INFORMATIONAL BRIEFING ON WELL CONSTRUCTION AND PUMP INSTALLATION PERMITS

Commission on Water Resource Management, November 2023

AGENDA

State Water Code and Hawaii Administrative Rules

Hawai'i Well Construction and Pump Installation Standards

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Possible Next Steps

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Introduction

The Commission on Water Resource Management's Ground Water Regulation Branch protects water resources in part by implementing a permitting system for the construction of wells and installation of pumps, statewide.

Based on conversation with the Commission, we are presenting our current process to have a dialog with the Commission regarding the protections provided by the current process, and relevance of the 1997 delegation of approval for permits from the Commission to the Chair in light of case law since the delegation.

- **State Water Code (Excerpts)**

  Part VII. Wells

  §174C-82 Powers and duties of the commission. In addition to its other powers and duties, the commission shall:

  (1) Require registration of all existing wells, as provided in Section 174C-83;

  (2) Require permits for well construction and for installation of pumps and pumping equipment as provided in section 174C-84;

  (3) Require well completion reports, as provided in section 174C-85;

  (4) Develop well construction and installation standards for pumps and pumping equipment, as provided in section 174C-86; and

  (5) Adopt, modify, and enforce all rules and orders necessary to carry out this part. [L 1987, c 45, pt of §2]

- **State Water Code (Excerpts)**

  Part VII. Wells

  §174C-84 Permits for well construction and pump installation.

  (a) No well construction and no installation of pumps and pumping equipment shall commence without appropriate permit from the commission. An application for a permit for well construction shall be required for all areas of the State including water management areas and shall be made by the well driller who will construct the well. An application for a permit for installation of a pump and pumping equipment shall be made by the pump installation contractor who will install the pump and pumping equipment.

- **State Water Code (Excerpts)**

  Part VII. Wells

  §174C-84 Permits for well construction and pump installation.

  (c) The commission may issue a permit only if the proposed construction complies with all applicable laws, rules, and standards. Before acting on any application, the commission shall cause the application to be reviewed by the department of health for compliance with their rules and standards concerning, among other things, the appropriateness of the well location.

- **State Water Code (Excerpts)**

  Part VII. Wells

  §174C-86 Well construction and pump installation standards. (a) The commission shall adopt minimum standards for the construction of wells and the installation of pumps and pumping equipment. The standards shall be such as to ensure the safe and sanitary maintenance and operation of wells, the prevention of waste, and the prevention of contamination of the waters. The minimum standards for well construction shall include the criteria for well location and the procedures for grouting, sealing, capping, and plugging wells. They shall also provide for the installation of devices to measure the amount of ground water being withdrawn from the wells. The minimum standards for the installation of pumps and pumping equipment shall include the required equipment characteristics and construction.

HAWAI'I WELL CONSTRUCTION AND PUMP INSTALLATION STANDARDS (HWCPIS)

Adopted 1997, revisions 1999 and 2004

The Hawai'i Well Construction and Pump Installation Standards

- **Summary of Standards (as stated in CWRM submittal 1/23/97)**

  The major improvements in the proposed Standards are:

  1. **Preliminary aquifer optimization via control of well depths based on initial water level and other data.**

  2. **Aquifer and well protection through minimum construction and pump installation requirements, eg. minimum grouting, casing thicknesses, disinfection, monitoring devices, capping, elevation bench marks, etc. and the reporting of as-built information.**

  3. **Adoption of minimum aquifer pump testing and reporting procedures.**

  4. **Procedures to properly seal different types of abandoned wells, including test borings which are under the purview of the Department of Health.**

The Hawai‘i Well Construction and Pump Installation Standards

- **Staff established and Commission adopted these standards for conformance of well design and construction, to maximize aquifer protection and minimize potential environmental impacts.**

- **CWRM staff held public hearings on Oahu, Maui County (Maui and Molokai), Hawaii (Kona and Hilo), and Kauai.**

- **CWRM staff also distributed the draft standards to consultants, well drillers and others for review and comment**

The Hawai‘i Well Construction and Pump Installation Standards

- **CWRM delegation through adoption of standards**

  3. The Commission delegate the following authority:

  a. The Chairperson is authorized to approve well construction and well modification permit applications (under Hawaii Revised Statutes §174C-86) statewide, unless the Chairperson determines that the matter should be decided by the Commission.

  b. In aquifer systems that are not designated water management areas and where estimated water usage as of the date of application is less than 70% of sustainable yield, the Chairperson is authorized to approve pump installation and pump modification permits unless the Chairperson determines that the matter should be decided by the Commission.

  note: currently Waimea (Big Island), Wai‘anae, and Kahului have pumping greater than 70%

  c. Unless deemed otherwise by the Chairperson, no new or additional permit application is required for the replacement of pumps less than or equal to the existing pump capacity. However, the applicant must inform the commission within 30 days of the replacement and complete and submit the Well Completion Report - Part II.

CURRENT APPLICATION REVIEW PROCESS

Well/pump application

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
APPLICATION FOR A WELL CONSTRUCTION / PUMP INSTALLATION PERMIT

For Official Use Only:

Instructions: Please print in ink or type and e-mail PDF of completed application with attachments. A non-refundable filing fee of **$300.00** must be mailed to the Commission, payable to the Dept. of Land and Natural Resources. The Commission may not accept incomplete applications. For assistance, call the Regulation Branch at **587-0225**. For further information and updates to this application form, visit http://www.hawaii.gov/dlnr/cwrm.

WELL LOCATION INFORMATION

1. STATE WELL NO. (If assigned)	2. WELL NAME	3. ISLAND	4. TMK (3) (1) . 5 . 051 : 106
	Kai 18	Hawaii	

5. WELL COORDINATES (latitude and longitude, referenced to NAD 83, degrees, minutes, seconds to 1 decimal place) and ADDRESS (street, city, zip code)
19.5980467 N. -154.9609435 W. 15-1664 7th ave Keaau HI 96749

The following must be attached before this application is accepted as complete:
- Property tax map, showing well location referenced to established property boundaries
- Photograph of the proposed well site
- A photo or schematic diagram showing the well site, access road and proposed well infrastructure
- Attach written permission from the landowner listed below, that acknowledges the work proposed by this application. If the landowner changes during construction, a new permission statement is required.

6. WELL OPERATOR'S NAME/COMPANY	Well Operator's Contact	7. LANDOWNER'S NAME/COMPANY	Landowner's Contact
Same		Alex L Ignacio	
Well Operator's Mailing Address		Landowner's Mailing Address	
		5008 Poke St Hilo HI 96720	
Well Operator's Phone	Well Operator's Fax / Well Operator's E-mail	Landowner's Phone / Landowner's Fax / Landowner's E-mail	
		808-854-5043	hawaiibuilt.net@gmai

PROPOSED WELL CONSTRUCTION

8. Proposed Work: ☐ Construct New Well ☐ Modify Existing Well ☐ Abandon/Seal Well
9. Construction Type: ☐ Drilled ☐ Dug ☐ Shaft ☐ Tunnel
10. Is this well part of a battery of wells? ☐ Yes ☐ No

PROPOSED PUMP INSTALLATION

11. Proposed Work: ☑ Install New Pump ☐ Replace Pump
12. Method of flow measurement: ☑ Totalizer flowmeter ☐ Other (explain)
13. Proposed Pump Capacity, gpm (gallons per minute): 25
14. Proposed Amount of Withdrawal, gpd (gallons per day): 250

15. Proposed Surveyor name and license number (a surveyor is required for all Well Construction Permits and may be required for some Pump Installation Permits)

PROPOSED USE *If the well water will be treated, please describe how (reverse osmosis, ultra violet, etc.) and disposal method of resulting effluent, reject water, etc.*

☐ 16. Municipal (water systems serving greater than 25 individuals or 15 service connections)
☑ 17. Domestic Number of units to be served: 1
☐ 18. Industrial (describe)
☐ 19. Irrigation (describe crop and no. of acres)
☐ 20. Military (describe)
☐ 21. Other (describe)

OTHER LEGAL REQUIREMENTS *If required, items 22. and 23. must be obtained before the Commission can legally issue a permit:*

22. **Conservation District Use Permit (CDUP)**
☐ Well is in Conservation District
☐ Required, CDUP # _____ date approved _____
☐ Not Required (attach documentation from OCCL)
☐ Well is not in Conservation District

23. **Special Management Area Permit (SMAP)**
☐ Well is in the Special Management Area
☐ Required, SMA # _____ date approved _____
☐ Not Required (attach documentation from applicable County agency)
☐ Well is not in the Special Management Area

24. **State Historic Preservation Division (SHPD) of the Department of Land and Natural Resources (Hawaii Revised Statute, Chapter 6E, Section 106)**
☐ I understand that after CWRM sends me a copy of the "SHPD concurrence request", that I must create a HICRIS record and upload the required documents described in the attached instructions.

25. **Chapter 343**
☐ An Environmental Assessment was completed, and
☐ An Environmental Impact Statement was required and has been accepted (attach letter of acceptance). Publication date in The Environmental Notice: _____
☐ A Finding of No Significant Impact has been determined (attach letter). Publication date in The Environmental Notice: _____

This project proposes:
☐ Use of state or county lands, or use of state or county funds
☐ Use within a state conservation district
☐ Use within a shoreline setback area
☐ Use within a national or Hawaii registered historic site
☐ Use within the Waikiki Special District
☐ The construction, expansion or modification of helicopter facility
☐ A wastewater treatment unit
☐ Waste-to-energy facility
☐ Landfill
☐ Oil refinery
☐ Power-generating facility
☑ None of the above 11 items

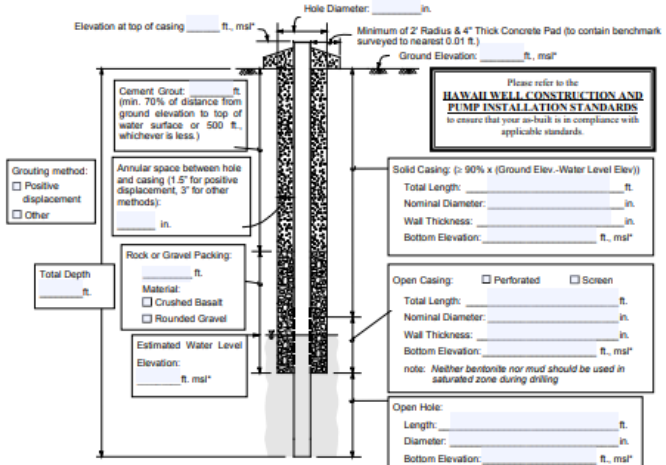
26. Water Use Permit No. (if applicable): _____

Additional remarks, explanations, etc. (attach additional sheet if more space is needed)

NOTE: Signing below indicates that the signatories understand and swear that the information provided is accurate and true to the best of their knowledge. Further, the signatories understand that upon permit approval: 1) the proposed work is to be completed within two (2) years of the approval date; 2) the contractor shall submit to the Commission a well completion/abandonment report within **30** days after the completion date of the permitted work; 3) if the landowner changes during construction, a new permission statement is required; 4) in the event that the application is not completed correctly, any permit may be suspended until the item is brought in to compliance, and any work done while the permit is in suspension may result in fines of up to $5000/day.

27. WELL DRILLER (**Must** be filled out if application is for Well Construction)		28. PUMP INSTALLER (**Must** be filled out if application is for Pump Installation)	
Daniel Diamond	C-33980	Daniel Diamond	C-33980
Licensee business name	C-57 License No.	Licensee business name	C-57/C-57a/A License No.
Signature / Print	10-20-23 Date	Signature / Print	10-20-23 Date
HC 3 Box 14073 Keaau HI 96749		HC 3 Box 14073 Keaau HI 96749	
Address		Address	
966-4129 Phone	Fax / diamonddrilling E-mail	966-4129 Phone	Fax / diamonddrilling E-mail

PROPOSED WELL SECTION *(Please attach schematic if different from diagram provided below. Also, if this proposed well is a dug well, attach a grading plan with cross section profiles showing existing and finished grades.)*



* The approximate elevation must be referenced to mean sea level (msl) at the time of application filing. Final elevations of well components shall be submitted in the Well Completion/Well Abandonment reports and referenced to a benchmark which has been established by a surveyor licensed by the State.

For non-salt water Basal Wells - bottom elevation of well should not be deeper than 1/4 of aquifer thickness or,

Bottom Elevation of Well Limit = (Water Elevation - $\frac{41 \times \text{Water Level Elevation}}{4}$)

Example: Estimated + 2 ft. Water Level Elev. ⟹ Bottom Elevation of Well Limit = $\left(2 - \frac{41 \times (2)}{4}\right) = -18.5$ ft.

Note: Unless a variance is requested and approved, if the well is greater than ¼ of the theoretical aquifer thickness, the well may have to be backfilled to bring the depth into compliance.

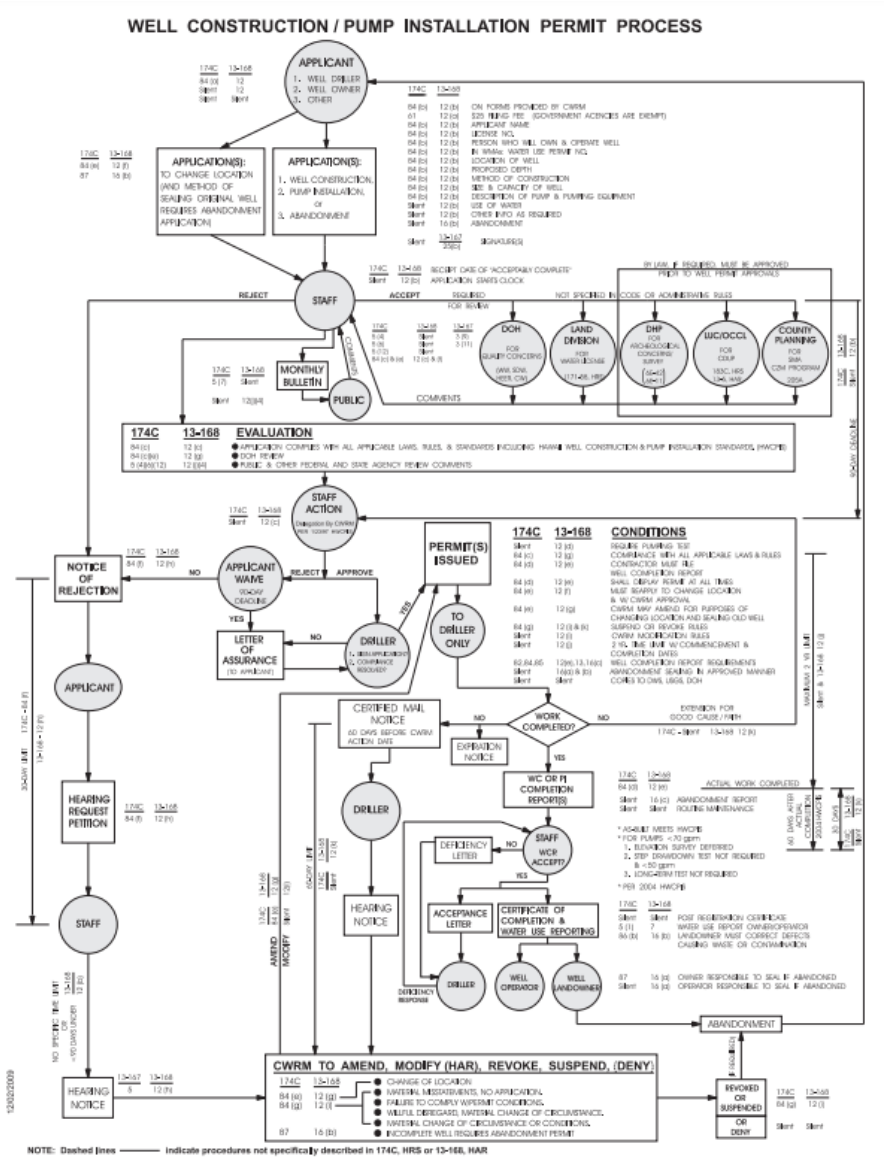
Solid Casing Material:

Carbon Steel: compliant with (check one or more):☐ ☐ ANSI/AWWA C200 ☐ API Spec. 5L ☐ ASTM A53 ☐ ASTM A139
And compliant with (check one or more): ☐ ASTM A242 (or A606) ☐ Type E ☐ Type S ☐ Grade B ☐ Other
Stainless Steel: (check one): ☐ ASTM A409 (production wells) ☐ ASTM A312 (monitor wells)
ABS Plastic conforming to ASTM F480 and ASTM D1527: (check one) ☐ Schedule 40 ☐ Schedule 80
PVC Plastic conforming to ASTM F480 and (ASTM D1785 or ASTM D2241): (check one): ☐ Schedule 40 ☐ Schedule 80 ☐ Schedule 120
Thermoset Plastic: (check one)
☐ Filament Wound Resin Pipe conforming to ASTM D2996
☐ Centrifugally Cast Resin Pipe conforming to ASTM D2997
☐ Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
☐ Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
☐ PTFE Fluorocarbon Tubing conforming to ASTM D3296
☐ FEP Fluorocarbon Tubing conforming to ASTM D3296

Open Casing Material:

Carbon Steel: compliant with (check one or more):☐ ☐ ANSI/AWWA C200 ☐ API Spec. 5L ☐ ASTM A53 ☐ ASTM A139
And compliant with (check one or more): ☐ ASTM A242 (or A606) ☐ Type E ☐ Type S ☐ Grade B ☐ Other
Stainless Steel: (check one): ☐ ASTM A409 (production wells) ☐ ASTM A312 (monitor wells)
ABS Plastic conforming to ASTM F480 and ASTM D1527: (check one) ☐ Schedule 40 ☐ Schedule 80
PVC Plastic conforming to ASTM F480 and (ASTM D1785 or ASTM D2241): (check one): ☐ Schedule 40 ☐ Schedule 80 ☐ Schedule 120
Thermoset Plastic: (check one)
☐ Filament Wound Resin Pipe conforming to ASTM D2996
☐ Centrifugally Cast Resin Pipe conforming to ASTM D2997
☐ Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
☐ Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
☐ PTFE Fluorocarbon Tubing conforming to ASTM D3296
☐ FEP Fluorocarbon Tubing conforming to ASTM D3296

Well/pump process diagram



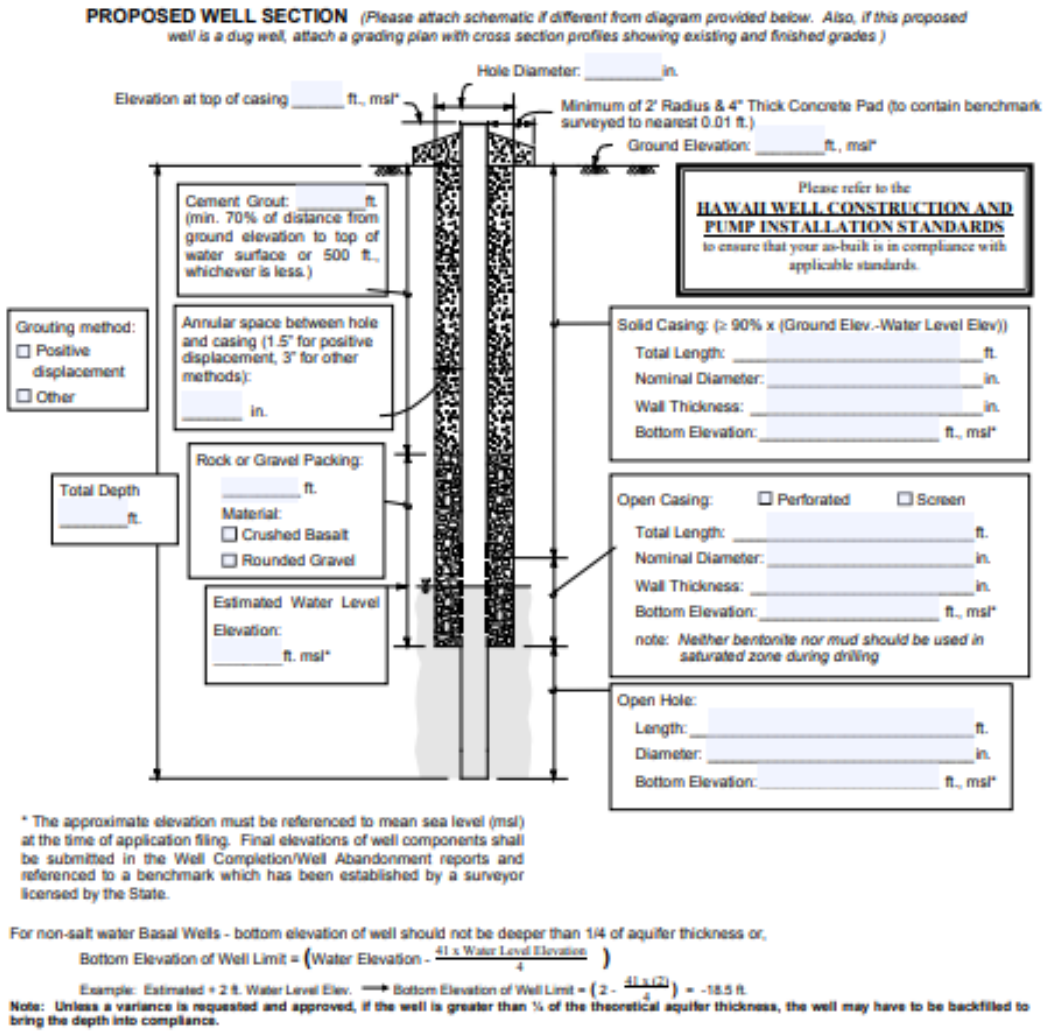
Well/pump application review process

- Applicant submits a well construction and/or pump installation permit application

  (note: CWRM can only issue permits to licensed well drillers and pump installation contractors; HRS, HAR and Well Standards are silent on whether or not consultants, land owners, or State/County agencies can submit applications – in practice, we allow these non-contractors to *apply* for permits, but only issue permits when a contractor is selected).

- If the application is deemed complete, staff accepts application and does internal checks, which include:
  1. Land owner stated on application is land owner on record
  2. Contractor is properly licensed
  3. Contractor is up to date on submission of well completion reports and other issues that need resolution.
  4. Consultation with SPAM Branch regarding potential stream interference issues
  5. Determination of wells within a mile of the proposed well
  6. A check of the Kipuka database to see if there are any potential impacts to resources
  7. A check of the well design to see if it's in compliance with the Hawai'i Well Construction and Pump Installation Standards

Well/pump application review process (continued)



PROPOSED WELL SECTION *(Please attach schematic if different from diagram provided below. Also, if this proposed well is a dug well, attach a grading plan with cross section profiles showing existing and finished grades.)*

Hole Diameter: _____ in.

Elevation at top of casing _____ ft., msl*

Minimum of 2' Radius & 4" Thick Concrete Pad (to contain benchmark surveyed to nearest 0.01 ft.)

Ground Elevation: _____ ft., msl*

Please refer to the **HAWAII WELL CONSTRUCTION AND PUMP INSTALLATION STANDARDS** to ensure that your as-built is in compliance with applicable standards.

Cement Grout: _____ ft. (min. 70% of distance from ground elevation to top of water surface or 500 ft., whichever is less.)

Grouting method:
☐ Positive displacement
☐ Other

Annular space between hole and casing (1.5" for positive displacement, 3" for other methods):
_____ in.

Solid Casing: (≥ 90% x (Ground Elev.-Water Level Elev))
Total Length: _____ ft.
Nominal Diameter: _____ in.
Wall Thickness: _____ in.
Bottom Elevation: _____ ft., msl*

Total Depth
_____ ft.

Rock or Gravel Packing:
_____ ft.
Material:
☐ Crushed Basalt
☐ Rounded Gravel

Open Casing: ☐ Perforated ☐ Screen
Total Length: _____ ft.
Nominal Diameter: _____ in.
Wall Thickness: _____ in.
Bottom Elevation: _____ ft., msl*
note: *Neither bentonite nor mud should be used in saturated zone during drilling*

Estimated Water Level Elevation:
_____ ft. msl*

Open Hole:
Length: _____ ft.
Diameter: _____ in.
Bottom Elevation: _____ ft., msl*

* The approximate elevation must be referenced to mean sea level (msl) at the time of application filing. Final elevations of well components shall be submitted in the Well Completion/Well Abandonment reports and referenced to a benchmark which has been established by a surveyor licensed by the State.

For non-salt water Basal Wells - bottom elevation of well should not be deeper than 1/4 of aquifer thickness or,

$$\text{Bottom Elevation of Well Limit} = \left(\text{Water Elevation} - \frac{41 \times \text{Water Level Elevation}}{4}\right)$$

Example: Estimated + 2 ft. Water Level Elev. → Bottom Elevation of Well Limit = $\left(2 - \frac{41 \times (2)}{4}\right)$ = -18.5 ft.

Note: Unless a variance is requested and approved, if the well is greater than ¼ of the theoretical aquifer thickness, the well may have to be backfilled to bring the depth into compliance.

Well Check Program			
3/23/21 - Revised for update to Well Standards (February 2004)			
Data Input			
Date	9/29/2021		
Well Number	8-3587-095		
Well Name	Kai 18		
Ground Elevation (msl, feet)			
Cement Grout (feet)			
Grouting Method			
Hole Diameter (inches)			
Total Depth (feet)		60	okay
Water Level Elevation (feet msl)	5	Depth to water	49
Public Water Supply Well?	no		
Solid Casing Material		plastic	
Solid Casing Specification	Schedule 40		
Solid Casing Length (feet)	50		
Solid Casing Diameter (inches)			
Solid Casing Wall Thickness (inches)	0.280		
Open / Perforated / Screen Casing Length (feet)	10		
Open Hole Length (feet)	0		
Results			
Well Depth (1/4 thickness)			
Theoretical Thickness of Aquifer	205		
1/4 Aquifer Thickness	51.25		
Elevation of 1/4 thickness (msl)	-46.25		
Elevation of total well depth	-6	**okay**	Section 2.2
Well Depth (1/2 thickness)			
Theoretical Thickness of Aquifer	205		
1/2 Aquifer Thickness	102.5		
Elevation of 1/2 thickness (msl)	-97.5		
Elevation of total well depth	-6	**okay**	
Well Casing			
Minimum Wall Thickness			
Material	pvc plastic		
Minimum Thickness per standards	no requirement		
Wall Thickness Provided	0.28	**no standard**	Section 2.4(b)
Minimum Length of Solid Casing			
90% of ground to top of aquifer	44.1		
Length of solid casing Provided	50	**okay**	Section 2.4(c)
Casing Material	Schedule 40	**in compliance**	Section 2.4(d)
(for pvc only - check for 200' limit)		**okay**	Section 2.4(d)
Annular Space			
Depth of Grouting			
Calculated Depth of Grouting	34.3		
Depth of Grouting provided	42	**okay**	Section 2.6(c)
Minimum Annular Space required	2		
Thickness of Annular Space	3	**okay**	Section 2.6(d)

Well/pump application review process (continued)

- Well goes into the CWRM Bulletin, which is distributed to a standard mailing list.

- Staff routes permit application for review to several agencies, including:
  1. Department of Health, required per HAR 13-168-12(c), which states that "the commission shall cause such application to be reviewed by the department of health for compliance with their rules and standards concerning, among other things, the appropriateness of the well location."
     a) Safe Drinking Water Branch
        - For only public drinking water systems
        - For non-public drinking water systems that are used for potable needs, we have an agreement with SDWB to attach a standard comment sheet that advises users appropriately
        - For non-potable water wells, we don't send the application to SDWB
     b) Wastewater Branch
     c) Clean Water Branch
        - Per agreement with CWB, we attach a standard comment sheet that states that NPDES permits must be obtained prior to pump test effluent disposal.

  2. Land Division, DLNR

  3. State Historic Preservation Division, DLNR
     - Per Chapter 6E, instead of soliciting comments, staff assesses the 6E form and, if warranted, staff generates a letter that states that "No historic properties are affected". The applicant will create a record in SHPD's online system (HICRIS). If SHPD agrees, they generate a letter that states that they concur and that the project may proceed. If they don't agree, we request that the applicant resolve issues with SHPD prior to our issuance of a permit.

Well/pump application review process (continued)

- Agency routing, continued
  4. Planning Department (applicable county)
     - If well is in a Special Management Area. CWRM can't approve wells that don't meet SMA requirements. Required under HRS Chapter 205A, Coastal Zone Management Law.
  5. Office of Conservation and Coastal Lands
     - If well is in a Conservation District. CWRM can't approve wells that don't meet Conservation District requirements. Required under HRS Chapter 183C.
  6. Department of Water Supply (applicable county)
  7. Other agencies, when required (example: Aha Moku in Keauhou)

Well/pump application review process (continued)

- The commission shall approve or disapprove an acceptably completed application within ninety calendar days of receipt by the commission. (per HAR 13-168-12(b))

- Oftentimes if a State Historic Preservation concurrence is not issued, staff will wait for the concurrence prior to issuing a permit. This can take staff over the 90-day review period.

Well/pump application review process (continued)

- Staff drafts permits, and routes them to the Deputy for signature.
  - The 1997 adoption of the Well Standards also delegated certain permits to be ministerially approved.
  - In practice, since 1997, all CWRM chairs have had Deputies to sign permits on their behalf. While staff is not privy to the agreements between past Chairs and Deputies, in practice, the Deputies have signed for the Chair.
  - However, in certain instances, wells are presented to the Commission for approval. The wells presented to the Commission are where there should not be discretion of staff, and include things like:

    1. Wells in Water Management Areas
    2. Wells in the Keauhou Aquifer System Area, where non-designation came with conditions applied to well/pump permits (condition of non-designation)
    3. High capacity pump replacements, where pumping may exceed sustainable yield (analysis by staff)
    4. Wells that are not compliant with the Well Standards (taken to CWRM through delegation)
    5. Wells that potentially impact surface water (per staff analysis)
    6. Denial of permits (per delegation)

POST CONSTRUCTION REVIEW PROCESS

Post construction review process

- When a well is completed, the driller submits a document called Well Completion Report Part I.

Staff reviews the Well Completion Report Part I as follows:

1. Staff evaluates the as-built construction parameters to make sure the well, as built, complies with the Standards.
2. Constant rate pump tests are required for pumps greater than 50 gallons per minute. Step drawdown tests are required for pumps greater than 70 gallons per minute.
    a. Constant rate tests are progressively longer in duration, as pump sizes increase. Staff assesses chloride increases and drawdown, and also evaluates whether a recharge boundary is observed, which indicates that there is probable interaction with another water resource (streams, ocean, etc.)
    b. Step drawdown test are useful in determining aquifer properties like Transmissivity and Storage values, which further define the geologic parameters of an aquifer.
3. Staff evaluates the well ownership
4. If everything is found to be in compliance with the standards and doesn't show impact to other resources, staff issues two documents:
    a. Acknowledgement to the contractor that work is complete and acceptable.
    b. A certificate to the well owner to let them know that responsibility for the well is transferred from the contractor to them.

Post construction review process (continued)

- When a pump is completed, the driller submits a document called Well Completion Report Part II.

Staff reviews the Well Completion Report Part II as follows:

1. Staff evaluates the as-built construction parameters to make sure the pump, as built, complies with the Standards.
2. Sometimes a pump test may be required in special instances, for example, where there is no current pump test because the well is really old, or there are special circumstances like proximity of the well to a stream. If this is true, the staff analysis is the same as the Well Completion Report Part II review.
3. Staff evaluates the well ownership
4. Staff evaluates the well head to make sure that a benchmark is established and that a flow meter is installed, and that a water use reporter is identified.
5. If everything is found to be in compliance with the standards and doesn't show impact to other resources, staff issues two documents:
    a. Acknowledgement to the contractor that work is complete and acceptable.
    b. A certificate to the well owner to let them know that responsibility for the well is transferred from the contractor to them.

Post construction reporting

- After the entire process is complete, well owners are required to report the following:

  Total pumpage for the well

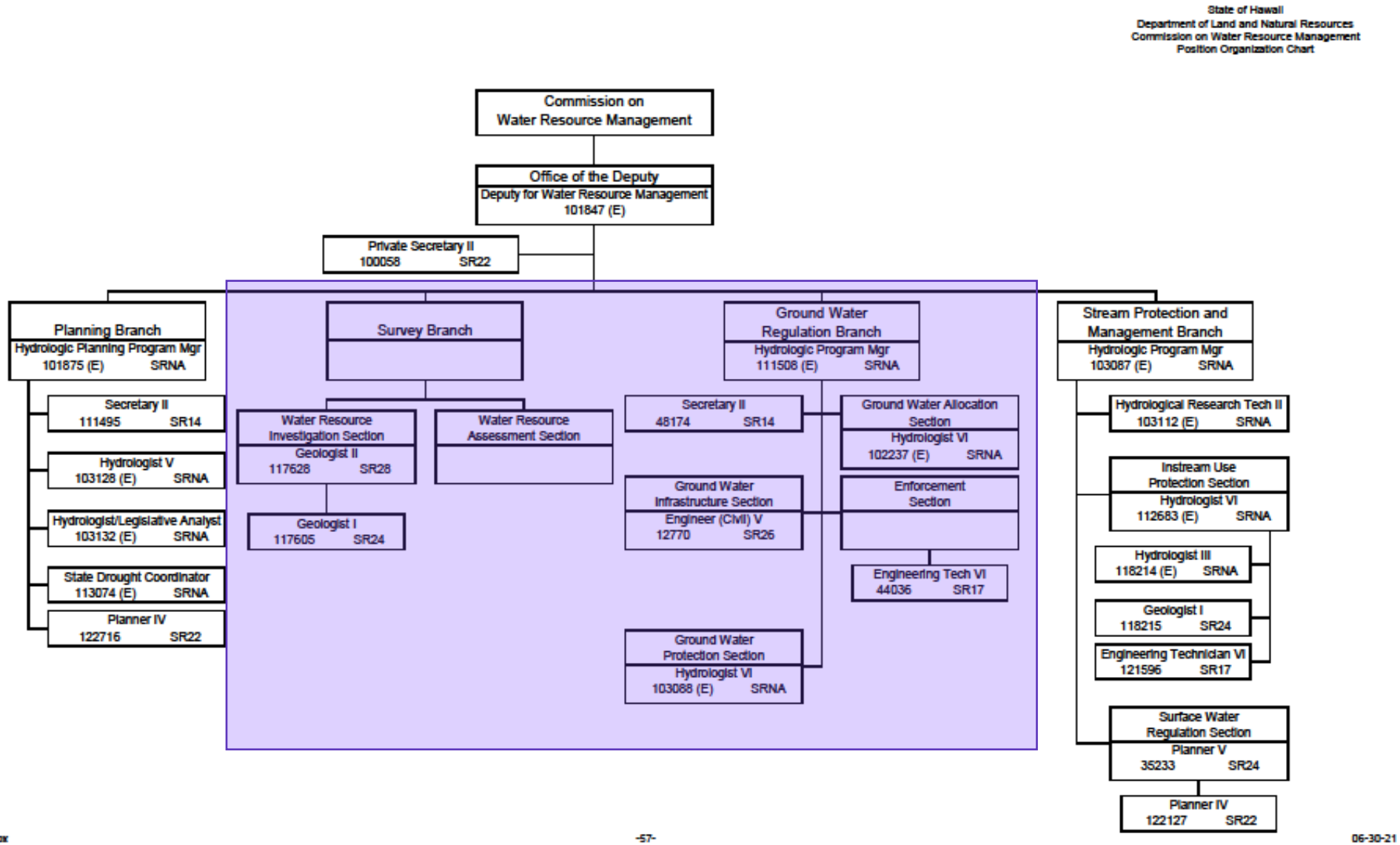
  Non-pumping water levels

  Chlorides

- Staff has a water use reporting program that allows users to submit their water use data online.
- Staff has also conducted outreach to train well owners about how to read their meters, take chloride readings, and report on our online system.

GROUNDWATER REGULATION BRANCH STAFF

• Current staff and shortages



- **Current staff and shortages**

- Ground Water Regulation Branch has 5 new positions authorized but not yet filled
  - Engineer IV
  - Planner
  - Engineering Tech V
  - Secretary I
  - General Professional

- We are looking at reorganizing Ground Water branch to best apply resources where there are needs

HAWAIʻI SUPREME COURT CASE LAW

- **<u>Ka Pa'akai O Ka'Aina vs. the State Land Use Commission (2000)</u>**

  In *Ka Pa'akai O Ka'aina v. Land Use Commission*, the Hawai'i Supreme Court recognized that the State has an obligation to protect Native Hawaiian traditional and customary practices to the extent feasible, and that the proponent of an action must show sufficient evidence that these types of practices are protected, if they exist in the location in question. This "Ka Pa'akai framework" was created by the Court "*to help ensure the enforcement of traditional and customary native Hawaiian rights while reasonably accommodating competing private development interests*."

- **<u>Ka Pa'akai O Ka'Aina vs. the State Land Use Commission</u>**

  Consequently, the Court required an assessment of the following:

  (1) *" the identity and scope of 'valued cultural, historical, or natural resources' in the petition area, including the extent to which traditional and customary native Hawaiian rights are exercised in the petition area*;

  (2) *" the extent to which those resources -- including traditional and customary native Hawaiian rights -- will be affected or impaired by the proposed action;"* and

  (3) *" the feasible action, if any, to be taken … to reasonably protect native Hawaiian rights if they are found to exist."*

- **<u>In re Water Use Permit Applications (Waiāhole I) (2000)</u>**

  Public Trust:

  - The Hawaii Supreme Court strongly reaffirmed "*the public trust doctrine as a fundamental principle of constitutional law in Hawai'i.*" "*The public trust [possesses] a dual concept of sovereign right[s] and responsibilit[ies]*."
  - The Court has identified a handful of public trust purposes: environmental protection (water in its natural state); traditional and customary Native Hawaiian rights; appurtenant rights; and domestic water uses.
  - Public trust purposes have priority over private commercial uses, which do not enjoy the same protection. The public trust dictates that "*any balancing between public and private purposes must begin with a presumption in favor of public use, access, and enjoyment*" and "*establishes use consistent with trust purposes as the norm or 'default' condition.*"
  - After all, "*[u]nder the public trust, the state has both the authority and duty to preserve the rights of present and future generations in the waters of the state*."
  - The public trust also prescribes a higher level of scrutiny for private commercial uses. The Commission, therefore, must closely examine requests to use public resources for private gain to ensure that the public's interest in the resource is fully protected.

- **<u>In re Water Use Permit Applications (Waiāhole I) (2000)</u>**

  - The Commission is the "*primary guardian of public rights under the trust*." Therefore, the Commission must not relegate itself to the role of a mere "*umpire passively calling balls and strikes for adversaries appearing before it*," but instead must take the initiative in considering, protecting, and advancing public rights in the resource at every stage of the planning and decision making process.

  Precautionary Principle:

  - The Commission's duties under the constitution and State Water Code embody the precautionary principle, which holds that scientific uncertainty "*should not be a basis for postponing effective measures to prevent environmental degradation*."

  - Rather, the Commission as a trustee has a duty to take anticipatory action to prevent harm to public resources. "[*A]t minimum, the absence of firm scientific proof should not tie the Commission's hands in adopting reasonable measures designed to further the public interest.*"

  - In endorsing the precautionary principle, the Hawai'i Supreme Court rejected the requirement of scientific certainty before acting to protect public trust purposes, noting that to do so will often allow for only reactive, not preventive regulation.

- **In re Waiola O Molokai, Inc (Waiola) (2004)**

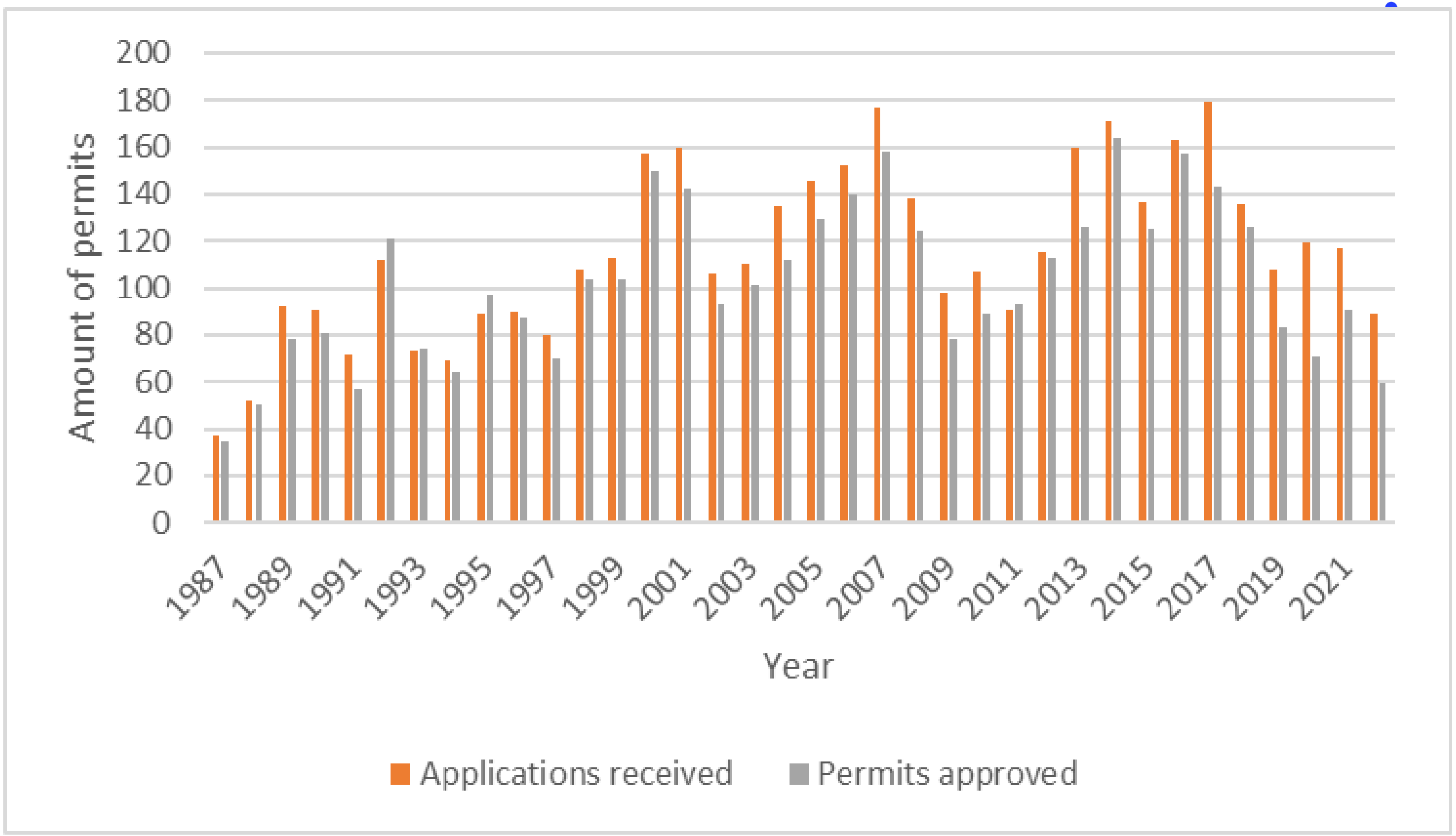
  - The Court established that reservation of water for the Department of Hawaiian Home Lands is a public trust purpose.

  - In *Waiola*, the Court strongly reaffirmed Native Hawaiian traditional and customary rights, including gathering rights. The opinion noted that a "*substantial population of native Hawaiians on Moloka'i engage[] in subsistence living[,]*" which includes gathering of limu and fishing in nearshore areas, where the discharge of fresh water is a necessity.

  - The intervenors raised concerns regarding the effect of the proposed Kamiloloa well on Native Hawaiian's subsistence gathering due to a reduction in groundwater discharge into the nearshore environment.

  - The Court emphasized that the applicant is obligated "*to demonstrate **affirmatively** that the proposed well would **not** affect native Hawaiian's rights; in other words, the absence of evidence that the proposed use would affect native Hawaiians' rights was insufficient to meet the burden imposed upon MR–Wai'ola by the public trust doctrine, the Hawai'i Constitution, and the Code.*"

WELL APPLICATION STATISTICS


200
180
160
140
120
100
80
60
40
20
0
Amount of permits
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013
2015
2017
2019
2021
Year
Applications received
Permits approved

Some Statistics:

- Average applications per year = 113 applications (about 9-10 per month)

- Many of our applications are for Hawaiian Paradise Park on the Island of Hawai'i, where there is limited or no County DWS system, a sustainable yield is 432 mgd, an average pump size is about 25 gpm (equivalent to 0.036 mgd), and the total reported pumpage of the aquifer is at 0.748 mgd (less than 1 percent)
  - For the following years, here are the percentage of applications that are for Hawaiian Paradise Park:
    - 2019 (78 applications for HPP = 57% of all applications submitted)
    - 2020 (60 applications for HPP = 56% of all applications submitted)
    - 2021 (71 applications for HPP = 60% of all applications submitted)
    - 2022 (42 applications for HPP = 36% of all applications submitted)

- In 2022, the Navy submitted 16 well construction permit applications for Red Hill monitor wells. These don't pump any quantities because they are strictly for monitoring. This accounted for 14% of all well applications for that year. In 2023, the Navy has submitted 5 more applications.

POSSIBLE NEXT STEPS

- **<u>Ideas for possible next steps:</u>**

1) **Revise the Commission's delegation to the Chairperson for approval of certain permits, defining which permits are delegated. Some ideas for non-delegated permits may include (i.e. permits that shall come to the Commission for approval):**
   a) Wells in water management areas
   b) Wells in aquifers where conditions were established by the Commission (Keauhou, Kīholo, etc.)
   c) Wells that have a potential for impacts due to maximum pump capacity exceeding sustainable yields (Pā'ia, Waihe'e, etc.)
   d) Wells that have evidence of impacts to streams

- **<u>Ideas for possible next steps:</u>**

2) **Revoke the Commission's delegation to the Chairperson for approval of any permits.**

    As an option, the Commission could consider delegation only for wells in Hawaiian Paradise Park and monitor wells for Red Hill.

3) **Maintain the current delegation, but require staff to provide updates to the Commission on applications and approvals on a regular basis (i.e. quarterly or yearly).**

LINKS

- **State Water Code**
  https://files.hawaii.gov/dlnr/cwrm/regulations/Code174C.pdf
- **Hawai‘i Administrative Rules**
  https://files.hawaii.gov/dlnr/cwrm/regulations/13-168.pdf
- **Hawai‘i Well Construction and Pump Installation Standards**
  https://dlnr.hawaii.gov/cwrm/groundwater/wellstandards/
- **Well / Pump application**
  https://files.hawaii.gov/dlnr/cwrm/forms/WCPIA.pdf
- **Well / Pump process diagram**
  https://files.hawaii.gov/dlnr/cwrm/forms/dgwcpip.pdf
- **Ka Pa’akai vs. Land Use Commission**
  http://luc.hawaii.gov/wp-content/uploads/2014/09/Ka-Paakai-O-KaAina-v.-Land-Use-Comn-State-of-Hawaii.pdf
- **Waiāhole**
  https://files.hawaii.gov/dlnr/cwrm/cch/cchoa9501/CCHOA95-1.pdf
- **Waiola**
  https://files.hawaii.gov/dlnr/cwrm/cch/cchmo9701/CCHMO97-1.pdf

INFORMATIONAL BRIEFING ON WELL CONSTRUCTION AND PUMP INSTALLATION PERMITS

QUESTIONS?