

**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
Honolulu, Hawai'i**

File No: OA-3898
180-Day Exp. Date: December 18, 2022

December 8, 2022

**Board of Land and
Natural Resources
State of Hawai'i
Honolulu, Hawai'i**

REGARDING: Conservation District Use Application (CDUA) HA-3898 for the Board of Water Supply (BWS) Kapa'a 272' Reservoir Replacement Project.

**APPLICANT/
LANDOWNER:** City and County of Honolulu Board of Water Supply

AGENT: Brian Takeda, Planning Project Manager
R.M. Towill Corporation

LOCATION: 1691 Mōkapu Boulevard, Portion of Kailua, O'ahu

**TAX MAP KEY
(TMK):** (1) 4-2-017:016

AREA OF PARCEL: 2.262-acres

USE: Approximately 0.58-acres (or 25,377 sq. ft)

SUBZONE: General

DESCRIPTION OF AREA/CURRENT USE

The subject parcel is located in the Oneawa Hills at the southern end of the Mahinui Ridge in the General Subzone of the State Land Use Conservation District. See **Exhibit 1**. The Kapa'a 272' Reservoir facility and the existing Board of Water Supply (BWS) 2.0 million-gallon (MG) reservoir as well as reservoir-related appurtenances were constructed in 1958 as part of the Kapa'a Water Project. Access to the site is via a private BWS paved access road that connects to Mōkapu Saddle Road approximately 860 feet west of the H-3 Interstate overpass on the windward side of the Island of O'ahu between the towns of Kailua and Kāne'ohe.

Land uses in the vicinity of the project area include residential neighborhoods of Kāne'ohe to the north and west. To the south of the parcel is the Kapa'a Quarry and Transfer

Station, and to the east, is the Kawainui Marsh Wildlife Sanctuary as well as Kalāheo High School and residential neighborhoods of Kailua. See **Exhibit 2**.

In addition to the 2.0MG reservoir, reservoir-related appurtenances that were constructed in 1958 as part of the Kapa'a Water Project include a BWS vault building that houses various electrical controls to ensure the safe and reliable function of the existing reservoir, two (2) water valve boxes with covered grates, and an electrical pole and guy wire.

On February 26, 1988, the Board of Land and Natural Resources (BLNR) approved CDUP OA-2105 for radio communications facilities on the parcel consisting of a 20ft and 30ft radio tower with one (1) microwave dish mounted to each tower subject to nine (9) conditions. The radio communications facilities were installed for public safety purposes as well as to provide an emergency communication system for the Police and Fire Departments.

On August 13, 1993, the BLNR approved CDUP OA-2628 for the Honolulu Police Department Communications Facilities Upgrades projects at various locations on the Island of O'ahu including parcel 016 subject to fifteen (15) conditions. Authorized upgrades included the construction of 360 sq. ft equipment room, installation of a propane tank and generator, and a 1,250 sq. ft paved area fronting the equipment room. The authorization also allowed for the replacement of the 30ft tower with a 50ft tower and the installation of four (4) vertical antennas. No changes were proposed to the 20ft tower.

On February 28, 2014, the BLNR approved CDUP OA-3670 for the Kāne'ohe/Kailua Wastewater Gravity Flow Tunnel project subject to twenty-three (23) conditions. The authorization allowed for the construction and installation of a 50ft by 30ft concrete pad and access shaft for the 10ft diameter Kāne'ohe/Kailua Wastewater Gravity Flow Tunnel on the northeast corner of the site. The 10ft wastewater tunnel is located within a 40ft wide subterranean easement that runs along the east side of the parcel. See **Exhibit 3**.

The parcel sits at an approximate elevation range of 245 to 290 feet above mean sea level on a hill developed in 1958 for water reservoir purposes so that the elevation of the water creates pressure and water does not need to be pumped to service areas. The windward side of the Ko'olau Range receives a high quantity of rainfall and the site is located in the Kawainui watershed; however, there are no surface waters, coastal waters, or wetlands in the project area. The south-facing slopes adjacent to the northern section of the project site range from 10% to as high as 60%.

The Oneawa Hills comprised the eastern edge of the remnant Ko'olau volcano caldera that formed from the deposition of flowing lava. The caldera of the Ko'olau volcano is estimated to extend from Waimānalo to Kāne'ohe and from the base of the Ko'olau Pali to the area between Lanikai and Mokulua Islands. The Oneawa Hills are capped with coarse breccia that consists of fragmented basalt rocks most likely formed from eroded rocks of the Ko'olau caldera.

According to the U.S. Department of Agriculture (USDA 2001) Soil Survey Geographic database, the soils within the parcel are classified as Alaeloa silty clay, 15 to 35 percent slopes (ALF). Alaeloa silty clay are described as producing runoff that is rapid to very rapid and this soil is suited for pasture and wildlife habitat.

Hazards

A Flood Zone Map obtained from the State's Flood Hazard Assessment Tool website shows that the subject property is in Flood Zone D and Flood Zone X which are not special flood hazard areas. Flood Zone D is defined as unstudied areas where flood hazards are undetermined, but flooding is possible. Flood Zone X are areas determined to be outside of a 500-year flood and protected by levee from a 100-year flood (**Exhibit 4**).

Flora and Fauna

The application notes that the subject parcel has been used a BWS reservoir site since 1958. There are no known rare or endangered plant and/or animal species at the project site. The project site consists of primarily grassed areas with exception of a few surrounding slopes containing dense vegetation.

The application states that no nighttime construction will be performed, and dark sky compliant light will be installed to ensure no deleterious impacts to seabirds who may overfly the project area and can be downed after becoming disoriented by lights. Potential adverse effects to Hawaiian hoary bats will be avoided by not clearing woody vegetation taller than 4.6 meters (15-feet), between June 1 and September 15, during the bat pupping season.

Historic/Cultural

The applicant hired Scientific Consultant Services, Inc. (SCS) to conduct an literature review and archaeological field inspection (LRFI) report for the Kapa'a 272' Reservoir Replacement Project. The LRFI report indicates at least eight (8) archaeological studies have been conducted in the vicinity of the project area. These archaeological studies have identified historic properties including agricultural and habitation sites, fishponds, the Friendship Garden, boundary walls, and heiau. None of these historic properties are found in the subject parcel nor will be affected by the proposed project.

SCS completed the field inspection on August 20, 2020, which consisted of an unsystematic pedestrian survey within the project area. The hillside area and the undeveloped area outside the existing fence-line surrounding the Kapa'a 272' site were not included in the pedestrian survey due to high vegetation and steep slopes. The Kapa'a 272' Reservoir, Police Building, and Vault Building are historic properties per Hawai'i Revised Statutes (HRS) §6E-2. BWS' agents evaluated these structures for their integrity and significance under Hawai'i Administrative Rules (HAR) §13-275-6 (b) and determined that the Water Reservoir, Police Building, and Vault Building have diminished integrity and lack historic significance.

Part of the CDUA process requires that the applicant submit a Hawai'i Revised Statutes (HRS) 6E form developed by SHPD. Pursuant to HRS §6E-8, prior to any agency or officer of the State [in this case the Board] approves any project involving a permit, license, certificate, land use change, subdivision, or other entitlement for use, which may affect historic property, aviation artifacts, or a burial site, the agency or office [OCCL] shall advise SHPD prior to any approval and allow SHPD an opportunity to review and comment on the effect of the proposed project on historic properties.

On November 14, 2022, SHPD issued the BWS a Chapter 6E-8 Historic Preservation Review letter and BWS' request for SHPD's concurrence with the "No Historic Properties Affected" determination for the proposed use (SHPD Project No. 2021PR00327; Doc. No.: 2211MK04). SHPD agreed that the Kapa'a 272' Reservoir lacks historic significance as well as design and distinction, and concurred with the BWS's project effect of "No Historic Properties Affected" ending the HRS 6E historic preservation review process. SHPD has requested that the following be attached to the appropriate permit and on relevant construction plans: In the unlikely event that subsurface historic resources, including human skeletal remains, structural remains, cultural deposits, artifacts, sand deposits, or sink holes are identified during the demolition and/or construction work, cease work in the immediate vicinity of the find, protect the find from additional disturbance, and contact the State Historic Preservation Division, at (808) 692-8015 (*Exhibit 5*).

PROPOSED USE

The applicant is proposing to construct a new pre-stressed concrete 1.0MG reservoir and is proposed to be approximately 34ft tall with a diameter of 77ft 8in. Once the new 1.0MG reservoir is installed and operating, the applicant will demolish the existing 2.0MG reservoir which is approximately 44ft tall with a diameter of 111ft 2in, down to its foundation. See *Exhibit 6*.

Additionally, the proposed project includes the following summary of work to be performed:

Related appurtenances to support the new 1.0MG reservoir include:

- Excavate into the hillside to accommodate location of new reservoir including construction of shotcrete slope protection.
- Grade and construct a 1.0MG reinforced concrete reservoir within the existing Kapa'a 272' reservoir site. Construct the new pre-stressed concrete 1.0MG reservoir (approximately 34ft tall and 77ft 8in in diameter with a tank elevation of approximately 276ft). The design shall be as per BWS "Water System Standards", dated 2002, and the "Water System External Corrosion Control Standards", Volume 3, dated 1991, and all subsequent amendments and additions. The placement of the new reservoir will ensure that there is adequate clearance from the existing BWS vault building and antennas.
- Provide all necessary pipes, valves, and other appurtenances including drainpipes as needed.
- Relocate and modify existing drainage systems and appurtenances as required.
- Provide electrical, mechanical, and other appurtenances as needed. Trench and install new electrical service duct system from existing pole to the existing BWS vault building. Install new telephone cabinet and connect it to the existing telemeter cabinet and connect new telephone service.
- Construct a 10ft wide asphalt concrete (AC) paved perimeter road with concrete header around the new reservoir and integrate it with the existing perimeter road for the existing reservoir.
- Install new 2ft to 4ft wide concrete wide concrete swales along the perimeter road.

- Construct a new detention basin (approximately 44ft long by 22ft wide by 3ft high).
- Connect new reservoir to existing water mains, drainage system, and other interconnections, as required.
- Clean the new reservoir, perform a leak test, chlorinate, and place it into service.
- Paint new reservoir, as required.
- Modify the existing on-site controls to accommodate new reservoir.

Demolition and removal activities required at the site to construct the new 1.0MG reservoir include:

- Evaluate the presence of hazardous materials (i.e., asbestos-containing materials, lead-containing paint, etc.) that may be encountered during demolition work. Prepare hazardous material removal plans and specifications, as needed.
- Lower water in the existing 2.0MG reservoir. Isolate existing reservoir, properly drain, and dispose of the remaining potable source water.
- Cut and plug the existing waterline leading to the existing 2.0MG reservoir.
- Demolish and remove the existing 2.0MG reservoir including walls, floor, and all appurtenances, and construction debris (approximately 44ft tall by 111ft 2in in diameter with a tank elevation of approximately 286ft).
- Demolish and remove existing manholes, guard posts, and AC pavement.
- Relocate existing electrical pole and guy wire.
- Grade site.
- Install crushed aggregate and weed barrier and provide permanent stabilization to the unimproved areas within the project site.

SUMMARY OF COMMENTS

The Office of Conservation and Coastal Lands referred the application to the following agencies and organizations for review and comment:

State Agencies:

DLNR, Commission on Water Resource Management
DLNR, Division of Conservation and Resource Enforcement
DLNR, Engineering Division
DLNR, Division of Forestry and Wildlife
DLNR, O'ahu District Land Office
Department of Transportation, Highways Division
Office of Hawaiian Affairs

County Agencies:

City and County of Honolulu, Department of Planning and Permitting
City and County of Honolulu, Department of Design and Construction
City and County of Honolulu, Department of Environmental Services
Honolulu Fire Department
Honolulu Police Department

Other Individuals/Organizations:

Kāne'ohe Neighborhood Board No. 30

Kailua Neighborhood Board No. 31

In addition, this application was also sent to the nearest public library, the Kailua and Kāneʻohe Public Libraries as well as published in the July 8, 2022, edition of *The Environmental Notice* to make this information readily available to those who may wish to review it.

Comments were received by the following agencies and individuals and summarized by Staff as follows:

THE STATE

DEPARTMENT OF LAND AND NATURAL RESOURCES

Commission on Water Resource Management:

Comments: Thank you for the opportunity to review the subject document. The Commission on Water Resource Management (CWRM) is the agency responsible for administering the State Water Code (Code). Under the Code, all waters of the State are held in trust for the benefit of the citizens of the State, therefore all water use is subject to legally protected water rights CWRM strongly promotes the efficient use of Hawaii's water resources through conservation measures and appropriate resource management. For more information, please refer to the State Water Code Chapter 174C Hawaii Revised Statutes, and Hawaii Administrative Rules, Chapters 13-167 to 13-171 These documents are available via the Internet at <http://dlnr.hawaii.gov/cwrn> .

Our comments related to water resources are checked off below.

1. We recommend coordination with the county to incorporate this project into the county's Water Use and Development Plan. Please contact the respective Planning Department and/or Department of Water Supply for further information.
5. We recommend the use of the best management practices (BMP) for stormwater management to minimize the impact of the project to the existing area's hydrology while maintaining on-site infiltration and preventing polluted runoff from storm events. Stormwater management BMPs may earn credit toward LEED certification. More information on stormwater BMPs can be found at <http://planning.hawaii.gov/czm/initiatives/low-impact-development/>
8. We recommend adopting landscape irrigation conservation best management practices endorsed by the Landscape Industry Council of Hawaii. These practices can be found online at http://www.hawaiiscape.com/wp-content/uploads/2013/04/LICH_Irrigation_Conservation_BMPs.pdf .
9. There may be the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.

12. A Well Construction Permit(s) is (are) are required before the commencement of any well construction work.

13. A Pump Installation Permit(s) is (are) required before ground water is developed as a source of supply for the project.

Applicant's response: The BWS acknowledges CWMR's comments related to water resources numbered 1 and 8.

The BWS acknowledges and offers further details to CWMR's comments related to water resources numbers 5, 9, 12, and 13 as follows. The BWS confirms that all of the stormwater runoff will be retained and treated on-site through planned improvements to the site drainage system. There will be no net increase in drainage leaving the project site, thus no impacts to neighboring properties' drainage systems are anticipated. BMPs for stormwater quality treatment include a detention basin which will minimize pollutant runoff to existing areas.

The BWS acknowledges this comment [#9] and will comply with all applicable county, state, and federal regulations regarding potential for ground or surface water degradation/contamination.

The BWS acknowledges this comment [#12]; however, no well construction is proposed as part of the project.

The BWS acknowledges this comment [#13]; however, no ground water is being developed as a source of supply as part of the project.

Engineering Division:

Comments: The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a Special Flood Hazard Area (high-risk areas). Be advised that 44CFR, Chapter 1, Subchapter B, Part 60 reflects the minimum standards as set forth by the NFIP. Local community flood ordinances may stipulate higher standards that can be more restrictive and would take precedence over the minimum NFIP standards.

The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood zones subject to NFIP requirements are identified on FEMA's Flood Insurance Rate Maps (FIRM). The official FIRMs can be accessed through FEMA's Map Service Center (msc.fema.gov). Our Flood Hazard Assessment Tool (FHA T) ([http://gis.hawaiiinfip.org/FHA T](http://gis.hawaiiinfip.org/FHA_T)) could also be used to research flood hazard information.

If there are questions regarding the local flood ordinances, please contact the applicable County NFIP coordinating agency below:

- Oahu: City and County of Honolulu. Department of Planning and Permitting (808) 768-8098.
- Hawaii Island: County of Hawaii. Department of Public Works (808) 961-8327.
- Maui/Molokai/Lanai: County of Maui. Department of Planning (808) 270-7139.
- Kauai: County of Kauai. Department of Public Works (808) 241-4849.

Applicant's response: The BWS acknowledges this comment and will comply with all applicable county, state, and federal regulations regarding the potential for flood hazards. According to the Federal Emergency Management Agency's Flood Insurance Rate Map, the project site is located within Flood Zones "D" and "X" and does not fall within a special flood hazard area.

O'ahu District Land Office:

Comments: Land Division, O'ahu District has no comment, but would like to note that the abutting parcel TMK: (1) 4-4-013:087 is under the Dept. of Transportation – Highways Div. so please follow-up with them.

Applicant's response: The BWS acknowledges the Land Division, O'ahu District has no comment and appreciates identification of the abutting parcel TMK: (1) 4-4-013:087 to be under the jurisdiction of the Department of Transportation – Highways Division (HDOT-HWY). This clarifies that construction activities will only occur on BWS property at TMK: (1) 4-2-017:016. The stabilized construction entry previously proposed on HDOT-HWY property has been moved to the BWS parcel. See enclosed revised Erosion Control Plan (ECP) [see page 30 in **Exhibit 6**] identifying the stabilized construction entry at TMK: (1) 4-2-017:016 owned by BWS.

Office of Conservation and Coastal Lands (OCCL):

Comments: The OCCL offers the following comments on the CDUA:

June 23, 2022

1. What are the related appurtenances to support the new 1.0MG reservoir? If called out in the "Construction" section on page 4 (or 6) of the application, please identify those numbers.
2. Approximately how much grading, grubbing, excavating, and trenching is proposed? Approximately how much hardscaping is being proposed?
3. Approximately how much crushed aggregate will be utilized?
4. Application states: Construction of the proposed project is expected to begin in April 2022 or following the completion of the environmental entitlements for the project. Is there a new target start date for the proposed project?
5. Pages 43 and 44 contain ground photos of existing structures at the site. On page 157, there appears to be an aerial photo of the property calling out some of the existing structures. Can you provide OCCL with a similar photo/map calling out

existing structures in relation to the proposed project and approvals cited in COR: OA 21-100?

August 25, 2022

6. The OCCL has received and reviewed R.M. Towill's July 26, 2022, letter and response to comments contained in the Department's NOTICE OF ACCEPTANCE AND ENVIRONMENTAL DETERMINATION for CDUA OA-3898. According to Exhibit 1A. of R.M. Towill's July 26, 2022, letter; it appears improvements ("Stabilized Construction Entrance") are proposed outside of the BWS's parcel (TMK: (1) 4-2-017:016) and on TMK: (1) 4-4-013:087. Department records appear to indicate that TMK: (1) 4-4-013:087 is owned by the State of Hawai'i Department of Transportation Highways Division (HDOT-HWY). Please clarify.

Applicant's response:

July 26, 2022

1. The OCCL notes that the applicant's response has been incorporated into this report under the **PROPOSED USE** section above which describes the Related appurtenances as well as Demolition and Removal activities.
2. The following preliminary design and construction information is provided:
 - Project Limits/Land Disturbance Area: 25,337 sq. ft/0.58 acres. Reference: Demo, Erosion & Sediment Control Plan, Dwg No. C005
 - Area of Grading: 0.57 acres. Reference: Grading and Drainage Plan, Dwg C006
 - Volume of Excavation and Embankment: 572 cubic yards excavated and 15 cubic yards embankment. Reference: Grading and Drainage Plan, Dwg C006
 - Area to be Graded and Grubbed: 25,337 sq. ft/0.58 acres
 - Area of Trenching and What is the Area Required: 145 cubic yards of trench excavation. Trenching will occur where waterlines and drain lines are being installed.
 - Where are the Impervious (paved, water tank, shotcrete) and Removed Impervious Surfaces for this Project: See the attached **Exhibits 1A** and **1B** [see page 30 in **Exhibit 6**] for the locations of demolished and proposed new impervious surfaces.
3. The project will utilize 173 cubic yards of #2 Course Grade A Gravel (Demolished tank location), 92 cubic yards of Aggregate Base Course (Driveway AC Pavement), and 16 cubic yards of Aggregate Base Course (concrete swale).
4. The project is planned to commence after the approval of the CDUA and other required permits, including the grading and building permits. This is tentatively projected to be in October 2022.
5. Please see attached map (**Exhibit 2**) [refer to **Exhibit 3**] calling out the existing structures in relation to the proposed project and approvals cited in COR: OA 21-100.

October 11, 2022

6. This clarifies that construction activities will only occur on BWS property at TMK: (1) 4-2-017:016. The stabilized construction entry previously proposed on the HDOT property has been moved to the BWS parcel. See enclosed revised Erosion Control Plan (ECP) identifying the stabilized construction entry at TMK: (1) 4-2-017: 016 owned by BWS.

DEPARTMENT OF TRANSPORTATION

Highways Division:

Comments: HDOT has reviewed the Conservation District Use Application and has the following comments relevant to state highways:

1. Verify there would be no offsite work (e.g., improvements or demolition of water, sewer, drainage, power utility infrastructure) within the state right-of-way (ROW). See Comment 3.
2. In addition to the vehicular traffic on Mōkapu Saddle Road, the roadway shoulder is used by bicyclists and pedestrians. There is potential for adverse impacts to public safety within the highway ROW during construction and demolition, associated with construction vehicle access/egress. Please submit a traffic management plan to address potential safety impacts during construction.
3. Review the following list of HDOT permits and determine if they are applicable to the project:
 - a. Permit to Perform Work Upon State Highways is required for any work within the State highway ROW (Hawaii Revised Statutes [HRS] 264). The application includes the review and approval of construction drawings and a Traffic Management Plan.
 - b. Permit to Operate or Transport Oversize and/or Overweight Vehicles and Loads Over State Highways (HRS Chapter 291, Section 36).
 - c. Permit for the Occupancy and Use of State Highway ROW (HRS 264). This is applicable to underground and overhead power lines, and stormwater management structures within the state highway ROW.

Applicant's response:

1. This clarifies that construction activities will only occur on BWS property at TMK: (1) 4-2-017: 016. The stabilized construction entry previously proposed on HDOT property (TMK: (1) 4-4-013: 087) has been moved to the BWS parcel. No improvements or demolition activities are proposed within the state right-of-way (ROW). See enclosed revised Erosion Control Plan (ECP) identifying the stabilized construction entry at TMK: (1) 4-2-017: 016 owned by BWS [see page 30 in **Exhibit 6**].

2. A traffic management plan will be prepared and submitted to HDOT-HWY prior to the start of construction.
3. a. Please see response to Item 1 above.
 - b. A Permit to Operate or Transport Oversize and/or Overweight Vehicles and Loads Over State Highways will be prepared and filed with HDOT prior to site mobilization. Equipment expected to require a permit would include, but is not limited to, a crane, wrapping machine, prestressing machine, connex, and office trailer.
 - c. A Permit for the Occupancy and Use of State Highway ROW (HRS 264) is not applicable to the project. No underground and overhead power lines, and stormwater management structures are proposed within the state highway ROW.

CITY & COUNTY OF HONOLULU

CITY & COUNTY OF HONOLULU DEPARTMENT OF PLANNING & PERMITTING

Comments: No comments

CITY & COUNTY OF HONOLULU DEPARTMENT OF DESIGN & CONSTRUCTION

Comments: The Department of Design & Construction supports the Board of Water Supply application for the CDUA for their new reservoir.

CITY & COUNTY OF HONOLULU DEPARTMENT OF ENVIRONMENTAL SERVICES

Comments: We have the following comments on the proposed project:

1. The City and County of Honolulu, Department of Environmental Services (ENV) has a 10-foot diameter wastewater tunnel that traverses the subject property. The description of existing utilities on page 6 of the Conservation District Use Application (CDUA) does not include the 50-foot by 30-foot concrete pad and access shaft for the 10-foot wastewater tunnel within the 40-foot width subterranean easement included in Figure 3 - Site Plan, see enclosure. Page 6 of the CDUA should be revised to include the 50-foot by 30-foot concrete pad and access shaft for the 10-foot diameter wastewater tunnel.
2. The proposed project site plan in Figure 3 - Site Plan does not show the access shaft of the 10-foot diameter wastewater tunnel located on the project site. Please see the enclosure for pages from the inspector copy plans for the access shaft that was constructed on the project site. Figure 3 - Site Plan should be revised to show the location of the access shaft as shown in the enclosed plans.
3. Our department needs to maintain access to the 50 -foot by 30-foot concrete pad and access shaft located on the project site. Please submit the design plans of the

proposed project to the City and County of Honolulu, Department of Planning and Permitting, Site Development Division, Wastewater Branch for review.

Applicant's response:

1. The information provided below has been submitted to the Department of Land and Natural Resources, Office of Conservation and Coastal Lands, for inclusion in the filing for CDUA: OA-3898:

Please see attached map (**Exhibit 1**) [refer to **Exhibit 3**] calling out the existing structures in relation to the proposed project and approvals cited in COR: OA 21-100.

Access to the Kapa'a 272 Reservoir site is via a private CCH BWS paved access road that connects to the north side of Mōkapu Saddle Road. The site is fenced, and an access gate is present at the entry to the reservoir site. The primary structure at the project site is the existing BWS 2.0 MG reservoir which was constructed in 1958 and surrounded by a paved and gravel access road/weed barrier. The project site also includes BWS reservoir-related appurtenances, including a BWS vault building that houses various electrical controls to ensure the safe and reliable function of the existing 2.0 MG reservoir, two water valve boxes with covered grates, and an electrical pole and guy wire. There is also an existing telephone cabinet and telemeter cabinet which provides hardline telephone service for the project site. The 2.0 MG reservoir is a nonconforming use as it was constructed in 1958 prior to the advent of the State Land Use Conservation District in 1964.

The site also includes one 20' radio tower with microwave dish, one 50' radio tower with microwave dish and four antennas, a 360 sq. ft Honolulu Police Department equipment room, a 1,250 sq. ft paved area fronting the equipment room, two propane tanks and a generator, and an elevated utility raceway. The Board of Land and Natural Resources (Board) approved **CDUP OA-2105** on February 26, 1988, for the radio communications facilities (a 20' and 30' radio tower with one microwave dish mounted to each tower) at the Kapa'a Reservoir site subject to nine (9) conditions. On August 13, 1993, the Board approved **CDUP OA-2628** subject to fifteen (15) conditions for the Honolulu Police Department Communications Facilities Upgrades projects at various sites on the Island of Oahu. The Kapa'a 272' reservoir site was one of the locations for the Honolulu Police Department upgrades which included the construction of the 360 sq. ft equipment room, installation of a propane tank and generator, and a 1,250 sq. ft paved area fronting the equipment room. Additionally, the upgrades included replacing the 30' tower with a 50' tower as well as attaching four (4) vertical antennas. No changes were proposed to the 20' tower.

The site also includes a 50-foot by 30-foot concrete pad and access shaft for the 10-foot diameter Kaneohe/Kailua Wastewater Gravity Flow Tunnel on the northeast corner of the site. The 10-foot wastewater tunnel is located within a 40-

foot-wide subterranean easement that runs along the east side of the site. The Board approved **CDUP OA-3670** subject to twenty-three (23) conditions for the Kaneohe/Kailua Wastewater Gravity Flow Tunnel project on February 28, 2014.

2. Figure 3 – Site Plan has been revised to show the access shaft of the 10-foot diameter wastewater tunnel located on the project site (see **Exhibit 2**) [refer to page 33 in **Exhibit 6**]. Additionally, the access shaft, wastewater tunnel, and the 40-foot-wide subterranean easement are provided on the construction plans providing greater detail of the project located in Appendix C of the CDUA (see drawings C005, C006, and C007).
3. The BWS acknowledges this comment and will ensure the Department of Environmental Services has access to the 50-foot by 30-foot concrete pad and access shaft. Additionally, BWS will submit the design plans of the proposed project to the City and County of Honolulu, Department of Planning and Permitting, Site Development Division, Wastewater Branch for review.

HONOLULU FIRE DEPARTMENT

Comments: No comments

HONOLULU POLICE DEPARTMENT

Comments: No comments

ANALYSIS

Following review and acceptance for processing, the Applicant was notified, by correspondence dated June 21, 2022 that:

1. The proposed use is an identified land use in the General Subzone of the Conservation District, pursuant to Hawaii Administrative Rules (HAR), §13-5-22 P-6 **PUBLIC PURPOSE USES** (D-1) Not for profit land uses undertaken in support of a public service by an agency of the county, state, or federal government, or by an independent non-governmental entity, except that an independent non-governmental regulated public utility may be considered to be engaged in a public purpose use. Examples of public purpose uses may include but are not limited to public roads, marinas, harbors, airports, trails, water systems and other utilities, energy generation from renewable sources, communication systems, flood or erosion control projects, recreational facilities, community centers, and other public purpose uses, intended to benefit the public in accordance with public policy and the purpose of the conservation district. Please be advised, however, that this finding does not constitute approval of the proposal;
2. Pursuant to HAR §13-5-40 HEARINGS, a Public Hearing will not be required;
3. In conformance with Chapter 343, Hawaii Revised Statutes (HRS), as amended, and HAR, Chapter 11-200.1-16 **Exemption lists.**, the BWS and their agents believe that the proposed Kapaa 272' Reservoir Replacement project is exempt

from the preparation of an Environmental Assessment and Impact Statement. The BWS and their consultants believe the proposed project is exempted under Exemption Class #2: *Replacement or reconstruction of existing structures and facilities where the new structure will be located generally on the same site and will have substantially the same purpose, capacity, density, height, and dimensions as the structure replaced.* The BWS and their agents have consulted with the Office of Conservation and Coastal Lands (OCCL) regarding the HRS, Chapter 343 compliance and the OCCL has concurred the proposed use is exempt from the filing of an Environmental Assessment; and,

4. The subject area is not within the Special Management Area (SMA).

CONSERVATION CRITERIA

The following discussion evaluates the merits of the proposed land use by applying the criteria established in §13-5-30, HAR.

- 1) *The proposed use is consistent with the purpose of the Conservation District.*

The objective of the Conservation District is to conserve, protect, and preserve the important natural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare. The existing 2.0MG reservoir was constructed in 1958 as part of the BWS Kapa'a Water Project and prior to the advent of the State Land Use Conservation District in 1964. The project consists of demolishing the existing 2.0MG reservoir and replacing it with a smaller 1.0MG reservoir.

The proposed project will provide reliable water resources to the region that will fulfill a mandated governmental function, activity, or service for public and private benefit, and in accordance with public policy and the purpose of the conservation district. The proposed action will promote the long-term sustainability of water resources and public health, safety, and welfare by replacing the existing aging water reservoir with one that meets current standards to service the region for the foreseeable future.

- 2) *The proposed land use is consistent with the objectives of the Subzone of the land on which the use will occur.*

The objective of the General subzone is to designate open space where specific conservation uses may not be defined, but where urban use would be premature. The proposed Kapa'a 272' Reservoir Replacement Project is an identified land use in the General Subzone pursuant to HAR, §13-5-22 P-6 **PUBLIC PURPOSE USES** (D-1) Not for profit land uses undertaken in support of a public service by an agency of the county, state, or federal government, or by an independent non-governmental entity, except that an independent non-governmental regulated public utility may be considered to be engaged in a public purpose use. Examples of public purpose uses may include but are not limited to public roads, marinas, harbors, airports, trails, water systems and other utilities, energy generation from

renewable sources, communication systems, flood or erosion control projects, recreational facilities, community centers, and other public purpose uses, intended to benefit the public in accordance with public policy and the purpose of the conservation district.

A Visual Impact Assessment for the Kapa'a 272' Reservoir Replacement Project was conducted by the applicant. The applicant has stated that there might be temporary less than significant visual impacts due to the presence of construction equipment at the site; however, no long-term significant visual impacts are expected to result from this project and no mitigation appears to be necessary.

The project entails replacing the existing 2.0MG reservoir with a smaller 1.0MG reservoir; and thus, no impacts to open space resources are anticipated as a result of constructing and operating the new 1.0MG water reservoir.

- 3) *The proposed land use complies with the provisions and guidelines contained in Chapter 205A, HRS entitled "Coastal Zone Management", where applicable.*

Staff believes the land use complies with the provisions and guidelines of the Coastal Management Area in regards to recreational resources, historical resources, scenic and open space resources, and coastal ecosystems.

- 4) *The proposed land use will not cause substantial adverse impact to existing natural resources within the surrounding area, community or region.*

The Kapa'a 272' Reservoir facility is used as an existing BWS reservoir site. The existing 2.0 MG reservoir has been at its present site and operating since 1958 and no longer meets current standards. To maintain water service a new 1.0 MG reservoir is proposed to replace the existing 2.0 MG reservoir. The replacement of the reservoir is necessary for the allocation of water resources for public use and would not change the existing land use at the site. Additionally, the proposed action will preserve natural resources by efficiently storing water, which is a limited and finite resource, and provide for its use on an as-needed basis.

Minor grading and trenching will be needed to install the new reservoir and appurtenances. Once constructed, the proposed action will not substantially change the impervious areas of the Kapa'a 272' Reservoir facility.

No nighttime construction will be performed, and dark sky compliant lighting will be installed to ensure no deleterious impacts to seabirds who can be downed after becoming disoriented by lights. Potential adverse effects to Hawaiian hoary bats will be avoided or minimized by not clearing woody vegetation taller than 4.6 meters (15-feet), between June 1 and September 15, the pupping season. Therefore, the proposed action is not anticipated to cause adverse impacts to existing natural resources within the surrounding area, community, or region

- 5) *The proposed land use, including buildings, structures and facilities, shall be compatible with the locality and surrounding areas, appropriate to the physical conditions and capabilities of the specific parcel or parcels.*

The existing 2.0 MG reservoir at the Kapa‘a 272’ Reservoir facility has been at its present site and operating since 1958 and no longer meets current standards. Similar to other water reservoirs, the Kapa‘a 272’ Reservoir facility is located on a hill to provide pressure so that water does not need to be pumped to service areas. The proposed action involves the construction of a new smaller 1.0 MG reservoir to replace the existing larger 2.0 MG reservoir within the existing Kapa‘a 272’ Reservoir facility site. No increase in the intensity or scale of the existing use at the site is proposed. Additionally, there will be no change to the environs near the surrounding properties and the land use will remain compatible with the surrounding areas and appropriate to the physical conditions and capabilities of the property. While the new replacement reservoir will be visible from certain vantage points, it will replace an existing resource that is used for public infrastructure and ensure the sustainable use of water resources to support the long-term health, safety, and welfare of the public.

- 6) *The existing physical and environmental aspects of the land, such as natural beauty and open space characteristics, will be preserved or improved upon, whichever is applicable.*

The Kapa‘a 272’ Reservoir facility is used as an existing BWS reservoir site and the proposed action would not change this existing use. The Kapa‘a 272’ Reservoir site is situated on a ridge and surrounded by tall vegetation on all sides and the proposed improvements would not affect the vegetation surrounding the property.

Following the construction of the new smaller 1.0 MG reservoir and removal of the existing larger 2.0 MG reservoir the visual mass and height of the reservoir at the project site would be reduced and shifted to the east. Other appurtenant improvements would be below grade or at or near ground level and shielded from view by existing vegetation at the Kapa‘a 272’ Reservoir facility. The locations where viewers currently have the highest exposure to and awareness of the reservoir (Mōkapu Saddle Road, John A. Burns Freeway, and the Kawainui Marsh Trail) are expected to be enhanced as the new lower and narrower reservoir would have a higher percentage of its mass concealed by the high vegetation surrounding the Kapa‘a 272’ Reservoir site.

While the new replacement reservoir will be visible from certain vantage points, it will replace an existing resource that is used for public infrastructure and ensure the sustainable use of water resources to support the long-term health, safety, and welfare of the public. In this regard, no significant adverse impact on the natural beauty and open space characteristics of the area is anticipated.

- 7) *Subdivision of land will not be utilized to increase the intensity of land uses in the Conservation District.*

No subdivision of land is proposed for this project.

- 8) *The proposed land use will not be materially detrimental to the public health, safety and welfare.*

Staff believes the proposed land use will not be materially detrimental to the public health, safety, and welfare as mitigated. The proposed project will promote the long-term sustainability of water resources and public health, safety, and welfare by replacing the existing aging water reservoir with one that meets current standards to service the region for the foreseeable future. Water is critical for socio-economic development, healthy ecosystems, and human survival itself. It is vital for the health, welfare, safety, and productivity of the population.

CULTURAL IMPACT ANALYSIS

Archival research and a review of previous archaeological studies have shown that nearby Ahupua'a's have considerable cultural history. Based on the the applicant's and their agent's research, no archaeological work has been conducted within the project area and it is possible the only ground-altering activities that occurred in the past was associated with the construction of the existing Board of Water Supply Kapa'a 272' Reservoir site. Based on the archaeological field inspection and report prepared for the project, no historic properties (traditional Hawaiian and historic artifacts, etc.) were encountered within the project area.

The existing 2.0MG reservoir at the Kapa'a 272' Reservoir facility has been at its present site and operating since approximately 1958 and is not accessible to the public. The applicant believes that the traditional and customary Native Hawaiian rights of the area will not be affected by the proposed action as there will be no substantive change in the land use that would alter or affect existing access to the area for cultural purposes. On November 14, 2022, SHPD issued the BWS a Chapter 6E-8 Historic Preservation Review letter and concurred with the BWS' determination that the Kapa'a 272' Reservoir Replacement Project's effect of "No Historic Properties Affected".

The Kapa'a 272' Reservoir Replacement Project will provide much-needed improvements for BWS infrastructure to promote the long-term sustainability of water resources and public health, safety, and welfare for the region. The BWS has stated that they and their agents shall immediately halt all work should any unanticipated historic or cultural finds be discovered during construction.

DISCUSSION

The proposed project entails demolishing the existing 2.0MG reservoir and replacing it with 1.0MG reservoir and related appurtenances to support the new 1.0MG reservoir. The existing 2.0MG reservoir has provided service to the region for the past approximately 60 years; however, according to BWS it no longer meets current standards.

To maintain the reliability of water service, a new pre-stressed concrete 1.0MG reservoir will be constructed adjacent to the existing 2.0MG reservoir. After new 1.0MG reservoir is constructed and in service, the existing 2.0MG reservoir will be demolished to the foundation and the site cleared of the debris. The BWS has stated that the new 1.0MG reservoir is expected to provide sufficient capacity for the service region for the foreseeable future.

The existing 2.0MG reservoir was constructed in 1958 and is considered a nonconforming structure. HAR §13-5-7 Nonconforming uses and structures. (d) states: *If a nonconforming structure is damaged or destroyed by any means (including voluntary demolition) to an extent of more than fifty percent of its replacement cost at the time of destruction, it shall not be reconstructed except in conformity with the provisions of this chapter, except as provided under section 13-5-22(P-8).* The proposed BWS Kapa'a 272' Reservoir Replacement Project is consistent with HAR §13-5-22 P-6 **PUBLIC PURPOSE USES** (D-1) Not for profit land uses undertaken in support of a public service by an agency of the county, state, or federal government, or by an independent non-governmental entity, except that an independent non-governmental regulated public utility may be considered to be engaged in a public purpose use. Examples of public purpose uses may include but are not limited to public roads, marinas, harbors, airports, trails, water systems and other utilities, energy generation from renewable sources, communication systems, flood or erosion control projects, recreational facilities, community centers, and other public purpose uses, intended to benefit the public in accordance with public policy and the purpose of the conservation district. The 1.0MG reservoir will be slightly smaller than the existing 2.0MG reservoir that will be demolished. The proposed project will not substantively change the property's land use that was established prior to the advent of the State Land Use Conservation District.

No streams or other water bodies are present within the property or project area. All construction activities will follow Best Management Practices to mitigate impacts of earthwork and grading activities; water quality and hazardous materials; exterior lighting; and avoid impacts to endangered or rare native birds and the Hawaiian hoary bat. In the unlikely event that subsurface historic resources, including human skeletal remains, structural remains, cultural deposits, artifacts, sand deposits, or sink holes are identified during demolition and/or construction work, the BWS and their agents shall cease work in the immediate vicinity of the find, protect the find from additional disturbance, and contact SHPD ((808) 692-8015).

Based on the information provided, staff believes that the project will have negligible adverse environmental or ecological effects provided that best management practices and mitigation measures as described in the application, and as required by rule or laws, are fully implemented.

RECOMMENDATION

Based on the preceding analysis, staff recommends that the Board of Land and Natural Resources APPROVE Conservation District Use Application OA-3898 for the BWS

Kapa'a 272' Reservoir Replacement Project located at 1691 Mōkapu Boulevard, Portion of Kailua, O'ahu on TMK: (1) 4-2-017:016 subject to the following conditions:

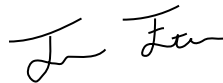
1. The permittee shall comply with all applicable statutes, ordinances, rules, and regulations of the federal, state, and county governments, and applicable parts of HAR Chapter 13-5;
2. The permittee, its successors and assigns, shall indemnify and hold the State of Hawai'i harmless from and against any loss, liability, claim, or demand for property damage, personal injury, and death arising out of any act or omission of the applicant, its successors, assigns, officers, employees, contractors, and agents under this permit or relating to or connected with the granting of this permit;
3. The permittee shall comply with all applicable Department of Health administrative rules;
4. The permittee shall provide documentation (e.g., book and page or document number) that the permit approval has been placed in recordable form as a part of the deed instrument, prior to submission for approval of subsequent construction plans;
5. Before proceeding with any work authorized by the department or the board, the permittee shall submit four (4) copies of the construction plans and specifications to the chairperson or an authorized representative for approval for consistency with the conditions of the permit and the declarations set forth in the permit application. Three (3) of the copies will be returned to the permittee. Plan approval by the chairperson does not constitute approval required from other agencies;
6. Unless otherwise authorized, any work or construction to be done on the land shall be initiated within one (1) year of the approval of such use, in accordance with construction plans that have been signed by the chairperson, and shall be completed within three (3) years of the approval of such use. The permittee shall notify the department in writing when construction activity is initiated and when it is completed;
7. All representations relative to mitigation set forth in the accepted application and environmental assessment or impact statement for the proposed use are incorporated as conditions of the permit;
8. The permittee shall plan to minimize the amount of dust generating materials and activities. Material transfer points and on-site vehicular traffic routes shall be centralized. Dusty equipment shall be located in areas of least impact. Dust control measures shall be provided during weekends, after hours and prior to daily start-up of project activities. Dust from debris being hauled away from the

project site shall be controlled. Landscaping and dust control of cleared areas will be initiated promptly;

9. The permittee shall notify the Office of Conservation and Coastal Lands (OCCL) in writing prior to the initiation and upon completion of the project;
10. Should historic remains such as artifacts, burials or concentration of charcoal be encountered during construction activities, work shall cease immediately in the vicinity of the find, and the find shall be protected from further damage. The contractor shall immediately contact SHPD ((808) 692-8015), which will assess the significance of the find and recommend an appropriate mitigation measure, if necessary;
11. The permittee shall utilize Best Management Practices for the proposed project;
12. During construction, appropriate mitigation measures shall be implemented to minimize impacts to the aquatic environment, off-site roadways, utilities, and public facilities;
13. The permittee understands and agrees that the permit does not convey any vested right(s) or exclusive privilege;
14. In issuing the permit, the department and board have relied on the information and data that the permittee has provided in connection with the permit application. If, subsequent to the issuance of the permit such information and data prove to be false, incomplete, or inaccurate, this permit may be modified, suspended, or revoked, in whole or in part, and the department may, in addition, institute appropriate legal proceedings;
15. When provided or required, potable water supply and sanitation facilities shall have the approval of the department of health and the county department of water supply;
16. Where any interference, nuisance, or harm may be caused, or hazard established by the use, the permittee shall be required to take measures to minimize or eliminate the interference, nuisance, harm, or hazard;
17. Obstruction of public roads, trails, and pathways shall be avoided or minimized. If obstruction is unavoidable, the permittee shall provide alternative roads, trails, or pathways acceptable to the department;
18. During construction, appropriate mitigation measures shall be implemented to minimize impacts to off-site roadways, utilities, and public facilities;
19. The permittee shall obtain a county building or grading permit or both for the use prior to final construction plan approval by the department;

20. Artificial light from exterior lighting fixtures, including but not limited to floodlights, uplights, or spotlights used for decorative or aesthetic purposes, shall be prohibited if the light directly illuminates or is directed to project across property boundaries toward the shoreline and ocean waters, except as may be permitted pursuant to section 205A-71, HRS. All exterior lighting shall be shielded to protect the night sky;
21. The permittee acknowledges that the approved work shall not hamper, impede, or otherwise limit the exercise of traditional, customary, or religious practices of native Hawaiians in the immediate area, to the extent the practices are provided for by the Constitution of the State of Hawai'i, and by Hawai'i statutory and case law;
22. Any landscaping shall be appropriate to the site location and shall give preference to plant materials that are endemic or indigenous to Hawai'i. The introduction of invasive plant species is prohibited;
23. The permittee shall ensure that areas that are disturbed or denuded of vegetation shall be planted or covered as quickly as possible to prevent erosion;
24. Other terms and conditions as may be prescribed by the Chairperson; and
25. Failure to comply with any of these conditions shall render this Conservation District Use Permit void under HAR Chapter 13-5, as determined by the chairperson or board.

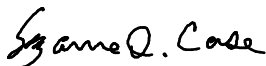
Respectfully submitted,



Trevor Fitzpatrick, Staff Planner
Office of Conservation and Coastal Lands

mc

Approved for submittal:



SUZANNE D. CASE., Chairperson
Board of Land and Natural Resources

Board of Water Supply Kapaa 272' Reservoir Site

TMK: (1) 4-2-017:016

0 137.5 275 550 Feet

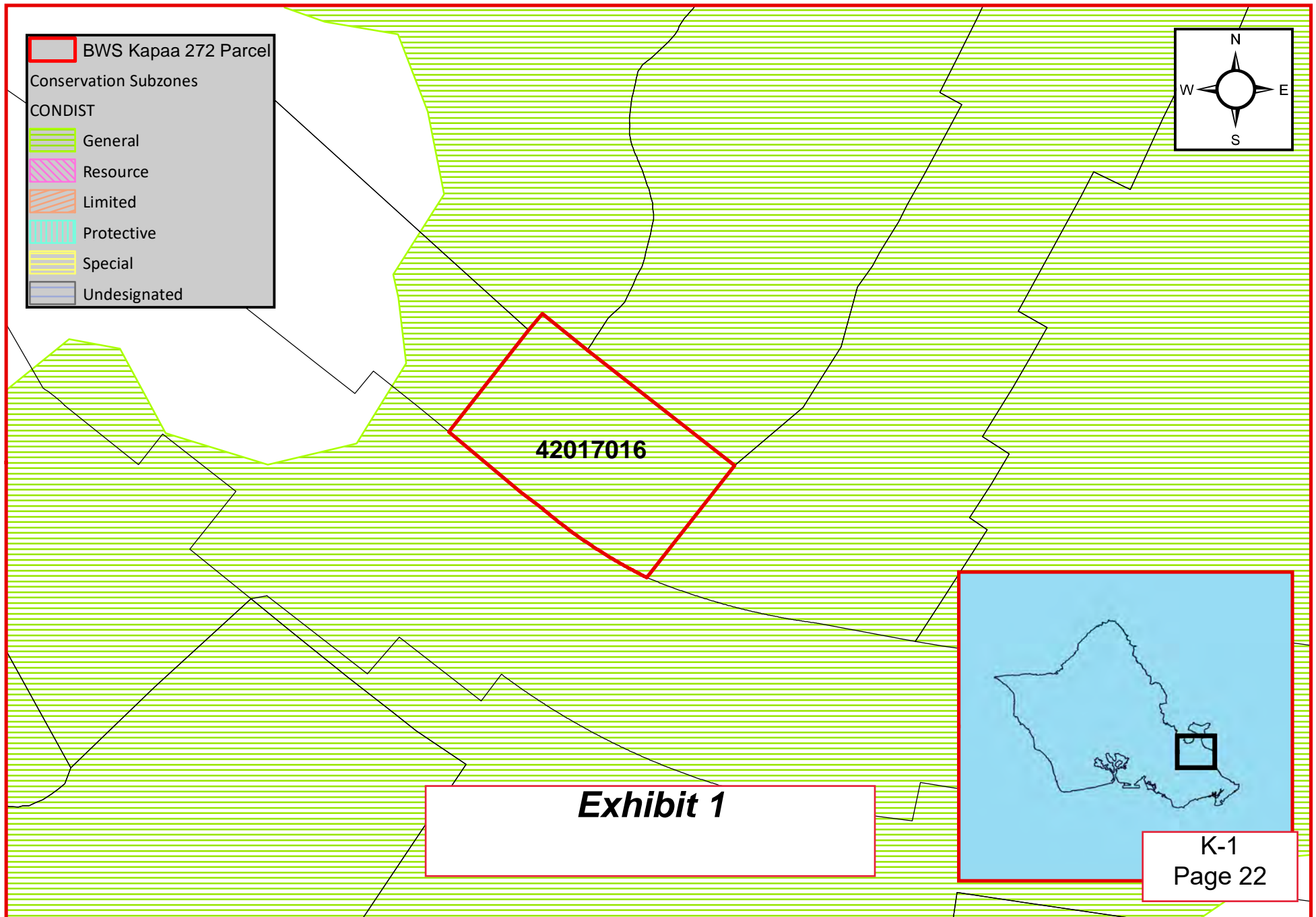



Exhibit 2 Location Map

Project area & surrounding land uses

Legend

 BWS Kapaa 272 Reservoir Facility

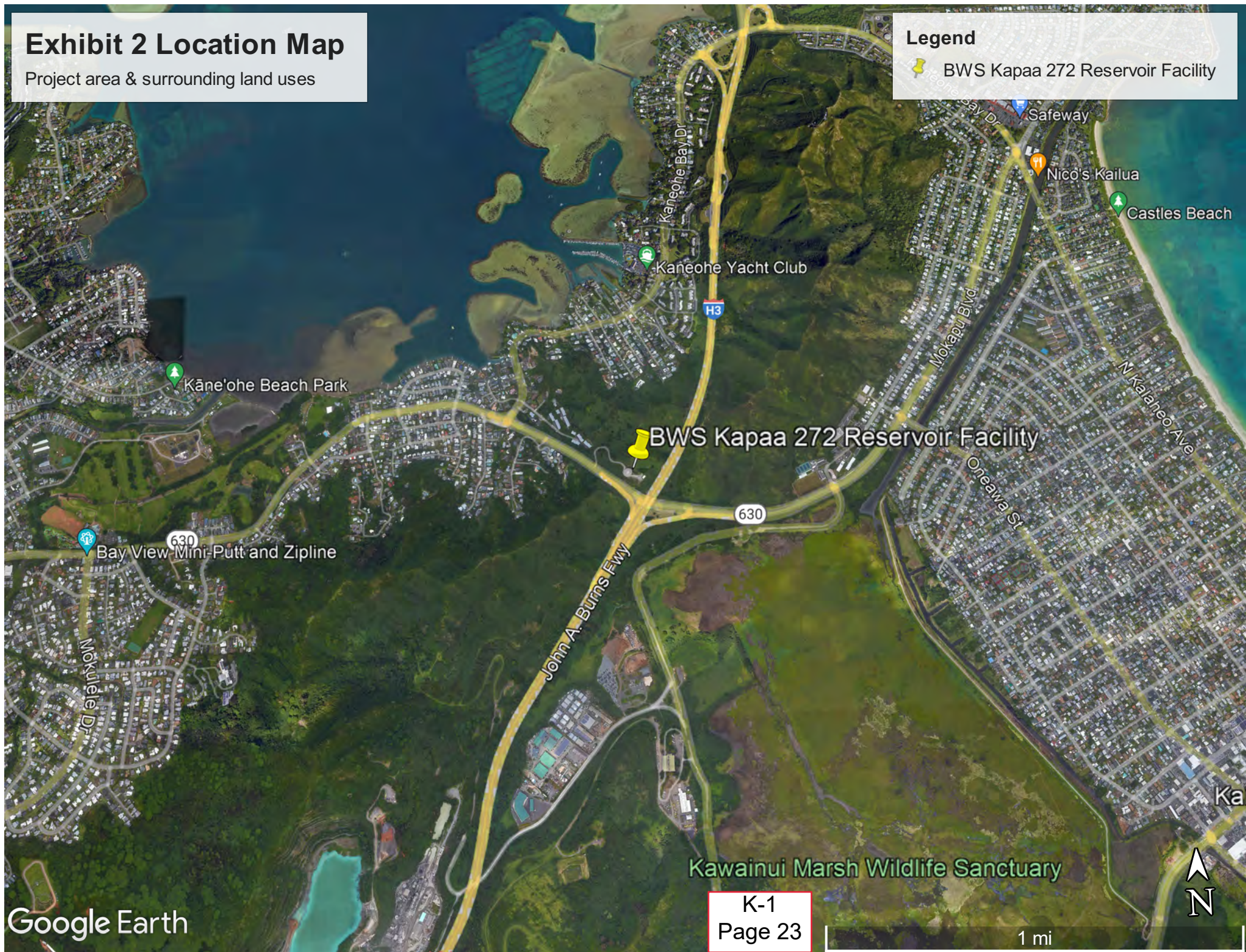


Exhibit 1. Existing Structures in Relation to the Proposed Project and Approvals



Exhibit 3



Flood Hazard Assessment Report

www.hawaiiinfip.org

Property Information

COUNTY: HONOLULU
 TMK NO: (1) 4-2-017:016
 WATERSHED: KAWA; KAWAINUI
 PARCEL ADDRESS: 1691 MOKAPU BLVD
 KANEHOE, HI 96744

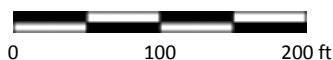
Notes:

Flood Hazard Information

FIRM INDEX DATE: NOVEMBER 05, 2014
 LETTER OF MAP CHANGE(S): NONE
 FEMA FIRM PANEL: 15003C0290H
 PANEL EFFECTIVE DATE: NOVEMBER 05, 2014

THIS PROPERTY IS WITHIN A TSUNAMI EVACUATION ZONE: NO
 FOR MORE INFO, VISIT: <http://www.scd.hawaii.gov/>

THIS PROPERTY IS WITHIN A DAM EVACUATION ZONE: NO
 FOR MORE INFO, VISIT: <http://dlnreng.hawaii.gov/dam/>



Disclaimer: The Hawaii Department of Land and Natural Resources (DLNR) assumes no responsibility arising from the use, accuracy, completeness, and timeliness of any information contained in this report. Viewers/Users are responsible for verifying the accuracy of the information and agree to indemnify the DLNR, its officers, and employees from any liability which may arise from its use of its data or information.

If this map has been identified as 'PRELIMINARY', please note that it is preliminary and is not to be used for flood insurance rating. Contact your county for more information and to be used for compliance with local floodplain management regulations.

FLOOD HAZARD ASSESSMENT TOOL LAYER LEGEND (Note: legend does not correspond with NFHL)

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD - The 1% annual chance flood (100-year), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. SFHAs include Zone A, AE, AH, AO, V, and VE. The Base Flood Elevation (BFE) is the water surface elevation of the 1% annual chance flood. Mandatory flood insurance purchase applies in these zones:

	Zone A: No BFE determined.
	Zone AE: BFE determined.
	Zone AH: Flood depths of 1 to 3 feet (usually areas of ponding); BFE determined.
	Zone AO: Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined.
	Zone V: Coastal flood zone with velocity hazard (wave action); no BFE determined.
	Zone VE: Coastal flood zone with velocity hazard (wave action); BFE determined.
	Zone AEF: Floodway areas in Zone AE. The floodway is the channel of stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without increasing the BFE.

NON-SPECIAL FLOOD HAZARD AREA - An area in a low-to-moderate risk flood zone. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

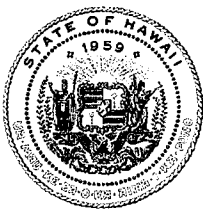
	Zone XS (X shaded): Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
	Zone X: Areas determined to be outside the 0.2% annual chance floodplain.

OTHER FLOOD AREAS

	Zone D: Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase applies, but coverage is available in participating communities.
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Exhibit 4

DAVID Y. IGE
GOVERNOR OF
HAWAII



**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES**

STATE HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING
601 KAMOKILA BLVD., STE 555
KAPOLEI, HI 96707

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

November 14, 2022

Jason Takaki, Head
Capital Projects Division
Honolulu Board of Water Supply
650 South Beretania Street
Honolulu, HI 96813
Email: jtakaki@hbws.org

IN REPLY REFER TO:
Project No: 2021PR00327
Doc. No.: 2211MK04
Architecture, Archaeology

Dear Mr. Takaki:

**SUBJECT: Chapter 6E-8 Historic Preservation Review –
Request for Concurrence with “No historic properties affected”
Kapaa 272’ Reservoir Replacement
Kāne’ohe Ahupua’a, Ko’olaupoko District, Island of O’ahu
TMK: (1) 4-2-017:016**

This letter provides the State Historic Preservation Division’s (SHPD’s) review of the Board of Water Supply’s (BWS) proposed Kapaa 272’ Reservoir Replacement project. The submittal included the BWS’ transmittal letter dated March 5, 2021, photographs, HRS 6E Submittal Form, construction plans, Historic Property Evaluation Forms, and SIHP request form. The submittal also included a supporting document titled *Archaeological Field Inspection and Literature Review for the Proposed Kapaa 272’ Reservoir Replacement in Kāne’ohe, Kāne’ohe Ahupua’a, Ko’olaupoko District, Island of O’ahu, Hawai’i, TMK: [1] 4-2-017:016* (Peralta and Spear 2020). The SHPD received this submittal on March 22, 2021. In a letter dated July 25, 2022, SHPD requested more information to evaluate the significance of the property (Submission 2021PR00327.002, Doc No. 2207SCH11). SHPD received the final LRFI on August 3, 2022 (Submission 2021PR00327.002) and an updated Historic Property Evaluation Form and cover letter on October 7, 2022 (Submission 2021PR00327.003).

The project area is located at 1691 Mokapu Boulevard, Kailua. The project area is approximately 2.2624 acres. The project involves constructing a new 1.0 million gallon (MG) above ground reinforced concrete potable water reservoir and demolishing the existing 2.0 MG above ground concrete potable water reservoir. Prior to demolition of the existing reservoir, the new reservoir will be connected to the existing water, drainage, and electrical system. Proposed ground disturbance includes excavating the existing hillside located 30 meters west of the reservoir approximately 10 feet, the existing asphalt concrete pavement near the control building will be removed, and the existing electrical pole east of the control building will be relocated. Additionally, the installation of a shotcrete and soil nail slope protection will be completed over excavated hillside.

A review of SHPD’s records and the LRFI report (Peralta and Spear 2020) shows that at least 8 archaeological studies have been conducted in the vicinity of the project area. These archaeological studies have identified historic properties including agricultural and habitation sites, fishponds, the Friendship Garden, boundary walls, and heiau. The USDA (Foote et. al 1972) identifies the soils as Alaeloa Silty Clay, 40 percent to 70 percent slopes. Scientific Consultant Services, Inc. completed the field inspection on August 20, 2020, which consisted of an unsystematic pedestrian survey within the project area. The hillside area and the undeveloped area outside the existing fence-line surrounding the Kapaa 272’ site were not included in the pedestrian survey due to high vegetation and steep slopes.

Exhibit 5

K-1
Page 26

Mr. Takaki
November 14, 2022
Page 2

According to the SHPD's geographical information system (GIS) the project parcel has been previously disturbed. Low potential exists for the project to encounter subsurface historic properties not already disturbed by previous development.

The Kapa'a 272' Reservoir (1958), Police Building (ca. 1962), and Vault Building (1967) are historic properties per §6E-2, HRS. The Police and Vault buildings are located in the project area, but will not be demolished. Fung Associates evaluated the structures for their integrity and significance under HAR §13-275-6(b) and determined that the Water Reservoir, Police Building, and Vault Building have diminished integrity and lack historic significance.

The Kapa'a 272' Reservoir was constructed as part of the BWS Kapa'a Water Project to provide increased water to downtown Kailua to support additional fire hydrants in the area. Fung Associates determined that the Reservoir did not make a significant contribution to the history or development of Kailua and does not convey distinctive design or construction characteristics. SHPD agrees that the Kapa'a 272' Reservoir lacks historic significance and design distinction.

Based on the information provided and the proposed scope of work, **SHPD concurs** with the BWS' HRS 6E project effect determination of "No historic properties affected" for the current project. Pursuant to HAR §13-275-7(e), when the SHPD agrees that the action will not affect any significant historic properties, this is the SHPD's written concurrence and historic preservation review ends. The HRS 6E historic preservation review process is ended.

Please note on relevant construction plans: In the unlikely event that subsurface historic resources, including human skeletal remains, structural remains, cultural deposits, artifacts, sand deposits, or sink holes are identified during the demolition and/or construction work, cease work in the immediate vicinity of the find, protect the find from additional disturbance, and contact the State Historic Preservation Division, at (808) 692-8015.

Please contact Mary Kodama, Architectural Historian, at Mary.Kodama@hawaii.gov for any architectural concerns or matters regarding this letter and contact Samantha Hemenway, O'ahu Island Archaeologist, at samantha.hemenway@hawaii.gov for any archaeological concerns.

Aloha,

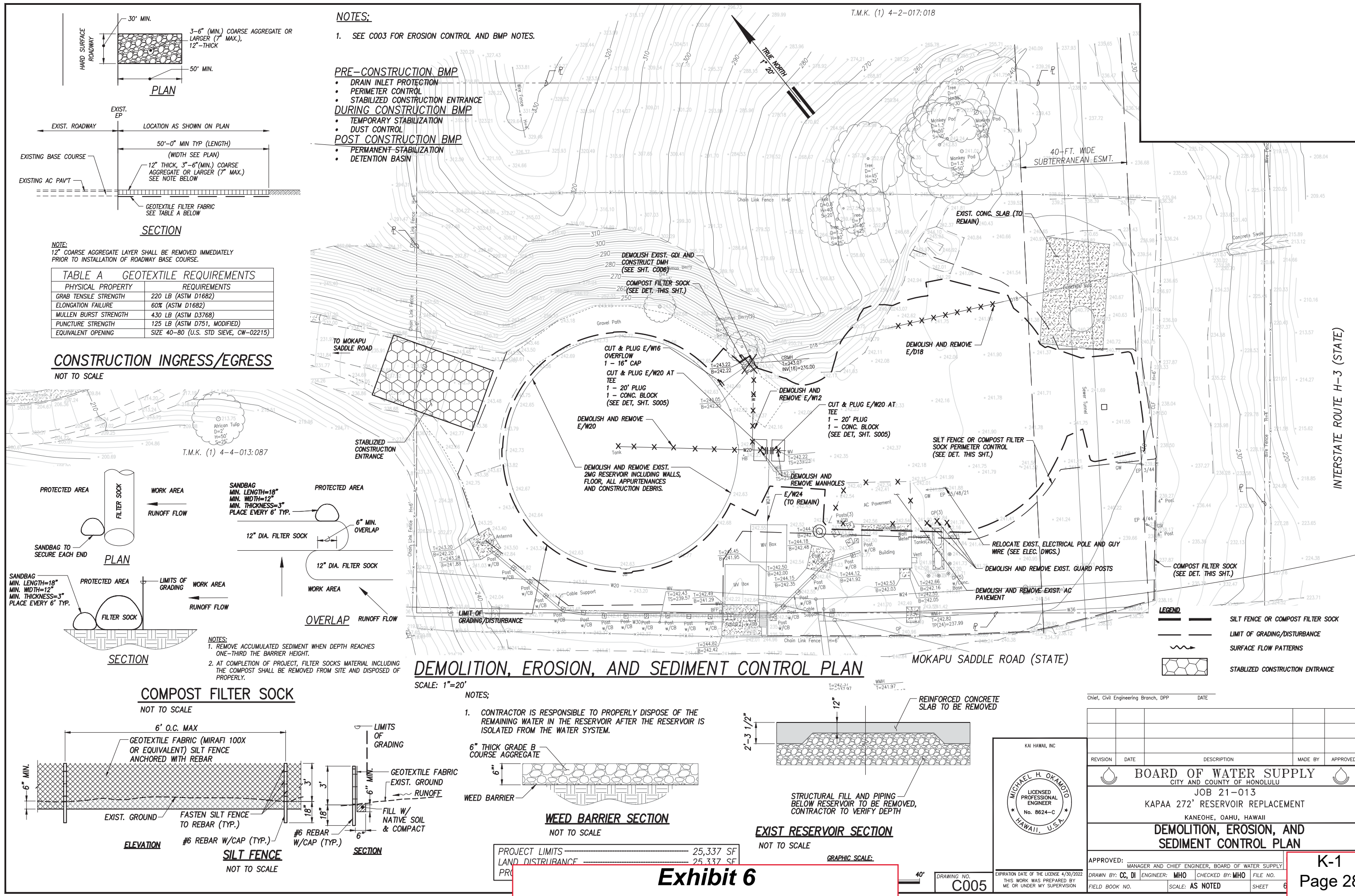
Alan Downer

Alan S. Downer, PhD
Administrator, State Historic Preservation Division
Deputy State Historic Preservation Officer

cc: Raymondo Remigio, rremigio@hbws.org
Bethany Zedalis, bethany@fai-architects.com
Kathryn Fujikami, kfujikami@hbws.org
Jardine Urasaki, jurasaki@hbws.org

Exhibit 5

K-1
Page 27



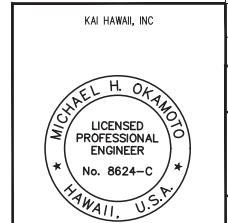
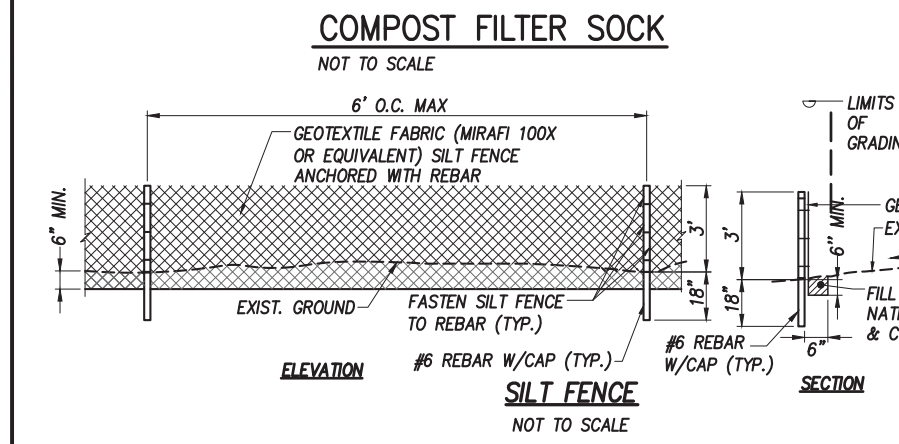
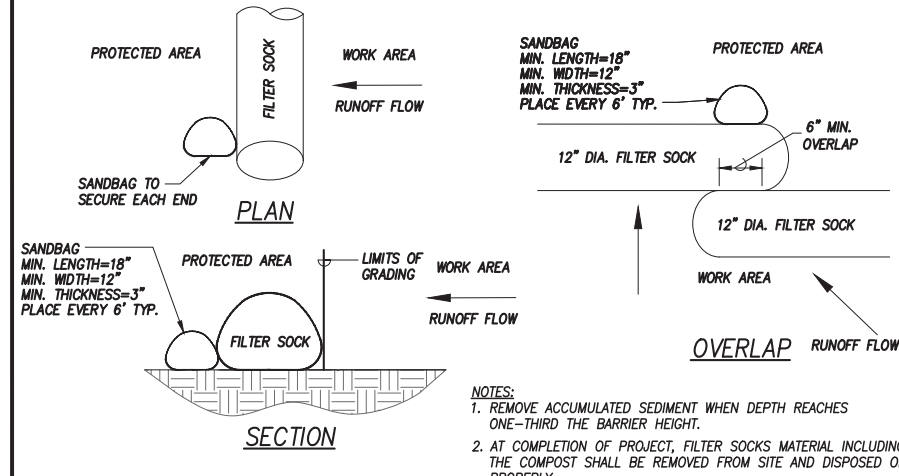
NOTES:
1. SEE C003 FOR EROSION CONTROL AND BMP NOTES.

- PRE-CONSTRUCTION BMP**
- DRAIN INLET PROTECTION
 - PERIMETER CONTROL
 - STABILIZED CONSTRUCTION ENTRANCE
- DURING CONSTRUCTION BMP**
- TEMPORARY STABILIZATION
 - DUST CONTROL
- POST CONSTRUCTION BMP**
- PERMANENT STABILIZATION
 - DETENTION BASIN

TABLE A GEOTEXTILE REQUIREMENTS

PHYSICAL PROPERTY	REQUIREMENTS
GRAB TENSILE STRENGTH	220 LB (ASTM D1682)
ELONGATION FAILURE	60% (ASTM D1682)
MULLEN BURST STRENGTH	430 LB (ASTM D3768)
PUNCTURE STRENGTH	125 LB (ASTM D751, MODIFIED)
EQUIVALENT OPENING	SIZE 40-80 (U.S. STD SIEVE, CW-02215)

CONSTRUCTION INGRESS/EGRESS
NOT TO SCALE



Chief, Civil Engineering Branch, DPP DATE

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU
JOB 21-013
KAPAA 272' RESERVOIR REPLACEMENT
KANEHOE, OAHU, HAWAII

DEMOLITION, EROSION, AND SEDIMENT CONTROL PLAN

APPROVED: MANAGER AND CHIEF ENGINEER, BOARD OF WATER SUPPLY
DRAWN BY: CC, DI ENGINEER: MHO CHECKED BY: MHO FILE NO. K-1
FIELD BOOK NO. SCALE: AS NOTED SHEET 6

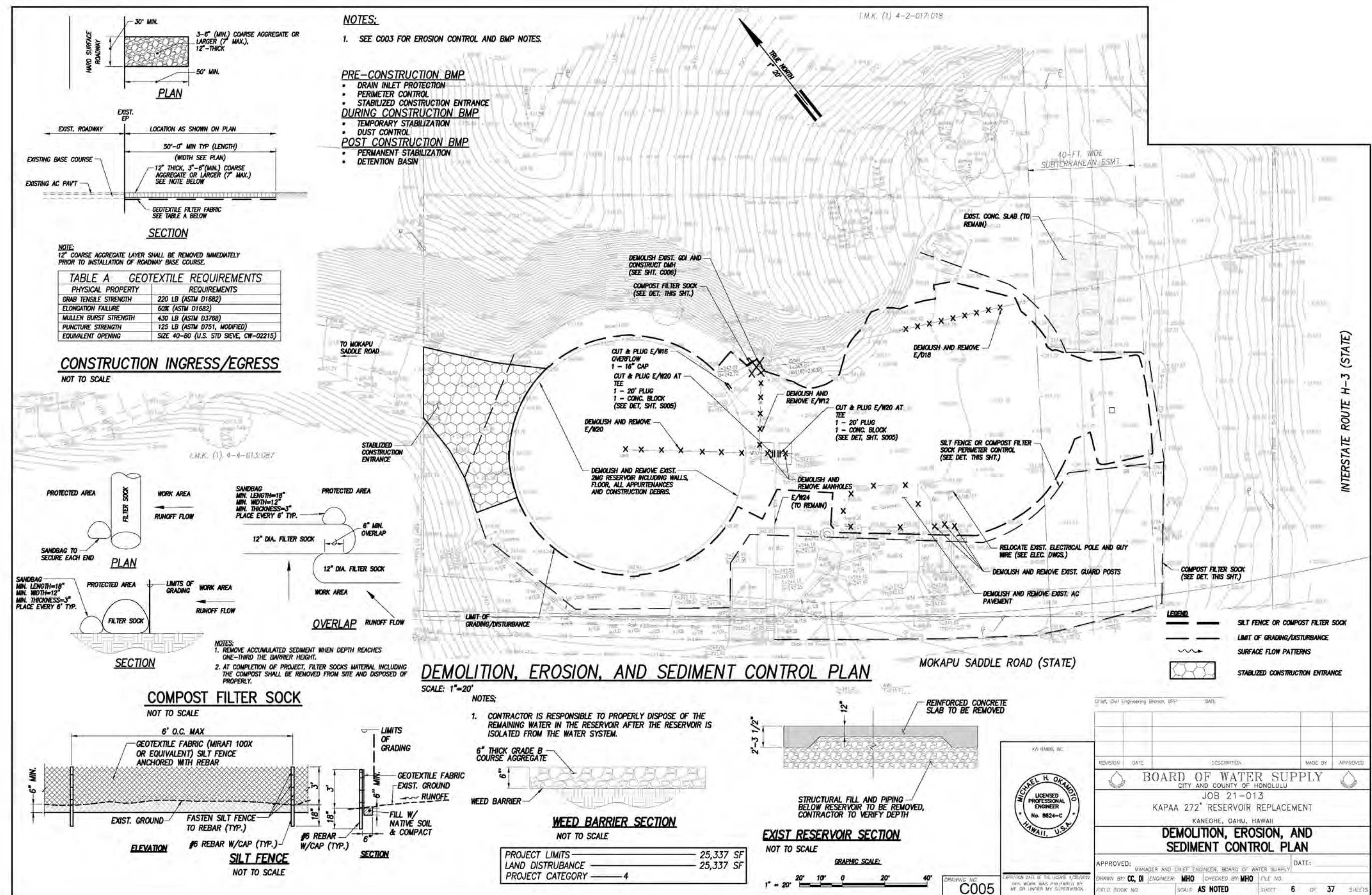
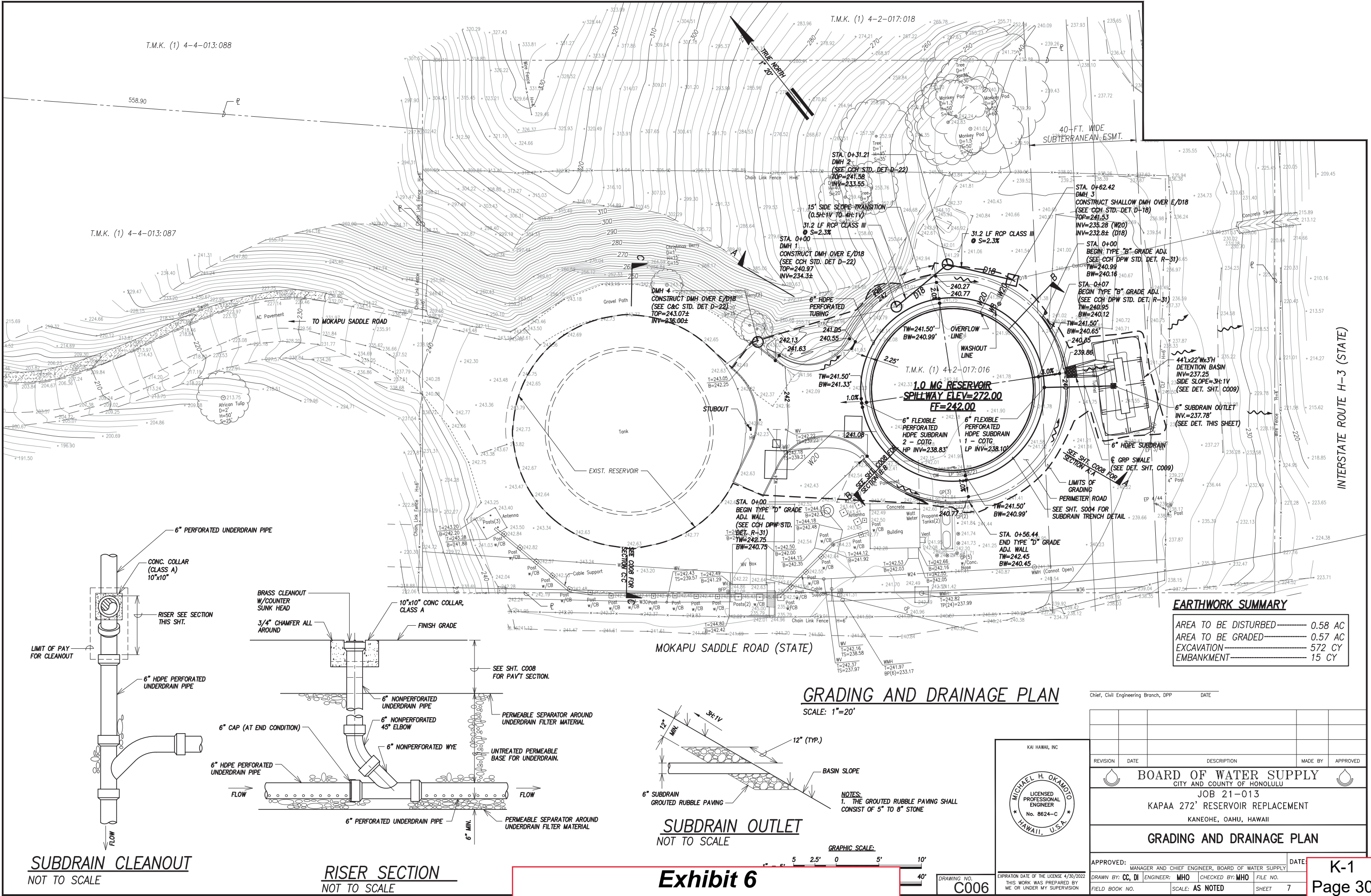


Exhibit 6



Chief, Civil Engineering Branch, DPP

DATE

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

KAI HAWAII, INC.

MICHAEL H. OKAMOTO

LICENSED PROFESSIONAL ENGINEER

No. 8624-C

HAWAII, U.S.A.

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU

JOB 21-013

KAPAA 272' RESERVOIR REPLACEMENT

KANE OHE, OAHU, HAWAII

GRADING AND DRAINAGE PLAN

APPROVED:

MANAGER AND CHIEF ENGINEER, BOARD OF WATER SUPPLY

DATE

DRAWN BY: CC, DI

ENGINEER: MHO

CHECKED BY: MHO

FILE NO.

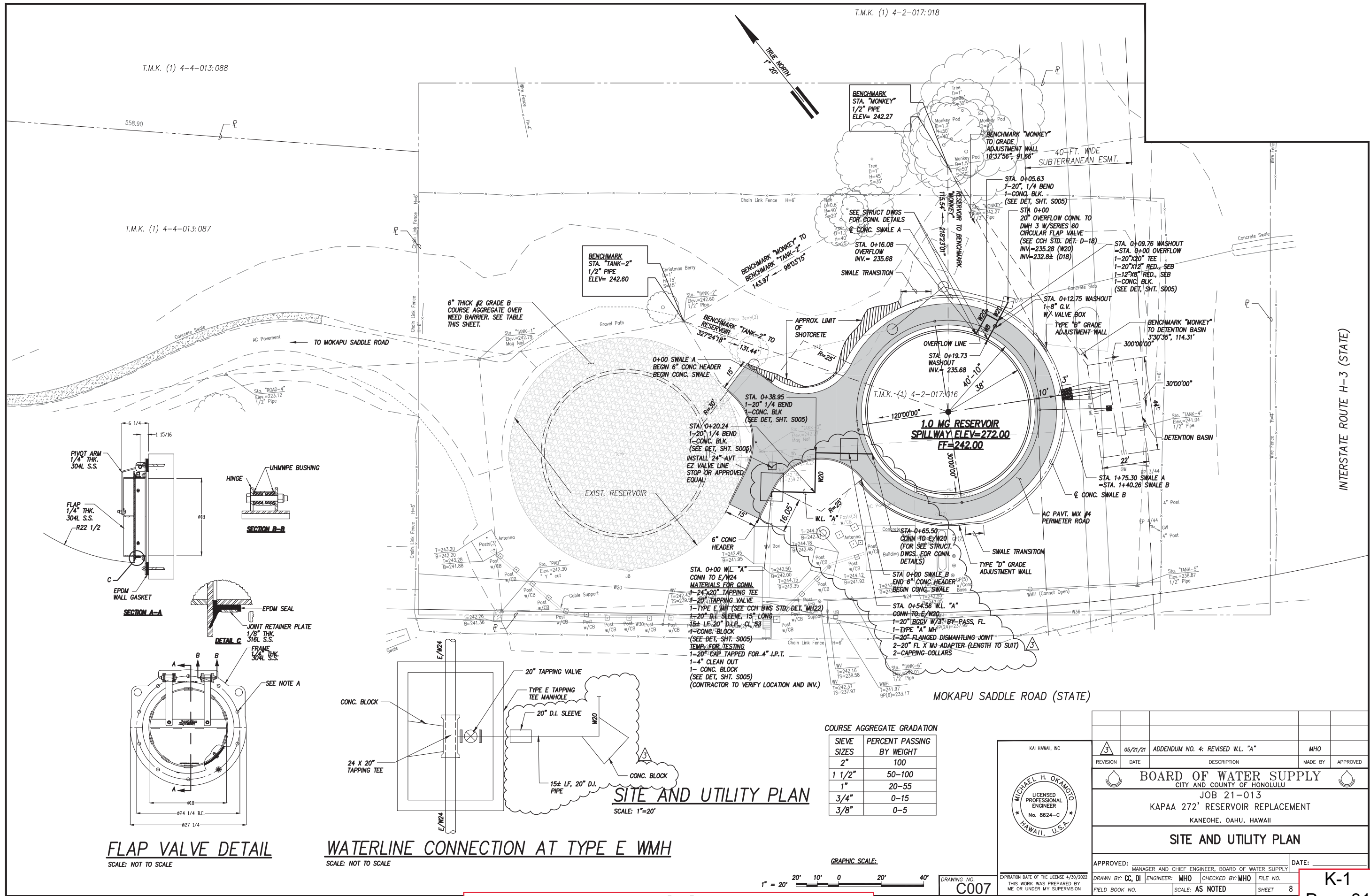
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SCALE: AS NOTED

SHEET 7

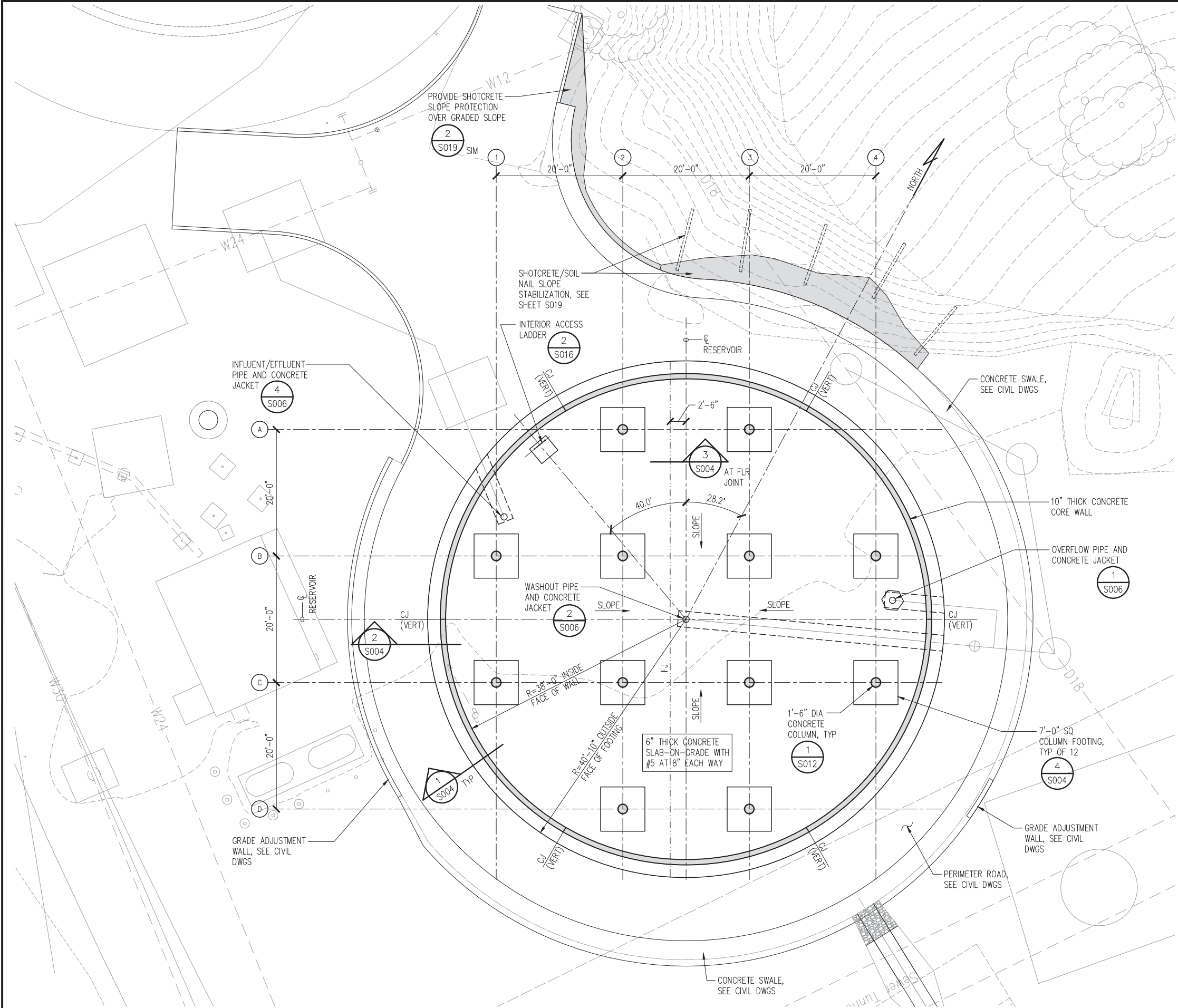
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Page 30





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LEGEND:

FJ DENOTES OPTIONAL CONCRETE FLOOR CONSTRUCTION JOINT. (IT IS CONTRACTOR'S DECISION WHETHER OR NOT TO INSTALL IN ORDER TO PROVIDE BEST FINISHED PRODUCT)

CJ DENOTES VERTICAL WALL CONSTRUCTION JOINT.

1 S007 RESERVOIR STRUCTURAL FOUNDATION PLAN
SCALE: 1/8" = 1'-0"

Exhibit 6

DRAWING NO. S007

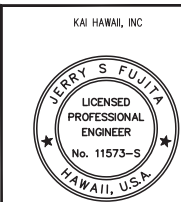
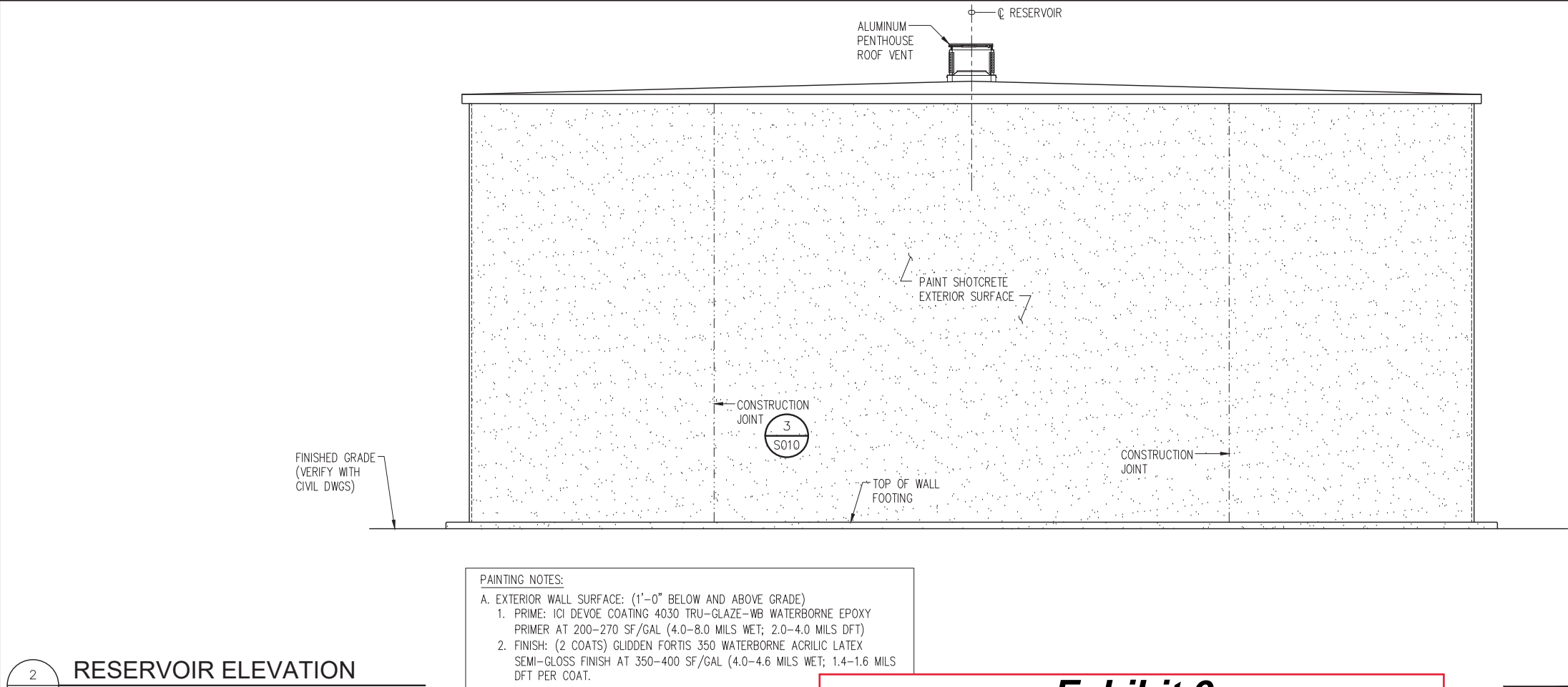
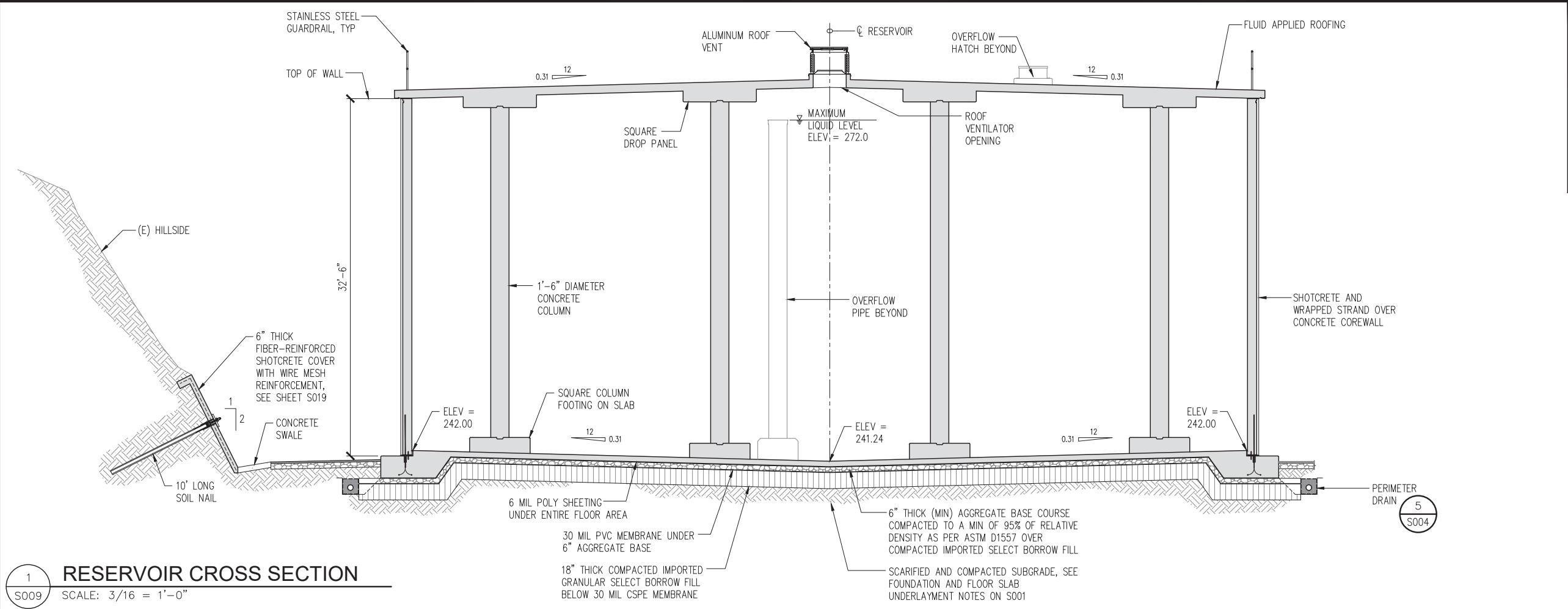
KAI HAWAII, INC.

JERRY S. FUJITA
LICENSED PROFESSIONAL ENGINEER
No. 11573-S
HAWAII, U.S.A.


APPROVED: *Jerry S. Fujita*
EXPIRATION DATE OF THE LICENSE: 4/30/2022
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
BOARD OF WATER SUPPLY CITY AND COUNTY OF HONOLULU				
JOB 21-013 KAPAA 272' RESERVOIR REPLACEMENT KANEHOE, OAHU, HAWAII				
RESERVOIR STRUCTURAL FOUNDATION PLAN				
APPROVED: MANAGER AND CHIEF ENGINEER, BOARD OF WATER SUPPLY				DATE:
DRAWN BY: CAD	ENGINEER: -	CHECKED BY: -	FILE NO.	
FIELD BOOK NO.		SCALE: AS NOTED	SHEET 17	OF 17

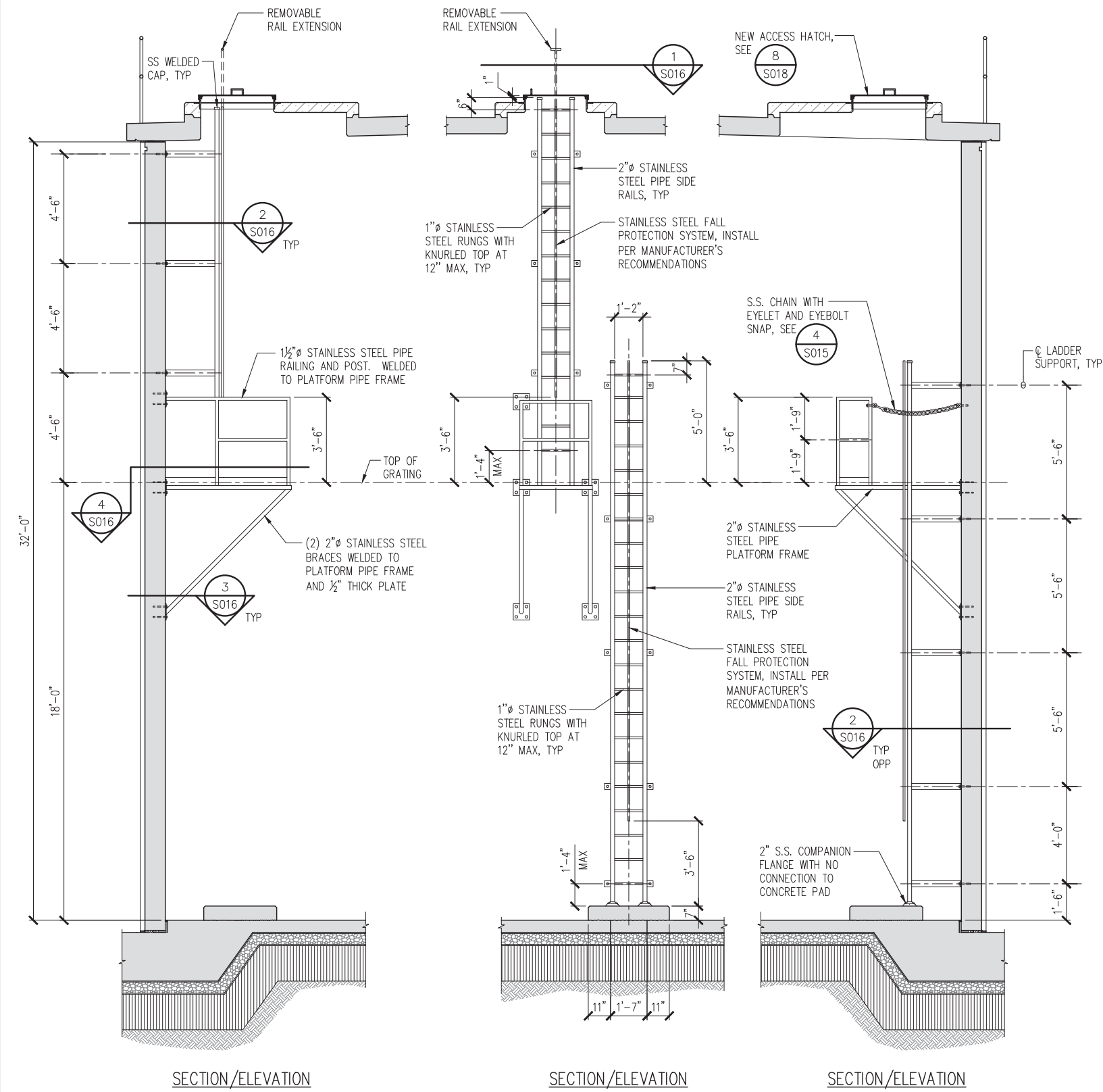
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Jerry S. Fujita
EXPIRATION DATE OF THE LICENSE: 1/30/2022
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED	
 BOARD OF WATER SUPPLY CITY AND COUNTY OF HONOLULU					
JOB 21-013					
KAPAA 272' RESERVOIR REPLACEMENT					
KANEHOHE, OAHU, HAWAII					
RESERVOIR CROSS SECTION AND ELEVATION					
APPROVED: MANAGER AND CHIEF ENGINEER, BOARD OF WATER SUPPLY					DATE
DRAWN BY: CAD	ENGINEER: -	CHECKED BY: -	FILE NO.		
FIELD BOOK NO.		SCALE: AS NOTED	SHEET	19	

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SECTION/ELEVATION

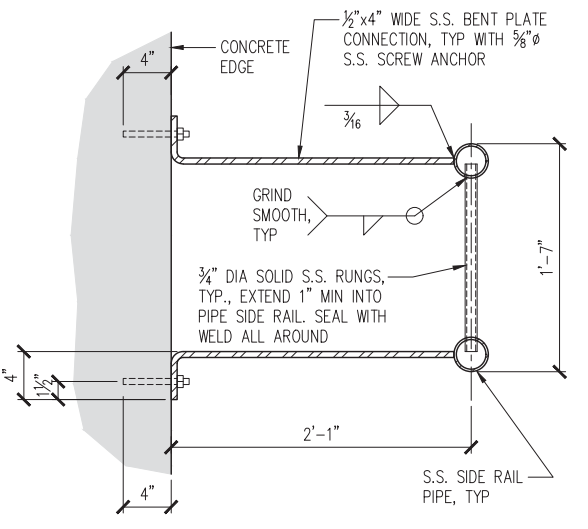
SECTION/ELEVATION

SECTION/ELEVATION

INTERIOR LADDER SCHEMATIC ELEVATIONS

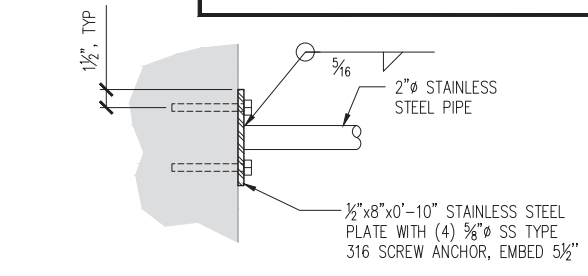
1 S016 SCALE: 3/8" = 1'-0"

- INTERIOR LADDER NOTES:
1. ALL MATERIALS FOR INTERIOR LADDERS PIPE, SIDE RAILS, RUNGS, BRACKETS, AND FALL PROTECTION SYSTEM TO BE STAINLESS STEEL TYPE 316.
 2. LADDER RUNGS TO BE SOLID BARS WITH KNURLED TOP SURFACE.
 3. ALL BOLTS SS 316 UNLESS NOTED OTHERWISE.
 4. WHERE SS BOLTS ARE IN CONTACT WITH DISSIMILAR METALS, USE INSULATING SLEEVES AND PHENOLIC WASHERS TO ELECTRICALLY ISOLATE.



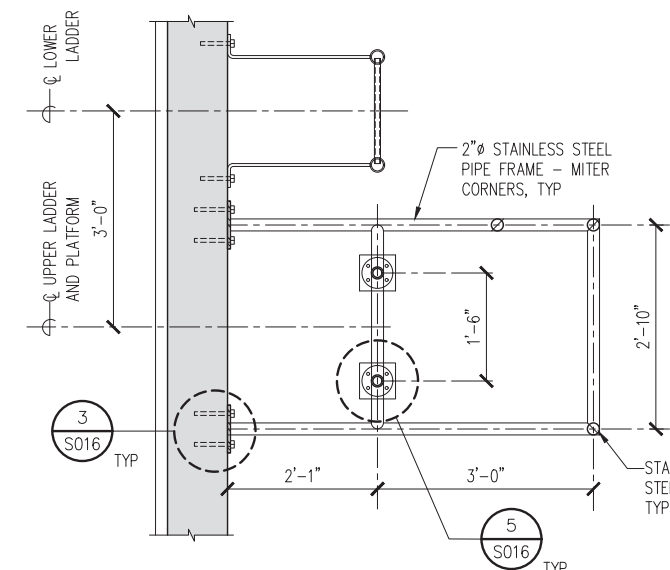
2 INTERIOR LADDER SUPPORT

S016 SCALE: 1 1/2" = 1'-0"



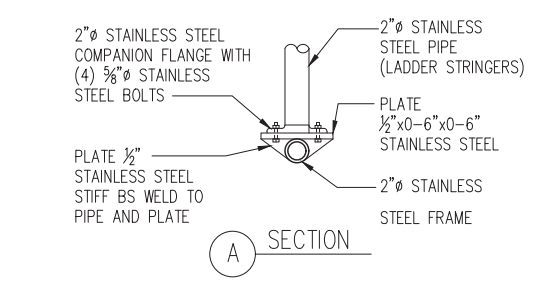
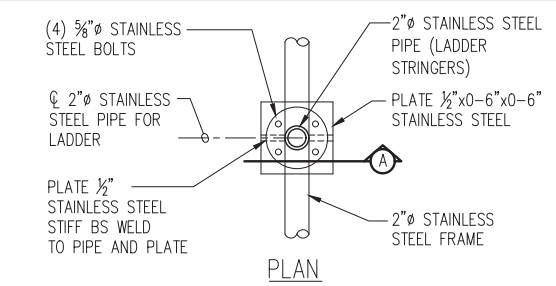
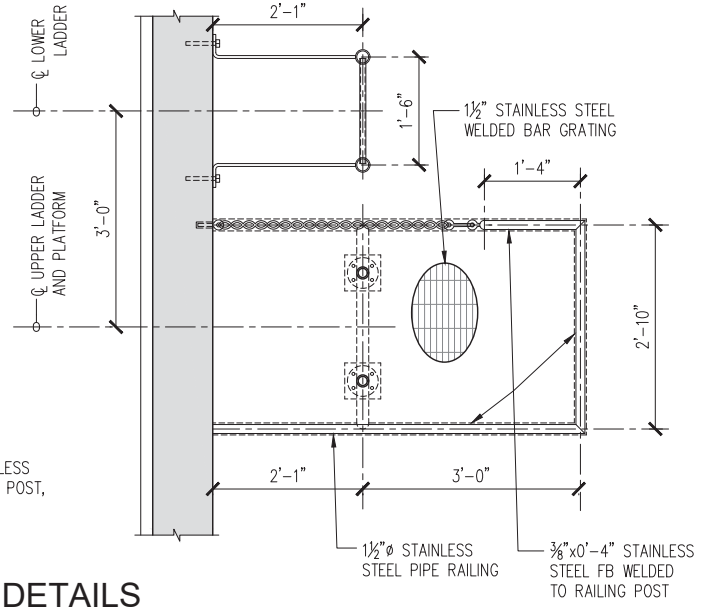
3 WALL ANCHOR DETAIL

S016 SCALE: 1 1/2" = 1'-0"



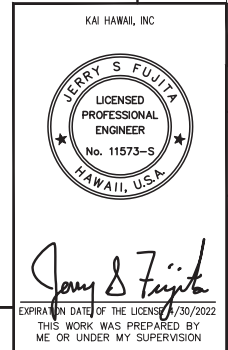
4 INTERIOR LADDER AND PLATFORM DETAILS

S016 SCALE: 3/4" = 1'-0"



5 LADDER SUPPORT

S016 SCALE: 3/4" = 1'-0"



REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
BOARD OF WATER SUPPLY CITY AND COUNTY OF HONOLULU				
JOB 21-013 KAPAA 272' RESERVOIR REPLACEMENT KANE OHE, OAHU, HAWAII				
INTERIOR LADDER AND PLATFORM DETAILS				
APPROVED: MANAGER AND CHIEF ENGINEER, BOARD OF WATER SUPPLY				
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FIELD BOOK NO. SCALE: AS NOTED SHEET 26				

