Chapter 2

Proposed Action and Alternatives

This page intentionally left blank.

2 Proposed Action and Alternatives

2.1 Introduction

This chapter describes the proposed action and alternatives and considers DoN disposal alternatives and associated City and County of San Francisco reuse alternatives. NEPA requires that an SEIS objectively evaluate a "reasonable" range of alternatives. Under NEPA, reasonable alternatives are those that are practical or feasible from a technical and economic perspective and that are based on common sense (46 Federal Register 18026, 23 March 1981; as amended, 51 Federal Register 15618, 25 April 1986).

This chapter is organized into four primary sections. Section 2.2 discusses DoN disposal alternatives. Section 2.3 provides a summary of the reuse alternatives evaluated in the 2000 FEIS and detailed descriptions of the reuse alternatives evaluated in this SEIS. Section 2.4 provides a summary comparison of the potential impacts and corresponding mitigation for each alternative. The NEPA baseline is discussed in Section 2.5.

2.2 Disposal Alternatives

DoN alternatives for HPS are either to retain HPS property in federal ownership or to dispose of the property for subsequent reuse. The description of retaining HPS in federal ownership is included in Section 2.3.2.7, No Action Alternative. DoN disposal of the property at HPS is the federal action considered in this SEIS. Under this action, approximately 861 ac (348 ha) – approximately 421 ac (170 ha) of dry land and approximately 440 ac (178 ha) of submerged land – of federal property at HPS would be conveyed to non-federal entities. The reuse alternatives resulting from disposal of the HPS are discussed in Section 2.3, Description of Community Reuse Alternatives.

DoN disposal of property at HPS as analyzed in the HPS 2000 FEIS (DoN 2000a) and specified in the ROD (DoN 2000b) considered approximately 936 ac (379 ha), including approximately 493 ac [200 ha] of dry land and approximately 443 ac [179 ha] of submerged land. Since that time, the DoN conveyed approximately 75 ac (30 ha) of HPS (HPS Phase I) to the SFRA, and subsequently the SFRA transferred a portion of HPS Phase I to the developer, Lennar Urban. This conveyance allowed the reuse of HPS Phase I to proceed. Thus, HPS Phase I is not included as part of the disposal alternatives under consideration in this SEIS.

Although it would not retain control of the properties after their disposal, the DoN is required, in accordance with DBCRA, to evaluate the reasonably foreseeable impacts arising from reuse. Consequently, this SEIS evaluates the potential impacts associated with the reuse of the HPS property. The federal action, DoN disposal, is assumed as part of each reuse alternative. In addition, the DoN currently leases approximately 2 ac (0.8 ha) on HPS (Building 606) to the SFRA, which the San Francisco Police Department subleases primarily for a crime lab (personal communication, Larson 2010). SFRA also leases Buildings 104, 115, 116, 117, 125, and surrounding lots (approximately 17 ac [6.9 ha]) for the sole purpose of subleasing the premises to private parties for artists' studios (personal communication, Larson 2010). The proposed action includes the granting of interim leases at HPS consistent with the proposed reuse alternative.

2.3 Description of Community Reuse Alternatives

This section provides a summary of the community reuse alternatives assessed in the 2000 FEIS (Section 2.3.1) and the reuse alternatives assessed in this SEIS (Section 2.3.2).

2.3.1 Summary of Reuse Alternatives in the 2000 FEIS

This section summarizes the two reuse alternatives, including the Proposed Reuse Alternative and Reduced Development Alternative, and the No Action Alternative assessed in the previous 2000 FEIS.

2.3.1.1 Proposed Reuse Alternative

The Proposed Reuse Alternative was a broad conceptual plan for developing the approximately 936-ac (379-ha) reuse area (approximately 493 ac [200 ha] of dry land and approximately 443 ac [179 ha] of submerged land) in a variety of residential, commercial, industrial, and recreational uses over an approximately 25-year period. This alternative allowed for a range of different types and intensities of development.

2.3.1.1.1 Land Use

The 1997 *Land Use Alternatives and Proposed Draft Plan* was the land use plan for HPS and provided the basis for the Proposed Reuse Plan alternative analyzed in the 2000 FEIS (SFRA 1997c). The reuse plan was a mixed land use development plan that included reusing existing buildings at HPS. Proposed land use categories included industrial, maritime industrial, research and development (R&D), cultural and educational, mixed use, live/work, residential, and open space. This alternative was anticipated to create about 6,400 new jobs by 2025.

The conceptual land use map evaluated under this alternative is shown in Figure 2.3-1. Table 2.3-1 provides a breakdown of the maximum gross square feet (gft^2) of development expected under the Proposed Reuse Alternative in 2010 and 2025 based on each land use category. In general, approximately 96 ac (39 ha) of industrial uses were proposed for the south-central portion. East of the industrial use areas, approximately 85 ac (34 ha) were proposed for maritime industrial land uses. North and east of the industrial area, approximately 70 ac (28 ha) were proposed for R&D uses. Interspersed with the R&D uses were approximately 55 ac (22 ha) of mixed-use development including artists' studios, live/work units, and retail commercial, as well as approximately 25 ac (10 ha) of educational and cultural uses. Northwest of the industrial use area, approximately 38 ac (15 ha) were proposed for residential development including 1,300 units (apartments, single-family units, and duplexes). West and along the majority of the waterfront (with the exception of the shoreline area designated for maritime industrial uses), approximately 124 ac (50.2 ha) were proposed for open space uses. These areas of HPS were proposed to be opened for public use and included public access trails along the waterfront, involving a possible link to the regional Bay Trail. This alternative proposed that undeveloped open space along the southwestern edge of HPS would be opened to the public, and several open space areas were to be set aside for development of wetlands. Parks were proposed along the bluff in the residential hillside area, in the northern mixed-use area, and in the central industrial area.

2.3.1.1.2 Development Standards

Development under the Proposed Reuse Alternative proposed to follow the controls, development standards, and urban design guidelines contained in the *Design for Development* (SFRA 1997b). These controls included a limitation on dwelling unit density for a maximum floor-area ratio (FAR) (i.e., the ratio between the total floor area for all floors of a building to the area of the lot on which it is constructed) for non-residential uses.

The highest residential density, 73 dwelling units per ac, was proposed at the highest elevation of the site. Other residential areas were proposed for development at a density of 29 or 54 units per ac. Allowable building heights, open space requirements, and other design factors additionally limited residential densities. Density bonuses of up to 15 percent would have been achieved by providing additional low- or moderate-income housing. In general, mixed-use areas were proposed to have a maximum density of 2:1 FAR, with other non-residential areas of the site limited to between 1:1 and 0.5:1 FAR. It should be noted that the 2000 FEIS only analyzed the maximum development that was reasonably foreseeable given the characteristics of HPS and market conditions.

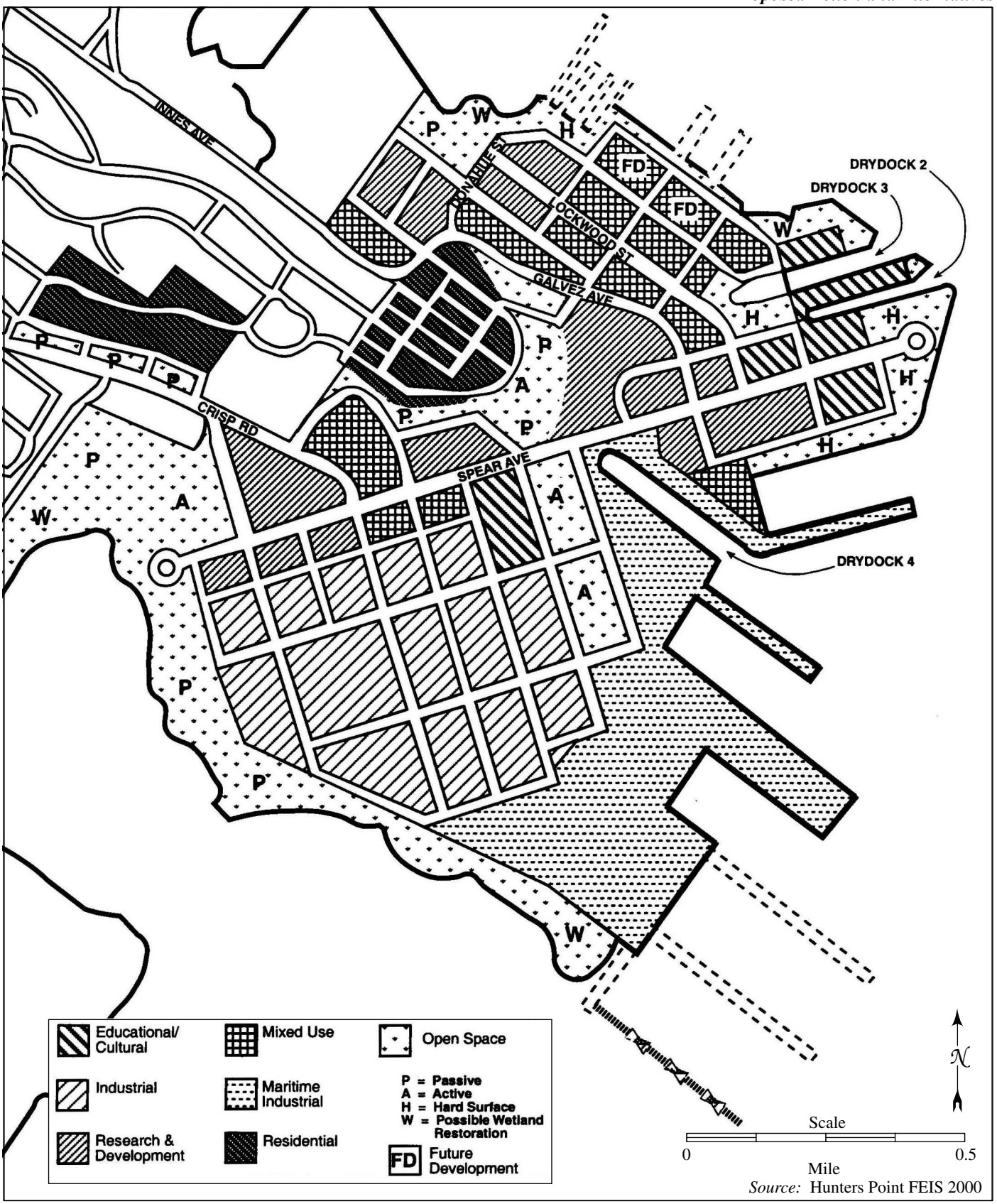


Figure 2.3-1. Land Use Map for Proposed Reuse Alternative Analyzed in the 2000 FEIS

Table 2.3-1. Land Use Development for 2010 and 2025 Under the Proposed Reuse Plan Alternative in the 2000 FEIS

Land Use	*Description of Land Use*	*Potential gft² (2010)*	*Potential gft² (2025)*	*Approximate Acreage (2025)*
Industrial	Manufacturing, sales, and distribution businesses that provide medicinal and botanical products, biological products, food products, chemical and allied products, primary and fabricated metals, and electrical/electronic equipment and parts. Could also include wholesale services, auto-related services, trucking and courier services, equipment leasing, printing and publishing, warehousing and distribution, airport-related ground transportation services, artists' and artisan studios, and motion picture production.	385,000	775,000	96
Maritime Industrial	Could include wharves and drydocks for overhauling vessels, storage areas, offices, rail and truck facilities, container freight stations, intermodal container transfer facilities, areas for maintenance of containers or container-handling equipment, and other functions necessary for efficient operation of a terminal. Maritime use at HPS could be combined with industrial use.	175,000	360,000	85
Research and Development	Could include manufacturing, sales, and distribution businesses that provide surgical and medical appliances and supplies, ophthalmic goods, x-ray apparatus and tubes, diagnostic substances, electromedical equipment, and precision instruments. Could also include data processing, telecommunications, artists' and artisan studios, and live/work spaces.	65,000	312,000	70
Cultural/ Educational	Could include education and training facilities, museums, theaters, galleries, specialty retail shops, restaurants, artists' studios, and conference facilities.	335,000	555,600	25
Mixed Use	Could include artists' studios, live/work units, recording studios, hotel/conference facilities, retail buildings, galleries, engineering research and development facilities, small education and health services, small warehousing and distribution facilities, business and arts services, real estate and insurance services, local-serving retail, and restaurants.	570,000	1,150,000	55
Live/Work (in Mixed-Use Areas)[1]	Units located in mixed-use areas that serve as both a workplace and living space.	300,000 (300 units)	500,000 (500 units)	NA[2]
Residential[1,3]	Could include apartments and one- to two-family dwelling units, houses in the hillside area (Hunters Point Hill), and apartments over commercial units in mixed-use areas. The hillside residential area could be designed for commercial uses serving the neighborhoods.	1,3000,000 (1,300 units)	1,3000,000 (1,300 units)	38
Open Space	Could include passive open space (such as gardens), active open space (such as athletic fields), hard surfaces (such as plazas and promenades), wetlands, and ancillary commercial uses.	NA	NA	124

Notes:
1. Residential units and live/work units were assumed to average 1,000 ft^2 per unit.
2. Live/work units are included in Mixed Use, so there is no separate acreage for live/work.
3. Under the Proposed Reuse Plan for both 2010 and 2025, residential units include 800 single family and duplex dwelling units and 500 apartments over commercial space.

NA = Not Applicable.

Sources: SFRA 1995; SFRA 1998.

The development of HPS under the Proposed Reuse Plan Alternative was consistent with the development standards outlined in the *Design for Development* document. These included quantitative limitations on height and bulk and standards for site coverage, maximum off-street parking, off-street loading, and usable open space for dwelling units. Urban design concepts, including those for open space areas, public streets, building placement and grouping were also presented in the 2000 FEIS.

2.3.1.1.3 Utility and Infrastructure

Several infrastructure upgrades and/or improvements were planned as part of the Proposed Reuse Alternative. These included upgrades to the irrigation systems; electrical and lighting systems; auxiliary water supply system and other fire protection work; gas mains and electrical transmission lines; sewer and stormwater systems; and streets, median islands, sidewalks, gutters, and traffic signing.

Additional transportation improvements included:

- Establishing an HPS street grid to maximize the use of existing streets and access points;
- Resurfacing HPS streets and clearly marking lanes;
- Installing stop signs at proposed intersections throughout HPS at locations that currently have through traffic;
- Designating Crisp Rd as a through arterial street and opening South Gate to traffic;
- Creating sidewalks and some on-street parking on all HPS streets;
- Designating truck routes within HPS;
- Providing pedestrian and bicycle facilities;
- Extending/expanding public transportation services into HPS; and
- Removing inactive railroad tracks within HPS.

2.3.1.2 Reduced Development Alternative

The Reduced Development Alternative had the same objectives and included the same land uses and areas as the Proposed Reuse Plan (Section 2.3.1.1), but with development reduced in scale. Development within each land use type was proposed to be less intensive and generally equated to smaller or fewer buildings. This alternative was anticipated to create up to 2,700 new jobs by 2025.

Table 2.3-2 provides a breakdown of the maximum gross area (gft^2) of development expected under the Reduced Development Alternative in 2010 and 2025. This alternative included development controls or limitations so that reuse would remain at the reduced levels shown in Table 2.3-2. This allowed for more deliberate selection of new users and staged implementation of proposed infrastructure improvements. The land uses under the Reduced Development Alternative were the same as those proposed under the Proposed Reuse Alternative as shown in Figure 2.3-1.

Table 2.3-2. Land Use Development for 2010 and 2025 under the Reduced Development Alternative in the 2000 FEIS

Land Use	Potential gft² (2010)	Potential gft² (2025)	Approximate Acreage (2025)
Industrial	192,000	377,000	96
Maritime Industrial	88,000	173,000	85
Research and Development	30,000	100,000	70
Cultural/Educational	165,000	345,000	25
Mixed Use	130,000	300,000	55
Live/Work (in Mixed-Use Areas)[1]	65,000 (65 units)	100,000 (100 units)	NA[2]
Residential[1]	300,000 (300 units)	300,000 (300 units)	38
Open Space	NA	NA	124

Notes:
1. Residential units and live/work units were assumed to average 1,000 ft² per unit.
2. Live/work units are included in Mixed Use, so there is no separate acreage for live/work.
NA = Not Applicable.

Sources: SFRA 1995; SFRA 1998.

2.3.1.3 No Action Alternative

Under the No Action Alternative in the 2000 FEIS, HPS would not be disposed of and would remain a closed federal property under caretaker status.[1] Thus, these parcels would not be reused or redeveloped. Environmental cleanup would continue until completion. No new leases would be executed under the No Action Alternative. Existing leases would continue until they expired or were terminated, after which the DoN could decide to renew or extend some or all of these leases. Environmental impacts associated with the renewal or extension of existing leases would be evaluated before making such decisions. Activities associated with DoN caretaker status could include the following:

- Inspecting and maintaining utility systems when necessary to protect public health, the environment, and public safety;
- Periodically maintaining the property, as necessary, to protect the structures from fires or nuisance conditions;
- Continuing security patrols to prevent unauthorized entry;
- Continuing land management programs, such as natural resource management, pest control, erosion control, and tree removal;
- Minimally maintaining roadways; and
- Continuing Installation Restoration Program (IRP) and Compliance Program Activities.

2.3.2 New Reuse Alternatives

This section presents the six reuse alternatives and the No Action Alternative assessed in this SEIS:

- Alternative 1: Stadium Plan Alternative;
- Alternative 1A: Stadium Plan/No-Bridge Alternative;
- Alternative 2: Non-Stadium Plan/Additional R&D Alternative;

1 The portions of Parcel A (referred to as HPS Phase I Redevelopment) are not included in the alternatives analyzed in this SEIS because Phase I has already been disposed of by the DoN and is currently being developed as residential housing.

- Alternative 2A: Non-Stadium Plan/Housing and R&D Alternative;
- Alternative 3: Non-Stadium Plan/Additional Housing Alternative; and
- Alternative 4: Non-Stadium/Reduced Development Alternative.

The alternatives, including the No Action Alternative, are discussed in detail in Sections 2.3.2.1 through 2.3.2.7, respectively, and are based on the amended 2010 *HPS Redevelopment Plan*. The reuse alternatives are also based, in part, on the reuse alternatives and variants considered in the *Candlestick Point-Hunters Point Shipyard Phase II Development Plan Draft EIR* and *Comments & Responses* prepared by the City and County of San Francisco and the SFRA under CEQA (SFRA 2010).

The purpose of the proposed action evaluated in this SEIS and the preferred alternative is the disposal of HPS from federal ownership (861 dry and submerged acres) and its subsequent reuse in a manner consistent with the amended *Hunters Point Naval Shipyard Redevelopment Plan* as adopted by the SFRA on 3 August 2010.

2.3.2.1 Alternative 1: Stadium Plan Alternative

Alternative 1 focuses on addressing a portion of Objective 1 of Proposition G (see Section 1.1) to provide public benefits, including developing alternative uses for the stadium site within HPS that are consistent with the overall *CP-HPS Phase II Development Plan*.

Alternative 1 includes a wide range of uses including a mixed-use community with residential, retail, office, R&D, civic and community uses, parks and recreational open space, and a 300-slip boat marina. A major component would be a new football stadium. Approximately 2,650 housing units would be developed within the project site, including 559 below-market units, resulting in a population of 6,175 residents[2] at full occupancy in 2032. Development of these new land uses are anticipated to create up to 7,255 new jobs at HPS.[3] Improvements would also be provided to stabilize the shoreline and new infrastructure would serve the development as necessary.

2.3.2.1.1 Land Use

Figure 2.3-2 shows the existing parcels on the project site and Table 2.3-3 summarizes the existing parcel sizes. HPS presently includes many structures associated with ship repair, piers, drydocks, and ancillary storage, administration, and other former DoN uses. Several former DoN buildings (Buildings 104, 115, 116, 117, and 125), which comprise a total of 85,121 ft^2 (7,908 m^2), are currently leased and occupied as artists' studios.

Table 2.3-3. Existing Parcels within HPS

Parcel	*Acreage*
B	55
C (includes UC-2)	79
D (includes D-1, D-2, G, and UC-1)	99
E (includes E and E-2)	188
F (Submerged Land)	440
Total	**861**

Notes:
Dry and submerged land acreages at HPS differ slightly depending on the source of information.
The acreage values shown in this table are the most consistent with DoN and local data.
Sources: DoN 2000a; SFRA and Planning Department 2009; SFRA 2007.

2 The population is calculated as a 2.33 person per unit, and it is assumed that all units are fully occupied.
3 This does not include the construction work force, which is discussed separately in Section 2.3.2.1.7 under Construction Equipment and Workers.

Figure 2.3-2. Location of Development Districts for Alternative 1 (Stadium Plan Alternative)

Alternative 1 would consist of four development districts within HPS (Hunters Point Shipyard North, Hunters Point Shipyard Village Center, Green R&D, and Hunters Point Shipyard South) and would include a variety of land uses, including residential, neighborhood retail, R&D, artists' studios/art center, community services, stadium, marina, parking, and parks and open space. The boundaries of the four development districts within HPS do not correspond to the boundaries of the five areas designated Parcels B through E in Table 2.3-3. Table 2.3-4 presents the overall land use distribution within the HPS reuse area and Table 2.3-5 presents the land use distribution within each district. Figure 2.3-3 illustrates the land use plan. Additionally, Figure 2.3-4 indicates the maximum building height limits proposed within each land use. Each of the districts is described in detail below.

Table 2.3-4. Land Uses for Alternative 1 (Stadium Plan Alternative)

Land Use	
RESIDENTIAL (UNITS)	
Residential Density Range I (15 to 75 units per ac)	680
Residential Density Range II (50 to 125 units per ac)	1,415
Residential Density Range III (100 to 175 units per ac)	265
Residential Density Range IV (175 to 285 units per ac)	290
Total (units)	**2,650**
NEIGHBORHOOD RETAIL (FT^2)	**125,000**
RESEARCH AND DEVELOPMENT[1] (FT^2)	**2,500,000**
ARTISTS' STUDIOS/ART CENTER (FT^2)	**255,000[4]**
COMMUNITY SERVICES[2] (FT^2)	50,000
PARKS AND OPEN SPACE	
New City Parks (ac)	140.0
New Dual-Use Sports Field/Multi-Use Lawn and Stadium Parking and Waterfront Recreation (ac)	91.6
Total (ac)	**231.6**
FOOTBALL STADIUM (SEATS)	**69,000**
MARINA (SLIPS)	**300**
PARKING (SPACES)	
Residential (structured)	2,650
Commercial (structured)	4,028
General & Commercial (on-street)	683
Dedicated Stadium[3]	12,665
Total[3]	***20,026***
OTHER ELEMENTS	
Yosemite Slough bridge	Auto/BRT/Pedestrian
Shoreline Improvements	Yes

Notes:

1. R&D includes office, laboratory, and light industrial uses.
2. A site for a fire station could be provided on R&D land not explicitly dedicated to community facilities. Community facilities parcels are intended to provide the existing BVHP community and the future Project community with dedicated land for uses designed to provide, preserve, and leverage such critical local resources as social services, education, the arts, and other community services, including public safety facilities such as fire and police stations and facilities for the benefit of senior citizens. Community facilities may be provided that cumulatively exceed 50,000 ft^2. If so, the Project site contemplates an equal reduction in retail and/or R&D and/or office use. Total uses would not exceed those amounts identified in this table.
3. On game days, an additional 3,750 parking spaces would be dedicated to the football stadium.
4. Includes 225,000 gft^2 of artists' studios and accessory neighborhood retail and 30,000 gft^2 to be dedicated for the construction of an arts center.

Source: Lennar Urban 2009a.

Table 2.3-5. Land Use within Each District for Alternative 1 (Stadium Plan Alternative)

District	Net Acreage[1]	Residential[3]		Neighborhood Retail (ft^2)	Artists' Studios (ft^2)	R&D (ft^2)	Community Services (ft^2)	Total Commercial (ft^2)	Football Stadium (seats)	Parks & Open Space (ac)
		Dwelling Units	Density[2] (ft^2)							
Hunters Point Shipyard North	27.3	2,085	I, II, III, IV	25,000	0	0	0	25,000	0	19.9
Hunters Point Shipyard Village Center	7.55	125	I	25,000	255,000	0	0	280,000	0	15.6
Green Research and Development	26.22	440	II, IV	75,000	0	2,000,000	0	2,075,000	0	25.3
Hunters Point Shipyard South	14.86 (32.26 ac with the stadium)	0	N/A	0	0	500,000	50,000	550,000	69,000	170.8
Total	**75.93 (93.33 ac with the stadium)**	**2,650**	**N/A**	**125,000**	**255,000**	**2,500,000**	**50,000**	**2,930,000**	**69,000**	**231.6**

Notes:

1. Net Acreage excludes the street network.
2. 680 Residential Density Range I (15 to 75 units per ac)
   1,415 Residential Density Range II (50 to 125 units per ac)
   265 Residential Density Range III (100 to 175 units per ac)
   290 Residential Density Range IV (175 to 285 units per ac)
   2,650 Total Units
3. The number of residential units in each district may be adjusted depending on market demand; however, the sum total of housing units for HPS would not exceed 2,650.

Source: Lennar Urban 2008.

Figure 2.3-3. Land Uses for Alternative 1 (Stadium Plan Alternative)

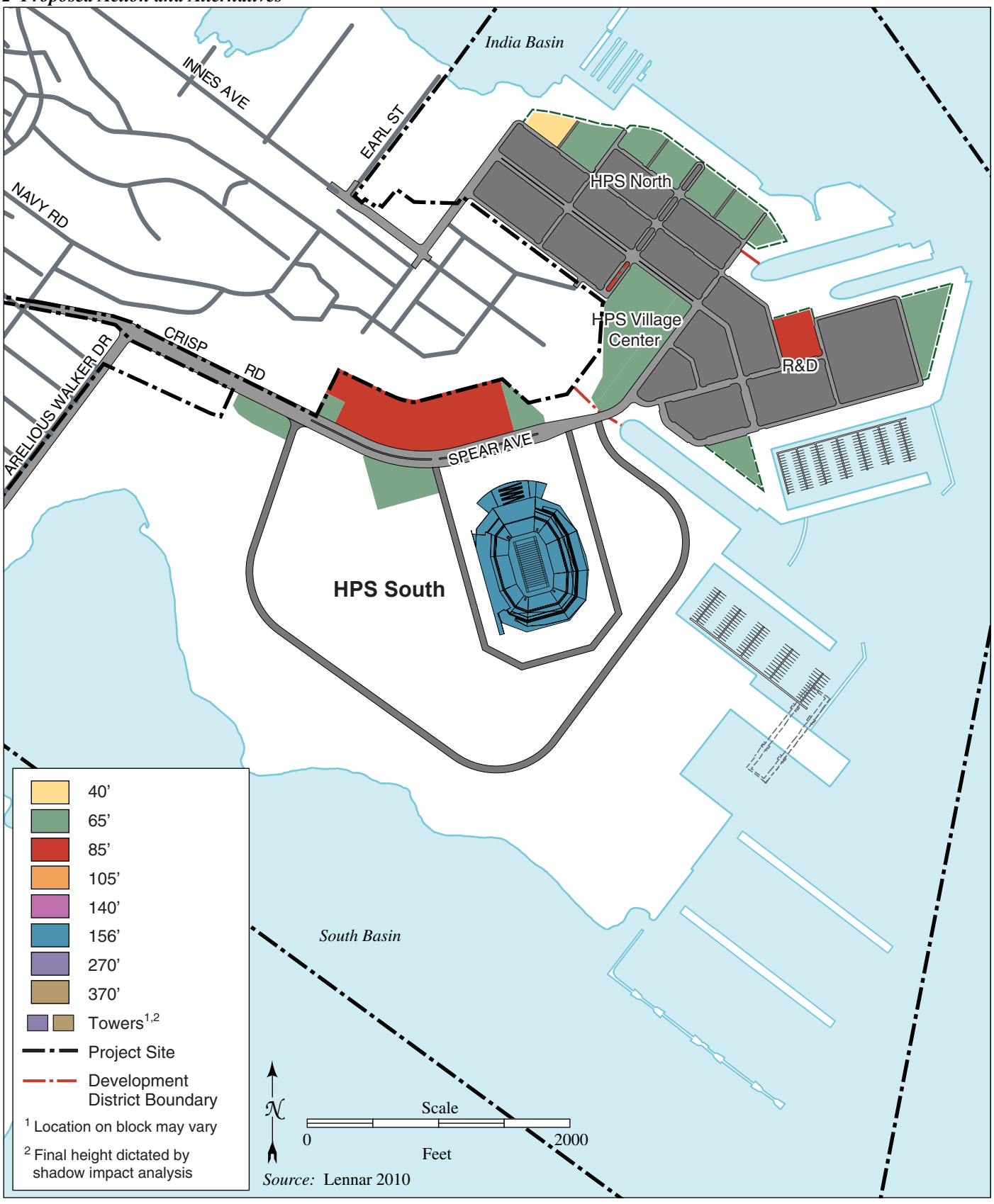


Figure 2.3-4. Building Height Limits for Alternative 1 (Stadium Plan Alternative)

Hunters Point Shipyard North

The HPS North district would include residential and neighborhood retail uses on approximately 27 net ac[4] (11 ha). A new street grid would create 10 large blocks. The district would include 2,085 residential units. The majority of residential uses would be at Density Range I (15 to 75 units per ac), II (50 to 125 units per ac), III (100 to 175 units per ac), and IV (175 to 285 units per ac), with maximum heights ranging from 40 to 85 ft (12 to 26 m). One residential tower at Density Range IV (175 to 285 units per ac) with a maximum height of 370 ft (107 m) would be located at the southeast corner of the district, adjacent to the HPS Village Center. The tower would have a maximum floor size of 10,000 ft^2 (929 m^2). The district would include the 12.8-ac (5.18-ha) Northside Park, and 25,000 ft^2 (2,323 m^2) of neighborhood retail uses. Parking structures would be internal to the street blocks.

Hunters Point Shipyard Village Center

The HPS Village Center district would include redevelopment of the existing artists' studios and new residential and neighborhood retail uses with development on approximately 7.6 net ac (3.1 ha). The existing artists' studio space throughout the project site is approximately 85,121 ft^2 (7,908 m^2), and is located in Shipyard Buildings 104, 115, 116, 117, and 125. These existing buildings would be demolished. New studios would be in a renovated Building 101 and other new buildings, including an Art Center, which would provide 255,000 ft^2 (23,690 m^2) of space dedicated for artists and art-related uses. New buildings would have a height limit of 65 ft (20 m). The Village Center would provide about 25,000 ft^2 (2,323 m^2) of neighborhood retail uses and 125 residential units at Density Range I along the southeast edge of the district. The residential space would be above the retail space in a building with a height limit of 65 ft (20 m) (Figure 2.3-4). The HPS Village Center district would also include the 15.6-ac (6.31-ha) Heritage Park.

Green Research & Development

The Green R&D district would include 2,000,000 ft^2 (185,806 m^2) of R&D uses including office and light industrial uses that would be marketed to attract emerging technologies, with a particular focus on green technology business. A grid pattern would create approximately 10 blocks with development on approximately 26 net ac (10.5 ha) (Figure 2.3-3). Buildings 211, 224, 231, and 253 located within or immediately adjacent to the Green R&D district would be demolished under this alternative. These buildings have been identified as sensitive historic resources under California guidelines (as defined under Public Resources Code Section 21084.1 and CEQA Guidelines Section 15064.5[a] and [b]), but are not considered historic properties under federal regulations (as defined by Section 106 of the National Historic Preservation Act per 36 CFR 800.16[l])[5].

Drydocks 2 and 3 and Buildings 140, 204, 205, and 207 were determined to be contributing elements to the Hunters Point Commercial Dry Dock Historic District, which is eligible for listing on the National Register of Historic Places (NRHP). Drydock 4 is additionally eligible for individual listing on the NRHP. Drydocks 2, 3, and 4 and Buildings 140, 204, 205, and 207 would be retained and rehabilitated using the *Secretary of the Interior Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*. Building 208 would be mothballed and maintained as an element of the cultural landscape.

4 The number of residential units in each district may be adjusted depending on market demand; however, the sum total of housing units for the Stadium Plan Alternative would not exceed 2,650.

5 Buildings 208, 211, 224, 231, and 253 have been determined to be contributors to a California Register of Historic Resources (CRHR) Historic District under California guidelines. However, they were determined ineligible for listing on the National Register of Historic Places (NRHP) and, therefore, are not considered federal historic properties under federal regulations (i.e., NHPA or NEPA).

The Green R&D district would have approximately 440 residential units at Density Ranges II and IV near the west end of the district. The Green R&D district would also include approximately 75,000 ft^2 (6,968 m^2) of neighborhood retail uses east of the retail uses in the Village Center district. Maximum heights of the retail and residential structures would be 65 ft (20 m) and at Density Range II, with the exception of one high-rise tower in the northwest that would be 270 ft (82.3 m). The residential tower would have a maximum floor size of 10,000 ft^2 (929 m^2). Structures in the center of the district would range from 85 to 105 ft (26 to 32 m) tall. Parking structures would be internal to the street blocks. A 29.5-ac (11.9-ha) Waterfront Promenade would begin at the HPS North district and continue along the edge of the R&D and HPS Village Center districts and terminate at the HPS South districts. Heritage Park is proposed at Drydocks 2 and 3 and would include interpretive display elements related to the history of HPS. Further discussion of the proposed activities associated with piers and drydocks under this alternative is provided in *Piers, Drydocks, and Waterside Uses*, below. A discussion of Heritage Park is provided in Section 2.3.2.1.2, Parks and Open Space, below.

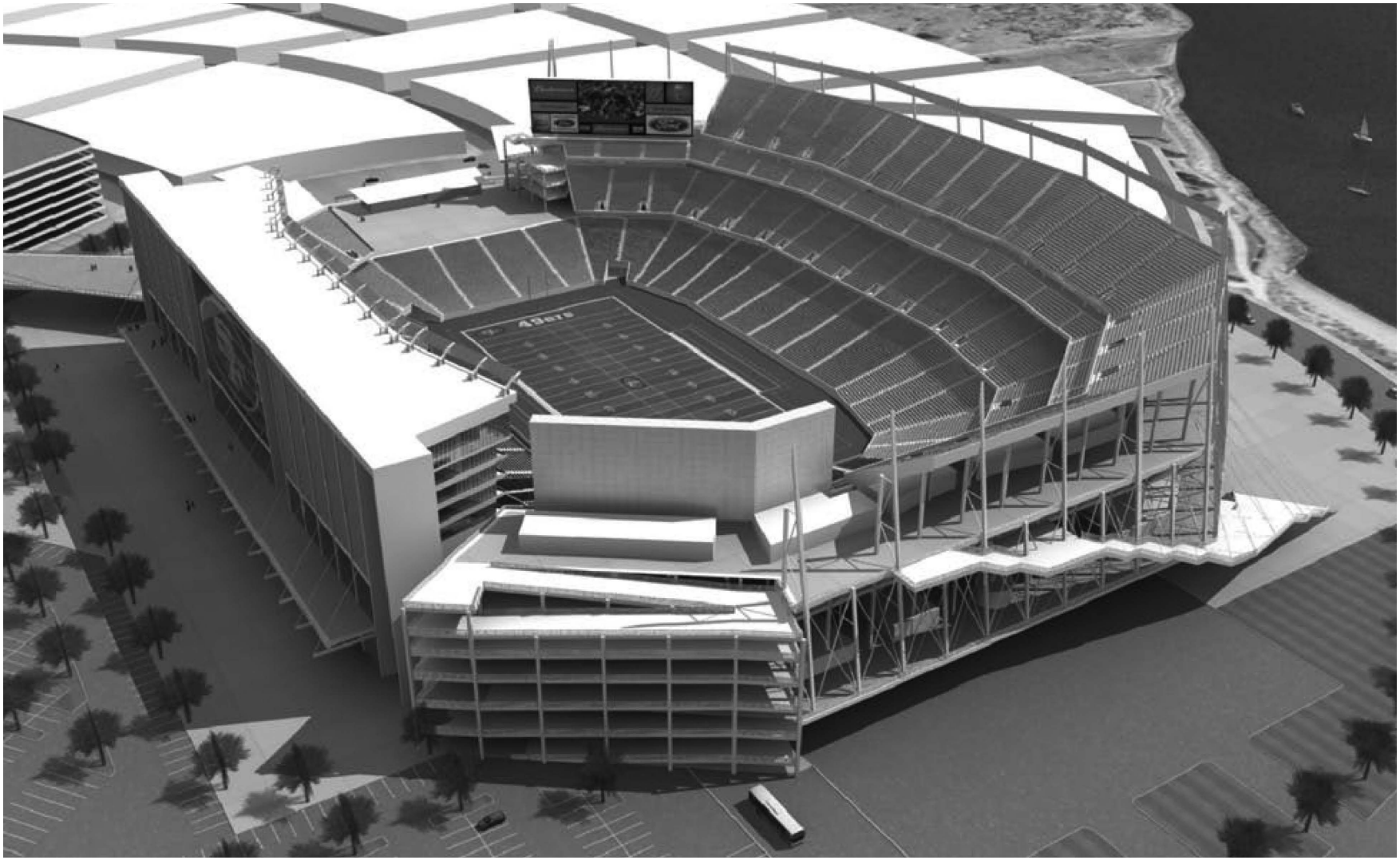
Hunters Point Shipyard South

The HPS South district would include 500,000 ft^2 (202,343 m^2) of R&D uses (including office and light industrial uses) on approximately 15 net ac (6.1 ha). These uses would be located north of Crisp Rd, northwest of the proposed new stadium. For example, the city plans to rehabilitate or demolish and reconstruct Building 813, which is currently vacant and located in this area, to house early-stage innovation companies. Maximum heights of the R&D structures would be 85 ft (26 m). In addition, this district would include 50,000 ft^2 (20,234 m^2) of community service uses located on three sites along Crisp Rd to the north and west of the stadium. The HPS South district would be the site of a new 69,000-seat football stadium. The stadium would include approximately 1,860,000 ft^2 (752,715 m^2), with seating, ramps and stairs, team offices and administrative space, food service and retail areas, and access facilities for stadium visitors, players, and staff on 17.4 ac (7.04 ha). The stadium would have five levels on the north, east, and south sides and nine levels on the west (referred to as the Suite Tower). The top row of seating would be at an elevation of approximately 156 ft (47.5 m) above the playing field; the top of the stadium light towers would be at an approximate elevation of 192 ft (58.5 m) above the field. The event level of the stadium would include the playing field, locker rooms, main commissary, grounds-keeping facilities, operations space (including management, janitorial, and security), loading docks, and facilities for other support functions. Press facilities would be located on the top level on the west side of the stadium. The box office, team store, stadium offices, and other stadium-related commercial space would be on the ground level of the west side. Figures 2.3-5 and 2.3-6 illustrate the proposed stadium.

NFL teams typically play half of pre-season and regular season games at home. In one season, a team could play up to two pre-season, eight regular season, and two post-season games at home.[6] The pre-season begins in August and the regular season extends through December. In addition to pre-season and regular season games, there is also a possibility for up to two post-season games each year. It would also be likely that San Francisco would be asked to host a Super Bowl game. The Super Bowl is considered an extraordinary event and would potentially occur in San Francisco approximately once every 10 years. In addition to NFL football, other major events could occur at the stadium, including college football games, soccer games, concerts, festivals, antique and car shows, or other events. These additional events would be limited to 20 total occurrences per year (SFRA 2009).

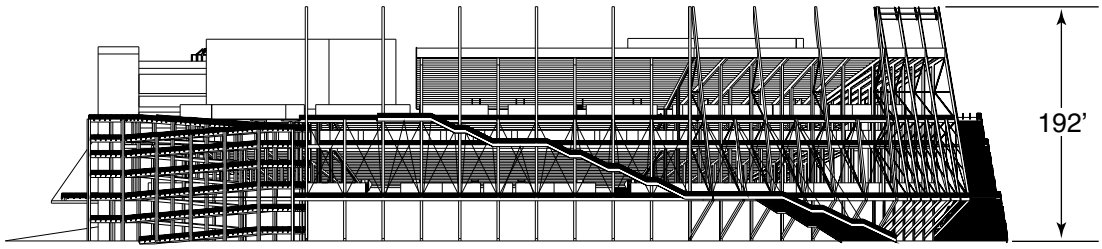
The parking areas surrounding the football stadium would serve stadium-related events. The Dual-Use Sports Field Complex and Multi-Use Lawn (shown in Figure 2.3-7) adjacent to the proposed stadium and permanent parking areas would serve as recreation and athletic fields when not used as parking for stadium events. The surface of the fields would be seeded grass above top soil with synthetic fibers and

6 Each NFL team typically plays four pre-season games. The NFL has a 17-week regular season. Each season, all NFL teams have one bye week (week off) where the team does not play. Therefore, each team plays 16 regular season games during the 17-week period.

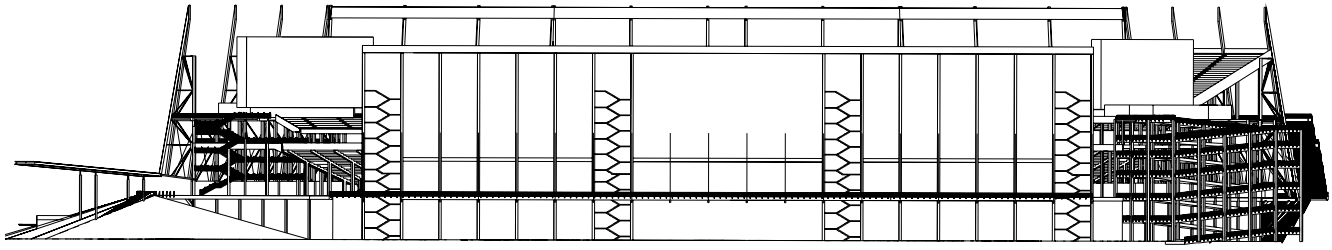


Source: HNTB Architects 2007

Figure 2.3-5. Stadium Conceptual Design Plan for Alternative 1 (Stadium Plan Alternative)



South Elevation



West Elevation—Suite Tower

Source: HNTB Architects 2007

Figure 2.3-6. Stadium Conceptual Elevations for Alternative 1 (Stadium Plan Alternative)

Figure 2.3-7. Existing and Proposed Parks and Open Space for Alternative 1 (Stadium Plan Alternative)

other base materials to support vehicle parking. The permanent parking area and dual-use areas would provide approximately 12,665 parking spaces for games and events.[7] When not needed for games or events, the dual-use areas would be available to serve recreation and related events.

TOWER VARIANT D

Alternative 1 also includes a Tower Variant D. Under Tower Variant D, the floor plate area of the residential towers could be increased from 10,000 to 12,500 ft^2 (929 to 1,161 m^2), which would result in slightly greater tower bulk. However, the larger floor plates would be accommodated on the existing podium design and, therefore, the building footprint would not increase.

Piers, Drydocks, and Waterside Uses

PIERS AND DRYDOCKS

HPS currently includes eight piers and six drydocks along the shoreline (Figure 1.0-2). As part of the base IRP, the DoN removed Piers B and C and would remove timber portions (concrete walls would remain) of Drydocks 5, 6, and 7 prior to conveyance of HPS to the city. Drydocks 2, 3, and 4, as well as four supporting buildings (Buildings 140, 204, 205, and 207), were previously identified as historic resources eligible for listing on the NRHP either as individual listings or as contributing elements to a historic district. Heritage Park (shown on Figure 2.3-7 and described in Section 2.3.2.1.2) is proposed at Drydocks 2 and 3 and would display interpretive elements related to the history of HPS. Drydocks 4, 5, 6 and 7 and the Re-Gunning Pier and Re-Gunning Crane would remain. The project would make repairs to Drydock 4 including the addition of weep holes and a rock/sand buttress on the face of the drydock walls, and repairing the exposed drydock wall. Subsequent to the repairs, Drydock 4 would be used as an open space amenity and would no longer be used as a drydock facility (SFRA 2009). Drydocks 5, 6, and 7 would be modified by the removal of short sections of the piers and/or bulkheads (near the shore) to preclude public access, thereby creating opportunities for waterbirds to roost on the retained portions of these structures (SFRA 2009). Piers 1, 2, and 3 consist of long, narrow concrete piers in the southeastern portion of project site. These pier structures would remain in place, but portions of the piers would be removed to prevent public access for safety reasons. The Re-Gunning Pier would be reconfigured for wildlife habitat uses. Some pier areas would require cleaning and repaving. The North and South Piers would be the sites of the proposed marina, as discussed below. A summary of the shoreline improvements for Drydocks 2 through 7 is provided in Section 2.3.2.1.7, below.

MARINA

A marina would be constructed along the east shoreline of HPS, north of the Re-Gunning Pier (refer to Figure 2.3-3 for Marina location). The marina slips are proposed along the North and South Piers.

The marina would include up to 300 slips accessed by a series of gangways and floating docks. Guide piles would horizontally restrain the floating docks. Each slip would include potable water, electric, cable television, and telephone connections. The marina would provide sewage pump-out stations at each slip or at a central pull-up station. Landside improvements adjacent to the marina could include parking, restroom facilities, a classroom to teach sailing, and a harbormaster's office.

The marina would require installation of two breakwaters approximately 1,300 to 1,650 ft (396 to 503 m) in total length, split into two or three sections (ranging between 300 and 650 ft [91.4 to 198 m] in length) (personal communication, Devick 2009). The breakwaters would create two 10.7- to 11.3-ac (4.33- to 4.57-ha) basins. The footprint of the breakwaters would cover 0.05 to 0.1 ac (0.04 to 0.02 ha) of bay bottom. The existing North and South piers would remain and provide protection to the marina basins by

7 An additional 3,750 parking spaces are available for evening and weekend stadium events on the R&D sites.

acting as breakwaters. Additional breakwaters would be constructed using concrete sheet pile supported by batter piles and installed using water-based equipment.

The current water depths of up to 16 ft (4.9 m) of the proposed marina basin would be adequate for recreation craft, and the basin would not require initial dredging. However, maintenance dredging would be required in the future to maintain adequate water depths. Maintenance dredging would be conducted in accordance with applicable federal and state regulations.

2.3.2.1.2 Parks and Open Space

Alternative 1 would include 231.6 ac (93.73 ha) of parks and open space including new parks, sports fields and active urban recreation, and other park and open space amenities. Table 2.3-6 provides a summary of the parks and open space area proposed under Alternative 1, followed by an overview of each amenity. Each of the parks listed in Table 2.3-6 is shown on Figure 2.3-7. More information regarding the proposed parks can be found in the *Draft Parks, Open Space, and Habitat Concept Plan* provided as Appendix N3 of the *Candlestick Point-Hunters Point Shipyard Phase II Development Plan Project Draft EIR* (SFRA 2009).

Table 2.3-6. Parks and Open Space Proposed for Alternative 1 (Stadium Plan Alternative)

Park/Open Space	*Acreage*
New Parks	
Northside Community Park	12.8
Waterfront Promenade	29.5
Heritage Park	15.6
Grassland Ecology Park at Parcel E	44.9
Grassland Ecology Park at Parcel E-2	37.2
Sub-Total	*140.0*
New Sports Fields and Active Urban Recreation	
Dual-Use Sports Field Complex/Game Day Stadium Parking	59.7
Dual-Use Multi-Use Lawn/Game Day Stadium Parking	25.2
Waterfront Recreation Area	6.7
Sub-Total	*91.6*
Total	**231.6**

Source: Appendix N3 of the CP-HPS DEIR (SFRA 2009).

New Parks

NORTHSIDE COMMUNITY PARK

Northside Community Park (12.8 ac [5.18 ha]) would provide environmental education opportunities for residents in the project vicinity and city-wide. The park would be on the north shore of Hunters Point and provide passive and active recreation uses. The most active park uses would be located at the southwestern portion of the park. This area would include community gardens; basketball, tennis, and volleyball courts; a shade pavilion; children's playground; and restrooms. A proposed open-air African Marketplace would form an east-west promenade crossing the park, with looped pathways around lawns that would provide additional multi-use space. To the northeast, the park would represent a more natural and passive character, with picnic/barbeque areas and shade shelters, and waterfront pathways.

HUNTERS POINT WATERFRONT PROMENADE

The Hunters Point Waterfront Promenade (29.5 ac [11.9 ha]) would begin at the north edge of the HPS project site and extend along the HPS shoreline, terminating at the Waterfront Recreation Area. The

promenade would incorporate evidence of the historic qualities of the industrial waterfront, which would be incorporated into tree bisques, seating areas, artworks, lawn areas, and interpretive gardens. The Waterfront Promenade would extend the Bay Trail along the HPS shoreline.

HERITAGE PARK

Heritage Park (15.6 ac [6.31 ha]) would retain and reuse historic resources and materials as much as possible while utilizing modern designs with industrial character. Children's play areas and areas of open lawn would be provided.

GRASSLANDS ECOLOGY PARK AT PARCEL E

Grasslands Ecology Park at Parcel E (44.9 ac [18.2 ha]) would contain native Eco-Gardens, passive lawns, native grasslands, windbreak groves, and landforms offering views of the bay and shoreline habitats. Site features could include group picnic areas, overlooks, a visitor/interpretive center, restrooms, and parking.

GRASSLANDS ECOLOGY PARK AT PARCEL E-2

Grasslands Ecology Park at E-2 (37.2 ac [15.0 ha]) would provide an open space area that includes picnic areas, grassy bird-watching knolls, and overlooks. This passive recreation park would focus on views toward the Yosemite Slough Wetland Restoration area and provide opportunities for environmental education. The Grasslands Ecology Park at Parcel E and the Grasslands Ecology Park at Parcel E-2 are contiguous to Candlestick Point Recreation Area (CPSRA) and may be offered to the California Department of Parks and Recreation (CDPR).

New Sports Fields and Active Urban Recreation

DUAL-USE SPORTS FIELD COMPLEX/GAME DAY AND STADIUM EVENT PARKING

A Sports Field Complex would surround the stadium and would include soccer/football, baseball, and volleyball fields, as well as warm-up fields, restrooms, and food concessions. The Sports Field Complex would be used for sporting events during day- and night-time hours. The surface of the fields would be seeded grass above topsoil, with synthetic fibers and other base materials to support vehicle parking and tailgating on game days. To prevent rutting and damage to the fields, the design would employ a fiber-reinforcement system incorporated into fast-draining, sandy soils.

DUAL-USE MULTI-USE LAWN/GAME DAY AND STADIUM EVENT PARKING

This area would surround the stadium and provide event-day parking. At other times, this large open space would provide for informal recreational activities, sporting, and other events as needed. The surface of the fields would be seeded grass above topsoil with synthetic fibers and other base materials to support vehicle parking.

WATERFRONT RECREATION AREA

A Waterfront Recreation Area would provide a flexible waterfront open space with small boat access and would include education and interpretive facilities focused on the San Francisco Bay.

Other Parks and Open Space

BOULEVARD PARK STREETS

A hybrid of streets and parks, the Boulevard Park Streets bring broad fingers of green space into the urban neighborhoods, linking interior and bay-front parks. These streets have a strong pedestrian scale and quality, and serve as public 'front yards' for the neighborhoods. Broad landscaped medians or sidewalks

(30-40 ft [9.1-12 m] wide) are designed as mini-parks with garden seating areas. Boulevard Park Streets would connect the Hunters Point Hilltop community with Waterfront Park.

HILLSIDE PARKS AND OPEN SPACE CONNECTION

A relatively small portion of the Hillside Park and Open Space located within HPS north of Crisp Rd would provide a connection to the existing Hillside Parks and Open Space constructed in the Phase I.

HISTORIC LANDMARK AND BAY NATURALIZED LANDSCAPE

The landmark Re-Gunning Crane would be retained, providing a dramatic juxtaposition of the site's industrial history with the resurgence of nature at the bay's edge. Trails and boardwalks would lead to overlook points providing visitors with opportunities to view bay wildlife.

BAY TRAIL

The Bay Trail is a planned recreational corridor that, when complete, would encircle the San Francisco and San Pablo bays with a continuous 500-mile (805-kilometer) network of bicycling and hiking trails. Alternative 1 includes construction of a portion of the Bay Trail within the project site (Figure 2.3-8). Trail improvements would include a pedestrian and bicycle trail along the shoreline with connections to existing and new parks. The Bay Trail would be incorporated into the design of the parks described above.

To enhance the ecological function and value of the proposed park and open space, Alternative 1 could include the following measures:

- *Control of non-native invasive species* – Non-native species would be removed during initial habitat enhancement efforts. Monitoring and ongoing removal/control would be implemented to protect against the re-establishment and spread of these species on the site.
- *Incorporation of grasslands* – Native grasslands would be established on the site to support associated wildlife species.
- *Increase in tree/shrub cover* – Trees and shrubs would be planted throughout the project site. Native vegetation would be favored; however, site-appropriate non-native trees and shrubs would also be considered.
- *Maintenance of habitat connectivity* – Parks and open space areas would be designed and maintained to maintain connectivity for less mobile animals including mammals, reptiles, and amphibians. Examples include maintenance of a vegetated band along the shoreline, and planting of vegetative cover that provides refuge for dispersing animals.
- *Creation of stormwater wetlands* – Stormwater treatment wetlands and biofiltration ponds would be incorporated into open space areas and serve the dual functions of treating runoff while providing habitat for a variety of wildlife species.

  Maintenance of refuge areas for water birds – Park and open space facilities would create areas that are somewhat removed from trails or other human shoreline access points for water birds to roost at high tide. In addition, removal of landside portions of the three piers in the southeastern corner of HPS would prevent mammals from accessing those piers. The piers would be left in place to provide roosting sites for gulls, cormorants, pelicans, terns, and other avian species that frequent the water's edge.

  Provision of nest boxes – Nest boxes for birds would be placed in appropriate locations throughout parks and open space areas.

Figure 2.3-8. Existing and Proposed Bay Trail for Alternative 1 (Stadium Plan Alternative)

2.3.2.1.3 Transportation Improvements

Transportation infrastructure and upgrades would be designed to serve travel needs of future residents, employees, and visitors to areas within the project site. Investment in infrastructure and services would be developed to provide alternatives to private automobile travel. The primary goal of the upgrades would be a weekday P.M. peak-hour mode split of 40 percent automobile travel, 35 percent public transit, and 25 percent walk or bike.

The transportation infrastructure for Alternative 1 would include integration of the new or upgraded transportation networks with existing systems as well as integrating land use patterns with multimodal street networks that would facilitate walking and cycling for short trips and transit for trips of greater distance.

An overview of the proposed transportation infrastructure and upgrades is provided below.

Transportation Demand Management Plan

A Transportation Demand Management (TDM) plan would be implemented to reduce automobile and light truck vehicle miles traveled and to encourage residents, employees, and visitors to use alternative modes of travel, such as public transit, walking, and bicycling. In addition, the TDM plan would include measures to reduce the demand for travel during peak times. The TDM plan could include the following strategies.

TRANSPORTATION COORDINATOR AND WEBSITE

An onsite Transportation Coordinator would provide residents, employers, employees, and visitors with information regarding available transportation alternatives. The Transportation Coordinator would be responsible for implementing, monitoring, and improving the measures of the TDM plan. A website would include transportation-related data and real-time transit information.

EMPLOYEE TDM PROGRAMS

Employers of 20 or more employees in the project site would be required to participate in TDM programs that would encourage the use of transit and facilitate walking and bicycling by their employees.

CARPOOL/VANPOOLS

The TDM program would offer carpool and vanpool services. Designated parking spaces would be provided free to vanpools. The transit centers would have designated signed areas for informal carpooling.

CARSHARE SERVICES

Local carshare organizations would provide carshare vehicles throughout the project site. Carshare services allow members to use vehicles when needed, paying based on how much they drive.

OTHER STRATEGIES

Other strategies could include:

- Homeowners' dues would include the cost of transit passes for all households;
- Information outreach would be provided to residents, employees, and visitors on transit options;
- Residential parking would be "unbundled" and sold or leased separately from the residential units;

- Non-residential parking charges would vary according to market rates;
- Exclusive bike lanes and frequent bus rapid transit (BRT) service would operate in dedicated lanes and with signal priority; and
- Regular periodic monitoring of TDM programs intended to encourage transit use and other alternative modes would be required in order to measure effectiveness and adjust programs as needed.

Roadway Network

The proposed street network would extend the existing grid of the adjacent neighborhoods into the project site. The proposed street network would use typical San Francisco block sizes. This street pattern would allow the axes of most streets to lie perpendicular to the bay shoreline with terminating vistas of the bay. The proposed street network would be a hierarchy of street classifications of arterials, collector streets, and local streets and would be composed of seven types of streets consistent with and classified by the *San Francisco Better Streets Plan* (Draft for Public Review, June 2008) (San Francisco Planning Department 2008a), including: Commercial Throughway; Residential Throughway, Neighborhood Commercial Street, Neighborhood Residential Street, Parkway, Park Edge Street, and Alley. Arterial streets would function as primary thoroughfares, with collector streets playing a subordinate role. Local streets would provide access for residential, commercial, and open space uses outside of the arterial collector street corridors. The proposed street network is illustrated in Figure 2.3-9.

Primary automobile circulation would be along one arterial starting in the north of HPS at Galvez Ave and Crisp Rd, connecting to a new Yosemite Slough bridge, passing through Candlestick Point, and continuing to Harney Way. Most locations in the project site would be within four or five blocks of this arterial roadway. The arterial would serve the edges of the HPS Village Center internal parking areas. Another arterial street would extend north from HPS into the India Basin Shoreline area, connecting with Innes Ave.

IMPROVEMENTS TO EXISTING ROADWAYS

Improvements to existing roadways are proposed to serve the project site as well as the surrounding Bayview and Hunters Point neighborhoods. Improvements are proposed both within the project site and offsite. These improvements would be completed in two phases. The developer would be responsible for construction of improvements in the first phase and would be responsible for its fair share of offsite improvements in the second phase. Onsite and offsite improvements proposed under both phases are shown in Figure 2.3-10 and described below.

Harney Way Widening. The existing four-lane Harney Way would be widened to the north and south of its existing alignment, and would be rebuilt to contain two or three travel lanes in each direction, turn pockets, two BRT-only lanes, Class I and Class II bicycle facilities,[8] new sidewalks, and landscaped area. Initially, the roadway would be rebuilt as a new five-lane roadway (with right-of-way (ROW) reserved for additional lane(s) to be built in the future as needed for increased traffic levels). A Class II bicycle lane would be provided on the north side of the roadway, and a Class I bicycle path would be provided on the south side of the roadway. Two exclusive BRT[9] lanes would be constructed adjacent to the roadway on its north side. After events at the new football stadium, left turns would be temporarily prohibited at the

8 Bicycle facilities are described as Class I, which is a separated bicycle path or multi-use trail; Class II, which is a bicycle lane; and Class III, which is a bicycle route.

9 Bus Rapid Transit (BRT) is an integrated system of facilities, services, and amenities that collectively improves the speed, reliability, and identity of bus rapid transit. BRT combines stations, vehicles, services, running ways (e.g., curb bus lanes, median busways, and mixed-flow lanes), and Intelligent Transportation Systems (ITS) elements into an integrated system.

Figure 2.3-9. Proposed Street Network for Alternative 1 (Stadium Plan Alternative)

Figure 2.3-10. Improvements to Existing Roadways for Alternative 1 (Stadium Plan Alternative)

Harney Way intersections with Thomas Mellon Dr and Executive Park Blvd to allow for the configuration of the roadway to change to four westbound auto lanes and one eastbound auto lane. Under the final buildout, a portion of the landscaped area installed as part of the initial widening would be rebuilt to provide lanes from the proposed Harney Interchange east to Arelious Walker Dr, if necessary.

New Roadway through Candlestick Point. A new five-lane arterial roadway generally following the current alignment of Giants Dr and Arelious Walker Dr would serve Candlestick Point, with upgraded sidewalks, curb ramps, and street lights. The roadway would have a 13-ft (about 4-m) wide median to accommodate 11-ft (3.4-m) wide left-turn lanes at major intersections. The roadway would include new traffic signals at the intersections of Harney Way and Jamestown Ave, Ingerson Ave, Gilman Ave, and Carroll Ave.

New and Improved Roadways on Ingalls St, Arelious Walker Dr, Crisp Rd, Griffith St, and Thomas Ave. The project site would be served by a four-lane arterial roadway extension of Crisp Rd to Griffith St at Palou Ave. The roadway would then continue on Griffith St to Thomas Ave and then on Thomas Ave to Ingalls St where it would proceed along Ingalls St to Carroll Ave. The new sections of Crisp Rd, Griffith St, and Thomas Ave would include sidewalks and four automobile lanes, with on-street parking on Thomas Ave. Ingalls St would remain an industrial mixed-use street with two automobile lanes and parking and loading zones on its northern and southern sides. The width of sidewalks on the portion of Ingalls St from Carroll Ave to Yosemite Ave would be decreased to be consistent with the sidewalks north of Yosemite Ave. A new traffic signal would be installed at the Thomas Ave and Ingalls St intersection. Alternative 1 would also connect Arelious Walker Dr to Crisp Rd.

Streetscape Improvements. Currently, the main access to HPS from the north is via Evans Ave, Hunters Point Blvd, and Innes Ave. Under Alternative 1, Innes Ave, Palou Ave, and Gilman Ave would serve as primary access corridors from the north for pedestrians, bicyclists, transit vehicles, and automobiles. Streetscape improvements, extending to Third St on Palou Ave and Gilman Ave, and to Jennings St on Innes Ave, would include street-side trees, sidewalk plantings, furnishings, and paving treatments. Offsite improvements would include repaving and restriping of these streets.

Yosemite Slough Bridge. A new Yosemite Slough bridge would extend Arelious Walker Dr and connect HPS and Candlestick Point. The bridge would be located partially within the project site and partially offsite. The eastern bridge approach would be located at least partially within the project site while the western approach would be located offsite. The 81-ft (25-m) wide, seven-lane bridge would cross the slough at its narrowest point and would primarily function for transit, bicycle, and pedestrian use. The bridge and its approach streets would have two dedicated 11-ft (3.4-m) wide BRT lanes and a separate 12-ft (3.7-m) wide Class I bicycle and pedestrian facility, which would be open at all times. The bridge would also have a 40-ft (12-m) wide greenway, which would be converted to four peak-direction automobile lanes on football game days only. The roadway would be planted with grass and would serve as an open space amenity on all non-event days. Two-ft tall (0.6m) barriers would separate the BRT lanes from the bicycle/pedestrian lanes and the vehicle lanes. The greenway would also be designed to function as a stormwater treatment control facility for the automobile travel lanes. Runoff from the BRT lanes would also be routed to the greenway and/or to land-based stormwater treatment facilities, in accordance with the city's requirements for stormwater treatment.

The 81-ft (25-m) wide span across Yosemite Slough would be approximately 902 ft (275 m) long with abutments on the north and south ends connecting the bridge to land. Eight piers, with two columns each, would support the bridge. The columns of the three southernmost piers would rest on bedrock. Ten sets of steel piles would be driven to support the columns of the five piers to the north.

The 2000 FEIS identified and discussed actions that would be necessary to mitigate the impacts associated with the reuse and redevelopment of HPS, including wetland mitigation within Parcel E-2, where the Yosemite Slough bridge would be constructed. The acquiring entity, under the direction of federal, state, and local agencies with regulatory authority over protected resources, would be responsible for implementing necessary wetland mitigation measures associated with this parcel. These measures would be specified during the permitting process.

Transportation Management System

A transportation management system would be implemented for use during football game days and special events held at the stadium. The system would include installation and coordination of signals using fiber-optic technology at over 30 intersections in the project site and project vicinity. Several variable message signs and lane-use control signals would be installed on roadways with reversible lanes. A traffic control center near the stadium would operate the system, which would be connected to the larger Municipal Transportation Authority (MTA) program.

Transit Services

The following transit strategies are proposed by MTA:

- Extend existing Municipal routes to better serve the area;
- Increase frequencies on existing routes to provide more capacity; and
- Complement these routes with new transit facilities and routes to better serve the Development Plan's proposed land use program and transit demand.

New, direct, one-seat transit service is proposed to serve employment trips to downtown San Francisco. The MTA has identified new Municipal transit services to serve the project site. The final configuration of new and improved transit services would be determined under the purview of MTA. Connections to the regional transit network (Bay Area Rapid Transit [BART] and Caltrain) would serve employment centers in the South Bay. BART and Caltrain stations south on the San Francisco Peninsula are generally well-served by local bus routes and would provide connections to workplaces. The proposed transit improvements are illustrated in Figure 2.3-11 and described below. Many of the proposed transit lines would include transit-priority systems, with roadway sensors that would detect approaching transit vehicles and would alter signal timing to improve transit efficiency.

New and Expanded Bus Lines. Existing Municipal lines 24, 44, and 48 would be extended into HPS and provide service frequencies to accommodate greater demand. A new Downtown Express route between HPS and the Financial District would be introduced.

Hunters Point Transit Center. The Hunters Point Transit Center would serve the HPS North and HPS Village Center districts. The transit center would consist of a bus terminal with approximately ten bus bays. Most bus lines serving HPS would terminate at the transit center.

Palou Ave Transit Preferential Street. One Municipal line (24) would be extended along Palou Ave to serve the Hunters Point Transit Center. Transit-priority technology including new traffic signals would be installed on Palou Ave. This would improve transit travel times and reliability on the 24 line and also for the 23 and 44 lines, which would continue to operate on Palou Ave.

Harney/Geneva BRT/Transit Preferential Street. The Harney Way/Geneva Ave corridor would have BRT-exclusive bus lanes and BRT lanes between the Hunters Point Transit Center and Bayshore Blvd, through Candlestick Point and the Bayshore Caltrain Station.

Figure 2.3-11. Public Transit Improvements for Alternative 1 (Stadium Plan Alternative)

Bus Rapid Transit Stops. BRT stops would be at the Hunters Point Transit Center, three locations within Candlestick Point, and at two intermediate locations.

BICYCLE CIRCULATION

Bicycle routes would provide connections within the project site, surrounding neighborhoods, and other parts of the city. Bicycle routes would be established along major roadways consistent with city guidelines and adopted bicycle plans and would connect with existing routes. The Bay Trail, which would accommodate bicycle travel, would be extended along the entire HPS waterfront. There would be secure bicycle parking in each commercial parking facility and residential garage. New buildings with at least 10,000 ft^2 (929 m^2) of office or community use space would provide showers and locker facilities (SFRA 2009). The proposed bicycle route network is presented in Figure 2.3-12.

PEDESTRIAN CIRCULATION

The pedestrian network would actively encourage walking as a primary mode of transportation within the Stadium Plan Alternative area. Pedestrian facilities, such as sidewalks and multi-use pathways, would allow access to transit facilities and to shopping, schools, and recreation. The roadway network would include traffic calming devices and designs to facilitate safe pedestrian travel. The streets would be designed to accommodate multi-modal travel with curb extensions, corner extensions (or bulb-outs), raised crosswalks, comprehensive signage, street trees, narrow roadway lanes, and short blocks. All pedestrian facilities would meet Americans with Disabilities Act (ADA) standards for accessibility and would be designed to conform to San Francisco's *Better Streets Plan* when possible.

Parking

Parking would accommodate residents, employees, and visitors. Table 2.3-7 illustrates the proposed parking rates and distribution of residential and commercial parking. Residential parking would be provided at a ratio of one space per unit. However, residential parking would be unbundled from the units and each parking space would be sold or leased separately from the individual units. The sale and lease rates would be set at fair market value. Commercial and visitor land uses would be served by both on- and off-street parking facilities. All commercial parking facilities would be paid parking with measures implemented to discourage single-occupant automobile use, such as designation of preferred parking areas for bicycles, carpools, vanpools, and carshare vehicles.

The stadium parking would be dual use. When not operated as stadium parking, there would be about 12,665 parking spaces available for other uses.

Table 2.3-7. Maximum Proposed Parking for Alternative 1 (Stadium Plan Alternative)

Use or Activity	*Proposed Parking*
Residential	1 for each dwelling unit
Neighborhood Commercial Retail	3 for each 1,000 ft^2 of occupied floor area where the floor area exceeds 5,000 ft^2
Research and Development	1.3 for each 1,000 ft^2 of occupied floor area[1]
Artists' Studios	1 for each 2,000 ft^2 of occupied floor space
Community Uses	1 for each 2,000 ft^2 of occupied floor area

Note:
1. To achieve event-day parking requirements, R&D parking for Crisp Road only would be increased to 1.8.

Source: Lennar Urban and DMJM Harris 2008.

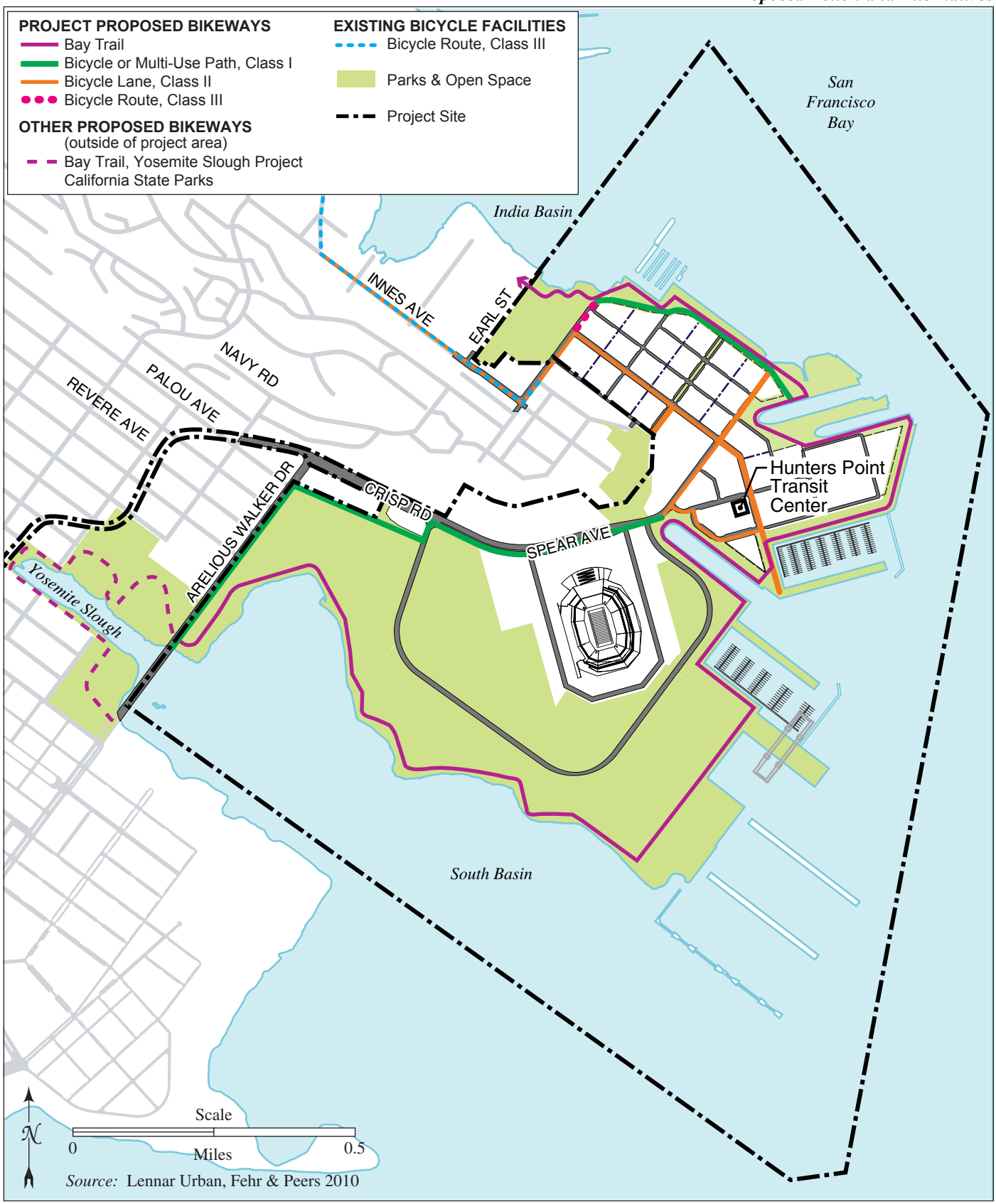


Figure 2.3-12. Existing and Proposed Bicycle Route Network for Alternative 1 (Stadium Plan Alternative)

Loading

The loading program would facilitate access to freight vehicles (commercial delivery and moving trucks) and passenger vehicles (private vehicles, vans, and shuttles), while reducing conflicts with other transportation modes, particularly pedestrians. On-street loading spaces would serve short-term parking near building entrances to meet the needs of disabled individuals or other visitors, and for commercial deliveries. Guidelines would provide standards for the location and management of on-street loading spaces including designation of street frontage at building entrances as short-term loading zones. On-street loading would be prohibited along BRT routes.

Proposed off-street loading spaces would be based on land use and gross floor area, as shown in Table 2.3-8. Guidelines would apply to the location and design of off-street loading spaces, including consolidation of loading to minimize curb-cuts and driveways, no off-street loading curb-cuts on BRT routes or local streets with bicycle lanes, shared openings with parking facilities, and single loading facilities to serve multiple uses. These guidelines are generally consistent with the off-street loading requirements of the City and County of San Francisco *Planning Code* (San Francisco Planning Department 2008b) and require more off-street loading spaces in areas with higher intensity residential and commercial uses.

Table 2.3-8. Off-Street Loading for Alternative 1 (Stadium Plan Alternative)

Land Use	Size of Use (ft^2/units)	Number of Spaces
Retail, Wholesale, Manufacturing, Live/Work	0 to 10,000 ft^2	0
	10,001 to 60,000 ft^2	1
	60,001 to 100,000 ft^2	2
	> 100,000 ft^2	3 plus 1 for each additional 80,000 ft^2
All other uses (including residential)	0 to 100,000 ft^2	0
	100,001 to 200,000 ft^2	1
	200,001 to 500,000 ft^2	2
	> 500,000 ft^2	3 plus 1 for each additional 400,000 ft^2

Source: Lennar Urban 2009a.

2.3.2.1.4 Infrastructure

Alternative 1 includes a plan to develop, upgrade, and/or replace existing infrastructure including a low-pressure water system, recycled water system, auxiliary water supply system (AWSS), separate sanitary sewer, and storm drainage facilities. Trenches throughout the site would accommodate electrical, communication, and gas utilities. These systems are described below. Additional details are provided in Appendix N, Infrastructure Plan, that is part of the DDA for Hunters Point Shipyard Phase 2 (Phase 2 DDA) (SFRA 2011). The Phase 2 DDA is discussed in detail in Section 2.3.2.1.8.

Low-Pressure Water

A low-pressure water system would provide potable and fire-protection water and serve as the supply for the recycled water system until a recycled water supply is developed. The low-pressure water system would deliver city water through connections to the city's University Mound Reservoir at two locations: 1) Palou Ave and Griffith St, and 2) Innes Ave and Earl St. No improvements to the city's water system between these connection points and the University Mound Reservoir are anticipated. Low-Pressure Water System Master Plans (LPWS Master Plans) are being developed, with completion anticipated by late 2010. The plans will identify any needs for offsite improvements as well as routing and scheduling of the construction of these improvements to meet system performance criteria for the project.

Recycled Water

The recycled water system would consist of 8-inch (in) (20.3 cm) distribution pipelines throughout the development. Recycled water would be used for dual plumbing[10] in commercial buildings and for irrigation of landscaped areas. Recycled water mains would be connected to the potable water system until a source of recycled water is developed by the city and delivered to the site. Since the city currently does not have an operational recycled water source, the proposed recycled water system would be supplied by the city's potable water distribution system until a recycled water supply is developed.

The proposed recycled water system would be connected to the low-pressure water system on an interim basis. These connections would occur in or near two intersections: 1) Palou Ave and Griffith St, and 2) Innes Ave and Earl St. The locations of the permanent connections to the city's yet-to-be-constructed recycled water system are also anticipated to be in the general vicinity of these locations.

Auxiliary Water Supply System (AWSS)

The AWSS, also known as a high-pressure water supply system, is a separate and distinct water supply system for fire protection purposes only and is operated and maintained by the San Francisco Fire Department (SFFD). HPS is not currently served by the AWSS. The SFFD would extend the existing AWSS along Crisp Ave from the intersection of Ingalls St and Revere Ave to the project site and along Evans Ave, Hunters Point Blvd, Innes Ave, and Donahue St from the intersection of Keith St and Evans Ave to the project site. A looped service road along Spear Ave/Crisp Rd, a second loop in Inner Ring Rd around the Stadium Pad, and several mains extending from this loop would be connected to the AWSS extensions.

Separated Sanitary Sewer

A sanitary sewer system would convey wastewater from HPS via pump stations to the Palou Ave and Griffith Ave mains.

A combined storm sewer system serves most of San Francisco, where stormwater along with residential and commercial sewage is directed to treatment plants prior to being released to the San Francisco Bay or the Pacific Ocean. No improvements are required to rehabilitate portions of the city's combined sewer system or the city's pumping stations outside of the boundary of HPS. The proposed separated sanitary sewer system for Alternative 1 would convey wastewater from HPS via pump stations to the HPS Sewer Tunnel in the vicinity of Palou Ave and Griffith Ave and on to the Southeast Water Pollution Control Plant. This system would have interim connections to the existing combined sewer lines located in Innes Ave at Earl St. The HPS would have separated stormwater drainage systems, as described below.

Storm Drainage

The storm drainage system at HPS would handle stormwater by three methods: l) treated storm flows; 2) five-year piped system; and 3) overland flow. The particular method employed for any individual storm event would depend on the magnitude of the event. These methods would implement the requirements set by the city, as summarized below.

METHOD 1 - TREATED STORM FLOWS

Onsite treatment would handle the majority of the stormwater generated by typical rainfall events (85-percentile storms). Examples of onsite treatment include vegetated swales, flow-through planter boxes, permeable pavement, green rooftops, and rainwater cisterns. Larger rainfall events up to a five-year storm would be handled within the rights-of-way of every street within HPS. Examples of these

10 Dual plumbing refers to a system of separated water and wastewater lines.

stormwater facilities include vegetated buffer strips, flow-through planter boxes, bioretention facilities, pervious surfaces, and subsurface detention vaults. Bioretention basins would also be constructed within parks and open spaces. Runoff would be treated before discharging into the five-year system and being delivered to the San Francisco Bay.

METHOD 2 - FIVE-YEAR PIPED SYSTEM

The five-year piped system would consist of gravity mains draining to the San Francisco Bay. Most stormwater runoff from up to an 85-percentile storm event would be treated before it enters the storm drains, thereby allowing the system to discharge directly to the San Francisco Bay without further management.

METHOD 3 - OVERLAND FLOW

For stormwater from an event greater than a five-year storm and up to a 100-year storm, excess stormwater would be routed to the San Francisco Bay by overland flow along a network of street gutters and roadways. The overland flow system would allow streets and sidewalks to fully contain a 100-year storm event without surcharging the adjacent development blocks.

Electrical, Communications, and Gas Utilities

The existing utility distribution systems would be replaced as necessary and placed underground, consistent with the timing of the development as the project builds out, while maintaining existing service. Electrical, communications, and gas utilities would be provided through a joint trench located throughout the street network. Major and minor joint trenches would be routed through the street network to each development site.

2.3.2.1.5 Community Benefits

Alternative 1 includes funding, facilities, and programs intended to benefit the BVHP community. In addition to the improvements provided as part of the proposed development, such as new parks, transit, and roadway improvements, artist replacement space, and other public facilities, this alternative would provide funding for additional community benefits including workforce development, jobs, education, and community health and wellness programs. These community benefits, each of which are more completely set forth in the *DDA* between the SFRA and the Project Applicant (Lennar Urban or future developer or owner of the property), are further described in Section 2.3.2.1.8. Additional details are provided in the *DDA Phase 2 Hunters Point Shipyard Draft Community Benefits Plan* (Appendix O) and the *DDA Phase 2 Hunters Point Shipyard Draft Below-Market Rate Housing Plan* (Appendix P).

Affordable Housing

Alternative 1 would provide for the development of 559 below-market units (221 agency affordable units, 236 inclusionary units, and 102 workforce units) on the project site. These housing units would include a variety of unit types, sizes, and structures, and a wide range of affordability levels subject to necessary governmental approvals. To accommodate the needs of families, market rate, affordable, and below-market housing units would average 2.5 bedrooms (excluding those specifically offered to senior or disabled residents).

Community First Housing Fund

The Community First Housing Fund would assist qualifying residents in the purchase of market rate homes within Supervisorial District 10 in the City and County of San Francisco.

Education

Alternative 1 includes contributions toward a scholarship fund to support educational opportunities for youth and adults up to 30 years old and education enhancements within the community, which may include new facilities or upgrades to existing education resources. The use of these funds would be determined through a community-based process that includes the San Francisco Unified School District.

Space within the project site would be dedicated to the provision of library services to supplement the expanded Bayview branch of the San Francisco Public Library, including a reading room and automated book-lending machines integrated into community retail and public facilities.

Community Health and Wellness

Funding would be provided to create a center focused on the health and well-being of children, youth, and their families. The center would be developed and implemented in conjunction with the San Francisco District Attorney's Office, the San Francisco Department of Public Health, and others with expertise in the field.

Business Development/Community Asset Building

A workforce development program would be created as a gateway to career development for residents of District 10 and a construction assistance program promoted so that contractors from the HPS and within the BVHP area are given the opportunity to obtain needed insurance and technical assistance.

Parcels can be reserved for development with local developers or builders, including for-profit and non-profit organizations that either do business in and have a primary address in the BVHP area, or are owned with at least 50 percent ownership interest by an individual or individuals residing in the area. A Community Brokers/Realtors program would provide qualified community brokers and realtors with a referral fee for referring buyers of market rate homes, and providing advance access to homes in the HPS and the surrounding BVHP areas to such brokers. Specialized programs include space for "business incubation" to jump-start the location and development of innovative business, including cleantech, greentech, biotech, arts and digital media, and space for an International African Marketplace for the display and sale of arts, crafts, clothing, books, and other goods. In addition to these programs, a 0.5 percent fee calculated on the gross sales price of all residential market rate homes would be paid directly into the HPS Fund. The use of these funds would be determined through a continued dialogue with the HPS CAC, the Bayview Hunters Point PAC, and the BVHP community.

2.3.2.1.6 Green Building Concepts

Alternative 1 would comply with applicable provisions of the city's *Green Building Ordinance* (Ord. No. 180-08), and would provide recycling, composting, and trash facilities as required by the city's specifications. An energy efficiency performance target has been set at 15 percent below the energy efficiency standards articulated in Title 24, Part 6 of the 2008 California Code of Regulations (CCR). The project design would include measures such as high performance glazing, efficient lighting, daylighting, shading, envelope optimization, reflective roofs, and natural ventilation. ENERGY STAR appliances are proposed for new residential units. In addition, renewable energy strategies, such as the use of photovoltaic cells to provide electricity; the use of solar thermal energy to provide space cooling with the use of absorption systems; and/or water for space heating and domestic water systems, would be implemented.

Buildings would be constructed to Leadership in Energy and Environmental Design (LEED®) for Neighborhood Development Gold standard based on the Pilot Version of the rating system released in June 2007.[11] Following the 2007 LEED® Neighborhood Development Pilot Program rating system,

11 Since the initial release of this standard, the rating system has undergone two public comment periods, and several credit requirements have changed. The LEED® Neighborhood Development rating system is currently being finalized for formal release by the U.S. Green Building Council.

preliminary analysis indicates the project site could achieve approximately 63 points, which is in the LEED® for Neighborhood Development Gold range, through strategies such as:

- Compact, infill development (including 90 percent of the new buildings fronting on public streets or open space);
- Enhanced habitat values;
- Brownfield remediation and urban reuse;
- Close proximity to transit and bicycle networks;
- Urban design that promotes walking and discourages driving;
- Diversity of land uses and housing types;
- Affordable housing that supports a community of mixed ages and income;
- Community participation in the community planning and design;
- Compliance with the San Francisco Green Building Ordinance;
- ENERGY STAR compliance to be documented by a Home Energy Rating System;
- Unbundled parking;
- Drought tolerant plant species and the use of efficient irrigation systems such as drip irrigation, moisture sensors, and weather data-based controllers;
- Tree-lined streets throughout the development and streetscape improvements extending from HPS offsite to Third Ave along Palou Ave;
- Access to public space and recreational amenities through the creation of parks and playfields;
- Efficient use of water and the potential use of recycled water for non-potable water uses such as irrigation, toilets, vehicle washing; and
- Progressive stormwater management to retain and treat stormwater onsite and/or in adjacent areas.

2.3.2.1.7 Schedule

It is anticipated that demolition and construction for Alternative 1 would begin subsequent to issuance of this SEIS ROD, and would occur in four phases (Phases 1 through 4) with full build-out of the project site by 2031 with the exception of parks/open space and a community facilities area within HPS South that would be completed by 2032. Figure 2.3-13 illustrates the site preparation sequence that precedes building construction. Figure 2.3-14 illustrates the building and parks construction sequence and development completion dates. Table 2.3-9 provides an overview of building construction completion dates.

Table 2.3-9. Building Construction Completion Dates for Alternative 1 (Stadium Plan Alternative)

Use	*Completion Year*				*Total*
	2019	**2023**	**2027**	**2032**	
Residential Units	2,160	490	-	-	2,650
Neighborhood Retail (ft^2)	84,000	41,000	-	-	125,000
Research and Development (ft^2)	583,000	842,000	1,075,000	-	2,500,000
Community Services (ft^2)	38,000	-	-	12,000	50,000
Stadium (Seats)	69,000	-	-		69,000

Source: Lennar Urban 2010.

Development is proposed to begin with construction of the football stadium, scheduled for completion by 2019. The mixed use, neighborhood retail, and residential development at Hunters Point Village Central

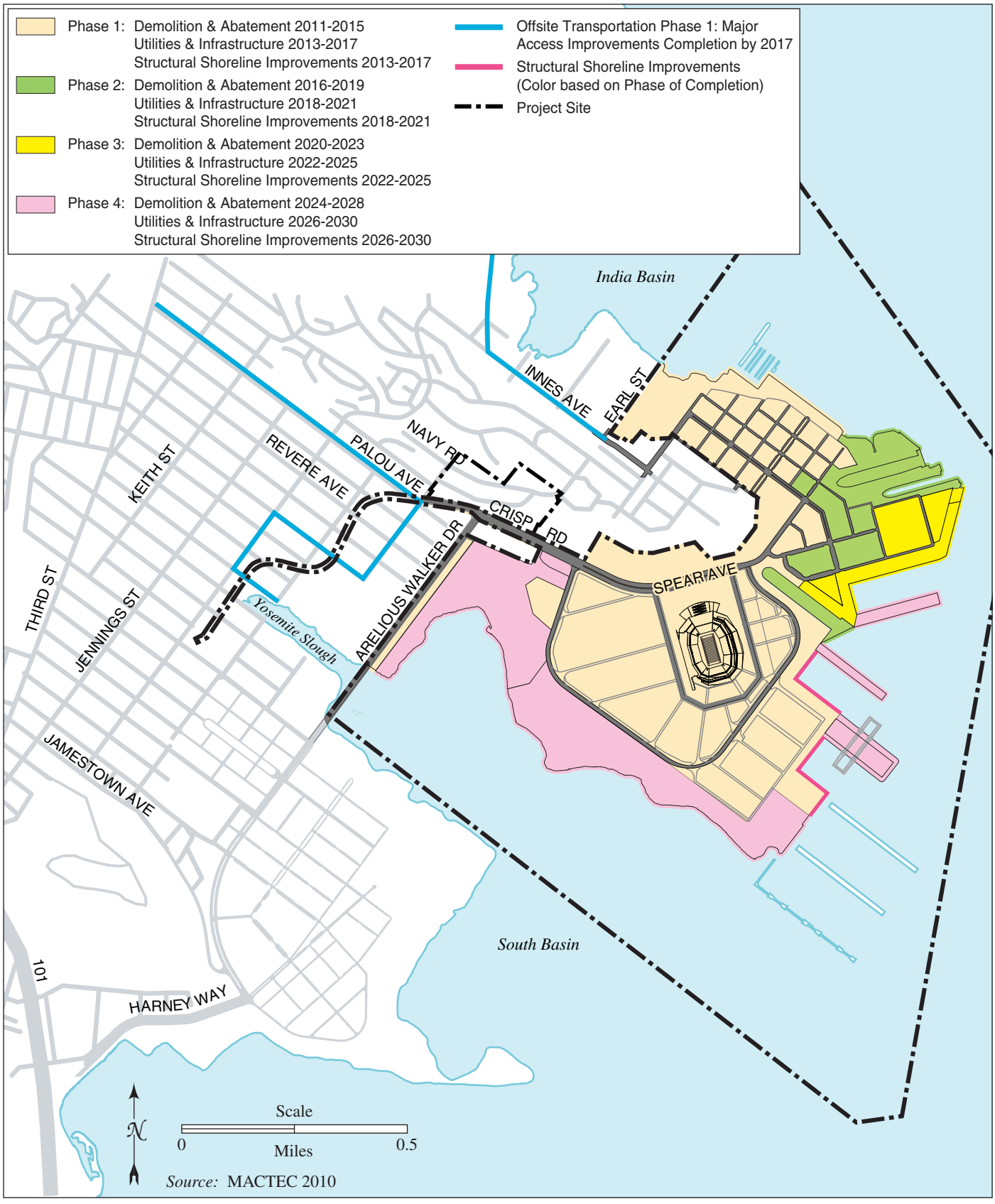


Figure 2.3-13. Proposed Site Preparation Schedule for Alternative 1 (Stadium Plan Alternative)

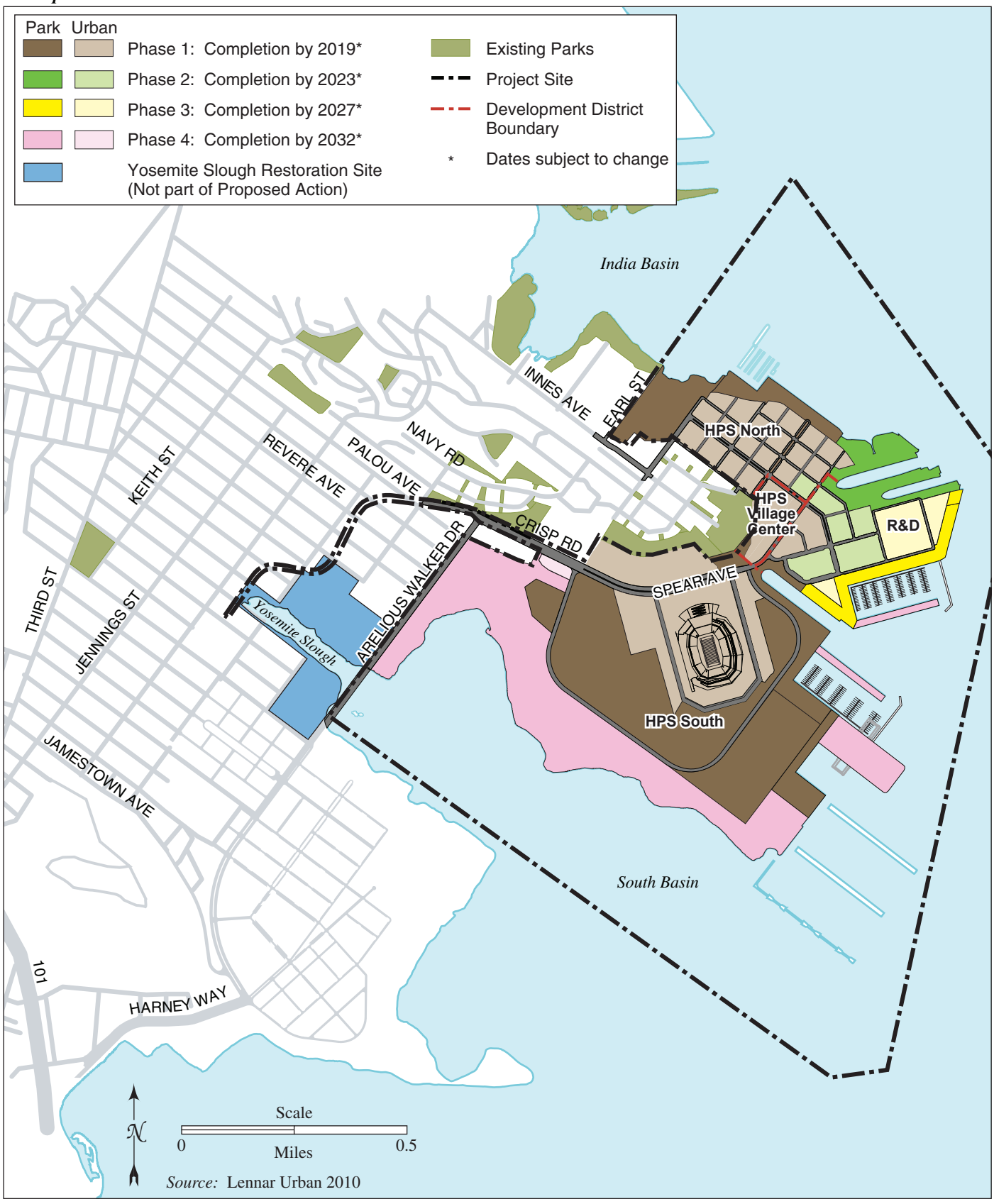


Figure 2.3-14. Proposed Building and Parks Construction Schedule for Alternative 1 (Stadium Plan Alternative)

District would begin during Phase I and is planned for completion by 2023. New development would begin with the construction of the stadium and Yosemite Slough bridge, scheduled for completion during the 2014-2017 time period. HPS North residential development and the mixed-use, neighborhood retail and residential development at HPS Village Central District would begin in Phase I and is planned for completion by 2023. Buildout of the HPS R&D Park is planned by 2027. In general, parks and open space would be developed at the same time as adjacent building construction.

Abatement and Demolition

Demolition of existing structures at HPS would occur in Phase 1 through Phase 4, as shown on Figure 2.3-13. Demolition activities would result in construction debris generated by the removal of structures, roads, and infrastructure. As outlined in Table 2.3-10, an estimated total of 547,104 tons of construction debris would be generated. Most of the construction debris would consist of concrete, with the remaining debris consisting of wood, steel, and other miscellaneous debris. It is assumed that the concrete debris would be recycled onsite as pipe bedding or road base; the wood debris would be chipped and sent to the local landfill for disposal; and the steel would be recycled offsite for other uses.

Table 2.3-10. Estimated Demolition Debris for Alternative 1 (Stadium Plan Alternative)

	Concrete[1] (tons)	*Wood[2] (tons)*	*Steel[3] (tons)*	*Misc. Debris[4,5] (tons)*	*Total (tons)*
Building Demolition	179,652	137,572	74,480	86,119	477,823
Road Demolition	36,950	0	0	32,331	69,281
Total	**216,602**	**137,572**	**74,480**	**118,450**	**547,104**

Notes:
1. Concrete debris can be sized and recycled onsite as pipe bedding or road base.
2. Wood debris can be chipped and composted.
3. Scrap steel can be recycled offsite.
4. Miscellaneous debris including glass, asphalt, plastic, etc., would be transported and disposed of at a local landfill.
5. Asphalt included in Miscellaneous Debris may be recycled.
6. Quantity estimates are approximate. Pre-demolition surveys need to be performed to confirm size of structures and building material types.

Source: Lennar Urban 2009a.

Demolition activities at HPS would include removal of structures and infrastructure. Lead and asbestos abatement would occur in buildings, as necessary, and in accordance with prevailing federal and state regulations, prior to demolition. Existing infrastructure would be demolished to allow the construction of the new infrastructure.

Site Preparation and Earthwork/Grading

Development of Alternative1 would require site preparation and major earthwork/grading following abatement and demolition activities for each development phase (Figure 2.3-13). Project grading requirements are summarized in Table 2.3-11 and described below.

Development of the project's infrastructure would follow site preparation and grading, which would include streets, storm drains, collection and conveyance systems for water, sewer, and stormwater, and distribution systems for gas, electricity, and telephones.

Site preparation for the new stadium would occur during the first phase of construction. The existing Candlestick Park stadium would be maintained in service while the new stadium is built.

The estimate of earthwork grading requirements for HPS (Table 2.3-11) is based on a profile along the edge of development of Parcels B and C, which allows for overland flow and piped storm drainage flow. Earthwork at the new stadium location and parking lot would be raised and graded by providing 5 ft (1.5 m)

of embankment over existing ground surface. This would allow for buried pipeline with limited penetration of the existing soil. There would be some excavation onsite. Soil from HPS may be reused on HPS to the extent permissible under applicable federal and state regulations. Additional fill material would be imported from a separate project, the Candlestick Point Development, as well as other offsite sources within the Bay Area. The specific source of the fill would be determined during the permitting phase of the project. All fill material would be compliant with the Risk Management Plan for HPS and applicable regulatory requirements.

Table 2.3-11. Summary of Grading Requirements for Alternative 1 (Stadium Plan Alternative)

	Hunters Point High Grade (yd^3)
DEVELOPMENT AREAS	
Excavation	82,500
Import Fill (Export from Candlestick Point)	596,000
Import Fill[1]	1,108,000
Trench Backfill (Utilities)	227,900
DoN Cap/Cover (Area Less Open Space Areas)[2]	485,000
OPEN SPACE AREAS	
Import Fill (Export from Candlestick Point)	127,000
Import Fill	487,300
DoN Cap (Open Space Areas)[2]	321,000

Notes:

1. The balance of the imported fill not received from Candlestick Point would be received from locations throughout the Bay Area.
2. The "DoN cap" noted above refers to "cutting off an exposure pathway." In the context of the Parcel B Record of Decision, the soil remedy for IR sites 07/18 is referred to as a "cap," and the soil remedy for the remainder of the parcel is referred to as a "cover." The term "cover" as used in this SEIS refers to a remedy requiring that the surface covers being installed (or remaining in place) to support the development (e.g. building slabs, pavement for roads, concrete for sidewalks, soil or grass for landscaped areas), meet certain specifications of thickness and be maintained to prevent breaches.

Source: Lennar Urban 2009a.

YOSEMITE SLOUGH BRIDGE

The eastern portion of the Yosemite Slough bridge would be constructed on Parcel E-2, which has been a radiologically impacted area. However, the parcel would be a restricted release and it would have CERCLA Institutional Controls (ICs) to protect against intrusive activities without first taking potential radiological concerns into account in accordance with appropriate state and federal regulations (personal communication, Forman 2010). Once completed, construction of the northern abutment, footings and piers would begin, as would construction of the bridge approaches from the south (Candlestick Point). Revetment construction to protect the shoreline parallel with each abutment would follow pier construction. The construction of footings and piers would require cofferdams for access to those specific sites. Construction materials would be transported to the construction area from the South Bay or by barge from the East Bay. Deliveries of exceptional size (i.e., extra long or wide bridge construction components, equipment or materials) would be scheduled during hours with minimal traffic and coordinated with Caltrans authorities as appropriate (MACTEC 2009).

SHORELINE IMPROVEMENTS

The shoreline along the HPS boundary consists of a variety of edge conditions, many of which need to be improved to reduce erosion, provide public access, protect against present and future coastal flooding due to rising sea levels, and extend the life of the structural edges. Types of edge conditions include piers, wharves, bulkheads, revetments, and natural shoreline consisting of sandy beaches and vegetated marsh (Moffatt & Nichol 2009a).

Alternative 1 would repair and improve the existing shoreline edge at HPS. The proposed improvements are based on an assessment of the condition of the existing shoreline, including analysis of the potential for coastal flooding and recommendations to reduce potential effects of storm-induced flooding and ongoing sea level rise. A subsequent investigation provided more detailed information on existing shoreline conditions at HPS, which permitted refinement of the recommended improvements (Moffatt & Nichol 2009b).

Along some areas of the HPS shoreline, piers and wharves have deteriorated due to structure age and lack of maintenance and near-shore settlement has occurred. Repairs of existing HPS shoreline structures vary based on the type of edge, and include repair of piles and deck, concrete crack repairs and rock buttresses along base of the drydocks; removal of the upper portion of fill along bulkheads; and riprap placement. Several piers and drydocks would be modified by removing short sections of piers and/or bulkheads (near the shore) to preclude public access, thereby creating opportunities for water birds to roost on the retained portions of these structures. In addition, some of the shoreline improvements associated with Alternative 1 include transforming the revetment edge in wave-protected reaches to a more natural looking shoreline by placing suitable fill to cover the revetment that would be constructed by the DoN, which may include articulated concrete block mats and/or marsh soils. Shoreline wave berms may be included along the southwest facing shoreline at the bayward end of the articulated concrete block mats.

Table 2.3-12 summarizes the proposed shoreline improvements within HPS and Figure 2.3-13 provides a schedule of the shoreline improvements that would occur during each phase of construction. Additional details regarding shoreline conditions and improvements can be found in Appendix H.

Figure 2.3-15 identifies areas where the lateral extent of shoreline may increase or decrease relative to the high tide elevation with the conceptual shoreline improvements. Figures 2.3-16 and 2.3-17 show the type of shoreline treatment that would occur within HPS. These figures also illustrate the specific locations of the various berths, drydocks, piers, and shorelines that are referenced in Table 2.3-12 (in terms of conceptual improvements).

The proposed improvements would repair the existing shoreline edge in place or modify the location of the shoreline in one of the following ways: 1) removal of the upper portion of a seawall or bulkhead structure (e.g., 10 - 15 ft [34.6 m]) and creation of a sloped surface (with an approximate slope of 2:1) in the intertidal and above tidal zones; and 2) creation of the sloped surface at the top of selected locations, which would generally result in the shoreline being relocated between 3 ft and 20 ft (0.91 and 6.1 m) landward at HPS. In addition, because of advanced corrosion and deterioration at the Re-Gunning Pier (Berths 16 to 20), a natural shoreline edge would be created, resulting in the landward relocation of the shoreline edge by approximately 60 ft (18 m). The net effect of the proposed shoreline improvements would be to reduce the land surface area (increase the water surface area) by 8.51 ac (3.44 ha) at HPS.

In addition to shoreline improvement features and to reduce the impact of rising sea levels that could adversely affect HPS, Alternative 1 includes modification of the land surface through grading and importation of fill to raise the surface elevation of low-lying areas.

SEA LEVEL RISE

As shown in Figure 2.3-18, portions of HPS are vulnerable to inundation based on interim sea level rise estimates for 2050, as put forth by BCDC and the State Coastal Conservancy (California State Coastal Conservancy 2009). Therefore, Alternative 1 has accounted for rising sea levels in the project planning process to prevent future flooding or loss of infrastructure due to shoreline erosion. Planning for sea level rise includes four components that are summarized below and described in detail in the *Infrastructure Plan* (Appendix N):

1. Construction of a shoreline protection system that would initially be built to accommodate a mid-term rise in sea level of 16 in (41centimeters [cm]), with an adaptable design to meet higher than anticipated levels in the mid-term and long-term;

Table 2.3-12. Summary of Shoreline Improvements at HPS for Alternative 1 (Stadium Plan Alternative)

Location	Proposed Use	Proposed Shoreline Improvements										Estimated Change in Shoreline Location (ft)[d]
		Repairs				Modifications						
		Deck	*Piles*	*Walls*	*Riprap*	*Remove*	*Remove Portion*	*Slope Top of Wall*	*New Buttress*	*Sandy Beach*	*Tidal Habitat*	
Drydocks 5 to 7	Northside Park/Waterfront Promenade			X			X		X			0
Wharf—Berths 55 to 61	Waterfront Promenade	X	X									0
Drydock 3	Heritage Park			X					X			0
Wharf—Drydocks 2 & 3	Heritage Park					X						0
Drydock 2	Heritage Park			X					X			0
Wharf—Berths 1& 2	Waterfront Promenade[a]	X	X									0
Berths 3 to 5	Waterfront Promenade			X				X				-18.3
Berths 6 to 9	Waterfront Promenade[b]			X				X				-18.3
Drydock 4	Waterfront Promenade			X					X			0
Berths 10 through 13	Waterfront Promenade[c]			X				X				-18.3
Berth 14	Waterfront Promenade			X				X				-18.3
Berths 16 to 20	Wildlife Habitat (Re-Gunning Pier)						X	X			X	-60.4
Berths 15,21, 22, & 29	Waterfront Promenade							X	X			-18.5
Berths 23 to 28	Wildlife Habitat						X					0
Berths 30 to 35	Wildlife Habitat						X					0
Berth 36	Grasslands Ecology Park							X	X			-18.5
Berth 37 to 42	Wildlife Habitat						X					0
Natural Edge/Riprap	Grasslands Ecology Park										X	+3.0
Natural Edge/Riprap	Grasslands Ecology Park										X	+3.0

Notes:

At some locations, the poor condition of existing shoreline features may require an alternate improvement.

a. Alternate improvement: remove or retain but add landscaping to deter public access and provide open space/habitat.
b. Alternate improvement: remove and replace with concrete or steel bulkhead.
c. Alternate improvement: remove and replace with concrete or steel bulkhead.
d. These numbers represent an average estimated change in the shoreline at the specified location. A positive number indicates an increase in the shoreline; and a negative number indicates a decrease in the shoreline (creation of bay).

Repair Descriptions:

Deck: Remove and replace deteriorated deck materials.

Piles: Limit corrosion by wrapping or encasing piles in concrete and/or improve structural integrity by welding additional steel plates to the piles.

Walls: Patch spalls, exposed and corroded reinforcing bars, or broken concrete. Add weep holes (to equalize pressure). As needed, install new sheet piles behind existing wall to form new wall (and remove existing wall).

Riprap: Place additional riprap (e.g., boulders) in the same location as existing riprap.

Modification Descriptions:

Remove: Remove deteriorated piers, pilings, and deck.

Remove Portion: Remove a portion of pier near shoreline (to preclude public access).

Slope Top of Wall: Remove the top portion of a wall (e.g., 10-15 ft [3.048-4.573 m]) and slope back top of wall at approximate slope of 2H:1V.

New Buttress: Install new underwater rock and/or sand buttress at base of wall to improve structural stability of adjacent wall. Additional analysis would be required to determine the need for a buttress at some locations.

Sandy Beach: Slope back surface at approximate slope of 6H:1V to create sandy beach for recreational purposes.

Tidal Habitat: Take advantage of sloped surface (or reduce slope where needed) to install aquatic plants and create new tidally-exposed habitat.

Change in Shoreline Location: approximate change (in ft) in the location of shoreline (compared to existing conditions) which would result from proposed shoreline improvements.

Source: Lennar Urban 2009b.

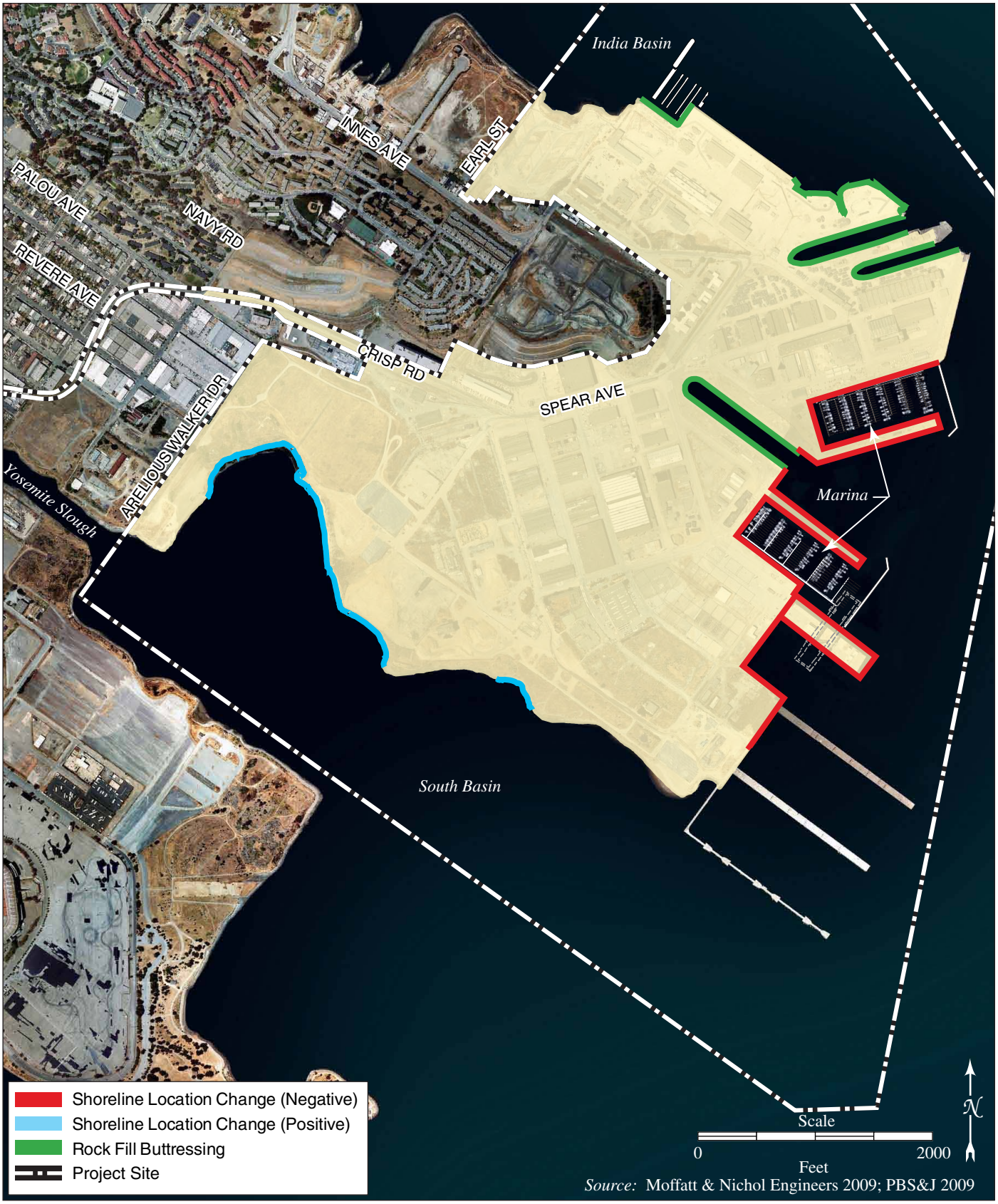
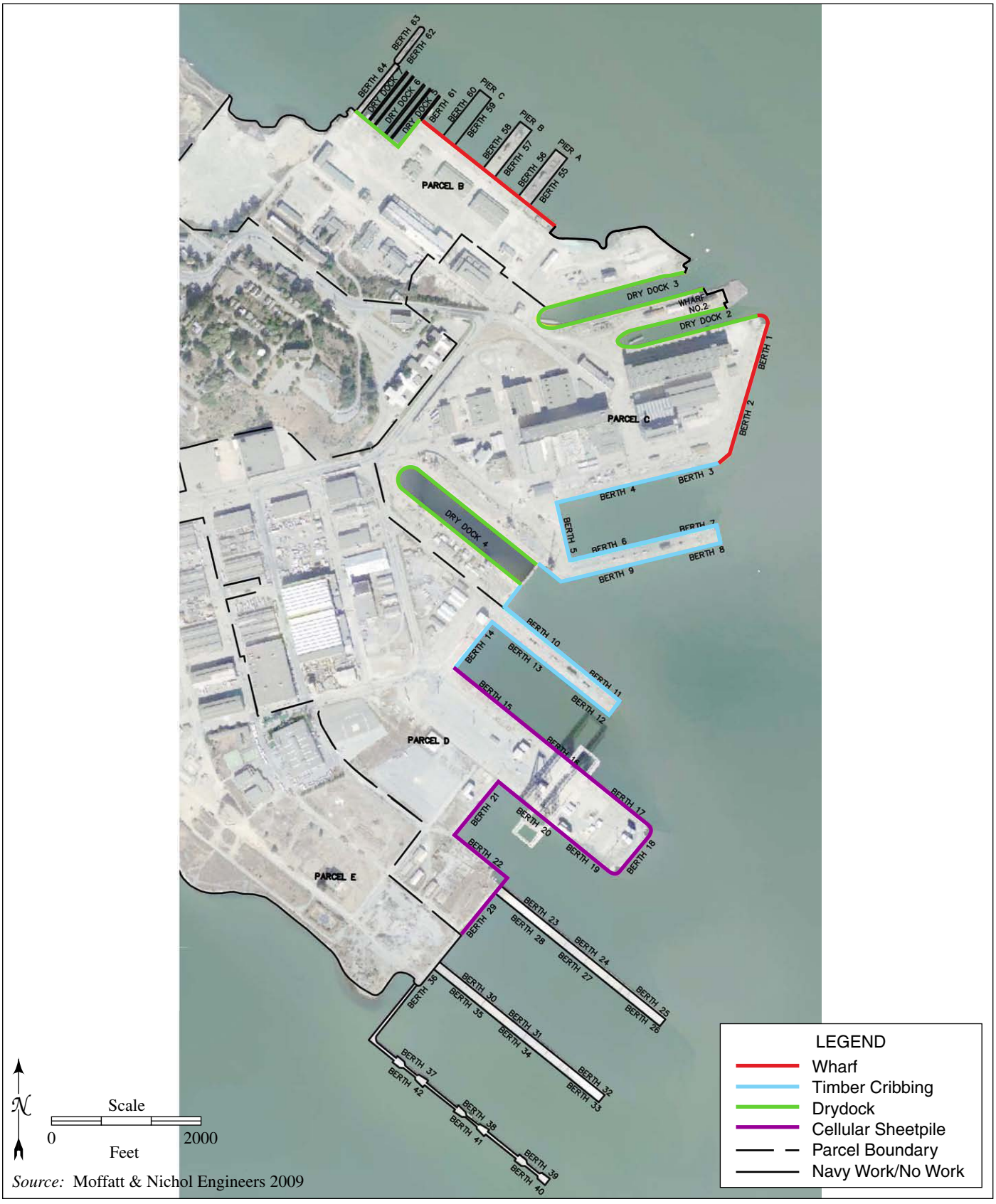


Figure 2.3-15. Shoreline Improvements (Below High Tide Elevation) for Alternative 1 (Stadium Plan Alternative)



Source: Moffatt & Nichol Engineers 2009

Figure 2.3-16. Shoreline Structures Recommended Work Map for Alternative 1 (Stadium Plan Alternative)

Source: Moffatt & Nichol Engineers 2009

Figure 2.3-17. Natural Shoreline Recommended Work Map for Alternative 1 (Stadium Plan Alternative)

2. Construction of a storm drainage system that initially would be built to accommodate a mid-term rise in sea level of 16 in (41 cm), with an adaptable design to meet higher than anticipated sea level rise levels;
3. Construction of buildings and vital transportation infrastructure at elevations that would not be exceeded by flood waters, even if the shoreline protection does not function, for existing conditions and over a longer-term as compared to the two components above; and
4. Formation of an Adaptation Strategy that would include preparing an Adaptive Management Plan outlining an institutional framework, monitoring triggers, a decision-making process, and creating an entity with taxing authority to pay for infrastructure improvements necessary to adapt to higher than anticipated sea levels.

Project design for sea level rise meets both near-term (2050) and long-range (2080) objectives; and in addition, incorporates an adaptive management strategy (a systematic process for continually improving management policies and practices by learning from the outcomes of previously employed policies and practices) to address sea level rise for the most conservative estimates for 2100 and beyond. Since building structures are generally "immovable," whereas a perimeter and/or storm drain system can be adapted to keep up with changing sea levels, each was designed to a specific planning horizon as described below.

Shoreline Protection (Perimeter System) and Storm System Design

For the perimeter system, it is not practical to build a high wall around the project for a design condition that may not happen for several decades. At the same time, it is not prudent to build to present sea level conditions and keep raising it as sea levels rise. Therefore, an interim sea level rise estimate for 2050, as put forth by BCDC and the State Coastal Conservancy, was selected as the criterion for design and construction (California State Coastal Conservancy 2009). Sea level rise projected at 16 in (40.6 cm) higher than present would make it unlikely that adaptive management construction activities would be needed before at least 2050. In addition, shoreline and public access improvements have been designed with a development setback to allow any future increases in elevation to accommodate higher sea level rise values, should they occur. However, the design would be adaptable to higher levels of sea level rise by leaving a development setback such that future improvements could be made (see the Finished Grade Elevations Above Base Flood Elevation control measure in Section 2.3.2.1.9 and discussion of the Adaptation Strategy, below.)

For the storm drain system, the same approach as the perimeter system described above was adopted. The design would be adaptable to higher levels of sea level rise with minimal intervention by implementation of a Shoreline Improvements to Reduce Flood Risk control measure as detailed in Section 2.3.2.1.9. This would avoid installing pumps and other appurtenances at the present time, when they are not needed, while still ensuring that an adaptation strategy and a funding mechanism exists for future management actions.

Figure 2.3-18 shows the existing flood zone and the flood zone with a 36-in (91-cm) sea level rise scenario. With the proposed action improvements at the time of construction, the flood zone would be reduced to that shown in Figure 2.3-19.

Figures 2.3-20 through 2.3-23 show typical HPS shoreline sections and improvements along the edge of the proposed development to reduce flooding from sea level rise.

Development Design

Buildings and entrances to subterranean parking and streets would be set at an elevation that is 36 in (91 cm) higher than the existing base flood elevation. This 36-in (91-cm) sea level rise allowance, plus a freeboard of 6 in (15 cm), would be used for finished floor elevations of all buildings. This would provide that, even if no shoreline protection improvements are undertaken, or in the event of a slope failure along the shoreline, neither buildings nor transportation infrastructure would be flooded if water levels rise 42 in (107 cm) higher than the current base flood elevation. Additionally, this allowance provides subterranean parking a minimum of approximately 36 in (91 cm) between the parking finish floor and present groundwater levels.

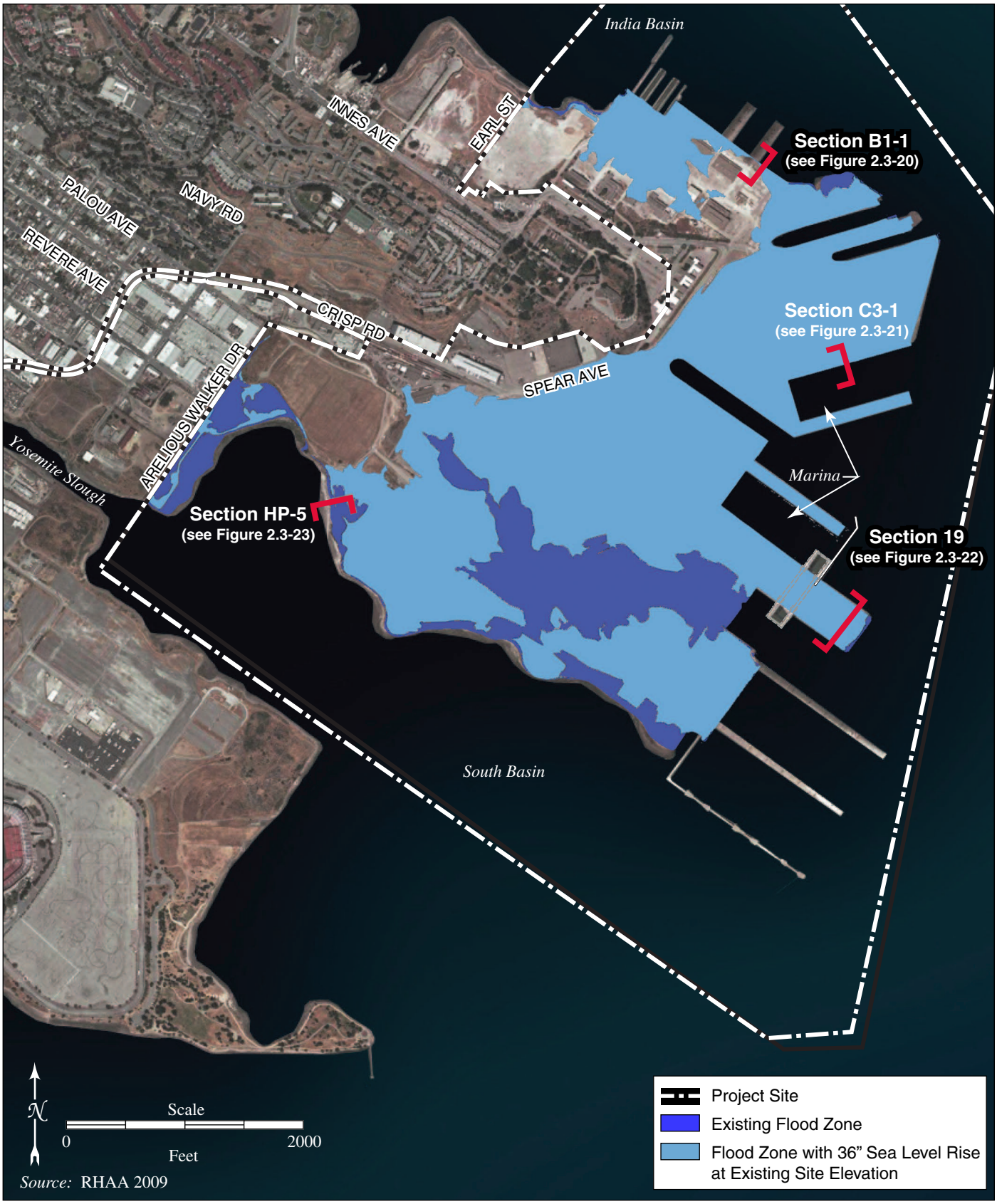
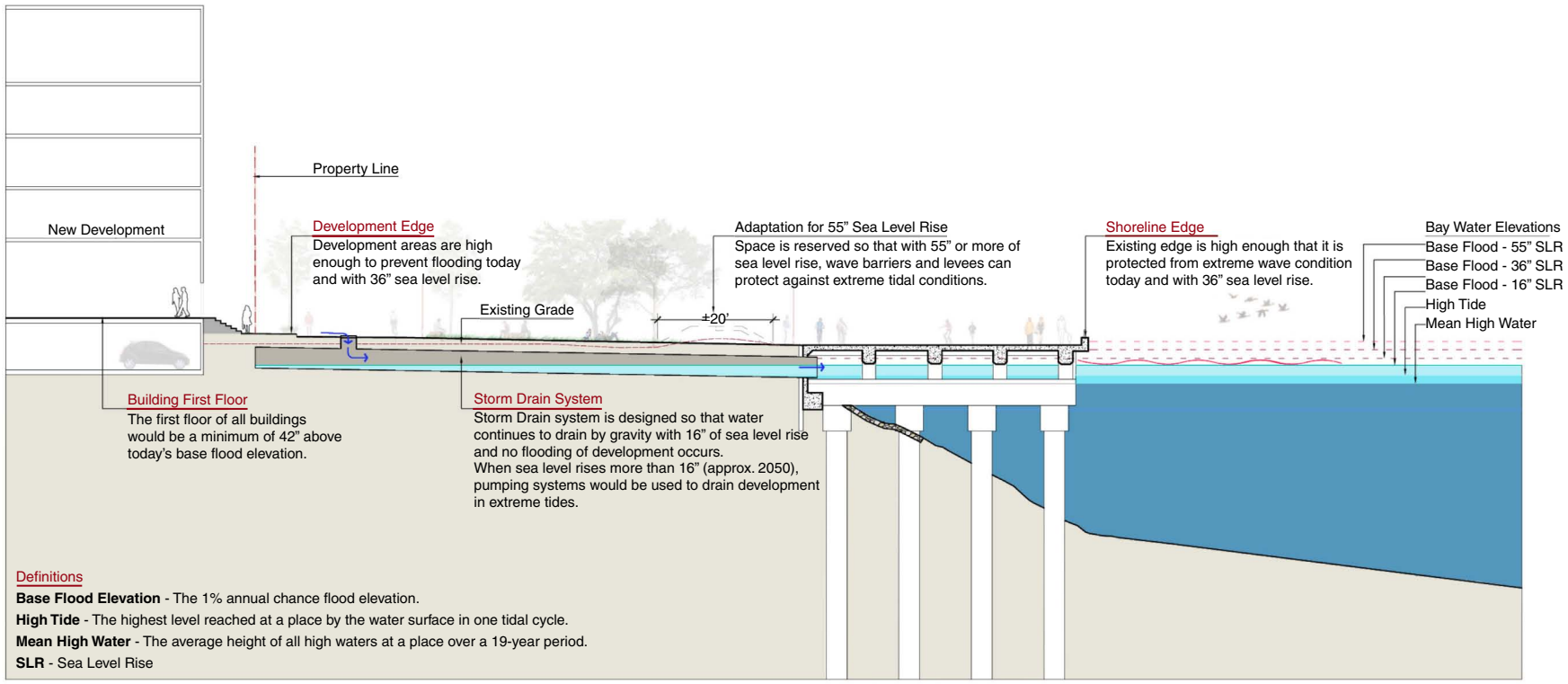


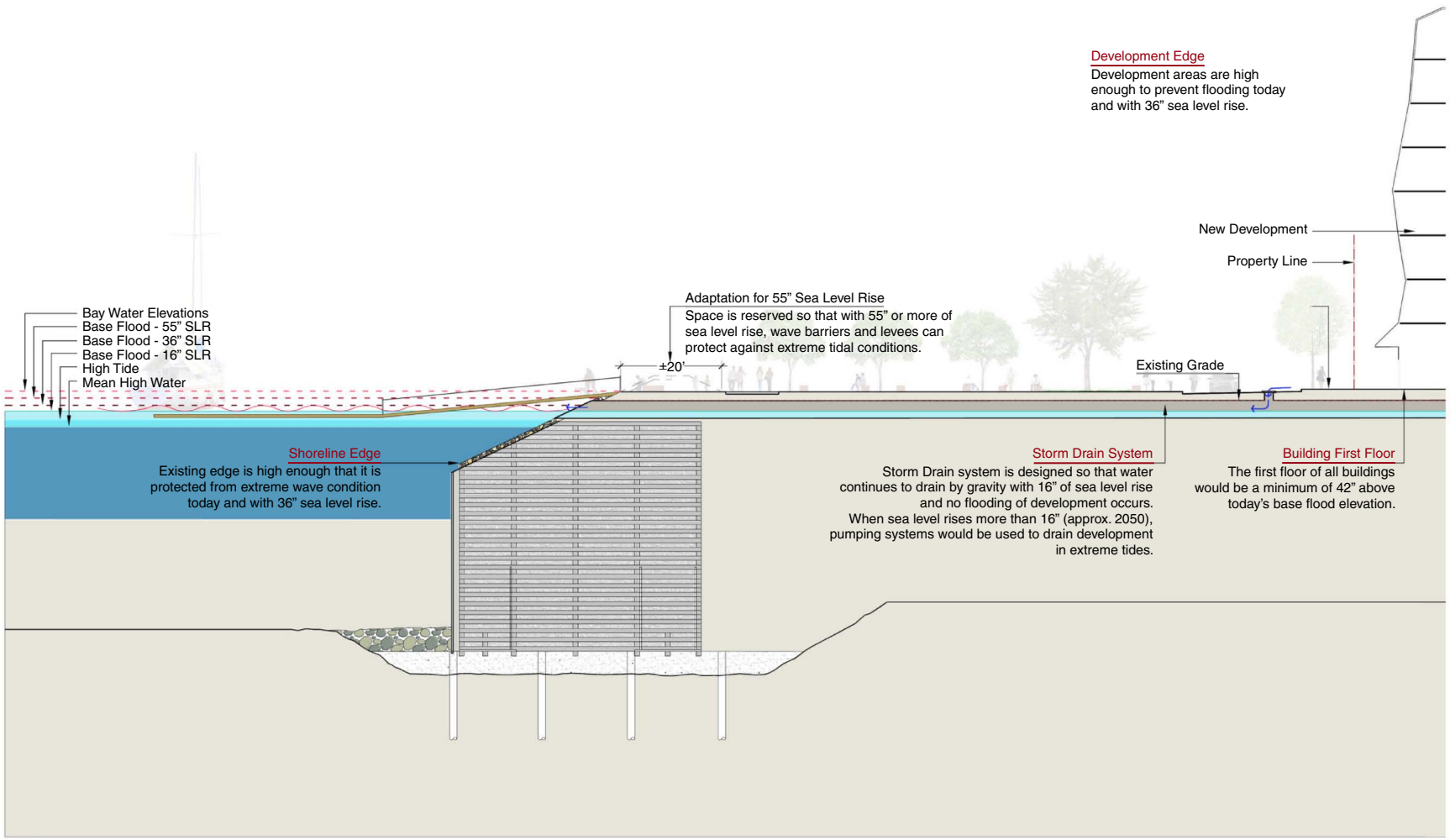
Figure 2.3-18. Flood Zones (Existing and with a 36-Inch Sea Level Rise)

Figure 2.3-19. Flood Zones with Alternative 1 (Stadium Plan Alternative)



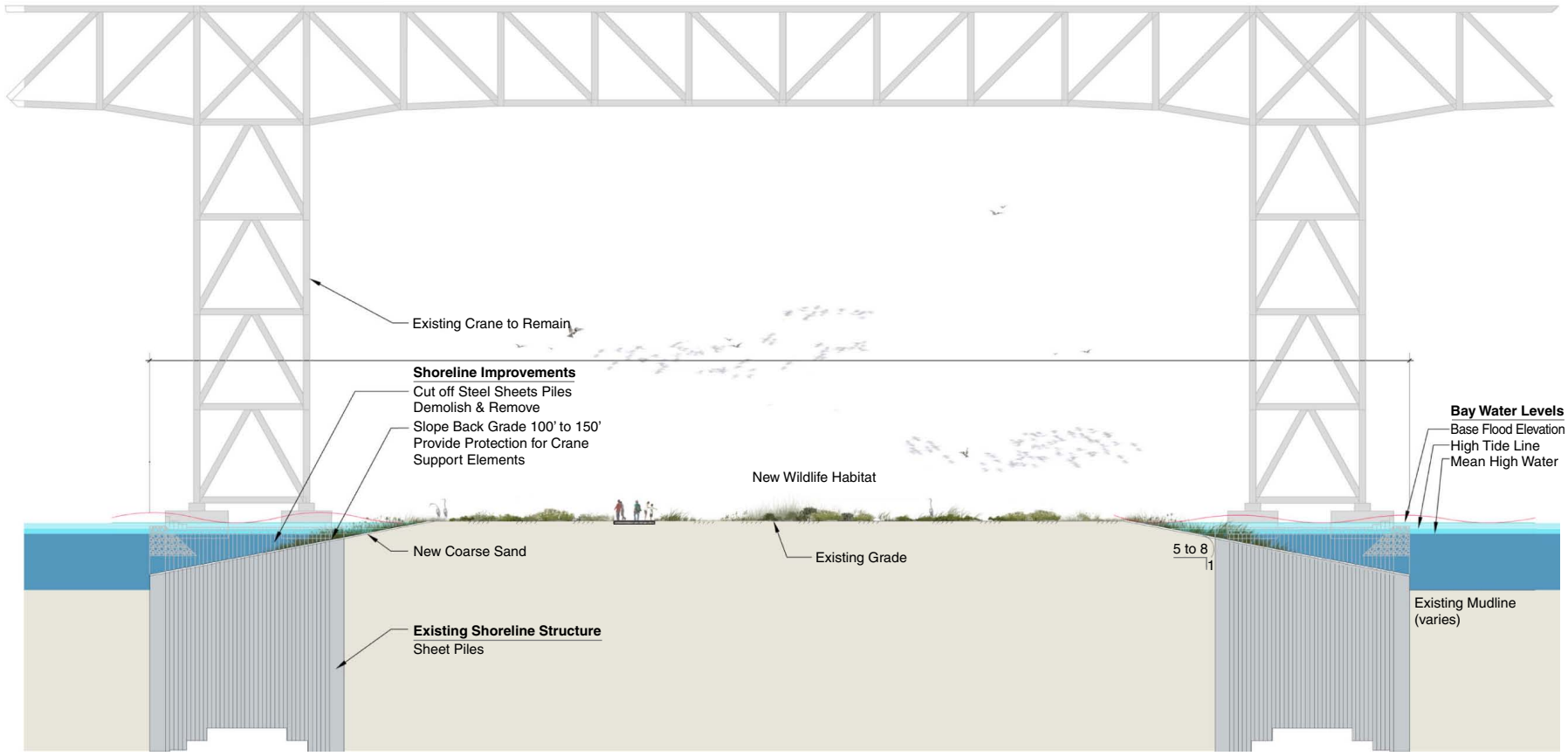
Source: RHAA 2009

Figure 2.3-20. HPS Shoreline Section B1-1 (Berths 55-60; Waterfront Promenade)



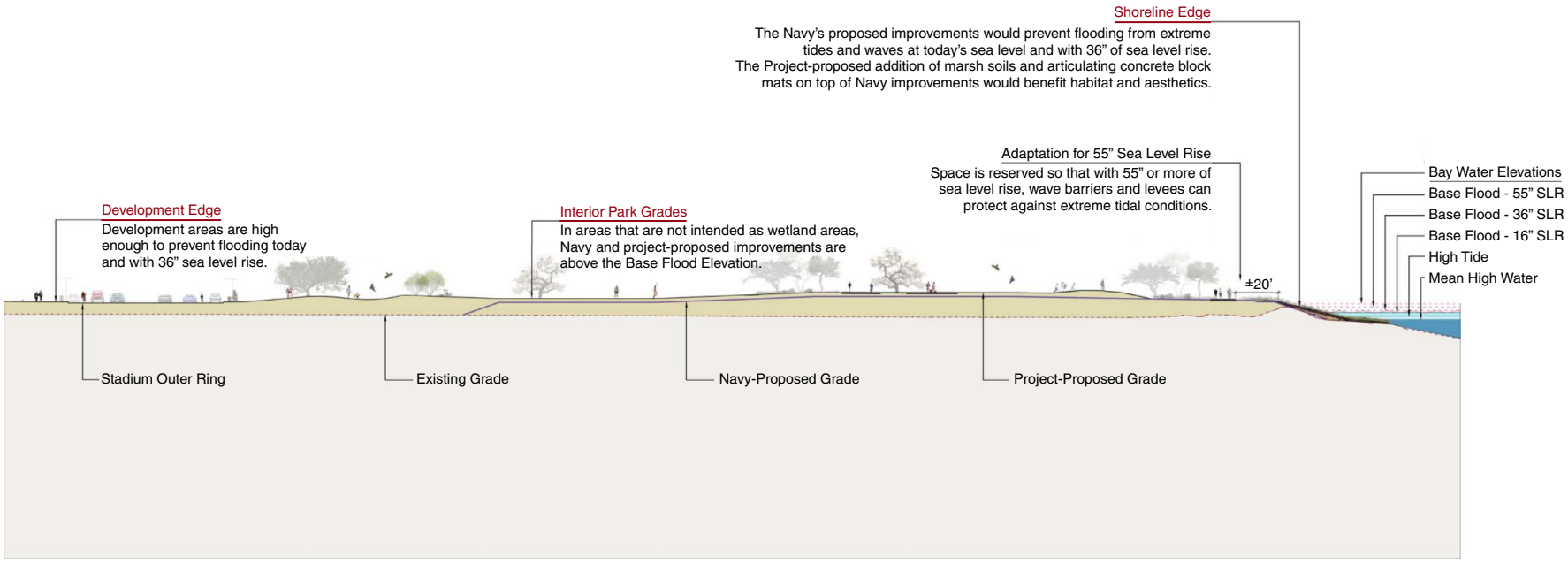
Source: RHAA 2009

Figure 2.3-21. HPS Shoreline Section C3-1 (Berths 3 to 5; Marina)



Source: RHAA 2009

Figure 2.3-22. HPS Shoreline Section 19 (Berths 16 to 20; Re-Gunning Pier)



Source: RHAA 2009

Figure 2.3-23. HPS Shoreline Section HP-5 (Grasslands Ecology Park)

Per the most conservative rate of sea level rise (Rahmstorf, *et al*. 2007, which includes ice-cap melt estimate), a sea level rise of 36 in (91 cm) would not occur until about 2080, which would be approximately 50 years beyond the last phase of construction for Alternative 1 (Lennar Urban 2009b). Ongoing measurements of sea level rise from the scientific community would be incorporated into Monitoring and Adaptive Management Plans, administered by a Geologic Hazard Abatement District or other entity with similar funding responsibility (Moffatt & Nichol 2009b). This entity would guide the decision-making process for implementation of future improvements, such as raising the perimeter. The proposed Monitoring and Adaptive Management Plan for the project would include appropriate language specifying management actions that would need to occur should sea level rise exceed 36 in (91 cm). Should the sea level rise exceed 36 in (91 cm), the proposed action-specific funding mechanism (Geologic Hazard Abatement District or similar) would pay for improvements.

Adaptation Strategy

A project-specific sea level rise Adaptation Strategy would be implemented to provide guidance, identify relevant stakeholders, define appropriate management actions and triggers, and establish a project-specific funding mechanism. It would be administered by an entity created for Alternative 1 that would have taxing authority and funding responsibility.

The strategy envisions incorporating ongoing measurements of sea level rise from the scientific community into a Monitoring Program that would guide the decision-making process for future improvements. The Monitoring Program would include protocols to compare observed changes in sea level with the as-built perimeter elevations, using updates of changes in sea level provided by the National Oceanic and Atmospheric Administration, National Geodetic Survey, or other appropriate agencies. The Monitoring Program would be administered by a public entity with similar funding responsibilities as a Community Facilities District. This entity would guide the decision-making process for implementation of future improvements, such as raising the perimeter.

The Adaptive Management Plan would define specific triggers for action, based on observed changes in sea level arising from ongoing measurements obtained during the Monitoring Program. The Adaptive Management Plan would require 5- or 10-year updates based on observed changes in sea levels, as well as any other effects of climate change (i.e., more or less extreme storm wave conditions). The initial strategy, as well as any updates, would be coordinated with relevant stakeholders, including the city, State Parks, the Federal Emergency Management Agency, and BCDC.

Future improvements that may be needed to respond to sea level rise are as follows:

- When mean sea level rises 16 in (40.6 cm) above existing levels, the crest elevation of the shoreline protection system would be raised 20 in (50.8 cm) and storm drain system pumps would be installed.
- When mean sea level rises 36 in (91 cm) above existing levels, the shoreline protection system would be improved to act as a flood barrier.

The proposed development setback distances would enable a variety of future perimeter modifications to accommodate at least 55 in (140 cm) of sea level rise, with the ability to accommodate even higher levels. The adaptive management strategy described above is based on elevation and structural characteristics of the shoreline along the project boundaries. The varied nature of this shoreline, ranging from protected and unprotected slopes, beaches, seawalls, and wharves, results in a multitude of potential adaptive management measures.

Perimeter adaptations would likely include a combination of the following components in response to varying land uses and wave run-up characteristics at different locations around the project site:

- Raising the shoreline embankment in place to function as a storm surge or flood barrier;
- Constructing a series of embankments of increasing heights away from the water (and between sets of embankments that could hold periodic wave overtopping that "drain out" between high tides);
- Constructing sea walls, particularly along Parcel B, where they would also function as a public amenity; and
- Where feasible, "lay back" the shoreline to create cobblestone beaches or tidal marshes that limit wave run-up and overtopping, rather than increasing embankment heights.

CONSTRUCTION EQUIPMENT AND WORKERS

Site earthwork and grading activities would typically be performed using standard construction equipment, such as excavators, loaders, tractors, compactors, crushers, graders, and water trucks. Import fills and export material would be loaded and transported using loaders, standard size haul trucks. Operating details over the development phasing schedule for each type of construction equipment are presented in Appendix H2 of the *Candlestick Point-Hunters Point Shipyard Phase II Development Plan Project Draft EIR* (SFRA 2009). Site earthwork and grading activities would be planned to match yearly site development phasing. Work would typically be performed during normal workdays and hours.

Construction activities in HPS would occur through 2031. Offsite roadway, utility, and shoreline improvements would be expected to begin in 2013 and would align with vertical development. The number of construction workers on the site on any given day would vary from a low of 15 workers during the final stage of vertical development to a maximum of 455 workers during the peak years of development. The number of truck trips on any given day would vary from a low of four to eight trucks trips to a maximum of 288 truck trips primarily during the peak year of grading and infrastructure development. The number of onsite equipment would be about 65 pieces during the height of construction activity.

2.3.2.1.8 Additional Project Components and Plans

The following are plans, city regulations, land use controls, or agreements that have been entered into or enacted by the city and/or SFRA to support the redevelopment of HPS and are part of the proposed action.

HPS Redevelopment Plan Amendment, General Plan Amendments, and Planning Code Amendments

Alternative 1 includes the *HPS Redevelopment Plan* as amended on 3 August 2010. The *HPS Redevelopment Plan* is a legal document that sets forth the objectives and the basic land use controls and specific redevelopment activities within the project site to eliminate blight and remedy the conditions that caused it. Future use of the project site must be for the purposes designated in the *HPS Redevelopment Plan*. *The redevelopment plan* is *in conformance with, but* more *limiting than, the City's General Plan and the HPS Area Plan*. The *HPS Redevelopment Plan* amendments enable SFRA to: 1) use redevelopment funds or financing mechanisms to remedy the blight that now characterizes the project site, and 2) establish land use standards to allow and control development of the project site. In addition, the SFRA Commission and the San Francisco Planning Commission adopted amendments to the *San Francisco General Plan*, Planning Code, and Zoning Map to promote consistency with the

Redevelopment Plan Amendments. The proposed action and alternatives are based on the *HPS Redevelopment Plan*, and on other supporting plans and agreements as noted below.

Design for Development

The *HPS Phase Two Design for Development*, adopted by SFRA on 3 June 2010, is a companion document to the *HPS Redevelopment Plan* amendment, and sets forth policies and principles for urban design within the project site and provides design standards, such as height, bulk, and density parameters.

Disposition and Development Agreement

Alternative 1 includes the *DDA for Candlestick Point and Phase 2 of HPS*, approved by the SFRA and city on 3 June 2010. The DDA is a contract between the Project Applicant, Lennar Urban (or the future developer or owner of the property) and the SFRA to set forth the terms and conditions under which the project site may be developed so that development occurs in accordance with the provisions of the *HPS Redevelopment Plan*. The DDA allows and governs the physical construction of each element of the project and establishes and governs the relationship between the SFRA and Lennar Urban (or the future developer or owner of the property) regarding acquisition, ownership, assembly of a project site, and financing, construction, ownership, and operation of project improvements. The DDA also requires that the vision, goals, and priorities for the development of the HPS set forth in the Conceptual Framework and Proposition G are implemented. Lennar Urban's rights and obligations under the DDA would be transferred to any future developer or owner of the project site.

The DDA (SFRA 2011) is not part of the *HPS Redevelopment Plan*, however, it has numerous exhibits and attachments, including, but not limited to, the Below-Market Rate Housing Plan, Community Benefits Plan, Sustainability Plan, Infrastructure Plan, Transportation Plan, and Parks and Open Space Plan, which are part of the proposed action and alternatives evaluated in this SEIS. These plans are summarized below.

Below-Market Rate Housing Plan. The *Below-Market Rate Housing Plan* (Appendix P) details the process and requirements for the development of residences on the project site and is designed to provide new housing opportunities for households of diverse income, ages, lifestyles, and family size.

Community Benefits Plan. The *Community Benefits Plan* (Appendix O) details the community benefits, including workforce development, jobs, education, community facilities, funding, and community health and wellness programs intended to benefit the BVHP community.

Sustainability Plan. The *Sustainability Plan* details the goals and strategies that would be employed to achieve sustainability targets in seven focus areas that span the economic, social and environmental aspects of sustainability: economic vitality and affordability; community identity and cohesion; public well-being, safety, and quality of life; accessibility and transportation; resource efficiency; ecology; and advanced information and communications technology.

Infrastructure Plan. The *Infrastructure Plan*, provided in Appendix N, includes grading plans for sea level rise and plans for the low-pressure and high-pressure water distribution system; recycled water distribution; separated sanitary sewer collection; separated storm drain collection; low impact development strategies for stormwater management; and joint trench systems for electrical, communications, and gas utilities.

Transportation Plan. The *Transportation Plan* describes the TDM program (e.g., car pools, car sharing, transit passes, and "unbundled parking"), new and extended transit services, and on and offsite street network improvements.

Parks, Open Space, and Habitat Concept Plan. The *Parks, Open Space, and Habitat Concept Plan* describes the vision and guiding principles for parks, open space, and habitat restoration. Included are descriptions of both passive and active recreational opportunities, an ecological program to restore native habitats, and cultural programming to highlight the shipyard's maritime heritage. Design guidelines also would be included for improvements of trails, furnishings, and public art.

As outlined in the DDA and identified in the EIR, Lennar Urban (or the future developer or owner of the property) would be responsible for implementation of measures to mitigate impacts except for those measures or portions of measures for which the performance obligations are expressly obligations of the SFRA, the city, or other governmental entity. The City and County of San Francisco, as successor to the SFRA, would have oversight of the implementation of measures. Lennar Urban's (or the future developer or owner of the property) mitigation obligations under the DDA would be transferred to any future developer or owner of the project site.

2.3.2.1.9 Environmental Controls

Alternative 1 incorporates a number of project-specific features or environmental controls to avoid or minimize environmental impacts. These controls are part of the project design or requirements as specified in the EIR and based on the *HPS Redevelopment Plan*. The controls are described below by resource area. Environmental Controls for air quality are incorporated into Section 4.2, Air Quality and GHG. Other resource areas not listed in this section do not have specific environmental controls for this alternative. Controls associated with the protection of federally listed species and jurisdictional wetlands and other Waters of the U.S. would be established/reviewed as part of any required biological coordination and permitting.

Visual Resources and Aesthetics

Minimize Visual Character/Quality Impacts During Construction. The construction contractor would implement the following controls during construction activities:

1. The construction contractor would strictly control the staging of construction equipment and the cleanliness of construction equipment stored or driven beyond the limits of the construction work area.
2. Construction equipment would be parked and staged on the project site. Staging areas would be screened from view at street level with solid wood fencing or green fence.
3. Prior to the issuance of building permits, the applicant (through the construction contractor[s]) would submit a construction staging, access, and parking plan to the San Francisco Department of Building Inspection for review and approval.
4. On-street parking of construction worker vehicles would be prohibited. Vehicles would be kept clean and free of mud and dust before leaving the project site.
5. Construction contractors would be required to sweep surrounding streets used for construction access daily and maintain them free of dirt and debris.

Minimize Light and Glare During Operations. The following controls would be implemented to minimize impacts from light and glare.

1. Parking lots and other security lighting would be shielded to direct light downward onto the specific location intended for illumination and prevent spill-over onto adjacent areas. All parking structures would be constructed with screening walls of sufficient height to block spill light from vehicle headlights.

2. Landscape and exterior sign lighting would be of a low intensity, low glare design.
3. A lighting plan would be prepared for each sub-phase of the project that includes the location of exterior lighting, types of lighting, and lighting specifications (e.g., beam spreads and/or photometric calculations). Exterior lighting would be designed such that it does not create glare, hazardous interference on adjacent streets or properties, or result in spill light that would adversely impact sensitive receptors in the project site.
4. The design of proposed structures would include the use of textured or other nonreflective exterior surfaces and nonreflective glass.
5. Prior to opening the stadium, the Stadium Operator would test the installed field-lighting system to determine that lighting meets operating requirements in the stadium and minimizes obtrusive spill lighting in the ballpark facility. Testing would include light-meter measurements at selected locations in the vicinity to measure spill lighting from stadium field-lighting fixtures, permit adjustment of lighting fixtures, and confirming that spill-lighting effects would be within an acceptable range and compatible with typical street lighting fixtures.
6. Prior to opening the stadium, the Stadium Operator would determine that stadium lighting is oriented in such a manner to reduce the amount of light shed onto sensitive receptors and incorporate "cut-off" shields as appropriate to minimize any increase in lighting at adjacent properties, while meeting the lighting standard for football operations.

Socioeconomics

Artists' Studio Displacement Control. The project proponent would offer displaced studio artists the right of first refusal to occupy replacement live/work units that are comparable in size, location, and affordability in accordance with the Artists Relocation Plan agreement.

Geology and Soils

Ground Settlement due to Excavations. Section 1803.1 of the San Francisco Building Code (SFBC) requires that excavations for any purpose not remove support from adjacent or nearby structures without first protecting those structures against settlement or lateral movement. Therefore, the following controls would be implemented to reduce and/or avoid impacts related to ground settlement associated with excavations:

1. *Dewatering Plan*. Prior to the issuance of any permit for a construction activity that would involve dewatering and that could affect structures on adjacent or nearby properties, the developer or owner would include in the permit application methods and techniques that would prevent dewatering from lowering the water table such that unacceptable settlement (as determined by a California Certified Engineering Geologist [CEG] or California Registered Geotechnical Engineer [GE]) at adjacent or nearby properties would occur. Such methods and technologies would be based on the specific conditions at the construction site.
2. *Excavation Shoring.* Excavating below the groundwater table would be completed in confined areas with steel sheet piling driven below the base elevation of the proposed excavation; and bracing would be installed to support the excavation walls and, if necessary, underpinning the foundations of adjacent structures. Subsequently, the excavation would be completed and seepage that enters the dammed area would be pumped out.
3. *Dewatering.* Dewatering would be completed using methods such as WellPoint systems, drainage ditches, and sump pumps.
4. *Monitoring and Inspections.* Excavation or dewatering methods would be used to detect ground settlement and to monitor individual dewatering activities in the vicinity of an excavation.

Monitoring results would be submitted to the San Francisco Department of Building Inspection (DBI). In the event of unacceptable ground movement, as determined by DBI inspections and/or the review of monitoring results, all excavation work would cease and corrective measures (including, for example, different dewatering methods and/or ground stabilization methods) would be determined by the project CEG or GE and reviewed and approved by DBI. No construction permit involving dewatering would be issued until the project CEG or GE and DBI have approved dewatering and/or ground stabilization methods. The project CEG or GE would implement the corrective measures and continue monitoring activities.

Ground Settlement due to Poorly Consolidated Material. Chapter 16 (Structural Design) and Chapter 18 (Soils and Foundations) of the SFBC require that the design and construction of structures and facilities at the project site incorporate appropriate engineering practices. Sections 1607 through 1614 contain the formulae, tables, and graphs by which the project engineer would develop the structural specifications for building design and which would be used by DBI to verify the applicability of the specifications. Sections 1804 through 1812 contain similar information for the design and verification of adequate soils and foundation support for a project. Section 1802 requires the use of this information in the soils analyses of the project site. Selection of the appropriate ground improvement techniques would be dependent on the land use, development type, soil profile, and estimated settlement. In accordance with provisions of the SFBC, the following controls would be implemented to reduce and/or avoid impacts related to ground settlement associated with poorly consolidated material:

1. *Geotechnical Report.* All construction would be completed in accordance with the following geotechnical protocols:
    a. The Applicant would submit to the DBI for review and approval a site-specific, design-level geotechnical investigation, prepared by a CEG or GE, as well as project plans prepared in compliance with the requirements of the SFBC.
    b. DBI would employ a third-party CEG and California Registered Professional Engineer (Civil) (PE) to form a Geotechnical Peer Review Committee (GPRC), consisting of DBI and these third-party reviewers. The GPRC would review the site-specific geotechnical investigations and the site-specific structural, foundation, infrastructure, and other relevant plans to check that these plans incorporate all necessary geotechnical remedial measures. No permits would be issued by DBI until the GPRC has approved the geotechnical investigation and the project plans, including the factual determinations and the proposed engineering designs and construction methods.
    c. The site-specific project plans would incorporate the recommended measures contained in the approved site-specific geotechnical reports to reduce non-seismically induced soil settlement hazards. The engineering design techniques to reduce soil settlement hazards would include proven methods generally accepted by CEGs, subject to DBI and GPRC review and approval. The design-level geologic and geotechnical studies would identify the presence of settlement prone soils and potentially unstable soils and identify means to avoid the hazard or support the design of engineering procedures to stabilize the soils, as required by Chapter 18 (Soils and Foundations) of the SFBC.
    d. The Project CEG or GE would be responsible for ensuring compliance with these requirements.
2. *Settlement Remedial Measures.* Where shallow foundations would be underlain by poorly compacted artificial fill that may be subject to static settlement, remedial measures would include a combination of removal and recompaction, possibly in combination with placement of geogrid beneath structures, to help distribute differential settlement that might occur. Mid-rise and high-

rise structures probably would be founded on deep foundations, bearing in strata below the poorly compacted fill and soft bay mud deposits, and would include flexible utility connections to allow some settlement beneath the buildings.

Seismically Induced Ground Shaking. To address ground shaking, design-level geotechnical investigations to be performed would include site-specific seismic analyses to evaluate the peak ground accelerations for design of project components, as required by Chapter 16 (Structural Design) and Chapter 18 (Soils and Foundations) of the SFBC. Specifically, the following controls would be implemented.

Prior to the issuance of any building permits for the project site:

1. The developer or owner would submit to the DBI for review and approval a site-specific, design-level geotechnical investigation, prepared by a CEG or GE, as well as project plans prepared in compliance with the requirements of the SFBC, the *Seismic Hazards Mapping Act*, and requirements contained in the California Geological Survey Special Publication 117A "Guidelines for Evaluating and Mitigating Seismic Hazards in California." In addition, all engineering practices and analyses of peak ground accelerations and structural design would be consistent with SFBC standards, so that structures can withstand expected ground accelerations. The CEG or GE would determine and DBI would approve design requirements for foundations and all other improvements associated with the permit application.
2. DBI would employ a third-party CEG and PE (Civil) to form a GPRC, consisting of DBI and these third-party reviewers. The GPRC would review the site-specific geotechnical investigations and the site-specific structural, foundation, infrastructure, and other relevant plans to check that these plans incorporate all necessary geotechnical remedial measures. No permits would be issued by DBI until the GPRC has approved the geotechnical investigation and the project plans, including the factual determinations and the proposed engineering designs and construction methods.
3. All project structural designs would incorporate and conform to the requirements in the site-specific geotechnical investigations.
4. The project CEG or GE would be responsible for ensuring compliance with these requirements.
5. The project CEG or GE would confirm that the design-level geotechnical investigation for Yosemite Slough bridge is based on Caltrans specifications (*Bridge Design Specifications*, Section 20 of *Bridge Memos to Designers, Seismic Design Criteria*) and meets the San Francisco Department of Public Works Bureau of Engineering requirements. The Project CEG or GE and a California Registered Structural Engineer would approve the bridge design. No building permits would be issued until the CEG or GE and Structural Engineer verify that the project's bridge design complies with all Caltrans specifications and BOE requirements.

Liquefaction Assessment. SFBC mandated controls described above, regarding seismically induced ground shaking, would be implemented in order to reduce or avoid impacts related to liquefaction. In addition, prior to issuance of building permits for the project site:

1. All recommendations specified in the California Geological Survey (CGS) Special Publication 117A (CGS 2008) would be implemented. This document outlines the protocol for analysis and treatment of liquefaction-related hazards, including estimates of vertical settlement and lateral spreading. Prediction of liquefaction-related settlement is necessarily approximate and related hazard assessment and development of recommendations for treatment of such hazards would be performed conservatively, as recommended by the CGS Special Publication 117A.

2. The site-specific project plans would incorporate the recommended measures contained in the approved site-specific geotechnical reports to reduce liquefaction hazards. The engineering design techniques to reduce liquefaction hazards would include proven methods generally accepted by California CEGs, subject to DBI and GPRC review and approval.

Seismic Design. Design and construction of the structures and facilities at the project site would incorporate appropriate engineering practices for seismic stability, as required by Chapter 16 (Structural Design) and Chapter 18 (Soils and Foundations). SFBC-mandated measures to address seismically induced settlement would include, but not be limited to, the following:

1. Where shallow foundations are underlain by artificial fill and the estimated settlements are small, treatment would employ a combination of removal and recompaction, with the placement of geogrid beneath structures to help distribute differential settlement that might occur. Treatment for mid-rise and high-rise structures would include supporting these structures on deep foundations bearing in strata below the potentially liquefiable layer, with flexible utility connections to allow some settlement beneath the buildings.
2. Selection of the appropriate remedial measures would be dependent on the land use, development type, soil profile, and estimated settlement. At the project site, there would be environmental constraints limiting the potential use of certain measures because of groundwater and soil contamination.

Expansive and Corrosive Soils. Chapter 18 (Soils and Foundations) of the SFBC requires that design-level geologic and geotechnical studies identify the presence of expansive soils, corrosive soils, and potentially unstable soils. SFBC Sections 1803 through 1812 contain the formulae, tables, and graphs by which the project engineer would develop the project's soil-stability specifications, including the appropriate foundation designs for structures on expansive, corrosive, and potentially unstable soils. The following controls would be implemented to reduce and/or avoid impacts related to these types of soils.

- In accordance with standard geotechnical protocol, the site-specific project plans would incorporate the recommendations contained in the approved site-specific geotechnical reports to reduce expansive, corrosive, and potentially unstable soils hazards. The engineering design techniques to reduce these soils hazards would include proven methods generally accepted by CEGs, subject to DBI and GPRC review and approval. The design-level geologic and geotechnical studies would identify the presence of expansive, corrosive, and potentially unstable soils, as well as identify means to avoid the hazard or support the design of engineering procedures to stabilize the soils, as required by Chapter 18 (Soils and Foundations) of the SFBC.

Water Resources

Finished Grade Elevations Above Base Flood Elevation. The project site would be graded such that finished floor elevations are 3.5 ft (1.1 m) above the base flood elevation, and streets and pads are 3 ft (0.91 m) above the base flood elevation to allow for future sea level rise, thereby elevating all housing and structures above the existing and potential future flood hazard area.

Shoreline Improvements to Reduce Flood Risk. To reduce the flood impacts of failure of existing shoreline protection, the future developer or owner of the property would implement shoreline improvements for flood control protection, as identified in the Candlestick Point-Hunters Point Development Project Proposed Shoreline Improvements report (Lennar Urban 2009b). Shoreline and public access improvements would be designed to allow future increases in elevation along the shoreline edge to keep up with higher sea level rise rates, should they occur. Design elements would include providing adequate setbacks to allow for future elevation increases of at least 3 ft (0.91 m) from the

existing elevation along the shoreline. The future developer or owner of the property would form (or annex into if appropriate) and administer a special assessment district or other funding mechanism to finance and construct future improvements so that the shoreline, public facilities, and public access improvements will be protected should sea level rise exceed 16 in (40.6 cm) at the perimeter of the project. The district would also administer a Monitoring and Adaptive Management Plan to monitor sea level and implement and maintain the protective improvements.

Marina Operations to Reduce Water Quality Effects. The marina operator would be required to obtain a certification by the Clean Marinas California Program to reduce potential water quality effects associated with marina operations. The Clean Marinas California Program has developed marina best management practices (BMPs) and an inspection and certification process for marinas that meet the program standard for BMP implementation. The marina operator would be required to implement BMPs that address the following sources of pollution: petroleum containment, topside boat maintenance and cleaning, underwater boat hull cleaning, marina operations, marina debris, boat sewage discharge, solid waste, liquid waste, fish waste, hazardous materials, and stormwater runoff.

Utilities

Construction Waste Diversion Plan. The future developer or owner of the property would submit a Construction Waste Diversion Plan to the San Francisco Department of the Environment that would be approved before the issuance of building permits for the proposed action. The plan would include: 1) identification of how much material resulting from demolition of existing facilities could be reused onsite (e.g., existing asphalt and concrete could be removed, crushed, reconditioned, and reused as base material for new roadways and parking lots); 2) the extent to which materials could be sorted onsite (e.g., through piecemeal demolition of selected facilities to extract recyclable materials); 3) the amount of material that would be transported to an offsite location for separation; and 4) the amount of materials that cannot be reused or recycled and would be interred at a landfill, such as the Altamont Landfill in Livermore.

Wet-Weather Wastewater Handling. Prior to approval of the wastewater infrastructure construction documents for any new development, the future developer or owner of the property would demonstrate to the San Francisco Public Utilities Commission (SFPUC), in writing, that there would be no net increase in wastewater discharges from within the project site boundary to the Bayside System during wet-weather conditions compared to pre-project discharges. This may be accomplished through a variety of means, including, but not limited to temporary onsite retention or detention of flows to the system.

Site Waste Management Plan. The future developer or owner of the property would prepare a Solid Waste Management Plan to describe the methods by which the proposed action would minimize waste generation not otherwise covered by existing city regulatory policies, with the goal of achieving a diversion rate of at least 72 percent, consistent with the city's existing diversion rate in 2008. The Solid Waste Management Plan would be approved prior to the issuance of the first development permit for the proposed action.

Public Services

Site Security During Construction. During site preparation and in advance of construction of individual buildings, fencing, screening, and security lighting would be provided by the future developer or owner of the property. During non-construction hours, the site must be secured and locked, and ample security lighting would be provided.

Biological Resources

Lighting Controls to Reduce Impacts to Birds. During design of buildings greater than 100 ft (30.5 m) tall, the future developer or owner of the property and architect would consult with a qualified biologist experienced with bird strikes and building/lighting design issues (as approved by the city/SFRA) to identify lighting-related controls to minimize the effects of the building's lighting on birds. Such controls, which could include the following and/or other controls, would be incorporated into building design and operation.

1. Use strobe or flashing lights in place of continuously burning lights for obstruction lighting. Use flashing white lights rather than continuous light, red light, or rotating beams.
2. Install shields onto light sources that are not necessary for air traffic to direct light towards the ground.
3. Extinguish all exterior lighting (i.e., rooftop floods, perimeter spots) not required for public safety.
4. When interior or exterior lights must be left on at night, the operator of the buildings would examine and adopt alternatives to bright, all-night, floor-wide lighting, which could include:
    - Installing motion-sensitive lighting;
    - Using desk lamps and task lighting;
    - Reprogramming timers;
    - Use of lower-intensity lighting;
    - Windows or window treatments that reduce transmission of light out of the building would be implemented to the extent feasible; and
    - Educational materials would be provided to building occupants encouraging them to minimize light transmission from windows, especially during peak spring and fall migratory periods, by turning off unnecessary lighting and/or closing drapes and blinds at night.
5. A report of the lighting alternatives considered and adopted would be provided to the city/agency for review and approval prior to construction. The city/agency would require that lighting-related controls to reduce the risk of bird collisions have been incorporated into the design of such buildings to the extent practicable.

Building Design Controls to Minimize Bird Strike Risk. During design of buildings greater than 100 ft (30.5 m) tall, the future developer or owner of the property and architect would consult with a qualified biologist experienced with bird strikes and building/lighting design issues (as approved by the city/agency) to identify controls related to the external appearance of the building to minimize the risk of bird strikes. Such controls, which could include the following and/or other controls, would be incorporated into the building's design.

- Use non-reflective tinted glass;
- Use window films to make windows visible to birds from the outside;
- Use external surfaces/designs that break up reflective surfaces;
- Place bird attractants, such as bird feeders and baths, at least 3 ft (0.91 m) and preferably 30 ft (9.1 m) or more from windows in order to reduce collision mortality; and
- A report of the design controls considered and adopted would be provided to the city/agency for review and approval prior to construction. The city/agency would require that building design

related controls to reduce the risk of bird collisions have been incorporated to the extent practicable.

2.3.2.2 Alternative 1A: Stadium Plan/No-Bridge Alternative

Alternative 1A would be the same as the Alternative 1 except that the Yosemite Slough bridge would not be constructed. This alternative would meet most of the project objectives (Section 1.1, Purpose and Need for Action), but would meet transportation-related objectives to a lesser extent than Alternative 1 because it would not include the Yosemite Slough bridge.

2.3.2.2.1 Land Use

Alternative 1A would have the same land use program as Alternative 1, including the stadium, residential, retail, R&D, artists' studios, community services, marina, and parks and open space. Tower Variant D is also proposed under this alternative. However, the Yosemite Slough bridge would not be constructed.

2.3.2.2.2 Parks and Open Space

Alternative 1A would include the same parks and open space as Alternative 1 as described in Section 2.3.2.1.2.

2.3.2.2.3 Transportation and Circulation

Under Alternative 1A, the Yosemite Slough bridge would not be constructed and there would be no direct surface connection to the neighborhoods and area immediately to the southwest of the project site (i.e., Candlestick Point). Figure 2.3-24 illustrates the proposed route. The rest of the street network would be the same as described for Alternative 1 in Section 2.3.2.1.3.

As for Alternative 1, the primary roadway connection for automobiles and other vehicular traffic between Candlestick Point and HPS would be on west Carroll Ave to Ingalls St, north along Ingalls St to Thomas Av, and east on Thomas Ave to Griffith St. Ingalls St would remain an industrial mixed-use street with two traffic lanes and parking and loading zones on its northern and southern sides. The width of the sidewalks on that portion of Ingalls St from Carroll Ave to Yosemite Ave would be decreased from 16 ft to 11 ft (4.9 to 3.4 m) to create a uniform street width to accommodate the traffic lanes, parking, and loading.

Between the intersection of Carroll Ave/Arelious Walker Dr and Crisp Rd within the HPS project site, the proposed BRT line would be routed on Carroll Ave between Arelious Walker Dr and Hawes St; on Hawes St between Carroll Ave and Armstrong Ave (currently unimproved); and on Armstrong Ave between Hawes St and the DoN rail ROW; along the DoN rail ROW between Armstrong Ave and Shafter Ave; along Shafter Ave between the DoN rail ROW and Arelious Walker Dr; and on Arelious Walker Dr between Shafter Ave and Crisp Rd (currently unimproved).

On Carroll Ave, Hawes St, and Armstrong Ave to the DoN rail ROW, the BRT line would operate within an exclusive BRT lane and one of the two travel lanes in each direction would be transit-only. Hawes Ave between Carroll Ave and Armstrong Ave and Arelious Walker Dr between Shafter Ave and Crisp Rd are currently unimproved streets and would be built out to accommodate one transit-only travel lane in each direction. The DoN rail ROW between Armstrong Ave and Shafter Ave would be improved to provide one transit-only travel lane in each direction. Shafter Ave between the DoN rail ROW and Arelious Walker Dr would be reconfigured to provide four travel lanes, with BRT operating in dedicated center lanes.

Source: SFMTA 2010

Figure 2.3-24. Circulation Plan and Railroad Right-of-Way for Bus Rapid Transit (BRT) for Alternative 1A (Stadium Plan/No-Bridge Alternative)

2.3.2.2.4 Infrastructure

The major infrastructure improvements for Alternative 1A would be the same as that proposed for Alternative 1 as specified in Section 2.3.2.1.4.

2.3.2.2.5 Community Benefits and Green Building Concepts

Community benefits and green building concepts for this Alternative 1A would be the same as specified in Sections 2.3.2.1.5 and 2.3.2.1.6, respectively.

2.3.2.2.6 Schedule

The schedule for buildout of Alternative 1A would be the same as specified for Alternative 1 (Section 2.3.2.1.7).

2.3.2.2.7 Approval Requirements

Approval requirements for Alternative 1A would be the same as specified in Section 2.3.2.1.8.

2.3.2.2.8 Environmental Controls

Environmental controls for Alternative 1A would be the same as specified in Section 2.3.2.1.9 for Alternative 1, with the exception of the portions of the *Seismically Induced Ground Shaking* control measure related to the stadium.

2.3.2.3 Alternative 2: Non-Stadium Plan/Additional R&D Alternative

Under Alternative 2, a new stadium would not be constructed; instead, an additional 2.5 million ft^2 (232,258 m^2) of R&D uses space emphasizing emerging technologies would be developed at HPS. Parks and sports field areas would be decreased by 9.4 ac (3.8 ha) under this alternative as compared to Alternative 1. Other uses would be the same as proposed under Alternative 1. Approximately 2,650 housing units would be developed within the project site, including 559 below market units, resulting in a population of 6,175 residents[12] at full occupancy in 2032. This alternative would generate approximately 13,159 new jobs (Economic & Planning Systems 2009). The number of construction personnel required at any given time would not be substantially different than for Alternative 1.

2.3.2.3.1 Land Use

A land use plan for Alternative 2 is provided in Figure 2.3-25. This land use plan would be similar to Alternative 1, except that the 69,000-seat football stadium would not be constructed within the HPS South district and the density of residential uses within the R&D district would be designated for Density Range I and II rather than Density Range II and IV as designated under Alternative 1. Instead, an additional 2.5 million ft^2 (232,258 m^2) of R&D uses (for a total of 3 million ft^2) would be developed within the HPS South district. Site-wide, a total of R&D uses under this alternative would be five million ft^2 (464,515 m^2) compared to 2.5 million (232,258 m^2) under Alternative 1. As with Alternative 1, Building 813 would be rehabilitated or demolished and reconstructed and used as a R&D facility. Game-day parking north of Crisp Rd would not be required because a stadium would not be constructed under Alternative 2. The land uses in all other districts would be the same as Alternative 1.

Table 2.3-13 presents a land use summary for Alternative 2 and Table 2.3-14 indicates the land use distribution within each district. Figure 2.3-26 illustrates the maximum building heights for Alternative 2.

12 The population is calculated as a 2.33 person per unit, and it is assumed that all units are fully occupied.

The two residential towers would each have a maximum floor size of 10,000 ft^2 (929 m^2). Tower Variant D could be developed under Alternative 2.

Alternative 1 would retain Buildings 140, 204, 205, 207, and Drydocks 2, 3, and 4, as well as the Re-Gunning Crane. Drydocks 2, 3, and 4 and Buildings 140, 204, 205, 207 would be retained and rehabilitated using *Secretary of the Interior Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* as described for Alternative 1 in Section 2.3.2.1.1. Building 208 would be retained (i.e., mothballed and maintained) as an element of the cultural landscape. As with Alternative 1, development at HPS under Alternative 2 would result in the demolition of Buildings 211, 224, 231, and 253.

Tower Variant D

Alternative 2 could also be developed with a land use plan that provides for the same development scenario discussed above except that the floor plate area of the residential towers could be increased from 10,000 ft^2 to 12,500 ft^2 (929 to 1,161 m^2), which would result in slightly greater tower bulk. However, the larger floor plates would be accommodated on the existing podium design and, therefore, the building footprint would not increase. This land use plan would be developed as specified in Section 2.3.2.3.1 for Tower Variant D.

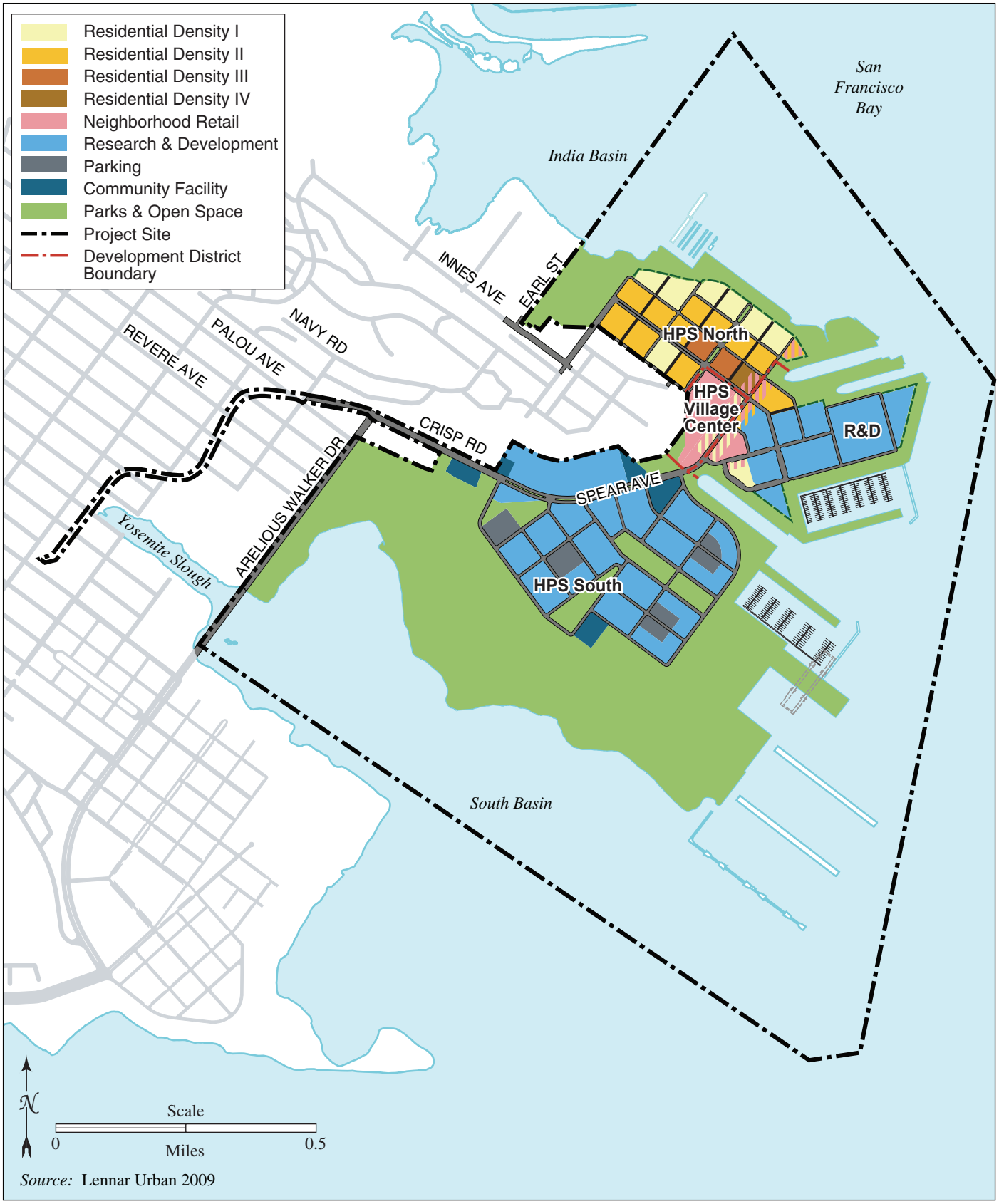
Preservation of Additional Buildings (211, 224, 231, and 253)

Alternative 2 could also be developed with a land use plan that provides for the same development scenario discussed above, except that it would also preserve four structures (Buildings 211, 224, 231, and 253) located within the R&D district that are proposed for demolition. As discussed in Section 2.3.2.1.1, these buildings have been identified as sensitive historic buildings under California guidelines (as defined under Public Resources Code Section 21084.1 and CEQA Guidelines Section 15064.5[a] and [b]), but are not considered historic properties under federal regulations (as defined by Section 106 of the National Historic Preservation Act per 36 CFR 800.16[l]).

Table 2.3-13. Land Use Summary for Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)

Land Use	
RESIDENTIAL	
Residential Density Range I (15 to 75 units per ac)	680
Residential Density Range II (50 to 125 units per ac)	1,415
Residential Density Range III (100 to 175 units per ac)	265
Residential Density Range IV (175 to 285 units per ac)	290
Total (units)	**2,650**
NEIGHBORHOOD RETAIL (FT^2)	**125,000**
RESEARCH AND DEVELOPMENT (FT^2)	**5,000,000**
ARTISTS' STUDIOS/ART CENTER (FT^2)	**255,000**
COMMUNITY SERVICES (FT^2)	50,000
PARKS AND OPEN SPACE	
New City Parks (ac)	152.4
New Dual-Use Sports Field/Multi-Use Lawn and Stadium Parking and Waterfront Recreation (ac)	69.8
Total (ac)	**222.2**
MARINA (SLIPS)	**300**
PARKING (SPACES)	
Residential (structured)	2,650
Commercial (structured)	7,028
General & Commercial (on-street)	1,678
Total	***11,356***
OTHER ELEMENTS	
Yosemite Slough bridge	BRT/Pedestrian
Shoreline Improvements	Yes

Source: Lennar Urban 2009a.



Source: Lennar Urban 2009

Figure 2.3-25. Land Uses for Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)

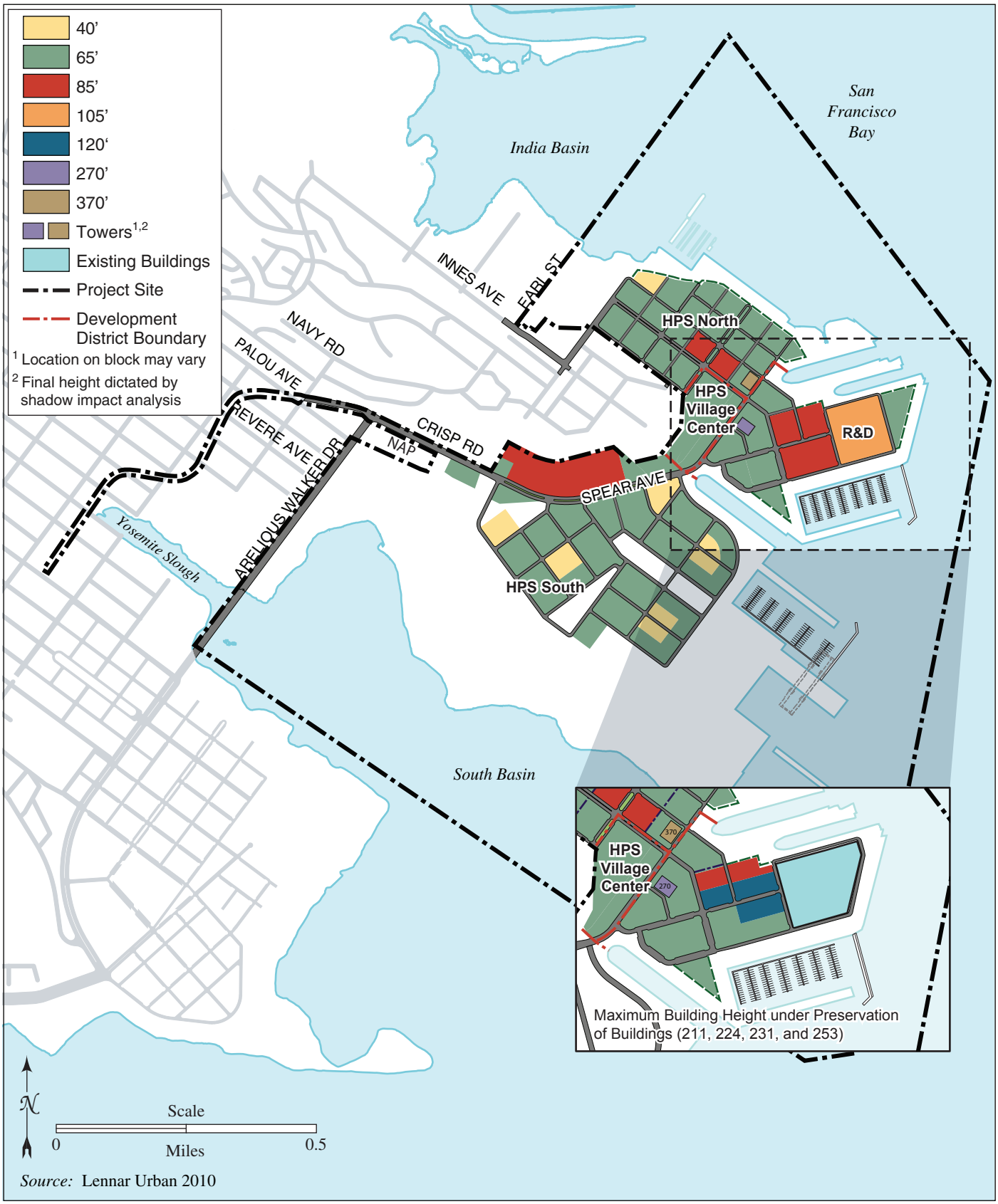


Figure 2.3-26. Maximum Building Heights for Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)

Table 2.3-14. Land Use by District for Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)

District	Net Acreage[1]	Dwelling Units[7]	Density[2] (ft^2)	Neighborhood Retail (ft^2)	Artists' Studios (ft^2)	R&D (ft^2)	Community Services (ft^2)	Parks (ac)
Hunters Point Shipyard North	27.3	2,085	I, II, III,IV	25,000	0	0	0	19.9
Hunters Point Shipyard Village Center	7.55	125	I	25,000	255,000	0	0	15.6
Research and Development	26.22	440	I, II	75,000	0	2,000,000	0	25.3
Hunters Point Shipyard South	62.09[3]	0	N/A	0	0	3,000,000	50,000	161.4
Total	**123.16**	**2,650**	**N/A**	**125,000**	**255,000**	**5,000,000[4]**	**50,000[5]**	**222.2[6]**

Notes:
1. Net Acreage excludes the street network.
2. Residential Density Range I (15 to 75 units per ac)
   Residential Density Range II (50 to 125 units per ac)
   Residential Density Range III (100 to 175 units per ac)
   Residential Density Range IV (175 to 285 units per ac)
3. The net acreage of HPS South district would be increased compared to Alternative 1 (32.26 ac with stadium).
4. R&D uses are doubled compared to the Alternative 1.
5. Community facilities parcels are intended to provide the existing BVHP community and the future community with dedicated land for uses designed to provide, preserve and leverage such critical local resources as social services, education, the arts and other community services, including public safety facilities such as fire and police stations and facilities for the benefit of senior citizens. Additional uses proposed for the community facilities parcels such as retail, services, offices, and R&D space, beyond the 100,000 proposed for community facilities, would be absorbed within the retail or R&D program proposed in HPS. Total uses would not exceed those amounts identified in this table.
6. Parks and sports fields areas at HPS would be reduced compared to Alternative 1 because the total development area for R&D uses would be increased.
7. The number of residential units in each district may be adjusted depending on the market demand; however, the sum total of housing units for HPS would not exceed 2,650 units.

Source: SFRA 2009. Appendix N3 of the CP-HPS DEIR.

Building 224, the air raid shelter, would be retained as a museum space. Buildings 211, 231, and 253 would be retained and rehabilitated under the *Secretary of the Interior Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* to accommodate approximately 338,000 gft^2 of R&D and 1,000 parking spaces. Building 231 would be reused for parking. Buildings 211 and 253 would accommodate R&D uses.

To accommodate the displaced R&D use resulting from preserving Buildings 211, 224, 231, and 253, the height limit in the adjacent R&D area would be higher as compared to the Alternative 2 land use plan without preservation of additional buildings. The structures in the R&D district immediately west of the buildings to be preserved would increase from a maximum of 85 ft (26 m) to 120 ft (36.6 m) (Figure 2.3-26).

Under this land use plan, the existing grade at the site of Buildings 208, 211, 224, 231, and 235 would be maintained, allowing railroad spurs and other elements such as bollards, to remain. To protect the area from potential sea level rise, a wave protection berm would be constructed around the area to accommodate a 36-in (91-cm) sea level rise, on top of which the Bay Trail would be constructed (Figure 2.3-27).

2.3.2.3.2 Parks and Open Space

A total of 222.2 ac (89.92 ha) of parkland would be provided at HPS under Alternative 2. Parks and sports field areas would be decreased by 9.4 ac (3.8 ha) compared to Alternative 1, because the total development area for R&D uses would increase. Alternative 2 would include two additional parks, Hunters Point Wedge Park and Hunters Point Park Blocks, and would reconfigure the design and sizes of parks and open space areas at HPS compared to Alternative 1. A description of the two additional parks

is provided below. The area used under Alternative 1 for sports fields and for game day parking would only be used for sports fields under Alternative 2. Each of the parks and their respective acreage is listed in Table 2.3-15. Figure 2.3-28 illustrates the location of the proposed parks and open space.

Hunters Point Wedge Park

Hunters Point Wedge Park would serve as the "commons" for the HPS South neighborhood and function as part of a park and view corridor linking Fisher St to the South Basin. Specific features could include an ecological garden, a main plaza, open lawns, dog run, and children's play areas. The park may provide opportunities for stormwater treatment gardens.

Hunters Point Park Blocks

Hunters Point Park Block would be located adjacent to the R&D uses in the HPS South district.

2.3.2.3.3 Transportation and Circulation

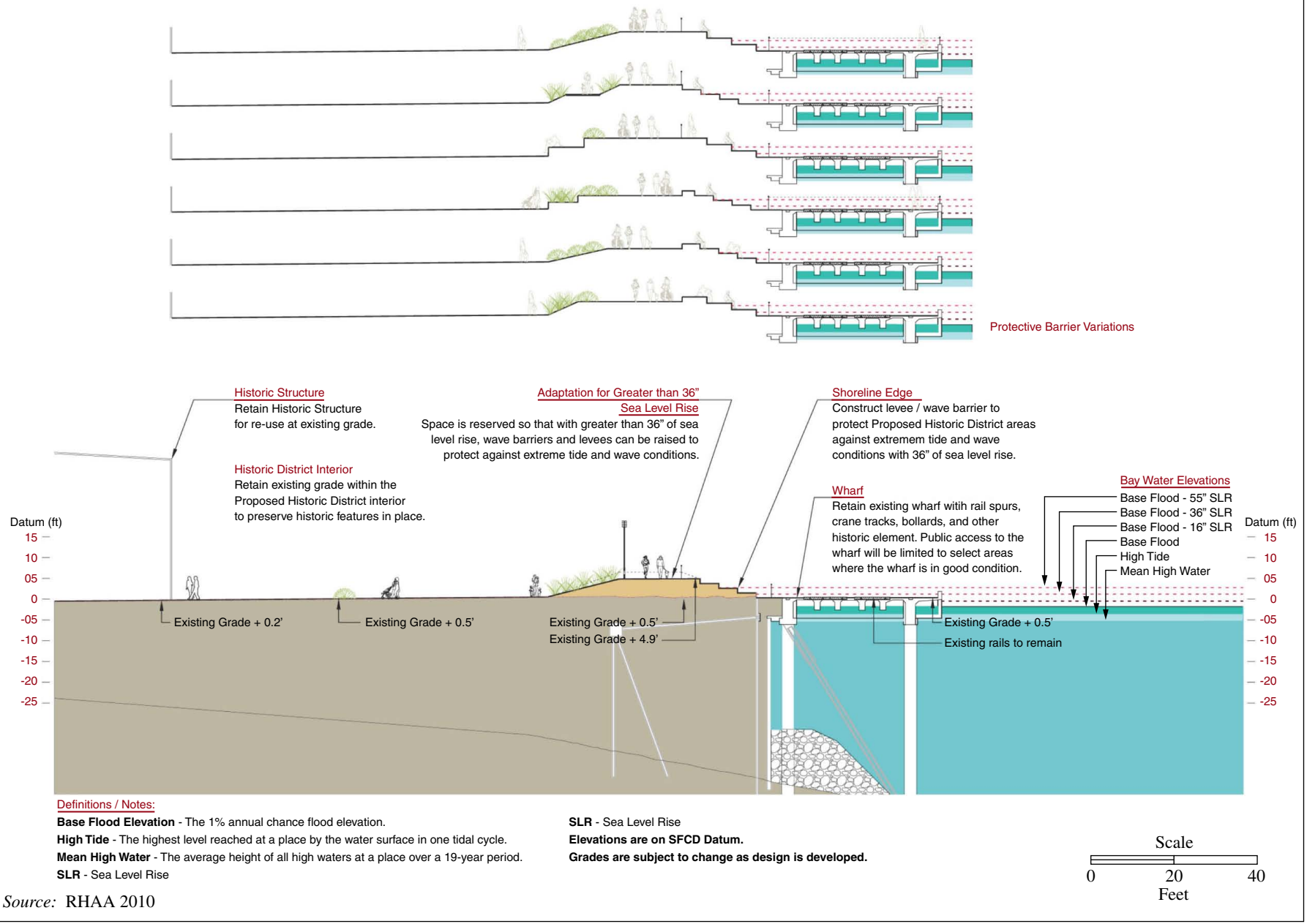
Alternative 2 would have the same roadway, transit, bikeway, and Bay Trail improvements as Alternative 1, including the Yosemite Slough bridge as described in Section 2.3.2.1.3. However, the additional four automobile lanes on the bridge to serve game-day traffic under Alternative 1 would not be included in the Alternative 2. The bridge would be approximately 39-ft (11.9-m) wide and would cross the slough at the same location as Alternative 1, extending from Arelious Walker Dr from Candlestick Point to HPS. The bridge and its approach streets would have two dedicated BRT lanes, a Class I bicycle path, and a sidewalk that would be open at all times.

The primary roadway connection for automobiles and other vehicular traffic between HPS and the offsite area of Candlestick Point would be west on Carroll Ave to Ingalls St, north along Ingalls St to Thomas Ave, and east on Thomas Ave to Griffith St. Ingalls St would remain an industrial mixed-use street with two automobile lanes and parking and loading zones on the northern and southern sides. The width of sidewalks on that portion of Ingalls St from Carroll Ave to Yosemite Ave would be decreased from 16 ft to 11 ft (4.9 to 3.4 m) to create a uniform street width that would accommodate the automobile lanes, parking, and loading.

Table 2.3-15. Parks and Open Space Proposed for Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)

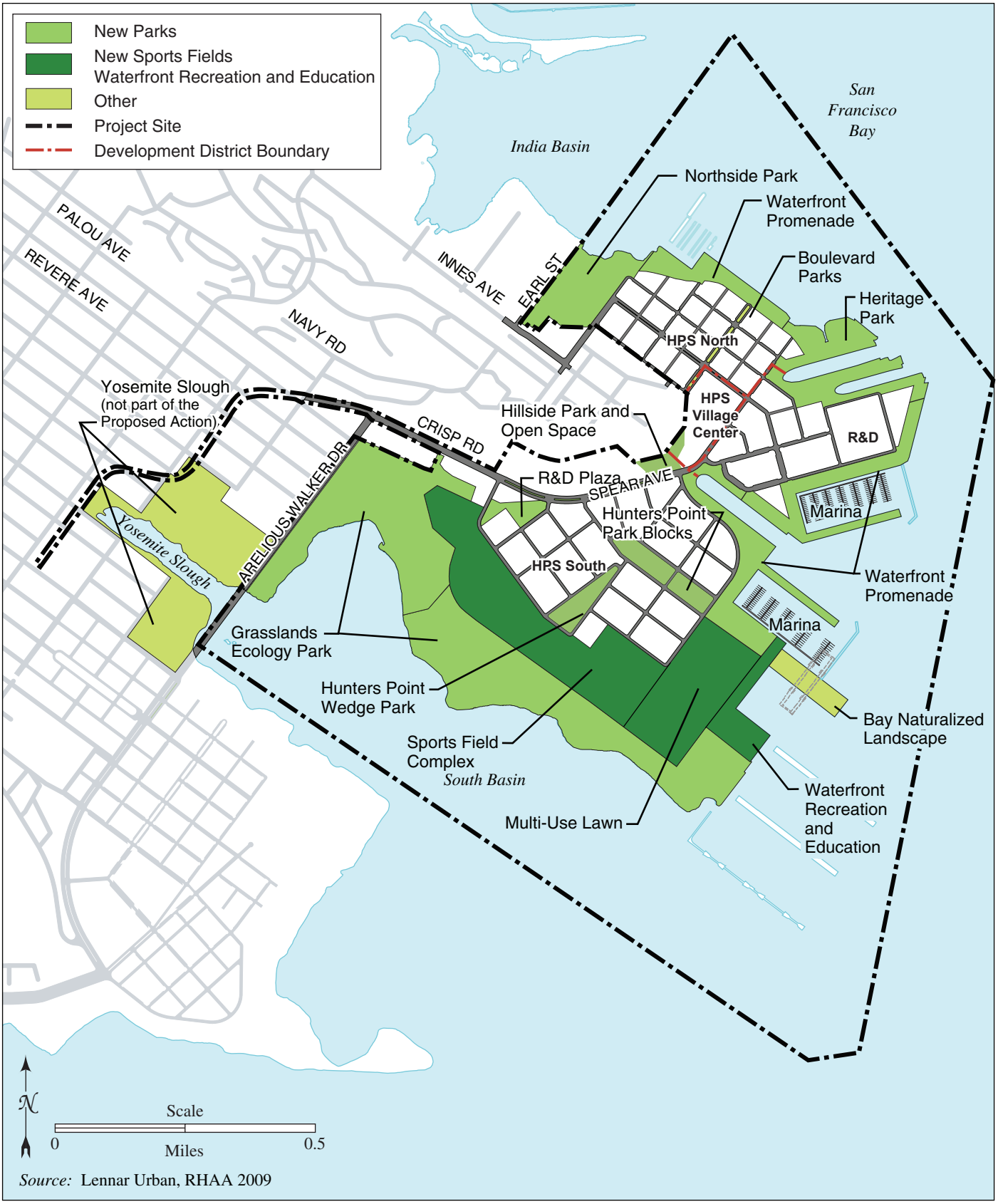
Park/Open Space	*Ac*
New Parks	
Northside Community Park	12.8
Waterfront Promenade	31.9
Heritage Park	15.6
Grassland Ecology Park at Parcel E	44.9
Grassland Ecology Park at Parcel E-2	37.8
Hunters Point Park Blocks	4.5
Hunters Point Wedge Park	2.8
R&D Plaza	2.1
Subtotal	152.4
New Sports Fields and Active Urban Recreation	
Sports Field Complex	40.7
Multi-Use Lawn	22.4
Waterfront Recreation & Event Pier	6.7
Subtotal	*69.8*
Total	**222.2**

Source: Lennar Urban 2009a.



Source: RHAA 2010

Figure 2.3-27. Conceptual Berm Design Alternative 2 (Non-Stadium Plan/Additional R&D Alternative) Preservation of Buildings (211, 224, 231, and 253)



Source: Lennar Urban, RHAA 2009

Figure 2.3-28. Parks and Open Space for Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)

Additional roadways to serve the R&D uses at HPS South would be included and commercial parking would be increased to serve the additional R&D space, compared to Alternative 1.

Alternative 2 would include a Transportation Management Plan and would develop and implement a TDM plan.

2.3.2.3.4 Infrastructure

The location of major infrastructure improvements would be similar to that proposed for Alternative 1 as discussed in Section 2.3.2.1.3. However, rather than terminating at the stadium site, the improvements would be sited under the roadways of the HPS South district.

2.3.2.3.5 Community Benefits and Green Building Concepts

Community benefits and green building concepts for this alternative would generally be the same as specified in Sections 2.3.2.1.5 and 2.3.2.1.6, respectively. However, Alternative 2 would provide for the development of 559 below-market units (221 agency affordable units, 236 inclusionary units, and 102 workforce units) on the project site.

2.3.2.3.6 Schedule

Buildout of the R&D uses would be scheduled for completion in 2031. Figure 2.3-29 illustrates the overall sequence of development for Alternative 2.

2.3.2.3.7 Approval Requirements

Approval requirements for this alternative would be the same as specified in Section 2.3.2.1.8 for Alternative 1.

2.3.2.3.8 Environmental Controls

Environmental controls for Alternative 2 would be the same as specified in Section 2.3.2.1.9 for Alternative 1.

2.3.2.4 Alternative 2A: Non-Stadium Plan/Housing and R&D Alternative

Under Alternative 2A, a new stadium would not be constructed; instead, housing and R&D uses emphasizing emerging technologies would be developed at HPS. Approximately 4,275 housing units would be developed within the project site, including 914 below market units, resulting in a population of 9,960 residents[13] at full occupancy in 2032. In addition, Alternative 2A would generate approximately 8,214 new jobs[14]. The number of construction personnel required at any given time would not be substantially different from Alternative 1. Parks and open space would be decreased by 9.8 ac (3.9 ha) under Alternative 2A, as compared to Alternative 1.

13 The population is calculated as a 2.33 person per unit, and it is assumed that all units are fully occupied.
14 This does not include the construction work force.

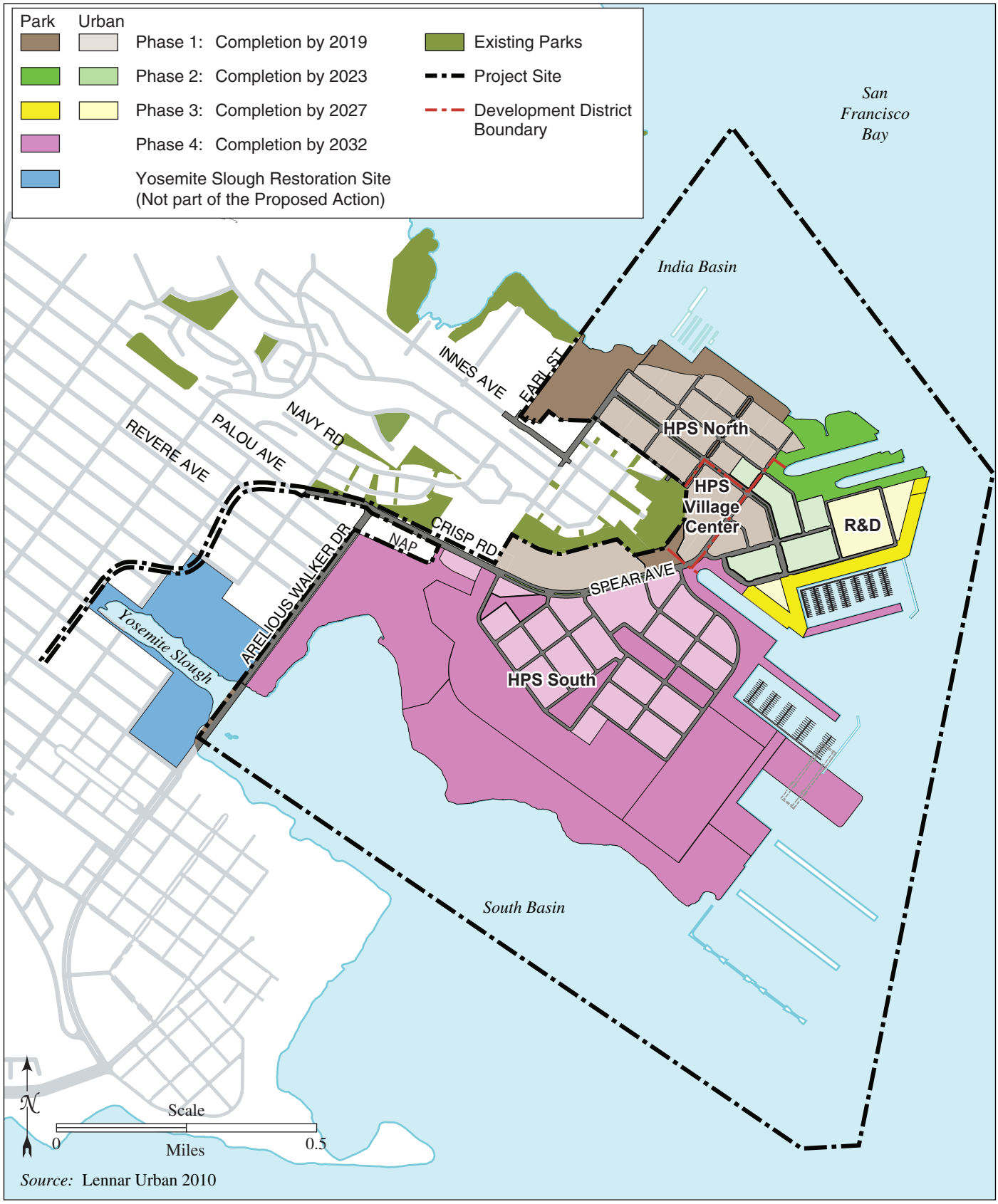


Figure 2.3-29. Building and Park Construction Schedule for Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)

2.3.2.4.1 Land Use

The changes proposed for Alternative 2A compared to Alternative 1 would primarily affect the land use plan for the HPS South and HPS North districts. A land use plan for Alternative 2A is provided in Figure 2.3-30. Additionally, Table 2.3-16 presents a land use summary for this alternative and Table 2.3-17 indicates the land use distribution within each district. Figure 2.3-31 illustrates the maximum building heights for Alternative 2A. Under this alternative, the stadium would not be constructed within the HPS South district. Instead, additional residential (1,625 units), R&D (1,000,000 ft^2 [92,903 m^2]), and neighborhood commercial (25,000 gft^2) land uses would be developed in the HPS South district. In addition, this alternative would result in a small reduction in neighborhood commercial uses in other HPS districts.

Table 2.3-16. Land Use Summary for Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)

Land Use	
RESIDENTIAL[1]	
Residential Density Range I (15 to 75 units per ac)	1,320
Residential Density Range II (50 to 125 units per ac)	2,185
Residential Density Range III (100 to 175 units per ac)	460
Residential Density Range IV (175 to 285 units per ac)	310
Total (units)	**4,275**[2]
NEIGHBORHOOD RETAIL (FT^2)	**125,000**
RESEARCH AND DEVELOPMENT (FT^2)	**3,000,000**
ARTISTS' STUDIOS/ART CENTER (FT^2)	**255,000**
COMMUNITY SERVICES (FT^2)[3]	50,000
PARKS AND OPEN SPACE	
New City Parks (ac)	150.9
New Dual-Use Sports Field/Multi-Use Lawn and Stadium Parking and Waterfront Recreation (ac)	70.9
Total (ac)	**221.8**
MARINA (SLIPS)	**300**
PARKING (SPACES)	
Residential (structured)[4]	4,275
Commercial (structured)	4,428
General & Commercial (on-street)	1,428
Total	***10,131***
OTHER ELEMENTS	
Yosemite Slough bridge	BRT/Pedestrian
Shoreline Improvements	Yes

Notes:

1. The number of residential units in each district may be adjusted depending on market demand; however, the total of housing units for HPS would not exceed 4,275.
2. 1,625 units more than Alternative 1.
3. Community facilities parcels are intended to provide the existing community and the future project community with dedicated land for uses designated to provide, preserve, and leverage such critical local resources as social services, education, the arts, other community services (including public safety facilities such as fire and police stations), and facilities for the benefit of senior citizens. Additional uses proposed for the community facilities parcels such as retail, services, offices, and R&D space beyond the 50,000 proposed for community facilities, would be absorbed within the retail or R&D program proposed in HPS. Total uses would not exceed those amounts identified in this table.
4. Residential at HPS would be increased compared to Alternative 1 to provide parking for the additional residential units and R&D.

Source: Lennar Urban 2010.

Table 2.3-17. Land Use by District for Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)

District	Net Acreage[1]	Dwelling Units[2]	Density[3] (ft^2)	Neighborhood Retail (ft^2)	Artists' Studios (ft^2)	R&D (ft^2)	Community Services (ft^2)	Parks (ac)
Hunters Point Shipyard North	26.88	2,090	I, II, III,IV	18,00[4]	0	0	0	NA
Hunters Point Shipyard Village Center	7.69	125	I, II, III	20,000[5]	255,000	0	0	NA
Research and Development	26.75	435	I, II	62,000[6]	0	2,000,000	0	NA
Hunters Point Shipyard South	61.24[8]	1,625	I, II	25,000[7]	0	1,000,000	50,000	NA
Total	**122.56**	**4,275[9]**	**N/A**	**125,000**	**255,000**	**3,000,000[4]**	**50,000[5]**	**221.8[6]**

Notes:

1. Net Acreage excludes the street network.
2. The number of residential units in each district may be adjusted depending on market demand; however, the total of housing units for HPS would not exceed 4,275 units
3. Residential Density Range I (15 to 75 units per ac)
   Residential Density Range II (50 to 125 units per ac)
   Residential Density Range III (100 to 175 units per ac)
   Residential Density Range IV (175 to 285 units per ac)
4. 7,000 gft^2 less than Alternative 1
5. 5,000 gft^2 less than Alternative 1
6. 9.8 ac less than Alternative 1
7. 25,000 more than Alternative 1
8. The net acreage of HPS South district would be increased compared to Alternative 1 (32.26 ac with stadium).
9. 1,625 units more than Alternative 1.

Source: Lennar Urban 2009a.

Total R&D uses under this alternative would be 3 million ft^2 (278,709 m^2) compared to 2.5 million ft^2 (232,258 m^2) under Alternative 1. As with Alternative 1, Building 813 would be rehabilitated or demolished and reconstructed and used as a R&D facility. Land uses within the other HPS districts would be the same as Alternative 1.

Drydocks 2, 3, and 4 and Buildings 140, 204, 205, 207 would be retained and rehabilitated using the *Secretary of the Interior Standards for Rehabilitation and Guidelines for Rehabilitating Historic Building* as described for Alternative 1 in Section 2.3.2.1.1. Building 208 would be retained (i.e., mothballed and maintained) as an element of the cultural landscape. As with the Alternative 1, development at HPS under this alternative would result in the demolition of Buildings 211, 224, 231, and 253.

Tower Variant D

Alternative 2A could also be developed with a land use plan that provides for the same development scenario discussed above except that the floor plate area of the residential towers could be increased from 10,000 to 12,500 ft^2 (929 to 1,161 m^2), which would result in slightly greater tower bulk. However, the larger floor plates would be accommodated on the existing podium design and, therefore, the building footprint would not increase. This land use plan would be developed as specified in Section 2.3.2.3.1 for Tower Variant D.

Preservation of Additional Buildings (211, 224, 231, and 253)

Alternative 2A could also be developed with a land use plan that provides for the same development scenario discussed above except that it would preserve four structures (Buildings 211, 224, 231, and 253) located within the R&D district that are proposed for demolition. As discussed in Section 2.3.2.1.1, these buildings have been identified as sensitive historic resources under California guidelines (as defined under Public Resources Code Section 21084.1 and CEQA Guidelines Section15064.5[a] and [b]), but are not

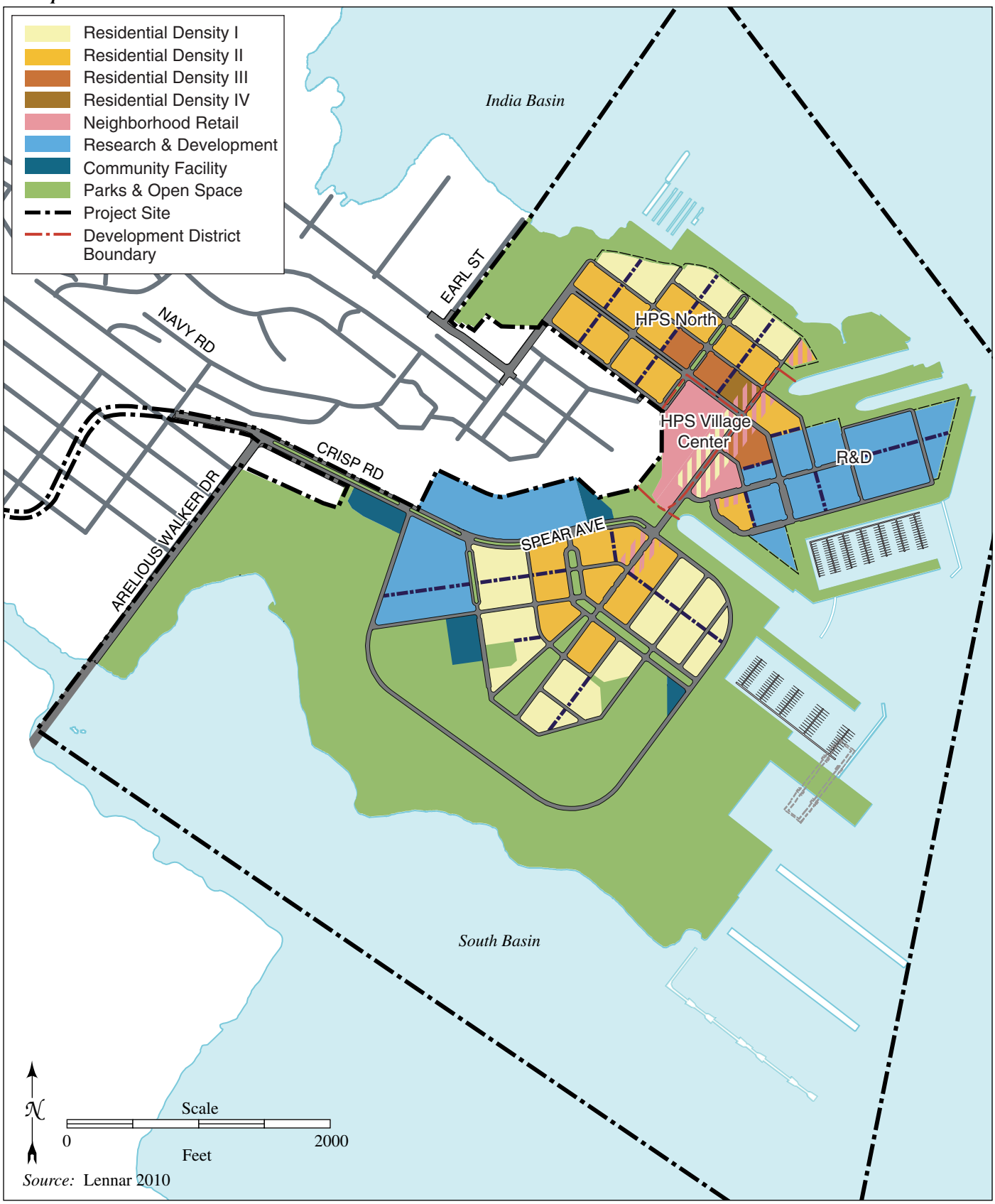


Figure 2.3-30. Land Uses for Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)

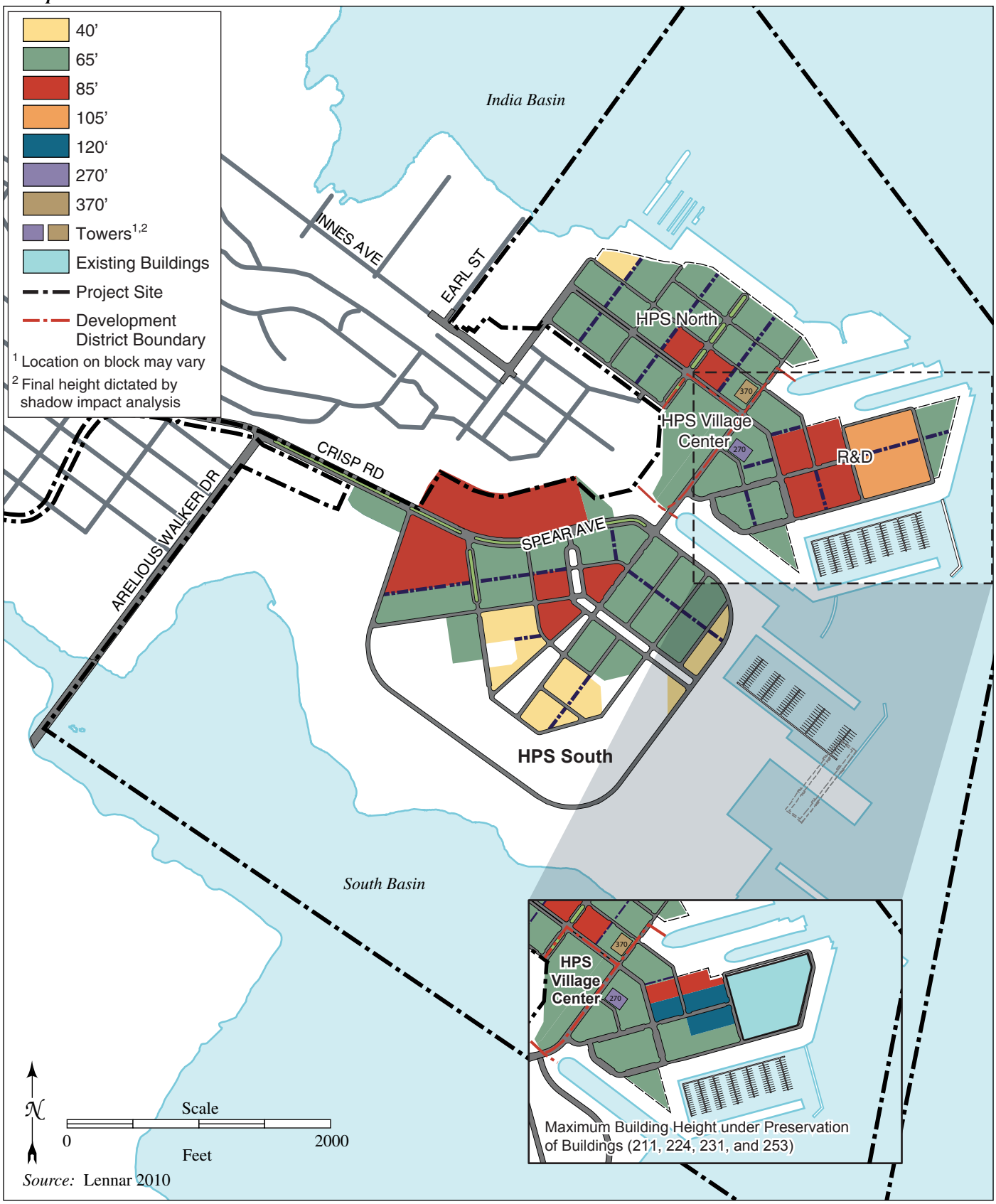


Figure 2.3-31. Maximum Building Heights for Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)

considered historic properties under federal regulations (as defined by Section 106 of the National Historic Preservation Act per 36 CFR 800.16[l]). This land use plan would be developed as specified in Section 2.3.2.3.1 for the preservation of additional buildings.

2.3.2.4.2 Parks and Open Space

A total of 221.8 ac (89.76 ha) of parkland would be provided at HPS under Alternative 2A. This alternative would include additional parks (Hunters Point Wedge Park, Hunters Point South Park, Hunters Point Neighborhood Park, and Hunters Point Mini Park) and would reconfigure the design and sizes of parks and open space at HPS compared to Alternative 1. In addition, the area used under Alternative 1 for sports fields and for game day parking would solely be used for sports fields under this alternative. Each of the parks and their respective acreage is listed in Table 2.3-18. Figure 2.3-32 illustrates the location of the proposed parks and open space.

The Hunters Point South Park, Hunters Point Mini Park, Hunters Point Neighborhood Park, and Hunters Point Wedge Park, described below, would be constructed in the HPS South district and are not proposed under Alternative 1. A description of the Hunters Point Wedge Park is provided in Section 2.3.2.3.2.

Hunters Point South Park

Shipyard South Park would act as a promenade, extending over several blocks and connect Crisp Road with the landmark Re-Gunning Crane and its pier. The park would be structured as a set of garden "rooms" that may include tot lots, plazas, a café/kiosk, spaces for informal neighborhood gathering and picnicking, and other flexible open space areas. Additionally, the park may provide opportunities for stormwater treatment gardens.

Hunters Point Mini Park

The park opens up from a street end with views towards the Community Sports Field Complex and the bay beyond. It could include a tot lot, open lawn, ornamental gardens and stormwater treatment gardens, and a shaded picnic grove with game tables.

Hunters Point Neighborhood Park

Nestled within a larger block, the Hunters Point Neighborhood Park could include interactive water features, a plaza, open lawn, shaded seating areas, and stormwater treatment gardens.

Transportation and Circulation

The traffic and circulation improvements would be the same as proposed for Alternative 2, as specified in Section 2.3.2.3.3.

Additional roadways to serve the residential and R&D uses on HPS South would be included and residential parking would be increased to serve the additional R&D and residential units, compared to Alternative 1.

Infrastructure

The location of major infrastructure improvements would be similar to that proposed for Alternative 1, as specified in Section 2.3.2.1.4. However, rather than terminating at the stadium site, the improvements would be sited under the roadways of HPS South.

Table 2.3-18. Parks and Open Space Proposed for Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)	
Park/Open Space	***Ac***
New Parks	
Northside Community Park	12.8
Waterfront Promenade	32.4
Heritage Park	15.6
Grassland Ecology Park at Parcel E	45.2
Grassland Ecology Park at Parcel E-2	38.2
Hunters Point Wedge Park	3.1
Hunters Point South Park	2.0
Hunters Point Neighborhood Park	0.9
Hunters Point Mini Park	0.7
Subtotal	150.9
New Sports Fields and Active Urban Recreation	
Sports Field Complex	39.0
Multi-Use Lawn	25.2
Waterfront Recreation & Event Pier	6.7
Subtotal	*70.9*
Total	**221.8**
Source: Lennar Urban 2010.	

2.3.2.4.3 Community Benefits and Green Building Concepts

Community benefits and green building concepts for Alternative 2A would generally be the same as specified in Sections 2.3.2.1.5 and 2.3.2.1.6, respectively. This alternative would provide for the development of 914 below-market units (351 agency affordable units, 381 inclusionary units, and 182 workforce units) on the HPS site.

2.3.2.4.4 Schedule

Build-out of the housing and R&D uses would begin in the first phase of development and would be completed by 2027. Figure 2.3-33 illustrates the overall sequence of development for Alternative 2A.

2.3.2.4.5 Approval Requirements

Approval requirements for Alternative 2A would be the same as specified in Section 2.3.2.1.8 for Alternative 1.

2.3.2.4.6 Environmental Controls

Environmental controls for Alternative 2A would be the same as specified in Section 2.3.2.1.9 for Alternative 1, with the exception of the non-applicability of the *Minimize Light & Glare During Operations* control measure related to the stadium.

Figure 2.3-32. Parks and Open Space for Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)

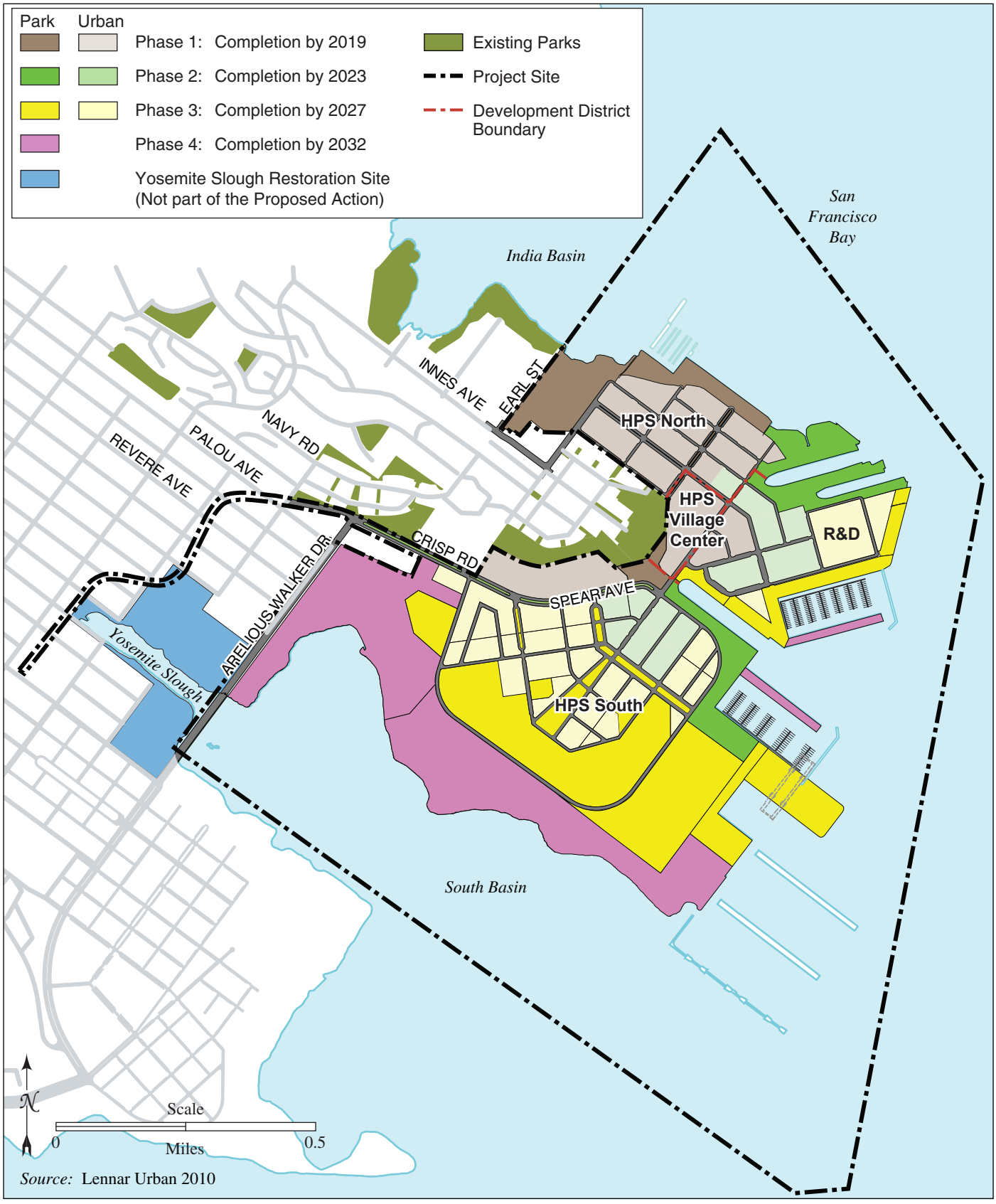


Figure 2.3-33. Building and Park Construction Schedule for Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)

2.3.2.5 Alternative 3: Non-Stadium Plan/Additional Housing Alternative

A new stadium would not be constructed under Alternative 3. Instead, housing would be increased by 1,350 residential units at HPS compared to Alternative 1. Overall, approximately 4,000 housing units would be developed within the project site, including 984 below market units, resulting in a population of 9,320 residents[15] at full occupancy in 2032. All other uses at HPS would be constructed at the same locations and at the same intensities proposed for Alternative 1. Neighborhood retail would be distributed differently than Alternative 1 to serve residential uses on HPS South district; however, the total amount of neighborhood retail would be the same. Parks and sports field areas at HPS would be increased compared to Alternative 1 because the total development area for residential uses would be reduced. In addition, this alternative would generate approximately 6,956 new jobs[16]. The number of construction personnel required at any given time would not be substantially different from Alternative 1.

2.3.2.5.1 Land Use

Table 2.3-19 presents a land use summary and Figure 2.3-34 illustrates the land uses for Alternative 3.

Table 2.3-19. Land Use Summary for Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)

Land Use	
RESIDENTIAL	
Residential Density Range I (15 to 75 units per ac)	1,540
Residential Density Range II (50 to 125 units per ac)	1,905
Residential Density Range III (100 to 175 units per ac)	265
Residential Density Range IV (175 to 285 units per ac)	290
Total (units)	**4,000**
NEIGHBORHOOD RETAIL (FT^2)	**125,000**
RESEARCH AND DEVELOPMENT (FT^2)	**2,500,000**
ARTISTS' STUDIOS/ART CENTER (FT^2)	**255,000**
COMMUNITY SERVICES (FT^2)	50,000
PARKS AND OPEN SPACE	
New City Parks (ac)	149.9
New Dual-Use Sports Field/Multi-Use Lawn and Stadium Parking and Waterfront Recreation (ac)	94.7
Total (ac)	**244.6**
MARINA (SLIPS)	**300**
PARKING (SPACES)	
Residential (structured)	4,000
Commercial (structured)	3,778
General & Commercial (on-street)	1,298
OTHER ELEMENTS	
Yosemite Slough bridge	BRT/Pedestrian
Shoreline Improvements	Yes
Source: Lennar Urban 2009a.	

15 The population is calculated as a 2.33 person per unit, and it is assumed that all units are fully occupied.
16 This does not include the construction work force.

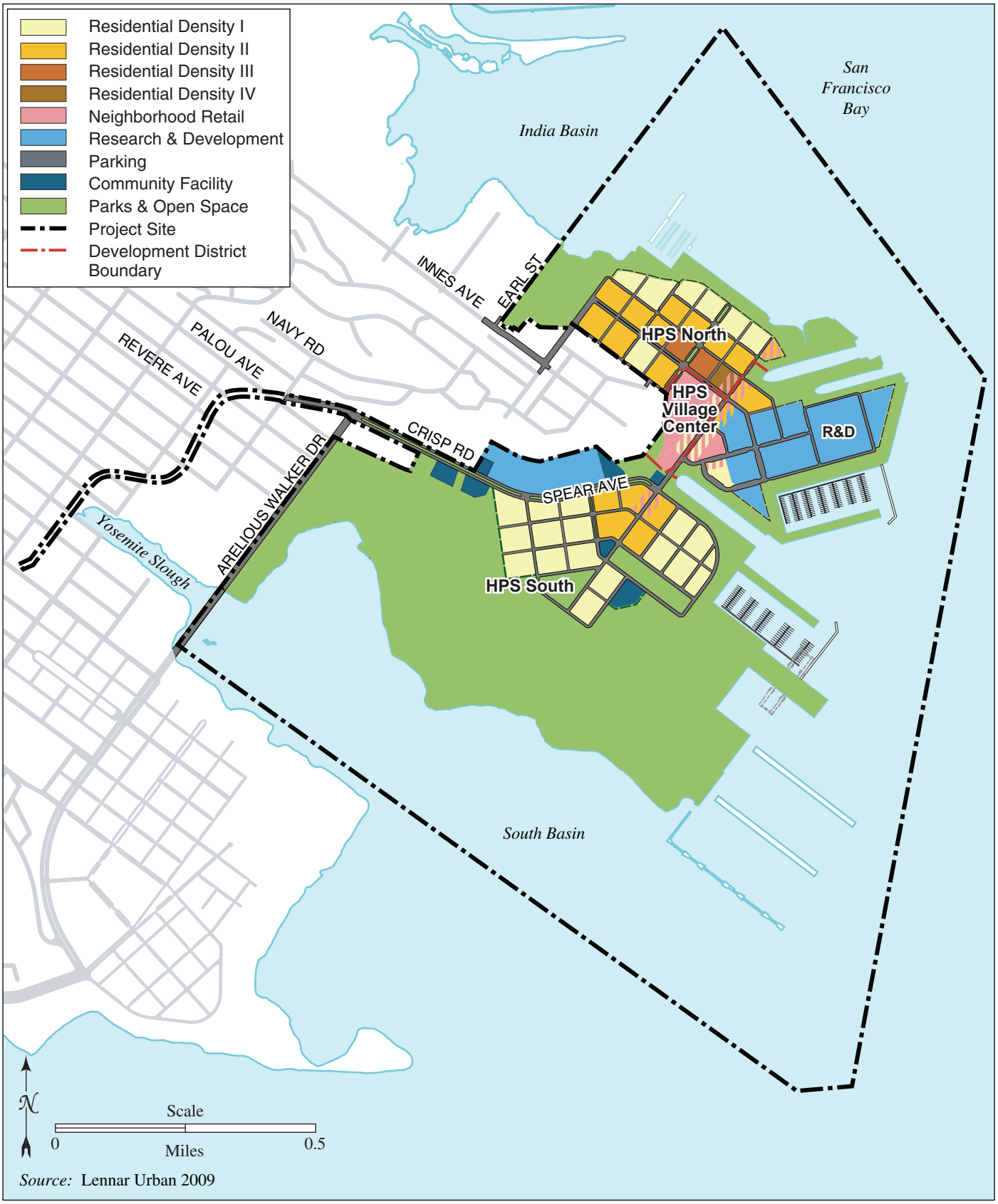


Figure 2.3-34. Land Uses for Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)

The changes proposed for Alternative 3 compared to Alternative 1 include residential and neighborhood commercial land uses for the HPS South district and a small reduction in neighborhood commercial uses in other HPS districts. All other land uses within the HPS districts would be the same as Alternative 1. A summary of the development in HPS by district proposed for this alternative is provided in Table 2.3-20. Figure 2.3-35 illustrates the maximum building heights for Alternative 3. The two residential towers would each have a maximum floor size of 10,000 ft^2 (929 m^2).

Table 2.3-20. Land Use Summary by District for Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)

District	*Net Acreage*[1]	*Dwelling Units*	*Density*[2] *(ft^2)*	*Neighborhood Retail (ft^2)*	*Artists' Studios (ft^2)*	*R&D (ft^2)*	*Community Services (ft^2)*	*Parks (ac)*
Hunters Point Shipyard North	27.3	2,085	I, II, III,IV	18,000[3]	0	0	0	19.9
Hunters Point Shipyard Village Center	7.55	125	I	20,000[4]	255,000	0	0	15.6
Research and Development	26.22	440	I, II	62,000[5]	0	2,000,000	0	25.3
Hunters Point Shipyard South	47.06[6]	1,350[7]	I, II	25,000[8]	0	500,000	50,000	183.8
Total	**108.13**	**4,000**[7]	**N/A**	**125,000**	**255,000**	**2,500,000**	**50,000**	**244.6**[9]

Notes:
1. Net Acreage excludes the street network.
2. Residential Density Range I (15 to 75 units per ac)
   Residential Density Range II (50 to 125 units per ac)
   Residential Density Range III (100 to 175 units per ac)
   Residential Density Range IV (175 to 285 units per ac)
3. 7,000 ft^2 less than Alternative 1.
4. 5,000 ft^2 less than Alternative 1.
5. 13,000 ft^2 less than Alternative 1.
6. The net acreage of the HPS South district would be increased compared to Alternative 1.
7. 1,350 units more than Alternative 1.
8. 25,000 more than Alternative 1.
9. Parks and sports field's areas at HPS would be increased compared to Alternative 1 because the total development area for residential uses would be reduced.

Source: Lennar Urban 2008.

Hunters Point Shipyard South

The stadium would not be constructed under Alternative 3. Instead, 1,350 dwelling units, including 130 affordable units at Density Range I and II, would be constructed in the HPS South district. In addition, 25,000 ft^2 (2,323 m^2) of neighborhood retail would be developed in the HPS South district. The Sports Field Complex proposed for Alternative 3 would be 65.9 ac (26.7 ha), representing 6.2 ac (2.5 ha) more than Alternative 1. As with Alternative 1, Building 813 would be rehabilitated or demolished and reconstructed and used as a R&D facility.

Hunters Point Shipyard North

Other than the amount of neighborhood retail that would be developed, the land uses proposed in the HPS North district would be the same as Alternative 1. Development in this area would include 18,000 ft^2 (1,672 m^2) of neighborhood retail uses, which is 7,000 ft^2 (650 m^2) less than proposed for Alternative 1.

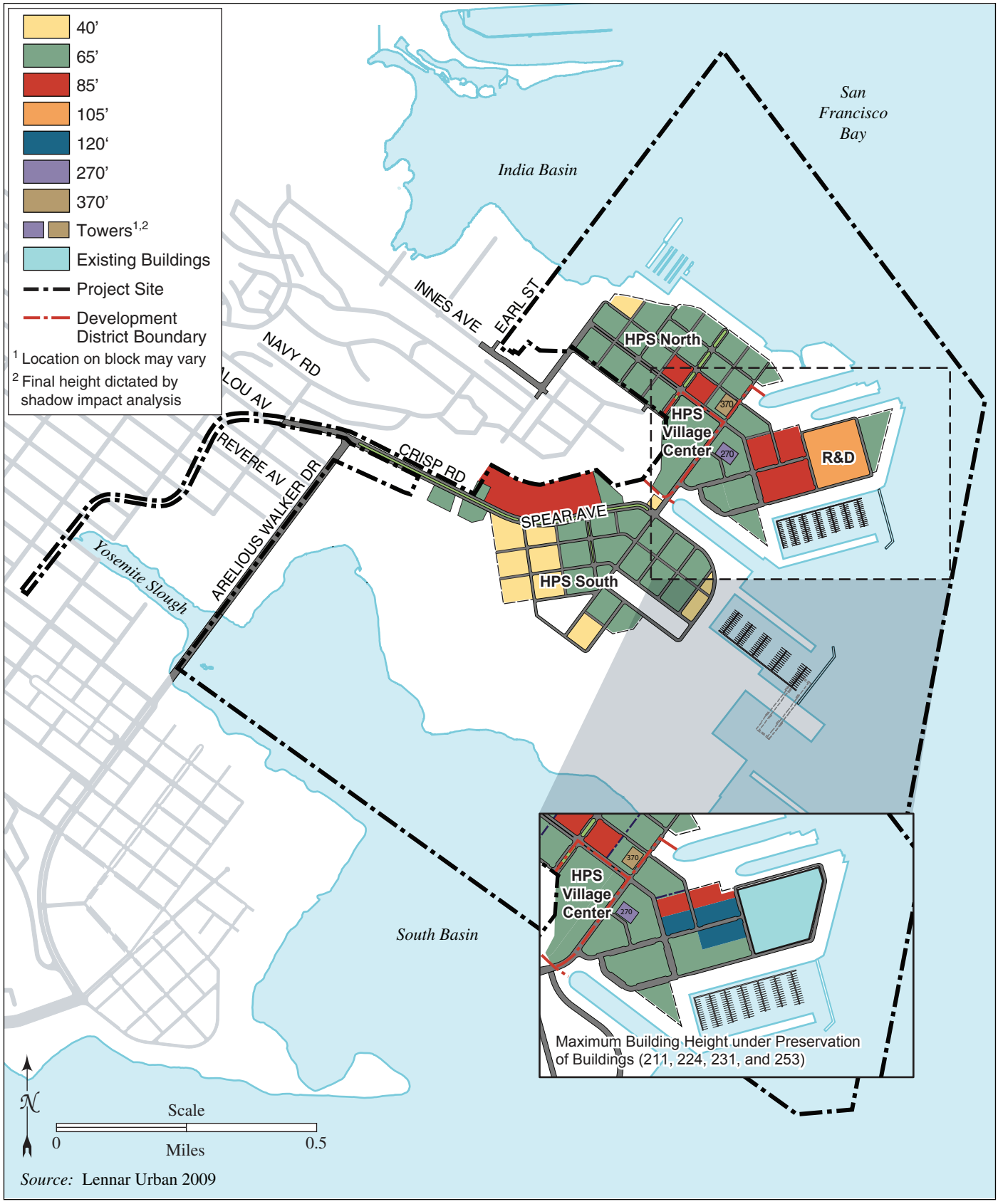


Figure 2.3-35. Maximum Building Heights for Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)

Hunters Point Shipyard Village Center

Other than the amount of neighborhood retail that would be developed, the land uses proposed in the HPS Village Center district would be the same as Alternative 1. Development in this area would include 20,000 ft^2 (1,858 m^2) of neighborhood retail uses; this is 5,000 ft^2 (464.5 m^2) less than for Alternative 1.

Research & Development

Other than the amount of neighborhood retail that would be developed, the land uses proposed in the R&D district would be the same as for the Alternative 1. The R&D district would include 62,000 ft^2 (5,760 m^2) of neighborhood retail uses, 13,000 ft^2 (1,208 m^2) less than what is proposed for Alternative 1. This alternative would retain Buildings 140, 207, 204, 205, and Drydocks 2, 3, and 4. Drydocks 2, 3, and 4 and Buildings 140, 204, 205, 207 would be retained and rehabilitated using the *Secretary of the Interior Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* as described for Alternative 1 in Section 2.3.2.1.1. Building 208 would be retained (i.e., mothballed and maintained) as an element of the cultural landscape. As with Alternative 1, development at HPS under this alternative would result in the demolition of Buildings 211, 224, 231, and 253.

Tower Variant D

Alternative 3 could also be developed with a land use plan that provides for the same development scenario discussed above except that the floor plate area of the residential towers could be increased from 10,000 to 12,500 ft^2 (929 to 1,161 m^2), which would result in slightly greater tower bulk. However, the larger floor plates would be accommodated on the existing podium design and, therefore, the building footprint would not increase. This land use plan would be developed as specified in Section 2.3.2.3.1 for Tower Variant D.

Preservation of Additional Buildings (211, 224, 231, and 253)

Alternative 3 could also be developed with a land use plan that provides for the same development scenario discussed above except that it would preserve four structures (Buildings 211, 224, 231, and 253) located within the R&D district proposed for demolition. As discussed in Section 2.3.2.1.1, these buildings have been identified as sensitive historic resources under California guidelines (as defined under Public Resources Code Section 21084.1 and CEQA Guidelines Section 15064.5[a] and [b]), but are not considered historic properties under federal regulations (as defined by Section 106 of the National Historic Preservation Act per 36 CFR 800.16[l]). This land use plan would be developed as specified in Section 2.3.2.3.1 for the preservation of additional buildings.

2.3.2.5.2 Parks and Open Space

Alternative 3 would include two additional parks, Hunters Point South Park and Hunters Point Wedge Park, and would reconfigure the design and sizes of parks and open space areas at HPS compared to Alternative 1. A description of Hunters Point South Park and Hunters Point Wedge Park is provided in Sections 5.2.4.2 and 5.2.3.2, respectively. HPS would have 244.6 ac (98.99 ha) (13 ac [5.3 ha] more than Alternative 1) of parks and open space. Table 2.3-21 presents the proposed park and open space at HPS under Alternative 3. Figure 2.3-36 illustrates the location of the proposed parks and open space.

Table 2.3-21. Parks and Open Space for Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)	
Park/Open Space	***Ac***
New Parks	
Northside Community Park	12.8
Waterfront Promenade	32.4
Heritage Park	15.6
Grassland Ecology Park at Parcel E	44.9
Grassland Ecology Park at Parcel E-2	37.7
Hunters Point South Park	3.7
Hunters Point Wedge Park	2.8
Subtotal	*149.9*
New Sports Field and Active Urban Recreation	
Sports Field Complex	65.9
Multi-Use Lawn	22.1
Waterfront Recreation & Event Pier	6.7
Subtotal	*94.7*
Total	**244.6**
Source: Lennar Urban 2009a.	

2.3.2.5.3 Transportation and Circulation

The transportation and circulation plan under Alternative 3 would be the same as specified for Alternative 2 in Section 2.3.2.3.3. Additional roadways to serve the residential uses on HPS South would be included and residential parking would be increased to serve the additional residential units, compared to Alternative 1.

2.3.2.5.4 Infrastructure

The location of major infrastructure improvements would be similar to that which is proposed for Alternative 1. However, rather than terminating at the stadium site, the improvements would be sited under the roadways of HPS South.

2.3.2.5.5 Community Benefits and Green Building Concepts

Community benefits and green building concepts for Alternative 3 would generally be the same as specified in Sections 2.3.2.1.5 and 2.3.2.1.6, respectively. This alternative would provide for the development of 984 below-market units (351 agency affordable units, 451 inclusionary units, and 182 workforce units) on the project site.

2.3.2.5.6 Schedule

Residential development would be scheduled for completion in 2023. Figure 2.3-37 illustrates the overall phasing for Alternative 3.

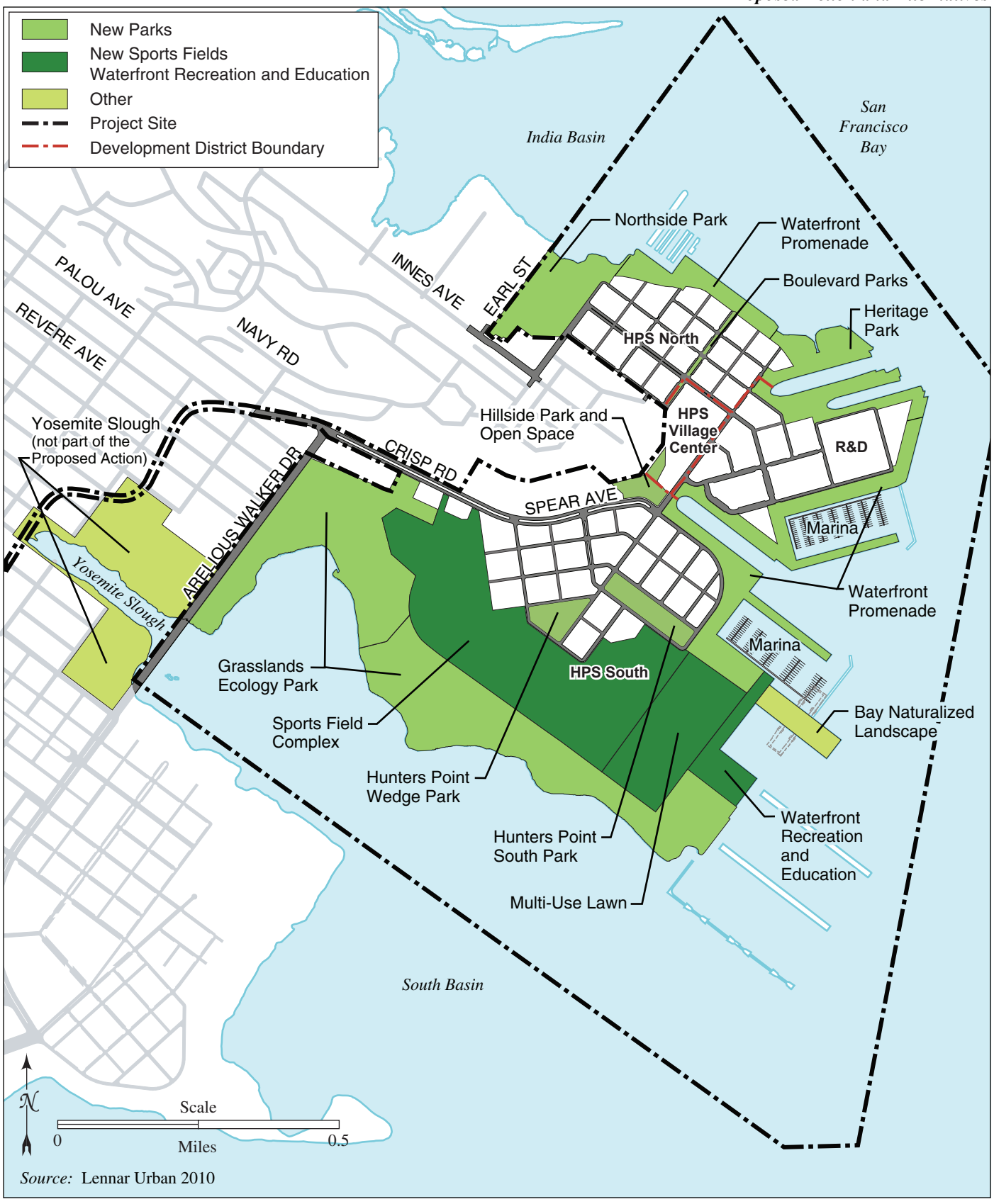


Figure 2.3-36. Parks and Open Space for Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)

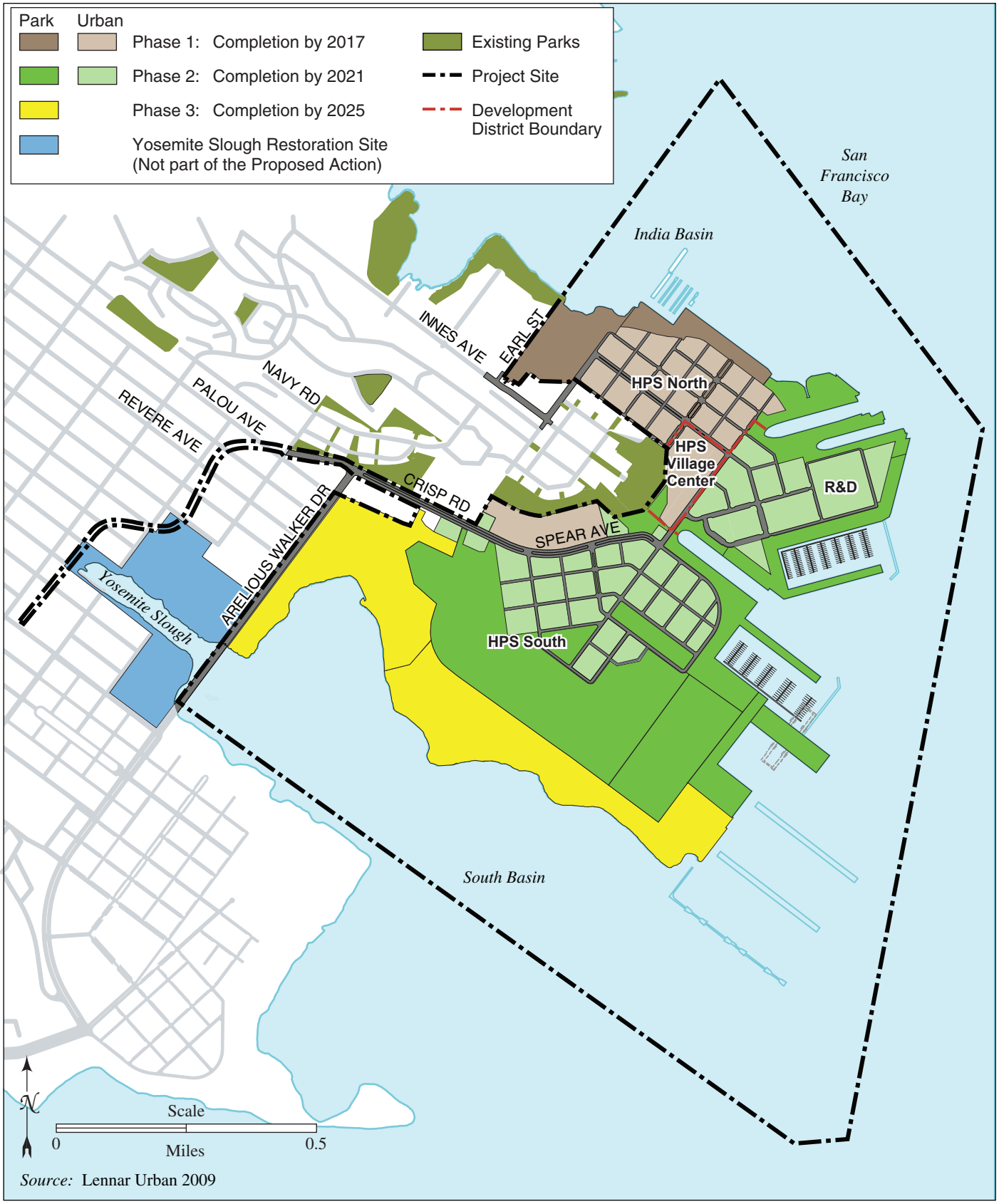


Figure 2.3-37. Building and Parks Construction Schedule for Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)

2.3.2.5.7 Environmental Controls

Environmental controls for Alternative 3 would be the same as specified in Section 2.3.2.1.9 for Alternative 1, with the exception of non-applicable portions of the *Minimize Light & Glare During Operations* control measure related to the stadium.

2.3.2.6 Alternative 4: Non-Stadium Plan/Reduced Development Alternative

Alternative 4 was selected to provide a reduced development alternative to Alternative 1. This alternative would reduce the dry land and submerged area subject to development. Under Alternative 4, a new stadium, the Yosemite Slough bridge, the marina, and in-water or shoreline improvements associated with the marina would not be constructed. Land uses proposed under Alternative 4 would be similar to those proposed under Alternative 1; however, residential densities and commercial intensities for most uses would be reduced by 30 percent compared to Alternative 1. Overall, approximately 1,855 housing units would be developed within the project site, including 391 below market units, resulting in a population of 4,730 residents[17] at full occupancy in 2032. In addition, four buildings (Buildings 211, 224, 231, and 253), would be preserved under Alternative 4 as compared to Alternative 1. As discussed in Section 2.3.2.1.1, these buildings have been identified as sensitive historic resources under California guidelines (as defined under Public Resources Code Section 21084.1 and CEQA Guidelines Section 15064.5[a] and [b]), but are not considered historic properties under federal regulations as defined by Section 106 of the National Historic Preservation Act per 36 CFR 800.16[l]).

Parks and open space would be increased by 13 ac (5.3 ha) under Alternative 4 as compared to Alternative 1. This alternative would generate approximately 4,846 new jobs (Economic & Planning Systems 2009). The number of construction personnel required at any given time would not be substantially different from Alternative 1.

2.3.2.6.1 Land Use

Retail and R&D floor area would be approximately 30 percent less under Alternative 4 compared to Alternative 1. Like Alternative 1, Alternative 4 would retain and rehabilitate Drydocks 2, 3, and 4 and Buildings 140, 204, 205, 207 in accordance with *Secretary of the Interior Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*. In addition, Building 208 would be mothballed and maintained, the same as under Alternative 1. As with Alternative 1, Building 813 would be rehabilitated or demolished and reconstructed and used as a R&D facility.

Compared to Alternative 1, Alternative 4 would not result in the demolition of Buildings 211, 224, 231, and 253. The buildings occupy approximately 10 ac (4.0 ha) in the R&D district and would consist of approximately 880,000 gft^2 (1,177,267 m^2) of floor area. Building 231 would be rehabilitated to accommodate parking and Buildings 211 and 253 would be rehabilitated to accommodate R&D uses.

Housing at HPS would be reduced by 30 percent and no residential towers would be constructed within the project site. The floor areas for the artists' studios, community services, and performance venue would, however, be the same as Alternative 1. No stadium or marina would be constructed, and there would be no in-water or shoreline improvements associated with a marina. In addition, the offsite Yosemite Slough bridge would not be built. Table 2.3-22 presents the land use summary for Alternative 4. Figure 2.3-38 illustrates the land use plan for Alternative 4. Figure 2.3-39 illustrates the maximum building heights for Alternative 4.

[17] The population is calculated as a 2.33 person per unit, and it is assumed that all units are fully occupied.

Figure 2.3-38. Land Uses for Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)

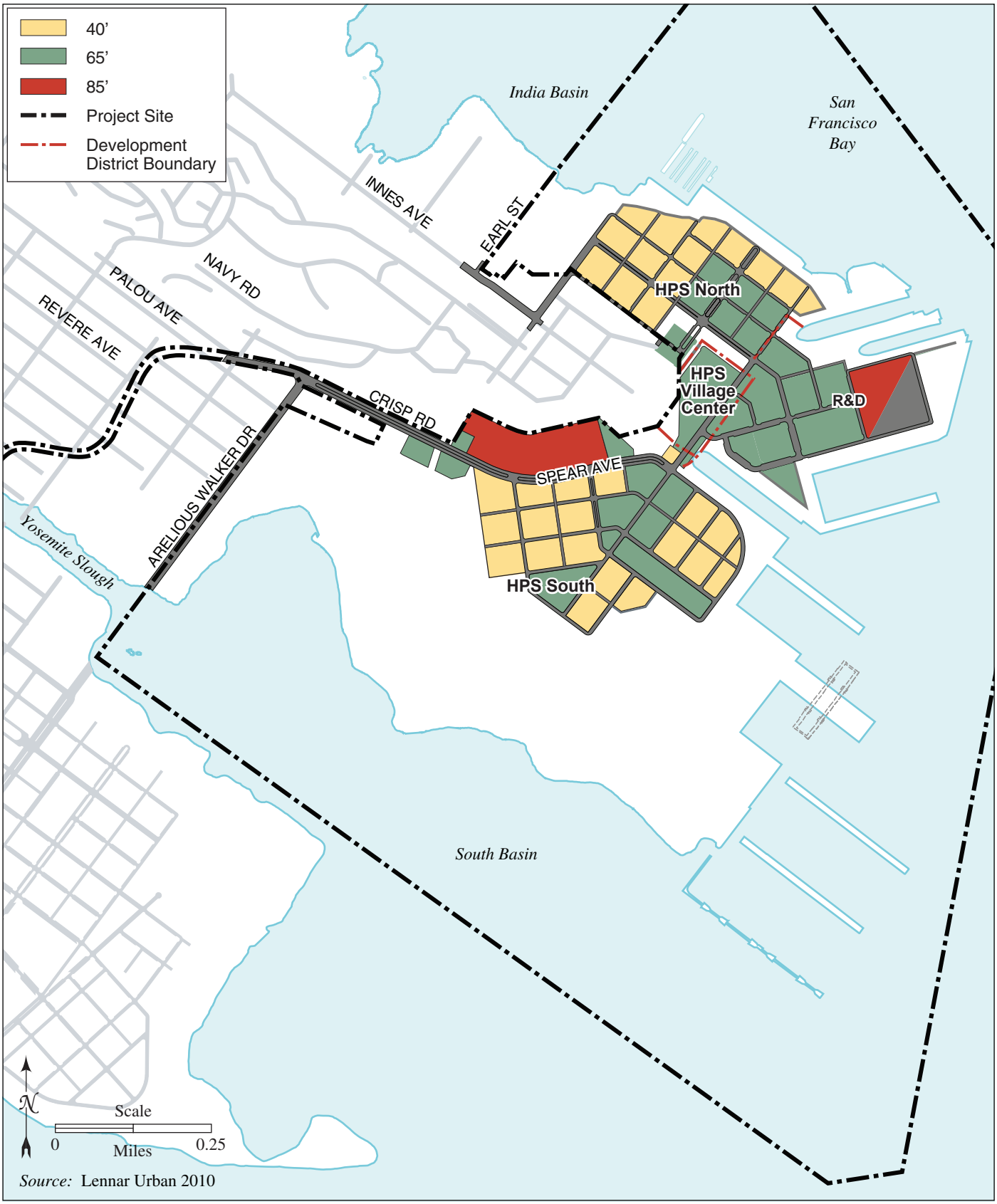


Figure 2.3-39. Maximum Building Heights for Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)

Table 2.3-22. Land Use Summary for Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)	
Land Use	
RESIDENTIAL	
Residential Density Range I (15 to 75 units per ac)	1,795
Residential Density Range II (50 to 125 units per ac)	0
Residential Density Range III (100 to 175 units per ac)	60
Residential Density Range IV (175 to 285 units per ac)	0
Total (units)	**1,855**
NEIGHBORHOOD RETAIL (FT^2)	**87,500**
RESEARCH AND DEVELOPMENT (FT^2)	**1,750,000**
ARTISTS' STUDIOS/ART CENTER (FT^2)	**255,000**
COMMUNITY SERVICES (FT^2)	50,000
Parks and Open Space (ac)	**244.6**
MARINA (SLIPS)	**0**
Parking (spaces)	**2,583[1]**
OTHER ELEMENTS	
Yosemite Slough bridge	No-Bridge
Shoreline Improvements	Yes

Note:
1. Estimated based on commercial and general parking levels approximately half of that described for Alternative 3.

Sources: Lennar Urban 2009a; PBS&J 2009.

A summary of the development in HPS by district proposed for this alternative is provided in Table 2.3-23.

Table 2.3-23. Land Use Summary by District for Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)

District	*Net Acreage[1]*	*Dwelling Units*	*Density[2] (ft^2)*	*Neighborhood Retail (ft^2)*	*Artists' Studios (ft^2)*	*R&D (ft^2)*	*Community Services (ft^2)*	*Parks (ac)*
Hunters Point Shipyard North	27.3	744[3]	I, II, III, IV	10,000[4]	0	0	0	19.9
Hunters Point Shipyard Village Center	7.55	110[5]	I	20,000[6]	255,000	0	0	15.6
Research and Development	26.22	210[7]	I, II	57,500[8]	0	1,400,000[9]	0	25.3
Hunters Point Shipyard South	47.06[10]	792[11]	I	0	0	350,000[12]	50,000	183.8
Total	**108.13**	**1,855[13]**	**N/A**	**87,500**	**255,000**	**1,750,000**	**50,000**	**244.6[13]**

Notes:
1. Net Acreage excludes the street network.
2. Residential Density Range I (15 to 75 units per ac)
   Residential Density Range II (50 to 125 units per ac)
   Residential Density Range III (100 to 175 units per ac)
   Residential Density Range IV (175 to 285 units per ac)
3. 1,341 units less than Alternative 1
4. 15,000 ft^2 less than Alternative 1
5. 15 units less than Alternative 1
6. 17,500 ft^2 less than Alternative 1
7. 230 units less than Alternative 1
8. 795 ft^2 less than Alternative 1
9. 600,000 ft^2 less than Alternative 1
10. The net acreage of the HPS South district would be increased compared to Alternative 1
11. 792 units more than Alternative 1
12. 150,000 ft^2 less than Alternative 1
13. Parks and sports fields areas at HPS would be increased compared to Alternative 1 because the total development area for residential uses would be reduced.

Source: Appendix N3 of the CP-HPS DEIR (SFRA 2009)..

2.3.2.6.2 Parks and Open Space

Implementation of Alternative 4 would include approximately 244.6 ac (98.99 ha) of parks and open space areas and would be the same as for Alternative 3 (Figure 2.3-36 and Tables 2.3-19 and 2.3-20).

2.3.2.6.3 Transportation and Circulation

Under Alternative 4, motorized and non-motorized traffic, including BRT, would be required to circumnavigate Yosemite Slough since the Yosemite Slough bridge would not be constructed. The circulation network around Yosemite Slough would be as illustrated in Figure 2.3-40. The primary roadway connection for automobiles and other vehicular traffic between HPS and the offsite Candlestick Point would be west on Carroll Aveto Ingalls St, north along Ingalls St to Thomas Ave, and east on Thomas Ave to Griffith St. Ingalls St would remain an industrial mixed-use street with two automobile lanes and parking and loading zones on its northern and southern sides. The width of sidewalks on that portion of Ingalls St from Carroll Ave to Yosemite Ave would be decreased from 16 ft to 11 ft (4.9 to 3.4 m) to create a uniform street width that would accommodate the automobile lanes, parking, and loading.

Between the intersection of Carroll Ave/Arelious Walker Dr and Crisp Rd within HPS, the proposed BRT line would be routed on Carroll Ave between Arelious Walker Dr and Hawes St; on Hawes St between Carroll Ave and Armstrong Ave (currently unimproved); on Armstrong Ave between Hawes St and the DoN rail ROW; along the DoN rail ROW between Armstrong Ave and Shafter Ave; along Shafter Ave between the DoN rail ROW and Arelious Walker Dr; and on Arelious Walker Dr between Shafter Ave and Crisp Rd (currently unimproved).

On Carroll Ave, Hawes St, and Armstrong Ave to the DoN rail ROW, the BRT line would operate within an exclusive BRT lane, and one of the two travel lanes in each direction would be transit-only. Hawes Ave between Carroll Ave and Armstrong Ave, and Arelious Walker Dr between Shafter Ave and Crisp Rd are currently unimproved streets that would be built out to accommodate one transit-only travel lane in each direction. The DoN rail ROW between Armstrong Ave and Shafter Ave would be improved to provide one transit-only travel lane in each direction. Shafter Ave between the rail ROW and Arelious Walker Dr would be reconfigured to provide four travel lanes, with BRT operating in the center lanes.

2.3.2.6.4 Infrastructure

The location of major infrastructure improvements would be similar to that which is proposed for Alternative 1. However, rather than terminating at the stadium site, the improvements would be sited under the roadways of HPS South. Alternative 4 would include water and utilities infrastructure similar to Alternative 1, but infrastructure expansion would not be as extensive due to the reduced development.

2.3.2.6.5 Community Benefits and Green Building Concepts

Community benefits and green building concepts for Alternative 4 would generally be the same as specified in Sections 2.3.2.1.5 and 2.3.2.1.6, respectively. Alternative 4 would provide for the development of 391 below-market units (155 agency affordable units, 165 inclusionary units, and 71 workforce units) on the project site.

2.3.2.6.6 Schedule

It is anticipated that demolition and construction for Alternative 4 would begin subsequent to issuance of this SEIS ROD, and would occur in four phases (Phases 1 through 4), with full build-out of the project site by 2031 with the exception of parks/open space and a community facilities area within HPS South that would be completed by 2032.

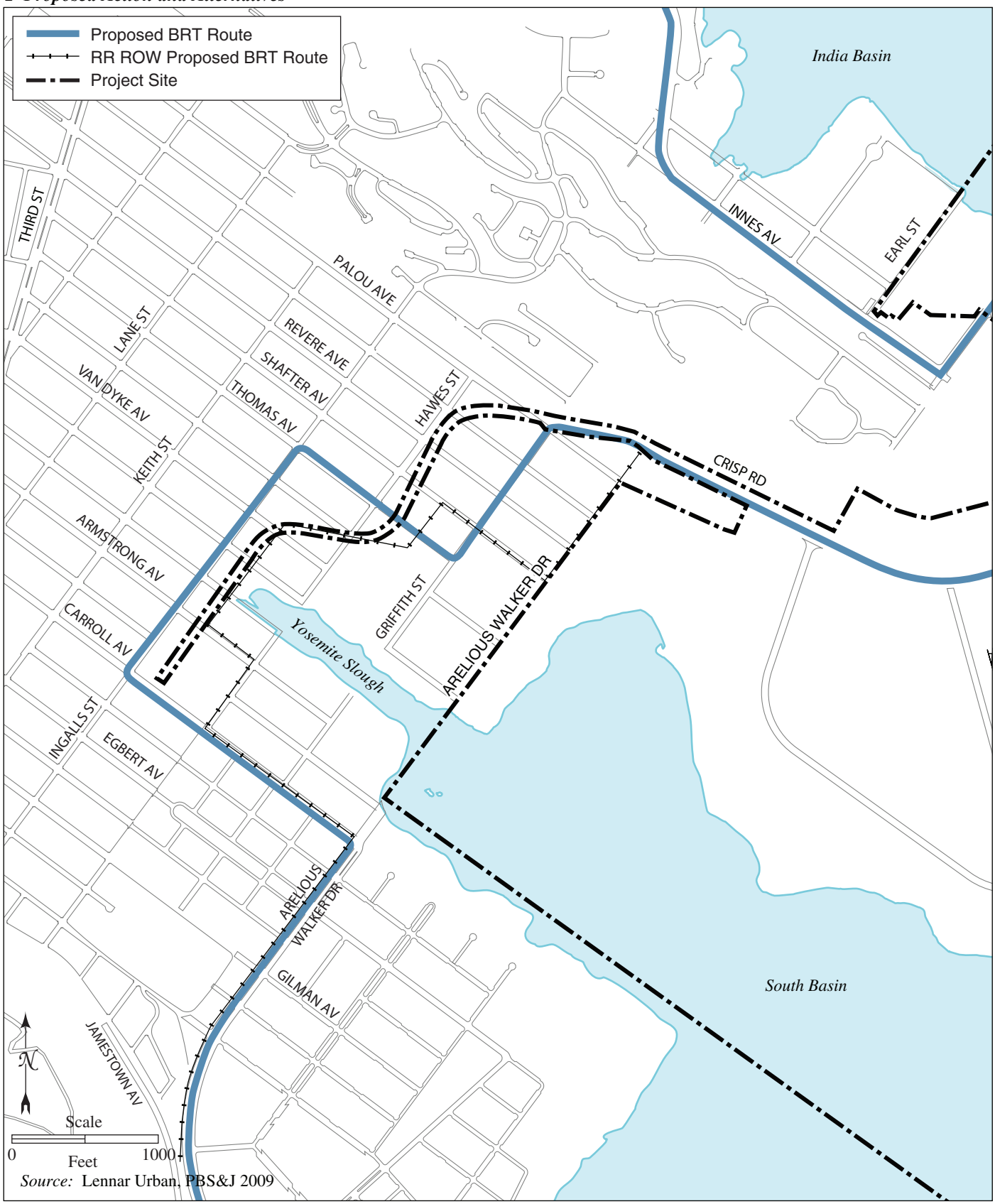


Figure 2.3-40. Circulation Network around Yosemite Slough for Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)

2.3.2.6.7 Environmental Controls

Environmental controls would be the same for Alternative 4 as specified in Section 2.3.2.1.9, with the exception of the non-applicable portions of the *Minimize Light & Glare During Operations* control measure related to the stadium, the portions of the *Seismically Induced Ground Shaking* related to the Yosemite Slough bridge, and the *Marina Operations to Reduce Water Quality Effects* control measure. This measure would not apply because the marina would not be constructed under Alternative 4.

2.3.2.7 No Action Alternative

Under the No Action Alternative analyzed in this SEIS, the portion of HPS proposed for development under Alternatives 1, 1A, 2, 2A, 3, and 4 would not be disposed of and would remain a closed federal property under caretaker status.[18] Thus, these parcels would not be reused or redeveloped.

Environmental cleanup would continue until completion. No new leases would be executed under the No Action Alternative. Existing leases would continue until they expire or are terminated, after which the DoN could decide to renew or extend some or all of these leases. Environmental impacts associated with the renewal or extension of existing leases would be evaluated before making such decisions.

Activities associated with DoN caretaker status would include the following:

- Continuing the IRP and Compliance Program Activities and maintaining utility systems when necessary to protect public health, the environment, and public safety;
- Periodically maintaining the property, as necessary, to protect the structures from fires or nuisance conditions;
- Continuing security patrols to prevent unauthorized entry;
- Continuing land management programs, such as natural resource management, pest control, erosion control, and tree removal; and
- Minimally maintaining roadways.

The No Action Alternative analyzed in this SEIS differs from that analyzed in the 2000 FEIS, as noted below. In the 2000 FEIS, DoN disposal of property at HPS considered approximately 936 ac (379 ha), including approximately 493 ac (200 ha) of dry land and approximately 443 ac (179 ha) of submerged land. Since the 2000 FEIS was prepared and the ROD approved in 2000, the DoN conveyed a portion of HPS (Phase I) to the SFRA. Phase I is not included as part of the No Action Alternative being considered in this SEIS.

2.3.3 Alternatives Considered but Eliminated

The following alternative was considered but eliminated from consideration for the proposed action evaluated in this SEIS.

Different Stadium Land Use Plans and Locations Alternative. This alternative focused on four alternative land use plans within HPS that would: 1) connect the waterfront to existing neighborhoods and open space areas; 2) transfer city parkland to improve overall distribution and quality of open space areas; 3) identify geologic constraints to determine suitable building sites; 4) develop an urban waterfront park

18 The portion of Parcel A not included as part of these alternatives (referred to as HPS Phase I Redevelopment) has already been disposed of by the DoN and is currently being developed as residential housing.

with contiguous ecological habitats in conjunction with programmed open space areas; 5) connect existing habitats in the project site and vicinity; 6) develop neighborhood-serving parks with programmed uses and low-impact design techniques to provide onsite stormwater treatment; and 7) create a bicycle and pedestrian network connecting new and existing neighborhoods to park and open space facilities. These land use plans and an explanation of why each plan was rejected from further consideration are provided below.

- *Stadium on Parcel B.* This land use plan would relocate residential uses from Parcel B to Parcels E and G, and the stadium would be located on Parcel B. R&D uses would be north of Crisp Road and would be reduced at HPS compared to Alternative 1. Stadium parking would be on dual-use fields west of the stadium on Parcel B and to the south on Parcel C. A 20,000-seat arena would be constructed on Parcel D. The offsite Yosemite Slough bridge would not be constructed under this plan. In addition, development of the dual-use fields on Parcel C would require demolition of Buildings 211, 231, and 253. This land use plan was eliminated from further consideration because it is similar to alternatives examined and did not reduce or avoid environmental effects in ways different from the alternatives carried forward.
- *Stadium on Parcel C.* This land use plan would be generally the same as the stadium on Parcel B, except the stadium would be located on Parcel C, and parking for the stadium would be located on Parcel B. This land use plan was eliminated from further consideration because it is similar to alternatives examined and did not reduce or avoid environmental effects in ways different from the alternatives carried forward.
- *Stadium on Parcel G.* This land use plan would have the stadium located on Parcels E and G and a 20,000-seat arena would be east of the stadium on Parcel D. Stadium parking would be on dual-use fields surrounding the stadium. Residential uses would be on Parcel B and R&D uses on Parcel C. This land use plan was eliminated from further consideration because it is similar to alternatives examined and did not reduce or avoid environmental effects in ways different from the alternatives carried forward.
- *No Stadium.* This land use plan would follow a development program similar to Alternative 3 and would include a mix of residential, commercial, R&D, cultural, and open space uses. Residential uses would be on Parcels D, E, and G, with commercial uses distributed throughout the site. R&D uses would be on Parcels B and C and an educational campus would be located on Parcel C. A 20,000-seat arena would be located on Parcel D. This land use plan was eliminated from further consideration because it is similar to alternatives examined and did not reduce or avoid environmental effects in ways different from the alternatives carried forward.

2.3.4 Comparison of Changes between Alternatives Analyzed in the 2000 FEIS and this SEIS

Alternatives analyzed in the 2000 FEIS are summarized in Section 2.3.1 and the alternatives analyzed in this SEIS are outlined in Section 2.3.2. This section provides a comparison between the alternatives analyzed in these documents. Table 2.3-24 presents a comparison of the land uses proposed under each alternative. It should be noted that the land use categories for this SEIS and 2000 FEIS are sometimes different and not always directly comparable.

The total dry land acreage proposed for disposal and reuse in the 2000 FEIS is larger than that proposed in this SEIS. This is because, as discussed in Section 2.3.2, subsequent to approval of the 2000 FEIS, the DoN disposed of HPS Phase I, consisting of approximately 75 ac (30 ha) within HPS, to the SFRA. The SFRA then conveyed a portion of the property to a developer. This conveyance allowed the developer to begin site preparation and infrastructure development for construction of new housing under Phase I of the shipyard redevelopment. Thus, that portion of HPS that has already been disposed of and is in the

process of being reused under Phase I of the HPS redevelopment is not included in the portion of HPS being evaluated for disposal and reuse in this SEIS.

As indicated in Table 2.3-24, Alternatives 1, 1A, 2, 2A, 3, and 4 analyzed in this SEIS represent an increase in the number of residential units and R&D proposed compared to the Proposed Reuse and Reduced Development Alternatives analyzed in the 2000 FEIS. Comparing Alternative 1 to the 2000 FEIS Proposed Reuse Plan shows an increase in residential units from approximately 1,300 to 2,500 units and an increase in R&D space from 312,000 to 2.55 million ft^2 (28,986 to 236,902 m^2). Additionally, Alternative 1 discussed in this SEIS includes a 69,000 seat NFL stadium that was not analyzed in the 2000 FEIS. All SEIS alternatives provide more parks and open space than the 2000 FEIS alternatives.

The 2000 FEIS Proposed Reuse Alternative included industrial and maritime industrial land uses that are not proposed in Alternatives 1, 1A, 2, 2A, 3, and 4 for this SEIS.

The area of neighborhood retail as well as the number of artists' studios proposed in the 2000 FEIS are not directly comparable to those in this SEIS because these two land use categories were included in the mixed use land use category for the 2000 FEIS.

2.4 Comparison of Alternatives

The environmental consequences associated with implementation of Alternatives 1, 1A, 2, 2A, 3, 4, and the No Action Alternative are described and compared in Table 2.4-1. Potential significant impacts are summarized, and mitigation measures that can reduce impacts to a level below significant are noted for each alternative, as feasible. Detailed descriptions of the affected environment and analyses of the environmental consequences for all alternatives are presented in Chapters 3 and 4. The reuse of HPS would be in a manner consistent with the 2010 *HPS Redevelopment Plan*. The disposal of the property is the responsibility of the DoN, and the City and County of San Francisco, as successor to the SFRA, would be responsible for the implementation of the *HPS Redevelopment Plan*. The future developer or owner of the property would be responsible for implementation of mitigation measures and project environmental controls identified for resource impacts associated with reuse.

2.5 NEPA Baseline

Generally, the baseline used for the analysis of environmental impacts under NEPA reflects the conditions present at or about the time the EIS is initiated. For the purposes of this SEIS, the NEPA baseline used for the analysis of environmental impacts is the general physical conditions that existed at the time the Notice of Preparation (NOP) was published, August 2007. The 2007 baseline is also consistent with the baseline used for the *Candlestick Point-Hunters Point Shipyard Phase II Development Plan EIR*. This baseline is considered conservative, as it would potentially result in a greater increment for environmental impact analysis than if a pre-closure baseline date is used. For certain resources, data were not available for 2007, so the nearest available data were utilized as the baseline condition. For example, for the Hazards and Hazardous Materials resource, conditions as they existed from 2007 through 2009 during ongoing site cleanup operations are utilized as baseline. In addition, the transportation, traffic, and circulation section uses data from 2009 through 2010 for the baseline.

Table 2.3-24. Comparison of Land Use Alternatives Analyzed in this SEIS and the 2000 FEIS

Land Use	*SEIS*							*2000 FEIS*	
	Alternative 1: Stadium Plan Alternative	*Alternative 1A: Stadium Plan/No-Bridge Alternative*	*Alternative 2: Non-Stadium Plan/Additional R&D Alternative*	*Alternative 2A: Non-Stadium Plan/Housing and R&D Alternative*	*Alternative 3: Non-Stadium Plan/Additional Housing Alternative*	*Alternative 4: Non-Stadium Plan/Reduced Development Alternative*	*No Action Alternative*	*Proposed Reuse Alternative*	*Reduced Development Alternative*
Acreage									
Dry Land (ac)[3]	421	421	421	421	421	421	421	493	493
Submerged (ac)[7]	440	440	440	440	440	440	440	443	443
Total (ac)	**861**	**861**	**861**	**861**	**861**	**861**	**861**	**936**	**936**
Residential									
Residential Density Range I (15 to 75 units per ac)	680	680	680	1,320	1,540	1,795	0	N/A[2]	N/A[2]
Residential Density Range II (50 to 125 units per ac)	1,415	1,415	1,415	2,185	1,905	0	0	N/A[2]	N/A[2]
Residential Density Range III (100 to 175 units per ac)	265	265	265	460	265	60	0	N/A[2]	N/A[2]
Residential Density Range IV (175 to 285 units per ac)	290	290	290	310	290	0	0	N/A[2]	N/A[2]
Total (units)	**2,650**	**2,650**	**2,650**	**4,275**	**4,000**	**1,855**	**0**	**1,300[1]**	**300[1]**
Neighborhood Retail									
Neighborhood Retail (ft^2)	125,000	125,000	125,000	125,000	125,000	87,500	0	0	0
Commercial/Other									
Commercial/Other	N/A[4]	N/A[4]	N/A[4]	N/A[4]	N/A[4]	N/A[4]	2.0[6]	0	0
Research and Development									
Research and Development (ft^2)	2,500,000	2,500,000	5,000,000	3,000,000	2,500,000	1,750,000	0	312,000	100,000
Artists' Studios									
Artists' Studios (ft^2)	225,000	225,000	225,000	225,000	225,000	225,000	85,121	500,000	100,000
New Artist Center (ft^2)	30,000	30,000	30,000	30,000	30,000	30,000	0	0	0
Total (ft^2)	**255,000**	**255,000**	**255,000**	**255,000**	**255,000**	**255,000**	**85,121**	**500,000**	**100,000**

Table 2.3-24. Comparison of Land Use Alternatives Analyzed in this SEIS and the 2000 FEIS

Land Use	SEIS							2000 FEIS	
	Alternative 1: Stadium Plan Alternative	*Alternative 1A: Stadium Plan/No-Bridge Alternative*	*Alternative 2: Non-Stadium Plan/Additional R&D Alternative*	*Alternative 2A: Non-Stadium Plan/Housing and R&D Alternative*	*Alternative 3: Non-Stadium Plan/Additional Housing Alternative*	*Alternative 4: Non-Stadium Plan/Reduced Development Alternative*	*No Action Alternative*	*Proposed Reuse Alternative*	*Reduced Development Alternative*
Community Services									
Community Services (ft^2)	50,000	50,000	50,000	50,000	50,000	50,000	0	N/A[4]	N/A[4]
Parks and Open Space									
New City Parks (ac)	140.0	140.0	152.4	150.9	149.9	149.9	0	0	0
New Dual-Use Sports Fields/Multi-Use Lawn and Stadium Parking and Waterfront Recreation (ac)	91.6	91.6	69.8	70.9	94.7	94.7	0	0	0
Open Space (ac)	N/A[4]	N/A[4]	N/A[4]	N/A[4]	N/A[4]	N/A[4]	164[6]	124	124
Total (ac)	**231.6**	**231.6**	**222.2**	**221.8**	**244.6**	**244.6**	**164[6]**	**124**	**124**
Stadium									
Football Stadium (seats)	69,000	69,000	No Stadium	No Stadium	No Stadium	No Stadium	No Stadium	No Stadium	No Stadium
Other Public/Quasi Public									
DoN/Administration (ft^2)	N/A[4]	N/A[4]	N/A[4]	N/A[4]	N/A[4]	N/A[4]	7.75[6]	N/A[4]	N/A[4]
Light Industrial/Arts (ft^2)	N/A[4]	N/A[4]	N/A[4]	N/A[4]	N/A[4]	N/A[4]	14[6]	N/A[4]	N/A[4]
Industrial (ft^2)	N/A[4]	N/A[4]	N/A[4]	N/A[4]	N/A[4]	N/A[4]	289[6]	775,000	377,000
Maritime Industrial (ft^2)	N/A[4]	N/A[4]	N/A[4]	N/A[4]	N/A[4]	N/A[4]	N/A[5]	360,000	173,000
Cultural/Educational (ft^2)	N/A[4]	N/A[4]	N/A[4]	N/A[4]	N/A[4]	N/A[4]	330,600	555,600	345,000
Mixed Use (ft^2)	N/A[4]	N/A[4]	N/A[4]	N/A[4]	N/A[4]	N/A[4]	580,000	1,150,000	300,000

Table 2.3-24. Comparison of Land Use Alternatives Analyzed in this SEIS and the 2000 FEIS

Land Use	SEIS							2000 FEIS	
	Alternative 1: Stadium Plan Alternative	*Alternative 1A: Stadium Plan/No-Bridge Alternative*	*Alternative 2: Non-Stadium Plan/Additional R&D Alternative*	*Alternative 2A: Non-Stadium Plan/Housing and R&D Alternative*	*Alternative 3: Non-Stadium Plan/Additional Housing Alternative*	*Alternative 4: Non-Stadium Plan/Reduced Development Alternative*	*No Action Alternative*	*Proposed Reuse Alternative*	*Reduced Development Alternative*
Other Elements									
Yosemite Slough bridge	Auto/BRT/Ped	No Bridge	BRT/Ped	BRT/Ped	BRT/Ped	No Bridge	No Bridge	No Bridge	No Bridge
Shoreline Improvements	Yes	Yes	Yes	Yes	Yes	Yes	N/A[5]	N/A[4]	N/A[4]
Marina (slips)	300	300	300	300	300	No Marina	No Marina	No Marina	No Marina

Notes:

1. The majority of residential uses at HPS were proposed on HPS Phase I, which is not part of the proposed action.
2. Not Available. The 2000 FEIS did not classify residential units based on density range. Thus, only the total number of residential units proposed is provided for the alternatives analyzed in the 2000 FEIS.
3. The total dry land acreage proposed for disposal and reuse in the 2000 FEIS is larger than that in this SEIS because, subsequent to the approval of the 2000 FEIS, the DoN disposed of HPS Phase I, which was conveyed to the City and County of San Francisco. Thus, Phase I is not included in the portion of HPS being evaluated for disposal and reuse in this SEIS.
4. Not Available. This land use category was not specifically proposed under this reuse alternative.
5. Not Available. These land use categories were not included in the existing land uses at HPS as identified in the 2000 FEIS.
6. This acreage includes land uses on the entire HPS site including Phase I.
7. These acres are approximate which accounts for the disparity between the submerged acres for the SEIS and 2000 FEIS.

Sources: SFRA 2009 and 2010; DoN 2000a.

Table 2.4-1. Summary of Potential Significant Impacts and Mitigations of the Proposed Action and Alternatives						
Alternative 1: Stadium Plan Alternative	***Alternative 1A (Stadium Plan/No-Bridge Alternative)***	***Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)***	***Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)***	***Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)***	***Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)***	***No Action Alternative***
Transportation, Traffic, and Circulation						
Factor 1: Construction Vehicle Traffic and Roadway Impacts. Construction would result in construction vehicle traffic and roadway construction roadway impacts in the project vicinity. ***Mitigation 1. Develop and implement HPS Construction Transportation Management Plan (TMP).*** The future developer or owner of the property would develop and implement an HPS Construction TMP to minimize impacts of the project and its contribution to cumulative impacts related to construction activities/traffic. Implementation of individual traffic control plans (**Mitigation 1**) would help minimize construction-related transportation impacts. However, some disruption and increased delays could still occur even with implementation of **Mitigation 1**, and it is possible that significant construction-related transportation impacts on local and regional roadways could still occur. Construction-related transportation impacts would therefore *remain significant and unavoidable* with mitigation.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	No significant impacts would be expected.[1]
Factor 2: Operations Increase Traffic Volumes – Travel Demand Management (TDM) Plan. Operations would cause an increase in traffic that would be substantial relative to the existing and proposed capacity of the street system resulting in a significant impact. ***Mitigation 2: TDM Plan.*** The preparation, approval, and implementation of a final TDM	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	No significant impacts would be expected.[1]

Table 2.4-1. Summary of Potential Significant Impacts and Mitigations of the Proposed Action and Alternatives						
Alternative 1: Stadium Plan Alternative	***Alternative 1A (Stadium Plan/No-Bridge Alternative)***	***Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)***	***Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)***	***Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)***	***Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)***	***No Action Alternative***
Plan would be approved as part of the DDA. **Mitigation 2** would help mitigation of this impact by encouraging alternative modes, discouraging the use of single-occupant vehicles, and lessening the impact of additional vehicles generated by the proposed action. However, **Mitigation 2** would not fully mitigate impacts on traffic and transit and these impacts would *remain significant and unavoidable*.						
Factor 2: Increase Traffic Volumes – Intersection Traffic Impacts. Implementation of Alternative 1 would contribute significant traffic at six study area intersections that would operate at LOS E or LOS F. ***Mitigation 3. Install a traffic signal at the intersection of Robinson Ave/Spear Avenue.*** The future developer or owner of the property, in collaboration with the city, would monitor traffic volumes at completion of each phase of construction to determine whether the intersection volumes would actually warrant a traffic signal and when it should be implemented. Implementation of **Mitigation 3** would minimize transportation impacts at the intersection of Robinson Ave/Spear Ave levels that would *not be significant.* With the exception of Robinson Ave/Spear Ave, no feasible mitigation measures were identified for these intersections. Therefore, impacts to these intersections would *remain significant and unavoidable*.		Implementation of Alternative 2 would contribute significant traffic at seven study area intersections that would operate at LOS E or LOS F. ***Mitigation 11. Install a traffic signal at the intersection of Lockwood Street/Spear Avenue.*** The future developer or owner of the property would install a traffic signal at the Lockwood St/Spear Ave intersection to minimize impacts of Alternative 2 and		Implementation of Alternative 3 would contribute significant traffic at six study area intersections that would operate at LOS E or LOS F. No feasible mitigation measures were identified for five of the six intersections. Therefore, impacts to these intersections would *remain significant and unavoidable*. Implementation of **Mitigation 3** would minimize	Similar to Alternative 1, Implementation of Alternative 4 would contribute significant traffic at four study area intersections that would operate at LOS E or LOS F. No feasible mitigation measures were identified for three of the four intersections. Therefore, impacts to these intersections would *remain significant and unavoidable*. Implementation of **Mitigation 3** would minimize	No significant impacts would be expected.[1]

Table 2.4-1. Summary of Potential Significant Impacts and Mitigations of the Proposed Action and Alternatives						
Alternative 1: Stadium Plan Alternative	*Alternative 1A (Stadium Plan/No-Bridge Alternative)*	*Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)*	*Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)*	*Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)*	*Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)*	*No Action Alternative*
		improve operating conditions to acceptable levels of LOS D or better. With the exception of the intersections at Robinson Ave/Spear Ave and Lockwood St/Spear Ave, no feasible mitigation measures were identified. Therefore, impacts to these intersections would *remain significant and unavoidable*. Implementation of **Mitigation 3 and 11** would minimize transportation impacts at the intersections of Robinson Ave/Spear Ave and Lockwood St/Spear Ave to levels that would *not be significant*, respectively.		transportation impacts at the intersection of Robinson Ave/Spear Ave to levels that would *not be significant.*	transportation impacts at the intersection of Robinson Ave/Spear Ave to levels that would *not be significant.*	

Table 2.4-1. Summary of Potential Significant Impacts and Mitigations of the Proposed Action and Alternatives						
Alternative 1: Stadium Plan Alternative	***Alternative 1A (Stadium Plan/No-Bridge Alternative)***	***Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)***	***Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)***	***Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)***	***Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)***	***No Action Alternative***
Factor 2: Increase Traffic Volumes – Stadium Football Games. Alternative 1 would result in significant traffic impacts associated with the new stadium during game days. Implementation of **Mitigation 7** would likely reduce automobile travel to the stadium and encourage transit usage. However, impacts on pre-game and post-game period traffic conditions would *remain significant and unavoidable*. ***Mitigation 7. Develop and maintain a Stadium Event Transportation Management Plan (Stadium TMP).*** The stadium operators would develop and maintain a Stadium TMP for the stadium. The final Stadium TMP would be approved by SFMTA. Preparation of the Stadium TMP would be fully funded by the stadium operator and would be completed in time for implementation by opening day of the stadium.	Impacts would be similar to those described for Alternative 1. However, the location of traffic impacts during football games would be different because the Yosemite Slough bridge would not be constructed. **Mitigation 7** still would apply.	Not Applicable.	Not Applicable.	Not Applicable.	Not Applicable.	Not Applicable.
Factor 2: Increase Traffic Volumes – Stadium Secondary Impacts. Weekday evening secondary events at the stadium would result in increased congestion at intersections and freeway ramps already operating at unacceptable LOS under 2030 cumulative conditions without a secondary event. Traffic impacts to these facilities associated with the new stadium during secondary events would be significant. ***Mitigation 9. Develop and maintain a Secondary Event Component as part of the***	Impacts would be the same as those described for Alternative 1.	Not Applicable.	Not Applicable.	Not Applicable.	Not Applicable.	Not Applicable.

Table 2.4-1. Summary of Potential Significant Impacts and Mitigations of the Proposed Action and Alternatives

Alternative 1: Stadium Plan Alternative	Alternative 1A (Stadium Plan/No-Bridge Alternative)	Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)	Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)	Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)	Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)	No Action Alternative
Stadium TMP. The stadium operator would develop and maintain, as part of a Stadium TMP (**Mitigation 7**), a plan for secondary events. The secondary event component of the Stadium TMP would be approved by SFMTA. The stadium operator would fully fund implementation of the secondary event (i.e., non-football events) measures. Implementation of **Mitigation 9** would improve vehicle entrance and exit flows to the stadium site, maintain orderly traffic operations, and reduce intrusion onto neighborhood streets near the stadium. However, even with implementation of **Mitigation 9**, on days when special events would be held at the stadium, the impacts of the secondary event to the study roadway network would be *significant and unavoidable*.						
Factor 3: Impacts to Transit – Final Transit Plan. Although there is a plan for increased transit service to the study area, the final Transit Plan has not been formally approved by SFMTA. With implementation of Mitigation 4, impacts on transit capacity would *not* be *significant.* **Factor 3: Impacts to Transit-Ridership and Capacity Utilization at Study Area Cordons.** The demand associated with Alternative 1 would exceed the proposed transit system's capacity at the study area cordons resulting in significant impacts.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	No significant impacts would be expected.[1]

Table 2.4-1. Summary of Potential Significant Impacts and Mitigations of the Proposed Action and Alternatives						
Alternative 1: Stadium Plan Alternative	***Alternative 1A (Stadium Plan/No-Bridge Alternative)***	***Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)***	***Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)***	***Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)***	***Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)***	***No Action Alternative***
Mitigation 4. Develop and implement the Final Transit Plan. The future developer or owner of the property would work with SFMTA to develop and implement the final Transit Plan for the proposed action. Implementation of **Mitigation 4** impacts would be *reduced* to levels that would *not be significant*.						
Factor 3: Impacts to Transit-Impacts to Transit-Transit Delays. Project-related transit delays due to congestion on study area roadways and passenger loading delays associated with increased ridership would result in significant impacts on the operation of several transit routes. ***Mitigation 5. Conduct, in cooperation with SFMTA, a study to evaluate the effectiveness and feasibility of transit line improvements which could reduce project impacts on transit operations and implement feasible improvements.*** The future developer or owner of the property, in cooperation with SFMTA, would conduct a study to evaluate the effectiveness and feasibility of the following improvements which could reduce project impacts on transit operations. The study would create a monitoring program to determine the implementation extent and schedule to maintain the proposed headways of the following transit lines (a detailed breakdown for each transit line is included in the CP-HPS Transportation Study).	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	No significant impacts would be expected.[1]

Table 2.4-1. Summary of Potential Significant Impacts and Mitigations of the Proposed Action and Alternatives

Alternative 1: Stadium Plan Alternative	Alternative 1A (Stadium Plan/No-Bridge Alternative)	Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)	Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)	Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)	Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)	No Action Alternative
Mitigation 6. Purchase additional transit vehicles as necessary to mitigate the project impacts and project contribution to cumulative impacts to headways. Purchase additional transit vehicles as necessary to mitigate the study area impacts and proposed action's contribution to cumulative impacts to headways. Should **Mitigation 5** not be feasible or effective, the future developer or owner of the property would work with SFMTA to purchase additional transit vehicles as necessary to mitigate the study area impacts. Because a feasibility study of the improvements contemplated in **Mitigation 5** would be required, implementation of **Mitigation 5** is uncertain. Since implementation of **Mitigation 6** alone, without **Mitigation 5**, might not be sufficient to reduce the impacts to a not significant level, the project impacts would *remain significant and unavoidable* with mitigation.						
Factor 3: Impacts to Transit-Stadium Football Games. Alternative 1 would not be adequate to accommodate projected transit demand. This shortfall in transit capacity would be considered significant. ***Mitigation 8. Increase frequency of regularly scheduled Muni routes serving the stadium area.*** SFMTA would increase frequency on regularly scheduled Muni routes serving the stadium area on game days. In addition, the stadium operator would fund additional Muni shuttle service between the stadium and regional transit service, including BART (Balboa Park and/or Glen Park Station) and	Impacts would be the same as those described for Alternative 1.	Not Applicable.	Not Applicable.	Not Applicable.	Not Applicable.	Not Applicable.

Table 2.4-1. Summary of Potential Significant Impacts and Mitigations of the Proposed Action and Alternatives						
Alternative 1: Stadium Plan Alternative	***Alternative 1A (Stadium Plan/No-Bridge Alternative)***	***Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)***	***Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)***	***Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)***	***Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)***	***No Action Alternative***
Caltrain (Bayshore Station). With implementation of **Mitigation 8**, impacts to transit service on Sundays during a football game would be reduced to *not significant*. However, traffic impacts on transit operations during post-game conditions could not be mitigated. Thus, impacts would *remain significant and unavoidable.*						
Factor 3: Impacts to Transit-Stadium Secondary Events. The existing transit service and project improvements would not be adequate to accommodate projected transit demand during secondary events. In addition, transit lines serving the area would experience additional delays due to traffic generated by the secondary event. This would be considered a significant impact. ***Mitigation 10. Increase frequency on Muni routes serving the stadium area prior to secondary events.*** Similar to **Mitigation 8**, SFMTA would increase frequency on regularly scheduled Muni routes serving the stadium area prior to large special events. In addition, the stadium operator would fund additional Muni shuttle service between the stadium and regional transit service, including BART (Balboa Park and/or Glen Park stations) and Caltrain (Bayshore Station). Implementation of **Mitigation 10** would reduce impacts to transit service on special event days, but not to less-than-significant levels. Therefore, the impact on transit operations would *remain significant and unavoidable.*	Impacts would be the same as those described for Alternative 1.	Not Applicable.	Not Applicable.	Not Applicable.	Not Applicable.	Not Applicable.

Table 2.4-1. Summary of Potential Significant Impacts and Mitigations of the Proposed Action and Alternatives						
Alternative 1: Stadium Plan Alternative	***Alternative 1A (Stadium Plan/No-Bridge Alternative)***	***Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)***	***Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)***	***Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)***	***Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)***	***No Action Alternative***
Air Quality						
Factor 1: Construction of Alternative 1 would exceed BAAQMD emission significance thresholds. Proposed construction would generate emissions from onsite area sources (such as combustion of natural gas for space and water heating and other fuels for building and grounds maintenance equipment) and vehicles that access the project site. Emissions from these sources would exceed the BAAQMD daily emission thresholds for NO_x. Impacts would be *significant and unavoidable*.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	No significant impacts would be expected.
Factor 1: Operation of Alternative 1 would exceed BAAQMD emission significance thresholds. Proposed operations would generate emissions from onsite area sources (such as combustion of natural gas for space and water heating and other fuels for building and grounds maintenance equipment) and vehicles that access the project site. Emissions from these sources would exceed the BAAQMD daily emission thresholds for ROG, NO_x, and PM_{10}, and $PM_{2.5}$. Impacts would be *significant and unavoidable.*	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	No significant impacts would be expected.
GHG						
No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected**.**

Table 2.4-1. Summary of Potential Significant Impacts and Mitigations of the Proposed Action and Alternatives						
Alternative 1: Stadium Plan Alternative	***Alternative 1A (Stadium Plan/No-Bridge Alternative)***	***Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)***	***Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)***	***Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)***	***Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)***	***No Action Alternative***
Noise						
Factor 1: Exposure of Persons to Excessive Construction Noise Levels. Construction of Alternative 1 could expose persons to excessive construction noise levels resulting in a significant impact. ***Mitigation 1. Construction Document Mitigation to Reduce Noise Levels During Construction.*** The future developer or owner of the property would incorporate construction practices and require noise attenuation measures in construction documents that would minimize noise levels during construction. A Noise Disturbance Coordinator would be responsible for responding to complaints about noise during construction. ***Mitigation 2. Noise-reducing Pile Driving Techniques and Muffling Devices.*** The future developer or owner of the property would require its construction contractor to use noise-reducing pile driving techniques and muffling devices to reduce pile driving noise and vibration**.** Implementation of **Mitigations 1 and 2** would *reduce* the significant impact to *not significant.*	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1. **Mitigation 1**. Same as described for Alternative 1. **Mitigation 2** would not be applicable because no pile driving for residential towers is proposed. Implementation of **Mitigation 1** would *reduce* the significant impacts to *not significant.*	No significant impacts would be expected**.**
Factor 2: Exposure of Persons to Excessive Construction Vibration Levels. During construction, Alternative 1 would expose receptors located within 100 ft of the vibration producing activity to excessive construction vibration levels resulting in a significant impact. ***Mitigations 1 and 2.*** See Factor 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	No significant impacts would be expected.	No significant impacts would be expected**.**

Table 2.4-1. Summary of Potential Significant Impacts and Mitigations of the Proposed Action and Alternatives						
Alternative 1: Stadium Plan Alternative	***Alternative 1A (Stadium Plan/No-Bridge Alternative)***	***Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)***	***Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)***	***Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)***	***Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)***	***No Action Alternative***
Mitigation 3*: *Pre-Construction Assessment to Minimize Pile Driving Impacts. The future developer or owner of the property would require its geotechnical engineering contractor to conduct a pre-construction assessment of subsurface conditions and structural integrity of buildings subject to pile driving impacts; if recommended by the geotechnical engineer, the future developer or owner of the property would require ground-borne vibration monitoring of nearby structures. Implementation of **Mitigations 1, 2, and 3** would reduce vibration impacts. However, impacts would *remain significant and unavoidable*.						
Factor 3: Increases in Ambient Noise Levels from Construction. Construction of Alternative 1 would generate increases in ambient noise levels that would be temporary but significant. ***Mitigation 1 and 2.*** See Factor 1. ***Mitigation 3.*** See Factor 2. Implementation of **Mitigations 1, 2, and 3** would minimize or reduce construction related noise levels but impacts would *remain significant and unavoidable*.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	No significant impacts would be expected**.**
Factor 4: Exposure of Persons to Excessive Noise Levels. Operation of Alternative 1 would expose residents to exterior noise levels exceeding 60 dBA Ldn and interior noise levels	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	No significant impacts would be expected**.**

Table 2.4-1. Summary of Potential Significant Impacts and Mitigations of the Proposed Action and Alternatives						
Alternative 1: Stadium Plan Alternative	***Alternative 1A (Stadium Plan/No-Bridge Alternative)***	***Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)***	***Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)***	***Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)***	***Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)***	***No Action Alternative***
exceeding 45 dBA Ldn resulting in a potentially significant impact. ***Mitigation 4.*** Site planning would consider the use of barriers or buildings to shield residential outdoor activity areas so as to reduce noise levels therein to 60 dBA Ldn or less. ***Mitigation 5.*** New residences would include sound attenuating building elements, such as sound rated windows and doors, sufficient to reduce interior levels. Mechanical ventilation satisfactory to the local building official would be included so residents can close their windows and doors, if they so chose, to minimize environmental noise. Residential projects would conform to reporting requirements per California Building Code Title 24 and the City and County of San Francisco, confirming that the design achieves interior noise levels of 45 dBA Ldn or less inside the new residences. Implementation of **Mitigations 4 and 5** would *reduce* the significant impact to *not significant*.						
Factor 6: Exposure of Persons to Increased Traffic Noise Levels. Operation of Alternative 1 would generate increased local traffic volumes that would cause a substantial permanent increase in ambient noise levels in existing residential areas along the major project site access routes resulting in a significant impact. No mitigation measures are available. Therefore, this impact would *remain significant and unavoidable*.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	No significant impacts would be expected**.**

Table 2.4-1. Summary of Potential Significant Impacts and Mitigations of the Proposed Action and Alternatives						
Alternative 1: Stadium Plan Alternative	***Alternative 1A (Stadium Plan/No-Bridge Alternative)***	***Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)***	***Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)***	***Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)***	***Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)***	***No Action Alternative***
Factor 7: Exposure of Persons to Excessive Event Noise Levels. Operation of Alternative 1 would expose persons to excessive noise from stadium events resulting in significant impacts. ***Mitigation 6. Mitigation to Minimize Game/Concert-related Temporary Increases in Ambient Noise Levels at Nearby Residences.*** This measure would seek to minimize game/concert-related temporary increases in ambient noise levels at nearby residences, and would depend on factors that would be beyond the control of the city as the lead agency, or the future developer or owner of the property to guarantee. ***Mitigation 7. Residential Use Plan Review by Qualified Acoustical Consultant.*** The Stadium Operator would choose a qualified acoustical consultant to review plans for the new residential uses planned for areas closest to the proposed stadium and follow their recommendations to provide acoustic insulation or other equivalent measures so that interior peak noise events would not exceed 60 dBA Lmax. Implementation of **Mitigation 7** would reduce significant impacts to *not significant*. However, implementation of **Mitigation 6** at existing offsite residences cannot be guaranteed. Therefore, impacts would *remain significant and unavoidable*.	Impacts would be the same as those described for Alternative 1.	Not Applicable.	Not Applicable.	Not Applicable.	Not Applicable.	No significant impacts would be expected.
Land Use						
No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.

Table 2.4-1. Summary of Potential Significant Impacts and Mitigations of the Proposed Action and Alternatives						
Alternative 1: Stadium Plan Alternative	***Alternative 1A (Stadium Plan/No-Bridge Alternative)***	***Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)***	***Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)***	***Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)***	***Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)***	***No Action Alternative***
Recreation						
No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.
Visual Resources and Aesthetics						
No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.
Socioeconomics						
No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.
Hazards and Hazardous Substances						
No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.
Geology and Soils						
No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.
Water Resources						
Factor 4: Increase Risk of Flooding or Inundation. Structures located in the portions of HPS within Zone A may be susceptible to future flooding or inundation due to projected sea level rise. This would be a *potentially significant* impact if existing leases were renewed or extended. Environmental impacts associated with the renewal or extension of existing leases would be evaluated before making such decisions. No significant impacts would be expected.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Potentially significant impacts due to future flooding following sea level rise; no mitigation proposed.

Table 2.4-1. Summary of Potential Significant Impacts and Mitigations of the Proposed Action and Alternatives						
Alternative 1: Stadium Plan Alternative	***Alternative 1A (Stadium Plan/No-Bridge Alternative)***	***Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)***	***Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)***	***Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)***	***Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)***	***No Action Alternative***
Utilities						
No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.
Public Services						
No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.	No significant impacts would be expected.
Cultural Resources						
Factor 2: Archaeological Resources. Construction activities associated with Alternative 1 have the potential to result in substantial adverse change in the significance of an archaeological resource, if present onsite. This would be a significant impact. ***Mitigation 1: Archaeological Testing, Monitoring and Mitigation Program.*** The future developer or owner of the property would retain the services of a qualified archaeological consultant having expertise in California prehistoric and urban historical archaeology to determine to the extent possible the presence or absence of archaeological resources within the proposed construction area. If significant archaeological resources are present, additional measures that may be undertaken, such as additional archaeological testing, archaeological monitoring, and/or an archaeological data recovery program, would be implemented in consultation with the San Francisco Historic Preservation Commission and the San Francisco Planning Department.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	No significant impacts would be expected.

Table 2.4-1. Summary of Potential Significant Impacts and Mitigations of the Proposed Action and Alternatives						
Alternative 1: Stadium Plan Alternative	***Alternative 1A (Stadium Plan/No-Bridge Alternative)***	***Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)***	***Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)***	***Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)***	***Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)***	***No Action Alternative***
Implementation of **Mitigation 1** would *reduce* the significant impact to *not significant.*						
Factor 3: Paleontological Resources. Construction of Alternative 1 could result in impacts on a unique paleontological resource or paleontological site if present onsite. This would be a significant impact. ***Mitigation 2: Paleontological Resources Monitoring and Mitigation Program***. The future developer or owner of the property would retain the services of a qualified paleontological consultant having expertise in California paleontology, to design and implement a Paleontological Resources Monitoring and Mitigation Program (PRMMP). Implementation of **Mitigation 2** would *reduce* the significant impact to *not significant.*	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	No significant impacts would be expected.
Biological Resources - Terrestrial						
Factor 2: Sensitive Communities, Habitats, and Common Wildlife. Sensitive communities of ground-nesting bird species and birds that may be nesting or bats that may be roosting in/on abandoned buildings at the project site may be subject to construction-related impacts. Harming birds or their active nests would be in violation of the MBTA, which would be an adverse but *not significant* impact. ***Mitigation 1. Pre-Construction Surveys to Reduce Impacts to Birds and Bats.*** If ground disturbance or building removal would occur from February through August, pre-construction clearance surveys would be conducted by a	Impacts would be similar to those described for Alternative 1.	Impacts would be similar to those described for Alternative 1.	Impacts would be similar to those described for Alternative 1.	Impacts would be similar to those described for Alternative 1.	Impacts would be similar to those described for Alternative 1.	No significant impacts would be expected**.**

Table 2.4-1. Summary of Potential Significant Impacts and Mitigations of the Proposed Action and Alternatives

Alternative 1: Stadium Plan Alternative	Alternative 1A (Stadium Plan/No-Bridge Alternative)	Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)	Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)	Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)	Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)	No Action Alternative
qualified biologist experienced with local bird and bat species. Implementation of **Mitigation 1** would further *reduce* adverse impacts. These impacts would remain *not significant.*						
Factor 3: Seasonal Freshwater Wetlands. Construction of Alternative 1 would permanently impact 0.17 ac (0.69 ha) of nontidal, inland, freshwater wetlands at HPS. ***Mitigation 2. Wetlands Mitigation.*** Permanent impacts to wetlands would be mitigated to not significant based on agency determinations at the permitting stage. For wetland areas to be restored or created as mitigation for temporary or permanent impacts, the future developer or owner of the property would prepare and implement a Wetland and Jurisdictional Waters Mitigation Monitoring Plan (Mitigation Monitoring Plan). Implementation of **Mitigation 2** would *reduce* impacts to *not significant.*	Impacts would be similar to those described for Alternative 1.	Impacts would be similar to those described for Alternative 1.	Impacts would be similar to those described for Alternative 1.	Impacts would be similar to those described for Alternative 1.	Impacts would be similar to those described for Alternative 1.	No significant impacts would be expected**.**
Biological Resources – Marine Aquatic						
Factor 2: Essential Fish Habitat and Eelgrass. Although impacts to the populations of common aquatic species would not be significant, construction of Alternative 1 would have a substantial adverse effect on EFH overall because the function of that habitat would be altered by the project. This could potentially have longer-term consequences on aquatic habitat for both common and special-status aquatic species.	Impacts would be less than those described for Alternative 1.	Impacts would be similar to those described for Alternative 1.	Impacts would be similar to those described for Alternative 1.	Impacts would be similar to those described for Alternative 1.	Impacts would be less than those described for Alternative 1.	No significant impacts would be expected**.**

Table 2.4-1. Summary of Potential Significant Impacts and Mitigations of the Proposed Action and Alternatives						
Alternative 1: Stadium Plan Alternative	***Alternative 1A (Stadium Plan/No-Bridge Alternative)***	***Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)***	***Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)***	***Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)***	***Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)***	***No Action Alternative***
Mitigation 3. Seasonal Restrictions on In-Water Work. In-water construction would occur during June 1 through November 30. If completion of in-water work within this period is not feasible due to scheduling issues, new timing guidelines would be established and submitted to the proper agencies (i.e., NMFS and CDFG) for review and approval. Implementation of **Mitigation 3** would *reduce* potential adverse effects on EFH to *not significant*.						
Factor 3: Wetlands. Construction of Alternative 1 would permanently alter existing shoreline wetlands and other habitats, including 0.09 ac (0.04 ha) of tidal salt marsh, 0.15 ac (0.06 ha) of non-tidal salt marsh, and 20.44 (8.47 ha) of bay habitat. Implementation of **Mitigation 2** would *reduce* impacts to *not significant*.	Impacts would be less than those described for Alternative 1.	Impacts would be similar to those described for Alternative 1.	Impacts would be similar to those described for Alternative 1.	Impacts would be similar to those described for Alternative 1.	Impacts would be less than those described for Alternative 1.	No significant impacts would be expected**.**
Transportation, Traffic, and Circulation. Construction vehicle traffic and roadway impacts (Factor 1) would have disproportionate effects on minority and low income populations. No additional mitigations are feasible and therefore construction traffic effects *would be disproportionate*.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	No disproportionate effects on minority and low-income populations would be expected.
Air Quality and GHG. No disproportionate effects on minority and low-income populations would be expected.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	No disproportionate effects on minority and low-income

Table 2.4-1. Summary of Potential Significant Impacts and Mitigations of the Proposed Action and Alternatives

Alternative 1: Stadium Plan Alternative	Alternative 1A (Stadium Plan/No-Bridge Alternative)	Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)	Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)	Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)	Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)	No Action Alternative
						populations would be expected.
Noise. Exposure of persons to increased operations (traffic) noise levels (Factor 6) would result in disproportionate noise effects on minority and low-income populations. No additional mitigations are feasible and therefore operations noise effects *would be disproportionate.* Exposure of persons to excessive event noise levels (Factor 7) would result in disproportionate noise effects on minority and low-income populations. No additional mitigations are feasible and therefore operations noise effects *would be disproportionate.*	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	No disproportionate effects on minority and low-income populations would be expected.
Environmental Justice (Section 6.4)						
Land Use and Recreation. No disproportionate effects on minority and low-income populations would be expected.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	No disproportionate effects on minority and low-income populations would be expected.
Visual Resources and Aesthetics. No disproportionate effects on minority and low-income populations would be expected.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	No disproportionate effects on minority and low-income populations would be expected.

Table 2.4-1. Summary of Potential Significant Impacts and Mitigations of the Proposed Action and Alternatives

Alternative 1: Stadium Plan Alternative	Alternative 1A (Stadium Plan/No-Bridge Alternative)	Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)	Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)	Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)	Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)	No Action Alternative
Socioeconomics. No disproportionate effects on minority and low-income populations would be expected.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	No disproportionate effects on minority and low-income populations would be expected.
Hazards and Hazardous Substances. No disproportionate effects on minority and low-income populations would be expected.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	No disproportionate effects on minority and low-income populations would be expected.
Geology and Soils. No disproportionate effects on minority and low-income populations would be expected.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	No disproportionate effects on minority and low-income populations would be expected.
Water Resources. No disproportionate effects on minority and low-income populations would be expected.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	No disproportionate effects on minority and low-income populations would be expected.

Table 2.4-1. Summary of Potential Significant Impacts and Mitigations of the Proposed Action and Alternatives						
Alternative 1: Stadium Plan Alternative	***Alternative 1A (Stadium Plan/No-Bridge Alternative)***	***Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)***	***Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)***	***Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)***	***Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)***	***No Action Alternative***
Utilities. No disproportionate effects on minority and low-income populations would be expected.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	No disproportionate effects on minority and low-income populations would be expected.
Public Services. No disproportionate effects on minority and low-income populations would be expected.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	No disproportionate effects on minority and low-income populations would be expected.
Cultural and Paleontological Resources. No disproportionate effects on minority and low-income populations would be expected.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	No disproportionate effects on minority and low-income populations would be expected.
Biological Resources. No disproportionate effects on minority and low-income populations would be expected.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	No disproportionate effects on minority and low-income populations would be expected.

Table 2.4-1. Summary of Potential Significant Impacts and Mitigations of the Proposed Action and Alternatives						
Alternative 1: Stadium Plan Alternative	***Alternative 1A (Stadium Plan/No-Bridge Alternative)***	***Alternative 2 (Non-Stadium Plan/Additional R&D Alternative)***	***Alternative 2A (Non-Stadium Plan/Housing and R&D Alternative)***	***Alternative 3 (Non-Stadium Plan/Additional Housing Alternative)***	***Alternative 4 (Non-Stadium Plan/Reduced Development Alternative)***	***No Action Alternative***
Note: 1. The conclusion of no significant impacts with regard to the No Action Alternative is a consequence of the methodology used for transportation analysis. Impacts are assessed in a future year [2030] rather than against a baseline year [2007] to account for anticipated future transportation system improvements. The future year [2030] baseline represents the predicted condition of the transportation system without the project. Therefore, the No Action Alternative is equivalent to the future baseline condition and the incremental contribution of the No Action Alternative to transportation system impacts is zero.						