DOCKETED	
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5.15 Water Resources

This section discusses the existing water resources near the Pecho Energy Storage Center (PESC or Pecho), a 400-megawatt (MW) Advanced Compressed Air Energy Storage (A-CAES) system in unincorporated San Luis Obispo County, near the City of Morro Bay, and assesses the potential effects of construction and operations on water resources and provides mitigation strategies to address the potential effects. Section 2, Project Description provides a detailed description of the overall project.

The proposed project will consist of (1) using off-peak or surplus electricity from the grid to operate air compressors to create high pressured heat compressed air (2) collecting heat from compressed air and storing it in thermal management systems (3) storing air in purpose-built storage cavern where hydrostatic compensation is used to maintain the system at a near constant air pressure during operation and (4) hydrostatic pressure forces air back to the surface where it is recombined with the stored heat and expanded through turbine generators to generate electricity on demand.

The energy storage systems store compressed air in purpose-built underground storage caverns. The storage caverns are flooded with water through a hydraulic conduit from a water storage compensation reservoir at the ground surface level. The weight of the water in this compensation reservoir maintains a near-constant air-pressure in the cavern throughout both the charging and discharging cycles, supporting efficient operation, and significantly reducing the cavern volume requirements. Two flow conduits connected to the cavern will be necessary to operate the A-CAES facility: one for the conveyance of air, and another for water. Upon the completion of construction, one of the construction shafts will be converted to a water conduit (the ventilation shaft). The lower end of the water shaft will extend into a sump chamber which will be constructed below the cavern, to ensure that a water seal is maintained at all times during operation.

This section discusses the potential effects related to the following areas:

- Water supply
- Wastewater management
- Stormwater discharge
- Flooding

Section 5.15.1 discusses the existing hydrologic environment. Potential environmental effects of the PESC construction and operation on water resources are presented in Section 5.15.2. A discussion of cumulative project effects is presented in Section 5.15.3. Section 5.15.4 discusses proposed mitigation measures that will prevent significant impacts. Section 5.15.5 presents applicable laws, ordinances, regulations, and standards (LORS) related to water resources. Section 5.15.6 describes permits that relate to water resources, lists contacts with relevant regulatory agencies, and presents a schedule for obtaining permits. Section 5.15.7 provides the references used to prepare this subsection.

5.15.1 Affected Environment

This subsection discusses the water features, groundwater, water quality, and water demand and supply for the PESC project.

5.15.1.1 Water Features, Climate, and Drainage

Regionally, the project site is depicted on the United States Geological Survey (USGS) *Morro Bay South*, California 7.5-minute topographic quadrangle map (Figure 15.5-1). The site is mostly located on the relatively flat alluvial plain in the western portion of the Chorro Valley; the southern portion of the site extends into mountainous terrain toward Park Ridge (Figure 15.5-2). Chorro Creek abuts the northern portion of the project site and then continues westward through the Morro Estuary Natural Preserve to its outlet in Morro Bay located to the southwest of the site.

The PESC project is located within the Morro Bay Watershed. The Morro Bay Watershed contains two major sub-watersheds that drain into Chorro and Los Osos Creeks. The Chorro Creek sub-watershed accounts for about 60 percent of the total land area draining into the Morro Bay estuary. Much of the watershed remains in open space that is used primarily for agriculture and a range of public uses, including parks, golf courses, nature preserves, a military base, and university-owned rangeland. The developed portions of the watershed include the community of Los Osos/ Baywood Park, parts of the City of Morro Bay, Cuesta College, Camp San Luis Obispo, the California Men's Colony, and various facilities of the County of San Luis Obispo. Chorro Creek, classified as a perennial river, flows east to west toward Morro Bay. San Luisito Creek is the main tributary to Chorro Creek. Stream gauging in the area (Chorro Creek at Canet Road) documents annual stream flows of about 400-acre feet (AF) in periods of critical drought, to over 20,000 AF in wet years. Uses for Chorro Creek include Groundwater Recharge (GWR) and Municipal and Domestic Supply (MUN).

The climate is warm and temperate, characteristic of a Mediterranean climate. Average annual precipitation in the area is about 19 inches and the average temperature is 59 °F. Most of the annual precipitation occurs from November through April.

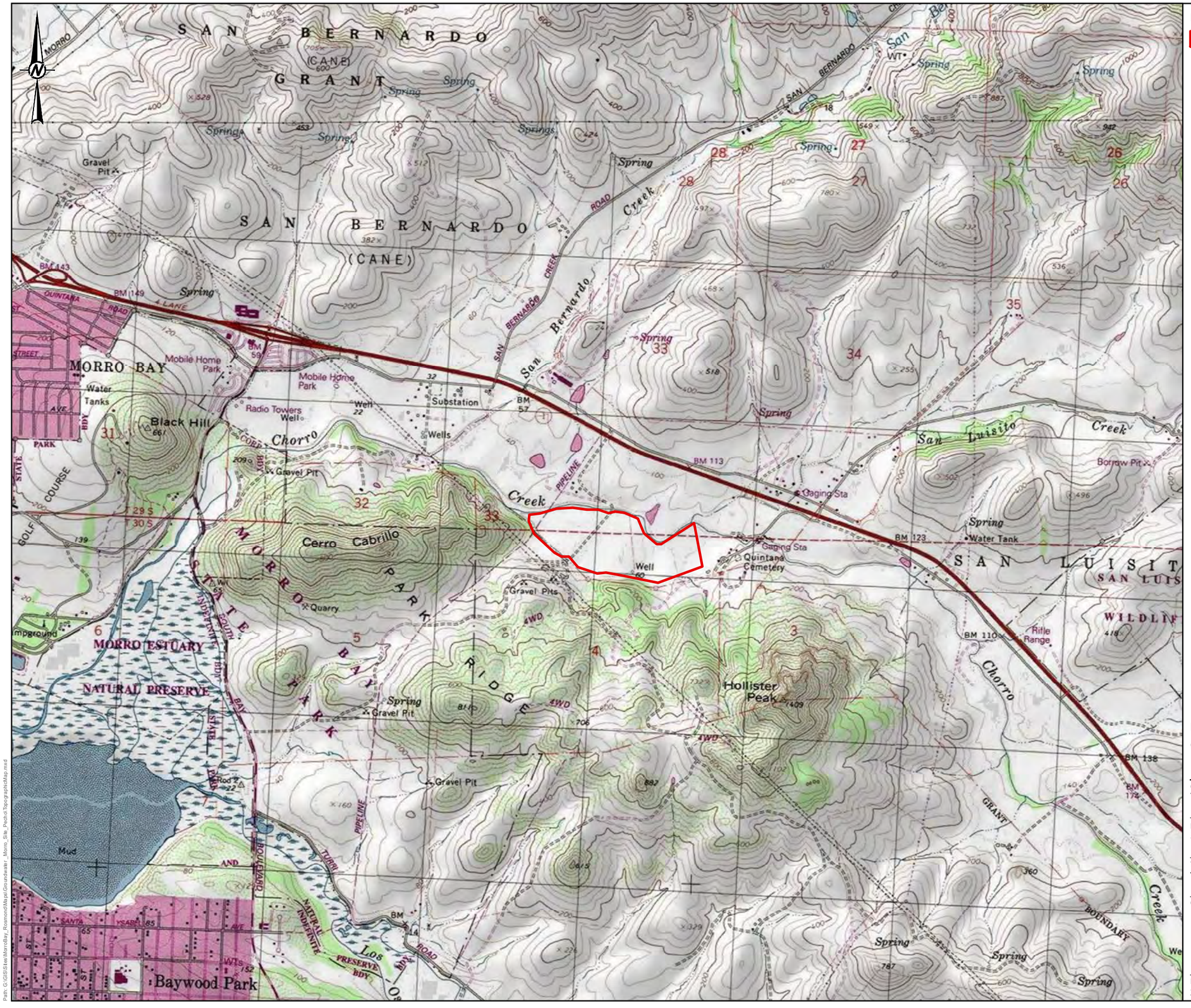
5.15.1.2 Groundwater

The project site is in the Chorro Valley Groundwater Basin (Department of Water Resources (DWR) Basin Number 3-42) in the County of San Luis Obispo's Water Planning Area 2 - Cayucos/Morro Bay/Los Oso (San Luis Obispo County Resource Summary Report (SLCRSR 2018).

The Chorro Valley Groundwater Basin covers an area of 3,200 acres east of the City of Morro Bay along the Highway No. 1 corridor. Most of the basin area is within unincorporated San Luis Obispo County, with the City of Morro Bay overlying the basin area near the Morro Bay estuary along the western margin. Impermeable rocks of the Franciscan Group and Miocene intrusive rocks bound the basin.

The groundwater-bearing portion of the basin consists of Holocene-aged alluvium reaching a maximum thickness of 70 feet (DWR 2004). These alluvial deposits include a permeable basal sand and gravel bed up to 30 feet thick, overlain by finer-grained flood plain deposits of sand, silt, and clay with some shallow gravelly lenses. The water-bearing portion of the basin covers an area of approximately 1,900 acres (CHG 2009).

The total groundwater storage capacity of the basin has been estimated at 33,900 AF (DWR 1982). The perennial yield of the Chorro Valley groundwater basin is estimated for planning purposes at 2,210-acre feet per year (AFY) (Cleath & Associates 1993; DWR 1958). Recharge to the basin occurs primarily from seepage of surface flows in Chorro Creek and tributaries (including wastewater treatment plant discharges and releases from Chorro Reservoir), deep percolation of precipitation, and residential/agricultural return flows.



LEGEND

PECHO SITE

1:24,000

0 1 Miles

REFERENCE

COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET

CLIENT
TWD CONFIDENTIAL PROJECT

PROJECT
SITE PLAN

TITLE
TOPOGRAPHIC MAP

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2021-08-18
PREPARED	MR
DESIGN	MR
REVIEW	GW
APPROVED	GW

PROJECT No.	CONTROL	Rev.	FIGURE
20449449	---	---	**15.5-1**

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Morro Bay Wastewater Treatment Plant

Morro Bay Water Reclamation Project

4010011-015

4010011-010

LEGEND

- MUNICIPAL SUPPLY WELLS
- PECHO SITE

GEOLOGIC MAP LEGEND

- KJfg= Franciscan graywacke; KJfm= Franciscan melange; KJfme= Franciscan melange; KJfmv= Franciscan, metavolcanic rocks
- Ks= unnamed graywacke and interbedded shale and sa
- Qa= Latest Pleistocene to Holocene alluvium,
- Qls= Landslide deposits
- Qs= Latest Holocene beach sand
- Td= porphyritic-aphanitic dacite
- Tdf= fine-grained dacite or flow facies
- bs= blueschist
- ch= chert
- gw= graywacke
- serpentine= serpentinite; sp= serpentinite

1:24,000

0 1,000 2,000 Feet

REFERENCE

COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET

CLIENT
HYDROSTOR INC.

PROJECT
PECHO ENERGY STORAGE CENTER

TITLE
GROUNDWATER BASIN

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2021-08-23
PREPARED	MR
DESIGN	MR
REVIEW	GW
APPROVED	GW

PROJECT No. 20449449 | CONTROL --- | Rev. --- | FIGURE **5.15-2**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET HAS BEEN MODIFIED FROM: ANSI B

Path: G:\GIS\Sites\MorroBay, Rosmond\Maps\Groundwater_Morro_Site_Pecho\Figure5.15-2-GroundwaterBasin.mxd

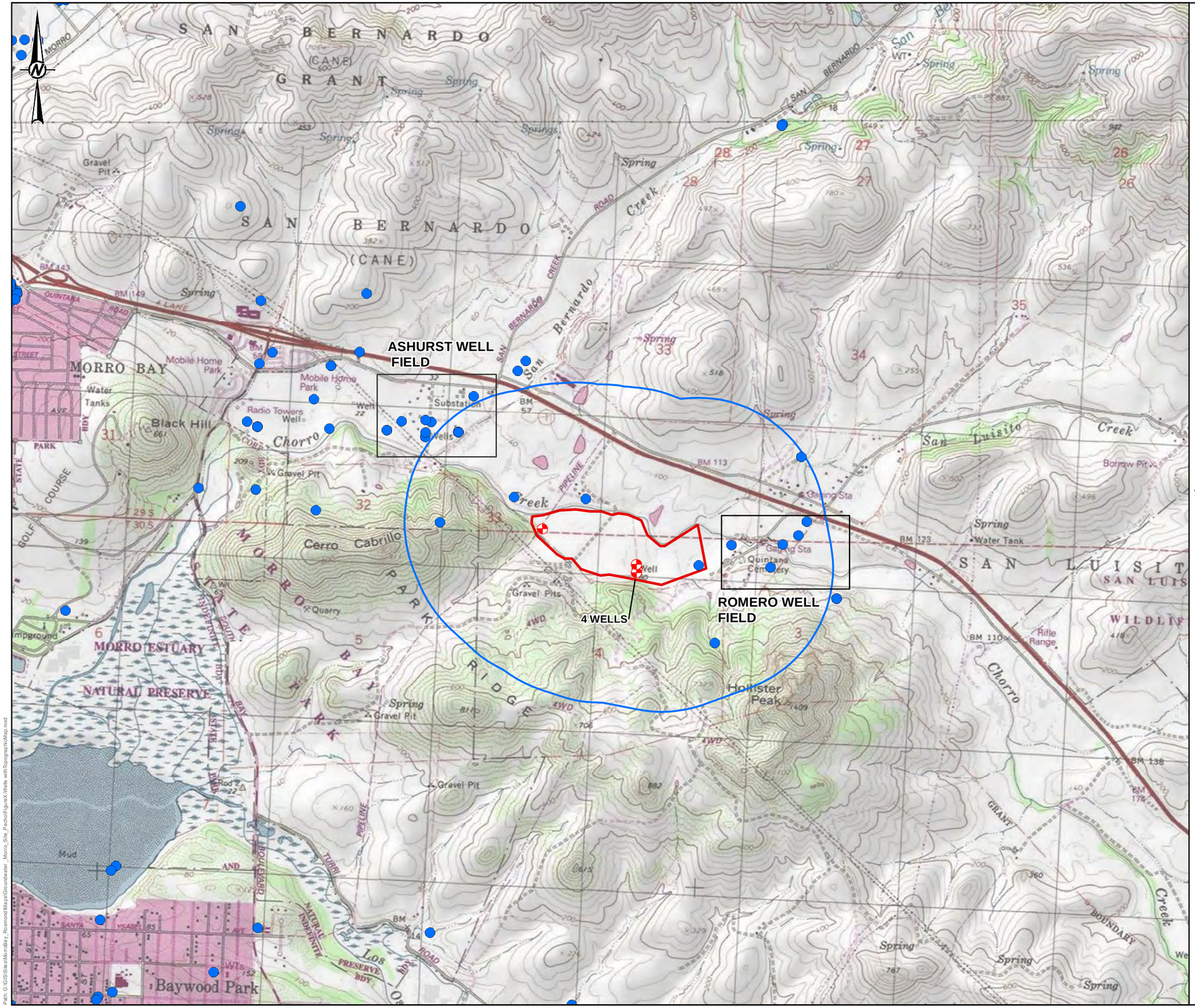
Groundwater in the Chorro Valley Groundwater Basin is primarily used for public and domestic water supply and for irrigation. Basin groundwater users include the City of Morro Bay, San Luis Obispo County, California State Parks, California State Polytechnic University, California National Guard, California Men's Colony (CMC), and residential and agricultural overlying users. The City of Morro Bay has a permitted allocation of 1,142.5 AFY through the State Water Resources Control Board (SWRCB).

The City of Morro Bay has historically operated groundwater wells in the Chorro Valley Basin in the Ashurst Well Field near the western boundary of the project site and in the Romero Well Field located east of the project site (Figure 15.5-3). Before implementation of the State Water Project (SWP) in late 1997, the Ashurst Well Field produced an average of 579 AFY with a reported production rate of over 1,000 gallons per minute (gpm) (GSI 2017). The City of Morro Bay's well pumping in the Ashurst Well Field has been reduced because of well efficiency decrease, high nitrate levels in the water, and seawater intrusion concerns (Fugro Consultants 2012a). Typical well depths for in the Ashurst Well Field are 75 feet. Fugro concluded that deeper wells in the underlying Franciscan bedrock formation are not considered feasible for small capacity domestic wells due to a general lack of a sustainable and reliable source of groundwater in the bedrock. The City of Morro Bay has historically operated as many as three water supply wells in the Romero well field area since at least the 1950s, with annual groundwater extractions being on the order of from 300 to 500 AFY prior to the implementation of the SWP in 1997.

The City of Morro Bay well field production is also limited by appropriative water right permits conditions from the State Board that require minimum surface flows in Chorro Creek of 1.4 cubic feet per second (cfs) for habitat protection. The City of Morro Bay is now relying primarily on State Water Project water, which is conveyed to the city via a pipeline that follows the Highway 1 corridor in the Chorro Valley area. In addition, the City's Water Reclamation Facility (WRF) that is under construction and planned to be operational in 2023 will provide reclaimed water for City use (Rincon 2020).

The Sustainable Groundwater Management Act (SGMA) took effect on January 1, 2015. SGMA provides for the preparation and implementation of Groundwater Sustainability Plans (GSP) for High and Medium priority groundwater basins. All basins were assessed for several components to determine the basin's priority ranking. The basin priority determination for each basin, as an element of the SGMA 2019 Basin Prioritization, used the same data and an updated method relative to the CASGEM 2014 Basin Prioritization. The Chorro Valley Groundwater Basin is classified as Phase 2, Very Low Priority. This classification means no current SGMA related GSP or restrictions are applicable to the project site. In addition, the Chorro Valley Groundwater Basin is not adjudicated.

Recharge to the basin comes primarily from seepage of surface flows in Chorro Creek and tributaries (including CMC wastewater treatment plant (WWTP) discharges and releases from Chorro Reservoir), deep percolation of precipitation, and residential/agricultural return flows. The CMC WWTP discharge is largely imported source water, which helps to augment the natural stream flow and an agreement between the CMC WWTP and the County of San Luis Obispo allows rights to withdraw creek water for irrigation of the Morro Bay Golf Course. Surface flow in Chorro Creek in the area of the Ashurst well field is somewhat separated from the main Chorro Valley aquifer by the presence of the shallow clays, which preclude significant recharge to the Ashurst wells (CHG 2009; GSI 2017).



LEGEND

SOURCE

- GROUNDWATER WELL (SOURCE: GAMA)
- GROUNWATER WELL ON SITE (SOURCE: SITE OWNER)
- RADIUS 0.5 MILE
- PECHO SITE

NOTES

GAMA GROUNWATER INFORMATIO SYSTEM

HTTPS://GAMAGROUNDWATER.WATERBOARDS.CA.GOV/

1:24,000

0 1 Miles

REFERENCE

COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET

CLIENT
HYDROSTOR INC.

PROJECT
PECHO ENERGY STORAGE CENTER

TITLE
GROUNDWATER WELLS

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2021-10-08
PREPARED	MR
DESIGN	MR
REVIEW	GW
APPROVED	GW

PROJECT No.	CONTROL	Rev.	FIGURE
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Based on the GAMA database review, 12 wells are located within 0.5 miles of the project site, including an onsite agriculture well at the eastern boundary of the site and the Ashurst and Romero well fields, as shown in Figure 5.15-3. The blue line on Figure 5.15-3 represents a 0.5-mile boundary in relation to the project site. Also shown on the figure is the USGS *Morro Bay South*, 7.5-minute topographic quadrangle map. One well is listed within the project site boundary on the topographic quadrangle map; no other wells are listed within 0.5 miles of the site. The site owner also confirmed that five functional agriculture wells are present onsite; the locations are shown in red on Figure 5.15-3.

5.15.1.2.2 Groundwater Level and Flow

Groundwater flows through the Chorro Valley basin toward the west at a gradient that varies from a low of 0.003 to 0.005 feet per foot, which is representative of static conditions, to a high of 0.025 feet per foot under conditions when the City's wells are pumping (CHG 2009). In the area of the Ashurst wells, located just to the west of the project site, the producing aquifer is present at an elevation of approximately 10 to 40 feet below sea level (GSI 2017). Although the concern about seawater intrusion is elevated during times of drought, seawater intrusion has not been noted at the Ashurst well field (CHG 2009). Further, while the primary aquifers in the Chorro Valley are in hydraulic connection to the ocean, there has been no documented evidence of seawater intrusion in the City's wells within the Chorro Creek groundwater basin (Fugro 2012a; 2012b). Water levels for the Ashurst Well Field have been above sea level by 12 to 20 feet when there has been no significant withdrawal from the well field. The same aquifer at the Romero well field is present at higher elevation of approximately 40 to 100 feet above sea level, or approximately 50 feet higher than at the Ashurst well field (GSI 2017). Hydrographs of wells in the Ashurst and Romero well fields are included as Appendix 15.5A (GSI 2017).

Water levels during the mid-1980s drought declined up to 40 feet at the Ashurst well field. During that drought, water levels in the Ashurst wells were below sea level for short periods while the well field was pumping, which is significantly lower than recent elevations when the wells are not in use. Even during the historical low water levels, the aquifer still contained 15 to 20 feet of saturated thickness (GSI 2017).

5.15.1.3 Water Quality

The Regional Water Quality Control Boards (RWQCBs) make critical water quality decisions for their designated regions, including setting standards, issuing waste discharge requirements, determining compliance with those requirements, and taking appropriate enforcement actions. Federal regulations require that the total maximum daily loads (TMDL), at a minimum, account for contributions from point sources (federally permitted discharges) and contributions from nonpoint sources. TMDLs are established at the level necessary to implement the applicable water quality standards. In California, the State Water Resources Control Board (SWRCB) has interpreted state law (Porter-Cologne Water Quality Control Act, California Water Code Sections 13000 et. seq.) to require that implementation be addressed when TMDLs are incorporated into water quality control plans (Basin Plans). The Porter-Cologne Act requires each RWQCB to formulate and adopt Basin Plans for all areas within its region. It also requires that a program of implementation be developed that describes how water quality standards will be attained. TMDLs can be developed as a component of the program of implementation, thus triggering the need to describe the implementation features, or alternatively as a water quality standard. When the TMDL is established as a standard, the program of implementation must be designed to implement the TMDL.

The PESC site is within the jurisdictional boundaries of the Central Coast RWQCB. The Central Coast RWQCB Basin Plan (https://www.waterboards.ca.gov/centralcoast/publications_forms/publications/basin_plan/) establishes water quality objectives to ensure the reasonable protection of beneficial uses and a program of implementation for achieving water quality objectives. For those waters not attaining water quality standards, the RWQCB

establishes TMDLs and a program of implementation to meet the TMDL. Section 303(d) of the Clean Water Act (CWA) requires that the states make a list of waters that are not attaining water quality standards. For waters on this list, the states are to develop TMDLs.

Chorro Creek is considered an impaired water body per Section 303(d) of the CWA. Table 5.15-1 lists the pollutants for which Chorro Creek is impaired and the proposed TMDL completion dates.

Table 5.15-1: CWA Section 303(d) List of Water Quality Impairments: Chorro Creek

Pollutant	Potential Sources	Area Assessed	Expected TMDL Completion Date
Benthic Community Effects	Unknown	14 miles	2027
Chloride	Unknown	14 miles	2027
Escherichia coli (E. coli)	Grazing-Related Sources Natural Sources Urban Runoff/Storm Sewers	14 miles	2004
Fecal Coliform	Grazing-Related Sources Natural Sources Urban Runoff/Storm Sewers	14 miles	2004
Nutrients	Agriculture Domestic Animals/Livestock Flow Alteration/Regulation/Modification Minor Municipal Point Source-dry and/or wet weather discharge Natural Sources Nonpoint Source	The impaired segment is from the mouth or Chorro Creek (at Morro Bay) to the monitoring station located near Highway 1 bridge, approximately 9 miles.	2007
Sedimentation/ Siltation	Agriculture Channel Erosion Erosion/Siltation Grazing-Related Sources Highway/Road/Bridge Construction Land Development	14 miles	2004
Sodium	Multiple point sources	14 miles	2007
TDS	Multiple point sources	14 miles	2007
Toxicity	Unknown	14 miles	2023

The general mineral character of groundwater is typically magnesium bicarbonate to magnesium-calcium bicarbonate, except near the bay where sea water intrusion can occur seasonally, or in wells influence by wastewater treatment plant discharges into Chorro Creek. The City of Morro Bay has reported that the Chorro Valley Groundwater Basin is susceptible to nitrate contamination, most likely from nitrate-based agricultural fertilizers and occasionally experiences elevated salinity. Nitrate concentrations are more of a concern for water quality in the lower portion of this basin. TDS concentrations historically ranged between 500 milligrams per liter (mg/L) and 700 mg/L (DWR 1975; CHG 2009). Seawater intrusion has been documented historically and is a potential future concern in the Chorro Flats area, should pumping patterns change significantly. In general,

groundwater quality meets drinking water standards and water quality management goals throughout most areas of the basin.

5.15.1.4 Flooding Potential

The northern and northwestern portions of the project site by Chorro Creek are located within Zone A (blue shaded) as defined by the Federal Emergency Management Agency (FEMA) as shown in Figure 5.15-4. Zone A generally indicates a one percent chance of flooding in any given year, also known as the 100-year floodplain. The 100-year floodplain levels of inundation will be considered during the final design of project facilities, including the site grading and drainage plans to avoid potential flood-related impacts to the extent feasible. Should the final design contain elements that encroach on the floodplain, a floodplain permit will be obtained from SLO County to mitigate potential impacts. The floodplain permit application will include any necessary supporting studies.

LEGEND

PECHO SITE

FEMA FLOOD ZONE COMBINING DESIGNATION

FLOOD ZONE

A

1:24,000

0 1 Miles

REFERENCE

COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET

CLIENT
TWD CONFIDENTIAL PROJECT

PROJECT
SITE PLAN

TITLE
FLOOD ZONE

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2021-08-18
PREPARED	MR
DESIGN	MR
REVIEW	GW
APPROVED	GW

PROJECT No.	CONTROL	Rev.	FIGURE
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5.15.1.5 Water Supply

This subsection describes the quantity of water required, the sources of the water supply, water treatment requirements, and the water quality of the source and treated water.

5.15.1.5.2 Process Water

Process water for PESC for initial fill will be sourced by new onsite groundwater wells, and/or imported reclaimed water. For ongoing operations water will mainly come from the recovery of water through (i) the compression of air, (ii) rainwater collection systems, and (iii) if needed sourced by the onsite groundwater wells and/or imported reclaimed water.

5.15.1.5.2.1 Construction Phase

During construction and the initial filling of the surface compensation reservoir, PESC will require approximately 735 AF of water over 54 months. Water will be used for cavern development as well for filling the compensation reservoir. The water for mine development will be used for shaft drilling and for operating construction equipment (rock drills). The reservoir will require approximately 525 AF, in which the reservoir fill will occur over an approximate 20–24-month period. The required fill amount accounts for both precipitation gains and evaporation losses. The compensation reservoir will be equipped with a cover estimated to be 90 percent effective in reducing evaporation. The estimated fill amount conservatively assumes no benefit from the cover. The average and peak monthly construction demands are calculated by Hydrostor to be 14 AF/month and 26 AF/month, respectively.

The project site is not in an adjudicated basin and is not within an existing public water system service area. Water demand for the construction phase of the project, should groundwater be the only water source, represents less than 8% of the current perennial yield of the Chorro Valley Groundwater Basin perennial yield of 2,210 AFY. The Chorro Valley Groundwater Basin perennial yield does not include additional recharge from the Morro Bay Water Reclamation Plant that will be brought online in the future.

Agriculture wells are located onsite. The construction details, water quality, well yields, and historical usages have not been confirmed at this time. However, the current site owner has indicated that the onsite well(s) can produce approximately 500 AFY (Hydrostor 2021). PESC anticipates an agreement with the site's owner whereby a portion of the existing onsite groundwater supply would be used for the project. Two new groundwater wells will be installed for groundwater extraction. Groundwater will be extracted at a rate that will not cause adverse effects (i.e., significant decrease in water levels) to adjoining properties or Chorro Creek. To supplement groundwater production, PESC may also import water from offsite sources. The offsite sources include the Morro Bay Water Reclamation Facility, which is currently under construction approximately two miles to the west of the project site.

The Morro Bay Water Reclamation Plant will have the capacity to produce up to one million gallons per day of tertiary, disinfected wastewater in accordance with Title 22 requirements for unrestricted urban irrigation. The reclaimed wastewater was designed to augment the City's water supply, by either direct or indirect means, as described in the City's master water reclamation plan. The plan is to use most of the treated wastewater as recharge to the Chorro Valley Groundwater Basin. As the project site is outside of Morro Bay City limits, project use of reclaimed water will require approval from the City to use the water outside of city limits. The use of recycled water from the City of Morro Bay WWTP (located along the coast), Cayucos Sanitary District WRF, and the San Luis Obispo water reclamation facilities (WRF) was also considered; however, because of the distance of the WRFs to the project site, the direction of these facilities relative to the project site, or the lack of an existing pipeline, recycled water from these facilities is not considered a viable option.

5.15.1.5.2.2 Operations Phase

For the operations phase of the project, the yearly water balance for the facility, utilizing an average precipitation year and a facility utilization factor of 50 percent year, is expected to have a surplus of water in the order of ~17.2 million gallons per year. The following table summarizes the calculated monthly volume of water in gallons.

Table 5.15-2: Yearly Water Balance

	Evaporation Rate	Produced Water	Precipitation	Process, wash & blowdown	Monthly Inventory (+ve = surplus, -ve = deficit)		
Month	gallons	gallons	gallons	gallons	gallons	usgal/day	usgpm
Jan	-163,859	838,956	1,619,912	-23,874	2,271,135	73,262	50.9
Feb	-141,887	802,487	1,870,592	-21,564	2,509,629	80,956	56.2
Mar	-171,679	946,501	1,408,260	-23,874	2,159,208	69,652	48.4
Apr	-208,175	937,575	486,701	-23,104	1,192,998	38,484	26.7
May	-228,285	1,052,238	241,407	-23,874	1,041,486	33,596	23.3
Jun	-238,340	1,117,883	31,968	-23,104	888,407	28,658	19.9
Jul	-242,436	1,288,005	22,601	-23,874	1,044,296	33,687	23.4
Aug	-223,071	1,308,917	3,309	-23,874	1,065,280	34,364	23.9
Sep	-204,451	1,223,633	47,400	-23,104	1,043,478	33,661	23.4
Oct	-217,113	1,106,483	248,596	-23,874	1,114,092	35,938	25.0
Nov	-185,831	880,364	641,840	-23,104	1,313,270	42,364	29.4
Dec	-177,265	804,201	991,863	-23,874	1,594,925	51,449	35.7
Total:	-2,402,390	12,307,242	7,614,448	-281,096	17,238,205		

Figure 5.15-5 depicts the results of the water balance graphically for the same operating conditions assumed above. As noted in the graph, the monthly inventory line depicts the monthly amount of excess water. This annual excess volume correlates to 53 AFY or 17,238,205 gallons per year of non-potable recharge quality water that will be available for beneficial uses, including agriculture irrigation or aquifer recharge.

To account for monthly variations associated with the changes in climatic conditions from the average case the compensation reservoir will be used as a buffer to mitigate the requirement to draw water from the onsite groundwater wells.

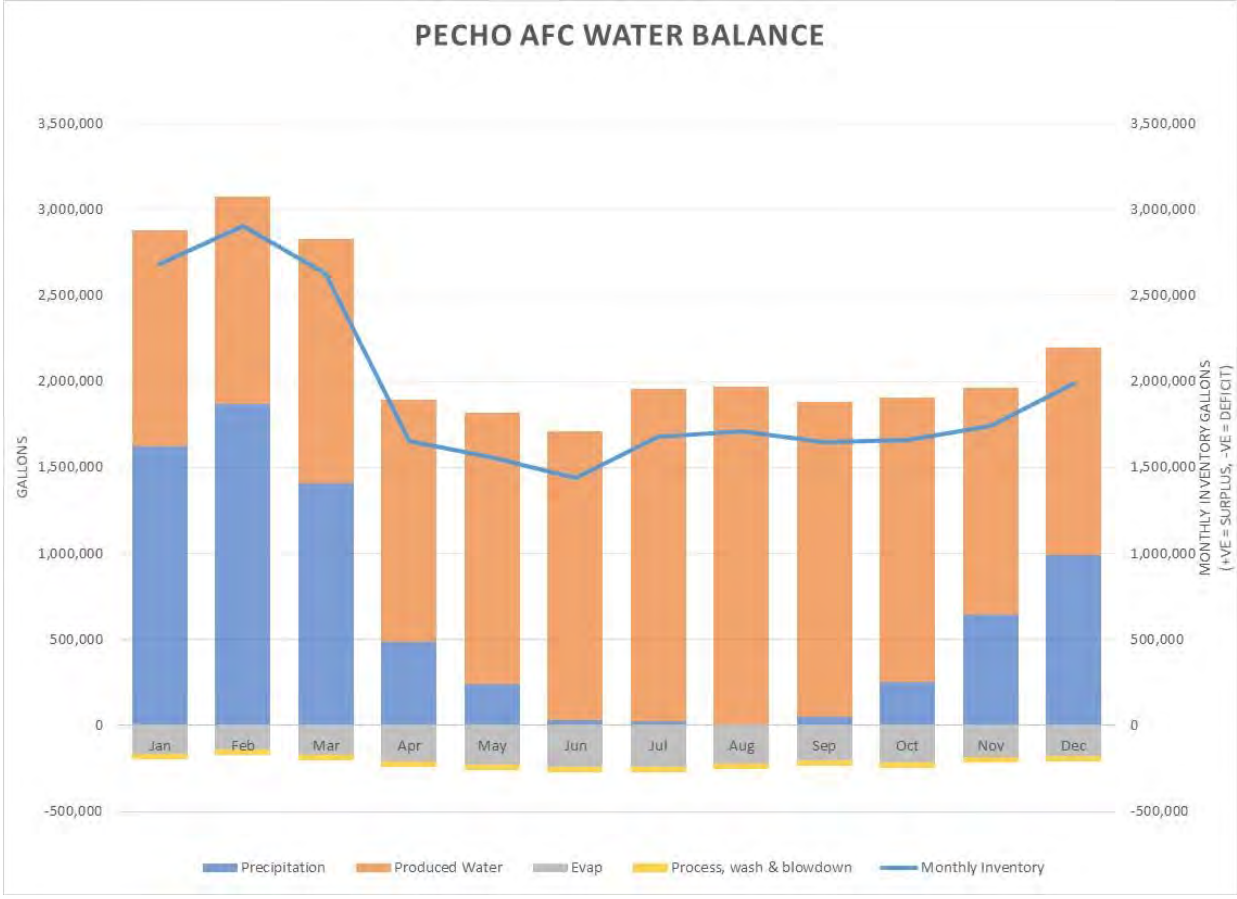


Figure 5.15-5: Water Balance

In all operating cases, the production of water from compression supersedes the anticipated consumption of water required for operations. For clarity the expected losses of water are attributed to hot and cold-water tank evaporation losses, blowdown water from the RO unit(s), and water required for facility maintenance.

Illustrated in Figure 5.15-6 is the depiction of this facility output correlated to the net water balance for all operating outputs of the facility. This figure has excluded the impacts of the reservoir evaporation and the rainwater collection since both variables will contribute to excess water in the balance.

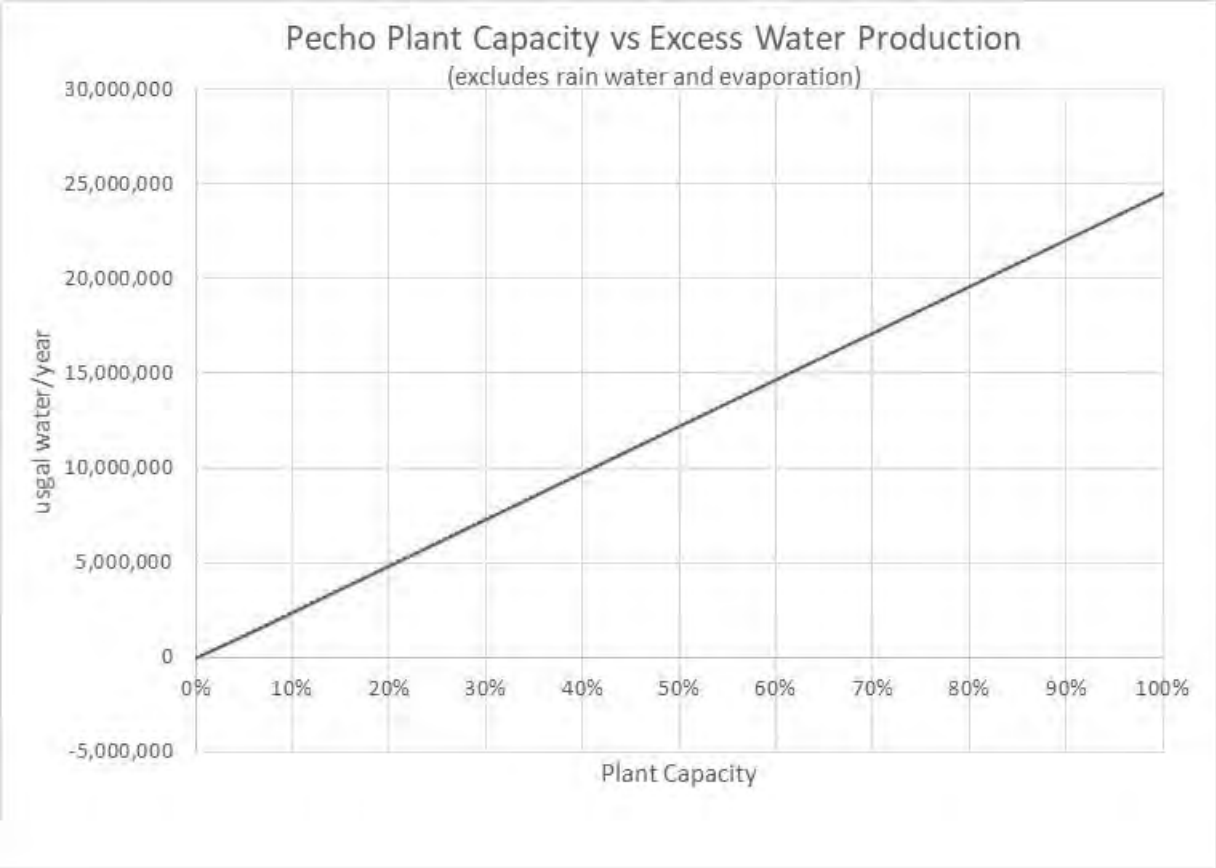
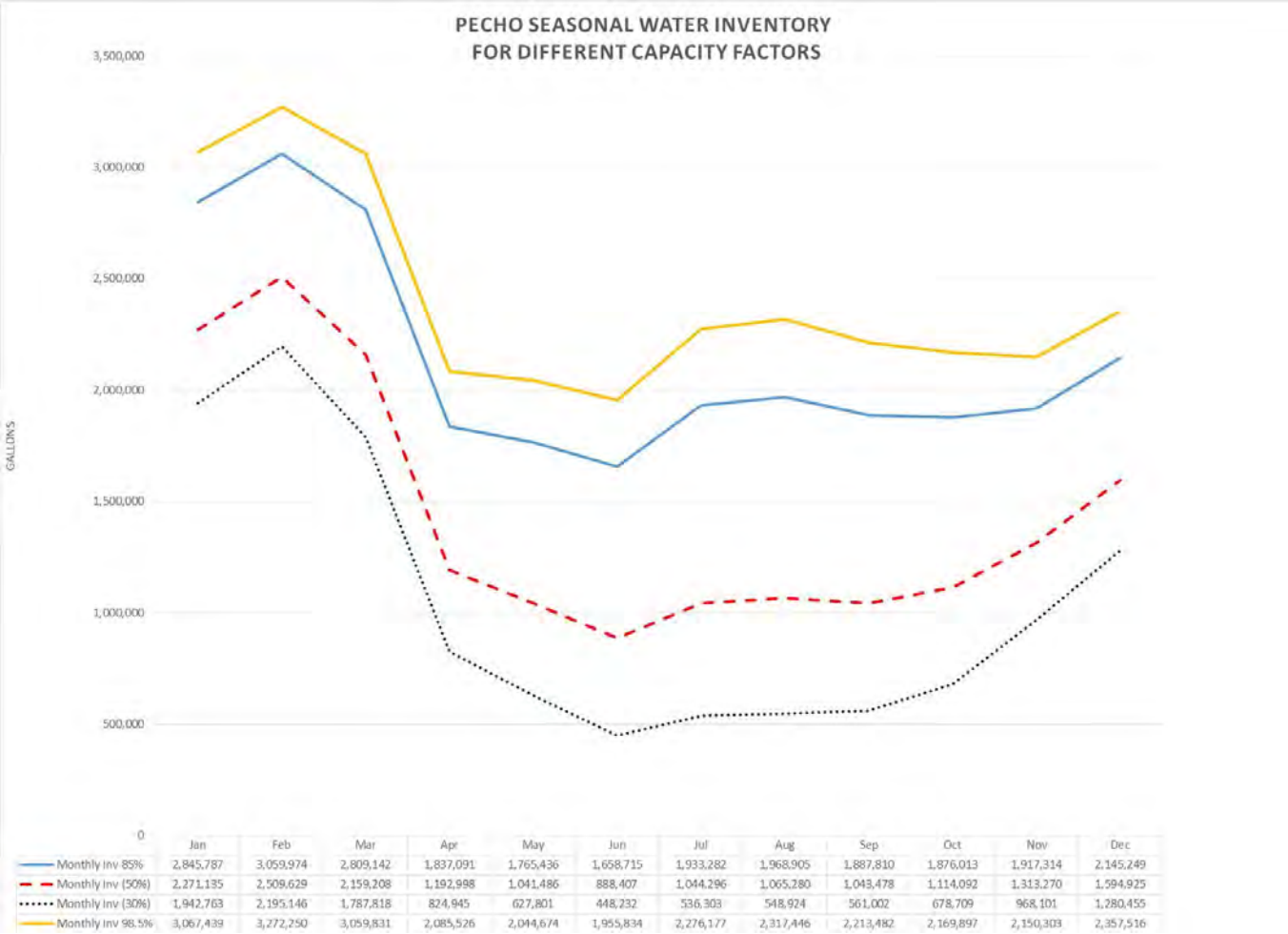


Figure 5.15-6: Plant Capacity vs. Excess Water Production

As outlined above, it is expected that during the operating phase of the facility, there will be excess water generated. The total amount of excess water is predicated mainly by the utilization rate of the facility.

Figure 5.15-7 presents the excess water by month for various operating utilization rates based on an average climatic year. Excess water management will be designed based on the nameplate capacity of the facility and the utilization rate of 98.5%, which is equivalent to the facilities expected uptime.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Inv 85%	2,845,787	3,059,974	2,809,142	1,837,091	1,765,436	1,658,715	1,933,282	1,968,905	1,887,810	1,876,013	1,917,314	2,145,249
Monthly Inv (50%)	2,271,135	2,509,629	2,159,208	1,192,998	1,041,486	888,407	1,044,296	1,065,280	1,043,478	1,114,092	1,313,270	1,594,925
Monthly Inv (30%)	1,942,763	2,195,146	1,787,818	824,945	627,801	448,232	536,303	548,924	561,002	678,709	968,101	1,280,455
Monthly Inv 98.5%	3,067,439	3,272,250	3,059,831	2,085,526	2,044,674	1,955,834	2,276,177	2,317,446	2,213,482	2,169,897	2,150,303	2,357,516

Figure 5.15-7: Seasonal Water Balance for Various Capacity Factors

5.15.1.5.3 Process Water Quality

Table 5.15-3 shows the expected water quality of the source water. The water quality is based on a review of available water data from groundwater wells and recycling facilities influent and effluent data (Keystone 2021). It is expected that the water quality in the reservoir will be similar to the source water provided from the groundwater well.

Table 5.15-3: Expected Source Water Quality

Parameter	Unit	Value
Alkalinity as CaCO3	mg/L	600
Aluminum	mg/L	1
Ammonia	mg/L	55
Arsenic	mg/L	0.7
Barium	mg/L	4
Boron	mg/L	0.25
Cadmium	mg/L	0.01
Calcium	mg/L	210
Chloride	mg/L	1000
Chromium (Total)	mg/L	0.05
Copper	mg/L	0.3
Fluoride (natural source)	mg/L	0.5
Hardness (Total) as CaCO3	mg/L	1300
Iron	mg/L	10
Lead	mg/L	0.03
Magnesium	mg/L	135
Manganese	mg/L	40
Mercury	mg/L	0.0015
Nickel	mg/L	0.015
Nitrate (as NO3)	mg/L	55
Nitrite (as N)	mg/L	0.5
Orthophosphate as P	mg/L	3
pH	pH	6.5 - 8.7
Potassium	mg/L	10
Selenium	mg/L	0.025
Silica	mg/L	15
Sodium	mg/L	300
Specific conductivity (S.C)	µS	2100
Sulfate	mg/L	600
Thallium	mg/L	0.0012
Total organic carbon	mg/L	6.5
Total dissolved solids	mg/L	1200
Turbidity	NTU	175
Zinc	mg/L	0.9

Notes: Table from Keystone Environmental based on data provided by Golder
µg/L = microgram(s) per liter; mg/L = milligram(s) per liter; µS = microSiemens per centimeter; NTU = Nephelometric Turbidity Unit

5.15.1.5.4 Domestic Water Supply

Potable water will be delivered to site from a potable source and stored in a tank for use. Potable water will be provided for drinking water, kitchen use, safety showers, and eye-wash stations. Water for sanitary use during operations will be sourced from the reservoir.

5.15.1.6 Wastewater Collection, Treatment, Discharge, and Disposal

5.15.1.6.1 Construction Phase

During the construction phase of the Project, water will be required for the storage cavern development, in particular for shaft drilling. Shaft drilling water will be provided by groundwater wells. This water will be recycled through an aboveground settling pond and re-used through the drilling process. Wastewater from this process may include spent drill water and groundwater inflow. A water sump will be constructed in the cavern to provide initial separation of solids and traces of hydraulic and engine oil. Further separation of any residual solids and oils is accomplished with settling in frac tanks on the surface and managed similar to the excavation wastewater as described below.

Also, through this phase, sanitary waste, stormwater runoff, equipment washdown water, hydrotest water, and dewatering activities from general construction activities will be potential wastewater waste streams. Wastewaters will be collected and managed based on the type and levels of contamination. Depending on water quality, wastewater could be considered nonhazardous or hazardous. All wastewater will be collected and disposed of off-site if it cannot be reclaimed for onsite use as outlined in Section 5.14.4.

Sanitary Waste. Portable toilets will be housed on Site during construction phase. Sanitary wastewater from portable toilets will be collected in the self-contained in the toilets. The vendor of the portable toilets will be responsible of proper handling and transporting sanitary waste offsite for disposal.

Excavation Wastewater. Excavation water streams are assumed to be nonhazardous and as such will be collected on site in temporary settlement ponds to allow for the settlement of any solids to occur. The water will be periodically tested for chemical quality. Water will be reused on site and the remaining water will be allowed to evaporate or disposed off-site by third party contractor.

Stormwater. Prior to the start of construction, a stormwater permit will be obtained to outline best management practices for managing stormwater as noted in Section 15.5.2.3. Through the course of construction, stormwater will be controlled to prevent stormwater leaving the site. Water collection ponds will be established in which the water collected is expected to be nonhazardous. The collection ponds will allow for the settling of any solids to occur. The water will be periodically tested for chemical quality. To the extent feasible, water will be reused on site (including reservoir filling) and the remaining water will be allowed to evaporate or infiltrate. If there is excess water within the stormwater ponds, the water will be disposed off-site by a third-party contractor.

Nonhazardous wastewater. For all other wastewater generated, it will be managed by source reduction techniques, water conservation and reuse measures.

5.15.1.6.2 Operations Phase

PESC will employ a water treatment system to treat raw and recycled feed water to the reservoir and to its process. The raw water will be used for makeup to the reservoir system, which in turn will be used for fire protection, makeup requirements for closed loop process systems and general (non-potable) needs such as equipment and surface washdown when needed. The water treatment equipment will include a media filter, ultrafiltration, reverse osmosis (RO), pH control and a chlorination system. A percentage of the RO water will be

treated further to boiler feedwater quality to be used for the closed loop thermal fluid and closed loop cooling medium systems. These systems will also have a chemical treatment component for corrosion control. Minimal water will be generated from the RO backwash system. This water will be evaporated in a dry pond.

Appendix 2D includes water mass balance diagrams that illustrate the expected waste streams and describe waste stream flow rates for average and peak conditions. The proposed project has been engineered to maximize collection and recycling onsite of wastewater streams, using water treatment systems with smaller volume discharges collected in tanks for ultimate disposal by third party vendors. Industrial wastewater that could be generated from maintenance activities will be collecting in a holding tank and hauled off site by an approved waste disposal hauler to an approved disposal facility. Potable water will be purchased and trucked in stored in a potable water holding tank which will be used for bathrooms, showers, and kitchen facilities. Wastewater from potable use will be collected in a septic tank.

Wastewater (or other wastes) from occasional small equipment leaks within the building will be collected in holding tanks for testing and disposal. The shop will primarily be operated as a dry shop. PESC will not have a practice of washing down any equipment with oily residues. Equipment that has oily residues will be cleaned with rags and sorbents. Sanitary discharges will be hauled off-site by an approved waste-hauler. Wastewater from infrequent equipment washes will be collected in holding tanks (one for each combustion turbine generator) and will be hauled away by a licensed waste hauler.

Table 5.15-4 shows the blowdown water quality (expected maximum concentrations) from the PESC site.

Table 5.15-4: Blowdown Water Quality (Expected Maximum Concentrations)

Parameter		Units of Measure	Concentrate	Reject
Alkalinity	HCO_3	mg/L	1,900	10,100
Ammonia	NH_3	mg/L	170	890
Barium	Ba	mg/L	13	70
Calcium	Ca	mg/L	700	3,680
Chloride	Cl	mg/L	3,300	17,200
Copper	Cu	mg/L	0.003	1.0
Fluoride	F	mg/L	1.6	8.4
Hardness	$CaCO_3$	mg/L	3,600	18,900
Iron	Fe	mg/L	0.01	33
Magnesium	Mg	mg/L	450	2,400
Nitrate	NO_3	mg/L	160	830
pH			7-8.5	7.5-8.5
Potassium	K	mg/L	32	170
Silica	SiO_2	mg/L	49	258
Sodium	Na	mg/L	2,000	10,300
Sulfate	SO_4	mg/L	2,000	10,500
Total Dissolved Solids	TDS	mg/L	4,800	25,200
Turbidity		NTU	0.2	0.2
Zinc	Zn	mg/L	0.09	0.47

Source: Keystone Environmental

The water balance schematic diagrams, provided as Appendix 2D, illustrate the process flow, expected overflow streams, and describe the overflow stream flow rates for average and peak scenarios. Water for both the thermal fluid and cooling medium loops will be batch treated and stored in a water storage tank, which will allow for use on an as-needed basis. As part of this treatment, there will be a small amount of RO system reject water, which will be evaporated in a dry pond. Table 5.15-5 lists the potential wastewater that will be generated and disposed offsite.

Table 5.15-5: Potential Wastewater Generated during Operations

Waste	Origin	Composition	Estimated Amount	Classification	Disposal
Industrial wastewater	Wash down	Sediment laden water	265 gallons per occasion	Nonhazardous	Collected in a tank for disposal
Sanitary	Domestic use	Sanitary water	1.5 gpm	Nonhazardous	Septic Tank (trucked away)

5.15.1.7 Stormwater

The project site will be developed so that stormwater from the facility is collected in centralized ponds. This stormwater will be collected by perimeter swales/culverts to prevent any water from leaving site and will be directed to onsite ponds. Prior to entry into the ponds, the water will go through an interceptor sump where solids and oils will be separated. These solids and oils will be vacuumed out as part of the maintenance regime. Water will then continue into the stormwater pond which will operate as a dry pond. The stormwater retention system was designed to County of San Luis Obispo Public Improvement Standards, Department of Public Works, July 2019 and was based on 19 inches of annual rainfall and SLO Hydrology Rainfall Intensity (Drawing No. H-4), for a 50-year storm for a duration of 10 hours, which is 0.58 inches per hour or 5.8 inches for 10 hours (TWD 2021). If greater than a 50-year storm occurs, there is a potential that the emergency overflow will be utilized. The proposed site grading and drainage plan, stormwater drawings and supporting calculations from TWD are provided in Appendix 5.15B.

5.15.2 Environmental Analysis

Project effects on water resources can be evaluated relative to significance criteria derived from the California Environmental Quality Act (CEQA) Appendix G checklist (CEQA Statute and Guidelines 2021). Under the Act, the project is considered to have a potentially significant effect on water resources if it would do the following:

- Substantially alter the existing drainage pattern of the site or area, including the course of a stream or river, in a manner that will result in substantial erosion or siltation on- or offsite, or in flooding on- or offsite.
- Create or contribute runoff water that will exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells will drop to a level that will not support existing land uses or planned uses for which permits have been granted).
- Place structures that will impede or redirect flood flows within a 100-year flood hazard area.
- Cause inundation by seiche, tsunami, or mudflow.

5.15.2.1 Water Supply

Golder completed a Water Resource Technical Study for PESC (Golder 2021). The study included consideration of water supply reliability in average, single dry, and multiple dry years. The Water Resource Technical Study concluded that supplies will be available in sufficient quantities to meet projected project demands during

construction and operations. The project's total water demand for the construction phase represents less than 8 percent of the annual yield of the Chorro Valley Groundwater Basin; not accounting for the future additional recharge from the Morro Bay Water Reclamation Plant once it is online. PESC will acquire rights to use the onsite groundwater supply, which has reported capacity of 500 AFY. Two new groundwater wells will be installed to extract groundwater onsite. Groundwater well permits from San Luis Obispo County will be required for each well. It is anticipated that extracted groundwater will be augmented by importing reclaimed water from the Morro Bay Water Reclamation Facility, assuming approval from the Morro Bay City council is received to use the water outside of the city limits.

An alternative water supply will be to purchase and import water from an offsite water purveyor, such as the City of Morro Bay or Whale Rock Water as discussed in the Alternative Evaluation Section. The City of Morro Bay has a right to extract 1,142.5 AFY from the Chorro Valley Groundwater Basin, which includes the Ashurst and Romero Well Fields located adjacent to the project site. During facility operations, it is anticipated that a surplus of up to 53 AFY will be available for recycle into the surface compensation reservoir or for beneficial uses, including adjacent agriculture or aquifer recharge. The expected 735 AF of water required over the 54-month construction period is a one-time need that represents approximately 8 percent of the Chorro Valley Groundwater Basin safe perennial yield. Rights to extract groundwater onsite for the majority of this amount are anticipated to be provide by the current landowner. Additionally, the city has historically extracted larger quantities of groundwater near the site and is no longer doing so. Therefore, the extraction of the full amount of water needed for the one-time 735 AF construction requirement is not expected to cause a significant impact. During operation, the project is expected to generate surplus water, that can either be recycled or provided for adjacent beneficial uses, such as agricultural irrigation or aquifer recharge. Therefore, the impact to water supply during operation will not be significant and in fact, is expected to be beneficial over the life of the project.

5.15.2.2 Wastewater Collection, Treatment, Discharge, and Disposal

The project is expected to have a surplus of water once in operations due predominantly to the strategy that the rainwater from the roofs will be collected and stored in the reservoir and that the water produced through the compression sequence will be collected and directed to the reservoir storage. Since there will be a seasonal variation associated with the production of water as well as evaporation losses, the reservoir will be designed to allow for the management of inventory of water to minimize seasonal fluctuations. Surplus water will be used for beneficial uses by one of the following strategies: (i) supplemental irrigation water in adjacent agriculture fields, (ii) groundwater recharge by reinjecting into the aquifer, or (iii) piped to potential end users.

There will be a small amount of RO system reject water generated. This water will be evaporated in a dry pond.

Septic waste will be collected on site in holding tanks and trucked off site to an approved disposal facility in compliance with applicable LORS. An industrial wastewater discharge permit is not required because impacts related to wastewater collection, treatment, discharge, and disposal will be less than significant.

5.15.2.3 Stormwater Runoff and Drainage

The northern and northwestern portions of the project site are located within Zone A (shaded) of the FEMA-designated floodplain. The site grading and drainage plans will be designed to comply with all applicable LORS to avoid potential flood-related impacts. Furthermore, as part of the site development plan, stormwater will be retained by perimeter swales and culverts to retain all stormwater on site. The collected stormwater will be centralized and through an interceptor sump as described above and the clean effluent will be allowed to flow into a dry stormwater pond, in which the water will be allowed to evaporate and/or infiltrate.

Potential water quality impacts from construction will be controlled through implementing a stormwater pollution prevention plan (SWPPP) and associated best management practices, and through practicing proper housekeeping at the construction site. The site grading and drainage will be designed to comply with all applicable LORS. Successful implementation of the SWPPP will ensure that construction impacts on water resources are mitigated to a less-than-significant level. SWPPP procedures include submitting a Notice of Intent to the Central Coast Regional Water Quality Control Board and developing the SWPPP before the start of construction activities.

5.15.2.4 Compensation Reservoir

The surface compensation reservoir will have a capacity of about 600,000 cubic meters (486 AF) with maximum berm height of ~40 feet from ground elevation and will be designed to be seismically stable, including preventing the formation of seiches. The Compensation reservoir will therefore meet the definition of a jurisdictional dam under the California Water Code. A reservoir is considered a jurisdictional dam per "Statutes and Regulations Pertaining to Supervision of Dams and Reservoirs", California Water Code, Division 3, Dams and Reservoirs, Part 1, Supervision of Dams and Reservoirs, Chapter 1 if the dam jurisdictional height is more than 6 feet and it impounds 50 AF or more of water, or if the dam jurisdictional height is more than 25 feet and it impounds more than 15 AF of water, unless it is exempted. As determined by the Division of Safety of Dams (DSOD), a dam is any artificial barrier used to hold back water, including reservoirs. The jurisdictional height is defined as the vertical distance measured from the lowest point at the downstream toe of the dam to its maximum storage elevation.

5.15.3 Cumulative Effects

A cumulative impact refers to a proposed project's incremental effect together with other closely related past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the proposed project (Public Resources Code Section 21083; Title 14 California Code of Regulations, Sections 15064[h], 15065[c], 15130, and 15355).

Existing land uses surrounding the project site include agriculture, groundwater well fields, open space, and rural residential. The Morro Bay Water Reclamation Plant, which is under construction, is the only major project expected in this area at this time. As noted previously, the Morro Bay Water Reclamation Plant will have the capacity to produce up to one million gallons per day of tertiary, disinfected wastewater in accordance with Title 22 requirements and will have a positive effect on the groundwater annual yield. Additionally, PESC will also have a direct and/or indirect positive effect on groundwater annual yield during the operations phase after the construction phase is complete.

Therefore, there will be no significant cumulative impacts to water supply and compliance with local and regional standards and regulations ensure that PESC will not result in significant cumulative impacts.

5.15.4 Mitigation Measures

The project will comply with the requirements of applicable LORS (described in Section 5.15-5). Since no significant impacts are expected, no mitigation other than compliance with permit conditions will be required.

5.15.5 Laws, Ordinances, Regulations, and Standards

Federal and state LORS applicable to water resources and anticipated compliance are discussed in this subsection and are summarized in Table 5.15-6.

Table 5.15-6: LORS of Water Resources

LORS	Requirements	Lead Agency	Application for Certification Section Explaining Conformance
Federal			
CWA/Water Pollution Control Act. 1972, amended by Water Quality Act of 1987 P.L. 100-4 (33 Federal Code 466 et seq.) NPDES (CWA, Section 402)	Prohibits discharge of pollutants to receiving waters unless the discharge is complying and authorized via a NPDES permit. Applies to all point-source discharges. Applied to nonpoint sources through municipal NPDES permits.	Central Coast RWQCB	Compliance with existing state NPDES general construction permit for stormwater (Section 5.15.1.7)
	UIP	EPA	Section 5.15.5.1
State			
Federal CWA (implemented by State of California)	Implements and enforces the federal NPDES permit program.	Central Coast RWQCB	Compliance with existing state NPDES general construction permit for stormwater (Section 5.15.1.7)
Porter-Cologne Water Quality Control Act	Controls discharge of wastewater to surface water and groundwater of California.	Central Coast RWQCB	Compliance with Waste Discharge Requirements (Section 5.15.5.2.6)
California Water Code, Division 3, Dams and Reservoirs, Part 1	Jurisdictional dam oversight	DSOD	5.15.5.2.5
Local			
SLO County General Plan and Water Code Section 10910(b)	Development standards for stormwater quality control, waste supplies, and flood protection. Review of adequate water supply.	SLO County Engineering Department	5.15.5.3
	SLO County Development Specification, Division Four, Standards for Drainage and the Kern County Hydrology Manual.	SLO County Planning Department	
Environmental Health Service Division	Well Permit Application	County of San Luis Obispo County Health Agency, Environmental Health Service Division	5.15.5.3
SLO County Coastal Commission Title 23.08.178 - Water Wells and Impoundments	Groundwater Use/Well Permit Application	SLO County Coastal Land Use Ordinance	5.15.5.3
City of Morro Bay	Reclaimed Water Use	City council approval to use reclaimed water outside of City limits	5.15.5.3

5.15.5.1 Federal LORS

In California, discharges of wastewater and stormwater into surface waters are regulated by SWRCB and RWQCBs under the CWA and the Porter-Cologne Water Quality Control Act. Relevant NPDES permits for stormwater quality management are discussed in Section 5.15.5.2.

The United States Environmental Protection Agency (EPA) oversees the Underground Injection Control (UIC) Program. The UIC program consists of six classes of injection wells. Each well class is based on the type and depth of the injection activity, and the potential for that injection activity to result in endangerment of an underground source of drinking water (USDW). UIC regulations mandate the consideration of a variety of measures to assure that injection activities will not endanger USDWs. The concept of endangerment is defined in the Code of Federal Regulations (40 CFR 144.12). Section 144.12 Prohibition of movement of fluid into underground sources of drinking water:

a) No owner or operator shall construct, operate, maintain, convert, plug, abandon, or conduct any other injection activity in a manner that allows the movement of fluid containing any contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR part 142 or may otherwise adversely affect the health of persons.

Based on consultation with the EPA's UIC Program office, an UIC permit is not required if the system is a closed loop where the caverns and associated shafts from the surface to the caverns are lined such that there would be no fluid communication (either air or water) with the external environment. Characterization of the surrounding bedrock of the cavern system will be conducted to demonstrate that the rock mechanics are sufficient to provide a hydraulicly isolated system with performance standards equivalent to lining. If the unlined cavern will function similarly to a lined cavern and behave as a closed loop system where water temporarily placed in the cavern during the power generation cycle will not be injected into the surrounding formation, then the caverns may not need to be lined.

An unlined cavern may be considered by EPA to be a *Class V Wells for Injection of Non-Hazardous Fluids into or Above Underground Sources of Drinking Wate*r if it is possible for communication to occur with the external environment. Examples of Class V wells include stormwater, drainage wells, septic system leach fields and agricultural drainage wells. Examples of complex Class V wells include aquifer storage and recovery wells, geothermal electric power wells, and deep injection wells for salinity control.

The EPA has established the following minimum requirements to prevent injection wells from contaminating underground sources of drinking water (USDWs). In most cases Class V wells are "authorized by rule." "Authorized by rule" means that an injection well may be operated without a permit as long as the owners or operators:

- Submit inventory information to their permitting authority and verify that they are authorized (allowed) to inject. The permitting authority will review the information to be sure that the well will not endanger a USDW.
- Operate the wells in a way that does not endanger USDWs. The permitting authority will explain any specific requirements.
- Properly close their Class V well when it is no longer being used. The well should be closed in a way that prevents movement of any contaminated fluids into USDWs.

After reviewing an owner or operator's inventory information the EPA may determine that an individual permit is necessary to prevent USDW contamination (https://www.epa.gov/uic/federal-requirements-class-v-wells).

PESC will confirm with EPA Region IX that the cavern system has sufficient integrity to establish that the cavern system and associated process water will not contaminate the aquifer or impact any USDW.

5.15.5.2 State LORS

5.15.5.2.1 California Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (California Water Code, Division 7) is the state law governing water quality of all state waters, including both surface waters and groundwater. Under the Porter-Cologne Water Quality Control Act, SWRCB has the ultimate authority over water quality policy on a state-wide level, and nine RWQCBs establish and implement water quality standards specific for each respective region. The Central Coast RWQCB regulates water quality in the project area, jointly implementing the federal CWA and the state Porter-Cologne Water Quality Control Act.

5.15.5.2.2 NPDES Permit for Wastewater and Municipal Discharges

There will be no wastewater discharges to a surface waters or municipal sewer system during the construction or operation phases of the project; therefore, a site-specific NPDES permit for wastewater and municipal discharges is not required.

5.15.5.2.3 NPDES Construction Stormwater Permit

The federal CWA effectively prohibits discharges of stormwater from construction sites unless the discharge is in compliance with an NPDES permit. SWRCB is the permitting authority in California and has adopted a statewide General Permit for Stormwater Discharges Associated with Construction Activity (SWRCB Water Quality Order No. 99-08-DWQ]) that applies to projects resulting in one acre or more of soil disturbance. The proposed project will result in disturbance of more than one acre of soil. Therefore, the project will require the preparation of a construction SWPPP that will specify site management activities to be implemented during site development. These management activities will include construction stormwater best management practices, dewatering runoff controls, and construction equipment decontamination. The RWQCB requires a Notice of Intent to be filed before any stormwater discharge from construction activities, and it requires that the SWPPP be implemented and maintained onsite. A Construction Drainage Erosion and Sediment Control Plan/SWPPP will be completed before the beginning of construction activities.

5.15.5.2.4 NPDES Stormwater Industrial General Permit

There will be no industrial stormwater discharges during the operation phases of the project; therefore, a NPDES Stormwater Industrial General Permit is not required.

Should the site design be modified where industrial stormwater or process water will be discharged, a NPDES permit will be required.

5.15.5.2.5 DSOD Permit

The surface compensation reservoir will be considered a jurisdictional dam under the oversight of the DSOD. A permit application will be submitted to the DSOD for approval prior to construction of the compensation reservoir.

5.15.5.2.6 WDR Permit

It is anticipated that up to a maximum of 88 AFY of water will be generated that will be available for beneficial use. Depending on the beneficial end use, the Central Coast Regional Water Quality Control Board may require a waste discharge requirement (WDR). Additionally, other types of discharges that may affect groundwater may require a WDR. A Report of Waste Discharge is to be filled with the appropriate Regional Water Board (i.e., Central Coast Regional Water Quality Control Board) to obtain a WDR for discharge. For specific situations, the Central Coast Regional Water Quality Control Board may waive the requirement to obtain a WDR for discharges. PESC will confirm with the Central Coast Regional Water Quality Control Board that the cavern system has sufficient integrity to establish that the cavern system and associated process water will not affect the aquifer or impact any USDW.

5.15.5.3 Local LORS

The project site is within the coastal zone boundary. While SLO County can issue development permits in the coastal zone, the California Coastal Commission (CCC) has authority in determining how the County's Local Coastal Program is interpreted (SLO County Coastal Land Use Ordinance, Title 23, revised 2019). Water wells within the coastal zone may be subject to Title 23.08.178 - Water Wells and Impoundments. Primarily, the concern is areas of the coastal zone where groundwater is limited and thus extraction is to be monitored to satisfy the requirements of the California Coastal Act. Per the last Biennial Resource Management System report (2016-2018) as part of SLO County's General Plan, the project site is not located within an area that has a "level of severity" (LOS) designation for a groundwater resource deficiency. Adequate supply has been identified for the project based on the characteristics of the groundwater basin where sufficient capacity exists to use groundwater to source the construction phase of the project. The operations phase of the project will produce a water surplus. An agreement is being executed with the property owner for use of onsite groundwater.

All water well permit applications within the coastal zone are to be reviewed by the County Engineer to determine 1) if participation in a water monitoring and management program is necessary to assure maintenance of a safe and adequate groundwater supply and 2) the method a permit applicant shall participate in the monitoring program, including the frequency and type of reporting, if deemed necessary. A use permit from San Luis Obispo County planning department may also be required.

New groundwater production or monitoring wells will also need to be permitted with the County of San Luis Obispo County Health Agency, Environmental Health Service Division. The Environmental Health Service Division issues permits to construct, reconstruct, and destroy water wells within the County. Example forms are included as Appendix 15.5C.

Additionally, to supplement groundwater production, if needed, during peak monthly demand during the construction phase, PESC anticipates importing reclaimed water from the Morrow Bay Water Reclamation Plant. City Council approval to use the reclaimed water outside of the City of Morro Bay city limits will be needed.

5.15.6 Agency Contacts, Permits, and Permit Schedule

Agency contacts and required permits are listed in Table 5.15-7.

Table 5.15-7: Agency Contacts, Permits, and Permit Schedule

Permit	Agency Contact	Schedule
NPDES – Construction General Permit	Submit online using Stormwater Multiple Application and Report Tracking System (SMARTS) https://smarts.waterboards.ca.gov	Submit Notice of Intent for coverage under the statewide permit at least 30 days prior to construction.
Well Installation Application and Water Use	County of San Luis Obispo Health Agency, Environmental Health Service Division Leslie Terry, Environmental Health Supervisors Phone: 805-781-5553 Email: lterry@co.slo.ca.us County of San Luis Obispo Local California Coastal Commission/ County of San Luis Obispo Planning and Building Trevor Keith, Director of Planning and Building 976 Osos Street Room 200 San Luis Obispo, CA 93408 Phone 805-788-6602	Submit Application at least 180 days prior to water usage needs.
Grading Plan	County of San Luis Obispo Planning and Building Trevor Keith, Director of Planning and Building 976 Osos Street Room 200 San Luis Obispo, CA 93408 Phone 805-788-6602	Submit Application at least 60 days prior to water usage needs.
Underground Injection Control	David Albright U.S. EPA, Region 9 Manager, Groundwater Protection Section, WTR-4-2 75 Hawthorne Street San Francisco, CA 94105 Phone: (415) 972-3971 Email: albright.david@epa.gov	Submit geotechnical demonstration of cavern integrity to confirm UIC not required 1Q22
Waste Discharge Requirements	Central Coast Regional Water Quality Control Board Attention: WDR Program 895 Aerovista Suite 101 San Luis Obispo, CA 93401 Email: centralcoast@waterboards.ca.gov	Submit geotechnical demonstration of cavern integrity to confirm UIC not required 1Q22
DSOD Permit	Division of Safety of Dams 2720 Gateway Oaks Drive, Suite 300 Sacramento, CA 95833 Phone: 916-565-7868 Email: damsafety@water.ca.gov	Submit Application at least one year prior to commencement of construction

Permit	Agency Contact	Schedule
Approval	City of Morro Bay City Council City of Morro Bay 595 Harbor Street Morro Bay, CA 93442 Email: council@morrobayca.gov Phone: 805-772-6200 Fax: 805-772-7329	Submit request at least 180 days prior to water usage needs.

5.15.7 References

California Department of Conservation, California Geological Survey (CGS), 2002. Note 36 California Geomorphic Provinces.

California Department of Water Resources (DWR), 1958

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