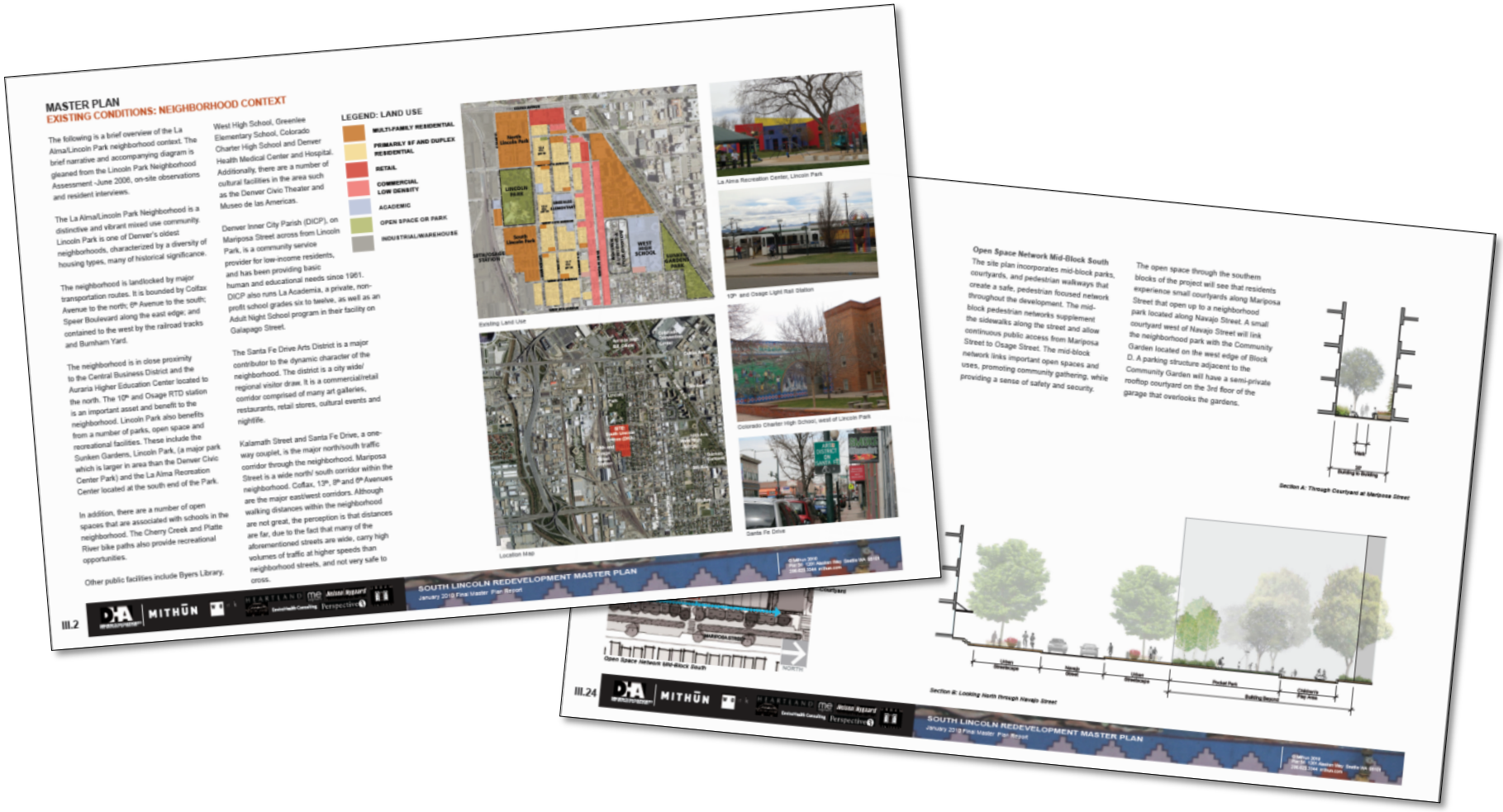
South Lincoln Redevelopment Project

South Lincoln Redevelopment Master Plan



MASTER PLAN

EXISTING CONDITIONS: NEIGHBORHOOD CONTEXT

The following is a brief overview of the La Alma/Lincoln Park neighborhood context. The brief narrative and accompanying diagram is gleaned from the Lincoln Park Neighborhood Assessment -June 2006, on-site observations and resident interviews.

The La Alma/Lincoln Park Neighborhood is a distinctive and vibrant mixed use community. Lincoln Park is one of Denver's oldest neighborhoods, characterized by a diversity of housing types, many of historical significance.

The neighborhood is landlocked by major transportation routes. It is bounded by Colfax Avenue to the north; 6th Avenue to the south; Speer Boulevard along the east edge; and contained to the west by the railroad tracks and Burnham Yard.

The neighborhood is in close proximity to the Central Business District and the Auraria Higher Education Center located to the north. The 10th and Osage RTD station is an important asset and benefit to the neighborhood. Lincoln Park also benefits from a number of parks, open space and recreational facilities. These include the Sunken Gardens, Lincoln Park, (a major park which is larger in area than the Denver Civic Center Park) and the La Alma Recreation Center located at the south end of the Park.

In addition, there are a number of open spaces that are associated with schools in the neighborhood. The Cherry Creek and Platte River bike paths also provide recreational opportunities.

Other public facilities include Byers Library, West High School, Greenlee Elementary School, Colorado Charter High School and Denver Health Medical Center and Hospital. Additionally, there are a number of cultural facilities in the area such as the Denver Civic Theater and Museo de las Americas.

Denver Inner City Parish (DICP), on Mariposa Street across from Lincoln Park, is a community service provider for low-income residents, and has been providing basic human and educational needs since 1961. DICP also runs La Academia, a private, non-profit school grades six to twelve, as well as an Adult Night School program in their facility on Galapago Street.

The Santa Fe Drive Arts District is a major contributor to the dynamic character of the neighborhood. The district is a city wide/ regional visitor draw. It is a commercial/retail corridor comprised of many art galleries, restaurants, retail stores, cultural events and nightlife.

Kalamath Street and Santa Fe Drive, a one-way couplet, is the major north/south traffic corridor through the neighborhood. Mariposa Street is a wide north/ south corridor within the neighborhood. Colfax, 13th, 8th and 6th Avenues are the major east/west corridors. Although walking distances within the neighborhood are not great, the perception is that distances are far, due to the fact that many of the aforementioned streets are wide, carry high volumes of traffic at higher speeds than neighborhood streets, and not very safe to cross.

LEGEND: LAND USE

- MULTI-FAMILY RESIDENTIAL
- PRIMARILY SF AND DUPLEX RESIDENTIAL
- RETAIL
- COMMERCIAL LOW DENSITY
- ACADEMIC
- OPEN SPACE OR PARK
- INDUSTRIAL/WAREHOUSE

Existing Land Use

Location Map

La Alma Recreation Center, Lincoln Park

13th and Osage Light Rail Station

Colorado Charter High School, west of Lincoln Park

Santa Fe Drive

III.2

SOUTH LINCOLN REDEVELOPMENT MASTER PLAN

January 2010 Final Master Plan Report

Open Space Network Mid-Block South

The site plan incorporates mid-block parks, courtyards, and pedestrian walkways that create a safe, pedestrian focused network throughout the development. The mid-block pedestrian networks supplement the sidewalks along the street and allow continuous public access from Mariposa Street to Osage Street. The mid-block network links important open spaces and uses, promoting community gathering, while providing a sense of safety and security.

The open space through the southern blocks of the project will see that residents experience small courtyards along Mariposa Street that open up to a neighborhood park located along Navajo Street. A small courtyard west of Navajo Street will link the neighborhood park with the Community Garden located on the west edge of Block D. A parking structure adjacent to the Community Garden will have a semi-private rooftop courtyard on the 3rd floor of the garage that overlooks the gardens.

Section A: Through Courtyard at Mariposa Street

Open Space Network Mid-Block South

Section B: Looking North through Navajo Street

III.24

SOUTH LINCOLN REDEVELOPMENT MASTER PLAN

January 2010 Final Master Plan Report

South Lincoln Master Plan

Source: Mithun

South Lincoln Master Plan

Sustainable strategies

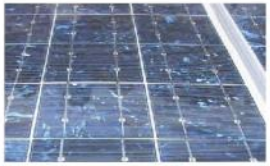
Green Community

Energy Star homes
Green Communities Rating
Community-wide recycling program
Bike trails and lanes to promote health and reduce driving
Promote an active lifestyle:
- Walking/ exercise loop through community
- Children's play spaces
- Outdoor activities

Community Gardens
Reduce energy and water demand with efficient appliances
Use trees, roof overhangs and awnings to provide shade and reduce cooling demand
Reduce stormwater runoff with bioswales, plantings and green roofs
High-walking, transit village with pedestrian safe street design
Use native landscaping

Bright Green Goals

Reuse rainwater for irrigation
Join the stormwater re-use pilot program
Aggressive district-wide renewable energy (PV and geothermal)
LEED-Neighborhood Development (ND) Platinum
LEED-New Construction (NC) Platinum for buildings
Electric car sharing with smart grid technology
Bike fleet
Local food production and healthy food and gardening classes
Control light pollution



Source: Mithun

ENERGY


Lincoln Park/La Alma
Recreation Center
10th and Osage Light Rail Station
Osage Street
Newton Street
Maricopa Street
6th Avenue
N

Master Plan Energy Strategies

- 2 megawatt PV system to supply 80% of developments energy demand – all rooftop level and up to 75% of roof space
- Assumed a 5% increase for construction of PV, solar thermal and geothermal units
- High efficiency heating and cooling systems will reduce consumption by 40%
- Building orientation designed for passive solar design
- Distribution of lower and higher structures to provide solar access
- Geothermal system with district distribution to lower energy by 50%
  - Each building to have wells to support building load

Buildings by Type

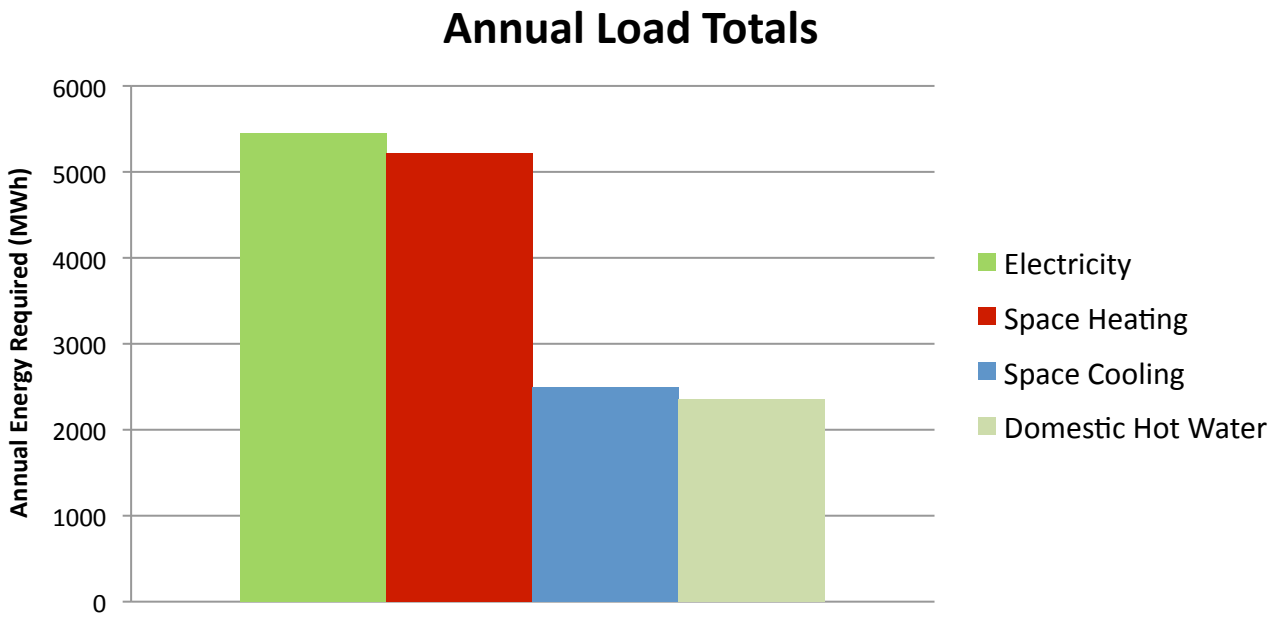
Energy Strategies at Different Scales

District Scale

Building Scale

Resident Scale

Projected Energy Use



Annual Energy Requirements (MWh)		
Electricity	Heat (including DHW)	Space Cooling
5446	7582	2491

Peak Demand (kW)		
Electricity	Heat (including DHW)	Space Cooling
994	4,636	1,839

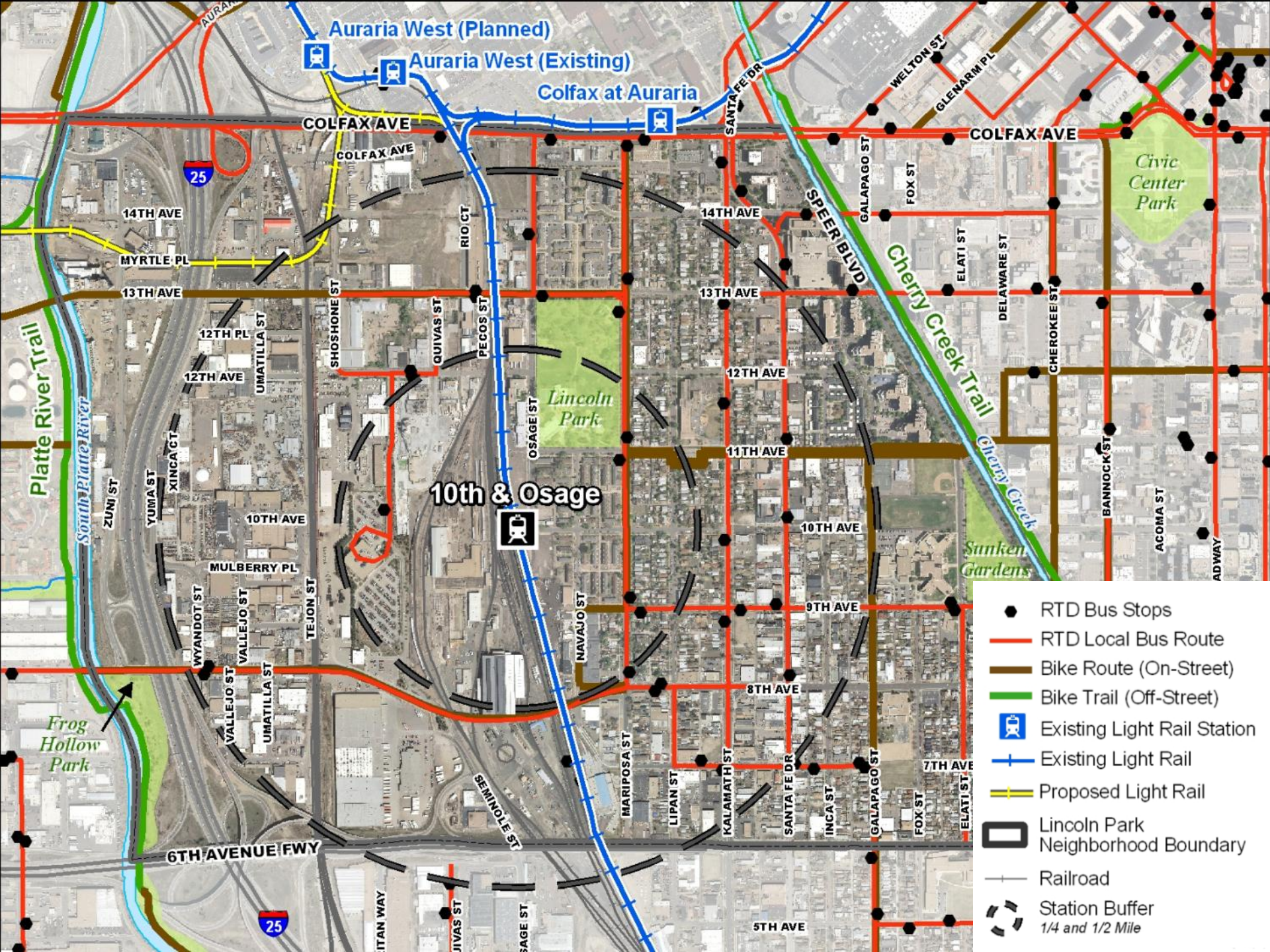
Source: Group 13 Analysis

Potential District Systems

Category	Potential Systems to Analyze
District Heating/DHW	Wood Chip Boiler
District Heating and Cooling	GSHP
Cogen	NG Gas Turbine
	NG IC Engine
	NG Fuel Cell
Trigen	Same generation systems as Cogen
Electricity Only	PV
DHW Only	SHW

Source: NREL Analysis

Transportation and Connectivity


Auraria West (Planned)
Auraria West (Existing)
Colfax at Auraria
COLFAX AVE
14TH AVE
MYRTLE PL
13TH AVE
12TH PL
12TH AVE
10TH AVE
MULBERRY PL
11TH AVE
9TH AVE
8TH AVE
7TH AVE
5TH AVE
6TH AVENUE FWY
10th & Osage
Platte River Trail
South Platte River
Cherry Creek Trail
Cherry Creek
Lincoln Park
Civic Center Park
Sunken Gardens
Frog Hollow Park
SPEER BLVD
SANTA FE DR
WELTON ST
GLENARM PL
GALAPAGO ST
FOX ST
ELATI ST
DELAWARE ST
CHEROKEE ST
BANNOCK ST
ACOMA ST
RIO CT
SHOSHONE ST
QUIVAS ST
PECOS ST
OSAGE ST
UMATILLA ST
ZUNI ST
YUMA ST
XINCA CT
WYANDOT ST
VALLEJO ST
TEJON ST
NAVAJO ST
MARIPOSA ST
LIPAN ST
KALAMATH ST
INCA ST
SEMINOLE ST
25
RTD Bus Stops
RTD Local Bus Route
Bike Route (On-Street)
Bike Trail (Off-Street)
Existing Light Rail Station
Existing Light Rail
Proposed Light Rail
Lincoln Park Neighborhood Boundary
Railroad
Station Buffer
1/4 and 1/2 Mile

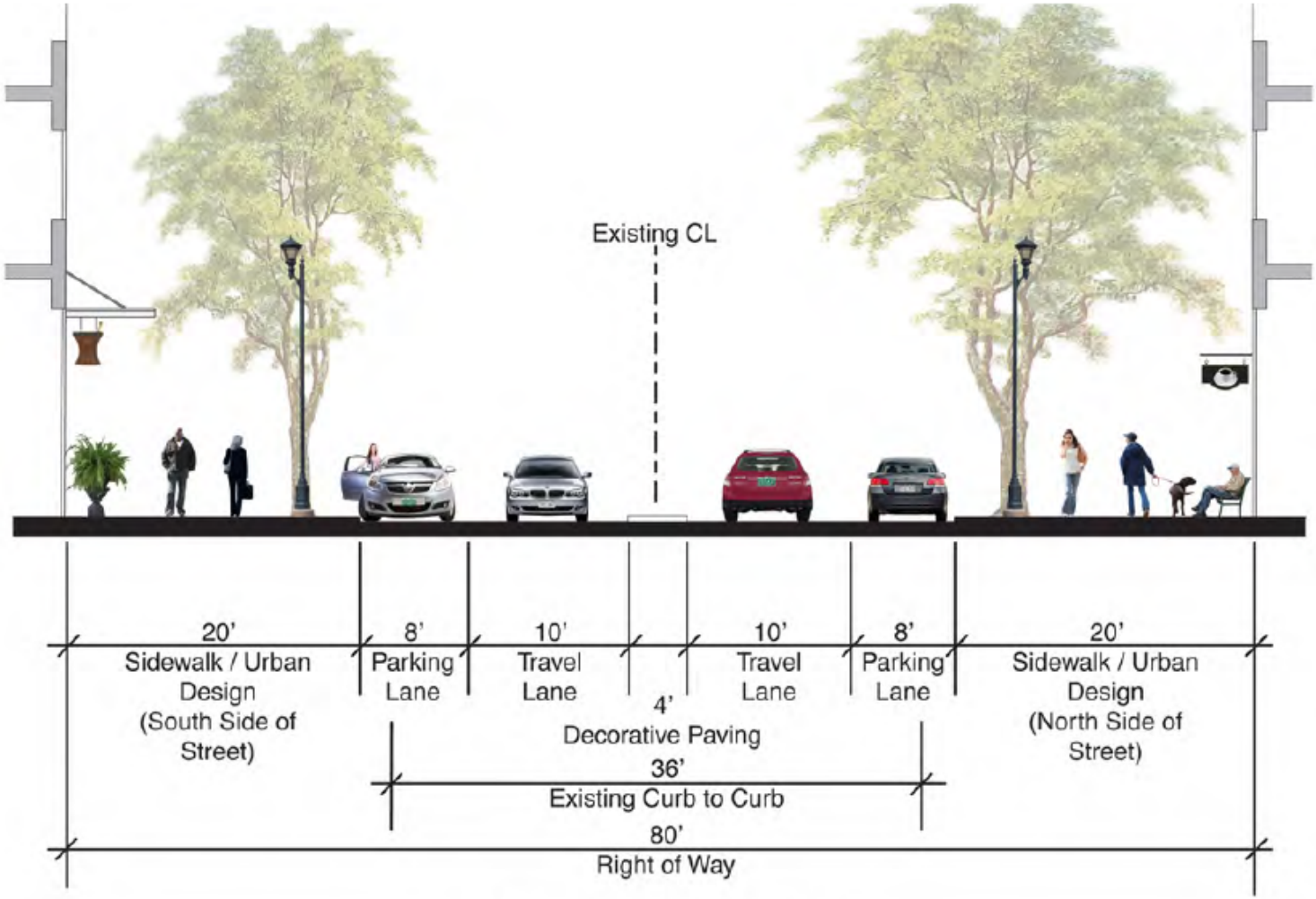
Master Plan Transit Goals

- Reducing vehicle speeds
- Improving pedestrian safety
- Enhancing neighborhood-serving transit service
- Ease of bike use for all residents

Mobility and Infrastructure Goals

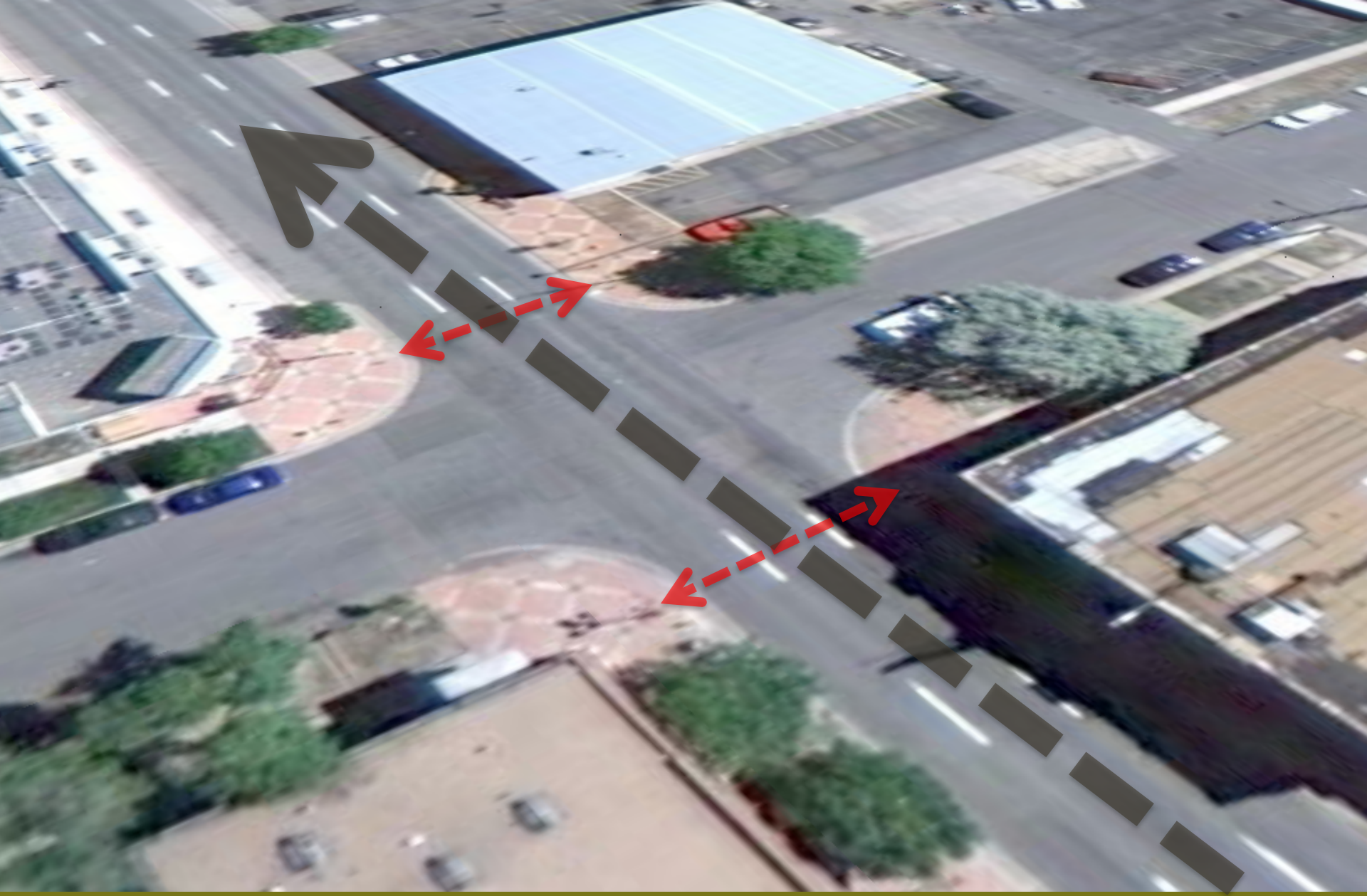
- Improve pedestrian and bicycle connections
- Bus service extended to 10th and Osage station
- Extend Osage Street South
- Re-open 11th between Kalamath and Lipan
- Implement bike lanes on 13th Avenue
- 10th Avenue shuttle
- Traffic calming for Santa Fe / Kalamath

10th Avenue Promenade



10th Avenue Promenade

10th Avenue Promenade



10th and Santa Fe (looking Northeast)

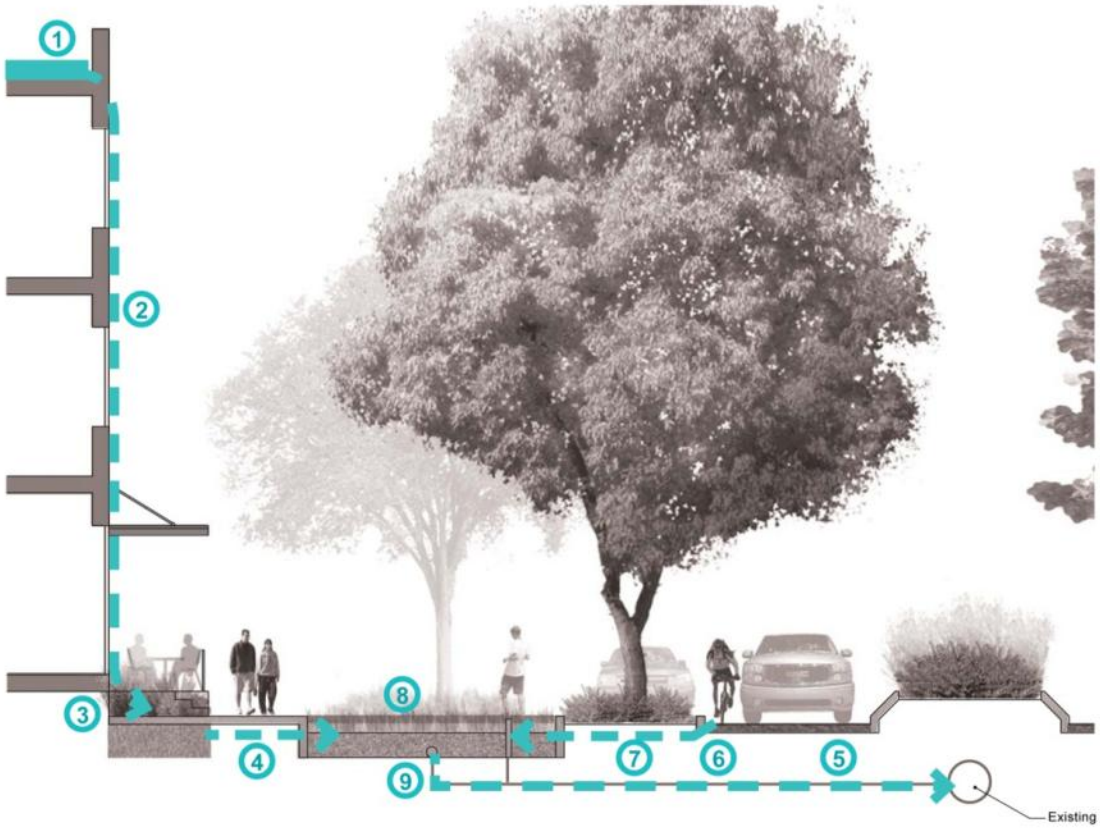
Pedestrian Crossing at 10th and Santa Fe

10th and Santa Fe

Stormwater Management

South Lincoln Master Plan

- Maintenance of all water quality facilities would be apportioned between RTD, the City of Denver (if applicable) and DHA based on benefits realized. Maintenance could be assured by an independent entity or agreement, as required by the City.
- Accommodation of existing and proposed wet and dry utilities according to current standards, or according to modifications in existing street standards.
- Improvement standards for safety and vector (mosquito) control based on national precedents, and local conditions as required.
- Implementation of flow reduction techniques (such as bioswales, disconnected impervious areas, green roofs) credited toward reduction of storm water detention and treatment volumes required.



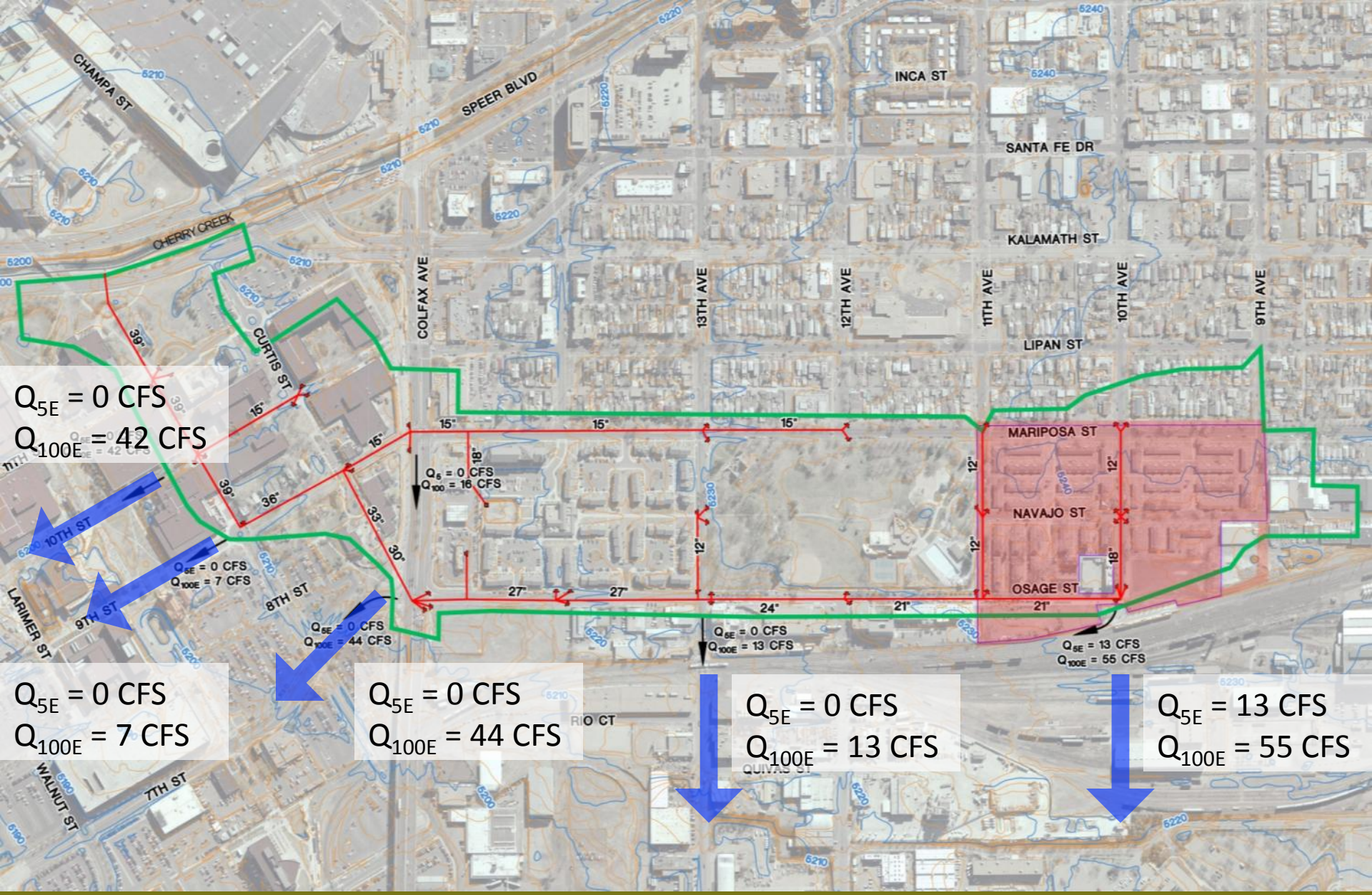
Proposed Stormwater Treatment
(within R.O.W)

1. Stormwater collects on rooftops of new buildings
2. Stormwater is conveyed, via internal and/ or external downspouts.
3. Stormwater is daylighted to landscape planters adjacent to buildings.
4. Stormwater is conveyed to infiltration gardens, via sidewalk chases. Alternatively stormwater can be piped from downspouts directly to infiltration garden, underneath sidewalk.
5. Rainwater falls on streets and is conveyed in curb and gutter
6. Stormwater runoff enters planter area through curb opening.
7. Stormwater surface flows through planter, or conveyed via chase, to stormwater infiltration garden.
8. The infiltration garden, also known as a porous landscape detention area, filters stormwater through plant uptake and infiltrates through a special soil medium. Infiltration gardens should be designed to pond no more than 12' deep.
9. Storm underdrains (required for soils with low permeability) and overflow devices convey stormwater to existing storm pipes located in the street.


Curb openings allow stormwater to be conveyed from the street's gutter to stormwater infiltration planters.


Stormwater infiltration planters along the street provide treatment and storage of street runoff. The infiltration planters narrow vehicular street widths to provide traffic calming and safer streets.


A stormwater infiltration garden located along this residential street treats runoff from the street and roofs of adjacent buildings.



Curtis Street Watershed Hydrology

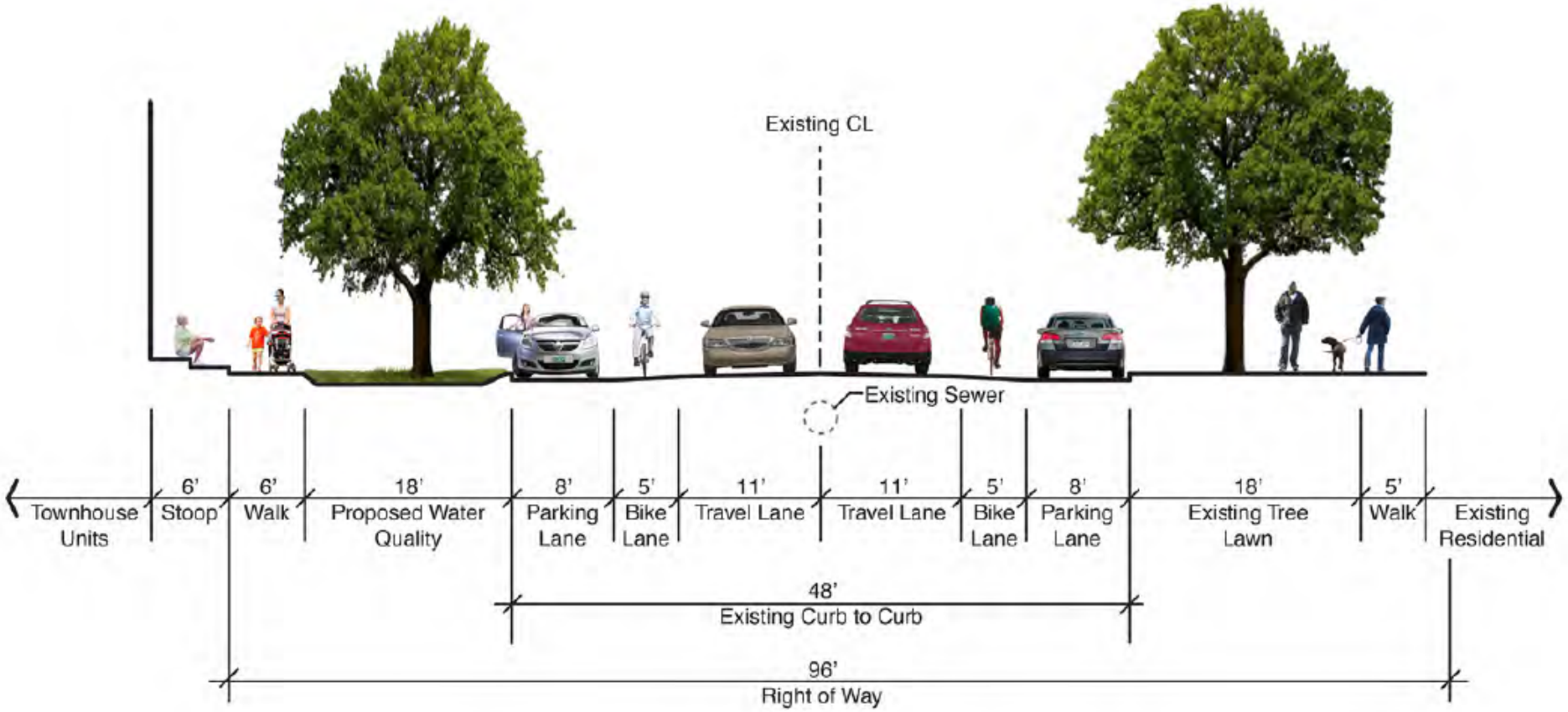
LID Strategies

Water Quantity and Rate

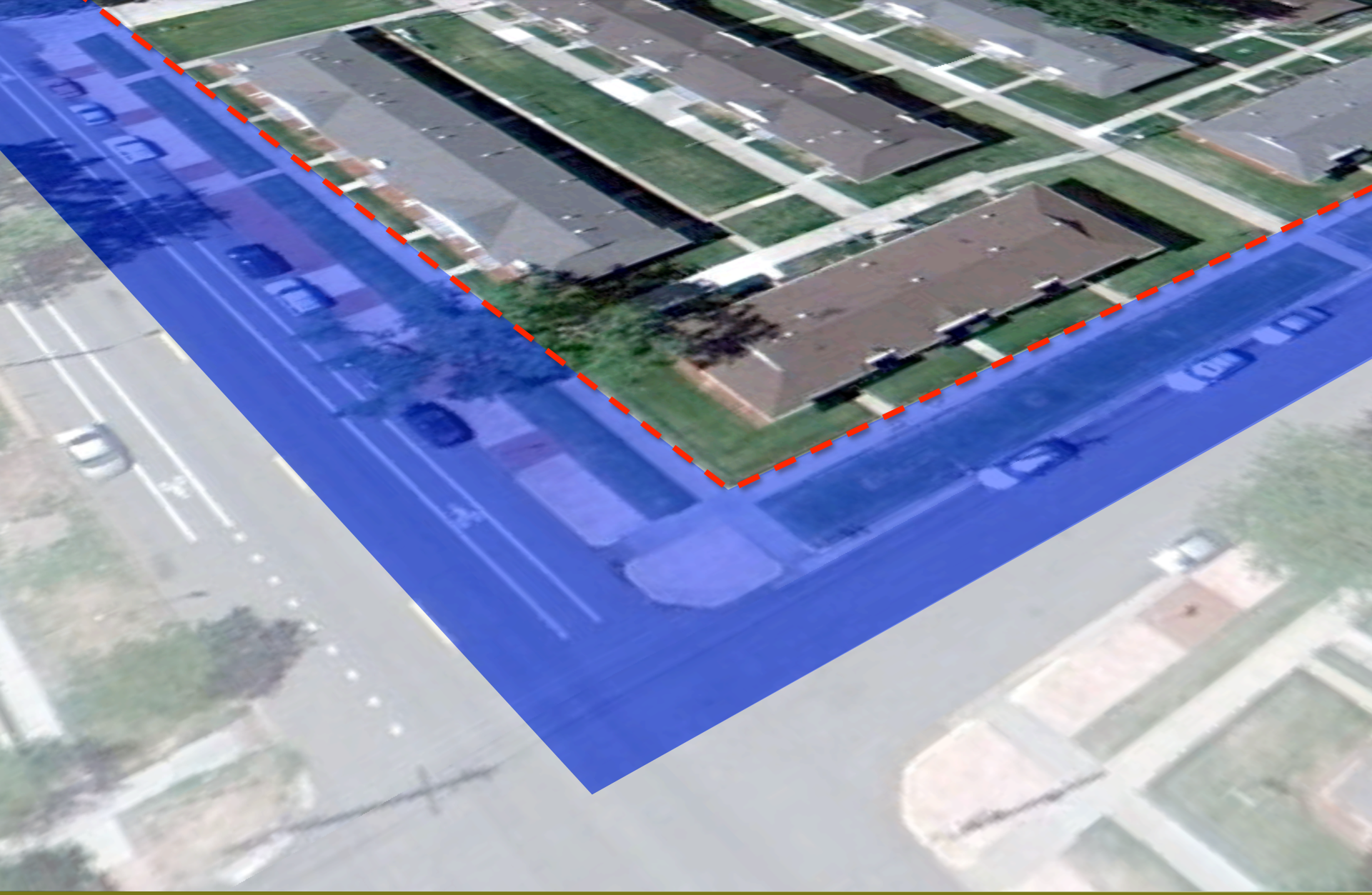
- Green roofs
- Rooftop detention
- Porous landscape detention
- Rainwater capture
- Porous pavement
- Consolidated detention along western edge of development (scaled for full development)
- Grass buffers and swales
- Tree box filters
- Re-vegetation

Water Quality – Source Control

- Infiltration planters, in right of way along all streets
- Detention / sedimentation facilities
- Sand filters

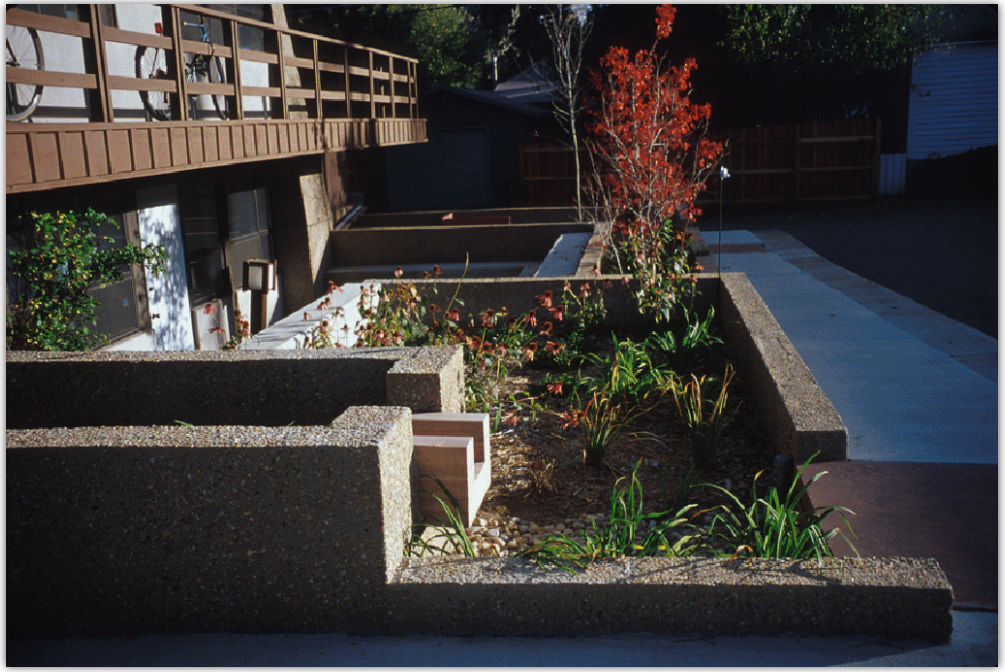


Green Infrastructure along Mariposa Street



3. Right of Way Stormwater Strategies

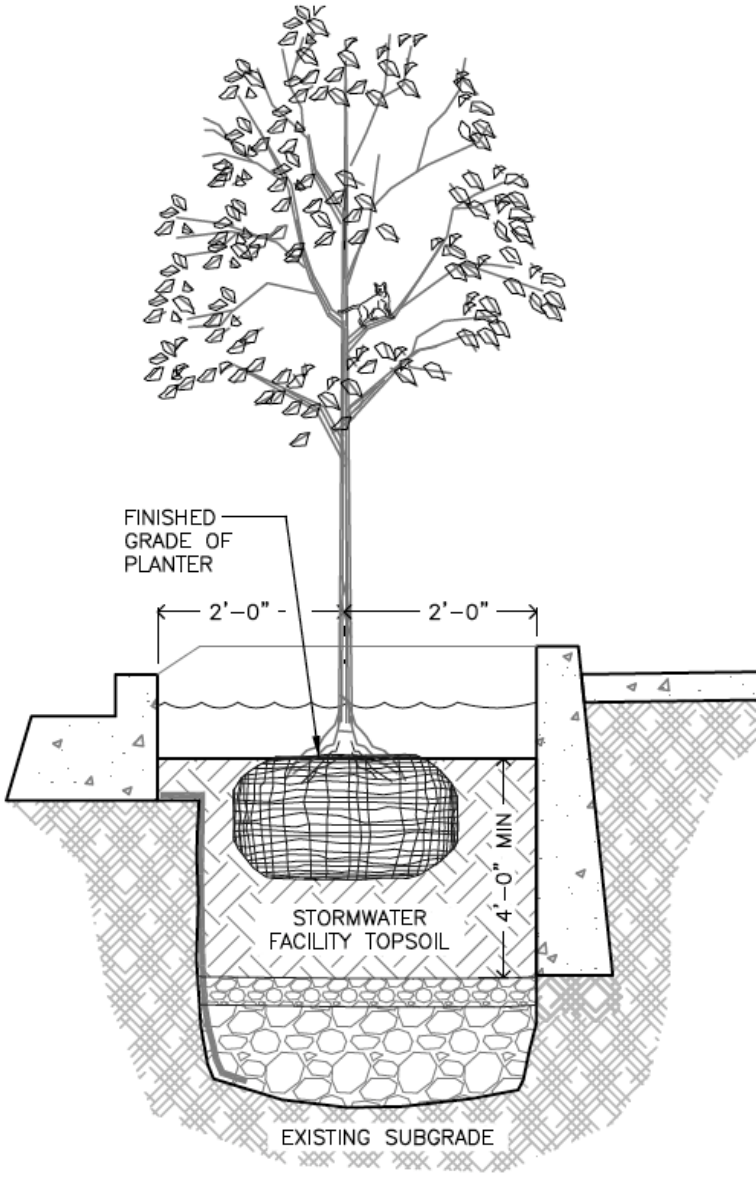
Porous Landscape and Grass Buffer

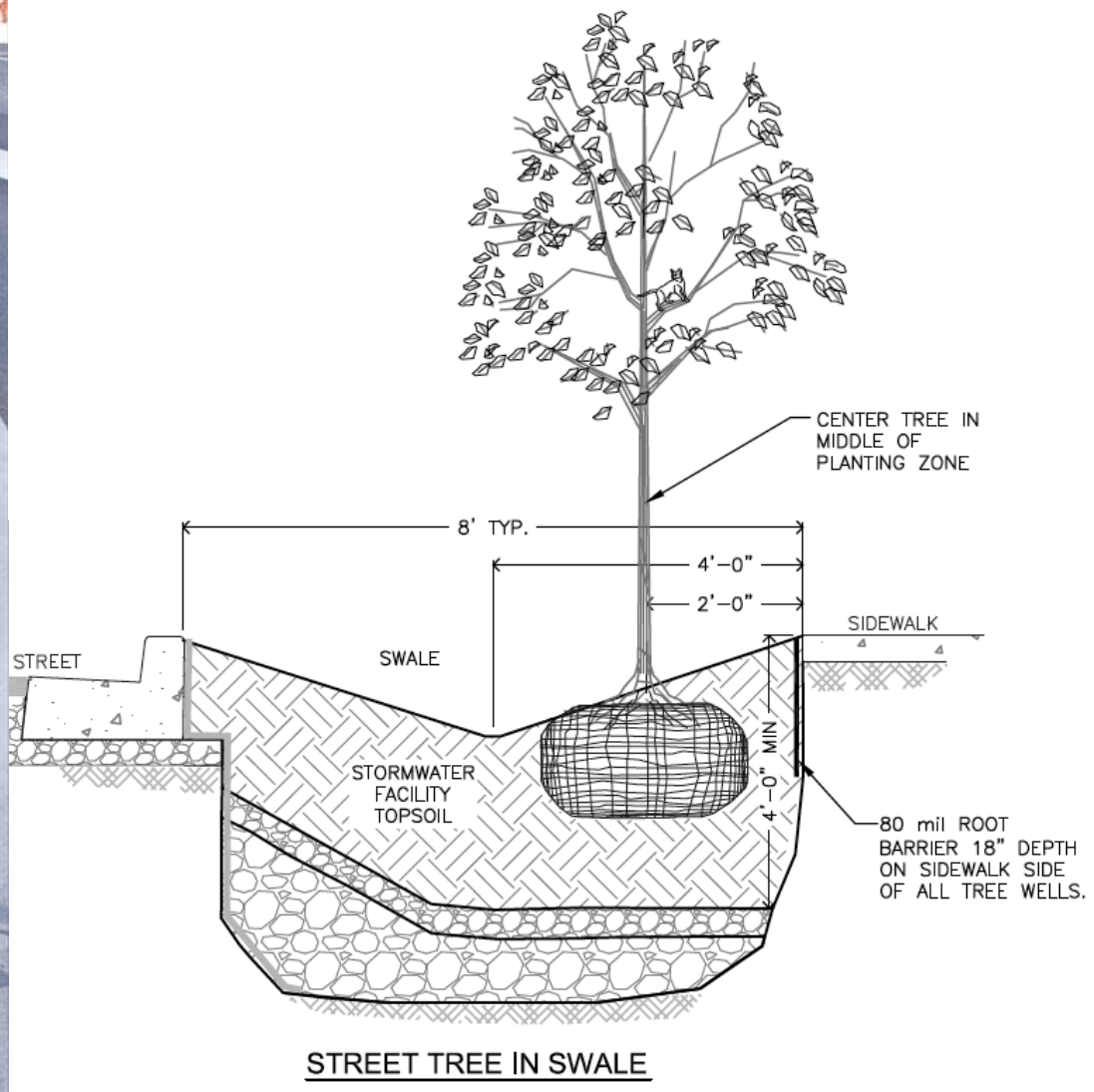


Porous Pavement

Permeable Paving: Portland, OR

Grass Buffers and Swales

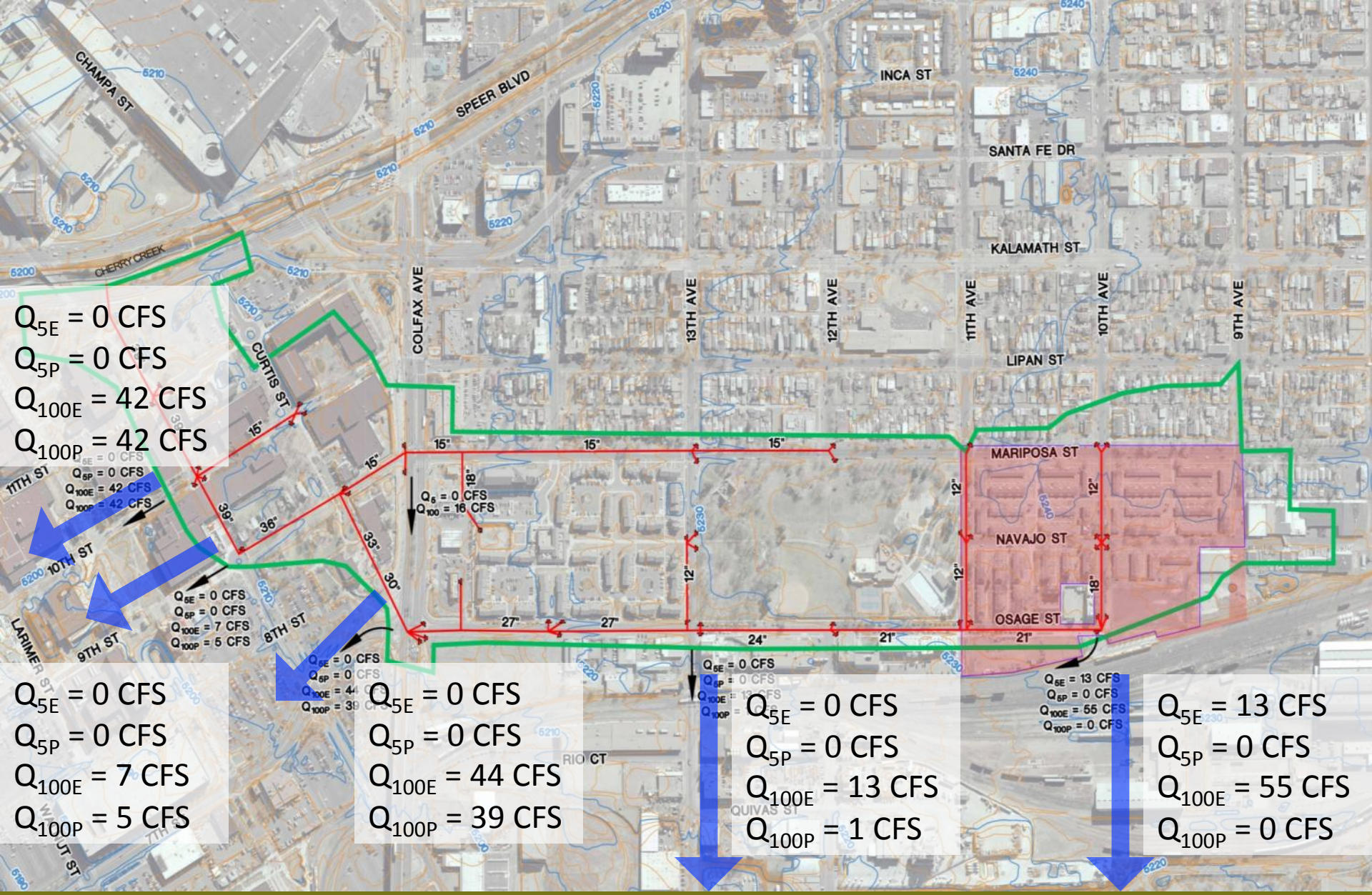

FINISHED
GRADE OF
PLANTER
2'-0"
2'-0"
4'-0" MIN
STORMWATER
FACILITY TOPSOIL
EXISTING SUBGRADE



STREET TREE IN SWALE

Detention Volumes

Volumes and Depths for LID Scenarios		
Description	**Volume in Pervious Areas (AF)**	**Depth in Pervious Areas (ft)**
Detention in Pervious Areas Only	3.3	0.8
Rooftop Detention	2.7	0.7
Rooftop Detention, Pervious Pavement in Parking Lots and Alleys	2	0.5
Rooftop Detention, Pervious Pavement, 50% Plaza areas with PICP	1.7	0.42
Rooftop Detention, Pervious Pavement, 50% PICP, Green Roofs	1.5	0.37



Watershed Hydrology Map – Proposed Conditions