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2. Alternatives

2.1 INTRODUCTION

The ~~National Environmental Policy Act (NEPA) and the Hawaiʻi Environmental Policy Act (HEPA) and the National Environmental Policy Act (NEPA)~~ require the evaluation of reasonable alternatives¹ as a core principle of an environmental impact assessment.² This chapter describes the No Build Alternative and the Build Alternatives that ~~are~~ were evaluated in ~~this~~ the Draft Environmental Impact Statement (EIS). It also describes ~~potential~~ alternatives that were considered but determined unreasonable and therefore excluded from further evaluation. Chapter 5, Selected Preferred Alternative, summarizes the Federal Highway Administration (FHWA) and Hawaiʻi Department of Transportation (HDOT) evaluation and the identification of the Selected Preferred Alternative with consideration of public comments provided on the Draft EIS and including refinements between the Draft EIS and this Final EIS. ~~This was based on the impact assessment presented in Chapter 3, Affected Environment and Environmental Consequences.~~

The Build Alternatives summarized in this chapter were originally developed and refined based on prior planning studies by both the State of Hawaiʻi and Maui County—most notably the *Maui County 2005 Pali to Puamana Parkway Master Plan*. The alternatives are also based on early engagement with the community during pre-NEPA outreach for the Notice of Intent (NOI) and HEPA Environmental Impact Statement Preparation Notice (EISPN). As presented in the [Scoping Report](#) issued in May 2023, the FHWA and HDOT considered all comments received during the NOI and EISPN statutory public comment period—as well as information obtained during pre-NOI and EISPN scoping—in finalizing the alternatives analyzed in this Draft EIS.

2.2 NO BUILD ALTERNATIVE

In accordance with ~~the Council on Environmental Quality’s regulations implementing NEPA (40 CFR Part 1502.14(c)) and the requirements in HEPA (Hawaii Administrative Rules 11-200. 1.24), this~~ the Draft EIS ~~analyzes~~ analyzed the No Build Alternative as a benchmark of comparison with the Build Alternatives considered for the Project.

The No Build Alternative reflects future conditions if the Project were not constructed. In the No Build Alternative, Honoapiʻilani Highway would remain in its current alignment and configuration. As noted in Chapter 1, Introduction, Purpose and Need, this would result in a future condition where the vulnerabilities from coastal hazards remain a threat to the highway’s reliability as a critical link between West and Central Maui. As established by the Sea Level Rise Exposure Area (SLR-XA)

¹ As defined in 40 Code of Federal Regulations (CFR) 1508.1(z), “reasonable alternatives” are technically and economically feasible alternatives that meet the purpose and need of a project.

² See Council on Environmental Quality 40 CFR Parts 1500 to 1508 and Federal Highway Administration’s Environmental Impact and Related Procedures (23 CFR Part 771) and Hawaiʻi Environmental Policy Act (Hawaii Revised Statutes 343 and Hawaii Administrative Rules 11-200.1).



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assessment of a 3.2-foot sea level rise, approximately 4 of the 6 miles of the existing Honoapiʻilani Highway would be located within the SLR-XA, which includes passive flooding, annual high-wave flooding, and a modeled coastal erosion line representing a potential future coastline (Section 3.13, Climate Change and Sea Level Rise).

In the No Build Alternative, with no alignment changes, HDOT would be required to undertake frequent interventions and repairs to maintain the existing highway. Soft protections (for example, nature-based solutions), hard protections (for example, revetments and seawalls), or a combination of protections and elevating the road are short- to mid-term fixes that would be needed continually to address the chronic impacts from coastal hazards. Over the long term, the highway would be less reliable with anticipated closures and restrictions on its full use.

2.3 BUILD ALTERNATIVES

This ~~The~~ Draft EIS ~~considers~~ considered four Build Alternatives (FIGURE 2-1).³ To the north, all Build Alternatives would connect to the existing Lāhainā Bypass in the same way. To the south, all Build Alternatives would connect with the existing Honoapiʻilani Highway toward the Pali (the steep terrain at the southernmost end of the project area)—although Build Alternative 1 would connect farther to the south. FIGURE 2-2 shows these northern and southern terminus points and, for context, the areas beyond these points along the existing highway. In addition, all Build Alternatives would share a common alignment in the area roughly between Olowalu and Ukumehame (between mile marker 13 and 14).

The greatest degree of differentiation among the Build Alternatives would be within Olowalu and Ukumehame, where they would have varying levels of potential environmental and cultural effects (as evaluated in the technical chapters of ~~the this~~ Draft EIS and updated in this Final EIS). For this reason, Chapter 3, Affected Environment and Environmental Consequences, considers segments in Olowalu and Ukumehame independently; ~~it is noted that because~~ the Preferred Alternative ~~was~~ could ultimately ~~based on a be a~~ combination of Build Alternative 1 in Ukumehame and Build Alternative 2 in Olowalu. ~~s selected for each segment.~~

~~It is anticipated that any Build Alternative corridor that could be identified as the Preferred Alternative in Chapter 5, Preferred Alternative, may be further refined during the development of the Final EIS. Design refinements and any associated potential effects would be documented in the Final EIS and ROD.~~

³ https://www.honoapiilanihwymprovements.com/media/pdnbyflc/honoapiilani_scoping-report_may-2023.pdf.



FIGURE 2-1. Build Alternatives

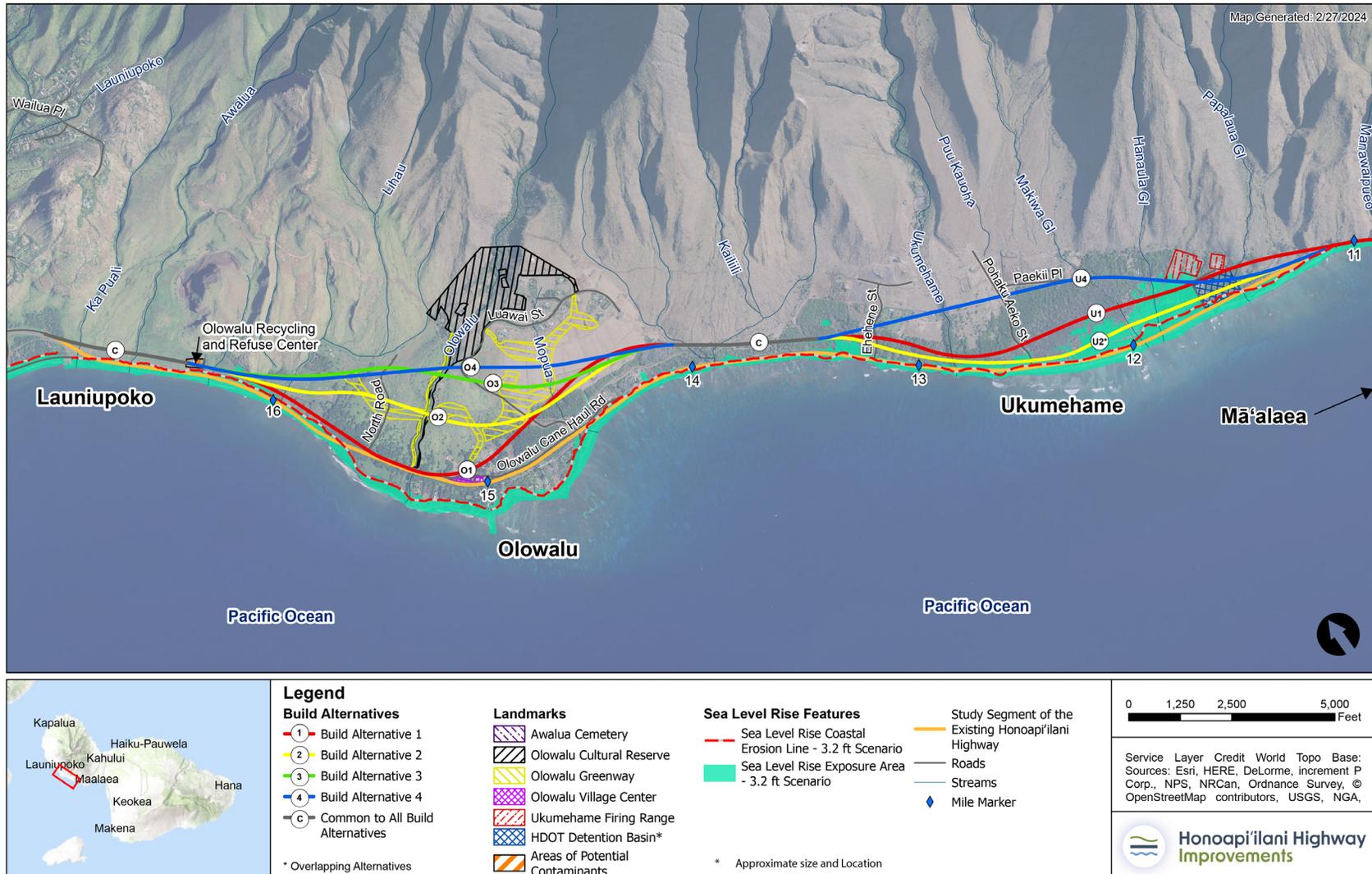




FIGURE 2-2. Project End Points (and Adjacent Areas) at Launiupoko and the Pali



2.3.1 Design Assumptions Common to All Build Alternatives

2.3.1.1 At-Grade Right-of-Way

In order to invest in a new highway alignment that is consistent with recent regional improvements and considers long-term growth forecasts established by the Maui Metropolitan Planning Organization (Maui MPO), the Build Alternatives have been considered based on a right-of-way width of 140 feet to accommodate inbound and outbound 11-foot-wide travel lanes, 8-foot-wide outer shoulders and 4-foot-wide inner shoulders, and a 42-foot-wide median that is sufficient to accommodate a four-lane highway (two travel lanes in each direction) should the need and funding become available in the future.

Therefore, while the Project would develop a two-lane highway, all Build Alternatives would have a general or average right-of-way width of approximately 140 feet with additional area required for intersections, stormwater management, and other infrastructure. HDOT intends for the full right-of-



way to be cleared and graded but that only one travel lane in each direction would be constructed until traffic demand requires and funding allows for a future project to build the additional lanes.

Each Build Alternative would set aside additional right-of-way at several natural low points close to proposed alignments for permanent stormwater best management practices (permanent BMPs) with an average size of about 1 acre. ~~Between the Draft and Final EIS, additional design considerations will be assessed for the Preferred Alternative, including potential additional effects of using additional right-of-way for permanent BMPs (if not previously evaluated).~~ These set-asides are conservatively sized for a maximum potential area of disturbance and the final number, locations, and size of the infrastructure may vary depending on the treatment strategies as established through final design as part of the design-build process. The NEPA Record of Decision (ROD) establishes this environmental footprint that the design-build team must stay within.

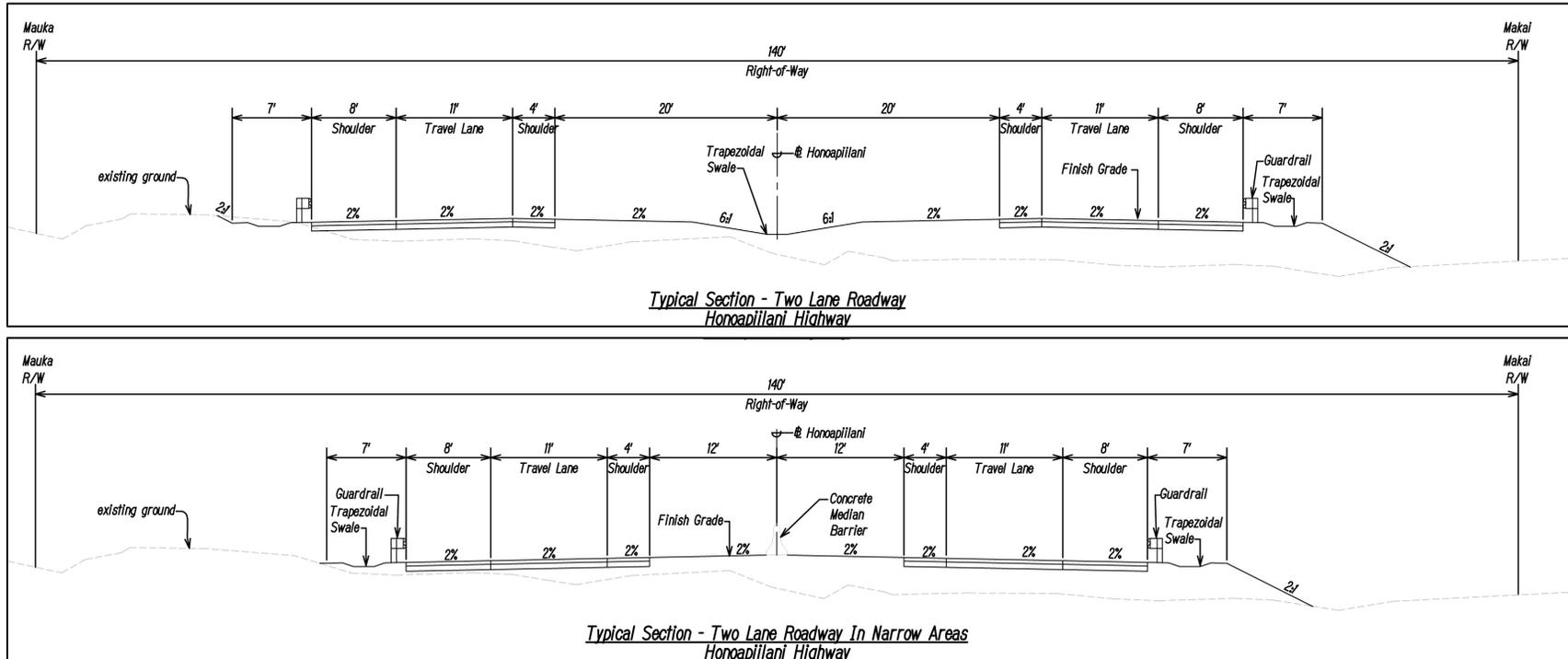
Other than intersections with existing cross streets that in turn provide access to the existing Honoapi'ilani Highway, all of the Build Alternatives would be limited-access and driveways or access points to adjacent uses would be avoided (Build Alternatives 2 and 3, which have the same alignment in Ukumehame, do include a driveway to the Ukumehame Firing Range). **FIGURE 2-3** provides typical two- and four-lane sections as well as a two- or four-lane narrow sections that could be utilized to minimize or avoid adverse effects at specific locations (pinch points) along one or more of the Build Alternatives.

Chapter 5, Selected Alternative, presents the Selected Alternative and the design refinements incorporated between the Draft and Final EIS, in addition during the design-build process, these typical sections may have some adjustments within the Preferred Alternative roadway footprint established for this Final EIS. If design adjustments occur beyond the Final EIS roadway footprint, effects of the changes must be assessed through NEPA re-evaluation during design-build.



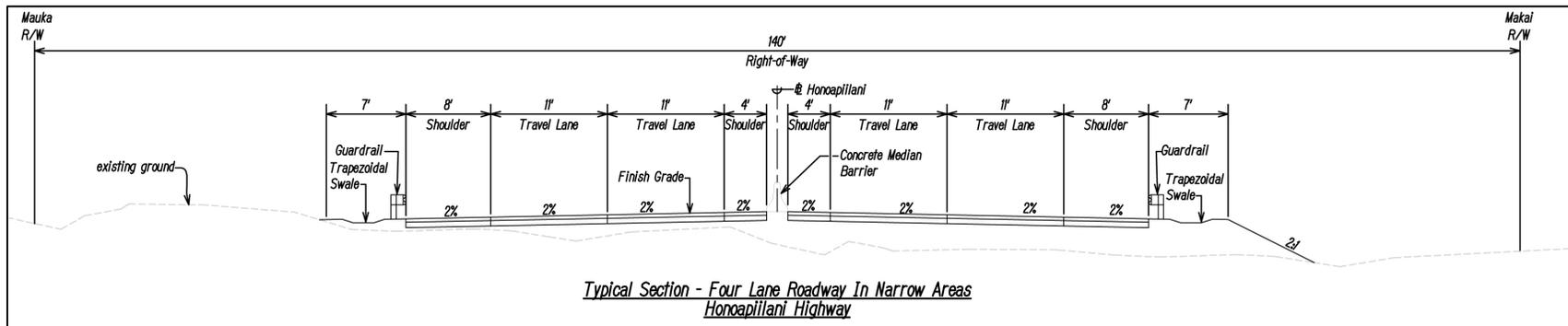
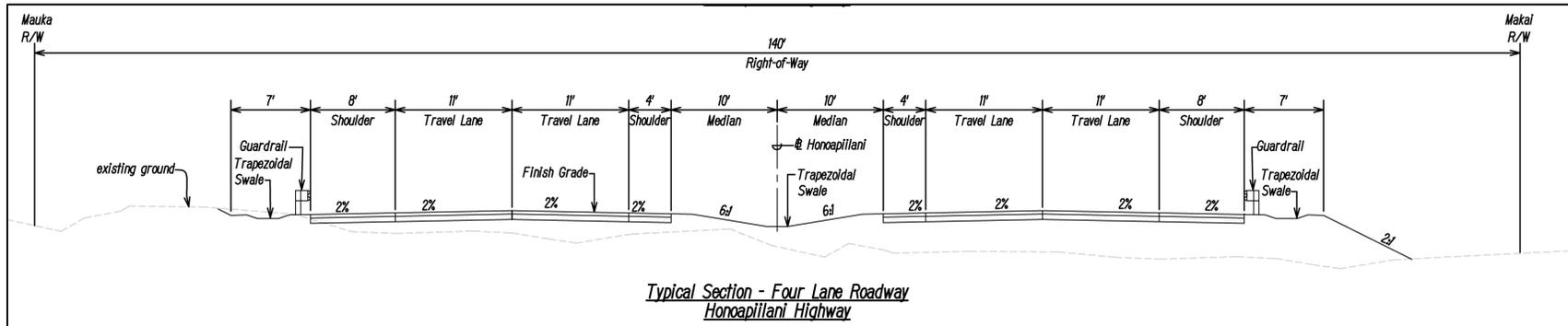
FIGURE 2-3. **Typical Right-of-Way Section with Two or Four Lanes and Narrow Right-of-Way Section**

Typical Right-of-Way Sections with Two Lanes





Typical Right-of-Way Sections with Four Lanes





2.3.1.2 Culverts, Bridge and Viaduct Structures

The Draft EIS evaluations are based on preliminary conceptual designs as identified during the scoping process. This includes the use of culverts, bridges, and viaduct (a viaduct is a longer multispan bridge) that allow for stream crossings or to avoid and minimize potential adverse effects with a Build Alternative. The ultimate determination of culvert and bridge specifications, or the use of viaducts to span larger areas, would be based on identification of the Preferred Alternative, the length of the span required, environmental effects, constructability, and cost. This is evaluated in Chapter 5, Preferred Alternative, and then would be further evaluated as part of the Final EIS and completed and would be finalized during the development of final design construction documents ~~in~~ as part of the design-build process.

Culverts

Concrete box, open bottom, or pipe culverts would allow for the flow of water under the highway and to convey stormwater at various locations. Box culverts may also be used to allow for grade separation of local cane haul roads or driveways as appropriate.

Bridges

Bridge structures would be required to span over the two perennial streams (Olowalu and Ukumehame Streams) and other streams based on the required span length. Each crossing would have a separate bridge crossing per two-lane segments and a typical elevation and section (which would vary by span length and height) as shown in **FIGURE 2-4** for a short-span bridge and **FIGURE 2-5** for a long-span bridge. Conceptual design includes all abutments (the supporting structures at the ends of the bridge) outside of the ordinary high water mark to ensure that the critical structural components of the bridge are not intruding into the stream's natural course.

Viaducts

In the Ukumehame segment, conceptual design has incorporated a viaduct element for each of the Build Alternatives as described below. The Project would include a two-lane viaduct with the potential to add a parallel viaduct for a future four-lane scenario based on traffic demand and funding availability. The addition of a new parallel viaduct structure would require additional NEPA/HEPA environmental review. Viaduct height above existing ground may vary between alternatives based on the need for clearance over ground-level uses. Span lengths between foundations may also vary based on the need to minimize ground disturbance. The conceptual design viaduct for the Build Alternatives ranges from approximately 3100 feet long to 3700 feet long with approximate varying elevations of 10 feet near take-off and up to 20 feet. **FIGURE 2-6** provides a section and schematic example of viaduct structures as they may be utilized in the Project.

All Build Alternatives in the Ukumehame segment would be on viaduct through environmentally sensitive areas. A roadway on embankment was evaluated because it would be less expensive to construct than a roadway on viaduct. However, a roadway on embankment would harden the shoreline and not meet the Project's need to reduce roadway exposure to the SLR-XA. Viaduct would be used to avoid new shoreline hardening and to reduce effects to sensitive environmental areas. Appendix 5.1 presents relevant evaluations for viaduct and embankment options. Chapter 3, Affected Environment and Environmental Consequences, provides details on environmental resources with respect to viaduct considerations.



FIGURE 2-5. **Typical Long Span Bridge Elevation and Section**

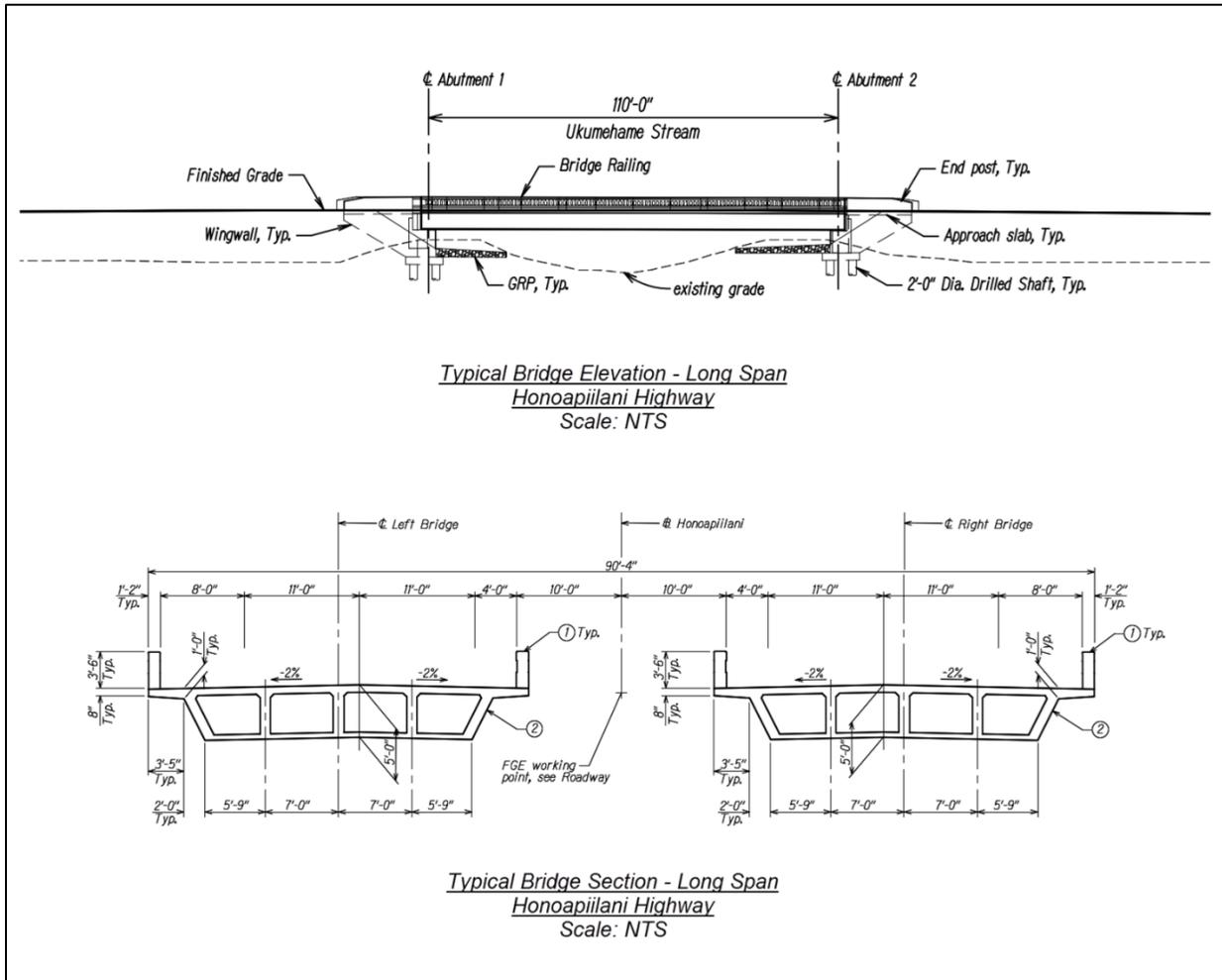
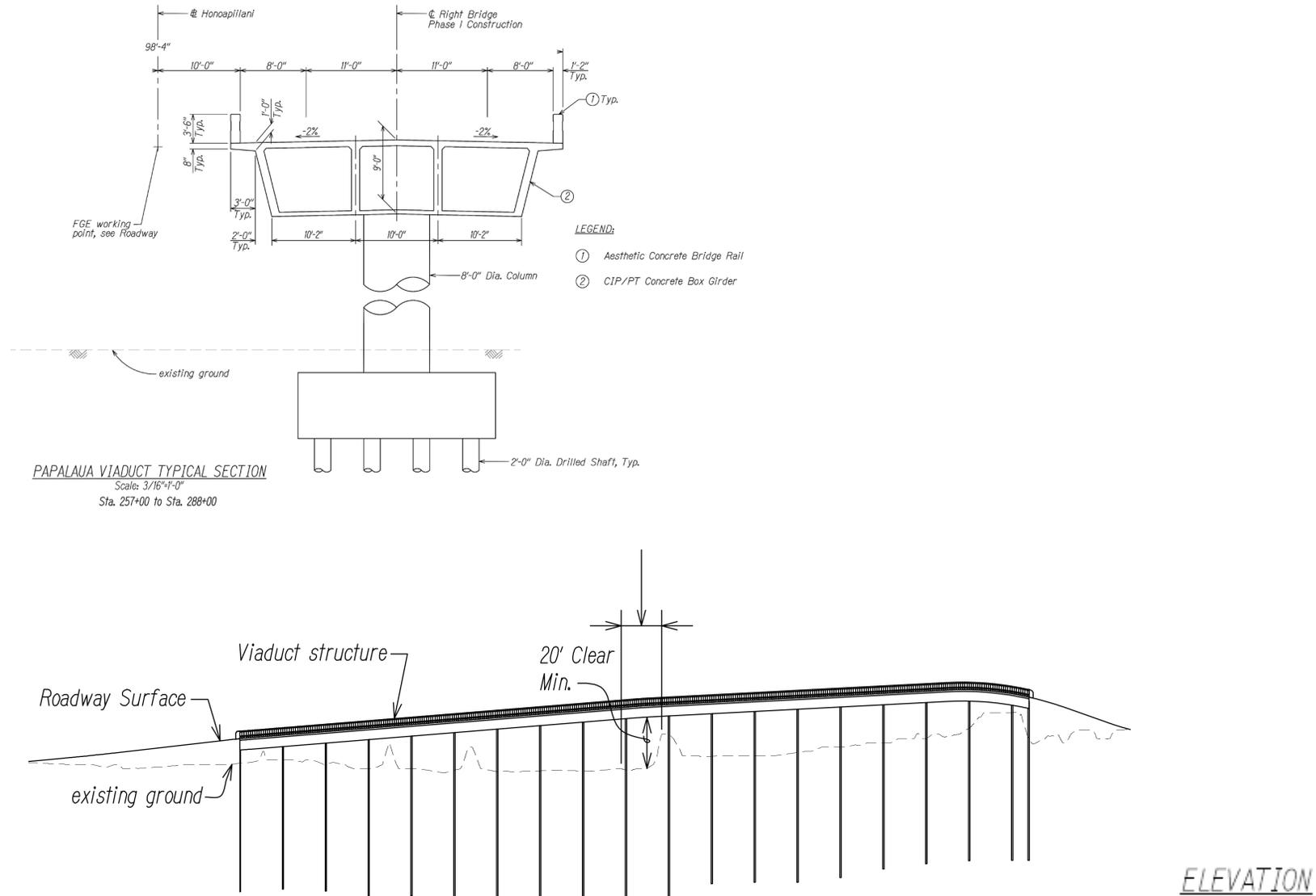




FIGURE 2-6. Typical Viaduct Section and Elevation





2.3.1.3 Existing Honoapiʻilani Highway in Project Area

All the Build Alternatives keep the existing Honoapiʻilani Highway, although it is proposed to become a local road under the jurisdiction of Maui County. To advance this jurisdictional transfer, and once a final design is determined, HDOT will collaborate with the County of Maui Department of Public Works, Engineering Division regarding ~~related to~~ inspection, improvements, and/or needed repairs prior to the jurisdictional changeover (see Chapter 7, Unresolved Issues and Unresolvable/Unavoidable Effects). As a local road, the existing highway would continue to provide access to public parks and beaches along the coast as well as residences, businesses, and cultural resources in the project area. The relocation of the highway would also allow the County of Maui to continue to develop ~~its their~~ plans for open space in the area consistent with the *Pali to Puamana Parkway Master Plan*.

Each Build Alternative assumes the existing highway would become a local access road. However, portions of the existing highway located makai of the 3.2-foot SLR-XA would be at risk for continued damage due to sea level rise. To avoid new shoreline hardening, there may be future local decisions to close damaged sections of the existing highway that cannot be resolved using nature-based solutions. If local jurisdictional agencies determine sections of the existing highway cannot be safely utilized, the existing highway could exist in small sections for local access only and may not be a continuous roadway from the Lāhainā Bypass to Pāpalaua Wayside Beach.

As a separate project, The Nature Conservancy is researching nature-based solutions that could be implemented along the existing Honoapiʻilani highway. This could inform the County on potential uses of the existing highway and also methods to preserve wetlands and water resources in the area.

Relinquishment is the process for changing the jurisdiction and classification of a roadway from the State to the County. As described in the HDOT Right-of-Way Manual⁴, the procedures for relinquishment are applicable in circumstances where sections of a State highway are superseded by construction of a new location, are removed from the federal-aid system, and the replaced section is approved by the FHWA.⁵ Revised right-of-way maps would be prepared and shared with ~~the appropriate~~ Maui County where the relinquishment is to take place. Upon approval by Maui County, the HDOT Right-of-Way Branch would prepare a written request (including maps and metes and bounds descriptions) to the Department of Land and Natural Resources to complete the relinquishment. The relinquishment process is anticipated to occur following completion of the Project.

2.3.1.4 Conversion of Private Road Connecting Segments

As part of the Project, segments of connecting streets that are currently privately owned as part of the Olowalu and Ukumehame Subdivisions would become local Maui County streets for the lengths between the new highway alignment and the existing highway. From north to south, this would include the lower or makai portions of the new North Road under construction, Luawai Street in Olowalu, and Ehehene and Pōhaku Aeko Streets in Ukumehame.

⁴ <https://hidot.hawaii.gov/highways/files/2012/10/ROW-MANUAL-2011.pdf>. Accessed February 2024.

⁵ As part of the relinquishment process, HDOT and the FHWA must concur that the land is not needed for federal-aid Highway purposes in the foreseeable future, that the new roadway segment and its traffic operations would not be adversely affected by relinquishments, and that the lands are not suitable to restore, preserve, or improve the scenic beauty of the new roadway.



As described in the Hawaii Revised Statutes Chapter 264,⁶ highways, roads, alleys, streets, ways, lanes, bikeways, bridges, and trails in the state that are, opened, laid out, or built by private parties can be dedicated or condemned to the public use. Dedication of such facilities would occur through a deed of conveyance naming either the State or County as the grantee. This deed would be accepted by the director of transportation or by the legislative body of the State or County.

2.3.2 Olowalu Build Alternatives

FIGURE 2-7 presents the four Build Alternatives evaluated for this segment of the Project. The figure also indicates the areas where the four alternatives share a common alignment.

2.3.2.1 Common to All Build Alternatives

All the Build Alternatives would be located mauka of the modeled 3.2-foot sea level rise coastal erosion line but do cross two small areas (each less than 0.5 acre) of the 3.2-foot SLR-XA in small low-lying areas south of the Olowalu Residential Recycling and Refuse Convenience Center (Section 3.13, Climate Change and Sea Level Rise, provides additional information).

All the Build Alternatives would include intersections with the Olowalu Residential Recycling and Refuse Convenience Center access road, North Road (a new road under construction as part of the Olowalu Subdivision), and Luawai Street. These roads would provide connections to the existing Honoapiʻilani Highway and local roads serving homes and businesses. Continued use of a mauka to makai dirt cane haul road ensures access to residences and cultural sites not directly accessible from Luawai Street.

For all Build Alternatives, conceptual designs of permanent BMPs at natural low points along the roadway profile to collect and treat roadway stormwater are identified in the individual alternative figures presented below. An evaluation of how stormwater infrastructure would be incorporated to minimize adverse water quality effects is found in Section 3.9, Water Resources, Wetlands, and Floodplains. Final design completed as part of the design-build process will determine the design, size, and location of permanent BMPs, including conceptual detention ponds to promote infiltration and treatment of stormwater generated on-site, and incorporation of Low Impact Development strategies, such as vegetated swales in the median and on the outside edges of the pavement structure to the maximum extent practicable. Concrete box, open bottom, and pipe culverts would convey off-site stormwater under any Build Alternative at various locations, as needed.

A long span bridge structure over the perennial Olowalu Stream (with abutments and piers outside the ordinary high water mark elevation) and bridges/culverts would be required for crossing another five non-perennial streams and ditches. Per HDOT drainage design standards, during the design-build phase of the Project, all culverts and bridges would be designed for a 50-year storm. And a 100-year storm would be used to analyze crossings within floodways on FEMA Flood Insurance Rate Maps.

⁶ https://www.capitol.hawaii.gov/hrscurrent/Vol05_Ch0261-0319/HRS0264/HRS_0264-0001.htm. Accessed February 2024.



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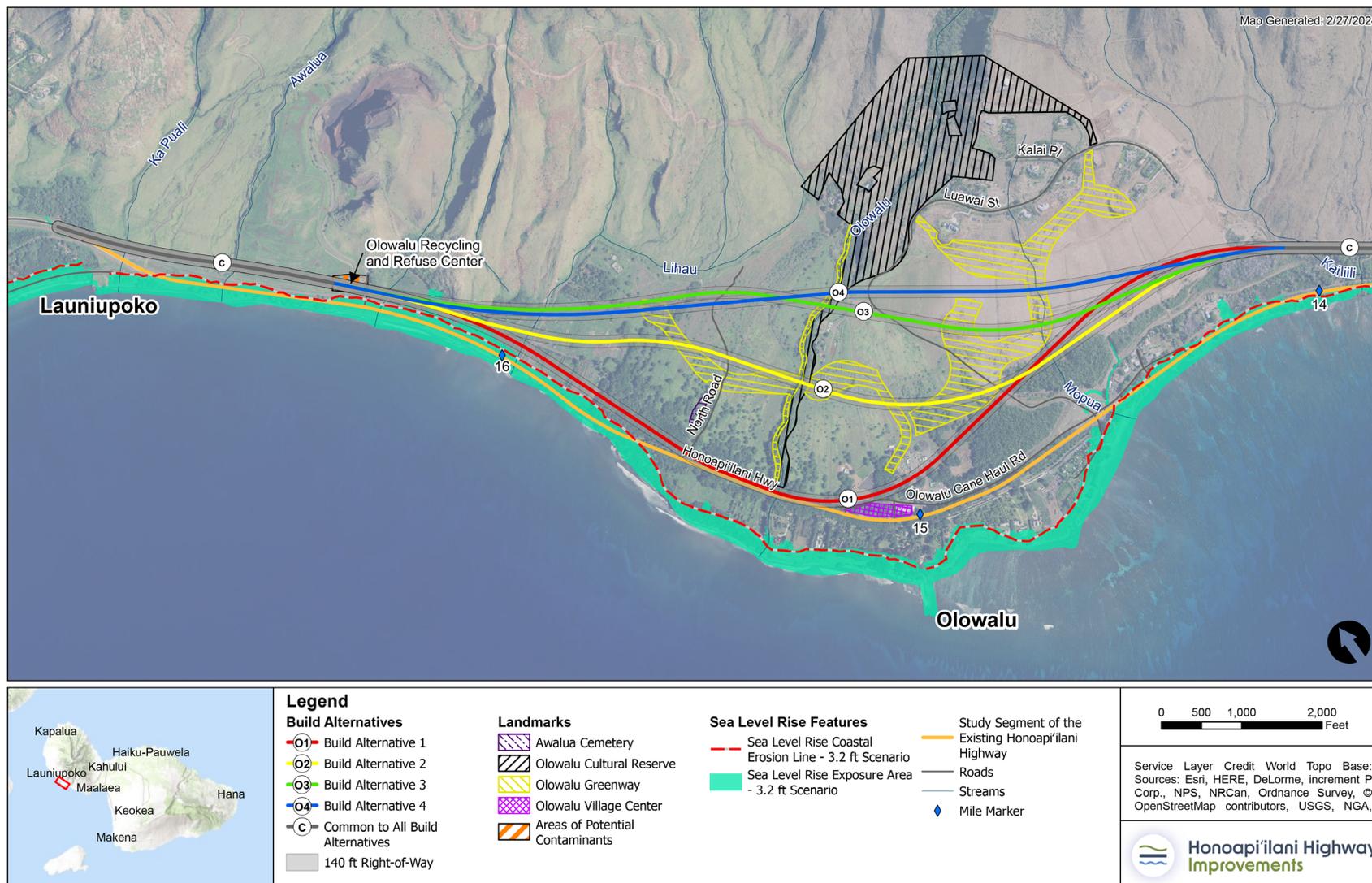
Based on early community input, all the Build Alternatives were modified to move mauka of the Kapāiki Place neighborhood on Olowalu Village Road and to increase the horizontal separation from about 15 residences and avoid cultural resources.

Between the tie-in with Lāhainā Bypass to just north of the Olowalu Residential Recycling and Refuse Convenience Center driveway, all the Build Alternatives share an approximately 0.6-mile common alignment. All Build Alternatives are proposed approximately 235 feet mauka and generally parallel with the existing highway, although the final design alignment could be modified within this narrow area to avoid or minimize adverse effects. To improve local access and in coordination with Maui County, it is proposed to connect the old Honoapiʻilani Highway from Launiupoko to the remaining existing highway.

All Olowalu segment Build Alternatives would require land acquisitions of approximately 15 to 16 private property parcels, one County-owned parcel, and two to three State-owned parcels. All Build Alternatives would cross the Olowalu Residential Recycling and Refuse Convenience Center and its driveway as well as the Living Earth Systems farm facility. See Chapters 3.1 Land Use and Zoning and 3.4 Land Acquisition, Displacement, and Relocation, for additional information.



FIGURE 2-7. Olowalu Build Alternatives





2.3.2.2 Build Alternative 1

FIGURE 2-8 shows Build Alternative 1 from its tie-in point with Lāhainā Bypass through the Olowalu Peninsula (about 3 miles). In addition to the common elements described above, key characteristics of Build Alternative 1 include the following:

- It is the most makai alignment in Olowalu and would be closer in proximity to (and partially overlap with) the existing highway before moving mauka behind existing businesses and residences to the south and east.
- Based on early community input, the Olowalu segment of Build Alternative 1 was modified during scoping and assessed in the Draft EIS to move Honoapiʻilani Highway farther mauka of the Kapāiki Place neighborhood on Olowalu Village Road.
- It would be the farthest distance from cultural resources mauka of the project area (most notably, the Olowalu Petroglyphs) as well as existing mauka residences off Luawai Street.
- Build Alternative 1 would have an intersection behind the village center commercial area, providing more direct access. This would also result in a cul-de-sac allowing a connection with the Upper Olowalu Access Road, providing access to mauka kuleana parcels and the Olowalu Petroglyphs. (FIGURE 2-8).
- A cul-de-sac would be required where the existing highway would be interrupted, based on the overlap with the new highway alignment (FIGURE 2-9). This would provide vehicles using the existing highway with sufficient space to turn around where the highway ends.

For Build Alternative 1, there are 19 tax map key (TMK) parcels that would be affected: 15 privately owned TMK parcels, one County-owned parcel, and three State-owned parcels. Three kuleana parcels would be affected and Build Alternative 1 would displace a portion of an existing storage yard facility rented to the Mauna Kahālāwai Watershed Partnership and the makai frontage of the Maui Paintball facility located north of the Olowalu village center.



FIGURE 2-8. **Build Alternative 1: Olowalu**

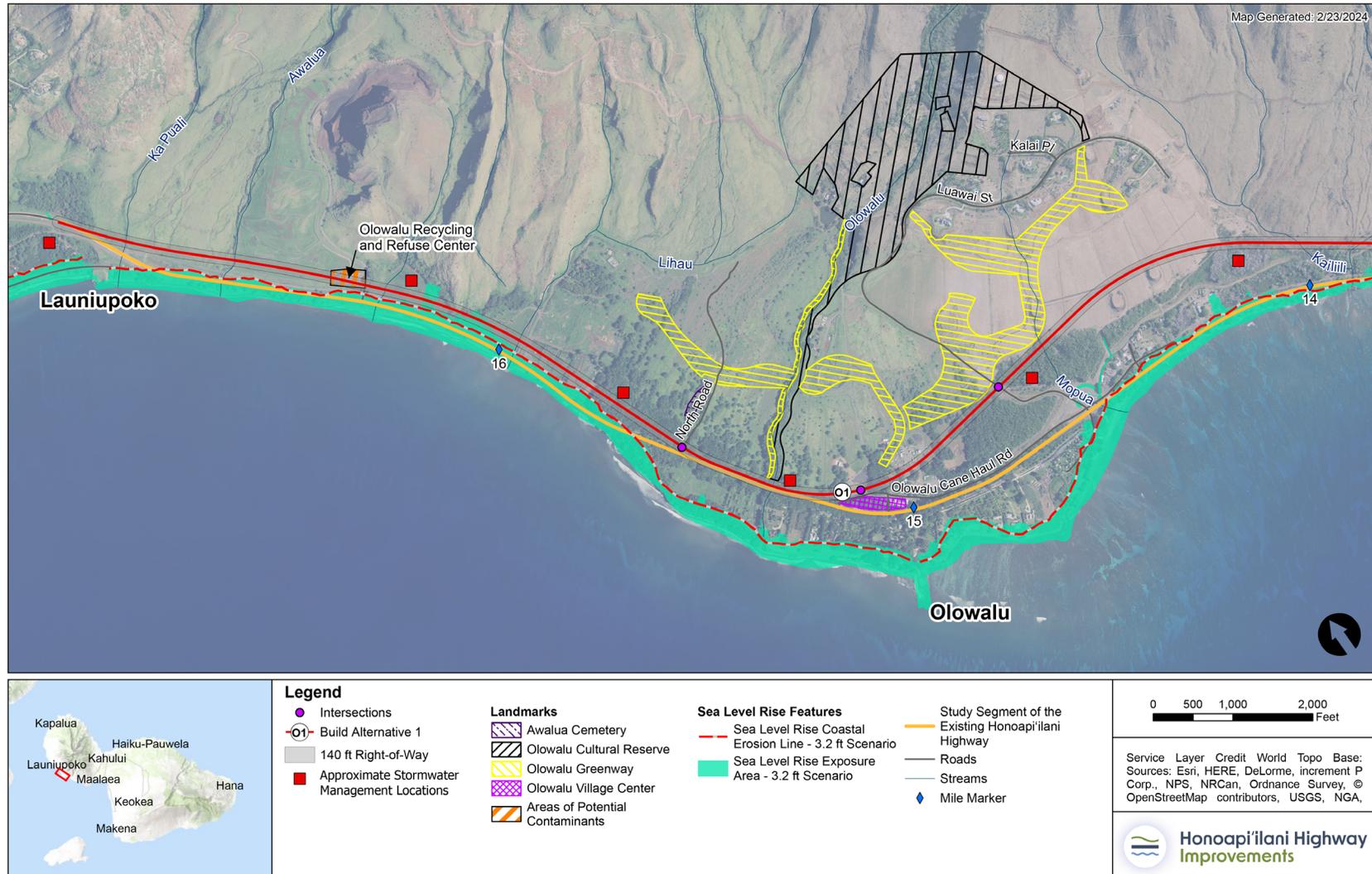
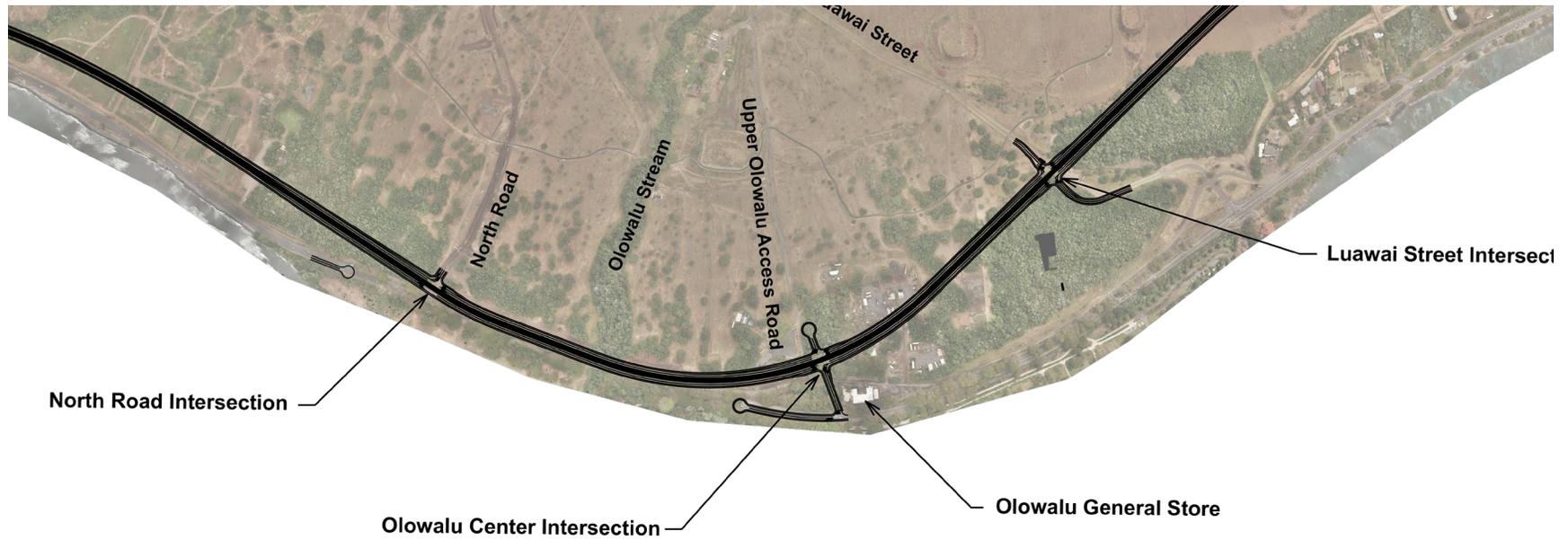




FIGURE 2-9. **Additional Traffic Features in Olowalu for Build Alternative 1**





2.3.2.3 Build Alternative 2

FIGURE 2-10 shows Build Alternative 2 in Olowalu as it crosses Olowalu from its tie-in point with Lāhainā Bypass through the Olowalu Peninsula—a length of about 2.8 miles. In addition to the common elements described above, key characteristics of Build Alternative 2 include the following:

- Based on the middle concept of the *Pali to Puamana Parkway Master Plan (2005)*, the alignment would track mauka of the developed areas of Olowalu before joining in a common alignment toward its connection point with Ukumehame.
- It crosses portions of the easement areas associated with the private subdivision’s approximately 60-acre greenway.
- It would be more than 0.25 miles away from the Olowalu Petroglyphs within the Olowalu Cultural Reserve as well as the upper elevation residences accessed by Luawai Street.

For Build Alternative 2, there are 18 parcels that would be affected: 15 privately owned TMK parcels, one County-owned parcel, and two State-owned parcels. Build Alternative 2 would also affect five kuleana parcels.

2.3.2.4 Build Alternative 3

FIGURE 2-11 shows Build Alternative 3 as it crosses Olowalu from its tie-in point with Lāhainā Bypass through the Olowalu Peninsula—a length of about 2.8 miles. In addition to the common elements described above, key characteristics of Build Alternative 3 include the following:

- It is based on the mauka concept of the *Pali to Puamana Parkway Master Plan (2005)* looking at a maximum separation of the new alignment from the coast.
- It was refined during scoping to avoid affecting properties with permitted building plans and to be more compatible with the private subdivision’s greenway, following an existing mapped roadway and utility easement within the *Olowalu Mauka Roadway and Greenway Plan*.
- This alignment would be located farther from the shoreline areas of Olowalu, although closer to important cultural resources mauka of the project area—less than 0.25 miles away from the Olowalu Petroglyphs within the Olowalu Cultural Reserve—and to the upper-elevation residences accessed by Luawai Street.

For Build Alternative 3, there are 18 parcels that would be affected: 15 privately owned TMK parcels, one County-owned parcel, and two State-owned parcels. Build Alternative 3 would also affect eight kuleana parcels.



FIGURE 2-10. **Build Alternative 2: Olowalu**

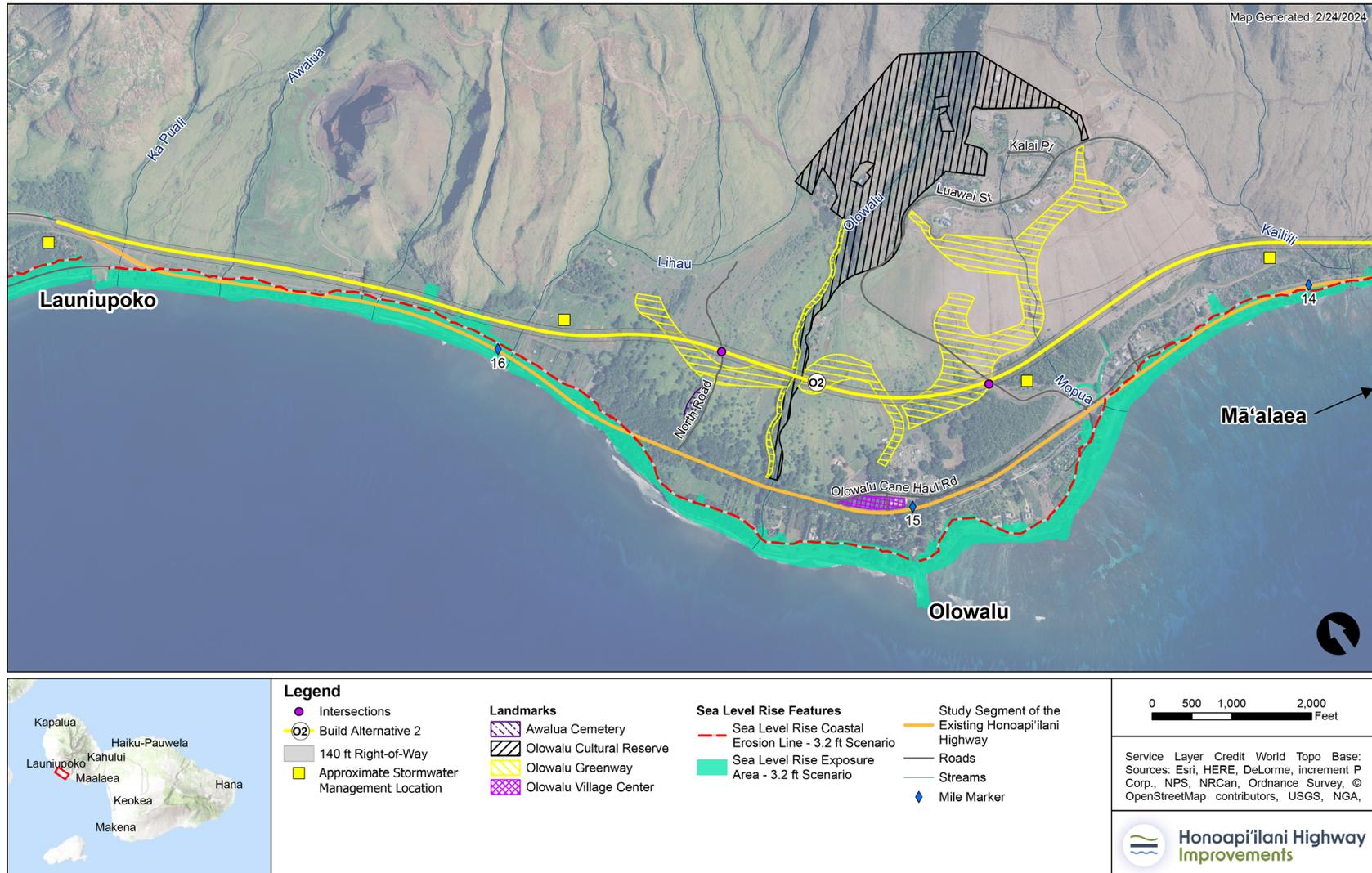
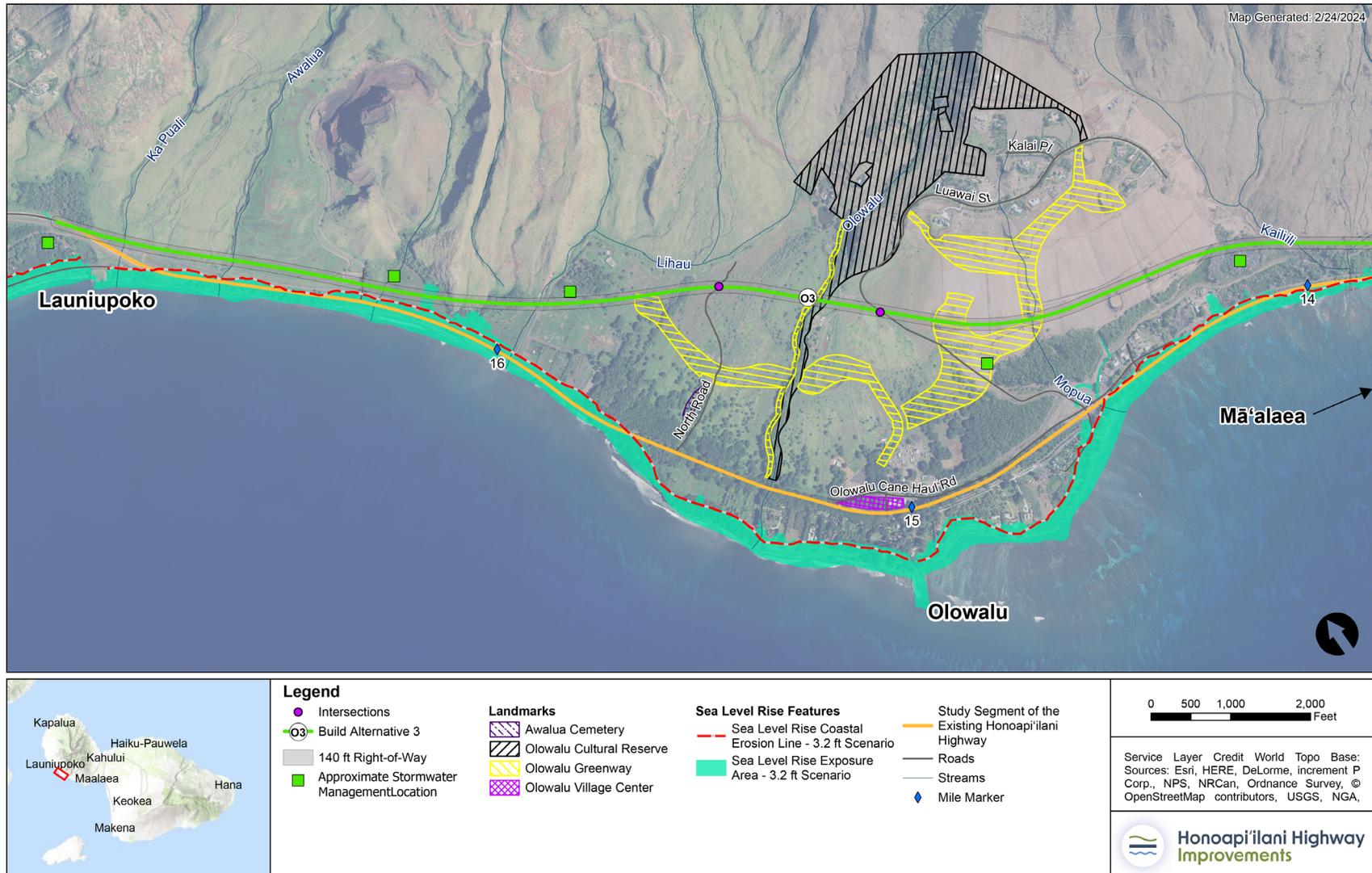




FIGURE 2-11. Build Alternative 3: Olowalu





2.3.2.5 Build Alternative 4

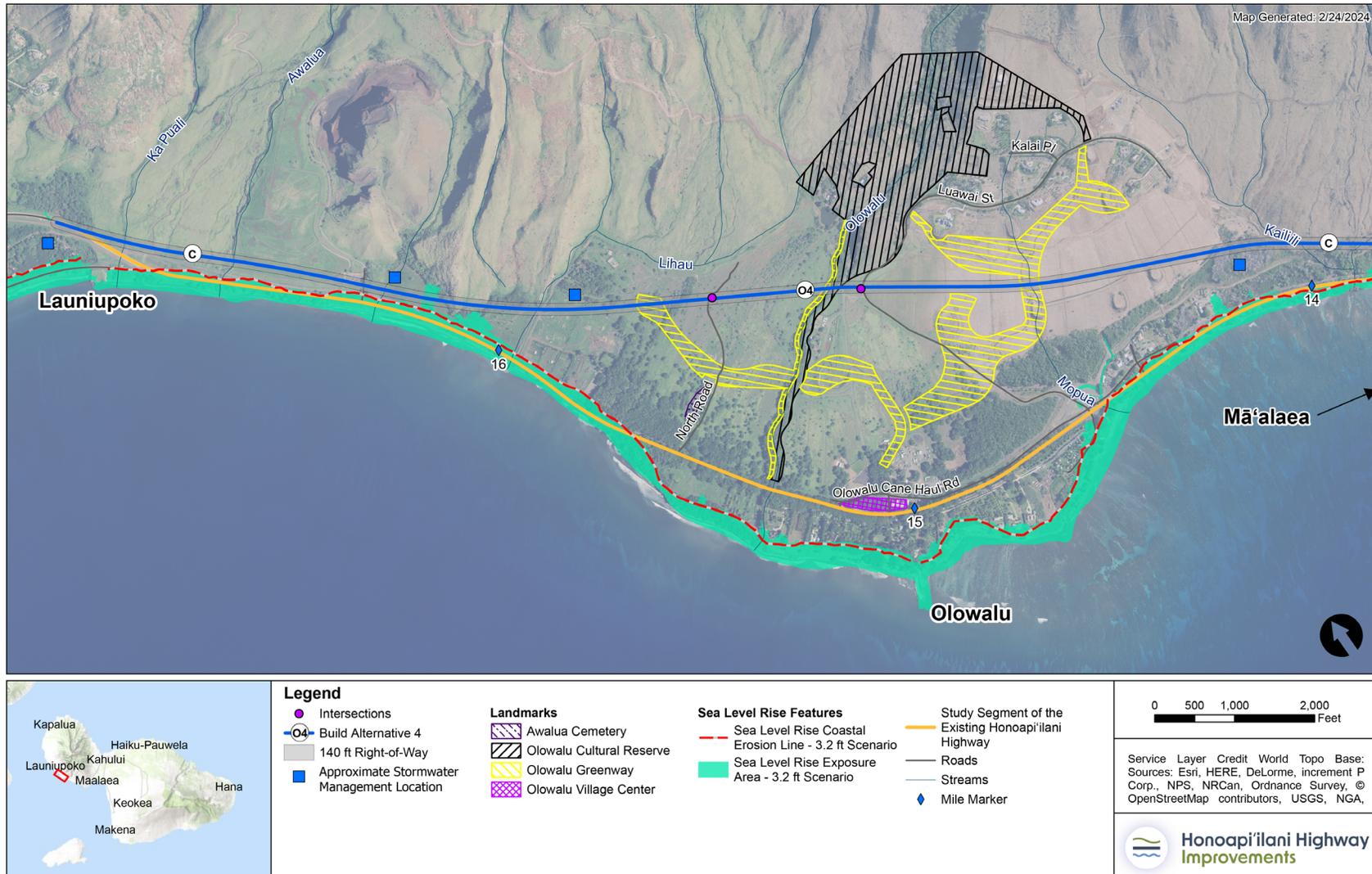
FIGURE 2-12 shows Build Alternative 4 as it crosses Olowalu from its tie-in point with Lāhainā Bypass through the Olowalu Peninsula—a length of about 2.7 miles. In addition to the common elements described above, key characteristics of Build Alternative 4 include the following:

- It is a variation of the mauka concept of the *Pali to Puamana Parkway Master Plan* (2005) looking at a maximum separation of the new alignment from the coast, with additional separation based on direct routing and less avoidance of private property. The alignment would have the most direct line across the Olowalu Peninsula.
- The alignment would be mostly in line with Build Alternative 3 other than a middle stretch of about 1 mile where it would be farther mauka by up to approximately 400 feet.
- The alignment variation through Olowalu is based on preliminary stakeholder ~~Owner of Record~~ input provided in 2007 planning for the corridor. It is also based on early pre-NOI scoping and community outreach in 2022, when HDOT adjusted the alignment to minimize the creation of unusable remnant parcels by following proposed roads and property boundaries where possible.
- This alignment is the farthest removed from the shoreline areas of Olowalu, although it is closest to important cultural resources mauka of the project area.

For Build Alternative 4, there are 19 parcels that would be affected: 16 privately owned TMK parcels, one County-owned parcel, and two State-owned parcels. Build Alternative 4 would also affect five kuleana parcels.



FIGURE 2-12. Build Alternative 4: Olowalu





2.3.3 Ukumehame Build Alternatives

FIGURE 2-13 presents the three Build Alternatives (Alternatives 2 and 3 are on the same alignment in Ukumehame) evaluated for the Ukumehame segment. The figure also indicates the areas where the three alternatives share a common alignment.

2.3.3.1 Common to All Build Alternatives

All the Build Alternatives would have a 0.6-mile crossing over State-owned Forest Reserve land between Ukumehame and Olowalu to the north. Based on the steep terrain and cultural sites mauka of the existing highway, the area for a new highway alignment is limited. Therefore, there is no useful variation among alternatives, and the preliminary alignment is generally parallel with the existing highway and proposed approximately 250 feet mauka. Although the final design alignment could be modified within this narrow area to avoid or minimize adverse effects.

All Build Alternatives would have intersections with the existing Ukumehame subdivision streets of Eehene Street north of the Ukumehame Stream and Pōhaku ‘Aeko Street south of the stream. These intersections provide access to the mauka areas of the subdivision, other areas mauka of the Project, and the existing Honoapiʻilani Highway.

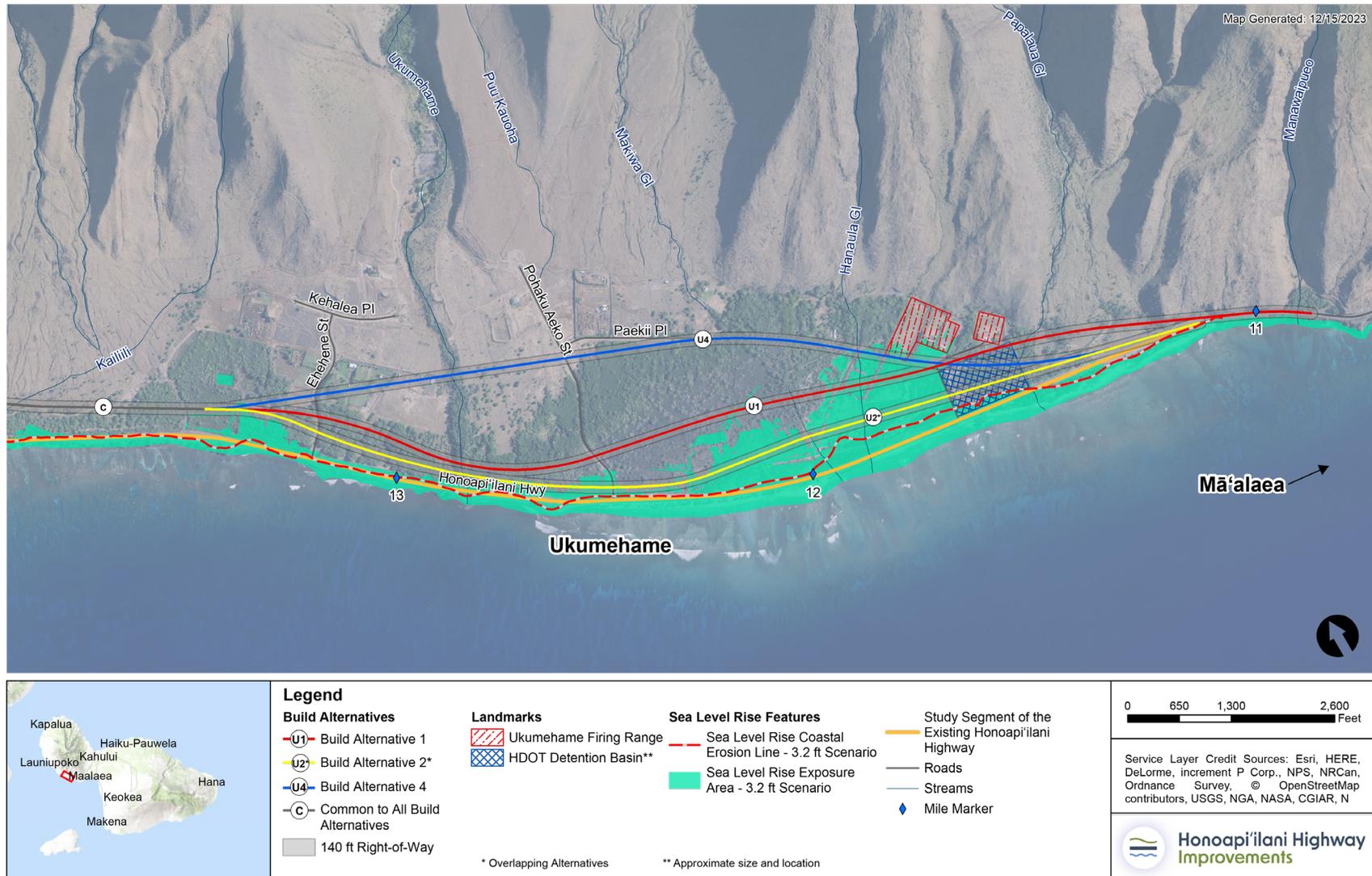
For all Build Alternatives, conceptual designs of permanent BMPs, at natural low points along the roadway profile to collect and treat roadway stormwater, are identified in the individual alternative figures presented below. An evaluation of how stormwater infrastructure would be incorporated to minimize adverse water quality effects is found in Section 3.9, Water Resources, Wetlands, and Floodplains. The final design established as part of the design-build process will determine the design, size, and location of the permanent BMPs, including conceptual detention ponds to promote infiltration and treatment of discharge generated on-site, and incorporation of Low Impact Development strategies, such as vegetated swales in the median and on the outside edges of the pavement structure to the maximum extent practicable. Concrete box, open bottom, and pipe culverts would convey stormwater under any Build Alternative at various locations, as needed.

~~Conceptual permanent BMPs were included as part of the Build Alternatives for this Draft EIS. Refinements to permanent BMP design would be made during development of the Final EIS, and the potential effects from those refined permanent BMPs would be documented in the Final EIS and ROD.~~

A bridge structure would be provided over the perennial Ukumehame Stream (with abutments and piers located outside the ordinary high water mark elevation). And bridges/culverts/viaduct would be required for crossing another six non-perennial streams and ditches (Build Alternative 4 crosses one additional non-perennial stream). Per HDOT drainage design standards, during the design-build phase of the Project, all culverts and bridges would be designed for a 50-year storm, and a 100-year storm would be used to analyze crossings within mapped floodways on FEMA Flood Insurance Rate Maps. In the area of Ukumehame Firing Range, all Build Alternatives have a portion of their alignment within the SLR-XA, which would largely be traversed on viaduct structure in order to meet the Project's purpose and need and to minimize potential effects to the environmentally sensitive areas near the firing range.



FIGURE 2-13. Ukumehame Build Alternatives





2.3.3.2 Build Alternative 1

FIGURE 2-14 shows Build Alternative 1 through Ukumehame from the north on the border of Olowalu to its southernmost tie-in point with the existing Honoapiʻilani Highway near the Pali—a length of about 3.1 miles. In addition to the common elements described above, key characteristics of Build Alternative 1 include the following:

- Build Alternative 1 would generally maintain a makai alignment along County of Maui and State of Hawaiʻi lands but would move up mauka in the area of Ukumehame Firing Range and has the southernmost and most mauka connection back to the existing highway in the Pali section.
- To traverse the HDOT detention basin and not interfere with the active uses at the firing range, Build Alternative 1 has a conceptual design of a 0.6-mile (3,300 linear feet) viaduct.
- The existing driveway to the firing range would no longer provide direct access from Build Alternative 1 based on the need to be on a viaduct in order to minimize exposure to the 3.2-foot SLR-XA and to environmentally sensitive areas. Access to the range would be via Pōhaku ʻAeko Street to the existing Honoapiʻilani Highway and then to the existing Ukumehame Firing Range driveway, which would pass under the viaduct.
- The new alignment would be mauka of the 3.2-foot sea level rise coastal erosion line but crosses through an area of about 12.5 acres of the SLR-XA (linear length by the width of the right-of-way).
- For Build Alternative 1 in Ukumehame, there are 17 TMK parcels that would be affected: three privately owned TMK parcels, seven County-owned parcels, and seven State-owned parcels. There would be five kuleana parcels affected.

2.3.3.3 Build Alternatives 2 and 3

FIGURE 2-15 shows the Ukumehame segment of Build Alternatives 2 and 3, which have the same alignment through from the north border with Olowalu to its southernmost tie-in point with the existing Honoapiʻilani Highway near the Pali—a length of about 3.3 miles. In addition to the comment elements described above, key characteristics of Build Alternatives 2 and 3 include the following:

- Build Alternatives 2 and 3 have the most makai alignment in Ukumehame, generally running parallel and close to the existing highway with the greatest proportion of alignment within the SLR-XA.
- The alignment would merge with the existing highway just south of the HDOT retention basin and would be at grade on a filled berm that would rebuild the makai wall of the retention basin and would maintain the firing range driveway access from the new at-grade highway (but not for the two County beaches that would be accessed via Pōhaku ʻAeko Street).
- At the northern end of the detention basin, conceptual design for Build Alternatives 2 and 3 would transition to a long-span viaduct of about 0.7 miles (3,700 linear feet) to minimize disturbance of mapped wetlands and waters as well as to remain elevated above the SLR-XA. The alignment's right-of-way would be over about 18.3 acres of SLR-XA.



- For Ukumehame Build Alternatives 2 and 3, there are 17 parcels that would be affected: one privately owned TMK parcel, nine County-owned parcels, and seven State-owned parcels. Build Alternatives 2 and 3 would also affect six kuleana parcels.



FIGURE 2-14. **Build Alternative 1: Ukumehame**

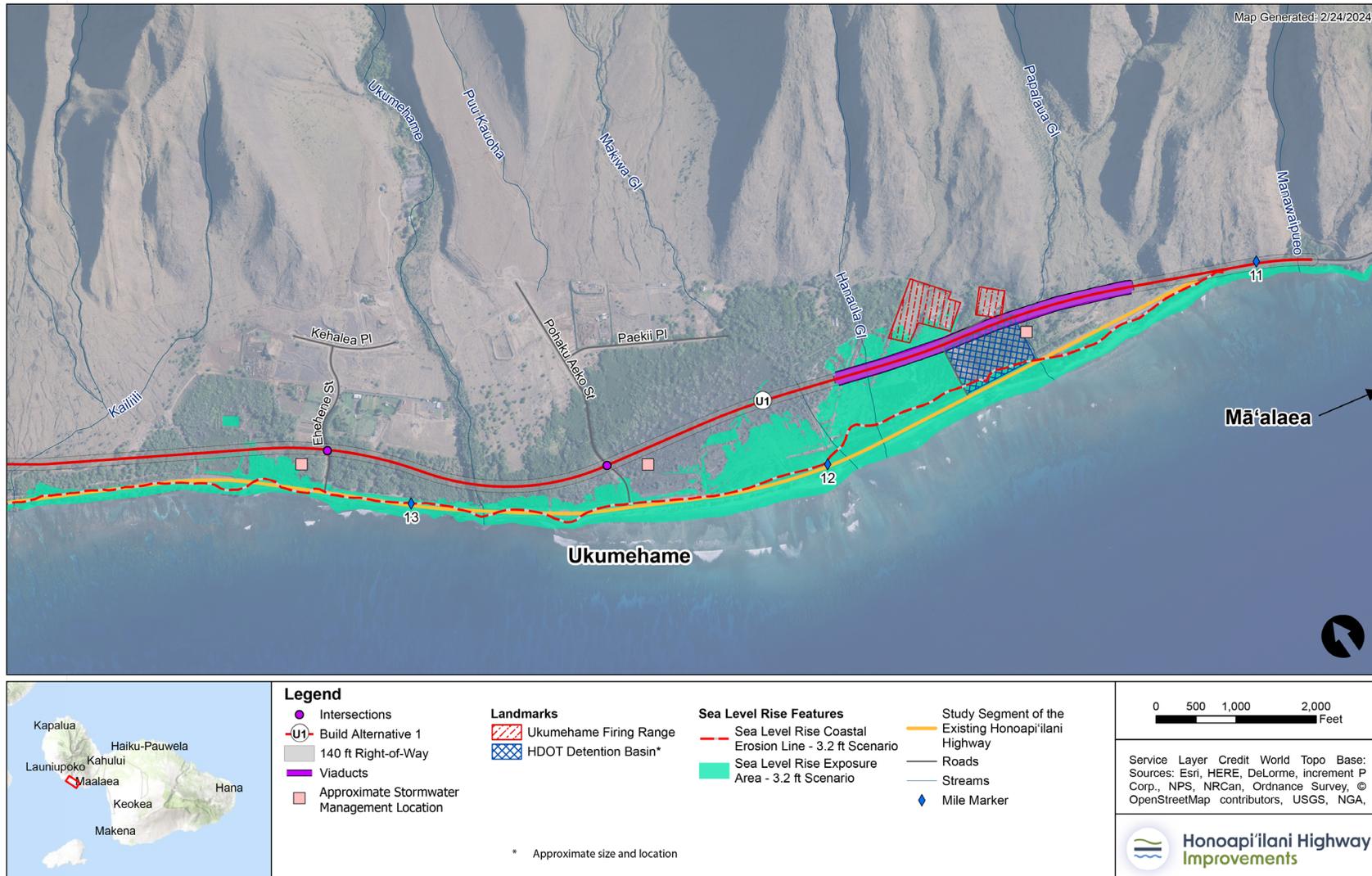
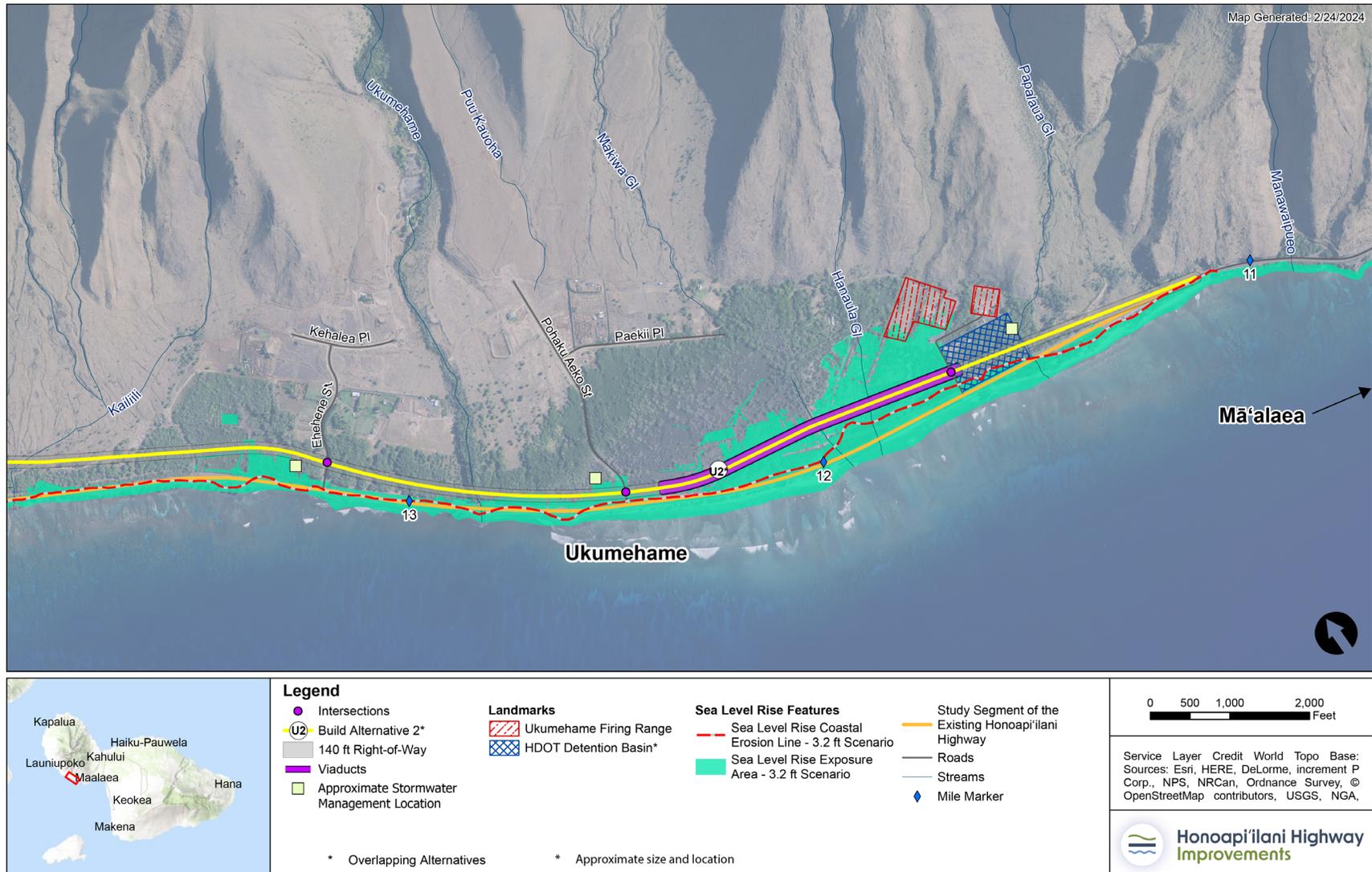




FIGURE 2-15. Build Alternatives 2 and 3: Ukumehame





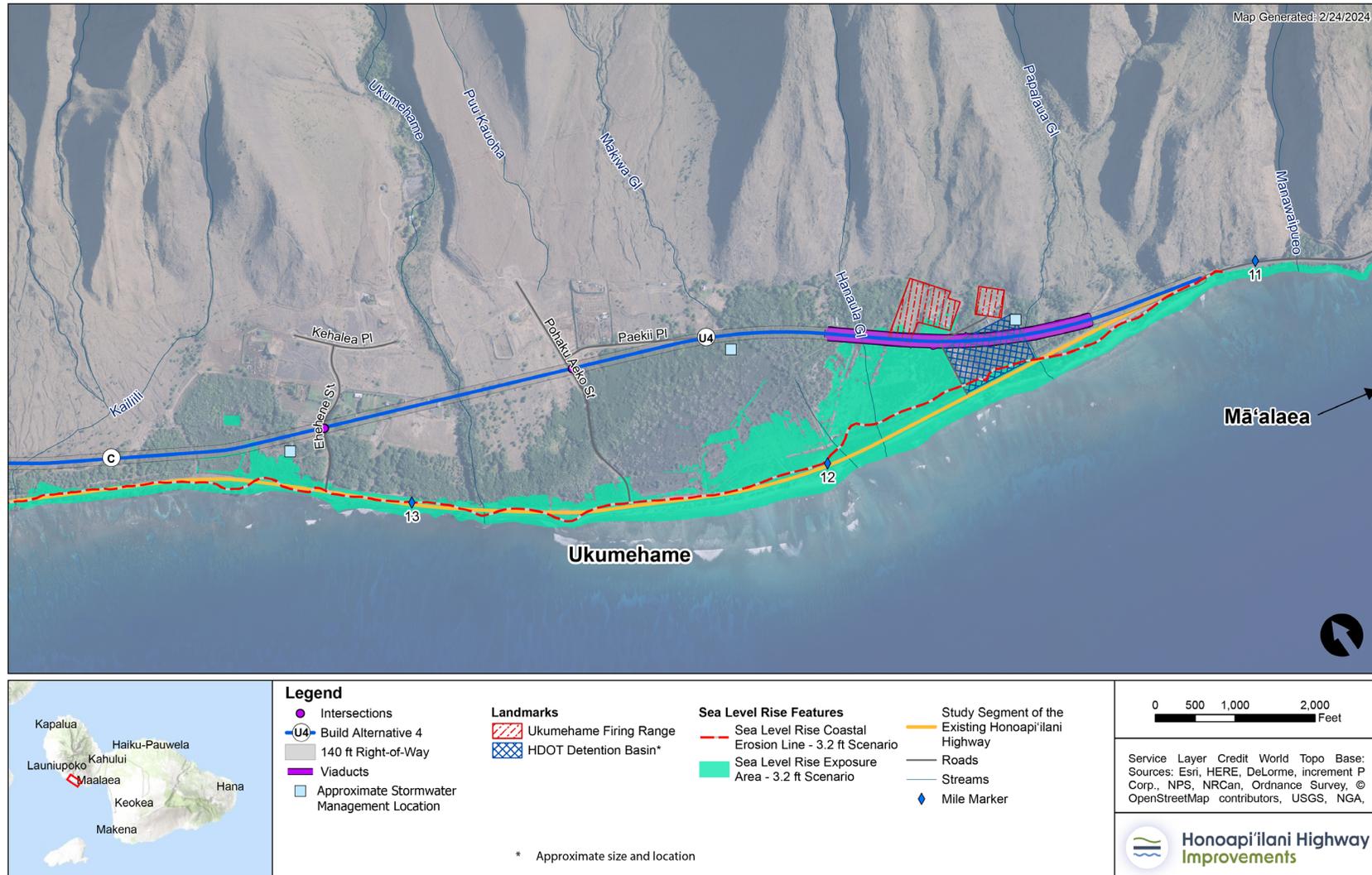
2.3.3.4 Build Alternative 4

FIGURE 2-16 shows the Ukumehame segments of Build Alternative 4 from the north border with Olowalu to its southernmost merge point with the existing Honoapiʻilani Highway near the Pali—a length of about 2.84 miles. In addition to the common elements described above, key characteristics of Build Alternative 4 include the following:

- It is the most mauka of all Build Alternatives through Ukumehame. This allows the alignment to be farther removed from the shoreline areas of Ukumehame and substantially mauka of the SLR-XA.
- As the most mauka alignment, Build Alternative 4 would require substantial private property acquisition of primarily undeveloped parcels of the Ukumehame subdivision and would displace two active sod farms off Eehene Street north of the Ukumehame Stream.
- Build Alternative 4 includes a conceptual design of a 0.6-mile (3,100 linear feet) viaduct in order to elevate the roadway and minimize potential effects to the HDOT detention basin, the Ukumehame Firing Range parking lot, and to minimize exposure to the 3.2-foot SLR-XA.
- The Build Alternative 4 right-of-way would be elevated over about 8.6 acres of SLR-XA.
- For Ukumehame Build Alternative 4, 32 parcels would be affected: 20 privately owned TMK parcels, five County-owned parcels, and seven State-owned parcels. Build Alternative 4 would affect seven kuleana parcels and would also result in the full or partial acquisition and displacement of two existing sod farm businesses.



FIGURE 2-16. **Build Alternative 4: Ukumehame**





1 **2.4 ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD**

2 As detailed in the NOI Supplement and the EISPN, certain potential alternatives did not pass a
3 screening process that evaluated their ability to meet the Project’s purpose and need and
4 constructability requirements. **TABLE 2-1** summarizes these potential alternatives and provides the
5 reason they were not considered in ~~this~~ the Draft EIS.

6 In addition, the embankment option for viaduct segments was evaluated in the development of the
7 Build Alternatives. All Build Alternatives in the Ukumehame segment would be on viaduct through
8 environmentally sensitive areas. A roadway on embankment would be less expensive to construct than
9 a roadway on viaduct. However, a roadway on embankment would harden the shoreline and not meet
10 the Project’s need to reduce roadway exposure to the SLR-XA. Viaduct will be used to avoid new
11 shoreline hardening and to reduce effects to sensitive environmental areas. Appendix 5.1 presents
12 relevant evaluations for viaduct and embankment options.



TABLE 2-1. **Alternatives Considered but Not Carried Forward**

ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD	DESCRIPTION	REASON FOR ELIMINATION
<p>Build Alternative 5</p>	<p>Build Alternative 5 was the most mauka route considered as a potential Build Alternative. This alignment was a new concept developed to avoid private property acquisition in Olowalu by realigning the highway well inland of residential areas thereby using almost all County- and State-owned lands. Build Alternative 5 would have largely avoided the SLR-XA 3.2-foot coastal erosion line and the larger SLR-XA inundation area.</p>	<p>The Federal Highway Administration and Hawaiʻi Department of Transportation eliminated Build Alternative 5 from further study due to concerns for archaeological and cultural resources expressed by the Native Hawaiian community in early scoping meetings. In addition, because Build Alternative 5 would have crossed rugged terrain with many gullies and gulches, requirements for grading, slope stabilization, and bridge work would likely have more severe environmental impacts and would be the most expensive. Therefore, this alternative is <u>was</u> not evaluated further in this <u>the</u> Draft EIS.</p>
<p>Transportation System Management and Operations (TSMO) Alternative</p>	<p>TSMO improvements are operational improvements that maximize the efficiency of the current transportation system or reduce the demand for travel on a system through the implementation of low-cost improvements. Examples of TSMO activities include adding turn lanes, optimizing signalization at intersections, and using electronic Intelligent Transportation Systems. Other examples are enhanced ride sharing, van and carpooling, park-and-ride facilities, and the encouragement of teleworking.</p>	<p>As a stand-alone option, the TSMO Alternative would not have met the Project’s purpose and need because Honoapiʻilani Highway would have remained substantially unchanged from its current location and configuration within the SLR-XA 3.2-foot scenario. While a TSMO Alternative may have minimized initial cost, ongoing maintenance and repairs costs—including emergency response—would be constant over the long term. Therefore, the TSMO Alternative is <u>was</u> not evaluated further in this <u>the</u> Draft EIS. Nonetheless, TSMO improvements could be included as part of the <u>design-build final design or Preferred Alternative</u> in conjunction with other <u>future</u> improvements.</p>
<p>Longer highway realignment from Māʻālaea to Launiupoko</p>	<p>A longer highway realignment from Māʻālaea to Launiupoko would have included a highway through or around the Pali. This alternative would have included project elements such as a tunnel under/through the mountainous Pali region or an ocean causeway around the coastline.</p>	<p>This alternative route was dismissed from further consideration because of the technical challenges of the difficult terrain and the high construction cost. In addition, there would have been extensive environmental <u>impacts</u> concerns involved in traversing the Pali. Therefore, this alternative is <u>was</u> not evaluated further in this <u>the</u> Draft EIS.</p>
<p>Kāʻānapali to Wailuku Highway via the northern coast of West Maui</p>	<p>Kahekili Highway (County Route 340) connects with Honoapiʻilani Highway via the northern coast of West Maui but is narrow and generally has insufficient capacity and substandard roadway conditions to accommodate the vast majority of traffic traveling to and from West Maui, including freight traffic.</p>	<p>Improving this route would have resulted in much greater environmental and community impacts than remaining parallel to the existing Honoapiʻilani Highway route around the southern end of West Maui. Therefore, this alternative is <u>was</u> not evaluated further in this <u>the</u> Draft EIS.</p>



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ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD	DESCRIPTION	REASON FOR ELIMINATION
<p>Roadway couplet concepts using existing highway</p>	<p>This alternative would use the existing highway as the southbound/westbound travel lanes while northbound/eastbound travel lanes would be constructed mauka of the existing alignment.</p>	<p>This alternative would not meet the Project’s purpose and need because it assumes that some travel lanes would remain along the shoreline. This would not allow measures specifically intended to address rising sea levels and inundation in the foreseeable future <u>and</u> would require continued use of the highway for local access. Therefore, this alternative is <u>was</u> not evaluated further in this <u>the</u> Draft EIS.</p>
<p>Alternative transportation modes and other operational alternatives</p>	<p>The Hawaiʻi Department of Transportation previously considered alternative modes of transportation to reach West Maui. These alternative modes of transportation included light-rail transit or an intra-island ferry system between Lāhainā and Kahului or Wailuku. Additional alternatives focusing on operational initiatives could have helped reduce or manage travel demand. These measures may have included greater investments in the Maui County bus system. They also would have encouraged West Maui hotels to provide enhanced shuttle service and carpools for workers and visitors, a large bikeway network, or other transit modes.</p>	<p>Even if these measures could significantly reduce vehicular travel demand on the existing Honoapiʻilani Highway, West Maui still needs a reliable roadway continuing to serve as the main vehicular access facility connecting it with the rest of the island. <u>These measures would not address the existing vulnerabilities of the roadway, and it would remain largely within the SLR-XA.</u> For this reason, alternative transportation modes and other operational alternatives are <u>were</u> not evaluated further in this <u>the</u> Draft EIS.</p>



2.5 CONSTRUCTION

While the Project would be built as a two-lane highway, the right-of-way and assessment of potential environmental effects ~~is~~ are based on the ability to provide a four-lane highway configuration (two lanes in each direction) in the future. The outer lanes would be constructed for the two-lane highway and area reserved for potential inner lanes would be cleared and graded to be built-out built in the future as warranted by traffic demand and the availability of funding.

Bridges would also be built to accommodate a future 140-foot, four-lane section but would be striped for a single lane in each direction. For areas with a viaduct (in the area of Ukumehame Firing Range) there would be one two-lane viaduct structure. The viaduct would be designed and striped to accommodate traffic in both directions with 11-foot-wide travel lanes separated by centerline striping and 8-foot-wide shoulders on each side. Construction would maintain connectivity to the existing roadway network so that construction activities begin and end at existing roadways, and stub roads would be built to allow continuation to the next phase without disturbing traffic on previously finished segments.

2.5.1 Construction Staging

The typical stages of construction activities are summarized below. These would be further detailed by the design-build contractor and developed in conformance with HDOT Construction and Post Construction Manuals.⁷

2.5.1.1 Pre-Construction

In coordination with and as approved by HDOT, the contractor would identify appropriate construction staging areas for storage, equipment, and materials. The contractor could identify disposal and borrow sites (that is, where excavated material would be excavated and stockpiled for application in later stages or removed for off-site disposal). The use of disposal and borrow sites would be subject to standard HDOT specifications and policies, as well as County of Maui and State of Hawaiʻi environmental regulations and permit requirements. Another pre-development siting element would be the contractor determining whether there is a need to establish a concrete batch plant (where raw materials of aggregate, sand, cement, and water are stored and mixed as needed for highway construction).

2.5.1.2 Demolition, Grubbing and Clearing, Grading

The contractor would develop a schedule that identifies where construction would start and how it would proceed for additional segments. To prepare for new construction activities, the right-of-way land requiring grading or disturbance would be cleared of existing structures to be demolished and existing vegetation would be removed (grubbing). The roadway and adjacent areas would then be graded.

⁷ [Construction Best Management Practices.](#)



2.5.1.3 Roadway Substructure and Top Layers

Once the roadway is cleared and grubbed, subsurface utilities would be installed, including drainage infrastructure, and the right-of-way would have rough grading where the alignment and profile of the new roadway would be constructed. As the rough grading gets closer to the finish grade, signal light and streetlight and other future use conduits and pull boxes are installed. The final roadway layers would be based on the contractor's Pavement Design Report, which would indicate the precise thickness of the pavement structure to use and where it would be needed.

2.5.1.4 New Bridge and Viaduct Construction

While the final design of the new bridges, culverts, and viaduct portions of the Project would be developed by the design-build team, for the purposes of the Final Draft EIS, it is assumed that new structures would be supported on pile foundations. Drilled shaft foundations would be used in areas sensitive to vibration and noise and would be an efficient technique at selected pier bents. Abutment and wingwall footings would also be on piles. Construction of the bridge and viaduct portions of the Project would involve completing piers, columns, deck, roadway finishes, and lighting. The designer would determine the type of superstructure and construction methods that would best meet the requirements of the Project.

2.5.1.5 Completion and Build-Out

Once the roadway prism is installed and the final layer of concrete has achieved strength to support construction vehicles, striping would be installed. Guardrail would be used to prevent vehicles from departing the roadway onto unrecoverable slopes and to shield roadside obstructions. Guardrails may be installed before the final pavement layer is installed.

2.5.2 Construction Means and Methods

The construction means and methods would be determined by the selected design-build team. HDOT would work with the design-build contractor to finalize the design of the highway and determine the most efficient and cost-effective way to construct the highway.

2.5.3 Preliminary Cost Assessment

Listed separately for the Olowalu and Ukumehame segments for each of the Build Alternatives, **TABLE 2-2** shows a preliminary construction cost estimate for the conceptual design (including bridges, culverts, and a two-lane viaduct). Because each segment would be selected independently, there is no single total per alternative. Therefore, the range in preliminary construction costs are from \$151.1 million (Olowalu Build Alternative 3 plus Ukumehame Build Alternative 4) to \$159.5 million (Olowalu Build Alternative 2 plus Ukumehame Build Alternatives 2 and 3). These preliminary construction estimates were developed for the Draft EIS Build Alternatives. Chapter 5, Selected Alternative provides the revised cost estimate for the Selected Alternative development between Draft and Final EIS.

TABLE 2-2. **Preliminary Construction Cost Estimate (Build Alternatives)**

SEGMENT	BUILD ALTERNATIVE 1 (MILLIONS)	BUILD ALTERNATIVE 2 (MILLIONS)	BUILD ALTERNATIVE 3 (MILLIONS)	BUILD ALTERNATIVE 4 (MILLIONS)
Olowalu	\$63.8	\$68.2	\$62.9	\$64.0
Ukumehame	\$90.6	\$91.3	\$91.3	\$88.2

For the No Build Alternative, Honoapiʻilani Highway would continue to require increased emergency road repairs and shoreline improvements. Over the last decade, multiple emergency and temporary projects have been completed to continue the road’s use despite storm surges and erosion from the ocean. Around \$16 million has been spent on emergency repairs. The Project would require less repair and rehabilitation work in the short and long terms. As identified in HDOT’s RAISE Grant application to FHWA, this would save HDOT an estimated \$22.5 million in 2023 dollars (adjusted from 2019 dollars as presented in the grant application) over 20 years due to a reduction in pavement preservation costs and the reduction in erosion emergency repair projects. Additionally, the RAISE Grant application estimated that the Project’s concrete pavement would yield 50 years of useful life, which translates to \$42.2 million in adjusted 2023 dollars at the end of the 20-year analysis.

2.6 CONFORMITY WITH HAWAII STATE AND MAUI COUNTY PLANS

2.6.1 Transportation Plans

The Hawaii Statewide Transportation Improvement Program (STIP) and the *Hele Mai Maui 2040 Long-Range Transportation Plan* approved by the Maui MPO establish priority and funding commitments by the State and County.

The *Hele Mai Maui 2040 Long-Range Transportation Plan* includes the Honoapiʻilani Highway project as Project C10 - Honoapiʻilani Highway Realignment. It is described within the Recommended Projects as a “New Connections” project with Short-Term Priority (One to Five years).

The STIP provides a multiyear listing of the State and County projects and identifies those projects slated for federal funding. It is a multimodal transportation improvement program that is developed utilizing existing transportation plans and policies, and current highway, transit, and transportation programming processes. The STIP delineates the funding categories as well as the federal and local share required for each project. The approved version of the FFY 2022-2025 STIP is Revision #17 approved on January 12, 2024. The Honoapiʻilani Highway Improvement Project is listed as Project MS15 – Honoapiʻilani Highway Realignment, Vic. of Ukumehame to Vic. of Olowalu and is classified as Modernization.

2.6.2 Land Use and Development Plans

A variety of statewide and local plans guide land use and development. Appendix 2 provides a more complete summary of the plans evaluated for the assessment of the No Build Alternative and the Build Alternatives.

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State plans include the following:

- *Hawaiʻi State Plan*
- *Hawaiʻi State Land Use Classification*
- *Coastal Zone Management Act Policies*
- *Hawaiʻi 2050 Sustainability Plan (2008)*
- *Hawaiʻi State Hazard Mitigation Plan (2023)*
- *Hawaiʻi State Historic Preservation Plan*

County and local plans include the following:

- *County of Maui 2030 General Plan, Countywide Policy Plan (2010)*
- *The Maui Island Plan (2012)*
- *West Maui Community Plan (2022)*
- *Pali to Puamana Parkway Master Plan (2005)*
- *Hele Mai Maui Long-Range Transportation Plan 2040*
- *West Maui Greenway Plan (2022)*

In the No Build Alternative, the Honoapiʻilani Highway would remain in its current alignment. This would leave the roadway vulnerable to coastal erosion and sea level rise, resulting in a less resilient and reliable roadway for this critical corridor. Much of the existing highway alignment is within a conservation district (Limited Subzone along the coastline and General Subzone in the area of Ukumehame Firing Range) per the Hawaiʻi State Land Use Classification and in the Special Management Area (Coastal Zone Management Act). In the future, much of the roadway would be makai of the 3.2-foot SLR-XA as well the 3.2-foot sea level rise coastal erosion line. Overall, this makes the No Build Alternative less consistent with applicable State of Hawaiʻi and County of Maui land use plans and policies.

2.6.2.1 Hawaiʻi State Plans

The Build Alternatives would be consistent with the *Hawaiʻi State Plan* based on its intent to provide a reliable transportation corridor in West Maui and because the Project has been developed in coordination with different agencies and levels of government.

TABLE 2-3 presents a summary consistency review of the applicable State of Hawaiʻi planning policies. Appendix 2 provides a comprehensive list of the policies reviewed for applicability and a summary description of the plans.



TABLE 2-3. **The Hawaiʻi State Plan**

PART I: OVERALL THEME, GOALS, OBJECTIVES, AND POLICIES	APPLICABILITY	PROMOTE/ HINDER
<p>§226-5: Objective and policies for population</p>		
<p>(a) It shall be the objective in planning for the State's population to guide population growth to be consistent with the achievement of physical, economic, and social objectives contained in this chapter.</p>		—
<p>(b) To achieve the population objective, it shall be the policy of this State to:</p>		
<p>(2) Encourage an increase in economic activities and employment opportunities on the neighbor islands consistent with community needs and desires</p>	Applicable	Promote
<p>(3) Promote increased opportunities for Hawaiʻi's people to pursue their socio-economic aspirations throughout the islands</p>	Applicable	Promote
<p>§226-6: Objectives and policies for the economy—in general</p>		
<p>(a) Planning for the State's economy in general shall be directed toward achievement of the following objectives:</p>		
<p>(1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawaiʻi's people, while at the same time stimulating the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.</p>		
<p>(2) A steadily growing and diversified economic base that is not overly dependent on a few industries, and includes the development and expansion of industries on the neighbor islands</p>		
<p>(b) To achieve the general economic objectives, it shall be the policy of this State to:</p>		
<p>(9) Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives</p>	Applicable	Promote
<p>(11) Encourage labor-intensive activities that are economically satisfying, and which offer opportunities for upward mobility</p>	Applicable	Promote
<p>(14) Stimulate the development and expansion of economic activities which will benefit areas with substantial or expected employment problems</p>	Applicable	Promote
<p>(19) Promote and protect intangible resources in Hawaiʻi, such as scenic beauty and the aloha spirit, which are vital to a healthy economy</p>	Applicable	Promote
<p>§226-7: Objectives and policies for the economy—agriculture</p>		
<p>(a) Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives:</p>		
<p>(1) Viability of Hawaiʻi's sugar and pineapple industries.</p>		
<p>(2) Growth and development of diversified agriculture throughout the State.</p>		
<p>(3) An agriculture industry that continues to constitute a dynamic and essential component of Hawaiʻi's strategic, economic, and social well-being.</p>		
<p>(b) To achieve the agriculture objectives, it shall be the policy of this State to:</p>		



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PART I: OVERALL THEME, GOALS, OBJECTIVES, AND POLICIES	APPLICABILITY	PROMOTE/ HINDER
(7) Strengthen diversified agriculture by developing an effective promotion, marketing, and distribution system between Hawaiʻi's food producers and consumers in the State, nation, and world	Applicable	Promote
<p>§226-8: Objective and policies for the economy–visitor industry</p> <p>(a) Planning for the State's economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawaiʻi's economy.</p> <p>(b) To achieve the visitor industry objective, it shall be the policy of this State to:</p>		
(1) Support and assist in the promotion of Hawaiʻi's visitor attractions and facilities	Applicable	Promote
<p>§226-9: Objective and policies for the economy–federal expenditures</p> <p>(a) Planning for the State's economy with regard to federal expenditures shall be directed towards achievement of the objective of a stable federal investment base as an integral component of Hawaiʻi's economy.</p> <p>(b) To achieve the federal expenditures objective, it shall be the policy of this State to:</p>		
(3) Promote the development of federally supported activities in Hawaiʻi that respect statewide economic concerns, are sensitive to community needs, and minimize adverse impacts on Hawaiʻi's environment	Applicable	Promote
(6) Strengthen federal-state-county communication and coordination in all federal activities that affect Hawaiʻi	Applicable	Promote
§226-10: Objective and policies for the economy–potential growth and innovative activities	Not Applicable	
§226-10.5: Objectives and policies for the economy–information industry	Not Applicable	
<p>§226-11: Objectives and policies for the physical environment–land-based, shoreline, and marine resources</p> <p>(a) Planning for the State's physical environment with regard to land-based, shoreline, and marine resources shall be directed towards achievement of the following objectives:</p> <p style="padding-left: 40px;">(1) Prudent use of Hawaiʻi's land-based, shoreline, and marine resources</p> <p style="padding-left: 40px;">(2) Effective protection of Hawaiʻi's unique and fragile environmental resources</p> <p>(b) To achieve the land-based, shoreline, and marine resources objectives, it shall be the policy of this State to:</p>		
(1) Exercise an overall conservation ethic in the use of Hawaiʻi's natural resources	Applicable	Promote
(3) Take into account the physical attributes of areas when planning and designing activities and facilities	Applicable	Promote
(6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawaiʻi	Applicable	Promote



PART I: OVERALL THEME, GOALS, OBJECTIVES, AND POLICIES	APPLICABILITY	PROMOTE/ HINDER
<p>§226-12: Objective and policies for the physical environment—scenic, natural beauty, and historic resources</p> <p>(a) Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawai'i's scenic assets, natural beauty, and multicultural/historical resources.</p> <p>(b) To achieve the scenic, natural beauty, and historic resources objective, it shall be the policy of this State to:</p>		
<p>(2) Provide incentives to maintain and enhance historic, cultural, and scenic amenities</p>	Applicable	Promote
<p>§226-13: Objectives and policies for the physical environment—land, air, and water quality</p> <p>(a) Planning for the State's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives:</p> <p>(1) Maintenance and pursuit of improved quality in Hawai'i's land, air, and water resources.</p> <p>(2) Greater public awareness and appreciation of Hawai'i's environmental resources.</p> <p>(b) To achieve the land, air, and water quality objectives, it shall be the policy of this State to:</p>		
<p>(2) Promote the proper management of Hawai'i's land and water resources</p>	Applicable	Promote
<p>(3) Promote effective measures to achieve desired quality in Hawai'i's surface, ground, and coastal waters</p>	Applicable	Promote
<p>(5) Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters</p>	Applicable	Promote
<p>(6) Encourage design and construction practices that enhance the physical qualities of Hawai'i's communities</p>	Applicable	Promote
<p>(8) Foster recognition of the importance and value of the land, air, and water resources to Hawai'i's people, their cultures and visitors</p>	Applicable	Promote
<p>§226-14: Objective and policies for facility systems—in general</p> <p>(a) Planning for the State's facility systems in general shall be directed towards achievement of the objective of water, transportation, sustainable development, climate change adaptation, sea level rise adaptation, waste disposal, and energy and telecommunication systems that support statewide social, economic, and physical objectives.</p> <p>(b) To achieve the general facility systems objective, it shall be the policy of this State to:</p>		
<p>(1) Accommodate the needs of Hawai'i's people through coordination of facility systems and capital improvement priorities in consonance with State and County plans</p>	Applicable	Promote
<p>(2) Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities</p>	Applicable	Promote



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(3) Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user	Applicable	Promote
(4) Pursue alternative methods of financing programs and projects and cost-saving techniques in the planning, construction, and maintenance of facility systems	Applicable	Promote
(5) Identify existing and planned state facilities that are vulnerable to sea level rise, flooding impacts, and natural hazards	Applicable	Promote
(6) Assess a range of options to mitigate the impacts of sea level rise to existing and planned state facilities	Applicable	Promote
§226-15: Objectives and policies for facility systems—solid and liquid wastes	Not Applicable	
§226-16: Objective and policies for facility systems—water	Not Applicable	
§226-17: Objectives and policies for facility systems—transportation		
(a) Planning for the State's facility systems with regard to transportation shall be directed towards the achievement of the following objectives: <ul style="list-style-type: none"> <li data-bbox="298 800 1045 894">(1) An integrated multimodal transportation system that services statewide needs and promotes the efficient, economical, safe, and convenient movement of people and goods <li data-bbox="298 894 1045 957">(2) A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State (b) To achieve the transportation objectives, it shall be the policy of this State to:		
(1) Design, program, and develop a multimodal system in conformance with desired growth and physical development as stated in this chapter	Applicable	Promote
(4) Provide for improved accessibility to shipping, docking, and storage facilities	Applicable	Promote
(6) Encourage transportation systems that serve to accommodate present and future development needs of communities	Applicable	Promote
(9) Encourage the development of transportation systems and programs which would assist statewide economic growth and diversification	Applicable	Promote
(10) Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawai'i's natural environment	Applicable	Promote
(12) Coordinate intergovernmental land use and transportation planning activities to ensure the timely delivery of supporting transportation infrastructure in order to accommodate planned growth objectives	Applicable	Promote
§226-18: Objectives and policies for facility systems—energy	Not Applicable	
§226-18.5: Objectives and policies for facility systems—telecommunications	Not Applicable	
§226-19: Objectives and policies for socio-cultural advancement—housing	Not Applicable	
§226-20: Objectives and policies for socio-cultural advancement—health	Not Applicable	
§226-21: Objective and policies for socio-cultural advancement—education	Not Applicable	
§226-22: Objective and policies for socio-cultural advancement—social services	Not Applicable	



PART I: OVERALL THEME, GOALS, OBJECTIVES, AND POLICIES	APPLICABILITY	PROMOTE/ HINDER
<p>§226-23: Objective and policies for socio-cultural advancement—leisure</p> <p>(a) Planning for the State's socio-cultural advancement with regard to leisure shall be directed towards the achievement of the objective of the adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations.</p> <p>(b) To achieve the leisure objective, it shall be the policy of this State to:</p>		
<p>(3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance</p>	Applicable	Promote
<p>(5) Ensure opportunities for everyone to use and enjoy Hawai'i's recreational resources</p>	Applicable	Promote
<p>(10) Assure adequate access to significant natural and cultural resources in public ownership</p>	Applicable	Promote
<p>§226-24: Objective and policies for socio-cultural advancement—individual rights and personal well-being</p>	Not Applicable	
<p>§226-25: Objective and policies for socio-cultural advancement—culture</p>	Not Applicable	
<p>§226-26: Objectives and policies for socio-cultural advancement—public safety</p> <p>(a) Planning for the State's socio-cultural advancement with regard to public safety shall be directed towards the achievement of the following objectives:</p> <p>(1) Assurance of public safety and adequate protection of life and property for all people.</p> <p>(2) Optimum organizational readiness and capability in all phases of emergency management to maintain the strength, resources, and social and economic well-being of the community in the event of civil disruptions, wars, natural disasters, and other major disturbances.</p> <p>(3) Promotion of a sense of community responsibility for the welfare and safety of Hawai'i's people.</p> <p>(b) To achieve the public safety objectives, it shall be the policy of this State to:</p>		
<p>(1) Ensure that public safety programs are effective and responsive to community needs</p>	Applicable	Promote
<p>§226-27: Objectives and policies for socio-cultural advancement—government</p> <p>(a) Planning the State's socio-cultural advancement with regard to government shall be directed towards the achievement of the following objectives:</p> <p>(1) Efficient, effective, and responsive government services at all levels in the State</p> <p>(2) Fiscal integrity, responsibility, and efficiency in the State government and county governments</p> <p>(b) To achieve the government objectives, it shall be the policy of this State to:</p>		
<p>(1) Provide for necessary public goods and services not assumed by the private sector</p>	Applicable	Promote
<p>(2) Pursue an openness and responsiveness in government that permits the flow of public information, interaction, and response</p>	Applicable	Promote



TABLE 2-4. **The Hawaiʻi State Plan (Part III)**

PART III: PRIORITY GUIDELINES	APPLICABILITY	PROMOTE/ HINDER
§226-103: Economic priority guidelines		
(a) Priority guidelines to stimulate economic growth and encourage business expansion and development to provide needed jobs for Hawaiʻi's people and achieve a stable and diversified economy:	Not Applicable	
(b) Priority guidelines to promote the economic health and quality of the visitor industry:		
(1) Promote visitor satisfaction by fostering an environment which enhances the aloha spirit and minimizes inconveniences to Hawaiʻi's residents and visitors	Applicable	Promote
(c) Priority guidelines to promote the continued viability of the sugar and pineapple industries:	Not Applicable	
(d) Priority guidelines to promote the growth and development of diversified agriculture and aquaculture:	Not Applicable	
(e) Priority guidelines for water use and development:	Not Applicable	
(f) Priority guidelines for energy use and development:	Not Applicable	
(g) Priority guidelines to promote the development of the information industry:	Not Applicable	
§226-104: Population growth and land resources priority guidelines		
(a) Priority guidelines to effect desired statewide growth and distribution:	Not Applicable	
(b) Priority guidelines for regional growth distribution and land resource utilization:		
(13) Protect and enhance Hawaiʻi's shoreline, open spaces, and scenic resources	Applicable	Promote
§226-105: Crime and criminal justice		
(a) Priority guidelines in the area of crime and criminal justice:	Not Applicable	
§226-106: Affordable housing		
(a) Priority guidelines for the provision of affordable housing:	Not Applicable	
§226-107: Quality education		
(a) Priority guidelines to promote quality education:	Not Applicable	
§226-108: Sustainability		
(a) Priority guidelines and principles to promote sustainability shall include:		
(5) Promoting decisions based on meeting the needs of the present without compromising the needs of future generations	Applicable	Promote
§226-109: Climate change adaptation priority guidelines		
(a) Priority guidelines to prepare the State to address the impacts of climate change, including impacts to the areas of agriculture; conservation lands; coastal and nearshore marine areas; natural and cultural resources; education; energy; higher education; health; historic preservation; water resources; the built environment, such as housing, recreation, transportation; and the economy shall:		



PART III: PRIORITY GUIDELINES	APPLICABILITY	PROMOTE/ HINDER
(5) Encourage the preservation and restoration of natural landscape features, such as coral reefs, beaches and dunes, forests, streams, floodplains, and wetlands that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change	Applicable	Promote
(6) Explore adaptation strategies that moderate harm or exploit beneficial opportunities in response to actual or expected climate change impacts to the natural and built environments	Applicable	Promote
(7) Promote sector resilience in areas such as water, roads, airports, and public health, by encouraging the identification of climate change threats, assessment of potential consequences, and evaluation of adaptation options	Applicable	Promote
(8) Foster cross-jurisdictional collaboration between county, state, and federal agencies and partnerships between government and private entities and other nongovernmental entities, including nonprofit entities	Applicable	Promote
(10) Encourage planning and management of the natural and built environments that effectively integrate climate change policy	Applicable	Promote

A realigned highway would remain within the framework of the Hawaiʻi State Land Use Classification. And compared to the No Build Alternative, the Build Alternatives would move more of the State highway alignment out of the Conservation land use districts along the coastline.

As evaluated in Section 3.12, Coastal Zone Management Act, Hawaiʻi Special Management Areas, the Build Alternatives would also result in substantially more of the state highway alignment being located outside the Special Management Area and therefore being more consistent with the Coastal Zone Management Act.

2.6.2.2 Maui County Plans

HDOT developed the Build Alternatives based on decades of public planning policy and have refined them to minimize and avoid potential adverse effects on local environmental and cultural resources. Transferring the existing Honoapiʻilani Highway roadway alignment to Maui County and declassifying it from a State highway to a local road would enable future planning to incorporate more nature-based solutions for future roadway operations.

The Build Alternatives would be consistent with the *County of Maui 2030 General Plan (2010)* because they create reliable and sustainable transportation infrastructure that can support the plan’s broad policies relating to a strong and diverse economy.

The Maui Island Plan (2012) serves as a blueprint for future growth, the economy, and social and environmental decisions across Maui through 2030. All the Build Alternatives would be consistent with the strategies of this plan. The Build Alternatives would traverse the urban growth boundaries defined in the plan but would not alter their designation. However, the large-scale development plan that was originally identified as the basis for the growth boundary was not approved and is not part of the future condition in the project area.



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The Build Alternatives would be consistent with the goals of the *West Maui Community Plan (2022)* for ready and resilient infrastructure systems and a complete, balanced, and connected transportation network. The Build Alternatives would be direct derivatives of the *Pali to Puamana Parkway Master Plan* and remain consistent with the plan's foundation to establish public policy that encourages responsible development in a coastal area by acknowledging coastal processes.

Overall, the Project has been identified as a transportation improvement in the Maui MPO's *Hele Mai Maui Long-Range Transportation Plan 2040*. The Build Alternatives would be consistent with the plan's goals that reflect existing and future needs and were utilized to prioritize the projects identified in the plan. The plan specifically identifies the critical need to realign Honoapiʻilani Highway inland from the coastal hazard zone.

The Project would create a template and baseline for the eventual implementation of the Maui MPO's *West Maui Greenway Plan (2022)* by Maui County, and the plan acknowledges that the Project would allow the County to better frame and implement the *West Maui Greenway Plan*.