



DRAFT OPEN SPACE PLAN



*Balboa Reservoir community is committed to deep sustainability, addressing economic, social, & environmental goals:*

- 1 Provide housing options that serve a diverse, mixed income neighborhood including 50% affordable housing, a mix of rental and ownership opportunities, and a majority of family oriented units with 2 or more bedrooms
- 2 4 acres of publicly accessible open space including a 2-acre central park serving the larger community
- 3 Walkable Transit-Oriented Neighborhood with direct connections to shopping, City College, and transit
- 4 Green House Gas Neutral through a combination of efficiency, onsite renewables and participation in green energy programs
- 5 Stewardship of water resources including grey-water reuse and stormwater management integrated with open space
- 6 Opportunities for residents and neighbors to collaborate in creating a sustainable neighborhood model through onsite food production, management of energy consumption, mobility choices and waste management

### CAC SUSTAINABILITY PRINCIPLES

#### Principle #1 | ENERGY

Building on the City's robust energy efficiency requirements, reduce or eliminate greenhouse gas (GHG) emissions from new buildings to the greatest extent feasible. Maximize the use of renewable energy (generated on the Balboa Reservoir site, to the extent feasible) and realize 100% of electricity in all new development from renewable (GHG-free) sources

#### Principle #2 | WATER

Building on the City's robust water efficiency requirements, maximize non-potable water use in buildings and open spaces

#### Principle #3 | STORMWATER

Optimize onsite stormwater management to improve water quality, minimize potential for urban flooding, and help prevent overflows of the City's combined sewage system into the Bay

#### Principle #4 | ECOLOGY / GREENING

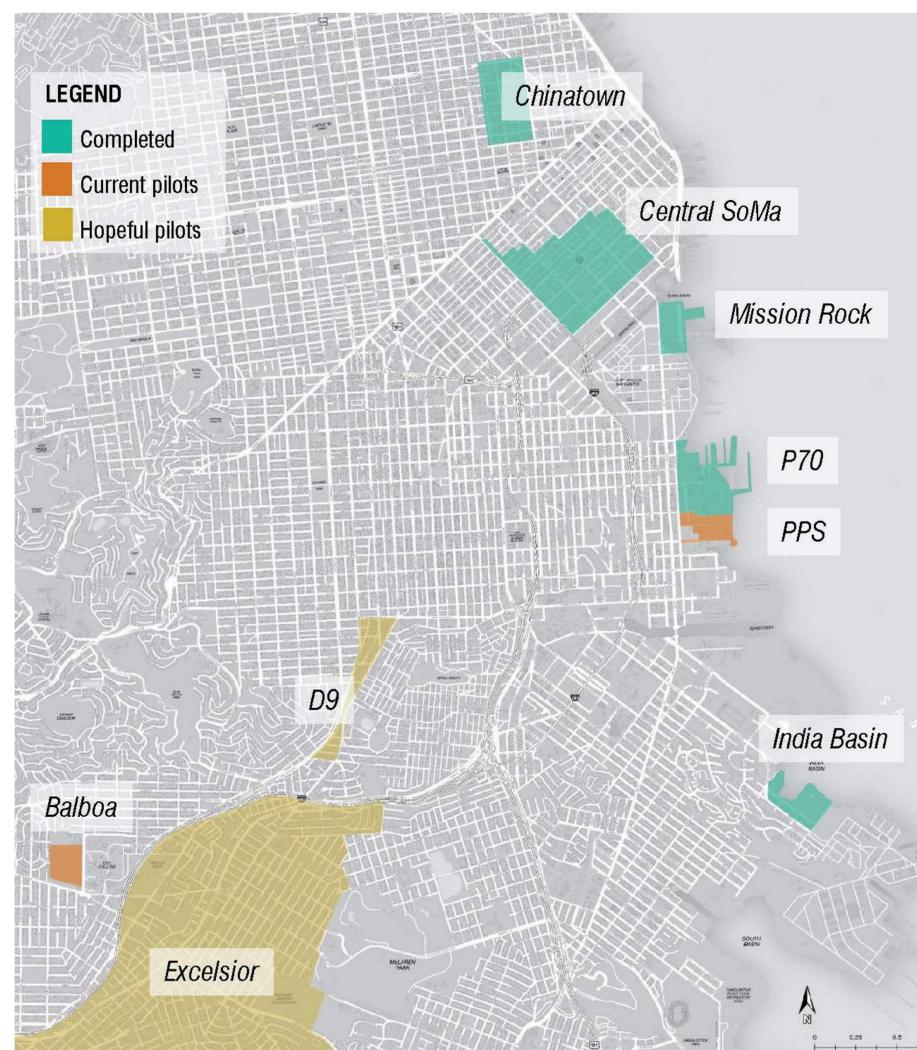
Connect all residents, workers, and visitors to nature by maximizing habitat supportive trees and landscaping

#### Principle #5 | AIR QUALITY

Support a healthy environment by reducing indoor and outdoor air quality impacts (from toxins in building materials, smoking, cruising for parking, and vehicle idling). Building design and materials should address the neighborhood microclimate and fog (i.e., mold preventative strategies)

#### Principle #6 | SOLID WASTE

Achieve the City's Zero Waste goal and a litter-free public realm

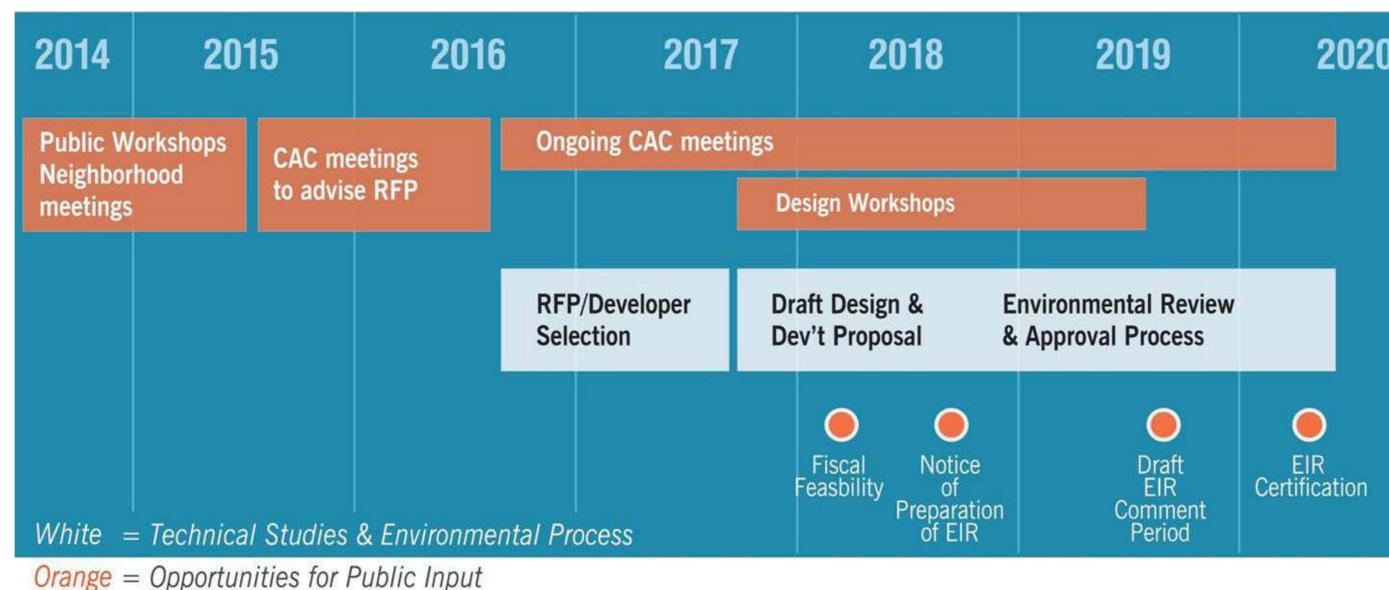


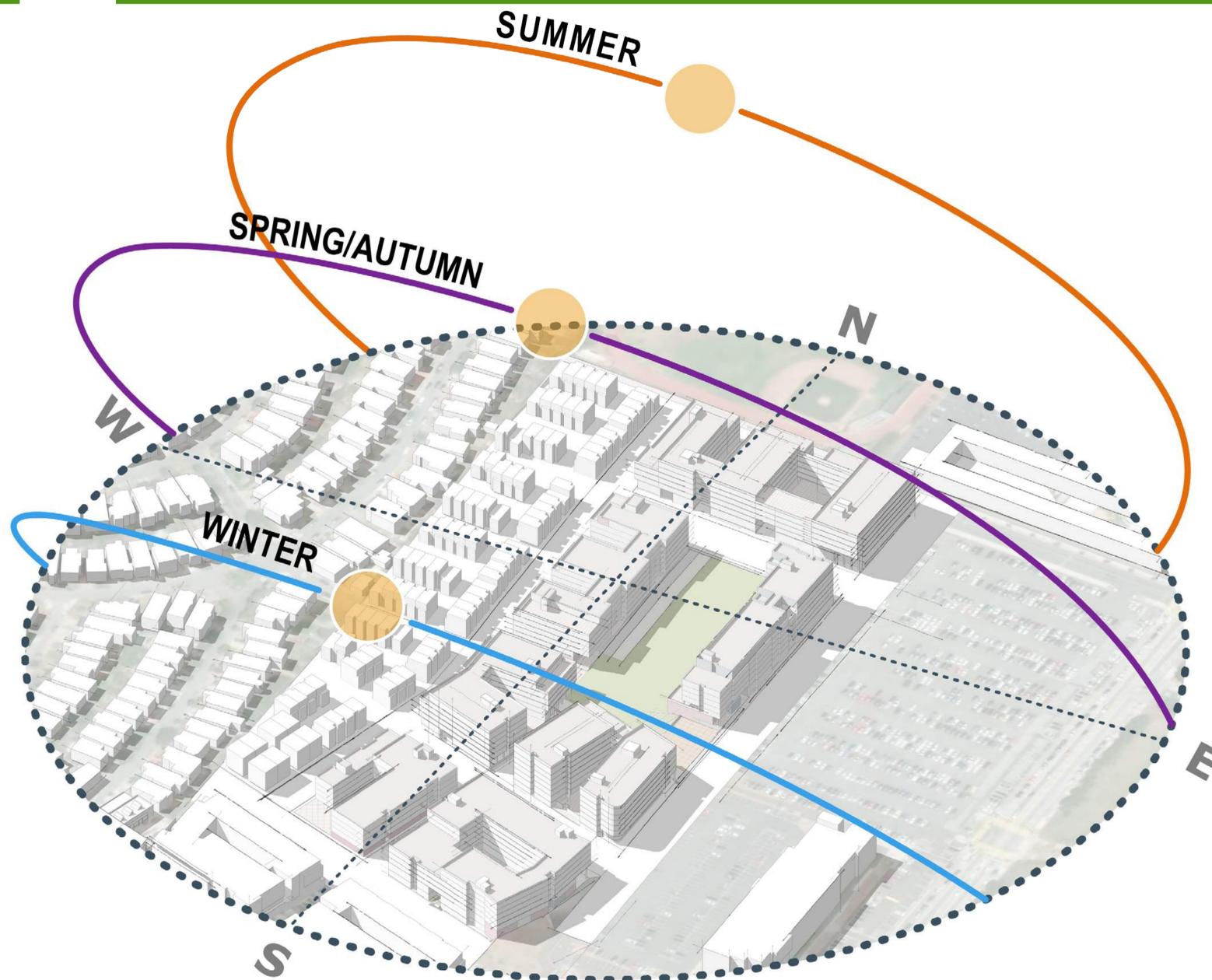
To support these goals, the Reservoir is participating in San Francisco's Sustainable Neighborhood Program which seeks to coordinate environmental efforts among San Francisco's many evolving neighborhoods

#### SF SUSTAINABLE NEIGHBORHOODS & PRINCIPLES

- Noticeably innovative, high-quality, healthy
- Beyond building scale
- Robust Partnerships: community, developers, public agencies
- Exceed requirements & support City goals
- Measurable baselines & targets

Approximately 1,100 Units Total						
50% Market-Rate Units		50% Affordable Units				
		Developer Subsidy		City Subsidy		
		18% Low-Income Units	15% Moderate-Income Units	17% "Additional" Affordable Units		
Rental Apartments	For-Sale Townhomes	Rental Apartments	For-Sale Units	Rental Apartments	Rental Apartments	For-Sale Units
		55% AMI	80% AMI	120% AMI	55% AMI and 120% AMI	105% AMI
AvalonBay	AvalonBay BRIDGE (Sell Lots)	BRIDGE Mission Housing	Habitat for Humanity	BRIDGE	BRIDGE Mission Housing	Habitat for Humanity





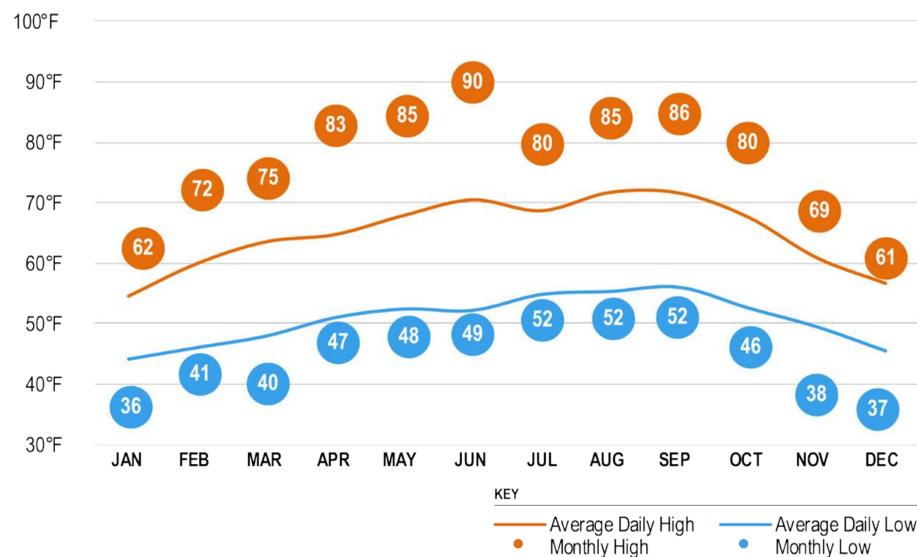
**OBJECTIVES**

REDUCE SOURCES OF LOCAL GREEN HOUSE GASES FROM THE BUILT ENVIRONMENT AND REDUCE URBAN HEAT ISLAND EFFECT AND ENSURE HEALTHY OUTDOOR AND INDOOR AIR FOR EVERYONE

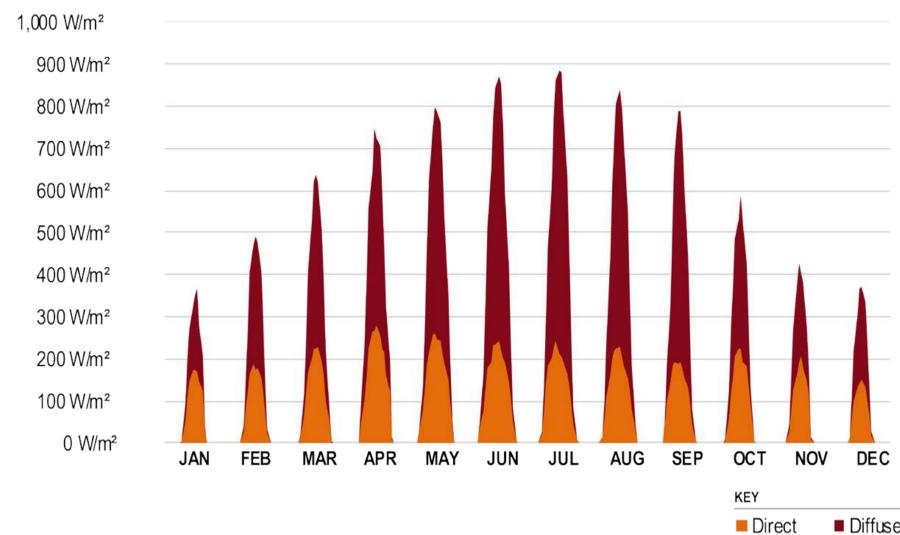
**POTENTIAL STRATEGIES**

- 1 TARGET NET-ZERO CARBON BUILDINGS (WITH CARBON CREDIT PURCHASE)
- 2 PHASE-OUT NATURAL GAS USE & PURCHASE GREEN ELECTRICITY
- 3 MAXIMIZE FOSSIL-FREE ENERGY GENERATION ON SITE
- 4 SPECIFY REFLECTIVE MATERIALS FOR ROOFS AND HARDSCAPES TO REDUCE URBAN HEAT ISLAND EFFECT
- 5 TARGET HEALTHY BUILDING INTERIORS & PROVIDE LOW EMITTING BUILDING MATERIALS
- 6 DESIGN FOR IMPROVED VENTILATION IN LIVING SPACES & COMMON AREAS
- 7 MINIMIZE EMISSIONS DURING CONSTRUCTION
- 8 TARGET LEED GOLD FOR ALL NEW BUILDINGS

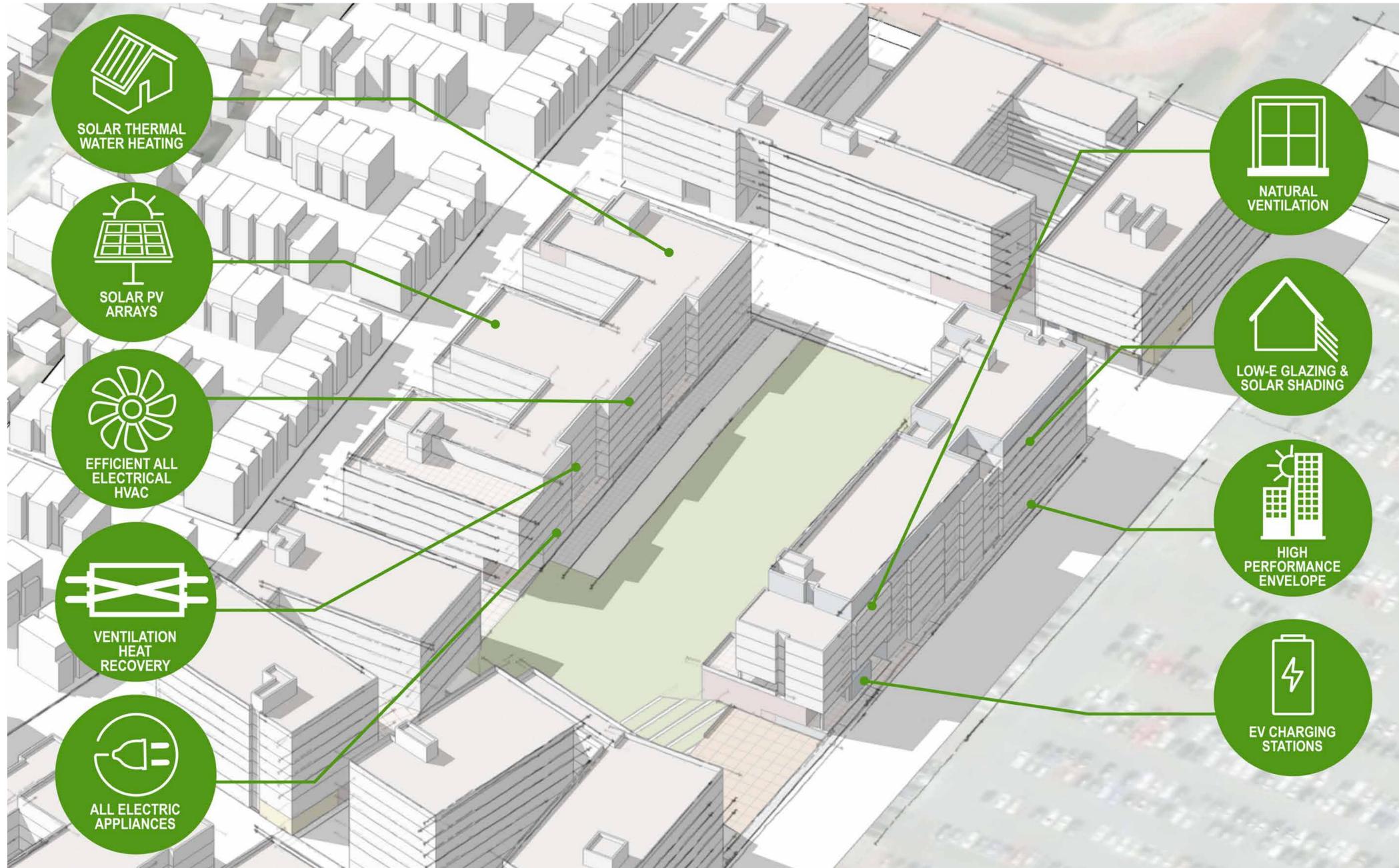
**Average Monthly Temperature Range**



**Monthly Solar Irradiation**



**Electrical Vehicle Charging Stations**



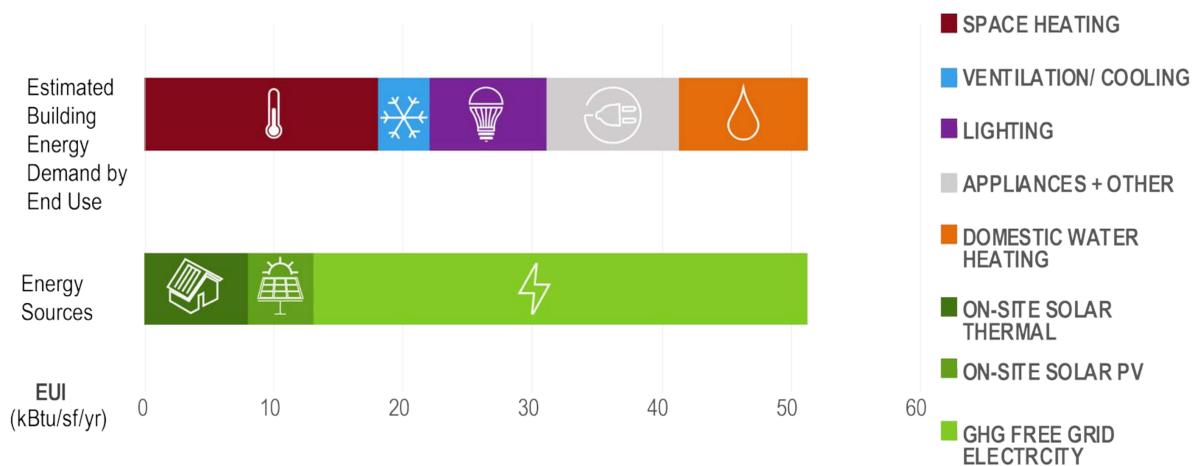
**OBJECTIVES**

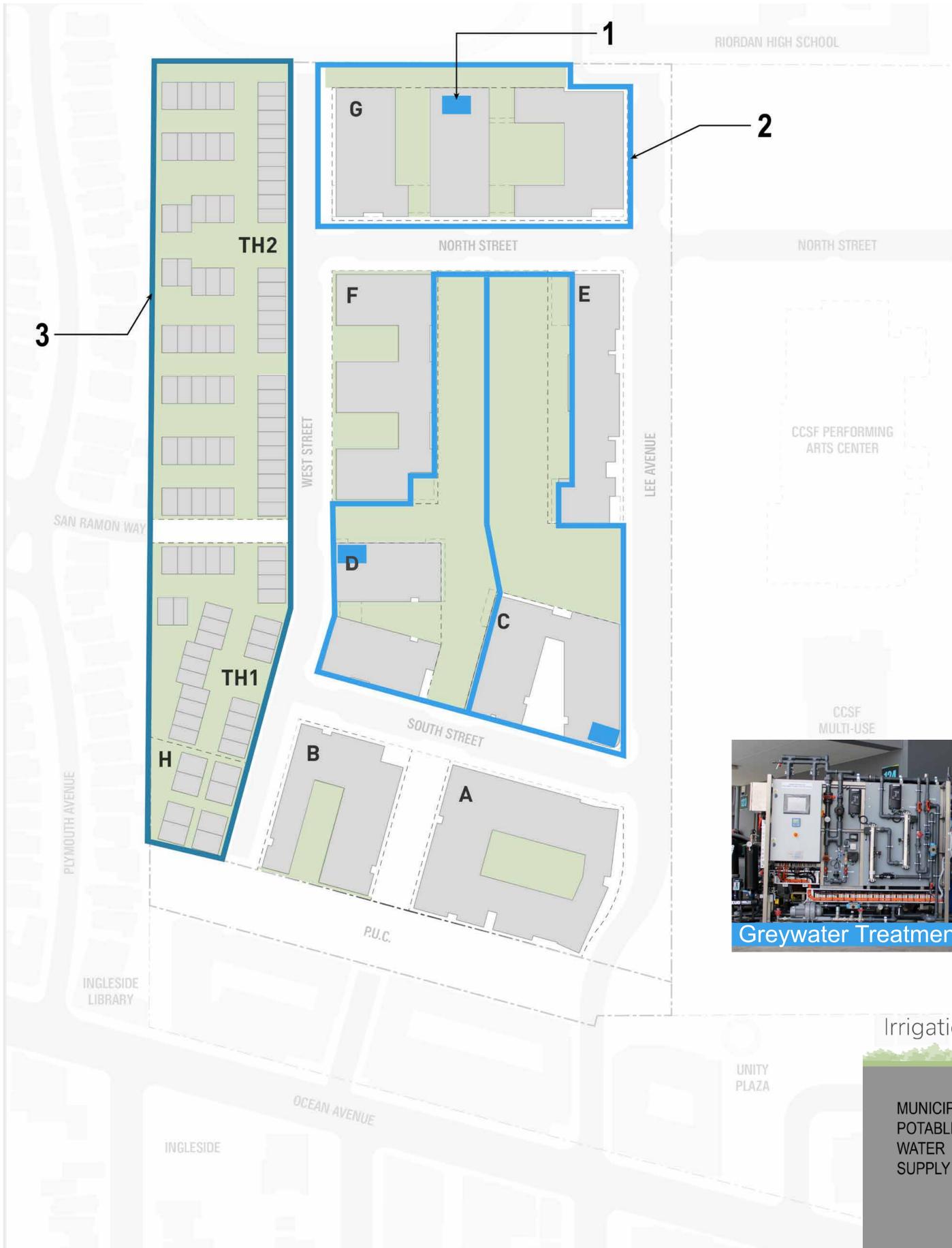
REDUCE OVERALL ENERGY CONSUMPTION AND  
MAXIMIZE RENEWABLE FOSSIL-FREE POWER  
GENERATION ON SITE

**POTENTIAL STRATEGIES**

- 1 REDUCE BUILDING ENERGY DEMAND THROUGH CLIMATE RESPONSIVE, ENERGY EFFICIENT DESIGN
- 2 PRIORITIZE ALL-ELECTRIC BASED BUILDING SYSTEMS (HVAC & APPLIANCES)
- 3 UTILIZE NATURAL VENTILATION TO REDUCE ENERGY CONSUMED ON VENTILATION / COOLING, AND HEAT RECOVERY TO REDUCE HEATING DEMAND
- 4 MAXIMIZE ROOF AREA AVAILABLE FOR SOLAR THERMAL WATER HEATING AND SOLAR PV ELECTRICITY GENERATION

**Building Energy Balance**



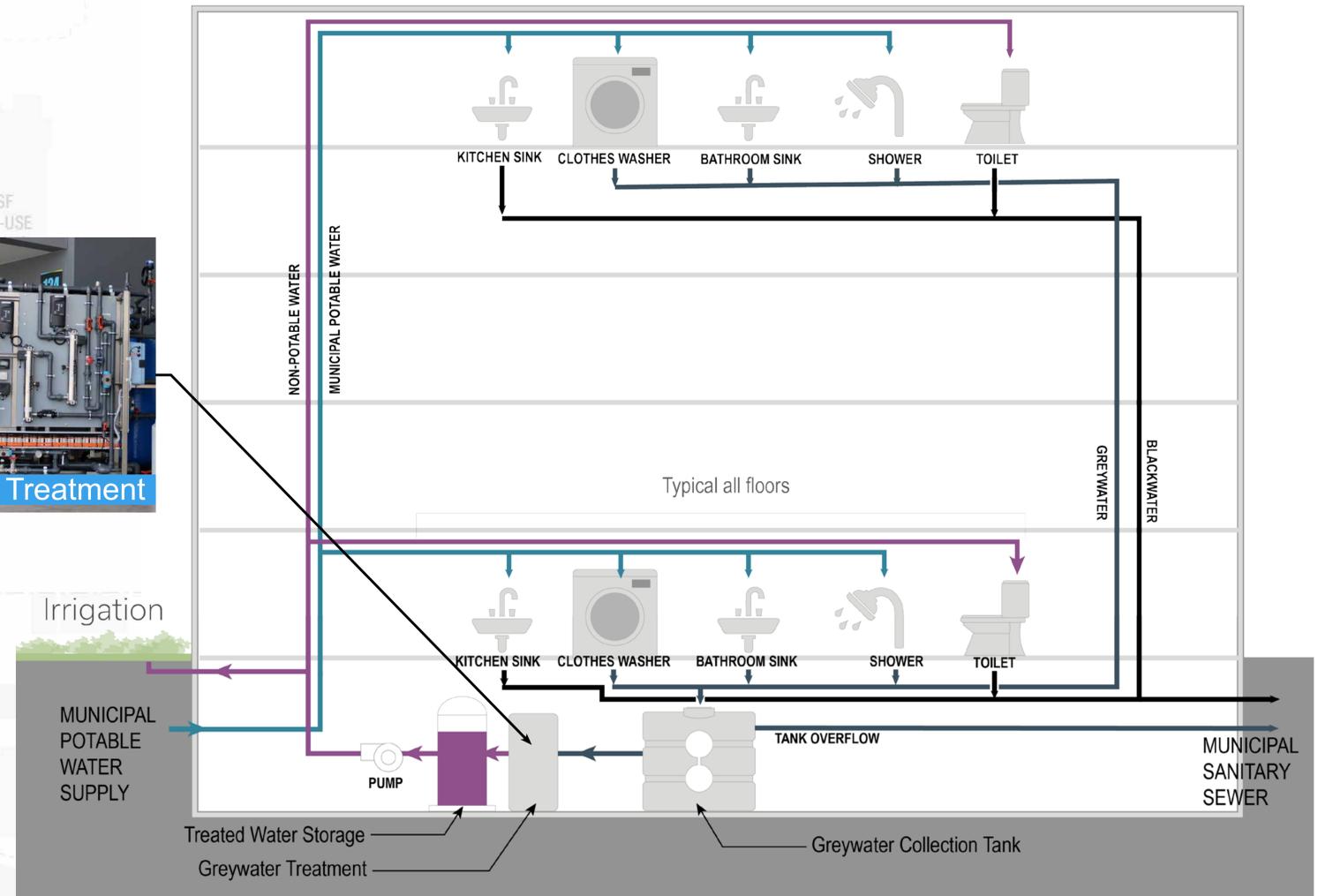


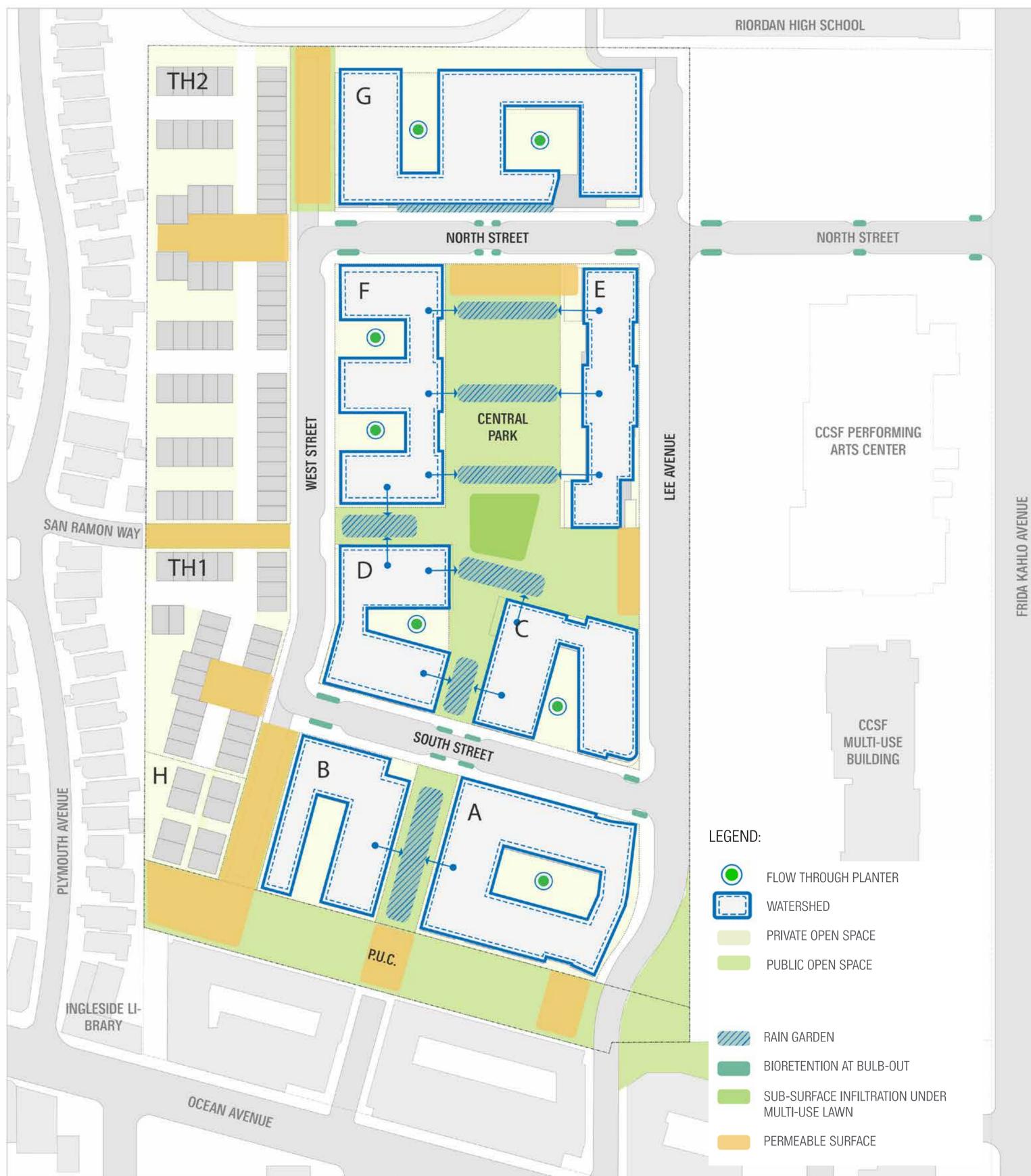
**OBJECTIVE**

MAXIMIZE POTABLE WATER SAVINGS FOR THE SITE

**POTENTIAL STRATEGIES**

- 1 THIS SYSTEM WILL PROVIDE NON-POTABLE WATER TO THE BUILDINGS TOILETS / URINALS AND ADJACENT LANDSCAPE IRRIGATION
- 2 INSTALL LOW-FLOW PLUMBING FIXTURES
- 3 EVALUATE DROUGHT-TOLERANT LANDSCAPE AND REUSE WATER FOR IRRIGATION
- 4 PROVIDE A BUILDING-BY-BUILDING GREYwater COLLECTION AND TREATMENT SYSTEM
- 5 PROVIDE A MECHANICAL DESIGN THAT ELIMINATES COOLING TOWERS





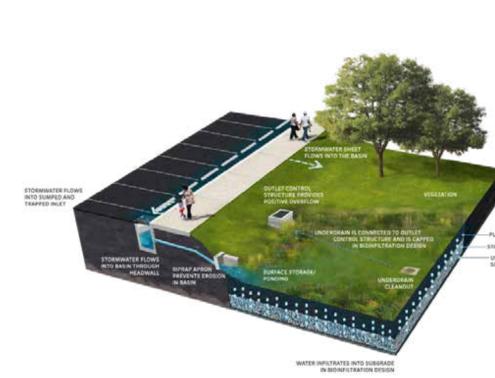
**OBJECTIVE**

IMPROVE STORMWATER MANAGEMENT FROM PREVIOUS CONDITIONS AND IMPROVE HEALTH OF LOCAL WATERWAYS

**POTENTIAL STRATEGIES**

- 1 MAXIMIZE STORMWATER RETENTION IN OPEN SPACE AREAS
- 2 EMPLOY PASSIVE LOW-IMPACT DEVELOPMENT (LID) SYSTEMS WHEREVER POSSIBLE
- 3 ENSURE ALL FACILITIES ARE FLOOD RESISTANT IN 100-YEAR STORM

Potential Stormwater Treatment Systems



RAIN GARDEN



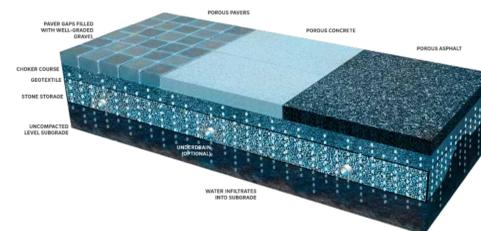
RAIN GARDEN PRECEDENT IMAGE



FLOW THROUGH PLANTER



STORMWATER LANDSCAPE FEATURE IN PRIVATE COURTYARD



PERMEABLE PAVING



PERMEABLE PAVING PRECEDENT IMAGE

**OBJECTIVES**

TO PROMOTE AND SUPPORT THE REDUCTION OF WASTE GENERATED BY OPERATIONS AND OCCUPANTS.  
TO CREATE A ZERO-WASTE COMMUNITY.

**POTENTIAL STRATEGIES**

- 1 PROVIDE ADEQUATE STORAGE AND COLLECTION FACILITIES FOR TENANTS (3-BIN SYSTEM)
- 2 COORDINATION/COLLABORATION WITH NEIGHBORS: CITY COLLEGE, WHOLE FOODS, RIORDAN HS, ETC.
- 3 PROVIDE AT LEAST ONE DROP-OFF POINT, AVAILABLE TO ALL PROJECT OCCUPANTS, FOR POTENTIALLY HAZARDOUS OFFICE OR HOUSEHOLD WASTES AND ESTABLISH A PLAN FOR POST COLLECTION DISPOSAL
- 4 PROVIDE GROCERY BAGS TO TENANTS
- 5 EVALUATE CONSTRUCTION WASTE MANAGEMENT GOALS DURING DEMOLITION & CONSTRUCTION

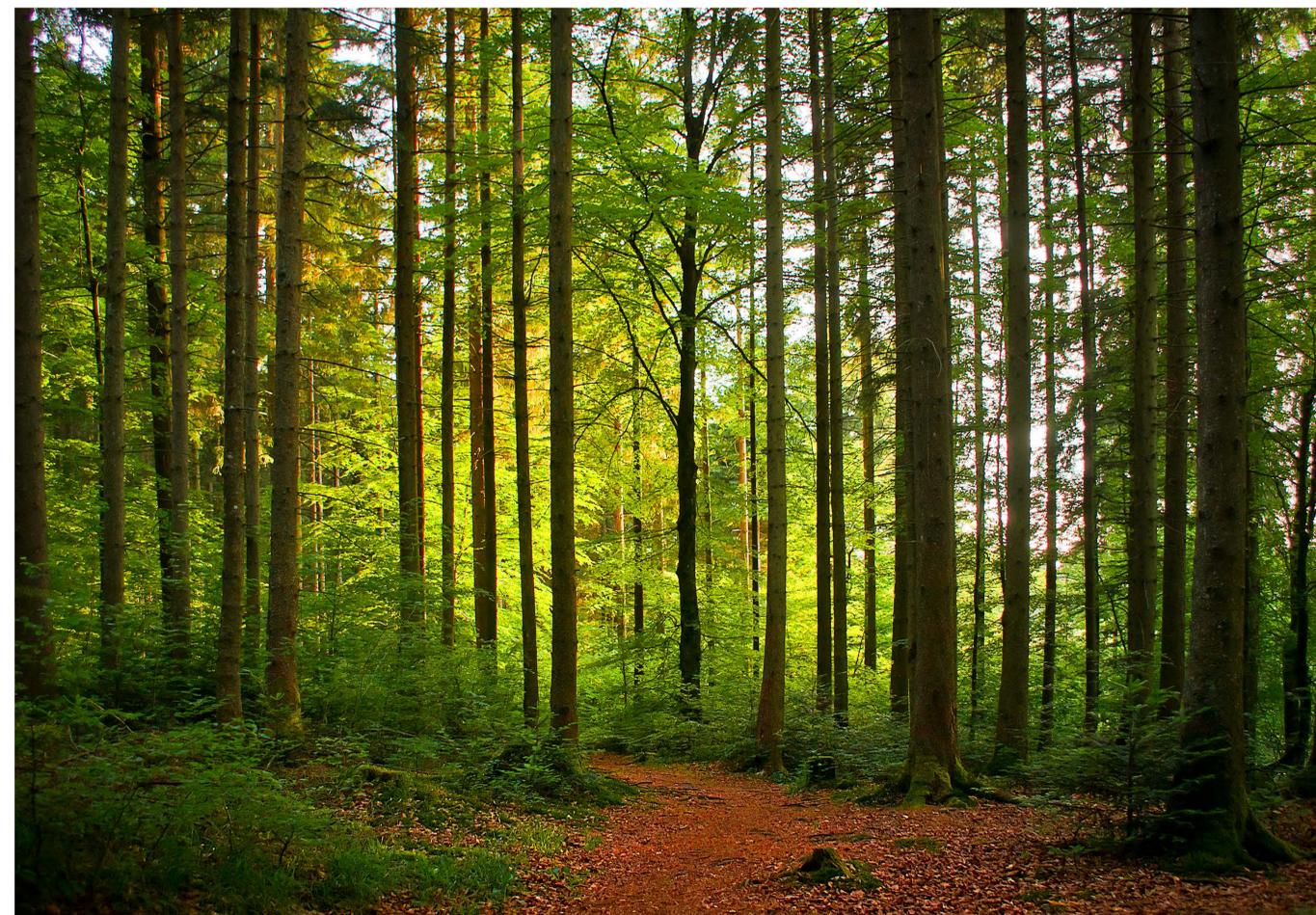


**OBJECTIVES**

TO USE GOODS AND BUILDING MATERIALS THAT HAVE ENVIRONMENTALLY, ECONOMICALLY, AND SOCIALLY PREFERABLE LIFE CYCLE IMPACTS IN ADDITION TO BEING HEALTHY AND SAFE.

**POTENTIAL STRATEGIES**

- 1 SOURCE REDUCTION: MANUFACTURERS TAKE-BACK PROGRAMS, PACKAGING REDUCTION
- 2 SUSTAINABLE PROCUREMENT: RECYCLED CONTENT, REGIONAL MATERIALS, EMISSIONS TESTING, PRODUCT CERTIFICATIONS
- 3 CARBON SEQUESTERING CONCRETE
- 4 PRE-FABRICATION
- 5 WOOD FROM SUSTAINABLE FORESTRY



**EPD "Nutrition" Label**

**Your Building Product**

Amount per Unit	
LCA IMACT MEASURES	TOTAL
Primary Energy (MJ)	12.4
Global Warming Potential (kg CO <sup>2</sup> eq)	0.96
Ozone Depletion (kg CFC-11 eq)	1.80E-08
Acidification Potential (mcl H <sup>+</sup> eq)	0.93
Eutrophication Potential (kg N <sup>+</sup> eq)	6.43E-04
Photo-Oxidant Creation Potential (kg O <sub>3</sub> eq)	0.121

Your Product's Ingredients: Listed Here





POTENTIAL COLLABORATION WITH  
WHOLE FOODS MARKET

POTENTIAL COLLABORATION WITH CCSF  
CULINARY ARTS AND HOSPITALITY STUDIES

LEGEND:

COMMUNITY GARDEN

FARMER'S MARKET

COMMUNITY KITCHEN

ORCHARD

WHOLE FOODS MARKET

OBJECTIVE

**FOODSHED HEALTH:** PROVIDE FOR LOCAL DEMAND WITH ORGANICALLY GROWN, FRESH, AND NUTRITIOUS FOOD FROM LOCAL FARMS AND FACILITIES

**FOOD ACCESSIBILITY:** PROVIDE RESIDENTS THE OPPORTUNITY TO BUY OR GROW AFFORDABLE FOOD WITHIN WALKING DISTANCE

POTENTIAL STRATEGIES

- 1 COMMUNITY GARDEN SERVING RESIDENTS AND NEIGHBORS
- 2 COMMUNITY GARDEN CONNECTED TO COMMUNITY CENTER, FOOD PROGRAMMING, TEACHING KITCHEN
- 3 POTENTIAL COLLABORATION WITH CITY COLLEGE CULINARY PROGRAM
- 4 FOOD CORRIDOR AREA FOR FOOD TRUCKS + FARMER'S MARKET ADJACENT TO WHOLE FOODS
- 5 INCORPORATE LANDSCAPING THAT IS BOTH NATIVE AND EDIBLE



COMMUNITY GARDEN

COMMUNITY GARDEN WALKING TOUR

Monday, September 8, 6:30 – 8:00 p.m.  
Start Location: Congregation Beth Shalom,  
500 W. Green Meadows Rd

- GARDEN LOCATIONS
- CBS/Newman Interfaith Garden
  - Rock Bridge Christian Church Garden
  - Stormy's Meadow – Native Wildflower and Stormwater Education Site



EDUCATIONAL SIGNAGE / PROGRAM



ORCHARD



WHOLE FOODS MARKET



COMMUNITY KITCHEN



FARMER'S MARKET



- LEGEND:**
- RAIN GARDEN
  - OAK PLANTING AREA
  - NATIVE PLANTING AREA
  - PRIVATE OPEN SPACE
  - BUCKEYE PLANTING AREA
  - PUBLIC OPEN SPACE

**OBJECTIVE**

**BIODIVERSITY:** ENHANCE THE BIODIVERSITY ON THE RESERVOIR SITE BY PROVIDING CLIMATE APPROPRIATE HABITAT AND INTERCONNECTED GREENING THROUGHOUT OPEN SPACE NETWORK

**ECO-LITERACY:** CONNECT ALL RESIDENTS, WORKERS, AND VISITORS TO NATURE EVERY DAY AND INSPIRE STEWARDSHIP

**POTENTIAL STRATEGIES**

- 1 OPEN SPACE NETWORK AS THE ORGANIZING PRINCIPLE OF THE MASTER PLAN
- 2 PROVIDE NATIVE PLANTINGS AND LANDSCAPE FORMS THAT SUPPORT ENDEMIC SPECIES
- 3 EVALUATE INTEGRATION OF BIOPHILIC DESIGN PRINCIPLES INTO THE INTERIORS OF BUILDINGS
- 4 ECO-LITERACY NARRATIVE VIA INTERPRETIVE PROGRAM
- 5 CREATE ECO-LITERACY PROGRAMS SUCH AS COMMUNITY GARDENS AND TENANT MANUALS

**POTENTIAL PLANTING LIST**

<p><b>Trees</b></p> <ul style="list-style-type: none"> <li>Coast Live Oak <i>Quercus agrifolia</i></li> <li>California Buckeye <i>Aesculus californica</i></li> <li>Mountain Lilac <i>Ceanothus 'Ray Hartman'</i></li> <li>Monterey Cypress <i>Cupressus macrocarpa</i></li> <li>Atlas Cedar <i>Cedrus atlantica</i></li> <li>Redwood <i>Sequoia sempervirens</i></li> <li>Italian Stone Pine <i>Pinus pinea</i></li> </ul>	<p><b>Shrubs</b></p> <ul style="list-style-type: none"> <li>Ray Hartman Wild Lilac <i>Ceanothus 'Ray Hartman'</i></li> <li>Coffeeferry <i>Rhamnus californica</i></li> <li>Silk Tassel <i>Garrya elliptica 'James Roof'</i></li> <li>California Flannelbush <i>Fremontadendron californica</i></li> <li>Toyon <i>Heteromeles arbutifolia</i></li> <li>Pacific Wax Myrtle <i>Myrica californica</i></li> </ul>	<ul style="list-style-type: none"> <li>Hollyleaf Cherry <i>Prunus ilicifolia</i></li> <li>Flowering Currant <i>Ribes sanguineum</i></li> </ul>	<p><b>Groundcovers</b></p> <ul style="list-style-type: none"> <li>Rock Purslane <i>Calandrinia spectabilis</i></li> <li>Amole <i>Beschorneria yuccoides</i></li> <li>Bull Grass <i>Muhlenbergia emersleyi</i></li> <li>Adam's Needle <i>Yucca filamentosa</i></li> <li>Tropic Belle Mat Rush <i>Lomandra hystrix 'Tropicbelle'</i></li> <li>Lindheimer's Muhly <i>Muhlenbergia lindheimeri</i></li> </ul>	<p><b>Stormwater Plantings</b></p> <ul style="list-style-type: none"> <li>Chinese Holly Grape <i>Mahonia lomariifolia</i></li> <li>Umbrella Plant <i>Cyperus alternifolius</i></li> <li>Giant Chain Fern <i>Woodwardia fimbriata</i></li> <li>Thimbleberry <i>Yucca filamentosa</i></li> <li>Berkeley Sedge <i>Carex tumulicola</i></li> <li>California Black-flowering Sedge <i>Carex nudata</i></li> </ul>	<ul style="list-style-type: none"> <li>Monkeyflower <i>Mimulus aurantiacus</i></li> <li>Red Stem Dogwood <i>Cornus sericea</i></li> </ul>
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**11 INGLESIDE SPECIES: COAST LIVE OAK / CALIFORNIA BUCKEYE**

**COAST LIVE OAK/CALIFORNIA BUCKEYE - Quercus agrifolia/Aesculus californica**

**DIET**  
Coast live oaks host more species of small moths, for example, than any other plant species on the San Francisco peninsula. Buckeye pale pink flowers in June and July are a rich nectar source for many species of butterflies.

**ASSOCIATED PLANTS & ANIMALS**  
Mountain Lilac - Ceanothus 'Ray Hartman', California Wild Grape - Vitis californica 'Roger's Red', California Dogwood - Cornus sericea ssp. occidentalis, Twisted Honeycreeper - Loniceria involucrata 'Chestnut-backed Chickadee'

**NESTING INFORMATION**  
The oak woodland community may also include toyons, pink flowering currant, siso berry, coffee berry and many other species. Buckeye grows intermingled with Valley Oak, Oregon Oak, Coast Live Oak and California Bay Laurel. Can be found standing alone in grassland at the lowest elevations, intermingled in Blue Oak woodlands at intermediate elevations, and in mixed evergreen forests of Black oak, Digger Pine, Ponderosa Pine and Interior Live Oak as it nears the limit of its range.

**City Wide Green Connection Network**



## OBJECTIVE

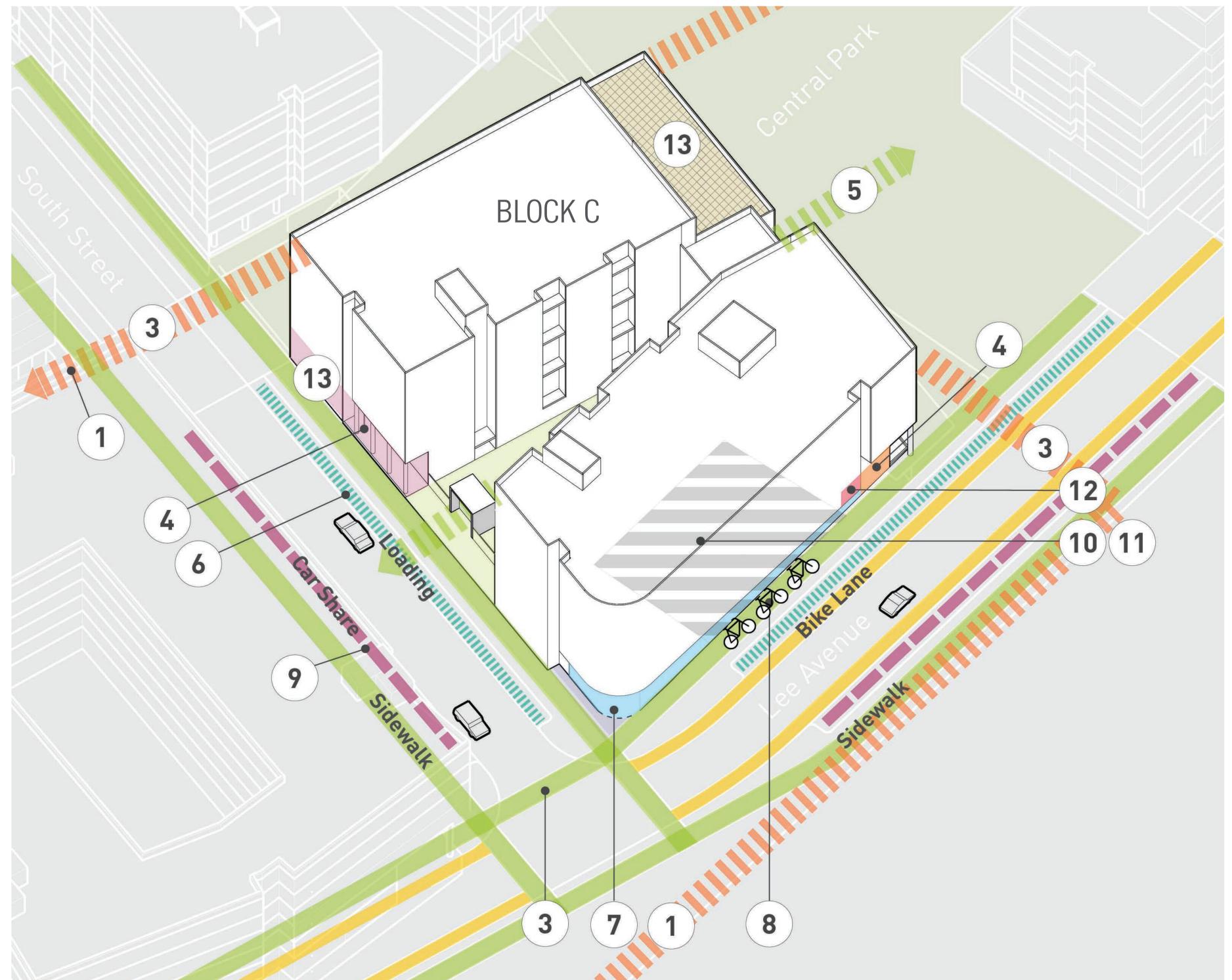
REDUCE GREEN HOUSE GASES AND MANAGE TRAFFIC CONGESTION BY REDUCING THE RELIANCE ON PRIVATE AUTOMOBILES FOR COMMUTING AND DAILY ERRANDS

## TRANSIT ORIENTED DESIGN

1. Improved paths to transit + Ocean Ave.
2. One block walk to groceries + on-site childcare
3. Raised pedestrian crossings
4. Prominent lobby with sheltered waiting area
5. Multiple building entries + direct access to public open space
6. Convenient loading zone for passengers + deliveries
7. Bike parking + workshop at street level with easy access to bike routes
8. Public bike share stations, including bikes with electric assist to help with uphill ride from the BART Station
9. Car share spaces onstreet, readily available to public
10. Dedicated residential parking located at basement level, maximum of 0.5 spaces per unit on site, unbundled
11. 100% EV charging potential at onsite parking
12. Secure package room
13. On site amenities including workshops, social lounges & roof decks

## POTENTIAL STRATEGIES

1. DESIGN THE RESERVOIR AS A PEDESTRIAN PRIORITY ZONE WHERE WALKING IS THE EASIEST CHOICE
2. ENHANCE THE BICYCLE NETWORK & SUPPORTING FACILITIES
3. LIMIT DEDICATED RESIDENTIAL PARKING TO 0.5 SPACES PER RESIDENTIAL UNIT PER CAC GUIDELINES
4. PROVIDE FORWARD-LOOKING FACILITIES FOR CARSHARE, RIDE SHARING, EV VEHICLES, & DELIVERY SERVICES
5. WORK WITH CITY & CITY COLLEGE TO ENHANCE ACCESS TO BART / MUNI
6. PROVIDE A TDM COORDINATOR TO COORDINATE MOBILITY OPTIONS, KEEPING RESIDENTS INFORMED OF OPTIONS & ON-GOING IMPROVEMENTS



### BICYCLE NETWORK

Dedicated bike lanes will be provided on Lee Avenue linking to the Holloway Avenue Bike Route and a connection will be made to the bike lanes on Frida Kahlo Way. Class III bike lanes (sharrows) will be provided at the slower moving loop roads. A generous bike share station is proposed adjacent to the central open space.

### PEDESTRIAN NETWORK

The Reservoir plan establishes a fundamental priority in favor of walking and biking, by limiting automobile access to a simple loop. A multitude of pathway options into and through the site provide convenient access to community facilities, childcare center, and resident amenity spaces located at activity nodes within the park. Additionally, there are multiple pedestrian connections linking outward to Ocean Avenue, transportation, and neighborhood destinations.

