

UH Managed lands – Project Proposal

for projects anticipated to be classified as having “Minimal Impact”

Observatory Name

Maunakea Observatories Support Services –and– Office of Maunakea Management

Brief Descriptive Title of Project

Sign Directing Visitors to Toilet facilities in the Maunakea Science Reserve (MKSR)

Project Description

Install one guide (directional) sign for the eight (8) chemical toilets in the Maunakea Science Reserve (MKSR).

Identified Land Use (see HAR § 13-5-22 through 13-5-25)

HAR §13-5-22. P-7 SIGNS (B-1) Signs, including safety signs, danger signs, no trespassing signs, and other information signs.

Identify the existing CDUP this proposal alters or affects, if any

General Lease S-4191, CDUP HA-0537 (road), CDUP HA-0954 (UH2.2m), and CDUP HA-3568 (TMT)

Identify [OEQC exemption](#) per HAR § 11-200, if any

Section §11-200.1-16 Class 3, Item D; and Section §11-200.1-16 Exemption lists. (a), (1) Routine activities and ordinary functions within the jurisdiction or expertise of the agency that by their nature do not have the potential to individually or cumulatively adversely affect the environment more than negligibly and that the agency considers to not rise to the level of requiring chapter 343, HRS, environmental review. Examples of routine activities and ordinary functions may include, among others: routine repair, routine maintenance, purchase of supplies, and continuing administrative activities involving personnel only, nondestructive data collection, installation of routine signs and markers, ...

Tax Map Key(s)

4-4-015:009 – Mauna Kea Science Reserve (por.)

Proposed Commencement Date

01 September 2020

Proposed Completion Date

As soon as possible

Estimated Project Cost

\$100

Total size / area of proposed use

A single sign on a post entailing a post-hole approximately 1 square foot in diameter.

[Project Purpose and Need](#)

A sign is needed to direct public visitors at the Hōkū Ke‘a generator building (which is also sometimes referred to as a sunset viewing area and summit trailhead) to lua which are located approximately 100 yards north at the summit utility building.

Lua Background Information

Toilet facilities are an essential accessory structure for the visiting public. The toilets are pre-fabricated, closed system structures. All waste is removed off the mountain and deposited in the County sanitary sewer system. In response to the increase in visitors over the years, toilets were placed in areas of the MKSR that are frequented by the visiting public. These toilets are accessible 7 days a week, 24 hours a day, for all visitors to Maunakea, free of charge.

General Lease S-4191 (1968) reserves hunting and recreation rights for the State of Hawaii, Department of Land and Natural Resources. This same lease covenants the University with maintenance, including keeping the premise in clean, sanitary and orderly condition. In order to balance these requirements, toilet facilities are necessary for public visitors. The Office of Maunakea Management recently (summer 2020) reviewed placement of existing toilet facilities and signs to ensure adequate public facilities are available.

Maunakea Observatories Support Services (MKSS) may reduce or increase the number of toilets depending on visitor frequencies and use levels. If additional toilets are added, the Department of Land and Natural Resources will be notified in writing.

[Has professional peer-review occurred](#)

Sign distribution is reviewed periodically, and content and design are reviewed for consistency with the [Maunakea Sign Plan](#) that was approved by the MKMB in 2017. In OMKM’s latest review one sign was identified as needed to direct for those viewing the sunset or hiking the trail to the summit in the vicinity of Hōkū Ke‘a to the location of public toilets.

The distribution and number of toilet facilities has increased over the years. The current number of toilets proposed is sufficient for routine demands with weekly service. During short-term periods of peak use more frequent service is arranged.

[Are there any related ongoing, pending, or planned projects associated with this submission?](#)

Lua in the three MKSR locations (summit ridge, park 3, and park 2) were originally (1980s and 1990s) placed under prior Conservation District Rules (HAR 13-5). These rules allowed placement of structures accessory to existing facilities without a permit and are exempt from HRS Chap 343 requirements (HAR 200-11). The locations, corresponding permits where the lua are accessory, and number of these toilets is summarized below:

A single toilet at Park 2, the lower trailhead for Lake Waiau, has been continuously present for approximately the past decade. Prior to this time lua were present intermittently as road conditions and use levels required (CDUP HA-0537).

Three (3) chemical toilets were included in the (Lake Waiau / Park 3) recreational parking plan submitted on February 1, 2019 for review and approval prior to Thirty Meter Telescope (TMT)

construction, HA-3568. This proposal includes continued use of these 3 toilets as part of the 8 toilets in the MKSR.

Multiple toilets have been present continuously since the late 1990s adjacent to summit ridge observatories, providing services to sunset viewers and other visitors (CDUP HA-0954).

Existing Conditions at Project Site(s)

Geology, Climate, & Hazards

The locations are at approximately 12,800 feet (Park 2), 13,250 feet (Park 3), and 13,750 feet (summit ridge). All sites are in an arid climate with occasional snow. They are located on eroded, post-shield building stage cinder cones surrounded by glaciated lava flow geology. The sign will be added within an existing disturbed or developed gravel/cinder area.

Flora, Fauna, Ecology, Water Resources

No native flora inhabits the existing parking and gathering areas affected by the proposed project. Regular invasive species monitoring of the project sites is conducted by OMKM. No surface water resources are present.

Cultural Resources

All 3 toilet, and sign, sites are within the Maunakea Summit Region Historic District (SIHP#26869) and the summit ridge is within the Kukahau'ula Traditional Cultural Property (SIHP#21438). No physical (i.e., archaeological) historic properties are within 200 feet of the proposed sign location. Contemporary cultural practices occur across the affected landscape.

Recreation

The Park 2 and Park 3 toilets are located at trailheads for those hiking the Humu'ula trail or going to Lake Waiau. The sign for toilets at the summit ridge are available for those at the summit, such as with sunset viewing, for snowplay, cultural practices, or other purposes.

Built Infrastructure

The Park 2 location is along the periphery of the paved parking area. Park 2 is also the lower parking area for hikers visiting Lake Waiau or exiting the Humu'ula trail before reaching the summit region. One lua is currently located in this site.

The Park 3 / Batch Plan location is along the boundary of the unpaved area currently used for recreational parking. Park 3 is also the upper parking area for hikers visiting Lake Waiau or exiting the Humu'ula trail near the summit of Maunakea. Two lua are currently located in this site.

The sign for the summit ridge location would be immediately adjacent to the Hōkū Ke'a generator building (now used for storage). The lua are located outside of what now is the summit lunchroom building used by all observatory staff. Minimal conflict, between observatory workers present for lunch on weekdays and public visitors, is anticipated. This minimal conflict is due to the fact that the majority of public visitors are present either around sunrise or at sunset. Existing summit ridge lua would be consolidated to this site.

Landscaping & Visual Conditions

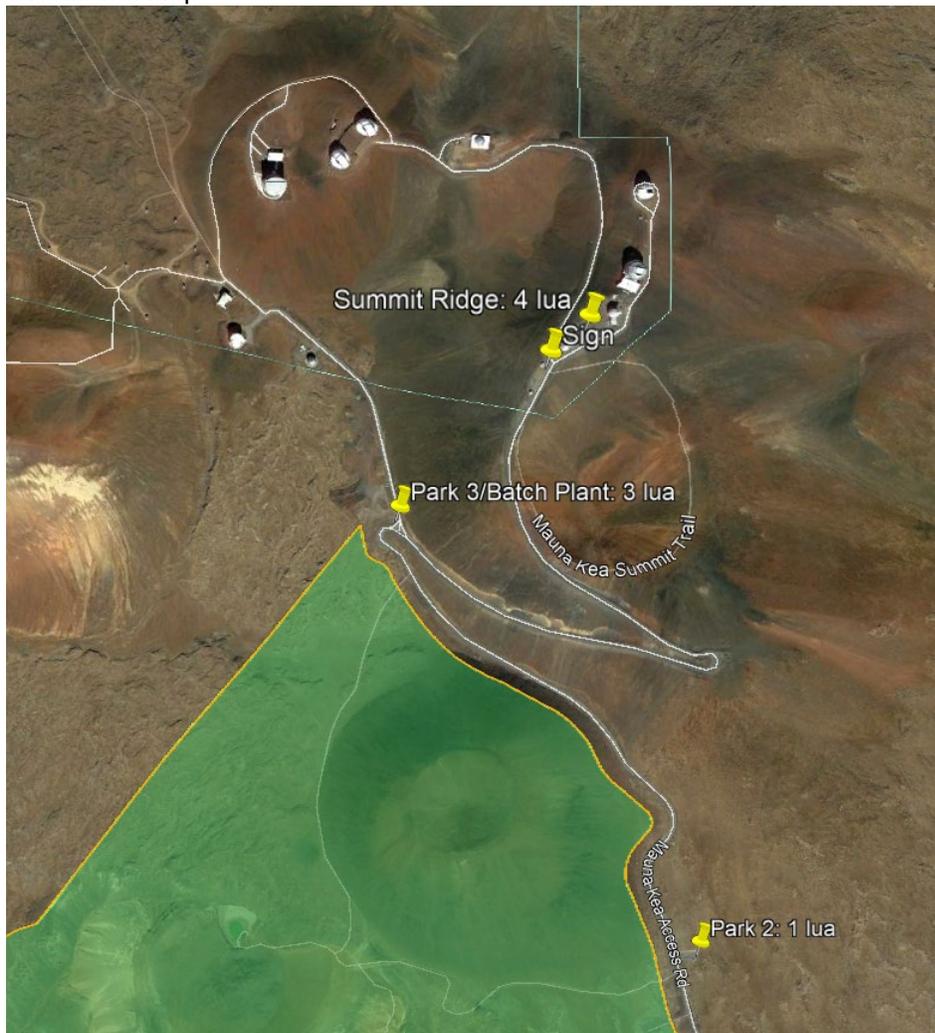
The sign would be placed on previously disturbed, compacted, and graded cinder substrate.

Description of the Project

Location

Only the summit ridge location warrants the addition of a stand-alone sign. It will be added approximately 100 yards south of the 4 summit ridge lua as shown below. For overall context all three (3) lua locations are also included on the overall site map. All three locations are directly accessible to foot and vehicle traffic, including by vehicles which service the lua.

Overall site map



Park 2 detail location and photograph. One lua deployed at this location. No additional sign required.



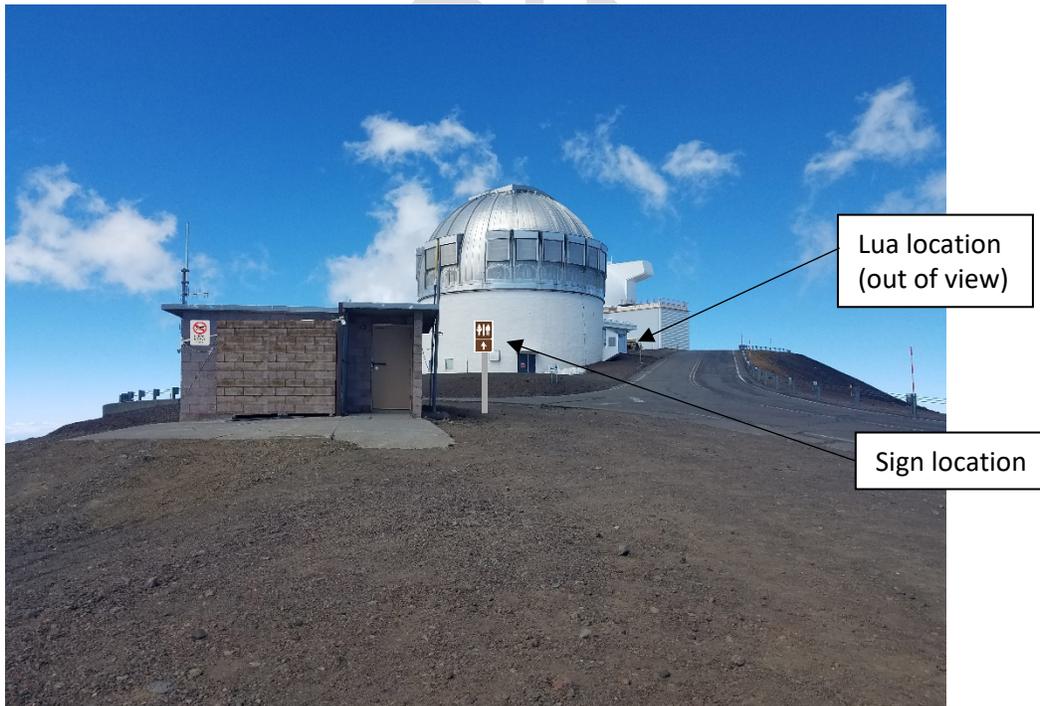
Park 3 / Batch Plant detail location and photograph. Up to 3 lua deployed at this location. No additional sign required.



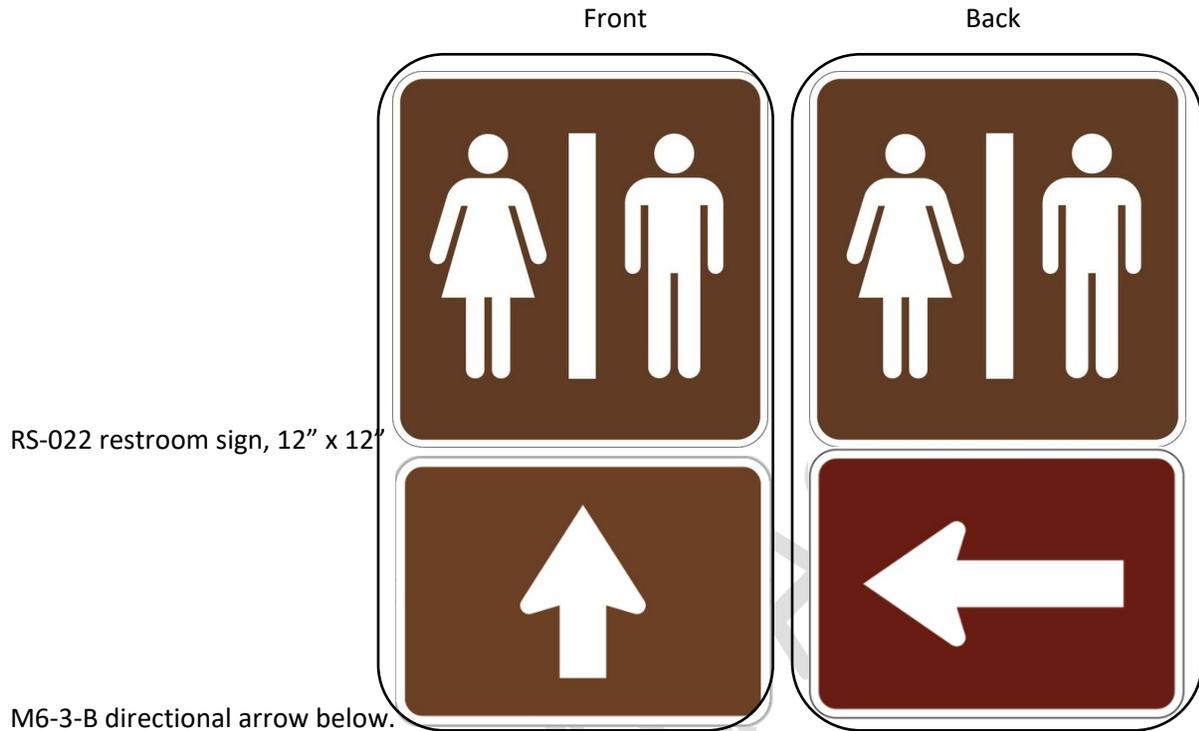
Summit Ridge Detail location. Up to 4 lua deployed at this location. A sign is warranted at the location identified below.



Photos of *approximate* sign and lua location, with view towards lua.



Proposed sign configuration; consistent with the Maunakea Sign Plan and “Sign and Poster Guidelines for the Forest Service” (EM7100-15, 2013) is illustrated below, in brown on a freestanding metal pole.



Sign would be mounted on a metal post, the top of which is no more than 8 ft above level grade.

The destination for those needing to use the lua associated with the proposed sign are shown below.

Two lua along east-side retaining wall.

Two lua along the south-facing building wall.



Description of the process of completing the project

A sign post base would be placed in the cinder, at least 2 ft from the edge of pavement. The break-away post will be mounted to the base and the signs attached to the post. The placement

of the base would occur in previously disturbed fill. The post and sign would be added after the base was stable and secure.

Lua are serviced (emptied and fluid refreshed) weekly, more frequently if needed. Maunakea Support Services (MKSS) staff clean and resupply the facilities as necessary. Service more frequent than weekly is, on average, required 5-6 times per year with heavy snow or major holidays. The door latches have been modified to minimize the potential for blowing up and either filling with snow or having the toilet paper blow out.

Who will do the work?

Installation of the sign, base, and post will occur by Maunakea Support Services. Placement, supply, and service of lua is done by a vendor under contract with MKSS. Lua and service vehicles are subject to criteria of the Maunakea Invasive Species Management Plan.

Equipment & Transportation

The sign will be inspected regularly as stipulated by the Maunakea Sign Plan. A service truck is used to deliver or replace lua as well as service them. Visits are weekly, unless needed more frequently due to increased demand.

Measures to protect the environment and/or mitigate impacts

Impacts

Placement of the sign base will entail digging in previously disturbed fill. No other ground disturbance is anticipated. The sign will be placed near an existing building to minimize visual impact, yet still provide clear guidance to visitors.

Toilets provide an outlet for visitors needing to relieve themselves in safe and sanitary manner; thus minimizing impacts to the environment. The exterior of lua located are painted brown to help them blend in with the terrain. Doors are outfitted with extra springs to help keep the doors shut during high winds.

Protective Measures

- All project participants must attend a Maunakea orientation prior to participating in field work.
- Use of 4-wheel drive vehicles, with 4-wheel drive engaged, when traveling above Halepōhaku is required.
- Allow OMKM Rangers to visit and monitor activities.
- Comply with all actions and measures described in the proposal, including (community) benefits, CMP compliance list, and mitigation measures.
- All improvements shall be designed and installed to withstand the severe weather conditions on the mountain.
- Remove and properly dispose of all waste material. All perishable items including food, food wrappers and containers, etc. shall be removed from the site at the end of each day and properly disposed.
- Use of lighting from sunset to sunrise is prohibited unless otherwise stated in the project proposal and approved.

- Employ invasive species prevention best practices, including inspections of materials by a DLNR-approved biologist, as identified in the Maunakea Invasive Species Management Plan prior to entering UH managed lands. Every inspection request submitted to OMKM shall include correspondence with the observatory representative(s) identified in the initial notification. Inspections shall not occur on UH managed lands on Maunakea, at State or County parks, along public roadsides, or on Department of Hawaiian Home Lands.
- Nēnē (*Branta sandvicensis*) may be present. If a nēnē appears within 100 feet (30.5 meters) of ongoing work, all activity shall be temporarily suspended until the animal leaves the area of its own accord. Feeding of nēnē is prohibited.
- Identify and comply with other permit requirements, such as County of Hawaii building permits or Department of Land & Natural Resources (see both any applicable DLNR permit and HAR §13-5-42 Standard conditions).

Compliance with Lease, Sublease, or Comprehensive Management Plan (CMP)

The Maunakea Sign Plan was reviewed and requirements followed in preparation of this proposal. The Public Access Plan, a sub-plan to the 2009 Comprehensive Management Plan (CMP), identifies the adding visitor support facilities such as restrooms. This project does not make irreversible commitments, but provides direction to public restrooms.

CMP management action IM-10 “Evaluate need for additional public restroom facilities in the summit region and at Halepōhaku, and install close-contained zero waste systems if necessary” is addressed on an adaptive basis with this proposal.

Identify other required or associated permits

No other permit requirements are anticipated.

Five Year Outlook

This project was not included in any Five-Year Outlook.

Community Benefits

Benefits to other Maunakea entities and/or global astronomy community

The sign directs visitors to the location of public toilets on the summit ridge. The closest public restroom other than those found in the MKSR are located at the 9,200 ft elevation, a 30 minute drive.

Benefits to the Hawaii Island community

See above

Will data, publications, or other products be free and available to the public?

Not applicable

DLNR Evaluation Criteria

After approval by the Maunakea Management Board, the Department of Land & Natural Resources or Board of Land & Natural Resources will evaluate the merits and approve the project based on the following eight criteria (§13-5-30). See <http://dlnr.hawaii.gov/occl/files/2013/08/13-5-2013.pdf>

1. The purpose of the Conservation District is to conserve, protect, and preserve the important natural and cultural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare. (ref §13-5-1) How is the proposed land use consistent with the purpose of the conservation district?

The proposed use is an accessory to the existing built infrastructure. Roadside and trailhead toilets are a typical feature at such sites and protect natural and cultural resources by providing all visitors a safe and sanitary site to relieve oneself.

2. How is the proposed use consistent with the objectives of the Resource subzone of the land on which the land use will occur? (§13-5-13 The objective of this subzone is to ensure, with proper management, the sustainable use of the natural resources of those areas. This subzone shall encompass: lands necessary for providing future parkland and lands presently used for national, state, county, or private parks. Land suitable for outdoor recreational uses such as hunting, fishing, hiking, camping, and picnicking. [And other lands not applicable to Maunakea.]

The sign directing visitors to toilets provides a necessary resource to hikers, sightseers, cultural practitioners, and other visitors. As no ground disturbance is involved and the toilets prevent discharge into the environment, they maintain existing lands in a sustainable condition.

3. Describe how the proposed land use complies with the provisions and guidelines contained in chapter 205A, HRS, entitled "Coastal Zone Management".

The sign directing visitors to toilets is a resource necessary for recreational visitors to the site. The site is above 12,000 ft elevation near the summit of Maunakea and not in the vicinity of the coastal zone.

4. Describe how the proposed land use will not cause substantial adverse impact to existing natural resources within the surrounding area, community or region.

The sign is relatively small, 12" by 12" and not obstruct view planes. It will be mounted on a metal pole about 8' above surface grade on previously disturbed ground, and will have minimal ground disturbance.

5. Describe how the proposed land use, including buildings, structures and facilities, is compatible with the locality and surrounding areas, appropriate to the physical conditions and capabilities of the specific parcel or parcels.

The sign directing visitors to toilets will be located adjacent to existing building, road, and parking lot in previously developed areas.

6. Describe how the existing physical and environmental aspects of the land, such as natural beauty and open space characteristics, will be preserved or improved upon.

The sign directing visitors to toilets prevents the incremental creep of visible human impact on the environment. By consolidating them with other built infrastructure, open space is preserved.

7. If applicable, describe how subdivision of land will not be utilized to increase the intensity of land uses in the Conservation District.

No subdivision of land is involved.

8. Describe how the proposed land use will not be materially detrimental to the public health, safety and welfare.

The sign will direct the public to closed system public restrooms that are serviced twice weekly with effluent disposed into the County sewage system.

FOR BOARD ACTION