



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 9
75 HAWTHORNE STREET
SAN FRANCISCO, CA 94105

Preliminary Draft Environmental Assessment
of
North Kona Deep Well

April 10, 2025

The U.S. Environmental Protection Agency (EPA) prepared the following Environmental Assessment (EA) for the North Kona Deep Well Project (the Proposed Action). The EPA prepared this EA in compliance with the National Environmental Policy Act (NEPA) and EPA's procedures for implementing NEPA (40 CFR Part 6). This EA discloses the direct, indirect, and cumulative environmental impacts that may result from the Proposed Action and the alternatives considered. The EA is organized into the following ten sections that document the EPA's findings:

- 1) **General Information.** This section includes the name of the Proposed Action, grant identification number, and point of contact information for the grant applicant and responsible EPA official.
- 2) **Proposed Action Description.** This section describes the Proposed Action, implementation timeline, and current environmental conditions within the project area.
- 3) **Environmental Impact of the Proposed Action.** This section describes the Proposed Action's potential direct and indirect impacts to resources within the project area.
- 4) **Cumulative Impacts.** This section describes the Proposed Action's potential to contribute to adverse cumulative impacts in combination with other past, present, and reasonably foreseeable actions.
- 5) **Alternatives Considered.** This section describes the alternatives to the Proposed Action, the potential environmental impacts of each, and why each alternative was not identified by the EPA as the Proposed Action.
- 6) **Review of Applicable Environmental Laws or Executive Orders.** This section identifies the environmental laws and executive orders applicable to the Proposed Action.
- 7) **Required Mitigation.** This section presents the mitigation measures that are essential to render the impacts of the Proposed Action not significant and/or to avoid non-compliance with applicable environmental laws or executive orders.
- 8) **Individuals and Agencies Consulted.** This section presents a list of the individuals and agencies consulted during the development of the EA.
- 9) **List of References.** This section provides a list of any reference documents cited in the EA.
- 10) **List of Attachments.** This section provides a list of supporting documents attached to the EA.

I. General Information		
Proposed Action Name	Program / Funding Authority	Grant ID Number (if known)
North Kona Deep Well	EPA Community Grants	
Grant Applicant Organization		
Department of Water Supply (DWS), County of Hawaii		
Grant Applicant Contact Information		
<i>Name/Title</i>	<i>Email</i>	<i>Phone Number</i>
Keith Okamoto	Dws@hawaiiidws.org	808-961-8050
EPA Responsible Official		
<i>Name/Title</i>	<i>Email</i>	<i>Phone Number</i>
Clarice Olson	olson.clarice@epa.gov	808-539-0546
Direct Comments to (If different from EPA Responsible Official)		
<i>Name/Title</i>	<i>Email</i>	<i>Phone Number</i>
Jason Killam (cc: Clarice Olson)	Jkillam@hawaiiidws.org	808-961-8070 ext 249

II. Proposed Action Description

Proposed Action Location and Site Description

Provide the address or general location of the Proposed Action (include state, county, and locality) and a brief description of the site characteristics. Examples of site characteristics include land use and zoning, population served by the existing water system, current infrastructure, and formally classified lands within the Proposed Action area.

The Proposed Action would take place on privately owned land near Hōlualoa and Kailua-Kona in the Honua 'ula ahupua 'a of the North Kona District, Island of Hawai 'i (see Figure 1). The parcel is zoned for agriculture, and a lessee currently uses it as pastureland for cattle.

The character of the surrounding area is rural, with housing developments to the southwest and northeast of the Proposed Action site. Additionally, land uses in the immediate vicinity of the Proposed Action Area consist of minor agricultural endeavors and vacant lands (Attachment A).



Figure 1. North Kona Deep Well Site Location

Check all land uses that occur within or adjacent to the Proposed Action area:

- | | | | |
|---|--|---|---|
| <input checked="" type="checkbox"/> Agriculture | <input type="checkbox"/> Military | <input checked="" type="checkbox"/> Private | <input type="checkbox"/> Other (specify): |
| <input type="checkbox"/> Commercial | <input type="checkbox"/> Mixed Use | <input checked="" type="checkbox"/> Residential | _____ |
| <input type="checkbox"/> Forest | <input checked="" type="checkbox"/> Open Space | <input type="checkbox"/> Water | _____ |
| <input type="checkbox"/> Industrial | <input type="checkbox"/> Park/Recreation | | |

Brief Description of Proposed Action

The Proposed Action would involve drilling and testing an exploratory well as a potential source of potable water for the municipal North Kona Water System. The Proposed Action would consist of site preparation, drilling and casing an exploratory well, and pump and water quality testing.

Site preparation would include:

- Removal of one bayan tree, approximately 0.67 acres of shrubs, 355 feet (ft) of rock wall, and 81 ft of barbed wire fence.
- Grading the site (0.47 acres) and prepping the site with 3,356 cubic yards of fill.
- Placing steel plates across an existing wooden bridge over Honua’ula Stream to reinforce the bridge during equipment crossing.

Well drilling activities would include:

- Drilling a 12-inch diameter borehole until freshwater is encountered (expected at approximately 1,200 ft underground)
- Drilling into the groundwater at a depth sufficient enough to provide a satisfactory yield (expected at 475 to 500 feet below mean sea level).
- Running an open hole pump test by pumping water from the freshwater zone with a submersible pump.

If the open hole pump test results warrant possible development of the site as a production well, the pilot borehole would be reamed to a 27-inch diameter and the well would be cased with 20-inch casing to isolate the freshwater zone. Finally, several pump tests would be conducted to determine the well’s hydraulic capacity and long-term yield.

If fresh water is not encountered or if the pilot borehole pump tests demonstrate an insufficient amount of supply, then the pilot borehole would be sealed, and the Project would end at the respective point.

Purpose of and Need for Proposed Action

The purpose of the Proposed Action is to test the viability of a potential drinking water source for use by DWS’ North Kona Water System.

The need for the Proposed Action is to address the growing demand for drinking water associated with growing populations and to strengthen the reliability of the North Kona Drinking Water System.

Anticipated Construction Start Date and Duration of Proposed Action

Start ~1/2026 for up to 2 years. End ~12/2027

Affected Environment in the Proposed Action Area

Provide a brief description of the current environmental conditions within the Proposed Action area. Topics discussed may include, but are not limited to, the following: topography, geology, and soils; water resources (surface waters, groundwater, wetlands, floodplains); natural resources (vegetation, wildlife, habitats); cultural resources (historic properties, archeological/Tribal resources); air quality; socioeconomics; transportation; energy and utilities; solid/hazardous wastes.

Topography, geology, and soils: Topographically, the Proposed Action Area is at 760-foot elevation and slopes to the west. Soils in the Proposed Action Area are Kainaliu-Waiaha Complex (10 to 20 percent slopes) and Kainaliu silty clay loam (10 to 20 percent slopes). Surface geology in the area includes geologic features formed from *pāhoehoe* lava flows aged between 11,000 and 30,000 years ago from the Hualālai Volcano (*Attachment A*).

Water resources (surface waters, groundwater, wetlands, floodplains): The closest perennial stream to the Proposed Action is the Wai'aha Stream, located approximately one mile to the south. Additionally, Honua'ula Gulch is an intermittent drainageway running along the southern edge of the Proposed Action Area.

Rainfall is the main source of groundwater recharge for the area. The groundwater level near the Proposed Action Area is in flux and has been classified as basal- and fresh-water, with high-level groundwater found in several surrounding wells. The high-level groundwater of North Kona is considered to be of pristine quality, largely the result of recharge by high elevation rainfall and the lack of saltwater intrusion (*Attachment A*).

The Proposed Action area is located within the Hawaii coastal zone.

Outside of Honua'ula Gulch, no wetlands are present in the Proposed Action Area. The Proposed Project Area is not within the 100-year floodplain.

Natural resources (vegetation, wildlife, habitats): During biological site surveys conducted in July 2020, a total of 65 plant species and 8 bird species were observed within the Proposed Action Area. Only one plant species of those 65 observed was a native species and all 8 bird species were non-natives. Because the site is currently used for cattle grazing, the Proposed Action Area is dominated by grasses and has sections of thick shrub vegetation.

A review of the U.S. Fish and Wildlife Service (USFWS) Official Species List, dated March 6, 2023, indicates that 26 federally listed species have the potential to occur in the vicinity of the Proposed Action Area (*Attachment B*): one (1) mammal ('ōpe'ape'a (Hawaiian hoary hat [*Lasiurus cinereus semotus*])); eight (8) birds ('akē'akē (Band-rumped storm-petrel [*Oceanodroma castro*]), Hawaiian 'akepa (*Loxops coccineus*), koloa maoli (Hawaiian duck [*Anas wyvilliana*]), 'alae ke'oke'o (Hawaiian coot [*Fulica americana alai*]), nēnē (Hawaiian goose [*Branta sandvicensis*]), 'ua'u (Hawaiian petrel [*Pterodroma sandwichensis*]), ae'o (Hawaiian stilt [*Himantopus mexicanus knudseni*]), and 'a'o (Newell's townsend's shearwater [*Puffinus auricularis newelli*])); one (1) insect (Blackburn's sphinx moth (*Manduca blackburni*)); and 16 flowering plants, ferns, and allies (Ma'o Hau Hele (native yellow hibiscus [*Hibiscus brackenridgei*]), `aiea (*Nothocestrum breviflorum*), Bonamia menziesii, Carter's Panicgrass (*Panicum fauriei* var. *carteri*), Hala Pepe (*Pleomele hawaiiensis*), na`u (Hawaiian Gardenia [*Gardenia brighamii*]), Holei (*Ochrosia haleakalae*), Holei (*Ochrosia kilaueaensis*), Ihi *Portulaca villosa*, Ko'oko'olau (*Bidens micrantha* ssp. *ctenophylla*), Neraudia ovata, Ohai Sesbania tomentosa, Po'e (*Portulaca sclerocarpa*), Tetramolopium arenarium, Uhi Uhi (*Mezoneuron kawaiense*), and Microlepis strigosa var. mauiensis)).

An updated Unofficial Species List, dated February 25, 2025, also indicates that the Hawksbill sea turtle (*Eretmochelys imbricata*) has the potential to occur in the vicinity of the Proposed Action Area (*Attachment C*). No critical habitat is present in the area.

Cultural resources (historic properties, archeological/Tribal resources): An Archaeological Inventory Survey was conducted on February 24 and March 3, 2020 and resulted in three recorded sites. Results of a pedestrian survey identified one previously identified and two newly identified archeological sites. One site is a portion of the railbed of the West Hawai'i Railroad; one is a complex of historic-tera ranching walls; and the third is a complex of agricultural clearing mounds. Of the three sites, only the West Hawai'i railroad sites was determined eligible for listing in the National Register of Historic Places (*Attachment D*).

Air quality: Air quality in the Proposed Action Area is generally considered good, but is occasionally degraded by volcanic emissions from Kilauea Volcano (*Attachment A*). The Proposed Action would be located in Hawaii County, HI, which is in attainment for all Clean Air Act criteria pollutants.

Transportation: The Proposed Action site is only accessible via Hienaloli Road, which ends at a gated driveway that then leads to the Proposed Action site. A basic wooden bridge crossing the intermittent stream at the southern part of the Proposed Action site provides vehicular access to the site.

Energy and utilities: There are no existing electric, telecommunication, or sewer connection facilities on the Proposed Action site. Regarding water supply, the rural community in the vicinity of the Proposed Action Area is served by North Kona Water System distribution lines (*Attachment A*).

Solid/hazardous waste: The Proposed Action site does not have any known solid or hazardous waste infrastructure.

III. Environmental Impact of the Proposed Action

In the tables below, use the following impact categories to document the Proposed Action's impact on the environmental resource:

- **No Impact** (e.g., resource not present)
- **Beneficial Impact Only** (no adverse impact)
- **Adverse Impact, Mitigation Not Required** (e.g., minor and/or temporary impact)
- **Adverse Impact, Mitigation Required** (e.g., to avoid potentially significant impact)

Under each heading, provide a brief description of the direct and indirect impacts on the environmental resource and cite any supporting analyses. Direct impacts are defined as effects caused by the Proposed Action that occur at the same time and place. Indirect impacts are defined as reasonably predictable effects caused by the Proposed Action that occur later in time or distance from the Proposed Action area. Indirect impacts may include effects such as growth or changes in patterns of land use, human or ecological populations, natural systems, and ecosystem dynamics.

III.A. Natural and Cultural Resources

Impact Category	Environmental Resource
Adverse Impact,	Groundwater Resources. <i>Effects on groundwater resources located within the Proposed Action area or adjacent properties. Examples include changes in depth or character of the water table, rate of groundwater recharge, and groundwater quality.</i>

Mitigation Not Required	<p><u>Summary of Impacts:</u> The Proposed Action would involve pumping groundwater at a rate between 700 and 1,000 gallons per minute for up to 96 continuous hours. However, the groundwater level would be monitored. The Proposed Action would not be expected to meaningfully impact groundwater availability, either as high-level or basal groundwater. The Proposed Action would not be expected to impact the depth or character of the water table, rate of groundwater recharge, or groundwater quality.</p>
No Impact	<p>Surface Water Resources. <i>Effects on surface waters located within the Proposed Action area or adjacent properties. Examples include changes in water quality (e.g., due to erosion, new/modified discharges, increased runoff, or contaminant leaks), hydrology, physical characteristics (e.g., depth), and riparian buffers.</i></p> <p><u>Summary of Impacts:</u> The Proposed Action would not be expected to impact surface waters, such as: alter water quality, hydrology, physical characteristics, or riparian buffers. Construction equipment would cross the Honua’ula Gulch running along the southern edge of the Proposed Action Area via an existing access road. However, construction would not take place within or next to the Gulch. Therefore, impacts to this surface water would not be anticipated. To prevent and minimize potential for erosion and stormwater runoff of sediment, BMPs would be employed, such as scheduling earthwork during periods of minimal rainfall.</p> <p>The Project is located within the Hawaii coastal zone. However, coordination with the Hawaii Coastal Zone Management Program (CZMP) determined that funding through the EPA Community Grant Program is not listed as a Federal Financial Assistance Program requiring a federal consistency review. Therefore, this Proposed Action is considered in compliance with the Hawaii CZMP and no impacts to coastal resources are anticipated.</p>
No Impact	<p>Unique Natural Features. <i>Effects on natural features (e.g., caves, cliffs, vistas, canyons, waterfalls, dunes, tree stands, etc.) within the Proposed Action area or adjacent properties. Examples include alteration, destruction, or restriction of access to the natural feature.</i></p> <p><u>Summary of Impacts:</u> No Unique Natural Features are present within or surrounding the Proposed Action Area.</p>
Adverse Impact,	<p>Vegetation and Wildlife. <i>Effects on plant communities, wildlife, and habitats within the Proposed Action area or adjacent properties.</i></p>

<p>Mitigation Required</p>	<p><u>Summary of Impacts:</u> Vegetation in the Proposed Action Area would be temporarily disturbed during construction due to dust and ground disturbance. In addition to removal of grasses during grading, the Proposed Action would involve removal of one bayan tree and approximately 0.67 acres of shrubs. However, removal of the tree and shrubs will not impact native species, as these are non-native to Hawaii. Therefore, impacts to vegetation would be less than significant.</p> <p>Wildlife in the Proposed Action Area may be disturbed during construction due to noise and unusual activity in the area. However, the Area is currently used for grazing and therefore already relatively disturbed. Consequently, impacts to wildlife would be less than significant.</p> <p>Based on a review of site-specific factors, EPA determined that the following federally-listed species have the potential to be affected by the Proposed Action: ‘ōpe‘ape‘a (Hawaiian hoary bat), nēnē (Hawaiian goose), Hawaiian ‘akepa, ae‘o (Hawaiian stilt) , ‘alae ke‘oke‘o (Hawaiian coot), koloa maoli (Hawaiian duck), ‘ua‘u (Hawaiian petrel), ‘a‘o (Newell’s shearwater) ‘akē‘akē (Band-rumped stormpetrel), and the Blackburn’s sphinx moth. General and species-specific mitigation measures would be implemented to avoid and minimize impacts to listed species, including but not limited to seasonal restrictions to tree cover removal and species-specific surveys immediately prior to construction. On April 3, 2023, the EPA submitted a letter to USFWS to initiate informal consultation and request concurrence with a finding of may affect, is not likely to adversely affect for the 10 aforementioned listed species based on implementation of mitigation measures. USFWS concurred with this finding in a letter dated September 22, 2023 (<i>Attachment E</i>).</p> <p>EPA determined that, because the Project is more than 1.5 miles inland in an area where sea turtles are not expected to nest, the Project will have no effect on the Hawksbill sea turtle. Therefore, re-consultation with USFWS due to the new species on the list is not required.</p> <p>The Proposed Action would not have any long-term impacts on wildlife or vegetation.</p>
<p>Adverse Impact, Mitigation Not Required</p>	<p>Cultural Resources. <i>Effects on historic, cultural, and archeological resources within the Proposed Action area or adjacent properties.</i></p> <p><u>Summary of Impacts:</u> The State of Hawai‘i, Department of Health, Safe Drinking Water Branch (DOH), on behalf of EPA, submitted a consultation package to the State Historic Preservation Division’s State Historic Preservation Officer (SHPO) on November 2 & 4, 2022 requesting concurrence with a finding of no adverse effect (<i>Attachment D</i>). SHPO concurred with this finding in a letter dated November 30, 2022 (<i>Attachment D</i>).</p> <p>DOH contacted 48 Native Hawaiian Organizations by letter on March 16, 2021 (<i>Attachments F and G</i>). No responses were received.</p>
<p>III.B. Land Use Planning and Development</p>	
<p>Impact Category</p>	<p>Environmental Resource</p>

No Impact	<p>Land Use Change and Consistency. <i>Effects on existing pattern and type of land use, including direct and indirect changes within the Proposed Action area or adjacent properties as well as promotion of future development and population growth (e.g., due to new or expanded infrastructure). Consistency with local or regional comprehensive plans, community policies, and land use goals.</i></p> <p><u>Summary of Impacts:</u> The Proposed Action would occur on livestock grazing land. However, the Proposed Action would not interfere with ongoing agricultural activities and therefore would have no impact on the existing pattern and type of land use.</p>
No Impact	<p>Open/Recreational Space and Cultural Facilities. <i>Effects on the quality of and access to open space, recreational space, and cultural facilities (e.g., theaters, museums, and libraries) within the community.</i></p> <p><u>Summary of Impacts:</u> The Proposed Action would have no impact on the quality of or access to open space, recreational space, or cultural facilities within the community.</p>
Adverse Impact, Mitigation Not Required	<p>Topography, Geology, and Soils. <i>Effects on site topography, underlying geology (e.g., bedrock), and soils, as well as the potential for these characteristics to affect the Proposed Action (e.g., unsuitable soil conditions). Examples include changes in grading and fill; site stability, runoff patterns, and erosion potential; bedrock modifications; existing or potential soil contamination; and conversion of soils suitable for agricultural activities.</i></p> <p><u>Summary of Impacts:</u> The Proposed Action would impact the existing topography during installation of the test well. Specifically, grading activities would create a flatter surface for the drill rig and pump needed to construct the well. However, grading activities would not change the overall slope across the Proposed Action parcel. Grading would require approximately 3,300 cubic yards of fill to create the embankment for a level well pad.</p> <p>The Proposed Action would have minor temporary soil erosion impacts during drill rig installation and well drilling due to construction activities. BMPs would be employed to reduce soil erosion to the greatest extent possible.</p> <p>The Proposed Action would not be expected to impact underlying geology or bedrock. The Proposed Action Area is not identified as prime farmland, thus there would be no impact on soils suitable for agricultural activities.</p>
Adverse Impact, Mitigation Not Required	<p>Public Safety and Nuisances. <i>Potential to cause or contribute to hazards and nuisances (e.g., noise, vibration, hazardous materials) within the Proposed Action area or adjacent properties, as well as the potential for these hazards and nuisances to affect the Proposed Action.</i></p> <p><u>Summary of Impacts:</u> The Proposed Action may generate noise and vibration during construction; however, any effect on the community would be temporary. Noise and vibration would be minimized by including limitations on construction hours.</p>
No Impact	<p>Environmental Design. <i>Effects on the visual coherence, scale, and character of the surrounding natural or manmade environment within the Proposed Action area or adjacent properties.</i></p> <p><u>Summary of Impacts:</u> The Proposed Action would have no direct or indirect impact on environmental design within the Proposed Action or adjacent properties.</p>
III.C. Community Services and Infrastructure	
Impact Category	Environmental Resource

No Impact	Essential Community Services. <i>Effects on the quality of and access to community services including schools, health care, social services, and emergency services (police, fire, and emergency medical). Examples include changes in demand for services (e.g., student population growth) and changes in accessibility due to road closures and modifications.</i>
	<u>Summary of Impacts:</u> The Proposed Action and any associated construction traffic would not affect accessibility to any community services.
Adverse Impact, Mitigation Not Required	Solid and Hazardous Waste Management. <i>Effects on the capacity of and access to solid waste disposal facilities in the community, as well as generation, handling, and disposal of hazardous waste.</i>
	<u>Summary of Impacts:</u> Construction activities for the Proposed Action would generate solid waste. All construction materials and solid waste generated would be minimal and would not be expected to have a noticeable effect on County solid waste disposal facilities.
No Impact	Wastewater Infrastructure. <i>Effects on the capacity and effectiveness of the sewer or septic system that serves the Proposed Action area.</i>
	<u>Summary of Impacts:</u> The Proposed Action Area does not have any existing sewer or septic systems, and installation of those systems is not being proposed. Therefore, the Proposed Action would have no direct or indirect impacts on the effectiveness of sewer or septic systems.
No Impact	Storm Water Infrastructure. <i>Effects on the capacity and effectiveness of storm water collection, conveyance, and treatment systems within the Proposed Action area.</i>
	<u>Summary of Impacts:</u> The Proposed Action would have no direct or indirect impacts to storm water collection, conveyance, or treatment systems.
No Impact	Water Supply. <i>Effects on the capacity and effectiveness of drinking water systems within the Proposed Action area.</i>
	<u>Summary of Impacts:</u> The Proposed Action would not impact the capacity or effectiveness of drinking water systems. The well would be an exploratory well and would not be used as a source of drinking water.
Adverse Impact, Mitigation Not Required	Energy Use and Infrastructure. <i>Effects on energy use and the capacity and effectiveness of energy infrastructure (e.g., electrical grid, natural gas distribution). Examples include long-term changes in electricity demand and changes in fossil fuel use due to modified commuting patterns.</i>
	<u>Summary of Impacts:</u> Construction of the Proposed Action would result in a short-term increase in energy consumption to power equipment and fuel vehicles. All energy will come from diesel generators. Operation of the test well would also result in a minor increase in energy usage, but energy usage would be temporary.
No Impact	Transportation. <i>Effects on the adequacy of and access to public transportation services within the community.</i>
	<u>Summary of Impacts:</u> The Proposed Action would not directly or indirectly impact the adequacy of or access to public transportation services within the community.
III.D. Socioeconomics	
Impact Category	Environmental Resource
No Impact	Demographic/Character Changes. <i>Effects on the demographic characteristics of the community, such as population or projected population growth.</i>
	<u>Summary of Impacts:</u> The Proposed Action would have no direct or indirect impact on community demographic changes.
No Impact	Displacement. <i>Effects on the relocation of individuals, families, existing jobs, community facilities, or business establishments.</i>

	<u>Summary of Impacts:</u> The Proposed Action would not directly or indirectly result in the displacement of individuals, families, existing jobs, community facilities, or business establishments.
No Impact	Economic Opportunities and Growth. <i>Effects on employment opportunities and economic growth within the community.</i>
	<u>Summary of Impacts:</u> The Proposed Action would result in temporary increases in employment due to the hiring of workers to perform construction. The Proposed Action would have no direct or indirect impacts to long-term employment opportunities or economic growth within the community.
III.E. Air Quality and Climate	
Impact Category	Environmental Resource
Adverse Impact, Mitigation Not Required	Air Quality and Odor. <i>Effects on community air quality. Examples include temporary construction-related emissions, installation of new emission sources, changes in transportation patterns, and introduction of sources of odor.</i>
	<u>Summary of Impacts:</u> The Proposed Action would result in the temporary increase of fugitive dust and equipment exhaust emissions during construction activities. However, the Proposed Action only requires a small amount of groundwork and dust would be expected to be minimal due to the relatively wet climate. Therefore, impacts to air quality from dust would be minor.
Adverse Impact, Mitigation Not Required	Climate. <i>Effects on greenhouse gas emissions and climate resiliency, as well as potential effects of climate change on the Proposed Action.</i>
	<u>Summary of Impacts:</u> The Proposed Action would have minor indirect impacts on climate. Construction activities would result in a temporary increase in greenhouse gas (GHG) emissions through use of equipment and vehicles powered by diesel, which is a fossil fuel. Operation of the well would result in a minor increase in GHG emissions, but would be temporary as the well would only be pumped for one consecutive 96 hour time period.
III.F. Other Resource Areas	
Impact Category	Environmental Resource
N/A	Other Resource Areas. <i>Effects on resource areas not reflected in the above categories.</i>
	<u>Summary of Impacts:</u> N/A

IV. Cumulative Impacts

Cumulative impacts on an environmental resource area result from the impacts of the Proposed Action when considered in combination with the impacts caused by other past, present, and reasonably foreseeable actions affecting the same resource area.

Provide a brief description of the Proposed Action's potential to contribute to adverse cumulative impacts on the human environment. Use the environmental resource areas listed in Section III to identify the resource area of concern. If there is no potential for adverse cumulative impacts, provide a brief justification below (e.g., absence of other past, present, or reasonably foreseeable actions).

Environmental Resource Area	Cumulative Impact
TBD	Should the proposed well pump test results show that the source has the capacity for long term sustainable pumping with negligible impacts, a second phase to outfit the well for permanent infrastructure including a control building, permanent piping, reservoir, and transmission waterlines as well as power infrastructure to the site would be addressed in a subsequent environmental study. The exact dimensions and location of the improvements would have to be determined and discussed with surrounding landowner(s) then subsequently, an environmental study will be done based on those parameters.

V. Alternatives Considered

Briefly describe alternatives to the Proposed Action considered including other sites, design modifications, or no action. Summarize the beneficial and adverse impacts on the human environment (considering direct, indirect, and cumulative impacts) for each and the reason the alternative was not identified by the EPA as the Proposed Action.

Alternative 1: No Action

The No Action Alternative would not allow the DWS to explore the Proposed Action Area as a potential source for drinking water. The No Action Alternative would not help DWS address growing demand for drinking water associated with growing populations. Therefore, the EPA did not identify the No Action Alternative as the Proposed Action.

VI. Review of Applicable Environmental Laws and Executive Orders

In the list below, place an "X" next to each environmental law or executive order identified as applicable to the Proposed Action.

ID	Environmental Law/Executive Order	"X"
1	Endangered Species Act [16 U.S.C. §§ 1531-1599]	X
2	Bald And Golden Eagle Protection Act [16 U.S.C. §§ 668-668C]	
3	Fish and Wildlife Coordination Act [16 U.S.C. § 661 et seq.]	
4	Marine Mammal Protection Act [16 U.S.C. §§ 1361-1407]	
5	National Historic Preservation Act (NHPA) as amended [54 U.S.C. § 300101 et seq.] and Archeological and Historic Preservation Act, as amended [54 U.S.C. §§ 312501-312508]	X
6	Archaeological Resources Protection Act [16 U.S.C. §§ 470AA-MM]	
7	Native American Graves Protection and Repatriation Act [25 U.S.C. § 3001 et seq.]	
8	Clean Water Act [Section 404] and Protection of Wetlands [Executive Order No. 11990 (1977), as amended by Executive Order No. 12608 (1997)]	
9	Rivers and Harbors Act [Section 10]	
10	Flood Plain Management [Executive Order No. 11988 (1977), as amended by Executive Order No. 12148 (1979)]	
11	Safe Drinking Water Act [42 U.S.C. §§ 300F-300J-26]	
12	Farmland Protection Policy Act [7 U.S.C. §§ 4201-4209]	
13	Coastal Zone Management Act [16 U.S.C. §§ 1451-1466]	X
14	Coastal Barriers Resources Act [16 U.S.C. §§ 3501-3510]	

15	Wild and Scenic Rivers Act [16 U.S.C. §§ 1271-1287]	
16	Essential Fish Habitat Consultation Process Under the Magnuson-Stevens Fishery Conservation and Management Act [16 U.S.C. §§ 1801-1891]	
17	Migratory Bird Treaty Act [16 U.S.C. §§ 703-712]	X
18	Clean Air Act Conformity [42 U.S.C. § 7506(C)]	
19	Wilderness Act [16 U.S.C. § 1131 et seq.]	

VII. Required Mitigation Measures

Describe any mitigation measures that are essential to render the impacts of the Proposed Action not significant and/or to avoid non-compliance with applicable environmental laws or executive orders. Use the environmental resource areas listed in Section III to identify the resource area of concern. If no mitigation measures are required, type "N/A".

Environmental Resource Area	Mitigation
Wildlife	<ul style="list-style-type: none"> • Woody plants greater than 15 feet tall would not be disturbed, removed, or trimmed during the Hawaiian hoary bat birthing and pup rearing season (June 1 through September 15). • Barbed wire fencing would not be used. • Proposed Action personnel would not approach, feed, or disturb nēnē. • If nēnē are observed loafing or foraging within the Proposed Action Area during the breeding season (September through April), a biologist familiar with nesting behavior would survey for nests in and around the Proposed Action Area prior to the resumption of any work. A biologist would repeat surveys after any subsequent delay of work of three (3) or more days (during which the birds may attempt to nest). • If a nest is discovered within a radius of 150 ft of the Proposed Action, or a previously undiscovered nest is found within the 150 ft radius after work begins, the work would cease immediately, and Proposed Action proponents would contact USFWS for further guidance. • In areas where nēnē are known to be present, reduced speed limits would be posted and enforced, and Proposed Action personnel and contractors would be informed of the presence of federally listed species on-site. • The spread or survival of non-native or invasive species would not occur. • Mosquito populations would be decreased by removing or preventing stagnant water habitat. • Wildlife threat to montane forest habitats would not occur. • Tree cover would not be removed during the peak Hawaiian ‘akepa breeding season between January 1 and June 30. • In areas where waterbirds are known to be present, signage for reduced speed limits would be posted and implemented, and Proposed Action personnel and contractors would be informed about the presence of endangered species on site. • A biological monitor that is familiar with the species’ biology would conduct Hawaiian waterbird nest surveys where appropriate habitat occurs within the vicinity of the Proposed Action site prior to project initiation. The monitor would repeat surveys again within three (3) days of Proposed Action initiation and after subsequent delay of work of three (3) or more

	<p>days (during which the birds may attempt to nest). If a nest or active brood is found the following steps would occur:</p> <ul style="list-style-type: none"> ○ USFWS would be contacted within 48 hours for further guidance. ○ A 100-ft buffer would be established and maintained around all active nests and/or broods until the chicks have fledged. ○ A biological monitor that is familiar with the species' biology would be present on the Proposed Action site during all construction or earth-moving activities until the chicks fledged to ensure that Hawaiian waterbirds and nests are not adversely affected (i.e., mortality of young, or parents kept from the nest). <ul style="list-style-type: none"> ● All permanent and temporary outdoor lights would be fully shielded so the bulb can only be seen from below. ● Automatic motion sensor switches and controls would be installed on all outdoor lights or lights would be turned off when human activity is not occurring in the lighted area. ● Nighttime construction during the seabird fledging period, September 15 through December 15, would not occur. ● A biologist familiar with the Blackburn's sphinx moth would survey areas of proposed activities for the species and its larval host plants, 4-6 weeks prior to work initiation. Surveys would include searches for eggs, larvae, and signs of larval feeding (e.g., chewed stems, frass, or leaf damage). ● If native 'aiea or tree tobacco over three (3) feet tall, or adult Blackburn's sphinx moths are found during surveys, they would not be disturbed and USFWS would be contacted immediately for additional guidance to avoid take. ● Any tree tobacco less than three (3) feet tall would be removed and the site would be monitored every 4-6 weeks for new tree tobacco growth, during, and after the proposed ground-disturbing activity. Picture placards of tree tobacco at different life stages would be provided for all monitoring personnel.
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VIII. Agencies and Persons Consulted

List the individuals, Tribes, Federal, State, and local agencies consulted during the development of this EA. Provide the name, title, and agency of the individuals consulted.

Jiny Kim, Acting Maui Nui and Hawai'i Island Team Manager, USFWS

Alan S. Downer, Deputy SHPO, SHPD

Native Hawaiian Organizations. See *Attachment F* for full list.

IX. List of References

Provide full citations for any reference documents cited in this EA.

N/A

X. List of Attachments

List the supporting documents attached to this EA.

Attachment A: DWS. 2020. Final Environmental Assessment and Finding of No Significant Impact for North Kona Mid-Level Exploratory Well. Hawai'i Island, North Kona, Hawai'i. November 2020.

<i>Attachment B:</i> DOH and EPA. 2023. Endangered Species Act Section 7 Consultation Package. April 3, 2023.
<i>Attachment C:</i> USFWS. 2024. IPaC Unofficial Species List. February 25, 2025.
<i>Attachment D:</i> SHPD. 2022. SHPO Section 106 Concurrence Letter. November 30, 2022.
<i>Attachment E:</i> USFWS. 2023. USFWS Section 7 Concurrence Letter. September 22, 2023.
<i>Attachment F:</i> DWS. 2021. List of Contacted Native Hawaiian Organizations.
<i>Attachment G:</i> DWS. 2021. Example Letter to a Native Hawaiian Organization. March 16, 2021.