

*"Health care that is safe, health care that works, and health care that leaves no one behind"*

**FILE COPY**

**FEB 08 2020**

February 3, 2020

Director  
Office of Environmental Quality Control  
Department of Health, State of Hawai'i  
235 South Beretania Street, Room 702  
Honolulu, Hawai'i 96813

Subject: Hilo Medical Center Oncology Center Addition and Rural & Telehealth Center Unit  
TMK (3rd) 2-3-031:019

To Whom it May Concern:

With this letter, the Hilo Medical Center hereby transmits the draft environmental assessment and anticipated finding of no significant impact (DEA-FONS I) for the subject project for publication in the next available edition of the Environmental Notice.

Simultaneous with this letter, we will be utilizing the OEQC online submission platform to provide your office with the required information and files concerning the Draft EA, along with a PDF-formatted electronic copy of the draft environmental assessment.

Please contact me at 808-932-3111 if you have any questions.

Sincerely,



Lisa Shiroma  
Assistant Hospital Administrator  
East Hawaii Region  
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808-932-3111 (office)

Enclosures as noted above

cc: Dan Brinkman, East Hawaii Region CEO (w/o enclosures)  
Ron Terry, Ph.D., Project Environmental Consultant (w/o enclosures)

**From:** [webmaster@hawaii.gov](mailto:webmaster@hawaii.gov)  
**To:** [HI Office of Environmental Quality Control](#)  
**Subject:** New online submission for The Environmental Notice  
**Date:** Monday, February 3, 2020 11:28:11 AM

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**Action Name**

Hilo Medical Center Oncology Center Addition And Rural & Telehealth Center Unit

**Type of Document/Determination**

Draft environmental assessment and anticipated finding of no significant impact (DEA-AFNSI)

**HRS §343-5(a) Trigger(s)**

- (1) Propose the use of state or county lands or the use of state or county funds

**Judicial district**

South Hilo, Hawai'i

**Tax Map Key(s) (TMK(s))**

(3) 2-3-031:019

**Action type**

Agency

**Other required permits and approvals**

- Hawai'i County Building Division Approval • Hawai'i County Planning Department Plan Approval • Hawai'i State Department of Health Underground Injection Control Permit (potential)

**Proposing/determining agency**

Hilo Medical Center, Hawaii Health Systems Corporation

**Agency contact name**

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[Map It](#)

**Was this submittal prepared by a consultant?**

Yes

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PO Box 396 Hilo, HI 96721 United States <a href="#">Map It</a>
<b>Action summary</b>
Hilo Medical Center seeks to expand the Hawaii Pacific Oncology Center and construct the Rural & Telehealth Center Unit in Hilo. The project would take place on a graded, unpaved 0.5308-acre lot next to the existing Hawaii Pacific Oncology Center building. The first floor will be utilized by the Hawaii Pacific Oncology Center and will include a pharmacy, a medication oncology infusion room, and accessory rooms and facilities. The second floor will house the Hilo Rural Health & Telehealth Center, which will offer primary care, multiple medical specialties, urgent care and telemedicine access to off-island specialties that are not available on-island. It will include a registration area, a nursing station, exam rooms, and accessory rooms and facilities. No significant water, biological, historic or cultural resources are present, and construction noise will be mitigated per a DOH permit, as applicable.
<b>Reasons supporting determination</b>
Chapter 11-200.1-13, Hawai'i Administrative Rules, outlines those factors agencies must consider when determining whether an Action has significant effects:
(a) In considering the significance of potential environmental effects, agencies shall consider and evaluate the sum of effects of the proposed action on the quality of the environment.
(b) In determining whether an action may have a significant effect on the environment, the agency shall consider every phase of a proposed action, the expected impacts, and the proposed mitigation measures. In most instances, an action shall be determined to have a significant effect on the environment if it may:
1. Irrevocably commit a natural, cultural, or historic resource. No valuable natural or cultural resource would be committed or lost at the graded and graveled lot through construction and use of additional medical facilities at Hilo Medical Center.
2. Curtail the range of beneficial uses of the environment. No restriction of beneficial uses would occur.
3. Conflict with the State's environmental policies or long-term environmental goals established by law. The State's long-term environmental policies are set forth in Chapter 344, HRS. The broad goals of this policy are to conserve natural resources and enhance the quality of life. The project is minor, environmentally beneficial, and fulfills aspects of these policies calling for an improved social environment. It is thus consistent with all elements of the State's long-term environmental policies.
4. Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the

community and State. The project would improve the social welfare of the community and State by improving cancer treatment and providing additional primary, urgent and specialist care for the Big Island community and the State of Hawai'i.

5. Have a substantial adverse effect on public health. The project would affect public health and safety in only beneficial ways by improving cancer treatment and providing additional primary, urgent and specialist care for the Big Island community and the State of Hawai'i.

6. Involve adverse secondary impacts, such as population changes or effects on public facilities. No secondary effects are expected to result from the proposed action, which would simply provide a facility to improve cancer treatment at Hilo Medical Center.

7. Involve a substantial degradation of environmental quality. The project is minor and environmentally benign, and thus it would not contribute to environmental degradation.

8. Be individually limited but cumulatively have substantial adverse effect upon the environment or involves a commitment for larger actions. All impacts from the proposed project are so small as to be negligible. On a permanent basis, up to a few dozen additional vehicles per hour will utilize the Hawaii Pacific Oncology Center driveway or other driveways at Hilo Medical Center, a magnitude that will ensure no primary or cumulative traffic impacts will occur. Other impacts are associated with the construction phase, when minor additional construction traffic, noise, air quality and scenic impacts will occur. No known projects with substantial construction or other impacts are known to be in progress or planning for the project area, and so no cumulative impacts would occur. If an unanticipated project arises during the construction period with the potential to produce cumulative impacts HMC officials will be able to coordinate tasks to ensure that if there is schedule overlap, minimal disruption to traffic and staging logistics occur.

9. Have a substantial adverse effect on a rare, threatened, or endangered species, or its habitat. The project site is a small, paved area with no natural vegetation or habitat. Impacts to rare, threatened or endangered species of flora or fauna will not occur.

10. Have a substantial adverse effect on air or water quality or ambient noise levels. No adverse effects on these resources would occur. Mitigation of construction-phase impacts will preserve water quality receptors in the vicinity are associated with nearby medical center and rehabilitation center uses. Hilo Medical Center will ensure that the construction contractor consults with the Department of Health. If applicable, Hilo Medical Center will obtain a permit per Title 11, Chapter 46, HAR (Community Noise Control) prior to construction that may include various mitigation measures for construction noise.

11. Have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters. Although the project is located in an area with volcanic and seismic risk, the entire Island of Hawai'i shares this risk, and the project is not imprudent to construct. There is only minimal flood hazard in this area.

12. Have a substantial adverse effect on scenic vistas and viewplanes, during day or night, identified in county or state plans or studies. No scenic vistas and viewplanes will be adversely affected by the project.

13. Require substantial energy consumption or emit substantial greenhouse gases. Negligible amounts of energy input and greenhouse gas emissions would be required for construction and occupation of the facility. The facility would meet or exceed all applicable commercial building energy efficiency standards. The building was designed using the 2015 International Energy Conservation Code. Reduction of the building's carbon footprint is achieved by increasing the R value of all exterior walls and roof, and by increasing the solar heat gain coefficient of all the windows. A commercial grade weather-barrier will be installed to all exterior walls to control air leakage into and from the interior of the building. HVAC equipment performance is very efficient with multiple- zone controls and automatic off-hour thermostat controls. All ducts, plenums and piping will be insulated. All lighting will have high efficacy lamps, and

occupancy sensors will be installed in all rooms. Exterior lighting is minimal and mostly used for path finding and safety.

**Attached documents (signed agency letter & EA/EIS)**

- [AFONSI.PDF](#)
- [Draft-EA-Hilo-Medical-Center-HPOC-and-RTCU.pdf](#)

**Action location map**

- [HMC-Oncology-TMK.zip](#)

**Authorized individual**

Ron Terry

**Authorization**

- The above named authorized individual hereby certifies that he/she has the authority to make this submission.

# **DRAFT ENVIRONMENTAL ASSESSMENT**

## **Hilo Medical Center Hawaii Pacific Oncology Center Addition And Rural & Telehealth Center Unit**

TMK (3<sup>rd</sup>): 2-3-031:019  
Pi‘ihonua, South Hilo District, Hawai‘i Island, State of Hawai‘i

February 2020

Prepared for:

Hilo Medical Center  
Hawaii Health Systems Corporation  
1190 Waianuenue Avenue  
Hilo, Hawai‘i 96720



## **DRAFT ENVIRONMENTAL ASSESSMENT**

### **Hilo Medical Center Hawaii Pacific Oncology Center Addition And Rural & Telehealth Center Unit**

TMK (3rd) 2-3-031:019  
Pi‘ihonua, South Hilo District, Island of Hawai‘i, State of Hawai‘i

**PROPOSING/  
APPROVING AGENCY:**

Hilo Medical Center  
Hawaii Health Systems Corporation  
1190 Waianuenue Avenue  
Hilo, Hawai‘i 96720

**CONSULTANT:**

Geometrician Associates LLC  
PO Box 396  
Hilo, Hawai‘i 96721

**CLASS OF ACTION:**

Use of State Land and State Funds

This document is prepared pursuant to:

The Hawai‘i Environmental Protection Act,  
Chapter 343, Hawai‘i Revised Statutes (HRS), and  
Title 11, Chapter 200.1, Hawai‘i Department of Health Administrative Rules (HAR).

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APPENDIX 2	Site Plans

## **SUMMARY OF THE PROPOSED ACTION ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Hilo Medical Center seeks to expand the Hawaii Pacific Oncology Center and construct the Rural & Telehealth Center Unit in Hilo. The project would take place on a 0.5308-acre graded but unpaved property owned by the Hawaii Health Systems Corporation next to the existing Hawaii Pacific Oncology Center building and its parking lot.

The first floor will be utilized by the Hawaii Pacific Oncology Center and will include a pharmacy, a medication oncology infusion room, and accessory rooms and facilities. The current Hawaii Pacific Oncology Center is at maximum capacity. The second floor will house the Hilo Rural Health & Telehealth Center offering primary care, multiple specialties, urgent care, and telemedicine to off-island specialties that are not available on-island. The space will be designed to include a registration area, a nursing station, exam rooms, and accessory rooms and facilities. The building will have integrated access to the existing Hawaii Pacific Oncology Center building. The project would enhance and improve medical and cancer treatment for the East Hawai‘i community.

No sensitive biological, hydrological, archaeological, cultural or other resources are present. In the highly unlikely event archaeological resources are encountered during land-altering activities associated with construction, work in the immediate area of the discovery will be halted and the State Historic Preservation Division will be contacted. The only sensitive noise receptors in the vicinity are associated with nearby medical center and rehabilitation center uses. Hilo Medical Center will ensure that the construction contractor consults with the Department of Health. If applicable, Hilo Medical Center will obtain a permit per Title 11, Chapter 46, HAR (Community Noise Control) prior to construction that may include various mitigation measures for construction noise.

## **PART 1: PROJECT DESCRIPTION, PURPOSE AND NEED AND ENVIRONMENTAL ASSESSMENT PROCESS**

### **1.1 Project Description and Location**

Hilo Medical Center (HMC), a State agency that is part of the Hawaii Health Systems Corporation (HHSC), seeks to expand the Hawaii Pacific Oncology Center and construct the Rural & Telehealth Center Unit in Hilo. The project would take place on a 0.5308-acre graded but unpaved property owned by the HHSC next to the existing Hawaii Pacific Oncology Center building and its parking lot, directly across the emergency entrance to HMC (Figures 1-2).

As illustrated in the Site Plans in Appendix 2, the first floor of the 17,295 square-foot, 39'-8" tall building will be utilized by the Hawaii Pacific Oncology Center and will include a pharmacy, a medication oncology infusion room, and accessory rooms and facilities. The current Hawaii Pacific Oncology Center is at maximum capacity. The second floor will house the Hilo Rural Health & Telehealth Center offering primary care, multiple specialties, urgent care, and telemedicine to off-island specialties that are not available on-island. The space will be designed to include a registration area, a nursing station, exam rooms, and accessory rooms and facilities. The building will have integrated access to the existing Hawaii Pacific Oncology Center building. The project would enhance and improve medical and cancer treatment for the East Hawai'i community.

The two-story building would match the appearance of other facilities at the HMC campus in scale and proportion. The architectural style follows the “New Formalism” style of modern day healthcare buildings. It is a self-contained, freestanding block, with a symmetrical elevation and a level skyline. Wall surfaces are smooth with ornamentation mostly in the form of patterned screens of metal and concrete, and color. The design include integrated access to the existing Hawaii Pacific Oncology Center building, as well as landscaping and limited parking.

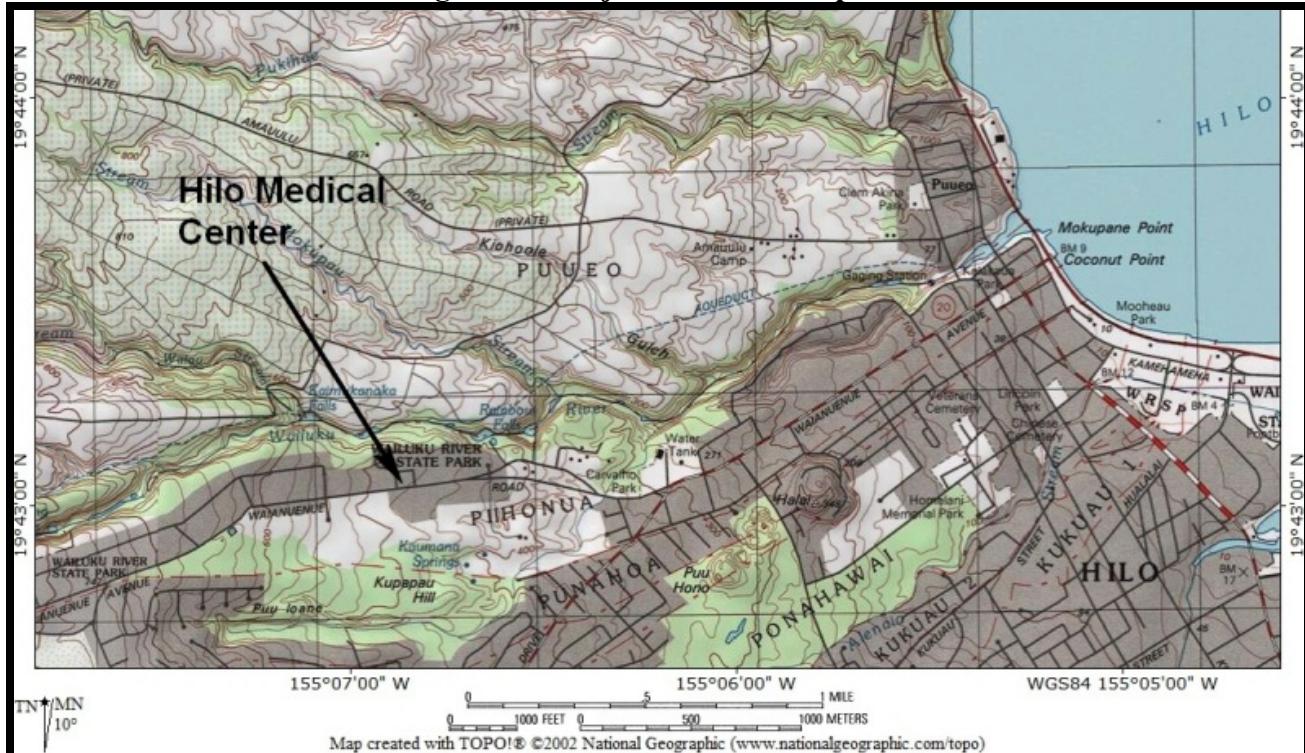
Construction will require use of the existing 21-space paved parking lot, which will also be partially regraded. On a permanent basis, the building will occupy a currently unused, unpaved area. The parking spaces lost during construction will be restored after the building is complete. In the interim, the temporary loss of parking will be compensated for by adjacent HMC parking, including a lot built in 2007 *makai* of the main HMC parking lot, where there is adequate space.

A previous Environmental Assessment (EA) was conducted for establishment of another stand-alone building for the Hilo Medical Center Oncology Unit’s proposed Linear Accelerator Vault on this same site (Hilo Medical Center 2013). The project was later redesigned to house the facility within the existing building, opening up space for the current project.

### **1.2 Purpose and Need**

Cancer treatment is a vital service of Hilo Medical Center. The Hawaii Pacific Oncology Center at Hilo Medical Center treats approximately 200 radiation oncology patients a year with 4,000-

**Figure 1. Project Location Map**



**Figure 2. Project Site Photos**



2a, Above: Project Site from Waianuenue Avenue.      2b, Below: View from Oncology Center.



5,000 treatments for a variety of forms of cancer. Treatment facilities include oncologist consultation, radiation oncology utilizing a recently installed state of the art Linear Accelerator, and chemotherapy. It is important to efficiently site all treatment facilities within the same complex. The project site can accommodate a multi-story building that can also house the Hilo Rural Health & Telehealth Center, which will offer the critically important services of primary care, urgent care, various medical specialties and telemedicine to this medically underserved community in one convenient location.

### **1.3 Environmental Assessment Process**

The project involves the use of State of Hawai‘i funds and land and thus requires compliance with Chapter 343, Hawai‘i Revised Statutes (HRS), the Hawai‘i Environmental Policy Act (HEPA). The Hilo Medical Center, a unit of the Hawaii Health Systems Corporation, is the proposing and approving agency for this Environmental Assessment (EA).

This EA process is being conducted in accordance with Chapter 343 of the Hawai‘i Revised Statutes (HRS). This law, along with its implementing regulations, Title 11, Chapter 200.1, of the Hawai‘i Administrative Rules (HAR), is the basis for the environmental impact process in the State of Hawai‘i. According to Chapter 343, an EA is prepared to determine impacts associated with an action, to develop mitigation measures for adverse impacts, and to determine whether any of the impacts are significant according to thirteen specific criteria.

Part 4 of this document states the finding (anticipated in the Draft EA) that no significant impacts are expected to occur, based on HMC’s findings for each significant criterion. In the EA process, if the approving agency determines after considering comments to the Draft EA that no significant impacts would likely occur, then it issues a FONSI (Finding of No Significant Impact), and the action is permitted to proceed to necessary permits. If the agency concludes that significant impacts are expected, then an Environmental Impact Statement (EIS) is prepared.

### **1.4 Public Involvement and Agency Coordination**

The following agencies and organizations were consulted in development of the Environmental Assessment.

State:

Department of Health  
Department of Land and Natural Resources, Land Division  
Office of Hawaiian Affairs

County:

Civil Defense Agency  
County Council  
Department of Environmental Management  
Fire Department

Planning Department  
Public Works Department  
Police Department

Organizations and Individuals:

Hawai‘i Island Chamber of Commerce  
Sierra Club

Copies of communications received during preconsultation are contained in Appendix 1a.

**PART 2: ALTERNATIVES**

**2.1 No Action**

Under the No Action Alternative, the Hilo Rural Health & Telehealth Center would not be constructed and the Hawaii Pacific Oncology Center would not be expanded. The treatment programs accommodated by these projects would not be implemented and/or would need to be conducted with reduced scope and efficiency in other facilities at or outside of Hilo Medical Center. The 25-space, unpaved area could serve as parking and eventually, perhaps, other uses.

**2.2 Alternative Locations**

Hilo Medical Center officials determined that for a number of reasons, cancer treatment should remain in close proximity to Hilo Medical Center to the extent feasible. There are very few locations on the Hilo Medical Center campus that could accommodate the proposed facility, and none that have a superior location. Off-campus locations would involve much higher costs and a loss of efficiency and control. Most importantly, the preferred method of the delivery of health care is to locate “like kind” services as close to one another as possible for patients’ ease of use. If additional oncology services were to be added elsewhere, it would lead to inefficiencies for patients and medical staff alike. During early phases of project planning, Hilo Medical Center officials examined and analyzed a number of locations in the general the area and determined that expansion of the Hawaii Pacific Oncology Center into the existing 1285 Waianuenue Building unoccupied site would provide the best overall location for the required function, as it is directly across Waianuenue Avenue from the Medical Center and adjacent to the Hawaii Pacific Oncology Center and its existing parking lot. Although the Hilo Rural Health & Telehealth Center’s potential locations were not as constrained, the opportunity to some extent to share the costs for site preparation, structures, and parking offers value, and the joint registration and check-in will create efficiencies as well. The proposed site also has the advantage of being State property and will thus be available to the Hilo Medical Center for negligible or no cost, and acquisition will therefore not impose a financial burden on the public.

As there do not appear to be any environmental or other disadvantages associated with the proposed site, and no other vacant and suitable land is available nearby, no alternative sites have been advanced for study in the Environmental Assessment.

## **PART 3: ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES**

### *Basic Geographic Setting*

The property upon which the project facility would be built is referred to throughout this EA as the *project site*. The term *project area* is used to describe the Hilo Medical Center campus, associated facilities, and surrounding areas.

The proposed project site is located at approximately 480 feet in elevation on Waianuenue Avenue, across the street from the main buildings of Hilo Medical Center and adjacent to the Hawaii Pacific Oncology Center and its parking (see Figs. 1-2). The vegetation of the general area has been extensively modified by sugar cane agriculture, and later medical facility construction, including parking lots. The entire project site is a graveled area that currently has no uses but could accommodate about 25 parking spaces.

Adjacent land is primarily utilized by medical facilities, including the Hale Anuenue Restorative Care Center and the Hawaii Pacific Oncology Center. Directly across Waianuenue Avenue from the proposed project area are the main facilities of the Hilo Medical Center campus, and *makai* of this is the Yukio Okutsu State Veterans Home, a long-term care facility.

### **3.1 Physical Environment**

#### **3.1.1 Geology, Soils and Geologic Hazards**

##### *Environmental Setting*

Geologically, the project site is located on the lower flank of Mauna Loa near Wailuku Stream (commonly called the Wailuku River). The surface consists of weathered ash soils on Pleistocene-era (greater than 10,000 years old) lava flows from Mauna Loa. The project site soil is classified by the U.S. Natural Resources Conservation Service (formerly Soil Conservation Service) as Hilo silty clay loam, which forms on layers of volcanic ash. Permeability is rapid, runoff moderate, and erosion hazard slight to moderate (U.S. Soil Conservation Service 1973).

The entire Big Island is subject to geologic hazards, especially lava flows and earthquakes. Volcanic hazard as assessed by the U.S. Geological Survey in this area of Hilo is 3 on a scale of ascending risk 9 to 1 (Heliker 1990:23). The high hazard risk is based on the fact Mauna Loa is an active volcano. Volcanic hazard zone 3 areas have had 1-5 percent of the land area covered by lava or ash flows since the year 1800, and are at lower risk than zone 2 areas because of their greater distances from recently active vents and/or because the local topography makes it less likely that flows will cover these areas.

The Island of Hawai‘i experiences high seismic activity and is at risk from earthquake damage (USGS 2000), especially to structures that are poorly designed or built, as the 6.7-magnitude

quake of 2006 and the 6.9-magnitude quake of 2018 demonstrated. The project site does not appear to be subject to subsidence, landslides or other forms of mass wasting.

#### *Impacts and Mitigation Measures*

In general, geologic conditions impose no constraints on the proposed project and it is not imprudent to implement.

#### **3.1.2 Climate, Drainage, Water Features and Water Quality**

##### *Existing Environment*

The average maximum daily temperature in the project area is approximately 75 degrees F., with an average minimum of 65 degrees, and annual rainfall averages approximately 200 inches (U.H. Hilo-Geography 1998:57).

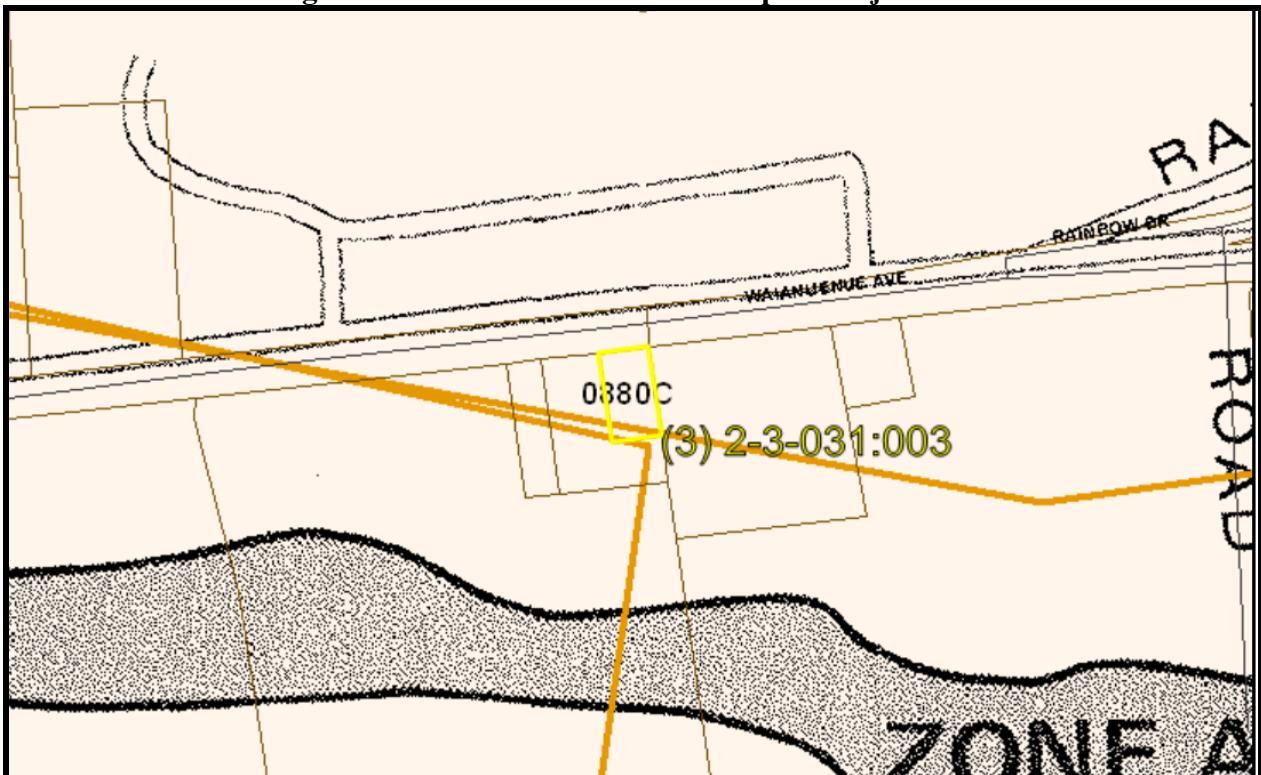
The Pi‘ihonua district has a number of surface water bodies, including Wailuku Stream, which is located about 0.2 miles north of the project site (see Figure 1). A small perennial tributary stream also flows about 0.2 miles south of the project site and merges with Wailuku Stream near Carvalho Park at the intersection of Kaumana Drive and Waianuenue Avenue. Additionally, a number of springs are found approximately 0.2 miles south of the project site. No streams or springs are present on or within 500 feet the fully developed site itself. The *Hawai‘i Stream Assessment* (Hawai‘i State CWRM 1990) inventoried streams statewide (including over a hundred on the Hilo/Hamakua coast) for their water quality/supply, habitat, cultural and recreational resource value. Streams are ranked in various resources categories. Of particular importance are the *Candidate Streams for Protection*, which meet the criteria for either diversity of outstanding resources or “blue-ribbon resources.” Four such streams are present on the Hamakua/Hilo coast: Waikoloa, Kolekole, Honoli‘i, and Wailuku Streams. Wailuku Stream is listed as a candidate for both its scenic and recreational characteristics.

No stream poses a flooding hazard to the project site. The Flood Insurance Rate Map (FIRM) 880C (9/16/88) maps the project site within Zone X, outside the 500-year floodplain (Figure 3).

##### *Impacts and Mitigation Measure*

Because of the scale of the proposed project and the environmental setting, very little potential for impacts to water quality exist. The project will disturb much less than one acre (approximately 18,850 square feet) and no other triggering conditions are present, and thus no National Pollutant Discharge Elimination System permit will be required. However, in order to minimize the potential for sedimentation and erosion, the contractor shall perform all earthwork and grading in conformance with Chapter 10, Erosion and Sediment Control, Hawai‘i County

**Figure 3 Flood Insurance Rate Map of Project Site**



Source: Hawai'i State Department of Land and Natural Resources: <http://gis.hawaiifip.org/fhat/>

Code. An extensive array of Best Management Practices will be required of the contractor, as specified in the construction plans (see Civil Notes sheet of Appendix 2), including but not limited to the following:

- All grading work shall conform to Chapter 10 of the Hawaii County Code. Should a grading permit be required, no work shall commence until the Department of Public Works approves a grading permit.
- The contractor shall remove all silt and debris deposited in drainage facilities, roadways and other areas resulting from his work.
- The contractor shall keep the project and surrounding areas free from dust nuisances. The work shall be in conformance with the air pollution control rules of the State Department of Health, HAR 11-60.1. Fugitive dust.
- All grading operations shall be performed in conformance with the applicable provisions of the Hawaii Administrative Rules, Title 11, Chapter 55, Water Pollution Control and Chapter 54, Water Quality Standards, and to the Erosion and Sedimentation Control Standards and Guidelines of the Department of Public Works, County of Hawaii.
- The Contractor shall hydro-seed or plant all slopes and exposed areas within 10 days of or the grading work being completed. Disturbed areas exposed longer than 10 days shall be hydro-seeded.
- The contractor shall inform the Department of Public Works of the locations of the

disposal and/or borrow site(s) required for this project when an application for a grading permit is made. The disposal and/or borrow site(s) must also fulfill the requirements of the grading ordinance.

- No grading work shall be done on Saturdays, Sundays and holidays anytime without prior approval from the owner. Grading work on normal working days shall be between the hours of 7:00am to 3:30pm.

The improvements will include engineered drainage that, in conformance with applicable regulations, will promote infiltration of storm water runoff and will therefore both protect surface water quality and prevent storm water runoff from leaving the site. The design includes two drywells adequately sized to handle the runoff from the project in conformance with drainage laws and regulations. The Hawai‘i County Department of Public Works will be consulted during design, and all applicable regulations, in particular Chapter 27, Drainage, and Chapter 10, Erosion and Sedimentation Control, will be adhered to.

There is a scientific consensus that the earth is warming due to manmade increases in greenhouse gases in the atmosphere, according to the United Nations' Intergovernmental Panel on Climate Change (UH Manoa Sea Grant 2014). Global mean air temperatures are projected to increase by at least 2.7°F by the end of the century. This will be accompanied by the warming of ocean waters, expected to be highest in tropical and subtropical seas of the Northern Hemisphere. Wet and dry season contrasts will increase, and wet tropical areas in particular are likely to experience more frequent and extreme precipitation. For Hawai‘i, where warming air temperatures are already quite apparent, accelerating sea level rise is expected. Not only is the equitable climate at risk but also agriculture, ecosystems, the visitor industry and public health. It is possible, and even likely, that larger and more frequent tropical storms and hurricanes will affect the Hawaiian Islands in the future.

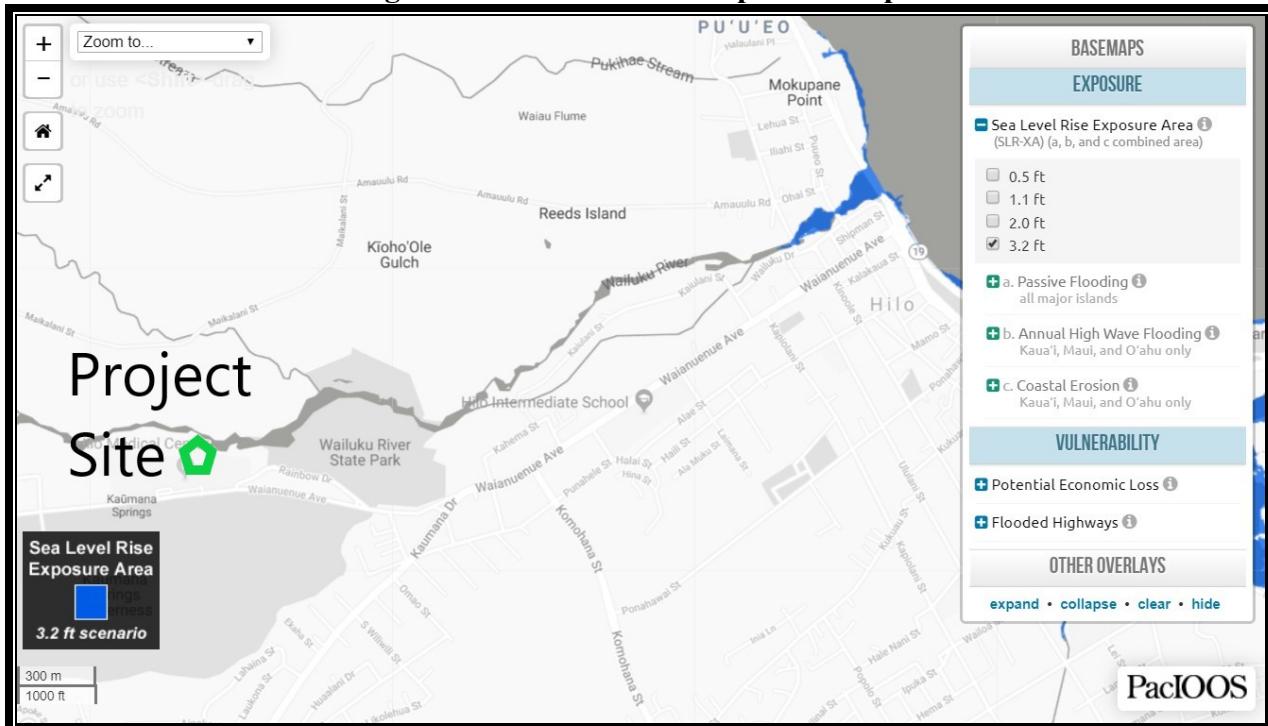
Guidance to federal agencies for addressing climate change issues in environmental reviews was released in August 2016 by the Council on Environmental Quality (US CEQ 2016). The guidance urged that when addressing climate change, agencies should consider: 1) the potential effects of a proposed action on climate change as indicated by assessing greenhouse gas emissions in a qualitative, or if reasonable, quantitative way; and, 2) the effects of climate change on a proposed action and its environmental impacts. It recommends that agencies consider the short- and long-term effects and benefits in the alternatives and mitigation analysis in terms of climate change effects and resiliency to the effects of a changing climate.

The State of Hawai‘i in Hawai‘i Revised Statutes §226-109 encourages a similar analysis, and Title 11-200.1-13 includes significance criteria that consider greenhouse gas emissions and the hazardousness of sea level rise.

As illustrated in Figure 4, the location of the project site at 470 feet above sea level, 1.7 miles from the shoreline, will preclude direct effects of sea level rise under any expected scenario. In order to deal with the potential for larger and more frequent tropical storms that could be part of a changing climate, the structure is designed with walls, windows and gutters that can withstand

hurricane force winds and torrential rains. Only a minor amount of energy input and greenhouse gas emissions would be required for construction and use of the facility. The building was designed using the 2015 International Energy Conservation Code. Reduction of the building's carbon footprint is achieved by increasing the R value of all exterior walls and roof, and by increasing the solar heat gain coefficient of all the windows. A commercial grade weather-barrier will be installed to all exterior walls to control air leakage into and from the interior of the building. HVAC equipment performance is very efficient with multiple- zone controls and automatic off-hour thermostat controls. All ducts, plenums and piping will be insulated. All lighting will have high efficacy lamps, and occupancy sensors will be installed in all rooms. Exterior lighting is minimal and mostly used for path finding and safety.

**Figure 4. Sea Level Rise Exposure Map**



Source: <https://www.pacioos.hawaii.edu/shoreline/slri-hawaii/>

### 3.1.3 Flora and Fauna

#### Existing Environment

The natural vegetation of this part of Hilo was most likely lowland rain forest dominated by ‘ōhi‘a (*Metrosideros polymorpha*) and koa (*Acacia koa*) (Gagne and Cuddihy 1990). These original communities, however, have been destroyed or heavily degraded by sugarcane cultivation, cattle grazing, and clearing for farms and residences, and the vegetation of the project area is now either managed vegetation (i.e., farms, pasture or landscaped grounds) or adventive “communities” of various alien weeds. As shown in Figure 2, the entire project site has been graded flat and covered with gravel. It is fringed with a few ornamental plants including

croton (*Codiaeum variegatum*) and ti (*Cordyline fruticosa*). There are also various weeds periodically managed by cutting and herbicides, primarily hairy horseweed (*Conyza bonariensis*), Flora's paintbrush (*Emilia fosbergii*), Hilo grass (*Paspalum conjugatum*) and *Crassocephalum crepidioides*.

No listed, candidate or proposed endangered plant species were found or would be expected to be found on the project site. In terms of conservation value, no botanical resources requiring special protection are present.

The urban habitat of a small, graded and graveled area surrounded by buildings is not suitable for most native birds, although some common non-native birds such as common myna (*Acridotheres trista*) are occasionally present. Hawaiian hawks (*Buteo solitarius*), which were delisted as endangered species in 2019 but are still valuable native fauna, nest in tall trees between March and October. Endangered Hawaiian hoary bats (*Lasiurus cinereus semotus*) are commonly observed in many parts of East Hawai'i. Bats roost in woody vegetation taller than 15 feet, and female bats while caring for their young in summer months are extremely vulnerable to disturbance. No vegetation suitable for hawk nests or bat roosts is present on or near the project site.

The endangered Hawaiian petrel (*Pterodroma sandwichensis*), the endangered band-rumped storm petrel (*Oceanodroma castro*), and the threatened Newell's shearwater (*Puffinus auricularis newelli*) may overfly the general project area. The primary cause of mortality for these seabirds in Hawai'i is predation by alien mammalian species at the nesting colonies, followed by collision with man-made structures. Nocturnally flying seabirds, especially fledglings on their way to sea in the summer and fall, can become disoriented by exterior lighting. Disoriented seabirds may collide with manmade structures and, if not killed outright, become easy targets of predatory mammals.

### *Impacts and Mitigation Measures*

Because of the lack of native ecosystems, or threatened or endangered plant species, no adverse impacts to botanical resources would occur as a result of clearing and improvements. Because of the limited vegetation, no Hawaiian hawk nests or Hawaiian hoary bats roosts are present, and the project presents no impacts to these species. All lighting installed for either construction or use of the road will be required to be shielded in conformance with the Hawai'i County Outdoor Lighting Ordinance (Hawai'i County Code, Article 9) to reduce the risk that seabirds may be attracted to and then disoriented by the lighting. Additionally, no nighttime, lighted, outdoor construction work will be allowed during the seabird-fledging season, which runs from September 15 through December 15 each year. Best Management Practices to prevent sedimentation and erosion that will be required during construction will prevent offsite impacts to water quality and aquatic habitat.

### **3.1.4 Air Quality, Noise, and Scenic Resources**

#### *Environmental Setting*

Air pollution in East Hawai‘i is minimal. When Kilauea Volcano is active it emits sulfur dioxide, which converts into particulate sulfate and produce a volcanic haze (vog) that occasionally blankets the district. Even then, persistent tradewinds keep the project area free of vog for most of the year.

Noise at the project site is moderate and derived mainly from motor vehicles and medical center maintenance activities. HMC in general and the Hawaii Pacific Oncology Center in particular, as well as the Hale Anuenue Restorative Care Center and an adjacent residence, are sensitive receptors to potential noise from construction and operation of the facility.

The project area contains several sites that are considered significant for their scenic character in the Hawai‘i County General Plan. Rainbow Falls and Kaimukanaka Falls are each located 0.3 miles north, beyond Hilo Medical Center. Boiling Pots is a mile *mauka* of the project site. The project site is not visible from these sites or lookouts for these sites, and is at a sufficient distance so that it will not affect the character or visual quality of these resources.

#### *Impacts and Mitigation Measures*

There may be short-term impacts to air quality and noise levels during construction. Due to the sensitive nature of nearby facilities, care will be taken to minimize these short-term impacts. There is very limited potential for fugitive dust emissions during dry periods due to disturbance of soil. Adherence to best management practices (BMPs), including, but not limited to, covering stockpile materials and routine watering of bare, disturbed soil and fill/stockpile materials during dry periods will minimize this potential.

Development would entail limited excavation, grading, compressors, vehicle and equipment engine operation, and construction of new infrastructure. These activities could generate noise exceeding 95 decibels at times, impacting nearby sensitive noise receptors. If construction noise is expected to exceed the Department of Health’s (DOH) “maximum permissible” property-line noise levels, the contractor would be required to consult with DOH and may need to obtain a permit per Title 11, Chapter 46, HAR (Community Noise Control) prior to construction. DOH would review the proposed activity, location, equipment, project purpose, and timetable in order to decide upon conditions and mitigation measures, such as restriction of equipment type, maintenance requirements, restricted hours, and portable noise barriers. . Hilo Medical Center will ensure that the construction contractor consults with the Department of Health. If applicable, Hilo Medical Center will obtain a permit per Title 11, Chapter 46, HAR (Community Noise Control) prior to construction that may include various mitigation measures for construction noise.

Final design may include additional landscaping using native Hawaiian and Polynesian introduced flora, if sufficient room exists on the small site after meeting other needs. No important viewplanes or scenic sites recognized in the Hawai‘i County General Plan would be affected.

### **3.1.5 Hazardous Substances, Toxic Waste, and Hazardous Conditions**

Based upon prior and present use of the project site, no hazardous substances or toxic materials are expected to be present on or beneath the graded and graveled lot that is the project site.

The Hawaii Pacific Oncology Center employs ionizing radiation because it is invaluable in diagnostic imaging and treatment of cancer. Care must be taken in any facility utilizing ionizing radiation to ensure that it does not create potentially hazardous situations for personnel who work within the facility, patients or the general public. There are several systems built into the Linear Accelerator that produces the ionizing radiation to ensure it delivers the correct dose as prescribed. Safety of the staff operating the Linear Accelerator is also important. The Linear Accelerator sits in a room with lead, steel and concrete walls so that the high-energy x-rays are shielded. The radiation therapist must turn on the accelerator from outside the treatment room. The linear accelerator only emits radiation during treatment, and therefore the risk of accidental exposure is extremely low. The design for the radiation therapy facility must be approved by a qualified physicist before construction following the rules above and has to be thoroughly surveyed by a qualified physicist after the construction and the installation of radiation machine before it can be licensed to treat patients. The State of Hawai‘i regulates the practice.

Furthermore, the design is required to follow the rules set by the Department of Health to insure safety of the public, the worker and the patient (Title 11, Hawai‘i Administrative Rules, Chapter 45, “Radiation Control”). There are also warning or caution signs as necessary and where appropriate, to warn unauthorized or unsuspecting personnel of a hazard and to remind authorized personnel. The amount of radiation outside of the building is well below all state and federal guidelines for the general public. Personnel monitoring is also conducted utilizing film badges that measure the radiation dose that workers receive while attending patients undergoing therapeutic or diagnostic procedures with radionuclides or radiation generation devices, such as fluoroscopes or the Linear Accelerator. This provides early notice if a worker’s exposure is near or above the limits prescribed by law, and also provides a permanent record of the individual’s exposure. Because of all these extensive precautions, the ionizing radiation at the facility does not pose a hazard to the patients, staff or general public.

## **3.2 Socioeconomic and Cultural**

### **3.2.1 Socioeconomic and Health Characteristics**

The project would benefit the population of the County of Hawai‘i, in particular East Hawai‘i and Hilo, the largest population center on the island and a microcosm of the island’s demographics. Table 1 provides data on the socioeconomic characteristics of Hilo from the 2010 U.S. Census of Population.

**Table 1. Selected Socioeconomic Characteristics of Hilo**

SUBJECT	NUMBER	PERCENT
<b>SEX AND AGE</b>		
Total population	43,263	100.0
Median age (years)	40.5	( X )
16 years and over	35,193	81.3
65 years and over	7,807	18.0
<b>RACE</b>		
Total population	43,263	100.0
One Race	29,199	67.5
White	7,617	17.6
Black or African American	227	0.5
American Indian and Alaska Native	132	0.3
Asian	14,833	34.3
Asian Indian	49	0.1
Chinese	645	1.5
Filipino	2,637	6.1
Japanese	9,550	22.1
Korean	419	1.0
Native Hawaiian	4,467	10.3
Two or More Races	14,064	32.5
<b>HOUSEHOLDS BY TYPE</b>		
Total households	15,483	100.0
Family households (families)	10,287	66.4
With own children under 18 years	3,766	24.3
Female householder, no husband present	2,278	14.7
With own children under 18 years	1,027	6.6
Nonfamily households	5,196	33.6
Householder living alone	3,992	25.8
Households with individuals under 18 years	4,770	30.8
Households with individuals 65 years and over	5,386	34.8
Average household size	2.69	( X )
Average family size	3.20	( X )
<b>HOUSING OCCUPANCY</b>		
Total housing units	16,905	100.0
Occupied housing units	15,483	91.6
Vacant housing units	1,422	8.4
Rental vacancy rate (percent)	6.9	( X )

Source: 2010 U.S. Census of Population (<http://2010.census.gov/2010census/data/>)

Hilo has a diverse population with over 80 percent minorities, mainly Asian and Pacific Islanders, within one of the 100 fastest-growing counties in the U.S. It has a median age of over 40 years and more than 37 percent of the population is 65 or older, one of the oldest populations in the State of Hawai‘i. Several segments of the population that typically exhibit disadvantaged measures of social welfare are disproportionately represented in the population of Hilo as compared to the County or State of Hawai‘i. Median family income is 10 percent less than that of the County as a whole. More than 15 percent of individuals have income below the poverty level, double the statewide rate. Similar patterns pertain to households receiving welfare, food stamps, and disability payments.

According to the Hawai‘i State Department of Health (DOH) (<http://www.hhdw.org>), cancer is the second leading cause of death in Hawai‘i and in the United States. From 2010-2012 there were nearly 7,000 cancer deaths in Hawai‘i. In 2010, lung cancer was the leading cause of cancer mortality (44.6 per 100,000 population), followed by cancer of the colon and rectum (12.9 per 100,000 population). Many cancer deaths are preventable, especially with recommended screening, which can detect precancerous lesions before they become cancerous. Early detection is crucial, when the lesion may be at a more treatable stage. Among people who develop cancer, more than half will be alive in five years.

According to the Hawai‘i Cancer Society:

“Factors such as poverty, poor nutrition, lower education levels, limited access to health care and language barriers are known to influence the early detection of cancer and outcomes. Toxic environmental exposures, risky health behaviors, geographic isolation and genetics also play a role. Less understood factors perpetuate cancer health disparities among Native Hawaiians, Filipinos, Samoans, Pacific Islanders and people with lower income or lower educational attainment. Individuals in these groups are more likely to be underinsured or lack health insurance and could be disadvantaged by long distances to health services or a lack of culturally sensitive health care.”

Cancer incidence and mortality rates...vary widely. The lowest incidence rates are seen among Filipino and Chinese females. Among females, Native Hawaiians have the highest incidence rate, followed by Whites. Among males, Whites have the highest incidence rates followed by Native Hawaiians and Japanese. In terms of cancer deaths, among both males and females, Native Hawaiians and Whites have the highest mortality for all cancer sites combined.”

The North Hawaii Outcomes Project reports in its *Community Health Profile, Hawaii County, Report 2012* (p. 35), that overall cancer death rates in the County of Hawai‘i are generally higher than statewide rates, averaging over 160 incidences per 100,000 population from 1999-2009 compared to less than 150 for the State as a whole. According to the report:

“Higher overall cancer rates in Hawai‘i County are likely to be related to higher smoking rates and may be related to inadequate access to primary care and lower cancer screening rates, as well as economic and social determinants of health .” (p. 35).

The County of Hawai‘i is an underserved medical community with a chronic need for more primary care physicians, on-island specialists, and access to off-island telemedicine services.

### *Impacts*

Many cancer deaths can be prevented, particularly through lifestyle adjustments, regular health care, screening and early detection. Also important is the advanced treatment such as that offered by the proposed facilities at the extension of the Hawaii Pacific Oncology Center. Similarly, health outcomes on the island can be improved by a facility offering primary care, multiple specialties, urgent care and telemedicine access to off-island specialties that are not available on-island, conveniently located next to a major medical center.

## **3.2.2 Cultural and Historic Resources**

### *Existing Environment*

The material in this section is based on previous archaeological reports and environmental assessments for Hilo Medical Center and other medical and recreational facilities nearby (Hilo Medical Center 2005 and 2013; Sinoto 1978; Spear 1992), as well as a study of nearby Waiākea Ahupua‘a conducted by Maly (1996).

The purpose of this review was to document the presence of any historic properties or traditional cultural properties that might exist on the project site. Research and consultation were restricted because the activities are limited to a parking lot that is part of Hilo Medical Center. No undeveloped land or land with any cultural resources is involved.

The earliest historical knowledge of Hilo comes from legends written by Kamakau (1961) of a 16<sup>th</sup> century chief ‘Umi-a-Liloa (son of Liloa), who at that time ruled the entire island of Hawai‘i. Descendants of Umi and his sister-wife were referred to as “Kona” chiefs, controlling Ka‘ū, Kona, and Kohala, while descendants of Umi and his Maui wife were “Hilo” chiefs, controlling Hāmākua, Hilo, and Puna (Kelly 1981:1). According to Kamakau (1961), both sides fought over control of the island, desiring access to resources such as feathers, *māmaki* tapa, and canoes on the Hilo side, and *wauke* tapa, and warm lands and waters on the Kona side (c.f. Kelly 1981:3).

Sometime near the end of the 16<sup>th</sup> century or early in the 17<sup>th</sup> century, the lands of Hilo were divided into *ahupua‘a*, which till today retain their original names (Kelly 1981:3). These include the *ahupua‘a* of Pu‘u‘eo, Pi‘ihonua, Punahoa, Pōnohawai, Kūkūau and Waiākea. The design of these land divisions was such that residents could have access to all that they needed to live, with ocean resources at the coast, and agricultural and forest resources in the interior. However, only

Pi‘ihonua and Waiākea provided access to the full range of resources stretching from the sea up to 6,000 feet along the slopes of Mauna Kea (Kelly 1981:5).

Historical accounts (McEldowney 1979) place the current study area in a zone of agricultural productivity. As Isabella Bird recorded upon arriving in Hilo in 1873:

“Above Hilo, broad lands sweeping up cloudwards, with their sugar cane, *kalo*, melons, pine-apples, and banana groves suggest the boundless liberality of Nature” (Bird 1964:38).

Handy and Handy (1972) also describe the general region as an agricultural area:

“On the lava strewn plain of Waiakea and on the slopes between Waiakea and Wailuku River, dry taro was formerly planted wherever there was enough soil. There were forest plantations in Panaewa and in all the lower fern-forest zone above Hilo town along the course of the Wailuku River” (Handy and Handy 1972:539).

Maly (1996) refers to a 1922 article from the Hawaiian Language newspaper, *Ka Nupepa Kū‘oku‘a*, where planting on *pāhoehoe* lava flats is described:

“There are *pahoehoe* lava beds walled in by the ancestors in which sweet potatoes and sugar cane were planted and they are still growing today. Not only one or two but several times forty (*mau ka ‘au*) of them. The house sites are still there, not one or two but several times four hundred in the woods of the Panaewa. Our indigenous bananas are growing wild, these were planted by the hands of our ancestors” (Maly 1996:A-2).

### *Pi‘ihonua Ahupua‘a*

As part of an archaeological assessment survey, Maly (1996) conducted historical research for the lands of Wainaku, Pōnohawai, Waiākea, and Pi‘ihonua. He discusses the significance of the Hawaiian word *wai* in the placenames: Pōnohawai, Waiākea, Wainaku, and Wailuku (River). According to Maly, the word *wai* (water) has strong metaphorical associations with the Hawaiian concept of wealth (*waiwai*), stressing its cultural importance (Maly 1996:A-2). In this context, the importance of Hilo can be better understood, with its copious streams that fed taro pondfields and its numerous fishponds. Maly refers to the origins of the names Waiākea and Pi‘ihonua in the Hawaiian legend of Ka‘ao Ho‘oniua Pu‘uwai no Ka-Miki. Pi‘ihonua literally translates to: “Ascending Earth,” and the *ahupua‘a* is named for Pi‘ihonua-a-ka-lani, the brother of Waiākea and Pana‘ewa, and the father of the chiefesses ‘Ohele and Waiānuenu (Maly 1996:A-4).

Pi‘ihonua along with Punahoa and Waiākea were held by Kamehameha I until the time of his death in 1819, at which time his holdings, including Pi‘ihonua, were passed down to his son, Liholiho. Kelly (1981) speculates that Pi‘ihonua may have been given to Chief Kalaeokekio by

Kauikeaouli or Boki in 1828. Pi‘ihonua was surrendered at the time of the *Māhele* and classified as Crown Land (Kelly 1981); no *kuleana* claims were registered for lands in the vicinity of the current subject property (Maly 1996). Following the *Māhele*, the population of Hilo grew and the scattered upland habitations gave way to sugar cultivation (McEldowney 1979:37). At the turn of the century, there were remnants of *heiau* and at least one intact *heiau* within Pi‘ihonua. Thrum (1907) describes a *heiau* named Kaipālaloa that had been destroyed and another called Papio, which was purportedly for bird catchers and canoe builders. Stokes (1991) reported another *heiau* in Pi‘ihonua called Pinao that was once located near the intersection of Waiānuenu and Ululani Streets (Maly 1996).

Beginning in the late 1880s Pi‘ihonua was home to the Hawaii Mill Company, built on the Alenaio Stream (Kelly 1981). By 1905, according to Thrush (1923) the Hawaii Mill Company had 10 miles of cane flumes and produced twenty-five tons of sugar per day. In 1920 Hawaii Mill Company was taken over by the Hilo Sugar Company (Kelly 1981). Commercial sugar production lasted in Pi‘ihonua until the mid-twentieth century, at which time many of the fields were converted to pasturage associated with cattle ranching.

### *Impacts and Mitigation Measures*

As part of the EA process, an effort was made to obtain information about any potential traditional cultural properties and associated practices that might be present, or have taken place in upper Pi‘ihonua Ahupua‘a. The Office of Hawaiian Affairs was contacted but had no information relative to the existence of traditional cultural properties at the graded and graveled lot that comprises the small project site; nor did they provide any information indicating current use of the area for traditional and customary practices. No caves, springs, *pu‘u*, native forest groves, gathering resources or other natural features are present on or near the project site. Vegetation is mostly absent and does not contain the quality and quantity of resources that would be important for native gathering. As no resources or practices of a potential traditional cultural nature (i.e., landform, vegetation, etc.) appear to be present on or near the project site, and there is no evidence of any traditional gathering uses or other cultural practices, the proposed expansion of the Hawaii Pacific Oncology Center and new rural health and telemedicine center would not appear to impact any culturally valued resources or cultural practices.

In terms of archaeological resources, as illustrated in Figure 2, the project site was extensively disturbed by mechanized sugar cane agriculture and then later bulldozed and surfaced with gravel a parking lot. As such, no archaeological features are present. In the unlikely event that archaeological resources are encountered during grading or construction, contract conditions will require that work in the immediate area of the discovery will be halted and DLNR-SHPD contacted as outlined in Hawai‘i Administrative Rules 13§13-275-12. In order to assist in compliance with the Chapter 6e process, the State Historic Preservation Division (SHPD) was provided a link to a digital copy of the EA for their comment on the presumed lack of archaeological resources and no effect to significant historic properties. Hilo Medical Center will submit an SHPD HRS 6E Submittal Form at the conclusion of the Draft EA comment period in order to advance review under Chapter 6e, HRS.

### **3.3 Infrastructure**

#### **3.3.1 Utilities**

##### *Existing Facilities and Services*

Electrical power to the project site is supplied by Hawai‘i Electric Light Company (HELCO), potable water is supplied by the Department of Water Supply (DWS), wastewater from HMC is treated in Hilo’s municipal wastewater system under the supervision of the Department of Environmental Management (DEM), and telephone/cable TV service is supplied by Hawaiian Telcom.

##### *Impacts and Mitigation Measures*

All necessary utilities are available onsite. The project imposes only modest demands on most utility services and does not require any mitigation or special planning. Project design includes utility hookups. The project would not impose any substantial impact on existing utility facilities or the ability to provide service to HMC or other users. Appropriate coordination with HELCO, DWS, DEM and Hawaiian Telcom will be conducted during the design and construction of the improvements.

#### **3.3.2 Roads and Parking**

##### *Existing Facilities*

Waianuenue Avenue, which provides access to the project site (see Figure 1), is a relatively narrow two-lane road with only intermittent shoulders, maintained by the County of Hawai‘i. The project site is accessed by a driveway *mauka* of the main employee parking area for Hilo Medical Center, which has a pedestrian crosswalk with a signal and warning lights.

##### *Impacts and Mitigation Measures*

On a permanent basis, up to a few dozen additional vehicles per hour will utilize the Hawaii Pacific Oncology Center driveway or other driveways at Hilo Medical Center. As these will be spread throughout the day and not concentrated at AM or PM peak hours, on a relatively quiet street with no existing congestion, primary or cumulative traffic impacts will not occur.

In the short-term, construction has at least some potential to cause traffic congestion. However, as little of this work will require obstruction of traffic on Waianuenue Avenue, impacts on traffic will be minimal. Furthermore, the contractor will be required to develop a traffic control plan during the design phase of the project that will outline the steps necessary to minimize congestion and maintain access to adjacent properties at all times during construction, with particular attention to access for emergency vehicles. This traffic control plan will be coordinated with HMC to ensure that it does not interfere with the facility’s essential operations, particularly

emergency services, the driveway for which is directly across Waianuenue Avenue. By letter of January 14, 2020, the County of Hawai‘i Police Department stated that it did not anticipate any significant impact to traffic or public safety concerns (see Appendix 1a).

Construction will require use of the existing 21-space paved parking lot, which will also be partially regraded. On a permanent basis, the building will occupy a currently unused, unpaved parking area. The parking spaces lost during construction will be restored after the building is complete. The temporary loss of parking will be compensated for by adjacent HMC parking, including a lot built in 2007 *makai* of the main HMC parking lot, where there is adequate space. No driveway improvements or alterations are currently anticipated, but if necessary, HMC will coordinate with the Hawai‘i County Department of Public Works and obtain approvals per Chapter 22 of the Hawai‘i County Code.

### **3.4 Secondary and Cumulative Impacts**

The proposed project will not involve any long-term secondary impacts, such as population changes or effects on public facilities, because it simply enables Hilo Medical Center to provide greater access to health care. Although the project will provide some short-term construction jobs, these would almost certainly be filled by local residents and would not induce in-migration.

Cumulative impacts result when implementation of several projects that individually have limited impacts combine to produce more severe impacts or conflicts in mitigation measures. All impacts from the proposed project are so small as to be negligible. On a permanent basis, up to a few dozen additional vehicles per hour will utilize the Hawaii Pacific Oncology Center driveway or other driveways at Hilo Medical Center, a magnitude that will ensure no primary or cumulative traffic impacts will occur. Other impacts are associated with the construction phase, when minor additional construction traffic, noise, air quality and scenic impacts will occur. No known projects with substantial construction or other impacts are known to be in progress or planning for the project area, and so no cumulative impacts are expected. If an unanticipated project arises during the construction period with the potential to produce cumulative impacts, HMC officials will be able to coordinate tasks to ensure that if there is schedule overlap, minimal disruption to traffic and staging logistics will occur.

### **3.5 Required Permits and Approvals**

- Hawai‘i County Building Division Approval
- Hawai‘i County Planning Department Plan Approval
- Hawai‘i State Department of Health Underground Injection Control Permit

## **3.6 Consistency With Government Plans and Policies**

### **3.6.1 Hawai'i State Plan**

Adopted in 1978 and last revised in 1991 (Hawai'i Revised Statutes, Chapter 226, as amended), the Plan establishes a set of themes, goals, objectives and policies that are meant to guide the State's long-run growth and development activities. The three themes that express the basic purpose of the *Hawai'i State Plan* are individual and family self-sufficiency, social and economic mobility and community or social well-being. The proposed project would promote these goals by assisting Hilo Medical Center to better treat cancer and providing additional primary, urgent and specialist care, which will benefit Hawai'i County and the Hilo community.

### **3.6.2 Hawai'i County General Plan and Zoning**

The *General Plan* for the County of Hawai'i is a policy document expressing the broad goals and policies for the long-range development of the Island of Hawai'i. The current plan was adopted by ordinance in 2005. The *General Plan* itself is organized into thirteen elements, with policies, objectives, standards, and principles for each. There are also discussions of the specific applicability of each element to the nine judicial districts comprising the County of Hawai'i. Most relevant to the proposed project are the following Standard and Course of Action:

#### Policies, Public Facilities, Health and Sanitation

(a) Encourage the development of new health care facilities or the improvement of existing health care facilities to serve the needs of Hamakua, North and South Kohala, and North and South Kona.

#### Standards, Public Facilities (1) : Health and Sanitation

Hospitals should be on sites capable of handling moderate expansion of facilities. Quiet surroundings, convenient and adequate access, and compatibility with adjoining uses shall be required.

#### Courses of Action: South Hilo: Public Facilities: Health and Sanitation:

Improvement and expansion of hospital facilities shall be undertaken as the need arises.

Discussion: The proposed project satisfies relevant standards and courses of action related to Public Health and Sanitation Facilities in Hawai'i County and the South Hilo District. Other relevant aspects of the General Plan relate to protection of natural and cultural resources and public safety and facilities. The proposed project will not adversely affect any natural or cultural resources or involve public safety or facility impacts.

The *Hawai'i County General Plan Land Use Pattern Allocation Guide (LUPAG)*. The LUPAG

map component of the *General Plan* is a graphic representation of the Plan's goals, policies, and standards as well as of the physical relationship between land uses. It also establishes the basic urban and non-urban form for areas within the planned public and cultural facilities, public utilities and safety features, and transportation corridors. The project site is classified as Low Density Urban in the LUPAG. The proposed project is consistent with this designation.

*Hawai‘i County Zoning and SMA.* The project site is zoned single family residential (RS-10) by the County. Section 25-4-11 of the County Zoning Code allows for public uses that fulfill a government function within this zone, and the proposed facility is a permitted use. The Zoning Code specifies that Plan Approval shall be required for all public uses permitted under 25-4-11. The property is not situated within the County’s Special Management Area (SMA). According to the project architects, a height variance and Plan Approval for the building have already been approved, with official notification pending. .

### **3.6.3 Hawai‘i State Land Use Law**

All land in the State of Hawai‘i is classified into one of four land use categories – Urban, Rural, Agricultural, or Conservation – by the State Land Use Commission, pursuant to Chapter 205, HRS. The property is in the State Land Use Urban District. The proposed use is consistent with this State Land Use designation.

## **PART 4: DETERMINATION, FINDINGS AND REASONS**

### **4.1 Determination**

Based on the findings below, Hilo Medical Center expects that the proposed project will not have any significant effect in the context of Chapter 343, Hawai‘i Revised Statutes and Chapter 11-200.1-13 of the State Administrative Rules, and intends to issue a Finding of No Significant Impact (FONSI). This conclusion will be finalized after review of comment letters on the Draft EA.

### **4.2 Findings and Supporting Reasons**

Chapter 11-200.1-13, Hawai‘i Administrative Rules, outlines those factors agencies must consider when determining whether an Action has significant effects:

- (a) In considering the significance of potential environmental effects, agencies shall consider and evaluate the sum of effects of the proposed action on the quality of the environment.
- (b) In determining whether an action may have a significant effect on the environment, the agency shall consider every phase of a proposed action, the expected impacts, and the proposed mitigation measures. In most instances, an action shall be determined to have a significant effect on the environment if it may:

1. *Irrevocably commit a natural, cultural, or historic resource.* No valuable natural or cultural resource would be committed or lost at the graded and graveled lot through construction and use of additional medical facilities at Hilo Medical Center.
2. *Curtail the range of beneficial uses of the environment.* No restriction of beneficial uses would occur.
3. *Conflict with the State's environmental policies or long-term environmental goals established by law.* The State's long-term environmental policies are set forth in Chapter 344, HRS. The broad goals of this policy are to conserve natural resources and enhance the quality of life. The project is minor, environmentally beneficial, and fulfills aspects of these policies calling for an improved social environment. It is thus consistent with all elements of the State's long-term environmental policies.
4. *Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State.* The project would improve the social welfare of the community and State by improving cancer treatment and providing additional primary, urgent and specialist care for the Big Island community and the State of Hawai'i.
5. *Have a substantial adverse effect on public health.* The project would affect public health and safety in only beneficial ways by improving cancer treatment and providing additional primary, urgent and specialist care for the Big Island community and the State of Hawai'i.
6. *Involve adverse secondary impacts, such as population changes or effects on public facilities.* No secondary effects are expected to result from the proposed action, which would simply provide a facility to improve cancer treatment at Hilo Medical Center.
7. *Involve a substantial degradation of environmental quality.* The project is minor and environmentally benign, and thus it would not contribute to environmental degradation.
8. *Be individually limited but cumulatively have substantial adverse effect upon the environment or involves a commitment for larger actions.* All impacts from the proposed project are so small as to be negligible. On a permanent basis, up to a few dozen additional vehicles per hour will utilize the Hawaii Pacific Oncology Center driveway or other driveways at Hilo Medical Center, a magnitude that will ensure no primary or cumulative traffic impacts will occur. Other impacts are associated with the construction phase, when minor additional construction traffic, noise, air quality and scenic impacts will occur. No known projects with substantial construction or other impacts are known to be in progress or planning for the project area, and so no cumulative impacts would occur. If an unanticipated project arises during the construction period with the potential to produce cumulative impacts HMC officials will be able to coordinate tasks to ensure that if there is schedule overlap, minimal disruption to traffic and staging logistics occur.

9. *Have a substantial adverse effect on a rare, threatened, or endangered species, or its habitat.* The project site is a small, paved area with no natural vegetation or habitat. Impacts to rare, threatened or endangered species of flora or fauna will not occur.

10. *Have a substantial adverse effect on air or water quality or ambient noise levels.* No adverse effects on these resources would occur. Mitigation of construction-phase impacts will preserve water quality receptors in the vicinity are associated with nearby medical center and rehabilitation center uses. Hilo Medical Center will ensure that the construction contractor consults with the Department of Health. If applicable, Hilo Medical Center will obtain a permit per Title 11, Chapter 46, HAR (Community Noise Control) prior to construction that may include various mitigation measures for construction noise.

11. *Have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.* Although the project is located in an area with volcanic and seismic risk, the entire Island of Hawai‘i shares this risk, and the project is not imprudent to construct. There is only minimal flood hazard in this area.

12. *Have a substantial adverse effect on scenic vistas and viewplanes, during day or night, identified in county or state plans or studies.* No scenic vistas and viewplanes will be adversely affected by the project.

13. *Require substantial energy consumption or emit substantial greenhouse gases.* Negligible amounts of energy input and greenhouse gas emissions would be required for construction and occupation of the facility. The facility would meet or exceed all applicable commercial building energy efficiency standards. The building was designed using the 2015 International Energy Conservation Code. Reduction of the building’s carbon footprint is achieved by increasing the R value of all exterior walls and roof, and by increasing the solar heat gain coefficient of all the windows. A commercial grade weather-barrier will be installed to all exterior walls to control air leakage into and from the interior of the building. HVAC equipment performance is very efficient with multiple- zone controls and automatic off-hour thermostat controls. All ducts, plenums and piping will be insulated. All lighting will have high efficacy lamps, and occupancy sensors will be installed in all rooms. Exterior lighting is minimal and mostly used for path finding and safety.

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[http://hawaii.gov/health/family-child-health/chronic-disease/reports/Hawaii\\_Cancer\\_Plan\\_Exec\\_Summary\\_2010-2015.pdf](http://hawaii.gov/health/family-child-health/chronic-disease/reports/Hawaii_Cancer_Plan_Exec_Summary_2010-2015.pdf)

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# **ENVIRONMENTAL ASSESSMENT**

**Hilo Medical Center Hawaii Pacific Oncology Center Addition  
And Rural & Telehealth Center Unit**

## **APPENDIX 1A Comments in Response to Early Consultation**

**[This page intentionally left blank]**

**From:** Fujio, Mary <Mary.Fujio@hawaiicounty.gov>  
**Sent:** Tuesday, December 24, 2019 1:15 PM  
**To:** rterry@hawaii.rr.com  
**Subject:** Early Consultation for HMC addition (TMK 2-3-031-019)

Our Solid Waste Division and Wastewater Division have reviewed your 12/20/19 letter requesting comments on the Hilo Medical Center Oncology Center Addition and Rural & Telehealth Center Unit, and neither division has any comments at this time.

Thank you.

Mary E. Fujio  
Private Secretary to William Kucharski, Director  
and Diane Noda, Deputy Director  
Department of Environmental Management  
County of Hawai'i  
345 Kekūanāo'a Street, Suite 41  
Hilo, Hawai'i 96720  
Telephone: (808) 961-8099

**Harry Kim**  
*Mayor*

**Roy Takemoto**  
*Managing Director*



**David Yamamoto, P.E.**  
*Director*

**Allan G. Simeon, P.E.**  
*Deputy Director*

**County of Hawai'i**  
**DEPARTMENT OF PUBLIC WORKS**  
**Aupuni Center**  
101 Pauahi Street, Suite 7 · Hilo, Hawai'i 96720-4224  
(808) 961-8321 · Fax (808) 961-8630  
[public\\_works@hawaiicounty.gov](mailto:public_works@hawaiicounty.gov)

January 9, 2020

ATTN: RON TERRY  
GEOMETRICIAN ASSOCIATES, LLC.  
P.O. BOX 396  
HILO, HAWAII 96721  
(via email to [rterry@hawaii.rr.com](mailto:rterry@hawaii.rr.com))

**SUBJECT:** EARLY CONSULTATION FOR DRAFT ENVIRONMENTAL ASSESSMENT  
FOR HILO MEDICAL CENTER ONCOLOGY CENTER ADDITION AND  
RURAL & TELEHEALTH CENTER UNIT  
HILO, ISLAND OF HAWAII, HAWAII  
**TMK:** (3) 2-3-031:019

We have reviewed the request for early consultation for an Environmental Assessment dated December 20, 2019 and have the following comments:

1. All development generated runoff shall be disposed of on-site and shall not be directed toward adjacent properties. A drainage study shall be prepared by a licensed civil engineer and the recommended drainage system shall be constructed meeting the approval of the Department of Public Works.
2. All earthwork and grading activity shall conform to Chapter 10, Erosion and Sedimentary Control, of the Hawaii County Code.
3. All driveway connections and construction within the Waianuenue Avenue Right-of-Way shall conform to Chapter 22, County Streets, of the Hawaii County Code. Access to Waianuenue Avenue, including the provision of adequate sight distances, shall meet with the approval of the Department of Public Works, Engineering Division.
4. The subject parcel is in an area designated as Zone X on the Flood Insurance Rate Map (FIRM) by the Federal Emergency Management Agency (FEMA). Zone X is an area determined to be outside the 500-year floodplain.

Should there be any questions concerning this matter, please contact Bryce Harada of our Engineering Division at (808) 961-8042.

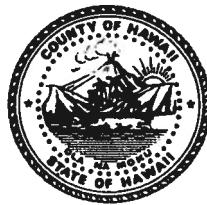


for BEN ISHII, Division Chief  
Engineering Division

BH

cc: DPW Engineering – Hilo  
Planning Department

**Harry Kim**  
Mayor



**Paul K. Ferreira**  
Police Chief

**Kenneth Bugado Jr.**  
Deputy Police Chief

## County of Hawai'i

### POLICE DEPARTMENT

349 Kapiolani Street • Hilo, Hawai'i 96720-3998  
(808) 935-3311 • Fax (808) 961-8865

January 14, 2020

Mr. Ron Terry, Ph.D.  
Project Environmental Consultant  
Geometrician Associates, LLC  
P. O. Box 396  
Hilo, HI 96720

Dear Mr. Terry:

**SUBJECT: EARLY CONSULTATION FOR HILO MEDICAL CENTER ONCOLOGY CENTER ADDITION AND RURAL & TELEHEALTH CENTER UNIT, HILO, ISLAND OF HAWAII; TAX MAP KEY: (3<sup>RD</sup>) 2-3-031:019**

Staff, upon reviewing the provided documents, does not anticipate any significant impact to traffic and/or public safety concerns.

Thank you for allowing us the opportunity to comment.

If you have any questions, please contact Captain Kenneth Quiocho, South Hilo Patrol, at 961-2214.

Sincerely,

*James B. O'Connor*  
JAMES B. O'CONNOR  
ASSISTANT POLICE CHIEF  
AREA I OPERATIONS

KQ:Hil/19HQ1301

DAVID Y. IGE  
GOVERNOR OF HAWAII



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

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

January 22, 2020

Geometrician Associates, LLC  
Attention: Mr. Ron Terry  
P.O. Box 396  
Hilo, Hawaii 96721

via email: [rterry@hawaii.rr.com](mailto:rterry@hawaii.rr.com)

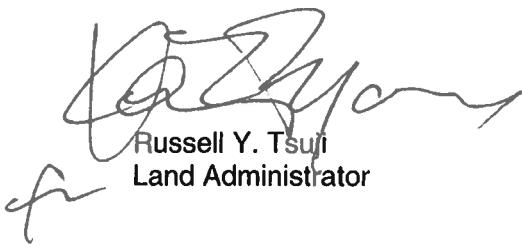
Dear Mr. Terry:

**SUBJECT:** Early Consultation for **Hilo Medical Center Oncology Center Addition** and **Rural & Telehealth Center Unit** located at Hilo, Island of Hawaii;  
TMK: (3) 2-3-031:019 on behalf of Hilo Medical Center

Thank you for the opportunity to review and comment on the subject matter. The Land Division of the Department of Land and Natural Resources (DLNR) distributed or made available a copy of your request pertaining to the subject matter to DLNR's Divisions for their review and comments.

At this time, enclosed are comments from the (a) Engineering Division, (b) Division of Forestry & Wildlife, and (c) Land Division – Hawaii District on the subject matter. Should you have any questions, please feel free to contact Darlene Nakamura at (808) 587-0417 or email: [darlene.k.nakamura@hawaii.gov](mailto:darlene.k.nakamura@hawaii.gov). Thank you.

Sincerely,

  
Russell Y. Tsui  
Land Administrator

Enclosures  
cc: Central Files

DAVID Y. IGE  
GOVERNOR OF HAWAII



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

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

2020 JAN - 2 PM 2:38

DEPT. OF LAND &  
NATURAL RESOURCES  
STATE OF HAWAII

19 DEC 27 2019  
ENGINEERING  
LAND DIVISION

December 26, 2019

**MEMORANDUM**

TO:

**FROM:**

**TO:**  
*Hilo*

Russell Y. Tsuji, Land Administrator *KTS*  
Early Consultation for **Hilo Medical Center Oncology Center Addition and**  
**Rural & Telehealth Center Unit**  
LOCATION: Hilo, Island of Hawaii; TMK: (3) 2-3-031:019  
APPLICANT: Geometrician Associates, LLC on behalf of Hilo Medical Center

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit comments by **January 21, 2020**.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417 or by email at [darlene.k.nakamura@hawaii.gov](mailto:darlene.k.nakamura@hawaii.gov). Thank you.

- ( ) We have no objections.  
( ) We have no comments.  
( ✓ ) Comments are attached.

Signed:

*Cary S. Chang*

Print Name:

*Cary S. Chang, Chief Engineer*

Date:

*1/2/20*

Attachments

cc: Central Files

**DEPARTMENT OF LAND AND NATURAL RESOURCES  
ENGINEERING DIVISION**

**LD/Russell Y. Tsuji**

**Ref: Early Consultation for Hilo Medical Center Oncology Center Addition and  
Rural & Telehealth Center Unit**

**Location: Hilo, Island of Hawaii**

**TMK(s): (3) 2-3-031:019**

**Applicant: Geometrician Associates, LLC on behalf of Hilo Medical Center**

**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). State projects are required to comply with 44CFR regulations as stipulated in Section 60.12. Be advised that 44CFR 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 Hazard Zones are designated on FEMA's Flood Insurance Rate Maps (FIRM), which can be viewed on our Flood Hazard Assessment Tool (FHAT) (<http://gis.hawaiinfip.org/FHAT>).

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

- o Oahu: City and County of Honolulu, Department of Planning and Permitting (808) 768-8098.
- o Hawaii Island: County of Hawaii, Department of Public Works (808) 961-8327.
- o Maui/Molokai/Lanai: County of Maui, Department of Planning (808) 270-7253.
- o Kauai: County of Kauai, Department of Public Works (808) 241-4896.

**The applicant should include water demands and infrastructure required to meet project needs.** Please note that the projects within State lands requiring water service from their local Department/Board of Water Supply system will be required to pay a resource development charge, in addition to Water Facilities Charges for transmission and daily storage.

**The applicant is required to provide water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update projections.**

Signed:

  
CARTY S. CHANG, CHIEF ENGINEER

Date:

1/1/20

DAVID Y. IGE  
GOVERNOR OF HAWAII



2425  
SUSANNE D. CASE  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE  
MANAGEMENT

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

December 26, 2019

**MEMORANDUM**

*To:*  
*From:*

**DLNR Agencies:**

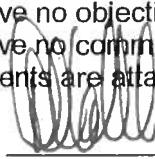
- Div. of Aquatic Resources  
 Div. of Boating & Ocean Recreation  
 Engineering Division  
 Div. of Forestry & Wildlife  
 Div. of State Parks  
 Commission on Water Resource Management  
 Office of Conservation & Coastal Lands  
 Land Division – Hawaii District  
 Historic Preservation (via email: [DLNR.Intake.SHPD@hawaii.gov](mailto:DLNR.Intake.SHPD@hawaii.gov))

~~FROM: TO:~~ *fr* Russell Y. Tsuji, Land Administrator *KL*  
**SUBJECT:** Early Consultation for **Hilo Medical Center Oncology Center Addition and**  
**Rural & Telehealth Center Unit**  
**LOCATION:** Hilo, Island of Hawaii; TMK: (3) 2-3-031:019  
**APPLICANT:** Geometrician Associates, LLC on behalf of Hilo Medical Center

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit comments by **January 21, 2020**.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417 or by email at [darlene.k.nakamura@hawaii.gov](mailto:darlene.k.nakamura@hawaii.gov). Thank you.

- () We have no objections.  
() We have no comments.  
() Comments are attached.

Signed: 

Print Name: **DAVID G. SMITH, Administrator**

Date: **1/2/19**

Attachments

cc: Central Files

DAVID Y. IGE  
GOVERNOR OF HAWAII



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

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

December 26, 2019

**MEMORANDUM**

TO:

**DLNR Agencies:**

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division
- Div. of Forestry & Wildlife
- Div. of State Parks
- Commission on Water Resource Management
- Office of Conservation & Coastal Lands
- Land Division – Hawaii District
- Historic Preservation (via email: [DLNR.Intake.SHPD@hawaii.gov](mailto:DLNR.Intake.SHPD@hawaii.gov))

FROM:

Russell Y. Tsuji, Land Administrator

SUBJECT: Early Consultation for Hilo Medical Center Oncology Center Addition and Rural & Telehealth Center Unit

LOCATION: Hilo, Island of Hawaii; TMK: (3) 2-3-031:019

APPLICANT: Geometrician Associates, LLC on behalf of Hilo Medical Center

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit comments by January 21, 2020.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417 or by email at [darlene.k.nakamura@hawaii.gov](mailto:darlene.k.nakamura@hawaii.gov). Thank you.

- () We have no objections.  
() We have no comments.  
() Comments are attached.

Signed:

Print Name: GORDON C. HEIT

Date: 1/9/20

Attachments

cc: Central Files

RECEIVED  
LAND DIVISION  
2020 JAN - 9 PM 2:34

2019 DEC 30 A 11:32  
RECEIVED  
LAND DIVISION  
HILLO, HAWAII

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# **ENVIRONMENTAL ASSESSMENT**

**Hilo Medical Center Hawaii Pacific Oncology Center Addition  
And Rural & Telehealth Center Unit**

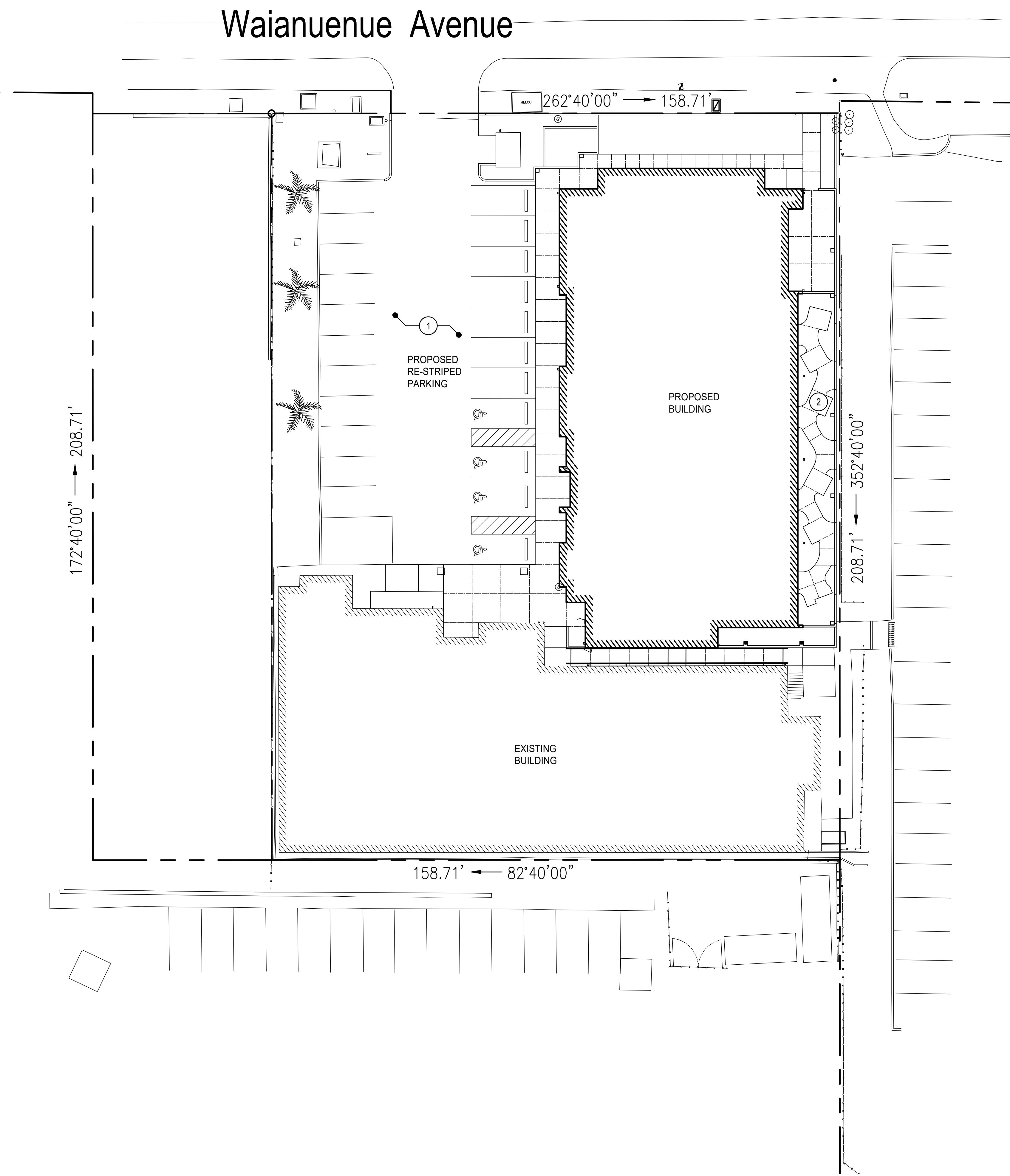
## **APPENDIX 2 Site Plans**

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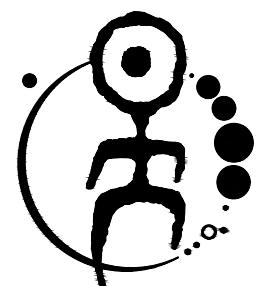
1 EXISTING - NEW SITE PLAN

SCALE: 1/16"=1'-0"

**KEYNOTES:**

① SCD

② SEE LANDSCAPE DWG



**FLEMING &  
Associates, LLC**  
557 MANONO STREET  
HILO, HAWAII



LICENSE EXP. DATE: 4/30/2020  
THIS DRAWING WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONTROL. IT WILL BE UNDER MY OBSERVATION AND CONTROL FOR A PERIOD OF TIME AS PROVIDED IN CHAPTER 16-115 OF THE HAWAII ADMINISTRATIVE CODE. I AM A LICENSED PROFESSIONAL COMMERCIAL AND CONSUMER APPLIED ELECTRICAL ENGINEERS, ARCHITECTS, SURVEYORS, AND LANDSCAPE ARCHITECTS.

**CONSULTANT:**

**HILO MEDICAL CENTER  
HILO RURAL HEALTH & TELEHEALTH CENTER**  
1285 WAIANUENUE AVE.  
HILO, HAWAII 96720  
(3) 2-3331-019

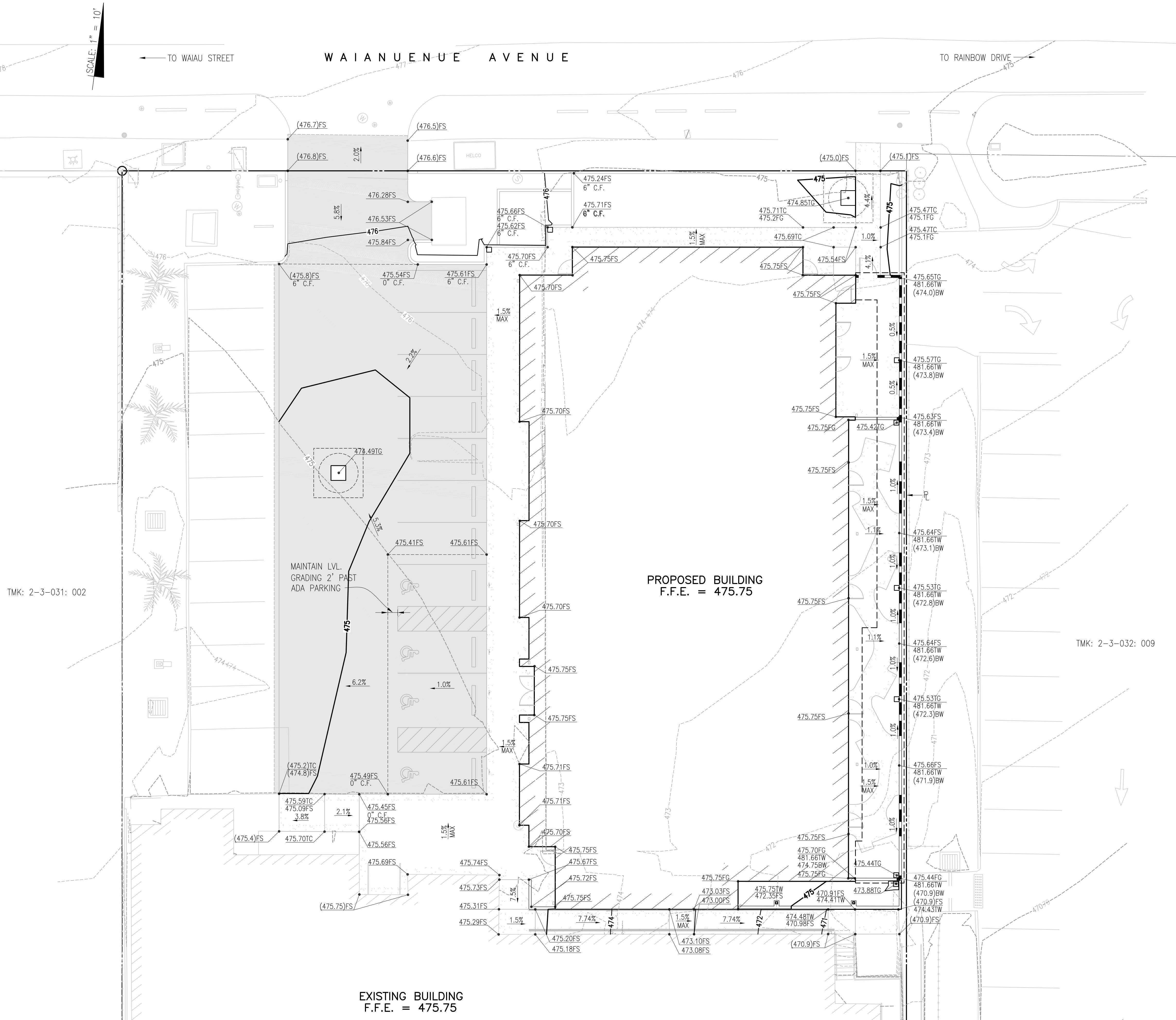
**REVISIONS:**

PROJECT NO: 18031.00  
PROJECT ARCH: SF  
PROJECT PLANS: KH, JAP

**SHEET CONTENTS:  
EXISTING + NEW  
SITE PLAN**

DATE: NOV 2019

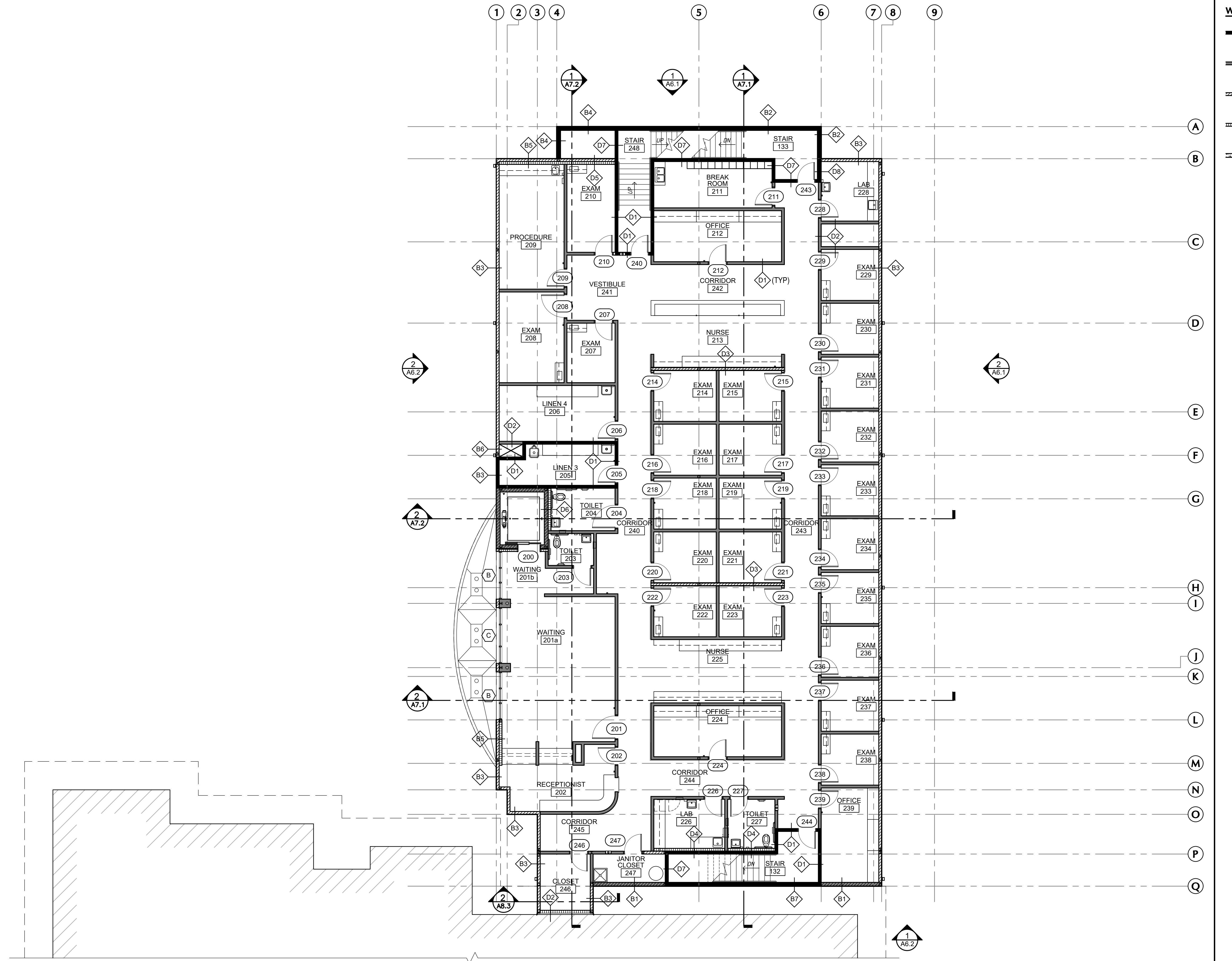
**SHEET:  
A2.1.2**





1 2ND FLOOR LEVEL - FLOOR PLAN

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



WALL LEGEND:	
1-HOUR FIRE-RATED WALL	
METAL FRAMED PARTITION	
METAL FRAMING W/ "SURE-BOARD"	
METAL FRAMED FURRING	
8' CONCRETE WALL	



LICENSE EXP. DATE: 4/30/2020  
THIS DRAWING WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONTROL. IT WILL BE UNDER MY OBSERVATION, DURING THE TIME PERIOD STATED IN CHAPTER 16-115 OF THE HAWAII ADMINISTRATIVE CODE, FOR THE PURPOSE OF COMMERCE AND CONSUMER AFFAIRS, ENGINEERS, ARCHITECTS, SURVEYORS, AND LANDSCAPE ARCHITECTS.

CONSULTANT:

## Hilo Medical Center Hilo Rural Health & TeleHealth Center

1285 WAIANUEA AVE.  
HILO, HAWAII 96720  
(3) 2-3331-019

REVISIONS:

PROJECT NO: 18031.00  
PROJECT ARCH: SF  
PROJECT PLANS: KH, JAP

SHEET CONTENTS:  
2ND FLOOR LEVEL  
FLOOR PLAN

DATE: NOV 2019

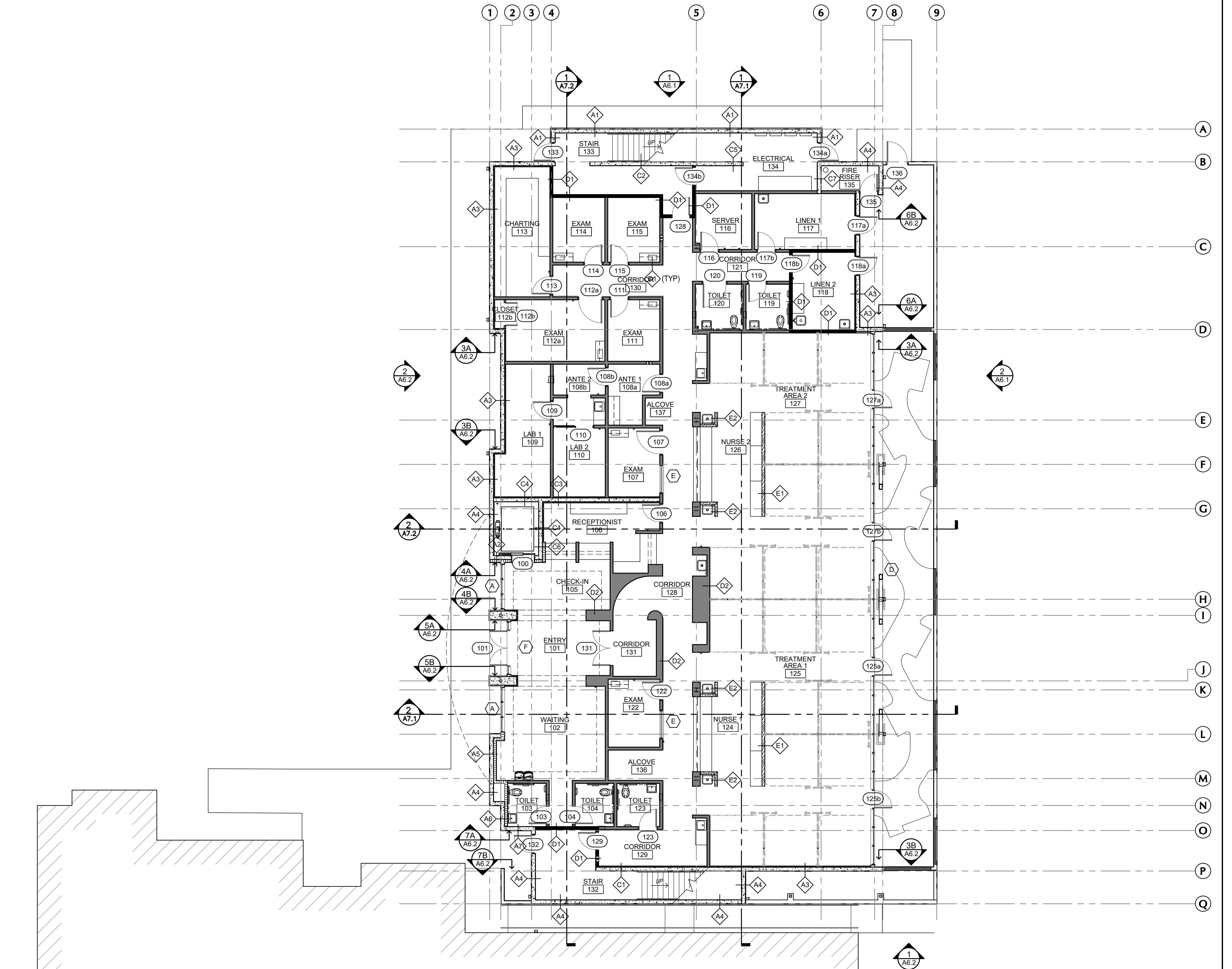
SCALE: 0 4' 8'  
SCALE IN FEET

A4.1.1



1 1ST FLOOR LEVEL - FLOOR PLAN

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



WALL LEGEND:	
1-HOUR FIRE-RATED WALL	
METAL FRAMED PARTITION	
METAL FRAMING W/ "SURE-BOARD"	
METAL FRAMED FURRING	
8' CONCRETE WALL	



FLEMING &  
Associates, LLC  
557 MANONO STREET  
HILO, HAWAII



LICENSE EXP. DATE: 4/30/2020  
THIS DRAWING WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONTROL. IT WILL BE UNDER MY OBSERVATION, DURING THE TIME PERIOD STATED IN CHAPTER 16-115 OF THE HAWAII ADMINISTRATIVE CODE, FOR THE PURPOSES OF COMMERCE AND CONSUMER AFFAIRS, ENGINEERS, ARCHITECTS, SURVEYORS, AND LANDSCAPE ARCHITECTS.

CONSULTANT:

HILO MEDICAL CENTER  
HILO RURAL HEALTH & TELEHEALTH CENTER  
1285 WAIANUEA AVE.  
HILO, HAWAII 96720  
(3) 2-3331-019

REVISIONS:

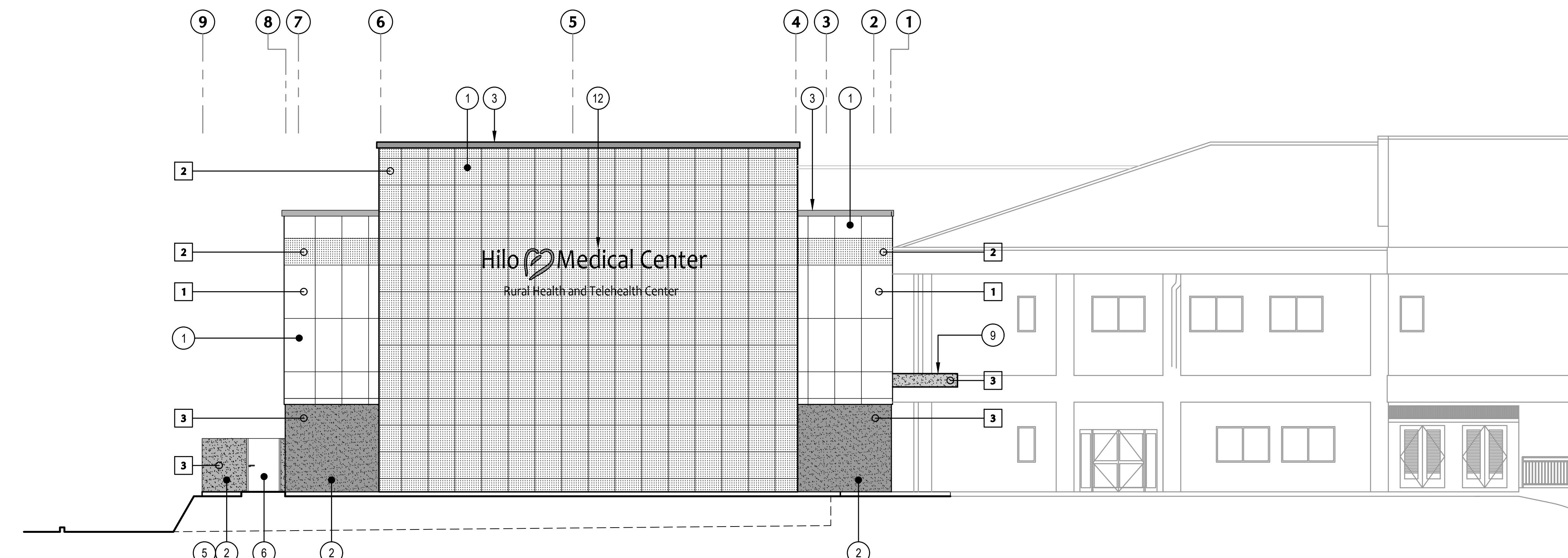
PROJECT NO: 18031.00  
PROJECT ARCH: SF  
PROJECT PLANS: KH, JAP

SHEET CONTENTS:  
1ST FLOOR LEVEL  
FLOOR PLAN

DATE: NOV 2019

1 A3.1.1  
SCALE IN FEET

0 4' 8'  
SCALE IN FEET



1 EXTERIOR ELEVATION - NORTH

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

0 4' 8'  
SCALE IN FEET

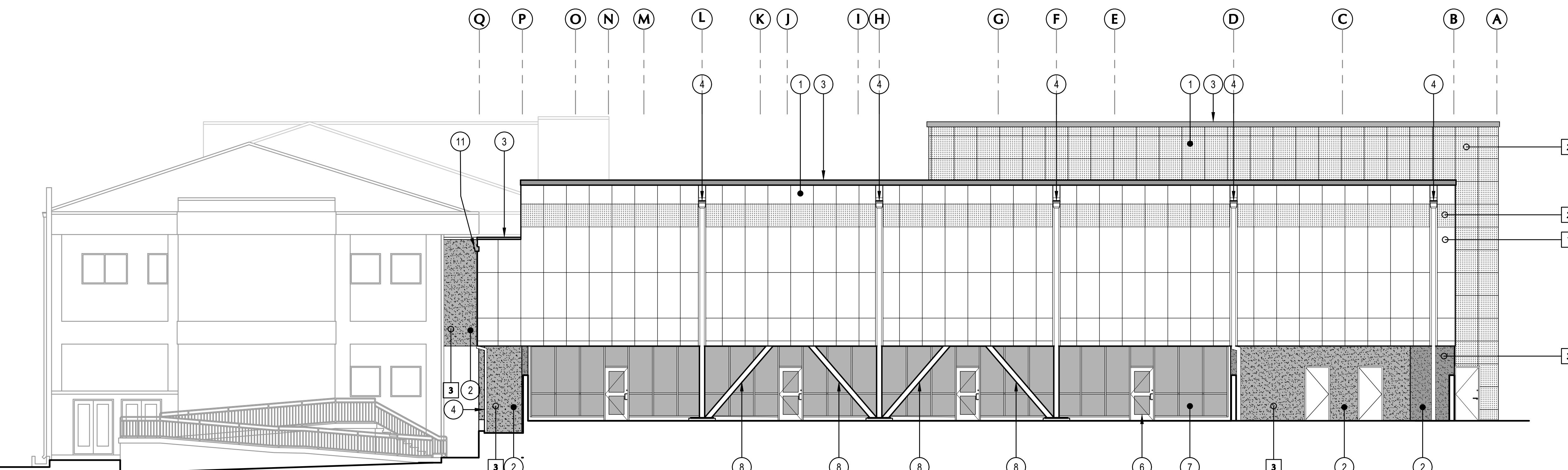
**KEYNOTES:**

- (1) METAL PANEL
- (2) PLASTER
- (3) METAL COPING
- (4) DOWNSPOUT
- (5) LOW CONC WALL
- (6) DOOR, SEE SCHED
- (7) WINDOW, SEE SCHED
- (8) STRUCTURAL BRACING, SSD
- (9) CANOPY
- (10) HANDRAIL, SCD
- (11) PRE-FIN METAL GUTTER
- (12) SIGN

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**CONSULTANT:****HILo MEDICAL CENTER**

1285 WAIANUEA AVE.  
HILO, HAWAII 96720  
(3) 2-331-019

**GENERAL NOTES:**

1. SOME KEYNOTES ON THIS LIST MAY NOT BE ON THIS SHEET.

**REVISIONS:**

PROJECT NO: 18031.00  
PROJECT ARCH: SF  
PROJECT PLANS: KH, JAP

**FINISH LEGEND**

ID	DESCRIPTION
[1]	"CENTRIA" 994 COLONIAL WHITE
[2]	"CENTRIA" 9932 HARTFORD GREEN
[3]	"DAVIS COLORS" PEWTER

**DATE:**

NOV 2019

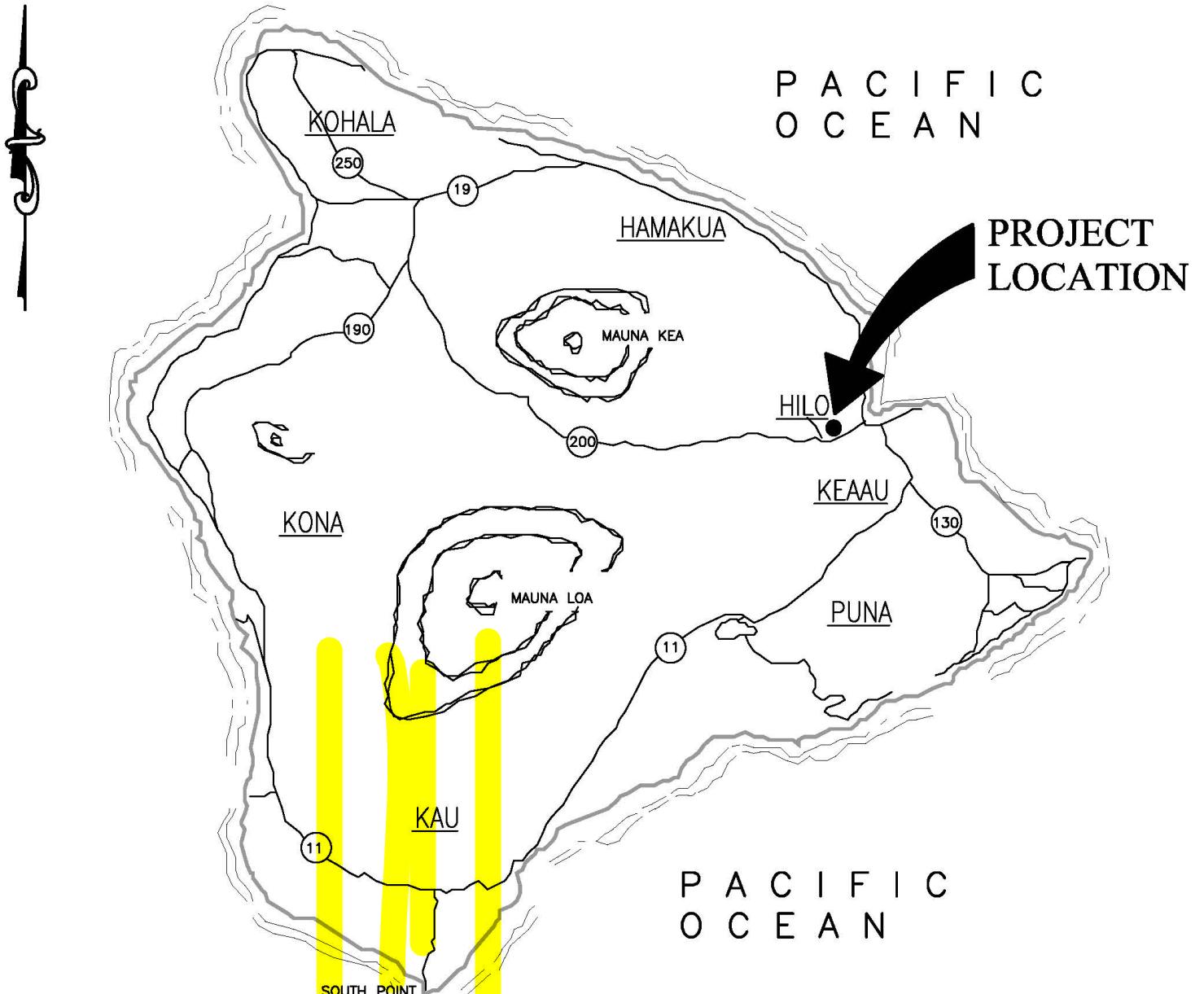
**SHEET:**

A6.1

2 EXTERIOR ELEVATION - EAST

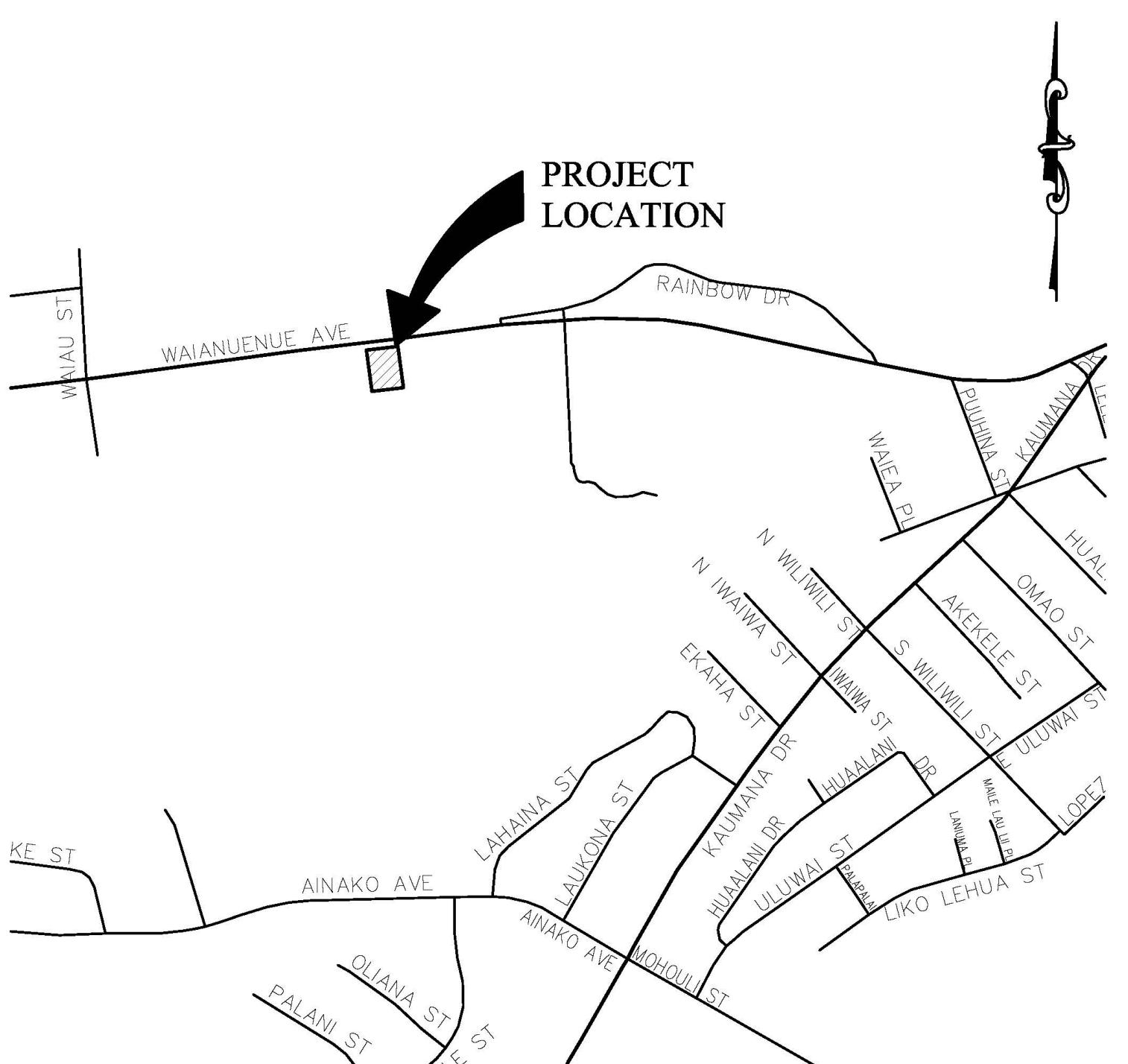
SCALE: 1/8" = 1'-0"

0 4' 8'  
SCALE IN FEET



BIG ISLAND MAP (ISLAND OF HAWAII)

SCALE: NOT TO SCALE



VICINITY MAP

SCALE: NOT TO SCALE

APPROVALS

DIRECTOR DATE  
DEPARTMENT OF PUBLIC WORKS  
COUNTY OF HAWAII

DIRECTOR, DEPT. OF ENVIRONMENTAL MANAGEMENT DATE  
COUNTY OF HAWAII

MANAGER-CHIEF ENGINEER DATE  
DEPARTMENT OF WATER SUPPLY  
COUNTY OF HAWAII

**CIVIL GENERAL NOTES**GENERAL CONSTRUCTION NOTES

- All work shall be done in accordance with the "Standard Details for Public Works Construction", dated May 2013, "Standard Specifications for Public Works Construction", dated September 1986, as amended, of the Department of Public Works, County of Hawaii, the "Hawaii Standard Specification for Road and Bridge Construction", Department of Transportation, Highways Division, 2005, and AASHTO LRFD Bridge Construction Specifications, 3rd Edition with 2010 Interim Revisions (AASHTO Construction Specifications), unless indicated otherwise in the plans, these notes, or the special provisions. In the event of conflicting provisions in the AASHTO Construction Specifications and the State Standard Specifications, the State Standard Specifications shall apply.
- The contractor shall verify the location of all existing utilities, whether shown on the plan or not, and shall be responsible for the repair or replacement of same in the event of damages due to his construction practices. The contractor shall coordinate his work with the respective utility companies.
- The contractor shall maintain vehicular and pedestrian access to existing facilities at all times and shall schedule and prosecute his work in such a manner as to avoid interruption of normal activities at the existing facilities. The contractor shall provide early notification and obtain approval for any anticipated interruptions. Contractor shall submit a construction phasing plan for approval prior to beginning construction. Temporary safe pedestrian passageways around or through a construction site shall comply with ADAAG Sections 206.1 and 402.1.
- The contractor shall provide and install all traffic control devices in conformance with the current version of the "Manual of Uniform Traffic Control Devices for Streets and Highways", and to the satisfaction of the engineer.
- Except during actual working hours, all signs which do not pertain to the construction activity, such as "Men Working" and "Flagman Ahead" shall be covered or laid down. However all signs necessary for the safety of the public shall be maintained.
- No construction equipment shall be parked within the road right-of-way in such a manner that the equipment will obstruct the normal movement and sight distance of the driving motorist, except during actual working hours.
- All existing pavements, walks, utilities, and other facilities whether shown on the plans or not, which are damaged by the contractor shall be reconstructed or replaced by the contractor at his own expense to the original undamaged condition.
- No trenching shall be left open for more than five (5) working days. Contractor shall properly barricade all open trenches during all phases of construction.
- Existing conditions are shown to the best of our knowledge. Discrepancies shall be promptly reported to the owner and be resolved before proceeding with the work.
- Prior to commencement of construction, the contractor shall verify the locations of all utilities, which may be affected by his work. Interference with the structure shall be promptly reported to the owner and be resolved before proceeding with the work.
- Should a discrepancy occur on the drawings between any project special notes/ special details, and the typical specs/typical details, said special notes/special details shall take precedence.

ABBREVIATIONS

AB	Aggregate Base Course	Mech	Mechanical
AC	Asphalt Concrete	Min.	Minimum
Arch	Architectural	MJ	Mechanical Joint
CL	Centerline	N	North/Northing
CF	Curb Face	Pav't	Pavement
Conc	Concrete	PCC	Portland Cement Concrete
Cont	Continued/Continuous	PE	Plain End
CRM	Concrete Rubble Masonry	PL	Property Line
DPW	Department of Public Works	PO	Push On
DWS	Department of Water Supply	Reinf.	Reinforcing
Det	Detail	ROW	Right of Way
Diag	Diagonal	O.C.	On Center
Dwy	Driveway	O.D.	Outside Diameter
E	East/Easting	S	Slope
EL	Elevation	S.L.	Service Lateral
Elev	Elevation	Sect	Section
Ex	Existing	Std	Standard
FF	Finished Floor	TBM	Temporary Benchmark
FC	Finished Grade	TC	Top of Curb/Concrete
FL	Flowline	TG	Top of Grate
Flg	Flanged	Thk.	Thick/Thickness
FS	Finished Surface	TOF	Top of Footing
GV	Gate Valve	TOP	Top of Pipe
HDPE	High Density Polyethylene	TW	Top of Wall
ID	Inside Diameter	Typ	Typical
Inv	Invert	U.O.N.	Unless Otherwise Noted
Max	Maximum	WV	Water Valve

GRADING NOTES

- All grading work shall conform to Chapter 10 of the Hawaii County Code. Should a grading permit be required, no work shall commence until the Department of Public Works approves a grading permit.
- The contractor shall remove all silt and debris deposited in drainage facilities, roadways and other areas resulting from his work. The costs incurred for any necessary remedial action by the owner shall be payable by the contractor.
- The contractor, at his own expense, shall keep the project and surrounding areas free from dust nuisances. The work shall be in conformance with the air pollution control rules of the State Department of Health, HAR 11-60.1. Fugitive dust.
- All grading operations shall be performed in conformance with the applicable provisions of the Hawaii Administrative Rules, Title 11, Chapter 55, Water Pollution Control and Chapter 54, Water Quality Standards, and to the Erosion and Sedimentation Control Standards and Guidelines of the Department of Public Works, County of Hawaii.
- The Contractor shall hydro-seed or plant all slopes and exposed areas within 10 days of the grading work being completed. Disturbed areas exposed longer than 10 days shall be hydro-seed.
- The contractor shall inform the Department of Public Works of the locations of the disposal and/or borrow site(s) required for this project when an application for a grading permit is made. The disposal and/or borrow site(s) must also fulfill the requirements of the grading ordinance.
- No grading work shall be done on Saturdays, Sundays and holidays anytime without prior approval from the owner. Grading work on normal working days shall be between the hours of 7:00am to 3:30pm.
- The contractor shall verify all lines, levels, elevations, and improvements indicated on the drawings before any clearing, excavation or construction begins. Any discrepancy shall be immediately brought to the attention of the owner and any change shall be made in accordance with his instruction. Starting of clearing and grubbing operations shall be construed to mean that the contractor agrees that the existing grades and improvements are essentially correct as shown. The contractor shall not be entitled to extra payment if existing grades and improvements are in error after his verification thereof, or if he fails to report the discrepancies before proceeding with any work whether within area affected or not.
- The contractor shall remove all vegetation, organic debris, trash, large boulders, muck/mud and any deleterious materials before the placing of fills on a natural ground surface. The removed materials shall be disposed of off-site in accordance with applicable Hawaii County regulations.
- The exposed ground surfaces shall be proof-rolled with a heavy dozer (D-8 or larger) as a general check for near surface voids, loose pockets, or buried debris.
- Unless otherwise approved by a geotechnical engineer licensed in State of Hawaii, permanent cut slopes in loose clinker, broken rock or rock soil mix shall not be steeper than 2 horizontal to 1 vertical (2H:1V). Cut slopes in ash soil or loosely compacted soil shall be no steeper than 3 horizontal to 1 vertical (3H:1V). Near vertical cut slope in solid rock shall be inspected and approved by the geotechnical engineer.
- Fill slopes shall not be built steeper than 2 horizontal to 1 vertical (2H:1V). The face of all fill slopes shall be overfilled and cut back or continuously compacted with heavy equipment as the slope progresses.
- Existing slope (steeper than 15% grade) shall be benched and keyed prior to placing fill material. Benching shall be level or with a slight negative grade (sloping down toward hillside). Overexcavate a 5' deep by 5' wide minimum continuous key into the existing grade at the toe of proposed slope construction (daylight elevation). New fill slopes shall be over-built in horizontal compacted layers and cut back to the design slope.
- Unless otherwise noted, structural fill and backfill beneath Building Pad and pavement areas and trench backfill material shall be compacted to a minimum of 95% compaction of the Maximum Dry Density per ASTM D1557.
- General fill in areas outside of structural fill shall be compacted to a minimum 90% compaction of the Maximum Dry Density.
- When compaction testing is not specified, compaction of fills and backfill shall be observed and certified by a Geotechnical Engineer / technician or shall be done by making a minimum of eight (8) passes per 8-inch lift with a D-8 dozer or equivalent and until an unyielding surface is achieved.
- Estimated earthwork quantities
  - Total raw cut = 60 C.Y.
  - Total raw fill = 960 C.Y.
  - Total area to be graded = 18,850 sq. ft.
- Notes:
  - The quantities shown are for grading permit purposes only. The contractor shall be responsible to determine the exact quantities for bidding purposes.
  - No adjustment factor is applied to the raw cut/fill quantities.
  - Earthwork quantities shown were taken from existing ground to finish grade.
  - Contractor/bidder shall not use the earthwork quantities shown above for bidding purposes. Regardless of the cut and fill earthwork quantities shown above, the contractor is responsible to import or export all necessary materials to complete the grading work at no additional cost to the owner.

NOTES FOR WORK WITHIN THE COUNTY RIGHT OF WAY

- All work shall be done in accordance with the County of Hawaii, Department of Public Works (DPW) "Standard Specifications for Public Works Construction" dated September 1986 and "Standard Details for Public Works Construction" dated September 1984.
- The contractor shall verify the location of all existing utilities, whether shown on the plan or not, and shall be responsible for the repair or replacement of same in the event of damages due to his construction practices. The contractor shall coordinate his work with the respective utility companies.
- The contractor shall provide and install all traffic control devices in conformance with the current edition of the "Manual of Uniform Traffic Control Devices for Streets and Highways" and as directed by the Department of Public Works.
- The contractor shall notify the Department of Public Works 48 hours before commencement of any utility line work to schedule a field review and secure approval of the proposed utility line location within the County right of way.
- The proposed utility line location shall be laid out in the field prior to the conducting of the field review by the Department of Public Works.
- Field adjustments shall be made as directed by the Department of Public Works prior to the commencement of any utility line work.
- The required permit, under Chapter 22, Article 4, Division 1 of the Hawaii County Code, shall be obtained from the Department of Public Works by the contractor for work within the County right of way.
- The contractor shall provide at least one (1) lane for traffic movement at all times. Two (2) lanes for traffic movement shall be provided between the hours of 3:30pm to 8:00am.
- The existing pavement shall be saw-cut before commencement of the trenching work.
- Any pavement outside the contract zone limits damaged as a result of construction operations shall be restored to its original condition, or better, as directed by the Department of Public Works.
- A temporary cold mix patch shall be applied immediately upon completion of the backfilling operation and shall be maintained by the contractor until a permanent patch is authorized by the Department of Public Works.
- No material, except the trench excavated material, shall be stockpiled closer than six (6) feet from the existing edge of pavement.
- No construction equipment shall be parked within the road right of way in such a manner that the equipment will obstruct the normal movement and sight distance of the driving motorist, except during actual working hours.
- Except during actual working hours, all signs that do not pertain to the construction activity, such as "Men Working" and "Flagman Ahead" shall be covered or laid down. However, all signs necessary for the safety of the public shall be maintained.
- Any pavement markings, structures, and appurtenances (within or outside of the contract zone limits) damaged and/or worn away under the permit shall be repainted or reconstructed as directed by the Department of Public Works.
- No trenching shall be left open for more than five (5) working days.
- Should trenching occur through an existing sidewalk, or should damages occur to the sidewalk as a result of any construction work, the following procedure shall be utilized to repair the sidewalk:
  - All Portland cement concrete to be removed shall be first be cut with a concrete saw that has a diamond or corbarundum abrasive wheel. Those cuts shall be made to a depth equal to at least one fourth of the depth of the slab, or enough as is deemed necessary by the department of public works, to permit breaking out the balance of the concrete without spalling off the exposed edges of the slab left in place.
  - If any concrete block is touched, the whole block shall be removed and later replaced, unless a minor variation is authorized by the DPW or its representative.
  - Any damages to adjacent areas due to settlement or to any other effects whatsoever caused by the construction work shall be properly repaired and corrected.
  - All other incidental work shall be satisfactorily performed to effect the proper restoration of the sidewalk area.
  - Should damage to a sidewalk, curb and/or gutter occur at a location where a curb ramp should exist, or to a driveway that does not meet with the requirements of the Americans with Disabilities Act (ADA), repair work shall include the construction of a curb ramp, or reconstruction of the driveway such that the repair work complies with the ADA and meets with the approval of the Department of Public Works.
- When work interferes with a sidewalk, the applicant shall provide for the safe passage of pedestrians including the disabled around or through the work area.
- No work within the County right-of-way shall be done on Saturdays, Sundays and holidays anytime without prior approval from the Department of Public Works. Right-of-way work on normal working days shall be limited between the hours of 7:00 a.m. to 3:30 p.m.
- The permittee shall maintain, to the satisfaction of the Department of Public Works, the area worked within the government right of way including any repairs to pavement and shoulder damaged as a result of the installation work, for a period of one (1) year from the date of final inspection. The permittee shall undertake repairs expeditiously, whenever directed by the Department of Public Works during the maintenance period.

**HILO MEDICAL CENTER**1285 WAIANUEA AVE.  
HILO, HAWAII 96720  
(3) 23-031019**REVISIONS:**PROJECT NO: 18031.00  
PROJECT ARCH: SF  
PROJECT PLANS: YWF**SHOOT CONTENTS:**

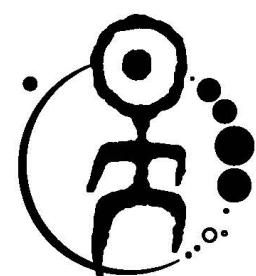
CIVIL NOTES

**DATE:**

OCTOBER 2019

**SHEET:**

C1.1.1

FLEMING &  
Associates, LLC  
557 MANONO STREET  
HILO, HAWAIIYEN WEN FANG  
LICENSED PROFESSIONAL  
ENGINEER  
Exp. 04/20/20  
No. 9361-C  
HAWAII, U.S.A.  
THIS WORK WAS PREPARED  
BY ME OR UNDER MY SUPERVISION,  
CONSTRUCTION OF THIS PROJECT  
WILL BE UNDER MY OBSERVATION.  
  
Signature