

2021 Annual Water Source Capacity Report

Prepared for:
Garberville Sanitary District
Board of Directors
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HISTORY OF WATER SOURCES

In 2004 the Garberville Sanitary District (GSD) purchased the Garberville Water Company (GWC) from the Hurlbutt family. The GWC had a number of historical water sources which included:

- South Fork Eel River (SFER) Diversion
- Tobin Well
- Miller Well
- Unnamed Stream

In addition to these GWC water sources, GSD had the right to use water from an unnamed creek on Brisbin's property for the wastewater treatment plant. The right to this water source was relinquished as part of the lot line adjustment agreement for the acquisition of the new primary pond at the wastewater plant.

When the purchase of GWC was completed, only the South Fork Eel River diversion, Tobin well, and Miller well was transferred to GSD.

In recent history the GSD has used the water from the SFER and Tobin well. Some effort has been made to clean out the well casing on the Miller Street Well, but no water has been pumped from this well in the past 10 years.

INFRASTRUCTURE OF WATER SOURCES

The **South Fork of the Eel River Infiltration Gallery** provides collection of the main water source. It was originally installed in 1940. According to the December 1977 Engineering Report prepared by State of California - Health & Welfare Agency, Department of Public Health, Associate Sanitary Engineer Eugene W. Parham: *"Water is obtained through an infiltration gallery in a gravel bar on the west side of the river. Infiltration is through 640 feet of perforated 8-inch diameter metal pipe, buried approximately 6 feet below the low water level. In 1966 the infiltration works capacity increased with the installation of two 8-inch infiltration laterals 260 feet long. Collected water flows to a 3-foot diameter concrete collection chamber 12-feet in depth. From the collection chamber bottom, an 8-inch double strength steel pipe equipped with a single check valve leads to two submersible pumps on the east side of the river. The submersible pumps are housed in a concrete-shielded CMP, 30 feet deep and 4 feet in diameter."* As part of the 2015 Improvement Project, the 4' diameter corrugated metal pipe on the east side of the river was extended to 55 feet high to place the top outside of the river flow for a 100-year flood event. The two 25-HP submersible pumps in the 4' CMP supply up to 350 GPM to the system. The pump discharges to a 6" raw water pipeline that transports the raw water to the new surface water treatment plant (SWTP) on Tooby Ranch Road.

The **SWTP** consists of flocculation, direct filtration, chlorination, and finished water pumping system. The water treatment plant utilizes Catfloc L Polymer as a coagulant and filter aid. The polymer is injected into the raw water line prior to entering the flocculation basin located upstream of the filters. The baffled flocculation tank is 5,500 gallons, 8 feet in diameter and 14 feet straight shell length, 150 psi pressure tank.

The filtration system is a duplex Loprest model and generally consists of two 108" diameter x 72" straight shell length, 150 psi pressure tanks with 18" filter sand and 12" anthracite with two grades media support gravel and associated piping, valves, controls, and accessories. The filtrations

system requires occasional backwash of the filter medium. The spent backwash water is stored in a 35,000-gallon, 18 feet diameter by 18 feet side water depth with overall height of 22 feet, steel welded storage tank. The clearwater from the backwash storage tank will be recycled back into the treatment plant system and the sediment will periodically be pumped from the tank and disposed of by the pumping company. The backwash recycling pump allows the clearwater from the storage tank to be pumped back into the treatment plant.

The water is chlorinated using liquid sodium hypochlorite. The liquid sodium hypochlorite can be injected prior to flocculation and after the water has been filtered. After the sodium hypochlorite is injected, the chlorination detention time must be satisfied prior to the water being used. Originally the SWTP was constructed with an underground chlorine contact chamber of 30" serpentine pipe. That pipe failed in Nov. 2017 and had to be replaced. The construction of an above ground steel baffled pressure vessel was completed in 2018 to replace the underground chamber.

The finished water is pumped up Sprowel Creek Road, through town, and to the existing main storage tank on APN 032-211-012. These pumps are a duplex pumping system. The SWTP has a permanently mounted, diesel, 60 kW generator with a tank that will allow for 72 hours of continuous operation. This generator can power the entire SWTP facility during power outages.

Tobin Well is a groundwater source with a duplex pumping system with chlorination. According to the 1977 Engineering Report, "The Tobin Well was dug in 1931, and is used only as an emergency supply. It is about 45 feet deep with a 6-foot diameter concrete casing." From the January 25, 2013, report by SHN Engineers & Geologists entitled *Tobin Well Supplemental Project Report*, "The existing Tobin Well is located at 510 Pine Lane in Garberville, CA. The property is approximately 75 feet along Pine Lane and 150 feet deep. The well house is located along the front of the property with a storage building located at the rear of the property. The well is currently used to provide a backup water supply to the district during high turbidity events in the Eel River. The existing well produces approximately 45 GPM providing approximately 65,000 gallons per day. The well is housed in a 12-foot x 15-foot pump house. The existing pressure tank is functional but shows heavy signs of corrosion. The well is a 5-foot diameter well approximately 45 feet in depth with a concrete landing approximately 24 feet below the existing ground surface. The concrete landing has a 24-inch square access hatch. It appears the well draws water from an unconfined aquifer. Disinfection is provided through a chlorine drip into the well to provide a .5 to 1.0 mg/1 dose of sodium hypochlorite. The District's operations staff has conducted drawdown tests with the existing 45 gpm pump. After 12 hours of continuous pumping, the well stabilized at a depth of 36.4 with a drawdown of approximately 6 feet. The well reached a 95 percent recovery five hours after the pumps were turned off."

In 2014 the District installed duplex variable speed pumps sized to pump up to 100 gallons per minute (gpm) with level control. The specifics on the pumps are: Goulds model 95L07, 6" diameter, 5-stage submersible pump rated approximately 100 GPM @ 173' TDH, driven by a 7.5 HP, 3/60/230-volt motor. Pump has a 3" NPT discharge. The pumps can be controlled by the water level in the well and can vary the pump's output to maintain a preset water surface. The controller is a Goulds model CPC20311 Aquavar variable speed controller, 30.8-amp output with a Goulds model 9K396 submersible pressure transducer, 7.5 PSI with 100' cable. Most times this automation is not used since the cycle times for automated pumping are too short.

Miller Well is a groundwater source with no pumping system and is not currently operational. The Miller Street well is thirty-two feet deep with a water depth of fifteen feet. The well is 48" in diameter. In March of 2015 the water was tested and is safe for human consumption.

The existing system has adequate production, treatment, and storage capacities for the average peak daily demand. The maximum daily demand is 427,780 gpd recorded during the month of July in 1999. The total storage capacity for the system is approximately 500,000 gallons which is the sum of the four storage tanks in the system. This is sufficient to meet the average dry day water demand. The water treatment facility produces water that meets or exceeds the State regulations for drinking water and the Surface Water Treatment Regulations. The turbidity and residual free chlorine levels comply with the maximum allowable levels. The existing system provides four pressure zones with adequate pressure throughout the District.

EXCERPTS FROM SWRCB AND CDFG AFFECTING DIVERSION

The District holds a water diversion permit from the State Water Resources Control Board for appropriation of water from the South Fork of the Eel River. The permit is number 20789. This permit allows the District to divert a maximum of 0.595 cubic feet per second (267 gpm) from the river, year-round. The District also has a fixed license that allows the District to divert an additional 0.155 cfs. The total maximum instantaneous diversion allowed is 0.75 cfs (336 gpm). This would equate to a maximum daily diversion of approximately 484,700 gallons and 177 million gallons per year. Both documents were amended as of October 11, 2013, and can be found in Appendix A. In September 2019 the District submitted a Petition for Change in Place of Use to add portions of the Southern Humboldt Community Park property. This petition is in the process for approval at the State Water Resources Control Board, but has not been approved as of December 31, 2021. In addition, GSD executed a Lake and Streambed Alteration Agreement with the California Department of Fish and Game dated June 26, 2012. This document can be found in Appendix B.

Some specific terms of the License are:

*#5. The water appropriated under this right shall be limited to the quantity which can be beneficially used and shall not exceed **0.155 cubic foot per second** by direct diversion to be diverted from January 1 to December 31 of each year. The maximum amount diverted under this right shall not exceed **112.2 acre-feet per year**.*

*#6. The total quantity of water diverted under this right and the right pursuant to Application 29981 shall not exceed **542.2 acre-feet per year**.*

*#7. The maximum simultaneous rate of diversion under this right and the right pursuant to Application 29981 shall not exceed **0.75 cubic foot per second**.*

Some specific terms of the Permit are:

*#5. The water appropriated under this right shall be limited to the quantity which can be beneficially used and shall not exceed **0.595 cubic foot per second** by direct diversion to be diverted from January 1 to December 31 of each year. The maximum amount diverted under this right shall not exceed **430 acre-feet per year**.*

#8. Construction work and complete application of the water to the authorized use shall be prosecuted with reasonable diligence and completed by December 31, 1999.

Some of the terms of the DFG Agreement for the diversion are:

2.15 The Permittee shall not divert more than 0.75 cfs or 10% of the streamflow as measured at the USGS Gauge Station No. 11476500 at Miranda.

This Agreement shall expire five years from execution, unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. Permittee shall remain responsible for implementing any provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as FGC section 1605(a)(2) requires.

So, in summary, GSD is allowed to divert at a rate up to **336 GPM** (0.75 cfs) with a maximum of up to 176 million gallons per year (442.2 acre-feet per year) limited to the maximum amount diverted during the 5-year construction period ending December 31, 1999; which was **80 million gallons** in one year.

For assessment of the amount allowable under the SFER diversion, we use these 80 million gallons per year maximum annual diversion at a rate of up to 336 GPM. The new SWTP is capable of treating 350 GPM.

In November 2019 the SWRCB Division of Drinking Water issued a replacement Domestic Water Supply Permit. It is included in Appendix D.

DIVERSION TRENDS AND WATER SALES

To follow are two graphs summarizing the District's water diversions, metered customer sales, and bulk water sales. **Graph 1** depicts the annual diversions from the South Fork of the Eel River as reported to the SWRCB for the license plus the permit from 1977 to 2021. The average from 1977 to 2021 was **61,118,711** gallons per year. The average over the past 20 years was **59,954,081**. The average over the past 10 years was **57,855,561**. This 10-year average is lower than previous years in part because GSD implemented a new rate structure from 2009 - 2014 that increased rates and the District replaced the leaking Alderpoint Road Tank in 2014/15. A new rate structure was implemented effective August 1, 2020, which may impact the amount of water utilized by residential customers. Once the Robertson, Hurlbutt and Wallan storage tanks are replaced, the District will likely see an additional decrease in the annual diversion quantity.

Graph 2 depicts the 2011 - 2021 diversions, metered customer sales, and bulk water sales.

Table 1. Type and Number of Water Customer Accounts

Customer Type	Number of Accounts
Residential	289
Commercial	116
Other (master meters and GSD premises)	9
Irrigation	4
Multi-family/Mixed Use	44
Cannabis Cultivation	9
Vacant/Inactive	2
Total	473

PROJECTS APPROVED AND CONNECTED IN 2020

The following table lists various projects that have been approved by GSD within the last few years and were connected to the system during 2021. It details the type of development and the annual water consumed by those customers in 2021. These consumption amounts are already included in the total water sold and diverted for 2021. These project locations are illustrated in dark blue on Figure 1A and 1B in Attachment 1.

Table 2. Approved Projects that were Connected in 2021

APN	Description	Actual 2021 Water Consumption (Gallon/year)	Conn Fee Paid?	In IS/MND?
032-011-029	Humboldt County Mini-Complex	12,716	N/A	Existing
222-156-019	Ag Meter - Connolly	145,672	Yes	Y
222-156-019	SFR - Connolly	70,500	N/A	Y
223-171-001	Jomra Kan - Expansion + Ag Meter	50,116	Yes	Y
	Total for Table	279,004		

CANNABIS

In November 2016, California voters approved the Adult Use of Marijuana Act (Proposition 64) to legalize the recreational use of cannabis. As a result of recreational legalization, local governments (city and county) may not prohibit adults from growing, using, or transporting marijuana for personal use. The creation of rules and regulations from Prop 64 have been forthcoming over the past 4 years and continue to be updated at the state and county levels.

The District has been proactive in its efforts to put policies into place. In January 2018, GSD's Board adopted an ordinance for cannabis cultivation as Section 15.9 Commercial Agricultural Water Use. It can be found in Appendix I.

In 2018 the District contacted all the residential accounts that had high water use to determine if cannabis was being cultivated and notifying them that purchasing a second meter for their parcel was necessary. One meter for residential consumption and one meter for the cultivation of cannabis. A number of these customers came in and applied for an agricultural meter. Some no longer cultivate cannabis and some never did, they just have larger lots that are landscaped.

The District has continued to work with property owners to issue will serve letters for properties within the District's Place of Use that desired to obtain an ag meter for the water supply of their commercial cannabis enterprise and to document the approximate area on each parcel being used for cultivation of cannabis.

In June 2020 the District adopted a new rate structure that added a third tier to the residential rates for excessive water users. The charge per unit for this third tier of water is \$11, in contrast to tier 1 costing \$1 and Tier 2 at \$3 per unit. When a property owner installs an ag meter, it is a commercial account and is charged under the commercial rates which are \$3 per unit for Tier 1 and \$2.75 per unit for Tier 2. There is a significant financial incentive for residential customers irrigating cannabis to obtain an ag meter which allows the District to account for the portion of water within the District is being used for this business.

The following 9 APNs have an ag meter issued for them as of **December 31, 2021**: 032-171-027, 223-191-008, 223-171-001, 223-171-002, 223-171-003, 222-156-014, 222-156-016, 222-156-018, and 222-156-019. The water delivered through these meters is tallied separately and reported on the District's annual report for the License and Permit diversions. In calendar year 2021 they were billed for a total of 1,051,688 gallons. There are four additional APNs (223-191-002, 223-191-010, 223-191-005, and 222-156-015) that are approved for an ag meter but the meter has not been set because the permit or construction process is incomplete.

The District continues to identify any Tier 3 residential water users that could potentially be cultivating cannabis, and inform the current property owner of the District's policy requiring an ag meter for cannabis. We also respond to any County referrals related to cannabis with the requirement that the property owner obtain the necessary meter for commercial cannabis operations.

Humboldt County has progressively adopted numerous ordinances related to cannabis and is responsible for enforcement of them. They are summarized as:

2020 Amendments to Streamline Permitting for Small Farmers, Establish Personal Use Allowances for Large Parcels, and Financial Security

The Board of Supervisors adopted the following on October 6, 2020.

- Small Cultivator Ordinance 2652
- Personal Use Ordinance 2653
- Financial Security Ordinance 2655 Part1
- Financial Security Ordinance 2654 Part 2

Phase I / II - Indoor / Outdoor Personal Use Cultivation

- Ord No. 2523 - Indoor/Outdoor Personal Use Cultivation
- Phase II Outdoor Cultivation - Summary Chart

Phase III - Dispensaries

- Ord. No. 2554 Adopted by Board of Supervisors July 19, 2016

Phase IV - Commercial Medical Marijuana Land Use Ordinance (CMMLUO)

Adopted by the Board of Supervisors on September 13, 2016 - often referred to as “Ordinance 1.0”

- Ord No. 2559 - Adopted by Board of Supervisors September 13, 2016
- Ord No. 2559 with comparison language with Ord No. 2544
- Resolution No. 16-14 - CMMLUO
- Final Mitigated Negative Declaration - CMMLUO
- Notice of Determination - CMMLUO
- Ord. No. 2583 - Adopted by Board of Supervisors October 17, 2017
- Resolution No. 17-84 - CMMLUO

Commercial Cannabis Land Use Ordinance (CCLUO)

Adopted by the Board of Supervisors on May 8, 2018 - often referred to as “Ordinance 2.0”

- Ord. No. 2598 - CCLUO [coastal zone] certified copy - not yet effective, Certification by Coastal Commission pending
- Ord. No. 2599 - CCLUO [inland] certified copy
- Ord. No. 2600 - 45-day moratorium in areas of Yurok Traditional Tribal Cultural Affiliation
- Resolution 18-43 Countywide Permit Cap - watershed-specific caps on total permits and acreage of cultivation which may be authorized
- Resolution 18-40 Certifying Final EIR
- Notice of Exemption - CCLUO [coastal zone] for Ord. No. 2598, filed May 8th, 2018
- Notice of Determination - CCLUO [inland] for Ord. No 2599, filed May 8th, 2018
- Ord. No. 2638 -- Repeal and Replace Existing Personal Use Ordinance #2523, Coastal Zone Only-not yet effective, Certification by Coastal Commission pending
- Ord. 2639 -- Repeal and Replace Existing Cannabis Dispensaries Ordinance #2554, Coastal Zone Only - not yet effective, Certification by Coastal Commission pending

Interim Ordinances

- Ord. No. 2583 - Coastal Zone Commercial Cannabis Prohibition - Adopted October 17, 2017
- Notice of Exemption - Ord. No. 2583
- Ord. No. 2586 - Extending Duration of Ord. No. 2583 for a total of 2 years - Adopted November 14, 2017
- Ord. No. 2588 - Interim Adult Use Amendments & Interim Permitting - Adopted November 14, 2017
- Notice of Determination - Ord. No. 2588 (PDF)

The County has staffed a large department whose purpose is to identify and either permit or abate cannabis cultivators that were not in compliance with County Code.

In 2019 the **Waterboard** completed guidelines for Water Code section 13149(b)(2) which states that the Waterboard shall adopt principles and guidelines under this section as part of state policy for water quality control adopted pursuant to Article 3 (commencing with Section 13140) of Chapter 3 of Division 7. Water Code section 13142 that outlines specific requirements for a state policy for water quality control, which Cannabis Cultivation Policy Principles and Guidelines for Cannabis Cultivation adopted by the Waterboard on February 5, 2019 and was Approved by Office of Administrative Law on April 16, 2019. This document provided guidelines for the cultivation of cannabis and the definition of who had to acquire a license from the State.

These include:

- Commercial Recreational
- Commercial Medical
- Personal Use Medical

This Policy does not apply to recreational cannabis cultivation for personal use, which is limited to six plants under the Adult Use of Marijuana Act (Proposition 64, approved by voters in November 2016).

The Cannabis Policy states that *“instream flow Requirements and forbearance period listed in this section shall not apply to retail water suppliers, as defined in Section 13575 of the Water Code³², whose primary beneficial use is municipal or domestic, unless any of the following circumstances are present:*

- a. the retail water supplier has 10 or fewer customers and delivers water that is used for cannabis cultivation;*
- b. the retail water supplier delivers 10 percent or more of the diverted water to one or more cannabis cultivator(s) or cannabis cultivation site(s), as established by an assessor’s parcel number;*
- c. 25 percent or more of the water delivered by the retail water supplier is used for cannabis cultivation; or*
- d. a cannabis cultivator and the retail water supplier are affiliates, as defined in California Code of Regulations, title 23, section 2814.20.”*

Since none of these circumstances apply to GSD, we are categorized as a Retail Water Supplier. On the 2019 Annual diversion reports for our license and permit, the State began requiring the diversion holder to report on the amount of water being used for all irrigation purposes. We provide this information as required based upon the information in our records and any information that we can collect from the property owners.

2021 Report of Licensee

All cannabis diversions and acreages were included in the report for the License and none was placed in the permit.

Purpose of Use	
Municipal	1200
Special Use Categories	
Are you using any water diverted under this right for the cultivation of cannabis?	Yes
Total amount of water used under this water right for cannabis cultivation	2.8920 acre-feet
Total irrigated acreage of cannabis cultivated	51195 square feet
Amount of cannabis cultivated by lighting condition type	
Outdoor Cultivated Canopy Size	17395 square feet
Outdoor Total Number of Plants Harvested	8362
Outdoor Number of Harvests	
Indoor Cultivated Canopy Size	
Indoor Total Number of Plants Harvested	
Indoor Number of Harvests	
Mixed Light Cultivated Canopy Size	33800 square feet
Mixed Light Total Number of Plants Harvested	40400
Mixed Light Number of Harvests	
Irrigation methods that are used to cultivate cannabis	Hand water, Drip/micro spray irrigation
Is your cultivation of cannabis a commercial cannabis activity?	No

BULK WATER SALES

In December of 2012, the District received a Cease-and-Desist Order from the State Water Resources Control Board (see appendix F). The CDO in part required that the District “*cease and desist the bulk sale and delivery of water under its permit and license to areas outside the authorized place of use, unless the water is needed for emergency domestic water supply*”.

In an email from John O’Hagan, Manager of the SWRCB DWR Enforcement Unit dated Dec 03, 2012, responding to District staff inquiry on the definition of an “emergency domestic water supply” criteria, he states “*Our intent in providing an exception allowing for bulk water sales for Emergency Domestic Use is a limited and narrow exception available only in temporary circumstances where such deliveries are required for essential health and safety uses. State Water Board staff does not agree with your proposal to use the definition of Domestic use provided by section 660 of Title 23, California Code of Regulations to interpret the draft CDO. This section is the definition used by the State Water Board for a domestic beneficial uses of water when an applicant files for a water right permit. When referring to “emergency domestic”, the draft CDO was intentionally narrowing this broad definition of Domestic use down to the essential uses necessary to sustain human and animal life, and for the water necessary for sanitation. Uses for outside irrigation of lawns, gardens and landscaping, even if within ½ acre, would not be an emergency need of water.*”

In 2015, bulk water was sold to Cal FIRE to fill water tender type trucks out of the fire hydrant near their complex on Alderpoint Road to fight the Buck Fire on Alderpoint Road. This water was used directly on the fire and for the personnel housed as the Eel River Fire Base Camp just outside of our POU. We deemed this to be an emergency that met the criteria of the CDO.

In 2017, we sold bulk water for several emergency projects. In April 2017 a large slide covered all lanes of Hwy 101 and closed the road to southern Humboldt County. Caltrans issued an emergency contract for the work with Mendocino Construction Services as a subcontractor. MCS needed water for the work to be done at the site. We also sold bulk water to Cox & Cox and Mercer Frasier for the work on the Garberville Airport.

In 2018 a complaint was filed, the District supplied the requested documents, and the SWRCB notified the District that bulk water sales for construction were a violation of the CDO. The District issued a notice that all bulk water sales outside of the Place of Use would cease. For bulk water sales the applicant must show that the water will be beneficially used within the POU.

In November 2019, Ed Voice and Jessie Jeffries filed complaints with the SWRCB-DWR that the County of Humboldt was trucking water from their road maintenance yard facility’s existing long-standing commercial water account to an emergency road project on Old Briceland Road.

During 2020 the District was involved in confidential negotiations with the State Water Resources Control Board regarding a draft Administrative Civil Liability Complaint regarding the sale of bulk water to various state and county agencies for emergency projects as a violation of Cease-and-Desist Order WR 2012-0036-DWR. District Counsel headed the negotiations team, which eventually agreed to terms that are captured in the settlement agreement. ORDERS WR 2020-0104-EXEC approving the settlement agreement was signed on August 26, 2020. The 2020 order states,

“The Settling Parties have engaged in settlement negotiations and mutually agreed to settle the alleged violations. The Settlement Agreement represents a compromise of disputed claims.

Nothing contained in the Settlement Agreement shall be construed as an admission of fault or liability on the part of GSD."

The Settlement Agreement entered by the Garberville Sanitary District constitutes a resolution of disputed claims, not an admission of fault or liability on the part of GSD. Related to the Settlement:

1. The Bulk Water Sales which occurred after 2012, as alleged in the Water Board Settlement Documents and Draft Administrative Complaint, relate to assertions that GSD's sale of water to public entities/agencies constituted a violation of a restriction included in the 2012 Cease and Desist Order restricting bulk water sales only for "emergency domestic water supply".
2. GSD made several water sales to public agencies, including: (1) water supply to the California Department of Forestry to assist in firefighting efforts; (2) Contractors working for Caltrans on a slide on Highway 101, south of Garberville, to re-open the Highway in response to a Governor declared emergency; (3) water sales to the County of Humboldt through their existing commercial water meter that they used for the emergency repair of a failed culvert within Whitmore Grove on Briceland Road at PM 11.20 in accordance with the Local Emergency Proclamation for Briceland Thorn Road adopted by the Humboldt County Board of Supervisors in cooperation with California State Parks.
3. All of the bulk water sales were authorized by GSD based on the urgent and public safety needs identified with the sales. As alleged in the public Settlement Documents, the Water Board asserted that there was not "domestic use" component of the sales, and a violation was asserted.
4. Although the practice of all bulk water sales to government agencies to respond to health and safety related events has now stopped, GSD is petitioning the Water Board and seeking its assistance to expand the definition of "emergency use" in the 2012 CDO so it can make bulk water sales where necessary to respond to substantial public health events and/or imminent threats to public health and/or safety exist.

The date of the most recent bulk water sale was October 26, 2018. In January 2020, the District informed Humboldt County Public Works Department that even though they are a commercial water customer in GSD's Place of Use, they cannot fill water trucks from the standpipe at their Garberville Road Maintenance Yard and take the water outside of the GSD Place of Use. They were reminded again of the limitations on Sept 3, 2020.

The fine levied in the settlement agreement was \$40,000.

WATER LOSS

Water loss is a normal part of any water system. The US EPA, Office of Water. 2013. Drinking Water Infrastructure Needs Survey and Assessment: Fifth Report to Congress. EPA 816-R-13-006, states *“The US EPA’s fifth national assessment of public water system infrastructure needs documents a 20-year capital improvement need of over \$384 billion between 2011 and 2030.” They also state, “Lost water from aging infrastructure is also costing local governments and utilities lost revenue or unrecovered costs of production. Thus, taxpayer and ratepayer dollars are being wasted along with the commodity itself. A positive return on investment is almost certain for many systems, and tools are available for determining the economic level of loss for an individual water supply system - the level at which the cost of investing in water loss management is less than the value of the lost water.”*

Graph 3 shows water uses by calendar year including the amount of “lost” water within our water system each year. Lost water exists within every water system, although the magnitude of the loss varies with the age of the system. This lost water was reduced with the replacement of the Alderpoint Road Tank and has been reduced as we have identified specific sources of leaks and accounted for them.

EPA’s Document No EPA 816-F-13-002, dated July 2013, entitled “WATER AUDITS AND WATER LOSS CONTROL FOR PUBLIC WATER SYSTEMS” provides instructions and ideas for ways to identify unauthorized water consumption, leakage, by conducting a water audit of the system.

Some of the likely sources of the District’s lost water are:

- Inaccurate (old) meters that do not record the total water actually coming through the meter
- Leaking waterlines (from old joints) and broken waterlines (cracks/holes in the waterline itself) especially with the amount of old clay and transite waterlines in the District’s system
- Leakage from fire hydrants and valves
- Leakage and overflows from storage tanks
- Leakage from service connections (laterals) or service meters
- Unauthorized consumption (theft)
- systematic data handling errors in the meter reading and billing processes

The District has many miles of old waterline and replacement of this quantity of waterline for a small system is a massive undertaking. The District replaces sections as part of larger infrastructure projects. There are three older tanks in the system; one redwood tank and two in-ground concrete tanks. The District plans for eventual replacement of the three older tanks subject to funding availability.

In 2019, DWSRF planning phase funding applications were submitted for the replacement of the Wallan Road Tank and the Robertson Tank as well as rerouting the waterline over Bear Canyon. In 2021, the District also applied for replacement of the Hurlbutt Tank. In December 2021, the District received Proposition 68 Funding Agreement D2102010 for the Planning Phase work necessary to replace the Robertson, Wallan, and Hurlbutt Tanks (Attachment 3 contains reference documents). It will take two to three years to get through the preliminary engineering, CEQA, and final design efforts before we will be able to bid this project and begin construction. Ideally construction would begin the spring of 2025.

As a temporary measure, the District has been operating the Wallan Road Tank at a lower level to minimize the amount of water that leaks from the redwood tank during any months that it is operationally feasible.

During the July 2020 inspection of the Robertson Tank, Water Board staff observed the remains of a lizard and sediment in the bottom of the tank. A remediation plan was agreed to between Barry Sutter and Ralph Emerson, and the District began completing those items.

A Compliance Order was issued on August 28, 2020 by The Division of Drinking Water (Appendix H). The following Directives are included in the Compliance Order:

- “1. **By November 1, 2020**, remove all sediment from bottom of the Robertson Tank.*
- 2. **By December 31, 2020**, submit a design proposal for replacement of the Robertson Tank with either another tank or with the installation of a pressure reducing valve that complies with California Waterworks Standards.*
- 3. **By June 30, 2021**, construct a replacement tank or install a pressure reducing valve in accordance with the design proposal in Directive 1 above, and take the Robertson Tank offline permanently.*
- 4. Maintain all vegetation and grass to less than six inches of height within five feet of the tank.*
- 5. Inspect the exterior of the tank and access hatch for openings at least once per week. Seal all openings that are greater than 3/16" Dia. Look into the tank weekly via the access hatch and note any signs of animal intrusion or other signs of contamination. Records of the date and findings of each weekly inspection must be kept until the tank is replaced.*
- 6. If Garberville Sanitary District is unable to perform the tasks specified in this Order for any reason, whether within or beyond its control, and if Garberville Sanitary District notifies the Division in writing no less than thirty days in advance of the due date, the Division may extend the time for performance if Garberville Sanitary District demonstrates that it has made its best efforts to comply with the schedule and other requirements of this Order.”*

The District petitioned the Water Board to modify the order to postpone the deadlines recited in directives 2 and 3, which was granted. The new language for Directives #2 and 3 now reads:

- “2. **By January 31, 2022**, submit a design proposal for replacement of the Robertson Tank with either another tank or with the installation of a pressure reducing valve that complies with California Waterworks Standards.*
- 3. **By September 30, 2022**, construct a replacement tank or install a pressure reducing valve in accordance with the design proposal in Directive 2, and take the Robertson Tank offline permanently.”*

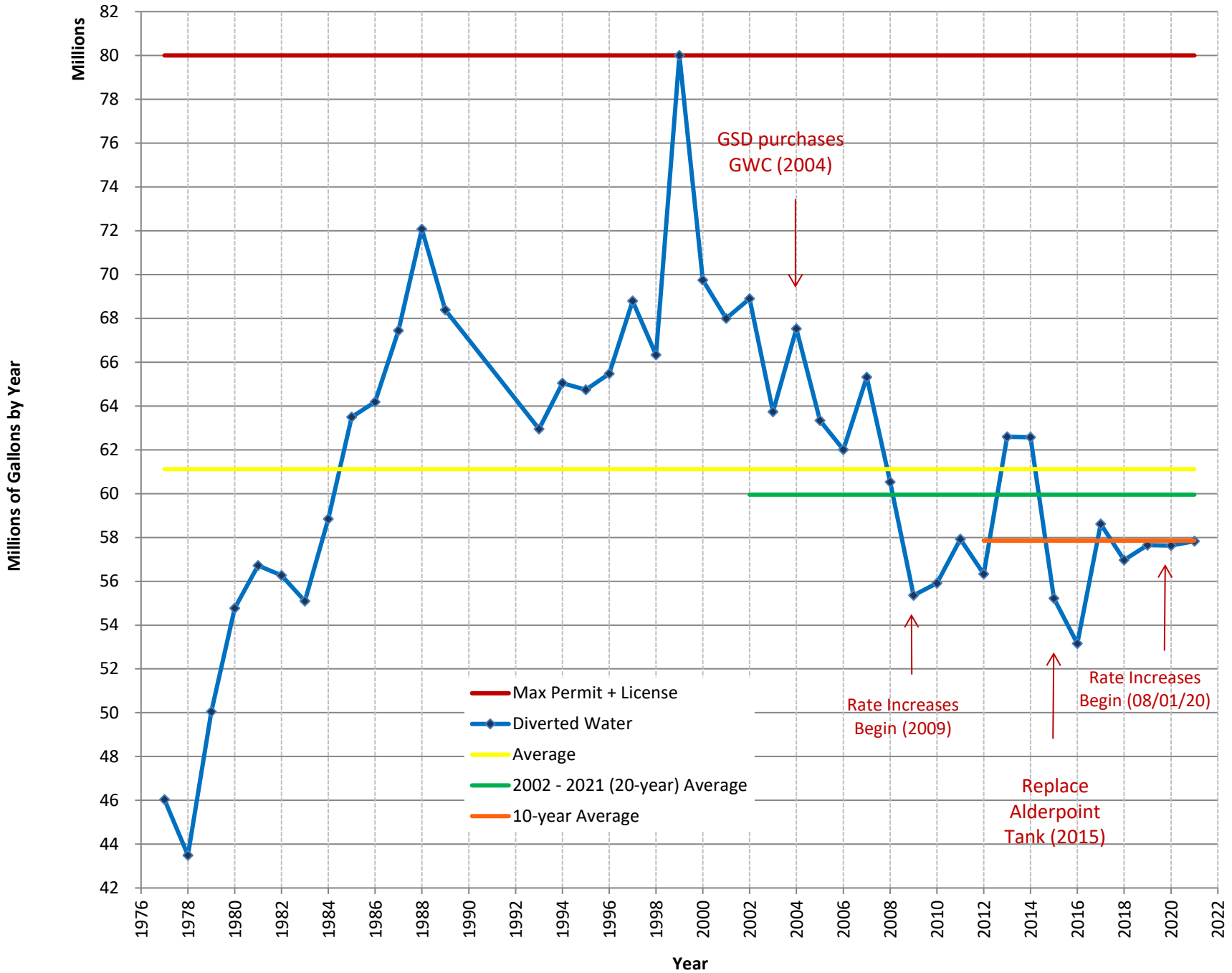
Directives #1, 4, and 5 were completed in 2020. Directives #4 and 5 are things that are and will continue to be completed by Operations Staff.

On or about August 26th, 2021, while performing the required weekly inspections, District Operations Staff found that a section of the tank near the intersection of the concrete wall with the ground to have been dislodged, likely due to seismic activity. Further inspection found that a crack around the circumference of the tank is also evident. Due to the drought conditions being experienced at that time, Operations Staff notified the customers served off the Robertson Tank and lowered the “tank full” floats to a level that is just below this crack to minimize the water pumped out of the river, being treated and distributed to this tank, and then leaking out on the ground. (Letter to DDW in Attachment 3)

In February 2022, the PRV has been installed and Robertson Tank has been taken offline (Letter to DDW in Attachment 3). As described above in the section on Lost Water, the District has received a Planning Phase grant to design a replacement tank for the Robertson Tank.

During 2021, the District replaced and repaired leaking waterlines as they were reported. In addition, thirty-six meters were replaced. Recordkeeping for unmetered water beneficially used was expanded to estimate the amounts leaking from each tank as the operational water levels were changed throughout the year. Some of these uses include identified waterline breaks, fires, fire hydrant exercising, hydro-jetting, WWTP water use, storage tank leaks, etc.

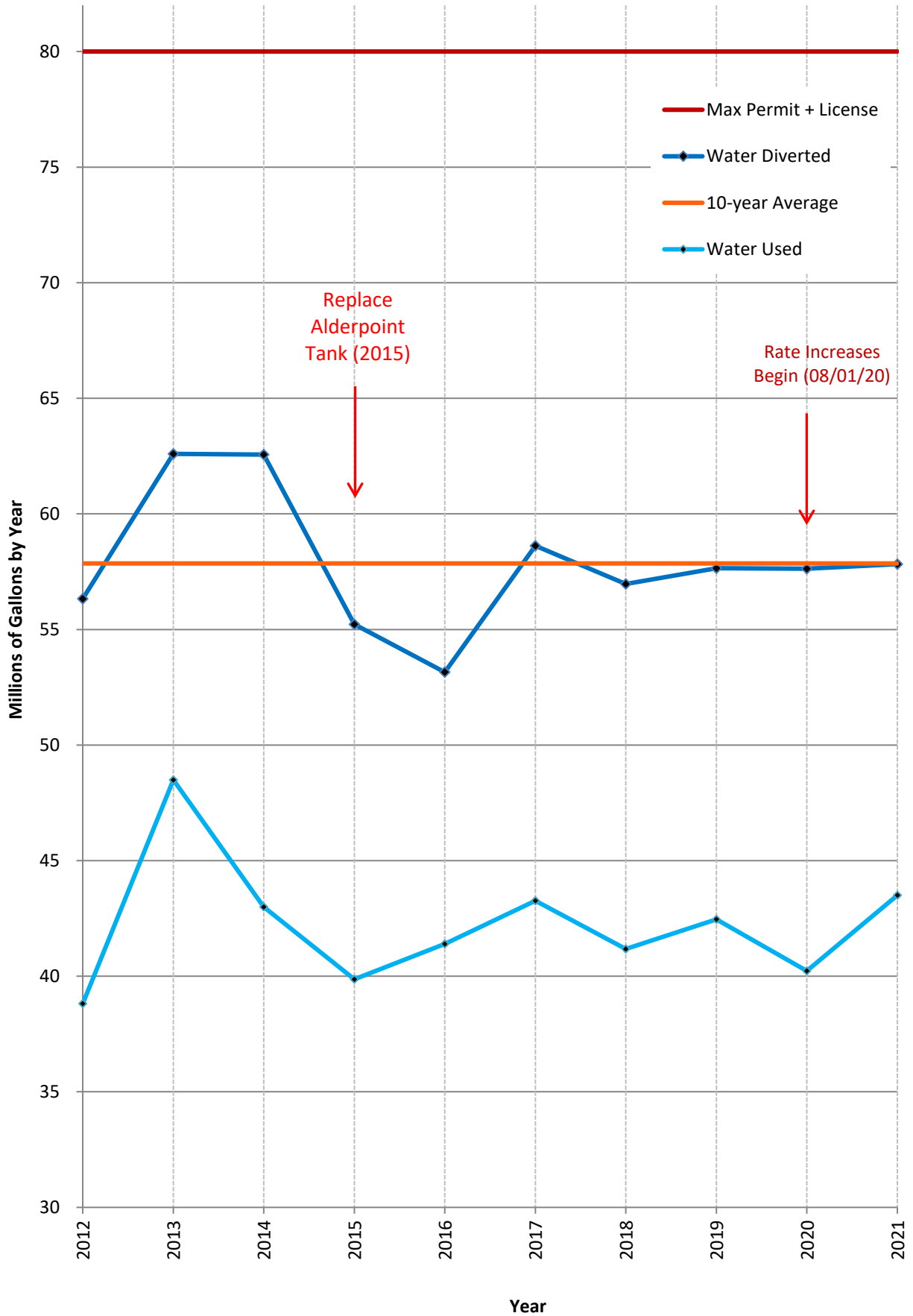
Summary by Year of Water Diversion Reported



Graph 1

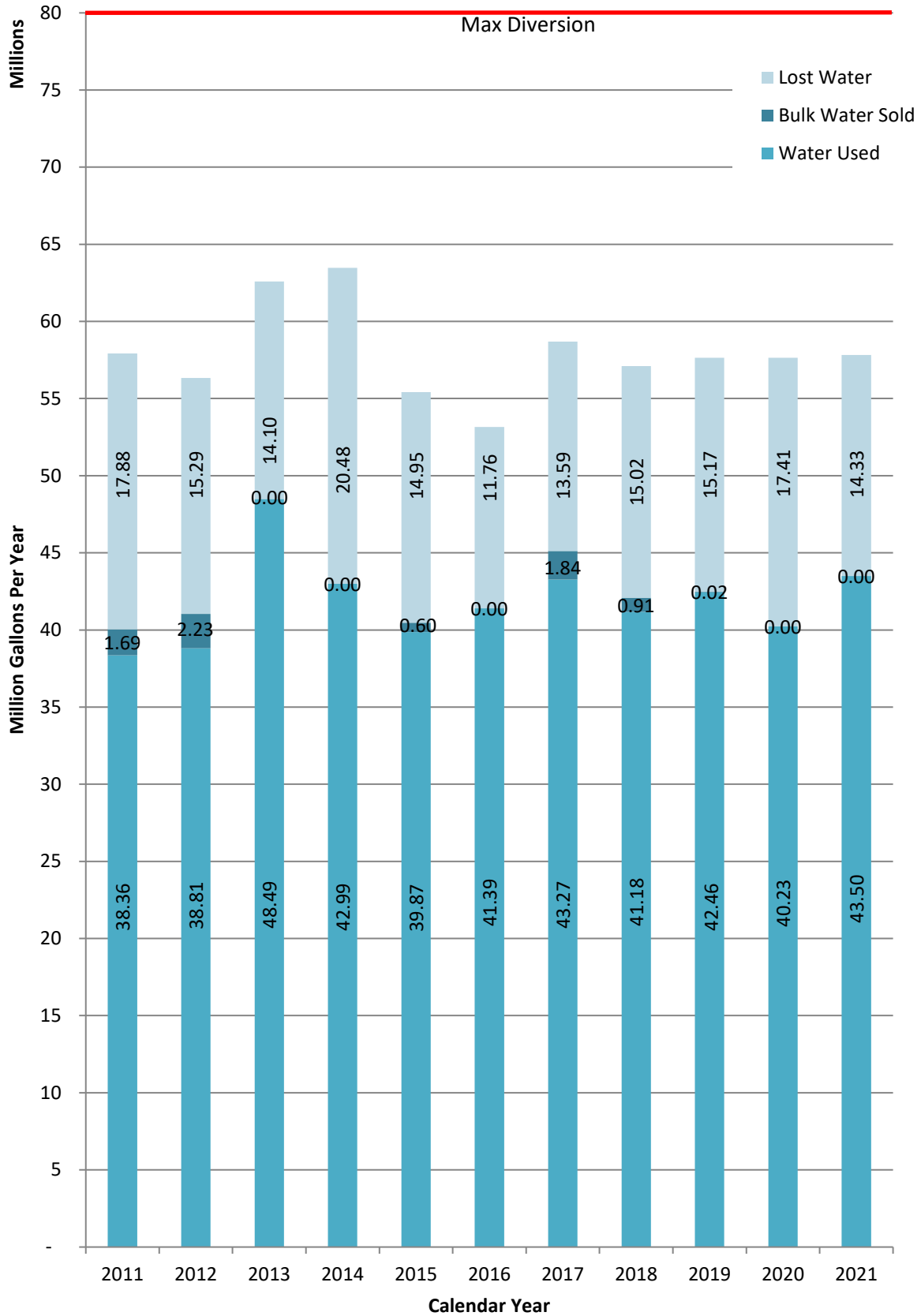
Summary by Year of Water Diversion Reported

Graph 2



Water Uses by Calendar Year

Graph 3



PROJECTS REVIEWED BY THE DISTRICT IN 2020

For all planning and building projects within the GSD place of use, Humboldt County is responsible for sending GSD a project referral asking for our input on whether the project will be served with GSD water and or sewer. As part of this referral process, GSD can and should enumerate any conditions that will be placed upon the applicant to receive or expand their service. When projects are at the planning stage, many applicants do not know exactly how much water and sewer capacity they will need. Staff works with the applicants to supply general information on our infrastructure and any concerns we have about connection so that the applicant can proceed with designing their project and eventually apply for new water or sewer services using our application. Future applicants can also contact GSD directly prior to applying for water or sewer service to receive information on possible service at a particular parcel. Projects that are commercial in nature or include four or more single family residential units will be reviewed by the Board prior to approval.

GSD receives numerous County referrals each year. Many do not include new water service. They are electrical, mechanical, roofing, or other non-expansion building permits. Some are planning actions that do not have a specific water service component. The table below lists the projects that do or could have an effect on the water consumption. They have been approved by the District but have yet to be connected to the District's water system. These project locations are illustrated in medium blue on Figure 1A and 1B in Attachment 1.

Table 3. Projects Approved by District with potential water use increase - unconnected as of 12/31/21

APN	Development Description	Estimated Future Water Consumption (gallon/year)	Conn Fee Paid?	In IS/MND?
032-044-008 & 09	Bank Remodel + 3 connections	211,500	Partial	Existing
222-156-015	Ag Meter - Jacobsen	499,000	N	Y
032-034-001	Remodel kitchen for new restaurant	89,012	N/A	Existing
223-191-001	Demo and Rebuild SFR	No Change	N/A	Existing
223-191-002	Ag meter - Alban	59,840	Yes	Existing
223-191-010	Ag Meter - J/A Clary	72,000	No	Existing
223-191-005	Ag Meter - A Clary	0	No	Existing
	Total for Table	931,352		

PROJECTS BEING PROCESSES - UNAPPROVED AND UNCONNECTED

The following table lists some projects that are still in the planning phases for their total development type, needed off-site infrastructure, and associated water consumption estimates. Some are still in the preliminary stages of development so the specific amount of water consumption is not listed in the table if it has yet to be determined. These projects have yet to be approved with a specific water consumption amount from GSD. These project locations are illustrated in light blue on Figure 1A and 1B in Attachment 1.

Bilandzija approval expired and the project has been abandoned.

Table 4. Projects Under Consideration

APN	Potential Development Description	Estimated Future Water Consumption (gallon/year)	Conn Fee Paid?	In IS/MND?
032-091-014	New Hospital at CR site	4,763,250	No	Existing
032-141-010	SoHum Inn: 17 Unit Hotel with Cannabis Dispensary	448,800	No	Y
222-091-015	SHCP	180,000	N/A	Y/Add
	Total for Table	5,392,050		

Southern Humboldt Community Park.

In the area known as the SHCP, GSD & GWC water service has been previously provided to two residences and outbuildings, but they do not currently consume water. The Final IS/MND prepared for the Annexation Project (State Clearinghouse No. 2012032025) identifies the history of the water service and lists conditions for future approval. As part of the impact analysis to determine sufficient water supplies, the CEQA document accounts for a future consumption quantity of up to 2,000 cubic feet per month (approximately 180,000 gallons per year) for APNs 222-091-014 and 222-241-009 (these have recently been combined to be APN 222-091-015).

In June 2019, the SHCP came to the District Board of Directors to request that reestablishment of their water service be processed by the District through the Humboldt Local Agency Formation Commission (HLAFCo) and the State Water Resource Control Board Division of Water Rights (SWRCB-DWR). The Board adopted Resolution 19-02 to begin the process. The District completed the application to HLAFCo for an Out of Agency Service Extension.

HLFACo reviewed the CEQA documents submitted and determined that an Addendum to the 2013 IS/MND would be necessary. They prepared the Addendum, circulated it for public comments, and held a public hearing in September 2019. During the September 2019 HLFACo meeting the Commission adopted RESOLUTION NO. 19-04: ADOPTING THE ADDENDUM TO THE GARBERVILLE SANITARY DISTRICT ANNEXATION PROJECT: CHANGE IN JURISDICTIONAL BOUNDARY AND PLACE OF USE FINAL RECIRCULATED INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION and RESOLUTION NO. 19-05: AUTHORIZING THE GARBERVILLE SANITARY DISTRICT TO PROVIDE WATER SERVICES OUTSIDE THE DISTRICT BOUNDARY TO APN 222-091-015 (SOUTHERN HUMBOLDT COMMUNITY PARK). HLAFCo also filed a Notice of Determination for the Addendum dated September 23, 2019.

The District then Petitioned the SWRCB-DWR to Change the Place of Use for the District's Permit and License. The Petition was noticed and four protests were received. The District participated in the protest resolution process. The SWRCB reviewed the protests and responses and transferred the public hearing process to the Administrative Hearings Office.

- On May 11, 2021, the AHO held the pre-hearing conference.
- On May 17, 2021, the AHO held the public hearing.
- On June 15, 2021, the AHO issued a post-hearing order.
- On November 1, 2021, the AHO issued its Notice of Draft Proposed Order and invited the parties to submit comments on the draft proposed order on or before December 1, 2021.
- The AHO forwarded a proposed order on March 28, 2022 to the Clerk of the Waterboard.
- The final adoption of the proposed order is anticipated to occur in June 2022.

The 2,000 cubic feet per month allocation has been included in Table 4 above.

DEVELOPMENT POTENTIAL WITHIN PLACE OF USE

As stated in the Annexation IS/MND, in addition to the existing consumption, there are vacant APNs and/or APNs that are not GSD customers and are not consuming water within the existing permit and license POU. For the purposes of determining potential water consumption within the existing license and permit POU, the following table document (by APN) the potential water consumption in areas within the license POU and permit POU that may be realized in the future if the parcels not currently consuming water become GSD customers.

The potential water consumption in the table is based upon the customer type and zoning, then estimates the anticipated future consumption associated with each APN. The GSD customers' billing data was separated by billing code into two categories: residential and commercial /industrial. This separated data was then averaged. The average annual demand of the GSD commercial customers is 177,500 gallons or 237 units per year. This average has been applied to the properties that are commercially or industrially zoned. The average demand of the GSD residential customers is 70,500 gallons or 94 units per year, and this average has been applied to parcels that are residentially zoned. Agricultural meters can vary widely in the amount of water used.

There could be additional development as a result of "Housing Opportunity Zones" and second dwelling units, but this is considered unlikely due to the previous development history that does not include second dwelling units in the Garberville area. There are 14 APNs within "Housing Opportunity Zones," and 10 APNs that are allowed second dwelling units (these are all within the "Housing Opportunity Zones)," and one APN with Agriculture Exclusive zoning that allows 4 single detached dwelling units. One unit exists and was connected to the system in 2019. For planning purposes, water supplies were identified to include potential second dwelling units. Assuming that most second dwellings units are equivalent to an apartment type user, Metcalf & Eddy's estimates that apartment flows are approximately 93% of the average residential house. Using this ratio, the equivalent consumption per second dwelling unit would be 65,465 gallons per year. These locations are shown in yellow on both Figure 2A and 2B in Attachment 1.

When the parcel is unconnected **and** has an HOZ/second dwelling unit possibility, both turquoise and yellow are applied and they appear green.

The table below lists those APNs and estimates the future potential water consumption for each parcel and a brief description of the type of development anticipated on the parcel. None of these parcels have any indication that this potential development will actually occur in the near future, or ever, but the water is allocated so that their right to develop in this manner and have water service is generally reserved.

Figure 2A and 2B (in Attachment 1) illustrate in turquoise, the APNs within the Place of Use that were not consuming water during 2021.

Table 5. Potential Future Development within POU - Unconnected as of 12/31/21

APN	Potential Development Description	Estimated Future Water Consumption (gallon/year)	Conn Fee Paid?	In IS/MND?
032-011-010	SFR	70,500	N	Y
032-042-017	Commercial	177,500	N	Y
032-102-028	SFR	70,500	N	Y
032-111-019	Burn Down; 821 Locust St.	70,500	N/A	Existing
032-121-019	Commercial	177,500	N	Y
032-121-020	Commercial	177,500	N	Y
032-171-022	SFR	70,500	N	Y
032-171-023	SFR	70,500	N	Y
032-171-024	SFR	70,500	N	Y
032-211-003	HOZ/Second Dwellings	65,465	N	Y
032-211-010	HOZ/Second Dwellings	65,465	N	Y
032-211-012	HOZ/Second Dwellings	65,465	N	Y
032-211-015	HOZ/Second Dwellings	65,465	N	Y
032-211-018	SFR + HOZ/Second Dwellings	135,965	N	Y
032-211-021	SFR + HOZ/Second Dwellings	135,965	N	Y
032-211-034	SFR + HOZ/Second Dwellings Was 032-211-014	135,965	N	Y
032-231-016	RESIDENTIAL	70,500	N	Y
032-231-028	RESIDENTIAL	70,500	N	Y
032-231-043	RESIDENTIAL	70,500	N	Y
032-231-045	Has Shops	177,500	N	Y
032-231-053	RESIDENTIAL	70,500	N	Y
032-231-054	RESIDENTIAL	70,500	N	Y
032-231-056	RESIDENTIAL	70,500	N	Y
222-091-011	3 SFR (4th Connected 2019)	211,500	N	Y
223-061-025	SFR (was APN 222-156-012)	70,500	N	Y
223-061-034	HOZ/Second Dwellings	65,465	N	Y
223-171-007	COMMERCIAL	177,500	N	Y
223-181-012	RESIDENTIAL	70,500	N	Y
223-181-017	RESIDENTIAL	70,500	N	Y
223-181-020	RESIDENTIAL	70,500	N	Y
223-181-031	HOZ/Second Dwellings	65,465	N	Y
223-181-043	HOZ/Second Dwellings	65,465	N	Y
223-181-044	HOZ/Second Dwellings	65,465	N	Y
223-183-010	RESIDENTIAL	70,500	N	Y
	Total for Section	3,229,115		

ANALYSIS OF DIVERSIONS AND DEVELOPMENT POTENTIAL

For calendar year 2021, a total of 57,824,400 gallons were diverted from the SF of the Eel River. The average diversion for years 1977 - 2021 was 61,118,711. Then adding the estimated water consumption for the potential development in Table 5 for undeveloped and under-developed parcels plus future water consumption for recent county referral projects from Table 3, the total estimated average annual water diversion would be 65,537,027. See Table 6 below for details.

Table 6. Total Estimated Annual Water Diversion Needs

DESCRIPTION	AMOUNT GALLONS PER YEAR
1977 - 2021 average water diversion	61,118,711
Undeveloped and under-developed (Table 5)	3,229,115
Approved Projects unconnected as of 12/31/21 (Table 3)	931,352
Total estimated annual water diversion needed to meet existing commitment	65,359,527
Available from 80M Gallon Allotment	14,640,473
Buffer for Annual Variation	- 5,000,000
Available for future development	9,640,473

This water diversion needed can be collected from any combination of the South Fork Eel River diversion and/or the Tobin Well. The total estimated annual water diversion needed can be easily diverted from the river with the Tobin well remaining as a backup water supply when river water quality is poorer than desirable for treatment at the new SWTP.

Projects under “consideration” could total 14.6M gallons per year and still stay under the 80 million gallon maximum. Some cushion should be maintained, as this analysis is based upon AVERAGE annual flows. Conservatively keeping 5M-gallons as a buffer would still leave **9.6M gallons of available water capacity per year** that could be diverted and sold to projects currently under consideration and/or unidentified future projects. If all the projects under consideration were approved at the currently estimated consumption levels, then **4.2M gallons of available water capacity per year** would remain. The Board is considering a policy that limits this available water capacity to projects other than cannabis cultivation. That would minimize any additional cannabis cultivation projects within the District and limit future projects to residential and smaller commercial projects.

FINAL SUMMARY

After evaluating the capacity of each water source, the water diversions over the past 45 years, the future development potential within the place of use, and the projects both approved and under consideration, **there are adequate water sources to serve all these purposes as well as possible additional development** within the POU or future annexations to the POU and jurisdictional boundary.

ATTACHMENT 1

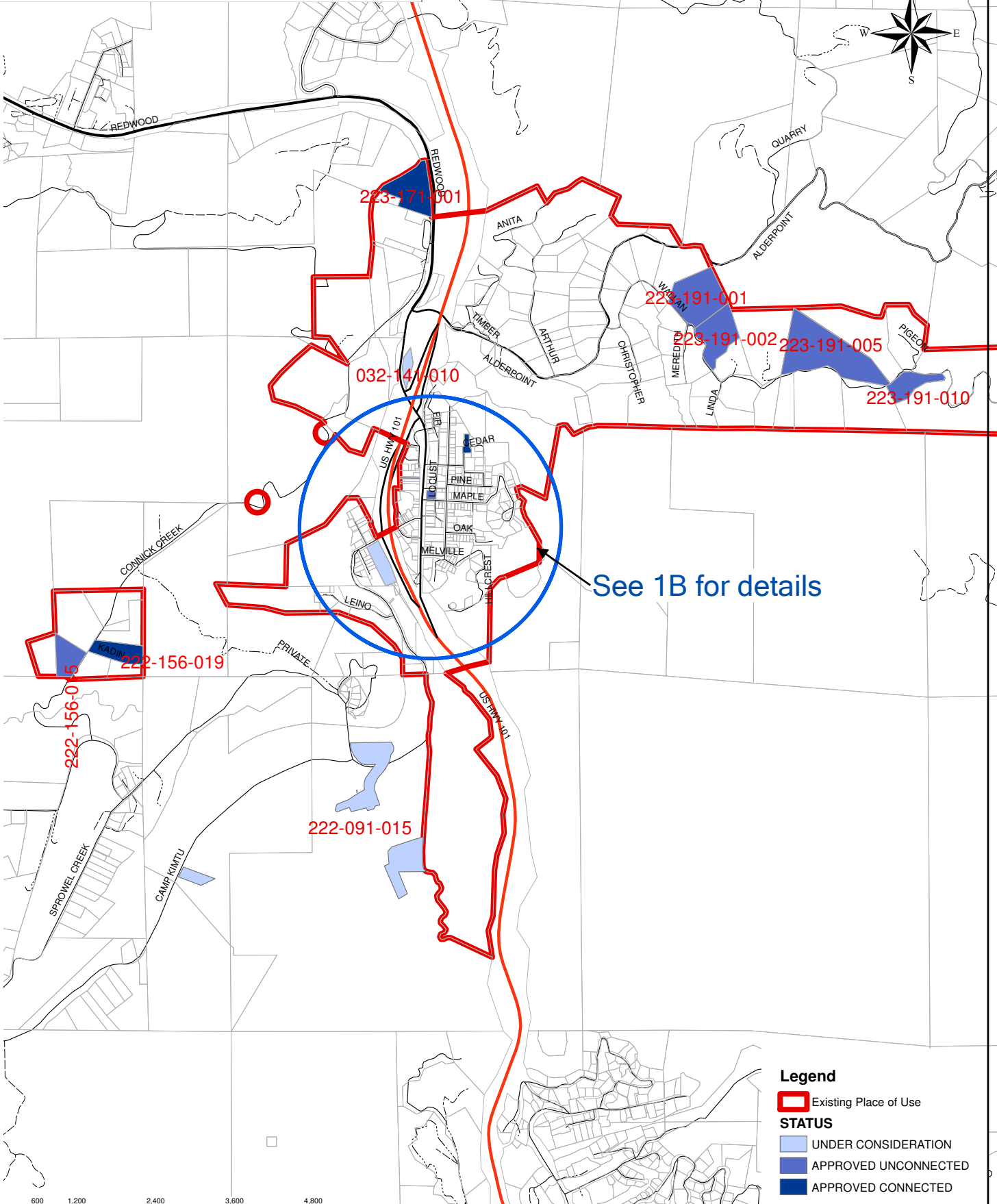
Figure 1A. Status of Projects as of 12/31/21 - Overview

Figure 1B. Status of Projects as of 12/31/21 - Downtown

Figure 2A. Undeveloped or Under-developed Parcels - Overview

Figure 2B. Undeveloped or Under-developed Parcels - Downtown

This figure was prepared based upon data from Humboldt County and is for planning purposes only. While every effort has been made by Humboldt County to assure the accuracy of this information, it should be understood that it does not have the force and effect of law, rule, or regulation. Should any difference or error occur, the law will take precedence.

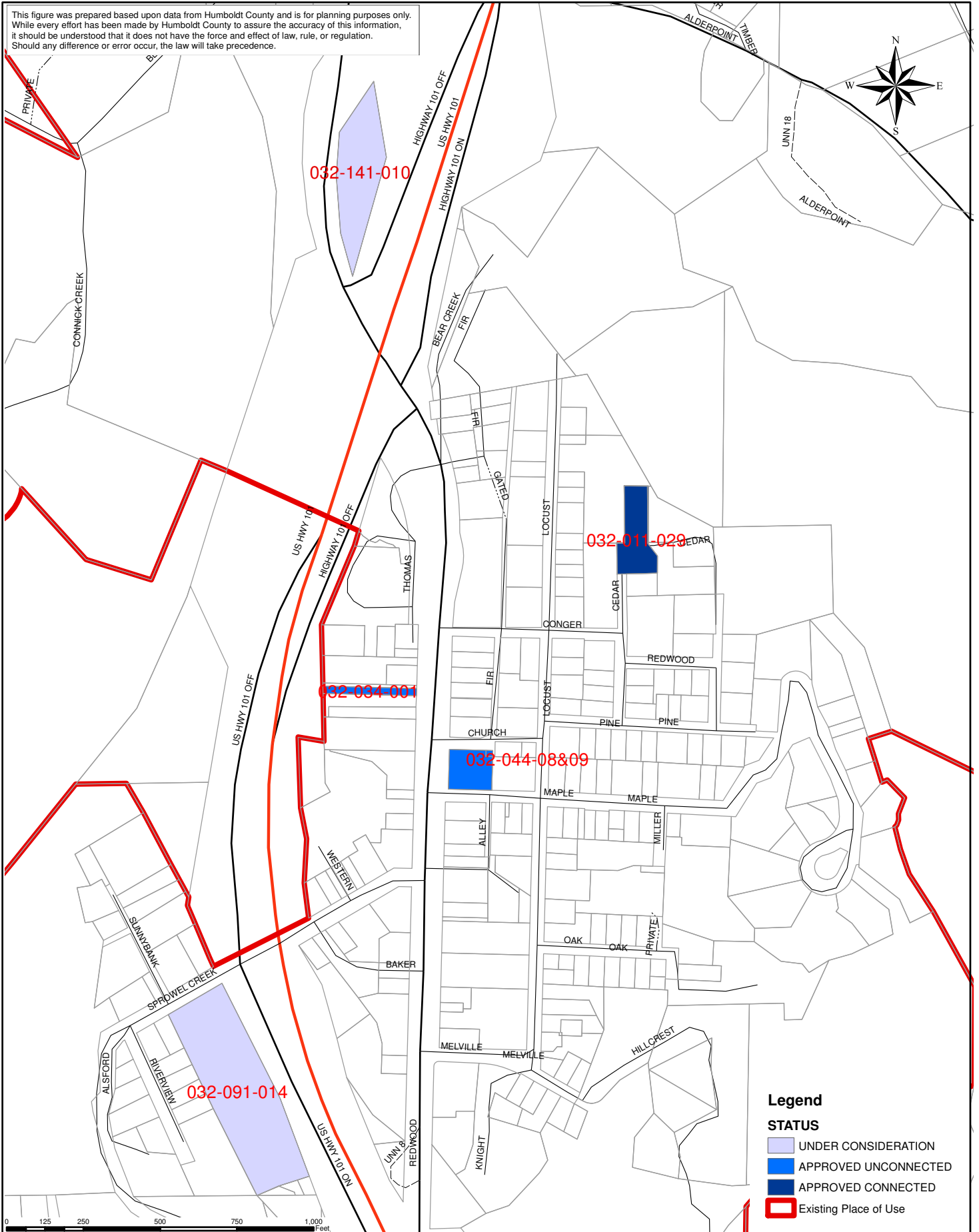
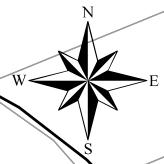


Water Capacity Report
 Garberville Sanitary District (707) 923-9566

PROJECT STATUS AS OF 12/31/21
 SCALE: 1:24,000 DRAWN BY: J. SHORT DATE: 05/13/2022

Figure
1A

This figure was prepared based upon data from Humboldt County and is for planning purposes only. While every effort has been made by Humboldt County to assure the accuracy of this information, it should be understood that it does not have the force and effect of law, rule, or regulation. Should any difference or error occur, the law will take precedence.

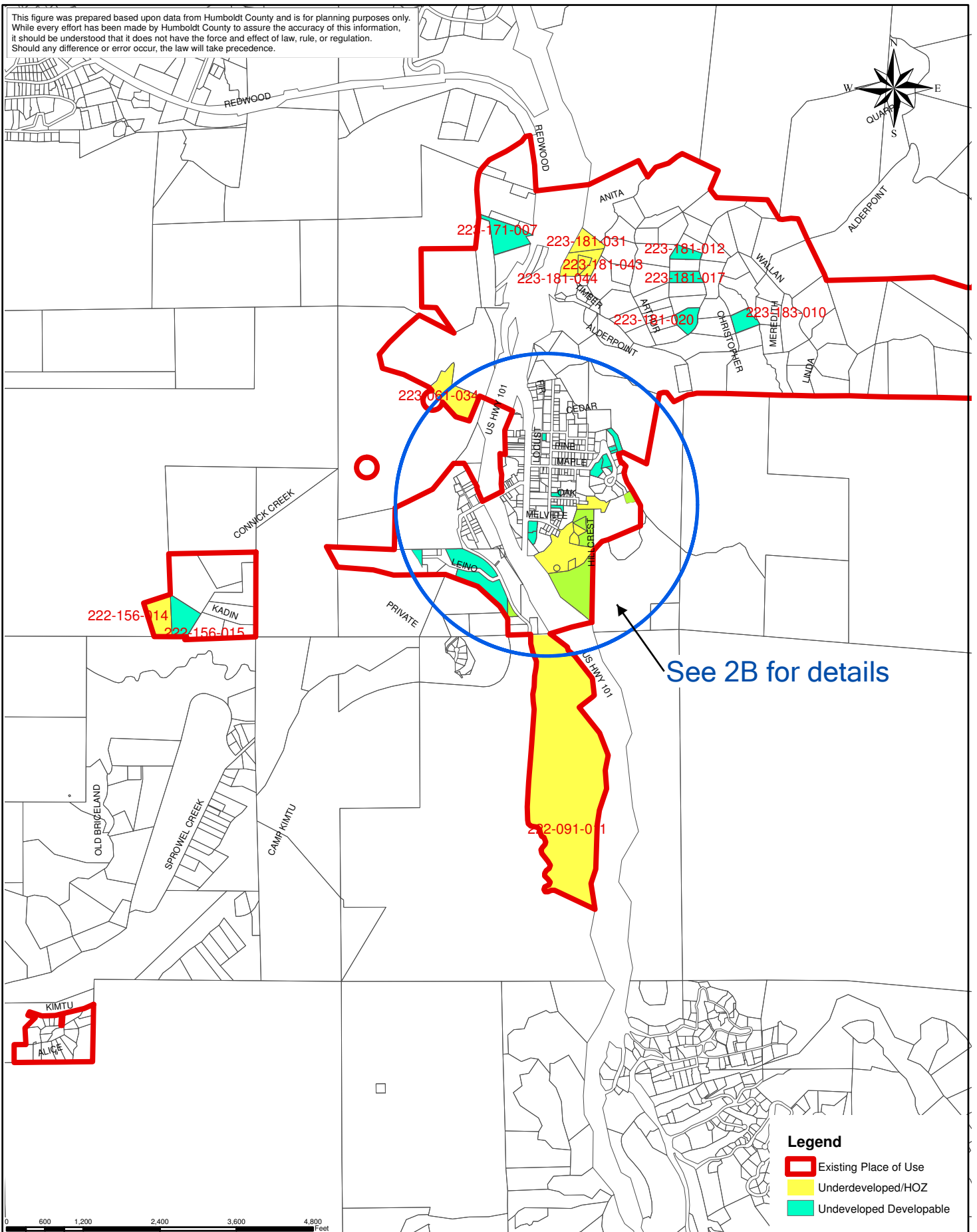


Water Capacity Report
 Garberville Sanitary District (707) 923-9566

PROJECT STATUS AS OF 12/31/21
 SCALE: 1:5,000
 DRAWN BY: J. SHORT
 DATE: 05/13/2022

Figure
1B

This figure was prepared based upon data from Humboldt County and is for planning purposes only. While every effort has been made by Humboldt County to assure the accuracy of this information, it should be understood that it does not have the force and effect of law, rule, or regulation. Should any difference or error occur, the law will take precedence.



- Legend**
- Existing Place of Use
 - Underdeveloped/HOZ
 - Undeveloped Developable



Water Capacity Report

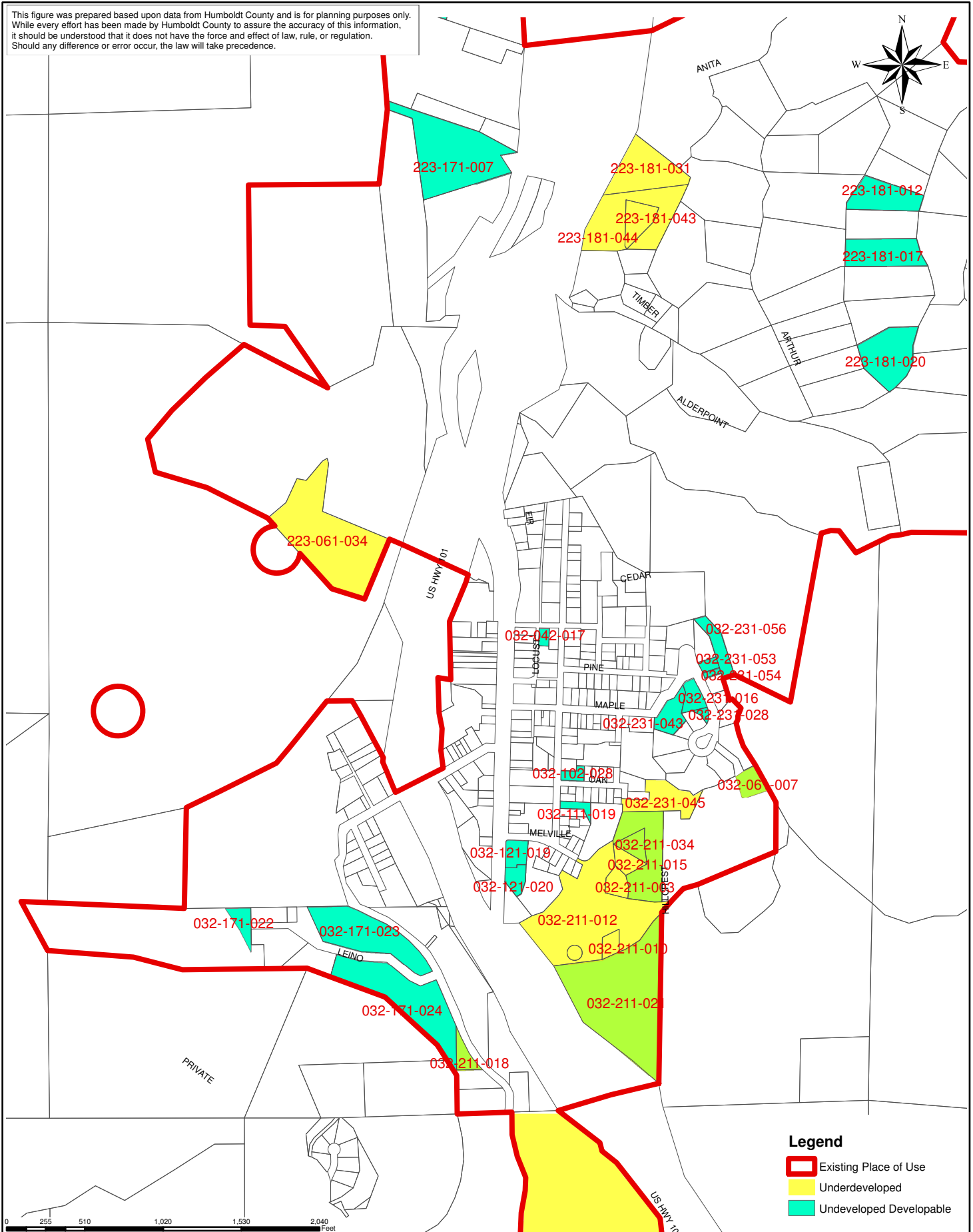
Garberville Sanitary District (707) 923-9566

Undeveloped or Under-developed Parcels

SCALE: 1:24,000 DRAWN BY: J. SHORT DATE: 05/13/2022

Figure 2A

This figure was prepared based upon data from Humboldt County and is for planning purposes only. While every effort has been made by Humboldt County to assure the accuracy of this information, it should be understood that it does not have the force and effect of law, rule, or regulation. Should any difference or error occur, the law will take precedence.



Legend
 Existing Place of Use
 Underdeveloped
 Undeveloped Developable



Water Capacity Report

Garberville Sanitary District (707) 923-9566

Undeveloped or Under-developed Parcels

SCALE: 1:10,000 DRAWN BY: J. SHORT DATE: 05/13/2022

Figure
2B

2021 Annual Water Source Capacity Analysis

Attachment 2

Various Documents for Projects Under Consideration

032-141-010; Saunders; 17 Unit Hotel with Cannabis Dispensary

032-091-014; SHUHD; New Hospital at CR site

SHCP

032-141-010
Saunders;
17 Unit Hotel with Cannabis Dispensary



ATLAS ENGINEERING

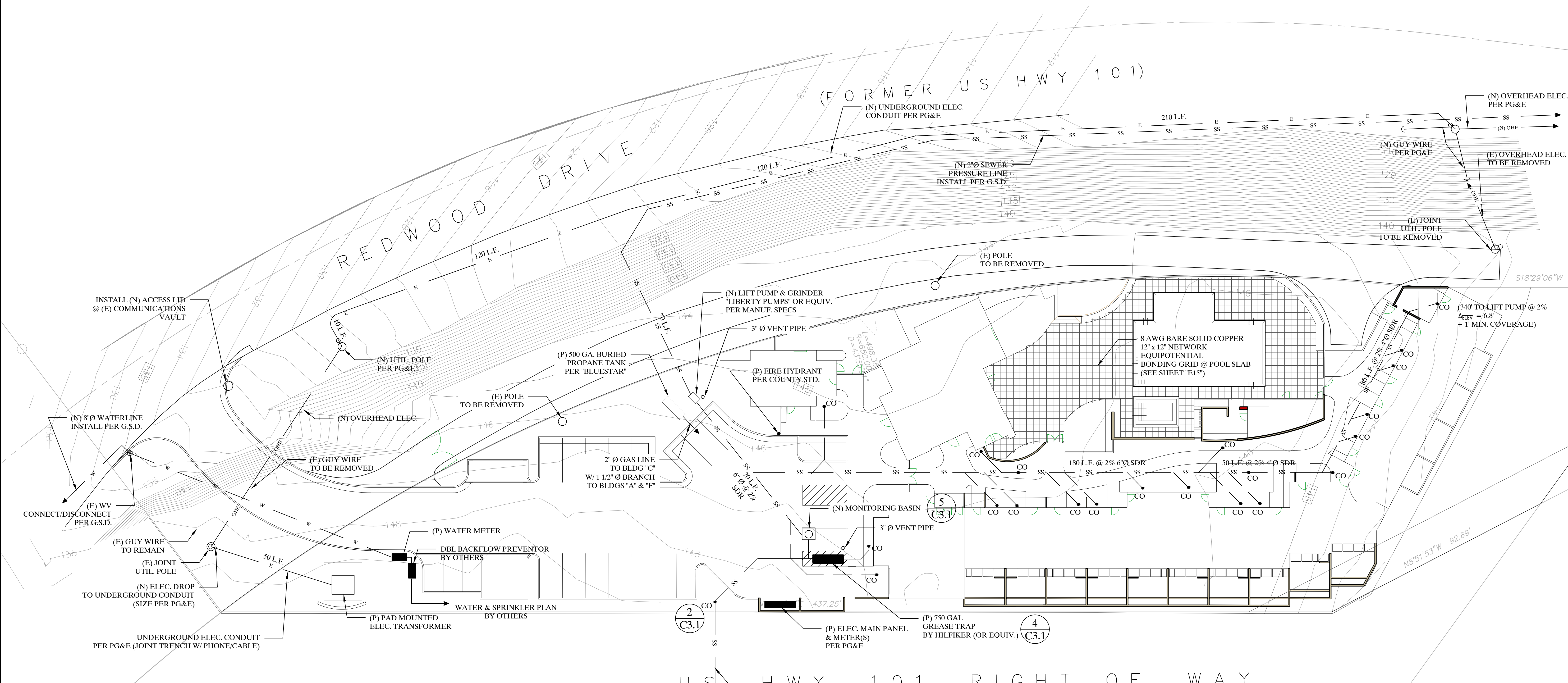
252 G ST.
ARCATA, CA 95521
(707) 822-2622 PH & FAX
WWW.ATLASENG.NET

6/29/2021



UTILITIES PLAN

THE SOHUM INN
401 REWOOD DR. GARBERVILLE, CA 95542
APN: 032-141-010

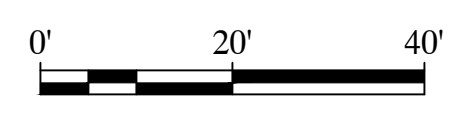
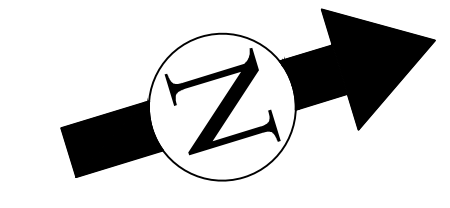


CIVIL LEGEND:

OVERHEAD ELEC.	—OHE—
ELEC. CONDUIT	—E—
WATER	—W—
SAN. SEWER	—SS—
BACKFLOW PREVENTOR	—BFP—
DOUBLE BACKFLOW PREVENTOR	—DBL BFP—
STOP VALVE	—SV—
SEWER CLEAN OUT	—SCO—
HOSE BIB	—HB—
CLEANOUT	—CO—

- NOTES:**
- SEE M/E/P PLANS BY OTHERS FOR TIE-IN LOCATION & CONNECTIONS @ INTERIOR OF PROPERTY.
 - INSTALL ALL CONDUITS & EQUIPMENT PER UTILITY AGENCIES.
 - MATERIALS USED FOR WASTE SHALL BE SDR @ EXTERIOR. MATERIALS USED FOR WATER PIPING SHALL BE PVC @ EXTERIOR. MATERIALS USED FOR GAS PIPING SHALL BE GALVANIZED PIPE @ EXTERIOR. MATERIALS USED FOR STORMWATER SHALL BE DWV @ EXTERIOR.
 - PROPOSED CONNECTIONS & INSPECTIONS OF ALL UTILITIES TRENCHING & INSTALLATION SHALL BE PROVIDED PER PUBLIC WORKS DEPT.
 - ALL SEWER LINES SHALL SLOPE @ 2% MIN.
 - PROVIDE CLEANOUT @ 100' MAX. SPACING.

ALTERNATIVE:
6" Ø GRAVITY SEWER TO (E) MANHOLE
BETWEEN EXIT RAMP & US 101 SOUTH
(>2% SLOPE)



Date:	
Revision No.:	

Date: 6/29/2021

Project #: 16022

Drawn by: MGR

Scale: 1"=20'-0"

Sheet No.

C3

032-091-014
SHUHD; New Hospital at CR site



March 11, 2019

8609.03

Garberville Sanitary District
P.O. Box 211
Garberville, California 95542

Attention: Ralph Emerson, General Manager

Subject: Preliminary Water and Wastewater Usage Estimates
Facility Expansion Project
Southern Humboldt Community Healthcare District (SHCHD)
286 Sprowl Creek Road, Garberville, Humboldt County, California
Assessor's Parcel Numbers (APNs) 032-091-014, 032-091-016, 032-091-018,
and 032-091-019

Dear Mr. Emerson:

The Southern Humboldt Community Health District (SHCHD) is proposing to build a new 15-bed hospital and medical clinic facility at the properties identified as Assessor's Parcel Numbers (APNs) 032-091-014, 032-091-016, 032-091-018, and 032-091-019, located at 286 Sprowl Creek Road in the unincorporated community of Garberville in Humboldt County, California (Site; see Figure 1). The properties, totaling approximately 3.25 acres in size, are located adjacent to Highway 101. The proposed facility, to replace the existing Jerold Phelps Community Hospital and Southern Humboldt Community Clinic, currently located at 733 Cedar Street (APNs 032-011-027 and 032-133-003) in Garberville, will contain 15 overnight hospital beds, along with specialized facilities for women's health, radiology, fluoroscopy, ultrasound, quarantine, two operating rooms, and an emergency department (see Figure 2).

LACO Associates (LACO), on behalf of SHCHD, submitted a "will-serve" request to the Garberville Sanitary District (GSD or District) on August 28, 2018, to determine if GSD has sufficient water and wastewater capacity to support the proposed project. On September 18, 2018, a response was received from GSD, in which additional information on the proposed project's anticipated water and wastewater needs was requested. In order to provide appropriate information to the District, SHCHD has retained LACO to develop estimates for drinking water demand and wastewater production at the new facility.

Estimation Methods

LACO used the Equivalent Dwelling Unit (EDU) estimation method for water and wastewater flows at the Site. The most recent set of facility plans were analyzed for usage types, and converted to either area-based (square footage) or unit-based wastewater production estimates. The draft Garberville Sanitary District EDU table, provided by the District on December 13, 2018 (see Appendix 1), was used for this conversion.

According to industry convention, a drinking water estimate was created using the "90 Percent Rule", wherein wastewater is assumed to account for approximately 90 percent of drinking water usage, allowing for an estimate of water usage based on wastewater production.

The EDU table provided by GSD includes distinct estimates of usage for hospitals, doctor's offices, meeting rooms, other office space, and dining/vending areas. As this is a multi-use facility, using a conventional

21 W. Fourth Street Eureka, CA 95501 707 443-5054 - Fax 707 443-0553	776 S. State Street, Suite 102A Ukiah, CA 95482 707 462-0222 - Fax 707 462-0223	3450 Regional Parkway, Suite B Santa Rosa, CA 95403 707 525-1222 - Fax 707 545-7821	932 B W. Eighth Avenue Chico, CA 95926 530 801-6170 - Fax 707 462-0223
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calculation based on one or two factors alone (i.e. number of hospital beds) may be a significant underestimate of actual usage. To this end, both a conservative (high) estimate and a conventional (low) estimate are provided below.

All calculations were performed within a Microsoft Excel® spreadsheet and will be provided in electronic format as needed.

Assumptions, Conventions, and Exclusions

The following assumptions were made in the process of calculating these estimates:

- "Warm shell" space will be used as general office space in the future
- Water usage for irrigation at the site is based on location and an estimate of irrigable area using the University of California Center for Landscape & Urban Horticulture Landscape Water Use Calculator
- Food will be prepared outside the hospital facility, and in the accessory building, and no formal cafeteria will exist (beyond vending machines)
- All space in the accessory (existing) 10,000 square foot building external to the approximately 2800 sf kitchen prep area will be used as office space or similar
- As a convention, all multipliers are rounded up if based on fractional components
- Each office space is considered separately for the conservative estimate, leading to a higher expected usage

Calculations

An example calculation is provided below to show methodology used:

For office space, measured in square feet, the consumption factor is calculated based on a minimum/base amount for the first 1,000 sf, and then incrementally increasing thereafter at a rate of 0.5 per 1,000 square feet. Related to the proposed project, the office space is 1,188 square feet, which is between 1,000 and 2,000 square feet, so a consumption factor of 1.5 is applied. With an EDU estimate of 200 gallons per day, this produces an estimated 300 gallons of wastewater per day, as shown in Table 1, below.

Table 1. Calculation Method Example

Description	Type	Total	Unit	Consumption Factor	Note/unit	Consumption Strength Multiplier	EDUs	Waste (gpd)
Upper Floor Office (Lab office, central/registration office, IT office)	Office	1,188	square feet (sf)	1.5	1 for first 1,000 sf, 0.5 for each 1,000 sf following	1	1.5	<u>300</u>

This wastewater estimate is then converted to a drinking water demand using the 90 Percent Rule:

$$\text{Water Demand (gpd)} = \text{Wastewater Produced (gpd)} / 0.9$$

$$\text{Water Demand} = 300 / 0.9 = \underline{333 \text{ gallons per day}}$$

Water and Wastewater Usage Estimates

Accessory Building and Other Uses Estimate

In addition to the new clinic and hospital buildings, an existing building will be renovated on-site to accommodate a kitchen for the hospital, administration offices, and education and other community services offices. The uses within this building were estimated based on the estimated size of the kitchen (approx. 2,800 square feet, according to the conceptual site plan) and the existing building square footage (10,000 square feet).

These estimates most likely reflect current demand at the Site and would be important in the case that only one service line will feed the Site, which will be upgraded from the existing line.

Irrigation demand is also considered as an accessory estimate due to the fact that planned landscaping around the new building will cover less area than is currently existing on the parcel and may be negligible

Table 2, below, provides the project's accessory uses and estimated wastewater production and potable water demand, in gallons per day (gpd).

Table 2. Accessory Uses Estimate

Accessory Area	Wastewater Production (gpd)	Potable Water Demand (gpd)
Kitchen	750	830
Office spaces	900	1000
Irrigation	-	730
Total	1,650	2,560

Conservative Estimate

As described above, the conservative estimate is intended to provide a likely high estimate for water use and wastewater production at the Site. The conservative estimate for the proposed project is provided in Table 3, below.

Table 3. Conservative Estimate

Description	Wastewater Production (gpd)	Potable Water Demand (gpd)
Conservative Estimate for Hospital and Clinic	11,100	12,300
Conservative Estimate including Accessory Uses	12,800	14,900

Conventional Estimate

As described above, the conventional estimate, provided in Table 4, below, is intended to provide a likely low estimate for water use and wastewater production at the Site. This estimate is based entirely off the number of hospital beds (hospital) and expected number of doctors (clinic), and assumes all other facilities are included in these EDUs.

Table 4. Conventional Estimate

Description	Wastewater Production (gpd)	Potable Water Demand (gpd)
Conventional Estimate for Hospital and Clinic	7,700	8,600
Conventional Estimate including Accessory Uses	9,400	11,200

Conclusion

Based on LACO's calculations, the proposed project is anticipated to generate between 9,400 and 12,800 gpd of wastewater and require between 11,200 and 14,900 gpd of potable water. The wastewater usage and water demand estimate calculation tables are included in Appendix 2 of this letter.

Please do not hesitate to contact me at (707) 525-1222 or williss@lacoassociates.com, should you have any questions or require further information.

Sincerely,
LACO Associates



Susan K. Willis, PhD, PE
Civil Engineering Department Manager

Enclosures

Cc: Kent Scown, COO, Southern Humboldt Community Healthcare District

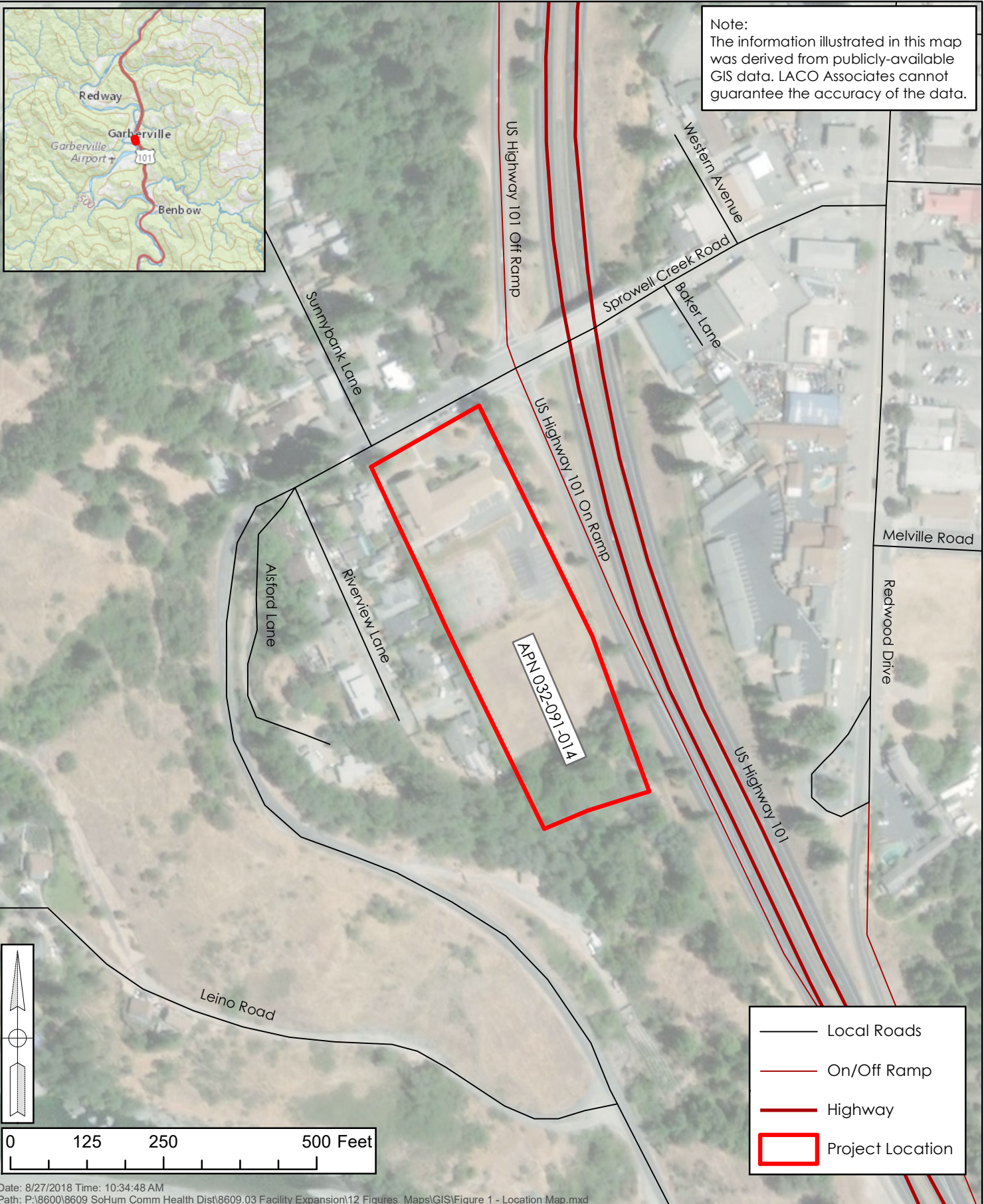
FIGURES

Figure 1: Location Map

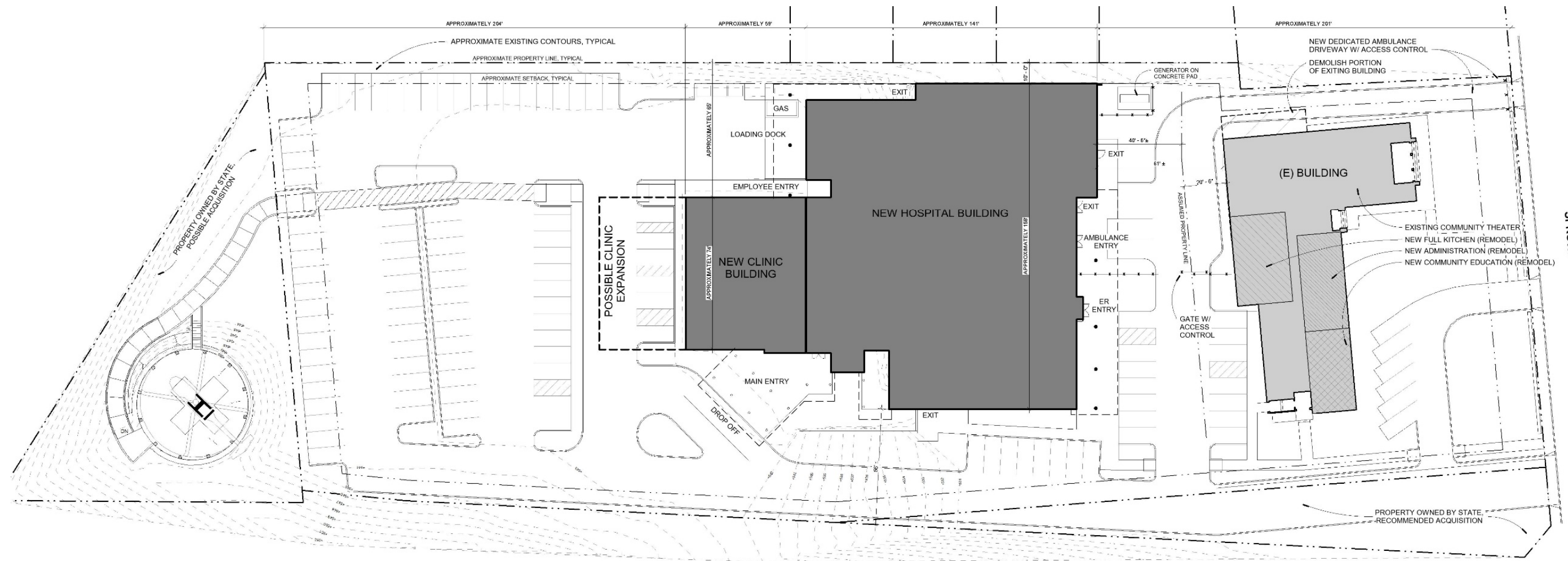
**Figure 2: Draft Site Plan, Plausible Layout, and Size
Estimates**

PROJECT	SHCHD FACILITY EXPANSION	BY	IMH/CMB	FIGURE	1
CLIENT	SO. HUM. COMMUNITY HEALTHCARE DISTRICT	CHECK	MMM	JOB NO.	
LOCATION	286 SPROWL CREEK ROAD, GARBERVILLE, CA	DATE	8/27/2018		8609.03
LOCATION MAP					

REUSE OF DOCUMENTS: This document and the ideas and design incorporated herein, as an instrument of professional service, is the property of LACO Associates and shall not be reused in whole or part for any other project without LACO Associates express written authorization.



Conceptual Site Plan - 286 Sprowl Creek Rd, Garberville CA, Humboldt County

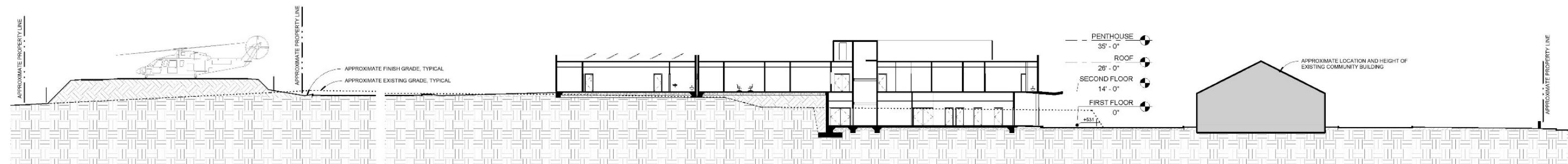


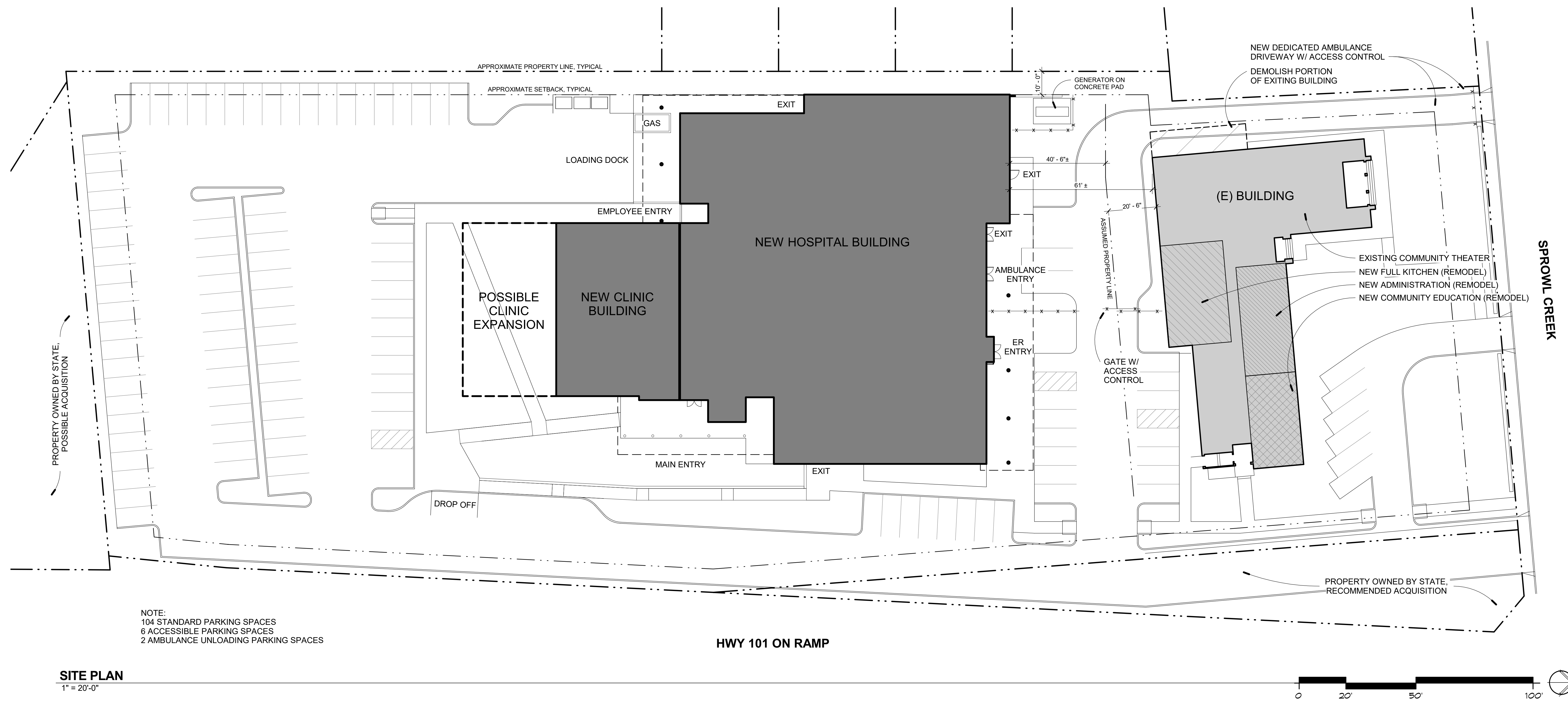
NOTE:
 100± STANDARD PARKING SPACES
 6 ACCESSIBLE PARKING SPACES
 2 AMBULANCE UNLOADING PARKING SPACES

CONCEPTUAL MATERIALS:
 ROOF: CLASS 'A' FIRE RESISTIVE SBS WITH GRANULATED CAP SHEET (BUILT UP ROOF) OR SINGLE PLY MEMBRANE ROOF
 EXTERIOR WALLS: CEMENT PLASTER, METAL PANELS, OR WOOD OVER FIRE RATED GYPSUM BOARD WITH TEMPERED GLAZING TO MEET WILDLAND FIRE INTERFACE REQUIREMENTS AND ONE-HOUR FIRE RESISTANCE RATING.

HWY 101 ON RAMP

Conceptual Site Section





2024 HOSPITAL BUILDING AND CLINIC

286 SPROWL CREEK ROAD

PLAUSIBLE SITE LAYOUT

GARBERVILLE, CALIFORNIA



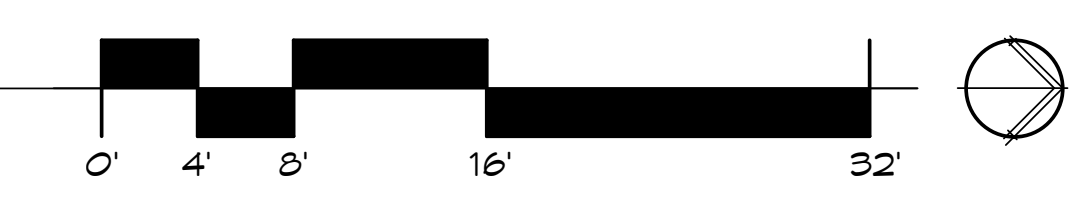
FEBRUARY 16th, 2017



- EGRESS
- NURSING
- OR
- ANESTHESIA
- RADIOLOGICAL
- LAB
- PHARACEUTICAL
- DIETETIC
- SUPPORT
- EMERGENCY DEPARTMENT

AREA:
 CLINIC = 3,900±
 HOSPITAL = 32, 600SF± (INCLUDING 2,900± SF OF WARM SHELL SPACE)
 UPPER = 20,000±
 LOWER = 12,600±

UPPER FLOOR PLAN
 1/8" = 1'-0"



2024 HOSPITAL BUILDING AND CLINIC

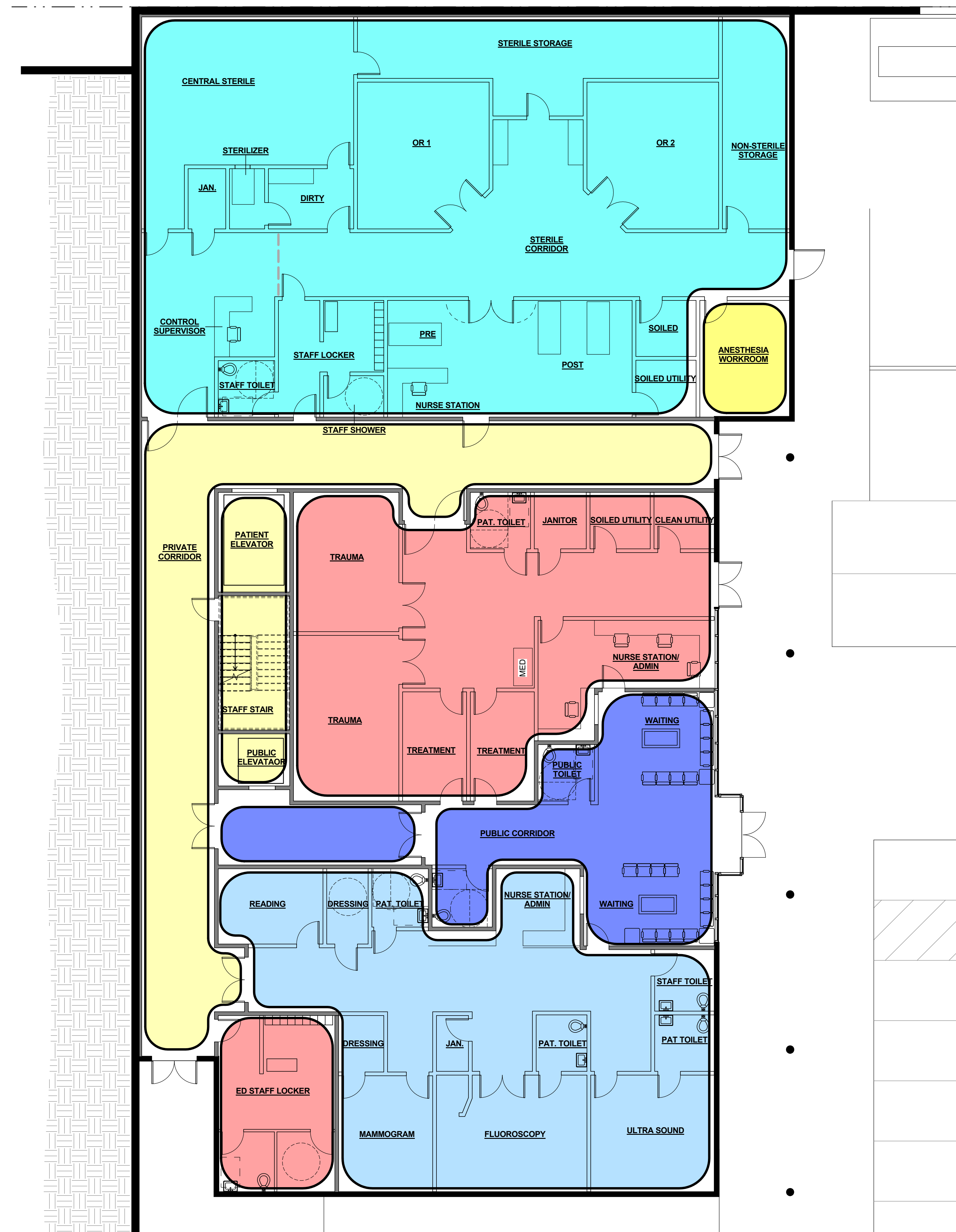
286 SPROWL CREEK ROAD

PLAUSIBLE FLOOR PLAN LAYOUT

GARBERVILLE, CALIFORNIA

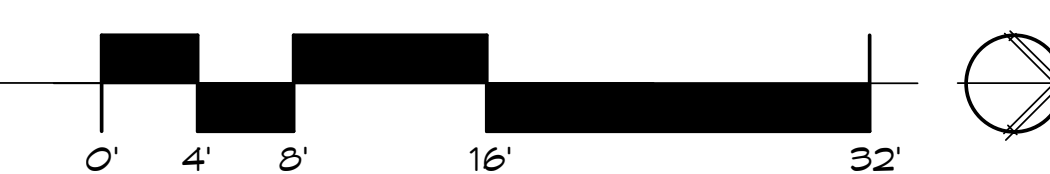


FEBRUARY 16th, 2017



- EGRESS
- NURSING
- OR
- ANESTHESIA
- RADIOLOGICAL
- LAB
- PHARACEUTICAL
- DIETETIC
- SUPPORT
- EMERGENCY DEPARTMENT

LOWER FLOOR PLAN
1/8" = 1'-0"



2024 HOSPITAL BUILDING AND CLINIC

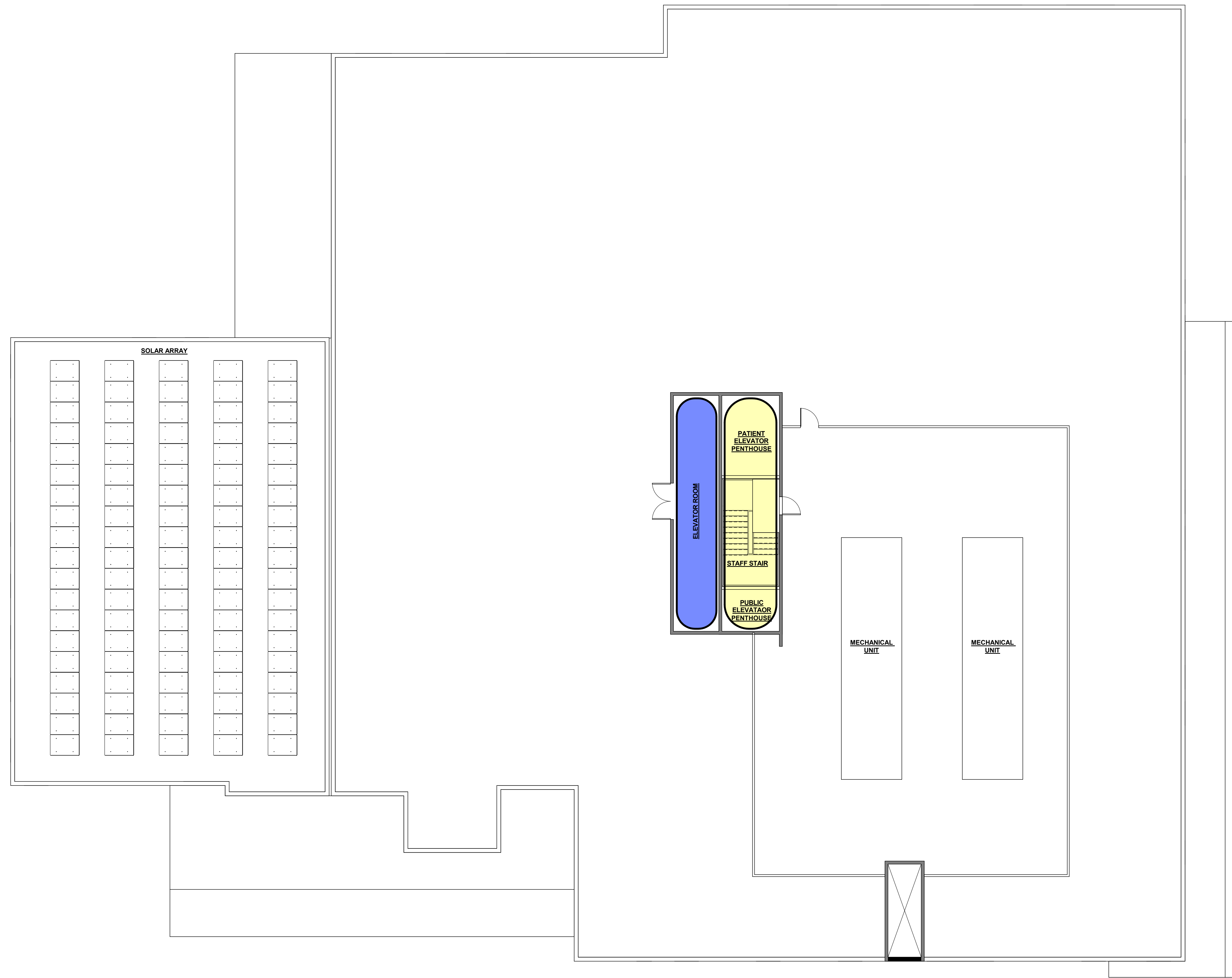
286 SPROWL CREEK ROAD

PLAUSIBLE FLOOR PLAN LAYOUT

GARBERVILLE, CALIFORNIA

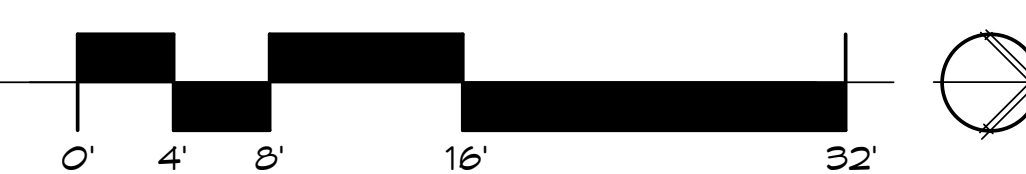


FEBRUARY 16th, 2017



- EGRESS
- NURSING
- OR
- ANESTHESIA
- RADIOLOGICAL
- LAB
- PHARACEUTICAL
- DIETETIC
- SUPPORT
- EMERGENCY DEPARTMENT

ROOF PLAN
1/8" = 1'-0"



2024 HOSPITAL BUILDING AND CLINIC

286 SPROWL CREEK ROAD

PLAUSIBLE ROOF LAYOUT

GARBERVILLE, CALIFORNIA



FEBRUARY 16th, 2017

222-091-015
Southern Humboldt Community Park
Request for Water Service

This project continues to be processed
Through the SWRCB-DWR
Administrative Hearing Office
For final approval of the change in POU

State Water Resources Control Board

NOTICE OF EXTENSION OF DEADLINE FOR TRANSMITTAL OF PROPOSED ORDER

The State Water Resources Control Board
Administrative Hearings Office
held a hearing regarding the pending petitions of

Garberville Sanitary District

to change water-right License 3404 and Permit 20789 (Applications A009686 and A029981), which authorize diversions of water from the South Fork Eel River in Humboldt County

On March 13, 2021, the Administrative Hearings Office (AHO) of the State Water Resources Control Board (State Water Board or Board) issued a Notice of Hearing and Pre-Hearing Conference in this matter. The applicable statutes, hearing issues and pre-hearing and hearing schedules are described in the March 13 notice.

On May 11, 2021, the AHO held the pre-hearing conference described in the March 13 notice. On May 17, 2021, the AHO held the public hearing. On June 15, 2021, the AHO issued a post-hearing order.

On July 9, 2021, the revised deadline for filing post-hearing closing briefs, the AHO deemed the matter submitted under Water Code section 1114, subdivision (c)(1).

Under Water Code section 1114, subdivision (c)(1), the AHO was to prepare a proposed order in this matter within 90 days of this submittal deadline, that is, by October 7, 2021, unless the AHO extended this deadline.

On September 27, 2021, the AHO extended this deadline by 30 days to November 6, 2021, as authorized by Water Code section 1114, subdivision (c)(1).

On November 1, 2021, the AHO issued its Notice of Draft Proposed Order. This notice invited the parties to submit comments on the draft proposed order on or before December 1, 2021, vacated the prior submission of the matter, and stated that the matter would be deemed re-submitted on December 1, 2021.

Under Water Code section 1114, subdivision (c)(1), based on this new submittal date, the AHO is to prepare a proposed order in this matter within 90 days of this submittal deadline, that is, by February 28, 2022, unless the AHO extends this deadline.

As authorized by Water Code section 1114, subdivision (c)(1), the AHO extends this deadline by 30 days to March 30, 2022. This extension is necessary because of the delays in completing the proposed order the AHO has experienced due to the need to work on other matters. The AHO intends to complete its proposed order and to transmit it to the Clerk of the Board (with copies to everyone on the service list) on or before this new deadline.

Date: February 25, 2022

/s/ Alan B. Lilly
Alan B. Lilly, Presiding Hearing Officer

Enclosure:

-Service List (all copies sent by e-mail only, except for addressee without e-mail address)

Attachment 3

**Capital Improvement Projects
Summary Documents from this year**

Robertson Tank Compliance Order

Robertson/Wallan/Hurlbutt Tank Replacement Project

**Robertson Tank
Compliance Order**

September 9, 2021 Letter to Klamath District Engineer

February 25, 2022 Letter to Klamath District Engineer



GARBERVILLE SANITARY DISTRICT

P.O. BOX 211 • GARBERVILLE, CA 95542 • (707) 923-9566

September 9, 2021

State Water Resources Control Board
Division of Drinking Water
Klamath District 01, Field Operations Branch
Attn: Barry Sutter, PE, Klamath District Engineer
364 Knollcrest Drive, Suite 101
Redding, CA 96002

SUBJECT: ROBERTSON TANK: STATUS OF REPLACEMENT - REPORT OF
ADDITIONAL DAMAGE - ACTIONS TAKEN AND UNDERWAY
COMPLIANCE ORDER NO. 01_01_20(R)_004
VIOLATION OF THE CALIFORNIA WATERWORKS STANDARDS
PUBLIC WATER SYSTEM #1210008

Dear Mr. Sutter;

The Garberville Sanitary District regrets to inform you that additional damage has been observed at the Robertson Tank. On or about August 26th, 2021, while performing the required weekly inspections, District Operations Staff found that a section of the tank near the intersection of the concrete wall with the ground to have been dislodged, likely due to seismic activity. Further inspection found that a crack around the circumference of the tank is also evident. The following photos show the section that is dislodged, the rebar that is now showing and exposed to the air which will result in oxidation and potential breakage, and the water that pools on the ground.





In addition to this letter, I am emailing you video footage showing the magnitude of the leak caused by this additional degradation of the Robertson Tank. GSD is currently in drought tier 1 (SF Eel River is just above 7 cfs) and the river cannot afford to have this quantity of water being pumped out of the river, being treated and distributed to this tank, and then leaking out on the ground.

Hence, Operations Staff has notified the customers served off this tank and has lowered the “tank full” floats to a level that is just below this crack. This effectively decreases the storage capacity of this tank by a little over half. The District is already deficient in water storage and this decrease places us below the storage capacity allowed by the Water Works Standards.

This decrease in capacity has also lowered the service pressure at the highest elevation this tank serves to a level that is unacceptable, from a customer service standpoint. We can still maintain the required minimum 20 psi, but the volume and pressure of the water at that house is undesirable. The District has contacted two contractors to get prices and timelines for installation of an emergency pressure reducer and associated piping to switch the service of these residences from the Robertson Tank to the Alderpoint Tank line. As we have more information on the viability and affordability of this option, we will notify you.

The District has completed everything necessary for the funding of the Robertson/Hurlbutt/Wallan Tank Replacement Project Safe Drinking Water Safe Revolving Fund application for Planning Phase funding. It is my understanding from Alejandra Nunez of SWRCB DFA that the project has been approved for funding and is waiting for the preparation of the Funding Agreement. The District is ready to move forward with this project in the most accelerated manner possible, but can’t afford to begin until funding has been acquired.

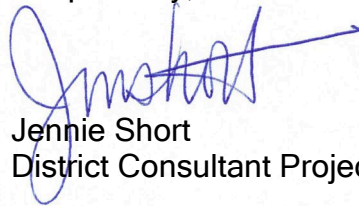
As we have discussed in the past, a PRV may be the optimal final solution for the Robertson Tank site in the replacement project if it is possible to combine the replacement of the Robertson Tank and the Hurlbutt Tank into a single larger storage

tank. I have been coordinating with Scott Gilbreath and Alejandra Nunez on the historical documents already approved by SWRCB-DDW for the construction of a 1-million-gallon tank at the Upper Hurlbutt site. I am hopeful that if the emergency PRV assembly is incorporated into the final design that it will be eligible for SRF funding and that the District will only have to “front” this expense until reimbursement for construction related expenses begins.

If there is anything you can do to help facilitate a quicker preparation of the funding agreement so that we can complete analysis, design, and environmental review of this project and move on to construction, the District would really appreciate it.

If you have any questions regarding the capital construction project, don't hesitate to contact me by phone at (707)223-4567 or email at jmshort@garbervillesd.org . If you have questions or information regarding the operations of the Robertson Tank, please contact our Senior Operator, Dan Arreguin by phone at (707)223-4569 or email at ops@garbervillesd.org.

Respectfully,

A handwritten signature in blue ink, appearing to read 'J Short', with a long horizontal stroke extending to the right.

Jennie Short
District Consultant Project Manager

Cc via email:

Ralph Emerson, District General Manager
Russ Gans, District Counsel
Scott Gilbreath, SWRCB-DDW Water Engineer
Alejandra Nunez, SWRCB-DFA Water Engineer



GARBERVILLE SANITARY DISTRICT

P.O. BOX 211 • GARBERVILLE, CA 95542 • (707) 923-9566

February 25, 2022

State Water Resources Control Board
Division of Drinking Water
Klamath District 01, Field Operations Branch
Attn: Barry Sutter, PE, Klamath District Engineer
364 Knollcrest Drive, Suite 101
Redding, CA 96002

SUBJECT: ROBERTSON TANK: PRV INSTALLED & TANK OFFLINE
COMPLIANCE ORDER NO. 01_01_20(R)_004
VIOLATION OF THE CALIFORNIA WATERWORKS STANDARDS
PUBLIC WATER SYSTEM #1210008

Dear Mr. Sutter;

The Garberville Sanitary District is pleased to inform you that the District has completed the work necessary to meet the requirements in Directive 3 of the Compliance Order with the installation of an emergency pressure reducer and associated piping to switch the service of the residences on Arthur Road from the Robertson Tank to the Alderpoint Tank line this week. The vault and associated lid remain to be constructed, but all the piping, valving and associated appurtenance (see construction photo below) are complete.

As we have discussed in the past, the PRV may be the optimal final solution for the Robertson Tank site in the replacement project if it is possible to combine the replacement of the Robertson Tank and the Hurlbutt Tank into a single larger storage tank. I am hopeful that if the emergency PRV assembly is incorporated into the final design that it will be eligible for SRF funding and that the District will only have to "front" this expense until reimbursement for construction related expenses begins.

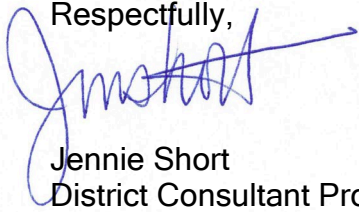
In addition, the District has executed the funding agreement for the planning phase of the Robertson/Hurlbutt/Wallan Tank Replacement Project.



The District is ready to move forward with this project in the most accelerated manner possible, and is working on acquiring a consulting firm to provide the planning, surveying, geotechnical, engineering, and environmental services for the project.

If you have any questions regarding the capital construction project, don't hesitate to contact me by phone at (707)223-4567 or email at jmshort@garbervillesd.org . If you have questions or information regarding the operations of the Robertson Tank or the installation of the PRV, please contact our Senior Operator, Dan Arreguin by phone at (707)223-4569 or email at ops@garbervillesd.org.

Respectfully,



Jennie Short
District Consultant Project Manager

Cc via email:

Ralph Emerson, District General Manager
Russ Gans, District Counsel
Scott Gilbreath, SWRCB-DDW Water Engineer

**Robertson/Wallan/Hurlbutt
Tank Replacement Project**

Cover Page to Prop 68 Funding Agreement
Planning Phase



**DRINKING WATER PLANNING
GRANT**

AGREEMENT No. D2102010
by and between
GARBERVILLE SANITARY DISTRICT (“Recipient”)
AND
CALIFORNIA STATE WATER RESOURCES CONTROL BOARD (“State Water Board”)

for the purpose of the
WALLAN AND ROBERTSON TANK REPLACEMENT PROJECT (“Project”)
PROJECT No. 1210008-008P

-
- Section 80140 of the Public Resources Code, and Resolution No. 2021-0022.

PROJECT FUNDING AMOUNT: \$325,000.00

ESTIMATED REASONABLE PROJECT COST: \$325,000.00
ELIGIBLE WORK START DATE: APRIL 8, 2019
WORK COMPLETION DATE: MARCH 31, 2024
FINAL REIMBURSEMENT REQUEST DATE: MARCH 31, 2024
RECORDS RETENTION END DATE: MARCH 31, 2060

**2021 Annual
Water Source Capacity Analysis**

Appendices

SEE SEPARATE PDF