modified Project would require the use of equipment such as an excavator, bulldozer, backhoe, grader, concrete saws, aerial lifts, boom truck, crane, rough terrain forklift, and drill-rig. Construction would not require the use of a pile driver. Vibration levels from typical construction activities would be expected to be 0.2 in/sec PPV or less at a distance of 25 feet. These vibration levels from Project construction would be below the 0.5 in/sec PPV significance threshold used to assess potential cosmetic damage to buildings that are structurally sound. Vibration generated by construction activities may at times be perceptible, but would be infrequent and only occur during the daytime. Therefore, similar to the evaluation in the 2020 MND, impacts related to ground borne vibration or ground borne noise levels would be less than significant.

Following construction, operation of the Modified Project would not result in substantial sources of ground borne vibration or ground borne noise. Therefore, no operational impact would result.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? (No Impact)

The Project site is not located within an airport land use plan, within two miles of a public airport, or within the vicinity of an active private airstrip (Mendocino County Airport Land Use Commission 1996). Similar to the evaluation in the 2020 MND, no impact from air-traffic related noise would result.

3.14 Population and Housing

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			✓	
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				✓

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? (Less than Significant)

The Modified Project would include replacing existing water system facilities at the Project site with newer facilities, including two replacement tanks, redevelopment/reconstruction of two existing groundwater supply wells, installation of ten new groundwater supply wells, a replacement well treatment building, widening of an existing unimproved access road, and other site improvements such as internal access roads to new wells, fencing and security gates. The Modified Project is intended to provide adequate capacity to meet the current maximum day demand for MUSD's water system and to provide an emergency water supply for community use during periods of drought when many private wells may run dry. The Modified Project would also replace major components of the system that are approaching the end of their useful life to ensure that the system meets current health, safety and environmental standards. The Modified Project does not involve the construction of new housing, would not induce population growth directly or indirectly, and would not extend infrastructure or roads into areas that have not previously been accessible or developed. Similar to the conclusion of the 2020 MND, the impact of the Modified Project on population growth would be less than significant.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? (No Impact)

No housing or people would be displaced by the Modified Project and no replacement housing would be required. Similar to the conclusion of the 2020 MND, no impact would result.

3.15 Public Services

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire Protection?				✓
Police protection?				✓
Schools?				✓
Parks?				✓
Other public facilities?				✓

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for public services? (No Impact)

The Modified Project would not generate new demand for public services, and water service would not be interrupted during Project construction. The Modified Project would result in a long-term benefit to fire flows by improving the overall efficiency and reliability of the water system and emergency water supplies. Implementation of the Modified Project would increase water storage capacity for fire flows pursuant to NFPA 1142 requirements as well as CFC CCR Title 23, Part 9.

As discussed in Section 3.14, Population and Housing, implementation of the Modified Project would not induce population growth and, therefore, would not require expanded fire or police protection facilities to maintain acceptable service ratios, response times, or other performance objectives. The Modified Project would not result in an increase in student population, and therefore, no new or expanded schools would be required. The Modified Project would not result in the increased use of existing parks and other public facilities as it would not induce population growth. Similar to the conclusion of the 2020 MND, the Modified Project would not require the expansion of other public service facilities. No impact on public services would result.

3.16 Recreation

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				✓
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?				✓

a, b) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated, or include or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment? (No Impact)

No recreational facilities are located on the Project site. Similar to the conclusion of the 2020 MND, the Modified Project would not increase the use of recreational facilities or create new demand for construction or expansion of recreational facilities. No impact would result.

3.17 Transportation

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?				✓
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?				✓
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?		✓		
d) Result in inadequate emergency access?			✓	

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? (No Impact)

Construction of the Modified Project would result in a short-term increase in vehicle trips on local roadways, including Highway 1 and Little Lake Road. The addition of construction-related traffic would occur during daytime hours between 7:00 a.m. and 5:00 p.m. and would not substantially affect congestion on local roadway segments because trips would occur at differing periods of the day and would represent a small percentage of the capacity of the roadways. Construction would not require installation of water distribution lines or other utility improvements within Little Lake Road or other public right of way, and no transit routes, stops, sidewalks or bicycle lanes along Little Lake Road would be impacted.

Following construction, maintenance activities would not change from the pre-project baseline. During a drought period where emergency water supplies are used for community use, water trucks would transport such water to properties within the MUSD and MCCSD service areas. Such trips would be infrequent and intermittent and would not substantially affect congestion on local roads.

No conflicts with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities have been identified. Therefore, similar to the evaluation in the 2020 MND, no impact would result.

See impact “c” below for a discussion of potential impacts relative to traffic hazards during construction.

b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? (No Impact)

As amended in December 2018 and effective statewide beginning on July 1, 2020, CEQA Guidelines Section 15064.3 (Determining the Significance of Transportation Impacts) specifies that Vehicle Miles Travelled (VMT) is the primary metric or measure of effectiveness for determining the significance of transportation impacts across California. VMT refers to the amount and distance of automobile travel attributable to a project. The Governor's Office of Planning and Research (OPR) has published a Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR 2018) which contains guidance on methodology and recommendations for establishing screening criteria and thresholds for VMT evaluation, which is used to evaluate impacts in this Subsequent MND. OPR's Technical Advisory specifies that transportation impact analysis should be based on either a project's VMT per capita (or other efficiency metric like VMT per household, per employee) or total VMT change (before and after project).

Under the OPR guidance, construction traffic is not considered a feature of a project and is temporary, therefore the Technical Guidance does not require consideration of construction traffic in the analysis of VMT. Operation and maintenance of the Modified Project would generate approximately one traffic trip per day on average, and approximately 10 hauled water truck trips per day when emergency water supplies were being provide for community use during a drought. OPR's screening thresholds for Land Use Projects includes an assumption that projects that generate or attract fewer than 110 trips per day may be assumed to cause a less-than-significant transportation impact. The OPR Technical Advisory does not include specific screening criteria for utility projects similar to the proposed Project, however, when one considers the screening criteria established for Land Use Projects, it is reasonable to acknowledge that the trips associated with operation and maintenance of the Modified Project would be substantially less than the screening criteria for a Land Use Project (110 trips per day). The Modified Project would not conflict with or be inconsistent with an applicable threshold of significance adopted per CEQA Guidelines section 15064.3, subdivision (b). Therefore, similar to the evaluation in the 2020 MND, no VMT related impact would result.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? (Less than Significant with Mitigation)

During construction, trucks and worker vehicles would travel along Little Lake Road and turn into the Project site from an existing driveway. The presence of construction vehicles on Little Lake Road during construction would temporarily increase the normal traffic hazard in the Project area. Therefore, similar to the evaluation in the 2020 MND, the construction-related impact is considered significant.

Following construction, the Modified Project would not alter the existing alignment of Little Lake Road nor would it modify the location or design of the existing driveway connection. The Modified Project would not create sharp curves, new intersections, changes to speed limits, or other features that would prevent safe access through the area. Similar to the evaluation in the 2020 MND, no operational impact would result.

Mitigation

Implementation of Mitigation Measure TR-1 would reduce potential impacts relative to traffic hazards during construction to a less-than-significant level by requiring implementation of traffic controls.

Mitigation Measure TR-1: Implement Traffic Controls During Construction

Prior to the start of construction, the MUSD and/or its contractor shall prepare and implement a construction traffic control plan. Traffic controls shall include, but not necessarily be limited to, the following:

- Maintain the existing driveway to the Project site, keeping it open and in good, safe condition at all times with adequate turning radii for construction vehicles.
- Provide signage along Little Lake Road in advance of the Project site to warn of construction vehicles entering and existing the roadway.
- Provide immediate access of emergency vehicles through the construction area at all times.
- Prohibit on-street parking or staging of equipment during construction.

d) Result in inadequate emergency access? (Less than Significant)

The Mendocino Volunteer Fire Department provides emergency response within the Project area. The nearest fire station to the Project site is located at 44700 Little Lake Road, approximately 0.6 miles to the west of the Project site. The Modified Project would not alter the existing roadway network or impair emergency vehicle access to the Project site or surrounding land uses. No roadway closures would occur during construction or operation of the Modified Project, and the Modified Project would not result in on-street worker parking or equipment staging or otherwise affect emergency services or response times in the area. Following construction, operation and maintenance of the Modified Project would not result in substantial additional daily traffic from maintenance activities or truck trips along local roadways, and would, therefore, not affect emergency services or response times in the area. Additionally, no roadway closures would occur during normal operation of the Modified Project. Similar to the evaluation in the 2020 MND, the impact on emergency access would be less than significant.

3.18 Tribal Cultural Resources

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe,				
i) Listed or eligible for listing in the California Register of Historic Resources, or in a local register of historic resources as defined in Public Resources Code section 5020.1(k)?		✓		
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to the criteria set forth in subdivision (c) of the Public Resources Code section 5024.1? In applying the criteria set forth in subdivision (c) of the Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.		✓		

a,i, a.ii) Cause a substantial adverse change in the significance of a tribal cultural resource? (Less than Significant with Mitigation)

CEQA requires lead agencies to determine if a project would have a significant effect on tribal cultural resources. The CEQA Guidelines define tribal cultural resources as: (1) a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American Tribe that is listed or eligible for listing on the California Register of Historical Resources, or on a local register of historical resources as defined in Public Resources Code Section 5020.1(k); or (2) a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant according to the historical register criteria in Public Resources Code Section 5024.1(c), and considering the significance of the resource to a California Native American tribe.

Efforts to identify tribal cultural resources that could be affected by the Project included review of records and literature at the Northwest Information Center, coordination with appropriate local Native American Tribes, a Sacred Lands search through the Native American Heritage Commission (NAHC), and a pedestrian archaeological survey of the Project site. The search of the NAHC's Sacred Lands File for Sacred Sites in the Project area was positive, though no information suggesting

the presence of Sacred Sites or archaeological resources was received from individuals or organizations contacted as part of the study.

The MUSD has no record of receiving requests for notification of proposed projects from California Native American tribes pursuant to Public Resources Code Section 21080.3.1. The MUSD nevertheless initiated contact with Native American tribes as part of preparing this environmental review document. On October 6, 2022, letters were sent to the Hopland Band of Pomo Indians, Manchester Band of Pomo Indians, Bear River Band of Rohnerville Rancheria, Robinson Rancheria Band of Pomo Indians, Guidiville Indian Rancheria, Cahto Tribe, Kashia Band of Pomo Indians of Stewarts Point Rancheria, Coyote Valley Band of Pomo Indians, Sherwood Valley Band of Pomo Indians, Noyo River Indian Community, Redwood Valley or Little River Band of Pomo Indians, Potter Valley Tribe, Round Valley Reservation/Covelo Indian Community, Habematolel Pomo of Upper Lake, Pinoleville Pomo Nation, and Yokayo Tribe.

On October 12, 2022, MUSD received a response letter from the Sherwood Valley Band of Pomo Indians stating that the Tribe has no further information to add regarding cultural resources. On October 20, 2022, MUSD received a response letter from the Habematolel Pomo of Upper Lake stating that the Project is not within their Aboriginal territories. No other responses have been received to date.

As summarized in Section 3.5, Cultural Resources, on October 5, 2022, a pedestrian archaeological survey of the Modified Project site was conducted and identified no archaeological resources. The sensitivity for buried prehistoric archaeological resources in the improvement area is considered low (ASC 2022). The search of the NAHC's Sacred Lands File for Sacred Sites in the Project area was positive, however, no information suggesting the presence of sacred sites or archaeological resources was received from individuals or organizations contacted as part of the study. Although no known tribal cultural resources were identified within the Modified Project area, the potential exists for encountering previously undiscovered resources during Project construction. Therefore, similar to the conclusion of the 2020 MND, the potential impact of the Modified Project on tribal cultural resources would be significant.

Mitigation

Implementation of Mitigation Measures CUL-1 (Protect Cultural and Tribal Cultural Resources if Encountered during Construction) and CUL-2 (Protect Human Remains if Encountered during Construction) would be required for the Modified Project (please see Section 3.5, Cultural Resources for a full description of the mitigation measures). Implementation of Mitigation Measures CUL-1 and CUL-2 would reduce the potential impact to previously undiscovered tribal cultural resources to a less-than-significant level by outlining procedures to be taken in the event of inadvertent discovery of resources consistent with appropriate laws and requirements.

3.19 Utilities and Service Systems

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			✓	
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?				✓
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				✓
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			✓	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?				✓

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? (Less than Significant)

The Modified Project would include replacing several existing MUSD water system facilities at the Project site with newer facilities, including replacement of two water supply tanks, redevelopment/reconstruction of two existing groundwater supply wells, construction and operation of up to ten new groundwater supply wells, a replacement well treatment building, widening and improvement of an existing unimproved access road, and new on-site access roads to proposed new groundwater wells. No utility relocation or construction of off-site utilities beyond those identified in the project description and evaluated in this Subsequent MND would be required that would cause environmental effects. The Modified Project would include a new electrical service connection and a new telemetry system that would connect to the internet. The Modified Project would not require the use of natural gas. The Modified Project would not generate wastewater. Drainage patterns would remain essentially the same as they currently exist. The Modified Project would result in a small increase in impermeable surfaces (approximately 3,400 square feet) and would not substantially

increase storm water runoff or impervious surfaces. Similar to the evaluation in the 2020 MND, the impact would be less than significant.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? (No Impact)

The Modified Project would improve water storage capacity at an existing MUSD water system facility and provide an emergency water supply for community use during periods of drought when private wells may run dry. The Modified Project would not create new demand for water and does not require new or expanded water entitlements. Similar to the evaluation in the 2020 MND, no impact would result.

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? (No Impact)

As described above under impact "a" above, the Modified Project would not generate additional wastewater demand and would not alter existing wastewater characteristics or result in the need for new treatment methods. The Modified Project would not impair the ability of the regional wastewater treatment facility to continue serving existing commitments. Similar to the evaluation in the 2020 MND, no impact would result.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? (Less than Significant)

Demolition debris and excavated soil would require disposal at an off-site location. Construction waste with no practical reuse or that cannot be salvaged or recycled would be disposed of at a local transfer station or solid waste facility. The MUSD would dispose of these materials at an appropriate landfill facility and, as described in Section 3.9, Hazards and Hazardous Materials, would ensure the removal of these materials does not pose a risk to human health and the environment. Solid waste generated during construction would represent a very small fraction of the daily permitted tonnage of disposal facilities and would be sufficiently accommodated by existing landfills. Similar to the evaluation in the 2020 MND, the construction-related impact would be less than significant. Following construction, operation of the Modified Project would not generate additional solid waste or otherwise impair the attainment of solid waste reduction goals. Similar to the evaluation in the 2020 MND, no operational impact would result.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? (No Impact)

No applicable federal solid waste regulations would apply to the Modified Project. At the State level, the Integrated Waste Management Act mandates a reduction of waste being disposed and establishes an integrated framework for program implementation, solid waste planning, and solid waste facility and landfill compliance. The Modified Project would not conflict with or impede implementation of such programs. Following construction, operation would not generate additional solid waste. Similar to the evaluation in the 2020 MND, no impact would result.

3.20 Wildfire

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?			✓	
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?		✓		
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			✓	
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides as a result of runoff, post-fire slop instability, or drainage changes?			✓	

a) Substantially impair an adopted emergency response plan or emergency evacuation plan? (Less than Significant)

The Mendocino County Emergency Operations Plan serves as the primary guide for coordinating and responding to all emergencies and disasters within the County's jurisdiction. The Mendocino County Evacuation Plan (Mendocino County 2020) describes the strategies for managing evacuations which exceed the day-to-day capabilities of the various public safety agencies in Mendocino County. With a special emphasis placed on wildland fire threat, the strategies outlined in the Mendocino County Evacuation Plan are designed using an all-hazards approach to preparing for and managing evacuations. Typically, most evacuations in the County are a result of a quickly spreading wildfire and "life safety" will carry the highest priority in the incident management. However, the County's Evacuation Plan is designed to be applied in any event regardless of the threat or hazard that precipitates the need to evacuate an area.

The Project site is located within Mendocino County's Evacuation Planning Area 4, West Central and Coastal Region. Little Lake Road is identified as a key route for wildfire evacuations relative to nearby areas located east of Highway 1, which includes approximately 200 homes and the Mendocino elementary and high schools. Construction of the Modified Project would not require installation of water distribution lines or other utility improvements within Little Lake Road. No roadway closures would occur during construction or operation of the Modified Project. The Modified Project would not result in on-street worker parking or equipment staging or otherwise affect emergency services or response times in the area.

The Project would result in a long-term benefit to fire flows by improving the overall efficiency and reliability of MUSD's water system. As discussed in Section 3.17, Transportation, the Mendocino Volunteer Fire Department provides emergency response within the Project area. The nearest fire station to the Project site is located on Little Lake Road, approximately 0.6 miles to the west of the Project site. The Modified Project would not alter the existing street network or change emergency vehicle access to the Project site or surrounding land uses.

Similar to the conclusion of the 2020 MND, the Modified Project would not substantially impair an adopted emergency response plan or emergency evacuation plan. The impact would be less than significant.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? (Less than Significant with Mitigation)

Based on current CAL FIRE mapping, the Project site is located in an area that has been designated as a "moderate" fire hazard severity zone (CAL FIRE 2007). The Mendocino County Fire Vulnerability Assessment (Mendocino County 2020b) identifies the Project site as susceptible to wildfire. As discussed in Section 3.9, Hazards and Hazardous Materials, it is possible that fire ignition could occur during construction (e.g., related to heavy machinery usage). Similar to the conclusion of the 2020 MND, given the vegetation at the Project site and the proximity of nearby residences, the construction-related impact is considered significant.

Following construction, the Modified Project would not alter site topography in a manner that exacerbates wildlife risk or exposure of the public to pollutants in the event of an uncontrolled wildlife. No new chemicals or hazardous materials would be used operationally such that the increase of pollutant exposure in the event of an uncontrolled wildfire would not increase above existing conditions. The Modified Project would not result in changes to growth patterns or residential densities and the use of the Project site would not substantially change. Similar to the conclusion of the 2020 MND, the operational impact of the Modified Project would be less than significant.

Mitigation

Implementation of Mitigation Measure HAZ-2, as described in Section 3.9, Hazards and Hazardous Materials, would reduce the potential impact of construction activities on wildland fires to a less-than-significant level by requiring the use of construction techniques that minimize fire risk.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? (Less than Significant)

The Modified Project would include replacing several existing MUSD water system facilities at the Project site with newer facilities, including replacement of two water supply tanks, redevelopment/reconstruction of two existing groundwater supply wells, construction and operation of up to ten new groundwater supply wells for emergency water supply, a replacement well treatment building, widening of an existing unimproved access road, and new on-site access roads to proposed new groundwater wells. An existing access road would be widened as part of the Modified Project to improve circulation within the Project site, and new driveways within the Project site would provide vehicle access to the proposed new groundwater wells. The Modified Project would not require fuel breaks, power lines or other utilities.

Operation and maintenance activities currently occur under existing conditions and, following construction, the Project would not result in the need for substantial additional operation and maintenance activities. The planned operation is to fill the tanks during the wet season and then maintain the tanks full during summer months when a drought condition is projected, so if the need arises and water from other local systems is unavailable, the supplemental emergency water stored in the tanks could be sustainably available to serve the local community with emergency water. Based on the nature of the project, depletion or chronic lowering of groundwater levels would not result and would not relatedly increase the potential for elevated wildfire risks. The Modified Project would not exacerbate fire risk or result in temporary or ongoing impacts to the environment. The impact would be less than significant.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes? (Less than Significant)

The Project site is located in an area designated by the FEMA as Zone X, which is an area of minimal flood hazard (FEMA 2017). The Project site is not located within a 100-year flood zone as mapped by FEMA or within a tsunami inundation zone as mapped by the California Office of Emergency Services (CDC 2021b). Similar to the conclusion of the 2020 MND, the risk of downslope flooding or landslides associated with post-fire slope instability or changes in drainage is low. The impact would be less than significant.

3.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		✓		
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?			✓	
c) Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?		✓		

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? (Less than Significant with Mitigation)

Potential project impacts to biological and cultural resources are addressed in Section 3.4, Biological Resources, Section 3.5, Cultural Resources, and Section 3.18, Tribal Cultural Resources, respectively. With implementation of the recommended mitigation measures identified in this Subsequent MND, the potential for Project-related activities to degrade the quality of the environment, including wildlife species or their habitat, plant or animal communities, or important examples of California history or prehistory would be reduced to less-than-significant levels.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? (Less than Significant)

Cumulative impacts are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines Section 15355). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Efforts to identify cumulative projects included contact with the MUSD, MCCSD, the Mendocino County Planning Department, and review of Planning Department web portals. Regarding what constitutes a probable future project, generally a project should be viewed as a probable future cumulative project once the environmental review process for such a future project is underway or there is evidence showing that such a project is feasible, probable or sufficiently certain to occur.

Projects identified and considered for cumulative impacts include:

- Planned MUSD and MCCSD recycled water system improvements, including recycled water pipelines, irrigation systems, fire hydrants, and a new recycled water storage tank. As part of this cumulative project, recycled water storage tank would be installed at the MUSD-owned property at 44020 Little Lake Road. Recycled water pipelines would be constructed within portions of the Mendocino County road right-of-way on Kelly Street, Ukiah Street, Kasten Street, Little Lake Street, Lansing Street, Little Lake Road, School Street, and within Caltrans right-of way within State Route 1. A new irrigation system would be installed at Friendship Park, and recycled water irrigation services would be provided to Mendocino High School and the K-8 School.
- Planned future improvements to the MCCSD WWTP at 10500 Kelly Street, including new chlorination systems, pumping, and piping improvements;
- Planned school modernization projects at Mendocino High School; and
- Planned street striping along Main Street and Lansing Street.

As summarized in this Initial Study, the Project would not result in impacts on agriculture and forestry resources, mineral resources, public services, or recreation. Therefore, implementation of the Modified Project would not contribute to any related cumulative impact on those resources.

Based on current schedules, construction of the cumulative projects identified above would not overlap with construction of the proposed Modified Project and would not add appreciably to any existing or foreseeable future cumulative impact. The planned future improvements at the MCCSD WWTP, at Mendocino High School, and street striping on Main Street and Lansing Street would not occur in areas near the Modified Project site that would contribute to cumulative construction-related impacts, such as traffic, noise, or air quality and water quality impacts.

The Modified Project is not part of a potential future larger community water system and such a future water system project would not be required to fully utilize the design capabilities included in the Modified Project. MCCSD has submitted a Technical Assistance Request to the State Water Resources Control Board to investigate the feasibility of the creation of a consolidated and regional community water system. The potential of such a regional community water system has not advanced to the point that it would be reasonable and practical to evaluate its cumulative impacts. A feasibility study and community engagement process for such a potential future project has not been completed, nor has an environmental review been initiated. Thus, there is no evidence in the record

showing that such a regional community water system is feasible, probable or sufficiently certain to occur. Relatedly, project details for such a potential future project are not known that would allow for meaningful cumulative impacts analysis and CEQA documentation is not required to speculate about the cumulative impacts that might occur from such projects.

As documented in this Subsequent MND, the impacts of the proposed Modified Project would be mitigated to a less-than-significant level. Incremental impacts, if any, would be very small, and the cumulative impact would be less than significant.

c) Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly? (Less than Significant with Mitigation)

With implementation of the recommended mitigation measures identified in this Subsequent MND, the potential for Project-related activities to cause substantial adverse effects on human beings would be reduced to less-than-significant levels.

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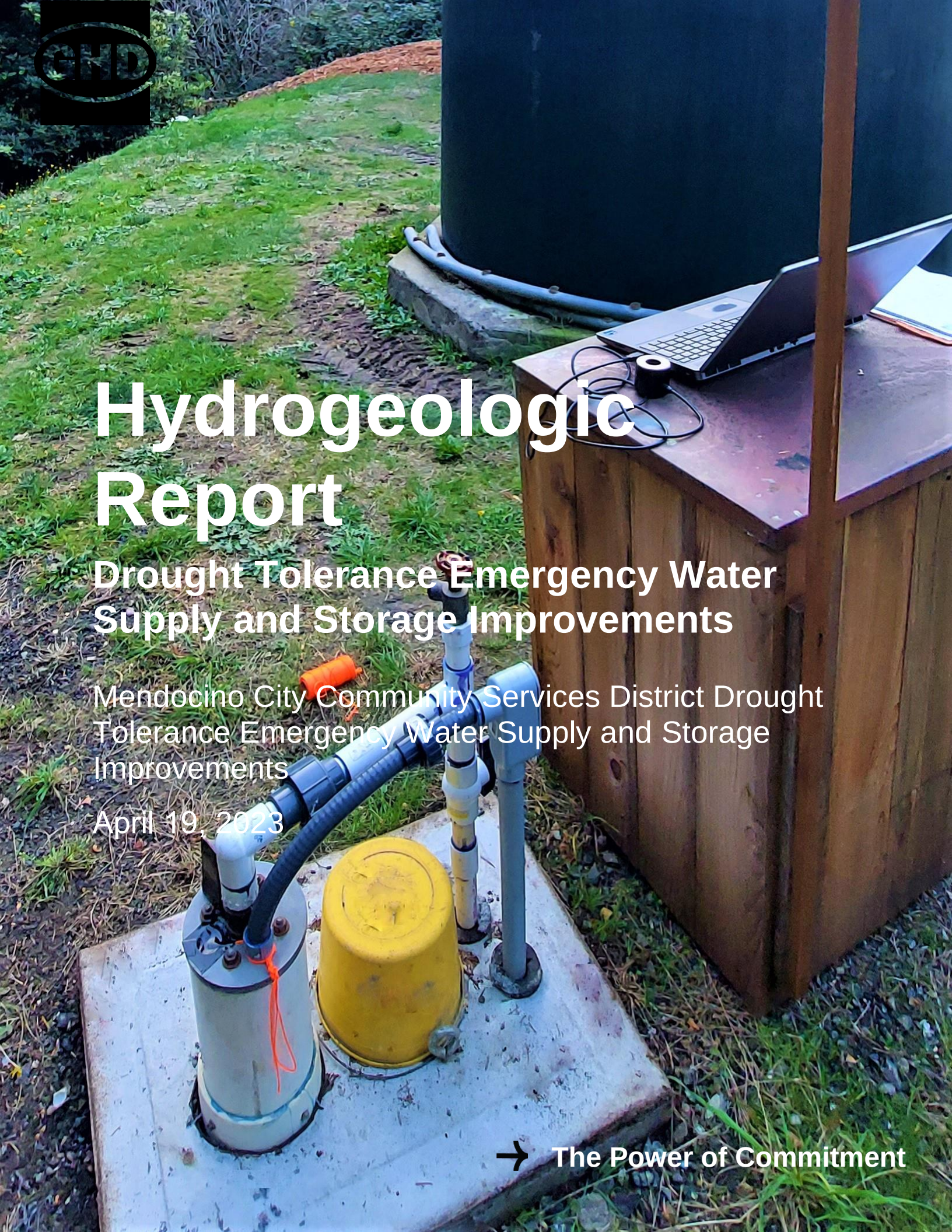
Appendices

Appendix A Hydrogeologic Report



Hydrogeologic Report

Drought Tolerance Emergency Water Supply and Storage Improvements

Mendocino City Community Services District Drought Tolerance Emergency Water Supply and Storage Improvements

April 19, 2023

The Power of Commitment

Project name		PW Drought Tolerance Emergency Water Supply and Storage Improvements MCCSD Drought Tolerance Emergency Water Supply and Storage Improvements					
Document title		Hydrogeologic Report | Drought Tolerance Emergency Water Supply and Storage Improvements					
Project number		12584992					
File name		F-Hydrogeological Report-MUSD Property.docx					
Status Code	**Revision**	**Author**	**Reviewer**		**Approved for issue**		
			Name	**Signature**	**Name**	**Signature**	**Date**
S3	01	Coleton Golden	Ryan Crawford		Matt Kennedy		12/22/2022
S3	02	Coleton Golden	Ryan Crawford		Matt Kennedy		4/19/2023

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NOTE: This study was developed utilizing common engineering and hydrogeologic resources and with information provided by the Mendocino City Community Services District, the Mendocino Unified School District and from previous studies. Engineering judgment was applied where appropriate. Future conditions may vary from those predicted in this study. All recommendations should be validated and adjusted as appropriate during the design and construction process. Due to periodic changes to regulations, procedures, design guides, and policies, the potential solutions and recommendations contained herein may be subject to revision.

1. Introduction

1.1 Purpose of this report

GHD, Inc. (GHD) was engaged by the Mendocino City Community Services District (MCCSD) to prepare this report summarizing the results of a hydrogeological investigation of groundwater data collected by GHD in the fall of 2022 in the Mendocino Unified School District (MUSD) wellfield and in the immediate vicinity. Groundwater data was collected from MUSD pumping and non-pumping supply wells, and near vicinity domestic wells using manual depth-to-water (DTW) meters and where possible, by installing continuous data logging pressure transducers directly within each well casing. The purpose of the information provided herein is to support the environmental review and design of a new well field consisting of up to ten water supply wells within the MUSD property. This scope of work supports the Drought Tolerance Emergency Water Supply and Storage Improvements project that is jointly supported by the MCCSD and MUSD and funded by the California Department of Water Resources Urban and Multibenefit Drought Relief Grant program and a California Water Resources Control Board Proposition 1 Drinking Water State Revolving Fund Planning Grant.

The project Site is located on MUSD property located north of the K-8 School campus (APN 119-100-03, 119-100-04 and 119-100-23) and west of the school's existing supply wells and storage tanks, shown in Appendix A, Figure 1. The Site consists of only the single parcel (APN: 119-100-03) and does not include the adjacent parcels to the east where the construction of replacement water tanks and a treatment building is planned. The proposed locations of the expanded well field are shown in Appendix A Figure 2.

1.2 Scope and limitations

This report has been prepared by GHD for the Mendocino City Community Services District Drought Tolerance Emergency Water Supply and Storage Improvements and the Mendocino Unified School District and may only be used and relied on by Mendocino City Community Services District Drought Tolerance Emergency Water Supply and Storage Improvements and the Mendocino Unified School District for the purpose agreed between GHD and Mendocino City Community Services District Drought Tolerance Emergency Water Supply and Storage Improvements and the Mendocino Unified School District as set out in Section 1 of this report.

GHD otherwise disclaims responsibility to any person other than Mendocino City Community Services District Drought Tolerance Emergency Water Supply and Storage Improvements and the Mendocino Unified School District arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section(s) 1 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

1.3 Assumptions

This report summarizes information from the MCCSD, the MUSD, previous studies and data collected during sampling events and presents preliminary information about a new well field proposed to be located on MUSD property which will be subject to review by the MCCSD, the MUSD, the County, State, and others.

Recommendations for the new well field are preliminary and final locations may be updated based on additional data collected during test well installation anticipated in 2023, and feedback received from MCCSD, MUSD and other stakeholders.

2. Desktop Review

2.1 Background Data Collection

Records available from public resources were reviewed to provide information regarding the Site history, geology, hydrogeology, and other supply wells in the immediate vicinity. The principal sources of information reviewed included:

- **California Department of Water Resources (DWR) Well Completion Reports (WCR).** These reports include information on well number, construction details, groundwater levels, installation and testing dates, and pump testing results. Select WCRs are included in Appendix C.

- **California Water Boards Aquifer Risk Database.** This database provides information tracking for areas where domestic wells and small water systems subject to state regulations may be accessing raw source groundwater that do not meet primary drinking water standards maximum contaminant levels (MCLs). An image of the Site vicinity as shown in the Aquifer Risk Database is presented in Figure 1 below.

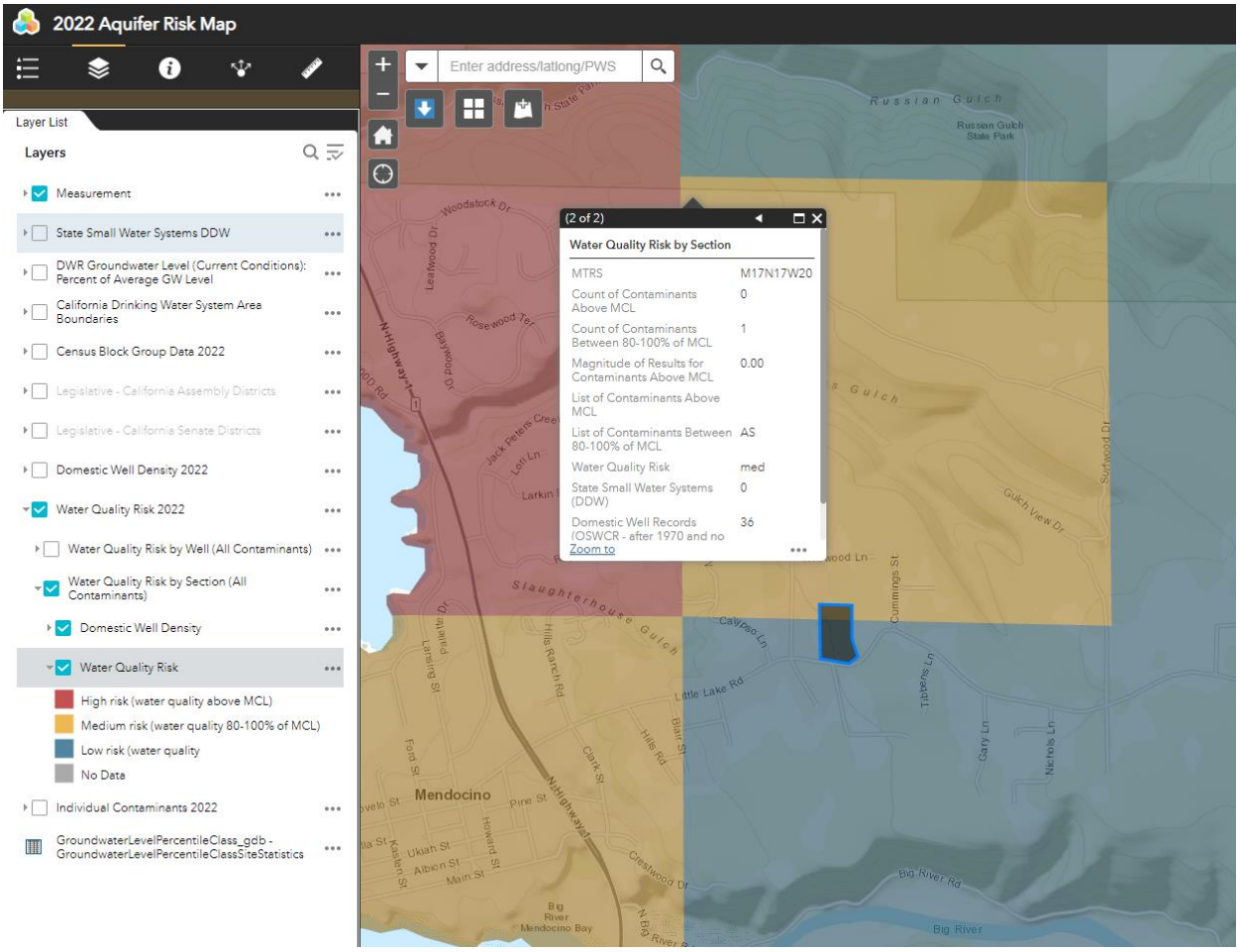

Figure 1 Aquifer Risk Map in Project Vicinity (accessed October 2022). Site Boundary is Approximate.

- **California Geological Survey – Online Geologic Map of California.** This database provides generalized regional geological information. Geological information is described in Section 2.0.

- **DWR Bulletin 118 – Update 2003, California's Groundwater.** This report provides regional hydrogeological information including groundwater basin descriptions and statistics for groundwater quantity and quality. Hydrogeological information is described in Section 2.0.

- **DWR Bulletin 118 – Interim Update 2020, California's Groundwater.** This report provides an update to the 2016 version for regional hydrogeological information including groundwater basin descriptions and statistics for groundwater quantity and quality. Hydrogeological information is described in Section 2.0.

- **Department of Toxic Substances Control EnviroStor Database.** This database provides information tracking for clean-up, permitting, enforcement, and investigation efforts at hazardous waste facilities and sites with known contamination or suspected contamination. An image of the Site vicinity as shown in the EnviroStor Database is presented in Figure 2 below.

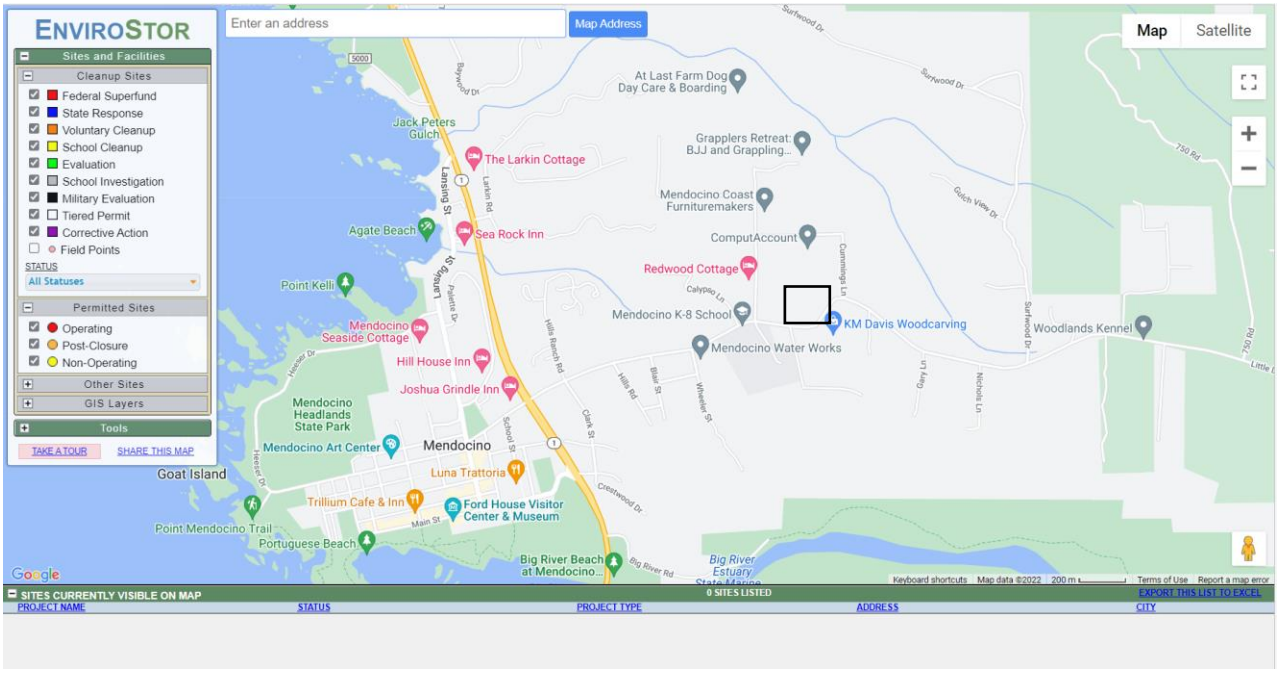

Figure 2 EnviroStor Database in Project Vicinity (accessed November 2022). Site Boundary is Approximate.

- **State of California GeoTracker Database.** This database provides information tracking compliance data from authorized or unauthorized discharges of waste to land, or unauthorized releases of hazardous substances from underground storage tanks. An image of the Site vicinity as shown in the GeoTracker Database is presented in Figure 3 below.

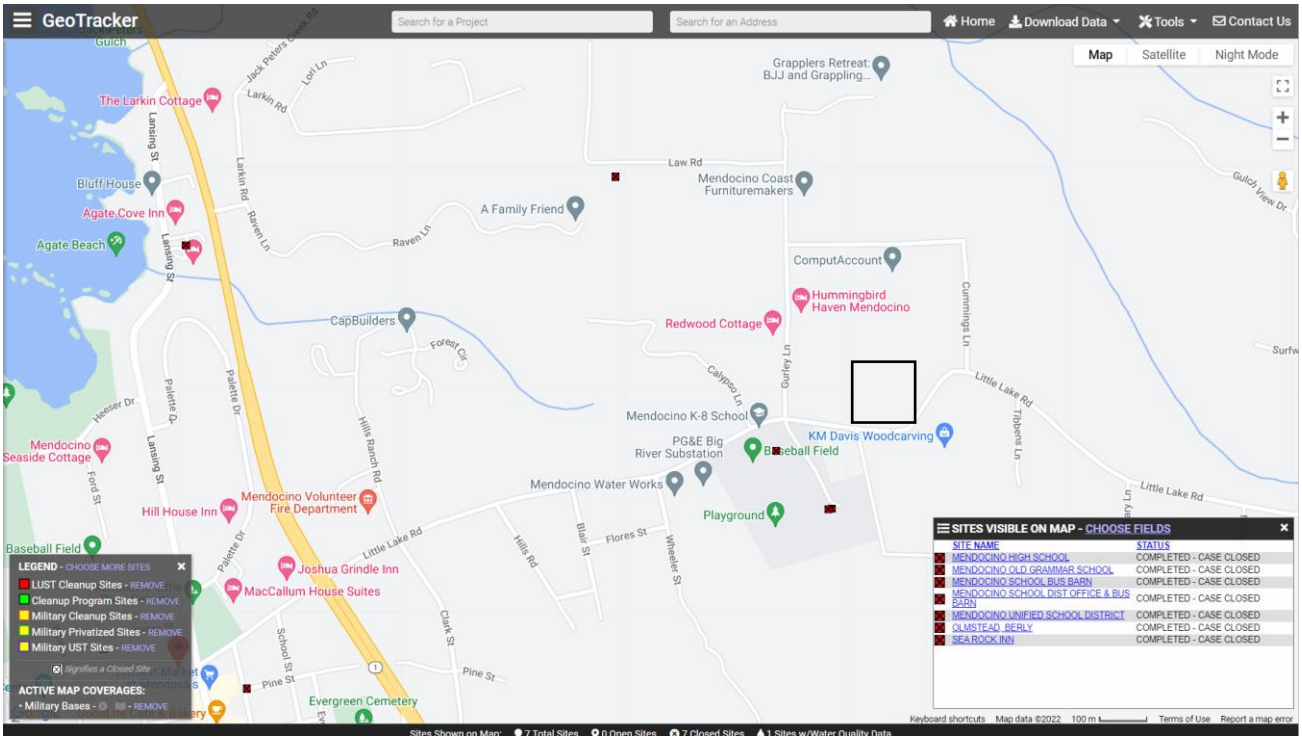

Figure 3 ***GeoTracker Database in Project Vicinity (accessed November 2022). Site Boundary is Approximate.***

- **United States Geological Survey – The National Geologic Map Database:** This database provides generalized regional geological information. Geological information is described in Section 2.0.

2.2 Previous Vicinity Studies

GHD previously conducted a series of studies for MUSD for future additional production capacity and source water supply resiliency. These included a source water well inspection and specific capacity testing study (GHD, 2019b), a well siting study (GHD, 2019c), a test well drinking water source assessment and protection and water quality study (GHD, 2020), and construction of a new test well (MUSD Well 6) with pump and specific capacity testing (GHD, 2021). The MUSD currently operates two active wells (MUSD Well 1 and MUSD Well 2) at the Site that will remain operational during the construction and implementation of the proposed well field.

In addition to previous GHD studies, numerous hydrological studies were performed in the 1980s through at least the early 2000s by Don Clark Engineering and Hydrology, and other regional firms. Hard copies were reviewed by GHD as provided by several domestic well owners downgradient to the MUSD.

The MCCSD monitors precipitation and groundwater (since at least 2002) within the MCCSD service district area. In an effort to monitor water resources they also use and annually update a computational groundwater model developed and maintained by Todd Groundwater (Todd). The MCCSD service area and a number of monitoring wells located west of the project area are shown in Figure 4.

Figure 4 *MCCSD Monitoring Well Locations (TODD 2021)*

In addition to the monitoring wells, data has previously been collected from private water supply wells, shown in Figure 5, that are also incorporated into the MCCSD groundwater model.

Figure 5 *Private Water Supply Wells Identified by MCCSD (TODD 2021)*

The project location is adjoining the northeast boundary of the groundwater model, however some of eleven documented private wells within the MCCSD boundary are within the vicinity of this project and were reviewed as potential continuous data monitoring locations.

2.3 Topographic Setting

The Site is located approximately 1 mile east of the Pacific Ocean on the Mendocino Headlands, on the outskirts of the village of Mendocino. The Mendocino Headlands consist of a series of relatively flat terraces that form benches into the surrounding bedrock. The headlands protrude approximately ½ a mile into the Pacific Ocean and terminate with nearly vertical cliff faces that generally extend between 40 and 60 feet above sea level.

The Site is situated on the north side of Little Lake Road, approximately 0.7 miles east of the intersection of Little Lake Road and State Route 1 at an elevation ranging from 385- to 425- feet NAD88. The Site slopes to the west at a consistent 10 percent grade and is heavily forested throughout with exception to the southwest corner where there is an existing MUSD maintenance building and driveway that leads east to the existing MUSD wells and water tank.

2.4 Geologic Setting

Regional geology of the project area consists of the Coast Ranges geomorphic province which is comprised of northwest-trending mountain ranges, typically between 2,000- and 4,000-feet above sea level. The northern Coast Ranges are dominated by irregular, knobby, landslide-topography of the Franciscan Complex that in large areas are overlain by volcanic cones and flows of the Quien Sabe, Sonoma and Clear Lake volcanic fields (CGS, 2002). Ongoing tectonic forces resulting from the collision of the North American Plate with the Pacific Plate have created a broad zone of active, dormant, and inactive faults that are dominated by the San Andreas Fault system which trends along the western coast of the County, the Maacama Fault zone running parallel to State Route 101, and the Bartlett Springs Fault system that runs through Lake Pillsbury. The fault system results in a north-western structural alignment that controls the overall orientation of Mendocino County's ridges and valleys through a series of thrust faults, smaller right lateral faults, the largest documented and active on-land fault ruptures being the San Andreas Fault located approximately 22 miles to the south at State Route 1 and Alder Creek and the Maacama Fault zone located approximately 24-miles west of the Site.

The Site is located on Pleistocene aged marine terrace deposits that are underlain by Franciscan Complex Coastal Belt. A relatively shallow organic soil horizon overlays the terrace deposits that range from 1- to 4-feet in depth. Marine terraces represent former beach and near shore environments and consist of silty sand that form essentially flat stratigraphic surfaces that cover the underlying Franciscan bedrock (DWR, 1985). There are four primary marine terraces that have been documented by Todd and others that constitute the Mendocino Headlands aquifer:

- **Casper Point**: Occurs between elevation of 40- to 80-feet elevation and is the youngest terrace (approximately 100,000 years old). The terrace is composed of medium-grained loose sand with few fines and is generally about 10 feet thick.
- **Jughandle Terrace**: Occurs between 80- to 160-feet elevation and is the second youngest terrace (about 200,000 years old). The terrace is composed of fine-grained silty sand and is generally about 20 feet thick with a maximum thickness of 35 feet.
- **Railroad Terrace**: Occurs between 160- to 200-feet elevation and is the third youngest terrace (about 300,000 years old). The terrace is composed of fine-grained sand with a higher percentage of silt and clay than the younger terraces.
- **Fern Creek Terrace**: Occurs between 300- to 400-feet elevation and is the oldest marine terrace (about 400,000 years old). The terrace is composed of fine-grained silt and clayey sand and is generally up to 15 feet thick.

Franciscan bedrock consists of interbedded greywacke sandstone and shale that is pervasively fractured. The bedrock holds very little potential for water storage however the fractures allow for groundwater storage and transmissivity and generally understood to decrease with depth and distance from the coastline (DWR, 1985).

The Site is located beyond the traditionally mapped extent of the Fern Creek Terrace, located approximately ¼ mile northeast. Nearby well completion reports indicate that the alluvial thickness on the western half of the site is similar to that of the Fern Creek Terrance (around 15 feet) however there is a grade break that increases the elevation by approximately 30 feet which directly translates to increase of the marine terrace thickness to approximately 50 feet. This increase may be an extension of the Fern Creek Terrace or part of an unknown older and unmapped marine terrace.

2.5 Hydrologic Setting

The Mendocino Headlands aquifer is located within the Sustainable Groundwater Management Area designated the Fort Bragg Terrace Area which does not have a current Groundwater Sustainability Plan, however, the village of Mendocino is regulated by the MCCSD which maintains a Groundwater Sustainability Plan. The Fort Bragg Terrace Area is a series of discontinuous uplifted marine terrace deposits located along the Mendocino County coastline (DWR, 2004).

The primary method of recharge for the aquifer is precipitation infiltration with excess surface runoff flowing into creeks and ultimately the Pacific Ocean to the west. Areas that have exposed bedrock tend to have poor infiltration rates resulting in the alluvial and marine terraces being primary recharge and storage areas. Due to the topographic setting of the Mendocino Headlands, a major portion of the annual groundwater outflow is through shallow springs along the surrounding cliffs resulting in the shallow aquifer(s) having reduced long-term storage capacity and influenced by the annual weather patterns much more than typical alluvial California aquifers. This means that the Mendocino water supply is very closely associated with year-to-year precipitation and is vulnerable to short period (single and multi-year) droughts. Annual average rainfall for the village of Mendocino is about 40-inches with 97 percent of annual rainfall occurring in the rainy season (October to May), as shown in Figure 6.

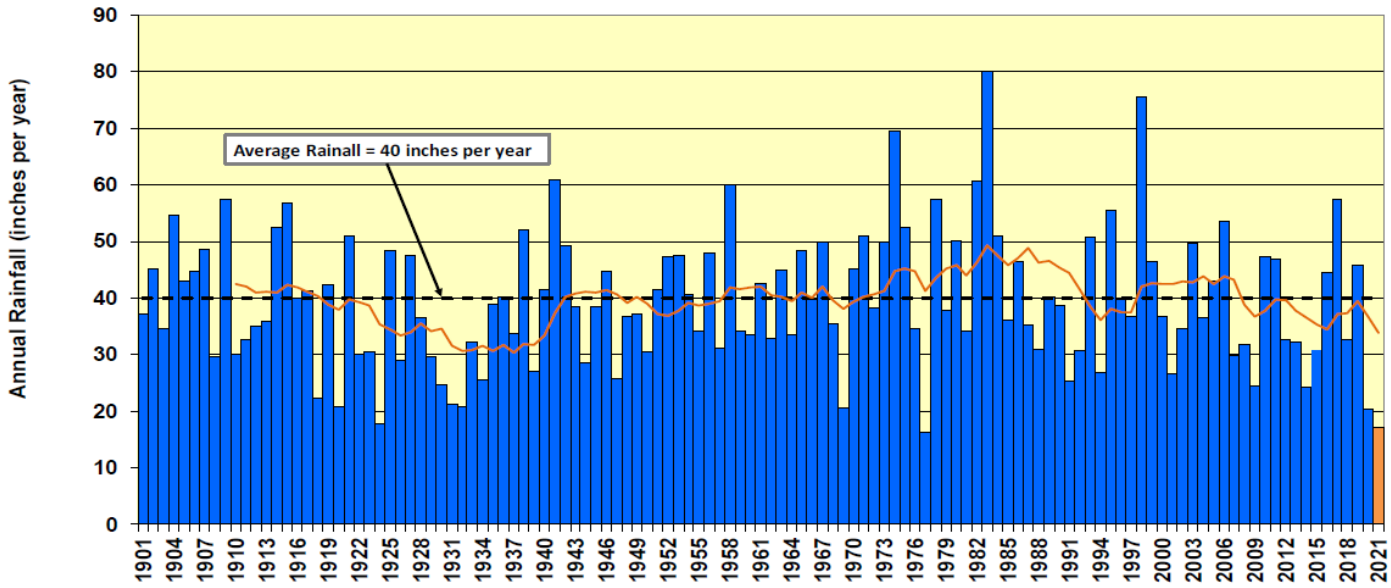

Figure 6 Mendocino Annual Rainfall from 1901 to 2021 (Todd 2021)

Topography and groundwater flow indicate that surface and groundwater flow northwest towards Slaughterhouse Gulch and is disconnected from the Big River Watershed located south of the village of Mendocino. Figure 7 below shows the modeled groundwater elevations within the MCCSD service area. Groundwater levels are typically lowest in the fall prior to the first substantial rainfall of the rainy season and they begin to rise after about 9-inches of precipitation (DWR, 1985).

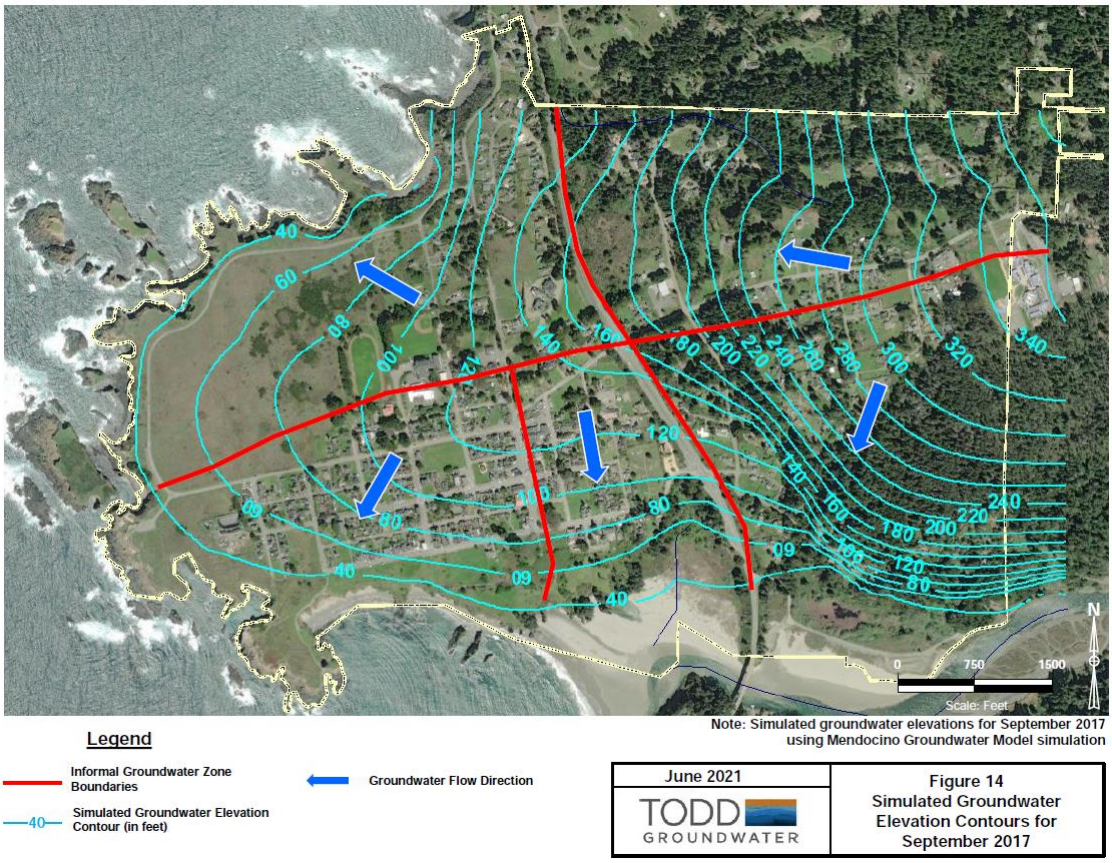

Figure 7 2021 Groundwater Elevations (Todd)

During droughts, the highest groundwater levels occur during the winter and are several feet lower than the same months in an above average rainfall year. During severe droughts, the average depth-to-water falls below 20 feet and results in a number of dry wells in the area. Groundwater pumping is generally metered for both commercial and domestic uses with total annual extractions for the region ranging from 65 to 74 acre-feet over the last six years (Todd 2022).

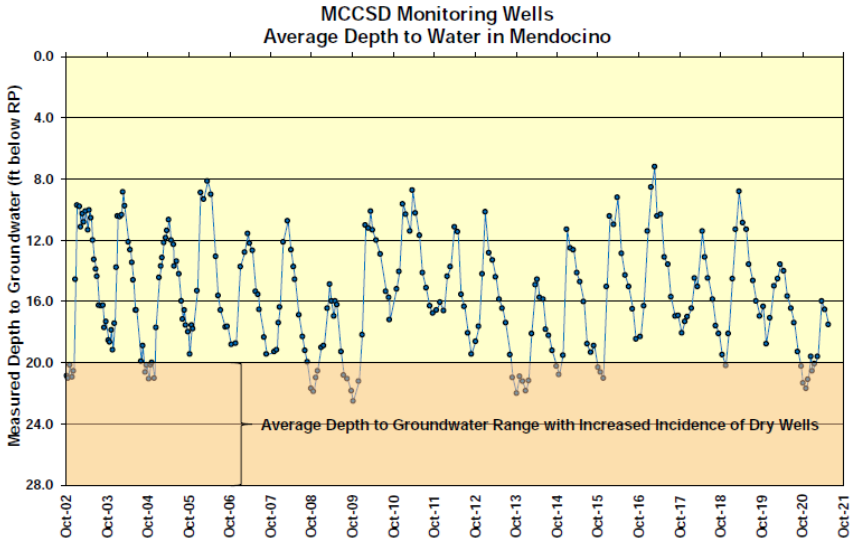

Figure 8 Mendocino City Community Service District Monitoring Wells – Depth to Groundwater (Todd 2021)

2.6 Water Quality

The Site is located in the Mendocino Coast Hydrologic Unit as defined by the North Coast Regional Water Control Board in which groundwater is defined has having the following beneficial uses:

- Municipal and Domestic Water Supply
- Industrial Water Supply
- Industrial Process Water Supply
- Agricultural Water Supply
- Freshwater Replenishment to Surface Waters

A review of the GeoTracker and Enviorstor databases indicates that there are no known active environmental clean-up sites within 1,000 feet of the Site. There are three closed leaking underground storage tank (UST) environmental sites within 1,000-feet of the Site, all located to the southwest and located within the MUSD K-8 School. Based on the down gradient and closed nature of the three closed UST sites, the risk to water quality at the Site is low. There is one known detection of elevated levels of arsenic in nearby water quality samples. Groundwater quality within the basin is generally high with no widespread issues.

Raw groundwater samples from the MUSD wells (Well 1 and Well 2) have been tested intermittently for total coliform and Escherichia coli since 2008 and have predominately shown no bacteriological contamination. Title 22 water quality results collected after the construction and initial development of MUSD Well 6 (2020) did not indicate the presence of any constituents of concern that are subject to U.S. Environmental Protection Agency (EPA) Primary Drinking Water Standards. Concentrations of aluminum and manganese in the initial water samples were reported above the Secondary Drinking Water Standards, but these constituents are expected to drop with further well development. The Secondary Drinking Water Standards are enforceable guidelines regulating constituents that may cause aesthetic effects in drinking water. Private water quality records shared during data collection records did not indicate the presence of any constituents of concern.

3. Data Collection

3.1 Public Outreach and Fieldwork

In September 2022, GHD, MCCSD and MUSD engaged in a public outreach campaign sending letters (Appendix B) and making phone calls to domestic well owners in the vicinity of the proposed well field who are immediately adjacent to and downgradient of the anticipated groundwater flow direction (westerly). The letter identified individual parcels containing wells that were identified as high priority and requested access to begin collecting DTW data and that owners allow continuous groundwater level data loggers (pressure transducers) be installed within their wells, if possible. Pressure transducer data was collected from existing MUSD wells (except MUSD Well 2 which was inaccessible and only manual DTW measurements were collected) and two of the respondent owner wells over three sampling events on September 29th and 30th, October 19th, and November 22nd in 2022. Data collection involved obtaining relevant well information, wellhead inspection, DTW measurements, and installation of pressure transducers when possible. Initial requested well locations are shown in Appendix A. Figure 3 and associated well construction details are provided in Table 1 below.

Table 1 Wells Inspected and Requested Access for This Study

Well Location	Surface Elevation (ft)	Depth (ft)	GPM	Diameter (in)	Well Casing Access for DTW Meter & Transducer (Yes or No / Yes or No)	Well Log No.	Drill Date
10601 Gurley Ln	375	Ukn	Ukn	Ukn	Ukn	Ukn	Ukn
10650 Gurley Ln	359.3	59	4.5	5	Yes/Yes	140367	1988
10651 Gurley Ln	381.1	140	1.5	5	Yes/Yes	924893	2005
10821 Gurley Ln	422	24	2	36	Yes/No	Unk	Ukn
10651 Calypso Ln	375	Ukn	Ukn	Ukn	Ukn	Ukn	Ukn
10700 Calypso Ln	343	300	0.10	5	Yes/Yes	Unk	2022
44000 Little Lake Rd	435	200	1	5	No/No	Unk	Unk
44200 Little Lake Rd	360	16	1	36	Yes/Yes	Unk	Unk
44300 Little Lake Rd	337	138	0.5	5	Yes/No	098675	1981
MUSD N Caisson	406.0	30	0	36	Yes/Yes	112963	1963
MUSD S Caisson	403.5	30	0	36	Yes/No	112963	1963
MUSD Well 1	432.2	35	Unk	8	Yes/Yes	141427	1976
MUSD Well 2	432.2	45	Unk	8	Yes/No	Unk	Unk
MUSD Well 6	431.6	45	6	5.6	Yes/Yes	001445	2020

Unk = unknown

Transducers were installed into two MUSD wells (Well 1 and Well 6) with Well 1 being active and Well 6 acting as a monitoring well. Additionally, two abandoned 36-inch diameter concrete caisson wells were identified for potential monitoring (north caisson and south caisson). The north caisson was determined to be in sufficient condition to allow the installation of a transducer while the south caisson was only capable of DTW measurements.

In addition to the MUSD wells, GHD performed a public outreach effort to identify wells of interest based on their location in relation to the proposed well field. In total, nine (9) nearby residents were identified as having wells adjacent to or downgradient of the proposed well field that could provide valuable data or potentially be impacted by the operation of the proposed well field. Six of the nine residents responded and had wellheads in sufficient condition to allow monitoring, two of which were capable of allowing the installation of a transducer. Figure 9 shows examples of the conditions of the private wells encountered.

Figure 9 Existing Nearby Domestic Wells

3.2 Groundwater Data and Hydrographs

Manual depth-to-water measurements were taken from top of casing (TOC). The TOC varied for each well but in general were less than 2 feet above the ground surface. Figure 10 shows the depth-to-water measurements relative to the total depth of each well and Figure 11 shows the depth-to-water measurements relative to their elevation and projected onto cross section A-A'.

Water levels around the project area range from 4 feet to 40 feet below ground surface with wells in the shallow terrace deposits having water levels around 5 to 10 feet below TOC and bedrock wells having water levels around 15 to 20 feet below TOC. The exceptions to this are the three MUSD wells (Well 1, Well 2, and Well 6) which have water levels between 20 and 40 feet below their respective TOC. This could be due to their much more active use compared to the other wells and within a higher elevation marine terrace that is not directly hydraulically connected to the lower elevation wells within different formational types (alluvium and bedrock). Transducer recordings from September 29th to November 24th are shown in Figure 12.

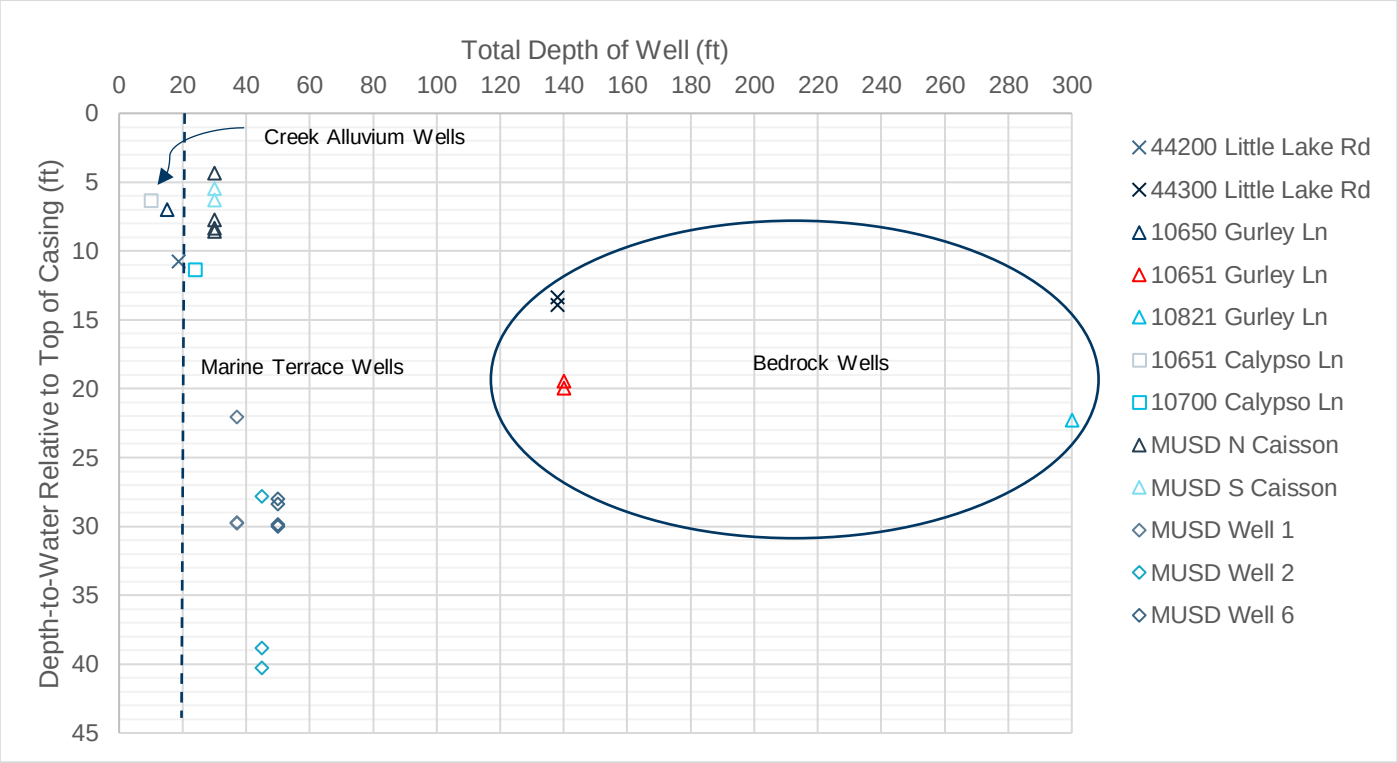

Figure 10 Depth-to-Water vs Total Well Depth of Monitored Wells

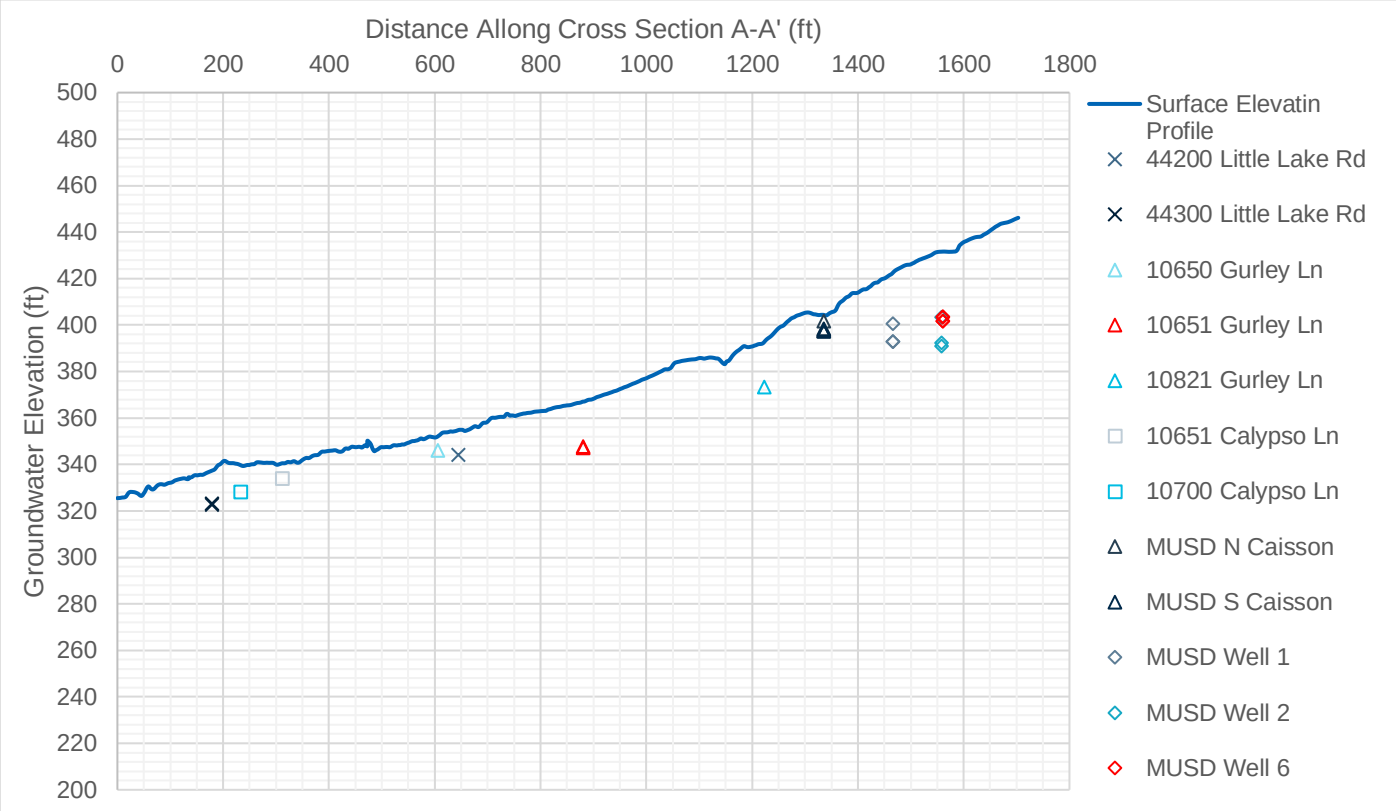

Figure 11 Depth-to-Water Measurements During Sampling Events Between September 29th and November 22nd

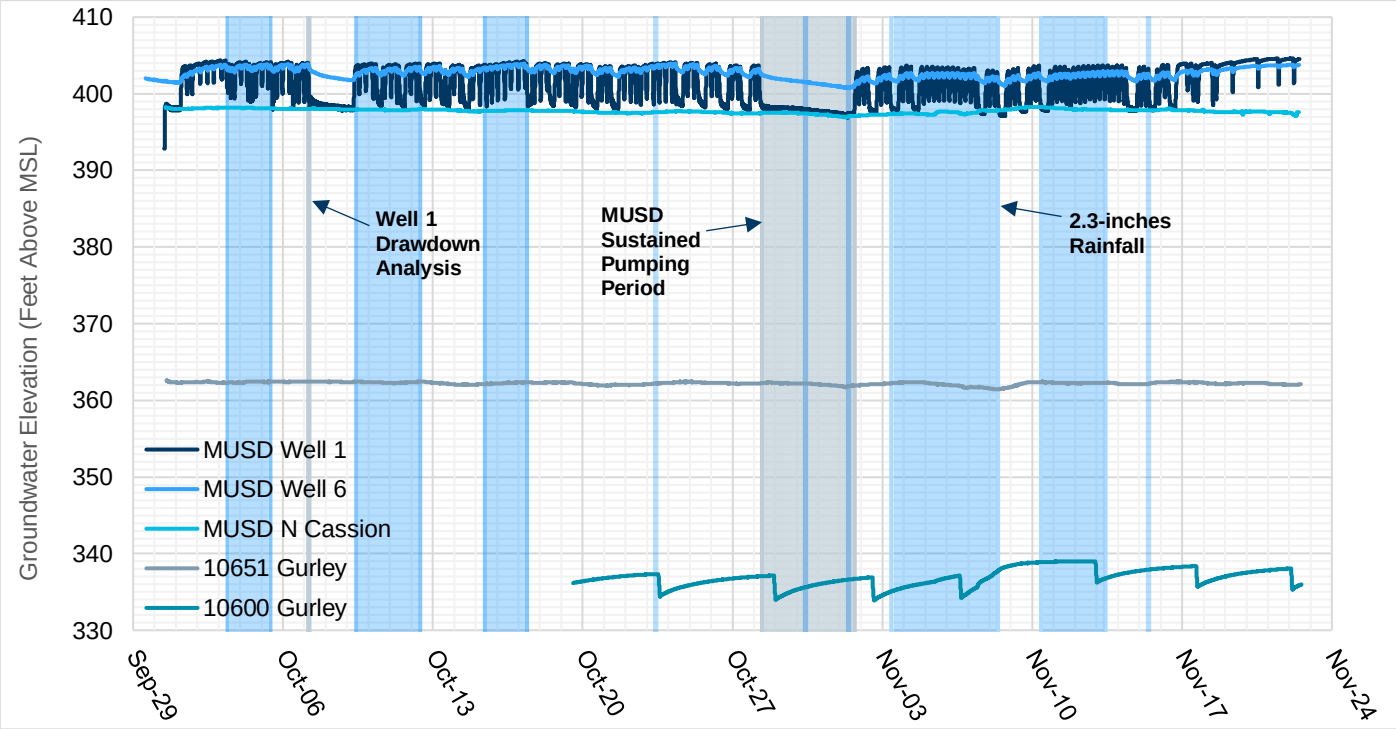

Figure 12 Pressure Transducer Data from September 29th to November 24th 2022. Measured Rainfall (shaded blue) is less than 0.2 inches unless otherwise noted.

4. Data Analysis and Results

4.1 MUSD Groundwater Pumping

Transducer data from the MUSD wells indicate that Well 6 (non-pumping monitoring well) has interference drawdown effects from Well 1 (when actively pumping) of up to four feet. Wells located 285+ feet way from MUSD Well 1 show no apparent effects from sustained pumping activities. Under normal water demands Well 1 cycles on and off 3 to 4 times a day. Normal water demands are about 4,488 gallons per day of water use (GHD, 2019a).

Sometime prior to October 28th MUSD had a leak in their system which drained their water storage tanks. During this time, there was a 5-day continuous pumping period from both Well 1 and Well 2 (no groundwater elevation data) until November 2nd to refill the tanks, which is shown in Figure 13. The MUSD SCADA database indicates that the combined flow rate for both Wells 1 and 2 are approximately 15 gallons per minute and electrical records indicate that both pumps were operating on a nearly identical schedule.

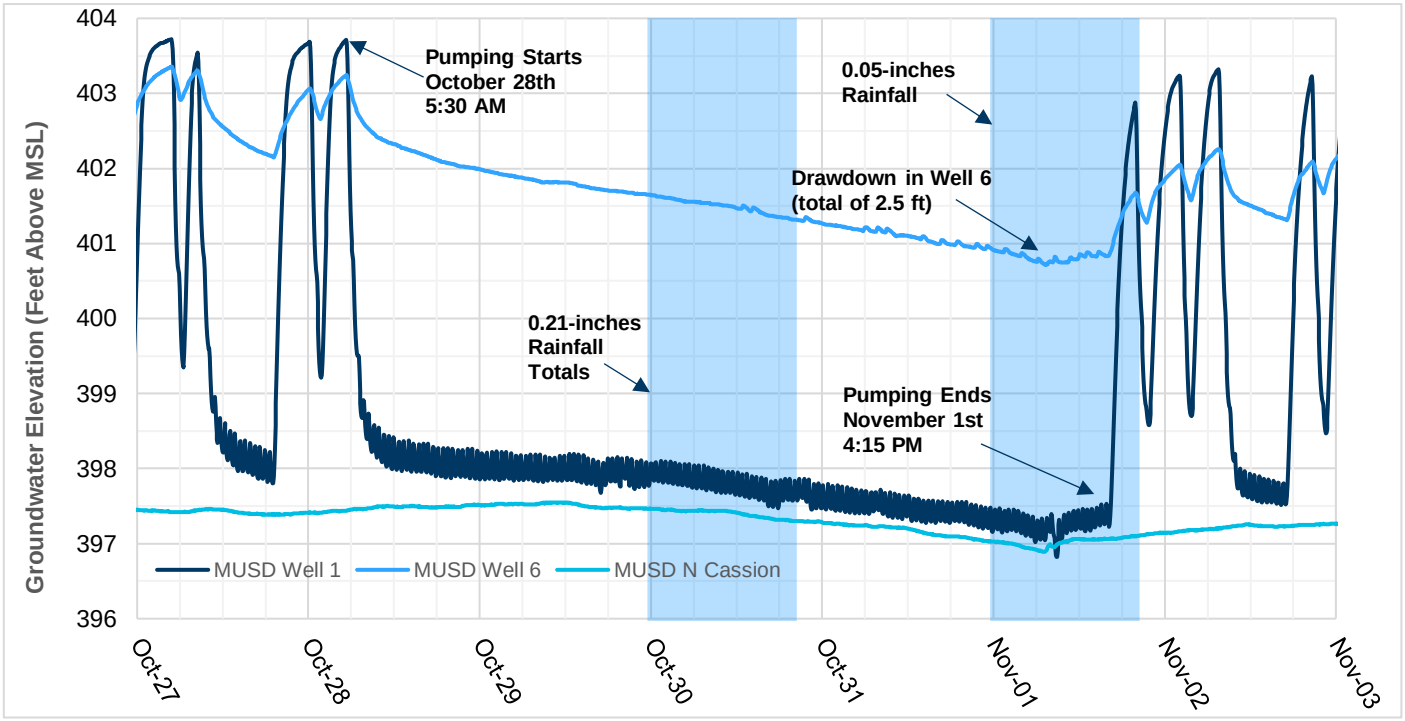

Figure 13 MUSD Wells Groundwater Elevation from October 27th to November 3rd

Water levels in Well 1 indicate that there is an automatic shutoff around elevation 394 feet below mean sea level (msl), which is 28.5 feet below TOC. During the sustained pumping period the Well 1 pump rapidly cycled off and on to maintain water levels above the pump intake. During this period Well 6 had a little over 2.5 feet of drawdown after 4.5 days of continuous pumping from Well 1 and supplemented from Well 2 based on pump time records (MUSD, 2022). The MUSD north caisson, located 220 feet north of Well 1, doesn't appear to be affected by the pumping of Well 1 as the water levels appear to trend upward during portions of the extended pumping period. It is uncertain if the variations in the north caisson Well water level (1 foot) are due to atmospheric pressure changes or pumping from MUSD wells, shown in Figure 14.

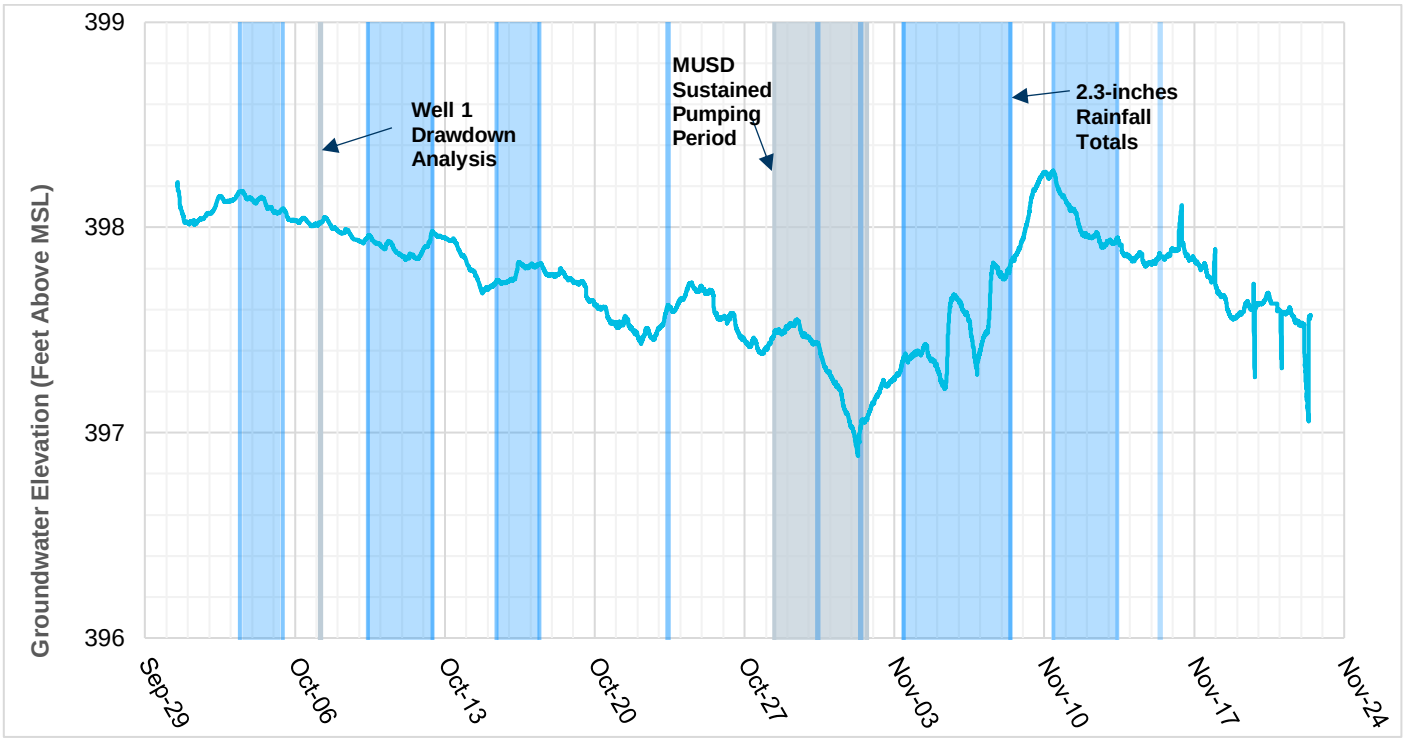

Figure 14 *MUSD North Caisson Transducer Data (shaded grey during sustained drawdown period). Measured Rainfall (shaded blue) is less than 0.2 inches unless otherwise noted.*

Based on the pumping test performed during the Well 6 initial development (2020) and the information from Well 1 during another pumping event duration from October 7th 4:15 am to 5:45 am, shown in Figure 15, a Cooper-Jacob aquifer analysis was performed to evaluate the aquifer transmissivity for MUSD Wells 1 and 6, which is shown in Figure 16.

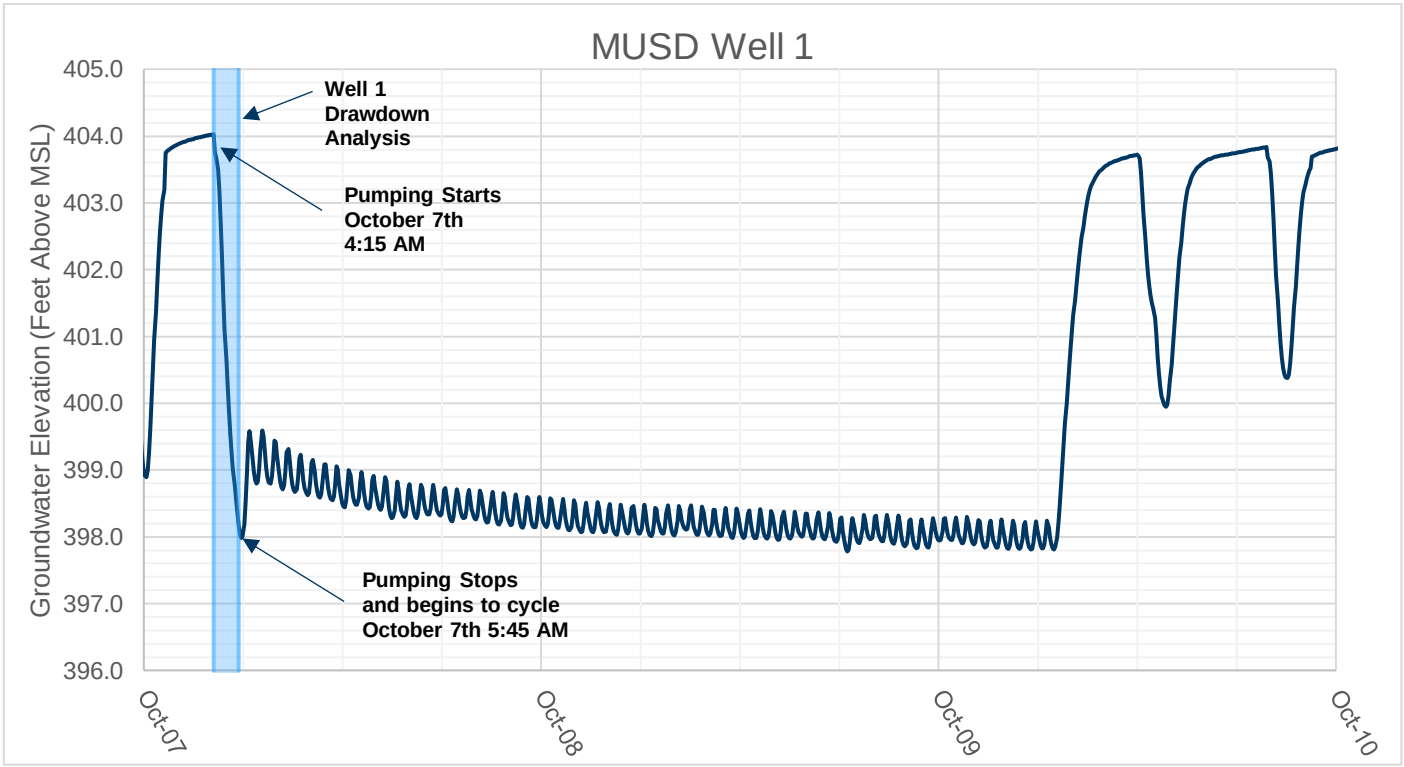

Figure 15 MUSD Well 1 Drawdown Analysis Period

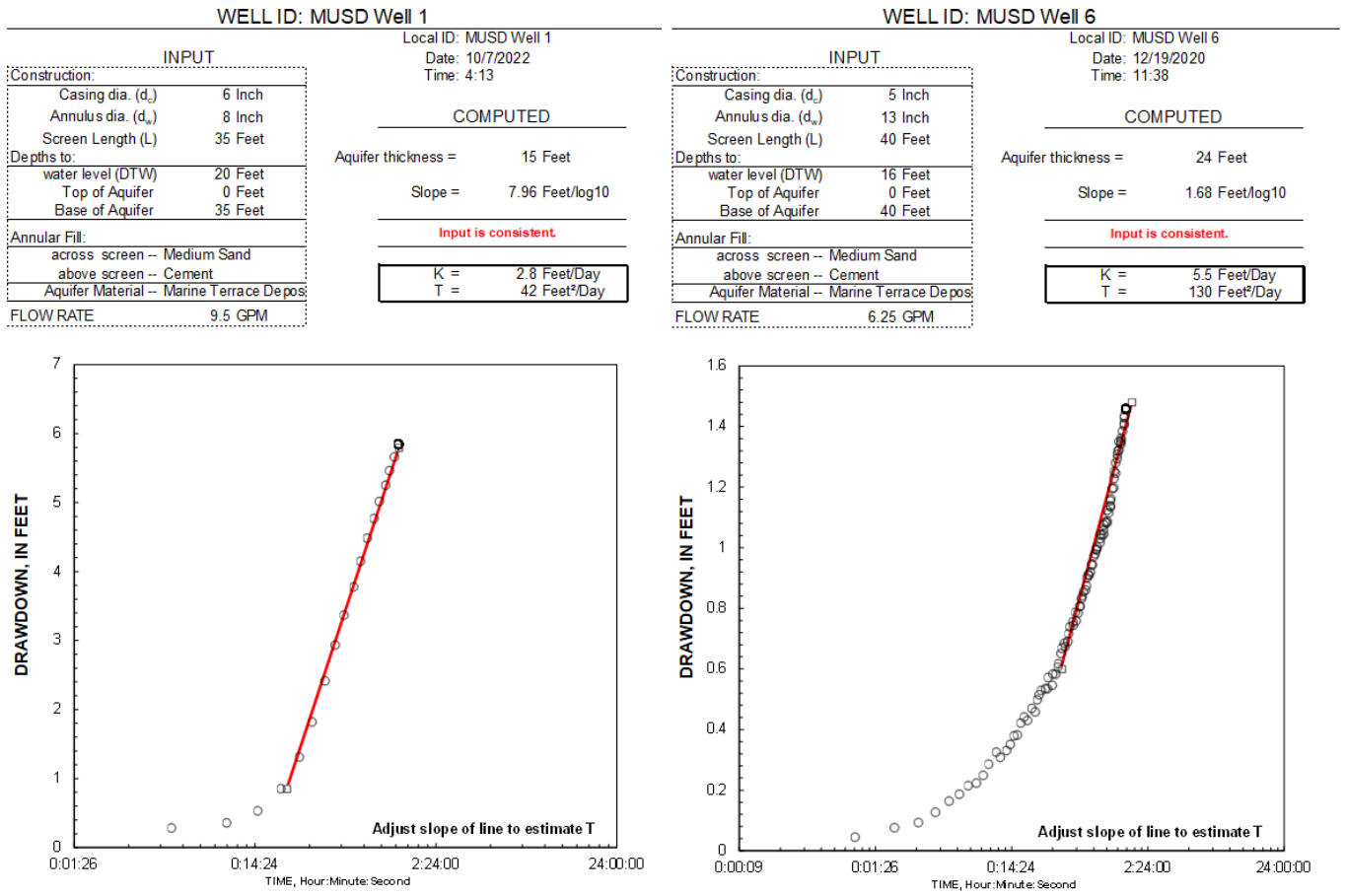

Figure 16 Cooper-Jacob Analysis of Single-Well Aquifer Tests

Flow rates for Well 1 were not recorded during the pumping period however they were visually observed to be 9.5 gallons per minute on September 30, 2022 using a totalizer located on the wellhead and a stopwatch. The long-term flow rate after multi-day pumping periods is likely lower, and in the 6-gpm range (MUSD, 2022).

Hydraulic conductivity is a measure of how easily water can pass through soil or rock. High values indicate permeable material through which water can pass easily, and low values indicate that the material is less permeable. Calculated hydraulic conductivities are relatively close and are generally consistent with what would be expected from relatively fine silty sands to coarse sands which range from 0.03 to 300 feet per day (Fetter, 2001). Transmissivity describes the ability of the aquifer to transmit groundwater throughout its entire saturated thickness and is measured as the rate at which groundwater can flow through an aquifer section of unit width under a unit hydraulic gradient. Transmissivity values verry due to Well 6's higher conductivity and Well 1 being located at a lower elevation than Well 6 and has a correspondingly shallower aquifer thickness. Notably, both test periods are during a severe drought as designated by MCCSD and therefore when the aquifer thickness is near its lowest. Additionally, Well 2 was likely pumping during the analysis period which would decrease the effective conductivity and transmissivity values.

Using these transmissivity values, we can estimate the radius of influence of each well using the following equation:

$$R = r_1 * e^{(\frac{2\pi Ts}{Q})}$$

$R_{\text{MUSD Well 1}}$ = 160 feet

$R_{\text{MUSD Well 6}}$ = 58 feet

Where:

r_1 = distance to monitoring well (156 ft from Well 1 to Well 6 and 55 feet from Well 6 to MUSD Well 2)
T = transmissivity (4,260 ft^2/min for Well 1 and 7,800 ft^2/min for Well 6)
s = drawdown in monitoring well (1 ft in Well 6 during Well 1 pumping and 0.5 ft in Well 2 during Well 6 pumping in 2020)
Q = pumping rate (9.5 gpm in Well 1 (estimated) and 6.25 gpm in Well 6).

These values for Well 1 are conservative, since the pumping effects of Well 2 (which intermittently pumped) during this time period is not accounted for and assumed here into Well 1. Therefore, the Well 1 radius of influence is likely at least on the order of approximately 25 percent less. This would have to be confirmed with a proper long-term pumping test, in which Well 2 is non-operational during the test.

Specific capacities of Well 1 and Well 2 have previously been estimated as 4.2 gallons per minute per foot of drawdown and 1.1 gallons per minute per foot of drawdown, respectively, during simultaneous pumping over an 8-hour period, shown in Figure 17 (GHD, 2019b). Again, these specific capacities have been estimated during a period of simultaneous pumping and would increase during a single pump analysis.

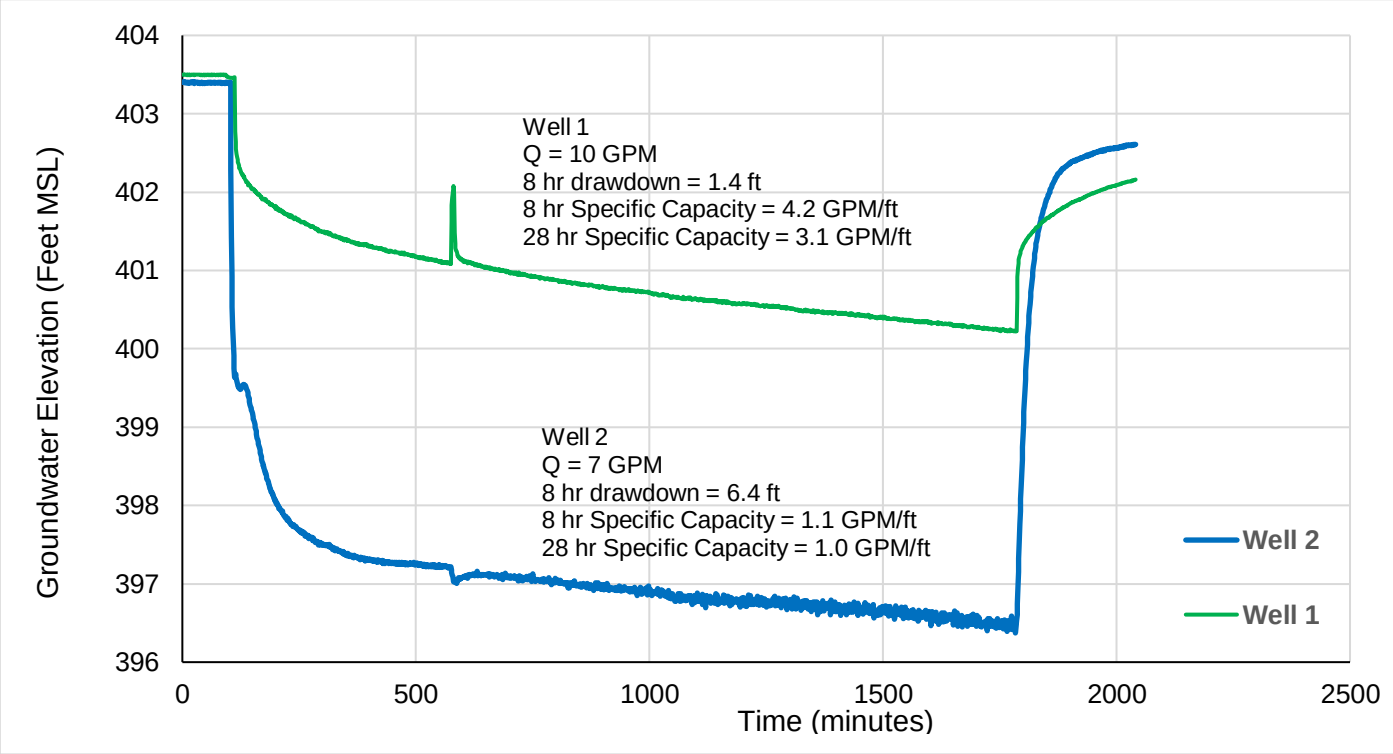

Figure 17 MUSD Well 1 and Well 6 Constant Rate Pump Test (GHD, 2019b)

4.2 Water Budget

Within a given watershed area, a water budget can be made to evaluate the quantity of water entering and leaving that watershed area. Incoming sources of water include precipitation over the watershed area and incoming groundwater from upgradient sources. Outgoing water pathways include surface water runoff, groundwater springs, and evapotranspiration from soils and plants. Typically, an imbalance in incoming and outgoing water sources results in a change in groundwater storage, however the local aquifer is relatively shallow and flows out the Mendocino headlands and into the Pacific Ocean due to its geometry and shallow bedrock. This results in the aquifer having a relatively small storage capacity that slowly drains out of downgradient springs and into Slaughterhouse Gulch. A full water budget is outside of the scope of this report however, precipitation, runoff, evapotranspiration, and upgradient groundwater have been reviewed to evaluate groundwater availability and are discussed below.

The annual average precipitation for the Mendocino area is approximately 40 inches, and a summary of average precipitation by month is provided in Table 2, below. The total area that drains through the Site, shown in Figure 18, is approximately 12.4 acres of which an estimated 1.0 acres are developed impermeable areas. Development of the well field is not anticipated to significantly change this impermeable area as the only planned impervious developments are the new concrete well heads which will be approximately 4 feet in dimeter each, with an overall negligible impervious area developed. Land use is not anticipated to change significantly as the surrounding area is primarily developed residential properties. While minor tree removal will be required to construct access for the installation and maintenance of the new well field, select removal of trees and construction of a permeable gravel access road is not anticipated to cause any significant change in land use, runoff characteristics, or soil infiltration capacity.

Figure 18 Approximate Drainage Area and Impervious Areas (Image from Google Earth)

The ground cover for the area is dominated by heavy brush, trees, and vegetation. Soils are moderately fine to fine grained. Using the SCS runoff method, the area draining through the Site has the following characteristics:

- Hydrologic Soil Group C (relatively low infiltration rates typical of documented silty sands and clays)
- Curve Number for trees and heavy brush 57 (88 percent of total area) [SCS TR-55 Table 2-2d]
- Curve Number for impervious areas 98 (12 percent of total area) [SCS TR-55 Table 2-2a]
- Average Curve Number 62

$$S = \frac{1000 - 10CN}{CN}$$

$$P_e = \frac{(P - 0.2S)^2}{(P + 0.8S)}$$

Where:

S = the maximum soil retention
P = Precipitation
P_e = Accumulated precipitation (Estimated Runoff)

Table 2 ***Estimated Annual Precipitation and Runoff for the Site***

Month	Average Rainfall (in)	Average Estimated Runoff (in)
October	2.29	0.16
November	4.99	1.43
December	7.15	2.91
January	7.09	2.87
February	6.53	2.46
March	5.97	2.07
April	2.96	0.38
May	1.41	0.01
June	0.47	0.00
July	0.07	0.00
August	0.20	0.00
September	0.59	0.00
Total (in)	**39.7**	**12.3**
Total (acre-feet)	**41.0**	**12.7**

Based on the estimated drainage area of the Site (12.4 acres) and average total precipitation (39.7 inches) there is approximately 41 acre-feet of water annually falling in the Site drainage area. Of these 41 acre-feet, approximately 12.7 acre-feet is estimated to be runoff as surface flow, while the remaining 28.3 acre-feet is estimated to infiltrate into the soil and groundwater. These monthly estimates for runoff / infiltration provide a conservative upper bound as these precipitation events happen over several storm events throughout the rainy season and not all at once (as assumed in this estimate). Precipitation distributed over numerous events would decrease the amount of surface runoff and increase infiltration and shallow groundwater recharge.

Potential evapotranspiration (PET) is the total amount of water that could potentially be lost from a vegetated surface given unlimited water. PET is dependent on many different factors including solar intensity, air temperature, humidity and wind speed. Regional PET estimates indicate that there is between 20 to 30 inches of evapotranspiration annually at the project location (UMNTSG, 2015). Applying this across the non-impervious drainage area (11 acres), PET is estimated to be between 18 and 27 acre-feet per year. Actual rates of evapotranspiration only ever reach PET after heavy rain events and the soil reaches its maximum water capacity (saturation). In general plant roots are found in the topsoil layer, above the water table that defines the top of the groundwater aquifer and are therefore dependent on water supplied by precipitation. When the amount of plant-available water in the soil decrease, actual evapotranspiration rates quickly fall to a fraction of PET and during droughts this ratio commonly falls below 50 percent (Andersen and Pollyea, 2012). Seasonally, evapotranspiration follows trends in air temperature with the maximum rates occurring during the summer months, and minimum rates during the winter months.

Upgradient groundwater flows are difficult to estimate and have a high degree of uncertainty due to the complex nature of hydraulic conductivities over long distances and variable aquifer geometry, however by limiting the boundary of incoming groundwater (inflows) to the limits of the upgradient project parcel boundary (eastern edge) we can make a 1-dimentional conservative estimate of the groundwater inflow volume for the Site using the following equation.

$$Incoming\ Groundwater\ \left[\frac{cubic\ feet}{day}\right] = \ Boundary\ Length\ [ft] * Aquifer\ thickness\ [ft] * Hydraulic\ Conductivity\ [\frac{ft}{day}]$$

$$180\ \frac{acre-feet}{year}\ \ or\ \ 21{,}000\frac{cubic\ feet}{day} = 500\ ft * 15\ ft * 2.8\frac{ft}{day}$$

4.3 CEQA Considerations

The installation of new wells may influence the water levels in nearby wells and a pumping test should be conducted per MCCSD District Ordinance 2020-1 (Appendix D) with transducers and or manual DTW measurements in neighboring wells to monitor for potential hydraulic groundwater drawdown interference during that test.

Sustainable Groundwater Management Considerations:

- **Chronic Lowering of Groundwater Levels:** Groundwater levels in the aquifer are highly dependent on seasonal precipitation and not traditional seasonal pumping cycles. MCCSD and MUSD will monitor groundwater levels and manage pumping schedules to prevent a prolonged reduction of groundwater levels.
- **Reduction in Groundwater Storage:** Similar to groundwater levels, groundwater storage is highly dependent on seasonal precipitation and the aquifer has limited storage capacity due to shallow terrace deposits and outlets to the Pacific Ocean.
- **Seawater Intrusion:** Seawater intrusion is not a concern due to the topographic elevation, depth of proposed wells, and shallow bedrock.
- **Degraded Groundwater Quality:** Groundwater quality is not anticipated to decrease from the construction and operation of the proposed well field because the wells will have DDW approved well seals and historic groundwater extraction from the same area by MUSD has not affected water quality.
- **Land Surface Subsidence:** Land surface subsidence is not anticipated due to the relatively shallow alluvial thickness and high variability in seasonal groundwater levels.
- **Depletion of Interconnected Surface Water:** Anecdotal evidence from property owners down gradient of the Site indicate that at the confluence of the two unnamed seasonal tributaries that form Slaughterhouse Gulch there is a year-round flow of water. It has previously been estimated that this flow is at a minimum of 900 gallons per day (Clark, 2000). A Biological Resources Report is being prepared in parallel with this report that delineates sensitive areas including potential groundwater dependent ecosystems (GDEs) which for this project take the form of wetlands. While a GDE analysis is not required since this project is not located in a medium or high priority groundwater basin as defined by the State, the identified sensitive areas in the Biological Resources Report will be protected from the well field by a setback from new wells, gravel access road, and underground conveyance piping to protect from potential drawdown from the well field.

5. Conclusions

The location of the proposed well field is outside of primary documented hydrogeology of the Mendocino Headlands (DWR and TODD) and the MCCSD service area. The terrace deposits at the MUSD parcel are either an upper section of the Fern Creek Marine Terrace Deposits or are part of a fifth unnamed older marine terrace formation.

5.1 Site Hydrogeological Conceptual Groundwater Model

Briefly developed here from this study and review of previous studies, is a general hydrogeological conceptual model (HCM) for groundwater underlying the Project Site and the immediate vicinity aquifers downslope. This is intended to aid in the design of the proposed well field recommendations and for future surface and groundwater monitoring protocols. This should be considered preliminary and should be updated as future groundwater monitoring data is collected.

Directly below the study area (MUSD) and to the west are three principal aquifer types – alluvial aquifers, marine terrace aquifers, and Franciscan bedrock aquifers. An older, potentially distinct 4th marine terrace of up to 50-feet thick occupies the MUSD parcel and transmits relatively shallow groundwater within an unconfined aquifer ranging in approximately 15 to 30-feet of aquifer depth (seasonally and rain type year dependent) that flows to the west. The three existing MUSD wells are constructed up to 50-feet deep and have the highest relative specific capacities and long-term yields in the nearby area, ranging from approximately 6 to 9-gpm. For this reason, the wells also have the most potential to hydraulically interfere with each other if too closely spaced and pumping simultaneously. This older marine terrace thins to the west and a few springs and wetlands emerge downslope where the marine terrace has been naturally eroded from surface water incision and bedrock is correspondingly encountered at shallower depths. Bedrock seasonally forces groundwater to the surface of the marine terrace, as evident in the springs located west of the MUSD water tanks and east of the MUSD maintenance building. These springs represent a portion of Slaughterhouse Gulch headwaters and its first seasonal surface flows in the immediate area. Another distinct spring fed branch to Slaughterhouse Gulch begins offsite approximately 1,000-feet to the northwest on the northeast portion of Gurley Lane. The two spring systems flow westerly downslope and converge near Calypso Lane to form the defined Slaughterhouse Gulch stream, with year-round surface flows even during periods of drought.

The alluvial (creek) deposits are generally less than 20-feet in thickness and have formed from overland flow incising and eroding the various marine terraces. This is shown in caisson wells installed adjacent to Slaughterhouse Gulch which are generally less that 20-feet deep and used for both irrigation and domestic supply purposes. The relatively thin and shallow alluvial aquifers have developed from the deposition, erosion, and redepositing cycle of those sediments along the creek banks and gulches as the surface water has migrated westerly to the Pacific Ocean over time. Creek alluvial groundwater flow is generally directly connected with the surface water in Slaughterhouse Gulch and thus this groundwater type is most vulnerable to seasonal variations in precipitation and droughts. The alluvial groundwater is a very shallow; near the ground surface unconfined aquifer that ranges from approximately 5 to 15-feet in thickness.

The Site and lower elevation marine terraces and alluvial terraces are underlain by Franciscan hard rocks of graywacke to slatey materials of relatively very low permeability and transmissivity, that also contain variable groundwater aquifers that move via fracture flow. The Franciscan rocks have variable long-term yields in wells, ranging 0.1 to 3-gpm in near vicinity wells, have variable to unknown total depths of groundwater, have a relatively low storage potential, and are recharged much more slowly by the overlying marine and alluvial terraces over longer periods of time. Bedrock completed wells generally range from 100 to 300-feet or more in depth, and likely exhibit mostly confined to semi-confined conditions.

6. Recommendations

Based on data collected during this study and previous reports GHD recommends the following:

1. A total of up to ten (10) new wells be constructed with approximately 120-foot spacing as an anticipated radius of influence to reduce the potential for wellfield interference. Wells should be constructed similar to the design of the active MUSD wells (Well 1, 2, and Well 6) terminating at the bedrock interface.
2. An initial operational plan of the new well field should be developed and the existing MUSD wells (Well 1, Well 2 and Well 6) included. It is initially recommended that no more than half of the well field (6-7 wells) should operate at one time with operating wells staggered such that no adjacent wells are pumping at the same time to reduce the potential for adverse drawdown and hydraulic interference effects. Additionally, pumping of any one well should not exceed 12 hours in a 24-hour period to allow for aquifer recharge in the immediate areas of the pumped wells. Based on this initial operational recommendation, an approximate maximum annual extraction of 24.15 acre-feet per year from the wellfield can be anticipated (assuming an average flow of 5 gallons per minute per well). The well pumping schedule may be revised from this initial recommendation

based on the actual capacity of individual wells, monitoring data, measured aquifer response, and actual future emergency water supply needs.

3. Continuous monitoring of the adjacent domestic wells previously identified in this report, the existing and new wells on MUSD property, and the north caisson well (representing downslope wetland groundwater levels) should be performed.
4. Advise the adjacent property owners who were not able to install pressure transducers due to access issues to have their wellheads repaired / modified by a pump/well contractor to allow future installation of pressure transducers and subsequent groundwater monitoring.
5. The proposed well field should be pump tested during the MCCSD hydrological testing period which begins after August 20th and before a total of 6-inches of rainfall has been recorded (Ordinance 2020-1).
6. Consider test wells installed near surface water to be setback by a minimum of 1.5 times their anticipated radius of influence. If future monitoring indicates potential surface water interference, the pumping of those wells should be limited until after the hydrological testing period has ended when 6-inches of rainfall has been recorded after August 20th each year (Ordinance 2020-1) to prevent surface water drawdown during the dry season.
7. Consider installing a stream gauge in upper Slaughterhouse Gulch, on the project parcel just down gradient of the existing caisson wells and near the property boundary where observed surface water flows leave the parcel.
8. Consider installing two additional groundwater level monitors, one in the well upgradient of the proposed well field at 44000 Little Lake Road and one downgradient at 416 Palm Avenue, if allowed by owners.
9. Convert the existing northern MUSD caisson well into a monitoring well to monitor the one identified GDE (wetland) and to seal and properly destroy the southern MUSD caisson well to remove a potential contamination pathway into the aquifer.
10. Based on the relatively shallow aquifer thickness, it is recommended that wells be constructed with a reduced surface seal (20-feet in depth) with approval from the Division of Drinking Water (DDW). This reduction may result in a review from the DDW to assess whether one or more wells may be considered Groundwater Under Direct Influence of Surface Water (GWUDI). Other wells near the Site that have a reduced surface seal are not currently considered GWUDI. Wells considered by DDW to be GWUDI are required to meet surface water treatment standards, which may require additional treatment (e.g., filtration).
11. After the initial construction and pump testing of the proposed well field, consider installing one deep (up to approximately 400-foot) test well into bedrock using air rotary drilling methods, and sealing off the upper shallow aquifer zone to approximately 50-feet.

7. References

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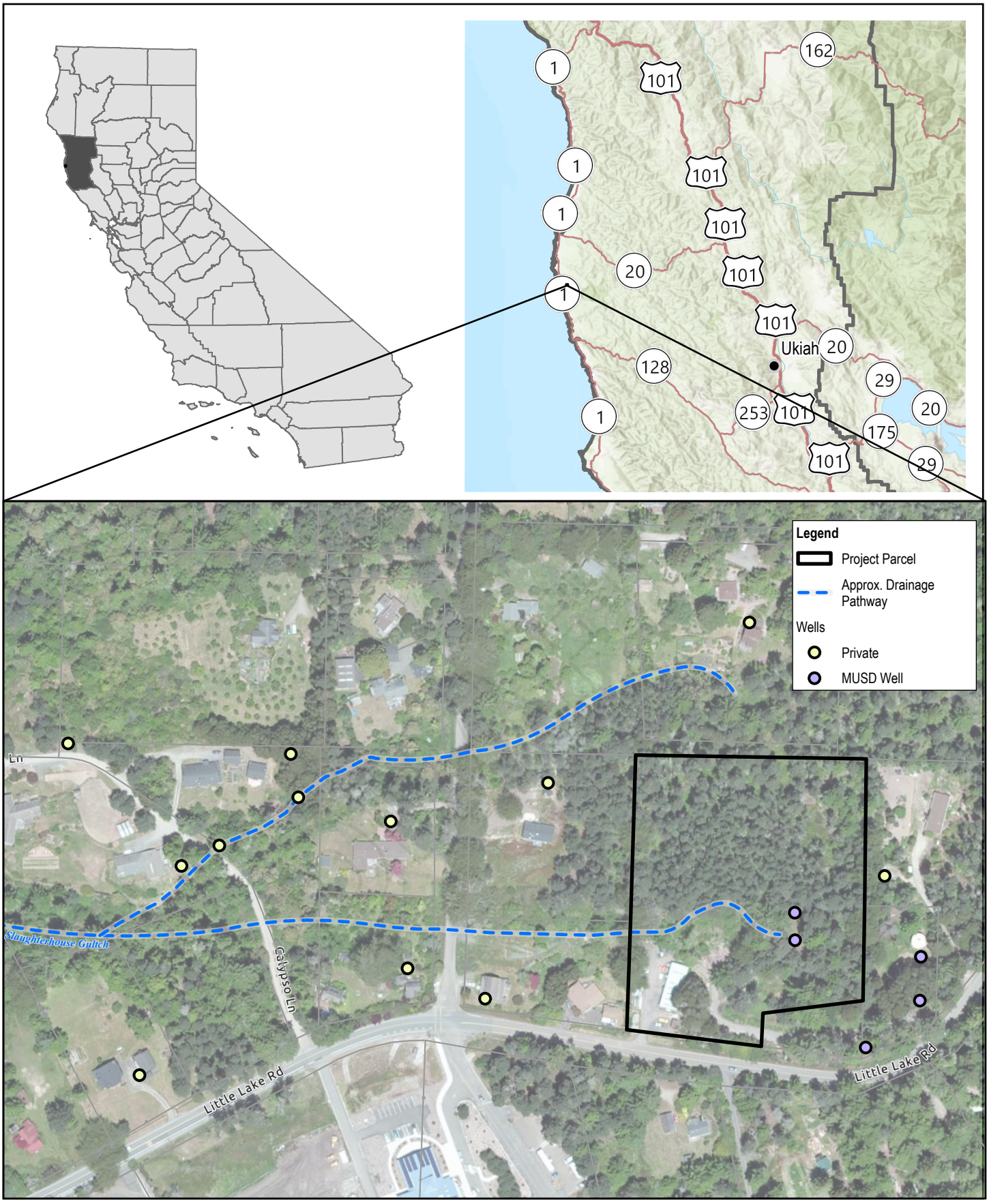
Appendices

Appendix A

Figures



Paper Size ANSI A

0 100 200 300

Feet

Map Projection: Mercator Auxiliary Sphere
Horizontal Datum: WGS 1984
Grid: WGS 1984 Web Mercator Auxiliary Sphere

N

GHD

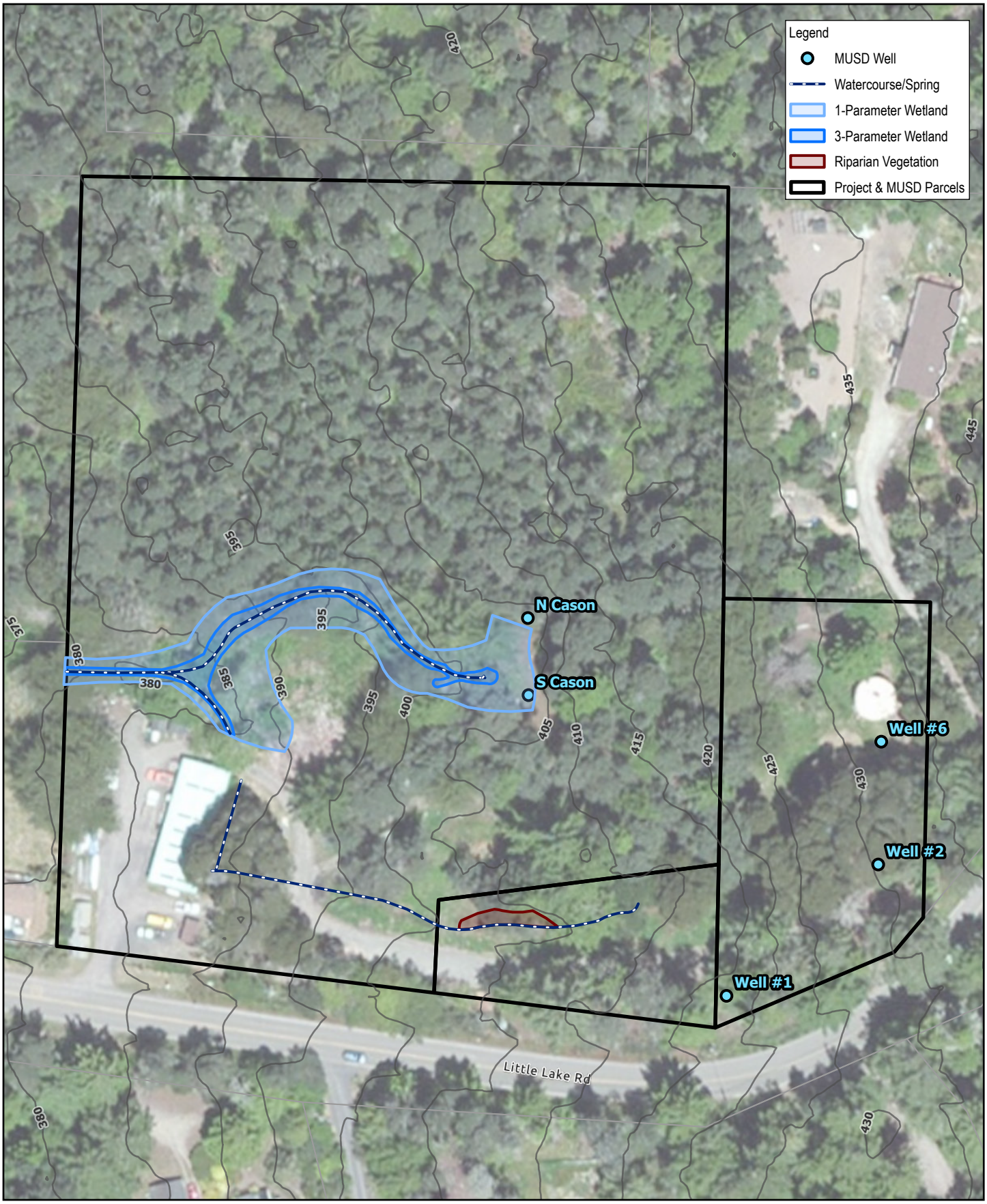
Mendocino City CSD
PW Drought Tolerance Supply and Storage Improvements

Project No. **12584992**
Revision No. **-**
Date **12/16/2022**

Vicinity Map

FIGURE 1

\\ghdnet\ghd\US\Santa Rosa\Projects\561\12584992\GIS\Maps\Deliverables\12584992_MCCSD_WaterSupplyStorage.aprx - 12584992_11_Vicinity Print date: 16 Dec 2022 - 15:51



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Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California II FIPS 0402 Feet

N

GHD

Mendocino City CSD
PW Drought Tolerance Supply and Storage Improvements

Project No. **12584992**
Revision No. **-**
Date **12/16/2022**

Site Plan

FIGURE 2

\\ghdnet\ghd\US\Santa Rosa\Projects\561\12584992\GIS\Maps\Deliverables\12584992_MCCSD_WaterSupplyStorage.aprx
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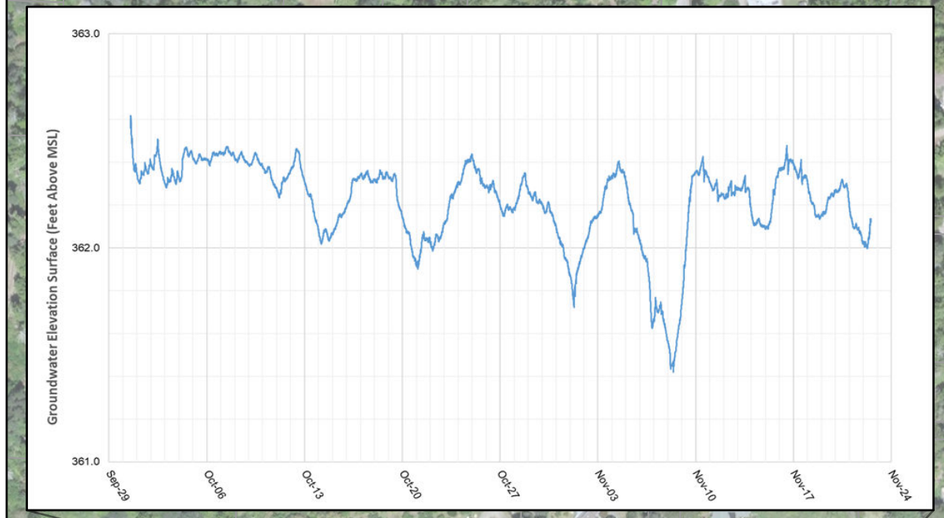
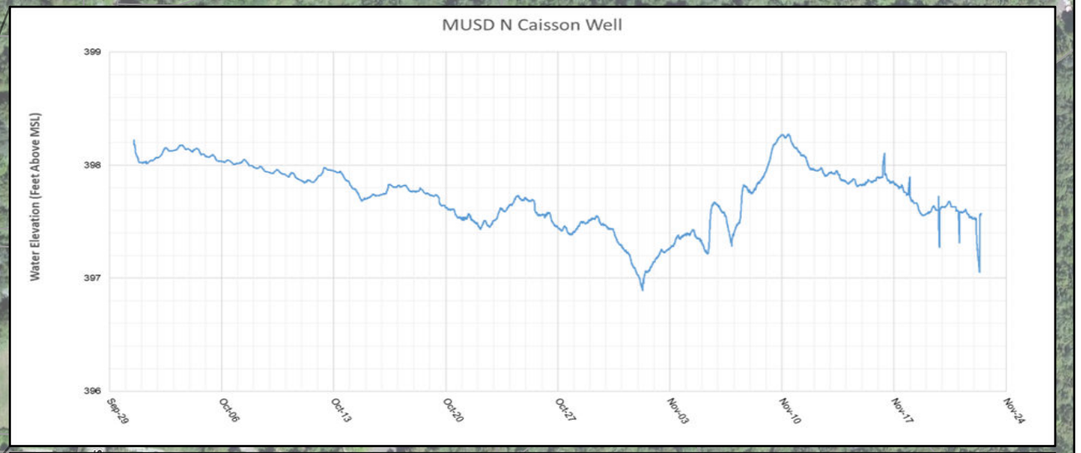
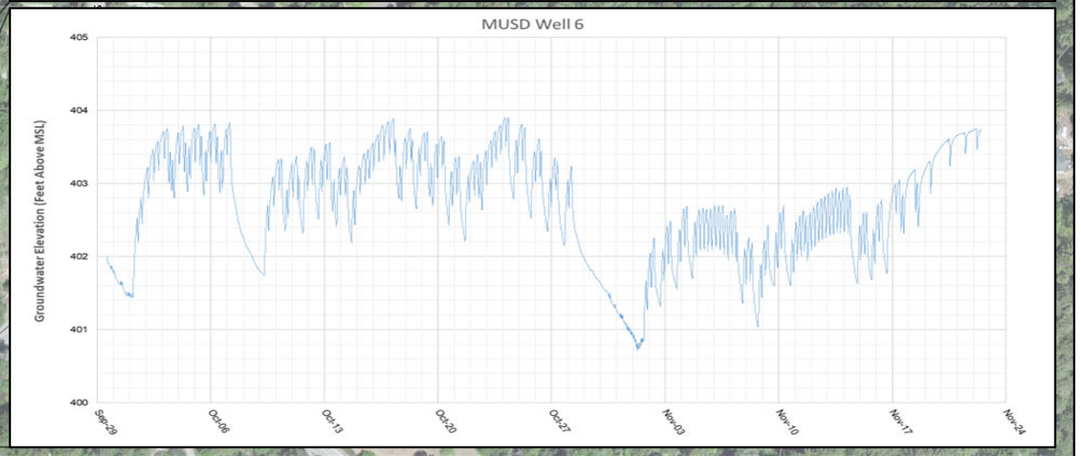
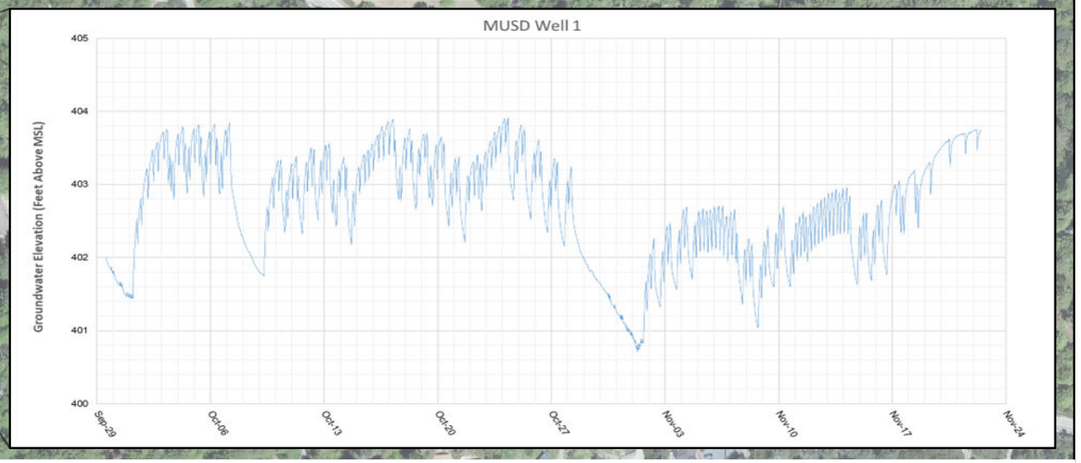
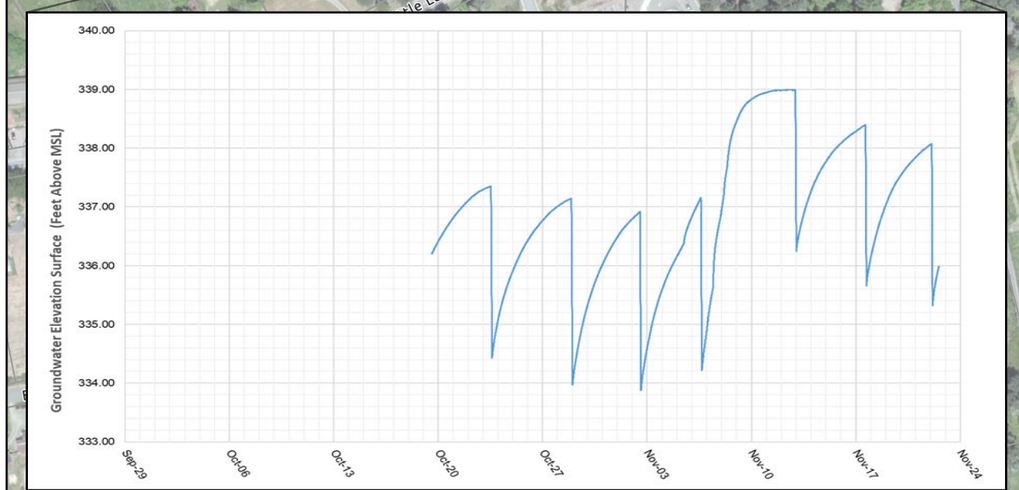










Paper Size ANSI B

0 50 100 150 200 250

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California II FIPS 0402 Feet

N

GHD

Mendocino City CSD
PW Drought Tolerance Supply and Storage Improvements

Hydrogeologic Monitoring Locations

Project No. **12584992**
Revision No. **-**
Date **12/16/2022**

FIGURE 3

\\ghdnet\ghd\US\Santa Rosa\Projects\5611\12584992\GIS\Maps\Deliverables\12584992_MCCSD_WaterSupplyStorage.aprx
Print date: 16 Dec 2022 - 15:51

Appendix B

Outreach Letter

MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Post Office Box 1029
Mendocino, CA 95460
Business Phone (707) 937-5790
mccsd@mcn.org

September 22, 2022

Town of Mendocino Resident/Nieghbor
California Postal Code 95460

RE: Eastern Area Town of Mendocino – Mendocino City Community Services District Water Level Monitoring

Dear Friends and Neighbors:

The Mendocino City Community Services District (MCCSD) in partnership with the Mendocino Unified School District (MUSD) has just begun planning for the construction of a water storage tank and some new supply wells on the MUSD maintenance yard property. An almost six acre parcel, northeast of the Mendocino K-8 school. In preparation for these potential new wells, the MCCSD has begun obtaining water level measurements in the nearby areas to further our understanding of the groundwater flow and levels in the vicinity and to evaluate if the new wells may cause adverse effects in existing wells.

The purpose of this letter is to request to install a transducer in your well by our consultant GHD Inc. (GHD) of Santa Rosa. The transducer will be in place for approximately 6 months to record the water levels during the wet and dry season for water level monitoring. MCCSD would greatly appreciate your help in this effort by allowing GHD to collect data from your water supply well.

This would consist of a one-time installation and a one-time removal of equipment at the end of the monitoring period with a couple of data downloads and groundwater measurements. This can be coordinated with you on a weekday at your convenience prior to our anticipated schedule. It would take approximately 30 minutes for GHD to install and uninstall the transducer. You would be provided the results of the monitoring period, and your ownership information would be kept private.

Attached is a location map showing the requested wells to be sampled as part of this study. Please contact Ryan Crawford at (707) 496-8070 or email him at ryan.crawford@ghd.com when you are ready to participate in this program or have any questions. He will also be in Town and available for questions/discussion on September 29th & 30th, if you are interested. Thank you for your time and willingness to assist us on this important study.

Sincerely,

Mendocino City
Community Services District

Ryan Rhoades
Superintendent

GHD Inc.

Ryan Crawford
Senior Hydrogeologist

Attachment: Proposed Eastern Area Domestic Well Monitoring Location Map

Appendix C

Well Completion Reports

State of California

Well Completion Report

Form DWR 188 Auto-Completed 4/19/2021

WCR2021-001445

Owner's Well Number: WW-2 | Date Work Began: 12/10/2020 | Date Work Ended: 12/11/2020

Local Permit Agency: Environmental Health Division - Fort Bragg Office

Secondary Permit Agency: | Permit Number: WW23932 | Permit Date: 12/02/2020

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: XXXXXXXXXXXXXXXXXXX

Mailing Address: XXXXXXXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXXX

City: XXXXXXXXXXXXXXXXXXX | State: XX | Zip: XXXXX

Planned Use and Activity

Activity: New Well

Planned Use: Water Supply Domestic

Well Location

Address: 44020 Little Lake RD

City: Mendodcino | Zip: 95460 | County: Mendocino

Latitude: 39 Deg. 18 Min. 45.9035 Sec. N | Longitude: -123 Deg. 46 Min. 54.1397 Sec. W

Dec. Lat.: 39.312751 | Dec. Long.: -123.7817055

Vertical Datum: | Horizontal Datum: WGS84

Location Accuracy: Unknown | Location Determination Method: Unknown

APN: 119-100-23

Township: 17 N

Range: 17 W

Section: 29

Baseline Meridian: Mount Diablo

Ground Surface Elevation:

Elevation Accuracy:

Elevation Determination Method:

Borehole Information

Orientation: Vertical | Specify:

Drilling Method: Auger | Drilling Fluid: None

Total Depth of Boring: 45 Feet

Total Depth of Completed Well: 45 Feet

Water Level and Yield of Completed Well

Depth to first water: 16 (Feet below surface)

Depth to Static Water Level: 26.5 (Feet) | Date Measured: 12/11/2020

Estimated Yield*: 6 (GPM) | Test Type: Pump

Test Length: 8 (Hours) | Total Drawdown: 10.5 (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	5	Silty clay with sand (dry-soft)
5	10	Silty sand yellowish (dry-loose)
10	15	Poorly graded sand, fine sand mix
15	20	Graded sand light gray, fine sand
20	25	Well graded sand, yellowish (wet) fine-coarse sand
25	30	Yellowish silty sand
30	35	Poorly graded sand, coarse sand (wet)
35	40	Dark brown wethered bed rock
40	45	Solid bed rock

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	25	Blank	PVC	OD: 5.563 in. | SDR: 21 | Thickness: 0.265 in.	0.265	5.563			Sch 40 Blank
2	25	40	Screen	PVC	OD: 5.563 in. | SDR: 21 | Thickness: 0.265 in.	0.265	5.563	Milled Slots	0.04	SCH 80 SCREEN
3	40	45	Blank	PVC	OD: 5.563 in. | SDR: 21 | Thickness: 0.265 in.	0.265	5.563			Sch 40 Blank

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	18	Cement	Portland Cement/Neat Cement		Grout
18	20	Bentonite	Non Hydrated Bentonite		Pellets/Time Release
20	45	Filter Pack	Other Gravel Pack	#8	Sand

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	45	13

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name: CLEAR HEART DRILLING INC (Person, Firm or Corporation)

555 B W COLLEGE AVENUE (Address) | SANTA ROSA (City) | CA (State) | 95401 (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 02/04/2021 (Date Signed) | 780357 (C-57 License Number)

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

						N

Latitude Deg/Min/Sec

						W

Longitude Deg/Min/Sec

TRS:

APN:

17N/17W - 29

ORIGINAL
File with DWR

CONFIDENTIAL LOG
Water Code Sec. 13752

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

WATER WELL DRILLERS REPORT

Do Not Fill In

No 141427

State Well No.
Other Well No.

CONFIDENTIAL LOG
Water Code Sec. 13752

(1) OWNER:

Name
Addre

(2) LOCATION OF WELL:

County Mendocino Owner's number, if any

Township, Range, and Section

Distance from cities, roads, railroads, etc. MUSD Watershed on north side of Little Lake Road, Mendocino

(3) TYPE OF WORK *(check)*:

New Well [X] Deepening [ ] Reconditioning [ ] Destroying [ ]

If destruction, describe material and procedure in Item 11.

(4) PROPOSED USE *(check)*:

Domestic [ ] Industrial [ ] Municipal [ ]
Irrigation [ ] Test Well [ ] Other [X]

(5) EQUIPMENT:

Rotary [ ]
Cable [ ]
Other Bucket [X]

(6) CASING INSTALLED:

STEEL: (OTHER:) SINGLE [ ] DOUBLE [ ] Plastic

From ft.	To ft.	Diam.	Gage or Wall	Diameter of Bore	From ft.	To ft.
0	36	8	160 PSI	30"		

If gravel packed

Size of shoe or well ring: none Size of gravel: pea

Describe joint Bell & glue joint

(7) PERFORATIONS OR SCREEN:

Type of perforation or name of screen sawn

From ft.	To ft.	Perf. per row	Rows per ft.	Size in. x in.
21	36	5	2	1/8 x 4

(8) CONSTRUCTION:

Was a surface sanitary seal provided? Yes [X] No [ ] To what depth 20 ft.

Were any strata sealed against pollution? Yes [ ] No [X] If yes, note depth of strata

From ft. to ft.

From ft. to ft.

Method of sealing cement on gravel pack

(9) WATER LEVELS:

Depth at which water was first found, if known ft.

Standing level before perforating, if known ft.

Standing level after perforating and developing 9 ft.

(10) WELL TESTS:

Was pump test made? Yes [ ] No [X] If yes, by whom? bail

Yield: 30 gal./min. with 22 ft. drawdown after hrs.

Temperature of water cold Was a chemical analysis made? Yes [ ] No [X]

Was electric log made of well? Yes [ ] No [X] If yes, attach copy

(11) WELL LOG:

Total depth 35 ft. Depth of completed well 35 ft.

Formation: *Describe by color, character, size of material, and structure*

ft. to ft.	
0 - 1	Brown top soil
1 - 8	Brown sandy clay
8 - 15	Gray sand
15 - 20	Brown and gray sandy clay
20 - 25	Birds eye gravel making water
25 - 35	Brown clay and shale

Work started 3/23/76 19 , Completed 3/23/76 19

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Weeks Drilling and Pump Co.
(Person, firm, or corporation) (Typed or printed)

Address Sebastopol Road
Sebastopol, California 95470

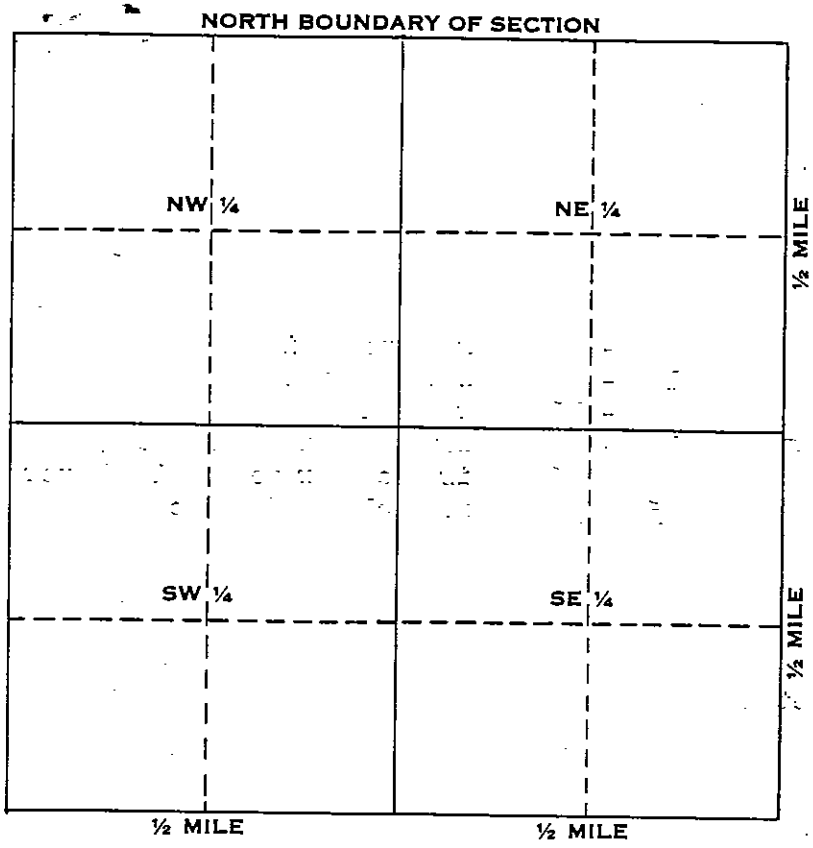
[SIGNED] Gerald Thompson
By: Mary E. Thompson (Well Driller) Mary E. Thompson

License No. 177681 Dated March 24, 19 76

SKETCH LOCATION OF WELL ON REVERSE SIDE

WELL LOCATION SKETCH

141427

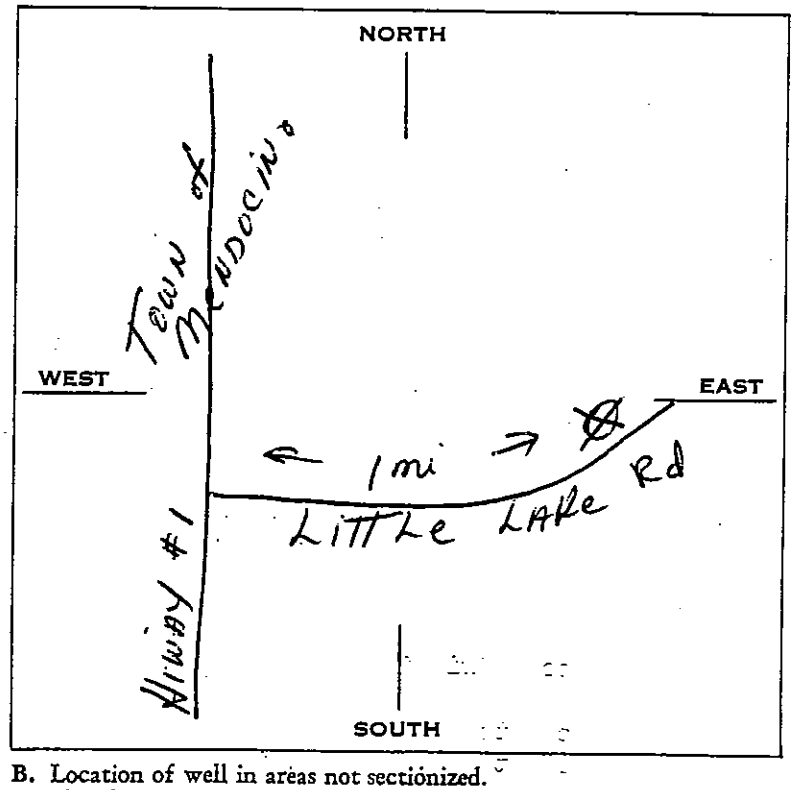


Township 17 N/S

Range 17 E/W

Section No. 29C

A. Location of well in sectionized areas.
Sketch roads, railroads, streams, or other features as necessary.



B. Location of well in areas not sectionized.
Sketch roads, railroads, streams, or other features as necessary.
Indicate distances.

1976 APR 1 AM 11 15

STATE OF WATER RESOURCES

ORIGINAL
File Original, Duplicate and Triplicate with the REGIONAL WATER POLLUTION CONTROL BOARD No. 1
(Insert appropriate number)

WATER WELL DRILLERS REPORT
(Sections 7076, 7077, 7078, Water Code)

THE RESOURCES AGENCY OF CALIFORNIA

430

Do Not Fill In
No 112963

State Well No.
Other Well No. 17N/17W29F

(1) OWNER:
Name
Address

(2) LOCATION OF WELL:
County Mendocino Owner's number, if any—
R. F. D. or Street No. map attached

(3) TYPE OF WORK (check):
New well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) EQUIPMENT:
Rotary ☒
Cable ☐
Dug Well ☐

(6) CASING INSTALLED:
SINGLE ☐ DOUBLE ☐

From ft.	to ft.	Diam.	Gage or Wall
36"	concrete	casing	"

Type and size of shoe or well ring none
Describe joint slip

If gravel packed

Diameter of Bore	from ft.	to ft.
60"	0 "	30'

Size of gravel: 1½ inch

(7) PERFORATIONS:
Type of perforator used round ½ x ½ inch
Size of perforations in., length, by in.

From ft.	to ft.	Perf. per row	Rows per ft.
bottom 6'	"	" " "	" " "

(8) CONSTRUCTION:
Was a surface sanitary seal provided? ☒ Yes ☐ No To what depth 12 ft.
Were any strata sealed against pollution? ☐ Yes ☒ No If yes, note depth of strata

From ft.	to ft.
"	"

Method of Sealing

(9) WATER LEVELS:
Depth at which water was first found 12 ft.
Standing level before perforating 12 ft.
Standing level after perforating 12 ft.

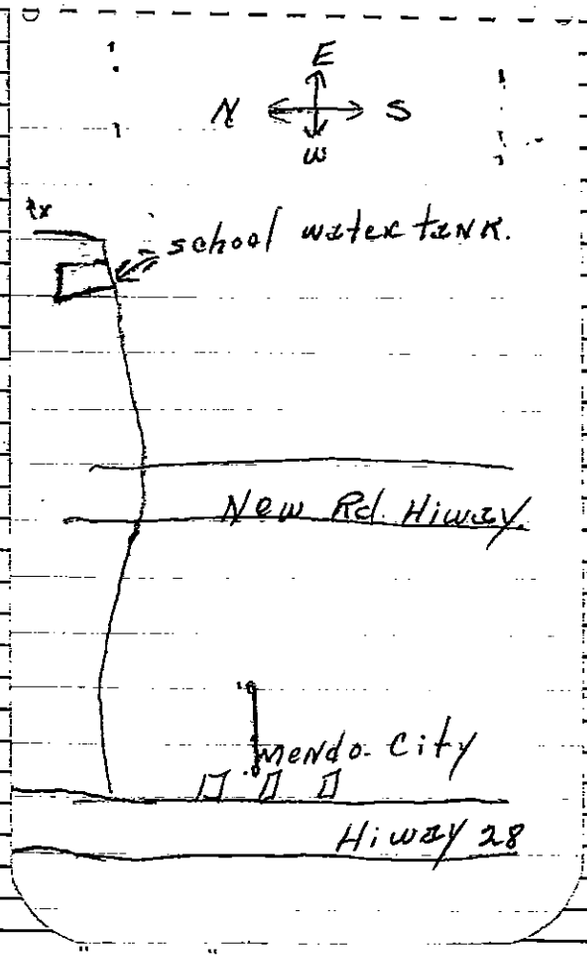
(10) WELL TESTS:
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. draw down after hrs.
Temperature of water Was a chemical analysis made? ☐ Yes ☒ No
Was electric log made of well? ☐ Yes ☒ No

(11) WELL LOG:
CONFIDENTIAL LOG
Water Code Sec. 13752

Total depth 29 ft. Depth of completed well 29 ft.
Formation: *Describe by color, character, size of material, and structure.*

0	ft. to	12	ft. spongey clay
12	"	13	" gravel
13	"	22	" yellow clay
22	"	29	" shale and rock

Two identical wells side by side



FOR OFFICIAL USE ONLY

Work started 10/14/63 19 , Completed 10/18/63 19

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME R & B Drilling
(Person, firm, or corporation) (Typed or printed)
Address RT. 1 Box 617-H
Ukiah, California

[SIGNED] Ralph Braun
Well Driller

License No. 197854 Dated 11/12/63, 19

87649 5-63 25M QUIN ① △ SPO

DWR 188 (REV. 3-54)

ORIGINAL

File with DWR

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

WATER WELL DRILLERS REPORT

Do not fill in

No. 140367

[redacted] e of Intent No.

Local Permit No. or Date 8002 replaces #7721

119-090-004

State Well No.

Other Well No. 17N17W29D

(1)

Addre

City

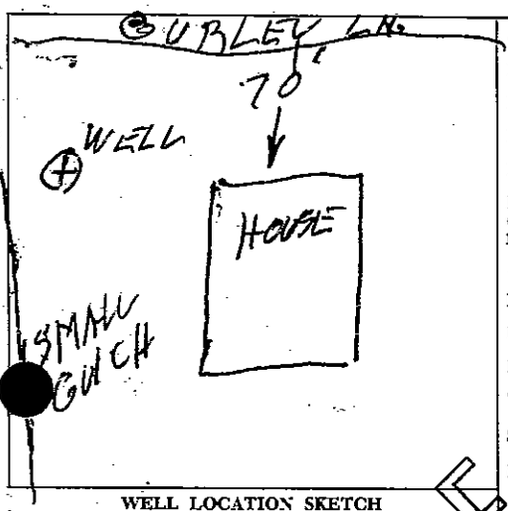
(2) LOCATION OF WELL (See instructions):

County Mendocino Owner's Well Number AP 119-090-04

Well address if different from above 10650 Gurley Lane

Township Mendocino, CA 95460 Range Section

Distance from cities, roads, railroads, fences, etc.



WELL LOCATION SKETCH

(3) TYPE OF WORK:

New Well [X] Deepening [ ]
Reconstruction [ ]
Reconditioning [ ]
Horizontal Well [ ]
Destruction [ ] (Describe destruction materials and procedures in Item 12)

(4) PROPOSED USE:

Domestic [X]
Irrigation [ ]
Industrial [ ]
Test Well [ ]
Stock [ ]
Municipal [ ]
Other [ ]

(5) EQUIPMENT:

Rotary [ ] Reverse [ ]
Cable [X] Air [ ]
Other [ ] Bucket [X]

(6) GRAVEL PACK:

Yes [X] No [ ] Size 1/4"
Diameter of bore 26 and 10
Packed from 20 to 59 ft.

(7) CASING INSTALLED:

Steel [ ] Plastic [X] Concrete [ ]

From ft.	To ft.	Dia. in.	Gage or Wall
1 ft.	above grd.		
	59	5	1/4"

(8) PERFORATIONS:

Type of perforation or size of screen

From ft.	To ft.	Slot size
20	59	1/8"

(9) WELL SEAL:

Was surface sanitary seal provided? Yes [X] No [ ] If yes, to depth 17 ft.
Were strata sealed against pollution? Yes [ ] No [X] Interval ft.
Method of sealing Concrete

(10) WATER LEVELS:

Depth of first water, if known 20 ft.
Standing level after well completion ft.

(11) WELL TESTS:

Was well test made? Yes [X] No [ ] If yes, by whom? Driller
Type of test Pump [ ] Bailer [X] Air lift [ ]
Depth to water at start of test ft. At end of test ft
Charge 4 1/2 gal/min after 3 hours Water temperature
Chemical analysis made? Yes [ ] No [X] If yes, by whom?
Was electric log made? Yes [ ] No [X] If yes, attach copy to this report

(12) WELL LOG: Total depth 59 ft. Depth of completed well 60 ft.

from ft.	to ft.	Formation (Describe by color, character, size or material)
0	12	Brown Clay
12	15	White sandy clay
15	20	Blue rock
20	29	Black rock
29	59	Blue and black rock

Work started May 16, 1988 Completed May 25, 1988

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief

SIGNED John W Murray (Well Driller)

NAME Murray Well Drilling (Person, firm, or corporation) (Typed or printed)

Address 30520 Sherwood Rd.

City Fort Bragg, Ca. Zip 95437

License No. 268792 Date of this report June 25, 1988

DWR 188 (REV. 7-76) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

STATE OF CALIFORNIA

WELL COMPLETION REPORT

No. 807026

DWR USE ONLY — DO NOT FILL IN

17N/17W20W

STATE WELL NO. STATION NO.

LATITUDE LONGITUDE

APN / TRS / OTHER

OWNER'S WELL No. 4796

Date Work Began 8/19/02 Ended 8/19/02

Local Permit Agency Mendocino

Permit No. 15481 Permit Date 7-22-2002

GEOLOGIC LOG

ORIENTATION Vertical Degree of Angle _____

DEPTH FROM SURFACE DEPTH TO FIRST WATER _____(ft.) BELOW SURFACE

Ft.	Ft.	DESCRIPTION
0	2	topsoil
2	20	brown clay
20	30	weathered sandstone
30	140	sandstone
140	160	shale w/clay

WELL OWNER

WELL LOCATION

Address same as above

City _____ County Mendocino

Apn Book 119 Page 050 Parcel 43

or

Township _____ Range _____ Section _____ 1/4 _____ 1/4

or

Latitude _____ NORTH Longitude _____ WEST

Deg. Min. Sec. Deg. Min. Sec.

LOCATION SKETCH

ACTIVITY NEW WELL PLANNED USE(S) Domestic Water

DRILLING METHOD ROTARY AIR FLUID

DEPTH OF STATIC WATER LEVEL 20 (Ft.) & DATE MEASURED Aug 19, 2002

ESTIMATED YIELD * 2 (G.P.M.) & TEST TYPE Airlift

TEST LENGTH. 2 (Hrs.) TOTAL DRAWDOWN 150 (FT.)

*May not be representative of a well's long-term yield.

TOTAL DEPTH OF BORING 160 (Feet)

TOTAL DEPTH OF COMPLETED WELL 160 (Feet)

CASING

DEPTH FROM SURFACE Ft.	To Ft.	BORE-HOLE DIA.	TYPE	Material / Grade	Dia.	Gauge	Slot size
0	30	10 5/8	Blank	F480 PVC	5	160	
30	160	7.5	Perfs	F480 PVC	5	160	1/8

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	To Ft.	Seal Material	Filter Pack (Type / Size)
0	20	Bentonite	
20	160		Pea Gravel

Attachments

no Geologic Log

Well Construction Diagram

no Geophysical Logs

no Soil Water Chemical Analyses

no Other

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Fisch Bros. Drilling, Inc.

(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

5001 Gravenstein Hwy No. Sebastopol CA 95472

Signed Dale Theiss Carol Hughes 8-20-02 399226

WELL DRILLER / AUTHORIZED REPRESENTATIVE DATE SIGNED C-57 LICENSE NUMBER

STATE OF CALIFORNIA

WELL COMPLETION REPORT

No. 0924893

DWR USE ONLY — DO NOT FILL IN

STATE WELL NO. STATION NO.

LATITUDE LONGITUDE

APN / TRS / OTHER

Work Began 9/9/05 Ended 9/9/05

Local Permit Agency MENDOCINO

Permit No. WN20432 Permit Date 8-16-2005

GEOLOGIC LOG

ORIENTATION Vertical Degree of Angle .....

DEPTH FROM SURFACE Ft. | DEPTH TO FIRST WATER ..... (ft.) BELOW SURFACE | DESCRIPTION

Ft.	Ft.	DESCRIPTION
0	2	topsoil
2	20	brown clay
20	25	weathered greenstone
25	140	greenstone w/ shale

WELL OWNER

[redacted] CA 94942

LOCATION

Address 10651 GURLEY LANE

City MENDOCINO County MENDOCINO

Apn Book 119 Page 100 Parcel 01

or Township ..... Range ..... Section ..... 1/4 ..... 1/4

or Latitude ..... Deg. Min. Sec. NORTH Longitude ..... Deg. Min. Sec. WEST

LOCATION SKETCH

ACTIVITY NEW WELL PLANNED USE(S) Domestic Water

DRILLING METHOD ROTARY AIR FLUID Bentonite

DEPTH OF STATIC WATER LEVEL 20 (Ft.) & DATE MEASURED Sep 9 2005

ESTIMATED YIELD * 1.5 (G.P.M.) & TEST TYPE Airlift

TEST LENGTH. 2 (Hrs.) TOTAL DRAWDOWN 135 (FT.)

*May not be representative of a well's long-term yield.

TOTAL DEPTH OF BORING 140 (Feet)

TOTAL DEPTH OF COMPLETED WELL 140 (Feet)

CASING

DEPTH FROM SURFACE Ft.	To Ft.	BORE HOLE DIA.	TYPE	Material / Grade	Dia.	Gauge	Slot size
0	20	10 5/8	Blank	F480 PVC	5	160	
20	40	8 3/4	Blank	F480 PVC	5	160	
40	140	7 1/2	Perfs	F480 PVC	5	200	Factor

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	To Ft.	Seal Material	Filter Pack (Type / Size)
0	20	Bentonite	
20	140		Pea Gravel

Attachments

no Geologic Log

no Well Construction Diagram

no Geophysical Logs

no Soil Water Chemical Analyses

no Other

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME FISCH BROS. DRILLING, INC.
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

5001 Gravenstein Hwy No. Sebastopol CA 9547

Signed Dale Theiss 09/30/05
WELL DRILLER / AUTHORIZED REPRESENTATIVE DATE SIGNED

399226
C-57 LICENSE NUMBER

Appendix D

Mendocino City Community Services District Ordinance 2020-1

ORDINANCE 2020-1
MENDOCINO CITY COMMUNITY SERVICES DISTRICT GROUNDWATER EXTRACTION PERMIT REQUIREMENT FOR ALL REAL PROPERTY WITHIN ITS BOUNDARY

WHEREAS, Mendocino City Community Services District (hereafter MCCSD or District) adopts the following Groundwater Extraction Permit Ordinance amending and replacing Groundwater Extraction Permit Ordinances No. 90-1 and No. 91-3, as amended; and

WHEREAS, all real property within the boundaries of MCCSD shall be subject to these regulations; and

WHEREAS, it is the intent of the MCCSD to protect the groundwater resources within its boundary for the common good of all present and potential users; and

WHEREAS, in 1987, the California Legislature passed California Water Code Section 10700 – 10717, as outlined in Assembly Bill No. 786, which provided the MCCSD with the authority to prepare and implement a Groundwater Management Plan and to establish programs for groundwater resources management within the District boundary; and

WHEREAS, in 1990, the MCCSD assumed responsibility for groundwater management, and adopted the Groundwater Extraction Permit (GWEP) Ordinance to permit all new development, changes of existing use, and expansion of existing use; and

WHEREAS, prior to the adoption of This Ordinance, the District held a public hearing on April 16, 2020 after publication of notice for the first hearing on April 2 & 9, 2020 pursuant to Section 6066 of the Government Code. The District adopted a resolution of intention to adopt and implement the groundwater management program on April 16, 2020. A copy of the program was published in a newspaper of general circulation on April 23, 2020. Notice of the second hearing was published on April 2 & 9, 2020. The Board of Directors scheduled the second hearing for April 27, 2020 to consider protests to the implementation of the program by eligible registered voters residing within the boundaries of the District. There was no majority protest by more than 50% of eligible registered voters in the District. The Board may accordingly adopt This Ordinance within 35 days of the second hearing.

The Board of Directors of the Mendocino City Community Services hereby **ORDAINS AS FOLLOWS:**

1. <u>Groundwater Extraction Permit Requirement</u>

To manage the groundwater resources within the MCCSD boundary during both normal rainfall years or during drought conditions and to protect the District's limited groundwater resources, all developed parcels within the MCCSD, whether their water supply is from groundwater extracted from privately owned well(s) or from mutual water company well(s), shall be required to have a valid Groundwater Extraction Permit and limit groundwater extraction to an approved GWEP allotment or Mutual Water Company Memorandum of Understanding allotment.

In addition, no person shall extract groundwater within the boundaries of the MCCSD for "new development", "change in use", or "expansion of existing use" unless the person possesses a valid and current Groundwater Extraction Permit, and no groundwater shall be extracted from a well that is constructed or modified following the adoption of this ordinance without an approved Groundwater Extraction Permit as set forth herein.

Groundwater Extraction Permit shall be obtained prior to:

1. issuance of a Mendocino County Use Permit or Coastal Development Permit;
2. issuance of a Mendocino County Building Permit for other than minor repair and maintenance; or
3. issuance of a Mendocino County Well Permit.

A Groundwater Extraction Permit shall not be necessary for minor repair and maintenance to existing structures and wells, or cleaning of an existing well, but a Groundwater Extraction Permit shall be required for any modifications in the structure or depth of the well.

A Groundwater Extraction Permit shall remain in effect in perpetuity or until a new Groundwater Extraction Permit is issued pursuant to the requirements of this ordinance.

The District Superintendent is authorized to advise appropriate agencies that no permit action is required with regard to cases exempt from MCCSD permit procedures established by this Ordinance.

2. Application Required for Groundwater Extraction Permit

Application for a Groundwater Extraction Permit shall be made in writing on forms provided by MCCSD. The Groundwater Extraction Permit application shall contain the assessor's parcel number, a description of the parcel, the address of the parcel, a description of the proposed change to the parcel, a description of the proposed new development, expansion of existing use, and/or the change in use, a list of all adjacent property owners and their addresses, the existing and proposed placement of wells and water storage facilities on the parcel, the location of existing wells on all adjacent properties, if known, and the maximum amount of water per day anticipated to be extracted by the applicant for the project. A scaled plot map showing all structures, wells, and the proposed development shall be attached to the Groundwater Extraction Permit application. A floor plan for all existing and proposed structures shall be included with the Groundwater Extraction Permit Application. A fee in an amount determined by the Board to cover the cost of administering this groundwater extraction permit process shall accompany the application. The application shall be deemed complete once it is reviewed by the District Superintendent and accepted as complete. The District Superintendent shall contact the applicant regarding the completeness of the application within thirty (30) days of submission and may require further information from the applicant.

3. Hydrological Study

Except as set forth below in Section 4 of this ordinance, all applicants shall be required to submit a hydrological study prior to the issuance of a Groundwater Extraction Permit. A qualified hydrologist (see definition, Appendix B) must perform the hydrological study. Once an application is deemed complete, the applicant shall be permitted to conduct an aquifer pump test from the proposed well(s), as set forth in the application, for the purpose of proving that the amount of water capable of being extracted from the well(s) will support the proposed project as described in the application, based on water use standards established by the Board. The aquifer pump test is also required in order to determine whether the proposed water extraction will have any adverse effect and adverse cumulative effect on hydrologically contiguous wells (see definitions, Appendix B).

The aquifer pump test (Appendix A) shall be conducted continuously over a seventy-two (72) hour period, followed by a monitored twenty-four (24) hour recovery period. The test shall be conducted during the Hydrological Testing Period (see definitions). The Board may modify the time of year for the test upon determination that weather conditions make such modification appropriate. All aquifer pump tests in the District shall be scheduled by the District Superintendent to avoid conflict in the data obtained. Water pumped shall be conserved by storage or shall be routed to a recharge/discharge area beyond the influence of the pump test at the applicant's expense.

The hydrological study shall present data obtained and conclusions derived from the aquifer pump test (see Appendix A for hydrological study outline). The hydrological study should include consideration of local geology and hydrology, documentation of current groundwater development, estimation of water use by the development, a pump test, assessment of on-site availability of groundwater, analysis of potential impacts of the proposed groundwater development, and an analysis of cumulative effects to hydrologically contiguous wells. The hydrological study should be documented in a report summarizing the information and analyses, and it should include appendices containing supporting data. The following report outline is suggested:

- Introduction
- Estimated Water Allotment
- Hydrological Setting
- Performance of Pump Test
- Pump Test Data Analysis
- Mitigation of Adverse Effect and Adverse Cumulative Effects
- Conclusions
- Appendices

All conclusions expressed by the hydrologist in the hydrological study shall be supported by data and other facts, consistent with good hydrological practices. All assumptions and equations relied on by the hydrologist in conducting the aquifer test and forming his/her conclusions shall be included in the hydrological study report. The hydrological study shall consider: 1) the adequacy of the water supply to support the proposed new development, expansion of existing use, or change in use during the dry summer months and drought conditions, and 2) any adverse effects and adverse cumulative effects to hydrologically

contiguous wells. Once a hydrological study has been completed it shall be delivered to the District Office for review.

4. Exceptions to Hydrological Study Requirement

a. No Increase in Water Demand

If it is clear, based on the Groundwater Extraction Permit Application, that the proposed water extraction will not increase the applicant's existing quantity of water extraction, the District Superintendent may administratively issue the requested Groundwater Extraction Permit without requiring an applicant to submit a hydrological study. If the proposed new use results in a decrease in water use, a new allotment shall be calculated, and shall be based on the new use.

b. Limited Increase in Water Demand

Based on the information contained in the Groundwater Extraction Permit application, the District Superintendent may administratively issue a Groundwater Extraction Permit without requiring an applicant to submit a hydrological study if the proposed change results in a limited increase in water demand. A limited increase is the quantity of water required for "new development", "change in use", or "expansion of existing use", as defined by the Water Use Standard adopted by the Board. A limited increase is determined by the increased water demand for the proposed project. As calculated from the Water Use Standard, a limited increase shall not exceed:

1. 30% of an existing water demand that is less than or equal to 320 gallon per day.
2. 10% of an existing water demand that is greater than 320 gallons per day.

As a condition of approval for an exception to the hydrological study requirement, the applicant agrees not to exceed the water use allotment for the existing use. A limited increase only applies to Section 4(b) of the ordinance. Following the issuance of a Groundwater Extraction Permit under Section 4(b) Exceptions to Hydrological Study Requirements, future "new development", "change in existing use", or "expansion of existing use", which result in a limited increase in water demand, may require approval of a Hydrological Study prior to issuance of a new Groundwater Extraction Permit to review the effect that incremental development may have on adjacent wells or the aquifer.

c. Modification in the Structure or Depth of an Existing Well or Drilling a New Well

No hydrological study shall be required for modification in the structure or depth of an existing well or to construct a new well located on developed residential or commercial property.

A property owner may apply to drill a test well on an undeveloped parcel. A test well permit is not a Groundwater Extraction Permit. The purpose of the test well is to determine if groundwater is available for future development of the parcel. A hydrological study must be applied for and approved by the District Board of Directors prior to the issuance of a Groundwater Extraction Permit that authorizes extraction from the test well. Following completion of the aquifer pump test for the hydrological study, no groundwater shall be extracted from a test well without a valid Groundwater Extraction Permit.

d. Prior to Issuance of a Mendocino County Use Permit or a Coastal Development Permit

Approval of a Groundwater Extraction Permit application shall be required prior to the issuance of a Mendocino County Use Permit or a Coastal Development Permit. No hydrological study shall be required prior to issuance of a Mendocino County Use Permit unless the project is a "new development", "change of use", or "expansion of existing use" that establishes an initial water demand on an undeveloped parcel or increases the water demand on a developed parcel.

e. Prior to Issuance of a Mendocino County Building Permit

Approval of a Groundwater Extraction Permit application shall be required prior to the issuance of a Mendocino County Building Permit. A Groundwater Extraction Permit application shall not be necessary prior to issuance of a Mendocino County Building Permit for minor repair and maintenance, such as painting, minor repairs to structures, and repair and replacement of roofs. No hydrological study shall be required prior to issuance of a Mendocino County Building Permit unless project is a "new development", "change of use", or "expansion of existing use" that establishes an initial water demand on an undeveloped parcel or increases the water demand on a developed parcel.

f. Section 4 Groundwater Extraction Permit Approval Conditions

No person shall extract groundwater from a well within the boundaries of MCCSD unless the person possesses a valid and current Groundwater Extraction Permit. A Permittee who has received a permit pursuant to this Section 4 shall install a water meter, record monthly water

meter readings, and submit readings to the District as required. The permit shall specify the quantity of groundwater that the permittee may extract. For those properties assigned water use allotments under provisions of this Ordinance, a penalty will be assessed for continued water use in excess of that allotment. If total use exceeds that allowed by the permit by 25% for three non-consecutive months in one calendar year, the Board may revoke the Groundwater Extraction Permit. Following revocation of a Groundwater Extraction Permit, continued groundwater pumping is a violation of Section 15 of this Ordinance, and a penalty shall be incurred.

g. Litigation Fees and Costs

In the event legal proceedings are filed by the District or any other party concerning this Ordinance, the prevailing party in such litigation shall be entitled to recover reasonable attorney's fees and costs (including expert costs) incurred in such legal proceedings in addition to such other relief as may be granted by the court. This provision shall apply to any mediation, arbitration or litigation concerning this Ordinance. The District's successful defense of its groundwater extraction permit program in any legal proceeding shall entitle the District to recover its attorney's fees and costs in accordance with this Section.

5. <u>Board Shall Adopt Water Use Standards and Require Conservation Devices</u>

Water use standards have been established by the District designating the quantity of water necessary for a "new development", "expansion of existing use", or "change in use". These water use standards shall be periodically re-evaluated based on actual data collected by the District. The Board shall require water conservation devices including, but not limited to, low flush toilets, to be purchased and installed by permittees.

6. <u>Hydrological Study Review</u>

Following delivery of the hydrological study to the District Office, the District shall refer the hydrological study to an approved hydrologist for review. This review shall include, but not be limited to, consideration of adherence to testing conventions, completeness of data, adequacy of the groundwater supply for the proposed development or change in use, cumulative impact on the District's groundwater resources, and any reported adverse effects and adverse cumulative effects to hydrologically contiguous wells. The applicant shall pay a fee as determined by the Board to cover the cost of such review. The hydrological review and the initial study shall then be submitted to the Board for consideration.

7. Hydrological Study Approval

Within sixty (60) days of receipt of the hydrological study review, the Board shall consider both the hydrological study and the review at a regular meeting or a special meeting. Public comment on the proposed hydrological study shall be heard at the regular or special meeting called by the Board. If necessary, the Board may require the applicant, reviewing hydrologist, or author of the hydrological study to submit supplemental information before deciding whether to approve or reject a hydrological study.

a. In making their decision, the Board shall consider the findings of the aquifer pump test and the hydrological study, all challenges to the aquifer pump test and the hydrological study that have been received by the District during or prior to the public hearing, all information provided by the reviewing hydrologist, and all public comment.

b. If, based on the considerations as set forth above, the Board finds that approval of the hydrological study and issuance of a proposed Groundwater Extraction Permit would more likely than not have an adverse effect on the groundwater supply, or the evidence shows that there is insufficient groundwater to support the proposed Groundwater Extraction Permit project, the Board shall reject the hydrological study.

c. The Board may consider mitigation measures that eliminate adverse effects and adverse cumulative effects to hydrologically contiguous wells as a condition for approval of the hydrological study.

d. The Board shall approve or reject a hydrological study or grant a continuance, within one hundred twenty (120) days of the time the applicant's hydrological study is filed. If good cause exists, the Board may allow additional time for the review.

e. If an applicant's hydrological study is denied, the applicant may request reconsideration. Said request shall be in writing stating the reason for the request and must be filed with the District Office within twenty (20) days of the Board's decision. The Board may require the applicant, reviewing hydrologist, or author of the hydrological study to submit supplemental information before deciding whether to approve or deny reconsideration of the hydrological study. The Board shall continue, approve or deny the reconsideration within forty-five (45) days of said request.

8. Groundwater Extraction Permit Approval

Within sixty (60) days after the filing of a Groundwater Extraction Permit application, the Board shall consider the permit at a regular meeting or a special meeting. Public comment on the proposed Groundwater Extraction Permit shall be heard at the regular or special meeting called by the Board.

a. In making their decision, the Board shall rely on the findings of the approved hydrological study and the hydrological study review.

b. If, based on the considerations set forth above, the Board finds that issuing of a Groundwater Extraction Permit for the project would not have an adverse effect on the groundwater supply, and the evidence from the hydrological study shows that there is sufficient groundwater to support the proposed Groundwater Water Extraction Permit project, the Board shall approve the permit.

c. The Board shall approve or deny a permit or grant a continuance, within one hundred twenty (120) days of the time the applicant's Groundwater Extraction Permit is filed.

d. The Board shall establish the maximum amount of groundwater an applicant is allowed to extract, and the permit for groundwater extraction shall be issued on condition of that limitation.

e. The applicant shall have two (2) years to complete the Groundwater Extraction Permit process if the groundwater source is not in use when the Groundwater Extraction Permit Approval is issued. If groundwater is currently extracted from an existing well, the applicant shall complete the Groundwater Extraction Permit process within the timeframe stated as a condition of the approval. The Groundwater Extraction Permit Application Approval shall automatically expire by its own terms if the applicant does not adhere to all permit conditions within the time frame stated in the approval.

f. The District shall have the right to inspect the water meter installation.

g. If an applicant is denied a Groundwater Extraction Permit, the applicant may request reconsideration. The request shall be in writing stating the reason for the request and must be filed with the District Office within twenty (20) days of the Board's decision. The Board shall continue, approve or deny the reconsideration within forty-five (45) days of the request and if they do not act within forty-five (45) days, the request is deemed approved.

9. Water Meter Requirements

Prior to the issuance of any Groundwater Extraction Permit, the applicant shall agree in writing to install an approved water meter prior to any groundwater extraction, at applicant's expense. The applicant agrees to install the water meter as a condition of the groundwater extraction permit approval within the date specified in the approval conditions. The applicant shall agree to submit regular monthly meter readings to the District on the first day of the month for the previous month's groundwater extraction. All applicants and permittees shall give permission for the meter to be read by a District employee. Following the issuance of the Groundwater Extraction Permit, the District, its agents and assigns, may enter onto owner's real property at reasonable times to read the water meter if the property owner fails to submit monthly meter readings for two consecutive months. The water meter shall be accessible by the District during regular business hours. Applicants and Permittees shall provide permission for District employees to sample and test water and to take well depth readings as required for District records, at District expense. Applicant and Permittees may install water meter at property line to facilitate the reading of the meter by District personnel. As a condition of the Groundwater Extraction Permit approval, applicant shall agree to allow District personnel to inspect a water meter installation that is offset from the wellhead. Applicants and Permittees agrees to replace a defective, inaccurate, or inoperable water meter at applicant's expense. No waterline connections (taps) shall be permitted between the water meter and the wellhead.

For new water meter installations, a letter from the District will be sent requesting that the applicant provide the District with groundwater extraction readings beginning thirty (30) days after the issuance of the Final Groundwater Extraction Permit, and thereafter on the first day of each month for the previous month's extraction.

All developed parcels required to obtain a valid Groundwater Extraction Permit with an approved allotment are required to install an approved water meter, and submit monthly meter readings to the District. The applicant shall agree to submit regular monthly meter readings on the first day of the month for the previous month's groundwater extraction.

The District has the following Three-Step Meter Reading Policy to achieve water meter reading compliance from developed property owners subject to groundwater extraction water meter reading and reporting requirements:

a. If a developed property owner that is required to submit a monthly water meter reading to the District misses one month's reading, on the twentieth day after the reading is due, District will send the property owner a 1st Notice of Violation letter by regular mail. The letter to the property owner will discuss the importance of timely readings and reporting, and advise the property owner that District personnel will read the water meter if timely readings are not forthcoming. They will be informed of various options that are available for submitting the water meter readings other than by regular mail.

1. Through the website
2. E-mail
3. Fax
4. Telephone
5. Annual meter reading service by District personnel for an annual fee

If the developed property owner is served by a mutual water company, and that company is responsible for reading its customers' meters, the 1st Notice of Violation shall be sent to the mutual water company serving the developed property. However, the developed property owner shall remain ultimately responsible for the submission of the required water meter readings in a timely fashion, as well as any penalty for failure to submit timely water meter readings.

b. If a developed property owner subject to groundwater extraction water meter reading reporting fails to submit a reading by the twentieth day of the second month, a 2nd Notice of Violation letter will be sent by Certified Mail to the property owner to inform the property owner that a service charge will be added to their sewer bill for each month of water meter reading non-compliance. If a property owner subject to groundwater extraction water meter reading reporting persists in non-reporting, the District may take the readings on a date and time specified in a 3rd Notice of Violation letter sent by Certified Mail, and the property owner subject to groundwater extraction water meter reading reporting will be informed that they will be billed accordingly. A property owner subject to groundwater extraction water meter reading reporting will be asked in the third letter to be present when District personnel read the meter. The third letter will advise a property owner subject to groundwater extraction water meter reading reporting that a service fee will be added to their monthly sewer bill for this service to cover staff time and District expenses. Both the second and third letters will provide them with an alternative to sign up for the water meter reading service on an annual basis for an annual fee. The letters will also reiterate the importance of water meter reading.

c. If the property owner subject to groundwater extraction water meter reading reporting refuses to provide access to the property or refuses to pay the monthly service charge added to their sewer bill for each month of water meter reading non-compliance, the matter may be referred to legal counsel for further handling. One method of further handling such a problem would be to obtain an injunction against the property owner's interference with the District's groundwater management program.

d. The District offers a water meter reading service for all developed parcels within the District that have been required to install a water meter. The charge is based on a determination of the reasonable cost of providing the service. Applications for the meter reading service may be obtained from the District Office. The annually fee for meter reading shall be paid in advance of the service.

10. Groundwater Extraction Permit Approval Extension

The applicant may request an administrative Groundwater Extraction Permit Approval Extension for a period of two (2) years. An extension of a Groundwater Extraction Permit Approval that was based on the findings of a Hydrological Study shall not be issued for more than ten (10) years from the date of the original Hydrological Study Approval without the applicant providing at applicant's expense a supplemental report showing the conclusions of the Hydrological Study are still valid. The report shall be prepared by a qualified hydrologist (see definition, Appendix B). The report shall include a discussion and supporting data that establish there are no adverse cumulative effects to adjacent wells from the applicant's approved extraction and any additional extraction within the radius of influence of the applicant's test well approved by other hydrological studies for "new development", "expansion of existing use", or "change of use". The Board shall approve or deny a supplemental report at a regular meeting or a special meeting.

There will be an administrative fee for a Groundwater Extraction Permit Extension.

11. Permitted Groundwater Extraction Allotment

The Groundwater Extraction Permit shall state the maximum amount of groundwater to be extracted. This limit shall constitute an allotment of groundwater to be extracted by the applicant, and the District shall not reduce this amount during normal rainfall conditions unless there is evidence of an error in the application or hydrological study discovered within twelve

months, which the Board determines is sufficient to justify a quantity modification, which would lower or increase the groundwater use allotment. The allotment shall be based on the size and type of District approved development on the parcel. The amount of the allotment is determined from the MCCSD Water Use Standard (Appendix C).

All developed parcels with Groundwater Extraction Permits shall be required to limit groundwater extraction to the Groundwater Extraction Permit allotment, which shall be based on the size and type of development on the parcel. Allotments may be temporarily reduced during drought conditions to help extend the groundwater resource.

Up to two times the amount of a Permittee's approved allotment may be extracted and stored for dry season use during the months of January, February, and March if cumulative rainfall during October, November, and December exceeds 120% of normal average rainfall for that three month period. Permittees extracting additional groundwater during January, February or March shall immediately reduce extraction to the approved allotment if monthly rainfall measured by the District falls below 120% of average monthly cumulative precipitation during January, February, or March.

12. Final Groundwater Extraction Permit

Once a permittee has complied with the conditions of the Groundwater Extraction Permit Approval, which include issuance of an allotment to limit groundwater extraction and installation of a water meter at the wellhead of all production wells, the District shall administratively issue a Final Groundwater Extraction Permit. The Final Groundwater Extraction Permit shall be signed by the property owner. A Groundwater Extraction Permit issued for "new development", "change of use", and "expansion of existing use" shall remain in effect in perpetuity or until approval of a new Groundwater Extraction Permit for the property.

13. Prior Extraction Permit Approvals by Mendocino County

The District shall acknowledge any restrictions on water usage imposed by the County of Mendocino in groundwater extraction permits issued prior to June 1, 1990, and District shall enforce the restrictions under the provisions of the BOS 90-113 agreement. After June 1, 1990, any Permittee previously issued an allotment by Mendocino County under the provisions of BOS 90-113 that submits an application and is approved for a District Groundwater Extraction Permit

for “new development”, “change of use”, or “expansion of existing use” shall be subject to the District’s Groundwater Extraction Permit Ordinance regulations, requirements, and restrictions.

14. Action on County Referrals of Applications for Use Permits, Land Use Permits, Land Divisions, Local Coastal Plan Consistency Reviews and Coastal Development Permits

The provisions of this Ordinance shall be applied to all County referrals regarding use permits, land divisions, Local Coastal Plan consistency reviews and Coastal Development Permits.

15. Misdemeanor and Penalty

After the adoption and publication of this ordinance, it shall be a misdemeanor for any person to violate any provision, restriction or prohibition contained in this Ordinance or any condition of any valid Groundwater Extraction Permit issued pursuant to this Ordinance, until said Ordinance has been repealed.

Groundwater extraction without a valid Groundwater Extraction Permit is a violation of this Ordinance, and a penalty of $100.00 per day shall be incurred for groundwater extraction without a valid Groundwater Extraction Permit, or for continued groundwater extraction following revocation of a Groundwater Extraction Permit. Each day of groundwater extraction without a valid Groundwater Extraction Permit shall be deemed a separate violation for purposes of assessment of penalties under this Ordinance. Non-compliance shall be determined commencing with the first day of water extraction activities without a valid Groundwater Extraction Permit.

For those properties assigned groundwater use allotments under provisions of this Ordinance, a penalty will be assessed for continued groundwater use in excess of the allotment. Penalty will be at a rate of two cents per gallon of excess use per month, up to 10% overage, five cents for each gallon in excess of 10%, after there has been excess use for two consecutive months, or for three months during any yearly period. If total use exceeds that allowed by the permit by 25% for three non-consecutive months in one calendar year, the Board may revoke the Groundwater Extraction Permit. For those properties assigned groundwater use allotments under provisions of this Ordinance that extract additional groundwater during the months of January,

February, or March, a penalty will be assessed for groundwater use in excess of twice the permitted allotment. Penalty will be at a rate of two cents per gallon of excess use per month, up to 10% overage, five cents for each gallon in excess use per month.

The District is authorized to read meters to verify water usage. For all other permit violations, a penalty of $100.00 shall be incurred for each violation. Each day of non-compliance with this ordinance or with the permit conditions shall be deemed a separate violation for purposes of assessment of penalties under this Ordinance. Non-compliance shall be determined commencing with the first day of groundwater extraction activities regulated by the program.

The Board may impose a penalty of $100.00 per day if the property owner subject to the groundwater extraction water meter reading reporting requirements fails or refuses to:

1. submit the monthly meter reading for a period of three consecutive months;
2. provide access to District personnel to read the meter; or
3. pay the monthly service charge imposed for failure to submit water meter readings.

The Board may impose a penalty of $100.00 per day if the property owner subject to the groundwater extraction water meter installation requirement fails or refuses to install an accurate operable water meter(s) to measure groundwater production from all wells used to extract groundwater on the owner's property.

Each day of non-compliance shall be deemed a separate violation for purposes of assessment of penalties under this Ordinance.

In the event legal proceedings are filed by the District or any other party concerning this Ordinance, the prevailing party in such litigation shall be entitled to recover reasonable attorney's fees and costs (including expert costs) incurred in such legal proceedings in addition to such other relief as may be granted by the court. This provision shall apply to any mediation, arbitration or litigation concerning this Ordinance. The District's successful defense of its groundwater extraction permit program in any legal proceeding shall entitle the District to recover its attorney's fees and costs in accordance with this Section.

16. <u>California Environmental Quality Act</u>

The Board of Directors finds that this Ordinance is not a "project" subject to the requirements of the California Environmental Quality Act (CEQA), and/or is exempt from CEQA requirements in accordance with the following reasons:

a. This Ordinance is not a project within the meaning of Section 15378 of the CEQA Guidelines, because it has no potential for resulting in physical change in the environment, directly or ultimately.

b. On a separate and independent basis, the District finds this Ordinance is categorically exempt from CEQA under Sections 15307 of the CEQA Guidelines as a regulatory action taken by the District pursuant to its powers under California Water Code Section 10700 *et seq.* to assure maintenance and protection of a natural resource and the environment during the existence of the water shortage condition and potential emergency declared pursuant to this Ordinance.

c. On a separate and independent basis, the District finds this Ordinance is categorically exempt from CEQA under Sections 15308 of the CEQA Guidelines as a regulatory action taken by the District pursuant to its powers under California Water Code Section 10700 *et seq.* to assure maintenance and protection of a natural resource and the environment during the existence of the water shortage condition and potential emergency declared pursuant to this Ordinance.

d. On a separate and independent basis, the District finds this Ordinance is not subject to CEQA under the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment as the Ordinance is intended to help maintain current groundwater availability.

For the reasons set forth above it can be stated that there is no possibility that adoption and enforcement of this Ordinance will have a significant effect on the environment, consistent with applicable guidelines for CEQA assessment."

17. Severability

If any section, subsection, paragraph, sub-paragraph, sentence, clause or phrase of this ordinance is for any reason held to be invalid or unconstitutional, such invalidity or unconstitutionality shall not affect the validity or constitutionality of the remaining portions of this Ordinance and such remaining portions of this Ordinance shall remain in full force and effect.

18. Board May Issue Emergency Permit

Nothing in this permit process shall be deemed to diminish the authority of the Board to act in any manner consistent with the existing laws. Nothing in this permit process shall prohibit the Board from issuing any permit for groundwater extraction or other water development without public notice in the event that the Board determines that an emergency situation requires the issuance of such permit.

19. <u>Constitutionality</u>

This Ordinance is not intended to authorize, and shall not be construed as authorizing, the MCCSD to exercise its power in a manner which will take or damage private property for public use. This ordinance is not intended to increase or decrease the rights of any owner of property under the Constitution of the State of California or the United States of America.

This ordinance shall be published once in the Mendocino Beacon, a newspaper of general circulation published within the District. This Ordinance was introduced at a meeting of the Board of Directors on May 11, 2020, and adopted by the Board of Directors on May 18, 2020, by the following vote:

AYES: Directors Hauck, Arnold, & Sullivan

NOES: Rice

ABSENT: None

_____, Board President

ATTEST:

_____

Jeannee Christ, District Secretary

Appendix A

Hydrological Study Guidelines

General

No person shall extract groundwater within the boundaries of the MCCSD for "new development", "change in use", or "expansion of existing use" and no water shall be extracted from a well constructed or modified following the adoption of this ordinance within the boundaries of MCCSD unless the person possesses a valid and current Groundwater Extraction Permit. Except as noted in the ordinance, all applicants shall be required to submit a hydrological study prior to issuance of a Groundwater Extraction Permit.

Approved Hydrologists

MCCSD will maintain a list of approved hydrologists who are authorized to conduct hydrological studies and/or peer review hydrological studies conducted by other approved hydrologists.

Professional Qualifications of Hydrologist

A California Registered Geologist, who is a hydrologist , a Certified Engineering Geologist, and/or a California Certified Hydrogeologist /or a California licensed Civil Engineer, or Registered Geologist with a minimum of five (5) years of experience in groundwater hydrology are eligible to be approved hydrologists.

Elements of the Hydrological Study

The hydrological study should include consideration of local geology and hydrology, documentation of current groundwater development, estimation of water use by the development, a pump test, assessment of on-site availability of groundwater, analysis of potential impacts of the proposed groundwater development, and an analysis of cumulative effects to hydrologically contiguous wells. The hydrological study should be documented in a report summarizing the information and analyses, and should include appendices containing supporting data. The following report outline is suggested:

- **Introduction**

The introduction should include: 1) a description of the project, 2) a description of the location of the proposed development with respect to contiguous properties and wells, and 3) location and site maps. The well head location and elevation should be surveyed in using a benchmark and datum acceptable to MCCSD.

- **Estimated Water Allotment**

The water allotment for the proposed development shall be calculated from the Groundwater Extraction Permit Ordinance Water Use Standard. The allotment is based on the size and type of proposed development described in the Water Use Standard.

- **Hydrological Setting**

Include a summary of the local hydrological setting, site characteristics, and present groundwater use on the contiguous properties and current groundwater use on the proposed development parcel. Discuss the following:

1. **Local Geology and Groundwater**

   Describe the local geology and occurrence of groundwater. Locate all streams and springs on the project parcel and on contiguous parcels, and measure the spring and stream flows, or estimate their dry season flow from available reports by California Department of Water Resources, State Water Resources Control Board, and others.

2. **Aquifer Description**

   Identify the aquifer(s) to be developed. For terrace aquifers, note the extent of the aquifer, average thickness, and average storage capacity. For bedrock aquifers, and composite terrace/bedrock aquifers, provide information on weathering and fracturing, depth to hard bedrock, and other relevant information.

3. **On-Site Hydrological Conditions**

   Document on-site hydrological conditions, including geologic materials encountered during the drilling of the well, and static depth to water during the

Hydrological Testing Period (see Appendix B Definitions). DWR Water Well Drillers Report(s) of the well(s) should be included.

4. Existing Wells

Identify all wells on the study parcel and on contiguous parcels. Show well locations and elevations on the assessors parcel map and on the well inventory and topographic map of the Mendocino Headlands available from MCCSD show measured distances to the pumping well. Describe each well, including depth, pump setting, well construction details, geological log if available, static water level in wells, use and estimated pumpage, and water level fluctuations. Observed well interference between hydrologically contiguous wells identified in previous hydrological studies that are within the radius of influence of the test well must be included in the Hydrological Study. Geologic cross-sections illustrating information from available well logs are recommended.

- **Performance of Pump Test**

The pump test is intended to document that an adequate groundwater supply is available on the site for the proposed project and to determine any adverse effect and adverse cumulative effects on local groundwater users and the aquifer(s) as a whole. Pump testing requirements for hydrological studies are as follows:

1. Notice Requirements for Aquifer Pump Test

At least ten days before the beginning of the aquifer test, the District shall publish notice of the test in a local paper of general circulation in the town of Mendocino. The District shall also post notice of the aquifer test at the District Office, the Mendocino Fire House and the Mendocino Post Office ten days before the beginning of said test. At least ten days before the beginning of the aquifer pump test the District shall notify in writing all adjacent property owners along with any person who requests notice in writing. All notifications will be mailed certified-return receipt requested. The **Notice(s) of Aquifer Test** supplied by MCCSD shall be posted in conspicuous visible location(s) on the parcel where the test is to be conducted ten days prior to the test. Such notices shall inform such

property owners of date, time, location and purpose of the pump test, and provide a contact name, phone number and address in the event that their wells are apparently affected by the test. The notices will emphasize the importance of response as soon as any effects are observed. The notices shall also advise property owners that they can request that their wells be included in the monitoring process. Surrounding property owners who feel that their wells may be hydrologically contiguous may request that their wells be included in the monitoring process. Such request shall be made to the District at least 72 hours prior to beginning of the pump test. Any expense related to this monitoring of wells involved in the pump test shall be borne by the applicant. Any property owner that requests that their well be monitored must agree not to use the well during the aquifer pump test. The Superintendent shall schedule all aquifer tests that are to be conducted in the District.

2. Pump Testing Method

A hydrological study aquifer pump test shall be designed and conducted by or under the supervision of an approved Hydrologist. Pump testing shall be conducted generally in accordance with the procedures outlined in the Mendocino County Coastal Groundwater Development Guidelines (Questa, Engineering, 1989), which details the test procedures for the Constant Rate and Step Drawdown Tests.

Authorization to use any other than the constant rate pump test must be obtained from the District Superintendent before conducting the actual test, and shall be based on submission of items “a”, “b”, and “c” below.

a) Provide peer reviewed, multiple literature documentation showing that the substitute test provides equal or greater accuracy for predicting aquifer and well characteristics in the study area setting, compared to the constant rate pump test.

b) Supply industry recognized literature thoroughly documenting how the substitute pump test should be conducted, and the limitations of the test.

c) Supply industry recognized literature showing how the substitute pump test is analyzed.

The minimum pump test duration will be for 72-hours, with a 24-hour monitoring of aquifer recovery. A minimum of 10 groundwater level measurements per log cycle shall be collected from the test well and monitoring well used to determine aquifer characteristics. Water level measurements are to be accurate within 0.1-foot (or 1-inch). The pump discharge rate is to be monitored and maintained to within 10-percent of the selected pump test rate.

Any variation from these guidelines including total length of pumping time, gaps in pumping, and variation in pump discharge, will require a technical explanation by the professional under whom the tests were performed. It should be noted that these guidelines are not rigid requirements, with the understanding that the ultimate goal of the pump test is to allow a determination of ground water availability and potential effects on the aquifer and nearby wells.

3. Monitoring Well(s)

Pump testing for hydrological studies shall include water level observations in at least one monitoring well throughout the pumping period. It is recommended that at least one monitoring well be installed within the area of influence of the pumped well specifically for use in the pump test. If a monitoring well is installed specifically for the pump test, care should be taken to assure that the screened interval of the monitoring well intersects the aquifer from which the pumped well draws water. As an alternative, existing nearby water wells may be suitable as monitoring wells, provided: (a) they have a screened interval, which intersects the same aquifer as the well to be tested; (b) they are not pumped during the test. A 24-hour pre-test monitoring of water levels in the well to be pumped and in the monitoring wells is recommended. The pre-test monitoring is used to establish any background influences on groundwater levels, i.e., other pumping activities.

Throughout the full duration of the pump test and recovery period, water level measurements in the monitoring well(s) should be made at regular intervals, similar to readings taken for the pumped wells. Measurements are to be accurate within 0.1-foot.

- **Pump Test Data Analysis**

An analysis should be provided of the pump test results and other information in order to document proof of adequate water supply and to determine impacts on local water users and the regional aquifer.

1. Well and Aquifer Characteristics

The following calculations and data should be provided from field measurements to characterize the pumped well and local aquifer.

a) Drawdown and Recovery. Plot aquifer drawdown and recovery curves on log paper for both the pumped well and monitoring well(s). The curves should be presented for easy comparison. Tabulate all time, water level, and pump rate data in an appendix.

b) Transmissivity and Storativity. Compute transmissivity and storativity for the local aquifer using the Theis equation, Cooper-Jacobs method (Todd, 1980) or other appropriate techniques. Document methodology, including equations and assumptions, and interpretations. If pump testing data analysis software is used, provide information on the software (program name and synopsis).

c) Well Efficiency and Specific Capacity. Compute well efficiency and the specific capacity of the well, if appropriate (Todd, 1980).

2. Proof of Adequate Water Supply

The observed pump rate during the pump test should be a minimum of 2.5 times the estimated daily water use allotment to establish proof of an adequate water supply for the proposed development.

3. Aquifer Effects

The observed and computed drawdown at neighboring wells or installed monitoring wells will provide the basis for assessing the extent of adverse effects and adverse cumulative effects on the aquifer and wells on surrounding properties.

a) Evaluation Criteria for Adverse Effects and Adverse Cumulative Effects

Adverse Effect: An adverse effect on the water table or aquifer shall be considered to occur if the pump rate during the aquifer test results in an aquifer drawdown at the well of an adjacent property or at a well within the

radius of influence which amounts to more than 10-percent of the available water column at such well.

Adverse Cumulative Effect**:** An adverse cumulative effect will be considered to occur when the sum of incremental drawdown(s) from the current test well(s) and test well(s) from previously approved hydrological studies:

1) amounts to more than 10-percent of the maximum available water column at a hydrologically contiguous well.

The cumulative effect is based on the calculated drawdown using:

1) the aquifer parameters computed for each well when the well was tested,

2) the aquifer conditions for the current test,

3) the pump rate for the drawdown calculation for each test well that is equivalent to their approved allotment, and

4) a three day pumping period for the calculation.

This analysis assumes that adjacent wells or wells within the radius of influence operate under similar hydrogeologic conditions and physical characteristics as the pumped well, unless evidence to the contrary is available. If more than one well is proposed; it must be demonstrated by calculations, or by actual pump testing, that the cumulative drawdown effect from all wells will be less than 10-percent of the available water column at adjacent wells or wells within the radius of influence.

b) Pump Test Results. Aquifer drawdown at all wells within the radius of influence of the production well in the study area shall be reported or computed for conditions during pump testing. Various procedures for computing drawdown and the zone of influence of the pumping well are provided in Appendix A of the Mendocino County Coastal Groundwater Development Guidelines, 1989.

c) Projected Drawdown. The projected drawdown effect on the aquifer and the adjacent wells should also be estimated for the following conditions: 1)

maximum day water use demand, 2) 90-day dry weather conditions, and 3) 180-day drought conditions.

4. Regional Aquifer Impact

To evaluate the regional impact on the aquifer, the expected annual pumpage of the well should be computed. If the well penetrates a terrace aquifer, compare the annual well pumpage amount to the storage capacity of the local aquifer and annual recharge as estimated from water balance calculations. Refer to the Groundwater Modeling Study of the Mendocino Headlands (Questa Engineering and ETIC, June 2004) for additional background information. The Regional Aquifer Impact determination is for informational purposes and for use by MCCSD in further developing and implementing a groundwater management plan, and will not be the basis for issuing the groundwater extraction permit.

- **Mitigation of Adverse Effect And Adverse Cumulative Effect**

Mitigation measures that eliminate adverse effects and adverse cumulative effects on hydrologically contiguous wells shall be included in the hydrological study.

- **Conclusions**

Conclusions should include: 1) comparison of the estimated water allotment for the proposed development and the well capacity used to establish proof of an adequate water supply for the development; 2) summary of effects on hydrologically contiguous wells; and, 3) comparison of annual well pumpage and storage capacity of the aquifer to assess the impact of the well on available groundwater supply.

- **Appendices**

Appendices should include all relevant pump test data and well logs, as well as letters or other communications from nearby well owners, and written responses.

Peer Review of Hydrological Studies

The District shall refer the hydrological study to an approved hydrologist for review. This review shall include, but not be limited to, consideration of adherence to testing conventions, completeness of data, adequacy of the groundwater supply for the proposed

development or change in use, cumulative impact on the District's groundwater resources, and any reported adverse effects and adverse cumulative effects to hydrologically contiguous wells. The applicant shall pay a fee as determined by the Board to cover the cost of such review. The hydrological review and the initial study shall then be submitted to the Board for consideration.

REFERENCES

1. Calif. Dept of Water Resources (DWR) Town of Mendocino Groundwater Study, June 1985, 53 pp
2. Driscoll, F. G., Groundwater and Wells, 1995.
3. Questa Engineering Corp., Mendocino County Coastal Groundwater Development Guidelines,1989
4. Questa Engineering Corp. and ETIC, Inc. Groundwater Modeling Study of the Mendocino Headlands, Mendocino, Calif., Consultant Report prepared for MCCSD. June 2004
5. Todd, David Keith, Groundwater Hydrology, 1980 2nd edition, John Wiley & Sons, New York, 535p.

Appendix B

DEFINITIONS

ADEQUATE WATER SUPPLY: Sufficient quantities of water to support proposed uses and to maintain contiguous and surrounding uses. Adequate water supply is 2.5 times the daily water use allotment established by this Ordinance for the project involved.

ADJACENT: Any real property parcels that shares a common border with an applicant's parcel and all surrounding parcels that are separated by a road or easement.

ADVERSE CUMULATIVE EFFECT: An adverse cumulative effect will be considered to occur when the sum of incremental drawdown(s) from the current test well(s) and test well(s) from previously approved hydrological studies:

1) amounts to more than 10-percent of the maximum available water column at a hydrologically contiguous well.

The cumulative effect is based on the calculated drawdown using:

1) the aquifer parameters computed for each well when the well was tested,
2) the aquifer conditions for the current test,
3) the pump rate for the drawdown calculation for each test well that is equivalent to their approved allotment.
4) a three day pumping period for the calculation.

ADVERSE EFFECT: An adverse effect on the water table or aquifer shall be considered to occur if the pump rate during the aquifer test results in an aquifer drawdown at the well of an adjacent property or at a well within the radius of influence which amounts to more than 10-percent of the available water column at such well.

ALLOTMENT: The maximum amount of water an applicant is permitted to extract on a daily basis, as averaged over a thirty-day (30-day) period.

APPLICANT: Any person as defined herein who applies for a Groundwater Extraction Permit.

AQUIFER: A saturated bed, formation, or group of formations or strata, which yields water in sufficient quantity to be economically useful.

AQUIFER PUMP TEST: Physical testing for evaluation of an aquifer to determine the existence of an adequate water supply and to provide data for the hydrological study. Test to be conducted during Hydrological Testing Period.

BOARD: Mendocino City Community Services District Board of Directors.

CHANGE IN USE: Any change in use of the property to a different use category as defined in the Water Use Standard.

CHANGED CIRCUMSTANCE: A hydrological change that diminishes water availability within the boundaries of the Mendocino City Community Services District or any part therein.

CLEANING: Shall include removal of silt and other soft materials, but does not include removal of rock or rock materials.

CONE OF DEPRESSION: The depression, roughly conical in shape, produced in a water table by the extraction of water from a well at a given rate. The volume of the cone varies with the rate and duration of withdrawal of water.

CUMULATIVE EFFECTS: The sum of incremental drawdown effects by the test well(s) and by previous aquifer pumps tests performed for hydrological studies for granted Groundwater Extraction Permit Approval(s) on a hydrologically contiguous well.

DEPLETE: The lowering of groundwater levels in an aquifer to the point where there is no longer an adequate water supply for existing uses.

DISTRICT: Mendocino City Community Services District (MCCSD)

EMERGENCY: A sudden, generally unexpected occurrence or set of circumstances demanding immediate action.

EXPANSION OF EXISTING USE: Any increase in water usage by action other than New Development or Change of Use.

GROUNDWATER: That part of the subsurface water which is the zone of saturation, including underground streams.

HYDROLOGY: The science that deals with continental water (both liquid and solid), its properties, circulation, and distribution, on and under the Earth's surface and in the atmosphere, from the moment of its precipitation until it is returned to the atmosphere through evapotranspiration or is discharged into the ocean.

HYDROLOGIST: A Registered Geologist, a Certified Engineering Geologist, a Registered Hydrologist, or a Registered Civil Engineer with a minimum of five (5) years of experience in groundwater hydrology and hydrological studies.

HYDROLOGICALLY CONTIGUOUS WELL: Any well serving a contiguous or surrounding property where such well is hydraulically connected to the pumping well where there is a reasonable expectation of well interference during the aquifer test or increase in water extraction.

HYDROLOGICAL STUDY: A study of the hydrology of a defined area.

HYDROLOGICAL TESTING PERIOD: The hydrological testing period will commence on August 20 of any given year and will terminate when 6 inches of rainfall has been recorded beginning August 1st of the same year, as measured on the Community Services District's rain gauge. After December 31st, if 6 inches of rainfall has not been recorded, the testing period will be extended and will terminate when 7 inches of rain has fallen since August 1st of the prior year. After January 31st, if 7 inches has not been recorded, additional extension will allow hydrological testing until 8 inches has fallen as measured from August 1st of the prior year. After February 28th, termination of the testing period will occur when 9 inches of rain has fallen or March 31st, whichever comes first. During the defined testing period, no hydrological testing will be allowed for 5 consecutive days following a recorded rainfall of 1 inch or more. Testing may be resumed after the 5-day waiting period, provided that the total rainfall has not exceeded the above-defined limits of the hydrological test period. The hydrological test period as defined may be modified by Board action in case of unusual rainfall patterns.

LIMITED INCREASE: A limited increase is the quantity of water required for "new development", "change in use", or "expansion of existing use", as defined by the Water Use Standard adopted by the Board. A limited increase is determined by the increased water demand for the proposed project. As calculated from the Water Use Standard, a limited increase shall not exceed:

1. 30% of an existing water demand that is less than or equal to 320 gallons per day.
2. 10% of an existing water demand that is greater than 320 gallons per day.

As a condition of approval for an exception to the hydrological study requirement, the applicant agrees not to exceed the water use allotment for the current existing use. A limited increase only applies to Section 4(b) of the ordinance. Following the issuance of a Groundwater Extraction Permit under Section 4(b) Exceptions to Hydrological Study Requirements, future "new development", "change in use", or "expansion of existing use", which result in a limited increase in water demand, may require approval of a Hydrological Study prior to issuance of a new Groundwater Extraction Permit to review the effect that incremental development may have on adjacent wells or the aquifer.

MINOR REPAIR AND MAINTENANCE: Repair and maintenance to the existing well structure or equipment. Minor repair and maintenance does not include deepening the well or replacing the casing in the well. Minor repair and maintenance includes painting or minor repairs to structures, replacement of windows, floor coverings, and interior and exterior siding, and repair and replacement of roofs. Construction of a foundation under an existing structure is not considered minor repair and maintenance.

NEW DEVELOPMENT: Development of any new water source, division of an existing parcel, or any project, which requires a building or use permit according to Mendocino County regulations.

PERSON: Includes any state or local governmental agency, private corporation, partnership, individual, group of individuals, owner(s) or developer(s) of a property subdivision, or, to the extent authorized by law, any federal agency.

RADIUS OF INFLUENCE: Is the horizontal distance from the center of a pumping well to the limit of the cone of depression.

SAFE YIELD: The maximum quantity of water that is allotted in the Groundwater Extraction Permit Water Use Standard for the proposed development, which can be withdrawn from an aquifer without causing an undesirable effect.

SUSTAINED YIELD: Is the maximum pumping rate that a pump can remove water from a well without lowering the water level in the well below the pump intake. A sustained yield in a well exists when drawdown stabilizes and equilibrium conditions are achieved during the aquifer test.

WATER DEMAND: Is the quantity of water use calculated from the Water Use Standard for all uses on a parcel. Existing allotments may be greater than or less than the parcel water demand.

WATER METER: Any water-measuring device or any other reasonable method used to accurately measure groundwater extraction that is approved by the District.

Appendix C Water Use Standard

1-2 Bedroom Residential ESD = 200 gal/day

Category number	User Category	ESD/Unit	Gal/Unit	Unit Description
	Residential:			
1	Residence w/ 1-2 bedrooms	1.0	200	gal/d per 1-2 bdr. residence
	Each additional bedroom	0.3	60	gal/d per additional bedroom
2	Apartment	1.0	200	gal/d per 1-2 bdr. residence
3	Guest Cottage	0.5	100	gal/d per unit
	Commercial Visitor Accommodation:			
4	Sleeping Unit	0.6	120	gal/d per unit
5	Vac. Home or Single Unit Rental	1.0	200	gal/d per 1-2 bdr unit
	Each additional bedroom	0.3	60	gal/d per additional bedroom
	Inns, Hotels, B&B's, Motel			
6	Dwelling Unit, w/ kit.	0.8	160	gal/d per unit
7	Dwelling Unit, w/ kit., laundry	1.0	200	gal/d per unit
8	Sleeping Unit w/o kit.	0.6	120	gal/d per unit
9	Sleeping Unit w/o kit., laundry	0.8	160	gal/d per unit
	Commercial Business:			
	Cottage Ind./Home Occupation			
10	Residence	1.0	200	gal/d per residence
11	Business Portion of Residence	0.00075	0.15	gal/d/ft^2
12	**Retail Store/Gallery/Office**	0.00075	0.15	gal/ft^2 work or display area
13	**Library**	1.0	200	gal/d per unit
	Food and Beverage Establishments			
14	Full Service w/ bar	0.017	3.4	gal/d/ft^2 dining area
15	Full Service w/o bar	0.0145	2.9	gal/d/ft^2 dining area
16	No Service, w/seats, no dish washing	0.0105	2.1	gal/d/ft^2 dining area
17	No On-Premise Consumption	0.0105	2.1	gal/d/ft^2 work area
	Bar			
18	Bar area, per linear foot	0.0335	6.7	gal/d/linear ft of bar
19	Patron area	0.007	1.4	gal/d/ft^2 patron area
20	**Laundromat**	2	400	gal/d/machine
21	**Service Station/Garage**	5.0	1,000	gal/d/service station
22	**Grocery Store**	0.001	0.2	gal/d/ft^2 display & work area

Appendix C Water Use Standard

Category number	User Category	ESD/Unit	Gal/Unit	Unit Description
	Commercial Business:			
	Churches			
23	Church w/ kit.	0.025	5	gal/d/seat
24	Church w/o kit.	0.015	3	gal/d/seat
25	**Hall/ Auditorium**	0.015	3	gal/d/seat
26	**Theater**	0.025	5	gal/d/seat
	School:			
27	**Rainbow School**	0.075	15	gal/d/student
28	**Government Office/ Building**	0.00075	0.15	gal/d/ft^2 office or work area
	Personal Services			
29	**Hair Salons**	0.005	1	gal/d/ft^2 work area
30	**Hot Tubs**	0.0075	1.5	gal/d/ft^2 work area
	Miscellaneous:			
31				
32	**Ballpark**	4	800	gal/d per unit
33	**Mendo. Coast Park & Rec.**	0.00075	0.15	gal/d/ft^2
34	**Headlands State Park**	10.00	2,000	gal/d
35	**MFPD Station**	1	200	gal/d per station
36	**Veterinary Clinic**	0.0039	0.77	gal/d/ft^2

Other uses not defined herein shall be determined by the Board of Directors.

Appendix D
Water Use Standard Definitions

Additional Residence shall mean occupancy, by non-transient residents, of a second dwelling unit on a parcel, attached to or detached from the primary residence or commercial business, with provisions for, sleeping, eating, cooking, and sanitation. Typical uses include an apartment or studio.

Bar shall mean an establishment or place of business primarily engaged in the sale of prepared food or beverages for on premises consumption.

Bed & Breakfast shall mean any building or portion thereof or group of buildings containing no more than four (4) dwelling units or sleeping units, which are designed or intended to be used, let, or hired out for occupancy by transient guests for compensation or profit, with the express permission of the owner, wherein breakfast may be provided for compensation or profit.

Cottage Industry shall mean a secondary use of a parcel containing a Single Family Residence, which is the primary residence of the owner or operator of the Cottage Industry. No Cottage Industry may occupy more than 640 square feet of area within any building or buildings on the same parcel and not more than 10 customers or clients shall come to the parcel for service or products during any one-day. Specific standards are:

1. Not more than one (1) outside person may be employed on the premises in addition to the members of the family residing on the premises;
2. The Cottage Industry shall be a secondary use of a parcel containing a Single Family Residence or Dwelling Unit as a principal residence of the owner or operator of the Cottage Industry.
3. No Cottage Industry permitted pursuant to the Ordinance may occupy more than 640 square feet of area within any building or buildings on the same parcel.
4. Not more than ten (10) customers or clients shall come to the residence for service or products during any one-day.

Detached Bedroom shall mean a separate incidental structure containing one (1) room only without a kitchen or sanitation facilities, designed for and intended to be used as a sleeping or living facility for family members to be used in conjunction with a main structure which includes kitchen and sanitation facilities. A detached bedroom shall be located no farther than one hundred fifty (150) feet from the main structure, and shall not exceed five hundred (500) square feet of floor area.

Dwelling Unit shall mean a living space, which provides independent living facilities for one or more persons, including provisions for sleeping, eating, cooking, and sanitation.

Equivalent Single-Family Dwelling (ESD) shall mean a 1-2 bedroom single-family residence in the District's with a water demand of 200 gallons per day or one ESD.

Food and Beverage Establishments shall mean:

1) Full Service w/ Bar: Eating and drinking establishments or places of business engaged in the sale of prepared food and beverages for on-premise consumption with a bar and full service.
2) Full Service w/o Bar: Eating and drinking establishments or places of business engaged in the sale of prepared food and beverages for on-premise consumption without a bar and with full service.
3) No Service: Eating and drinking establishments or places of business engaged in the sale of prepared food and beverages for on-premise consumption with seating and no dish washing and no service.
4) No On-Premise Consumption: Eating and drinking establishments or places of business engaged in the sale of prepared food and beverages, and which no consumption of the product occurs on the premises.

Gallery shall mean an establishment that engages in the retail sale of art or specialty items.

Guest Cottage shall mean a living space without provisions for cooking, with provisions for sleeping, and sanitation, and where the person or persons are guest(s) of the regular occupants of the primary residence. Living space shall be restricted to 640 sq. ft.

Home Occupation shall mean an accessory use within a Single Family Residence for gainful employment, which involves the manufacture, provision or sale of goods and /or services, where such uses are clearly incidental and secondary to the use of the Single Family Residence for residential purposes, and must not change the character thereof, or adversely affect the residential or rural nature of its surroundings. Specific Standards are:

1. No person other than members of the family residing on the premises shall be engaged in such occupation;
2. No additional water or sewer demands will be created by the use;
3. The Home Occupation shall be incidental and subordinate to its use for residential purposes and not more than 25 % of the floor area of the residence shall be used for such occupation. Use of any accessory building or garage for these purposes shall be prohibited.
4. No more than ten (10) customers or clients shall come to the residence for service or products in any one-day.

Hotel shall mean any building or portion thereof containing five (5) or more dwelling units or sleeping units each used, designed or intended to be used, let or hired out for occupancy by transient guests for compensation or profit wherein meals may be provided for compensation or profit.

Inn shall mean any building or portion thereof or group of buildings containing five (5) or more dwelling units or sleeping units each used, designed or intended to be used, let or hired out for occupancy by transient guests for compensation or profit, and where regular meals may be provided for compensation or profit.

Motel shall mean any building or portion thereof or group of buildings containing five (5) or more dwelling units or sleeping units where such units are directly accessible from an outdoor parking area and where each is used, designed or intended to be used, let or hired out for occupancy by transient guests for compensation or profit.

Office shall mean private firms or organizations, which are primarily used for the provision of professional, executive, management, or administrative services.

Personal Services shall mean an establishment or place of business primarily engaged in the provision of services of a personal nature. Typical uses include: beauty salon, barbershop, massages studio, or dance studio.

Retail Store shall mean a business that is engaged in the sale or rental of commonly used goods and merchandise for personal or household use.

Single Family Residence shall mean the occupancy of the primary residential unit of a parcel on a non-transient basis, and the dwelling unit shall provide provisions for sleeping, eating, cooking, and sanitation.

Single Unit Rental shall mean the rental of an attached or detached structure (not the primary residence or business) on a parcel for Visitor Accommodations for transient guests for compensation or profit (30 days or less), and shall provide provisions for sleeping, sanitation, and with eating and cooking.

Sleeping Unit shall mean a living space, which provides living facilities for one or more persons, but does not include provisions for cooking and eating within the unit.

Vacation Home Rental shall mean the rental of Single Family Residence for 30 days or less where the only use on the property is for Visitor Accommodations, to be let or hired as an entire unit for occupancy by transient guests for compensation or profit, and limited to one unit per parcel.

Veterinary Clinic shall mean an establishment or place of business primarily engaged in the provision of medical, diagnostic, surgical, dental, and therapeutic services to pet, companion, domestic, exotic, wildlife, and livestock animals.

Visitor Accommodations shall mean establishments engaged in the provision of lodging services on a less than monthly basis, which may provide incidental food and drink intended for the convenience of the guests.

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