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EXECUTIVE CHAMBERS

HONOLULU

DAVID Y. IGE
GOVERNOR

Oct 19, 2019

William Aila, Interim Chair
Department of Hawaiian Home Lands
State of Hawai'i
91-5420 Kapolei Pkwy
Kapolei, Hawai'i 96707

Dear Chair Aila,

Subject: Acceptance of the DHHL Pūlehunui Regional Infrastructure MP
Final Environmental Impact Statement

I hereby accept the Final Environmental Impact Statement for the Department of Hawaiian Home Lands (DHHL) Pūlehunui Regional Infrastructure MP, as satisfactory fulfillment of the requirements of Chapter 343, Hawai'i Revised Statutes. The economic, social, cultural, and environmental impacts that will likely occur, should this project be implemented, are adequately described in the statement. The analysis, together with the comments made by reviewers, provide useful information to policy makers and the public.

My acceptance of the statement is an affirmation of the adequacy of that statement under the applicable laws. I find that the mitigation measures proposed in the environmental impact statement will minimize the negative impacts of the project. Further, I find the discussion of unresolved issues and potential for subsequent environmental review to be sufficient.

In implementing this project, I direct the DHHL and its agent to perform these or comparable mitigation measures at the discretion of the relevant agencies. The mitigation measures identified in the environmental impact statement are summarized in the attached document.

With warmest regards,

David Y. Ige
Governor, State of Hawai'i

Attachment

c: Office of Environmental Quality Control

20-109

AGENCY PUBLICATION FORM

Project Name:	Pūlehunui Regional Infrastructure Master Plan
Project Short Name:	Pūlehunui Regional Infrastructure Master Plan
HRS §343-5 Trigger(s):	1) Propose the use of state or county lands or the use of state or county funds and 9) Propose any wastewater treatment unit...
Island(s):	Maui
Judicial District(s):	Wailuku
TMK(s):	(2) 3-8-008:001 (por.), 008, 020, 034, 035, 036, 037 (por.), 038
Permit(s)/Approval(s):	NPDES, Community Noise Permit (if applicable) Surface Water Use Permit Permit to Perform Work within a State ROW, Use and Occupancy Agreement, Permitted Access Grading/Subdivision/Building/Electrical permits Flood Development Permit (if applicable) (Refer to EIS for further discussion.)
Proposing/Determining Agency:	Department of Hawaiian Home Lands
<i>Contact Name, Email, Telephone, Address</i>	Attn: Julie Ann Cachola P.O. Box 1879 Honolulu, HI 96805 julie-ann.cachola@hawaii.gov (808) 620-9500
Accepting Authority:	Governor of the State of Hawai'i
<i>Contact Name, Email, Telephone, Address</i>	The Honorable David Y. Ige Executive Chambers State Capitol Honolulu, HI 96813 https://governor.hawaii.gov/ (808) 586-0034
Consultant:	PBR HAWAII & Associates, Inc.
<i>Contact Name, Email, Telephone, Address</i>	Attn: Selena Pang 1001 Bishop St., Suite 650 Honolulu, HI 96813 spang@pbrhawaii.com (808) 521-5631

Status (select one)
 DEA-AFNSI

 FEA-FONSI
Submittal Requirements

Submit 1) the proposing agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEA, and 4) a searchable PDF of the DEA; a 30-day comment period follows from the date of publication in the Notice.

Submit 1) the proposing agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; no comment period follows from publication in the Notice.

- FEA-EISPN Submit 1) the proposing agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; a 30-day comment period follows from the date of publication in the Notice.
- Act 172-12 EISPN ("Direct to EIS") Submit 1) the proposing agency notice of determination letter on agency letterhead and 2) this completed OEQC publication form as a Word file; no EA is required and a 30-day comment period follows from the date of publication in the Notice.
- DEIS Submit 1) a transmittal letter to the OEQC and to the accepting authority, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEIS, 4) a searchable PDF of the DEIS, and 5) a searchable PDF of the distribution list; a 45-day comment period follows from the date of publication in the Notice.
- FEIS Submit 1) a transmittal letter to the OEQC and to the accepting authority, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEIS, 4) a searchable PDF of the FEIS, and 5) a searchable PDF of the distribution list; no comment period follows from publication in the Notice.
- FEIS Acceptance Determination The accepting authority simultaneously transmits to both the OEQC and the proposing agency a letter of its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS; no comment period ensues upon publication in the Notice.
- FEIS Statutory Acceptance Timely statutory acceptance of the FEIS under Section 343-5(c), HRS, is not applicable to agency actions.
- Supplemental EIS Determination The accepting authority simultaneously transmits its notice to both the proposing agency and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is or is not required; no EA is required and no comment period ensues upon publication in the Notice.
- Withdrawal Identify the specific document(s) to withdraw and explain in the project summary section.
- Other Contact the OEQC if your action is not one of the above items.

Project Summary

Provide a description of the proposed action and purpose and need in 200 words or less.

DHHL is preparing a regional infrastructure master plan analysis for water, wastewater, and key roadways to serve certain State-owned lands located in Pūlehunui, Maui. The Master Plan will include technical studies for DHHL's lands and will incorporate by reference information regarding proposed developments by the Departments of Land and Natural Resources, Accounting and General Services, and Public Safety. The primary purpose is to undertake regional infrastructure master planning on behalf of the four agencies to facilitate the efficient development of these State-owned lands. This approach will facilitate development that is financially & environmentally efficient, maximizing the use of State funds while minimizing environmental impacts. Pursuant to DHHL's mission the secondary, supporting purpose is to further define the programmatic land uses anticipated on DHHL's lands in Pūlehunui in conformance with DHHL's Maui Island Plan, to provide direct and indirect benefits to DHHL Beneficiaries and programs in the form of improved lands and opportunities to pursue revenue generating general leases.

DEPARTMENT OF HAWAIIAN HOME LANDS

Pūlehunui Regional Infrastructure Master Plan Final Environmental Impact Statement

SUMMARY OF MITIGATION MEASURES Attachment to the Governor’s Acceptance

This summary memorializes the mitigation measures proposed and accepted in the Final Environmental Impact Statement (FEIS) for the Pūlehunui Regional Infrastructure Master Plan. Mitigations are summarized in the table is provided below. Refer to the text below and in the FEIS for further details.

Impact	Proposed Mitigation Measures to Avoid, Rectify, or Reduce Impact
Climate	<ul style="list-style-type: none"> • Localized heat island effect mitigated with landscaping and landscape buffers in non-agricultural areas.
Geology & Topography	<ul style="list-style-type: none"> • Design will respect existing topography and minimize extensive cut and fill. • Low-Impact Development Strategies will be considered. • Interagency coordination on grading will be considered.
Natural Hazards	<ul style="list-style-type: none"> • No structures will be built in the area of Pūlehunui South in flood zone AE. • Earthquake and hurricane damage will be mitigated for structures constructed in compliance with the County Building Code.
Soils	<ul style="list-style-type: none"> • Windbreaks and crop rotation will be used to reduce fallow land and exposed soils. • Best Management Practices are proposed for construction activities.
Streams and Surface Water	<ul style="list-style-type: none"> • Low-Impact Development Strategies will be considered. • Develop drainage plan to mitigate existing insufficient capacity. • Best Management Practices are proposed for construction activities. • Adhere to the provisions of Chapters 11-54 and 11-55, HAR. • Water efficiency and conservation measures.
Flora	<ul style="list-style-type: none"> • Embrace the use of native plantings. • Adhere to applicable requirements of §103D-408, HRS.
Fauna	<ul style="list-style-type: none"> • No site clearing should occur between June 1 and September 15 to avoid ‘ōpe‘ape‘a. If site clearing must occur during this time, the DLNR DOFAW will be consulted. • Barbed wire will not be used for fencing. • Examination of any tree tobacco plants will occur during November to April. • DHHL will seek USFWS guidance prior to any site clearing activities. • Nēnē transiting the area will not be bothered or harassed. • Pūlehunui South will utilize appropriate exterior lighting such as hooded lights and avoidance of excessive lighting. Where feasible, outdoor lights at Pūlehunui South will be fully shielded so the bulb can only be seen from below bulb height, and only used when necessary. Nighttime construction will not occur between September 15 and December 15.

Impact	Proposed Mitigation Measures to Avoid, Rectify, or Reduce Impact
	<ul style="list-style-type: none"> • Prospective developer(s) at Pūlehunui North will be encouraged to utilize appropriate exterior lighting such as hooded lights and avoidance of excessive lighting. DHHL will encourage prospective developer(s) to use outdoor lights that are fully shielded so the bulb can only be seen from below bulb height, and only used when necessary. DHHL will advise against nighttime construction between September 15 and December 15. • DHHL will consult DLNR for any disturbance of woody vegetation taller than 15 feet. • USFWS guidance will be sought/ followed prior to site clearing. • Appropriate lighting/shielding will be used at Pūlehunui South to mitigate impact to seabirds. • Proper site drainage will avoid attracting wildlife to the property, to mitigate aircraft strike risk and avoid predation by invasive species. • Specifications will be included with information for developers regarding design and landscaping that does not attract wildlife. • If needed, DHHL will take appropriate measures to ensure the proper mitigation of the potential wildlife hazard and follow FAA Advisory Circular 150/5200-33B guidance. • Embrace the use of native plantings.
Archaeological and Historic Resources	<ul style="list-style-type: none"> • Continue consultation with SHPD. • Comply with all State and County laws and rules regarding the preservation of archaeological and historic sites. • DHHL and future developers will follow recommended strategies to mitigate impacts.
Cultural Resources	<ul style="list-style-type: none"> • DHHL will employ mitigations recommended by the Cultural Impact Assessment to honor traditional landscape and protect cultural resources, to the extent practicable. <ul style="list-style-type: none"> ○ Use traditional place names when possible in DHHL Project Area design, signage, and related materials. ○ Minimize coastal resource degradation. Monitor and record rain and weather patterns. ○ Increase awareness of the connectivity between the mauka and makai weather patterns of Kula Moku. ○ Farm planning should consider the use of appropriate native ground cover in non-cultivated areas. ○ Foster and encourage a mālama ‘āina land stewardship ethic that extends beyond the physical boundaries of DHHL’s lands. ○ Prior to the initiation of land development, appropriate blessings should be carried out as the central isthmus and lower region of Pūlehunui is known as a place in which the spirits reside. ○ For the contemplated use of off-site water sources: continued consultation with Native Hawaiian communities and other stakeholders that may hold appurtenant and riparian rights within the originating

Impact	Proposed Mitigation Measures to Avoid, Rectify, or Reduce Impact
	<ul style="list-style-type: none"> watershed(s). ○ Embrace the re-introduction and cultivation of suitable native plants, in support of la’au lapa’au (traditional Hawaiian medicine) practices and traditional crafts. ○ Consider traditional trail systems during lot design. ● Develop drainage plan to mitigate existing insufficient capacity.
Traffic	<ul style="list-style-type: none"> ● Traffic signal timing plans will be optimized. ● DHHL will coordinate with DOT on its fair share of improvements. ● DHHL and DLNR will coordinate with DOT on Statewide Transportation Improvement Program regarding Maui Veterans Highway capacity. ● DHHL will coordinate with DLNR regarding proposed new intersection. ● Consider connections to existing and future public and multimodal transportation networks.
Sound	<ul style="list-style-type: none"> ● Compliance with Chapter 11-46, HAR. ● Properly muffled construction equipment. ● Coordination with the Maui Humane Society during construction, as needed. ● Temporary sound barriers and other construction phase mitigations. ● Operational noise will comply with DOH requirements. ● Noise/visual buffer areas on both sides of the highway. ● Buffer zone design may include grade-separated bike paths and stormwater management features. ● Sensitive uses located away from the highway. DHHL will consider re-locating sensitive uses within the property as needed. ● Setbacks will be established for hotel, commercial and light industrial uses is constructed. ● Sound attenuating walls and/or berms will be considered for both indoor and outdoor spaces. ● HUD compliant noise study will be conducted.
Air Quality	<ul style="list-style-type: none"> ● Construction BMPs for air quality. ● DHHL will consider ways to incorporate state-of-the-art energy conservation and green practices in the development of the DHHL Project Areas.
Man-made Hazards	<ul style="list-style-type: none"> ● If potentially hazardous substances, pollutants, or contaminants are identified, the DOH HEER Office will be contacted. ● DHHL will coordinate with the DOH and USACE regarding former agricultural uses and the former NAS Pu’unēnē, and adhere to applicable technical guidance. ● DHHL will consult the DOH regarding any anticipated residential or other sensitive uses of the DHHL Project Areas.
Visual Resources	<ul style="list-style-type: none"> ● Pūlehunui North will be extensively landscaped.

Impact	Proposed Mitigation Measures to Avoid, Rectify, or Reduce Impact
	<ul style="list-style-type: none"> • The majority of Pūlehunui South will be used for continued agriculture and supporting uses. • Pūlehunui south will utilize appropriate exterior lighting to mitigate light pollution. Prospective developer(s) at Pūlehunui North will be encouraged to do the same.
Water System	<ul style="list-style-type: none"> • Best Management Practices are proposed for construction activities. • Water efficiency and conservation measures.
Irrigation Water System	<ul style="list-style-type: none"> • Utilize, to the extent possible, the major components of the existing system, to convey ditch water to Pūlehunui South. • Potential efficiencies depending on the selected wastewater alternative.
Wastewater System	<ul style="list-style-type: none"> • n/a
Drainage System	<ul style="list-style-type: none"> • Best Management Practices are proposed for construction activities. • Interagency coordination will be considered.
Solid Waste	<ul style="list-style-type: none"> • Soil and rocks displaced from grading and clearing will be used as fill within the DHHL Project Areas. • Solid waste that may be generated during construction that cannot be repurposed or recycled will be disposed at the Central Maui Landfill. • Green waste will be properly disposed of. • Best Management Practices are proposed for construction activities. • After construction, DHHL will implement strategies from the County of Maui Integrated Solid Waste Management Plan (2009) for recycling options.
Electrical and Telecommunications	<ul style="list-style-type: none"> • Engage in energy saving strategies. • Consider use of alternative and renewable energy source(s). • Consider connections to existing and future public and multimodal transportation networks to reduce vehicular energy consumption. • New electrical substation needed to support the region.
Agriculture	<ul style="list-style-type: none"> • Windbreaks and crop rotation will be used to reduce fallow land and exposed soils. • Temporary best management practices will minimize soil loss and erosion hazards during construction. • Compliance with Chapters 11-54 and 11-55, HAR.
Socio-Economic Characteristics	<ul style="list-style-type: none"> • n/a
Public Services and Facilities	<ul style="list-style-type: none"> • DHHL will coordinate with Federal, State, and County agencies. • DHHL will consult and comply with DOE school impact fees requirements and other potential impacts to educational resources. • DHHL will investigate opportunities to connect with existing and future multimodal transportation networks. • Proper site drainage will avoid attracting wildlife to the property, to ensure aircraft safety.

Impact	Proposed Mitigation Measures to Avoid, Rectify, or Reduce Impact
	<ul style="list-style-type: none"> Should unforeseen impacts arise from aircraft activities on site users which are not mitigated by the strategies described in this EIS, DHHL will consider additional measures.
Cumulative Impacts	<ul style="list-style-type: none"> Noise and visual buffers for cumulative impacts can also accommodate grade-separated bike paths and provide stormwater management ecosystem services. Energy-saving strategies and the use of alternative/renewable energy will be considered to mitigate secondary and/or cumulative increased energy consumption. DHHL will investigate ways to connect to existing and future public and multimodal transportation networks. Coordinate with State and County traffic control operations (including Police Department) to mitigate temporary construction impacts. Coordinate amongst the agencies party to the MOU to mitigate cumulative impacts related to construction shortages should multiple projects be under construction at the same time. The regional approach to infrastructure master planning offers the possibility of a coordinated development of water, wastewater, and traffic improvements within the Infrastructure Regional Area.
Secondary Impacts	<ul style="list-style-type: none"> DHHL will coordinate with public service providers such as the County Police Department, County Fire Department, and State DOE to determine and mitigate secondary impacts to public services. DHHL understands that Additional funds to support certain public services could potentially be allotted from the increased tax revenues resulting from the Proposed Action. Energy-saving strategies and the use of alternative/renewable energy will be considered to mitigate secondary and/or cumulative increased energy consumption. DHHL will investigate ways to connect to existing and future public and multimodal transportation networks.

CLIMATE

The Department of Hawaiian Home Lands (DHHL) Proposed Action is not expected to have a significant effect on climatic conditions and no mitigation measures are proposed. To address a localized heat island effect, proposed landscaping and landscaped buffers will be integrated into the non-agricultural components of proposed improvements in Pūlehunui North and Pūlehunui South. Roughly 30 and 40 acres of open space have been assumed in the development plan to meet drainage needs at Pūlehunui North. The majority of Pūlehunui South will be used for agriculture.

GEOLOGY AND TOPOGRAPHY

To mitigate impacts to geology and topography, future design work will respect existing topography to the extent practicable. Significant landform transformations in terms of cut and fill requirements are not anticipated. All grading work will comply with applicable requirements of Chapter 20.08, Soil Erosion and Sedimentation of the Maui County Code (MCC).

The proposed drainage plan for the DHHL Project Areas is anticipated to positively impact current runoff conditions. Low-impact Development strategies will be considered at the DHHL Project Areas, which would further mitigate potential impacts.

While the Proposed Action will alter how the land is currently used, the proposed improvements are not expected to significantly impact the overall geological character of the region. Construction activities, such as grading, may alter the topography of Pūlehunui North and Pūlehunui South to accommodate the Proposed Action and address potential flooding concerns. Appropriate engineering, design and construction measures will be implemented to minimize potential erosion due to grading of soils during construction. All grading work will comply with applicable requirements of Chapter 20.08, Soil Erosion and Sedimentation of the Maui County Code (MCC).

The agencies party to the MOU may wish to collaborate on earthwork; some projects may create excess cut, while others may require fill material.

NATURAL HAZARDS

To mitigate potential impacts from natural hazards, no habitable structures will be built in the Zone AE portion of Pūlehunui South. Significant adverse effects with respect to flood and tsunami hazards are not anticipated as a result of the Proposed Action. The Pūlehunui community will not exacerbate any hazard conditions. Potential damage caused by earthquakes and hurricanes will be mitigated, for structures constructed in compliance with the County Building Code.

According to the Hawai'i Sea Level Rise Vulnerability and Adaptation Report (Hawai'i Climate Change Mitigation and Adaptation Commission, 2017), the DHHL Project Areas would not be directly impacted by 3.2 feet of Sea Level Rise.

SOILS

By reinstating agriculture at the currently-fallow Pūlehunui South, the Proposed Action will allow for better maintenance of the property through the active management and irrigation of soils and productive agriculture operations. The return of Pūlehunui South to agricultural uses will provide mitigation for long term soil erosion through use of windbreaks and crop rotation cycles that avoid leaving fallow land open and exposed to wind.

Construction phase mitigations for impacts to soil resources in the DHHL Project Areas include the following best management practices (BMPs) which will be considered by contractors:

- Prevent cement products, oil, fuel and other substances from falling or leaching into the ground. Remove all construction debris and toxic substances daily to prevent entry into the ground.
- Maintain vehicles and equipment to prevent oil or other fluids from leaking. Concrete trucks and tools used for construction should be rinsed offsite.
- Properly install and maintain erosion control barriers such as silt fencing or straw bales.
- Disturb the smallest area possible.
- Retain ground cover until the last possible date. Stabilize denuded areas by sodding or planting as soon as possible. Use high seeding rates to ensure rapid stand establishment.
- Apply any pesticides only during dry periods or low rainfall to minimize chemical runoff (applied only by certified applicators).
- Keep runoff onsite.

- Construction exceeding one acre is required to comply with National Pollutant Discharge Elimination System (NPDES) permitting requirements.

Contractors will be required to provide BMPs as part of their contracts.

STREAMS AND SURFACE WATER

None of the water or irrigation alternatives for the Proposed Action propose any amendment or alteration to the existing interim instream flow standards (IIFS). The contemplated alternatives would service the Infrastructure Regional Study Area without preventing attainment of the IIFS.

The Proposed Action is not anticipated to adversely impact downgradient perennial streams, major drainageways, wetlands or waterbodies (and in particular Keālia Pond). There will be no increase in runoff from the proposed development of either Pūlehunui North or Pūlehunui South towards Keālia Pond. Rather, the proposed drainage plan for the DHHL Project Areas is anticipated to positively impact current runoff conditions. Low-impact Development strategies will be considered at the DHHL Project Areas, which would further mitigate potential impacts.

To mitigate impacts to surface and groundwater resources, the following best management practices (BMPs) will be considered by contractors during the construction phase:

- Prevent cement products, oil, fuel and other substances from falling or leaching into the ground. Remove all construction debris and toxic substances daily to prevent entry into the ground.
- Maintain vehicles and equipment to prevent oil or other fluids from leaking. Concrete trucks and tools used for construction should be rinsed offsite.
- Properly install and maintain erosion control barriers such as silt fencing or straw bales.
- Disturb the smallest area possible.
- Retain ground cover until the last possible date. Stabilize denuded areas by sodding or planting as soon as possible. Use high seeding rates to ensure rapid stand establishment.
- Apply any pesticides only during dry periods or low rainfall to minimize chemical runoff (applied only by certified applicators).
- Keep runoff onsite.
- Construction exceeding one acre is required to comply with National Pollutant Discharge Elimination System (NPDES) permitting requirements.
- Contractors will be required to provide BMPs as part of their contracts.

Any potential impacts to Class A waters caused by the construction and/or operation of the proposed action will meet the provisions of the: a) anti-degradation policy (Chapter 11-54-1.1, HAR); b) designated uses (Chapter 11-54-3, HAR); and c) water quality criteria (Chapter 11.54-4 through 11-54-8, HAR).

Pursuant to the Clean Water Act, a Section 401 Water Quality Certification from the State Department of Health, Clean Water Branch will be obtained if it is determined that the proposed action may result in any discharge into navigable waters or as otherwise triggered.

All discharges related to the construction and operation of the proposed action will comply with the State's Water Quality requirements contained in Chapters 11-54 and 11-55, HAR.

Water efficiency strategies will help to mitigate the impacts of the Proposed Action on water resources, and DHHL will consider the following:

- Design buildings and landscaped areas to reduce overall water demand as much as possible.
- Use the most appropriate water quality for the projected need (balance potable and non-potable uses).
- From a regional infrastructure standpoint, it is noted that post-treatment products such as RO concentrate or R-1 recycled water, or untreated non-potable water could be used to irrigate certain areas, thereby decreasing overall potable system demand.
- Opportunities to reduce projected demands by installing rainwater catchment systems will be considered. (Given rainfall rates of 11 to 13 inches per year it is not anticipated that stormwater will be a dependable source of irrigation water. However, DHHL is open to considering potential alternative water sources such as rainwater catchment.
- Other opportunities to increase overall system efficiency may exist and DHHL will consider any that may be feasible.

Site users at the DHHL Project Areas will be encouraged to consider the following water conservation measures:

- Facility design to maximize water efficiency;
- Water efficient fixtures;
- Dual flush toilets;
- Leak detection sensors and alarms;
- Minimizing landscaped areas requiring extensive irrigation;
- Use of landscaping materials with low water needs (xeriscaping and embracing the use of native plants);
- Smart irrigation systems and moisture sensing feedback technology; and
- Use of automatic drip irrigation as the predominant delivery system.

FLORA

Note: Mitigation strategies as put forth in the Final EIS are summarized below, but may be subject to change due to widespread fires in Central Maui in July 2019 which appear to have removed essentially all vegetation at the DHHL Project Areas.

There is little of botanical concern at the DHHL Project Areas. The Proposed Action is therefore not expected to have any significant negative impact on the botanical resources in this part of Maui. No mitigations were recommended regarding the botanical resources in the DHHL Project Areas.

DHHL will embrace the use of native plants as a means of water conservation and to support cultural practices; this may positively impact flora resources. DHHL will also adhere to all applicable requirements of §103D-408, HRS Hawaiian plants; use in public landscaping. In general, DHHL embraces the use of native plantings and acknowledges the risks of moving soil and plant material between the islands.

FAUNA

Note: Mitigation strategies as put forth in the Final EIS are summarized below, but may be subject to change due to widespread fires in Central Maui in July 2019 which appear to have removed essentially all vegetation at the DHHL Project Areas.

Pūlehunui South Fauna

One 'ōpe'ape'a or Hawaiian bat was positively detected in the northwest corner of Pūlehunui South. To mitigate potential impacts to the 'ōpe'ape'a, contractors at the DHHL Project Areas will be instructed to avoid site clearing activities between June 1 through September 15. If site clearing must occur during this time, the DLNR Division of Forestry and Wildlife will be consulted before disturbance, removal or trimming of woody vegetation taller than 15 feet. Furthermore, the bats forage for insects as low as three feet to higher than 500 feet above the ground, and therefore barbed wire will not be used for fencing to mitigate harm to the bats caused by entanglement.

No Endangered Blackburn's sphinx moth (*Manduca blackburni*) adults, larvae or eggs were observed at Pūlehunui South during the biological survey. While tree tobacco plants are considered to be weeds in Hawai'i, they have been given federal protections when they are in association with the Endangered Blackburn's sphinx moth eggs and larvae. Any such plants should be examined again between November and April (the latter part of the wet season) to get a more definitive reading of the moths' presence or absence. USFWS guidance will be followed and, if necessary, consultation with the USFWS will be sought prior to site clearing to address an appropriate plan for removal of existing tobacco plants on the Pūlehunui South property. (The USFWS will be contacted for additional guidance, should moths or host plants over three feet in height be identified. DHHL notes that should no moths or host plants be identified, USFWS has indicated that measures should be taken to avoid attracting moths and prohibit tree tobacco from entering the property.)

No nēnē were seen during the survey but they could be attracted to rain puddles. Their use of the Pūlehunui South will be greatly lessened by the cessation of field irrigation. If nēnē are present, they should not be bothered or harassed and should be allowed to leave at their own convenience.

No seabirds were identified at Pūlehunui South. However seabirds in the general vicinity may traverse the DHHL Project Areas at night during the breeding, nesting and fledging seasons (March 1 to December 15). Species of such seabirds may include the Hawaiian petrel (*Pterodroma sandwichensis*), band-rumped storm-petrel (*Oceanodroma castro*), and the threatened Newell's shearwater (*Puffinus newelli*). To mitigate impacts to seabirds, Pūlehunui South will utilize appropriate exterior lighting such as hooded lights and avoidance of excessive lighting. Where feasible, outdoor lights at Pūlehunui South will be fully shielded so the bulb can only be seen from below bulb height, and only used when necessary. Nighttime construction will not occur between September 15 and December 15.

DHHL acknowledges that standing water may create a potential wildlife attractant thereby presenting a bird-strike risk to aircraft flying in the region, as well as potentially attracting vulnerable birds to areas inhabited by non-native predators. The occasions that detention basins will contain standing water for long periods of time are anticipated to be minimal. At the request of DOT-AIR, DHHL will specify to prospective developers and other site users that design and landscaping at the DHHL Project Areas should not attract wildlife. Should wildlife be determined to present a potential hazard to aircraft, DHHL will take appropriate measures to ensure the proper mitigation of the potential wildlife hazard. DHHL notes FAA Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports, provides guidance for developments and wildlife management near airports.

Proper eradication of any rodents will occur in compliance with HAR Chapter 11-26 prior to site clearing at the DHHL Project Areas.

Pūlehunui North Fauna

No Endangered Hawaiian hoary bats were detected during the survey of Pūlehunui North. Nevertheless, to mitigate potential impacts to the 'ōpe'ape'a, contractors at the DHHL Project Areas will be instructed to avoid site clearing activities between June 1 through September 15. If site clearing must occur during this time, the DLNR Division of Forestry and Wildlife will be consulted before disturbance, removal or trimming of woody vegetation taller than 15 feet. Furthermore, the bats forage for insects as low as three feet to higher than 500 feet above the ground, and therefore barbed wire will not be used for fencing to mitigate harm to the bats caused by entanglement.

Proper eradication of any rodents will occur in compliance with HAR Chapter 11-26 prior to site clearing.

No Blackburn's sphinx moths, their eggs or larvae were found in Pūlehunui North. While tree tobacco plants are considered to be weeds in Hawai'i, they have been given federal protections when they are in association with the Endangered Blackburn's sphinx moth eggs and larvae. Any such plants should be examined again between November and April (the latter part of the wet season) to get a more definitive reading of the moths' presence or absence. USFWS guidance will be followed and, if necessary, consultation with the USFWS will be sought prior to site clearing to address an appropriate plan for removal of existing tobacco plants. (The USFWS will be contacted for additional guidance, should moths or host plants over three feet in height be identified. DHHL notes that should no moths or host plants be identified, USFWS has indicated that measures should be taken to avoid attracting moths and prohibit tree tobacco from entering the property.)

The biological survey noted that the habitat in this area is not suitable for any of Hawai'i's native forest birds, water birds or seabirds. However seabirds in the general vicinity may traverse the DHHL Project Areas at night during the breeding, nesting and fledging seasons (March 1 to December 15). Species of such seabirds may include the Hawaiian petrel (*Pterodroma sandwichensis*), band-rumped storm-petrel (*Oceanodroma castro*), and the threatened Newell's shearwater (*Puffinus newelli*). To mitigate impacts to seabirds, prospective developer(s) at Pūlehunui North will be encouraged to utilize appropriate exterior lighting such as hooded lights and avoidance of excessive lighting. DHHL will encourage prospective developer(s) to use outdoor lights that are fully shielded so the bulb can only be seen from below bulb height, and only used when necessary. DHHL will advise against nighttime construction between September 15 and December 15.

DHHL acknowledges that standing water may create a potential wildlife attractant thereby presenting a bird-strike risk to aircraft flying in the region, as well as potentially attracting vulnerable birds to areas inhabited by non-native predators. It is highly unlikely that detention basins will contain standing water in the event of a storm, and any standing water is anticipated to be minimal. At the request of DOT-AIR, DHHL will specify to prospective developers and other site users that design and landscaping at the DHHL Project Areas should not attract wildlife. Should wildlife be determined to present a potential hazard to aircraft, DHHL will take appropriate measures to ensure the proper mitigation of the potential wildlife hazard. DHHL notes FAA Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports, provides guidance for developments and wildlife management near airports.

ARCHAEOLOGICAL AND HISTORIC RESOURCES

Department of Hawaiian Home Lands and its archaeological contractors will comply with all State and County laws and rules regarding the preservation of archaeological and historic sites. Should historic remains such as artifacts, burials, concentrations of shell or charcoal be inadvertently encountered during

the construction activities, work will cease immediately in the immediate vicinity of the find and the find will be protected. The archaeological contractor shall immediately contact SHPD, which will assess the significance of the find and recommend appropriate mitigation measures, if necessary.

Pūlehunui North

SHPD will be consulted regarding the existing Archaeological Inventory Surveys (AIS) for Pūlehunui North, prior to the developer(s) applying for any permits for that property. For both Facility 51 and Facility 74, Xamanek recommended a preservation plan or, in the event that the buildings cannot be preserved, consultation with DLNR State Historic Preservation Division (SHPD). Precautionary monitoring for earthmoving activities was also recommended for excavation deeper than 1.5 feet, since some portions of the property were untested due to sugar cane occupying the area. For Facility 100, Xamanek recommended a preservation plan. In the event that the building cannot be preserved, Xamanek recommended Historic American Buildings Survey (HABS) and Historic American Engineering Record (HAER)-level data recovery. In the event that the building will be demolished, Xamanek recommended prior consultation with SHPD. Precautionary monitoring for excavation deeper than two feet was also recommended; while no intact cultural deposits were encountered, shellfish and coral were observed at the ground surface in some portions of Parcel 36. Therefore, cultural materials may be located below the plow zone. The buildings are associated with events that have made an important contribution to the broad patterns of our history (Criterion A) and have yielded or are likely to yield important information for research on prehistory or history (Criterion D). The buildings are eligible for the National Historic Places because they embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; or possess high artistic value (Criterion C). All three buildings are constructed of concrete and are in fair or better condition, and therefore should be considered for future use. Previous challenges to these historical resources include trespassing, vandalism such as graffiti, and illegal occupancy. However, structurally-speaking, all three Facilities were in fair condition or better at the time of the survey. If secured and maintained, the buildings are an asset to the property and may be repurposed and integrated into future Site uses, potentially as a hurricane shelter or other emergency use, due to the high quality of construction and low flooding concern.

Pūlehunui South

ʻĀina Archaeology is assisting DHHL in initiating HRS Chapter 6E consultation for Pūlehunui South. Recommended mitigations will be provided for each feature at Pūlehunui South, based on significance criteria, building condition, and integrity. Former uses will be taken into consideration as plans for the DHHL Project Areas progress. DHHL's environmental consultant is aware of the former uses at Feature K and the Department of Health will be consulted prior to any ground disturbance in the vicinity of Feature K. Refer also to mitigation under "Man-Made Hazards".

Prior to development of each phase of the Proposed Action, additional historical research, consultation, and/or archaeological inventory surveys may need to be conducted in order process grading and building permits.

CULTURAL RESOURCES

No physical alteration of cultural resources, practices or beliefs are anticipated within the DHHL Project Areas.

The CIA recommended cultural mitigations with the goal of honoring the traditional landscape while protecting cultural resources. These recommendations are summarized below and DHHL will employ these strategies to the extent practicable:

- Use traditional place names when possible in DHHL Project Area design, signage, and related materials.
- Minimize coastal resource degradation that may result from flooding (the PER will assist greatly in this effort). Monitor and record rain and weather patterns which may assist with future land use decisions.
- Increase awareness of the connectivity between the mauka and makai weather patterns of Kula Moku.
- As a part of farm planning, the use of appropriate native ground cover in non-cultivated areas should be considered to minimize dust pollution that may result from modern agricultural practices and carried by the winds through the central valley.
- Foster and encourage a mālama ʻāina land stewardship ethic that extends beyond the physical boundaries of DHHL's lands. Strategies to accomplish this could include BMP monitoring/enforcement, continued agency consultation, and environmental outreach/education programs where possible. Prospective developers or tenants at Pūlehunui North who embrace this land ethic should be favorably considered from a cultural standpoint.
- Prior to the initiation of land development, whether residential, business, or agriculture, appropriate blessings should be carried out as the central isthmus and lower region of Pūlehunui is known as a place in which the spirits reside. As water from off-site resources continues to be investigated as a possible water source, the CIA recommended continued consultation with Native Hawaiian communities and other stakeholders that may hold appurtenant and riparian rights within the originating watershed(s).
- Embrace the re-introduction and cultivation of suitable native plants, in support of laʻau lapaʻau (traditional Hawaiian medicine) practices and traditional crafts.
- Consider traditional trail systems during lot design. The DHHL Project Areas have not been used for traditional trail access within the last century; this mitigation embraces a revival of trail system access to the shoreline, as well as between Waikapū and upland Kula.

To address potential concerns related to drainage, it is noted that with the proposed drainage improvements for Pūlehunui South the total onsite runoff from that property will be reduced by 96 percent compared to existing conditions . The remaining flow in the unnamed gulch (which is generated from almost 2,000 acres outside the Infrastructure Regional Study Area) will flow through the existing gulch and directed to existing culverts at Maui Veterans Highway. Refer also to mitigation under "Drainage System".

ROADWAYS AND TRAFFIC

Base Year 2038 (Without DHHL Project Areas)

Projections for Base Year 2038 traffic included increases generated by a 2.1 percent annual growth rate along Maui Veterans Highway and numerous developments forecast to be completed within the vicinity of the DHHL Project Areas. These nearby developments include the DLNR Industrial and Business Park, Puʻunēnē Heavy Industrial Subdivision, Maui Regional Public Safety Complex (MRPSC), Central Maui Baseyard Expansion, Piʻilani Promenade, Maui Bay Villas (formerly Maui Lū), Kīhei High School, Maui Business Park Phase II, Kīhei Residential, Kaiwahine Village, Kenolio Apartments, Maui Research & Technology Park, Krausz Downtown Kīhei, Liloa Village, South Maui Community Park, Alahele Subdivision.

Various widening improvements are proposed at the Maui Veterans Highway/Mehameha Loop (North)/Kamaʻāina Road intersection as part of the development of the Puʻunēnē Heavy Industrial Subdivision.

The State of Hawai'i Department of Transportation's (DOT) *Federal Aid Highways 2035 Transportation Plan for the District of Maui* (Plan) dated July 2014 ("DOT 2035 Transportation Plan") estimated that by the year 2035, traffic volumes on Maui Veterans Highway will increase by over 80 percent due to nearby population and land development growth in the area. To increase highway capacity and accommodate this traffic growth, the DOT 2035 Transportation Plan conceptually identified the widening of Maui Veterans Highway to construct two additional travel lanes on Maui Veterans Highway from Kuihelani Highway in Kahului to Pi'ilani Highway in Kihei as a potential need by Year 2035. It should be noted that this Maui Veterans Highway Widening improvement is currently not a DOT-funded or programmed project. Because it is currently not a funded improvement and is not programmed in the latest Statewide Transportation Improvement Program, this widening improvement was not included in the TIAR; the TIAR does not assume its implementation by 2038.

Future Year 2038 (With DHHL Project Areas)

For purposes of the TIAR, a forecast Year 2038 was used to analyze the full impacts of the Pūlehunui Regional Subdivision, which includes the DHHL Project Areas, DLNR Industrial and Business Park, Maui Regional Public Safety Complex (MRPSC) and Pu'unēnē Heavy Industrial Subdivision.

Upon completion of the DHHL Project Areas, traffic in the study area is expected to increase over Base Year 2038 conditions. For purposes of the traffic analysis, widening improvements along Maui Veterans Highway were recommended at each study intersection based on the Level of Service analysis for Future Year 2038. As a result of the increase in traffic volumes, several roadway improvements are recommended with the DHHL Project Areas.

The signal timing plans at Maui Veterans Highway/Mehameha Loop (North)/ Kama'āina Road, Maui Veterans Highway/DHHL North Access/DLNR Access and Maui Veterans Highway/Mehameha Loop (South)/Pūlehunui Motorsports Park Access Road intersections should be optimized to provide favorable throughput progression along Maui Veterans Highway.

Due to the uncertainty of DOT's Maui Veterans Highway widening improvement (as mentioned previously), DHHL will coordinate with DOT on its fair share of improvements. Based on a comparison of DHHL Project Area traffic increase to total Future Year 2038 forecast traffic, the DHHL Project Areas will constitute approximately 14 percent of all traffic, based on its composite average increase for all peak hours of traffic.

Traffic generated by the DHHL Project Areas will not contribute significantly to regional traffic nor cause unacceptable delay time at the studied intersections by the completion of the Proposed Action (Future Year 2038). While vehicle delays at the studied intersections are expected to increase as a result of the Proposed Action, the anticipated vehicle wait time does not vary significantly from future year conditions without the Proposed Action (Base Year 2038) and the study intersections will continue to operate within reasonable wait times (Level of Service D or better).

In addition to the improvements described above the County of Maui's *Maui Island Plan* conceptually identifies two future regional roadways that may further alleviate traffic conditions in the region: the Upcountry-Kihei Corridor and the Kihei Mauka Bypass Collector Road. While these two roadways have not yet been funded or designed and therefore are excluded from the TIAR analysis, they are considered qualitatively as a regional roadway solution. The Upcountry-Kihei Corridor is a new future bypass road

that will provide a more direct connection between Kīhei and the upcountry areas of Haleakalā. This bypass could substantially reduce north-south traffic along Maui Veterans Highway. The Kīhei Mauka Bypass Collector Road roadway alignment and termination points are not defined, however the anticipated land uses at Pūlehunui South do not preclude accommodation of the Kīhei Mauka Bypass Collector Road through roadway easements and/or right-of-way acquisition. DHHL is open to coordination with other agencies to further explore accommodating the Kīhei Mauka Bypass Collector Road.

SOUND

Construction-Related Noise

The Proposed Action will comply with all applicable rules and provisions including those of Chapter 11-46, HAR. If noise created during the construction phase of the proposed action is expected to exceed the maximum allowable levels, then a noise permit will be obtained before the commencement of work.

The use of properly muffled construction equipment should be required on all job sites. The incorporation of DOH construction noise limits and curfew times, which are applicable throughout the State of Hawai'i is another noise mitigation measure. Noisy construction activities are not allowed on Sundays and holidays, during the early morning, and during the late evening and nighttime periods under the DOH permit procedures.

Construction noise impacts are possible at the Maui Humane Society due to the relatively small (350 ft) buffer distance to Pūlehunui North. Special coordination procedures between the construction contractor and the animal caretakers may be required during close-in site preparation activities. The use of temporary sound barriers (wooden walls, bumper-to-bumper buses with closure panels, etc.) or even portable air conditioning equipment could provide additional sound attenuation during site preparation activities.

Operational Related Noise

By existing DOH regulations, fixed noise machinery on commercial and industrial buildings within DHHL Project Areas may emit sound levels continuously during the day and night, as long as their sound levels do not exceed 70 dBA at or beyond the lot property boundaries. Risks of adverse noise impacts from onsite noise sources are considered to be minimal. The study recommended that noise mitigation measures which limit the noise from fixed mechanical equipment to those allowed by the DOH should be required of all tenants within the DHHL industrial and commercial areas.

Vehicular Noise

The dominant traffic noise in the DHHL Project Areas will continue to be traffic along Maui Veterans Highway, with the increases in future traffic noise levels from the Pūlehunui North and South project-generated traffic being relatively small along this roadway, and primarily associated with non-project traffic.

Within Pūlehunui South, a planned 1,900 foot buffer distance to the highway's centerline will mitigate future traffic noise levels at the planned agricultural homesteads, which is predicted to not exceed 55 DNL by 2038 and will be controlled by traffic moving within Pūlehunui South and on perimeter roadways. The area designated for Education within Pūlehunui South is planned to be located with minimum 750 foot buffer distance from the centerline of Maui Veterans Highway. The lots adjacent to the highway right-of-way designated for Culture and Arts within Pūlehunui South are expected to be exposed to incompatible traffic noise levels from Maui Veterans Highway, which exceed 65 DNL. The lots adjacent to the highway

right-of-way and designated for commercial uses within Pūlehunui South are predicted to be exposed to traffic noise levels between 65 and 70 DNL, which is considered to be “Marginally Compatible” but not “Incompatible”. Traffic noise levels at the interior lots of the Culture and Arts and Commercial portions of Pūlehunui South will probably become “Compatible” for their planned uses as man-made structures provide noise shielding effects from the highway noise. The use of sound attenuating walls and/or berms may also be used as a traffic noise mitigation measure for both indoor and outdoor spaces, and DHHL will consider re-locating sensitive uses within the property as needed. Traffic noise levels at the planned industrial lots within Pūlehunui South should be “Compatible” due to their larger setbacks from the highway. Risks of adverse noise impacts from future traffic noise are considered to be low for all uses within Pūlehunui South, except at the Culture and Arts frontal lots.

Pūlehunui North includes a possible hotel (at the discretion of a future developer) in addition to commercial/light industrial uses. The hotel should be “Compatible” with 2038 highway noise levels as long as a minimum 215 feet setback is maintained from the centerline of the highway, so as to not exceed 65 DNL. If a Hotel is developed, it will likely include air conditioning, which means that windows will be closed and serve to attenuate noise from traffic along Maui Veterans Highway and stationary noise from other uses at Pūlehunui North. Commercial/Light Industrial uses on Pūlehunui North should not be exposed to “Incompatible” highway noise levels of 75 DNL because of their minimum setback distance of 110 feet from the highway centerline. Risks of adverse noise impacts from future traffic noise at Pūlehunui North are considered to be very low. In addition, the use of sound attenuating walls and/or berms may also be used as a traffic noise mitigation measure for both indoor and outdoor spaces.

PMP Noise

Noise from Pūlehunui Motorsports Park (PMP) are predicted to be audible at noise sensitive receptors within the DHHL Project Areas. While lands designated for agricultural or industrial uses can technically be compatible with outdoor noise exposure levels as high as 76 DNL, residences or other noise sensitive receptors located on these lands could react unfavorably when exposed to such high intermittent noise levels, as were measured at PMP. Because noise during drag racing events at PMP will probably be audible at noise sensitive locations at Pūlehunui South, and because future residences are potential receptors at these locations, there is a risk that noise complaints may occur regarding these noise producing activities at PMP. As the use of closure and air conditioning is anticipated at the hotel, risks of adverse noise impacts from PMP are considered to be low at the hotel. A HUD compliant noise study will be conducted to determine whether the FHA/HUD noise standard of 65 DNL will be exceeded at noise sensitive uses at Pūlehunui South.

To mitigate potential impacts of PMP activities on potential residences and other sensitive noise receptors that may be associated with the proposed land uses, a noise study that meets the requirements of 24 CFR Part 51, Subpart B will be conducted prior to construction of buildings that will house any such uses. The study will address noise standards and any appropriate mitigation required under 24 CFR Part 51, Subpart B. Following the recommendation of the Acoustic Study, disclosure about the audibility of the PMP's activities will be provided to future users at the DHHL Project Areas.

Pu'unēnē Armory Noise

Pu'unēnē Armory activities are not anticipated to impact or be impacted by the DHHL Project Areas as the DHHL Project Areas are located a minimum of 200 feet from the armory (and farther from the armory's landing pad) and will include visual and noise buffers as discussed previously. Based on the information provided in the Final EA for the armory, the helipad would accommodate two takeoffs and two landings per month (total 24 events per year). Annual exercises would involve three to five takeoffs and three

landings (maximum 8 events over a two-week period). Therefore the maximum number of takeoff or landing events would be 32 per year. Per the EA, these events would not occur at night, thereby further reducing acoustical impacts. Based on this information, noise levels under the landing track are not anticipated to exceed 55 DNL.

With the recommended mitigation measures, the proposed development of the DHHL Project Areas is not anticipated to have an adverse impact on noise in the vicinity of the Infrastructure Regional Study Area.

AIR QUALITY

Construction-Related Impacts

Measures to control or mitigate impacts to air quality during construction include:

- The construction contractor should use water or suitable chemicals to control fugitive dust in the demolition of any existing buildings or structures, construction operations, the grading of roads, or the clearing of land.
- The construction contractor should apply asphalt, water, or suitable chemicals on roads, material stockpiles, and other surfaces which may result in fugitive dust.
- The construction contractor should cover all moving, open-bodied trucks transporting materials which may result in fugitive dust.
- The construction contractor should maintain roadways in a clean manner.
- The construction contractor should promptly remove earth or other materials from paved streets which have been transported there by trucking, earth-moving equipment, erosion, or other means.
- Staging areas should be located away from on-site residential land uses.
- On-site electricity should be obtained from the electrical grid rather than temporary diesel or gasoline generators.
- Equipment and vehicle engines should be maintained in good condition and in proper tune per manufacturers' specifications.
- All construction equipment and delivery vehicles should be turned off when not in use or prohibit idling in excess of five minutes. Haul trucks in particular that stage waiting to be called to remove dirt from the site should not be allowed to idle while queuing.
- Land uses sensitive to air pollution (e.g., residences, educational facilities, and hotels) should not be located within 1,000 feet of a distribution center that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week).

Additional dust control measures to be considered include, but are not limited to, the following:

- Planning the different phases of construction, focusing on minimizing the amount of dust-generating materials and activities, centralizing on-site vehicular traffic routes;
- Providing an adequate water source at the site prior to start-up of construction activities;
- Landscaping and providing rapid covering of bare areas, including slopes, starting from the initial grading phase; and
- Providing adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities

Operational-Related Regional Emissions

The proposed action includes the development of on-site sensitive receptors such as residences and educational facilities planned for Pūlehunui South and a hotel planned for Pūlehunui North. The nearest

off-site sensitive receptors are residential areas located approximately 0.4 miles to the southwest and 0.5 miles to the south-southeast. There is no potential for on-site emissions to affect local land uses. Regarding regional emissions, the DHHL Project Areas are located in an Attainment/Unclassified area for all National Ambient Air Quality Service (NAAQS) and regional air quality is good. There is no potential for the proposed uses in the DHHL Project Areas to substantially affect regional air quality.

Operational-Related Localized Emissions

The Proposed Action does not include a source of direct pollutant emissions. Indirect source of emissions includes off-site electrical generation activities (if the energy source is non-renewable) and tailpipe emissions from on-road vehicles. Although the Proposed Action includes development within the DHHL Project Areas, the anticipated land uses include 30 to 40 acres for open space at Pūlehunui North and majority agricultural uses at Pūlehunui South. DHHL will consider ways to incorporate state-of-the-art energy conservation and green practices in the development of the DHHL Project Areas. Development of the DHHL Project Areas would not interfere with the development of clean energy supplies.

The U.S. EPA has published guidance on prevention of carbon monoxide (CO) "hot spots" at congested intersections resulting from idling and slow-moving vehicles. The guidance focuses on the avoidance of localized spikes in CO concentrations causing violations of the ambient air quality standards. Screening results for CO dispersion modeling exercise determined that an intersection experiencing a peak hour volume would not produce large enough CO concentrations to be a pollutant of concern, which is also evident by the lack of monitoring in the region. There is no potential for the proposed uses in the DHHL Project Areas to result in a CO hot spot.

MAN-MADE HAZARDS

DHHL notes that the Department of Health Hazard Evaluation and Emergency Response Office (HEER Office) provides leadership, support, and partnership in preventing, planning for, responding to, and enforcing environmental laws relating to releases or threats of releases of hazardous substances. If potentially hazardous substances, pollutants, or contaminants are identified, the HEER Office will be contacted to determine the appropriate actions to comply with the relevant environmental laws, including Chapters 11-260 to 11-280, HAR, relating to hazardous waste. If potential construction sites are found to be contaminated, then all removal and remedial actions to clean up hazardous substance or oil releases by past and present owners/tenants must comply with State Law (Hawai'i Revised Statutes, Chapter 128D, "Environmental Response Law", Chapter 451, "State Contingency Plan").

Former uses including military and agricultural uses will be taken into consideration as plans for the DHHL Project Areas progress. DHHL's environmental consultant is aware of the former uses at Feature K and the Department of Health will be consulted prior to any ground disturbance in the vicinity of Feature K. As plans for the DHHL Project Areas progress, a Phase II ESA and/or other investigations may be appropriate depending on site plans, building footprints, and other details. At the appropriate stage(s) in the development process, DHHL will coordinate with the DOH and USACE regarding other possible former uses at the former NAS Pu'unēnē and will adhere to applicable technical guidance. DHHL will consult the DOH regarding any anticipated residential or other sensitive uses of the DHHL Project Areas including areas formerly under agriculture production. DHHL will adhere to DOH guidance regarding pesticide contamination.

In accordance with Hawai'i Administrative Rules Title 11, Department of Health, Chapter 58.1 (HAR §11-58.1) property owners are responsible for "removing accumulated solid waste to an approved solid waste disposal facility." As of the writing of the Phase I ESA for Pūlehunui North, arrangements had been made

to remove the aforementioned drums from the site with proper disposal. Any removal of solid waste from the site will be done in accordance with the relevant State laws, referenced above.

Proposed uses at the DHHL Project Areas are not anticipated to create any man-made hazards.

VISUAL RESOURCES

The Proposed Action will not impact any Scenic Corridors identified in the Maui Island Plan. Pūlehunui North will change the visual character of the property from vacant lands to income-generating land uses, such as commercial and/or industrial uses. However, Pūlehunui North will be extensively landscaped as part of the development improvements which will ensure visual buffering and softening of the built landscape. It is likely that those in vehicles travelling along Maui Veterans Highway will be focusing their attention on the road, the West Maui Mountains, and/or Haleakalā. The majority of Pūlehunui South will be used for agriculture and supporting uses, with some of its open space supporting agricultural crops selected to avoid impacting visual resources or business visibility.

Another potential impact concerns the use of exterior lighting and the potential for light pollution. Prospective developer(s) at Pūlehunui North will be encouraged to utilize appropriate exterior lighting such as hooded lights and avoidance of excessive lighting, to mitigate visual impacts such as light pollution. Pūlehunui South will utilize appropriate exterior lighting.

WATER SYSTEM

DHHL consulted the Maui County Department of Parks and Recreation (DPR) on the EISPN and received a comment that DPR is creating a master plan for the Pūlehunui Motorsports Park (PMP). DPR further commented that the PMP currently lacks infrastructure for potable water, wastewater, electricity, storm water management, communication, or other basic services. Given its proximity to the Infrastructure Regional Study Area and anticipated continued use as a motorsports park, DHHL's engineering and traffic studies for the Proposed Action will take into account the water, wastewater, and traffic demand generated by the PMP (in addition to the parties to the MOU). DHHL therefore anticipates a positive impact to the DPR PMP by partially supporting its infrastructure needs. DHHL anticipates further positive impacts to regional infrastructure because the Proposed Action could accommodate projected infrastructure needs of not just State agencies, but a County agency as well.

The Preliminary Engineering Report (PER) prepared for the Proposed Action assessed three alternatives for water supply. These alternatives would provide water for potable, non-potable and fire protection purposes for most of the Infrastructure Regional Study Area's needs. A separate non-potable system would supply irrigation water to lands at Pūlehunui South.

Water System Alternatives

Alternative	Water Source	Treatment	Location
1	County water (DWS)	n/a	n/a
2A	EMI existing ditch system (new raw water reservoir)	New membrane filtration facility	DLNR Industrial and Business Park, southern boundary
2B	EMI existing ditch system (existing HC&S Reservoir 90)	New membrane filtration facility	Pūlehunui South, northeastern boundary
3A	New offsite skimming well	New reverse osmosis facility	DLNR Industrial and Business Park, northeast portion
3B	New offsite skimming well	New reverse osmosis facility	Pūlehunui South, northeastern boundary (same as 2B)

Alternative 1 is based on the assumption that water for the Infrastructure Regional Study Area will be provided by the DWS via a connection to the DWS' existing water system. Alternative 2 is based on the development of a surface water treatment plant (S-WTP) that would treat surface water from East Maui Irrigation’s (EMI’s) existing ditch system. Alternative 2 would be privately owned and operated and would require construction of new waterlines and storage tanks. Alternative 3 is similar to Alternative 2, except that the source of water would be brackish water from an offsite skimming well similar to existing A&B irrigation wells previously used for sugar cane irrigation in the area.

Preferred Alternative

The preferred regional water system alternative may be Alternative 1, which is to have DWS supply water for the Infrastructure Regional Study Area. However DHHL is still evaluating the range of water alternatives described above. A major advantage of Alternative 1 would be that DWS owns and operates their water system and therefore State users of the system would not need to construct or operate a water treatment facility. With Alternatives 2 and 3, a private company would need to be hired to operate the on-site treatment facilities. An additional advantage to Alternative 1 is that the Proposed Action would be serviced by a large water system which can more easily accommodate disruptions in the system, e.g., a power failure at a well or a treatment facility. From a cost standpoint, Alternative 1 may be favorable pending further research. Despite these advantages, Alternative 1 is also the alternative with the greatest uncertainty with respect to implementation timeframes as it relates to offsite storage tank and new source development requirements. DHHL will coordinate with the County of Maui Department of Water Supply (DWS) before identifying a preferred water alternative.

DHHL expects that a regional approach to water infrastructure will be preferred, unless individual agency constraints necessitate separate development timelines or uncertainty in phasing precludes MOU party coordination.

Regardless of the alternative selected, water efficiency strategies will help to mitigate the impacts of the Proposed Action on water resources, and DHHL will consider the following:

- Design buildings and landscaped areas to reduce overall water demand as much as possible.
- Use the most appropriate water quality for the projected need (balance potable and non-potable uses).

- From a regional infrastructure standpoint, it is noted that post-treatment products such as RO concentrate or R-1 recycled water, or untreated non-potable water could be used to irrigate certain areas, thereby decreasing overall potable system demand.
- Opportunities to reduce projected demands by installing rainwater catchment systems will be considered. (Given rainfall rates of 11 to 13 inches per year it is not anticipated that stormwater will be a dependable source of irrigation water. However, DHHL is open to considering potential alternative water sources such as rainwater catchment.
- Other opportunities to increase overall system efficiency may exist and DHHL will consider any that may be feasible.

Site users at the DHHL Project Areas will be encouraged to consider the following water conservation measures:

- Facility design to maximize water efficiency;
- Water efficient fixtures;
- Dual flush toilets;
- Leak detection sensors and alarms;
- Minimizing landscaped areas requiring extensive irrigation;
- Use of landscaping materials with low water needs (xeriscaping and embracing the use of native plants);
- Smart irrigation systems and moisture sensing feedback technology; and
- Use of automatic drip irrigation as the predominant delivery system.

To mitigate impacts to surface and groundwater resources, the following best management practices (BMPs) will be considered by contractors during the construction phase:

- Prevent cement products, oil, fuel and other substances from falling or leaching into the ground. Remove all construction debris and toxic substances daily to prevent entry into the ground.
- Maintain vehicles and equipment to prevent oil or other fluids from leaking. Concrete trucks and tools used for construction should be rinsed offsite.
- Properly install and maintain erosion control barriers such as silt fencing or straw bales.
- Disturb the smallest area possible.
- Retain ground cover until the last possible date. Stabilize denuded areas by sodding or planting as soon as possible. Use high seeding rates to ensure rapid stand establishment.
- Apply any pesticides only during dry periods or low rainfall to minimize chemical runoff (applied only by certified applicators).
- Keep runoff onsite.
- Construction exceeding one acre is required to comply with National Pollutant Discharge Elimination System (NPDES) permitting requirements.
- Contractors will be required to provide BMPs as part of their contracts.

IRRIGATION WATER SYSTEM

One option would be to utilize, to the extent possible, the major components of the existing system, to convey the ditch water to the Pūlehunui South project site. Each lot owner/lessee would be responsible for installing their own irrigation system within their lot to irrigate their agricultural fields, as necessary.

A second option would be to essentially replicate the existing irrigation system, if the existing system cannot be utilized either due to the condition of the components or issues regarding ownership.

Any new distribution irrigation lines would be located within the Pūlehunui South roads to supply irrigation water to the lots.

During the Draft EIS public review period, the State Commission on Water Resource Management (CWRM) wrote:

The second alternative is to treat and use surface water from the East Maui Irrigation (EMI) System. The DEIS should discuss the interim instream flow standards (IIFS) for East Maui streams that supply the EM I system and whether the IIFS accommodates the proposed development.

[...]

A separate non-potable system is also proposed to supply irrigation water for agricultural needs and landscaping. An existing HC&S system is identified as an option to meet the estimated demand of 0.784 mgd. Similar to Alternative 2, a discussion of the streams to be impacted and compliance with IIFS should be included in the DEIS.

None of the water or irrigation alternatives for the Proposed Action propose any amendment or alteration to the existing IIFS. The contemplated alternatives would service the Infrastructure Regional Study Area without preventing attainment of the IIFS.

WASTEWATER SYSTEM

DHHL consulted the Maui County Department of Parks and Recreation (DPR) on the EISPN and received a comment that DPR is creating a master plan for the Pūlehunui Motorsports Park (PMP). DPR further commented that the PMP currently lacks infrastructure for potable water, wastewater, electricity, storm water management, communication, or other basic services. Given its proximity to the Infrastructure Regional Study Area and anticipated continued use as a motorsports park, DHHL's engineering and traffic studies for the Proposed Action will take into account the water, wastewater, and traffic demand generated by the PMP (in addition to the parties to the MOU). DHHL therefore anticipates a positive impact to the DPR PMP by partially supporting its infrastructure needs. DHHL anticipates further positive impacts to regional infrastructure because the Proposed Action will accommodate projected infrastructure needs of not just State agencies, but a County agency as well.

A design average daily flow of 618,000 gpd will be generated by Infrastructure Regional Study Area at full buildout.

The PER prepared for the Proposed Action assessed four alternatives for wastewater management. Alternative 1 (1A and 1B) would involve collecting wastewater from the Infrastructure Regional Study Area and transferring it to the Maui County Kihei WWRF for treatment. Alternative 2 (2A, 2A-1, 2B, and 2C) would involve collecting the wastewater from the Infrastructure Regional Study Area and transferring it to a regional WWRF located either on DLNR or DHHL property where developments are being proposed. Alternative 3 (3A and 3B) would involve a regional WWRF located within adjacent DLNR properties where no developments are being proposed in the foreseeable future. Finally, Alternative 4 would involve

pumping all wastewater generated at the Infrastructure Regional Study Area to a future County of Maui Regional WWRF located south of the Infrastructure Regional Study Area, along Kuihelani Highway.

Wastewater System Alternatives

Alternative	Treatment Facility	Location
1A	Existing County WWRF	Upgrade collection system along S. Kīhei Road. Treat at Kīhei WWRF.
1B	Existing County WWRF	New collection system along Līloa Drive. Treat at Kīhei WWRF.
2A	New Private WWRF	Pūlehunui South, northern boundary
2A-1	New Private WWRF	Pūlehunui South, northern boundary
2B	New Private WWRF	DLNR Industrial and Business Park, southwest portion
2C	New Private WWRF	Pūlehunui South, northeast/mauka portion
3A	New Private WWRF	DLNR (2) 3-8-008-038, southern boundary
3B	New Private WWRF	DLNR (2) 3-8-008-001, east/mauka portion
4	New County WWRF	County property along Kuihelani Highway, outside Infrastructure Regional Study Area; interim facility within Infrastructure Regional Study Area at Pūlehunui North

Preferred Alternative

The preferred alternative is currently Alternative 2A-1 which represents a refinement of wastewater Alternatives 2A and 2C.

In summary, the Alternative 2A-1 treatment facility may be expanded, relocated, and/or repurposed in the future, at which point impacts would be more similar to those under Alternative 2A, 2C, or 4. The rationale for the new preferred design is as follows.

1. Continuing conversations with the County of Maui indicate that funding has not been secured for the Central Maui WWRF, and the completion date is unknown. Construction of Alternative 2A-1 could be completed well in advance of regional demand, with a target date of 2023 if construction commences in fall 2020. Preparation to commence on the design for Alternative 2A-1 is underway and the target design completion date for the pump stations, gravity sewer lines and temporary WWRF is anticipated for the end of 2019.
2. The refinement of Alternative 2A is designed to maximize use of currently available funding, ensuring that the temporary facility will service the Infrastructure Regional Study Area without the need to secure immediate additional funding.
3. The use of R-1 water quality effluent for irrigation within the Infrastructure Regional Study Area was not considered to be feasible under Alternative 4.

DHHL expects that a regional approach to wastewater infrastructure will be preferred, unless individual agency constraints necessitate separate development timelines or uncertainty in phasing precludes MOU party coordination.

DRAINAGE SYSTEM

A Flood Development Permit will be applied for, for any parcel that is not located within Flood Zone X or XS.

The land uses proposed for the DHHL Project Areas will result in increased impervious surfaces and thus increased stormwater runoff, although the increase in impervious surfaces will be less significant Pūlehunui South due to large areas of open and undeveloped space.

Generally, the recommended drainage designs will reduce the size of drainage areas, creating sub-areas and providing localized basins within each area to manage stormwater. This decentralized approach provides several advantages for the efficient management of stormwater flows. The proposed stormwater management plan for each proposed drainage basin will also address stormwater quality. For example, water quality impacts will be mitigated with the implementation of grass swales, reduced impervious coverage, and stormwater retention areas.

Pūlehunui North

New retention basins will completely retain the stormwater runoff generated from each development lot, independent of the others. Piped overflow conveyance systems or surface flow paths will safely manage excess flows. Roadway runoff will also be retained and managed onsite.

The full retention of site runoff will reduce storm drain infrastructure needs within the property, and there will be no site runoff from the property for the 50-year, 1-hour storm. Some onsite areas are potentially at risk for flooding due to insufficient existing drainage capacities.

A detailed hydraulic analysis should be conducted in the design phase for the property, to determine the potential for flooding along the west side of Mehameha Loop, where high flows from the existing ditch extending from Pūlehu Gulch could potentially flood into Mehameha loop and the property. A possible mitigation would be to raise Mehameha Loop or the property, or to widen or improve the existing ditch.

A second potential area of flooding is at the existing DOT culvert at the south end of Mehameha Loop. Pūlehunui North does not contribute any runoff to this culvert but may be impacted by the offsite runoff near the southern intersection of Mehameha Loop and Maui Veterans Highway. To mitigate flood risk at this location, a larger culvert could be added at Mehameha Loop or measures such as raised grades or berms could be implemented to protect Pūlehunui North from surface flow. Further analysis of the existing DOT culvert will be conducted in the future design phase.

Pūlehunui South

New retention basins will completely retain the stormwater runoff generated from each development lot, independent of the others. Piped overflow conveyance systems or surface flow paths will safely manage excess flows. Offsite runoff generated offsite, mauka of Pūlehunui South, will flow through the existing onsite gulch. As previously mentioned, the gulch eventually ends and disperses runoff before reaching Maui Veterans Highway. This existing flow will be modified to divert the runoff to the existing culverts at Maui Veterans Highway.

With the proposed design, the total onsite runoff will be reduced by 96 percent compared to existing conditions. Development of structures within in any flood zone areas will be avoided or the flood condition will be mitigated by filling the area to raise it out of the flood zone. The Kolaloa Gulch channel will remain free of encroachment so that flood flows will be unimpeded.

DLNR Industrial and Business Park

New detention basins are proposed at various locations throughout the project site to manage runoff increases. Some basins will be designed to slowly release runoff over time through low flow outlets, while others will be designed for full stormwater retention. The basins will work together in series or in parallel to ensure that the amount of runoff in the proposed condition does not exceed the existing condition.

Drain inlets and piped storm drain systems will be placed under roadways or in landscaped areas to convey runoff to the proposed basins. Swales will also be used wherever possible. Since there is a significant amount of offsite runoff currently passing through the project site, diversions and thru conveyance systems will be used to allow this runoff to continue to pass safely through. No detention systems will be placed within the thru conveyance systems because of the large volume of runoff flowing through them and to avoid restricting the conveyance capacity. The total onsite 50-year runoff after detention/retention will be 124.42 cubic feet per second (cfs), which is a 35 percent reduction from existing conditions. The existing downstream culvert at Raceway Park Drive will remain undersized, however, the reduction in site runoff will help to improve the current condition. The bulk of the flows to the culvert are from offsite areas.

A number of deficiencies have been identified in HC&S Reservoir 90 by the State Dam Safety Program and the dam poses a potential risk to DLNR and other makai properties. It is recommended that DLNR and other stakeholders work with and/ or negotiate with HC&S to further assess the dam and make the required repairs and upgrades.

Maui Regional Public Safety Complex

Runoff from the developed site is planned to be managed by a combination of open retention basins and an underground perforated pipe storage system. The goal will be to retain the increase in 50-year, 1-hour storm runoff so that flow rates are kept to predevelopment levels. Runoff stored in the basins will be allowed to infiltrate into the ground, while excess runoff will overflow to the south.

To mitigate impacts to surface and groundwater resources, the following best management practices (BMPs) will be considered by contractors during the construction phase:

- Prevent cement products, oil, fuel and other substances from falling or leaching into the ground. Remove all construction debris and toxic substances daily to prevent entry into the ground.
- Maintain vehicles and equipment to prevent oil or other fluids from leaking. Concrete trucks and tools used for construction should be rinsed offsite.
- Properly install and maintain erosion control barriers such as silt fencing or straw bales.
- Disturb the smallest area possible.
- Retain ground cover until the last possible date. Stabilize denuded areas by sodding or planting as soon as possible. Use high seeding rates to ensure rapid stand establishment.
- Apply any pesticides only during dry periods or low rainfall to minimize chemical runoff (applied only by certified applicators).
- Keep runoff onsite.
- Construction exceeding one acre is required to comply with National Pollutant Discharge Elimination System (NPDES) permitting requirements.
- Contractors will be required to provide BMPs as part of their contracts.

Independent Drainage Systems

There do not appear to be many reasons for the DLNR, Pūlehunui North, Pūlehunui South, or MRPS projects to combine or collaborate on new retention systems, conveyance systems, or any other drainage improvements. No anticipated projects are directly upstream or downstream of the other, and the drainage systems in the Infrastructure Regional Study Area are mostly separate. The land slope in the area is relatively flat, which may make it difficult or impossible to combine drainage systems due to insufficient slope.

Furthermore, it is generally advantageous to manage runoff with localized retention basins that have contributing areas less than 100 acres. Retention basins for drainage areas larger than 100 acres can end up being three times as large as those that manage areas less than 100 acres, due to County requirements that will be triggered based on contributing area size. In addition to larger storage systems, a combined or centralized approach to drainage design would require the storm drain systems to also be significantly larger, to carry the larger flows. Therefore, using a decentralized approach will lead to cost savings and space efficiency by using smaller drainage infrastructure, smaller storage systems, and less developable land.

Opportunities for Coordination

The agencies party to the MOU may wish to coordinate to address the deficient condition of HC&S Reservoir 90, mauka of the DLNR Industrial and Business Park. Further, the State agencies may wish to collaborate on earthwork; some projects may create excess cut, while others may require fill material. Coordination may or may not be desirable for improvements to the existing DOT culvert at Raceway Park Drive near the intersection with Maui Veterans Highway, and the existing DOT culvert at Mehameha Loop.

SOLID WASTE

Wastes generated by site preparation will primarily consist of vegetation, rocks, and debris from clearing, grubbing, and grading. Soil and rocks displaced from grading and clearing will be used as fill within the DHHL Project Areas. Solid waste that may be generated during construction that cannot be repurposed or recycled will be disposed at the Central Maui Landfill. As the DHHL Project Areas become operational, solid waste resulting from the DHHL Project Areas will be collected and disposed of for disposal at the Central Maui Landfill.

Green waste will either be chipped into mulch for use on site or will be taken to green waste recycling centers. If large amounts of green waste are expected from an individual phase of construction, delivery will be coordinated with the green waste recycling centers to ensure that there is adequate capacity among the centers to accept the anticipated amount of vegetation.

Construction waste will consist of waste lumber, concrete, and other building materials. Very little demolition material is expected, as the DHHL Project Areas are primarily vacant lands. DHHL will comply with all applicable rules regarding solid waste. Mitigation may include but is not limited to:

- Contractors will implement a waste management and recycling program to maintain clean construction sites, maximize material recycling, and minimize disposal truck traffic impacts.
- After construction, DHHL will implement strategies from the County's Integrated Solid Waste Management Plan (2009) for diverting solid waste from landfills by providing options for recycling.
- The goal for waste management is to appropriately reduce, reuse and recycle materials, to minimize generation of solid waste and achieve diversion from landfills. In conformance with Chapter 344-4(2), HRS, the DHHL Project Areas will promote the optimal use of solid wastes through programs of waste prevention, energy resource recovery, and recycling.
- DHHL will work with contractors to minimize the amount of solid waste generated during construction.
- Waste from site preparation and construction will be stored, handled, and properly disposed so as to divert the maximum amount of waste material caused by the development away from the County's landfill.

ELECTRICAL AND TELECOMMUNICATIONS

The DHHL Project Areas will require electrical, telephone, and CATV services. Coordination with MECO, Hawaiian Telcom, and Sandwich Isles Communication will be undertaken during the engineering plans preparation phase of work to ensure that all electrical, telephone, and cable television service requirements for the proposed development are adequately addressed.

MECO will eventually need to install a new substation in the area on an approximately one-acre parcel with perpetual easements, provided that land can be obtained and secured. The preferred location of the substation would be near existing transmission lines along Mehamaha Loop or at the Maui Veterans Highway and the Kam'āina Road intersection. MECO would need to consider future regional developments in determining the timeline for the new substation. It would be the responsibility of individual lot owners and/or contractors to submit service requests to MECO. Easements will be required to cover any and all new poles, overhead, and underground facilities located on private property and include required vehicular access.

Energy saving strategies and use of alternative/renewable energy (such as solar and wind power) will be considered as plans for the DHHL Project Areas progress. DHHL has developed and is implementing its own renewable energy policy, Ho'omalūō Energy Policy, to enable native Hawaiians and the broader community to lead the state's effort to achieve energy self-sufficiency and sustainability. Based on PSD's comments, PSD will likely coordinate with The Gas Company to bring utility gas to the proposed MRPSC, as well as consider alternative renewable energy sources such as solar and wind power in designing and constructing the MRPSC. Individual agencies may pursue gas utility options to supply their respective projects, if site conditions allow for the requisite infrastructure. Similarly, renewable energy sources such as solar and wind power would be considered on a site by site basis by the entity involved in developing its individual project.

IMPACT TO EXISTING AGRICULTURAL USE

The anticipated amendment to the Department's Maui Island Plan is being sought to accommodate the plan for agriculture and supporting uses at Pūlehunui South, based on outreach to DHHL beneficiaries. Generally, the anticipated land uses at the DHHL Project Areas are the product of extensive outreach to the DHHL beneficiary community, in line with the Department's mission.

The development of Pūlehunui North and Pūlehunui South will repurpose approximately 360 acres of fallow former agricultural lands, for commercial/light industrial and community uses, substantial portions of which will remain in open space or be committed to agriculture supporting uses. This change in use represents a small portion of the State Land Use designated "Agricultural" lands on Maui. It is noted that the DHHL Project Areas are not designated as IAL pursuant to Chapter 205-42, HRS.

Agricultural use at Pūlehunui South will require a water supply for irrigation as well as windbreaks to protect the proposed agricultural uses from strong winds and mitigate soil erosion. Long term soil erosion can also be mitigated through use of windbreaks and crop rotation cycles that avoid leaving fallow land open and exposed to wind. A primary windbreak should be planted along the windward boundary of the property. The recommended tree used for the primary windbreak is Norfolk Island Pine (*Araucaria heterophyllum*) as it is considered a tall species that is designed to diffuse the wind rather than block it. It is also recommended that two rows of trees be planted in an alternating sequence (such that the second row blocks the gap created by the first row). Plants or non-growing material can be used for intermediate windbreaks. The distance between intermediate windbreaks will depend upon the

crops that are planted and the effectiveness of the primary windbreak. (DHHL is open to considering alternative viable windbreak trees such as native species.)

Temporary erosion control measures will be implemented to minimize soil loss and erosion hazards during the construction period, thereby mitigating adverse impacts to future agricultural activities and properties downwind or downstream. Temporary Best Management Practices (BMPs) may include sediment basins, diversion berms and swales, silt fences, dust fences, inlet protection, slope protection, stabilized construction entrances and truck wash-down areas. Periodic water spraying on loose soils will take place to minimize airborne dirt particles from reaching adjacent properties.

All discharges related to the Proposed Action's construction or operation activities, whether or not National Pollutant Discharge Elimination system permit coverage and/or Section 401 Water Quality Certification are required, must comply with the Water Quality Standards, specified in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55. An application for a National Pollution Discharge Elimination System (NPDES) permit will be submitted to the State Department of Health (DOH) for review and approval as applicable.

Pursuant to the Clean Water Act, a Section 401 Water Quality Certification from the State Department of Health, Clean Water Branch will be obtained if it is determined that the proposed action may result in any discharge into navigable waters or as otherwise triggered. All discharges related to the construction and operation of the proposed action will comply with the State's Water Quality requirements contained in Chapters 11-54 and 11-55, HAR.

Following the previous use of Pūlehunui South by the Hawaiian Commercial & Sugar Company (HC&S) for sugar cultivation, there is strong community support for the continuation of agricultural uses on this land. There is also an opportunity to grow a variety of food crops in a range of farming approaches and farm sizes, including commercial farm crops and crops for subsistence agriculture that can support Maui residents as well as provide opportunities in the local economy. Recent feedback from the beneficiary community showed overwhelming support for subsistence agricultural, diversified agriculture, and other community uses at Pūlehunui South.

SOCIO-ECONOMIC CHARACTERISTICS

Population

While the Kīhei-Mākena area has historically seen substantial focus on resort- and visitor-related commercial development, the developments proposed within the Infrastructure Regional Study Area offer needed regional infrastructure solutions and more focus on industrial and primary resident (including native Hawaiian)-serving projects.

Only modest population growth is anticipated in the DHHL Project Areas (at Pūlehunui South), assuming homesteads will be implemented in the areas identified, as described further under "Kīhei-Mākena Community Plan Area".

Kīhei-Mākena Community Plan Area

As noted in the Draft County Forecast, residential growth in the Kīhei-Mākena region has been consistent, remaining home to almost a quarter of Maui's households. (Wailuku-Kahului remains the economic and population center of the island, as home to over a third of Maui's households.) By providing a regional infrastructure master plan, the Proposed Action facilitates the creation of facilities and jobs to sustain this

growth, thus supporting projected long-term patterns of settlement and growth on Maui. Additionally, as observed in the DLNR Industrial and Business Park DEIS Final EIS, much of the existing inventories of industrial lands in the region currently bear prices that encourage commercial and/or quasi-retail uses, which are allowed by their "stacked" zoning designations. On the other hand, conventional light industrial subdivisions are still observed in Central Maui but were noted to have diminishing developable inventory.

During the Draft EIS public review period, the County of Maui Planning Department wrote:

4. For the Final EIS, please include a statement that it is anticipated that the Maui County Code (MCC), Title 19 will likely undergo revision in the next few years. The Department does not favor stacking uses and M-1 Light Industrial zoning consists of many different types of uses. When Title 19 is revised, the permitted uses within the M-1 Light Industrial zoning may also be amended so that it is just light industrial.

DHHL observes that such a revision may impact lands in the Infrastructure Regional Study Area subject to County land use controls and, indirectly, the regional market for light industrial lands. Conventional light industrial subdivisions in Central Maui are noted to have diminishing developable inventory which may offset some of those impacts. (The Hawaiian Homes Commission Act (§§204 and 206), which has been incorporated into Article XII of the Hawai'i State Constitution, vests DHHL with exclusive authority to control its lands, and as noted DHHL anticipates a diverse range of uses at the DHHL Project Areas.)

Economic Overview

While unemployment remains at historically low levels on the island, anticipated growth in population is currently expected to outstrip growth in wage and salaried jobs, particularly in the Kīhei-Mākena and Wailuku-Kahului areas. The Draft County Forecast is based on analyses that do not necessarily reflect specifically proposed developments in each area, and the developments in the Infrastructure Regional Study Area offer a means of mitigating traffic and other impacts by generating a wide variety of jobs close to areas of population growth.

Economic and Fiscal Impacts

The Proposed Action will enable long-term developments by four State agencies, and those developments will in turn generate substantial employment and fiscal benefits during their development and operations.

Employment

The Pūlehunui Projects will be the source of many new jobs on-site, and will represent net new job creation in both the County and the State. Considering the Proposed Action impacts:

- Development employment - During its buildout, the Proposed Action is estimated to generate some 490 to 600 full-time equivalent (FTE)4 jobs annually, including positions supported directly and indirectly by its initial development expenditures. About 65 percent of these jobs are expected to be located on Maui, representing about 320 to 390 FTE jobs in an average year between 2020 and 2038.
- Operational employment - The employment impacts of a real estate development are often thought of as those that occur at its new facilities. While this is important, and many such on-site jobs will be new, others may be jobs that would have existed, or previously existed, elsewhere in the County and/or State. Therefore, assessment of the operations-related employment impacts is presented two ways: in terms of on-site employment as well as net new employment.
 - On-site – By the time of their completion in 2038, the Proposed Action is estimated to support some 3,070 FTE jobs on-site. These would all be direct, ongoing positions.

- Net new – While some of the on-site jobs could represent positions that might have been located elsewhere in the County and/or State even if the Proposed Action was not developed, by buildout in 2038, the Proposed Action is expected to have created some 4,300 FTE positions statewide. Of this statewide total, about 83 percent, or 3,600 positions are estimated to have been created in Maui County. These “net new” jobs include technical, managerial and staff positions at the various Pūlehunui Projects themselves, and many other positions in myriad industries that can be expected to be generated throughout the economy via indirect and induced economic factors. Like the on-site positions, these net new operating benefits are expected to be ongoing.

Personal earnings

Personal earnings are evaluated with respect to the development and net new operational job creation described above. With respect to the Proposed Action:

- Development-related positions are expected to support total personal earnings of some \$33M to \$40M in a typical year, statewide, during the Projects’ design and construction. These earnings represent an average of about \$67,000 per FTE job, including direct construction-related jobs as well as the indirect and induced opportunities created throughout the economy. The many jobs created directly by the development are expected to enjoy higher salaries than this overall average, in the range of about \$86,000 to \$87,000 FTE.
About 65 percent of development earnings can be expected to be realized in Maui County, representing some \$21M to \$26M per year in development-related earnings during buildout of the Proposed Action.
- Net new operational positions at the Proposed Action is projected to support about \$198M per year in new earnings for Hawai’i residents statewide, at buildout. On average, net new FTE positions are expected to earn about \$46,000 to \$47,000 each.

Maui residents are anticipated to realize about 81 percent of the statewide total annual earnings, or about \$160M by 2038 and annually thereafter.

Population Movements

Population movements may be driven by the Pūlehunui Projects’ employment opportunities as well as the new residential opportunities at the planned agricultural homesteads. In addition to these resident impacts, the possible hotel at Pūlehunui North could be expected to have a de facto population impact, meaning persons present in the County or State on any given day.

Population impacts are of interest in themselves and are also evaluated because additional persons would be expected to require additional State and County resources and services, and the costs of those operations are the subject of analysis in the fiscal impacts section.

- Employment - Employment impacts are assessed for the Projects’ direct impacts only. Development opportunities are expected to drive some temporary relocations to the County and possibly the State, while operational positions could represent long-term impacts. A small share of those employees who are relocating because of an employment opportunity is assumed to be accompanied by dependent(s).
- Homesteads - While DHHL has observed that home development in its agricultural homestead communities is very slow, so as not to underestimate the Pūlehunui Projects’ potential population impacts, it is assumed that all 100 planned lots are improved with homes by 2038, and that up to

60 percent of the associated households move from another County because of this homestead opportunity.

- Resident population impacts - Altogether, over time the Proposed Action could be associated with up to 490 persons who have relocated to Maui County from another County. Within that group, a subset of some 220 could be persons who relocated from another State. These population impacts are expected to decline after 2038, as the impact of development employment diminishes.
- Visitor population impacts - The 200-room possible hotel at Pūlehunui North could also be expected to accommodate some 340 guests on an average day. About 10 percent of these visitors are estimated to be Kama’āina, and while therefore their presence on Maui represents a de facto population impact for the County, it would not be an impact to the State.

Fiscal Impacts

An overall positive fiscal impact is anticipated. The Pūlehunui Projects include many elements that will directly serve or benefit to the important missions of the four State agencies considered here, in qualitative as well as financial terms. However, this section focuses on fiscal impacts, in terms of the creation of new revenues and expenses for the County and State governments.

The total (including direct, indirect and induced) fiscal impacts of the Pūlehunui Projects are summarized as follows:

Estimated Total Fiscal Impacts¹

	2028	2038	Ongoing (stabilized annual)
PROPOSED ACTION:			
Net additional revenues (\$mil)			
To the County	\$1.3	\$2.3	\$2.3
To the State	\$9.5	\$12.6	\$9.0
Net revenue/expenditure ratio			
For the County	2	2	2
For the State	11	8	6
CUMULATIVE IMPACTS:			
Net additional revenues (\$mil)			
To the County	\$5.1	\$8.0	\$8.1

¹ 2018 dollars, in millions

To the State	\$20.7	\$31.2	\$26.4
Net revenue/expenditure ratio			
For the County	4	3	3
For the State	12	9	8

Source: PBR HAWAI’I , 2018.

In addition to the government revenue and cost impacts quantified above, the Pūlehunui Regional Infrastructure Master Plan will result in the implementation of several needed regional infrastructure projects that will benefit government as well Hawai’i residents, as discussed in the accompanying EIS.

PUBLIC SERVICES AND FACILITIES

Schools

DHHL will continue to consult with the appropriate Federal, State, and County agencies to determine potential impacts and coordinate mitigation approaches. DHHL recognizes that if residences are constructed at Pūlehunui South, school-aged children from those households will place additional demand for public and private educational facilities. To mitigate potential impacts, as plans for the DHHL Project Areas progress, DHHL will consult the DOE regarding school impact fees and other potential impacts to educational resources. DHHL Project Areas will comply with any applicable impact fee requirements (including an Educational Contribution Agreement, as applicable). The realization of Pūlehunui South may even make a positive impact on educational opportunities. Based on the demand for community uses including cultural education, 33 acres of land have been set aside for educational uses at this property.

Pūlehunui North is not expected to be a direct population generator. As such, it is not anticipated to place additional demand upon educational facilities in the Kahului and Kihei regions.

Police

Those working or visiting Pūlehunui at some time may require police protective services at some time. As the County’s population grows, there will be a need for the County to allocate resources from real property taxes and other forms of revenue necessary to adequately fund police services. To mitigate potential impacts from the DHHL Project Areas, these additional funds could potentially be allotted from the increased tax revenues resulting from the Proposed Action. In addition DHHL will continue to consult with the appropriate Federal, State, and County agencies to determine potential impacts and coordinate mitigation approaches. The net additional County operating revenues are projected at \$2.3M per year by the time of project buildout, in 2018 dollars. The anticipated additional County revenues are expected to represent two times the additional operating expenses that may result from the Proposed Action’s development.

Fire and Emergency Services

Those working or visiting Pūlehunui are likely to require fire protection or emergency medical services at some time. As the County’s population grows, there will be a need for the County to allocate resources from real property taxes and other forms of revenue necessary to adequately fund fire prevention and emergency services. These additional funds could potentially be allotted from the increased tax revenues resulting from the Proposed Action. In addition DHHL will continue to consult with the appropriate

Federal, State, and County agencies to determine potential impacts and coordinate mitigation approaches. As previously noted, the net additional County operating revenues are projected at \$2.3M per year by anticipated buildout, in 2018 dollars. The anticipated additional County revenues are expected to represent two times the additional operating expenses that may result from the Proposed Action's development.

All structures will be designed and built in compliance with all fire protection requirements. Fire apparatus access roads and water supply for fire protection will comply with the Uniform Fire Code.

Medical

Those working or visiting Pūlehunui at some time may require health care and emergency medical services. Medical services are available in the region. Pūlehunui North's proposed commercial areas may attract doctors' offices and/or a medical clinic, to serve the community and neighboring areas.

Public Transportation

During the Draft EIS public review period, the County of Maui Planning Department wrote:

6. We note that you mention that as your project area progresses, you will explore multimodal transportation networks. We ask that you please develop it with consideration of the Central Maui Pedestrian and Bicycle Master Plan for 2030.

The Central Maui Pedestrian and Bicycle Master Plan for 2030 was reviewed and it did not appear to extend to the Infrastructure Regional Study Area (State of Hawai'i DOH— Healthy Hawaii Initiative, 2012). However, Pūlehunui North's internal roadways will be designed and built to meet County standards and should be able to accommodate the County's public bus transit service. It is hoped that when there is sufficient demand that either the #10 ("Kīhei Islander") or #15 ("Kīhei Villager") bus routes can be extended into the property, as a means of reducing private vehicular trips on area roads and highways (promoting transportation energy savings), and to provide better transportation and mobility options for those who can and cannot drive.

As plans for the DHHL Project Areas progress, DHHL will investigate opportunities to connect to existing and future multimodal transportation networks such as the existing bicycle and bus infrastructure network. DHHL notes that the DLNR is coordinating with the County of Maui DOT regarding the possibility of creating a bus stop near the DLNR Business and Industrial Park and will cooperate with any such efforts relating to the DHHL Project Areas.

Recreational Facilities

Those working or visiting Pūlehunui may utilize existing County and State recreational facilities, but most employees or visitors will reside outside of Pūlehunui, and will likely utilize in recreational facilities closer to their place of residence. If DHHL homesteads are developed at Pūlehunui South, those households will place additional demand for public and private recreational facilities.

Besides the opportunities for agricultural and cultural tourism in Pūlehunui South, one potential income generating use being contemplated in Pūlehunui North is a cultural center, such as the Polynesian Cultural Center or the Paradise Cove. Such a use would attract visitors staying in Kīhei and Wailea. Large, contiguous commercial lots within Pūlehunui North would be suitable for a more comprehensive commercial or retail complex and/or a visitor attraction destination, cultural center, business hotel or other large visitor industry-based use. For the purposes of preliminary engineering and traffic analyses, a hotel is one of the assumed uses at Pūlehunui North (at the discretion of a future developer) to account for potential developments at this property consistent with DHHL's Maui Island Plan designation.

Airports and Airfields

DHHL acknowledges that standing water may create a potential wildlife attractant thereby presenting a bird-strike risk to aircraft flying in the region, as well as potentially attracting vulnerable birds to areas inhabited by non-native predators. A high proportion of the rainfall that Maui receives each year falls on the northeast facing shores, leaving the central isthmus and southern coastal areas relatively dry. Therefore, it is highly unlikely that detention basins will contain standing water in the event of a storm, and any standing water are anticipated to be minimal. At the request of DOT-AIR, DHHL will specify to prospective developers and other site users that design and landscaping at the DHHL Project Areas should not attract wildlife. Should wildlife be determined to present a potential hazard to aircraft, DHHL will take appropriate measures to ensure the proper mitigation of the potential wildlife hazard. DHHL notes FAA Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports, provides guidance for developments and wildlife management near airports.

Air quality on Maui, and throughout the State of Hawai'i, is considered to be good due to the presence of northeasterly trade winds that tend to disperse pollutants seaward. Regarding regional emissions, the DHHL Project Areas are located in an Attainment/Unclassified area for all National Ambient Air Quality Service (NAAQS) and regional air quality is good. Should DHHL suspect that fumes, smoke, noise, vibrations, odors, and other airport-related exposures may impact the anticipated uses of its lands, more protective mitigation strategies will be considered at such time, depending on the nature of the concern. Should other unforeseen impacts arise from aircraft activities which are not mitigated by the strategies described in this EIS, DHHL will consider additional measures.

Pu'unēnē Armory activities are not anticipated to impact or be impacted by the DHHL Project Areas as the DHHL Project Areas are located a minimum of 200 feet from the armory (and farther from the armory's landing pad) and will include visual and noise buffers.

A noise exposure map of Kahului Airport, located a minimum of four miles north of the DHHL Project Areas, demonstrates that aircraft may transit over Pūlehunui North but are not anticipated to restrict the anticipated land uses. To prevent potential impacts to airport activities from wildlife, glint/glare hazards, obstructions and other issues, the Federal Aviation Administration (FAA) is being consulted to ensure compliance with any applicable rules and laws including those outlined in the State Office of Planning's technical assistance memorandum regarding airports in the state.

CUMULATIVE IMPACTS

Cumulative impacts are those that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. The following section briefly describes the potential cumulative impacts the Proposed Action may have in conjunction with other area improvements and projects, including non-DHHL developments that may occur in the Infrastructure Regional Study Area.

- The cumulative intensification of development of Pūlehunui will likely alter the landscape and visual character of the region. Cumulative noise impacts related to traffic and an increased intensity of land uses may also occur. Noise buffer areas on either side of the highway will serve as visual buffers as well. Portions of the buffer areas along Maui Veterans Highway will help to mitigate visual impacts, and can also be designed to include grade-separated bike paths and include areas for stormwater management.
- Positive cumulative economic impacts are anticipated. The cumulative development cost of all anticipated projects in the Infrastructure Regional Study Area is estimated at \$2.34B. In total, these

expenditures are expected to average about \$141.6M per year between 2020 and 2028, and \$106.9M per year between 2029 and 2038. Positive cumulative impacts may occur on the economy (and to DHHL) as the mix of uses in the area diversifies and is able to support additional businesses and services. The surrounding (non-State owned) land values may also increase due to increased activity and densities. New activity and density may potentially increase tax revenues for both the State and the County in general excise tax, income tax, and property tax collections. However, because the DHHL Project Areas are State-owned, it will not contribute to increased property tax revenues except for the onsite commercial and industrial uses.

- Energy use and increased traffic may create secondary and/or cumulative impacts such as increased greenhouse gas emissions due to energy use and vehicle noise and emissions. The long-term operation and maintenance of regional infrastructure alternatives such as that proposed under wastewater Alternative 2A-1 would also be anticipated to result in an increased direct demand for energy. Energy saving strategies and use of alternative/renewable energy will be considered. DHHL will investigate ways to connect to existing and future public and multimodal transportation networks.

To mitigate temporary cumulative impacts related to construction (air quality, stormwater runoff, noise, and traffic) DHHL will coordinate with State and County traffic control operations (including the Police Department) to mitigate such impacts. There may also be cumulative impacts related to shortages of construction materials, skilled contractors, and other related inputs during the construction phases should multiple projects be under construction at the same time. Coordination amongst the agencies party to the MOU may help to mitigate potential shortages. A substantial mitigation to cumulative construction impacts is the Proposed Action itself; the regional approach to infrastructure master planning offers the possibility of a coordinated development of water, wastewater, and traffic improvements within the Infrastructure Regional Area.

SECONDARY IMPACTS

Secondary impacts include those that are indirectly caused by the action and are later in time or are farther removed in distance but are still reasonably foreseeable. The following section briefly describes the potential secondary impacts that may result indirectly from the Proposed Action.

- No adverse secondary socio-economic impacts are anticipated, therefore no mitigation is proposed. The Proposed Action is expected to generate some \$1.03 billion in development expenditures in the State, or about \$49.0 million to \$59.8 million per year over the 19-year development period.
- Secondary impacts to public services, such as the County's Police Department, Fire Department, and the public school system may occur in the form of increased demands on public service budgets and workforce to serve the DHHL Project Areas. Public services, such as the County's Police Department, may need to increase budgets or reallocate resources and staff as a secondary impact to serve the increased employee and visitor/customer population at Pūlehunui North, with less secondary impacts on the Police Department's resources from DHHL beneficiaries farming/working at Pūlehunui South. Similarly, the increased Pūlehunui North employee and visitor/customer population may have the secondary impact of the increased need for medical services, which may bring additional businesses and employees to the area. Mitigation includes consultation with Federal, State, and County agencies to determine potential secondary impacts. DHHL will coordinate with these agencies accordingly. Additional

funds to support certain public services could potentially be allotted from the increased tax revenues resulting from the Proposed Action.

- No adverse secondary social impacts are anticipated, therefore no mitigation is proposed. The increased (mostly daytime) employee and visitor/customer population at the DHHL Project Areas combined with similar impacts from other State projects, may result in increased safety in the area as increased activity creates less desirable circumstances for illicit activities. More community activities and opportunities to meet people from diverse backgrounds may also stimulate new social networks and relationships between future employees, visitors, and future business patrons to the area.
- Secondary impacts related to increased regional utility and infrastructure demand may include induced jobs as discussed above for those utilities and infrastructure systems serving the Proposed Action such as telecommunication services, water, wastewater, energy and solid waste, green waste, and recycling handlers and processors who will receive the increased materials from the Proposed Action. Related is the anticipated possible shifting of demand on existing resources and services from other areas of Maui. However, the Proposed Action is not anticipated to increase the overall population of Maui as it is anticipated that any future residents of Pūlehunui South will already reside in Maui. In this case, the secondary impact is the shifting of demand on existing resources and services from other parts of the island.

Increased energy use and increased traffic may create secondary and/or cumulative impacts such as increased greenhouse gas emissions due to energy use and vehicle noise and emissions. The long-term operation and maintenance of regional infrastructure alternatives such as that proposed under wastewater Alternative 2A-1 would also be anticipated to result in an increased demand for energy. Energy saving strategies and use of alternative/renewable energy will be considered. DHHL has developed and is implementing its own renewable energy policy, Ho'omalū Energy Policy, to enable native Hawaiians and the broader community to lead the state's effort to achieve energy self-sufficiency and sustainability. DHHL will investigate ways to connect to existing and future public and multimodal transportation networks. Increased GHG due to electrical demand generated by the Pūlehunui North and Pūlehunui South and vehicle noise and emissions due to increased traffic are discussed in "Roadways and Traffic".