

Structure Types



Concessions Stand

Pavilions providing small-scale retail, food service, rentals, and souvenirs. Canopy should allow for indoor and outdoor seating.



Boat Storage Shed

Single structure capable of securely storing up to 50 human-powered boats. Pavilion design should reflect scale of boats.



Field Center

Lightweight pavilion for on-site environmental education, stewardship, and engagement activities. Should support outdoor classroom activities.



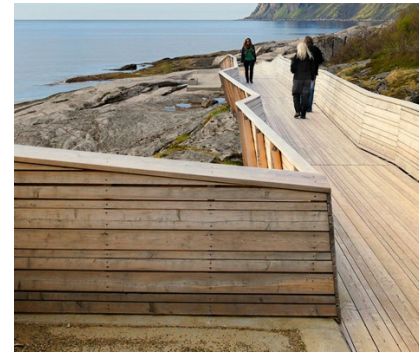
Restrooms

Should be located in multiple 2.71 locations as indicated on Figure. Should be incorporated into other structures where feasible.



Shade / Wind Protection

Located in the Big Green and Shoreline areas to provide increased comfort to promote year-round use, and to provide habitat protection in viewing areas.



Framed Views & Overlooks

The site is surrounded by views of downtown, east bay, the bay bridge, and existing parks and wetlands. Site-specific installations should be incorporated to frame views and orient users to unique site elements.



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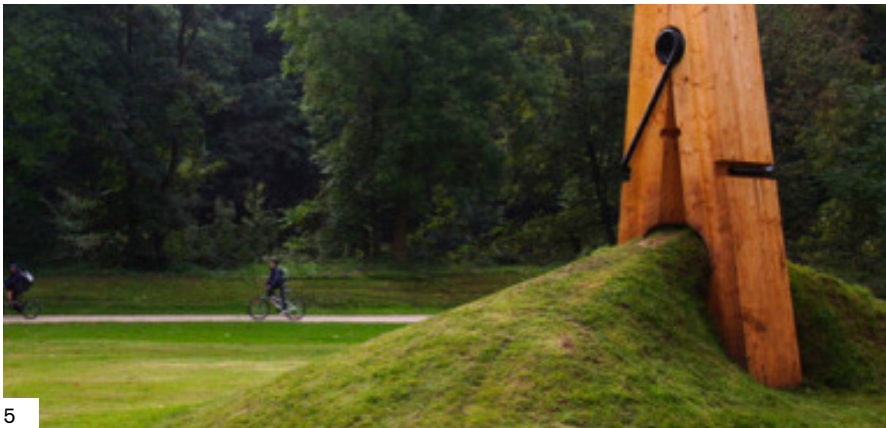
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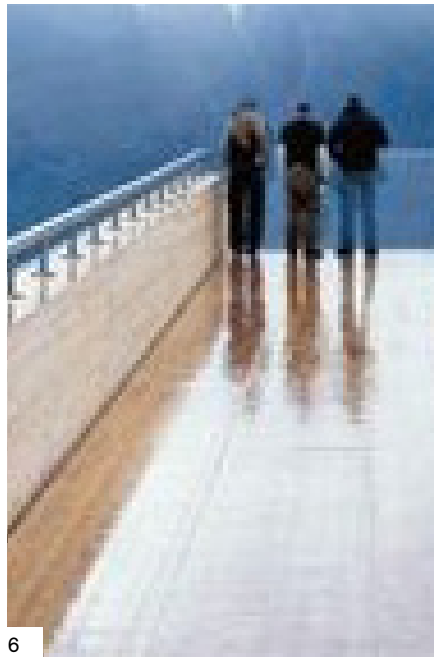
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1. Sculpture & Installation Examples
2. Mark Di Suvero, Governors Island.
3. Whatami.
4. "Bamboo Circle", Los Angeles.
5. Olympic Sculpture Park.
6. Clothespin Sculpture, Chaudfontaine Park, Belgium.
7. The Platform, Saunders Architecture, Fjord.

Streetscape Systems

This section includes standards and guidelines for constructed elements of the streetscape.

These include elements that address the interface between pedestrian zones and the vehicular zone, including curb ramps, raised crossings and curb extensions. Ensuring that these elements are well coordinated and meet accessibility standards is essential to the development of well functioning, complete streets.

In addition, this section addresses the configuration of tree planting within the streetscape. Trees are an essential component of the streetscape, bringing habitat, climatic comfort and aesthetic benefits. Tree pits should be constructed in a manner that will foster healthy trees with long lifespans in order to maximize these benefits.

Curb Ramps

Curb ramps provide access between the sidewalk and roadway, particularly for people with mobility issues. Because of this, curb ramps are integral to safe and accessible streets.

Standards

2.5.64. DPW Standards Curb ramps shall be constructed per City of San Francisco DPW standard plans for curb ramps and DPW Director's Order #175,387 (Guidelines for Constructing or Reconstructing Curb Ramps).

Guidelines

2.5.65 Location Curb ramps shall be installed parallel to the direct path of travel across an intersection.

2.5.66. Clearance Curb ramps and crosswalks shall remain clear of obstacles. No new poles, utilities or other impediments shall be placed in the curb ramp return areas.

2.5.67. Planting Area Planting areas shall be permitted at corners on either side of curb ramps.

Curb Extensions

Curb extensions or bulb-outs enlarge the sidewalk to incorporate the parking lane, which increases the pedestrian zone at strategic locations. This can be implemented at corners and mid block. Curb extensions enhance safety by increasing pedestrian visibility while providing additional space for pedestrians and streetscape amenities.

Standards

2.5.68. DPW Standards Curb extensions shall conform to San Francisco DPW Standard Plan for Curb Bulb.

2.5.69. Bulb-Outs Bulb-outs shall continue at least to the inside edge of the crosswalk and preferably extend at least 5 feet beyond an extension of the corner property line.

Guidelines

2.5.70. Curb Radius Curb extensions shall not include curb radius that interferes with emergency vehicle access.

2.5.71. Design Curb extensions shall be designed to maximize pedestrian space and

minimize crossing distance.

2.5.72. Location Curb extensions shall not encroach on bicycle or vehicle travel lanes.

2.5.73. Paving Curb extensions shall use special paving to distinguish them from pedestrian throughway travel zone.

2.5.74. Buffers Curb extensions shall include bollards, planting or other buffers between pedestrians and vehicles. These elements shall not impede drivers' view of pedestrians.

2.5.75. Furnishing Furnishings shall be located on curb extensions where space allows.

Raised Crosswalks

Raised crosswalks provide a pedestrian crossing of the roadway at the level of the sidewalk. In addition to providing a level surface for pedestrian access across the roadway, this provides traffic calming benefits as vehicles are forced to reduce speeds before passing over the crosswalk.

Standards

2.5.76. Dimensions Raised crosswalks shall be flush with the sidewalk height and at least the

width of the crossing or intersection.

2.5.77. Length Raised crosswalk shall be long enough in the direction of travel to allow both front and rear wheels of a passenger vehicle to be on top of the table at the same time—typically 10 feet. Specific lengths should be determined by using the ITE/FHWA document *Traffic Calming: State of the Practice*. Vertical transition shall be designed to not cause excessive jarring or discomfort to vehicle passengers.

Guidelines

2.5.78. Detectable Warning Detectable warnings shall be provided where pedestrians will cross into the vehicle area.

2.5.79. Paving Shall be marked by use of a distinct paving treatment or match the paving of the pedestrian throughway.

2.5.80. Grading & Drainage Grading and drainage design should take into account impact of raised crosswalks on drainage and provide adequate stormwater collection infrastructure.



Accessible crossings meet code



Truncated domes at edge of vehicular zone



Bulb-outs create safe crossings

Tree Pits: Surfacing Palette



Type A:
Decomposed Granite



Type B:
Planting



Type C:
Stone

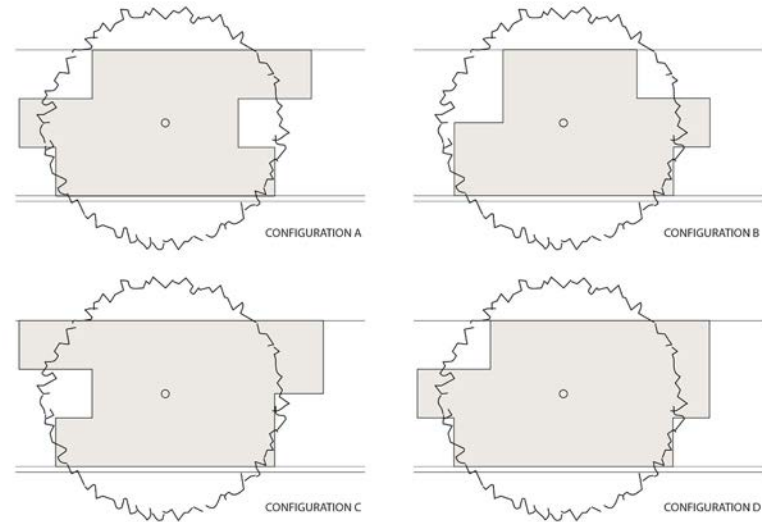
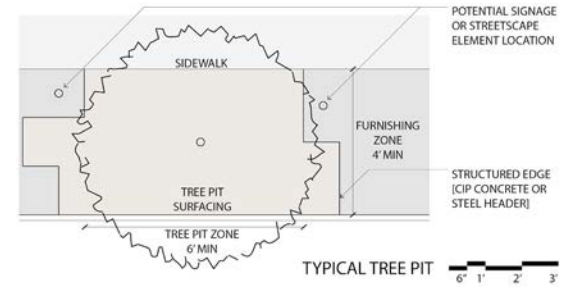


FIGURE 2.68: TREE PIT CONFIGURATION

Tree Pit Configuration

The India Basin tree pit configuration allows for variation in tree pit layouts that will contribute to the unique streetscape character while creating space for placement of signage and other streetscape elements. Streets should employ multiple tree pit configurations and no two adjacent tree pits should utilize the same configuration. Figure 2.72 shows examples of design variation.

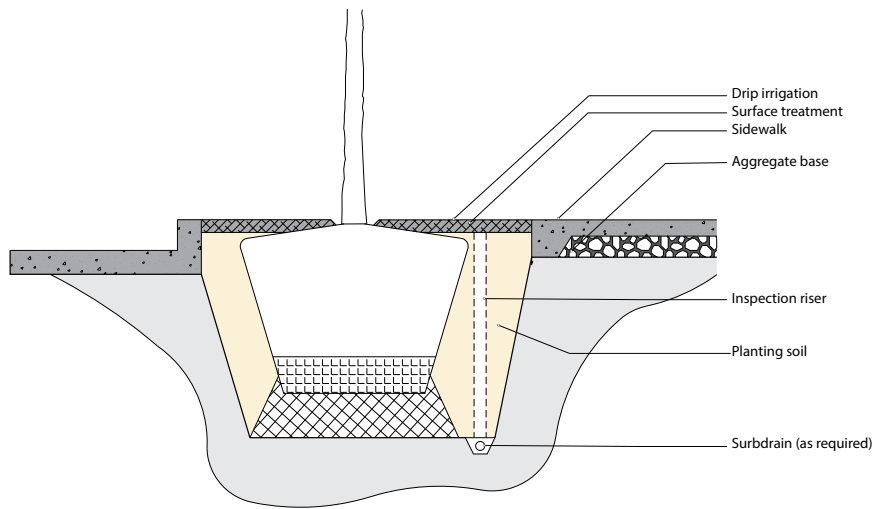


FIGURE 2.69: STANDARD TREE PIT

Type A: Standard

The standard tree pit should only be used where structural cell system is not possible. Ensure adequate soil quality and volume for tree health. Include irrigation and sub-drainage where required

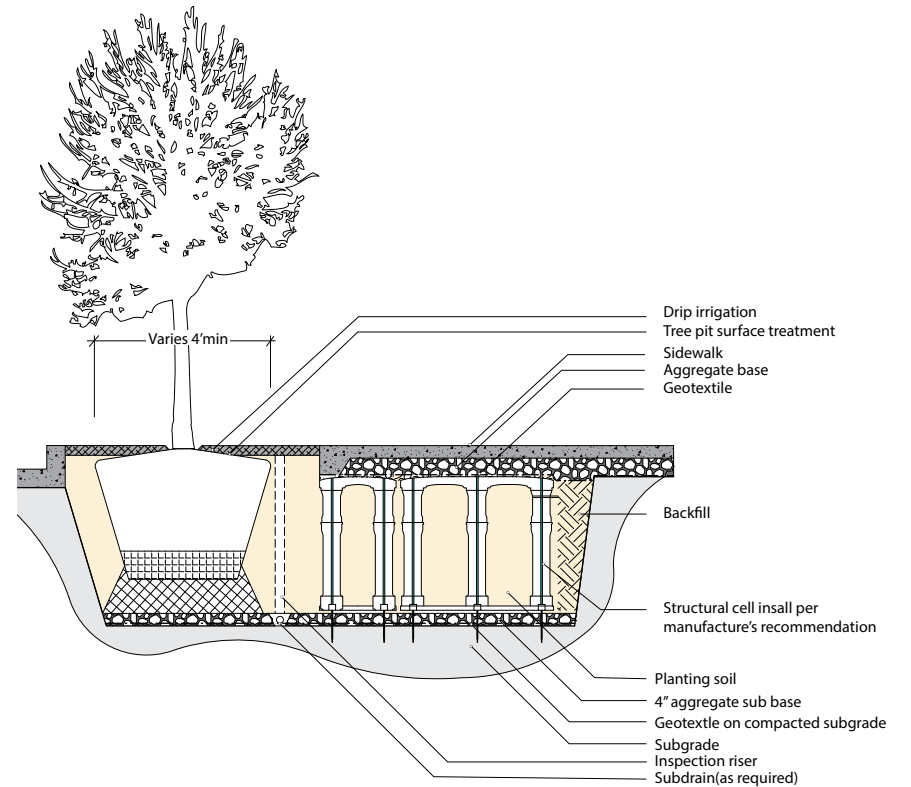


FIGURE 2.70: MODULAR STRUCTURAL CELL

Type B: Structural Cell

Modular structural cell support system allows for paving above planting soil, increasing volume of planting soil that can be provided for trees, which is extremely beneficial for long term tree health and viability.

Bioretention Areas

Bioretention areas are included throughout the Flats to treat all stormwater generated in the Flats and limit and/or eliminate the need for on-podium stormwater treatment. Within Bioretention areas, rooted water tolerant plantings are encouraged to improve filtration and nutrient control benefits.

Standards

2.5.80. Dimensions Minimum planter width shall be 2 to 3 feet to accommodate under drain systems, allow for planting room and allow for constructability.

2.5.81. Drainage Bioretention facilities shall be designed to drain stormwater within 48 hours after a rain event to avoid concerns about mosquitos. Ponding depths shall be limited to 6 inches or less. An overflow riser with a domed grate shall be included for larger storm events.

2.5.82. Underdrain System An underdrain system shall be included where subsoil infiltration rates are less than .5 inches/hour.

Guidelines

2.5.83. Roadway Runoff Roadway runoff shall be directed into bioretention features by installing flush ribbon curbs on the street edge or small evenly spaced curb cuts.

2.5.84. Location Planters shall be structurally separate from the adjacent sidewalk to allow for future maintenance without disturbing the sidewalk. An expansion joint satisfies this requirement.

2.5.85. Soil Horizons Bioretention areas shall contain a surface layer of organic mulch, underdrain by an amended soil plant bed supporting appropriate grasses, shrubs and trees.

Swales

Standards

2.5.88. Width The preferred width for swales is 5 to 11 feet but swales may be as narrow as 3 feet.

2.5.89. Check Dams For swale slopes over

6% check dams shall be provided. Check dams shall be constructed of durable, non-toxic materials such as rock, brick, concrete, or soil by integrating them into the grading of the swale.

2.5.90. Filtration Deep rooted grasses and forbs shall be planted to improve filtration benefits of swales. Side slopes shall be minimized and shall not exceed 3:1.

Guidelines

2.5.91. Side Slopes Swales shall have shallow side slopes and depth to avoid safety risks and prevent erosion. This may include use of a vertical edge.

2.5.92. Flush Ribbon Curbs Flush ribbon curbs on the street edge of a swale or evenly spaced small curb cuts into the existing raised curb shall be used to allow roadway runoff to enter swales.

2.5.93. Topsoil Amended topsoil shall be installed to increase filtration and to improve infiltration and retention of runoff. In locations where there is low soil permability, an underdrain should be considered.

2.5.94. Plant Species Vegetation shall be selected to improve infiltration functions, protect the swale from rain and wind erosion and enhance overall aesthetics. Selected species

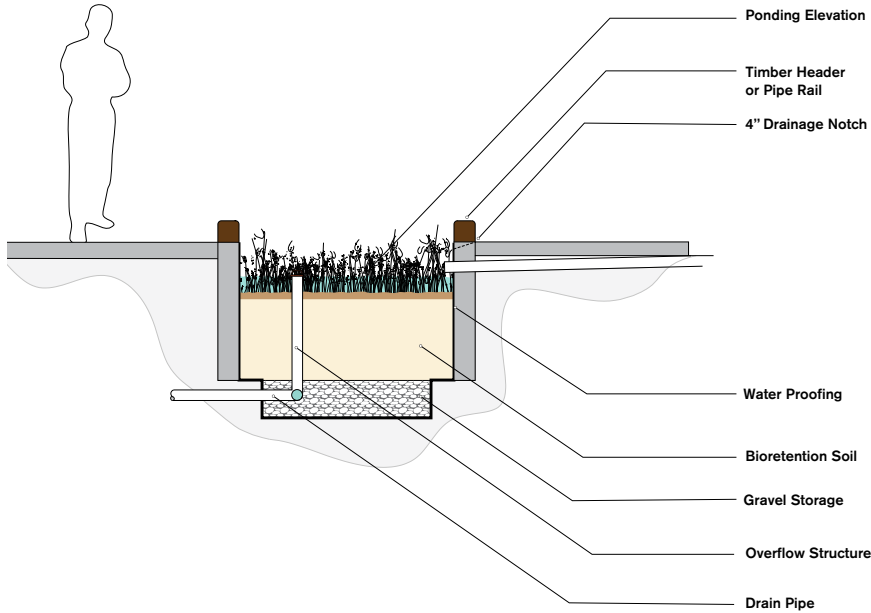


FIGURE 2.71: BIORETENTION TYPE A SECTION (NTS)

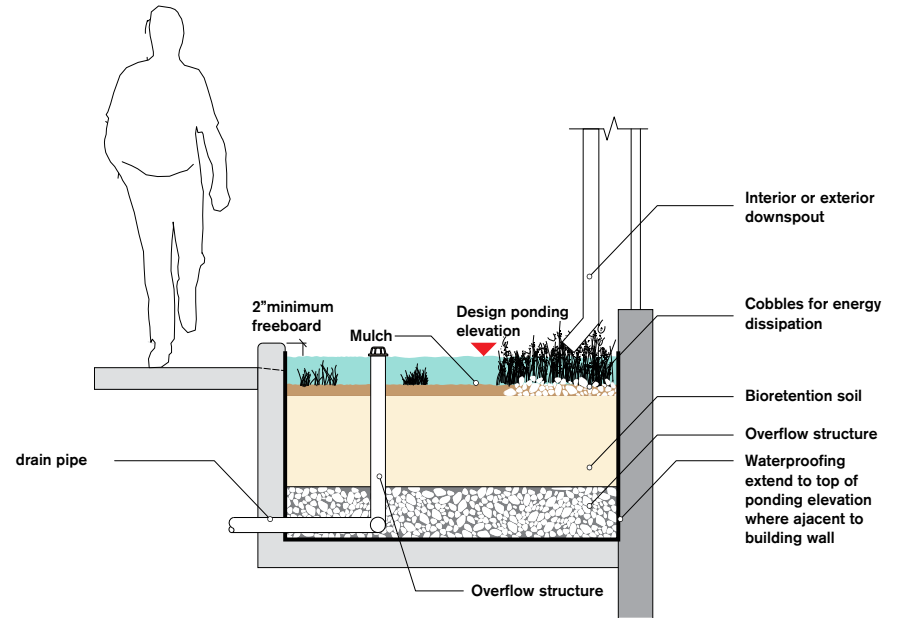


FIGURE 2.73: ROOF BIORETENTION SECTION (NTS)

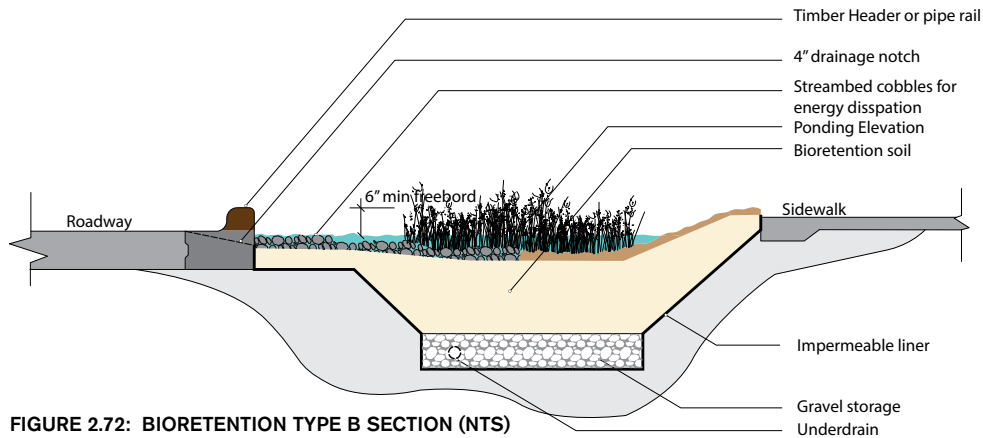


FIGURE 2.72: BIORETENTION TYPE B SECTION (NTS)

2.6 Ecology & Biodiversity

Ecology and Biodiversity

India Basin is composed of 7 adjacent waterfront sites proposed to become a continuous waterfront open space. The physical continuity of India Basin is its greatest asset for promoting diverse ecologies. While each site varies in its topography, materials, and relationship to the Bay, all can contribute to a larger ambition for diverse ecologies at a Basin-wide scale.

This site represents a unique ecological opportunity within the basin. The existing site assets, including a vegetated tidal marsh shoreline and extensive upland make it well positioned to support a broad array of flora and fauna. These features and the site's location in the Basin offer a unique opportunity to strive for the optimal cross section of vertical habitat continuity and enhanced urban biodiversity. Species should be selected to optimize habitat potential and create habitat niches across the site.

The intent is to keep the plant palette and character of the site wild and feral. This section outlines the recommended plant palette, standards and guidelines for creating the most optimal horticultural conditions to create a wild, ephemeral, adaptive, and sustainable landscape with diverse ecologies. The ambitions serve as a replicable model for habitat creation across all sites in India Basin.



FIGURE 2.74: HABITAT CONTINUITY THROUGHOUT INDIA BASIN



Seasonal



Feral



Native



Adaptive



Dynamic

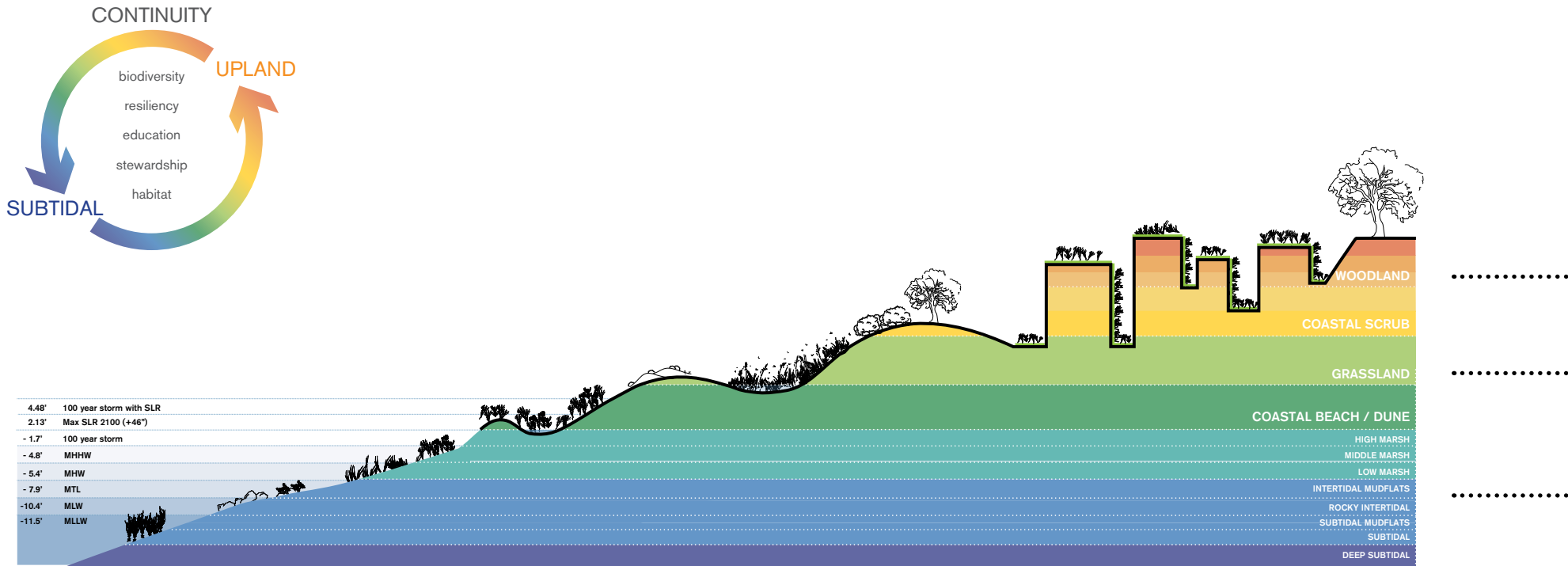


FIGURE 2.75: URBAN BIODIVERSITY

Ecology & Biodiversity

All interventions in the landscape serve an ecological purpose to promote diverse site ecologies that persist and evolve. The longterm success of these interventions will rely on the cultivation of a knowledgeable and committed community of stewards and advocates.

This is underpinned by a foundation of ecoliteracy—an appreciation of the ecological functions that make this place wild and unique across the site, as well as a deep understanding of how to preserve these conditions through both formal and informal environmental education.



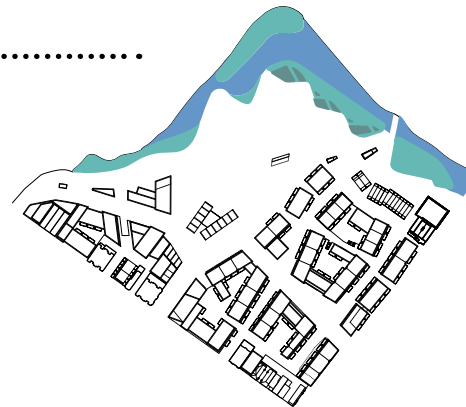
Urban

The urban zone is the uppermost, developed portion of the site. The habitat types here range from woodland to coast scrub.



Upland

The upland zone is below the urban zone in elevation, and above the tidal zone. The habitat type ranges from woodland to coastal beach/dune.



Tidal

The tidal zone is lowest portion of the site and includes all of the shoreline that sits at or below the high tide line. The habitat types in this zone range from high marsh to deep subtidal.

Habitat Types



Coastal Dune

Ambrosia chamissonis, Abronia latifolia, Fragaria chiloensis, Artemisia pycnocephala, Tanacetum camphoratum, Ericameria ericoides, Lupinus chamissonis, Lotus scoparius, Cirsium occidentale
Ambrosia chamissonis



Coastal Scrub

Ceanothus thyrsiflorus var. repens, Baccharis pilularis, Eriophyllum staechadifolium, Erigeron glaucus, Mimulus aurantiacus, Rubus ursinus



Freshwater Marsh

Scirpus pungens, Salix lasiolepis, Aster lentus, Lathyrus jepsonii



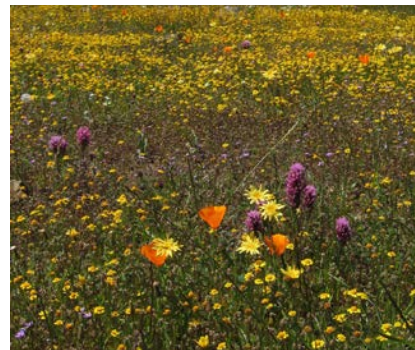
Mixed Forest

Notholithocarpus densiflorus, Umbellularia californica, Corylus cornuta, Rubus parviflorus, Rhododendron occidentale, Rosa gymnocarpa, Asarum caudatum, Trillium ovatum, Oxalis oregana, Petasites frigidus, Aralia californica, Polystichum munitum



Coastal Prairie

Agrostis pallens, Deschampsia cespitosa ssp. Holciformis, Elymus glaucus, Festuca rubra, Iris douglasiana, Leymus triticoides, Stipa pulchra, Sisyrinchium bellum



Annual Grassland

Allium dichlamydeum, Triteleia laxa, Danthonia californica, Elymus glaucus, Stipa pulchra, Grindelia hirsutula, Hesperolinon congestum, Clarkia franciscana, Triphysaria floribunda



Oak Woodland

Quercus agrifolia, *Arctostaphylos* spp., *Adenostoma fasciculatum*, *Ribes* spp., *Ceanothus* spp., *Heteromeles arbutifolia*, *Rhamnus californica*



Rocky intertidal

Fucus gardneri, *Mytilus californianus*, *Ulva* spp.



Subtidal

Zostera marina



Tidal Flat

Microalgae, diatoms, blue green alage



Salt Marsh

Atriplex prostrata, *Distichlis spicata*, *Frankenia salina*, *Grindelia stricta* var. *angustifolia*, *Jaumea carnosa*, *Limonium californicum*, *Sarcocornia pacifica*, *Spartina foliosa*, *Triglochin maritima*

Speciality Landscapes & Niche Habitats

India Basin is a prime location to establish rare and/or experimental habitats. The size of the available open space lends the site flexibility to go beyond meeting ecological imperatives while still ensuring that enough space is allotted to preserve and enhance existing habitat. Its location on the Bay positions it to receive strong wave energy and rising tides, which in turn call for innovative solutions.

In addition, the dual identity of India basin as a soft-edged urban waterfront makes it well-suited to support and test hybrid ecologies. Some of these would reintroduce niche habitats endemic to the region that have all but disappeared in the wake of urbanization and invasive species.

Living shoreline strategies have the potential to create and improve habitat in the tidal zone while providing erosion control and wave attenuation at the water's edge. These projects may include tidal marsh and brackish marsh, floating wetlands, eel grass beds, oyster reefs, engineered dunes, and artificial reef/tide pools.

See Section 3.8 for living shoreline habitats.

Reference www.SFPlantfinder.org as a tool to select habitat supportive and climate appropriate plant species.

Bird Baths

Bird baths are recommended as a niche habitat for local and rare species. Water from building sstem can be reused for habitat creation and treatment.

Standards

2.6.1. Site Location See Ch. 2 for locations.

2.6.2. Height Choose designs that have the basin at or near ground level, up to a maximum of 3 feet above the ground.

Guidelines

2.6.3. Form Basins shall have shallow, gently sloped saucer-shaped form, not vertical sidewalls.

2.6.4. Water Source Bird baths shall use non-potable water sources, such as building condensate water, and/or recycled water.

2.6.5. Substrate Sand, stones, or some other object/form that emerges above the water level shall be used in order to allow birds to drink without getting wet.

2.6.6. Material Non-concrete materials shall be used if possible, for ease of cleaning.

2.6.7. Proximity to Vegetation Bird baths shall be located in the shade, near trees or shrubs if possible to provide nearby vegetation for refuge.



Bird Baths

Bird baths are an excellent way to provide urban habitat, add character to the public realm, and reuse building refuse streams. Bird baths should be located on stairs, shared back yard, town triangle, and at the field center where feasible.



Floating Wetlands

Seasonal wetlands terraced at different elevations up the bank will afford a wider range of inundation conditions and the potential for wetland habit to migrate up the bank as sea level rises.



Serpentine Grasslands

It is anticipated that serpentinite will be found in existing site soils. Excavated serpentinite should be retained onsite to create a niche habitat for serpentine grassland species. Many are endangered and San Francisco endemic species.



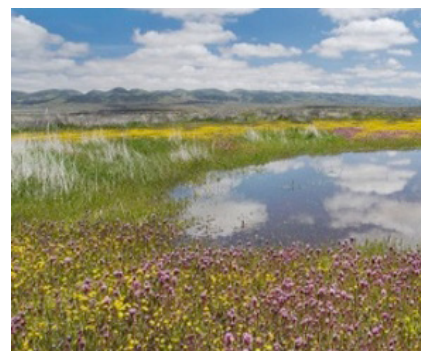
Eelgrass Beds

Eelgrass beds serve as nurseries for fish and crustaceans, provide food for waterbirds, and protect shorelines against erosion.



Constructed Tide Pools

Precast concrete tide pools fill up with water during high tide to provide habitat to shallow water marine organisms while also acting as breakwater structures.



Seasonal Wetlands

Seasonal wetlands are ephemeral niche habitats that occur during the wet winter months. They promote micro-organisms and flora species on an annual cycle.

Urban Zone

The urban zone is the uppermost portion of the site and connects the open space of the Big Green to the hillside across Innes Ave. The habitat types within the urban zone range from coastal scrub to woodland.

India Basin represents an unusual opportunity to create rich habitat on-structure at a district scale. The urban zone habitat consists of green roofs, green walls, on-podium planting beds, and streetscape planting at-grade.

Where building refuse streams generate greywater and excess heat, priority shall be given to reuse on-site to create habitat See Ch. 6 for green roofs and walls.



Standards

2.6.8. Diversity Green roofs shall use initial plant palettes that include at least 20 species to maximize biodiversity and plant survival.

2.6.9. Soil Volume For trees in paving, provide at least 1000 cubic feet of soil per tree. Where multiple trees share a trench, provide at least 700 cubic feet of soil per tree.

Guidelines

2.6.10. Habitat function criteria For green wall and roof applications, select species with a habitat function, that may include: A. Pollinator species, B. Species for nesting, C. Species as food source. These may include plants producing melliferous flowers, fruits or seeds appreciated by birds and insects.

2.6.11. Resilience criteria For streetscape application, select durable, low maintenance species that are compatible with street trees,

provide seasonal interest, and habitat value.

2.6.12. Better Streets Streetscape planting in the urban zone shall meet or exceed the City of San Francisco Better Streets guidelines.

2.6.13. Siting Green roofs and walls shall be located to maximize habitat value and support the biodiversity of the site, and away from highly glazed facades for bird safety.

2.6.14. PV panels Green roofs shall be located on roofs housing PV panels where feasible, in order to provide areas of shade and wind protection to plants and wildlife.



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1. *Arctostaphylos uva-ursi*
2. *Carex praegracilis*
3. *Juncus patens*
4. *Layia platyglossa*
5. *Ceanothus 'Yankee Point'*
6. *Polystichum munitum*
7. *Sisyrinchium bellum*
8. *Lasthenia californica*
9. *Heuchera maxima*
10. *Salvia spathacea*
11. *Erigeron glaucus 'Bountiful'*
12. *Dudleya cymosa*
13. *Asarum caudatum*
14. *Ceanothus 'Ray Hartman'*
15. *Iris PCH 'Canyon Snow'*
16. *Solidago 'Leraft'*
17. *Sesleria autumnalis*
18. *Sedum rupestre 'Angelina'*

Upland Zone

The upland zone makes up the core of India Basin’s open space, including all of the Big Green. The site’s wide, continuous upland zone is a unique asset within the basin and has the potential to enhance and expand existing habitat to support a healthy and highly diverse ecosystem.

As the site’s main active recreation zone, upland plantings play a significant role in balancing its function as a beautiful and inviting experience for human visitors while providing refuge to wildlife.



Horticultural Specifications

UPLAND				
TYPE	ASPECT	SLOPE	SOIL	HYDROLOGY
Dune Scrub			Sandy, Nutrient-poor	Well-drained
Coastal Scrub			Diverse	
Coastal Prairie / Perennial Grassland	South	Slopes and Ridges		
Freshwater Marsh		0-10%	Sand / Clay	Seasonal Saturation
Willow Riparian		gentle		
Coast Oak Woodland			Deep, Low-med Fertility	Moderate to Well-drained

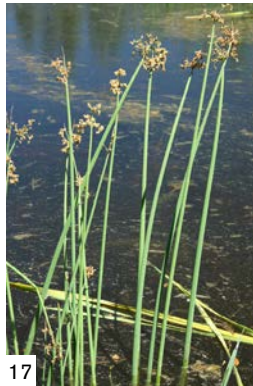
Standards

2.6.15. Oak Spacing Locate oak trees no more that 150 feet apart. This distance is based on the optimal distance that key bird species will fly across open grassland between cover vegetation.

Guidelines

2.6.16. Noxious Species Do not plant species known to cause human irritation or harm adjacent to paths or trails.

2.6.17. Specialty Habitats Specialty habitat patches shall be located where horticultural conditions allow, prioritizing those that are endangered and/or endemic to the San Francisco Bay Bioregion.



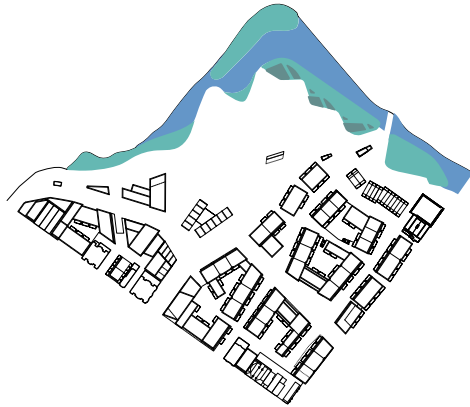
1. *Agrostis pallens*
2. *Mimulus aurantiacus*
3. *Danthonia californica*
4. *Stipa pulchra*
5. *Lupinus chamissonis*
6. *Elymus glaucus*
7. *Eriogonum fasciculatum*
8. *Baccharis pilularis*
9. *Artemisia californica*
10. *Salvia mellifera*
11. *Eschscholzia californica*
12. *Trichostema lanatum*
13. *Frangula californica*
14. *Ribes viburnifolium*
15. *Achillea millefolium*
16. *Quercus agrifolia*
17. *Schoenoplectus acutus*
18. *Lathyrus jepsonii* var. *jepsonii*

Tidal Zone

The tidal portion of the site exists from the high tide line down to low tide line (open water). The site contains the largest area available for this habitat in India Basin and one the largest in the southeastern waterfront of San Francisco.

The continuous transition habitat between tidal zone and the large adjacent upland zone is uncommon in urban contexts and makes it a valuable asset to species that thrive at this confluence.

A complete marsh should be created that includes all zones, including a high marsh and transitional wetland-upland habitat along the upland fringe. (See Shoreline Permits)



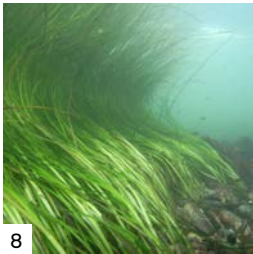
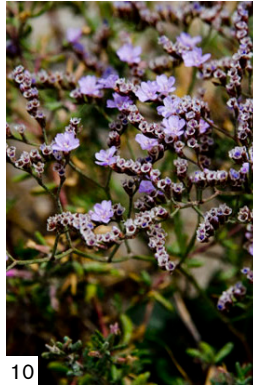
Guidelines

2.6.18. Grading Earthwork shall be graded to promote the evolution of a complex tidal drainage system, particularly to support invertebrates, fish and birds.

2.6.19. High tide refuge Provide areas for high tide refugia with abundant cover.

2.6.20. Marsh plain isolation Isolate the marsh plain from predators such as red fox, raccoons, and domestic and feral cats. Separation may include grade change, planted buffer, fencing. (See Section 2.5 for fence standards.)

2.6.21. Human disturbance Limit public access in sensitive areas with a grade change, planted buffer, or low fence.



1. *Frankenia salina*
2. *Grindelia stricta* var. *angustifolia*
3. *Atriplex prostrata*
4. *Sarcocornia pacifica*
5. *Spartina foliosa*
6. *Distichlis spicata*
7. *Bolboschoenus maritimus*
8. *Zostera marina*
9. *Jaumea carnosa*
10. *Limonium californicum*
11. *Triglochin maritima*
12. *Juncus xiphioides*
13. *Leymus triticoides*
14. *Suaeda californica*
15. *Baccharis douglasii*
16. *Carex pansa*
17. *Lythrum californicum*
18. *Juncus balticus*

Tree Planting

Trees provide a wide variety of benefits, including providing urban habitat, microclimatic moderation (wind break and shading), reduction of urban heat island, and reduction of stormwater runoff. Trees will be an integral part of India Basin and will be incorporated into streetscapes and open spaces.

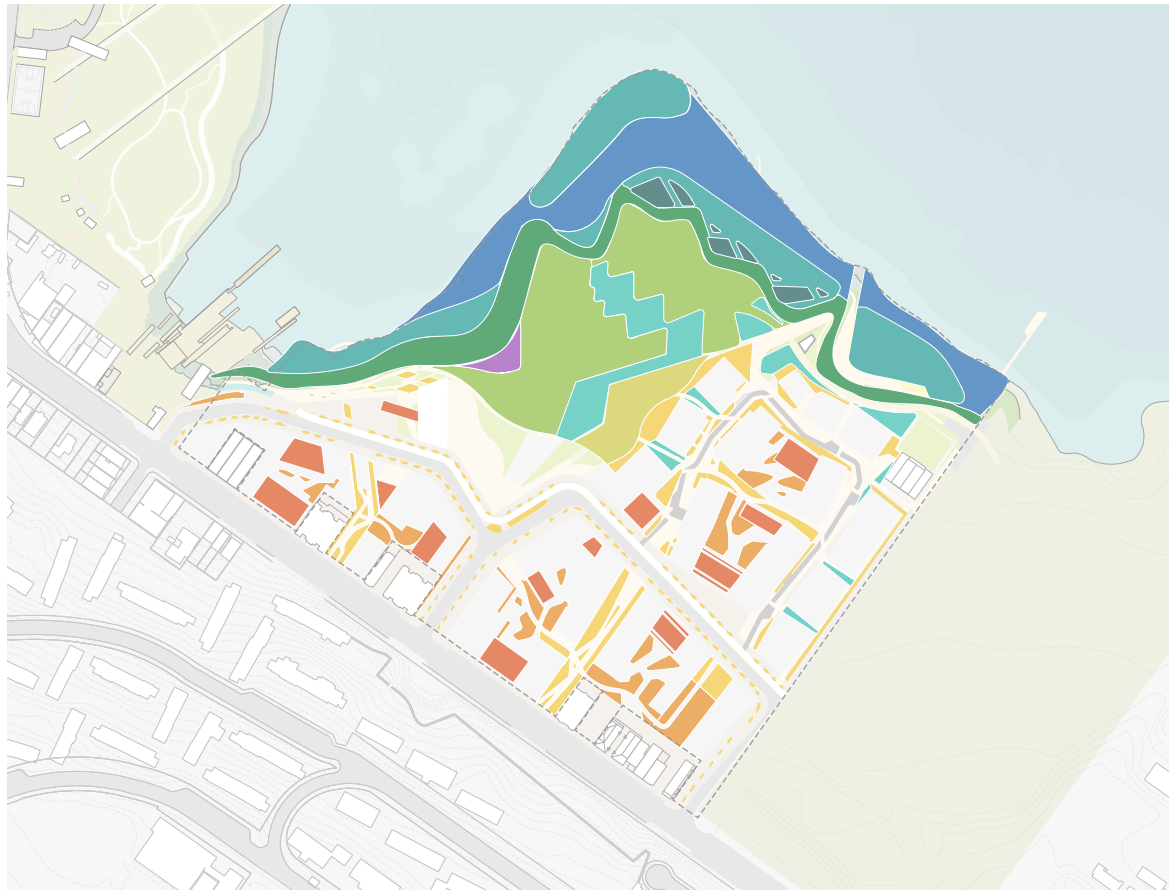
Growing conditions are vital to the health and longevity of trees and the India Basin standards and guidelines will ensure that best practices will be employed to ensure the viability of trees over time. Tree plantings must take into account local conditions. At India Basin, microclimatic factors such as wind and coastal exposure will be important considerations in species selection and tree layout.



FIGURE 2.76: CONCEPTUAL TREE PLAN

- Entry street
- Lane/laneway
- Commercial corridor
- Above grade
- Open space
- Oaks

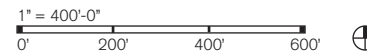




Understory Planting

Understory planting is an important aesthetic and ecological component of the India Basin public realm. Understory planting provides a range of benefits, including reduction of impervious surface, habitat and ecological function, buffering pedestrian areas from vehicular zones, and helping define the character and identify of India Basin.

FIGURE 2.77: CONCEPTUAL UNDERSTORY PLANTING PLAN



- | | |
|-------------------------------|--------------------------------------|
| ■ Subtidal | ■ Annual grassland/wildflower meadow |
| ■ Tidal zone & coastal dune | ■ Perennial & annual mix |
| ■ Seasonal wetland/low marsh | ■ Native & adaptive garden |
| ■ Freshwater marsh/stormwater | ■ Green roof/wall |
| ■ Coastal scrub | ■ Native lawn |
| ■ Coastal prairie | |

Tree Type Palette



Entry Street

Character: Large and broad canopy, at least 30' at maturity, single or alternating species similar in form, should not produce fruit/litter

- ZELKOVA SERRATA
- PLATANUS X ACERIFOLIA 'LIBERTY'
- JACARANDA
- LYONOTHAMNUS FLORIBUNDUS



Lane / Laneway

Character: Small to medium size, seasonal interest in leaves or flowers, mix of multiple species, including those suitable for bioretention areas

- ARBUTUS 'MARINA'
- PRUNUS ILICIFOLIA SSP. LYONII
- ALNUS RUBRA



Commercial Corridor

Character: Large and broad canopy, seasonal interest in leaves or flowers, should not produce fruit/litter

- GINKGO BILOBA 'AUTUMN GOLD'
- GLEDITSIA TRIACANTHOS 'SUNBURST'
- LAGUNARIA PATERSONII





Above Grade

Character: Compact canopy, fine leaf texture to allow light through, small to medium size, specimen tree

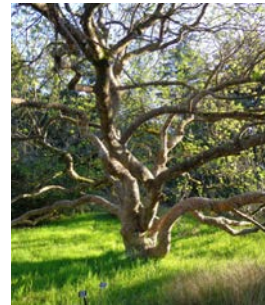
- OLEA EUROPAEA 'SWAN HILL'
- ACER PALMATUM 'SANGO-KAKU'
- LAGERSTROEMIA 'TUSCARORA'/ 'NATCHEZ'
- ULMUS PARVIFOLIA 'DRAKE'



Open Space

Character: Variable, seasonal interest in leaves or flowers, mix of multiple species

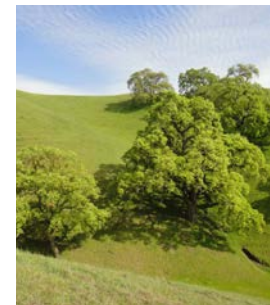
- AESCULUS CALIFORNICA
- GEIJERA PARVIFOLIA
- MELALEUCA QUINQUENERVIA
- PITTOSPORUM CRASSIFOLIUM
- LYONOTHAMNUS FLORIBUNDUS ASPLENIFOLIUS



Oak

Character: Dense canopy capable of acting as windbreak, should provide nesting habitat and food for wildlife

- QUERCUS AGRIFOLIA
- QUERCUS LOBATA
- QUERCUS VIRGINIANA



Understory Palette

Type A - Green roof/wall



Character: Varies. These should have a sturdy base of compact plants that can thrive in exposed conditions with low soil volume, but should take advantage of meadow- or forest-like qualities where climatic conditions permit.

Type B - Native/adaptive garden



Character: May be somewhat finer and more manicured than other spaces. Plants may be in more formal arrangements and may be more showy than elsewhere on the site. Seasonal interest and or specimen plants are appropriate here.

Type C - Perennial/annual mix



Character: The most variable- from annual grasses and flowers to various herbaceous perennials and even succulents. This spans from streetscape to the informal shared yards adjacent to the Big Green. This category has the flexibility to respond to adjacent architecture while advancing habitat goals.

Type D - Annual grassland



Character: emphasis on wildflowers here, mixed into a base of annual grasses. Plantings should have an informal meadow arrangement.

Type E - Coastal prairie



Character: Dominated by California perennial grasses with other herbaceous and woody perennials present. The scale of these plants is important to properly emphasize the earthworks of the Big Green.

Type F - Freshwater marsh/stormwater



Character: Upright in form with a minimum height of 24" since these planting beds will be below grade from adjacent paths and surfaces. Plants must tolerate intermittent inundation and irregular irrigation frequency.

Type G - Coastal scrub



Character: emphasis on wildflowers here, mixed into a base of annual grasses. Plantings should have an informal meadow arrangement.

Type H - Seasonal wetland/low marsh



Character: Dominated by California perennial grasses with other herbaceous and woody perennials present. The scale of these plants is important to properly emphasize the earthworks of the Big Green.

Type I - Native lawn



Character: The only lawn space area, this should be soft and comfortable for picnics and recreation, but resilient to foot traffic and events.

Tree Planting

These spacing requirements should be considered general targets that may be adjusted to local street conditions such as setbacks from corners, utilities, driveways, bus stops and building entries. To the greatest extent feasible, trees shall be aligned to minimize interference with building entries, driveways, and utilities. Where site constraints prevent maintaining an exact spacing, it is favorable to place a tree slightly off the desired rhythm than to leave a gap in the planting pattern.

Standards

2.6.22 Trunk Size Caliper (trunk diameter) of trees to be planted shall be a minimum of 2" at 8' of height. Exceptions shall be considered for desired species that may not attain this caliper size, such as a 24-inch box specimen.

2.6.23. Box size Minimum tree size at installation shall be a 24 inch box. 15 gallon container may be allowed for volunteer efforts and property owner initiated replacement

2.6.24. Path of travel Tree branches that extend into the path of travel shall maintain 80 inches of vertical clearance.

2.6.25. Distance from paving Trees shall be planted at minimum 5' from pavements walls, and structures.

2.6.26. Conflicts Where a conflict arises with tree placement and other streetscape elements such as curb cuts and vaults, a gap of no more than 1 tree shall be permitted.

Guidelines

2.6.27. Spacing Street tree spacing shall be determined by the expected mature size of the tree. Generally, trees should be planted with the following spacing:

Small Trees (<20 feet crown diameter at maturity) shall be planted 15 to 20 feet on center.

Medium Sized Trees (20-35 feet crown diameter of maturity) shall be planted 20 to 25 feet on center.

Large Trees (>35 feet crown diameter at maturity) shall be planted 35 feet on center.

2.6.28. Water quality Irrigation water quality shall not preclude selection of species to meet habitat requirements. Consider improving water quality to expand potential plant palette range.

2.6.29. Tree staking Trees at India Basin shall be staked or guyed with rigid adjustable system such as Greensleeves Tree Staking System at installation.

2.6.30. Soil volume and depth Adequate planting depth and soil volume shall be provided for all trees to ensure the soil's ability to store moisture and allow room for roots to grow.

Understory Planting

Standards

2.3.31. Distance from paving Place the center of all shrubs away from edges 1/2 diameter of the typical spacing plus 12 inches. Place the center of all perennials 1/2 diameter of the typical spacing plus 6 inches to prevent overhang of plants on trail.

Guidelines

2.6.32. Water Quality Irrigation water quality shall not preclude selection of species to meet habitat requirements. Consider improving water quality to expand potential plant palette range.

2.6.33. Soil Volume & Depth Provide 1,000 cubic feet of soil volume per tree or 700 cubic feet of soil where trees are located in same trench to maximize habitat potential.

03



District Sustainability + Resilience

Chapter 03: District Sustainability + Resilience

- 3.1 Stormwater
- 3.2 Water
- 3.3 Energy and Greenhouse Gas Emissions
- 3.4 Materials
- 3.5 Refuse
- 3.6 Healthy Environment and Lifestyle
- 3.7 Interim Activation and Pilot Projects
- 3.8 Coastal Adaptation

Chapter 3 summarizes India Basin's aspirations and approach to district-wide sustainability and resilience. The project has established goals for water reuse, electricity distribution and storage and on-site renewable production. The following chapter also outlines India Basin's approach to conserving material resources, creating healthy environments and adapting to changing coastal conditions.

Chapters 3 and 6 have 'Goals' in addition to 'Standards' and 'Guidelines'. Goals are aspects of the project which the developer will diligently pursue and seek to finance, but they are ultimately non-binding. Many of the sustainability goals outlined in Chapter 3 and 6 are dependent upon the integration of rapidly evolving technologies which will likely change over the course of the project's relatively long timeline.

District-wide sustainability goals are closely linked to building-scale performance goals. Please refer directly to Chapter 6.5 for building-scale performance requirements and goals.

The project goals reflect the project's pursuit of a high level of environmental performance while allowing flexibility to adapt to changing conditions and evolving technologies.

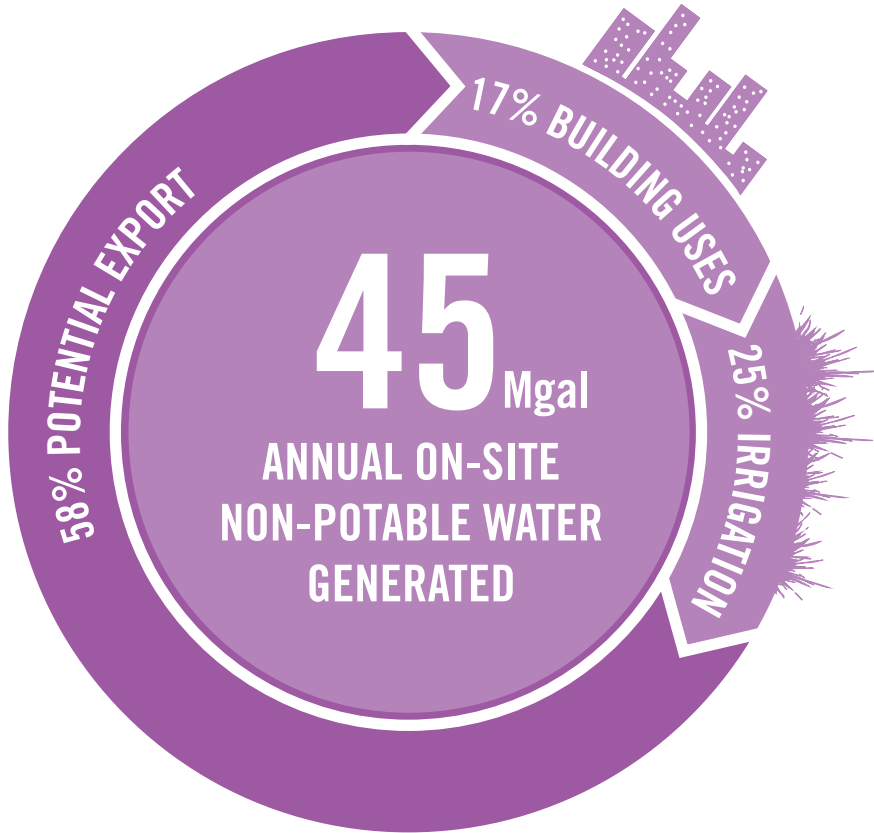


FIGURE 3.01: POTENTIAL NON-POTABLE WATER GENERATION AND USES

Water and Stormwater

India Basin aspires to manage stormwater and wastewater resources on-site and produce non-potable water for the project’s use. India Basin’s district-wide water balance was studied to quantify the overall water consumption and potential for on-site production of recycled water at full project build-out. The analysis suggests that India Basin can produce more non-potable water than will be used on-site for toilet flushing, irrigation and cooling demands. As such, the project has an opportunity to be a net exporter of recycled water at a district scale, and can potentially offset potable water consumption in neighboring developments.

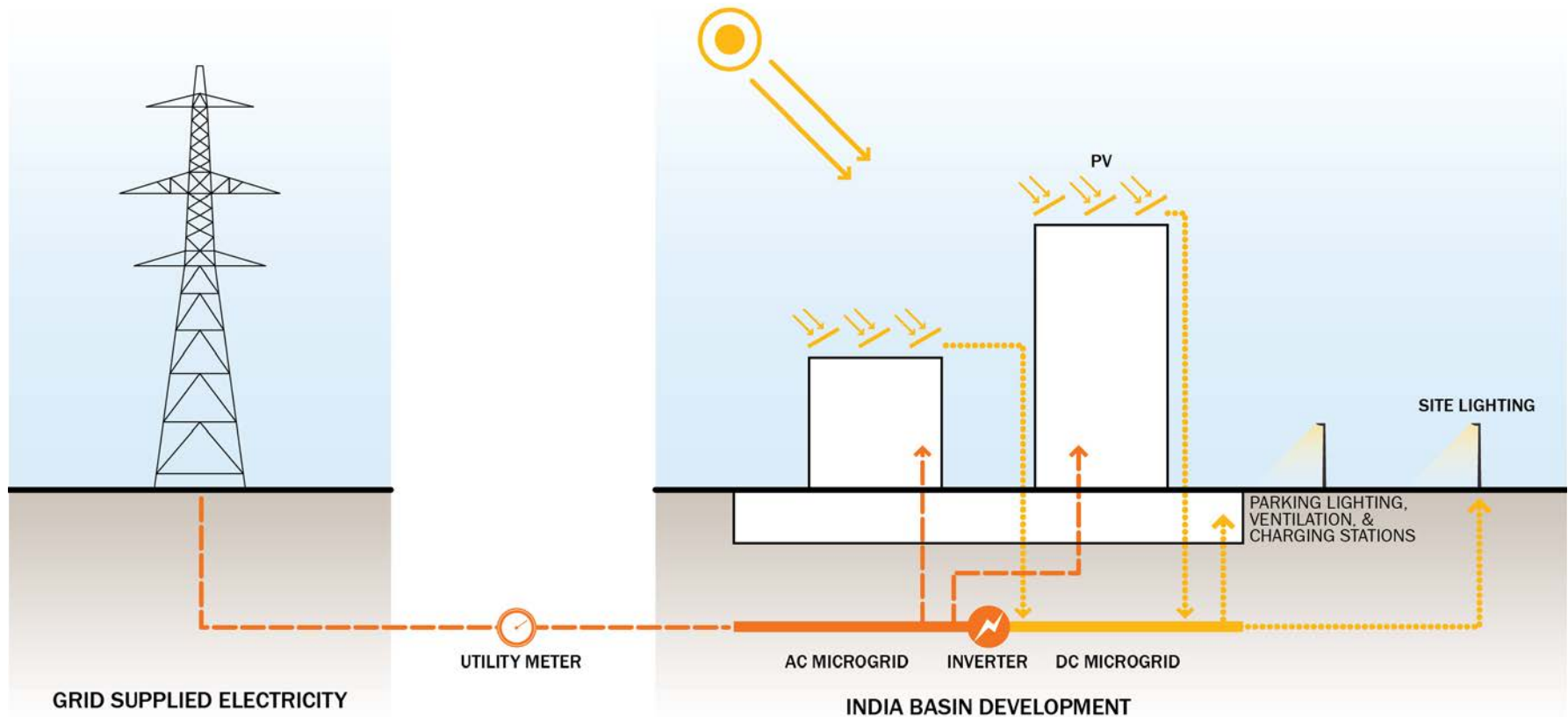


FIGURE 3.02: POTENTIAL MICROGRID CONFIGURATION

Energy and Greenhouse Gas Emissions

India Basin aspires to minimize greenhouse gas (GHG) emissions from building operations and to produce electricity on-site to increase community resilience in the event of a disaster.

India Basin's district-wide energy approach was informed by a district-scale energy analysis. As a result of this study (details of which can

be found in section A.4 of the appendix), the project prioritized investment in electricity infrastructure and building efficiency rather than a centralized thermal energy plant.

This analysis concluded that heating and cooling make up only a small portion of the site-wide energy consumption. This percentage will only decrease with increasingly stringent energy codes. A decentralized approach to energy

efficiency encourages higher quality buildings and enables future flexibility by allowing buildings to adapt to future technological innovations without tying them to a district plant relying on today's technology.

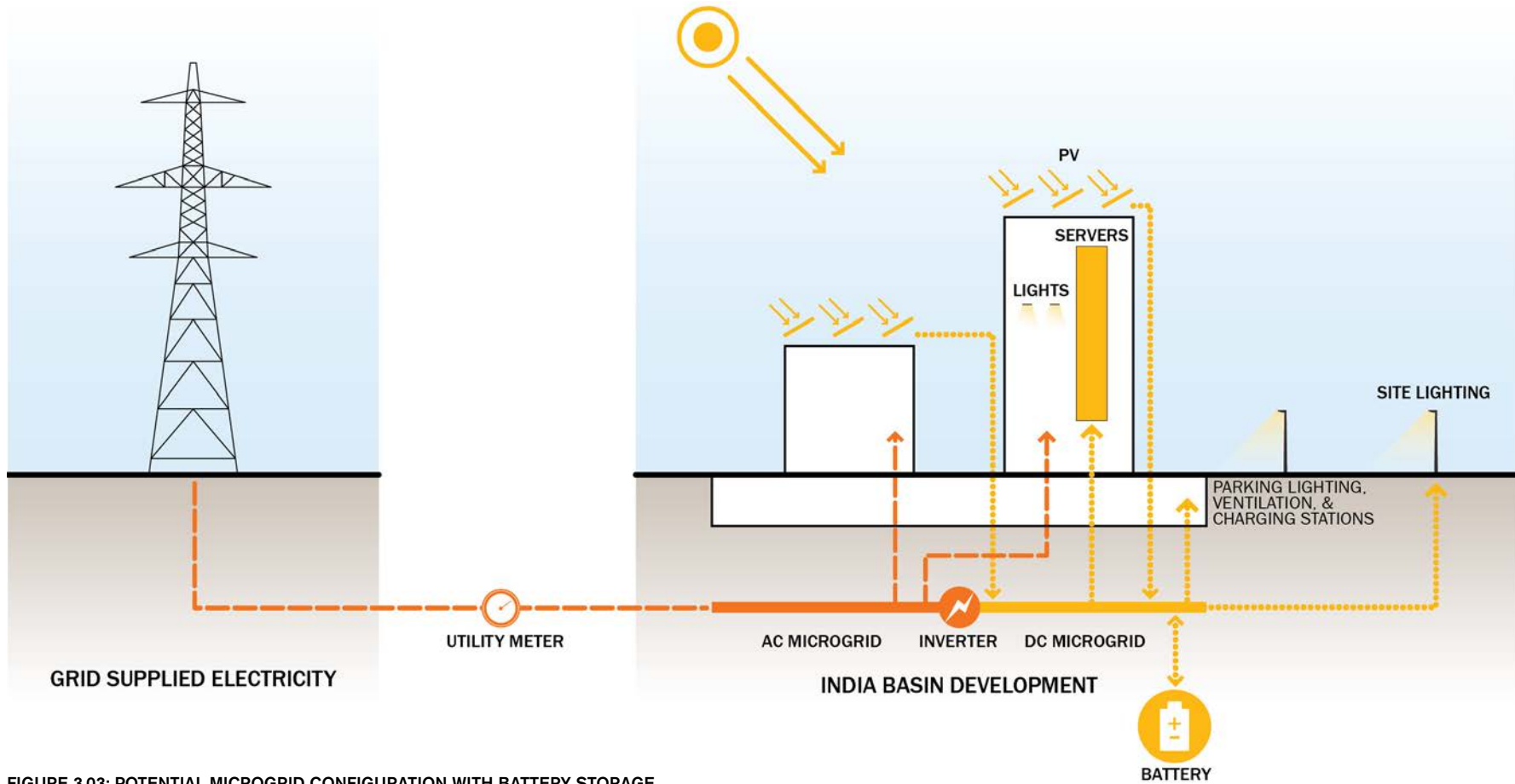


FIGURE 3.03: POTENTIAL MICROGRID CONFIGURATION WITH BATTERY STORAGE

One of the energy goals for India Basin is to implement a microgrid that includes direct current (DC) electricity distribution to provide increased control over distributed renewable resources, minimize conversion losses and increase community energy resilience.

A microgrid is a semi-independent electric grid that can distribute alternating current (AC) and

potentially direct current (DC) electricity within the site.

The microgrid may be split into two parts: a DC portion which will distribute energy generated on site directly to DC loads, and an AC portion which will increase flexibility with regard to on-site energy distribution. The DC portion of the microgrid eliminates conversion from AC to DC

losses at any DC loads like motors, fans, LED lighting, and vehicle charging stations. Batteries can also be included on the grid. Batteries will increase the resilience of the grid and will provide cost savings by shifting electrical loads from peak demand times. See figures 3.02 and 3.03 depicting a potential microgrid configuration.

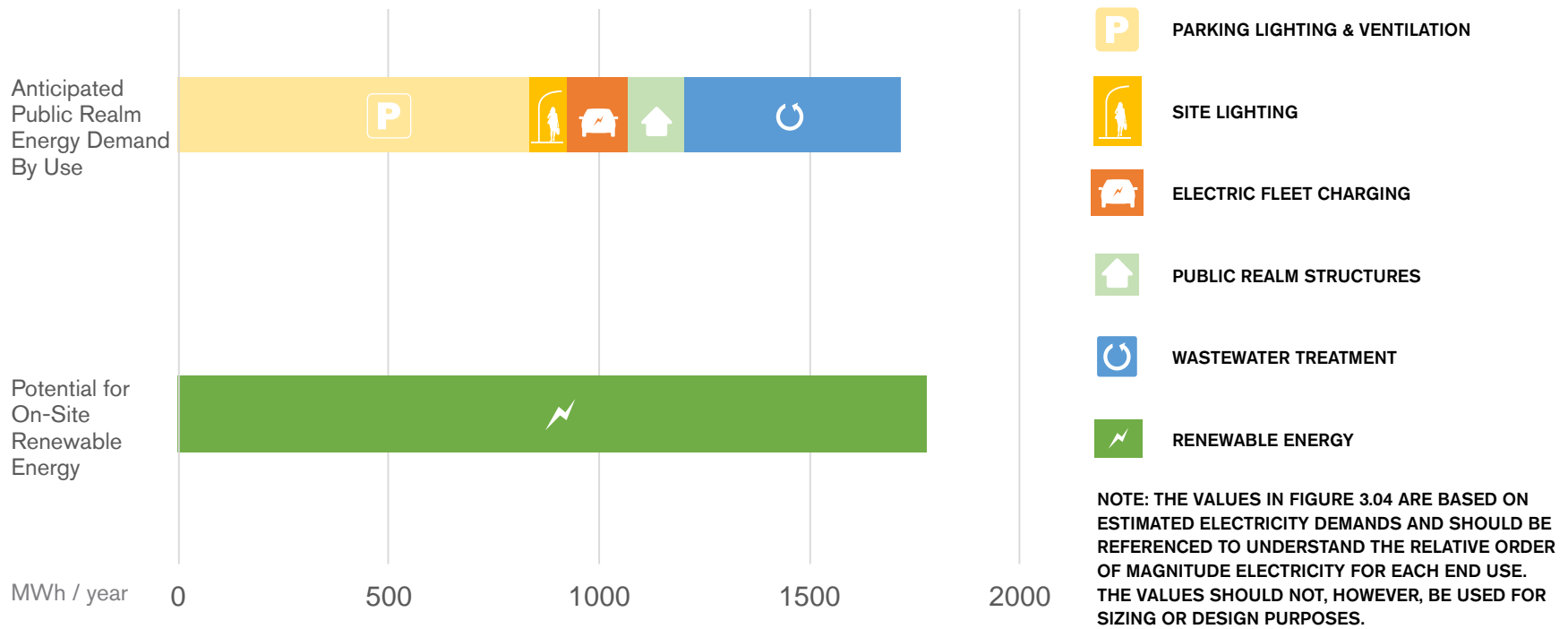


FIGURE 3.04: POTENTIAL FOR PUBLIC REALM ENERGY BALANCE

Another goal for India Basin is to use renewable electricity produced on-site to achieve a zero net energy public realm. An energy balance was prepared to determine the feasibility of achieving this goal. The calculation included a rough estimate of the total energy available from on-site renewable electricity generation and compared it to the anticipated energy demand in the public realm, including parking structure lighting and ventilation, site lighting, electric fleet charging, public realm structures and wastewater treatment. The total anticipated

energy generation and demand are shown in Figure 3.04. Based on the comparison of on-site renewable energy potential and demands, it should be possible to offset the public realm energy demand with on-site solar electricity generation.

The project’s district-wide emphasis on electricity production and distribution is complimented by a goal at the building scale (see Chapter 6) to minimize on-site combustion and to limit the use of natural gas

for cooking needs only. This movement towards a predominantly electric site allows the project to take advantage of future GHG reductions through a cleaner grid and potential investment in on-site and off-site renewable electricity generation.

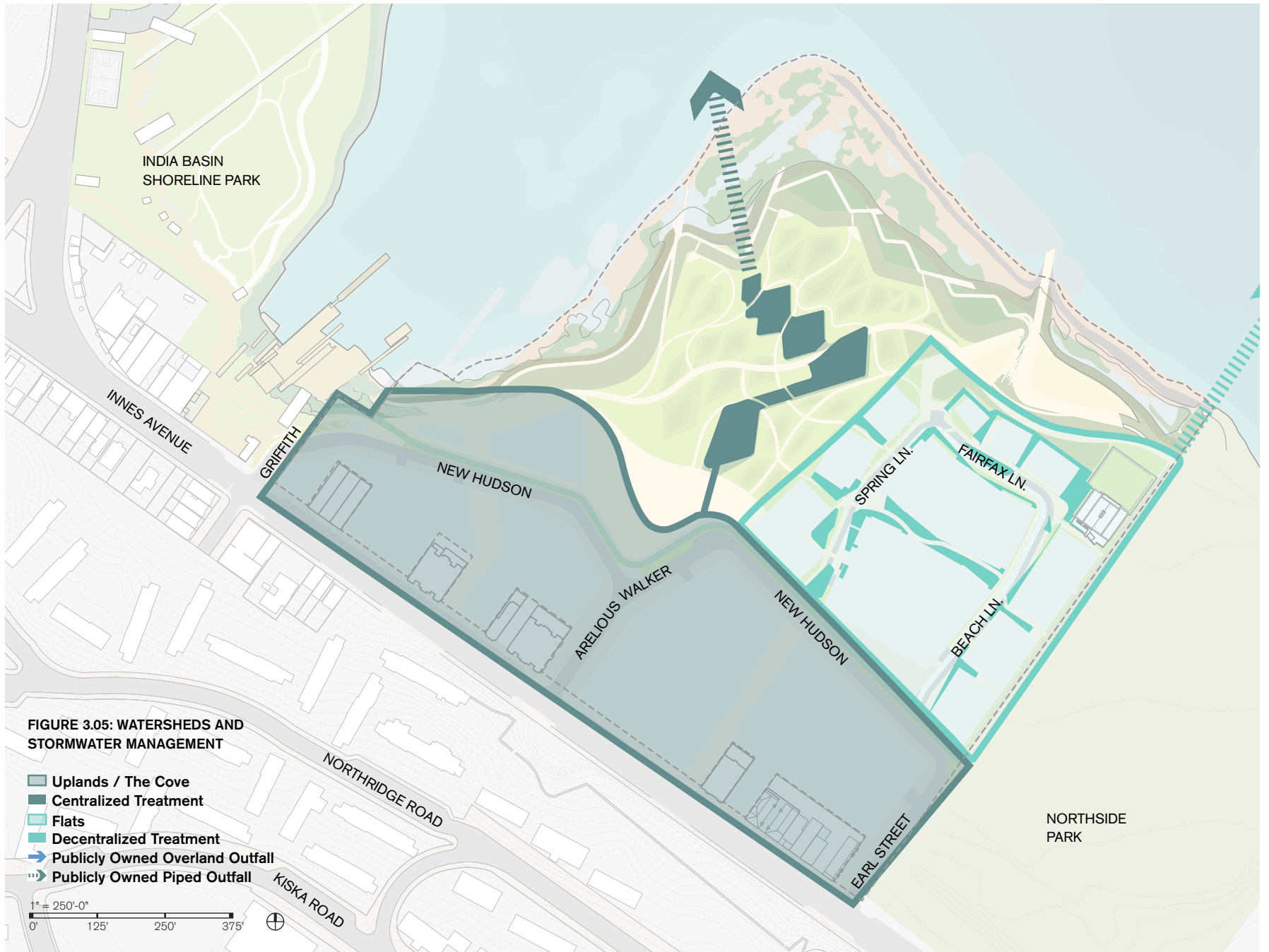
3.1 Stormwater

The India Basin project site is located within its own watershed, of which the majority is designated within the San Francisco Separate Sewer area. The project will collect and manage its stormwater entirely on-site, with new outfalls to the San Francisco Bay and, as such, will avoid burdening the City and County of San Francisco's aging combined sewer system.

The project's intent is to employ natural stormwater management strategies to manage the runoff quantity and rate and improve water quality by removing metals, sediment, and other pollutants of concern through landscaped-based stormwater treatment features (biotreatment).

In addition, the Project will intelligently leverage stormwater resources to support a resilient landscape that mitigates and is adaptable to the impacts of future changes in climate, including less frequent, but larger and more intense storm events and sea level rise.

The natural topography and development approach divides the site into two primary watersheds. The project will employ a combination of centralized and decentralized stormwater biotreatment facilities designed in accordance with the requirements of the San Francisco Public Utilities Commission (SFPUC) Stormwater Management Requirements and Design Guidelines (SMR). Private development parcels and public streets within the Cove and Uplands (Figure 3.05) will rely primarily on centralized stormwater treatment facilities within the Big Green. Within the Flats, decentralized stormwater management features will be integrated alongside roadways, pedestrian pathways and between buildings to meet stormwater quality requirements. Both centralized and decentralized stormwater facilities will prioritize the use of biotreatment methods, including but not limited to, bioretention areas, flow through planters and treatment wetlands.



Stormwater Management



Drainage



Intersperse Permeability



Bioretention

Stormwater Management

The project's stormwater management approach will mimic pre-development drainage patterns and hydrologic processes, thereby limiting the need for pumping and increasing retention, detention, infiltration, and treatment of stormwater at its source. It should be noted that the site's underlying soil conditions highly restrict the potential for infiltration and therefore infiltration is not pursued as a primary strategy for stormwater management.

Standards

3.1.1. On-site Stormwater Management

Designate the entire project site within the City's MS4 Separated Sewer Area and manage 100% of stormwater on-site with no discharge to City and County of San Francisco combined sewer system at full build-out.

3.1.2 Water Quality Treat 100% of the water quality storm event, in accordance with SMR

requirements (currently the 90th percentile, 24-hour storm). Stormwater treatment features shall prioritize biotreatment methods and comply with all ordinances and design guidelines applicable at the time of construction.

3.1.3. Ongoing Maintenance Stormwater and drainage facilities shall be maintained to remove debris before storm events to prevent clogging and potential ponding of surface water.

Habitat Support



Biodiversity



Diverse Planting



Visible Infrastructure

Guidelines

3.1.4. Runoff Reduction Intersperse permeable areas, such as pavers, planters and green roofs, within large areas of hardscape to increase stormwater retention and reduce runoff rate and volume.

3.1.5. Phasing In areas where stormwater management features are centralized to support multiple phases of development, storm water infrastructure shall be constructed to meet the

management requirements of each new phase, while minimizing impact to previously built features.

Habitat Support

Promote natural patterns of stormwater flow and capture stormwater on-site to support biodiversity through a diverse planting palette that supports a variety of habitats.

Guidelines

3.1.6. Ephemeral Landscape Establish planting types supported by both freshwater and recycled water that are able to adapt to changes in seasonal and local climate.

3.1.7. Visible Connections Create visible connections between building rooftops, architecture, streetscapes, and public spaces to emphasize the patterns of water flow within the India Basin public realm.

3.2 Water

India Basin is located within a water-stressed region with a rapidly growing population that will only increase pressure on the region's water resources. The project intent is to reduce reliance on municipally provided freshwater to the maximum extent feasible by promoting conservation and leveraging on-site water resources. This holistic water management approach will allow the project to be more resilient to regional and global climate change and support the preservation of freshwater in times of drought.

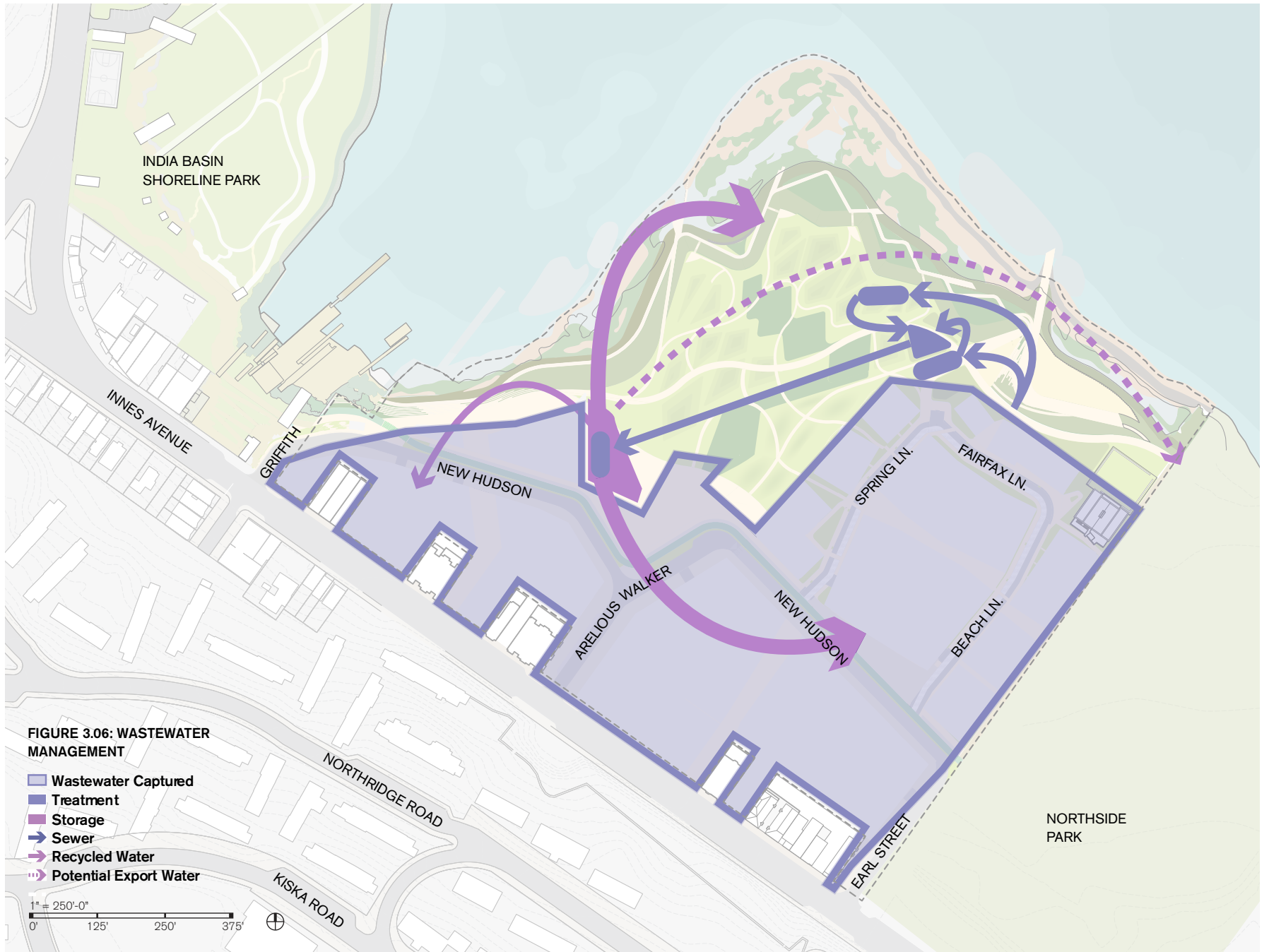
Water Conservation

Conservation measures and efficient water systems are the first priority at India Basin. All buildings will be required to utilize state-of-the art and water efficient fixtures, as further described in Chapter 6 (High Performance Buildings). Planting palettes described in Chapter 2 will be climate appropriate and efficient irrigation systems will be utilized throughout the development.

On-site Water Supply

The City of San Francisco recently implemented a Non-Potable Water Ordinance that requires developments of this size to collect and treat available supplies from on-site rainwater, greywater and foundation drainage sources to meet the site's non-potable demands (toilet flushing and irrigation). Alternatively, projects can utilize treated wastewater or stormwater to meet non-potable water demands. This progressive policy sets a high bar for water systems.

The project intends to go above and beyond the requirements of the Ordinance by promoting district-scale wastewater treatment and reuse to enhance on-site water supplies and reduce reliance on municipal infrastructure. Localizing wastewater treatment and water supply indirectly benefits the site's carbon and energy balance as well.



Water Sources



Non-Potable Distribution



Signage



Recycled Water

Standards

3.2.1 Signage All recycled water systems shall be signed in conformance with San Francisco Department of Public Health (SFDPH) Article 12.

3.2.2 Non Potable Water All water used for toilets, urinals, irrigation and cooling systems shall be supplied with non-potable water in accordance with the Non-potable Water Ordinance.

3.2.3 Storage The project will build on-site water storage to reduce the impacts to municipal infrastructure and enhance system resilience.

On-site recycled water storage shall be sized for at least one peak day demand volume.

Guidelines

3.2.4. Diversification of Water Supply The project will consider all water supplies on-site including stormwater, recycled water and

foundation water to offset the municipal potable supply. The available non-potable water supplies on site will be treated and distributed in alignment with its end use.

3.2.5. Future Ready The expansion of district water treatment systems and non-potable water distribution will be incremental and appropriately sized for each development phase and will consider compatibility of available technologies to optimize treatment efficiency and maximize performance during the full build-out of the project.

On-Site Water Recycling



Water Hub



Blackwater Treatment



Infographic

3.2.6. Public Engagement The project shall provide educational materials and signage visible to the public to display the potable water offset over time.

Goals

3.2.7. Decentralized Wastewater Treatment and Reuse All wastewater generated from toilets, sinks, showers and other fixtures from private development parcels will be treated at a decentralized water recycling facility within the

vicinity of India Basin. This facility will include a series of treatment processes to comply with the San Francisco Department of Public Health (DPH) Article 12 requirements and treat wastewater to Title 22 Standards to supply the India Basin non-potable water distribution system. The India Basin project has ambitions to pursue distribution of non-potable water to adjacent parcels and will coordinate with the SFPUC to enhance the recycled water network within this region.

The location, ownership and operation of such a facility is dependent on future unknowns and will be evaluated further at the time of development. Potential arrangements include, but are not limited to:

- Third-party entity as a private owner-operator
- Ownership by Project
- Partnership with City

3.3 Energy and Greenhouse Gas Emissions

Site-Wide Greenhouse Gas Emissions

The India Basin development is focused on reducing the environmental impact of energy consumed on site. To achieve this, the project has a goal of zero net energy public realm by producing enough on-site renewable energy to power the public realm structures, central wastewater treatment, charging for an all-electric maintenance and refuse management fleet, parking garage energy demands and site lighting.

Additionally, the project is focused on operating without producing GHG in the future by minimizing on-site combustion, exploring the feasibility of an all-electric site, setting energy performance targets for each building type, and providing a portion of the project's energy through GHG-free technology.

The project has a goal to eliminate GHG emissions associated with building operations. High performance buildings, predominantly electric buildings and investment in renewable energy production all contribute to this goal. Refer to Section 6.5 for Goals, Standards and Guidelines related to building performance.

Standards

3.3.1. Public Realm Energy Efficiency The following public realm components shall exceed the minimum energy performance requirements of Title 24 at the time of construction: site lighting fixtures, parking garage lighting, parking garage ventilation equipment and on-site amenity buildings.

3.3.2. Maintenance Vehicles Maintenance vehicles shall be all-electric and appropriately scaled to the site, such as electric carts. Vehicles shall meet the needs of the operations and maintenance team.

3.3.3. Electric Vehicle Charging Stations EV charging stations shall be provided for at least 50% of street level parking spaces within the public realm.

Guidelines

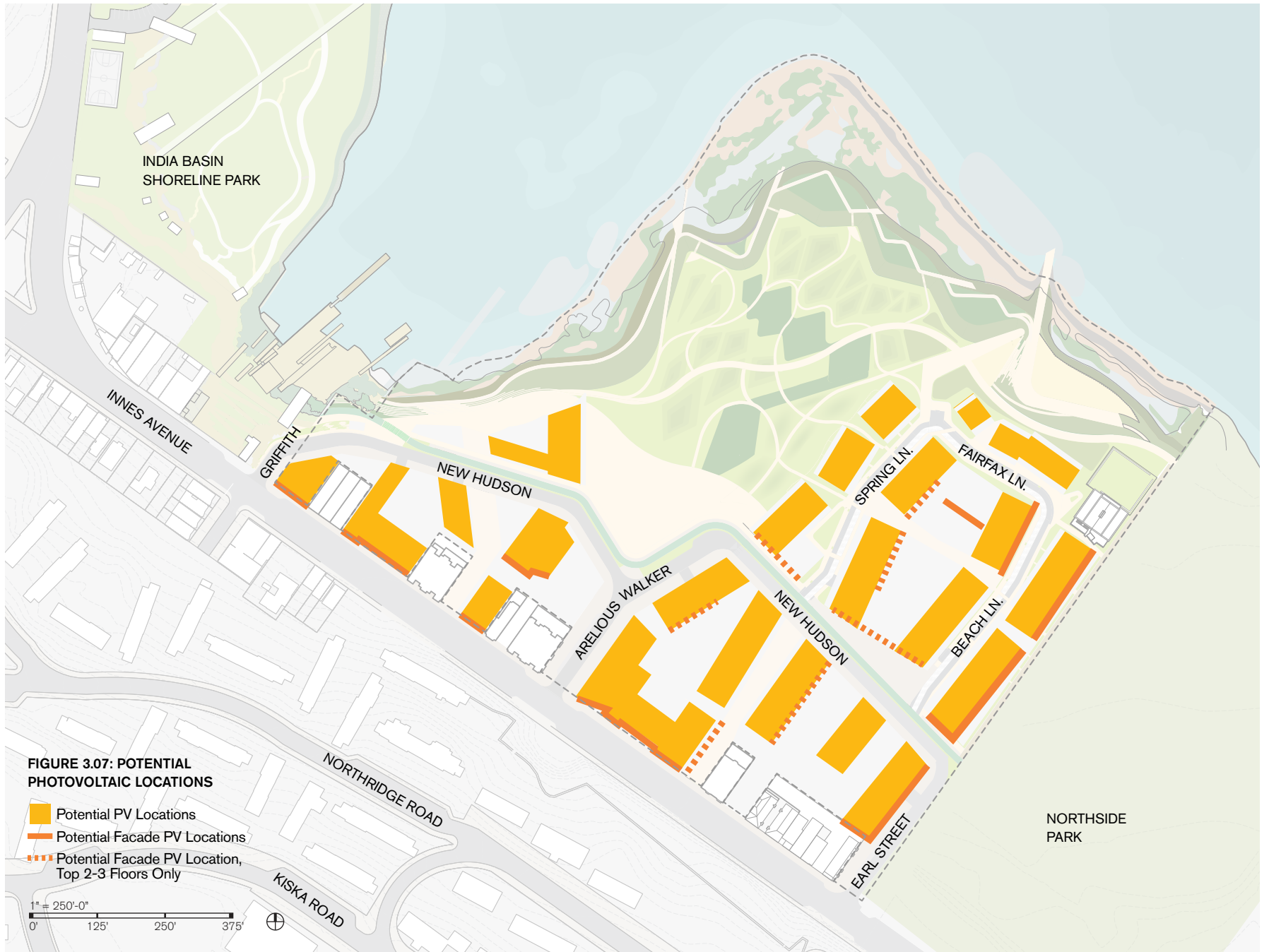
3.3.4. Maintenance Vehicle Charging Stations Stations for charging and storing maintenance vehicles shall be provided in parking garages. Maintenance vehicles and storage shall not be stored in the park.

Goals

3.3.5. Net zero energy public realm Provide on-site renewable energy production sufficient to offset energy consumption of site lighting, parking structures, amenity buildings, wastewater treatment and fleet vehicle charging.

3.3.6 Microgrid Provide a microgrid with AC and DC distribution on-site to serve the public realm and all buildings.

3.3.7 Public Realm Direct DC Power Select equipment capable of being powered directly by a DC grid. This equipment may include, but is not limited to: site lighting, parking garage lighting and parking garage mechanical ventilation systems.



Energy Resilience

India Basin strives to be a leader in energy and community resilience and the development has the potential to be a national example of a resilient community. In order to achieve this goal, the project has established Goals, Standards and Guidelines that will enable the community to leverage on-site energy production to provide community support in a disaster event.

The large area of public open space on the India Basin site will be a natural gathering place in the event of an emergency. Providing resilience resources, including power, lighting and supplies will allow India Basin to serve more effectively in an emergency. Storing emergency supplies nearby would also allow a swifter response following a disaster.

Combining the site-wide microgrid with battery storage could allow electricity to remain available to site occupants and the surrounding community during a disaster. In the event of regional electricity service disruption, the on-site microgrid could be disconnected from the regional grid, allowing the microgrid to continue to provide electricity to the community.

Estimates for the potential number of people supported in a disaster and a table of critical emergency loads can be found in Section A.4 of the appendix.

Standards

3.3.8. Battery Storage Area Allocate space for battery storage sufficient to store peak electricity produced by on-site photovoltaics to provide a constant source of electricity for consecutive 24 hour periods.

Guidelines

3.3.9 Battery Storage Capacity Provide battery storage to power critical electric loads in the event of an emergency. Critical electrical loads may include, but are not limited to: water treatment system, refrigeration, emergency lighting and medical equipment, charging for electric communication devices, message boards, way finding and refuse management services.

3.3.10 Emergency Supply Storage Area Allocate space for on-site storage of critical emergency supplies. Coordinate with San Francisco Department of Public Health (SFPDH) and/or San Francisco Department of Emergency Management (SFDEM) to identify emergency supplies.

Goal

3.3.11. Leader In Energy Resilience Power critical emergency services on site and act as a resiliency asset to the immediate and surrounding community. Coordinate with SFPDH and/or SFDEM and pursue grant funding as a Community Disaster Response Hub.





PS41 Solar Roof Garden

3.4 Materials

The industry-wide approach to healthy building materials is anticipated to evolve significantly during the India Basin project timeline. India Basin strives to use less and select sustainable materials to reduce the need for extraction of virgin materials, reduce the project's overall carbon footprint, support the local economy, prevent environmental contamination and limit GHG emissions. This involves evaluating material content and selecting materials with reduced toxic chemicals, that limit the impact of emissions in the environment, that are low maintenance, durable, sustainably produced and sourced, that are appropriate for the unique site conditions and exposures, and have a reduced embodied energy.

Understanding the health impacts of various materials and using these attributes to prioritize material selection requires extensive research and a detailed knowledge of chemical contents and their health implications. The India Basin Trust will complete this research to identify alternatives for common products in residential and commercial construction.



Sustainable wood source - bamboo forest



Certified sustainable wood used for construction

Standards

3.4.1. Zero to Low VOCs Material with VOC content shall meet the current San Francisco Green Building Code requirements. Paints and coatings shall comply with South Coast Air Quality Management District Rule (SCAQMD) #1113. Caulks, adhesives, and sealants shall comply with SCAQMD #1168.

3.4.2. Recycled Content 80% of all construction materials shall contain recycled content. This may include post- and pre-consumer materials for use in paving and utilities.

3.4.3. Rapidly Renewable Materials Use products manufactured from materials that can be harvested within 10 years. These include bamboo, wool, cotton insulation, agrifiber, linoleum wheatboard, strawboards and cork.

	Arsenic	Asbestos	Bisphenol-A	Cadmium	CFCs	Creosote	Formaldehyde	Halogenated flame retardants	HCFs	Lead	Mercury	Pentachlorophenol	Phthalates	PVC	VOCs
Division 03 - Concrete													X	X	
Division 04 - Masonry													X	X	
Division 06 - Wood and Plastics	X					X	X					X			X
Division 07 - Thermal and Moisture Protection			X	X			X			X			X	X	X
Division 08 - Doors and Windows			X										X	X	
Division 09 - Finishes			X	X			X	X					X	X	X
Division 10 - Specialties			X										X	X	
Division 11 - Equipment													X	X	
Division 12 - Furnishings								X					X	X	
Division 13 - Special Construction			X										X	X	

Existing Materials Transformed for Reuse On-Site

1. Reuse steel beams in installations and furnishings.
2. Convert concrete debris and shoreline rubble to paving, aggregate, and/or gabion wall fill material.
3. Transform cracked paving into fill material and/or aggregate, or crushed stone surfacing.

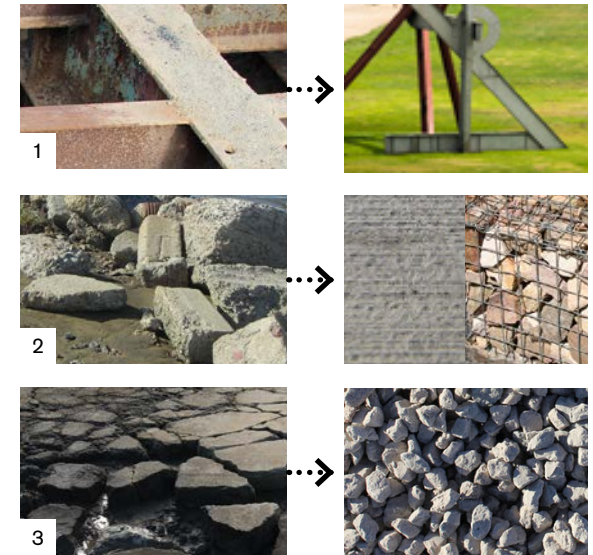


FIGURE 3.08: PRODUCT SELECTION

Guidelines

3.4.4. India Basin Healthy Materials Research Initiative Leverage the India Basin Trust to complete materials research and provide vertical developers with purchasing guidelines or a preferred vendor list. Partner with relevant City agencies in this effort.

Goals

- 3.4.5. Reuse** Reuse all on-site demolition and salvaged materials unless deemed unsafe for human contact.
- 3.4.6. Regional Materials** Select materials that are manufactured in the Bayview, or within the greater Bay Area.
- 3.4.7. Certified Wood** Use only wood that is certified in accordance with the Forest

Stewardship Council (FSC) to support responsible forest management.

- 3.4.8. Laminated Wood** Use only laminated wood for mass timber construction.
- 3.4.9. CO2e Capture in Concrete** Utilize concrete materials that are produced through the process of CO2e capture.

3.5 Refuse

San Francisco has an ambitious, city-wide goal to achieve Zero Waste by 2020. The project strives to minimize refuse streams leaving the site by valuing refuse as a resource for reuse on-site, and through responsible material selection and disposal at all project phases. At the time of this draft document, CALGreen 2016 requires a minimum of 65% Construction & Demolition (C&D) refuse diversion. Requiring early phases of India Basin to divert 75% C&D refuse, and increasing refuse diversion over time, will limit refuse sent to landfill and benefit each vertical developer's path to LEED certification.

Similarly, at the time of this document, San Francisco has achieved an 80% diversion rate. The SF Department of the Environment estimates that the city's diversion rate could increase to 90% if all refuse was sent to the correct collection bins. The India Basin Trust will provide educational programs for occupants and visitors to support correct sorting for on-site refuse. In addition, the Trust will look for other ways to reduce refuse, such as a 'fee-bate' system.

Standards

3.5.1. Increased Construction Refuse Diversion
The project shall exceed CALGreen required construction refuse diversion rate by at least 10%.

Guidelines

3.5.2. Soil Management Plan The project sponsor shall prepare a comprehensive plan to manage the soil capacity, construction phasing, staging and sequencing of soil placement. Coordinate this plan with the erosion and sedimentation control plan (See Section 3.6).

3.5.3. Responsible Purchaser Policy India Basin Trust shall secure funding to complete materials research with the goal of drafting an India Basin Purchaser Responsibility Policy and provide regular education for occupants and residents.

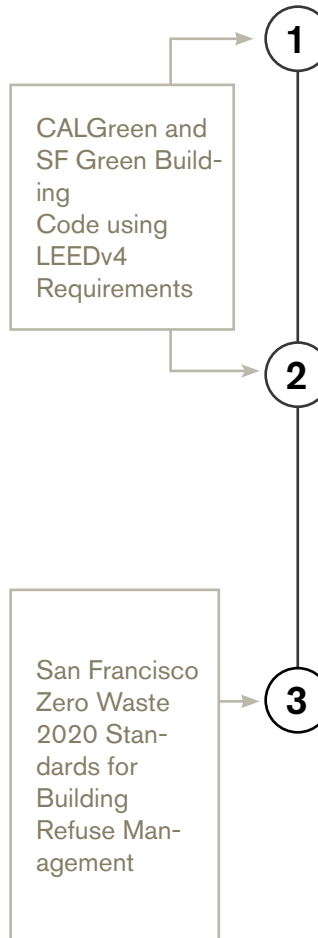
Goals

3.5.4. Zero Off Haul Reuse all cut soils either on-site or within the India Basin district for a net-zero off-haul within the Basin.

3.5.5. Salvage & Recycle Salvage and recycle all construction refuse on-site.

3.5.6. Soil Compaction Place and compact soils in early phases for long-term stability.

SF City Efforts



India Basin Efforts

1 Design
Selection of durable and sustainably sourced materials

2 Construction
Exceed CalGreen Construction refuse diversion rate by 10%

3 Operations
Increased On-Site Diversion Rate and Purchaser Responsibility Policy

FIGURE 3.09: SAN FRANCISCO CITY AND INDIA BASIN EFFORTS

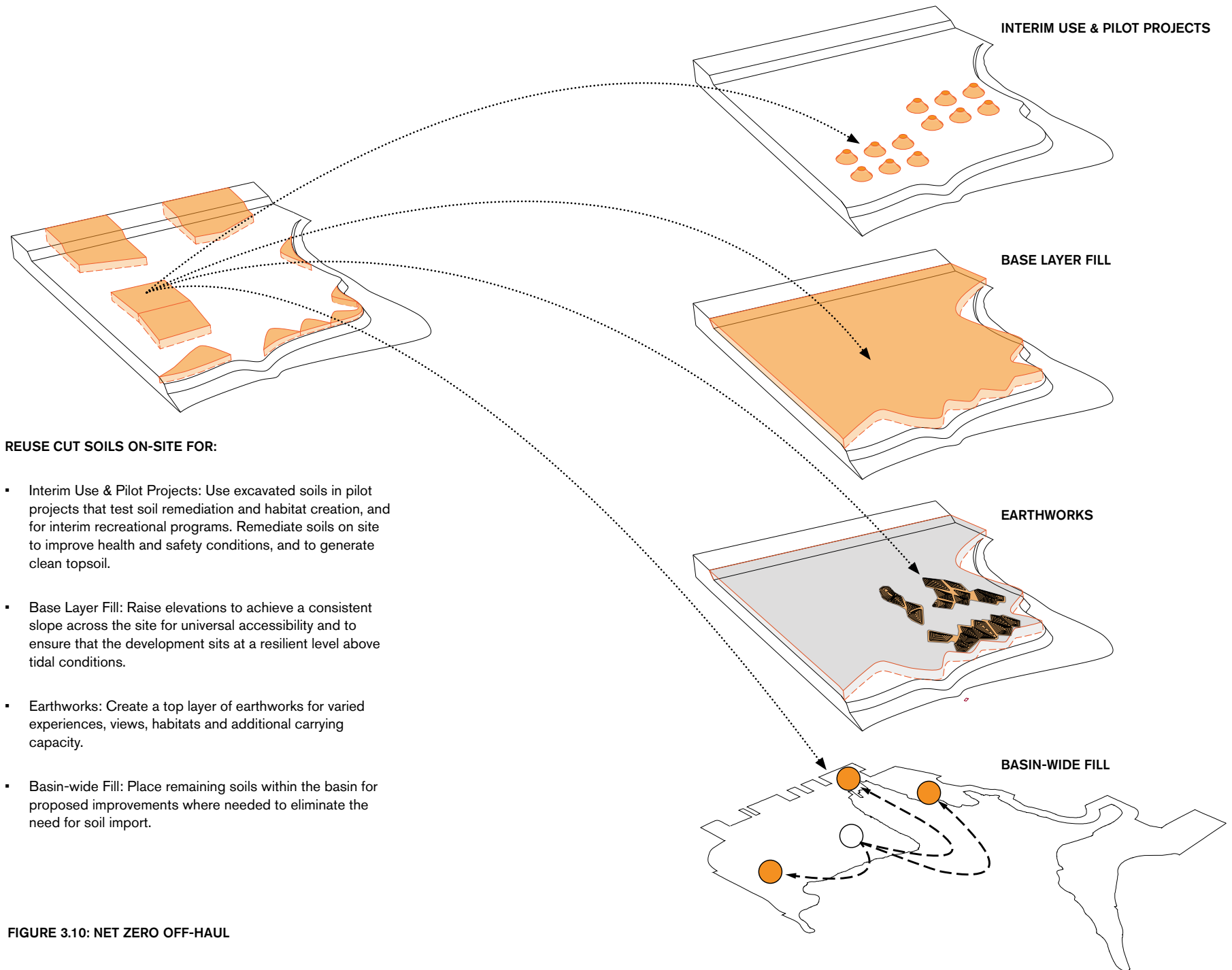


FIGURE 3.10: NET ZERO OFF-HAUL

3.6 Healthy Environment & Lifestyles

San Francisco is at the forefront of building healthy environments for a robust city, and India Basin strives to be an exemplary model for the city through 3 primary means:

1. Responsible construction management and soil remediation techniques to reduce overall energy consumption, reduce noise and pollution, limit greenhouse gas emissions, limit overall impacts on the environment and ensure the stamina of existing and future habitats, residents and employees.
2. Building healthy soil biology to ensure public safety, improve soil stamina for healthy plant growth, sequester carbon and reduce off-haul costs.
3. Creation of the India Basin Trust that will be responsible for operations, programming, social capacity-building and community resilience to encourage healthy and active lifestyles, volunteerism, stewardship, adaptive management, and post-occupancy evaluation.

Standards

3.6.1. Pile Driving All piles shall be driven during non-nesting seasons to limit impact to habitats and species patterns.

3.6.2. Construction Noise Construction shall occur during defined hours and within controlled areas only.

3.6.3. Serpentinite All serpentine soils found on-site shall be reused on-site to establish rare, endemic, and endangered habitat, or encapsulated.

3.6.4. Fertilizer Use only organic fertilizers.

3.6.5. Mulching Mulch all leaves and grass clippings in situ to promote nutrient uptake and reduce irrigation and fertilizer demand.

3.6.6. Public Safety Augment San Francisco Police Department by providing 24 hour site patrols for public safety.

Guidelines

3.6.7. Erosion & Sedimentation Control Plan Prepare a plan to limit construction related pollution, dust generated from soil excavation and stockpiling and sedimentation into the

Bay. Utilize soil stabilization techniques that may include seeding, mulching, filter socks, stabilized site entrances, and the preservation of existing vegetation. Plan shall comply with the Maher ordinance and dust control ordinance.

3.6.8. Remediation Employ phytoremediation techniques using sunflowers, alfalfa, and other known accumulators to remove and reduce metal content making soil safe for human contact and exposure, and to manufacture a healthy growing medium for plants.

3.6.9. Integrated Pest Management (IPM) Employ IPM techniques to limit the use of pesticides to an economically justified level and reduce or minimize risks to human health and the environment.

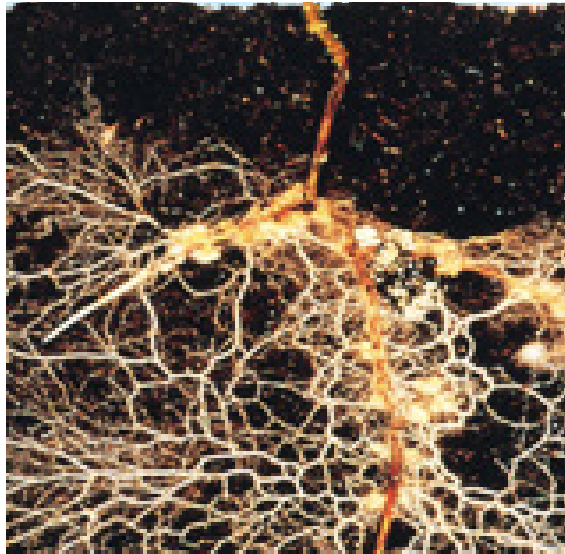
3.6.10. Prioritize Mobility & Activity (See Ch. 2)

3.6.11. Adaptive Management Plan Implement an adaptive management plan.

3.6.12. Education Offer a range of educational programs for people of all ages and abilities to learn about the historical, cultural, environmental and innovative proponents of the project. Topics may include the unique habitats, water systems, living shorelines, sea level rise, site morphology, energy, refuse reduction, product use, health and wellness and history and culture.



Pile driving during appropriate times of the year.



Soil health for long-term biodiversity.



Education, stewardship, and on-going maintenance.

3.6.13. Stewardship Offer a range of opportunities for stewards to volunteer and engage in the maintenance and management of the site.

3.6.14. Maintenance Perform on-going maintenance of all public spaces. (See Ch. 2)

3.6.15. Post-Occupancy Evaluate each phase of construction through post-occupancy surveys to

inform future phases of development.

Goals

3.6.16. Fungi All soil mixes will include mycorrhizal fungi to increase nutrients and micro-organisms that improve plant health and growth.

3.6.17. School Meals All school meals will be made with local and organic produce.

3.6.18. Food Sell affordable organic, non-GMO and locally produced and sourced foods at

farmers markets and supermarket.

3.6.19. Compost Conduct on-site compost generation for reuse in the landscape. (See Section 2.8)

3.6.21. Gardens Provide space for school and community gardens.

3.7 Interim Activation & Pilot Projects

The time and physical space dimensions of the site are its greatest assets enabling the project to engage users early and start now. The site is deep, wide, and relatively flat. It is primarily un-occupied and development will occur over time. The site lends itself to a range of interim activation projects ranging from storage for future improvements, to experimental projects testing the feasibility of landscape strategies to inform long-term resilience. Recreation, attractions and educational programs will also bring users to the site and promote early stewardship, volunteerism and educational opportunities. Pilot projects may include:

Soil Remediation: Improve soil quality to ensure public safety, enable plant growth and reduce off-haul costs. (See Healthy Environment and Lifestyles, Section 3.6)

Test Plots: Test the success rate of recycled water with plant palette, phytoremediation, proposed plant species, use of mycorrhizal fungi, and metals removal in experimental landscapes as small as 100 sq ft.

Dirt Bike Course: Excavated soils not used for site grading can be used to create recreational amenities in the interim.

Art & Concessions: Sculpture pieces can be temporarily located and stored on-site as an interim attraction in advance of permanent installation. This may include reuse of Bay Bridge Steel.

Living Shorelines: Incorporate the following types of living shorelines to test the viability and success rate of these materials to create habitat: reef balls, constructed tide pools, floating wetlands, engineered reefs, eel grass, and enhanced shoreline protection materials. Grants may be available for these pilot projects. (See Chapter 3.8)

Temporary School: Provide facilities for a temporary school using existing streets and utilities in early phases.

Nursery: Plant and nurture trees on-site in early phases to grow a resource of mature trees that are conditioned to the coastal environment for future planting success. Trees could also be sold to adjacent properties as a revenue source.

Storage: If there is a cost savings in acquiring large quantities of materials in early phases of the project, store materials on-site for future phases of construction and to reduce total number of truck trips.

Education & Stewardship: Initiate the “Trust” in early phases to lead on-site park related programming, education, maintenance, volunteerism and stewardship for long-term commitment.

Guidelines

3.7.1. Placement Coordinate placement of interim projects with phasing to limit relocation of programs and interference with construction.

3.7.2. Phasing Implement activation and pilot projects in the early phases of the project to provide recreational and educational programs and to test landscape strategies for future implementation.

3.7.3. Temporary Access Provide temporary pedestrian, bicycle, and vehicular access to the site for users to engage with interim projects.

3.7.4. Range Early implementation projects shall be designed for all ages and abilities.

3.7.5. Signage Provide signage with pilot projects for education and wayfinding. (See Chapter 7)

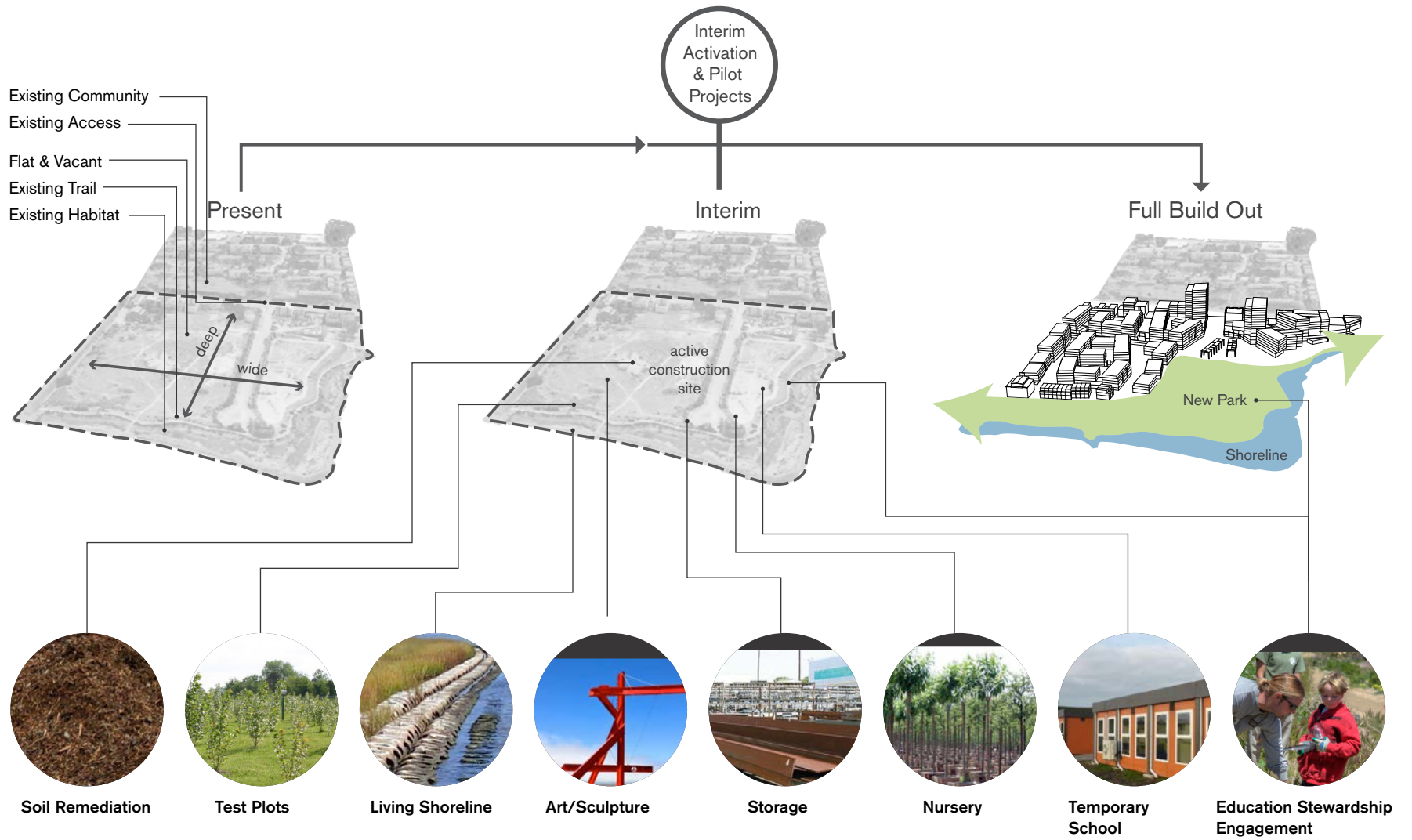


FIGURE 3.11: SITE ASSETS & INTERIM ACTIVATION

3.8 Coastal Adaptation

“Sea level rise may be a slow moving threat to our city but it demands our action now... Proactive and thoughtful adaptation planning will continue the innovation, creativity, and inclusivity that have always inspired growth, development, and jobs in San Francisco... It demands our attention now.”

– Mayor Edwin M. Lee, San Francisco Sea Level Rise Action Plan

Located at the edge of the San Francisco Bay, the site is constantly responding to changing coastal conditions and rising tides. Existing low lying areas and habitats are regularly submerged at high tide, and increasingly inundated at king tides and with sea level rise. Over the next century, sea level rise will likely transform the site's shoreline, causing habitat loss and greater potential for erosion and shoreline damage.

The shoreline design proposes a suite of living shoreline devices from pilot projects to long-term solutions, to test new technologies and methods for habitat creation, upland habitat migration, and shoreline protection, and to serve as a precedent for Bay Area resilient development.

This section includes standards, guidelines, and goals for coastal adaptation to create habitats and protect the development in the near and long-term and to adapt as conditions evolve.

See section 2.8 for standards and guidelines to promote diverse ecologies.

See section 3.7 for the India Basin Trust that will support the longterm success of proposed ecological interventions through adaptive management, monitoring, research, data collection, education and stewardship.

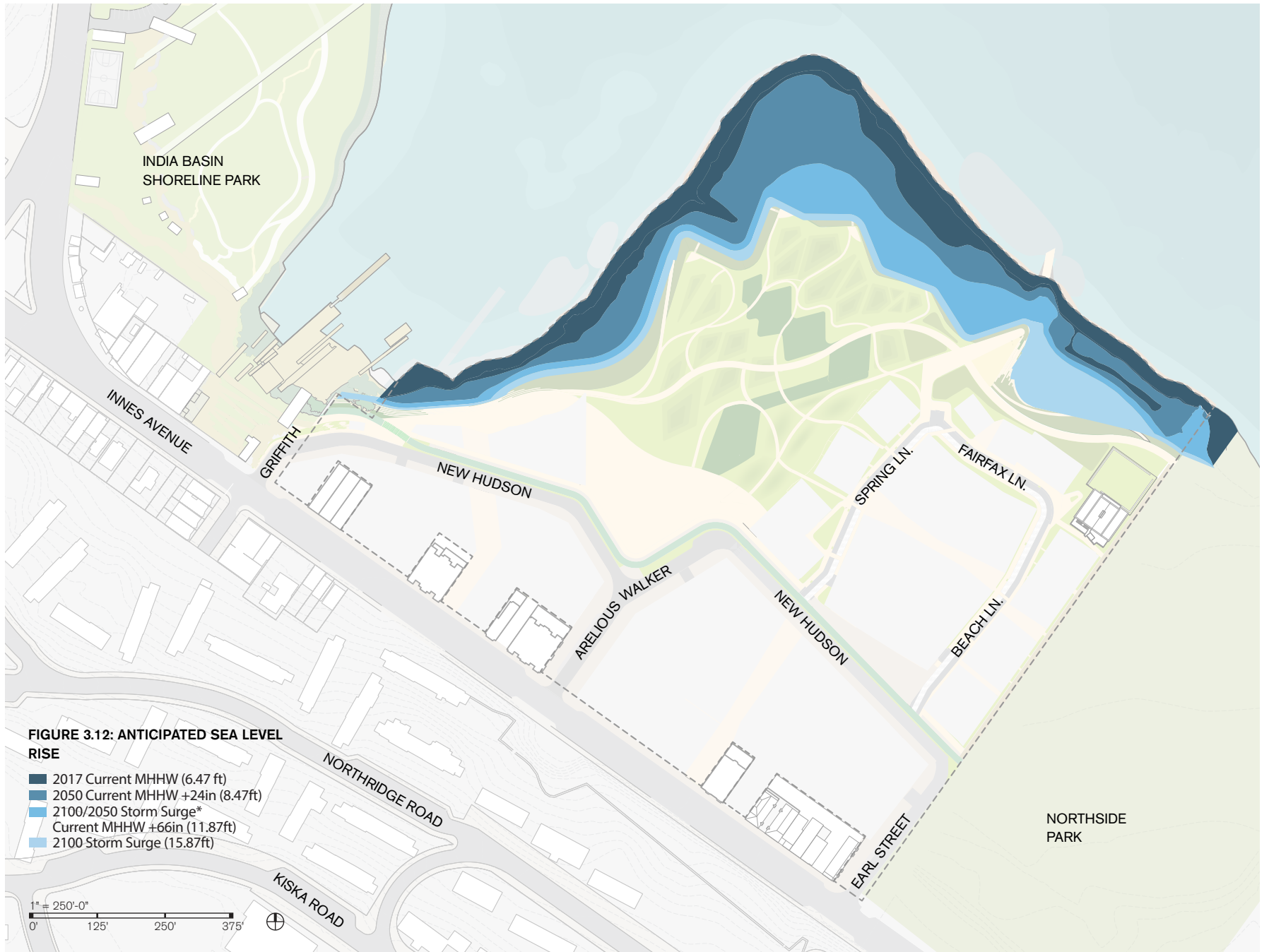


FIGURE 3.12: ANTICIPATED SEA LEVEL RISE

- 2017 Current MHHW (6.47 ft)
- 2050 Current MHHW +24in (8.47ft)
- 2100/2050 Storm Surge*
- Current MHHW +66in (11.87ft)
- 2100 Storm Surge (15.87ft)

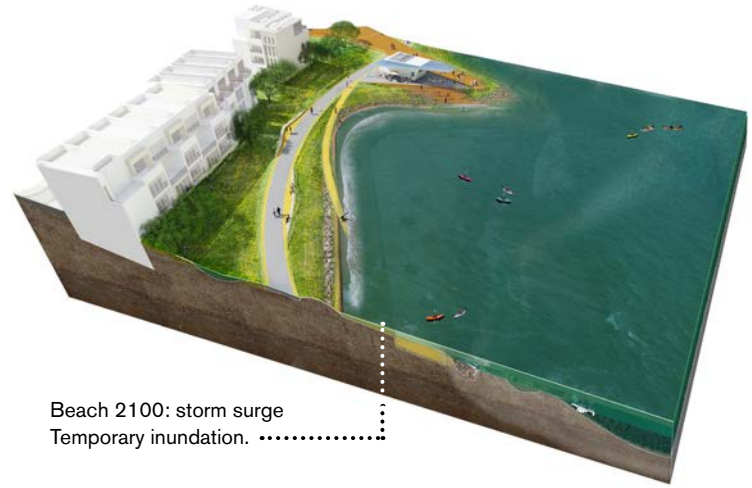


Shoreline Adaptation Strategies

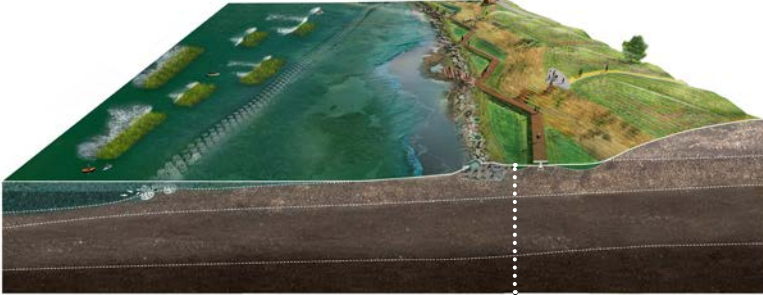
These renderings illustrate anticipated future conditions given current sea level rise projections. As available science and data improves, these conditions may vary. The standards, guidelines and goals in this section are intended to promote habitat creation and adaptation, respect necessary areas of retreat and provide continued public access within shoreline areas. See Section 3.7 for the India Basin Trust for monitoring and adaptation planning.



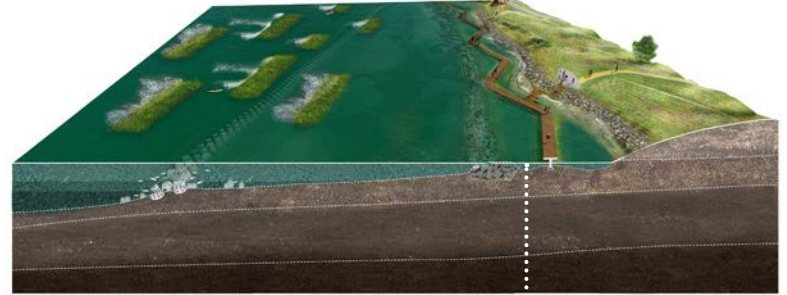
Beach 2100: +66"
Beach becomes tidally influenced.



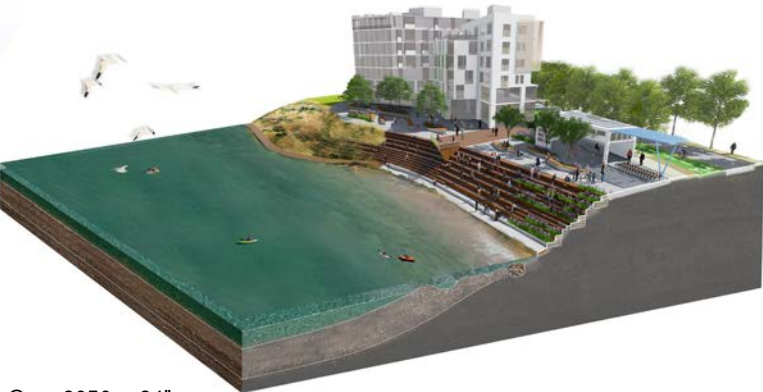
Beach 2100: storm surge
Temporary inundation.



Terraced Wetlands 2050: +24"
Transition to brackish marsh.



Terraced Wetlands 2100: +66"
Transition to tidal marsh.



Cove 2050: +24"



Cove 2100: +66"
Relocate boardwalk at higher elevation.

FIGURE 3.13: PROPOSED SHORELINE ADAPTATION (SEE CH. 2 FOR PROPOSED CONDITION)

To accommodate changing coastal conditions and rising tides, the shoreline area will protect the development and major infrastructure from inundation by situating these improvements at upland elevations. It will also create habitats in both the short-term and long-term through material selection for enhanced sea life, pilot projects, and upland habitat migration (Figure 3.14). Reference Shoreline Permits for more detailed description and requirements for the Shoreline areas.

Standards

3.8.1. Major Infrastructure All major infrastructure shall be located above worst case predictions for end of century, including a buffer area of at least 20 horizontal feet from top of bank for additional increases in tide levels levels.

3.8.2. Terraced Wetlands Terraced wetlands shall be located at an elevation in the northeast shoreline such that occassional inundation will occur no later than the year 2050, and frequent inundation will occur no later than the year 2075. (See Section 2.4)

3.8.3. Eel Grass Restoration The project sponsor shall pursue grant funding to install at least 3 test plots on the northwest shoreline. If pilot eel grass plots survive 2-year monitoring

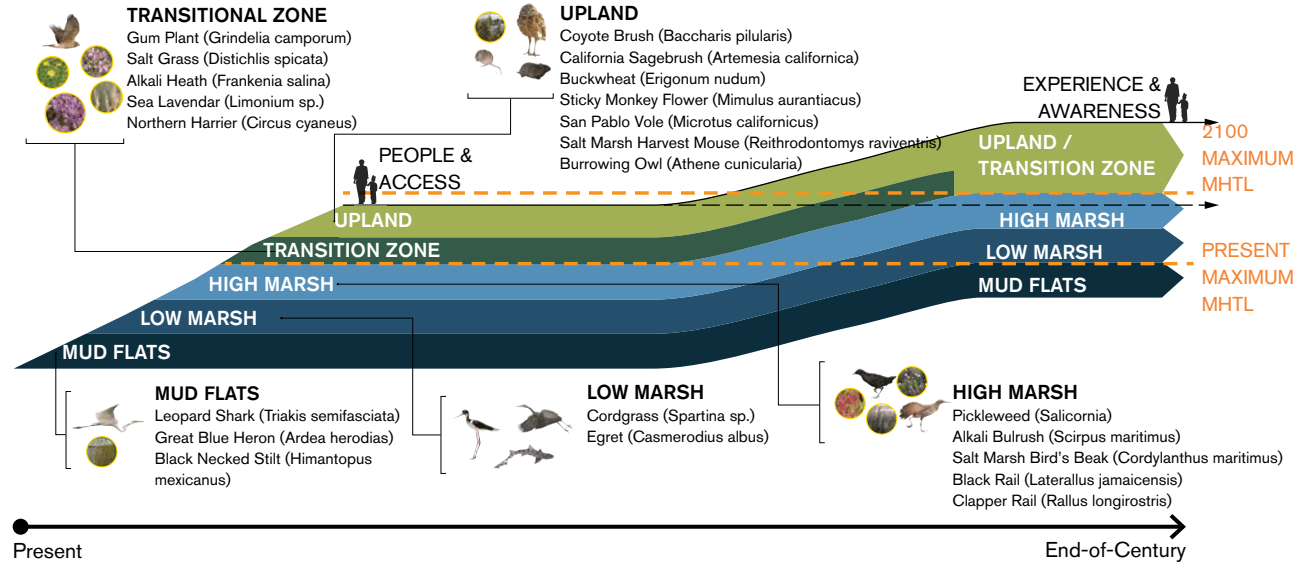


FIGURE 3.14: UPLAND HABITAT MIGRATION

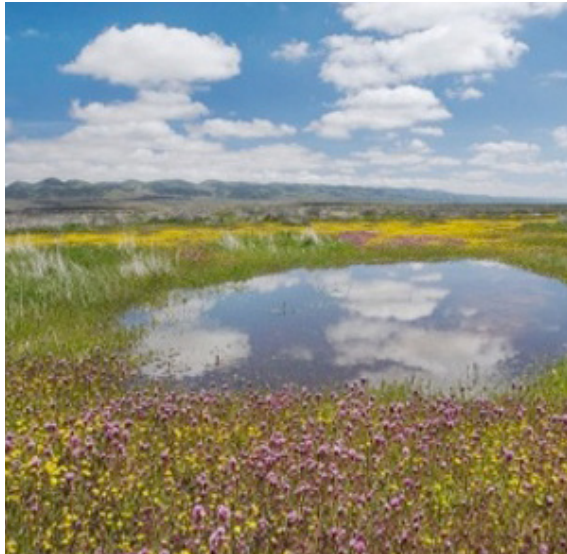
period, pursue grant funding for large-scale eel grass restoration bed.

3.8.4. Floating Wetlands The project sponsor shall pursue grant funding to install at least 2 floating wetlands on west shoreline as pilot project to test habitat creation and wave energy dissipation. If wetland species survive 2-year monitoring period, pursue grant funding to install as permanent habitats.

3.8.5. Shoreline Protection The project sponsor shall install shoreline protection at

toe of slope to prevent erosion. The shoreline protection installation shall be at least 80% softscape.

3.8.6. Adaptation Plan The India Basin Trust will conduct frequent monitoring, and prepare an adaptation plan every 5 years including replanting, relocation of elements to higher elevations and maintenance as relevant for the shoreline to evolve and adapt over time.



Terraced seasonal wetland transition to brackish/tidal marsh



Reef Balls provide shoreline protection and niche habitats



Enhanced marine life shoreline protection

Guidelines

3.8.7. Watershed Convey treated stormwater from the site to the terraced wetlands to provide a consistent flow of water during wet seasons.

3.8.8. Habitat Select a diverse range of tidal species and habitats to increase biodiversity. (See Section 2.8)

3.8.9. Tidal Marsh Existing tidal marsh and dunes shall be retained in situ.

3.8.10. Structures All low-lying structures will be constructed using durable and resilient materials that can be frequently inundated for temporary periods of time.

3.8.11. Aggregate All structures in the shoreline shall include an aggregate that supports enhanced marine life to increase habitat potential in a range of conditions. (See Ch. 2 for structures and elements.)

3.8.12. Supplemental Water Supply If ground water supply is available, convey to terraced

wetlands for an increased year-round water supply.

Goals

3.8.13. Substrates Use substrates and base aggregates in soil profiles throughout shoreline areas that can support tidal marsh and dune habitats in future inundated conditions.

04



Land Use

Chapter 04: Land Use

- 4.1 Land Uses
- 4.2 Permitted Uses
- 4.3 Other Uses
- 4.4 Ground Floor Use Requirements
- 4.5 Parking

San Francisco is a city of vibrant mixed-use neighborhoods. Most neighborhoods in San Francisco offer residents a variety of services and amenities with a comfortable, attractive pedestrian environment and convenient access via public transit. The land use Standards and Guidelines detailed in the following pages support the goal of creating a vital, distinctive and walkable neighborhood.

In order to create a complete neighborhood, India Basin includes allowance for a variety of social amenities and services including a grocery store, small scale retail and commercial spaces, food and beverage options and a school in addition to a spacious public park with recreational facilities and waterfront access. A Public Market is the centerpiece of the neighborhood with the flexibility to accommodate a range of social activities including: farmers and craft markets, music and art festivals and large community gatherings. The land use strategy for India Basin focuses social interaction along main routes and around key open spaces. Within a comfortable walking distance for all residents, these spaces encourage neighbors and visitors to engage with and inhabit the public realm, experience the San Francisco Bay ecosystem and enjoy community-serving amenities and services without needing to use a car.



FIGURE 4.01: STRATEGY FOR EXPANDING NEIGHBORHOOD AMENITIES.

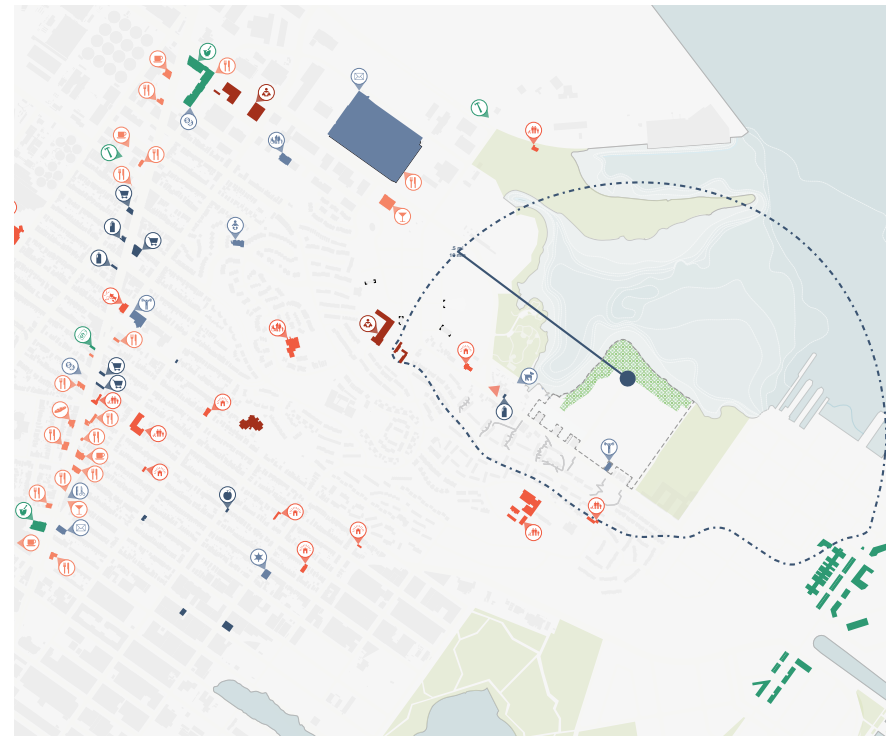


FIGURE 4.02: EXISTING NEIGHBORHOOD AMENITIES.

Complete the Neighborhood

The term Neighborhood Completeness refers to the proximity of residents to daily goods, public services and other basic amenities within a walkable distance. A growing body of evidence suggests that proximity to a critical mass of public and retail services increases the likelihood that residents and workers will walk or bike to access those services—boosting physical activity, enhancing social interactions and even improving public health. For example, research has found the presence of a supermarket in a neighborhood correlates with higher fruit and vegetable consumption and a reduced prevalence of obesity. In addition, neighborhoods with diverse and mixed uses create closer proximity between residences, employment and goods and services. The result is reduced vehicle trips and miles traveled which in turn, reduces air and noise pollution.

The Hunter's Point neighborhood (of which the site is a part) currently lacks many of the basic amenities commonly found in San Francisco's walkable communities. The project connects into and completes the neighborhood by adding a wide range of key public and retail services and open space assets so that the surrounding community can meet basic needs within a 10–15 minute walk. Housing, Transportation and Recreation options are expanded as well.

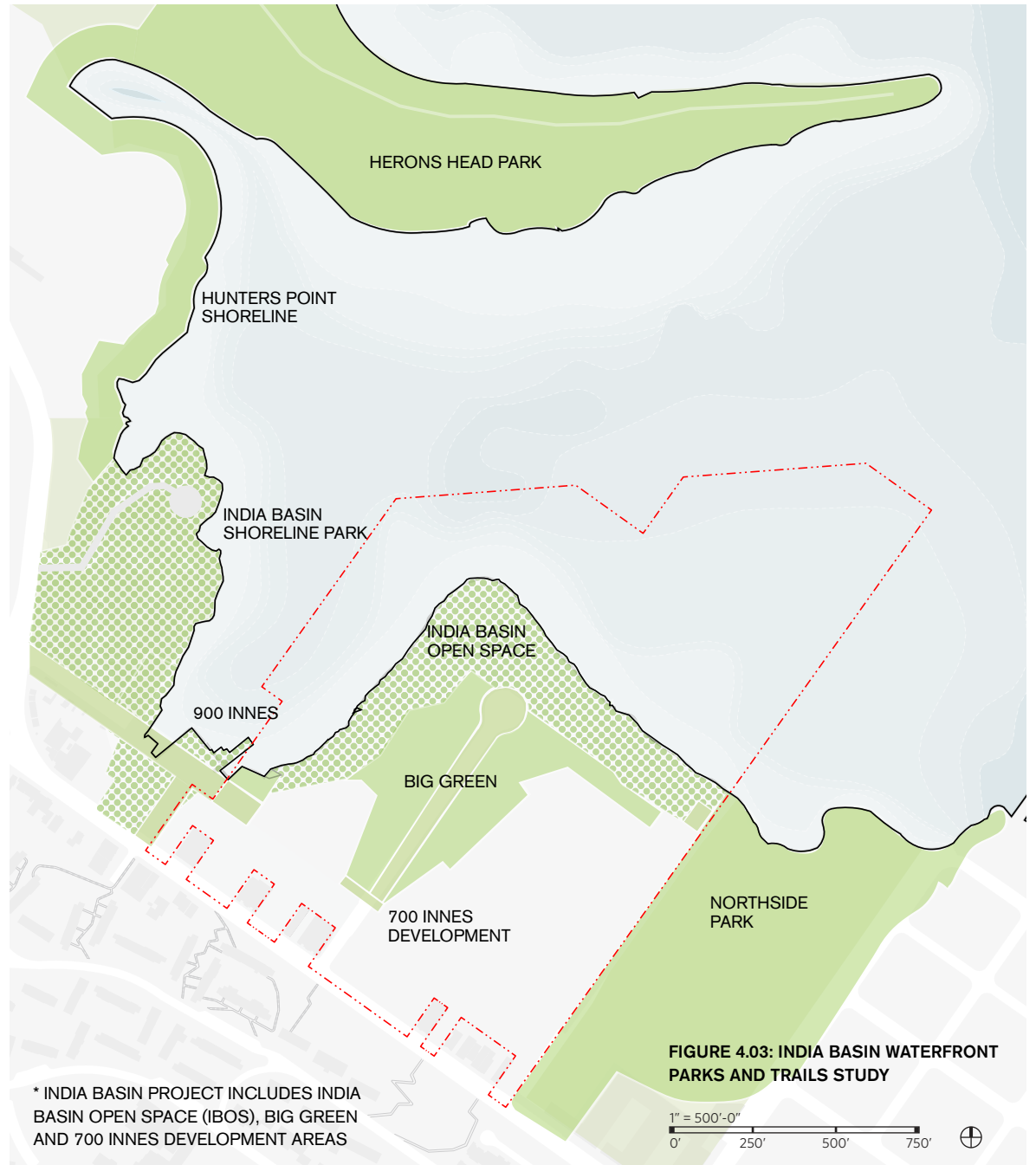
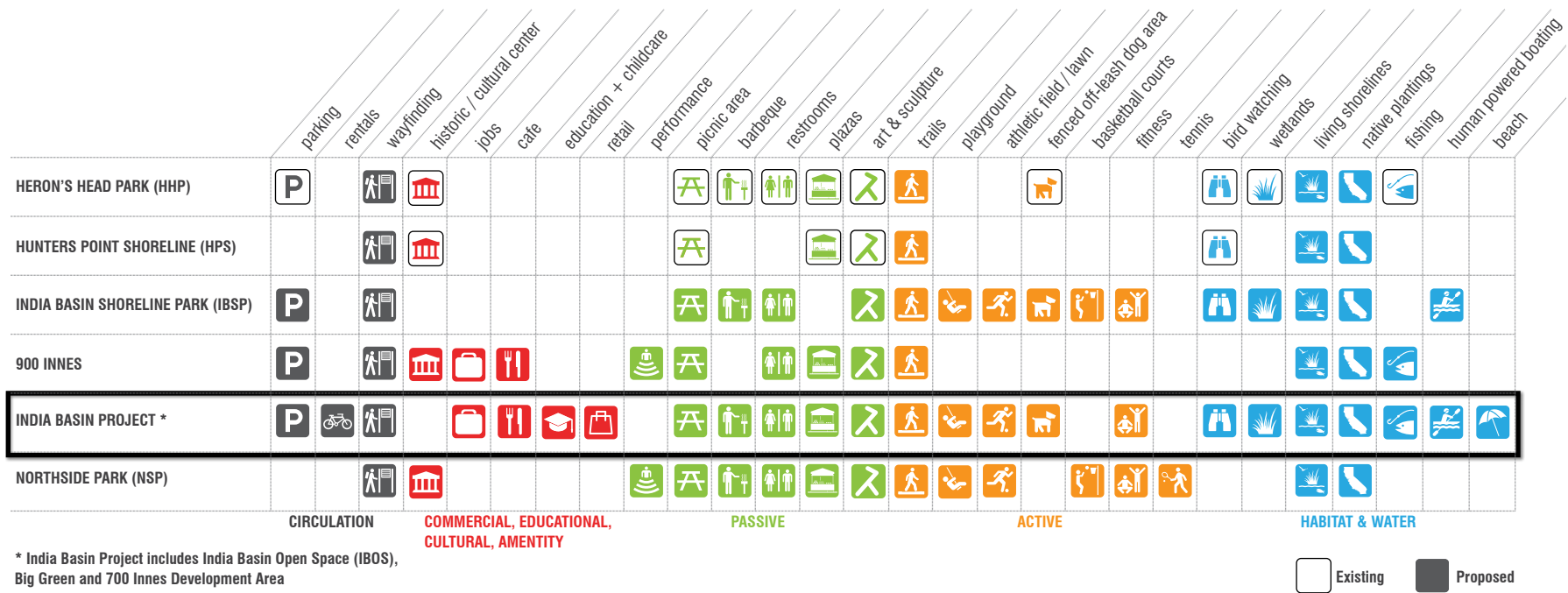


FIGURE 4.03: INDIA BASIN WATERFRONT PARKS AND TRAILS STUDY

* INDIA BASIN PROJECT INCLUDES INDIA BASIN OPEN SPACE (IBOS), BIG GREEN AND 700 INNES DEVELOPMENT AREAS

Amenities and Open Space Programming

Open Space and amenity programming at India Basin incorporates a Basin-wide approach. To this end, the India Basin Waterfront Parks and Trails study was undertaken in 2014 to envision the future of the seven linked sites that surround the Basin: Heron’s Head Park, the Hunter’s Point Shoreline, India Basin Shoreline Park, 900 Innes, India Basin Open Space, 700 Innes “Big Green”, and Northside Park. All property owners were engaged in the study process.



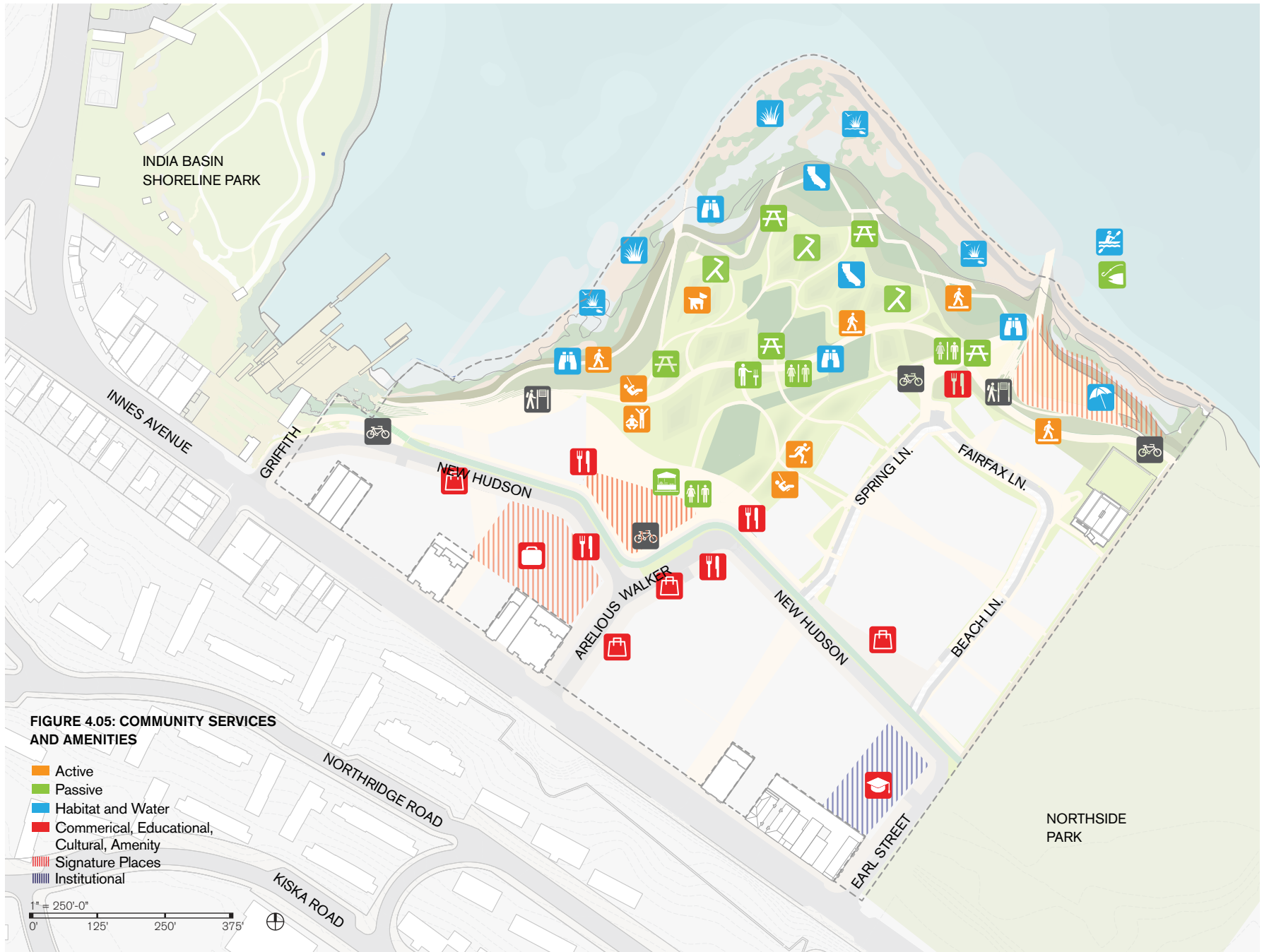
* India Basin Project includes India Basin Open Space (IBOS), Big Green and 700 Innes Development Area

FIGURE 4.04: EXISTING AND PROPOSED COMMUNITY SERVICES AND AMENITIES

The objective of the India Basin Waterfront Parks and Trails study was to provide a comprehensive blueprint for the future of the park system and adjacent development and to ensure a complimentary mix of recreational, educational, ecological and public services across all seven properties. The study also recommends the design of a “shared palette” for all sites so that signage/wayfinding, furnishings, lighting and pathway design are coordinated for a seamless user experience. Other coordination benefits include building a landscape that is adaptive and resilient in the face of anticipated sea level rise, expanding public access to the Bay and accelerating the development of the Blue Greenway.

The recommended open space, public service and neighborhood amenities programming for each of the seven India Basin Waterfront Parks and Trails sites is shown in Figure 4.04, above. Recommended open space, public service and neighborhood amenities for the India Basin Project – which includes the India Basin Open Space (IBOS), Big Green and 700 Innes Development Areas – are mapped in Figure 4.05, shown left. These active uses are encouraged, and have been incorporated into the Land Use Standards and Guidelines on the following pages.

In addition, interim, temporary and early activation uses are permitted per Section 4.2 Permitted Uses.



4.1 Land Uses

“Intricate minglings of different uses in cities are not a form of chaos. On the contrary, they represent a complex and highly developed form of order.”

–Jane Jacobs

Land Use

The land use designations for India Basin advance a 21st Century model for a healthy, vibrant and complete neighborhood. A complete neighborhood is one that offers services and amenities to residents and visitors that are convenient and pedestrian-accessible. The project connects into and completes the Hunters Point neighborhood by adding a wide range of essential public services and retail amenities so that the surrounding community can meet basic needs within a 10-15 minute walk. Employment, Recreation options and access to open space are expanded as well. In light of San Francisco’s housing crisis, it is envisioned that the development of India Basin will include a significant quantity of new, multi-family residential units in a mixed-use setting.

The allowable development program for the site is being studied through the Environmental Impact Report (EIR). Development program limits and land use provisions will be confirmed through the Special Use District (SUD).

Guidelines

4.4.1. Land Uses Project Land Use Designations shall be as mapped in Fig. 04.06, and as further described on pages 266-267.:

- Mixed Use
- Residential Mixed Use
- Multi-Family Residential
- Public Market
- Public – Parks / Plaza Overlay
- Public – Shoreline Overlay

Permitted Uses within each category are described in Section 4.2.

Additional Ground Floor Use Requirements are described in Section 4.4.



FIGURE 4.06: LAND USE

- Public Market
- Public - Park / Plaza
- Public - Shoreline
- Mixed Use
- Residential Mixed-Use
- Multi-Family Residential

1" = 250'-0"
0' 125' 250' 375'



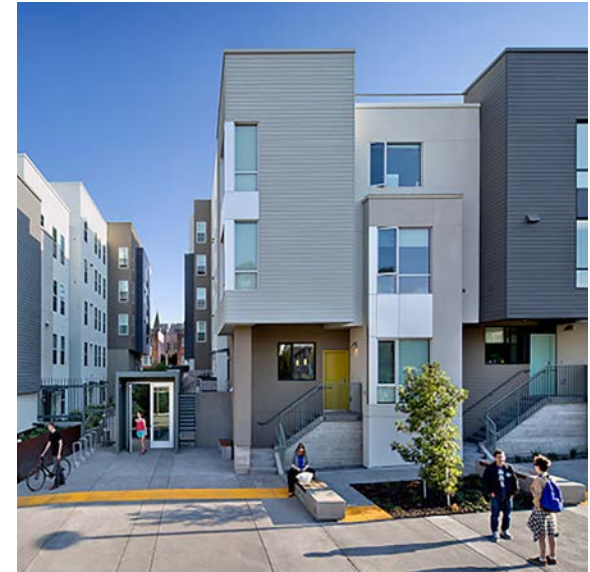
Mixed Use

The Mixed Use designation allows a wide range of retail, restaurant, food & beverage, grocery, commercial, institutional, entertainment and multi-family residential uses. Home and business service, arts activities, professional office space and large-floor-plate office space are also permitted. Dwellings with integrated work and/or arts space are permitted as an Accessory Use, subject to the provisions of San Francisco Planning Code Section 204.0-204.1.



Residential Mixed Use

The Residential Mixed Use designation encourages a combination of mixed-density and multi-family residential dwelling, with compatible commercial uses on the ground floor, to provide a vibrant active neighborhood with a mixed-use character. Dwellings with integrated work and/or arts space are permitted as an Accessory Use, subject to the provisions of San Francisco Planning Code Section 204.0-204.1.



Multi-Family Residential

The Multi-Family Use designation is intended for mixed-density, multi-family and single-family attached (townhouse) residential dwellings. Dwellings with integrated work and/or arts space are permitted as an Accessory Use, subject to the provisions of San Francisco Planning Code Section 204.0-204.1.



Public Market

The Public Market is a privately-owned and managed, but publicly-accessible area at the center of the project adjacent to the Big Green. The Public Market provides the social heart of the neighborhood with the flexibility to accommodate a range of activities. Emphasis for this land use designation is on retail, food and beverage uses and civic and cultural events to activate the adjacent open space. Design of and programming for the Public Market are further detailed in Chapter 2: Public Realm.



Public - Park / Plaza Overlay

The Public Use – Parks and Plazas Overlay is designated for the Big Green and the Town Triangle, areas which will be owned by the city and provide public open space use, but will be managed by the India Basin Trust. These areas are focused on active recreation, sports and fitness uses, as well as community gathering, and environmental functions. Design of and programming for the Big Green and Town Triangle are further detailed in Chapter 2: Public Realm.



Public - Shoreline Overlay

The Public Use – Shoreline Overlay area is designated for the India Basin Shoreline which will be owned by the City and provide public open space use with an emphasis on passive recreation and waterfront access. Areas within the Shoreline that fall under BCDC Jurisdiction shall comply with BCDC standards for use and shall include a range of accessible water-oriented recreational activities and facilities. Design of and programming for the Shoreline is further detailed in Chapter 2: Public Realm.

4.2 Permitted Uses

Guidelines

4.2.1. Permitted and Conditional Uses

Permitted and Conditionally permitted uses in India Basin are detailed in the Permitted and Conditional Use Table on the following pages. This table indicates the land uses that are permitted “by right” (P), by conditional use permit (C), or not permitted (NP), according to each Land Use category designated in the Land Use Plan (Figure 4.06). Land Uses are as defined in City of San Francisco Planning Code Section 102: Definitions.

Conditional use authorization, for those uses so designated, may be granted by the Planning Commission upon determination that the proposed use is necessary or desirable to the neighborhood, has no negative impact to the neighborhood and complies with the San Francisco General Plan and the intent of the India Basin Design Standards and Guidelines.

Procedures, criteria and other provisions pertaining to Conditional Uses are detailed in the City of San Francisco Planning Code Section 303: Conditional Uses.

4.2.2. Accessory Uses Accessory Uses shall comply with the provisions of San Francisco City Planning Sections 204.0-204.2. and Section 204.4. An Accessory Use is a related minor use that is either: necessary to the operation or enjoyment of a lawful principal use or conditional use; or appropriate, incidental, and subordinate to any such use when located on the same lot. Such incidental uses shall not exceed one-third of the total floor area occupied by such use and the principal or conditional use to which it is accessory. A Zoning Administrator Letter of Determination can be requested for potential Accessory Uses that have not been listed in the Permitted and Conditional Use Table or are not included in any Planning Code Interpretations.

4.2.3. Temporary and Interim Uses Temporary Uses shall comply with the provisions of San Francisco City Planning Code Sections 205.0-205.4: Temporary Uses. A Temporary Use may be authorized for a limited period of time on a specified parcel. Temporary Use Authorizations are not associated with significant construction activity; they authorize short-term uses such as mobile food facilities, seasonal pumpkin sales, construction trailers and festivals or exhibitions. A Temporary Use Authorization may be granted by the Zoning Administrator for temporary uses that are neither listed in the Permitted and Conditional Use Table, nor specified in San Francisco City Planning Code Sections 205.0-205.4: Temporary Uses, upon determination that the proposed use is necessary or desirable to the neighborhood, has no negative impact and adheres to the San Francisco General Plan and the intent of this Design Standards and Guidelines document.



1



2



3



4



5

- 1. Residential Mixed-Use
- 2. Mixed-Use
- 3. Public Use - Plaza
- 4. Multi-Family Residential
- 5. Public Market

Use	Mixed Use	Residential Mixed Use	Multi-Family Residential	Public			Notes and Exceptions
				Public Market	Open Space Overlay	Shoreline Overlay	
Agriculture	P^{1,2}	P^{1,2}	P^{1,2}	P¹	P¹	P¹	1 Large Scale Urban Agriculture not permitted 2 Greenhouse not permitted
Automotive Use	NP³	NP³	NP³	NP	NP	NP	3 Public and Private Parking facilities (and other automotive uses) permitted per Accessory Use provisions of San Francisco City Planning Code §204.-204.2.
Entertainment, Arts & Recreation Use	P^{4,5}	P^{4,5}	P^{5,6}	P^{5,6}	P^{5,6,7}	P^{5,6,7}	4 Movie Theater, maximum three screens 5 Livery Stables, Sports Stadiums not permitted 6 Movie Theater, Nighttime Entertainment not permitted 7 Open Recreation and Outdoor Entertainment, see Temporary and Interim Uses
Industrial Use	P⁸	P^{8,9}	NP	NP	NP	NP	8 Cat Boarding, Kennel, Light Manufacturing, Metal Working, Parcel Trade Office, Trade Shop, Animal Processing 1, Food Fiber and Beverage Processing 1 permitted 9 Permitted on Ground Floor only
Institutional Use	P^{10,}	P¹¹	P^{11,12}	NP¹³	NP¹³	NP¹³	10 Cannabis Dispensary Conditional 11 Cannabis Dispensary, Hospital not permitted 12 Job Training, Trade School, Post-Secondary Educational Institution not permitted 13 Exception: Public Facilities Permitted

FIGURE 4.07: PERMITTED AND CONDITIONAL USE TABLE

KEY:

(P) PERMITTED BY RIGHT

(C) PERMITTED BY CONDITIONAL USE PERMIT

(NP) NOT PERMITTED

Use	Mixed Use	Residential Mixed Use	Multi-Family Residential	Public			Notes and Exceptions
				Public Market	Open Space Overlay	Shoreline Overlay	
Residential	P ¹⁴	P ¹⁴	P ^{14,15}	NP	NP	NP	14 Residential Hotels not permitted 15 Student Housing not permitted
Sales and Services, Non-Retail	P ¹⁶	P ¹⁶	NP	NP	NP	NP	16 Laboratory, Life Sciences, Commercial Storage, Wholesale Sales, Wholesale Storage not permitted
Sales and Services, Retail	P ¹⁷	P ^{17,18}	NP	NP ¹⁹	NP ¹⁹	NP ¹⁹	17 Adult Business, Mortuary, Limited Financial Service, Motel, Self-Storage and Tobacco Paraphenalia Store not permitted 18 Animal Hospital, Fringe Financial Services not permitted 19 Exception: Grocery, Food and Beverage uses permitted.
Utility and Infrastructure	C ^{20, 21}	C ^{20, 21}	C ^{20, 21}	C ^{20, 21}	C ^{20, 21}	C ²¹	20 Internet Service Exchange, Wireless Telecommunication Services (WTS) Facility permitted with Conditional Use permit 21 Utility Installation permitted with Conditional Use permit
Temporary Uses	P ^{22,23,24,25}	P ^{22,23,24,25}	P ²³	P ^{22,23,24,25}	P ^{22,23,24,25}	P ^{22,23,24,25}	22 Sixty-Day limit activities permitted per Planning Code § 205.1. 23 One- or Two-year limit activities permitted per Planning Code § 205.4. 24 Twenty-Four-Hour limit activities permitted per Planning Code § 205.3. 25 Intermittent Activities permitted per Planning Code § 205.4.

KEY:

- (P) PERMITTED BY RIGHT
- (C) PERMITTED BY CONDITIONAL USE PERMIT
- (NP) NOT PERMITTED

4.3 Other Uses

Guidelines

4.3.1. Site for Potential School To encourage families with young children to live at India Basin, a site has been identified for the potential creation of a child care facility, pre-school or K-8 school. If a school or child care facilities locate here, such facilities shall be permitted to use the proximate public open space in order to meet open space requirements mandated by relevant licensing authorities.

4.3.2. Other Uses If a use is not specifically identified in the Permitted and Conditional Use Table and is not listed as an Excluded Use, the Zoning Administrator shall have the authority to determine whether such use is compatible with the intent of the district and consistent with the approach to Land Use. The determination shall be based upon the use characteristics and compatibility of that use with the intent of the Design Standards and Guidelines. The Zoning Administrator shall interpret the meaning and appropriateness of uses.

4.3.3. Neighborhood Compatibility Non-residential uses must not pose a nuisance to surrounding residential users with regard to incompatible hours of operation, noise, light pollution, smell, reduction of air quality or construction related activities or else they are prohibited. No use shall be permitted which by reason of its nature or manner of operation creates conditions that are hazardous, noxious or offensive through emission of odor, fumes, smoke, cinders, dust, gas, vibration, glare, refuse, water-carried waste or excessive noise.

4.3.4. Prohibited Uses Excluded uses, as listed below, are uses that might have fit within a broad category listed in the Permitted or Conditionally Permitted Use table but are expressly prohibited:

- Drive-through facilities
- Adult entertainment
- General advertising

4.3.5. State Lands and BCDC Jurisdiction Lands designated as State Lands – held in trust by the State for the benefit of the people

of California – shall comply with State Lands regulations. State Lands shall be generally accessible to the public and use shall be focused on water-oriented recreation, including commercial facilities that must be located on or adjacent to water, and environmental preservation and recreation, such as natural resource protection, wildlife habitat and study, and facilities for fishing, swimming and boating. Ancillary or incidental uses that promote use or accommodate public enjoyment of State Lands - such as hotels, restaurants and specialty retail - may be permitted.

Lands within BCDC jurisdiction shall comply with BCDC standards for use and shall include a range of accessible water-oriented recreational facilities.

At the time of approval of these Design Standards and Guidelines, a State Trust Lands Settlement Agreement and determination of BCDC jurisdiction are in process. Final land uses and designs shall be approved by these and other Authorities Having Jurisdiction (AHJs) prior to implementation.



1. Special Event
2. The Yard at Mission Rock
3. Food Trucks
4. Temporary Event Space
5. Temporary Retail

4.4 Ground Floor Use Requirements

Ground Floor Use Requirements

The character of a neighborhood is most visible in the activity of the street. India Basin features streets of varying types and levels of activity, differentiated by function within the circulation network, as well as by configuration and adjacent uses. The purpose of this section is to promote clearly-defined, active, pedestrian-oriented street frontages. The character of India Basin is reinforced by the ground floor use, which affects the degree of activity and the range of likely users.

Standards

4.4.1. Where Required Figure 04.08 illustrates required locations for Active Ground Floor Use that focus street activity along major routes and in key public spaces.

4.4.2. Active Ground Floor Use Depth Where required by Figure 04.08. With the exception of space allowed for parking and loading access, building egress and access to mechanical systems, Active Ground Floor Uses shall be provided in the first 25 feet of building depth from any façade fronting directly onto a street, right-of-way, or major gathering space. Building systems including mechanical, electrical and plumbing features may be exempted from this requirement by the Zoning Administrator in instances where those features are provided in such fashion as to not negatively impact the quality of the ground floor.

4.4.3. Ground Floor Height Where required by Figure 04.08: Active Ground Floor Uses, Type A and Type B shall have a minimum floor-to-floor height of 15 feet.

4.4.4. Street-facing Access Requirement

Street-facing ground-level space housing non-residential active uses in hotels, office buildings, shopping centers, and other large buildings shall open directly onto the street. Such required street-facing entrances shall remain open to the public during business hours.

Guidelines

4.4.5. Active Ground Floor Uses Defined An Active Ground Floor Use shall mean a principal, conditional, or accessory use that by its nature does not require non-transparent walls facing a public way or involve the storage of goods or vehicles. Active Ground Floor Uses at India Basin are specified as follows:

Type A: Generally these are public-serving establishments providing consumer sales of goods, food and beverage, or entertainment. Type 1 includes permitted principal, conditional, and accessory uses within the Entertainment, Arts and Recreation Use and the Retail Sales and Services Use categories.

Type B: Generally these are other (non-retail) commercial uses. Type B includes permitted principal, conditional and accessory uses

within the Non-Retail Sales and Services and the Institutional Use categories. Ground Floor building lobbies are active uses, so long as they do not exceed 40 feet or 25 percent of building frontage in width, whichever is smaller.

Type C: Residential Uses are Active Ground Floor uses in this category if more than 50% of the linear residential street frontage at the ground level features private terraces, stoops, or walk-up dwelling units with direct, individual pedestrian access to a public sidewalk, and frontage design is consistent with the Ground Floor Residential Design Guidelines, as adopted and periodically amended by the Planning Commission. Ground Floor space accessory to residential uses (such as fitness or community rooms) are active uses if they meet the intent of this section and have access directly to the public sidewalk or street. Ground Floor building lobbies are active uses, so long as they do not exceed 40 feet or 25 percent of building frontage in width, whichever is smaller. The select Industrial Uses allowed in each Land Use Zone also qualify as Active Ground Floor Uses in this category.

4.4.6. Street-Facing Ground Level Space The floor level of street-fronting, non-residential Active Ground Floor Uses and lobbies shall be as close as possible to the level of the adjacent sidewalk at the principal entrance to these spaces.

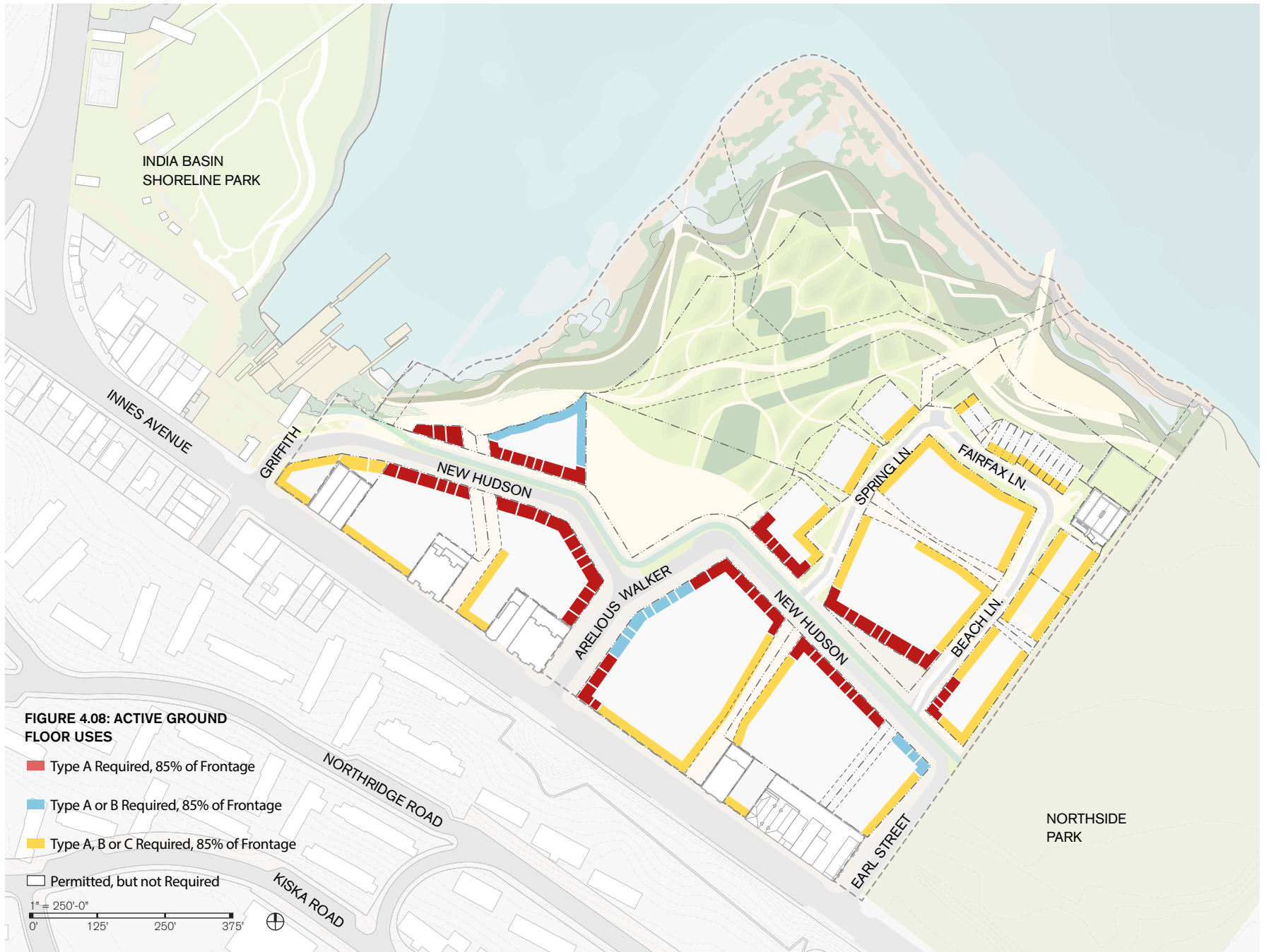


FIGURE 4.08: ACTIVE GROUND FLOOR USES

■ Type A Required, 85% of Frontage

■ Type A or B Required, 85% of Frontage

■ Type A, B or C Required, 85% of Frontage

□ Permitted, but not Required



4.5 Parking

Parking

Parking supports urban functions, but can also detract from the experience of place. Reducing the presence of automobiles in the public realm makes streets and open spaces more comfortable, attractive and welcoming for pedestrians. Adequate parking, loading and servicing is provided to accommodate demand, but in a manner that minimizes the visible presence of cars. Figure 04.09 describes the location of garages, perimeter treatment and entrance/egress strategies used to conceal parking from view, while providing comfortable, intuitive access to garages for pedestrians. Access locations are prioritized to activate main routes and public spaces, channeling pedestrian flows to and from parking through public plazas and along commercial corridors.

Standards

4.5.5. Off-Street Parking Quantity Off-street parking shall not be required for any use. The quantity of parking appropriate for the site is being studied through the EIR. Quantity of parking to be provided is specified in the Special Use District.

4.5.6. Parking Entrances The total street frontage dedicated for vehicular access to parking and loading shall be minimized, and the placement of parking and loading entrances shall limit interference with street-fronting active uses as well as with the movement of pedestrians, cyclists,

transit, and autos. Vehicular entrances and exits to parking facilities shall have a maximum linear width of 10'-0" parallel to the street if accommodating one-way travel, and maximum linear width of 20'-0" parallel to the street if accommodating two-way travel. Entrances and/or exits that are shared with loading and service access may be 12'-0" wide when accommodating one-way travel and 24'-0" wide when accommodating two-way travel.

4.5.7. Placement and Spacing No more than one-third of the width or 24 feet, whichever is less, of any given blockface shall be devoted to parking and loading ingress or egress. Street-facing garage structures and garage doors may not extend closer to the street than a primary building façade. Entrances to off-street parking shall be located at least 15 feet from a lot corner located at the intersection of two rights-of-way.

4.5.8. Above-Grade Parking Setback Where shown in Figure 04.09, off-street parking at street grade shall be set back at least 25 feet on the ground floor from any facade facing a street, public open space or pedestrian easement. Parking above the ground level shall be screened from public rights-of-way and easements in a manner that accentuates ground floor uses, minimizes mechanical features and is in keeping with the architectural vocabulary of the building.

Guidelines

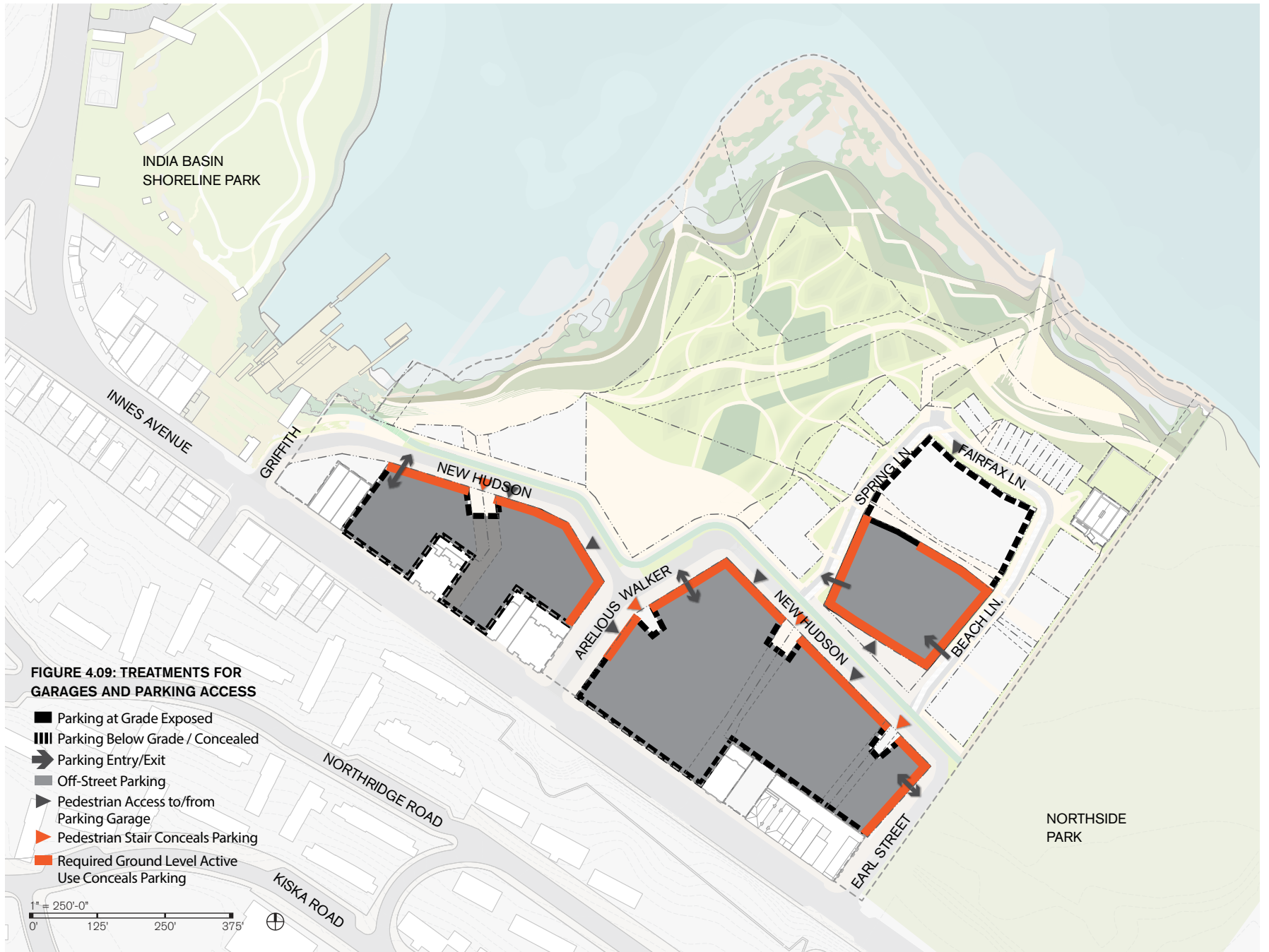
4.5.1. Parking Location Off-street parking may

be located where indicated in Figure 04.09. Off-street parking shall be below grade, except where permitted to be above grade as indicated in Figure 04.08.

4.5.2. Unbundled Parking Any off-street Public parking provided for non-residential use shall be unassigned and shall be shared among such uses within the project. Off-street parking spaces for residential uses shall be leased or sold separately from, and in addition to, the rental or purchase fees for dwelling units for the life of the unit. The Planning Commission may grant an exception from this requirement for projects which include financing for affordable housing that requires costs for parking and housing be bundled together.

4.5.3. Ground Level Parking So as not to preclude the conversion of parking space to other uses in the future, parking at the ground-level shall not be sloped, the floor shall be aligned as closely as possible to sidewalk level along the principal pedestrian frontage and/or to those of the street-fronting commercial spaces. Ground Level parking structures shall have a minimum clear ceiling height equal to that of street-fronting commercial spaces.

4.5.4. Egress to Public Realm A minimum of one separate, dedicated pedestrian entrance, visible and accessible from a public right-of-way, public easement or public open space shall be provided for the users of each off-street parking facility, as shown in Figure 04.09.



4.6 Loading

Loading

Adequate loading spaces and facilities are necessary to the operations of a complete neighborhood. India Basin will accommodate loading in a seamless, space-efficient manner that services its range of program effectively while upholding the pedestrian-focused design of the neighborhood.

Standards

4.6.1. Shared Loading Spaces Loading spaces shall be shared across uses and may not be assigned to any particular use.

4.6.2. Off-Street Loading Space Quantities Off-street loading spaces shall be provided in the quantities specified on Figure 4.10: Loading Space Table and allocated as shown in Figure 4.11: Loading, except as provided in Guideline 4.6.10: Active Loading Management Plan.

4.6.3. Off-Street Loading Locations Off-street loading spaces shall be located in the same project sub area (Hillside, Cove, and Flats) as the uses they serve.

4.6.4. Loading Entry Locations Loading entries shall be located no closer than 45 feet to the corner of an intersection.

4.6.5. Subterranean Loading Where subterranean service delivery loading is provided, the loading space shall be located no lower than the first subterranean level. The first subterranean level is defined as one story below the point of entry at grade.

Guidelines

4.6.6. Loading Access Points To minimize conflicts with pedestrians and bicyclists, the number of loading access points per building shall be kept to a minimum.

4.6.7. Pedestrian Right-of-Way Pedestrian movement shall be prioritized at curb cuts through the use of a continuous material treatment extending from the sidewalk or pedestrian path over the vehicular path.

4.6.8. Exterior Loading Docks Exterior loading docks shall be prohibited.

4.6.9. Waste Collection Exterior waste collection shall be prohibited.

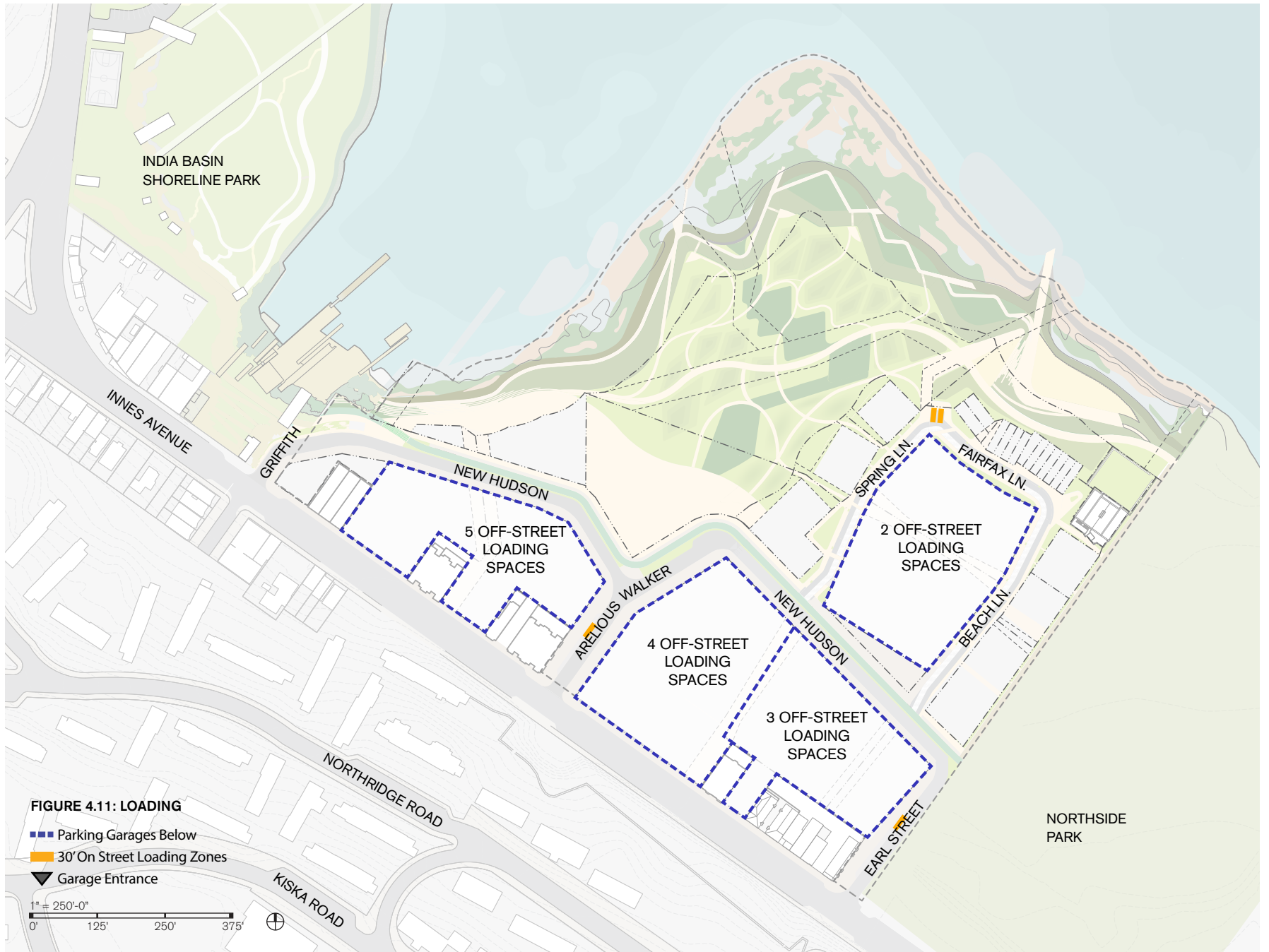
4.6.10. Active Loading Management Plan

The project sponsor can seek exception and/or modifications to Standards and Guidelines 4.6.1-4.6.9 by submitting an Active Loading Management Plan to the Planning Department and SFMTA for their review and approval. The Active Loading Management Plan shall, at a minimum:

- a) Indicate location of loading spaces.
- b) Coordinate loading hours of joint use.
- c) Satisfy the loading demands equal to or better than the Standards and Guidelines.

	Off-Street Loading Spaces	On-Street Loading Spaces	Total
Cove	5	1	6
Hillside	7	1	8
Flats	2	2	4
Total	14	4	18

FIGURE 4.10: LOADING SPACE TABLE



05

“We are continuously engaged in the attempt to organize our surroundings, to structure and identify them. Various environments are more or less amenable to such treatment. When reshaping cities it should be possible to give them a form which facilitates these organizing efforts rather than frustrates them.”

– Kevin Lynch, *The Image of the City*

Urban Form

Chapter 05: Urban Form

- 5.1 Parcels and Easements
- 5.2 Building Heights
- 5.3 Tower Controls
- 5.4 Setbacks
- 5.5 Massing Directional Emphasis
- 5.6 Stepbacks
- 5.7 Streetwall Requirements
- 5.8 Massing Illustrations

This chapter delineates the Standards and Guidelines for Urban Form, including parcels and easements, protected view corridors, height limits, massing and bulk controls, streetwall requirements, setbacks and stepbacks.

As a pedestrian-priority community, India Basin is intended to be experienced at a walkable pace. This requires the calibration of Form, Proportion, Articulation, Variation, Modulation, Depth, Materiality, Texture and Color of physical elements to the speed, range and capabilities of human sensory perception. Detail has been focused on the zone of experience in the public realm – to the open space edges, rights-of-way, lower-floors of buildings and to the threshold interface between public and private.

Collectively, the Urban Form requirements focus density near transit and amenities, create places that are appropriately scaled, shield public spaces from prevailing winds to promote comfort and form a varied and visually appealing skyline. Massing and scale of development steps down gradually from Innes Avenue towards the waterfront, accentuating India Basin's topography, intuitively guiding people to the San Francisco Bay.

5.1 Parcels and Easements

Parcels and Easements

Development Parcels and Easements at India Basin are configured to connect with public rights-of-way and open spaces to create an intuitive and highly-permeable circulation network, featuring a variety of engaging routes. To achieve a diversity of uses, typologies and scales within the development, the site is subdivided into parcels that vary in size and shape.

Figure 5.01 identifies Parcels and Easements organized by project subareas: Cove (C), Hillside (H), Flats (F) and Open Space (OS). Precise configurations and dimensions will be confirmed through the Tentative Subdivision Map.

Standards

5.1.1. *Parcels* Parcels delineating the limits of properties are shown in Figure 5.01. The minimum and maximum development program (where required) is summarized in Figure 5.02: Parcel Table. Land Uses are described in Section 4.1: Land Uses, with locations shown in Figure 4.06: Land Use. Precise configurations and dimensions will be confirmed through the Tentative Subdivision Map.

5.1.2. *Easements* Public easements through private property are shown in Figure 5.01. Public easements increase the connectivity of the pedestrian network and are aligned to link through private property to rights-of-way, public open spaces and other signature places. Maintenance Access easements through Public Open Spaces are also shown in Figure 5.01. These easements are provided for maintenance of landscape, infrastructure and utilities within Public Open Spaces. Precise configurations and dimensions will be confirmed through the Tentative Subdivision Map.

5.1.3. *Minimum Clear Width* Easements shall maintain a minimum clear width of no less than 10'-0".

Guidelines

5.1.4. *Access* Easements serve as dedicated throughways and shall provide an unobstructed way at all times.

5.1.5. *Encroachments* With the exceptions of permitted overhangs, canopies, changes in plane and other provisions for streetwall variation (per Section 5.7), facade modulation (and pedestrian comfort) and easements shall be open to the sky. Upper level bridges across pedestrian easements are not permitted.

5.1.6. *Accessibility* Easements shall comply with Accessibility standards for public routes.

5.1.7. *Limited Vehicular Access* Although primarily intended for pedestrian access, Public Easements may be used for limited vehicular access. Vehicular use for maintenance and inspection purposes is permitted.



Figure 5.02 Parcel Table

PARCEL GROUP	PROGRAM RANGE
HILLSIDE	
H1	186,700 GSF - 485,000 GSF
H2-H4	90,900 GSF - 348,300 GSF

COVE	
C1	126,700 GSF - 223,800 GSF
C2-C3	84,700 GSF - 183,200 GSF
C4-C5	51,700 GSF - 78,300 GSF

FLATS	
F1-F2	140,500 GSF - 368,200 GSF
F3-F5	54,600 GSF - 86,600 GSF
F6, F8-F9	61,900 GSF - 138,700 GSF
F10-F22	16,400 GSF - 23,500 GSF

PARCEL GROUP	PROGRAM RANGE
OPEN SPACE	
OS1 - OS5	N/A

PARCEL GROUP: FOR THE PURPOSE OF PROGRAM ALLOCATION, PARCELS WITHIN EACH SUB-AREA (HILLSIDE, COVE AND FLATS) ARE GROUPED AS SHOWN IN FIGURE 5.02: PARCEL TABLE.

PROGRAM RANGE: THE PROGRAM RANGE ACCOUNTS FOR RETAIL, OFFICE/GENERAL COMMERCIAL AND RESIDENTIAL AS A LUMP SUM. IT DOES NOT ACCOUNT FOR PARKING, MECHANICAL, STORAGE, OR OTHER GSF.

THE PROGRAM RANGE REPRESENTS THE MINIMUM AND MAXIMUM GSF ALLOCATED FOR EACH PARCEL GROUP. EACH PARCEL GROUP SHALL CONTAIN NO LESS THAN ITS RESPECTIVE MINIMUM GSF NOR EXCEED ITS RESPECTIVE MAXIMUM GSF AT FULL BUILDOUT. A DEVELOPER MAY REQUEST A TRANSFER (RE-ALLOCATION) OF PROGRAM, PENDING APPROVAL OF THE PLANNING DEPARTMENT, PROVIDED THAT AT NO POINT THE PROJECT EXCEEDS THE TOTAL PROJECT ALLOWABLE GSF. THE TOTAL PROJECT ALLOWABLE GSF SHALL BE DEFINED AS THE SUM OF ALL PARCEL GROUP MAXIMUM GSF AS LISTED UNDER THE PARCEL RANGE COLUMN IN FIGURE 5.02: PARCEL TABLE.



Amsterdam Borneo Sporenburg

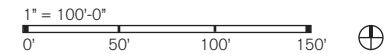
Micro-Parcels

To further accentuate the variety of building types and scales and to promote the character of individually-articulated residential units, micro-parcels are incorporated along the northern edge of the Flats. These micro-parcels provide opportunity to express diversity and design creativity. As shown in Figure 5.03, the location of micro-parcels along the shoreline completes the transition in scale from Innes Avenue down to the waterfront.



FIGURE 5.03: PARCELS AND EASEMENTS - SMALL PARCELS

- Parcel Boundary
- Public Easement
- Open Space Maintenance
- Access Easement
- Build Out Line



5.2 Building Height

Building Height

Maximum height zones at India Basin focus the tallest buildings near transit, provide a comfortable and engaging pedestrian environment and protect views for abutting and uphill neighbors. Maximum height zones shown in Figure 5.05, describe the three-dimensional maximum height envelopes without defining specific locations, numbers or shapes of buildings or parcels. Tower zones locate specific areas where buildings taller than the neighborhood height limit are allowed. More precise guidance regarding the buildable envelope for each parcel is provided in the bulk and massing controls (Massing Illustrations) in Section 5.8.

Standards

5.2.1. Maximum Height The height of structures shall not exceed the maximum height as shown in Figure 5.05.

5.2.2. Measurement The height of a building shall be defined as the upper limit of the roof structure. Building height shall be measured from an average grade line connecting the base of the building at the bottom or downhill side to the top or uphill side, as illustrated in Figure 5.04. For sloped or pitched roofs the height shall be measured at the mid-point between the eave and ridge line of the roof.

Height measurement shall follow finish-grade; building height shall be measured from new street elevations.

The parcel segment from which the measurement of height is to be taken for each parcel is shown in Figure 5.07. Within the first 100' of parcel depth from Innes Ave, height shall be measured from the Innes frontage. At the Tower Zone fronting Innes Ave, this 100' limit shall extend to align with the edge of the Tower Zone as shown in Figure 5.07. Otherwise, height for buildings fronting onto New Hudson Street shall be measured from the New Hudson frontage. For buildings facing onto Spring Lane, Beach Lane and Fairfax Lane, height shall be measured per Figure 5.07

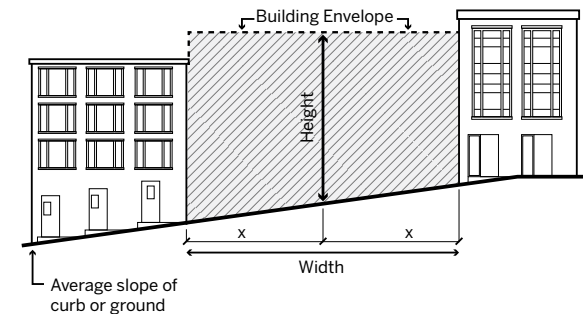
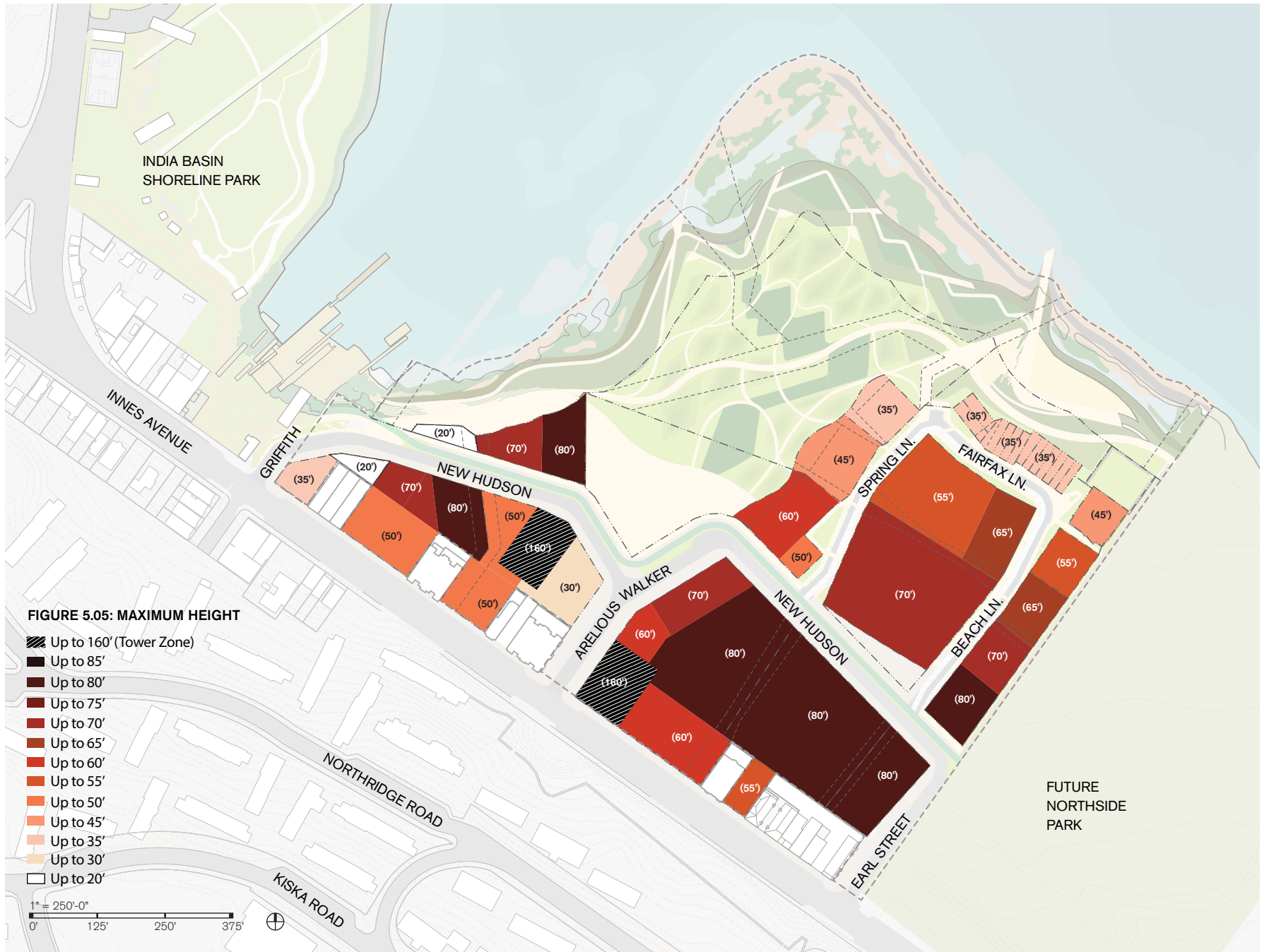


FIGURE 5.04: BUILDING HEIGHT MEASUREMENT

5.2.3. Screening of Rooftop Features Rooftop mechanical equipment and appurtenances to be used in the operation or maintenance of a building shall be arranged so as not to be visible from any point at or below the roof level of the subject building. The features so regulated shall be either enclosed by outer building walls or parapets, or grouped and screened in a suitable manner – with screening exceeding by at least 1'-0" in height the elements thereby screened – or designed in themselves so that they are integrated with respect to the design of the building.



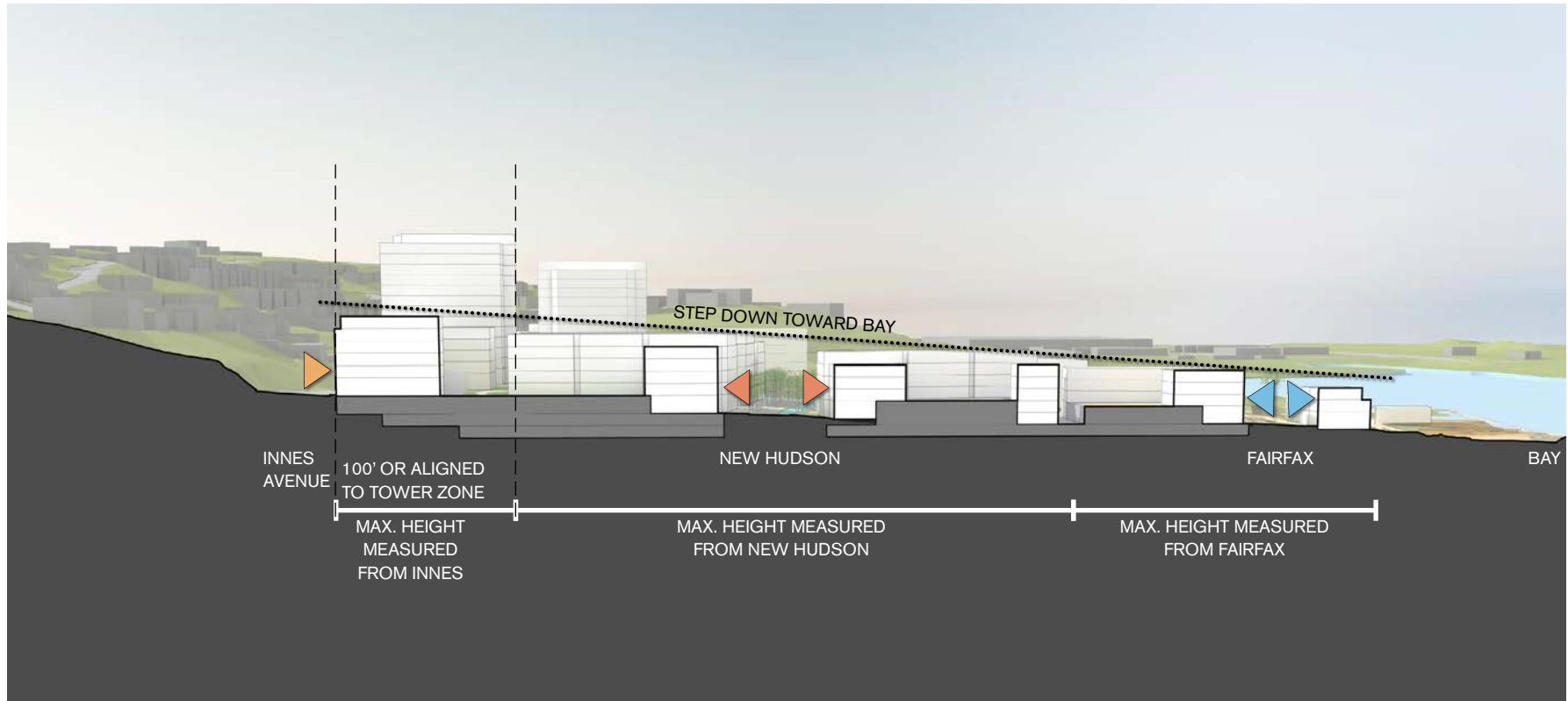


FIGURE 5.06: BUILDING HEIGHT MEASUREMENT CONCEPT - STREETS FROM WHICH THE MEASUREMENT OF HEIGHT IS TO BE TAKEN.

5.2.4. Parapets Parapets may project above the applicable maximum height limit up to 5'-0" above the roof of the last habitable floor.

5.2.5. Allowable Projections The following additional features may project above the applicable maximum height limit, provided the sum of the areas of such features is less than or equal to 20% of the total roof area:

- Mechanical equipment and appurtenances necessary to the operation or maintenance of the building or structure itself, including chimneys, ventilators, plumbing vent stacks, cooling towers, water tanks, and window-washing equipment, together with visual screening for any such features. Projection above the roof of the last habitable floor shall not exceed 20'-0".
- Elevator, stair and mechanical penthouses, skylights and dormer windows. Projection above the roof of the last habitable floor shall not exceed 20'-0".
- Habitable enclosed space (such as a community room) that supports the use of communal rooftop outdoor space (such as a roof terrace or deck).
- Panels or devices for the collection of solar or wind energy.
- Buildings taller than 85'-0" shall be limited to 15% of the total roof area with projections up to 10'-0", and 5% of the total roof area with projections up to 20'-0".

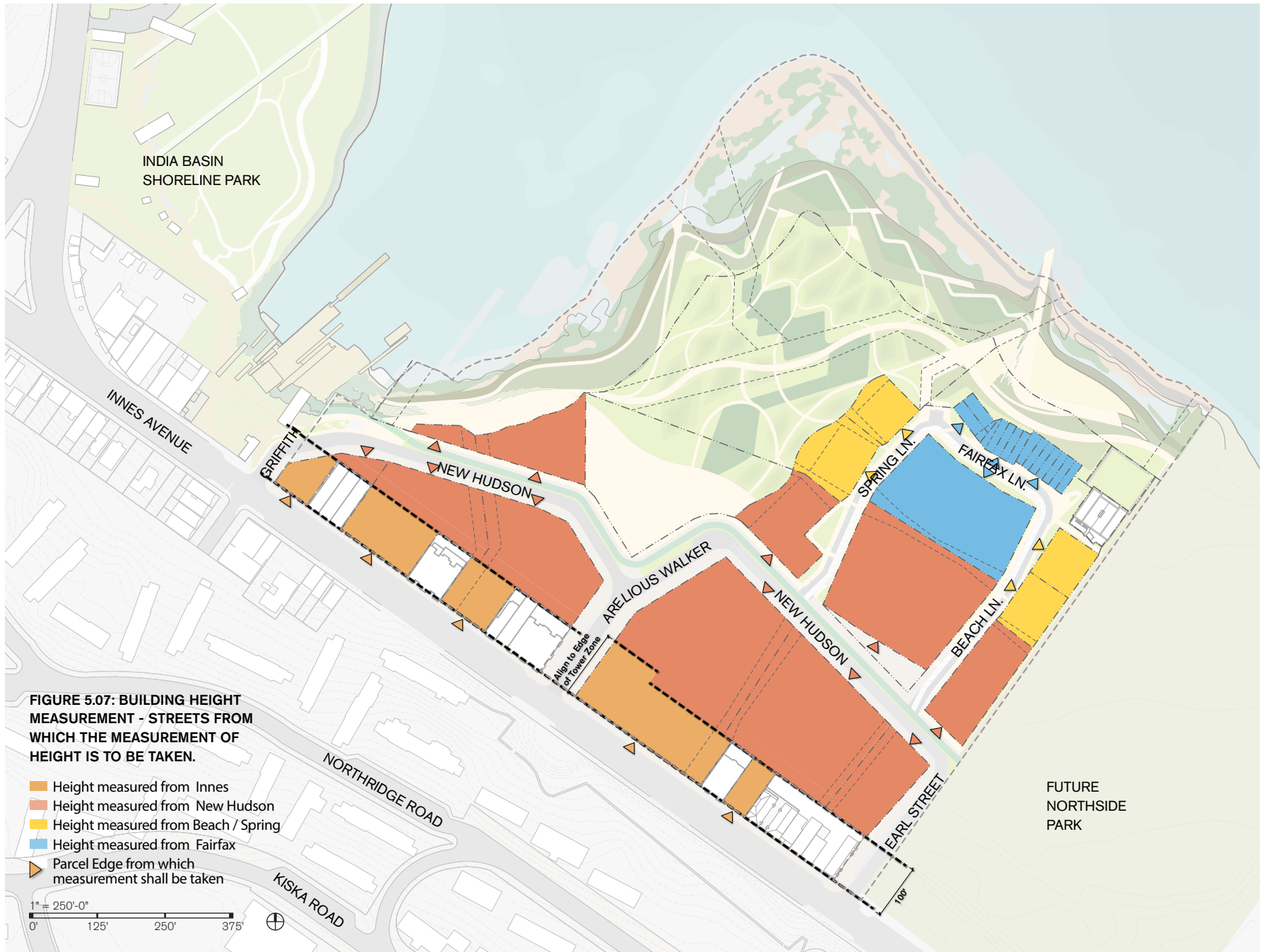


FIGURE 5.07: BUILDING HEIGHT MEASUREMENT - STREETS FROM WHICH THE MEASUREMENT OF HEIGHT IS TO BE TAKEN.

- Height measured from Innes
- Height measured from New Hudson
- Height measured from Beach / Spring
- Height measured from Fairfax
- Parcel Edge from which measurement shall be taken

1" = 250'-0"
0' 125' 250' 375'

5.3 Tower Controls

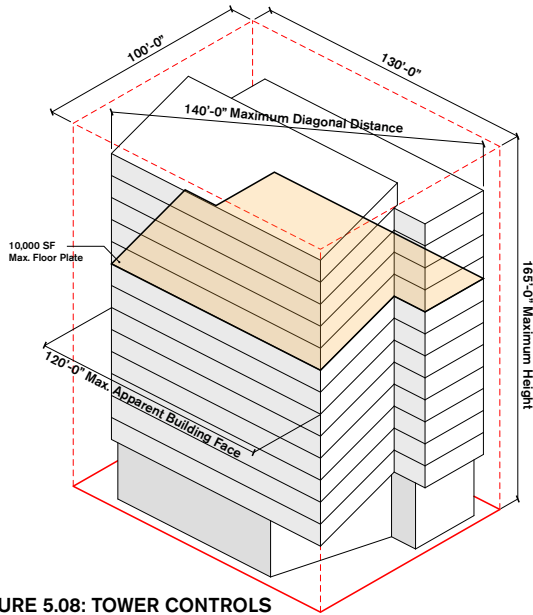


FIGURE 5.08: TOWER CONTROLS

Tower Controls

Special design consideration is appropriate for buildings that appreciably exceed the height of the predominant neighborhood fabric. When designed well, towers elevate architectural expression – celebrating human ingenuity, creativity and optimism. Towers reinforce legibility, often becoming highly-regarded landmarks synonymous with neighborhood identity. Towers have been located to mark the gateway at Arelius Walker and to anchor the Public Market. Consistent with the guiding principle to “Craft a Human-Scale Village” Towers shall comply with the following

Standards and Guidelines.

Standards

5.3.1. Tower Height Buildings with a height over 85' from grade shall be considered towers.

5.3.2. Location Tower Zones are shown in Figure 5.09. Within these Zones, buildings taller than the surrounding height limit are permitted.

5.3.3. Ground Floor Towers shall incorporate Active Ground Floor Uses consistent with the requirements in Figure 4.07.

5.3.4. Floor Plate Tower floor plates shall not exceed a maximum area of 10,000 gsf (excluding balconies) and a maximum diagonal distance 140'-0”.

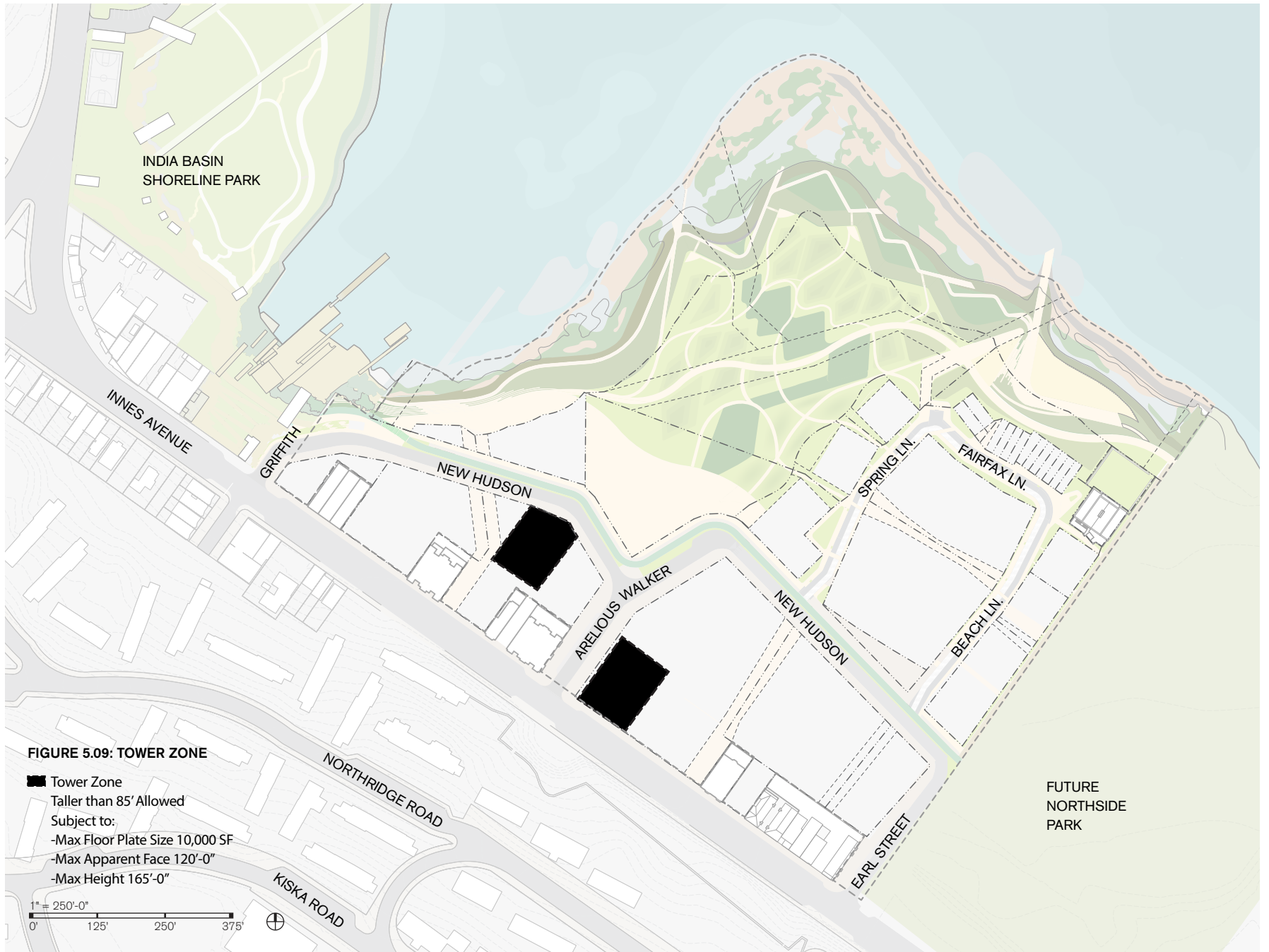
5.3.5. Maximum Apparent Face Tower facades shall not exceed a maximum apparent face of 120'-0”. See Figure 5.08.

Guidelines

5.3.6. Facade First story above grade of Tower facades shall feature articulation of rhythm, modulation and proportion, as well as high-quality materials that contribute to the pedestrian experience. See Chapter 6 for Architectural Guidelines and Standards.

5.3.7. Tower Form The form of the tower shall incorporate suitable means to compliment the scale and proportion of neighboring buildings. This may include, but shall not be limited to:

- Stepped, tapered or sculpted tower forms encouraging slender buildings and emphasizing smaller volumes that reinforce the distinctive identity of India Basin.
- Vertical and horizontal articulation of lower tower floors through façade modulation, materiality, depth and/or color.
- Podium generally aligned to adjacent building heights with tower setback from property line.
- Canopy or other overhang to mitigate wind.



5.4 Setbacks

“Buildings that provide an active and transparent interface between their interior uses and the street support well-being and safety through natural surveillance. Intentionally-designed ground floors with residential stoops, setbacks, retail, lobby entrances and upper levels with balconies create an engaging street level experience.”

–San Francisco Urban Design Guidelines, August 2016 Draft

Setbacks

Setbacks provide a transition zone between the public and private realms and offer comfortable occupiable space that encourages the simple act of dwelling “in public.” Thoughtfully-designed setbacks provide a physical infrastructure for the social functioning of the community. They are the space in which ground floors engage the street with pedestrian-oriented and welcoming frontages that enhance the vitality of the public realm. Non-residential setbacks are located along high-activity routes to provide ample space for terraces, retail stands, outdoor seating and dining areas that activate the private edge of the public realm. Residential setbacks include stairs, stoops, private gardens, patios and planted buffers that support comfort and foster social interaction among neighbors.

Standards

5.4.1. Setbacks Development shall comply with the Setbacks illustrated in Figure 5.10.

5.4.2. Measurement The extent of the setback of each building or structure shall be taken as the horizontal distance, measured perpendicularly, from the property line to the predominant building face closest to such property line. Setbacks shall allow for permitted variations, projections and recesses as described in the Fig. 5.10, Figs. 5.11-5.19 (Setback Controls), and Section 5.7 (Streetwall Requirements).

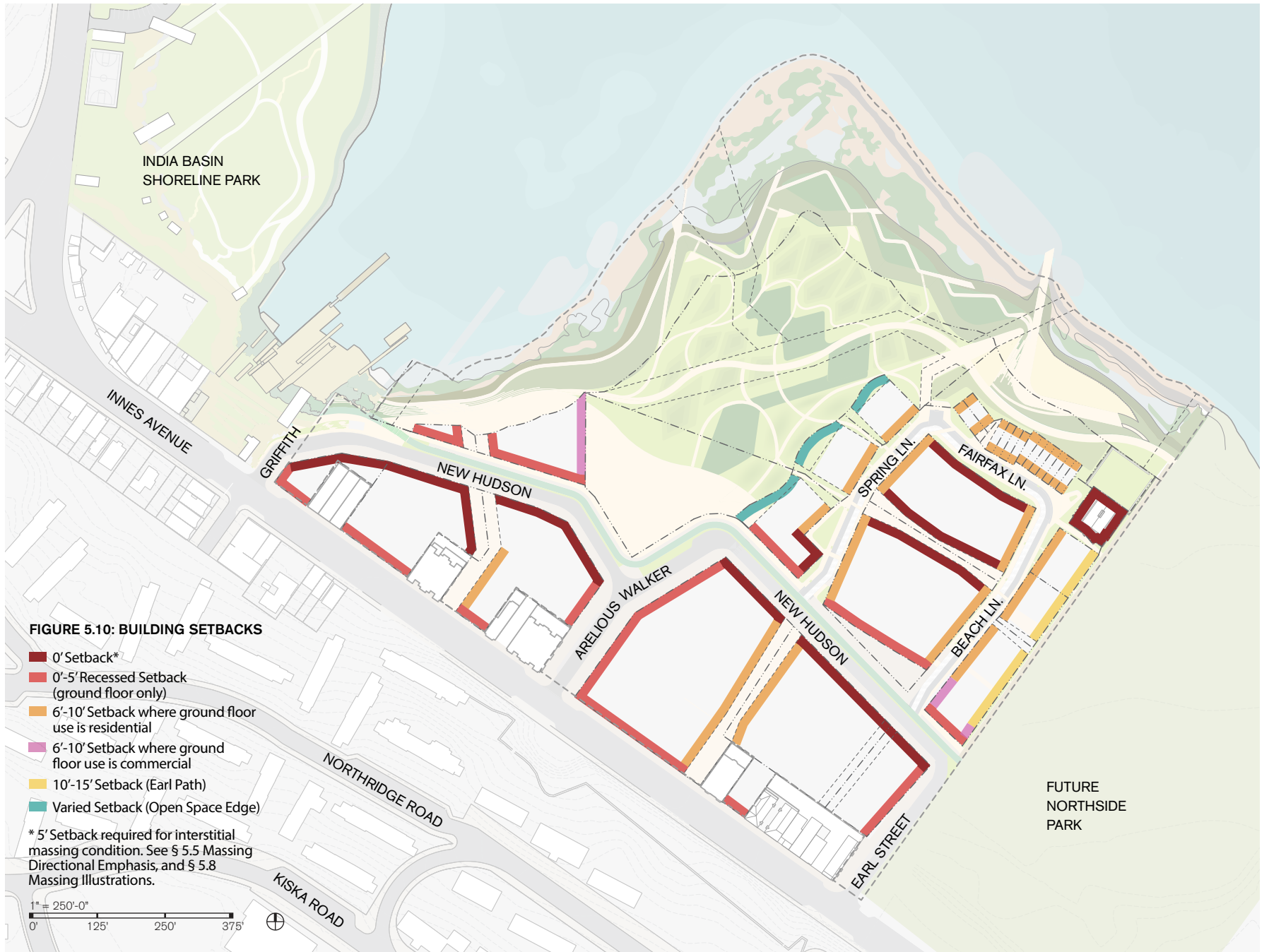


FIGURE 5.10: BUILDING SETBACKS

- 0' Setback*
- 0'-5' Recessed Setback (ground floor only)
- 6'-10' Setback where ground floor use is residential
- 6'-10' Setback where ground floor use is commercial
- 10'-15' Setback (Earl Path)
- Varied Setback (Open Space Edge)

* 5' Setback required for interstitial massing condition. See § 5.5 Massing Directional Emphasis, and § 5.8 Massing Illustrations.

1" = 250'-0"
0' 125' 250' 375'

Non-Residential Setbacks

Non-Residential Setbacks are located along primary routes with the heaviest foot traffic. They are designed to incorporate retail stands, outdoor seating and other elements that allow occupation and activation of the public realm.

Refer to Section 4.3 Ground Floor Use Requirements for additional guidance on Active Ground Floor treatment.

Standards

5.4.3. Controls Non-Residential Setbacks shall comply with the controls illustrated in the Non-Residential Setback Control Sections, Figures 5.11-5.14.

Guidelines

5.4.4. Palette Materials, surface treatments, planting, furnishing and other elements within Non-Residential Setbacks shall coordinate with those specified for the Public Realm in Section 2.5 Public Realm Elements.



Non-Residential Setback

Non-Residential Setback Key

- A ENCLOSED BUILDING AREA OR BALCONY, 12' MINIMUM ABOVE GRADE
- B FACADE PROJECTIONS INCLUDING SIGNAGE, CANOPY, AWNING, SHADING DEVICE, LIGHTING, 10' MINIMUM ABOVE GRADE
- PROPERTY LINE
- SETBACK LINE

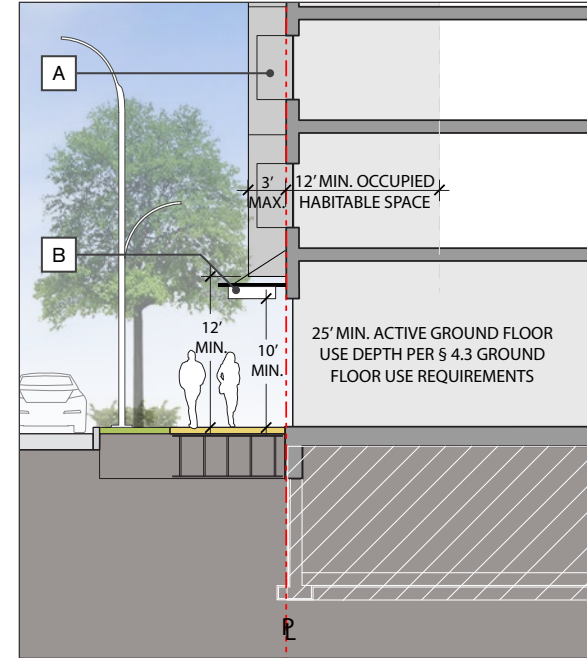


FIGURE 5.11: 0'-0" SETBACK

0'-0" Setback

The 0'-0" setback provides the strongest definition of streetwall, with direct adjacency of public and private realms. This condition is used to promote a vibrant urban character with active ground floor uses providing neighborhood-serving amenities. This setback condition is also used to establish the primary massing directional emphasis, as described in Section 5.5.

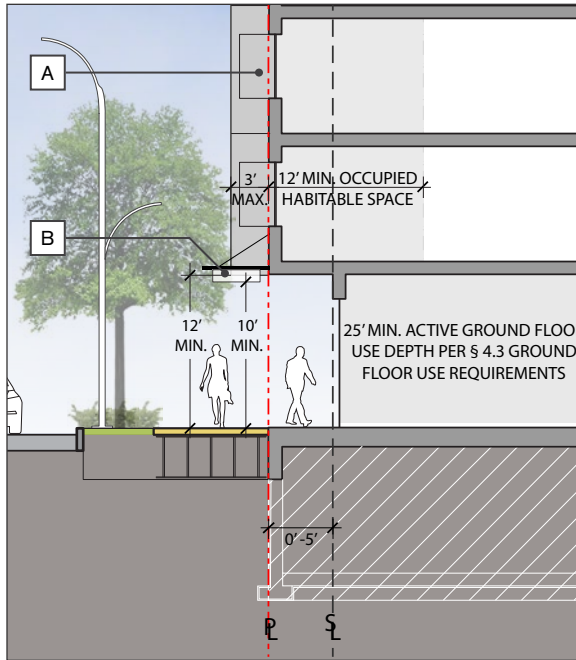


FIGURE 5.12: 0'-5' SETBACK - RECESSED GROUND FLOOR

0'-5' Setback - Recessed Ground Floor

The 0'-5' setback provides a strong definition of streetwall, while allowing for weather-protected entries and terraces, spill-out spaces and outdoor seating to promote interaction between the public and private realms. This condition is used to promote a vibrant urban character with active ground floor uses providing neighborhood-serving amenities and food and beverage facilities.

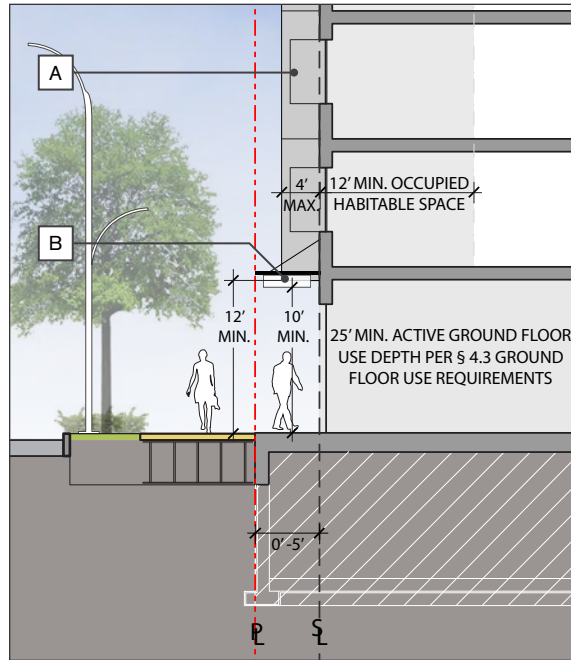


FIGURE 5.13: 5' SETBACK - FULL HEIGHT

5' Setback - Full Height

The 5'-0" setback is used to establish the transverse massing directional emphasis, as described in Section 5.5. This condition extends the street and allows an extra buffer space that acts as an extension of the public realm.

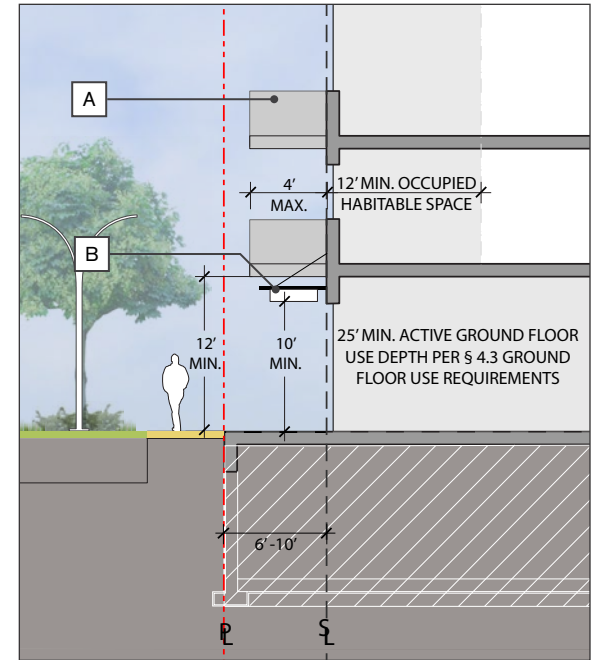


FIGURE 5.14: 6'-10' SETBACK - COMMERCIAL GROUND FLOOR

6'-10' Setback - Commercial Ground Floor

The 6'-10' setback is a special condition, where non-residential use faces onto a public plaza or other open space. It allows for a generous zone of privately-owned space to feel like part of the public realm. This setback encourages weather-protected entries and terraces, spill-out spaces and outdoor seating to promote interaction between the public and private realms.

Residential Setbacks

Residential setbacks include stairs, stoops, private gardens, patios and planted buffers that provide supplementary usable private open space for residents in a way that facilitates social interaction among neighbors. Units built immediately up to a sidewalk edge with no transition or buffer space reduce the habitability of ground floor residential space, and consequentially diminish the pedestrian experience. Adequate transition space from a public sidewalk or open space to the ground floor of a residential unit is needed to maintain a level of privacy, promote passive surveillance and enhance the pedestrian experience.



Residential Setback

Standards

5.4.5. Controls Residential Setbacks shall comply with the controls illustrated in the Residential Setback Control Sections, Figures 5.15-5.17.

5.4.6. Planting Depth Basement levels of buildings are permitted to project into the setback; however, projections must be a minimum of three feet below grade to allow for adequate planting depth.

Guidelines

5.4.7. Applicability Residential Setbacks shall comply with these Guidelines and Standards, and shall demonstrate consistency with the City of San Francisco “Guidelines for Ground Floor Residential Design,” as adopted and periodically amended by the Planning Commission. Where discrepancies exist between the two, these Guidelines and Standards shall take precedence.

5.4.8. Common and Private Areas Residential Setbacks are divided into common and private

Residential Setback Key

- A** ENCLOSED BUILDING AREA OR BALCONY, 12' MINIMUM ABOVE GRADE
- B** FACADE PROJECTIONS INCLUDING SIGNAGE, CANOPY, AWNING, SHADING DEVICE, LIGHTING, 10' MINIMUM ABOVE GRADE
- C** STOOPS, TERRACES, STAIRS, PATIOS, YARDS, FENCES, GUARDRAILS, FREE-STANDING SIGNAGE AND LIGHTING
- D** WHERE BELOW-GRADE BUILDING AREA (SUCH AS GARAGE OR BASEMENT) ENCROACHES INTO SETBACK ZONE, MINIMUM OF 3' SOIL DEPTH FROM GRADE TO TOP OF STRUCTURE
- E** VEGETATED BUFFER OR RAISED PLANTER, MINIMUM OF 18" WIDTH FOR 50% OF REQUIRED LINEAR PARALLEL FRONTAGE
- ℓ** PROPERTY LINE
- ⊥** SETBACK LINE

setback areas (Figures 5.15-5.17). Private setback areas are for use by adjacent residential dwelling units. Common setback areas provide a landscape buffer that shall be implemented and maintained by the building owner or owner association (OA). Stairs and stoops are excluded from the common area requirement and may extend into the common area. Materials, surface treatments, planting and other elements within the common area of Residential Setbacks shall coordinate with those specified for the Public Realm in Section 2.5 Public Realm Elements.

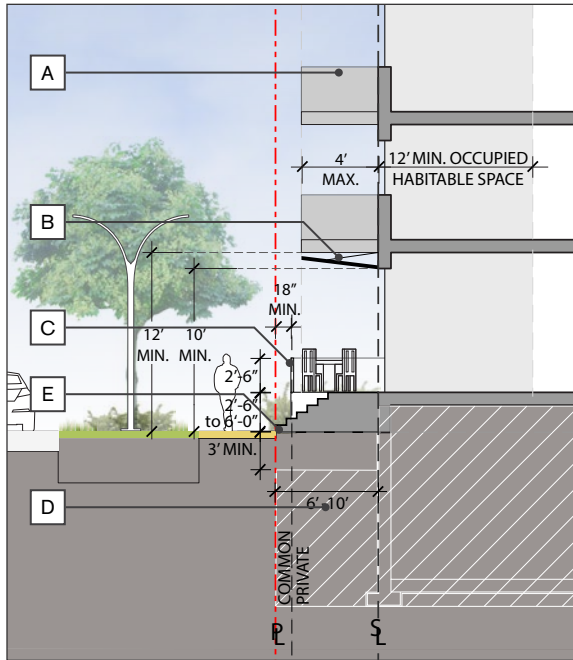


FIGURE 5.15: TYPICAL RESIDENTIAL SETBACK - 6'-10'

Typical Residential Setback - 6'-10'

The 6'-10' Typical Residential Setback provides a physical and psychological comfort buffer between sidewalk activity and residential uses at lower levels. This condition allows ample space for entry steps, stoops, porches, patios or terraces that afford supplementary usable private open space for residents in a way that also enhances community social interaction and passive surveillance.

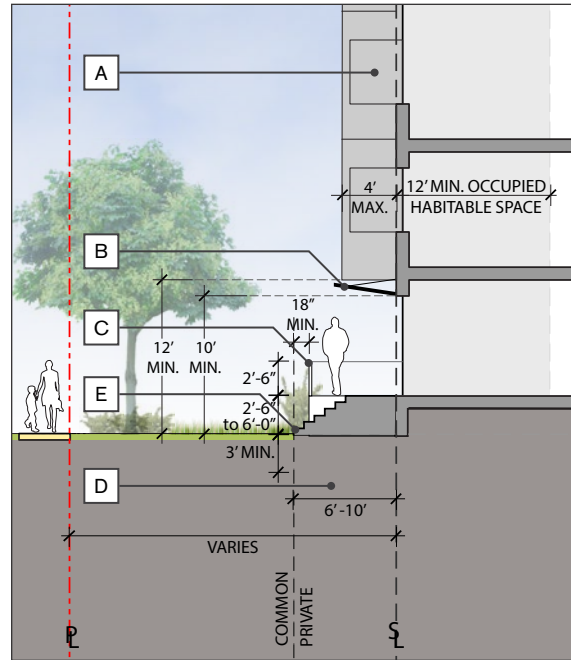


FIGURE 5.16: OPEN SPACE EDGE SETBACK - VARIES

Open Space Edge Setback - Varies

The variable Open Space Edge Setback occurs where the Flats meet the Big Green. Here, the alignment of pathways, in concert with topography and other landscape elements, provides clear separation between the public and private realms. This transition space serves as a buffer that allows direct connection of residences to nature while also maintaining a degree of privacy from the public activity of the Big Green.

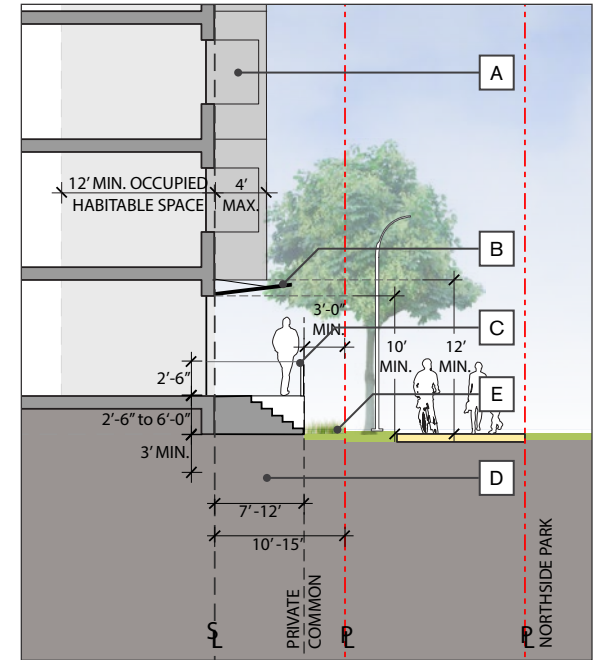


FIGURE 5.17: EARL'S PATH SETBACK - 10'-15'

Earl's Path Setback - 10'-15'

The 10'-15' Setback along Earl's Path creates a more-generous buffer space between the residential building face and the adjacent multi-use path. This setback allows the residents to utilize this zone for entry steps, stoops, porches, patios or terraces that enhance community social interaction while the landscape buffer creates a sense of privacy.