

05

CHAPTER

Section 4(f) Evaluation

This chapter provides documentation necessary to support determinations required to comply with the provisions of Section 4(f), as amended, of the U.S. Department of Transportation Act of 1966 (49 USC 303), which is commonly referred to as Section 4(f).

5.1 Changes to this Chapter since the Draft Environmental Impact Statement

This chapter has been revised since the Draft EIS to respond to public comments; to focus solely on the Airport Alternative, which was selected as the Preferred Alternative—herein identified as the “Project”; and to address changes resulting from continued consultation with the State Historic Preservation Division (SHPD) and the agencies having jurisdiction over Section 4(f) park resources. In addition, a more robust constructive use evaluation was conducted for the Final EIS that considered “non-direct” use of all pertinent historic resources. The Draft EIS focused primarily on parks and recreational resources.

While the remainder of this Final EIS focuses on the Airport Alternative, this chapter also assesses the Salt Lake Alternative as a potentially prudent and feasible alternative to avoiding impacts to Section 4(f) resources in the portion of the study corridor where the two alignments diverge. In addition, ongoing agency consultation resulted in the refinement of proposed mitigation and minimization measures for the affected parklands and historic resources. Consultation specifically with SHPD subsequent to the Draft EIS resulted in revised Section 106 effects determinations for several historic properties (see Section 4.16), which then influenced the number of Section 4(f) resources evaluated and the use determinations made in this chapter. SHPD determined that a historic resource—the Solmirin House (identified in the Draft EIS as a historic resource)—was not eligible for inclusion in the National Register of Historic Places (NRHP). Consequently, it was removed from consideration in the Final EIS and this Section 4(f) evaluation.

In the Draft EIS, it was determined that the Airport Alternative would result in a direct use to six

historic resources and one park property (Ke‘ehi Lagoon Beach Park); *de minimis* impacts to four historic properties and two park resources (Aloha Stadium and the future Queen Street Park); and no temporary occupancy impacts.

In this Final EIS, the Section 4(f) evaluation concluded that the Project will result in direct use to 11 historic resources and to the same park and *de minimis* impacts to two historic resources and one park and recreational resource. To avoid impacts to future Queen Street Park, the guideway was shifted away from the park and will be constructed in the median of Queen Street. During coordination with HCDA representatives after the publication of the Draft EIS, their concern about direct impacts to the park were communicated. There will be no direct impact to the park which is now reflected in the Final EIS. Additionally, the Project will result in the temporary occupancy at one property (Pearl Harbor National Historic Landmark and bicycle trail that is part of the *Pearl Harbor Historic Trail*), due to temporary disruption during construction of an emergency stormwater outfall from the maintenance and storage facility near Leeward Community College. The Final EIS identifies this site as the preferred site option for the maintenance and storage facility as described in Section 4.17. These findings are described in this chapter.

5.2 Introduction

The Project, as described in Chapter 2, Alternatives Considered, is a transit project that may receive Federal funding and/or discretionary approvals through the U.S. Department of Transportation (USDOT) Federal Transit Administration (FTA); therefore, compliance with Section 4(f) is required. Section 4(f) protects public parklands and recreational lands, wildlife refuges, and historic sites of Federal, State, or Local significance. These are commonly referred to as Section 4(f) properties or resources. Federal regulations that implement Section 4(f) are found in 23 CFR 774.

FTA may not approve the use of a Section 4(f) property, as defined in 23 CFR 774.3, unless it determines the following:

- There is no prudent and feasible alternative, as defined in Section 774.17, to the use of land from the property; and
- The program or project includes all possible planning, as defined in Section 774.17, to minimize harm to the property resulting from such use.

Section 4(f) regulations further require consultation with the Department of the Interior and, as appropriate, the involved offices of the Department of Agriculture (USDA) and the Department of Housing and Urban Development (HUD), as well as relevant State and Local officials, in developing transportation projects and programs that use lands protected by Section 4(f). Consultation with the USDA would occur whenever a project uses Section 4(f) land from the National Forest System. Consultation with HUD would occur whenever a project uses Section 4(f) land for/on which certain HUD funding had been used. Since neither of these conditions apply to the Project, consultation with the USDA and HUD is not required.

For historic sites, consultation with the State Historic Preservation Officer is required. For recreational resources, consultation with the agency having jurisdiction over the resources is required. For sites that are part of a National Historic Landmark, consultation with the Department of the Interior’s National Park Service is required.

This Section 4(f) evaluation has been prepared in accordance with the joint Federal Highway Administration (FHWA)/FTA regulations for Section 4(f) compliance codified as 23 CFR 774 and the *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users* (SAFETEA-LU) (PL 2005). Additional guidance has been obtained from the FHWA Technical

Advisory T6640.8A (FHWA 1987b) and the revised FHWA Section 4(f) Policy Paper (FHWA 2005).

5.2.1 Section 4(f) “Use” Definitions

As defined in 23 CFR 774.17, the “use” of a protected Section 4(f) property occurs when any of the conditions discussed below are met.

Direct Use

A direct use of a Section 4(f) resource occurs when property is permanently incorporated into a proposed transportation project. This may occur as a result of partial or full acquisition of a fee simple interest, permanent easements, or temporary easements that exceed regulatory limits noted below.

Temporary Occupancy

A temporary use of a Section 4(f) resource occurs when there is a temporary occupancy of property that is considered adverse in terms of the preservationist purpose of the Section 4(f) statute. Under the FHWA/FTA regulations (23 CFR 774.13), a temporary occupancy of property does not constitute a use of a Section 4(f) resource when all the following conditions are satisfied:

- Duration is temporary (i.e., less than the time needed for construction of the project), and there is no change in ownership of the land
- Scope of work is minor (i.e., both the nature and magnitude of the changes to the Section 4(f) property are minimal)
- There are no anticipated permanent adverse physical impacts, nor is there interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis
- The land being used will be fully restored (i.e., the property must be returned to a condition that is at least as good as that which existed prior to the project)
- There is a documented agreement of the official(s) having jurisdiction over the Section 4(f) resource regarding the above conditions

Constructive Use

A constructive use of a Section 4(f) resource occurs when a transportation project does not permanently incorporate land from the resource, but the proximity of the project results in impacts (e.g., noise, vibration, visual, and property access) so severe that the protected activities, features, or attributes that qualify the resource for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only if the protected activities, features, or attributes of the resource are substantially diminished (23 CFR 774.15). This is further defined in Section 5.6.

De Minimis Impacts

The requirements of Section 4(f) would be considered satisfied if it is determined that a transportation project would have only a “*de minimis* impact” on the Section 4(f) resource. The provision allows avoidance, minimization, mitigation, and enhancement measures to be considered in making the *de minimis* determination. The agencies with jurisdiction must concur in writing with the determination. *De minimis* impact is defined in 23 CFR 774.17 as follows:

- For parks, recreational areas, and wildlife and waterfowl refuges, a *de minimis* impact is one that would not adversely affect the features, attributes, or activities qualifying the property for protection under Section 4(f).
- For historic sites, *de minimis* impact means that the FTA has determined, in accordance with 36 CFR 800, that no historic property is affected by the project or the project would have “no adverse effect” on the property in question. The SHPD must be notified that the FTA intends to enter a *de minimis* finding for resources where the project results in “no adverse effect.”

5.3 Description of the Project

The Project will include the construction and operation of a 20-mile grade-separated fixed

guideway transit system along the Airport Alignment, which extends from East Kapolei to Ala Moana Center. The system will use steel-wheel-on-steel-rail technology and will be automated. The alternatives considered are described in Chapter 2 of this Final EIS. The Preferred Alternative was ultimately selected; and conceptual plans of the alignment are included in Appendix B, Preliminary Alignment Plans and Profiles.

To minimize impacts on historic resources, visual aesthetics, and surface traffic, the screening process considered 15 different combinations of tunnel, at-grade, and elevated alignments between Iwilei and Ala Moana in the area where there are the most cultural and historic resources within constrained downtown transportation corridors. Five different alignments through Downtown were advanced for further analysis in the Alternatives Analysis, including an at-grade portion along Hotel Street, a tunnel under King Street, and elevated guideways along Nimitz Highway and Queen Street. These are described in greater detail in Chapter 2.

It was determined that an at-grade/tunnel alternative would require more land acquisition (hence more historic property takings), affect more burials, and reduce street capacity more than any other alternative. In addition, it would cost over \$300 million more than the least expensive alternative.

Beginning at the East Kapolei end of the corridor, the project alignment will follow North-South Road mauka of Farrington Highway Koko Head on an elevated structure and continue along Kamehameha Highway to near Aloha Stadium.

Between Aloha Stadium and Kalihi, the Project will follow Kamehameha Highway and North Nimitz Highway to Aolele Street and Middle Street.

Koko Head of Middle Street, the Project will follow Dillingham Boulevard to the vicinity of Ka'aahi

Street and then turn Koko Head to connect to Nimitz Highway near Iwilei Road.

The alignment will follow Nimitz Highway Koko Head to Halekauwila Street, then follow Halekauwila Street past Ward Avenue where it will transition to Queen Street and Kona Street. The alignment will cross from Waimanu Street to Kona Street near Pensacola Street. The guideway will run above Kona Street to Ala Moana Center.

The Project includes 21 stations and supporting facilities, including a maintenance and storage facility, transit centers, park-and-ride lots, a parking structure, and traction power substations.

5.4 Description of Section 4(f) Resources

Resources subject to Section 4(f) evaluation include publicly owned parks, recreational areas, wildlife refuges of Federal, State, or Local significance, and historic resources of Federal, State, or Local significance, either privately or publicly owned. As described in Section 4.5, Community Services and Facilities, nine public parks and recreational resources are adjacent to the project alignment (Table 5-1).

Public school playgrounds, ball fields, and recreational areas are identified in Federal guidance as potential Section 4(f) properties if they are open to the public for recreational use. The nine public school recreational areas adjacent to the Project are not open to the public for general recreational use and, therefore, have not been included in this Section 4(f) evaluation. Further detail regarding the recreational areas considered in the Final EIS are provided in Section 4.5, Community Services and Facilities.

Figures 5-1 through 5-4 show the location of all Section 4(f) resources discussed in this evaluation along the project alignment and the Salt Lake

Table 5-1 Publicly Owned Park and Recreational Resources Adjacent to Project

Property	Description	Description of Impact	Section 4(f) Use Determination
West Loch Golf Course	West Loch Golf Course is located off Fort Weaver Road. The parcel is a 94-acre municipal golf course owned by the City and County of Honolulu. It extends across Fort Weaver Road and is adjacent to Honouliuli (Village) and the St. Francis-West Medical Center. The golf course is generally a quiet setting but bounded on one end by Farrington Highway, a major transportation corridor. Scenic views are in the background, mauka toward the mountains.	No impact	No use
Neal S. Blaisdell Park	The park is approximately 26 acres and is owned by the City and County of Honolulu. The park consists primarily of open space but also supports amenities, such as trails and exercise areas. It is located immediately makai of Kamehameha Highway, a major transportation corridor. The most scenic views are makai, toward the ocean.	No impact	No use
ʻAiea Bay State Recreation Area	ʻAiea Bay State Recreation Area encompasses approximately 8 acres. The recreational area is owned by the State and is under the jurisdiction of the Hawaiʻi Department of Land and Natural Resources. The area is used for general recreation and picnicking. It is located immediately makai of Kamehameha Highway, a major transportation corridor. All views are makai, toward the ocean.	No impact	No use
Walker Park	This small urban park provides shade in a busy downtown area. It is primarily used by pedestrians walking through downtown. It does not provide any benches, picnic tables, or other amenities.	No impact	No use
Irwin Memorial Park	Irwin Memorial Park is at the ʻEwa-makai corner of the Bishop Street and Nimitz Highway intersection. The park is approximately 2 acres and can be accessed from Aloha Tower Drive. Irwin Memorial Park is primarily used as a parking lot for surrounding office buildings. Amenities include sitting areas and tables near the corner of Bishop Street and Nimitz Highway. The property is owned by the State Department of Transportation Harbors Division and is part of the Aloha Tower Project administered by the Aloha Tower Development Corporation. The most scenic views are makai, toward the harbor and Aloha Tower.	No impact	No use
Mother Waldron Neighborhood Park	This 1-acre park is located at 525 Coral Street in a predominantly commercial/ industrial area; one side is bordered by a residential area in Downtown Kakaʻako. It features a children’s play structure and unlit basketball courts. The park also hosts the People’s Open Market Program, which offers local agriculture and aquaculture products. The park is owned by the State.	No impact	No use
Aloha Stadium	This 50,000-seat stadium occupies a 99-acre property owned by the State, under the jurisdiction of the Stadium Authority, in the ʻAiea neighborhood. It is situated between two major arterials—Kamehameha Highway and the H-1 Freeway. Aloha Stadium is primarily used for major athletic competitions, such as the Hula Bowl, Aloha Bowl, Pro Bowl, and University of Hawaiʻi football games. Other recreational uses include hosting various concerts and family-oriented fairs.	Approximately 2 acres will be used for station and guideway.	Direct use (<i>de minimis</i>)
Keʻehi Lagoon Beach Park	Keʻehi Lagoon Beach Park is an approximately 72-acre community park at Lagoon Drive and Aolele Street Koko Head of the airport. Recreational amenities include canoeing and boating, 12 tennis courts, 1 baseball field, walking trails, and picnic areas. The park is operated and maintained by the City of Honolulu on State-owned land. The most scenic views are makai toward the harbor.	Approximately 2.8 acres of land will be acquired or used through an easement for overhead guideway.	Direct use

Alternative alignment, which is discussed in this evaluation as an avoidance alternative for Ke'ehi Lagoon Beach Park and in the analysis of Least Overall Harm. For reasons set forth in Chapter 2, additional alternate build alignments were not considered in this chapter because they do not meet the Project's Purpose and Need, and thus are not prudent alternatives.

The FTA has finalized determinations of eligibility and effect through consultation with SHPD (Appendix F, Record of Agency Correspondence and Coordination). Section 4.16, Archaeological, Cultural, and Historic Resources, presents effects to these 81 historic resources, as established through consultation. Each NRHP-eligible historic resource that was evaluated for Section 4(f) use is listed in [Table 5-2](#) with its Section 4(f) use determination.

Archaeological resources within the area of potential effects (APE) for the Project were reviewed to identify potential archaeological Section 4(f) resources. The APE was divided into subareas and evaluated for potential archaeological impacts based upon a rating system of Low, Moderate, and High. The subareas of Dillingham, Downtown, and Kaka'ako have a High potential for effects on burials, pre-contact resources, and post-contact resources.

The Project will not result in a Section 4(f) use of any known archaeological resources. However, it cannot be determined at this time whether any archaeological resources will be encountered and warrant preservation in place. To avoid potential harm to such resources, additional archaeological work will be completed prior to construction to investigate the potential for subsurface deposits. Should it be determined that any archaeological resource encountered warrants preservation in place, the City and FTA will prepare separate Section 4(f) evaluations for such resources.

None of the Section 4(f) resources along the project alignment are wildlife or waterfowl refuges and, therefore, impacts due to ecological intrusion are not applicable. Likewise, the Project's design will not restrict access to any Section 4(f) property.

The following sections describe use of Section 4(f) resources. An assessment has been made as to whether any permanent or temporary occupancy of a property will occur and whether the proximity of the Project will cause any access disruption, noise, vibration, or aesthetic impacts that will substantially impair the features or attributes that qualify the resource for protection under Section 4(f).

5.5 Direct Use of Section 4(f) Resources

Chapter 2 provides a history of the process by which alternatives were developed, evaluated, and refined to become the Project under consideration in this Final EIS. During the Alternatives Analysis, several other alternative corridors and multimodal alternatives were considered to determine if the Project's Purpose and Need could be achieved. No such alternative was identified that would completely avoid Section 4(f) resources while meeting the Project's Purpose and Need. Only the No Build Alternative would not use any Section 4(f) resources. However, the No Build Alternative would not meet the Project's Purpose and Need; therefore, it would not be prudent.

The avoidance of Section 4(f) resources was an important consideration in designing and screening the alternatives; thus, the majority of public parks, recreational resources, and historic resources identified within the study corridor were specifically avoided by the Project.

As the design phase evolved, each alignment was further refined, with site-specific shifts occurring in the alignment or placement of individual station

Figure 5-1 Section 4(f) Resources (East Kapolei to Fort Weaver Road)

Figure 5-2 Section 4(f) Resources (Fort Weaver Road to Aloha Stadium)

Figure 5-3 Section 4(f) Resources (Aloha Stadium to Kalihi)

Figure 5-4 Section 4(f) Resources (Kalihi to Ala Moana Center)

Table 5-2 Historic Resources Evaluated for Section 4(f) Use

Tax Map Key	Resource Name	Section 4(f) Use Determination
12009017	Afuso House	Direct use
12009017	Higa Four-Plex	Direct use
12009018	Teixeira House	Direct use
None	Lava Rock Curbs	Direct use
15029060	Boulevard Saimin	Direct use (<i>de minimis</i>)
None	Kapālama Canal Bridge	Direct use
15015008	Six Quonset Huts	Direct use
None	True Kamani Trees	Direct use
15007001 & 15007002	O`ahu Railway & Land Company Terminal Building O`ahu Railway & Land Company Office/Document Storage Building	Direct use
15007001 & 15007002	O`ahu Railway & Land Company basalt paving blocks O`ahu Railway & Land Company former filling station	Direct use (<i>de minimis</i>)
17002, 17003, & 17004 plats	Chinatown Historic District	Direct use
21014003	Dillingham Transportation Building	Direct use
21014006	HECO Downtown Plant and Leslie A. Hicks Building	Direct use
None	Honouliuli Stream Bridge	No use
None	Waikele Stream Bridge, eastbound span and bridge over OR&L spur	No use
None	Waiawa Stream Bridge 1932 (westbound lanes)	No use
None	Waimalu Stream Bridge	No use
None	Kalauao Springs Bridge	No use
None	Kalauao Stream Bridge	No use
various	United States Naval Base Pearl Harbor National Historic Landmark	Temporary Occupancy
	CINCPAC Headquarters National Historic Landmark	No use
99002004	Potential Makalapa Navy Housing Historic District	No use
99001008	Ossipoff's Aloha Chapel, SMART Clinic, and Navy-Marine Corps Relief Society, Facility 1514	No use
11016004	Hawai`i Employers Council	No use
15007033	Institute for Human Services/Tamura Building	No use
	Tong Fat Co. Wood Tenement Buildings	No use
None	Nu`uanu Stream Bridge	No use
	Merchant Street Historic District	No use
	Walker Park	No use
	DOT Harbors Division Building	No use
	Pier 10/11	No use
	Aloha Tower	No use
	Irwin Memorial Park	No use
21051006 & 21051005	Mother Waldron Neighborhood Playground	No use

elements to avoid, where feasible, Section 4(f) resources. Through this iterative process, the number of Section 4(f) resources affected by the Project was reduced to 12 direct uses and 3 *de minimis* impacts as identified in Sections 5.5.1 and 5.5.2.

Sections 5.5.1 and 5.5.2 describe the Section 4(f) resources that will have direct uses as a result of the Project. Resources having *de minimis* impacts are noted there as well. The discussion of those resources found to have a direct use (not *de minimis*) include discussion of avoidance alternatives and measures to minimize harm.

5.5.1 Park and Recreational Resources

As described in Section 4.5, nine public park and recreational resources are adjacent to the Project. **Table 5-1** lists these publicly owned parks and their Section 4(f) use. The Project will require property acquisition at Ke‘ehi Lagoon Beach Park and Aloha Stadium, which will result in a direct use of these Section 4(f) resources. However, the use of Aloha Stadium will be *de minimis*, as described below.

In most cases, the alignment runs within or near major highways and thoroughfares. Since substantial elements of urban development already exist, the Project will not impair or diminish the activities, features, or attributes that qualify resources in these areas for protection under Section 4(f). Potential proximity-related impacts are discussed in Section 5.6, Evaluation of Constructive Use of Section 4(f) Resources.

Aloha Stadium (Direct Use—*de minimis*)

Description and Significance of Property

Aloha Stadium is bordered by Salt Lake Boulevard, the H-1 Freeway, Kamehameha Highway, and Moanalua Road (**Figures 5-5 and 5-6**). The 50,000-seat stadium is situated on 99 acres, most of which is used for event parking. It is owned by the State but is under the jurisdiction of the Stadium Authority. The land use for the Aloha Stadium



Figure 5-5 Aloha Stadium, looking from Associated Parking Lot

property is designated as a General Preservation District (P2).

The stadium property was originally owned by the U.S. Department of the Interior and was transferred to the City in 1967, through the Federal Lands to Parks program. The quitclaim deed for that transfer, dated June 30, 1967, requires the land be used and maintained for public recreational purposes. In October 1970, with the approval of the Department of the Interior, the property was transferred to the State with similar provisions.

Aloha Stadium is primarily used for athletic competitions, such as the Hula Bowl, Aloha Bowl, Pro Bowl, and University of Hawai‘i football games. Other recreational uses include hosting various concerts and family-oriented fairs.

Application of Section 4(f)

The use of Aloha Stadium involves construction of an elevated guideway through a portion of its parking lot along the ‘Ewa edge of the property for a rail transit station and bus transit center, as well as a paved and striped parking lot. The elevated guideway will be about 28 to 30 feet wide, supported by columns that are about 6 to 8 feet in diameter, placed about 120 feet apart. The base of each of the columns will impact approximately 100 square feet. The guideway will be used by electrically powered trains carrying people between stations and will be about 35 to

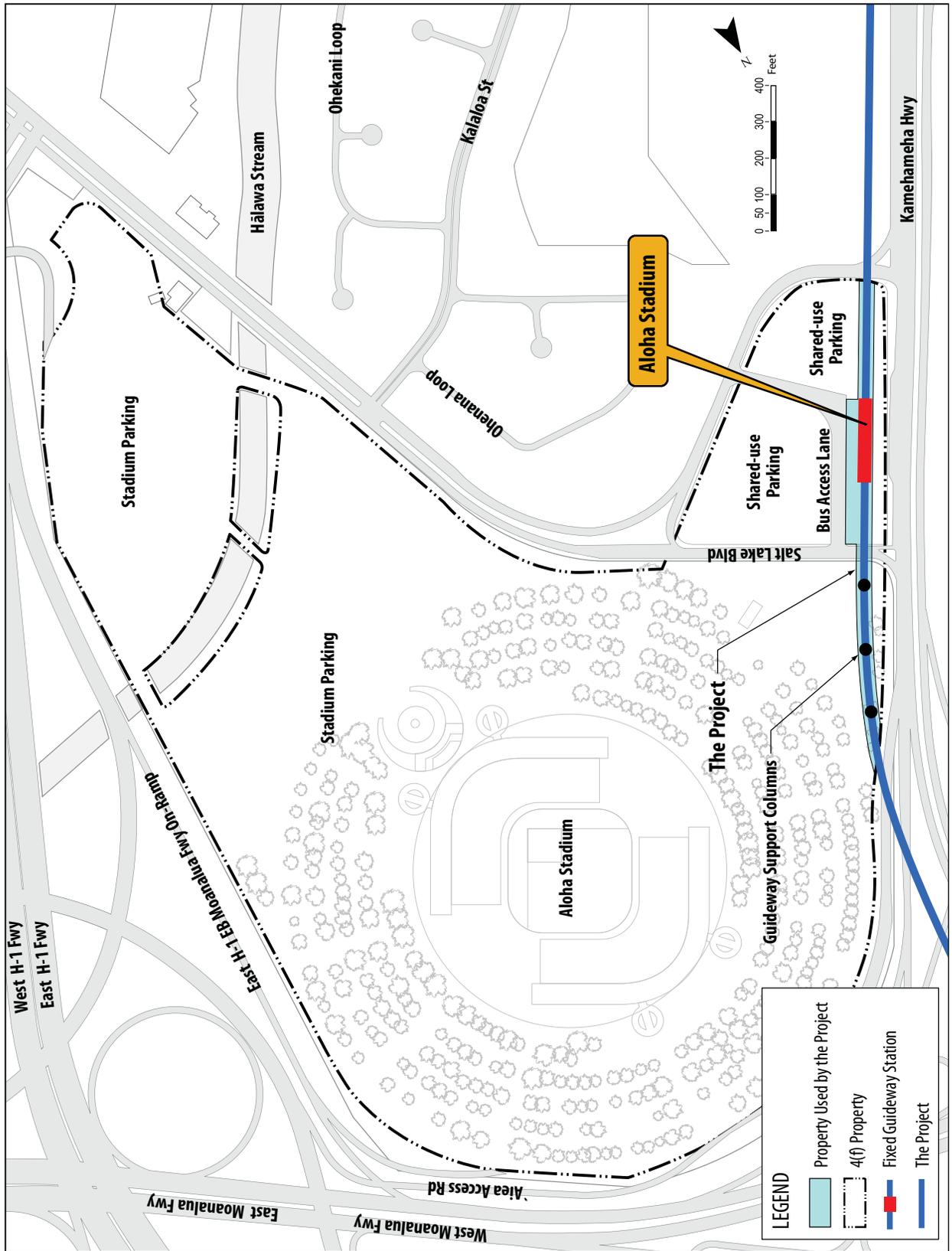


Figure 5-6 Aloha Stadium—Project and Features

40 feet aboveground through this area. The total amount of area that will be used by the Project is approximately 2 acres. This amount includes land under the guideway that may be used for parking. The area for the shared park-and-ride lot will be an additional use of approximately 4.2 acres (Figure 5-6).

The elevated guideway will pass over a small portion of the main parking lot next to Kamehameha Highway. Approximately four columns will be placed in the main parking lot to support the guideway, requiring removal of approximately three parking spaces. The guideway will cross over Salt Lake Boulevard at Kamehameha Highway, continuing above the existing gravel overflow parking lot, supported by six columns. In the overflow lot, the Project will construct a rail station and bus transit center to serve the stadium and will pave and stripe the gravel lot creating about 600 parking spaces that also will be used by stadium patrons during stadium events. An additional six guideway support columns will be located on Aloha Stadium property south of the overflow parking lot next to Kamehameha Highway. The guideway in this area will be wider than 30 feet to accommodate a third track for additional trains during stadium events. Because the Project will permanently incorporate land from the Aloha Stadium parcel into a transportation facility, this will be a direct use.

The Project will provide transportation benefits to Aloha Stadium that will enhance its ability to provide recreational opportunities to users, offering choice, greater capacity, and improved service. The transportation use of the site will not change with the Project. It will provide an additional form of access to Aloha Stadium via the new fixed guideway. The operation of the Project will not interfere with the features, attributes, or activities of the property. Therefore, the Project will have a *de minimis* impact as defined in 23 CFR 774.17. The Department of Accounting and General Services

has concurred regarding the findings of the *de minimis* impact (Appendix F, Record of Agency Correspondence and Coordination).

Measures to Minimize Harm

The direct impacts to the Aloha Stadium property will be due to the guideway, station, bus lane, and support columns within the parking lots. The support columns have been designed to be as unobtrusive as possible, while maintaining safety and access to the parking lot.

Agency Coordination and Consultation

The Aloha Stadium Authority, Aloha Stadium Manager, and Department of Accounting and General Services have participated in the planning of the alignment, the station location, and the park-and-ride lot within the boundaries of Aloha Stadium. Coordination included meetings on March 14, March 25, October 20, 2008, and February 24, May 1, May 15, 2009. Coordination will continue during final design and construction to ensure that the Project will result in a net benefit, in terms of both enhanced access and parking.

Ke`ehi Lagoon Beach Park (Direct Use)

Description and Significance of Property

Ke`ehi Lagoon Beach Park is an approximately 72-acre community park at Lagoon Drive and Aolele Street (Figures 5-7 and 5-8). It is bounded on the mauka side by Nimitz Highway and some



Figure 5-7 Ke`ehi Lagoon Beach Park , looking Mauka

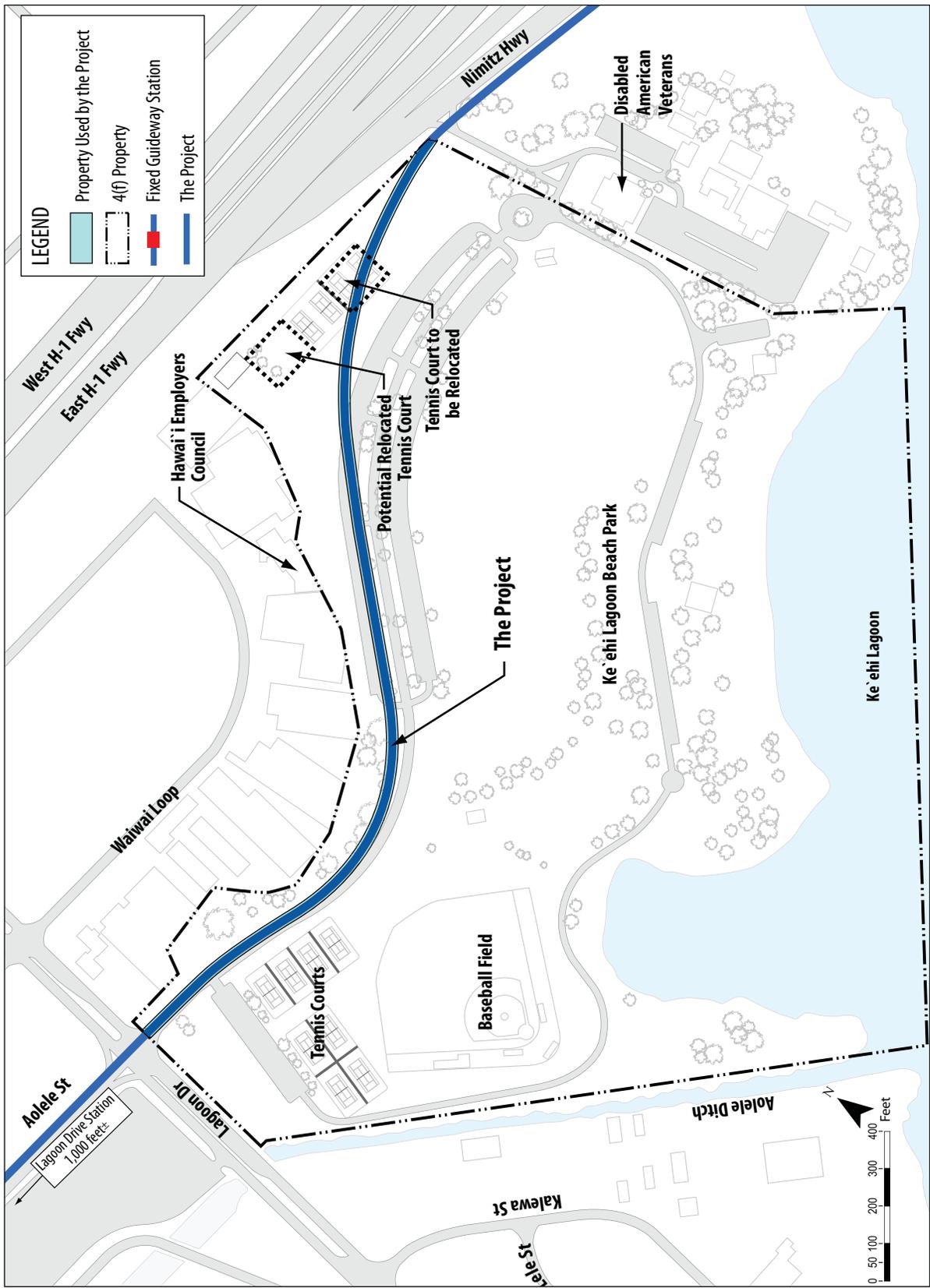


Figure 5-8 Ke'ehi Lagoon Beach Park—Project and Features

industrial developments, on the makai side by the lagoon and airport property, 'Ewa by Lagoon Drive, and Koko Head by the Disabled American Veterans property. It is operated and maintained by the City and is part of a General Preservation District (P2) on State-owned land. Recreational amenities include twelve tennis courts, one baseball field, walking trails, and picnic areas. The baseball field is near the shoreline of Ke'ehi Lagoon, and eight of the tennis courts are near Lagoon Drive, while the other four are near Nimitz Highway. Canoe clubs engage in active practice sessions at the park. Soccer and softball practices and games are also held there regularly. There are two parking areas; the smaller one (50 spaces) is located near the lagoon and the larger one (435 spaces) lines the park's access road, near the highway.

Since Ke'ehi Lagoon Beach Park is located under a flight path of one of the main runways at Honolulu International Airport, night lights are prohibited in the park; therefore, the park is only used during the day.

Application of Section 4(f)

At this location, the alignment traverses the park near its mauka property line, practically following the alignment of the park's access road until it turns to meet Nimitz Highway (Figure 5-8). The Project will cross above and require acquisition of approximately 2.8 acres (75,000 square feet) of the park, primarily from the access road. Seven hundred square feet of this area will be directly used for placement of the support columns on the mauka side of the property.

The elevated guideway will be approximately 40 feet above the ground in this vicinity to maintain clearance over Lagoon Drive and still meet the clearance required for the airport's runway flight path. This clearance will be maintained through the park to optimize use of the area under the guideway, including an area for replacement

parking. Because the Project will permanently incorporate the land for the columns into the transportation facility, this will be a direct use.

Avoidance Alternatives

The only true avoidance alternative to this direct use is the Salt Lake alignment, which would have no effect on Ke'ehi Lagoon Beach Park. In this vicinity, the Salt Lake alignment transitions makai from Salt Lake Boulevard across Pukuloa Street and makai along Moanalua Street to Nimitz Highway in Kalihi, completely avoiding the park. At its closest, where the alignment turns to follow Kamehameha Highway, it is about 1,000 feet mauka of the park.

Although it would completely avoid Ke'ehi Lagoon Beach Park, the Salt Lake alignment would result in a direct use at the historic Radford High School property and require more property be taken at Aloha Stadium (approximately 4.8 acres) than the Project (2.7 acres), which would be considered a direct use. As described in Section 5.8, Least Overall Harm, the Salt Lake alignment does not provide the same transit benefits as the Project and, therefore, is not the Preferred Alternative.

Measures to Minimize Harm

To minimize impact on the park, the project guideway was designed with minimal curve radius to reduce impact to the park. The guideway could not be shifted farther mauka and still maintain efficient system operation to serve the Lagoon Drive Station. The support columns have been designed to be as unobtrusive as possible, while maintaining safety and access to the park.

The potential measures to minimize harm are limited by the need to connect the Lagoon Drive Station to the Airport Station. Alternative alignments that run parallel to the alignment on Ualena Street or Koapaka Street would create additional impacts by requiring more right-of-way acquisition and displacing more commercial properties

along Waiwai Loop before entering the park. They would reduce the impact to the park but would still impact the tennis courts and parking.

The alternative alignment having the least impact to Ke'ehi Lagoon Beach Park would run immediately makai of the Nimitz Highway, along the mauka edge of the park (Figure 5-9). This would entirely avoid the parking and tennis courts at Ke'ehi Lagoon Beach Park.

With this alternative, the guideway would pass over several commercial properties, resulting in an additional approximately 15 full acquisitions and numerous business displacements between Aolele Street and North Nimitz Highway and 21 partial acquisitions along the H-1 Freeway. Most of these properties are occupied by airport-related businesses, such as car rentals, couriers, etc. This

alignment would pass over approximately 0.1 acre of the 72-acre park and use approximately 100 square feet of ground for park space for the placement of support columns. Furthermore, with this option the Lagoon Drive Station would have to be double-stacked (one platform above the other), and the guideway would have to be double-stacked from approximately Peltier Avenue to Ahua Street, a distance of about 1,969 feet, to fit between the existing highway and properties makai of the highway. This, and the right-of-way requirements, would result in an additional \$75 million (2007 USD) in construction costs. For these reasons, this alternative is not considered prudent.

To minimize impacts to the park, the alignment was placed away from the picnic area and above a parking area where the shade it provides will benefit the park's users. There are eight lighted

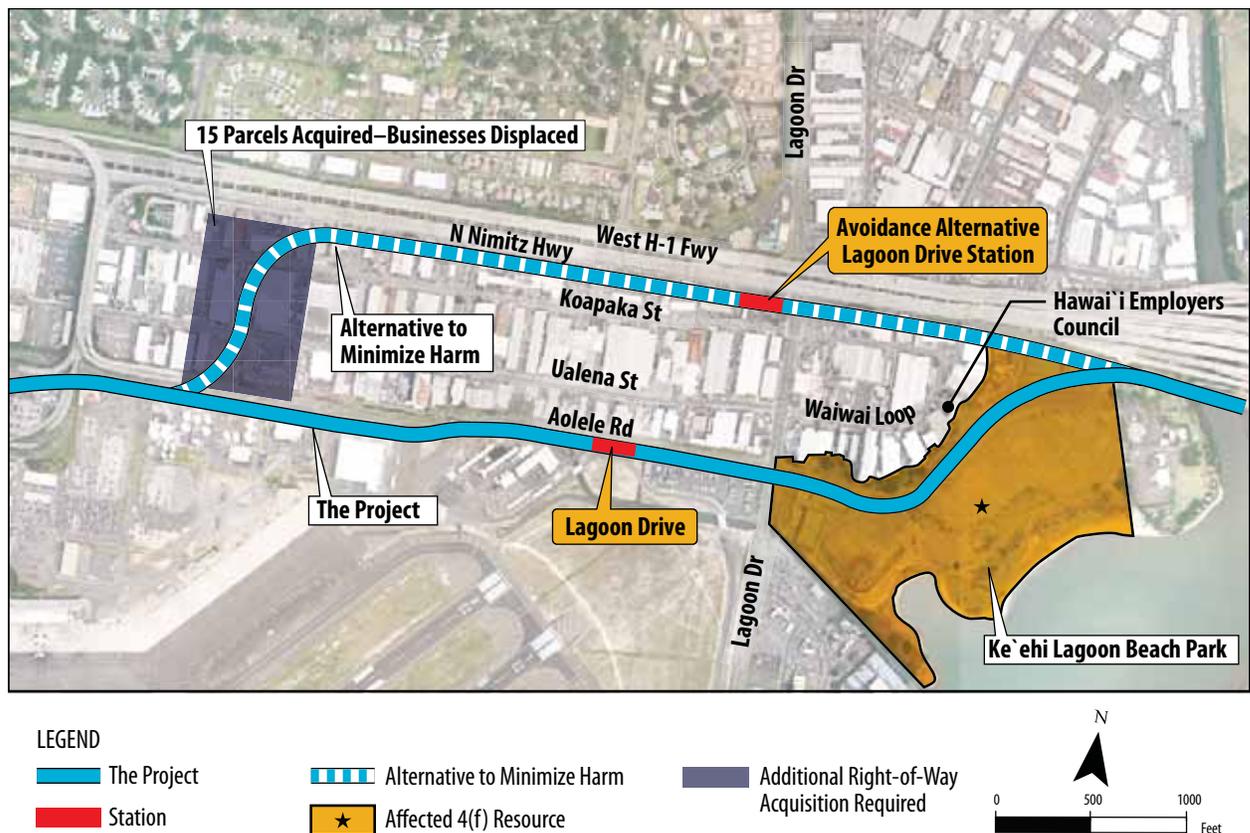


Figure 5-9 Ke'ehi Lagoon Beach Park—Project and Avoidance Alternative

tennis courts in the park near Nimitz Highway. The guideway will cross above the park over four of the tennis courts. These four tennis courts will be replaced with new lighted tennis courts in the same vicinity of the park. The lost parking spaces will be replaced with shaded parking under the guideway, which will result in no net loss of parking.

Agency Coordination and Consultation

Officials with the City Department of Parks and Recreation (DPR), which operates and maintains over Ke‘ehi Lagoon Beach Park, have been involved in the project planning and design process within the boundaries of the park. A meeting was held with DPR in May 2008 and September 2009 to discuss project impacts and ensure that the Project will result in a net benefit with regard to parking and recreational use. Coordination will continue during final design and construction.

5.5.2 Historic Sites

This section discusses the historic sites considered in the Section 4(f) evaluation, based on the 81 historic resources identified near the project alignment in Section 4.16, Archaeological, Cultural, and Historic Resources.

The Project will have a direct use of 13 historic resources with 2 of those considered a *de minimis* impact. The impact to the resources with a *de minimis* use will be small enough that the historic resources will not be adversely affected, as described in 36 CFR 800.5.

Agency Coordination and Consultation

Since consultation and coordination have been common for all historic resources evaluated, the procedures are explained once here and not repeated individually under each historic resource evaluation.

Consultation among FTA, Hawai‘i SHPD, and other Section 106 consulting parties is described in Section 4.16 and Chapter 8. The historic resources

evaluated in this chapter have been determined to be eligible for listing on the NRHP. To mitigate adverse effects on historic resources identified during the Section 106 review, a Programmatic Agreement (PA) has been developed with the concurrence of all consulting agencies that stipulates a variety of actions to be taken prior to pre-construction and construction activities in the study corridor.

FTA, the City, Advisory Council on Historic Preservation, National Park Service, the Navy, and SHPD have approved documentation measures to mitigate adverse effects to historic properties along the project alignment, including the Historic American Building Survey (HABS) and the Historic American Landscape Survey (HALS) documentation; professional photography of affected resources in accordance with the National Register Photographic Imaging Policy; professional videography of the study corridor; and digital photography that documents affected resources and viewsheds within the APE.

Additional measures within the PA highlight specific actions to be taken by the City and include preservation of lava rock curbstones along Dillingham Boulevard and Halekauwila Street; completion of Cultural Landscape Reports (CLR), Historic Context Studies, NRHP Multiple Property Submissions (MPS), and NRHP nominations; and development of an interpretive plan for the project area with interpretive signage to be installed.

Refer to Section 106 PA in Appendix H for specific documentation submission requirements and information regarding the review and approval procedures of documented resources.

Afuso House (Direct Use)

Description and Significance of Resource

Fronting on Dillingham Boulevard, this single-story plantation-style privately owned residence is associated with the residential development of the

Kalihi Kai neighborhood in the early 1900s. This structure embodies the distinctive characteristics of a type and period of construction and retains a high degree of integrity of location, design, materials, workmanship, feeling, and association. The integrity of its original setting, however, has changed substantially, as there are now adjacent vacant lots on one side and a convenience store across the street. Several other historic residential buildings are present in the immediate area, also on Dillingham Boulevard. The added carport and jalousie windows are apparent non-historic alterations; however, most of the other features are historic and part of the design history of the house (Figure 5-10).

Application of Section 4(f)

As a result of the widening of Dillingham Boulevard to accommodate the fixed guideway, the Project will require full acquisition of the property (including the building). Permanent incorporation of a Section 4(f) historic property into a transportation facility constitutes a direct use, and development of avoidance alternatives is required.

Avoidance Alternatives

During the Alternatives Analysis phase, two alignments between Middle Street and Iwilei were considered, one along Dillingham Boulevard and another along North King Street. Other alignments were dismissed because of even greater impacts



Figure 5-10 Afuso House (left) and Higa Fourplex (right)

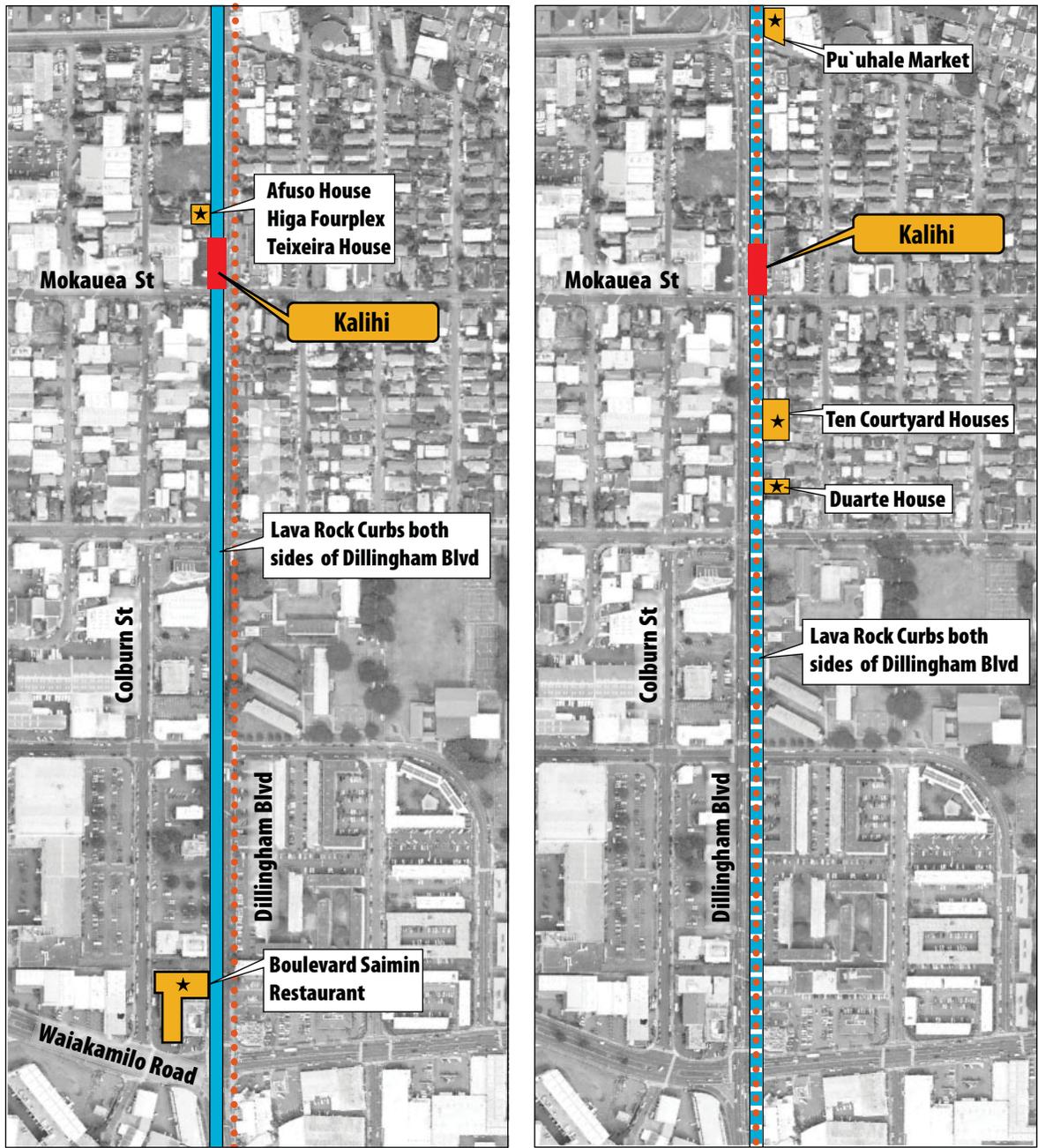
or because they compromised the ability of the Project to meet its Purpose and Need. Compared to Dillingham Boulevard, a window survey of the North King Street alignment identified as many as 36 properties potentially eligible for the National Register of Historic Places that would be used by this alignment. In addition, a substantially greater number of residential relocations would be required, and the potential for noise impacts on the remaining properties would be greater because of more noise-sensitive uses.

Another avoidance alternative to the project alignment would be to move the guideway to the mauka side of Dillingham Boulevard. This is discussed below:

- Mauka Shift (Figure 5-11)—to shift the guideway mauka and out of the median would require relocating 8,000 feet of a 138-kilovolt (kV) high-voltage electrical line and 20 steel poles. This would be extremely costly, in excess of \$12 million. In addition, a mauka shift would also impact more historic Section 4(f) resources, more specifically, the Duarte House, 10 Courtyard Houses, Pu'uhale Market, and additional true kamani trees. Unlike the trees on the makai side that have been severely trimmed to avoid the low voltage power lines, the trees on the mauka side have been pruned less severely and retain more of their original shape and quality (because the power lines are much taller on the mauka side of the street). Therefore, a mauka shift would not avoid the use of Section 4(f) resources and is not a prudent or feasible alternative.

Measures to Minimize Harm

Throughout the planning and design of the Project, the guideway has been designed to be as narrow as possible, minimizing the need for removal of any historic buildings. However, the Project will still require removal of Afuso House. A PA in accordance with Section 106 has been prepared



The Project

Avoidance Alternative

LEGEND

- Station
- The Project
- Avoidance Alternative Alignment

- Overhead Powerline
- ★ Affected 4(f) Resource

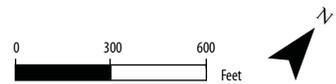


Figure 5-11 Afuso House, Higa Fourplex, Teixeira House, and Lava Rock Curbs Avoidance Alternative

that details mitigation measures, which include the preparation of a CLR for the Dillingham Boulevard corridor. The City will also research, photograph, and record the history of this particular resource.

Higa Fourplex (Direct Use)

Description and Significance of Resource

This two-story plantation-style privately owned fourplex residence (Figure 5-10) is associated with intense residential development around Dillingham Boulevard in the early 1940s. This structure is also associated with Dillingham Boulevard's historic development and its effect on the Kalihi Kai neighborhood, which originally consisted of mostly single-family residences. The building has a high degree of integrity; all alterations appear to be historic and are considered part of the building's design history.

Application of Section 4(f)

As a result of the widening of Dillingham Boulevard to accommodate the fixed guideway, the Project will require full acquisition of the property (including the building). Permanent incorporation of a Section 4(f) historic property into a transportation facility constitutes a direct use, and development of avoidance alternatives is required.

Avoidance Alternatives

During the Alternatives Analysis phase, two alignments between Middle Street and Iwilei were considered, one along Dillingham Boulevard and another along North King Street. The North King Street alignment would have resulted in as many as 36 historic Section 4(f) property impacts, a greater number of residential relocations, and more noise-sensitive issues compared to the Dillingham Boulevard alignment.

Another avoidance alternative to the project alignment would be to move the guideway to either the mauka or makai side of Dillingham Boulevard, as discussed below:

- Mauka Shift (Figure 5-11)—to shift the guideway mauka and out of the median would require relocating 8,000 feet of a 138-kV high-voltage electrical line and 20 steel poles. This would be extremely costly, in excess of \$12 million. In addition, a mauka shift would also impact more historic Section 4(f) resources, such as the Duarte House, 10 Courtyard Houses, Pu'uhale Market, and additional true kamani trees. Unlike the trees on the makai side that have been severely trimmed to avoid the low voltage power lines, the trees on the mauka side have been pruned less severely and retain more of their original shape and quality (because the power lines are much taller on the mauka side of the street). Therefore, a mauka shift would not avoid the use of Section 4(f) resources and is not a prudent or feasible alternative.

Measures to Minimize Harm

Throughout the planning and design of the Project, the guideway has been designed to be as narrow as possible, minimizing the need for removal of any historic buildings. However, the Project will still require removal of Higa Fourplex. A PA in accordance with Section 106 has been prepared that details mitigation measures, which include preparation of a CLR for the Dillingham Boulevard corridor. The City will also research, photograph, and record the history of this particular resource.

Teixeira House (Direct Use)

Description and Significance of Resource

This single-story plantation-style privately owned residence is associated with the residential development of the Kalihi Kai neighborhood in the first half of the 20th century, before North Queen Street was renamed Dillingham Boulevard. This structure embodies the distinctive characteristics of a type, period, and method of construction and is a good example of a 1940s, single-wall, plantation-style house. There have been some changes made

to the structure, but it retains sufficient integrity to qualify for the NRHP. Integrity of setting is compromised from its historic dense residential character due to a new, large commercial building on the consolidated adjacent lot; historic setting remains apparent due to the presence of other historic residential buildings in the immediate area. There have been some non-historic design changes made to the structure, including installation of jalousies and removal of a rock wall fronting the lot (Figure 5-12).



Figure 5-12 Teixeira House

Application of Section 4(f)

As a result of the widening of Dillingham Boulevard to accommodate the fixed guideway, the Project will require full acquisition of the property (including the building). Permanent incorporation of a Section 4(f) historic property into a transportation facility constitutes a direct use, and development of avoidance alternatives is required.

Avoidance Alternatives

During the Alternatives Analysis phase, two alignments between Middle Street and Iwilei were considered, one along Dillingham Boulevard and another along North King Street. The North King Street alignment would have resulted in as many as 36 historic Section 4(f) resource impacts, a greater number of residential relocations, and more noise-sensitive issues compared to the Dillingham Boulevard alignment.

Another avoidance alternative to the project alignment would be to move the guideway to either the mauka or makai side of Dillingham Boulevard, as discussed below:

- Mauka Shift (Figure 5-11)—to shift the guideway mauka and out of the median would require relocating 8,000 feet of a 138-kV high-voltage electrical line and 20 steel poles. This would be extremely costly, in excess of \$12 million. In addition, a mauka shift would also impact more historic Section 4(f) resources, such as the Duarte House, 10 Courtyard Houses, Pu‘uhale Market, and additional true kamani trees. Unlike the trees on the makai side that have been severely trimmed to avoid the low voltage power lines, the trees on the mauka side have been pruned less severely and retain more of their original shape and quality (because the power lines are much taller on the mauka side of the street). Therefore, a mauka shift would not avoid the use of Section 4(f) resources and is not a prudent or feasible alternative.

Measures to Minimize Harm

Throughout the planning and design of the Project, the guideway has been designed to be as narrow as possible, minimizing the need for removal of any historic buildings. However, the Project will still require removal of Teixeira House. A PA in accordance with Section 106 has been prepared that details mitigation measures, which include the preparation of a CLR for the Dillingham Boulevard corridor. The City will research, photograph, and record the history of this particular resource.

Lava Rock Curbs (Direct Use)

Description and Significance of Resource

Lava rock curbstones consist of dense pieces of basalt that are rough-hewn below grade but squared at their exposed surfaces. The lava rock curbs are an important and labor-intensive element in the history of Honolulu’s street and road infrastructure. Some of the lava rock used for

curbstones was taken from the Mō'ili'ili quarry, which operated from 1889 to 1949 and produced high quality stones.

The lava rock curbs are eligible as a single resource under Criterion A for their association with the roadway infrastructure development of Honolulu. They are also eligible under Criterion C as examples of the distinctive method of street construction in Honolulu during the late 1800s and early 1900s. Although they are considered together here, curbs are located at various places along Dillingham Boulevard and Halekauwila Street (Figures 5-11, 5-13, and 5-14).

Application of Section 4(f)

The Project proposes to widen Dillingham Boulevard to the makai side of the Kapālama Canal Bridge, which will require the removal of the curbs. Because the widening of Dillingham Boulevard will permanently incorporate land into the transportation facility, this qualifies as a direct use.

The Project also proposes widening along Halekauwila Street, which will permanently incorporate land into the transportation facility. There will be a direct use of the lava rock curbs along Halekauwila Street.

Avoidance Alternatives along Dillingham Boulevard

During the Alternatives Analysis phase, two alignments between Middle Street and Iwilei were considered, one along Dillingham Boulevard and another along North King Street. The North King Street alignment would have resulted in as many as 36 adverse historic Section 4(f) property impacts, a greater number of residential relocations, and more noise-sensitive issues compared to the Dillingham Boulevard alignment. It would also serve fewer transit trips than the Dillingham alignment. Because the North King Street alignment performed poorly regarding Purpose and Need and would include more potential Section 4(f)

impacts, it does not represent a prudent Section 4(f) avoidance alternative.

The avoidance alternative discussed for other Dillingham Boulevard resources involved widening to the mauka side of the street. However, this would not avoid impacts to the resource because the lava rock curbstones are present on both sides of the street.

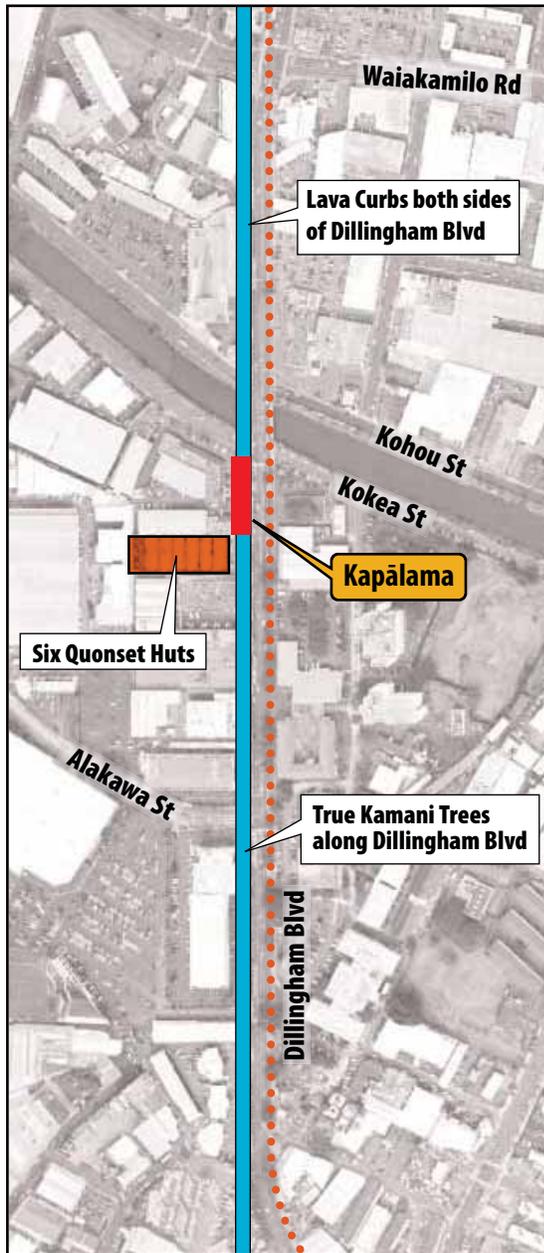
Another avoidance alternative is to not widen Dillingham Boulevard. However, this would not be feasible, as Dillingham Boulevard is currently too narrow to safely accommodate column placement.

For these reasons, the avoidance alternatives described above are not considered prudent and feasible.

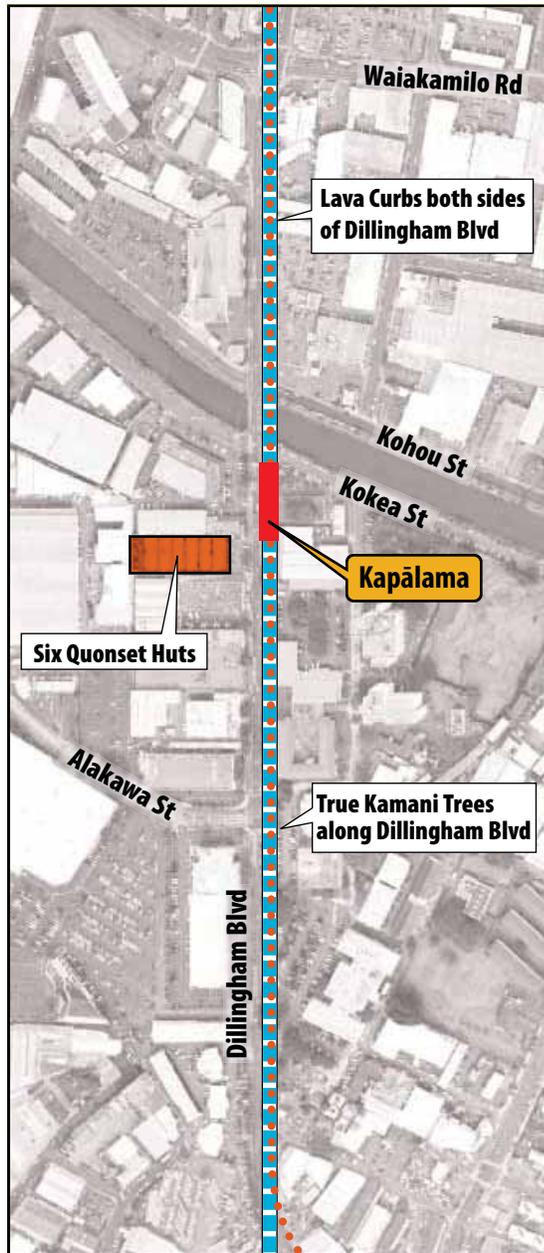
Avoidance Alternatives along Halekauwila Street

During the Alternatives Analysis phase, five alternatives were analyzed for the segment from Iwilei to UH Mānoa, which includes the area along Halekauwila Street. Three alignments rank poorly in the areas of transportation benefits, environmental consequences, and costs. The Beretania Street/South King Street alignment would provide poor transit benefits. The Hotel Street/Kawaiaha'o Street/Kapi'olani Boulevard alignment would create substantial environmental impacts compared to the other alignments. The King Street Tunnel/Waimanu Street/Kapi'olani Boulevard alignment would cost over \$500 million more than the other alignments.

The remaining alignments, Nimitz Highway/Queen Street/Kapi'olani Boulevard and Nimitz Highway/Halekauwila Street/Kapi'olani Boulevard would have similar transportation benefits, but the Queen Street alignment would have somewhat greater environmental impact because the narrow available right-of-way would require a stacked alignment in the Downtown area that would create a greater visual impact. Further, it would cross between Hale



The Project



Avoidance Alternative

LEGEND

-  The Project
-  Avoidance Alternative Alignment
-  Overhead Powerline



Figure 5-13 Lava Rock Curbs, Quonset Huts, and True Kamani Trees on Dillingham Boulevard and Avoidance Alternative

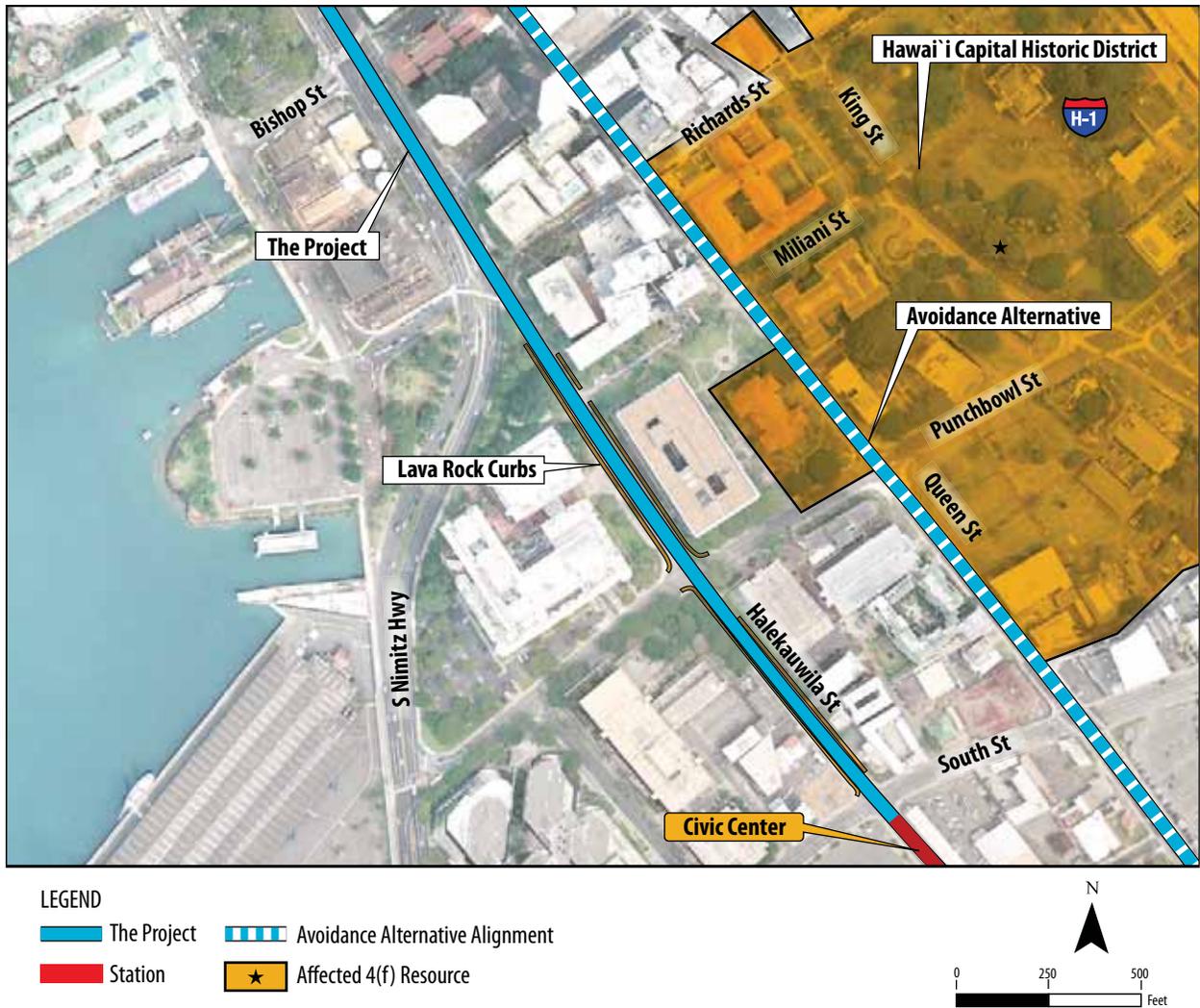


Figure 5-14 Lava Rock Curbs on Halekauwila Street Avoidance Alternative

Auhau and the rest of the Hawai'i Capital Historic District and would not represent a Section 4(f) avoidance alternative (Figure 5-14). An elevated system on either Beretania or King Street would run in front of either the State Capitol or Iolani Palace and would require removal of traffic lanes. Therefore, the alternatives for this segment would not meet Purpose and Need and would entail greater environmental impact, greater cost, and additional adverse effects to other historic resources.

As described above, there are no prudent or feasible avoidance alternatives to the Halekauwila Street

alignment. Similar to the Dillingham Boulevard alignment, avoidance alternatives on the street are limited since the lava rock curbs line both sides.

Measures to Minimize Harm

Throughout the planning and design of the Project, the guideway has been designed to be as narrow as possible, minimizing the need for removal of any historic buildings. However, the Project will still require removal of lava rock curbs. A PA in accordance with Section 106 has been prepared that details mitigation measures. All lava rock curbs removed along the edges of the pavement

of Dillingham Boulevard and Halekauwila Street will be marked prior to removal, stored securely, and replaced at their approximate original mile-point locations. Any stones that are damaged or destroyed during extraction or reinstallation will be replaced with in-kind materials.

Boulevard Saimin (Direct Use—de minimis)

Description and Significance of Property

This two-story building fronting Dillingham Boulevard was built in 1960 and is of masonry construction with a stucco finish and flat roof. This building has a full-height section of decorative concrete grille on the side facing Dillingham Boulevard and contains multiple storefronts. This structure is associated with the commercialization of saimin (a noodle soup unique to Hawai‘i); Boulevard Saimin has been in operation since 1956 and has since become an important and popular purveyor of saimin on O‘ahu. This structure appears unaltered and retains a high level of integrity.

Application of Section 4(f)

The Boulevard Saimin parcel would be affected by the widening of Dillingham Boulevard (Figure 5-15) to accommodate the fixed guideway in the median, as common to all Build Alternatives. A total of 698 square feet would be necessary.

Section 106 consultation determined that the project will have no adverse effect on this historic resource. Therefore, while there will be a direct use, the impact will be *de minimus* and development of avoidance alternatives is not necessary.

Kapālama Canal Bridge (Direct Use)

Description and Significance of Resource

This 1930 bridge was an important transportation link between Kalihi and Downtown Honolulu and an important aspect of the construction of Dillingham Boulevard between Waiakamilo Road and King Street in the early 1930s. The bridge is eligible for nomination to the NRHP under Criterion A



Figure 5-15 Boulevard Saimin

for its association with the transportation history of the area and the extension of Dillingham Boulevard. It is also eligible for nomination under Criterion C as an example of concrete bridge engineering and design in Hawai‘i (Figure 5-16).

Application of Section 4(f)

The Project will require construction of an elevated fixed guideway over the bridge. Consistent with the necessary widening of Dillingham Boulevard, the Project will require widening of the bridge on its makai side to accommodate a new median within which the guideway will be built. Two support columns will also be placed in the median on the bridge. The bridge will need to be upgraded to existing standard, though it has previously been seismically retrofitted. Because the widening of Dillingham Boulevard and the bridge will permanently incorporate land into the transportation facility, this qualifies as a direct use that adversely affects the qualities of the bridge’s design that make it eligible for listing on the NRHP.

Avoidance Alternatives

During the Alternatives Analysis phase, two alignments between Middle Street and Iwilei Street were considered, one along Dillingham Boulevard and another along North King Street. The North King Street alignment would have resulted in as many as 36 historic Section 4(f) property impacts, a greater number of residential relocations, and more noise-sensitive issues compared to the



Figure 5-16 Kapālama Canal Bridge

Dillingham Boulevard alignment. It would also serve fewer transit trips than the Dillingham alignment. Because the North King Street alignment performed poorly regarding Purpose and Need and would include more potential Section 4(f) impacts, it does not represent a prudent Section 4(f) avoidance alternative.

Given that meeting Purpose and Need and minimizing impact to Section 4(f) resources means building the alignment along Dillingham Boulevard, avoidance alternatives are limited, as the alignment must cross Kapālama Canal Stream.

The avoidance alternative discussed for other Dillingham Boulevard resources involved widening to the mauka side of the street. However, this would not avoid impacts to the resource because the widening of either side will create a Section 4(f) use at the Kapālama Canal Bridge.

One avoidance alternative is to not widen Dillingham Boulevard. However, this would not be feasible, as Dillingham Boulevard is currently too narrow to safely accommodate column placement.

Another avoidance alternative would be to not widen Dillingham Boulevard at Kapālama Canal Stream and avoid placing columns on the bridge. This was analyzed by designing a straddle bent across the bridge. Analysis shows that this avoidance alternative is not feasible because it would

require an unsafe lane shift for Koko Head-bound traffic at each end of the bridge (Figure 5-17).

For these reasons, the avoidance alternatives described above are not considered prudent and feasible.

Measures to Minimize Harm

Throughout the planning and design of the Project, the guideway has been designed to be as narrow as possible, minimizing the need for removal or altering of historic resources. However, the Project will still require that the Kapālama Canal Bridge be altered. A PA in accordance with Section 106 has been prepared that details mitigation measures. The City will design the widening to be visually consistent with the existing bridge.

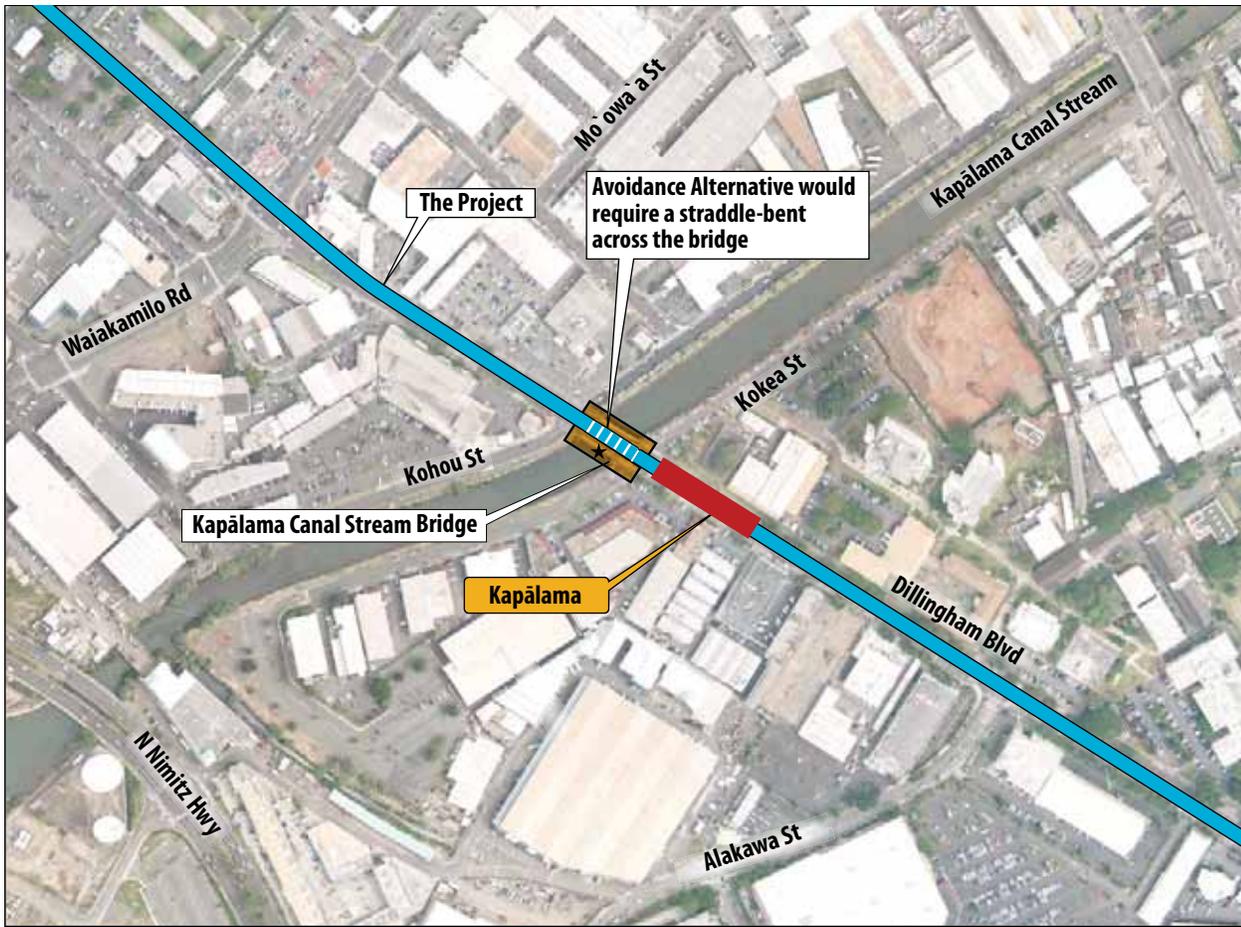
Six Quonset Huts (Direct Use)

Description and Significance of Resource

This resource is eligible for nomination to the NRHP under Criterion A for its association with the re-use of former military buildings by small businesses and other uses, as well as Criterion C because it embodies the distinctive characteristics of this Quonset building type (Figure 5-18). This is a rare extant grouping of military Quonset huts, which were originally erected by the military on another site during WWII. According to aerial photos, they were re-erected on this site sometime between January 1953 and January 1963.

Application of Section 4(f)

The Project will require that an approximately 10-foot-wide strip of land within the property boundary (but not touching the structures) be acquired along the makai edge of Dillingham Boulevard. In addition, a small area will also be acquired at the 'Ewa corner of the property, extending makai up to approximately 25 feet. A portion of this acquisition will be converted to roadway and sidewalk use to accommodate installation of the median and guideway on Dillingham Boulevard. Permanent incorporation of land



LEGEND

- The Project
- Avoidance Alternative Alignment
- Station
- ★ Affected 4(f) Resource

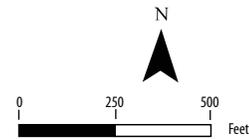


Figure 5-17 Kapālama Canal Bridge Avoidance Alternative



Figure 5-18 Six Quonset Huts

from a Section 4(f) property into a transportation facility constitutes a direct use, and it was determined that while this acquisition will not directly affect the buildings, it will substantially impair the setting, feeling, and location of the historic property. Development of avoidance alternatives is required.

Avoidance Alternatives

During the Alternatives Analysis phase, two alignments between Middle Street and Iwilei were considered, one along Dillingham Boulevard and another along North King Street. The

North King Street alignment would have resulted in as many as 36 historic Section 4(f) resource impacts, a greater number of residential relocations, and more noise-sensitive issues compared to the Dillingham Boulevard alignment.

The other avoidance alternative to the Project would be to move the guideway to the mauka side of Dillingham Boulevard. This does not represent a prudent or feasible avoidance or minimization measure, as discussed below:

- Mauka Shift (Figure 5-15)—to shift the guideway mauka and out of the median would require relocating 8,000 feet of a 138-kV high-voltage electrical line and 20 steel poles. This would be extremely costly, in excess of \$12 million. In addition, a mauka shift would also impact more historic Section 4(f) resources: the Duarte House, 10 Courtyard Houses, Pu‘uhale Market, and additional true kamani trees. Unlike the trees on the makai side that have been severely trimmed to avoid the low voltage power lines, the trees on the mauka side have been pruned less severely and retain more of their original shape and quality (because the power lines on this side of the street are much taller). Therefore, a mauka shift would not avoid the use of Section 4(f) resources.

Measures to Minimize Harm

Throughout the planning and design of the Project, the guideway has been designed to be as narrow as possible, minimizing the need for removal of any historic buildings. However, the Project will still require removal of a small amount of land on the same parcel as the Six Quonset Huts.

In accordance with Section 106, a Programmatic Agreement has been prepared that details a variety of stipulations that must be followed to mitigate anticipated adverse effects on historic properties. One of these stipulations is the preparation of a Cultural Landscape Report for the Dillingham

Boulevard corridor, which includes the Quonset Huts. Other types of measures to mitigate or minimize harm are described in Section 5.5.2 under Agency Coordination and Consultation.

True Kamani Trees (Direct Use)

Description and Significance of Resource

Mature true kamani trees, planted in the mid-1930s, still line both sides of Dillingham Boulevard. They stand approximately 30 feet tall and are spaced about 55 to 75 feet apart. Many have asymmetrical canopies as a result of pruning to avoid nearby utility lines. The trees are associated with the 1930s roadway infrastructure development of Dillingham Boulevard and the history of street tree plantings in Honolulu. They remain unaltered, except for necessary maintenance pruning (Figure 5-19).

Application of Section 4(f)

The Project requires that Dillingham Boulevard be widened by 10 feet to accommodate a median within which the fixed guideway will be placed. As a result, approximately 28 true kamani trees will be removed from the makai side of the street, which constitutes a direct use according to Section 4(f).

Avoidance Alternatives

During the Alternatives Analysis phase, two alignments between Middle Street and Iwilei were considered, one along Dillingham Boulevard and



Figure 5-19 True Kamani Trees on Dillingham Boulevard

another along North King Street. The North King Street alignment would have resulted in as many as 36 historic Section 4(f) resource impacts, a greater number of residential relocations, and more noise-sensitive issues compared to the Dillingham Boulevard alignment.

The other avoidance alternative to the Project would be to move the guideway to the mauka side of Dillingham Boulevard. This does not represent a prudent or feasible avoidance or minimization measure, as discussed below:

- **Mauka Shift (Figure 5-13)**—to shift the guideway mauka and out of the median would require relocating 8,000 feet of a 138-kV high-voltage electrical line and 20 steel poles. This would be extremely costly, in excess of \$12 million. In addition, a mauka shift would also impact more historic Section 4(f) resources, such as the Duarte House, 10 Courtyard Houses, Pu‘uhale Market, and additional true kamani trees. Unlike the trees on the makai side that have been severely trimmed to avoid the low voltage power lines, the trees on the mauka side have been pruned less severely and retain more of their original shape and quality (because the power lines are much taller on the mauka side of the street). Therefore, a mauka shift would not avoid the use of Section 4(f) resources.

Measures to Minimize Harm

Throughout the planning and design of the Project, the guideway has been designed to be as narrow as possible, minimizing the need for removal of any historic buildings. However, the Project will still require removal of 28 true kamani trees. During final design and construction, the City landscape architect will develop a planting plan to mitigate effects to these and other street trees affected by the Project. It may be determined that some can be transplanted. A PA in accordance with Section 106 has been prepared that details mitigation measures. The City will research, photograph, and

record the history of this resource and complete a CLR related to historic resources along the Dillingham Boulevard corridor.

O‘ahu Railway & Land Company Terminal Building and Office/Document Storage Building (Direct Use)

Description and Significance of Resources

The 1925 two-story terminal building is located on North King Street near Iwilei Road. It was designed by Honolulu architect Guy N. Rothwell. It embodies the distinctive characteristics of public buildings during the 1920s in Honolulu.

The OR&L Office and Document Storage Building is a two-story, Colonial Revival-style building constructed in 1914. It is set back from North King Street, about 75 feet mauka of the Terminal Building. Both buildings are associated with the O‘ahu Railway & Land Company, which was an important transportation network serving the sugar and pineapple plantations, the military, and the residents of O‘ahu until it stopped service in December 1947. These resources are eligible under Criterion A for their association with the railway. The terminal building is also eligible under Criterion C as an example of Spanish Mission Revival Style with high artistic value. Both are now office buildings with associated parking lots and open areas in the back (Figure 5-20).

Application of Section 4(f)

The Project includes construction of an elevated guideway on a planned access easement that crosses the back section of this large parcel. The alignment is on the site of the former OR&L rail yard, an area behind the buildings and their associated parking lots which has been cleared and paved. Because the easement has not been formally filed and the Project will require permanent incorporation of land (approximately 0.75 acre) into the transportation facility, this qualifies as a direct use under Section 4(f). The alignment will be approximately 150 feet makai from the Office and Document Storage Building, 100 to 150 feet makai



Figure 5-20 O'ahu Railway & Land Company Terminal Building

from the Terminal Building and approximately 45 feet aboveground. Approximately four or five supporting columns will be located in this segment of the alignment. The structure will be taller than both buildings and the visibility and connection to the former rail yard area will be maintained.

Avoidance Alternatives

The guideway follows this alignment to connect Nimitz Highway and Dillingham Boulevard. During the Alternatives Analysis phase, two alignments between Middle Street and Iwilei were considered, one along Dillingham Boulevard and another along North King Street. The North King Street alignment would have resulted in as many as 36 historic Section 4(f) resource impacts, a greater number of residential relocations, and more noise-sensitive issues compared to the Dillingham Boulevard alignment. It would also serve fewer transit trips than the Dillingham Boulevard alignment. Because the North King Street alignment performed poorly regarding Purpose and Need and would include more potential Section 4(f) impacts, it did not represent a prudent Section 4(f) avoidance alternative (Figure 5-21).

Six alternatives were analyzed for the segment from Iwilei to UH Mānoa. Three alignments would have performed poorly in the areas of transportation benefits, environmental consequences, and

costs. The Beretania Street/South King Street alignment would provide poor transit benefits. The Hotel Street/Kawaiaha'o Street/Kapi'olani Boulevard alignment would create substantial environmental impacts compared to the other alignments. The King Street Tunnel/Waimanu Street/Kapi'olani Boulevard alignment would cost over \$500 million more than the other alignments.

The remaining alignments, Nimitz Highway/Queen Street/Kapi'olani Boulevard and Nimitz Highway/Halekauwila Street/Kapi'olani Boulevard, would have similar transportation benefits, but the Queen Street alignment would have identical effects to these resources.

Moreover, the Project uses a planned access easement through the parcel. The Project is consistent with transportation planning efforts.

As described above, there are no prudent and feasible alternatives to the alignment location through the OR&L property. Avoidance alternatives for this resource are limited as the guideway must cross this historic parcel to safely connect from Nimitz Highway to Dillingham Boulevard.

Measures to Minimize Harm

The Project has been located on a planned access easement through the property, well away from the Terminal and Office/Storage Buildings. Neither of these buildings will be altered, nor will they lose their association with the land on which they are located. The guideway has been designed to be as narrow as possible, minimizing the need for removal of any historic buildings. The Project has also minimized harm to the O'ahu Railway & Land Company Terminal Building and Office & Document Storage Building by reducing column size and maximizing column spacing. A PA in accordance with Section 106 has been prepared that details mitigation measures.

O`ahu Railway & Land Company Basalt Paving Blocks and Former Filling Station (Direct Use—*de minimis*)

Description and Significance of Resource

The former filling station on the OR&L property is a one-story, flat-roofed masonry building constructed in 1940. It is set back from North King Street, just Koko Head of the Document Storage Building. It is significant for its association with the development of the Aala neighborhood. Although it is on the OR&L property, it is not thought to be related to the other OR&L buildings and is not part of that historic complex (Figure 5-22).

The historic basalt paving stones are set within Iwilei Road at the makai edge of the OR&L property boundary. They date from 1914 and represent a rare example of extant basalt street paving remaining in situ on O`ahu. The paving stones are historically significant for their association with roadway infrastructure development in the early 20th century (Criterion A), the distinctive method of using basalt in road construction in Honolulu (Criterion C), and as a rare source of information on the technology of street paving in early Honolulu (Criterion D) (Figure 5-23).

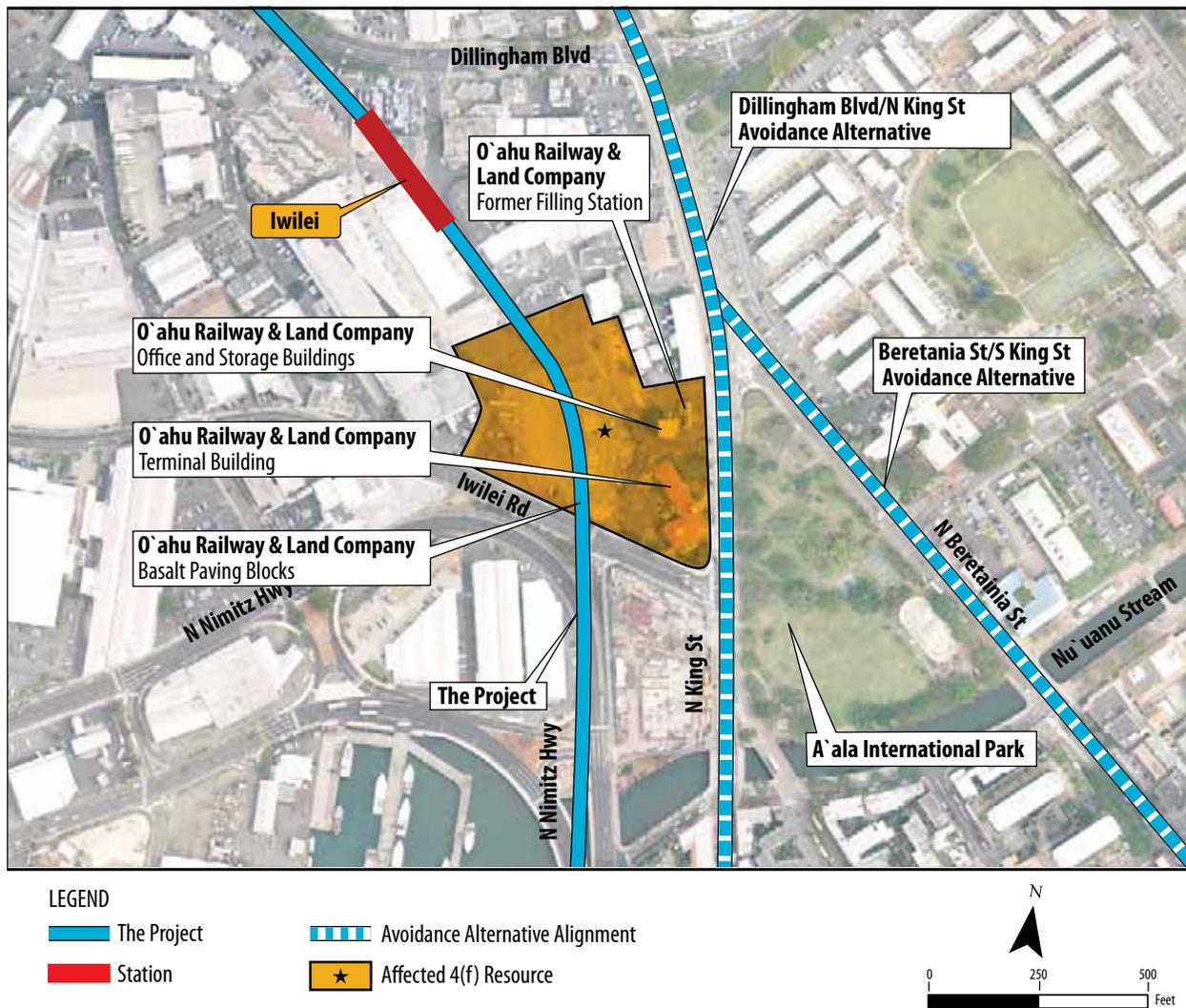


Figure 5-21 O`ahu Railway & Land Company Avoidance Alternative



Figure 5-22 O'ahu Railway & Land Company Former Filling Station



Figure 5-23 O'ahu Railway & Land Company Basalt Paving Blocks

Application of Section 4(f)

The Project includes construction of an elevated guideway on a planned access easement through this large OR&L parcel as it extends from Dillingham Boulevard to Nimitz Highway (Figure 5-21). While the Project will require the permanent incorporation of 0.75 acre for columns and easement, these two resources will not be affected by this acquisition, given their distance and non-relation to this portion of the property, as well as the fact that the alignment will completely span and not touch the basalt paving blocks. Section 106 consultation determined that the Project will have no adverse effect on these historic resources. Therefore, while there will be a direct use, the impact will be *de minimis* and development of avoidance alternatives will not be necessary.

Chinatown Historic District (Direct Use)

Description and Significance of Resource

This 36-acre historic district was listed on the NRHP on January 17, 1973. Its boundaries run in a line 50 feet 'Ewa of Nu'uaniu Stream, along the mauka side of Beretania Street, 50 feet Koko Head of Nu'uaniu Avenue, and extend into the waters of Honolulu Harbor 50 feet makai of the longest pier. The makai boundary of the district expresses the importance of Chinatown's connection with the harbor and its historic ties to the waterfront, a factor of great importance in its origin and evolution. It is recognized as a place of cultural importance to the City's Asian community since the early 20th century, which retains its distinctive cultural surroundings and architectural character (Figure 5-24).

Application of Section 4(f)

The Project includes construction of an elevated guideway within a new median on Nimitz Highway and a station Koko Head of Nu'uaniu Stream at the 'Ewa edge of the district. The station entrance will touch down in a parking lot associated with the non-historic Chinatown Marketplace. While there will be no physical impact to any contributing resource, the guideway and station are within the National Register District, which qualifies this project acquisition (0.3 acre) as a direct use. The FHWA Section 4(f) policy paper suggests that if a project has a Section 106 Finding of Adverse Effect



Figure 5-24 Chinatown Historic District

on a historic district, as is the case here, the district and each contributing element should be considered for Section 4(f) use.

The Chinatown Station is set in the least sensitive location on the 'Ewa edge of the district, beside non-contributing modern buildings in a parking lot.

The 30- to 42-foot-high guideway will be placed in front of contributing pier buildings along the waterfront (Figure 5-25). It will pass between these elements and the harbor. The primary view of

these structures is from a ground-level perspective from the mauka side of Kamehameha Highway, six lanes removed from the structures. Thus, the guideway and station will be behind and above the viewer and will not block or obstruct primary views of any architecturally significant buildings or substantially impair the characteristics of its National Register eligibility. Predicted noise levels there do not exceed FTA criteria.

The district's NRHP eligibility is based on the relationship between the district's elements and Honolulu Harbor (as well as the architecture). The

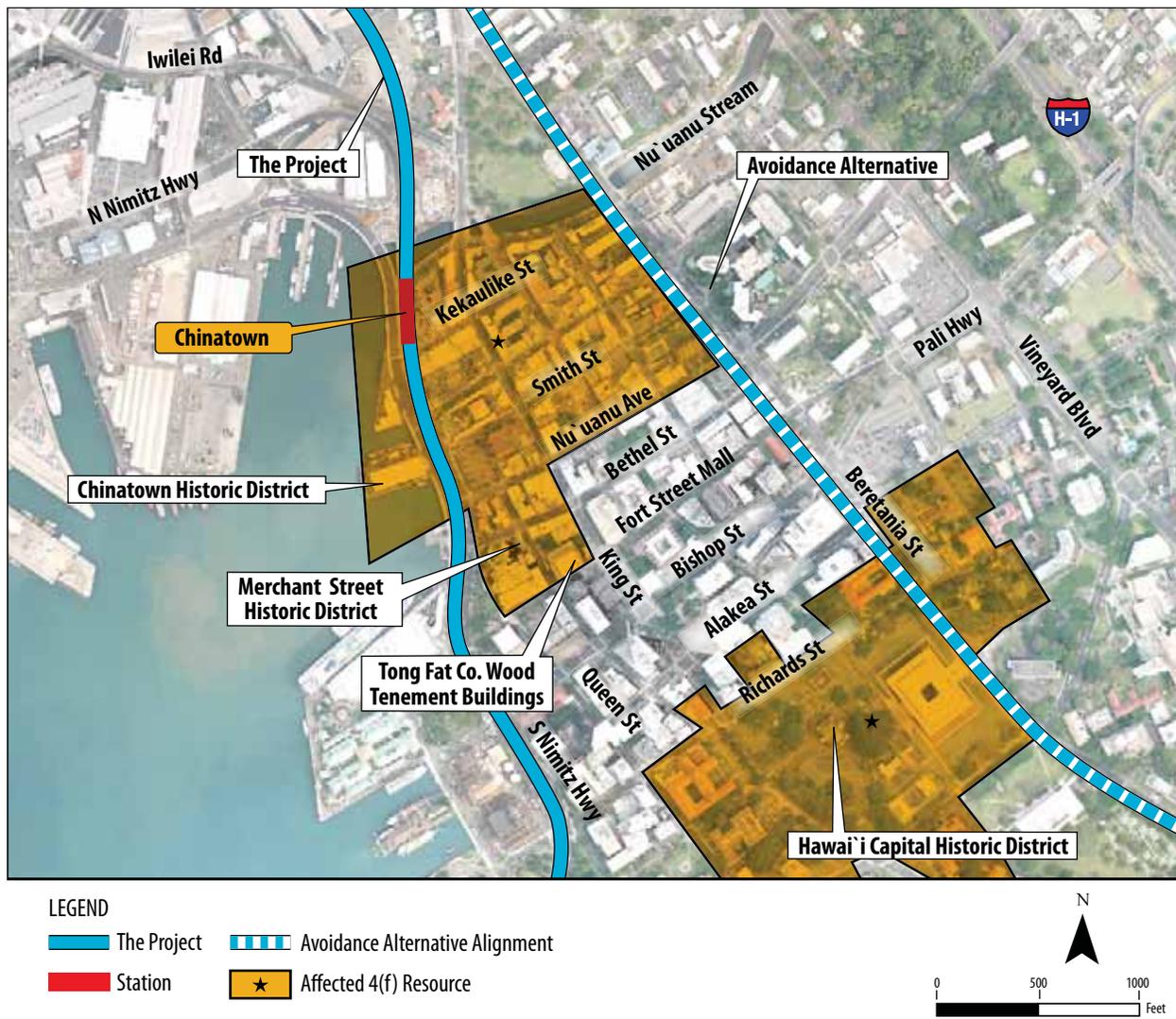


Figure 5-25 Chinatown Avoidance Alternative

Project will not substantially impair that physical connection to the waterfront. However, it will be a dominant visual element contrasting in scale with the pedestrian environment and substantially changing makai views of Honolulu Harbor from Chinatown.

Avoidance Alternatives

During the Alternatives Analysis phase, five alternatives were analyzed for the segment from Iwilei to UH Mānoa. Three alignments rank poorly in the areas of transportation benefits, environmental consequences, and costs. The Beretania Street/South King Street alignment would provide poor transit benefits. The Hotel Street/Kawaiaha'o Street/Kapi'olani Boulevard alignment would create substantial environmental impacts compared to the other alignments and would not have avoided the district. The King Street Tunnel/Waimanu Street/Kapi'olani Boulevard alignment would cost over \$500 million more than the Project (Figure 5-25).

The remaining alignments, Nimitz Highway/Queen Street/Kapi'olani Boulevard and Nimitz Highway/Halekauwila Street/Kapi'olani Boulevard, would result in identical effects to this district and would also cross through the Hawai'i Capital Historic District.

As described above, there are no prudent or feasible avoidance alternatives to the Nimitz Highway alignment that passes through the Chinatown Historic District.

Measures to Minimize Harm

Throughout the planning and design of the Project, the guideway has been designed to be as narrow as possible, minimizing impacts to the Chinatown Historic District. The guideway will follow Nimitz Highway, and a station entrance will be placed on a parking lot on the edge of the district, which will not require direct use of contributing elements. A PA in accordance with Section 106 has been

prepared that details mitigation measures. The City will engage a professional photographer to document adversely affected historic resources that are not subject to acquisition and/or demolition in accordance with the National Register Photographic Imaging Policy. The City will also complete an update/amendment to the Chinatown Historic District NRHP nomination and all accompanying documentation, such as photographs and mapping.

Dillingham Transportation Building (Direct Use)

Description and Significance of Resource

This monumental four-story Italian Renaissance Revival-style building was constructed in 1930 at a time when the territory was developing quickly and Bishop Street was becoming the main commercial street in Honolulu. It fills a whole block-front on Bishop Street, one block mauka of the harbor. The NRHP-eligible building is significant for its association with commercial development of the time and the Dillingham family's business empire (which included the OR&L and various agricultural and industrial ventures), as well as for its architectural design. While changes have been made to the structure, particularly on the ground floor, to create storefronts and an arcade, the building maintains much of its original integrity. It is also listed on the Hawai'i Register of Historic Places (Figure 5-26).



Figure 5-26 Dillingham Transportation Building, looking Mauka from Nimitz Highway

Application of Section 4(f)

In addition to the elevated guideway that will run down Nimitz Highway approximately 40 feet makai of the building, the Downtown Station entrance will be sited on a small plaza behind the Dillingham Transportation Building on the same parcel. The Downtown Station will be the second highest volume station in the system without an associated transit center and will be the only station to serve the Central Business District. Approximately 3,000 square feet of the plaza will be used by the Project for the station entrance. This landscaped plaza is not a contributing element but is part of the parcel eligible for the NRHP, which extends into the Nimitz Highway roadbed. It is privately owned and currently used as an open space for neighboring office buildings, featuring tables, chairs, and walkways (Figure 5-27). The station entrance will replace a fountain and maintain the trash dumpster storage area. It will not eliminate the open space or alter its use. The station entrance will be designed to be compatible with the use of the open space. However, because the Project will permanently incorporate land from within the boundaries of a historic resource into the transportation facility, it will result in a Section 4(f) use.

The addition of the guideway and columns will change the visual character of the streetscape and substantially affect the visual setting of the Dill-



Figure 5-27 Plaza at Planned Downtown Station Entrance; Dillingham Transportation Building on right

ingham Transportation Building. Overall visual effects in this area will be significant.

Avoidance Alternatives

Avoidance alternatives are limited by Honolulu Harbor and by the geometry of Nimitz Highway.

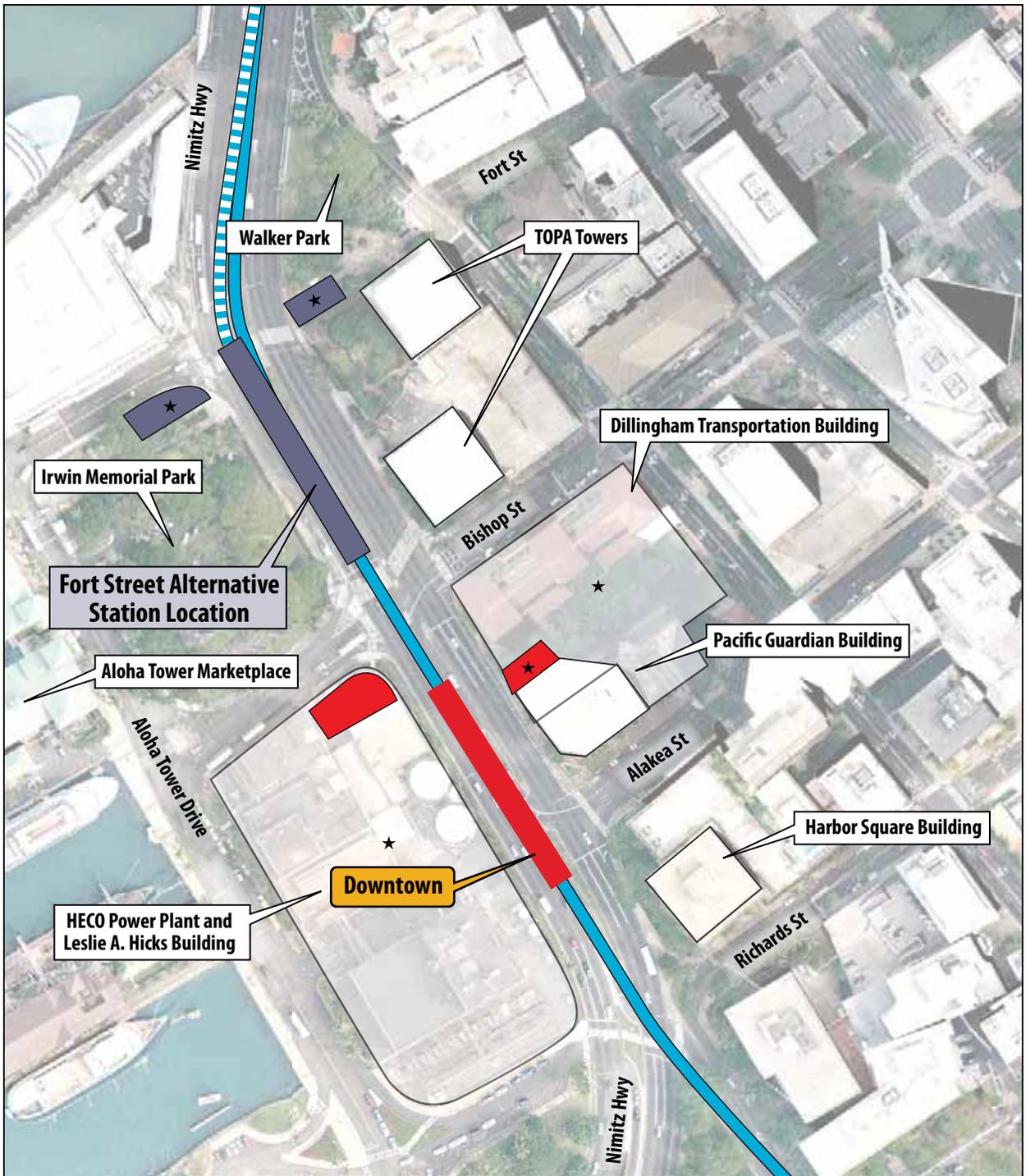
Several alternative alignments were considered during the Alternatives Analysis phase, one of which included Queen Street. While this alternative would avoid this particular resource, it was determined that it would also affect resources within the Hawai'i Capital Historic District, including the Post Office, Ali'iōlani Hale, and Hale Auhau. It would also affect three National Register resources along Queen Street (the C. Brewer, Alexander and Baldwin, and Royal Brewery Buildings). Therefore, it does not represent a Section 4(f) avoidance alternative.

Other small shifts of the station entrance are not feasible because they would require the demolition of one of the high-rise office buildings that surround the parcel. In addition to considering small shifts of the station entrance, two other practical avoidance alternatives were evaluated. Each considers relocating the Downtown Station to avoid this Section 4(f) use (Figures 5-28 and 5-29).

HECO Downtown Plant and Leslie A. Hicks Building (Direct Use)

Description and Significance of Resource

This two-building resource is eligible for nomination to the NRHP under Criterion A for its association with the history of electric power in Honolulu. The power plants built in 1929 (designed by Dwight P. Robinson Co. of New York) and 1955 (designed by Merrill, Simms & Roehrig of Honolulu) are important for their associations with the history of electric power generation and the development of Honolulu (Figure 5-30).



LEGEND

- The Project
- Station
- Fort Street Alternative Project Alignment
- Fort Street Alternative Station Location
- ★ Affected 4(f) Resource

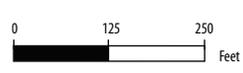


Figure 5-28 Dillingham Transportation Building and Avoidance Alternatives—Fort Street Alternative



LEGEND

- The Project
- Station
- Alakea Street Alternative Station Location
- Alakea Street Alternative Project Alignment
- ★ Affected 4(f) Resource

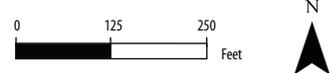


Figure 5-29 Dillingham Transportation Building (HECO Power Plant and Leslie A. Hicks Building) and Avoidance Alternatives—Alakea Street Alternative



Figure 5-30 HECO Downtown Plant and Leslie A. Hicks Building

Application of Section 4(f)

Associated features of the transit station, including an at-grade-level entry, escalator, and elevator shaft, as well as electrical, mechanical, and security components, will be located immediately mauka of and in the location of a small addition to the 1929 building at its 'Ewa/mauka corner and within its NRHP boundary. These features require that approximately 7,900 square feet of area within the NRHP boundary be acquired and that the metal roof of this extension be demolished. This extension is not a contributing element that makes this resource eligible for the NRHP. Permanent incorporation of land from a Section 4(f) property into a transportation facility constitutes a direct use, and it was determined that while this acquisition will not directly affect the buildings, it will substantially impair the setting, feeling, and location of the historic property. Development of avoidance alternatives is required.

Avoidance Alternatives

Avoidance alternatives are limited by Honolulu Harbor and by the geometry of Nimitz Highway. Several alternative alignments were considered during the Alternatives Analysis phase, one of which included Queen Street. While this alternative would avoid this particular resource, it was determined that it would also affect resources within the Hawai'i Capital Historic District, including the Post Office, Ali'iōlani Hale, and Hale

Auhau. It would also affect three National Register resources along Queen Street (the C. Brewer, Alexander and Baldwin, and Royal Brewery Buildings). Therefore, it does not represent a Section 4(f) avoidance alternative.

Other small shifts of the station entrance are not feasible because they would require the demolition of one of the high-rise office buildings that surround the parcel. In addition to considering small shifts of the station entrance, two other practical avoidance alternatives were evaluated. Each considers relocating the Downtown Station to avoid this Section 4(f) use (Figures 5-28 and 5-29).

Alakea Street

Moving the station Koko Head and shifting the entrance to Alakea Street (Figure 5-29) was evaluated to avoid the Power Plant and Dillingham Transportation Building. Two options exist for the station entrance on Alakea Street. One option would be to locate the entrance on the 'Ewa side of the street, adjacent to the Pacific Guardian Center. The other would be to place the entrance on the Koko Head side of Alakea Street, adjacent to the Harbor Square building. Neither alternative is considered prudent and feasible for the reasons discussed below.

A station entrance adjacent to the Pacific Guardian Center (Figure 5-31) would force pedestrians to walk past the entrance to the building's parking garage. The 760-space garage is a busy facility for downtown commuters. This alternative would create an unsafe conflict between pedestrians and automobiles, with an average of 16 pedestrians crossing and 4 automobiles using the entrance each minute of the peak hour. Therefore, a station entrance adjacent to the Pacific Guardian Center is not considered prudent.

Placing the station entrance on the Koko Head side (Figure 5-29) presents many of the same problems. The Harbor Square building is a residential



Figure 5-31 Entrance to Pacific Guardian Center

high-rise with a parking garage below (Figure 5-32). As with the 'Ewa side of the street, a station entrance at this location would create an unsafe conflict between pedestrians and automobiles using the parking garage. This is not considered prudent.

In either case, the station entrance would also have to be moved about 500 feet Koko Head to Richards Street. This would place transit users farther from the primary destinations of the Waterfront and Aloha Tower Marketplace. It would force a longer walk along Nimitz Highway, which currently lacks a sidewalk, or along Ala Moana Boulevard.



Figure 5-32 Parking Entrance at Harbor Square Building

Fort Street

The second alternative would move the station 'Ewa to Fort Street (Figure 5-29). Under this

avoidance alternative, the entrances would be located in Irwin Memorial Park on the makai side and either Walker Park or the Fort Street Mall on the mauka side. However, this station location would require a 250-foot curve radius to maintain a minimum distance between the edge of the station platform and end of curve. A 250-foot curve radius is substantially less than the Project's design criteria of a minimum of 500 feet. Such a tight radius would necessitate reducing speeds to 5 to 10 miles per hour, which is substantially below the Project's minimum design speed of 30 miles per hour. This would substantially increase travel time and decrease user benefits. Additionally, placing an entrance makai of Nimitz Highway would impact Irwin Memorial Park (a Section 4(f) resource), and a mauka entrance would block either the Fort Street Mall or Walker Park, other Section 4(f) resources.

The Fort Street alternative would: (1) be inconsistent with the Project's design standards, (2) reduce user benefits in a manner contrary to the Purpose and Need of the Project, and (3) impact additional Section 4(f) resources. For these reasons it is not considered a prudent avoidance alternative.

Measures to Minimize Harm

Throughout the planning and design of the Project, the guideway has been designed to be as narrow as possible, minimizing the need for removal of any historic buildings. The station entrance and other station components have been placed 'Ewa of the historic power plant building near Bishop Street and have no direct impact on the HECO Downtown Plant and Leslie A. Hicks Building and will avoid impacts to Irwin Memorial Park.

In accordance with Section 106, a PA has been prepared that details a variety of stipulations that must be followed to mitigate projected adverse effects on historic properties. One of these stipulations is the preparation of historic context studies, including the history of Honolulu's infrastructure,

which would likely include the history of power generation and document this historic property. Other types of measures to mitigate or minimize harm are described in Section 5.5.2 under Agency Coordination and Consultation.

5.6 Evaluation of Constructive Use of Section 4(f) Resources

23 CFR 774.15(a) states that “A constructive use occurs when the transportation project does not incorporate land from a Section 4(f) resource, but the Project’s proximity impacts are so severe that the protected activities, features, or attributes that qualify the resource for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only when the protected activities, features, or attributes of the property are substantially diminished.”

NRHP eligibility criteria discussed in this Chapter refer to 36 CFR 60.4. The National Historic Preservation Act (NHPA) is an entirely separate statute with its own implementing regulation promulgated by another Federal agency. Therefore, a finding of “adverse effect” under Section 106 of the NHPA does not automatically equate to constructive use under Section 4(f). Moreover, an adverse effect finding does not create a presumption of constructive use.

The FHWA Section 4(f) Policy Paper states: “If a project does not physically take (permanently incorporate) historic resource but causes an adverse effect, one must assess the proximity impacts of the Project in terms of the potential for ‘constructive use.’ This analysis must determine if the proximity impact(s) will substantially impair the features or attributes that contribute to the National Register eligibility of the historic site or district. If there is no substantial impairment, notwithstanding an adverse effect determina-

tion, there is no constructive use and Section 4(f) requirements do not apply.”

23 CFR 775.15 provides the following direction for considering constructive use:

(a) “A constructive use occurs when the transportation project does not incorporate land from a Section 4(f) resource, but the project’s proximity impacts are so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only when the protected activities, features, or attributes of the property are substantially diminished.”

(d) “When a constructive use determination is made, it will be based upon the following:

- (1) Identification of the current activities, features, or attributes of the property which qualify for protection under Section 4(f) and which may be sensitive to proximity impacts;
- (2) An analysis of the proximity impacts of the proposed project on the Section 4(f) property. If any of the proximity impacts will be mitigated, only the net impact need be considered in this analysis. The analysis should also describe and consider the impacts which could reasonably be expected if the proposed project were not implemented, since such impacts should not be attributed to the proposed project; and
- (3) Consultation, on the foregoing identification and analysis, with the official(s) with jurisdiction over the Section 4(f) property.”

The Section 4(f) regulations provide additional guidance for analyzing constructive use of historic properties:

- “The Administration has reviewed the following situations and determined that a constructive use occurs when: The projected noise level increase attributable to the project substantially interferes with the use and enjoyment of a noise-sensitive facility of a property protected by Section 4(f), such as: Enjoyment of a historic site where a quiet setting is a generally recognized feature or attribute of the site’s significance (23 CFR 774.15(e)1(iii)).”

- “The proximity of the proposed project substantially impairs esthetic features or attributes of a property protected by Section 4(f), where such features or attributes are considered important contributing elements to the value of the property. Examples of substantial impairment to visual or esthetic qualities would be the location of a proposed transportation facility in such proximity that it obstructs or eliminates the primary views of an architecturally significant historical building, or substantially detracts from the setting of a Section 4(f) property which derives its value in substantial part due to its setting (23 CFR 774.15(e)2).”

- “The Project results in a restriction of access which substantially diminishes the utility of a significant publicly owned park, recreational area, or a historic site (23 CFR 774.15(e)3).”

- “The vibration impact from construction or operation of the Project substantially impairs the use of a Section 4(f) property, such as will be vibration levels that are great enough to physically damage a historic building or substantially diminish the utility of the building, unless the damage is repaired and fully restored consistent with the Secretary of the Interior’s Standards for the Treatment of Historic Properties, i.e., the integrity of the contributing features must be returned to a condition which is substantially similar to that which existed prior to the Project (23 CFR 774.15(e)4).”

- “The ecological intrusion of the project substantially diminishes the value of wildlife habitat in

a wildlife and waterfowl refuge adjacent to the project, substantially interferes with the access to a wildlife and waterfowl refuge when such access is necessary for established wildlife migration or critical life cycle processes, or substantially reduces the wildlife use of a wildlife and waterfowl refuge (23 CFR 774.15(e)5).”

5.6.1 Parks and Recreational Resources

Table 5-1 lists the nine publicly owned parks and recreational areas adjacent to the alignment, considered for Section 4(f) use and identifies the current activities, features, and attributes that qualify them for protection under Section 4(f).

The Project will cause a direct use of two of these properties—Ke’ehi Lagoon Beach Park and Aloha Stadium (albeit *de minimis* impacts at Aloha Stadium). The remaining seven park and recreational areas are evaluated for constructive use.

These park properties are located within urban or semi-urban settings where major transportation facilities or commercial/industrial developments are dominant visual features. Visual quality is not generally high though makai views from the waterfront properties are. While setting has some importance to these properties, they do not substantially derive their value from their setting.

Because many of these resources are located within developing urban or commercial areas, it is reasonable to expect intensifying development will alter the existing visual setting of many of these resources by 2030. In particular, the Hawai’i Community Development Authority *Kaka’ako Mauka Area Plan* (HCDA 2005) calls for redevelopment of the Kaka’ako neighborhood surrounding Mother Waldron Neighborhood Park into a mid- and high-rise mixed-use district.

West Loch Golf Course

West Loch Golf Course is a 94-acre municipal golf course located in the Ewa district, extending from

Farrington Highway to the West Loch of Pearl Harbor (Figure 5-33). The guideway will be placed mauka of the course, in the median of Farrington Highway and will have no direct impact on the golf course. It will not substantially impair any distant or panoramic views from or across the golf course, and will have limited effect on the area's scenic quality. There will be no noise or vibration impacts from the Project. Therefore, the Project will not substantially impair any of the activities, features or attributes of the resource that qualify it for protection under Section 4(f) and will not result in a constructive use of the resource.



Figure 5-33 West Loch Golf Course

Neal S. Blaisdell Park

Neal S. Blaisdell Park is a 26-acre park situated on the East Loch of Pearl Harbor, makai of Kamehameha Highway (Figure 5-34). It is owned by the City and County of Honolulu and features primarily passive open space and trails and unobstructed views of the harbor. The elevated guideway will be located mauka of the park, within the median of the adjacent highway and as a result, will not obstruct the makai views. There will be no noise or vibration impacts from the Project. Since the park is already bordered by a busy highway and its significant attributes (makai views), recreational activities, and features will not be substantially impaired, the Project will not result in a constructive use of the resource.



Figure 5-34 Neal S. Blaisdell Park

`Aiea Bay State Recreation Area

`Aiea Bay State Recreation Area is a 7.75-acre park also situated on the East Loch of Pearl Harbor, makai of Kamehameha Highway (Figure 5-35). It is owned by the State, under the jurisdiction of the Department of Land and Natural Resources. It features primarily passive recreational activities and unobstructed views of the harbor. The elevated guideway will be located mauka of the park, within the median of the adjacent highway and, as a result, will not obstruct the makai views. There will be no noise or vibration impacts from the Project. Since the park is already bordered by a busy highway and its significant attributes (makai views), recreational activities, and features will not be substantially impaired, the Project will not result in a constructive use of the resource.



Figure 5-35 `Aiea Bay State Recreation Area



Figure 5-36 Walker Park

Walker Park

Walker Park is a small triangular urban park located in Downtown Honolulu, immediately mauka of Nimitz Highway at Fort Street (Figure 5-36). It is surrounded by high-rise buildings and the highway. The park provides shade in a busy downtown district and is primarily used by pedestrians walking through the area.

It does not provide any benches, picnic tables, or other amenities and does not derive a substantial part of its value from its visual setting. While the elevated guideway will be located in the median of the highway makai of the park, the Project will have a nominal impact on views from the resource, given its location beside the highway in the dense urban core. The Project will not substantially impair the park's features (no amenities exist, other than trees) that qualify the resource for protection under Section 4(f). Therefore, the Project will not result in a constructive use of this resource.

Irwin Memorial Park

Irwin Memorial Park is a 2-acre park (owned by HDOT-Harbors Division) located south of Nimitz Highway in Downtown Honolulu (Figure 5-37). It is primarily used as a parking lot for nearby office buildings and Aloha Tower Marketplace but also features seating and tables which are heavily used at lunchtime by workers. It provides visitors with high quality views toward Honolulu Harbor



Figure 5-37 Irwin Memorial Park

and the Aloha Tower. The elevated guideway will be located mauka of the park, within the median of the adjacent highway and, as a result, will not obstruct the excellent makai views (Figure 5-38). There will be no noise or vibration impacts from the Project. Views mauka toward the office buildings will be partially obstructed by the guideway, although these are not particularly sensitive. Since the park is already bordered by the busy highway and its significant attributes (makai views), activities and features will not be substantially impaired, the Project will not result in a constructive use of the resource.

Mother Waldron Neighborhood Park

Mother Waldron Neighborhood Park is situated in a mixed commercial and industrial area, and not a residential neighborhood, as its name implies. The park is surrounded by vacant lots, warehouses, commercial buildings, and an apartment building and does not derive a substantial part of its value from its visual setting (Figure 5-39). The Project will not substantially impair any visual or aesthetic features that contribute to the park's use and enjoyment. There will be no adverse noise or vibration impacts at the park. Therefore, the Project will not result in a constructive use of this resource.



Figure 5-38 Nimitz Highway/Fort Street Intersection `Ewa of Irwin Memorial Park and Aloha Tower Marketplace, looking Koko Head



Figure 5-39 Halekauwila Street/Cooke Street Intersection, looking Mauka past Mother Waldron Neighborhood Park

Queen Street Park

The Hawai'i Community Development Authority (HCDA) has set aside public funding for a new 2-acre park on the Queen Street extension near the Kaka'ako Station. It is planned as a passive recreational area with a children's playground and other amenities, on both the mauka and makai sides of the street (Figure 5-40). The elevated guideway will be constructed in the median of Queen Street and will have no direct impact on the park. While the guideway will be located in Queen Street, the Project will have nominal impact on views from this resource given its location in the urban area of Kaka'ako. The Project will not substantially impair the park's features that qualify the resource for protection under Section 4(f). Therefore, the Project will not result in a constructive use of this resource.

5.6.2 Historic Section 4(f) Resources

The following section includes the evaluation of constructive use at historic resources where the Section 106 process has found an adverse effect and where the Project will not result in a direct use.

The Project will not restrict any access to historic resources, will have no adverse noise and vibration impacts (per FTA standards), and result in no ecological intrusions at these Section 4(f) resources. Therefore, only visual impacts that substantially impair the historic value are considered for each Section 4(f) resource discussed below.

Honouliuli Stream Bridge

This bridge was built in 1939 to carry Farrington Highway across Honouliuli Stream, thereby improving transportation for the entire Leeward community. It is a single-span, reinforced-concrete



Figure 5-40 Future Queen Street Park Site

T-beam structure with a span length of 54 feet and a width of 32 feet (Thompson 1983). It stands about 10 feet above the stream bed (Figure 5-41).

Under Section 106 of the NHPA, the decorative railings, with elongated Greek-cross voids, are typical of the period and qualify the bridge as eligible under Criterion C. This bridge is also eligible for the NRHP under Criterion A because of its association with construction of Farrington Highway, which straightened this part of Wai‘anae Road and provided a new transportation corridor through Waipahu. The current activities, features, or attributes of the bridge that qualify for protection under Section 4(f) are its design elements and historic association.



Figure 5-41 Honouliuli Stream Bridge

The Project entails the construction of an elevated guideway, whose support will be in the median of Farrington Highway on each side of the stream. The guideway will be approximately 40 feet above the roadway with no physical or direct impact to the bridge.

As the primary views of the bridge are from ground level, the elevated guideway will not eliminate primary views of this architecturally significant historic bridge nor alter its relationship to the existing transportation corridor. Farrington Highway is a major transportation corridor, and the Project’s visual elements will be in character with the surrounding area.

The bridge is eligible for inclusion in the NRHP for its design and its historic association with the development of an important transportation corridor in the late 1930s. The Project will not substantially impair the features or attributes that contribute to its NRHP eligibility. Therefore, there will be no constructive use of this resource.

Waikēle Stream Bridge Eastbound Span and Bridge over OR&L Spur

This pair of vehicular bridges are a good example of a late 1930s continuous deck girder bridge design. The span’s relatively long length indicates the importance of this transportation link in the circle-island main road system (Figure 5-42).

The Waikēle Stream Bridge is eligible for nomination to the NRHP under Criterion A, for its association with the development of the Waipahu community and the transportation history of the area and Criterion C for its design. The current activities, features, or attributes of the resource that qualify for protection under Section 4(f) are its design elements and historic association.

The Project entails the construction of an elevated guideway along Farrington Highway in the median area 10 feet mauka of the Koko Head-bound span.



Figure 5-42 Waikele Stream Bridge Koko Head Span

It will be approximately 40 feet above the roadway, and there will be no physical or direct impact to the bridges.

As the primary views of the bridges are from ground level, the elevated guideway will not eliminate primary views of these architecturally significant historic bridges or alter their relationship to the existing transportation corridor. Farrington Highway is a major transportation corridor and the Project's visual elements will be in character with the surrounding area.

The bridge is eligible for inclusion in the NRHP for its design and its historic association with the development of an important transportation corridor in the late 1930s. The Project will not substantially impair the features or attributes that contribute to its NRHP eligibility. Therefore, there will be no constructive use of this resource.

Waiawa Stream Bridge 1932 (westbound lanes)

This bridge was built during a road straightening project that replaced an earlier road segment and smaller bridge across Waiawa Stream. The Waiawa Stream Bridge is considered eligible for nomination to the NRHP for its association with the history of transportation in the area (Criterion A). The bridge is also an example of concrete bridge engineering and design in Hawai'i, designed by Merritt A. Trease (Criterion C). The current activities, features, or attributes of the resource that qualify

it for protection under Section 4(f), are its historic associations and design (Figure 5-43).

The Project entails the construction of an elevated guideway and station (Pearl Highlands) immediately mauka and 65 feet above the Koko Head end of the bridge. There will be no physical or direct impacts to the bridge.

As the primary views of the bridge are from ground level, the elevated guideway will not eliminate primary views of this architecturally significant historic bridge nor alter its relationship to the existing transportation corridor since Farrington Highway is a major transportation corridor and the Project's visual elements will be in character with the surrounding area.

The bridge is eligible for inclusion in the NRHP for its design and its historic association with the development of an important transportation corridor in the late 1930s. The Project will not substantially impair the features or attributes that contribute to its NRHP eligibility. Therefore, there will be no constructive use of this resource.



Figure 5-43 Waiawa Stream Bridge

Waimalu Stream Bridge

The Waimalu Stream Bridge (originally built in 1936 and modified in 1945) is considered eligible for nomination to the NRHP for its association

with the roadway infrastructure development of Kamehameha Highway in the Pearl City and 'Aiea areas (Criterion A). Kamehameha Highway is a six-lane highway in this location and has been a major transportation route through the area since the early 20th century. The crossing was integral to the development of this transportation route and has contributed to the development of the area. It also is representative of important public works projects initiated by the Territorial and State governments. The current activities, features, or attributes of the bridge that qualify it for protection under Section 4(f) are its historic associations (Figure 5-44).

The Project entails the construction of an elevated guideway in the median of Kamehameha Highway, whose supports would be placed on both sides of the bridge, not within the bridge structure. The guideway will be approximately 30 feet above the bridge and overhang portions of each interior lane. There will be no physical or direct impacts to the bridge.

As the primary views of the bridge are from ground level, the elevated guideway will not eliminate primary views of this architecturally significant historic bridge nor alter its relationship to the existing transportation corridor. Farrington Highway is a major transportation corridor and the Project's visual elements will be in character with the surrounding area.



Figure 5-44 Waimalu Stream Bridge

The bridge is eligible for inclusion in the NRHP for its design and its historic association with the development of an important transportation corridor in the late 1930s. The Project will not substantially impair the features or attributes that contribute to its NRHP eligibility. Therefore, there will be no constructive use of this resource.

Kalauao Springs Bridge

The Kalauao Springs Bridge is considered eligible for nomination to the NRHP for its association with the roadway infrastructure development of Kamehameha Highway in the Pearl City and 'Aiea areas (Criterion A). Kamehameha Highway has been a major transportation route through the area since the early 20th century. This crossing at Kalauao Springs was integral to developing the highway as an effective transportation route and has contributed to the development of this area. It is representative of important public works projects initiated by the Territorial and State governments. The current activities, features, or attributes of the bridge that qualify for protection under Section 4(f) are its historic associations (Figure 5-45). The Project entails the construction of an elevated guideway in the median of Kamehameha Highway whose supports will be on each side of the stream and not within the bridge structure. The guideway will be approximately 30 feet above the bridge, and there will be no physical or direct impacts to the



Figure 5-45 Kalauao Springs Bridge

bridge. The area is surrounded by shopping malls and other urban development.

As the primary views of the bridge are from ground level, the elevated guideway will not eliminate primary views of this architecturally significant historic bridge nor alter its relationship to the existing transportation corridor.

Kamehameha Highway is a major transportation corridor, and the Project's visual elements will be in character with the surrounding area.

The bridge is eligible for inclusion in the NRHP for its design and its historic association with the development of an important transportation corridor in the late 1930's. The Project will not substantially impair the features or attributes that contribute to its NRHP eligibility. Therefore, there will be no constructive use of this resource.

Kalauao Stream Bridge

The Kalauao Stream Bridge is considered eligible for nomination to the NRHP for its association with the roadway infrastructure development of Kamehameha Highway in the Pearl City and 'Aiea area (Criterion A). Kamehameha Highway has been a major transportation route through the area since the early 20th century. This crossing at Kalauao Stream was integral to developing the highway as an effective transportation route and has contributed to the development of this area. It is representative of important public works projects initiated by the Territorial and State governments. The current activities, features, or attributes of the bridge that qualify for protection under Section 4(f) are its historic association (Figure 5-46).

The Project entails the construction of an elevated guideway in the median of Kamehameha Highway whose supports will be on each side of the stream and not within the bridge structure. The guideway will be approximately 30 feet above the bridge, and there will be no physical or direct impacts to the



Figure 5-46 Kalauao Stream Bridge

bridge. The area is surrounded by shopping malls and other urban development.

As the primary views of the bridge are from ground level, the elevated guideway will not eliminate primary views of this architecturally significant historic bridge nor alter its relationship to the existing transportation corridor.

Farrington Highway is a major transportation corridor, and the Project's visual elements will be in character with the surrounding area.

The bridge is eligible for inclusion in the NRHP for its design and its historic association with the development of an important transportation corridor in the late 1930s. The Project will not substantially impair the features or attributes that contribute to its NRHP eligibility. Therefore, there will be no constructive use of this resource.

United States Naval Base Pearl Harbor National Historic Landmark

The U.S. Naval Base Pearl Harbor National Historic District was listed in the National Register of Historic Places in 1974 (with boundaries accepted in 1978) and designated as a National Historic Landmark (NHL) in 1964. This property includes the USS Arizona Memorial and the USS Bowfin. Portions of Pearl Harbor were designated as part of the World War II Valor in the Pacific National

Monument in 2008. These designations attest to Pearl Harbor’s national significance; its critical support of the U.S. Navy fleet; and establishment of the United States as a major power in the Pacific. The NHL nomination specifically states that the national significance of Pearl Harbor stems from its continuing function rather than its physical facilities and those physical changes required to support this mission are “necessary, normal, and expected” (Figure 5-47).



Figure 5-47 U.S. Naval Base Pearl Harbor National Historic Landmark

The Project will be located on Kamehameha Highway, which is adjacent to the United States Naval Base Pearl Harbor National Historic Landmark (NR/NHL). The guideway will be a minimum of 30 feet from the mauka edge of the property’s NR/NHL boundary. The entrances to the elevated Aloha Stadium Station and the Pearl Harbor Naval Base Station (Figure 5-48) were designed to touch down on the mauka side of the highway to avoid taking any of the NHL property.

At the request of the National Park Service, additional noise analyses were conducted and visual simulations were created for the Pearl Harbor sites to further clarify potential impacts from the Project. The noise analysis found that there would be no adverse noise impacts at the World War II

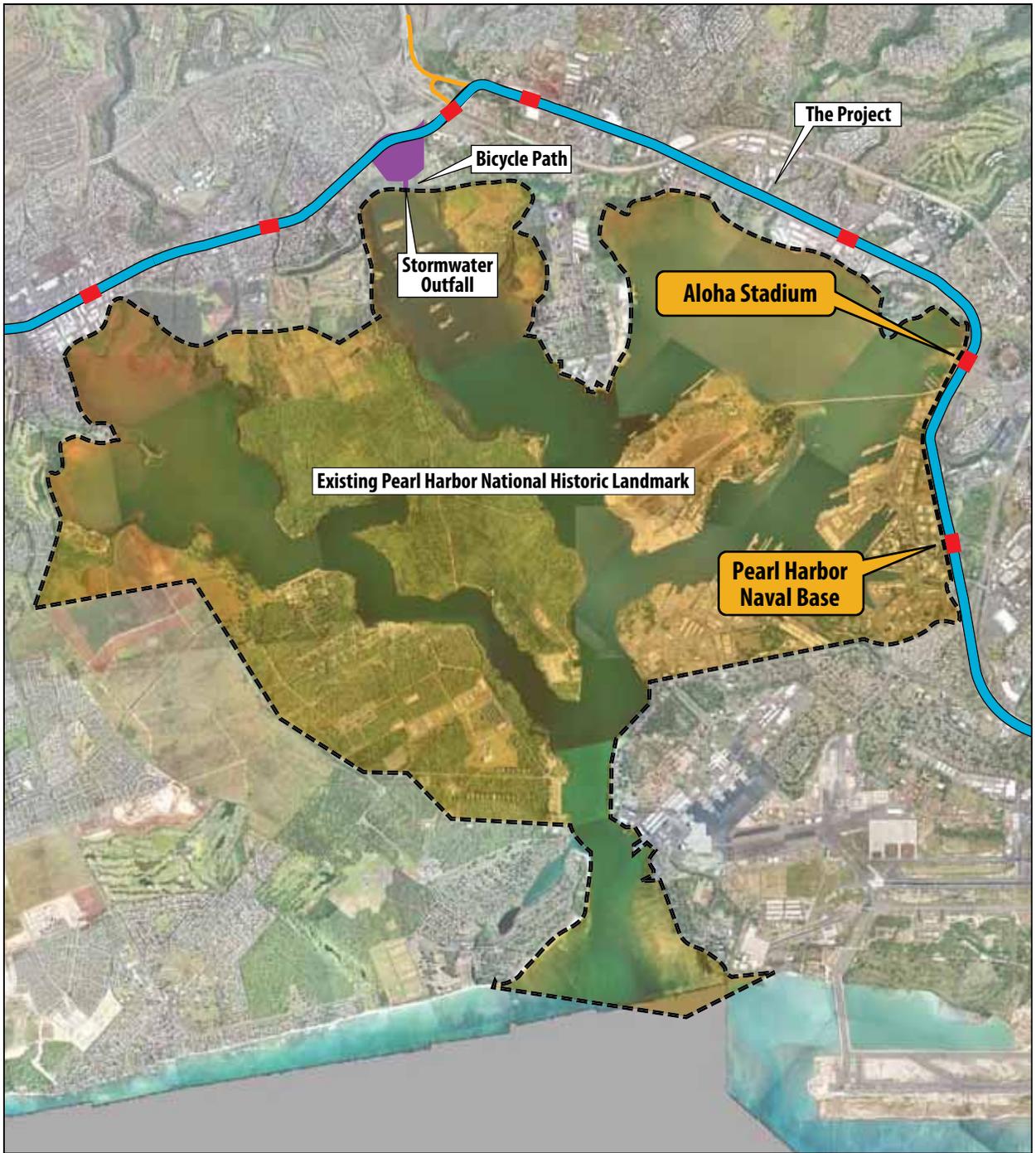
Valor in the Pacific National Monument, per FTA impact criteria (see Section 4.10 for more information). The visual simulations illustrated nominal changes to views of the property (see Section 4.8).

As the primary views of the NHL and lochs are from ground level, the elevated guideway will not eliminate primary views of this historically significant district nor alter its relationship to the water since the guideway and stations will be on the mauka side of the busy highway. The Project will not substantially impair the visual and aesthetic qualities of the NR/NHL property that qualify it for protection under Section 4(f). As a result, there will be no constructive use of this resource.

CINCPACFLT Headquarters National Historic Landmark

The CINCPACFLT Headquarters was built in 1942 on Makalapa Hill (mauka of the potential Makalapa Navy Housing Historic District). Originally constructed of reinforced concrete, a third story was added in 1945. The building is individually listed on the NRHP, although the NRHP documentation does not address eligibility criteria. It is also individually designated as a National Historic Landmark. The features and attributes of this resource that qualify for protection under Section 4(f) are assumed to be its historic association with the nearby Pearl Harbor Naval Base.

The elevated guideway will be approximately 650 feet makai from the building and approximately 40 to 45 feet above grade. Due to topography and vegetation, the Project will be minimally visible from select vantage points from within the property boundary. The historic setting of the resource consists of its immediate surroundings, which include the drive from Kamehameha Highway (which is not part of the NHL) and the surrounding plantings. The rather dense vegetation will screen the Project from the CINCPACFLT Headquarters.



LEGEND

- The Project
- Station

- Pearl Harbor National Historic Landmark
- Maintenance and Storage Facility

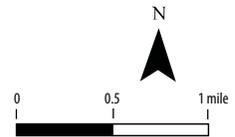


Figure 5-48 U.S. Naval Base Pearl Harbor National Historic Landmark—Project and Features

There will be no physical or direct impacts to the building. As the primary views of the building are from ground level and the elevated guideway will be a substantial distance away, the Project will not eliminate primary views of this historically significant building. The building is eligible for inclusion in the NRHP for its association with the development of Pearl Harbor Naval Base. The Project will not substantially impair the features or attributes that contribute to its NRHP eligibility. Therefore, there will be no constructive use of this resource.

Potential Makalapa Navy Housing Historic District

In 1939 the Navy purchased the Makalapa Crater land and designated the site for officers' quarters, complete with recreational facilities overlooking the naval base. Most of the 89 houses were completed in 1941 and constructed of pre-fabricated units. Admiral Chester Nimitz lived at 37 Makalapa Drive, which is at the highest point of the crater rim. He and the other officers were within walking distance of the Commander-in-Chief of the Pacific Fleet (CINCPACFLT) administration buildings (Figure 5-49).

This housing area is significant under several National Register criteria: under Criterion A for its association with the build up of officers' housing

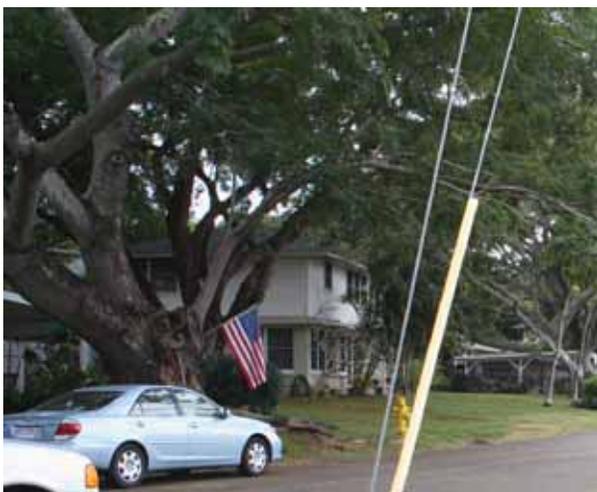


Figure 5-49 Potential Makalapa Navy Housing Historic District

just prior to World War II; under Criterion B for its association with Admiral Chester Nimitz, CINCPACFLT, who lived in the neighborhood for most of the war; and under Criterion C, both for its association with the firm of master architect C.W. Dickey, designer of the houses and the neighborhood, and as an example of military residential planning in Hawai'i, which followed the "Garden City" concept prevalent at the time. This district is eligible for nomination to the NRHP under Criteria A, B, and C. The current activities, features, or attributes of the resource that qualify for protection under Section 4(f) are its architectural elements and historic associations.

At this time, no contributing elements have been identified. Therefore this analysis addresses the potential district as a whole and refers to constructive use of contributing elements in a more general sense.

The Project entails the construction of an elevated guideway along the median of the multiple-lane Kamehameha Highway approximately 10 to 25 feet makai from the district. The elevated guideway will be approximately 30 to 45 feet above grade, and the Pearl Harbor Naval Base Station will be located at the intersection of the highway with Radford Drive. The station entrance will be approximately 25 feet Koko Head from the district boundary on the mauka side of the highway.

As the primary views of the district are from within the housing complex, the elevated guideway will not substantially affect primary views of this architecturally significant complex. The resource is eligible for inclusion in the NRHP for its design and its historic association.

The Project will not substantially impair the features or attributes that contribute to its NRHP eligibility. Therefore, there will be no constructive use of this resource.

Ossipoff's Aloha Chapel, SMART Clinic, and Navy-Marine Corps Relief Society, Facility 1514

Facility 1514 was built in 1975 and is constructed of split concrete and brick. It is an excellent example of architect Vladimir Ossipoff's modern architecture. It consists of three roughly rectangular single-story sections, two of which include courtyards. These sections have flat roofs except for the northernmost portion of their roofs where two sections incorporate a row of 12 barrel vaults that are visible from Kamehameha Highway and Radford Drive. The six northernmost vaults cover the Aloha Jewish Chapel, which is believed to be the first chapel built on a military base specifically as a Jewish place of worship. The flat-roofed southern section houses the Navy-Marine Corps Relief Society, which shares the second courtyard with the clinic (Figure 5-50).

The building is a landmark at Makalapa Gate. Although this building is less than 50 years old, it meets National Register Criteria Consideration G (Sherfy 1998) for resources of exceptional importance built within the last 50 years. The current activities, features, or attributes of the resource that qualify for protection under Section 4(f) are its architectural elements and associations with Vladimir Ossipoff.



Figure 5-50 Ossipoff's Aloha Chapel

The Project entails construction of an elevated guideway in the median of Kamehameha Highway. The guideway will be approximately 25 feet from the structure (approximately 45 feet above grade), and the station will be about 40 feet away (on the mauka side of the highway). There will be no physical or direct impacts to the building. Facility 1514 was built out-of-period for the NHL and is not associated with the historic events there and is not considered a contributing element. It is located within the Pearl Harbor Naval Base, diagonally at the corner of Kamehameha Highway and Radford Drive.

As the primary views of the building are from ground level, the elevated guideway will not eliminate primary views of this architecturally significant historic building

The building is eligible for inclusion in the NRHP for its design and its association with a prominent local architect. The Project will not substantially impair the features or attributes that contribute to its NRHP eligibility. Therefore, there will be no constructive use of this resource.

Hawai'i Employers Council

The Hawai'i Employers Council building on Waiwai Loop, adjacent to Ke'ehi Lagoon Beach Park, was built in 1961. While it fronts the loop, it is set back and separated from it by auxiliary parking. The council was founded in 1943 in response to the National Labor Relations Act of 1935, which guaranteed the rights of workers to organize. The council was formed to organize employers, bring unions to the table, and stabilize relations between the groups through wages and working conditions fair to both sides. By February 1962, when the Council moved to its new offices, it had more than 300 members (Figure 5-51).

This resource is eligible for nomination to the NRHP and is significant under Criterion A for its association with the history of labor relations



Figure 5-51 Hawai'i Employers Council

in Hawai'i and under Criterion C for its association with the architectural firm of Wimberly and Cook. In addition, its successor firm, Wimberly, Allison, Tong & Goo, had a major influence on Hawaiian architecture in this period. The current activities, features, or attributes of this resource that qualify it for protection under Section 4(f) are its architectural elements and historic associations. While it was not evaluated under Criterion G, which indicates it is not considered exceptionally important, it is considered eligible because it will be 50 years old before project completion.

The Project entails the construction of an elevated guideway along the mauka edge of Ke'ehi Lagoon Beach Park that will be approximately 100 feet from the back of the building and about 40 feet high. There will be no direct use of the historic building or its parcel.

The primary views of the building are from the front of the building (on Waiwai Loop) at ground level. The guideway will be behind the building and, therefore, will not eliminate primary views of the historical building. The Project will not substantially impair the visual and aesthetic qualities of the building that qualify it for protection under Section 4(f). As a result, there will be no constructive use of this resource.

Institute for Human Services / Tamura Building

This three-story concrete International-Style building was built in 1968. It features a prominent rounded corner where its two street-facing sides join at Ka'aahi Street and Ka'amahu Place. Given the angle of Ka'aahi Street, the distinctive curved front facade is primarily visible from the intersection at which it sits. The privately owned building is currently occupied by 10 stores on the ground floor and 13 apartment units on each of the second and third floors. This resource is eligible for nomination to the NRHP as an example of an International-Style building (Criterion C). The features and attributes of the resource that qualify for protection under Section 4(f) are its architectural elements (Figure 5-52).

The Project entails the construction of an elevated guideway that will run on a diagonal at this point between Dillingham Boulevard and Nimitz Highway and the Iwilei Station is 20 feet makai from the building at Ka'amahu Place. The station will be the most significant part of the Project for this resource, although it will not substantially affect views. There will be no direct use of this historic building or its parcel.

The primary views of the building are from ground level on Ka'aahi Street, and the guideway and station will be 35 to 40 feet above grade. The side of the building along Ka'amahu Place will be entirely unobstructed, and most of the building along



Figure 5-52 Institute for Human Services/Tamura Building

Ka'aahi Street will remain unobstructed because of the station's length and height and the guideway's diagonal approach to the adjacent street. The Project will not substantially impair the visual and aesthetic qualities of the building that qualify it for protection under Section 4(f). As a result, there will be no constructive use of this resource.

Tong Fat Co. Wood Tenement Buildings

The Wood Tenement Buildings behind the Tong Fat Co. are a group of three two-story fourplex residential buildings and one single-story duplex constructed in 1914. The property was determined eligible for the NRHP under Criterion A for its association with the development of the 'A'ala neighborhood and under Criterion C as an example of the typical grouping and construction of early 20th-century tenement buildings in Honolulu. The buildings overlook the cleared, former OR&L railyard on a parcel immediately mauka of the former filling station. The features and attributes of these resources that qualify for protection under Section 4(f) are their design elements and historic associations (Figure 5-53).

The Project entails the construction of an elevated guideway that will run behind this parcel on a planned access easement through the OR&L property, 150 feet 'Ewa of the buildings. The alignment will cross through this block diagonally and connect with Nimitz Highway at Iwilei Road.



Figure 5-53 Tong Fat Co. Wood Tenements

There will be no direct use of the historic tenement buildings or their parcel.

No significant viewsheds were identified from this property since non-historic industrial buildings are located 'Ewa of the cleared area and constitute the buildings' viewshed. Therefore, the guideway will have no significant impact to existing views of or from the historic tenement grouping. Primary views of the buildings are from behind the Tong Fat Co. building, and the elevated guideway will not interfere with these since it is 'Ewa of the tenement buildings. The Project will not substantially impair the visual and aesthetic qualities or historic association of the buildings that qualify them for protection under Section 4(f). As a result, there will be no constructive use of this resource.

Nu'uuanu Stream Bridge

Nu'uuanu Stream Bridge is eligible for nomination to the NRHP for its association with the history of transportation along the Honolulu waterfront and Queen Street before it was renamed Nimitz Highway (Criterion A). This bridge carries the 'Ewa-bound traffic of Ala Moana Boulevard/ Nimitz Highway out of Downtown and is an important transportation link between Iwilei and Downtown. It is also significant as a late example of a concrete bridge with solid parapet design, incorporating unusual molded detailing and a rounded top rail (Criterion C). The solid parapet is somewhat unusual for its 1932 construction date since most bridges constructed in that period by the Territory had balustrades pierced with vertically oriented openings. The features and attributes of this resource that qualify for protection under Section 4(f) are its design elements and its historic associations (Figure 5-54).

The Project entails the construction of an elevated guideway in the median of Nimitz Highway makai of the Chinatown Station, 250 feet Koko Head of the bridge. The bridge is in Downtown Honolulu and is surrounded by major urban highways. As



Figure 5-54 Nu'uuanu Stream Bridge

the primary views of the bridge are from ground level, the elevated guideway will not eliminate primary views of this architecturally significant historic bridge nor alter its relationship to the existing transportation corridor (Figure 5-55).

Nimitz Highway is a major transportation corridor, and the Project's visual elements will be in character with the surrounding area.

The bridge is eligible for inclusion in the NRHP for its design and its historic association with the development of an important transportation corridor in the late 1930s. The Project will not substantially impair the features or attributes that contribute to its NRHP eligibility. Therefore, there will be no constructive use of this resource.

Merchant Street Historic District

The Merchant Street Historic District covers a four-block area in Downtown Honolulu directly Koko Head of Chinatown. The only contributing resource in this commercial district within the Project's APE is the Walter Murray Gibson Building/Honolulu Police Station (on Merchant Street near Nu'uuanu Avenue). The building is approximately 150 feet mauka from the Project, which runs down the center of Nimitz Highway. While the historic district extends to Nimitz Highway, these buildings are non-historic and do not contribute to the district's significance. The four-story Gibson Building/Honolulu Police Station was built



Figure 5-55 Nimitz Highway at Maunakea Street, looking `Ewa and Makai toward Chinatown

in 1930 and 1939. It was individually evaluated and found to be eligible for the NRHP under Criterion A for its association with the history of the City's police department, and under Criterion C as an excellent example of Hawaiian Mediterranean-style architecture of the 1930s. The features and attributes of this resource that qualify for protection under Section 4(f) are its design elements and its historic association (Figure 5-56).

The Project entails the construction of an elevated guideway (40 feet above grade) in the median of the six-lane Nimitz Highway approximately 150 feet makai of the Gibson/Honolulu Police Station Building and will have no direct physical impacts to the building and district. As the primary views of the building are from Merchant Street, Nu'uuanu Avenue, and North Bethel Street, the elevated guideway will not affect them. The contemporary high-rise buildings on the mauka side of Nimitz



Figure 5-56 Merchant Street Historic District

Highway stand between the historic building and the Project; therefore the alignment will be visible from the building only in the distance from North Bethel Street and Nu‘uanu Avenue. The Project will not substantially impair the features or attributes that contribute to its NRHP eligibility. Therefore, there will be no constructive use of this resource.

Walker Park

Walker Park is a small park set among tall office buildings. It was developed circa 1951 and is eligible for listing on the NRHP under Criterion A for its association with the development of the Downtown Honolulu waterfront and Central Business District and under Criterion C as an “early example of a created greenspace in the Central Business District.” The park is also a recreational facility and subject to Section 4(f) protection independent of this evaluation (see Section 5.6.1 and [Figure 5-36](#)).

The Project will entail construction of an elevated guideway makai of the park within the median of Nimitz Highway. As a result, the Project will nominally affect views from the park but not views of the park from the Central Business District it serves. The Project will not require direct use of the historic park or its parcel.

Walker Park is eligible for inclusion in the NRHP for its historic associations and as an early example

of greenspace in the Central Business District. The Project will not substantially impair the features or attributes that contribute to its NRHP eligibility; therefore, there will be no constructive use of Walker Park.

DOT Harbors Division Building

The DOT Harbors Division Building is a three-story structure set on Pier 10/11, built in 1952 ([Figure 5-57](#)). It is an example of the streamlined International Style of architecture, common in that period. The building is eligible for the NRHP under Criterion A for its association with the Harbor Commission of the Territory of Hawai‘i and for its primary relationship with the water. The features and attributes of this resource that qualify for protection under Section 4(f) is its historic association.



Figure 5-57 DOT Harbors Division Building

The Project entails the construction of an elevated guideway in the median of the six-lane Nimitz Highway approximately 50 feet mauka of the building and will have no direct physical impacts to the building. Views of the building from Nimitz Highway and further mauka will be partially obstructed by the 40-foot-tall alignment; however, it will still be visible from the makai side of the highway and through the columns farther mauka. Most importantly, the property’s historically significant ‘Ewa/makai viewshed toward Honolulu Harbor will not be affected. The Project will not substantially impair the features or attributes that

contribute to its NRHP eligibility. Therefore, there will be no constructive use of this resource.

Pier 10/11

The Pier 10/11 building is a single-story passenger terminal, built in 1926, that covers most of the pier structure and is approximately 550 feet long (Figure 5-58). The building is eligible for the NRHP under Criterion A for its association with the maritime passenger industry, and under Criterion C as an example of neo-classical architecture of the 1920s in Honolulu. This building derives its significance from its relationship to the harbor. The features and attributes of this resource that qualify for protection under Section 4(f) are its design elements and its historic association.



Figure 5-58 Pier 10/11

The Project entails the construction of an elevated guideway (40 feet above grade) in the median of the six-lane Nimitz Highway approximately 100 feet mauka of the building (at its closest) and will have no direct physical impacts to the building. Since the triangular DOT Harbors Division Building is adjacent (makai) to the passenger terminal building, largely obscuring it from mauka views, the only view that will be partially affected as a result of the Project will be the view from Fort Street Mall. Views from Irwin Park, across the street, will not be affected nor will the building's visual and physical connection to the harbor. The Project will not substantially impair the features or attributes that contribute to its NRHP eligibility.

Therefore, there will be no constructive use of this resource.

Aloha Tower

Aloha Tower is a 184-foot tall Art Deco tower constructed in 1926 (Figure 5-59). The tower is eligible for the NRHP under Criterion A for its association with the development of Hawai'i as a tourist destination for travelers from the mainland and for its role as a harbor-control tower during World War II. It is also eligible under Criterion C as an example of 1920s Art Deco architecture in Hawai'i. As planned, Aloha Tower was intended to serve as a landmark for those arriving by boat; therefore its connection to the harbor is historically significant. The features and attributes of this resource that qualify for protection under Section 4(f) are its design elements and its historic associations.



Figure 5-59 Aloha Tower

The Project entails the construction of an elevated guideway in the median of the six-lane Nimitz Highway approximately 600 feet mauka of the tower and will have no direct physical impacts on this resource. While the tower is a local landmark from the inland area, the Project will not block views, although some will be altered. Aloha Tower has only marginal integrity of setting, with downtown high-rises, proximate recently constructed buildings, and a modern shopping mall surrounding it. Although certain important buildings can be viewed from Aloha Tower, there are no significant identified viewsheds with integrity from the tower, as Downtown Honolulu has become densely built up with tall buildings and busy roadways. Aloha Tower will still be able to be viewed from many vantage points without seeing the Project; therefore, the Project will not substantially impair the features or attributes that contribute to its NRHP eligibility and there will be no constructive use of this resource.

Irwin Memorial Park

Irwin Memorial Park is a 2-acre park, located south of Nimitz Highway in Downtown Honolulu. It was originally developed around 1930 (Figures 5-37 and 5-38). The park is eligible for listing on the NRHP under Criterion A for its association with the history of beautification efforts in the Honolulu waterfront passenger terminal area; under Criterion B for its association with William G. Irwin, a noted Hawaiian businessman and philanthropist; and under Criterion C for representing the work of leading Honolulu landscape architect Robert O. Thompson. The park is also a recreational facility and subject to Section 4(f) protection independent of this evaluation (see Section 5.6.1).

The Project will entail construction of an elevated guideway mauka of the park, within the median of the adjacent highway. As a result, the Project will not obstruct the excellent makai views from the park or views of the park from the harbor and

Aloha Tower. The Project will not require a direct use of the historic park or its parcel.

Irwin Memorial Park is eligible for inclusion in the NRHP for its various historic associations with the beautification of the waterfront in the 1930s, with the noted local philanthropist for whom it is named, and as an example of the work of a leading local landscape architect. The Project will not substantially impair the features or attributes that contribute to its NRHP eligibility; therefore, there will be no constructive use of Irwin Memorial Park.

Mother Waldron Neighborhood Playground

Mother Waldron Neighborhood Playground is located in Mother Waldron Neighborhood Park, a 1-acre park located in the mixed-use area of the Kaka'ako. It is surrounded by open lots, a large surface parking lot, warehouses, and taller apartment buildings. It was listed on the Hawai'i Register of Historic Places on June 9, 1988, as an element of the thematic group "City & County of Honolulu Art Deco Parks." It is also significant for its associations with the playground movement, both nationally and locally, as well as its architectural and landscape design by Harry Sims Bent (Criterion A of the NRHP). This park is considered one of Bent's best playground designs and a good example of Art Deco/Art Moderne styles in landscape (Criterion C). The park is also a recreational facility and subject to Section 4(f) protection independent of this evaluation (see Section 5.6.1) (Figure 5-39).

The Project entails the construction of an elevated guideway along Halekauwila Street approximately 10 feet mauka of the park's edge and will be approximately 35 to 40 feet high. The park's Art Deco/Art Moderne-style comfort station is more than 150 feet makai of the alignment. The Project will not require a direct use of this recreational park or its parcel.

The primary views of the park are from ground level, within the park and immediately adjacent to the park. The Project will not eliminate primary views of the historic playground; however, it will introduce new linear features to this corridor, and changes to some views will be significant and unavoidable.

Mother Waldron Neighborhood Playground is eligible for inclusion in the NRHP for its design. The Project will not substantially impair the features or attributes that contribute to NRHP eligibility. As a result, there will be no constructive use of Mother Waldron Neighborhood Playground.

5.6.3 Summary of Evaluation of Constructive Use of Section 4(f) Resources

In summary, there will be no constructive use of Section 4(f) resources. The constructive use analysis considers all historic resources with an Adverse Effect Section 106 finding, where the Project will not directly impact the resource. The Project will not substantially impair the features or attributes of the historic resources that contribute to NRHP eligibility.

There are no wildlife or waterfowl refuges along the study corridor and, therefore, there will be no proximity impacts from ecological intrusion.

Vibration and noise impacts along the corridor range from negligible to moderate and do not rise to the level of “substantial impairment.” Few, if any, of the Section 4(f) parks and recreational areas derive a substantial part of their value through their visual setting. Rather, they are used for games and sports, picnics, and parking. While visual impacts will occur, the Project will not substantially impair any aesthetic features that are important contributing elements of a resource. For these reasons, the Project will not result in a constructive use of any Section 4(f) park or recreational resource.

5.7 Temporary Occupancy of Section 4(f) Resources

One resource will experience a temporary occupancy under Section 4(f) during construction of a project-related stormwater outfall. The maintenance and storage facility near Leeward Community College (preferred option), located near the Middle Loch of Pearl Harbor, will require construction of a new 60-foot-long stormwater outfall that will drain stormwater overflow from the facility’s detention basin into the loch. This pipe will be laid in a trench, extending into the Pearl Harbor Historic District and will temporarily disrupt an existing bicycle path that is part of the *Pearl Harbor Historic Trail*. As mitigation, the City will provide a temporary crossing over the trench to maintain bikeway access during construction.

This construction activity will constitute a temporary occupancy of a Section 4(f) resource since it will be occupied for a period of time that is significantly shorter than the full project’s construction period and the area will be restored when outfall construction is complete. Once construction is complete, the bicycle trail will be repaved in the affected area and surrounding plantings disturbed by construction will be restored. There will be no permanent adverse physical impacts and, therefore, no use under Section 4(f).

5.8 Least Overall Harm

Based on the alternatives analysis summarized in Chapter 2, it was determined that there are no feasible and prudent alternatives to the Project, and all practical measures are being implemented to minimize harm (per ongoing consultation with involved agencies). Therefore, according to 23 CFR 774.3(c), the FTA may approve only the alternative that causes the least overall harm in light of the statute’s preservation purpose. The least overall harm is determined by balancing the following factors:

- Ability to mitigate adverse impacts to each Section 4(f) resource
- Relative severity of harm, after reasonable mitigation to the Section 4(f) qualities
- Relative significance of each Section 4(f) resource
- Views of officials with jurisdiction
- Degree that purpose and need is met
- Magnitude of adverse impacts, after reasonable mitigation, to non-Section 4(f) resources
- Substantial differences in costs

Impacts to Section 4(f) Resources

Through analysis presented in the Draft EIS and Section 4(f) Evaluation, it was found that there were few differences between the Airport Alternative and the Salt Lake Alternative alignments in terms of impacts to Section 4(f) resources after mitigation measures were identified and incorporated into the preliminary design. Section 4(f) impacts would be identical, except where the two alignments diverge in the center of the corridor between Aloha Stadium and Kalihi.

In this segment of the alignment, it was determined that the Airport Alternative will result in a direct (non *de minimis*) use at one resource, Ke'ehi Lagoon Beach Park, *de minimis* impacts at another recreational facility (Aloha Stadium), and no other uses of Section 4(f) historic, park, or recreational resources. The Salt Lake Alternative would require substantially more land at Aloha Stadium, resulting in a direct use (not *de minimis*) and no taking at Ke'ehi Lagoon Beach Park.

The Airport Alternative was also determined to have adverse Section 106 effects related to setting and feeling at five historic resources (U.S. Naval Base Pearl Harbor National Historic Landmark, CINCPACFLT Headquarters National Historic Landmark, Potential Makalapa Navy Housing Historic District, Ossipoff's Aloha Chapel, and the Hawai'i Employers Council). The constructive use evaluation, described in Section 5.6, however,

determined that none of these Section 4(f) properties will experience impairment severe enough to constitute constructive use from the Project.

The Salt Lake Alternative would more severely affect Aloha Stadium resulting in a direct (non-*de minimis*) use per Section 4(f). This alternative would require approximately 4.8 acres within two of the stadium's parking lots as well as adjacent land for the elevated guideway's easement, the station plaza, and the connective concourse. This compares to the Airport Alternative's use of approximately 2 acres on the 'Ewa edge of the parking areas and a strip of land along Kamehameha Highway.

In a letter dated September 8, 2008, the State Department of Accounting and General Services considered both alignments and indicated a preference for the Airport Alternative (Project), noting that "the impact on the stadium would be further mitigated if the system ran past the airport..."

The Salt Lake Alignment would also require minor property taking (0.01 acre) along the edge of the NRHP-eligible Radford High School property (from an existing parking lot) to accommodate widening of Salt Lake Boulevard for the guideway median. The school complex consists of several one- and two-story masonry buildings constructed between 1957 and 1968, some of which are oriented toward Salt Lake Boulevard, and others which face inward toward the campus. The alignment would be located approximately 25 feet mauka of the property boundary and will be approximately 20 to 25 feet high.

Other than direct use of Aloha Stadium and Radford High School properties, the Salt Lake Alternative would have no additional Section 4(f) impacts on historic, park, or recreational resources; it would avoid Ke'ehi Lagoon Beach Park. It would require no parkland as it would run approximately 1,000 feet mauka of the park at the closest point.

The Salt Lake Alternative in this segment could have an adverse effect (per Section 106) on the setting and feeling of the potential Salt Lake Duplexes Historic District on the mauka side of the roadway. The wood-frame homes were built in the 1950s as military residences and many feature hipped roofs. The district is eligible for NRHP listing under Criterion A (for its role in the early development of Title IX housing and subsequent real estate development on O‘ahu) and Criterion C (as the largest concentration of duplexes in Honolulu). Since the alignment would be approximately 75 feet makai of the district and be elevated 35 to 50 feet, visibility of the low-scale buildings would be maintained at ground level under the guideway structure. The guideway would be higher than most of the nearby trees and about as tall as the utility poles lining the street. This would not be considered a constructive use of this property as the features that qualify for protection under Section 4(f) would not be substantially impaired.

The other historic properties along this segment of the Salt Lake Alignment were found to have no adverse effect as a result of this alternative (‘Aiea Cemetery, Aliamanu Pumping Station–Facility X-24/Quonset Hut Navy Public Works Center, and First Hawaiian Bank) and, therefore, would not be evaluated for Section 4(f) use.

Ke‘ehi Lagoon Beach Park

While the Airport Alternative will require the direct use of a small area of Ke‘ehi Lagoon Beach Park, the value of the park will be enhanced through extensive mitigation, approved by the DPR, the agency with jurisdiction over the resource. Ongoing consultation with the DPR has identified feasible mitigation measures and potential benefits, which are discussed below.

The Project will pass above approximately 2.8 acres of park land and displace two to four tennis courts and parking stalls. Impacts to the tennis courts will be mitigated by moving them makai of their

current location. This will provide a better setting, away from the H-1 Freeway. Consultation with DPR has considered other kinds of athletic amenities in lieu of moving the tennis courts, including installing bleachers and improvements to the park’s ball field.

The Project will provide mitigation for the loss of park amenities, and the park will benefit by moving parking into the shade under the guideway. Mitigation will also include providing shade trees or awnings for picnic tables, most of which are currently underused because they are exposed to the sun.

These mitigation measures will provide an enhanced recreational experience to the park’s users and enhance the value of this Section 4(f) resource.

Differences in Impacts Between Airport and Salt Lake Alternatives

Adverse impacts to other sensitive non-Section 4(f) resources would be slightly greater with the Salt Lake Alternative than with the Airport Alternative with respect to acquisition and displacement of community facilities, hazardous materials, and noise. The Salt Lake Alternative would require one more full acquisition and ten more partial acquisitions (although the Airport Alternative will require three more business displacements); two additional community facilities acquisitions; an additional site of environmental concern associated with hazardous materials; and moderate noise impacts at residences on Ala ‘Ilima Street.

Visual Effects

With the Salt Lake Alternative, the elevated guideway would block protected views and vistas along Bougainville Drive, Maluna Street, Wanaka Street, and Ala Liliko‘i Street where they intersect with Salt Lake Boulevard. From the Ala Liliko‘i Station to Pu‘uloa Road, the guideway would also block views from fourth and fifth floor windows

of businesses and multi-story apartments and condominiums mauka of Salt Lake Boulevard. The locations of the protected views and vistas in the Salt Lake neighborhood area are shown on Figure 4-18 (in Chapter 4) of this Final EIS.

With the Airport Alternative, views of East Loch and the Pearl Harbor National Historic Landmark makai of the alignment will be partially obstructed by the guideway and columns in the residential area near Kohomua Street. The visual integrity of the national historic landmark will not be adversely affected, and the project elements will barely be visible in mauka views from the harbor (see Figure 4-42 in Chapter 4 of this Final EIS). The Kamehameha Highway Bridge over Hālawā Stream is historic, and its appearance will be changed by the guideway and support columns. The contrast in scale and character of the guideway and columns will be a noticeable change, and visual effects are expected to range from moderate to significant (noted as a “high” level of visual impact in the Draft EIS). In the area of Ke‘ehi Lagoon Beach Park, the alignment will be along the periphery of the park and closely follow Nimitz Highway and the H-1 Freeway. Views of Honolulu Harbor and the park are already obstructed by these highways and will not be substantially affected. The Airport Alternative will not block any protected views or vistas. However, the Project will be visible in distant views of Pearl Harbor, the Wai‘anae Mountain Range, and Downtown. The overall visual effects for the Airport Alternative are expected to be less than with the Salt Lake Alternative.

Purpose and Need

The Draft EIS documented that all three Build Alternatives evaluated meet the Project's Purpose and Need. However, the Airport Alternative provides the greatest benefit in improving corridor mobility. It will carry the most riders, thereby resulting in the greatest transit-users benefits. It will also result in the fewest vehicle miles traveled and vehicle hours of delay. Secondly, these

transit improvements will result in slightly better air quality, lower energy consumption, and have fewer parcel acquisitions.

Considering all of these factors, the Airport Alternative has been determined to be the alternative that will result in the least overall harm per 23 CFR 774.3(c).

5.9 Determination of Section 4(f) Use

Considering the foregoing discussion of the Project's use of Section 4(f) resources, there is no feasible and prudent alternative to a direct use (not *de minimis*) of 11 historic resources and one park (Ke‘ehi Lagoon Beach Park). There will be additional *de minimis* impacts at 3 Section 4(f) resources, 2 historic properties, and 1 park. The Project was designed to minimize harm to these Section 4(f) resources by shifting station elements away from sensitive resources where possible, maintaining a narrow alignment to minimize property taking, and relocating elements displaced by the Project where possible (e.g., park uses and associated parking). Even so, there are direct Section 4(f) uses, especially in the densest sections of the project area where the Project attempted to minimize impacts to sensitive historic and parkland resources, as well as residences and businesses, and still meet the Project's Purpose and Need. As described earlier, a number of stipulations have been defined in the Section 106 PA to mitigate the Project's adverse effects to historic resources (Appendix H). While these will not minimize the harm done to these resources, they will afford some level of public enrichment in the form of historic documentation and interpretation.

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