



Sustainability Plan Briefing Document Update

Candlestick Point/Hunters Point Shipyard
OCII Commission Resolution No. 16-2018 (April 17, 2018)

About this Document

This Briefing Document summarizes how the Candlestick Point / Hunters Point Shipyard II (CP/HPS) Project will develop in a sustainable manner. The document is laid out to enable readers to find information quickly and gain a holistic understanding of how existing Bayview Hunters Point (BVHP) residents as well as future Project residents will benefit from the various and interrelated aspects of the project.

At the front of the document is the At a Glance Table, which is a useful reference for understanding the sustainability strategies, associated Project elements and targets, and expected benefits that result from Project implementation.

The main body of the document describes the Project, explains how the Project has been designed to meet community needs, and then covers the various sustainability principles and strategies and how they will impact and ultimately benefit the community.





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Alice Griffith Mural

All mural photography © Randy Olaes/Arup

Sustainability Plan At a Glance

The following table summarizes the targets and benefits of the strategies that will be implemented under the Sustainability Plan. Each strategy has a variety of accompanying targets selected to ensure project performance relative to local, regional and national benchmarks.

Strategy	Key Elements & Targets	Responsibility	Benefits	
Economic Vitality and Affordability: An affordable community with new employment and business opportunities				
Economic Development	EV 1 Create jobs for local residents	Make a good faith effort for 50% of new construction hires to be San Francisco residents with first priority given to BVHP residents	CP Dev Co/City/Third Parties	Creates new temporary and permanent jobs for local residents
		Make a good faith effort for 50% small business enterprise participation for suppliers, construction work and professional services	CP Dev Co/Private partners	Prepares residents with skills needed to take advantage of new employment and business opportunities
		Provide \$8.925 million for a Workforce Development Fund to support job training (with an equivalent match from the City of San Francisco in workforce development and training services)	CP Dev Co/City	Gives residents a chance to work in the neighborhood they live in
		Establish Real Estate Broker and Construction Assistance programs to help local business gain access to valuable opportunities and experiences	CP Dev Co/City	Existence of local opportunities for employment reduces the need for commuting
	EV 2 Plan and design development to spur economic revitalization	Achieve a balanced jobs to housing ratio of 1:1	Private and public organizations	Creates opportunities for new businesses
		Establish 4.265 million sq. ft. of research and development space for office uses, including technology, green technology and creative industries.	CP Dev Co/City	Grows local economy and boosts local income levels and tax base Utilizes local base of workers of all skill levels
Dedicate 400,000 sq. ft. to neighborhood-serving retail and maker space, including food service grocery		CP Dev Co/Private partner/City	Creates 'green collar', high quality jobs Enables residents to access basic retail services without relying on a car Addresses local need for access to healthy foods	
Affordable Housing	EV 3 Provide new affordable housing	Construct 3,345 units of below market-rate and public housing (32% of total), a portion of which will be rental units reserved for households earning 60% or less of the Area Median Income; this number includes the replacement of 256 public housing units at Alice Griffith	CP Dev Co/City/OCII	Prevents displacement of current residents Provides opportunities for working class residents, such as school teachers and firefighters, to become homeowners
		Contribute \$28.7 million to Community First Housing Fund which provides financing to qualified low-income homebuyers	CP Dev Co	Increases local homeownership

Strategy	Key Elements & Targets	Responsibility	Benefits	
Community Identity & Cohesion: A strong community that takes pride in its culture, history and diversity				
Community Development	C 1 Actively engage the community in the redevelopment process	Use formal groups--Citizens Advisory Committee (CAC) --with community representation to provide input to the project	City/CAC	The project results in a community that meets the needs of BVHP
	C 2 Plan and design development to spur sense of community and place	Design community such that households have access to a variety of safe, civic spaces within a short walk	City/CP Dev Co	Creates opportunities for neighbors to meet and socialize
		Provide a range of housing to meet community needs, including housing designed for seniors, special needs residents and families	CP Dev Co	Improves quality of life for residents
		Establish a \$10 million Education Improvement Fund, a \$3.5 million Scholarship Fund and a \$2 million fund for a pediatric health and wellness center	CP Dev Co	Helps build a vibrant community full of people from all different walks of life
	Provide 65,000 gsf for Community Facilities Space	CP Dev Co		
Historic Preservation	C 3 Preserve local culture and historic identity	Strive to preserve and rehabilitate as many buildings designated as historically significant as financially feasible	CP Dev Co	Maintains connection with history of the community
		Designate a permanent location for the International African Marketplace	CP Dev Co	Enhances local cultural diversity
Arts	C 4 Support the local Artist Community	Renovate and build 225,000 gsf of existing artist space and provide 10,000 gsf for an artist center	CP Dev Co	Enables artist community to continue to thrive and contribute to the distinctive culture of the community
		Build space for entertainment uses and performing arts	CP Dev Co/Third Party	Creates new opportunities to enjoy arts and culture Supports new artistic endeavors within the community
Public Wellbeing, Safety & Quality of Life: An attractive, pleasant and safe community				
Open Space and Recreation	PQ 1 Provide quality open space and recreational facilities	Provide 337.9 acres of new and improved city neighborhood and waterfront parks within the project area	CP Dev Co/City	Provides attractive spaces, accessible to the all BVHP residents, for relaxation and recreation
		Provide 96.7 acres of new and improved State parkland	State Parks/CP Dev Co	Enables residents to lead an active, healthy lifestyle and enjoy the outdoors
		Design community such that most residents have a recreational facility and a natural setting within a 5 minute walk	CP Dev Co	Improves public health and quality of life
		Replace and restore community gardens affected by the CP/HPS Project	CP Dev Co	Improves local air quality and enhances aesthetics of local environment
Public Safety	PQ 2 Improve Public Safety	Incorporate mix of uses that keeps streets active and alive at day and night	CP Dev Co	Creates a more pleasant and comfortable living environment
		Ensure adequate street lighting is provided for pedestrians	CP Dev Co	Reduces crime and vandalism
		Establish minimum standards for maintenance and upkeep	City/Home Owners	

	Strategy	Key Elements & Targets	Responsibility	Benefits
Accessibility and Transportation: A community designed around pedestrians, cyclists and public transportation				
Design and Accessibility	T 1 Minimize need for travel outside the community	Design the community so that residents don't need to travel outside for work, entertainment, shopping or to access basic services	CP Dev Co	Reduces dependency on and need for private automobiles
		Design the community so that 90% of households can access neighborhood serving retail within 1/4 mile walking distance of their home	CP Dev Co	Reduces commute distances and times Improves community health and air quality
	T 2 Maximize pedestrian and bicycle travel	Design the community to be dense and compact, with some pedestrian-only streets and sidewalks on all streets	CP Dev Co	Creates a more pedestrian-friendly environment
		Facilitate biking by including marked bike routes signage and route maps along major roadways, and requiring bike parking in all non-residential and multi-family buildings	CP Dev Co	Enables residents of all ages to safely traverse the neighborhood by bike or on foot Helps build a community that is safe, enjoyable and welcoming to families By reducing dependency on private automobiles, helps households reduce transportation costs Improves community health and air quality
		T 3 Expand and improve public transit services	Expand and extend Muni regular and express bus service to the CP/HPS; establish a new bus rapid transit (BRT) service connecting to SamTrans, BART, Caltrain and Third street rail station	City
T 4 Improve roadway access to site	Provide local transit service within 1/4 mile of most residences	CP Dev Co/City	Improves connection with the City and other neighborhoods and reduces isolation of the area	
	Target 55% of weekday afternoons trips at peak hour to be by transit, walking or cycling vs current 34%	City	Reduces dependency on private automobiles	
	Provide transit priority corridors to allow fast transit access to regional transit hubs and employment centers, such as downtown	CP Dev Co/City		
	T 5 Utilize low-to-zero emission transit vehicles to serve the site	Expand and improve roadways in the area, as identified in the Transportation Plan	CP Dev Co/City	Helps to reduce traffic congestion Improves roadway safety for vehicles and pedestrians
Transportation Demand Management	T 6 Implement transportation demand management plan	All transit vehicles servicing the site to utilize low-emission or zero emission technologies	City	Reduces pollutants and greenhouse gas emissions associated with transit vehicles Improves community health and air quality
		Employ a full-time transportation coordinator to promote walking, cycling, carpool and public transportation	CP Dev Co/City/SFMTA	Creates a variety of transportation options and services that meet the diverse needs of residents and businesses
		Implement off-street parking maximums of 1 parking space per residential unit	CP Dev Co/City	Makes it easy for residents and business to take advantage of car-sharing, car-pool and public transit options
		Provide web-based real-time public transit information	City	Reduces dependency on private automobiles
		Attract a car sharing service with vehicles conveniently located near residences	CP Dev Co/car-share partner	Improves community health and air quality

Strategy	Key Elements & Targets	Responsibility	Benefits	
Resource Efficiency				
Energy	E 1 Reduce building energy demand and consumption	Achieve energy efficiency performance target of 15 percent below the energy efficiency standards for regulated loads as articulated in Title 24, Part 6 of the 2008 California Code of Regulations	CP Dev Co	Households expected to enjoy average savings of about \$188 per year on their energy bill Efficiency produces on-going energy savings for residents and businesses
		Include plug load efficiency requirements to further reduce total energy use (e.g. require Energy Star appliances)	CP Dev Co	Reduces emissions that contribute to climate change Reduces dependence on fossil fuels
	E 2 Explore the viability of a district heating and cooling system	Partner with a third party to deploy and deliver district energy services should district heating and/or cooling be technically and financially viable	CP Dev Co/utility provider/City	
	E 3 Maximize on-site energy generation from renewable sources	Provide opportunities for implementing solar thermal water heating, solar photovoltaic panels and/or urban wind generation	CP Dev Co/utility provider/City	
Water	WT 1 Reduce overall water demand	Reduce potable water demand from the San Francisco Green Building Ordinance scenario by 51% (upon availability of reclaimed water sources)	CP Dev Co/utility provider/tenant	Households expected to enjoy average savings of about \$101 per year on their water bill Ensures a reclaimed water source for landscaping to keep the neighborhood beautiful
		Reduce building potable water demand by 30% compared to the baseline described in LEED 2.2 for New Construction	CP Dev Co/utility provider/tenant	Improves water quality in the Bay
	WT 2 Use alternative water sources	Reduce open space potable water demand by 50% compared to the Model Water Efficient Landscape Ordinance (MWELo)	CP Dev Co	Creates and protects natural habitat
		Install reclaimed water infrastructure (purple pipe) necessary to serve the development for non-potable uses on site	CP Dev Co	Allows the community to live within its natural water budget (consumes less than what falls on the site) Reduces project impact on municipal potable water facilities
		Provide reclaimed water for non-potable uses on-site	CP Dev Co/utility provider	
		Use recycled water for all dust suppression requirements during construction (if available)	CP Dev Co	
	WT 3 Treat wastewater efficiently	Reduce wastewater flow by up to 26 percent compared to similar developments built to California Codes	CP Dev Co	
	WT 4 Implement a low impact stormwater management system	Capture and treat 100% of onsite storm water eliminating use of the existing combined sewer/storm water system	CP Dev Co	
Solid Waste	SW 1 Minimize waste during planning, design and construction	Divert 75% of construction and demolition waste from landfills	CP Dev Co/contractors	Reduces greenhouse gas emissions associated with solid waste
		Maximize the reuse of materials	CP Dev Co/contractors	Fewer hazardous materials in the community
	SW 2 Minimize waste during operation	Divert 85% of residential, commercial and hotel waste from the landfill (short-term), 100% long-term	Recology	Fewer trash collection trucks on the streets, resulting in reduced diesel truck emissions and noise
	SW 3 Collect and manage/dispose all hazardous wastes generated from "The Point"	Assign space for a neighborhood drop-off to ensure better collection of hazardous materials	CP Dev Co/Recology	No trash bins out on street curbs
	SW 4 Explore options for an Automated Waste Collection System	Provide efficient, clean, and less invasive waste collection for the same cost as traditional waste collection	City/CP Dev Co/Recology	Reduced pest problems

	Strategy	Key Elements & Targets	Responsibility	Benefits
Ecology				
Environment	ENV 1 Promote healthy air quality	Use materials indoors that are low-VOC and formaldehyde-free	CP Dev Co/contractors	Improves resident health
	ENV 2 Clean the site so it is safe for residents and visitors	All buses servicing the site to use zero emission / ultra-low emission technologies	SF MTA	Improves regional air quality
		Contaminated areas of the site will be made safe for residents, visitors and neighbors of the development	Navy	Improves groundwater quality
ENV 3 Reduce the release of toxic pesticides into the environment	No toxic chemicals used for pest control except under limited circumstances for the control of invasive species or for public health purposes	CP Dev Co/contractors/ HOAs	Improves site safety	
	Restrict pesticides to those listed on the DOE's Reduced Risk Pesticide List	CP Dev Co/contractors/ HOAs	Improved indoor air quality	
				Improved working and living conditions
				Reduces contribution to climate change
Habitat	HB 1 Protect and enhance existing wetland habitats within the site	Restore and enhance tidal marsh and high beach habitats for wildlife benefits and overall community ecological resilience, climate adaptation and preparedness in the face of sea-level rise.	CP Dev Co	Increases ecological value of the land
		Avoid impacting and mitigate any unavoidable impacts to important habitats, including Eelgrass beds and Essential Fish Habitat	CP Dev Co	Increases biodiversity
		Create new habitat and protect Bay waters through stormwater treatment wetlands	CP Dev Co	Improves public amenity
	HB 2 Create new areas of natural habitat value within the site	Create and restore new upland grasslands	CP Dev Co	Improves regional air quality
		Remove non-native invasive plant species (e.g. common reed, iceplant, French broom, pampas grass, etc) from open space	CP Dev Co/State Parks	Attracts beneficial species, particularly those that can contribute to the Integrated Pest Management Plan
	HB 3 Protect and enhance urban habitats	Encourage CA State Parks to plant native, regionally appropriate, and not invasive species	State Parks	
		Ensure the trees planted within the CP/HPS project area are native or regionally appropriate	CP Dev Co	
	HB 4 Migratory Bird Protection/Enhancement Measures	Improve migratory stopover habitat	CP Dev Co	
		Ensure intended migratory stopover habitat is sufficiently separated from tall buildings and incorporate bird-friendly building design elements	CP Dev Co	
	HB 5 Environmental Education	Provide more sensitive species, for suitable habitat while providing the public with educational and recreational opportunities		
Climate	CC 1 Minimize the impact of the development on global climate change	Meet the City of San Francisco's 'Two Ton Challenge' by reducing per capita carbon emissions from the development by at least two tons compared to the business-as-usual development scenario	CP Dev Co/City	Reduces risk of future flooding
		Achieve per capita carbon emissions of 4.5 tons CO ₂ e/day	CP Dev Co/City	Reduces insurance premiums
		Plant 10,000 new trees	CP Dev Co	Reduces carbon footprint of the project
	CC 2 Design the development to accommodate the effects of a changed climate in the future	Design the development to accommodate the effects of a sea level rise with finished floor elevations 66" above a 100 year flood event. Provide for an adaptive management strategy for future increases in sea level.	CP Dev Co	
		Where technically feasible and schedule permitting, use concrete that contains 30% or more fly ash or slag	CP Dev Co/Contractors	

Strategy	Key Elements & Targets	Responsibility	Benefits	
Advanced Information and Communications Technologies: A wired community where technology improves quality of life				
Connected Urban Development	ICT 1 Empower residents to save money and make low-carbon decisions	Build a "smart" network that provides real-time information about energy use, Muni service (next-bus information), traffic and more	Utility provider/City/ OCII	Provides residents with information they can use to plan their travel journeys
		Incorporate "smart-metering", building management systems and feedback panels into homes	Utility provider/City/private partners/OCII	Helps residents to reduces energy and water use and better manage their utility expenses
	ICT 2 Provide next-generation broadband connectivity	Develop an ultra-high broadband and mobile network (e.g. 4G)	CP Dev Co/private partner	Bridges digital divide
		Free (or affordable), ubiquitous Wi-Fi that is provided by the City or through the private sector	CP Dev Co/utility/private partner	Helps residents access information about jobs, education, healthcare and government services Boosts economic development and attracts residents
	ICT 3 Provide a digital information portal for residents, visitors and newcomers	Develop and operate a community web portal	CP Dev Co/City	Enables residents to better engage and participate in their communities
		Install and maintain digital information kiosks	CP Dev Co/City	Helps residents access information about jobs, transportation, community events, etc.
Provide real-time transit information at transit nodes		SFMTA	Generates revenue for local businesses	

Overarching Strategies				
Neighborhood Development	OS 1 Obtain third party certification	Achieve a Gold rating from the US Green Building Council based on LEED™ for Neighborhood Development.	CP Dev Co	Provides credibility to the sustainable approach taken by the developer and City



STAY INSIDE

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1 Introduction

Overview of the project, the existing community and sustainability

1 Introduction

The redevelopment of Candlestick Point/Hunters Point Shipyard (CP/HPS) will create **a vibrant, healthy, attractive community of approximately 41,000 people** in one of the City's most underinvested areas.

It will transform a contaminated, underutilized area into **two waterfront neighborhoods** that resound with **activity, innovation, vitality, art and nature**.

Taking pride in the area's strong heritage, rich history and diverse tradition, **the new community will echo the diversity, vibrancy and values of the local area**.

Featuring a high proportion of **affordable and green housing**, as well as **parks and open space**, the community will embody the **values of social equity** and living in balance with nature and resources. The project is **expected to generate over 16,000 permanent jobs** for workers of all skill levels, and to create a new hub for green businesses and clean technology. It will demonstrate how tackling local and global challenges—from lack of affordable housing to reducing carbon emissions—can be achieved in a way that **strongly benefits the community and provides hope to its youth for a better tomorrow**.





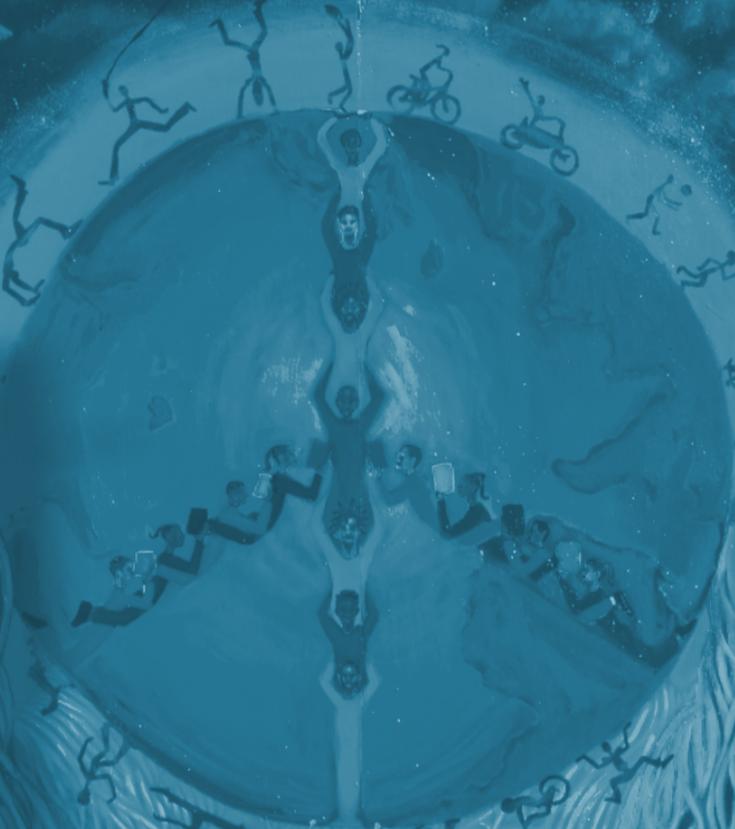
The Context

The Project is located in the Bayview area of San Francisco and encompasses the former site of San Francisco 49ers stadium at Candlestick Point and the site of the now closed Hunters Point Naval Shipyard.

The Opportunity

The redevelopment presents a tremendous opportunity to create a vibrant community that offers a high quality of life and an exciting range of employment opportunities for the residents of the larger Bayview community. Sustainability is at the heart of the redevelopment plan, emerging from a deep need and strong commitment to create a community that is in balance across the triple bottom line—social equity, economic vitality and environmental restoration. Through strong public and private partnerships, long term commitments, innovative financing and advanced technology, the new community will be able to realize the true promise of sustainability: sustaining better lives for generations to come in a place that is renewed, inclusive and renown for its opportunities to live, work and recreate.

Residents will enjoy opportunities to upskill and earn a living wage, participate in the green tech movement and raise a family in a safe, affordable and healthy environment, while reaping benefits from living in harmony with natural resources and contributing positively to global sustainability challenges. This document presents a summary of the strategy to transform this neighborhood into a vibrant green community. It is based on a comprehensive Sustainability Plan developed for the project.



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2 Development Project Summary

A summary of the development
plan for Candlestick Point and
Hunters Point Shipyard

2 Development Project Summary

The CP/HPS Project is a 702-acre site that includes the second phase of the Hunters Point Shipyard Redevelopment Project and Candlestick Point.

The combined areas include provisions for a mixed-use community comprising residential, retail, office, research and development, civic and community uses, and parks and recreation open space. The masterplan for the combined community is designed to create a **compact, pedestrian-friendly development with approximately 50% of the gross project area dedicated to open space and parks.** In addition, a number of active outdoor recreation amenities such as sports fields and community gardens will provide opportunities to be outside for social, health and recreational benefit.

The urban design facilitates distinct neighborhoods that are well connected to one another, BVHP and the rest of San Francisco via multiple transit modes. Approximately 32% of the proposed housing will be below-market rate and public housing.

Candlestick Point

Detailed plans for Candlestick Point include the following:

- 7,218 new residential units:
- The redevelopment of the San Francisco Housing Authority's Alice Griffith site (also known as "Double Rock" Housing), replacing 256 units at a one to one ratio
- A 690,000 sq. ft. regional retail center
- 75,000 sq. ft. performance venue/film arts center
- 220 room hotel (150,000 sq. ft.)
- Approximately 105 acres of parks and open space
- 50,000 sq. ft. of community facilities
- 131,000 sq. ft. of neighborhood serving retail

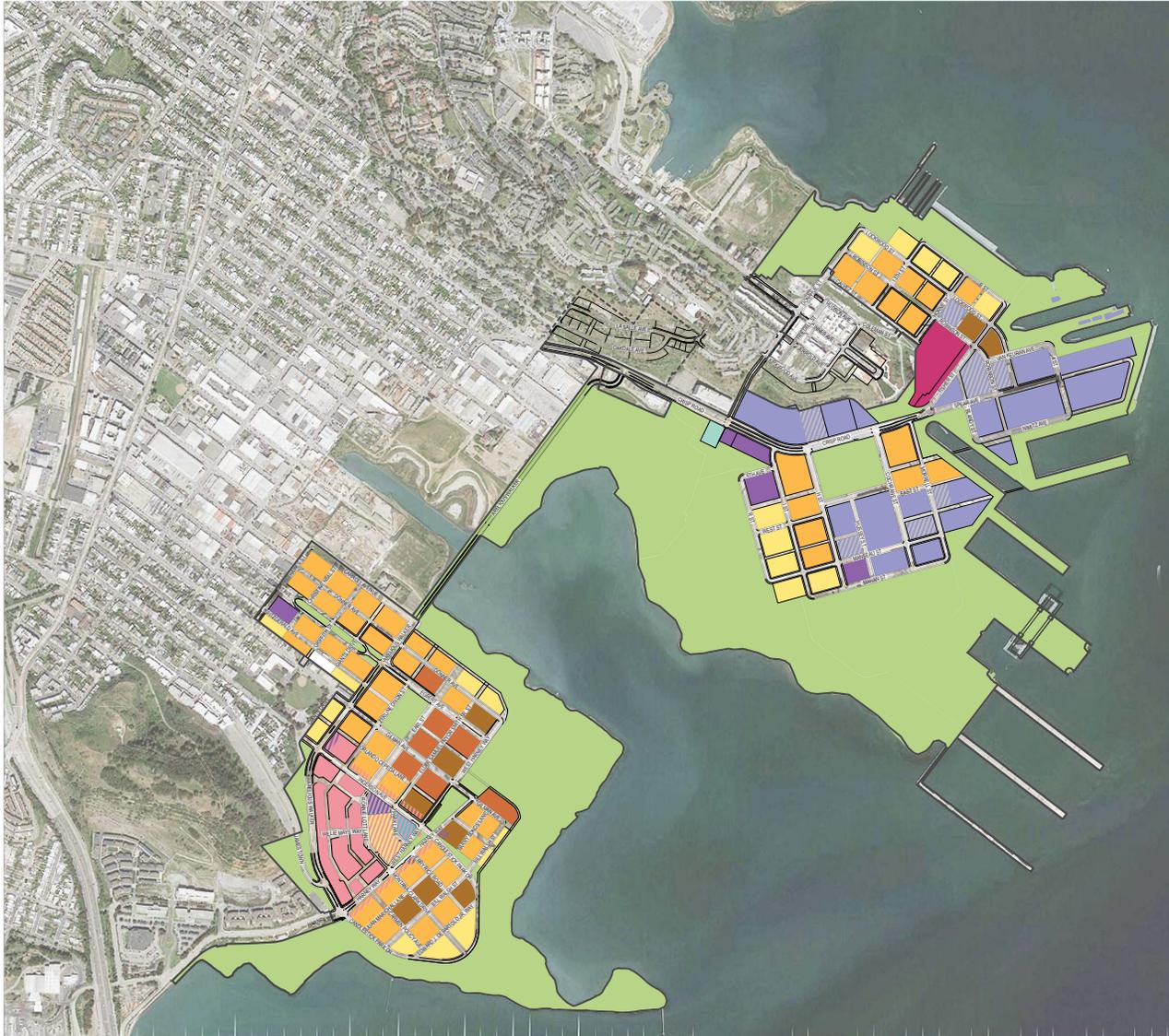
Hunters Point Shipyard

Detailed plans for the Hunters Point Shipyard include the following:

- 3,454 new residential units:
- 390,000 sq. ft. of neighborhood-serving retail and maker space, including up to 100,000 sf of regional retail
- 4,265,000 square feet of research and development space focused on serving the clean tech industry
- 255,000 sq. ft. of space for artists
- Approximately 232 acres of parks and open space
- 50,000 sq. ft. of community facilities
- 175 room hotel (120,000 sq.ft.)

DID YOU KNOW ...

The project is targeting a gold rating under LEED® for Neighborhood Development.



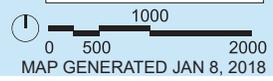
LAND USE

	RESIDENTIAL DENSITY I (15-75 UNITS PER ACRE)
	RESIDENTIAL DENSITY II (50-125 UNITS PER ACRE)
	RESIDENTIAL DENSITY III (100-175 UNITS PER ACRE)
	RESIDENTIAL DENSITY IV (175-285 UNITS PER ACRE)
	ARTIST (ART)
	COMMERCIAL (CM) (INCLUDES R&D, OFFICE, HOTEL)
	INFRASTRUCTURE / UTILITY (I / U)
	PARKING (SP)
	COMMUNITY USE (CU)
	PARKS AND OPEN SPACE
	RETAIL* (RT)
	HOTEL* (HT)
	PERFORMANCE VENUE (PV)

NOTE: GROUND FLOOR NEIGHBORHOOD
RETAIL / MAKER PDR SPACE IS ALLOWED
PER REDEVELOPMENT PLAN.
* GREATER DETAIL FOR SPECIFIC LAND
USES IS SHOWN IN APPROVED
SUB-PHASES (CP-01 THROUGH CP-04)
* TO THE EXTENT PERMITTED BY THE
HUNTERS POINT SHIPYARD REDEVELOPMENT
PLAN AND UNDERLYING SITE CONDITIONS.
INSTITUTIONAL USES MAY BE DEVELOPED ON
ANY BLOCK WITHIN HUNTERS POINT SHIPYARD

PROJECT BOUNDARY

	HPS 1
	HPS 2, CP





STAY INSIDE

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IT TAKES

3 Meeting Community Needs

Summarizes how the project has been designed with the Bayview Hunters Point community in mind

3 Meeting Community Needs

The redevelopment of CP/HPS presents a **tremendous opportunity** to create a better life and future for local residents. It has been planned to create **significant, lasting real benefits** to the future residents of the new community as well as existing residents in Bayview/ Hunters Point.

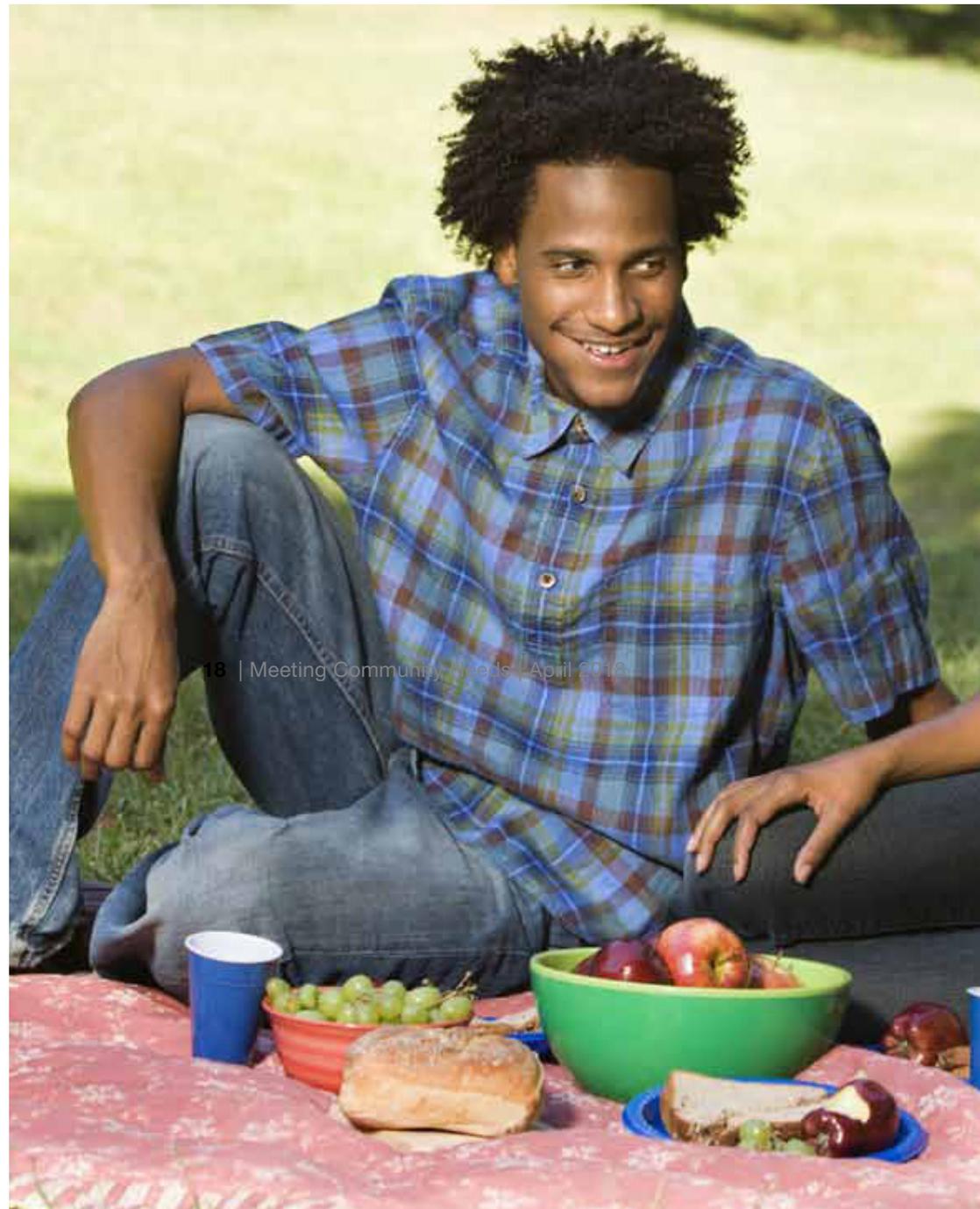
1 Creating new jobs for local residents of all skill levels

The planning, design and construction of the new community will require significant professional and skilled labor—it is critical that the local community be able to take part in and benefit from the economic growth spurred by the new development. The project has committed to making a good faith effort for 50% of new construction hires to be San Francisco residents with first priority given to BVHP residents and for 50% of suppliers, construction work and professional services to be small business enterprises.

The development plan includes a new 4,265,000 sq. ft. green tech R&D center, which will enable local residents to access a variety of quality green collar jobs. A Workforce Development Fund will be established with the city to support job training and capacity development so that residents can be adequately prepared for the green jobs that come their way.

The land use program includes up to 390,000 sq. ft. of new neighborhood-serving retail and maker space, which will provide both employment and business opportunities for local residents. Space will also be set aside for artists and community programs.

The existing BVHP business community will benefit from improvements to streets and public transportation in the area, reduced congestion and from having a large new population next door.



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2 Better education opportunities

The redevelopment will bring improved schools and community resources to the area, and support lifelong learning opportunities. Several funds have been created to support the community, which include: a \$28.7 million community First Housing fund, a \$10 million Education Improvement fund, a \$3.5 million Scholarship fund, a \$2 million fund for a pediatric health and wellness center and an \$8.9 million Workforce Development fund with an equivalent match from the City in workforce development and training services. Further training will be supported by Real Estate Broker and Construction Assistance programs. The green technology corridor will give residents a first-hand opportunity to develop skills in a fast-growing and innovative sector of the economy.

3 A healthy environment

The new community at CP/HPS will provide a wide variety of health benefits. The long-contaminated superfund site at HPS will be cleaned by the Navy to appropriate public health standards. Over 330 acres of parks and open space will be created, including a contiguous park between both sites and bike paths connecting to regional bike network. Residents will be able to enjoy the outdoors and new recreational areas. The new community will be designed to be safe and enjoyable for pedestrians and cyclists. Residents will be able to access new retail and community services in walking distance.

4 Better quality of life

By accessing good job opportunities in the local area, residents will be able to reduce their commuting time, leaving more time for family, relaxation and recreation. Those that do need to commute will have access to more diversity and frequency of public transit and dedicated bike lanes, reducing reliance on the automobile. New parks and open space, plus 10,000 new native trees, will add to the enjoyment of the new community. Residents will have a number of retail and entertainment

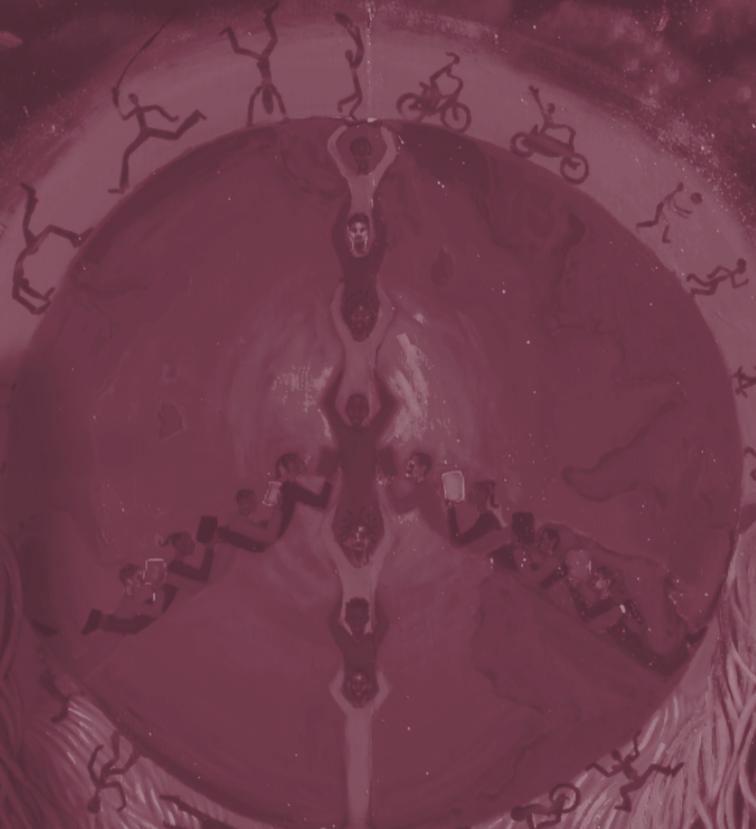
options at their doorstep. A strong sense of community and improved maintenance and safety measures means residents of all ages can enjoy the neighborhood. All new homebuyers and renters will be able to enjoy modern, efficient, attractive housing.

5 A lower cost of living

About 32% or 3,345 housing units will be belowmarket rate or public housing. Efficient homes with Energy Star appliances will mean less water and energy bills—a typical household will save up to \$290 annually. Having jobs, retail services, arts, entertainment and recreation close by also means much less spending on transportation.

6 Preserving and strengthening the existing community spirit

The unique, positive aspects of the current area will be maintained, so that the spirit of the community can continue to flourish. A large number of housing units will be available to accommodate families and seniors. The African Market will find a new home at CP/HPS. New studios will be provided to the artist community and space will be dedicated to a new arts center. A 75,000 sq. ft. performing arts venue and film arts center will be built in the Candlestick Point neighborhood.



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KEEP TAKING

4 Sustainability Strategy

This section describes what sustainability is and how the project is embracing it from multiple angles

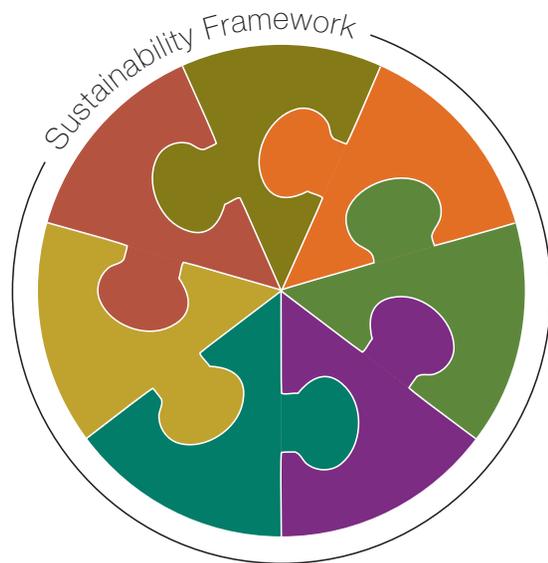
4 Sustainability Strategy

A **comprehensive sustainability strategy** has been developed for CP/HPS to demonstrate how the project will provide the Bayview community with amenities that they have not historically enjoyed: opportunities for local jobs for all skill levels; **local retail options; a safe, walkable community; and a variety of parks and open spaces.**

The sustainability strategy for CP/HPS also describes measures that will minimize the impact of the development on local infrastructure, resources and the environment, and measures to **preserve the unique culture and diversity that define the area.**

The strategy has **7 key components**, as shown in the illustration on page 23; each has its own set of underlying goals, strategies, benefits and potential implementation partners.





- Economic Vitality & Affordability**
 Enhance the competitiveness of the region by fostering a vibrant local economy and supporting a mixed-income community
- Community Identity & Cohesion**
 Create a strong sense of community by integrating the new neighborhood with the rich culture and diverse history of the existing neighborhood
- Public Well-Being & Quality of Life**
 Provide a healthy and safe neighborhood with sufficient community facilities, parks, essential services and public spaces to engender a high quality of life for residents of all ages and abilities
- Accessibility & Transportation**
 Significantly improve accessibility to the site and reduce traffic impacts on the surrounding area; promote walking and cycling as the primary modes of transportation within the development

- Resource Efficiency**
ENERGY Implement a whole-systems approach to energy conservation/efficiency, and sustainable supply that minimizes the need for fossil fuels

WATER Provide an integrated urban water system that reduces demand for potable water, captures/ treats/recycles wastewater locally and manages stormwater onsite in a low impact manner, enabling the community to live within its natural water budget

WASTE Reduce, reuse and recycle appropriate solid waste materials, with a special emphasis on reusing construction materials and recycling organic wastes in an effort to divert as much waste as possible from landfills
- Ecology**
ENVIRONMENT Protect and improve soils, water bodies and air basins

HABITAT Design to protect and enhance wetlands and other natural habitats

CLIMATE Significantly reduce greenhouse gas emissions of residents and business
- Information & Communications Technology**
 Integrate Information and Communications Technology (ICT) such as “smart grid” and cellular broadband infrastructure into the development to allow residents to better manage their utilities, bolster local economic activity, improve access to real-time information and facilitate community communications and activities.

4 Sustainability Strategy

▼ Economic Viability & Affordability

Goal

Enhance the competitiveness of the region and foster a vibrant local economy around a community-serving town center and regional scale commercial activities, and create a premier destination for the clean technology industry. This economy will be supported by an appropriately skilled, local workforce.



Over 16,000 new permanent jobs and up to 500 temporary jobs per year will be created at Hunters Point

The Opportunity

Use the cleanup and construction of CP/HPS as an opportunity to create new, temporary and permanent jobs; establish the area as a clean technology hub; create new businesses in the area; and provide affordable homes.

Strategies

1. Create jobs for local residents

- Enable the local community to take part in the economic growth spurred by the new development
- Make a good faith effort for 50% of new construction hires to be San Francisco residents with first priority given to BVHP residents
- Make a good faith effort for 50% small business enterprise participation for suppliers, construction work and professional services
- Establish an \$8.9 million Workforce Development Fund that will receive an equivalent match from the City in workforce development and training services.
- Establish Community Asset Builder, Real Estate Broker and Construction Assistance programs to help BVHP residents and local business gain access to valuable opportunities and experiences

2. Plan and design development to spur economic revitalization

- Create over 16,000 new jobs through new retail areas, research park and offices, equivalent to a balanced jobs to housing ratio of about 1:1
- Establish 4,265,000 sq. ft. center for research and development space that could include green technology
- Dedicate up to 446,000 sq. ft. to neighborhood serving retail, including food service grocery

3. Provide new affordable housing

- Build 3,345 units of below-market rate and public housing (32% of total), a portion of which will be rental units reserved for households earning 60% or less of the Area Median Income
- Replace 100% of current Alice Griffith public housing units on a 1-to-1 ratio for current residents (included in above total)
- Contribute \$28.7 million to Community First Housing Fund, which provides financing to qualified low-income home buyers



It is estimated that business at the CP/HPS project will eventually output \$7 billion annually of direct, indirect, and induced economic impacts. This will significantly bolster local spending and job growth.

Benefits

- Creates new jobs for residents
- Reduces need for commuting out of community
- Prepares residents to take advantage of new employment and business opportunities
- Grows local economy, income levels and tax base
- Utilizes local base of workers at all skill levels
- Creates 'green collar' high quality jobs and other high quality jobs
- Helps attract businesses that are needed in the community
- Improves access to healthy foods
- Prevents displacement of current residents
- Provides affordable, below market and public housing to local community
- Increases local homeownership
- Modern, efficient homes reduce energy and water bills

Partners

- Hunters Point Shipyard Citizens Advisory Committee
- City Build
- San Francisco Office of Economic Workforce Development
- San Francisco Mayors Office of Housing
- ADIO
- Bayview Merchants Association
- Renaissance Entrepreneurship Center
- City of SF Green Tech Program
- Habitat for Humanity
- San Francisco Housing Authority
- Office of Community Investment and Infrastructure, Successor Agency to the San Francisco Redevelopment Agency
- Neighborhood Jobs Initiative Round Table
- Young Community Developers, INC.
- Small Business Enterprise Program
- BOMA SF (training partner)

4 Sustainability Strategy

▼ Community Identity and Cohesion

Goal

Create a strong sense of community by integrating the new neighborhood with the rich culture and diverse history of the existing neighborhood.

The Opportunity

The project presents a great opportunity to make real improvements to strengthen the community fabric, while preserving the culture and history of the area.

Strategies

1. Actively engage the community in the redevelopment process

- Use formal groups—Citizens Advisory Committee (CAC)—to provide input to the planning and implementation of the project

2. Plan and design development to spur sense of community and place

- Design community such that households have access to a variety of safe, civic spaces within a short walk
- Provide a range of housing to meet community needs, including housing designed for seniors, special needs residents and families
- Establish a \$10 million Education Improvement Fund, a \$3.5 million Scholarship Fund and a \$2 million fund for a pediatric health and wellness center

3. Preserve local culture and historic identity

- Strive to preserve and rehabilitate as many buildings designated as eligible for the National Register of Historic Places (NRHP) as financially feasible
- Designate a permanent location for the International African Marketplace

4. Support the local Artist Community

- Renovate and build 255,000 gross sq. ft. of arts center space and existing artist space
- Build a 75,000 sq. ft. seat venue for the performing and film arts
- Provide a parcel of land for an Arts Center, or, at the Developer's discretion, a Warm Shell space, per the Disposition and Development Agreement.



A \$28.7 million fund will be established to provide financing to qualified low-income homebuyers



The project will be home to a new 75,000 square foot performance and film arts space

Benefits

- Urban design of community creates opportunities for neighbors to meet and socialize
- Maintains connection with history of the community
- Improves quality of life
- Creates new opportunities to enjoy arts
- Enhances local cultural diversity
- Enables artist community to continue to thrive

Partners

- Bayview Hunters Point Community Advocates
- California Department of Parks and Recreation
- National Park Service
- San Francisco League of Urban Gardeners
- Southeast Health Center
- BVHP Multipurpose Senior Center
- Artscape
- SF Arts Commission
- The Point
- Shipyard Trust for the Arts
- Baycat
- California Lawyers for the Arts

4 Sustainability Strategy

▼ Public Wellbeing & Quality of Life

Goal

Create a strong sense of community by integrating the new neighborhood with the rich culture and diverse history of the existing neighborhood.

The Opportunity

The combined project area provides an excellent opportunity to create a large scale regional park and continuous green space between CP and HPS. It will transform a largely industrial, neglected area into a vibrant, lively, healthy and safe community for all to enjoy.

Within the project area, there will be approximately 14 acres of open space per 1000 residents (vs 5.5 City-wide)

Strategies

1. Provide quality open space and recreational facilities

- Provide approximately approximately 335 acres of open space, comprised of approximately 240 acres of new city neighborhood and waterfront parks and 96.7 acres of new and improved State Parkland; within the project area, there will be approximately 14 acres of open space per 1000 residents (vs 5.5 City-wide)
- Design community such that most residents have a recreational facility and a natural setting within a ¼ mile (5 minute) walk
- Replace and restore community gardens affected by the CP/HPS Project

2. Improve Public Safety

- Incorporate mixes of uses that keep streets active and alive at day and night
- Ensure adequate street design and lighting is provided for pedestrians
- Require properties to uphold minimum standards for maintenance and upkeep
- (through homeowner or neighborhood business associations)
- Establish new essential services, such as police, fire and rescue

Benefits

- Provides attractive spaces, accessible to all BVHP residents, for relaxation and recreation
- Enables residents to lead an active, healthy lifestyle and enjoy the outdoors
- Reduce opportunities for crime and vandalism

Partners

- Neighborhood Parks Council
- Bayview Hunters Point Escort Patrol and Crime Prevention Services
- Coastal Conservancy
- Project for Public Spaces
- San Francisco Recreation and Park Department
- San Francisco Police Department
- San Francisco League of Urban Gardeners
- Trust for Public Land

336 acres of parks, recreation fields and open space will be established

LEGEND

- Meadow Open Space
- Grasslands
- Native Gardens
- Beach
- Kayak Launch
- Boulevard Park
- Overlook
- Freshwater Wetland
- Viewing Mound
- Parking
- Dual-Use Parking
- Shade Structure
- Building-Restrooms and Educational Centers
- Dog Run
- Playground/Tot Lot
- Youth Maritime Interpretive Play
- Picnic Pod
- Bay Trail

- ① Northside Park
- ② City View Plaza
- ③ Waterbird Piers
- ④ Waterfront Promenade
- ⑤ Heritage Park
- ⑥ Water Room Plaza
- ⑦ Hillside Open Space
- ⑧ Green Room*
- ⑨ Marina
- ⑩ Community Sports Field Complex
- ⑪ Gunning Crane Pier Habitats
- ⑫ Multi-Use Open Space
- ⑬ Waterfront Recreation and Education Park
- ⑭ Grasslands Ecology Park
- ⑮ Parking Space
- ⑯ CP-HPS Park Maintenance Facility

- ⑰ Yosemite Slough Parkway Bridge
- ⑱ Alice Griffith Neighborhood Park
- ⑲ Candlestick Point North Neighborhood Park**
- ⑳ Wedge Park
- ㉑ Mini-Wedge Park
- ㉒ Candlestick Point State Recreation Area
- ㉓ Yosemite Slough - Wetland Restoration (Improvement is a separate project by others, not included in CP-HPS project)
- ㉔ Grasslands South
- ㉕ Bayview Gardens
- ㉖ The Last Rubble
- ㉗ Wind Meadow
- ㉘ The Heart of the Park
- ㉙ The Point
- ㉚ The Neck
- ㉛ Last Port

* Note: Green Room is privately owned and publicly accessible.
 ** Note: Map #19 indicates the approximate location of CP Neighborhood North Park. The precise location will be determined at a later date, however, it will be located within the CP North neighborhood.



4 Sustainability Strategy

▼ Accessibility and Transportation

Goal

Significantly improve accessibility to the site, and promote transit, walking and cycling as the primary modes of transportation within the development to reduce congestion and pollution impacts on the surrounding area.

The Opportunity

Through appropriate land use and transportation planning, the new community can enjoy much improved accessibility and transportation, including on foot or by bike. The density and compact nature of CP/HPS means that bus rapid transit and other express buses can provide quick access to destinations within the City of San Francisco and employment centers on the peninsula.

Strategies

1. Maximize internal trip capture

- Design the community so that residents don't need to travel outside for work, entertainment, shopping or to access basic services
- Design the community so that most households can access neighborhood serving retail

2. Maximize pedestrian and bicycle travel

- Design the community to be dense and compact, with some pedestrian-friendly streets and sidewalks on all streets
- Facilitate biking by including marked bike routes signage and route maps along major roadways, and requiring bike parking in all non-residential and multi-family buildings

3. Expand and improve public transit services

- Expand and extend Muni regular and express bus service to the CP/HPS; establish a new bus rapid transit (BRT) service connecting to SamTrans, BART, Caltrain and Third Street Light Rail Station
- Provide local transit service within 1/4 mile of most residences
- Target 55% of weekday afternoons trips at peak hour to be by transit, walking or cycling vs. current 34%
- Provide transit priority corridors to allow fast transit access to regional transit hubs and employment centers, such as downtown

4. Improve roadway access to site

- Improve roadways that lead into the project site

5. Utilize low-to-zero emission transit

- Public transit vehicles servicing the site to utilize low-emission or zero emission technologies
- Where feasible and as permitted by City agencies, the Project will endeavor to include electric vehicle charging infrastructure to support the expansion and accessibility of Zero Emission Vehicles (ZEVs).



CP-HPS Phase II Development Planned Transit Service

An integrated and robust transit system, including two new express buses to downtown SF, will greatly improve mobility within the project and surrounding areas.

6. Implement transportation demand management plan

- Employ a full-time transportation coordinator to promote walking, cycling, carpools and public transportation
- Implement parking maximums of 1 parking space per residential unit
- Provide web-based, real-time public transit information
- Attract a car sharing service with vehicles conveniently located near residences
- Implement at least one “Smart Kiosk” that will help visitors navigate the public transit system and learn about local destinations



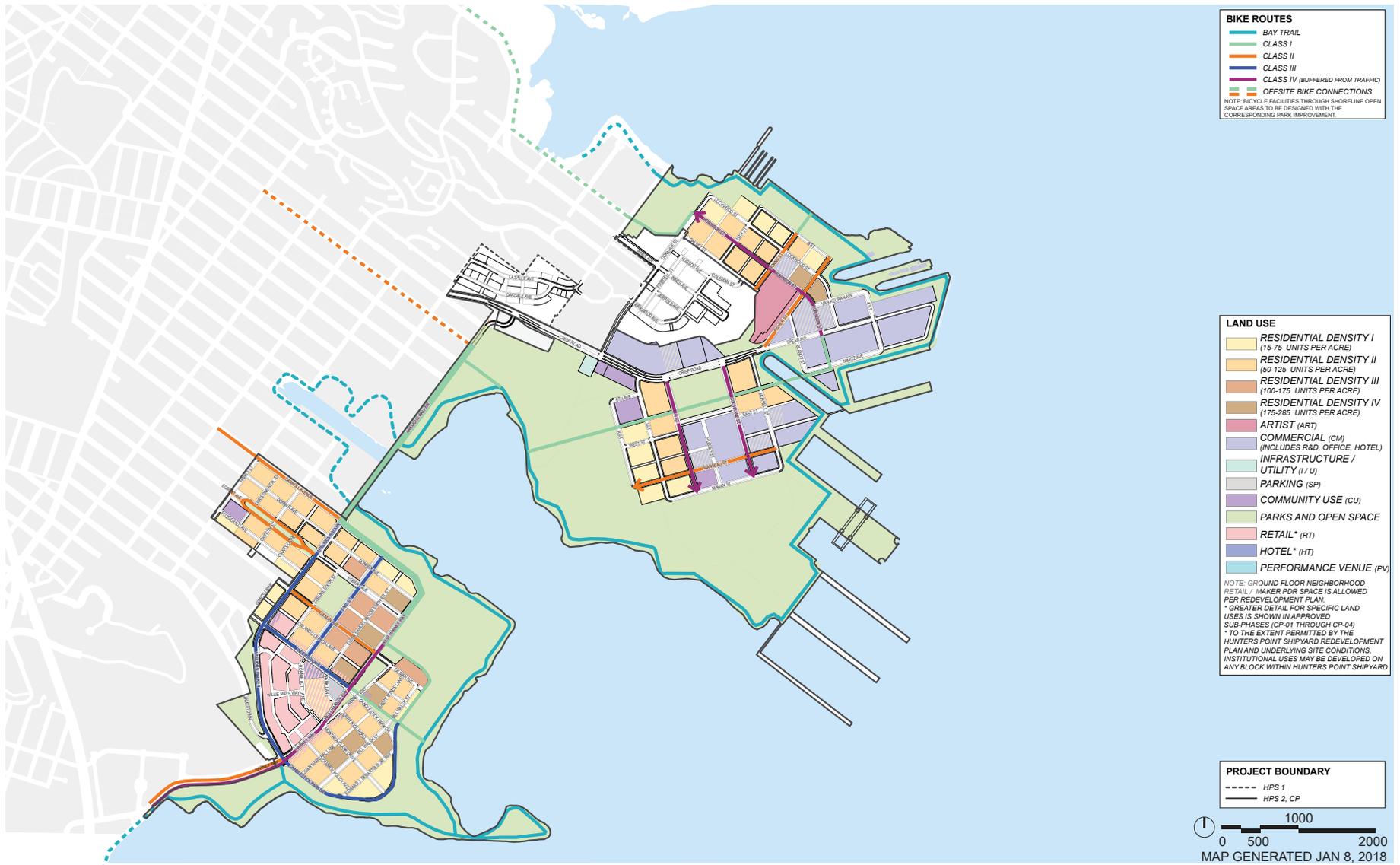
Benefits

- Reduces traffic congestion and travel times
- Enables community to take advantage of convenient and reliable public transportation
- Connects and expands safe and convenient bicycle network
- Reduces dependency on and need for private automobiles
- Improves roadway safety
- Helps residents reduce transportation expenditure
- Improves connection with the City and other neighborhoods
- Reduces pollutants and greenhouse gas emissions associated with transit vehicles

Partners

- San Francisco Municipal Transportation Agency
- Transportation Management Association (TMA) and proposed Transportation Coordinator
- Zipcar or other car sharing services
- San Francisco Bicycle Coalition
- San Francisco Department of Environment

New bike routes, trails and storage facilities will be established all over the CP/HPS community



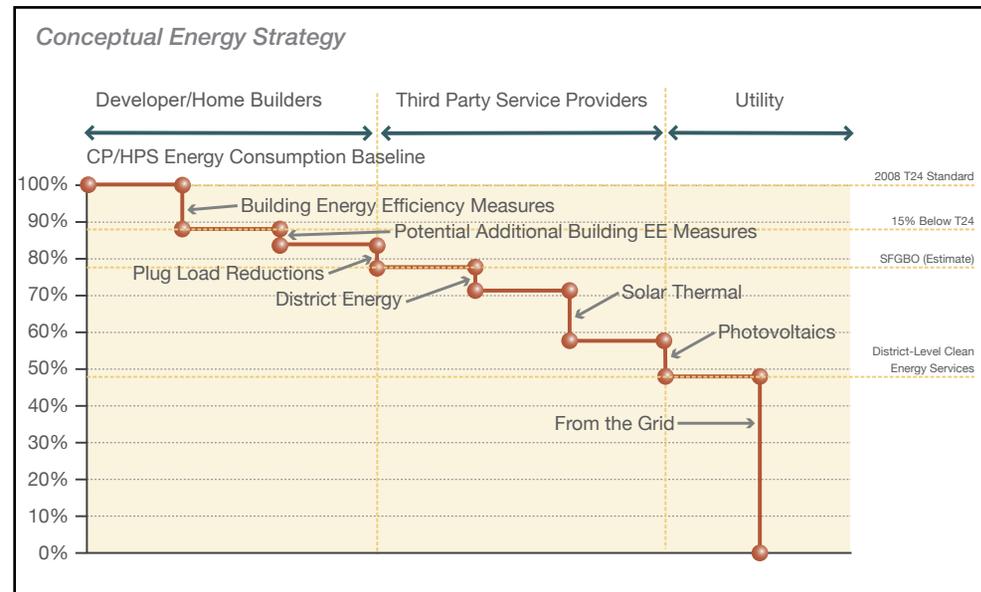
Access to neighborhood-serving retail shops will be within 1/2 mile from all residents

4 Sustainability Strategy

Resource Efficiency Energy

Minimizing demand for finite resources such as energy and water, ensuring a sustainable supply of energy and water, and minimizing production of wastes, are vital to the long term viability of the development. Using these resources efficiently results in tangible benefits including less pollution and increased monetary savings. This section addresses how the CP/HPS Project will, with its partners, implement innovative technologies and strategies that will result in real community benefits.

The targeted total energy consumption for the project is 20 MBtu (Million British Thermal Units) per resident per year, which is 63% less than current energy consumption for the City of San Francisco residents (53 MBtu per resident per year).



Goal

Implement a whole-systems approach to energy conservation/efficiency, and sustainable supply that minimizes the need for fossil fuels.

The Opportunity

The CP/HPS Project presents a unique opportunity to employ an integrated energy strategy that will take advantage of best practices in energy efficient design and construction and the use of renewable energy sources. The sustainable energy strategy will involve three components: reducing electricity and gas demand and usage; efficiently producing and distributing heating and cooling to all buildings; and utilizing renewable energy sources like photovoltaics for generating onsite power.



A 213,000 sf solar thermal system on the roof of the regional retail parking facility could displace almost 60% of the project's predicted total natural gas use.

Strategies

1. Reduce building energy demand and consumption

Consistent with California law, reduce regulated building energy use by complying with building codes in effect at the time of Site Permit, including California Title 24 Part 6 and San Francisco Green Building Code. These goals may be achieved by:

- Requiring all appliances to be EnergyStar compliant
- Use solar thermal systems to either preheat water in a central utility plant or to heat water in buildings
- Attempting to locate all occupied interior spaces within 25 feet of an operable window to maximize the use of natural ventilation
- Maximizing natural daylighting through optimal glazing, window placement and light shelves
- Utilizing integrated building controls that maximize the use of passive energy strategies

CP Dev Co is pursuing the implementation of several proposed district scale systems described below collectively known as an Eco-Grid. However, a number of policy, regulatory and financing hurdles exist that could preclude the implementation of the proposed Eco-Grid systems. One or all of these systems may not be feasible. As such, CP Dev Co. is not required to implement the district level systems described above, or others that may be studied in the future.

2. District Scale Opportunity:

Geothermal & Central Utility Plant

District heating and cooling systems are more efficient

Possible Location of District Heating & Cooling Plants



than individual building natural-gas fired boilers and electrical chillers. By aggregating the loads in a centralized location, the project can take advantage of the diversified loads around the mixed-use site. Furthermore, thermal energy can be moved around the site through the district distribution system so that simultaneous heating and cooling needs can be addressed in an optimized way. If the heating and cooling systems in a centralized plant can be electrified through the use of large heat exchangers, the GHG emissions can be significantly reduced in comparison to conventional boilers and chillers. In addition, if a geothermal system can be implemented it can increase the efficiency of the heat exchangers even further.

The evaluated district system at HPS2 includes a central utility plant (CUP), a vertical bore geothermal heat exchange system, a four-pipe chilled and hot water return and supply distribution system, and water-to-air and water-to-water heat exchangers for in-building space conditioning.

The proposed HPS2 geothermal heat exchange system pumps a water-based fluid through a closed loop in a series of vertical bores that extend several hundred feet below the ground surface and are invisible once completed. During the winter, the water being pumped through the geothermal bore field absorbs heat from the ground prior to being directed to the large heat exchangers in the CUP where the heat is extracted prior to recirculation through the bore field. The heat exchangers in the CUP use the heat from the geothermal loop and transfer it to a closed loop distribution system for delivery to the individual buildings. In the summer, this process is reversed. Controls at the CUP integrated with building management systems ensure that the overall geothermal HVAC plant is operating at optimal efficiency throughout the year.

District energy systems can increase the efficiency and reduce the cost of heating and cooling

3. District Scale Opportunity:

Maximize on-site energy generation from renewable sources

Solar energy is the most attractive renewable energy that can be used at CP/HPS. A district-scale solar photovoltaic (PV) facility is the most effective renewable energy option that can be utilized at CP/HPS. Preliminary analysis of economic and technical issues with deploying the PV systems determined that up to 15MW of capacity could be installed by utilizing the roof top space throughout the site and leveraging third party financing. This would produce about 40% of the project peak demand (37MW) and 23,000 MWh/yr, which is roughly 30% of the project's annual electricity demand.

Rooftop solar PV systems would be installed on newly constructed buildings to maximize on-site renewable power output. Power produced by the PV cells would be delivered either directly to the building or to the local utility (SFPUC) distribution grid at street level utilizing industry standard bidirectional smart meters.

Battery storage would be a component of the utility electricity systems to store surplus energy generated from the PV systems as well as smooth

Roof top photovoltaics could produce 50% of the project's peak electrical demand and 30% of total annual electrical needs.

out intermittent production and provide additional grid stability benefits. The storage systems could also provide backup power for critical customer loads at HPS2.

In the initial phases of the project, advanced lithium-ion batteries would be used for energy storage due to their cost-effectiveness and space efficiency. Other battery technologies (reduction-oxidation flow batteries and metal-air batteries) are quickly maturing and may be considered in future phases.

Benefits

- Fully renewable power source onsite
- Reduces energy costs for residents and increases reliability of power supply
- Reduced exposure to rising fuel prices

Possible Location of Photovoltaics



As proposed, district heating and cooling, solar thermal (as an efficiency measure) and photovoltaics could reduce the amount of power required from the grid annually by approximately 30%

4 Sustainability Strategy



Goal

Develop a holistic environmentally and socially responsible water strategy for CP/HPS.

The Opportunity

Potable water for the City of San Francisco is provided via the Hetch Hetchy Reservoir, located in the Sierra Nevada Mountains, with the Tuolumne River as its source.

While the City has legal rights to more water than it is currently taking, it has committed to reducing water withdrawals from the river and increasing water conservation for environmental reasons. Maximizing efficiency and conservation can dramatically reduce the burden on the City's potable water supply. In addition, significant use of reclaimed water for irrigation and toilet flushing can further reduce the burden on potable water supply.

Utilizing a low impact development (LID) approach for stormwater management can eliminate stormwater discharges to the Southeast Water Pollution Control Plant (SEWPCP), which will reduce combined sewer and stormwater overflows and contribute to a cleaner and safer Bay.

Strategies

1. Reduce overall water demand

Historically a development such as CP/HPS could be expected to require 2.95 million gallons per day (MGD) based on its development mix and population. However, based on current California building code requirements, its consumption will be reduced to 2.46 MGD. The project is targeting a further 32% water demand reduction from current California building code by:

- Using regionally-appropriate planting and efficient irrigation systems
- Using water-efficient fixtures, such as low-flow toilets and faucets
- Reducing cooling needs and deploying efficient building cooling systems
- Reducing leakage and other losses in the water distribution system energy strategies.

2. Use alternative water sources

Potable water demand can be further reduced by 35% to 0.86 MGD by establishing a source of reclaimed water for:

- Irrigation of public parks and open space (including street trees)
- Non-residential exterior uses (e.g. irrigation, building wash down and dust control)
- Non-residential interior uses (e.g. toilet flushing and building process water)

Potential Location of Recycled Water System



Current system only proposed for HPS2, similar system may be pursued at CP in the future

CP/HPS will eliminate all discharge of stormwater to the Southeast plant and will meet over 50% of total water demand with reclaimed water.

3. District Scale Opportunity:

Recycled Water System

A district-scale recycled water system and distribution is far more cost-efficient than individual building reclamation systems. By centralizing the production of recycled water, the system can avoid disruptions in supply by tapping a central sewer line while ensuring continuous provision of recycled water for toilet flushing, irrigation, laundry and mechanical cooling without reliance on building-specific flow rates. The system for HPS2 is expected to have a total capacity of 450,000 GPD and may be extended to serve the Candlestick Park site as well.

For each 150,000 gpd of recycled water produced, approximately 165,000 gpd of raw wastewater would be diverted from the SFPUC sewer system to the plant, which returns approximately 15,000 gpd of undigested biosolids to the sewer system. A similar system could be explored for future phases of development at Candlestick Point.

If the recycled water facility is constructed, the facility's odor control methods identified in the supporting environmental analysis will be implemented. Odor control methods could include enclosed and covered process tanks, a suction blower to capture air from one or more unit processes, a scrubber system, and the off-site processing of sludge. In the highly unlikely event that the facility develops an odor issue, the existing odor control measures will be repaired or maintained, or additional odor control measures will be implemented until the odor issue is completely addressed.

4. Implement a low impact stormwater management system

Green infrastructure will be implemented in the project as a solution for sustainable stormwater management. The plantings included in the Project's green infrastructure may be informed by optimum wildlife habitat potential, climate resilience, and sustainability, where feasible.

- Employ natural techniques to filter, infiltrate, store, evaporate and detain runoff using urban features such as vegetative medians, roof areas, parking lots, sidewalks and open spaces
- Treat stormwater runoff at-source
- Eliminate stormwater discharges to the SEWPCP

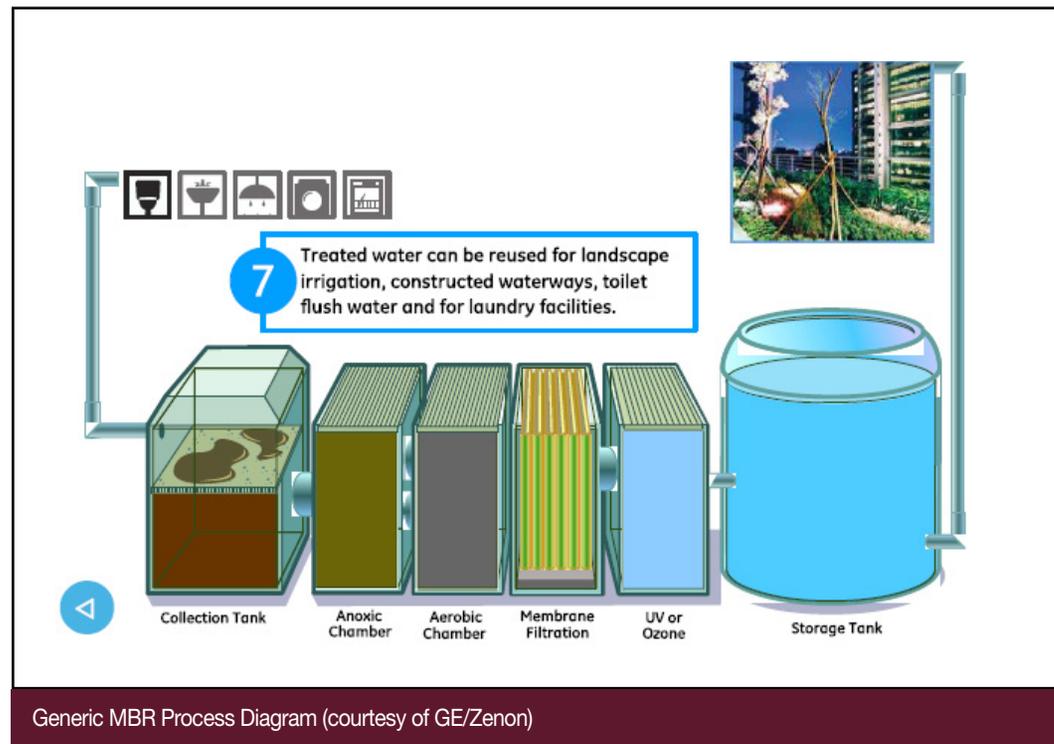
Benefits

- Households expected to enjoy savings of about \$101 per year on their water bill
- Provides opportunity to use reclaimed water for landscaping to keep the neighborhood beautiful
- Improves water quality in the Bay
- Creates and protects natural habitat
- Allows the community to live within its natural water budget (consumes less than what falls on the site)
- Reduces project impact on municipal potable water facilities

Partners

- San Francisco Public Utilities Commission
- Alliance for a Clean Water Front
- Bayview Hunters Point Community Advocates
- Third party water services company

CP Dev Co is pursuing the implementation of several proposed district scale systems described above; collectively known as an Eco-Grid. However, a number of policy, regulatory and financing hurdles exist that could preclude the implementation of the proposed Eco-Grid systems. One or all of these systems may not be feasible. As such, CP Dev Co. is not required to implement the district level systems described above, or others that may be studied in the future.



The new community will be one of the first in San Francisco to divert stormwater from the combined sewer/stormwater system.

4 Sustainability Strategy

Solid Waste

Goal

Reduce, reuse and recycle appropriate solid waste materials, with a special emphasis on reusing construction materials and recycling organic wastes in an effort to divert as much waste as possible from landfills

The Opportunity

The CP/HPS Project has the opportunity not only to follow the lead of the City of San Francisco in terms of diverting waste from landfill, but to be a model project that represents the best practices in sustainable solid waste management to help achieve the city's goal of Zero Waste. The total annual waste generation projection for the CP/HPS Project is 23,241 tons per year.

Given the large amount of demolition and construction that will take place at the site, there is a significant opportunity to reuse and/or recycle this waste. It is projected that approximately 37,500 tons of construction waste and 917,785 tons of demolition waste will be generated in constructing the CP/HPS Project.

Recology, the city's solid waste hauler, has partnered with Transvac to offer the deployment of an automated waste collection system (AWCS) at CP/HPS. Such a system would enable Recology to achieve long-term City waste diversion targets in the most sustainable manner possible. Currently, the City operates a 3-Cart Recycling Program, comprised of three stream separation (recyclables, organic and residual waste), to assist in achieving the statemandated 50 percent recycling law. The figure below

illustrates how this waste would be handled following current trends and the opportunity for further capture of recyclables.

Strategies

1. Minimize waste during planning, design and construction

- Reduce the amount of construction waste likely to be generated through planning and design
- Maximize reused waste, recovered materials and recycled materials during construction

2. Minimize waste during operation

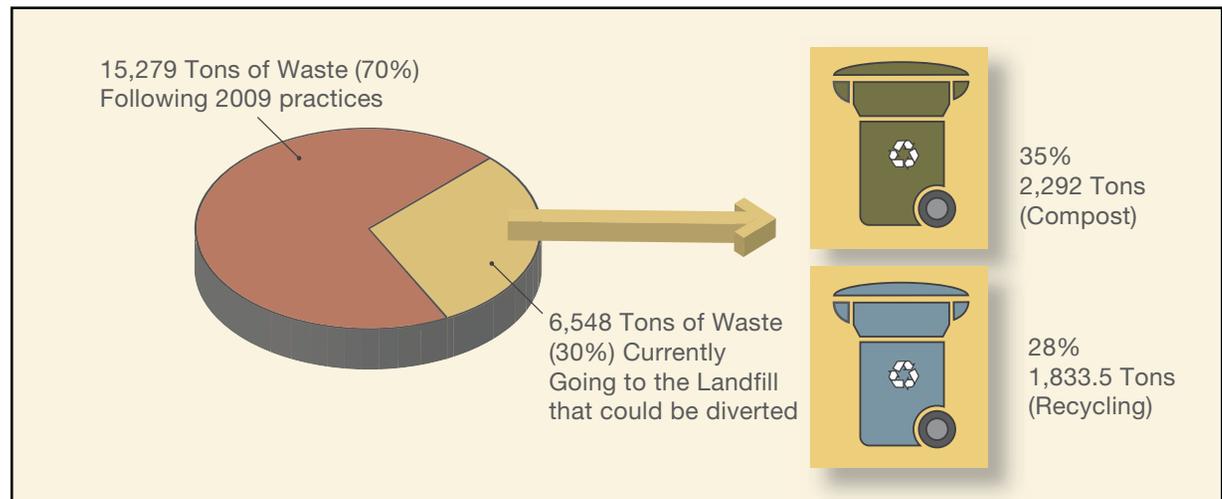
- Work with residents, commercial tenants, community-

based recycling initiatives and local officials to reduce the generation of waste

- Provide adequate space for the storage, collection and separation of recyclable, compostable and trash materials
- Use organic waste to provide soil or energy resources to the community (e.g. composting for local gardens)

3. Collect and manage/dispose all hazardous wastes generated from "The Point"

- The Point may assign 200 square feet of space within the artists' facility to serve as the neighborhood "drop-off" site for hazardous waste.



CP/HPS Waste Diversion Opportunities

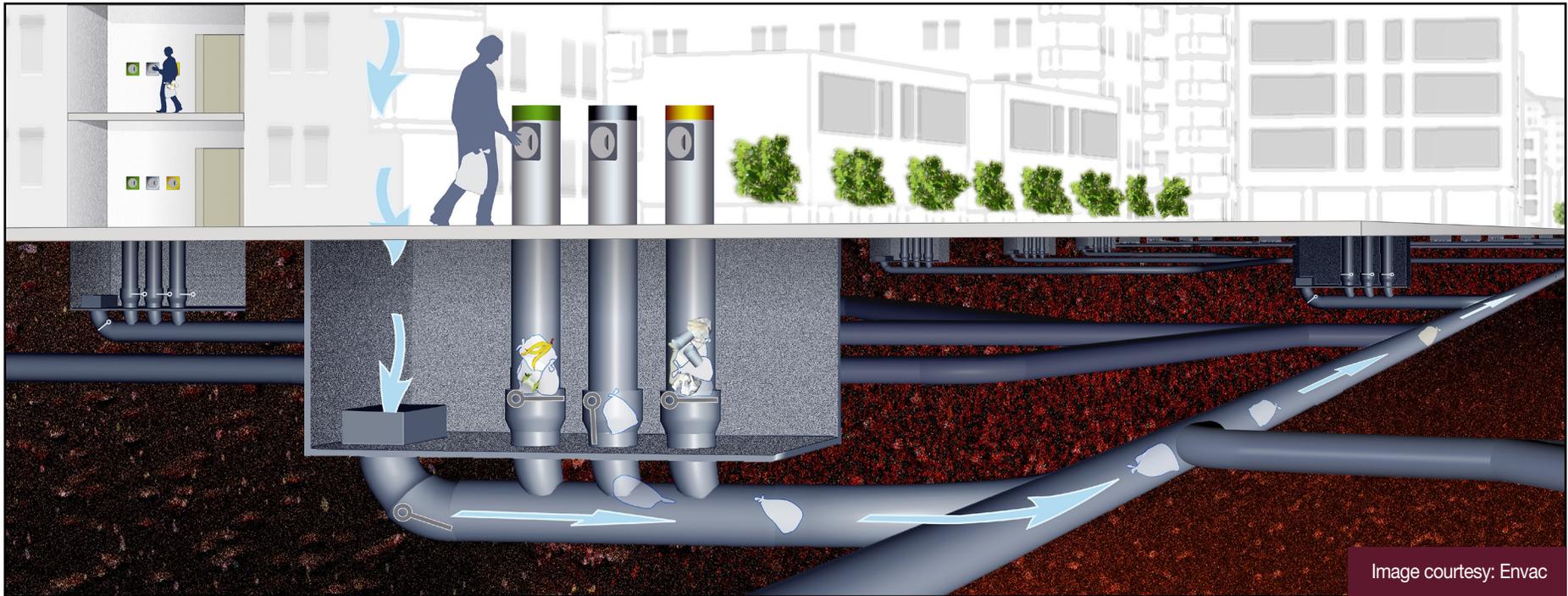


Image courtesy: Envac

4. Explore options for an Automated Waste Collection System

Automated waste collection systems are used throughout the world, but mostly in Europe. An AWCS transports household and/or commercial waste from each floor of a building or complex of buildings pneumatically through a set of vacuum pipes. In principle, the AWCS consists of a number of waste inlet points, linked together by a network of pipes that transports the waste to a central waste collection station for compaction and temporary storage before being hauled offsite.

Benefits

- Increases property value through clean and efficient waste storage and collection systems
- Reduces greenhouse gas emissions associated with solid waste
- AWCS creates a more pleasant community free of trash trucks and trash bins left out for collection

- Reduces greenhouse gas emissions associated with waste transport and decreases traffic congestion
- Produces a usable compost/soil improver and energy

Partners

- Transvac
- Recology
- City of San Francisco

4 Sustainability Strategy

▼ Ecology

Ecological processes are critical to sustain life. The land, water and air interact to create certain environments that support plants, animals and humans. **These processes take place on a global level as well as a local level.** This section addresses the natural environment of BVHP and how the project can **remediate historic damage and create a healthier and more vital place for people and wildlife.**

Goal

Protect and improve local soils, water bodies and air basins.

The Opportunity

The redevelopment of the CP/HPS Project site offers a unique opportunity to revitalize the site in a way that improves air quality, ground and surface water quality and cleaner soils. Future air quality will be improved by land-use planning initiatives to promote walking, bicycling and use of public transit. The risk of future contamination of the site will be significantly reduced by the replacement of polluting industries with clean technology industries and by implementing maintenance practices that reduce the requirement for pesticides and other chemical applications.





Strategies

In addition to the strategies discussed under Resource Efficiency and Transportation, the following strategies will be used to further remediate and improve the environment in BVHP:

1. Promote healthy air quality

Historically a development such as CP/HPS could be expected to require 2.95 million gallons per day (MGD) based on its development mix and population. However, based on current California building code requirements, its consumption will be reduced to 2.46 MGD. The project is targeting a further 32% water demand reduction from current California building code by:

- All new buses servicing the CP/HPS Project will use zero emission or ultra-low emission technologies. The CP/HPS Project will also work with the City to ensure that all park vehicles and other City vehicles that operate on the site generate little or no emissions.
- By developing significant areas of the CP/HPS Project into parks and open space, wetlands, bioswales and possibly developing green roofs, the increased amount of vegetation will have a beneficial effect on local air quality by removing pollutants from the air, while also improving habitat and biodiversity at the site.
- The CP/HPS Project will use building materials that meet minimum LEED® requirements for VOC and formaldehyde content.
- In applying “green” building practices, the CP/HPS Project will promote a high standard of indoor air quality in all residential and commercial buildings by specifically limiting the use of any materials during construction and fit-out that is odorous, irritating or harmful to the comfort and well-being of building occupants.





The CP/HPS Project will promote a high standard of indoor air quality in all residential and commercial buildings

2. Clean the site so that it is safe for residents and visitors

- Through a combination of the Navy's ongoing ground remediation programs, the site will be cleaned up to a standard that is appropriate and safe for the land uses proposed, in accordance with US EPA protocols.

3. Reduce the release of toxic pesticides into the environment

- The CP/HPS Project will use Integrated Pest Management (IPM) practices, which provide a flexible approach to manage pest populations with a significant reduction in pesticide use. Additionally, IPM will be considered when planting appropriate Project vegetation.

Benefits

- Improves resident health
- Improves regional air quality
- Improves groundwater quality
- Cleaner surface soils
- Improves indoor air quality

Partners

- Bay Area Air Quality Management District
- City of San Francisco Department of the Environment
- US Navy

4 Sustainability Strategy



Goal

Protect and enhance wetlands and other natural habitats occurring at the site.

The Opportunity

Although Candlestick Point and Hunters Point are dominated by existing buildings and paved areas, the area has continually shown signs of a natural ecosystem. Wildlife has found pockets of habitat that provide vegetation for foraging and areas for breeding and resting. Despite the ongoing effects of soil and water pollution and predation by non-native species, the areas have maintained limited biodiversity and shown that with the proper strategies, CP/HPS can become a much more hospitable place for wildlife. The Project's open space plan and habitat restoration work will allow residents, employees and visitors of the Project and Bayview at large to experience and connect with nature in a meaningful way.

Specifically, the CP/HPS Project site provides numerous opportunities for enhancement of habitats and biodiversity, including:

- Restoration of native plant species and habitats
- Reintroduction of special-status plants
- Wetland creation/restoration/enhancement
- Enhancement of habitat for migratory birds

- Increase the carbon sequestration potential of the site

Strategies

The overall habitat enhancement strategy is to strengthen plant and wildlife habitat to the extent feasible (thus providing a considerable improvement over existing conditions throughout the vast majority of the CP/HPS Project site) while allowing for a substantial increase in public access and recreational opportunities. Other specific habitat enhancements, or areas where enhancement will occur, are described below and summarized in the figure (right).

1. Protect and Enhance Existing Wetland Habitats within the Site

- Protect waters adjacent to the site
- Support the protection and enhancement of Yosemite Slough
- Restoration of tidal marsh and high beach habitats for wildlife benefits and overall community ecological resilience, climate adaptation and preparedness in the face of sea-level rise.
- Improve roosting opportunities for waterbirds
- Provide new habitat areas by the creation of stormwater treatment wetlands

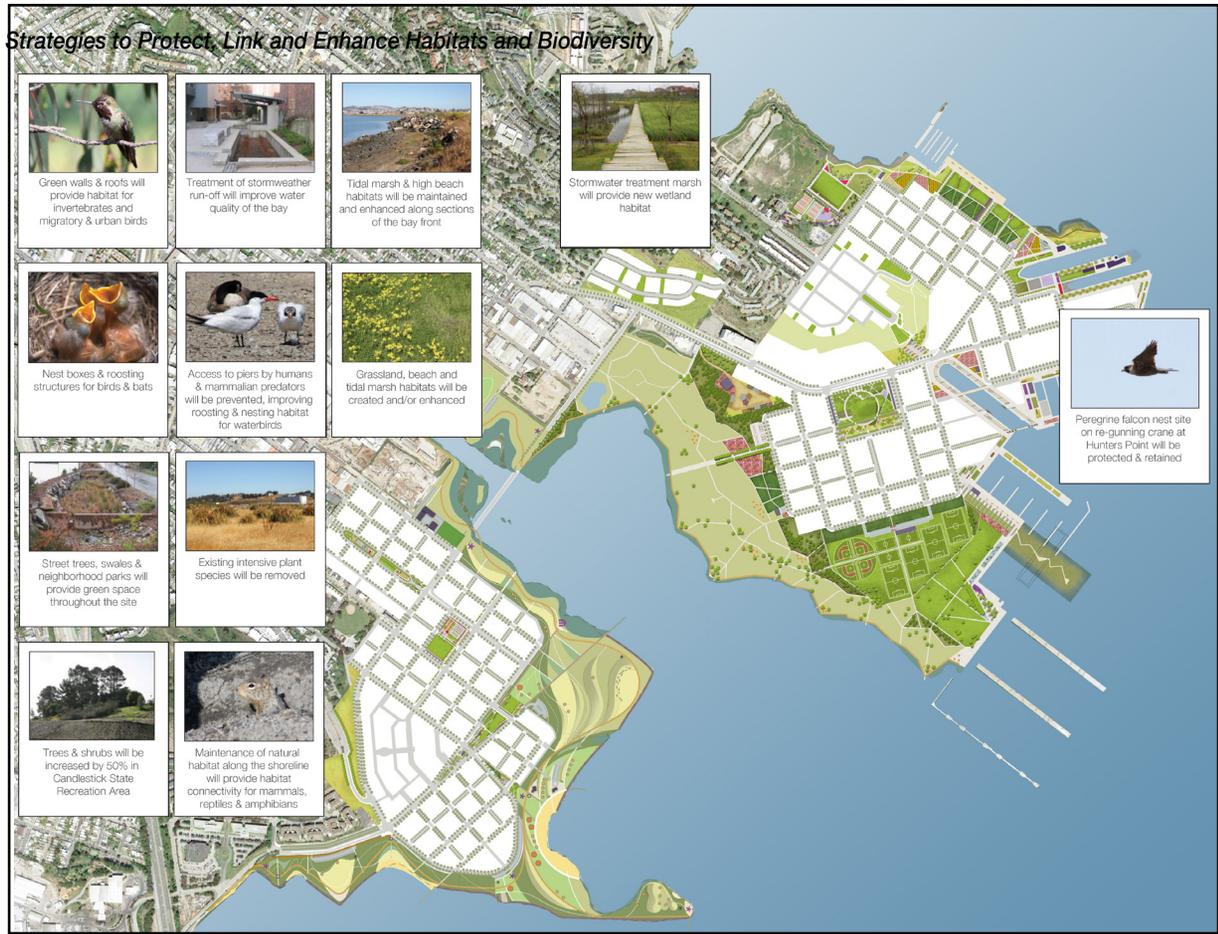
- Improve the quality of surface runoff water
- The Bue Greenway Restoration and Revegetation Guidelines for Contaminated and Impacted Areas may be used to guide landscape design in the project.

2. Create new areas of natural habitat value within the site

- Create new grasslands parks
- Improve upland habitat value within the Candlestick Point area of the site
- Encourage California State Parks to plant native, regionally-appropriate, noninvasive species
- Removal of invasive, non-native plants
- Use of native and climate-appropriate plant species
- The San Francisco Plant Finder may be used to select appropriate vegetation for the project.

3. Protect and enhance urban habitats

- Project-wide tree and shrub plantings
- Incorporate nest boxes, roosting structures and waterbird nesting habitat into the built environment
- Retain and protect the peregrine falcon nesting site



4. Migratory bird protection measures

- Improve migratory stopover habitat
- Separate high-quality stopover habitat from buildings
- Incorporate bird-friendly building design elements such as sensitive lighting and non-reflective tinted glass

5. Ecological education

- Provide more sensitive plant and wildlife species, for
- suitable habitat areas while providing the public with educational and recreational opportunities

Benefits

- Increases ecological value of the land and biodiversity
- Improves public amenity
- Protects existing resources
- Attracting beneficial species, particularly those that can contribute to the Integrated Pest Management Plan

Partners

- San Francisco Recreation and Park Department
- California State Parks
- California State Parks Foundation
- Invasive Spartina Project
- California Native Plant Society

4 Sustainability Strategy

Climate & Resiliency

Goal

Mitigate the conditions that contribute to climate change and adapt to the effects of climate change. Significantly reduce greenhouse gas emissions of residents and businesses.

The Opportunity

The CP/HPS Project will be designed with a suite of energy efficiency measures, low carbon energy sources and sustainable transportation initiatives to become a model for low carbon development in the city of San Francisco.

In November 2006, AB 32, the Global Warming Solutions act passed into California state law. AB 32 set a legally binding target for the state to reduce its GHGs to 1990 levels by 2020, which is equivalent to an approximate 30 percent reduction compared to 'business-as-usual' (BAU) emissions. All sectors of the State's economy will need to contribute towards meeting this challenging target. In the nearer term, the City of San Francisco has set a goal to curb emissions at 40 percent below 1990 levels by 2025.

Relative sea level rise for the west coast, which includes the sum of contributions from local thermal expansion of seawater, wind-driven components, land ice melting, and vertical land motion puts low-lying coastal areas in jeopardy. After evaluating a series of sea level rise projections for

the Bay Area, an Initial Shoreline Assessment for the CP/HPS Project recommends that the developed areas of the proposed project allow for rise in mean sea level of about 5.5 feet. The current conditions of the shoreline include embankments, concrete structures in various levels of disrepair along the northern portion of the site, slopes protected by concrete debris on the southern portion, unprotected slopes and beaches.

The creation of new park and open space areas and use of street trees, bioswales, green roofs and green walls throughout the development will increase vegetation across the site, providing a valuable carbon sink as the plants absorb and store carbon dioxide from the atmosphere. The CP/HPS Project will provide residents with the resources to live low carbon lifestyles and businesses with highly carbon-efficient commercial space and incentives for clean technology industries.

The average annual emissions footprint of a CP/HPS resident is roughly 1/3 that of the average San Francisco resident.

Strategies

1. Minimize the impact of the development on global climate change

- Deploy strategies listed under Resource
- Efficiency – Energy, Water and Waste
- Deploy strategies listed under Access and Transportation
- Deploy strategies listed under Public Well Being and Quality of Life (e.g. parks and open space enhancement)
- Plant 10,000 new trees. When selecting trees, care may be given to consider species resilience and carbon sequestration.
- Require use of green building and infrastructure materials with low embodied energy (e.g. fly ash in concrete or recycled materials)

2. Design the development to accommodate the effects of a changed climate in the future

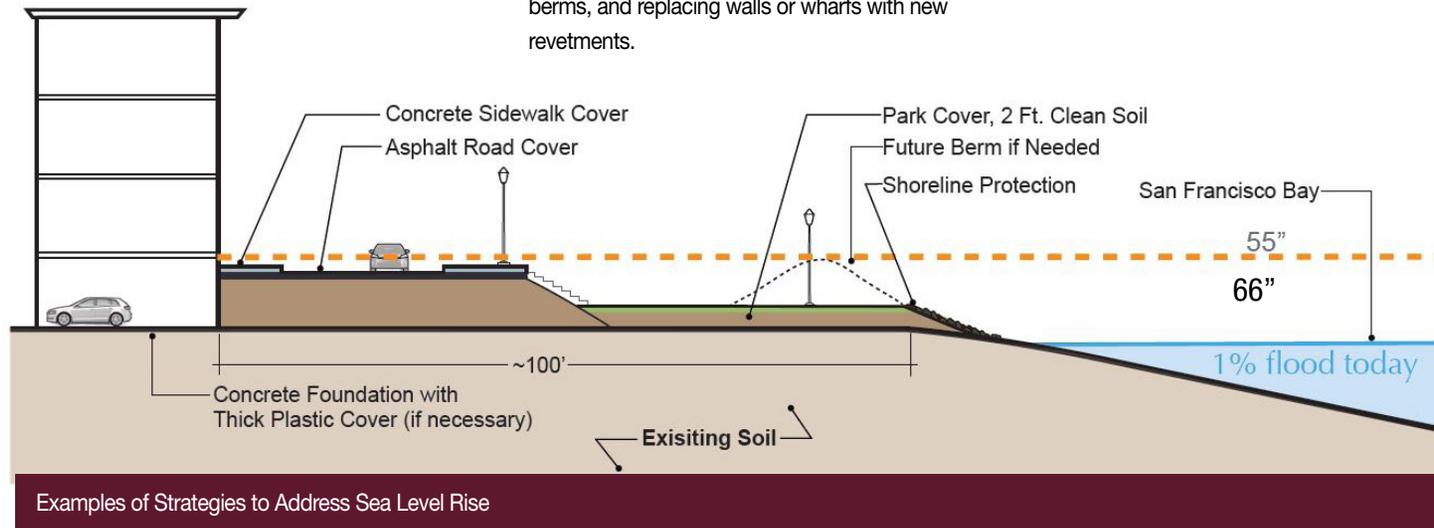
- Require finished floor elevations that accommodate 66 inches of sea level rise above the current 100-year flood elevation
- Implement a monitoring program that assesses changes in sea levels as reported by the National Oceanic Atmospheric Administration so that decisions about raising perimeter grades can be made in an informed manner.
- Develop an Adaptive Management Strategy that can be deployed if/when the monitoring plan reveals the need to prevent potential coastal flooding. The improvement strategies, which vary for different segments of the CP/HPS Project shoreline, include: Raising existing or creating new berms and revetments, raising existing or creating new sea walls, constructing foreshore berms and wave tripping berms, and replacing walls or wharfs with new revetments.

Benefits

- Reduces risk of future flooding
- Reduces insurance premiums
- Protection of open space and built environment

Partners

- US EPA
- Bay Conservation and Development Commission
- City and County of San Francisco
- San Francisco Department of Environment



4 Sustainability Strategy

Advanced Information & Communication Technology

Goal

Allow residents to better manage their utilities, bolster local economic activity, improve access to real-time information and facilitate community communications and activities.

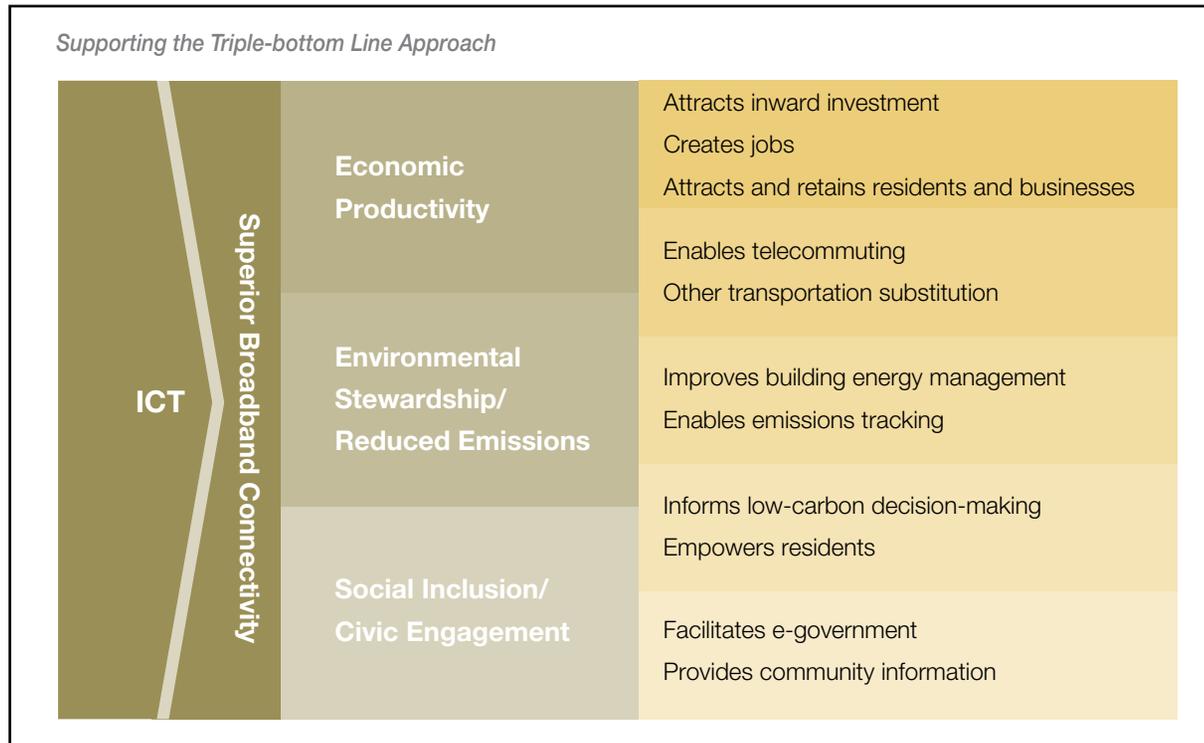
The Opportunity

Advanced Information and Communication Technology (ICT) refers to the various technologies that will enable the next generation of communications and power

infrastructure. Three technology examples of advanced ICT are cellular broadband, smart grid and smart meters:

- A smart grid allows the utility to actively manage the grid, employing energy generated by renewable sources when able, and the end user to better manage consumption. The result is a more sustainable energy supply that is able to meet a reduced energy demand.

- Smart meters support the smart grid by providing real time information about energy flows for both the utility and its customers, allowing all parties to make more informed decisions about energy use.
- Cellular broadband allows residents to access the internet at home or while mobile. This has a number of advantages such as making transit decisions on the go, based on real-time data and always having the powerful aspects of the internet at your fingertips such as searching, downloading and email.



The figure (left) summarizes how this technology will work to the benefit of the CP/HPS Project.

Strategies

1. Empower residents to save money and make low-carbon decisions

Electric, gas and water services are currently delivered through simple meters that are read once a month, and consumed by customers without real knowledge about where and how much they are using.

- Work with the power utility to ensure they implement a “smart grid” that maximizes the application of “smart metering” in homes and businesses

- Provide residents access to real-time utility data on a hard wired user interface or online
- Provide homeowner and new resident orientation on how smart meters work and how to access and respond to utility data to save money on utility bills.

2. Provide next-generation broadband connectivity

- Develop an ultra-high broadband and mobile network (e.g. 4G)
- Free (or affordable), ubiquitous Wi-Fi that is provided by the City or through the private sector

3. Provide a digital information portal for residents, visitors and newcomers

- Develop and operate a community website
- Install and maintain digital information kiosks
- Provide real-time transit information at transit nodes

Benefits

- Helps residents reduce energy and water consumption and manage their utility bills
- Boosts economic development
- Bridges digital divide
- Increases access to jobs, education, health care and government services
- Enables residents to better engage and participate in their community

Partners

- City of San Francisco CIO
- MIT Mobile Experience Lab
- Intelligent Community Forum
- International Network of E-Communities (INEC)





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