

team b: Bio-Verde

stefani lakey
john owen
nathan brightbill
lauren briel
terri dobrich
sarah dooling
casey hildreth
kelly mann
kenichi nakano
pietro potesta
laura raymond
daniel spiess
jacob struiksma
heather trim
david yeaworth

open space seattle 2100
DOWNTOWN

Team Bio-Verde Downtown Plan

We have been charged with creating a bold open space plan with implementation strategies for Seattle's next 100 years, which will enhance the health and well being of both our cultural and natural environments. This vision of a regenerative green infrastructure will strive to create a healthy, beautiful Seattle while maximizing our economic, social and ecological sustainability.

Vision: Recognizing the unique nature of downtown as a regional economic, social and transportation hub, the primary goals for our downtown plan are to support diversity and maintain flexibility in a resilient way.

By diversity we mean:

- Diversity in the types of open spaces
- Diversity of users
- Diversity of ecological habitats and functions
- Diversity of purposes

By flexibility we mean:

- Active participation by communities in the creation and stewardship of the sites is explicit
- Ability to respond to changing needs and unknown events
- An infrastructure that allows for changes over time
- An experimental approach with feedback loop through monitoring (perhaps benchmarked at the 20 year point)
- Integration of economic, social and ecological quality in the city with equitable and balanced value attached to all of those
- Ecological function is built into the fabric of the city
- A space that can be used 24/7 (good sense of safety). Different uses at different times of day

We will achieve this vision by:

- Move to a more accessible open space model
- Creating opportunities for mobility that promotes a healthy lifestyle
- Creating open space that facilitates social interaction.
- Creating a front stoop environment, which includes places to sit down and play games.
- Creating a balance between technology ethic and environmental ethic, which are authentic to Seattle.
- Starting to blur what is open space
- Creating a sense of place
- Maintaining and enhancing cultural features and historic legacy
- Allowing for a balance of open and density
- Creating open spaces that allow for diverse and multiple uses
- Fostering community building
- Fosters economic vitality by making it a place people want to live
- Sufficient affordable housing for all income levels
- Reversing the gridlock by creating transit and pedestrian ways and open spaces that flow together
- Managing storm water to save money on major CSO capital expenditures and down the road cleanup costs
- Zero sum resource usage
- Allow for assisted mobility (elderly and young included).

20 Year Vision – major emphasis is rebuilding waterfront and healing the wounds and making connections across neighborhoods. Support Center city neighborhood development with green streets and infrastructure. Make transit connections, allowing more accessibility to parks. Transit makes parks more accessible. Maximize opportunities – begin I-5 lid, lid viaduct/99. Make parks safe and secure – park management. Seattle Center is a good experimental place to work on green roofs. Civic campus completed and active.

- Stormwater treatment and recycling begins to be integrated into the infrastructure.
- Waterfront. Fully implemented habitat features, waterfront plan and shared street
- City hall. Ladder emerging- connecting up to 1st hill and down to Colman.
- South of downtown/stadium neighborhood. Green model redevelopment with zero sum resource use and high-rises (energy district). Other adjacent neighborhoods have the same opportunities.
- Key major neighborhoods delineated with intersecting edges. Preserve character of existing neighborhoods.
- Connection up to Little Saigon (P patches) and other neighborhoods – Yesler Terrace redevelops – park and open space.

- Green roofs on buildings
- Green streets begin to form network (define – a street that fully serves a neighborhood function)
- Partial lid on I-5
- Seattle Center starts to become greener
- Shared streets on 4th Avenue and waterfront (different times of day, seasons, and events)
- Highly functioning transit – every 5 minutes and free and streetcar connections
- Major transit hubs completed
- Bike friendly design (switching parked cars to the street side)
- P-patches on rooftops (all residential buildings have roof gardens)
- Bike trail completed (regional)
- Lid Highway 99 between Seattle Center and S Lake Union
- Center city “place” for protests.
- Greenbelt on I-90

40 Year Vision. Major reconfiguration of the city.

- Yesler Terrace rebuilt
- New shared streets:
 - o Madison is a “Shared Street” that connects towards Lake Washington.
 - o 12th Avenue
- Broad is a good connector for pedestrians
- Lid of I-5 extended
- New green space at 4th and Madison
- More streetcar connections (Madison and I D and Little Saigon and 23rd Avenue) and waterfront car to the south
- Shared street concept for 12th Street
- Green street on steroids. Marion and Broad and University.

100 Year Vision.

- Complete lid on I-5 in order to reconnect the neighborhood and create a breathing lung. We assume the whole structure will be rebuilt with possible other uses (housing, parking) incorporated. On top, allow for a multi-use open space and some built features. This will promote community building and create a “Central Park.”
- I-5 Lid
- Greenbelt along I-90
- Highway 99/Viaduct area is completely rethought and there is a complete connection to the waterfront.
- 4th Avenue becomes a Pedestrian Spine
- Duwamish is a regional ecological resource that functions as a critical estuary habitat for health of wildlife.
- South Downtown – bringing in water to the upland.
- Green port area. Greater connectivity between port operations and habitat and social function for city.
- Auto restricted area for a large portion of downtown.
- Seattle Center transformed into major green area.
- Green Ladders on Broad, Bell, Stewart, University and Marion (and possibly down from city hall)
- Reclaim mudflat east of stadiums and incorporate a Stormwater treatment facility

Connections to other neighborhoods

Magnolia/QA

Green Street on QA Avenue

Trail from Kinear across Thomas and Amgen Bridge

Lid on Aurora

S Lake Union
Lid I-5 (up to Ridge or completely)
Mercer Mess underground
Bike trail around lake
Corridor (green streets) feeding down to the Lake
20 years – bike lane on Westlake

Duwamish
Highline concept along Rail line
1st and 4th are major connections
Bike Trail on 1st
CSO at 20 years at Duwamish Diagonal
Waterway along

Rainer Valley
Gateway I-90/I-5 juncture
Urban ag focus
Huge network of green streets

Madison Connector
Green streetcar street

Other Downtown Group
Habitat weave – I-5, South of Downtown and waterfront
Secondary layer of blue streets and green streets
Liquefaction of SoDo Area

Features of our 100-year vision

Neighborhood Small Flexible Spaces

- Neighborhood-oriented green streets throughout
- When streets meet in odd ways – use these spaces
- Basketball court on the asphalt
- Neighborhood based uses
- Interesting junctures
- Multiple use of ROW - Sports (basketball)
- Market area
- Small pocket park – some with water features, contemplative spaces
- Building walls - theatre
- Parking lots – water treatment integrated
- Multi-use
- ROW use (Taiwan example – daytime for drinking tea and expand tables into street and shrink back during rush hour)
- Apple trees – gleaning of street trees
- Garden
- Reference to different cultural groups (ex: waterfront beach for tribal canoe use)
- Tango party in the pea patch
- P Patches with community spaces associated
- Schools linked with usable open space
- All different types of green roofs gardens on lower buildings as community space (ala S Lake Union Team)

I-5 Lid

Overall: Minimum 80-foot wide open space for the center of the entire length. All structures have green roofs or walls.

- School, including recreational fields and gym and rec building and garden
- P Patch
- Tree orchard area
- Passive park with great views
- Market space: cafes, retail, farmer's market
- Affordable/workforce housing (possibly over school)
- Water features that link to green ladders
- Kept existing through streets in order to not create a barrier
- Dog park
- Concert place

SoDo Redevelopment and Ecological Restoration Area

- Soften edge of T-46 and create habitat/natural area on edge
- Create estuary/mudflat area south and to east of Stadii
- Stormwater treatment facility for downtown and adjacent areas
- North edge of new lagoon includes marina and waterfront style activity while south edge has a wide green buffer with trails to experience nature
- All new development involves zero net resource use
- South of lagoon, development is mixed use, mid-rise
- North of lagoon, development is mid-high rise, stepping down from heights of downtown
- T-46: high rises (skinny) on Viaduct lid with step down of heights to low-scale, mixed use towards water

Green Ladders

- 1-2 blocks wide zone that connects waterfront to I-5 Lid or other upland open space areas.
- Pedestrian street at core - uses green features in buildings, which are incorporated into the space of each block in various ways.
- Madison/Marion and 3rd/4th are examples of completed green ladder/transportation corridors
- Plazas and other outdoor features are located at key places
- Open greener areas at junctions with N-S pedestrian streets
- Take advantage of the topography and treat and infiltrate stormwater in cascading fashion along with specific water features - at the bottom the stormwater is a source of fresh water inputs into Elliott Bay.
- Within Green Ladders open spaces and public uses are somewhat more fluid than a rigid city grid.
- Mobility and views are a key part of the ladders.
- Valley in building heights down to green ladders except for existing buildings that last 100 years.

Team Bio-Verde Phasing Plan

Context

Topic	0-20 years	20-40 years	40-100 years
Demographics (downtown includes Belltown, Pioneer Sq, Commercial Core, Denny Triangle and ID)	2004: 30,000 dwelling units and 218,809 jobs in Center City	2024: 51,900 dwelling units (71% gain) and 274,400 jobs (25% gain)	Diverse group and less mobility.
Built Form	Growth in neighborhoods around core (Denny Triangle, Belltown, Pioneer Sq, ID and First Hill) Viaduct Solution	I-5 rebuilt	Link open space with transportation Build highrise neighborhood around Seattle Center Green Port
Mobility	Still auto-oriented Street cars Transit (light rail) completed	Increased access to public transit Hill climb assistance East-West mobility Walkability	Major improvements in transit Auto not dominant

Elements

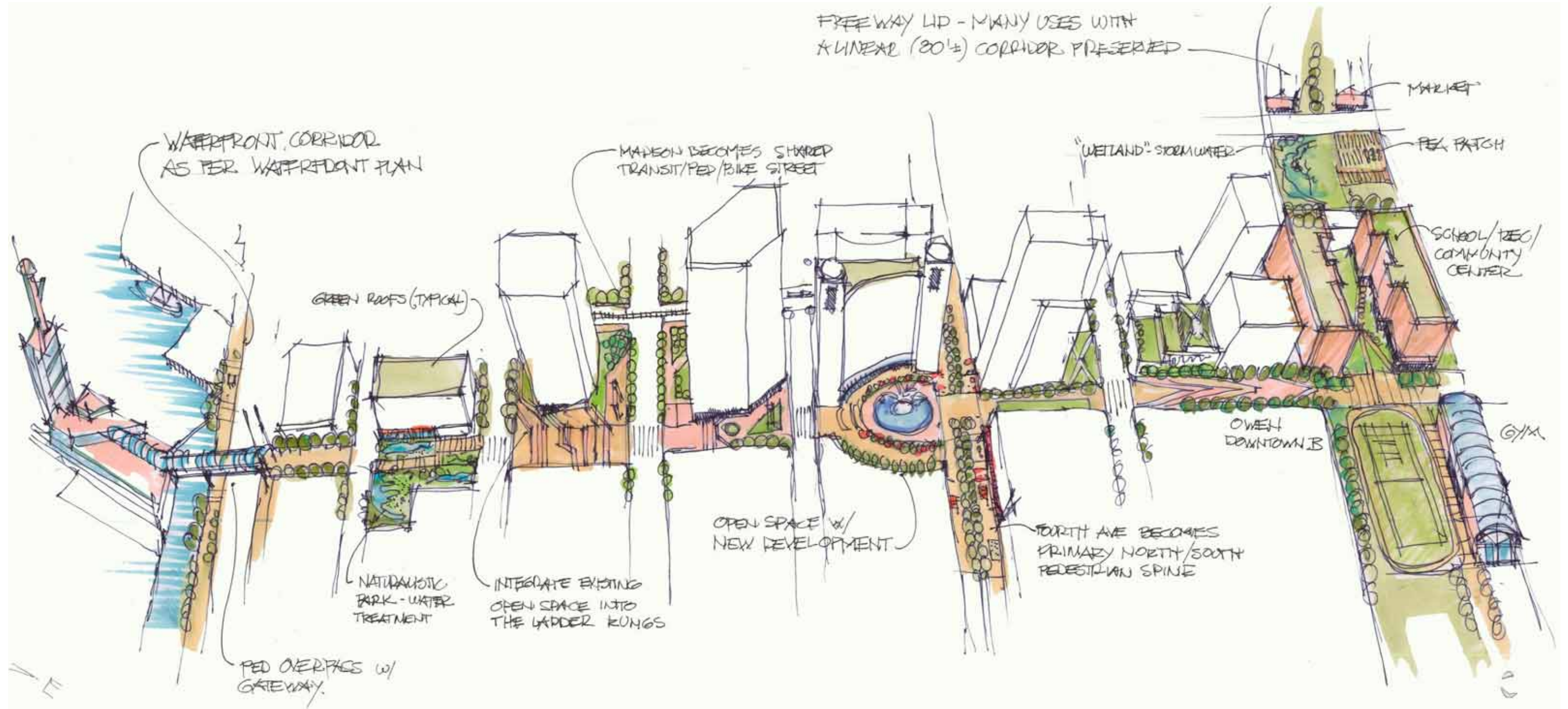
Topic	0-20 years	20-40 years	40-100 years
Neighborhood Parks and Local Spaces	Major green street Program Neighborhood based open spaces Park Management program	Redo Seattle Center as eco-model	Expansion of Green Ladders (web) to support more intensity
Transportation Support	Lid 99 Lid I-5	East-west mobility Distribution of open space/types Major transit nodes w/open space for access	
Streets and Links	Green Streets Shared Streets (4 th Ave and Waterfront) Mtn to Sound Trail completed across Beacon Hill	Shared Madison	Green ladder streets turned to primarily pedestrian
Shorelines	Redo waterfront Balance use and ecology	Duwamish Transformation	South Stadium Stormwater treatment and lagoon/estuary

Team Bio-Verde – Benefit Analysis

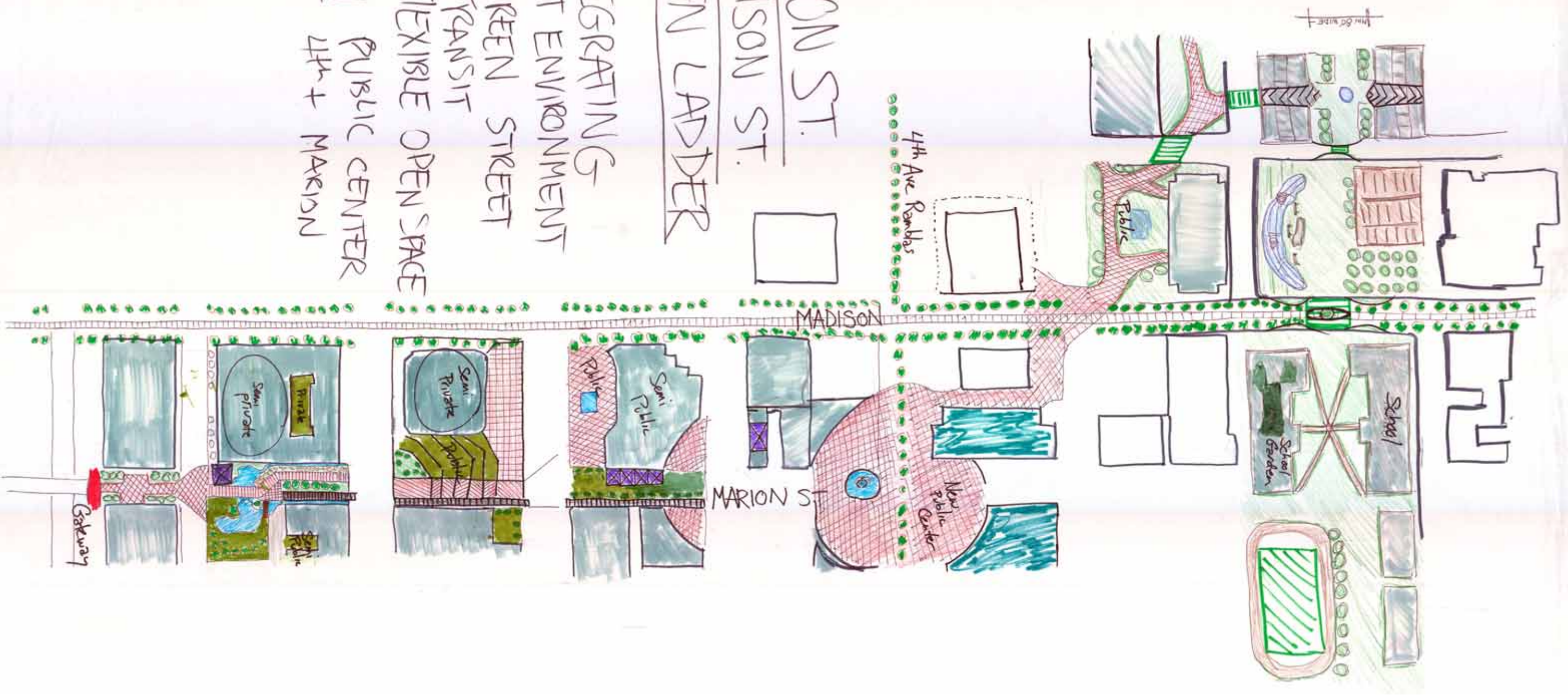
Vision	Ecological – habitat function, Stormwater cleanup and management, heat island dissipation, energy savings	Social – community building and health, intercultural communication,	Economic – heath care savings, pollution cleanup cost savings, increased commerce, efficiencies, energy savings
Rebuild Waterfront	Primary	Primary	Primary
Neighborhood connections <ul style="list-style-type: none"> • Yesler Terrace redevelopment • Broad street and other enhanced • pedestrian connections • Street car connections 	Secondary Secondary Primary (energy)	Primary Primary Primary	Secondary Secondary Secondary
Transit/mobility <ul style="list-style-type: none"> • Highly functioning transit (every 5 minutes and free) • Transit hubs (energy) • Bike friendly street design/ Bike trails 	Primary Secondary Primary	Primary Secondary Primary	Primary Primary Secondary
Creating and re-envisioning space <ul style="list-style-type: none"> • Greenbelts • City hall ladder • SoDo built redevelopment • Lidding I-5 and Hwy 99/Aurora • Shared streets • Protest space • Right of Way multiuse • Small flexible spaces • Multiple use of schools • Green port/Duwamish Estuary 	Primary Primary Primary Primary Secondary Tertiary Tertiary Primary Secondary Primary	Primary Primary Primary Primary Primary Primary Primary Primary Secondary	Secondary Secondary Primary Primary (development opportunities) Secondary Secondary Primary Secondary Primary Primary
Experimentation <ul style="list-style-type: none"> • SoDo natural area • Seattle Center • Green Ladders • Homeless-friendly spaces 	Primary Primary Primary Secondary	Primary Primary Primary Primary	Primary (Stormwater) Secondary Primary (retail) Secondary
Green Infrastructure <ul style="list-style-type: none"> • Stormwater treatment • Green roofs and pea patches • Green street 	Primary Primary Primary	Secondary Primary Primary	Primary Primary Primary







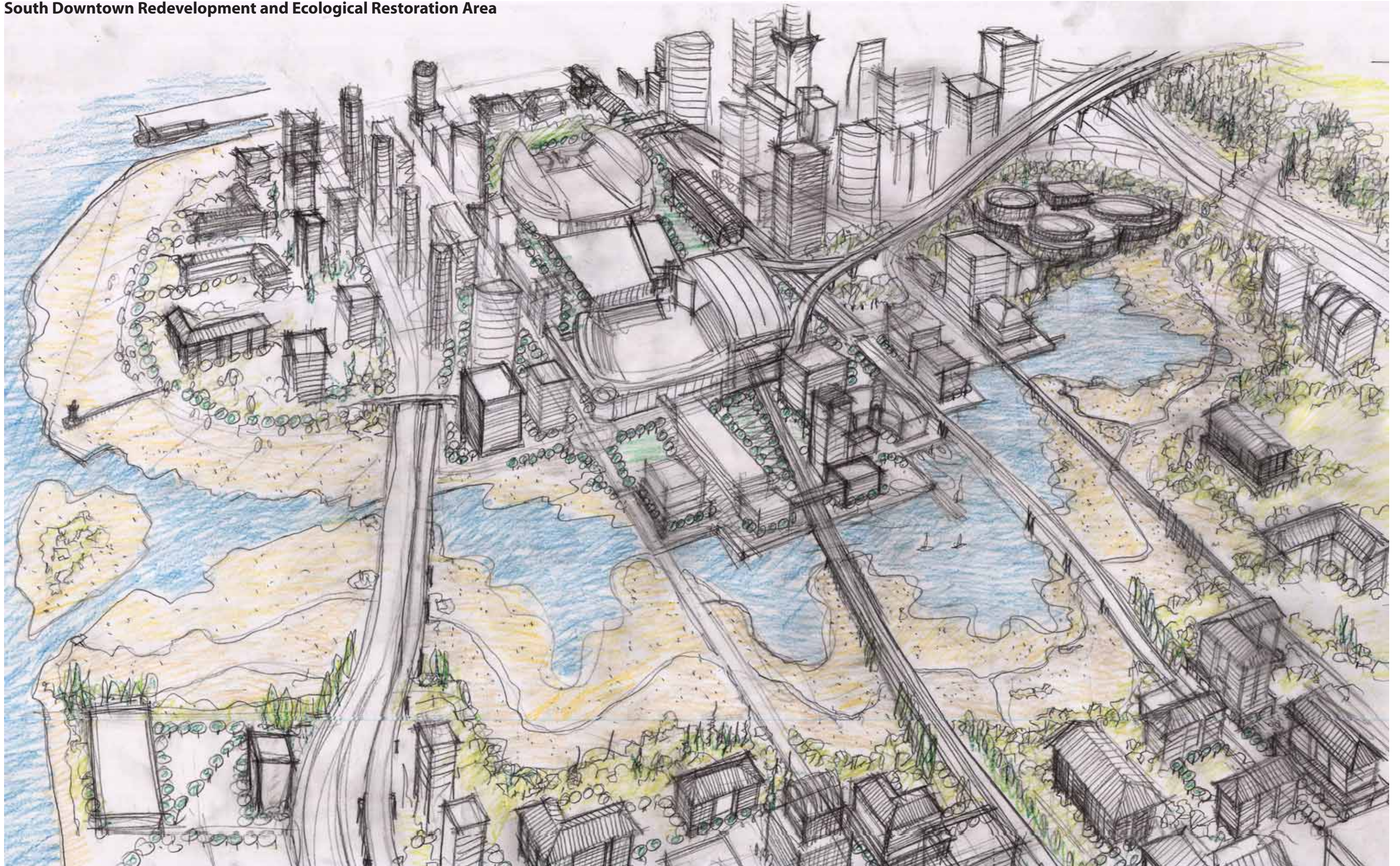
I-5
LID

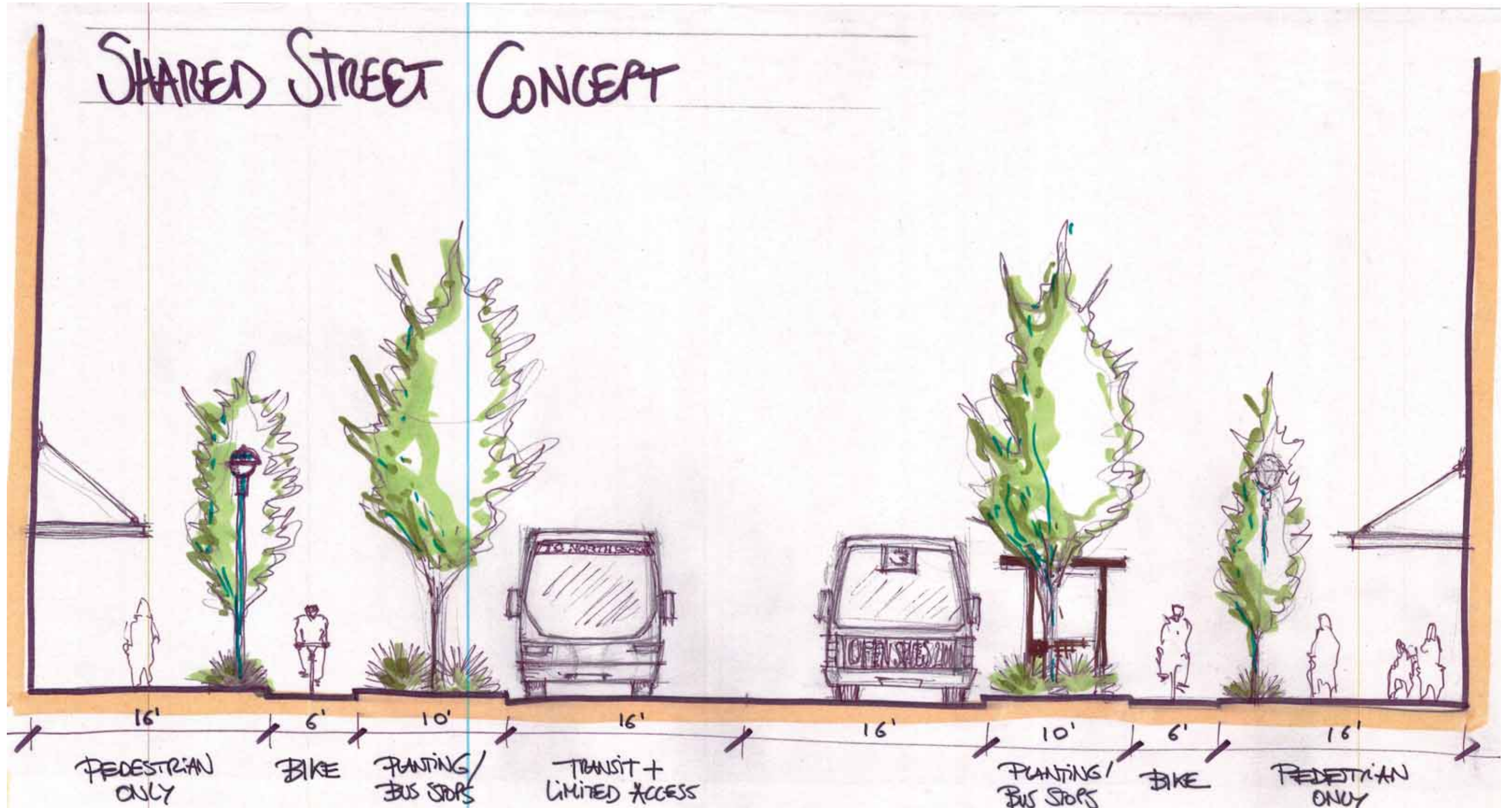


MARION ST.
MADISON ST.
GREEN LADDER

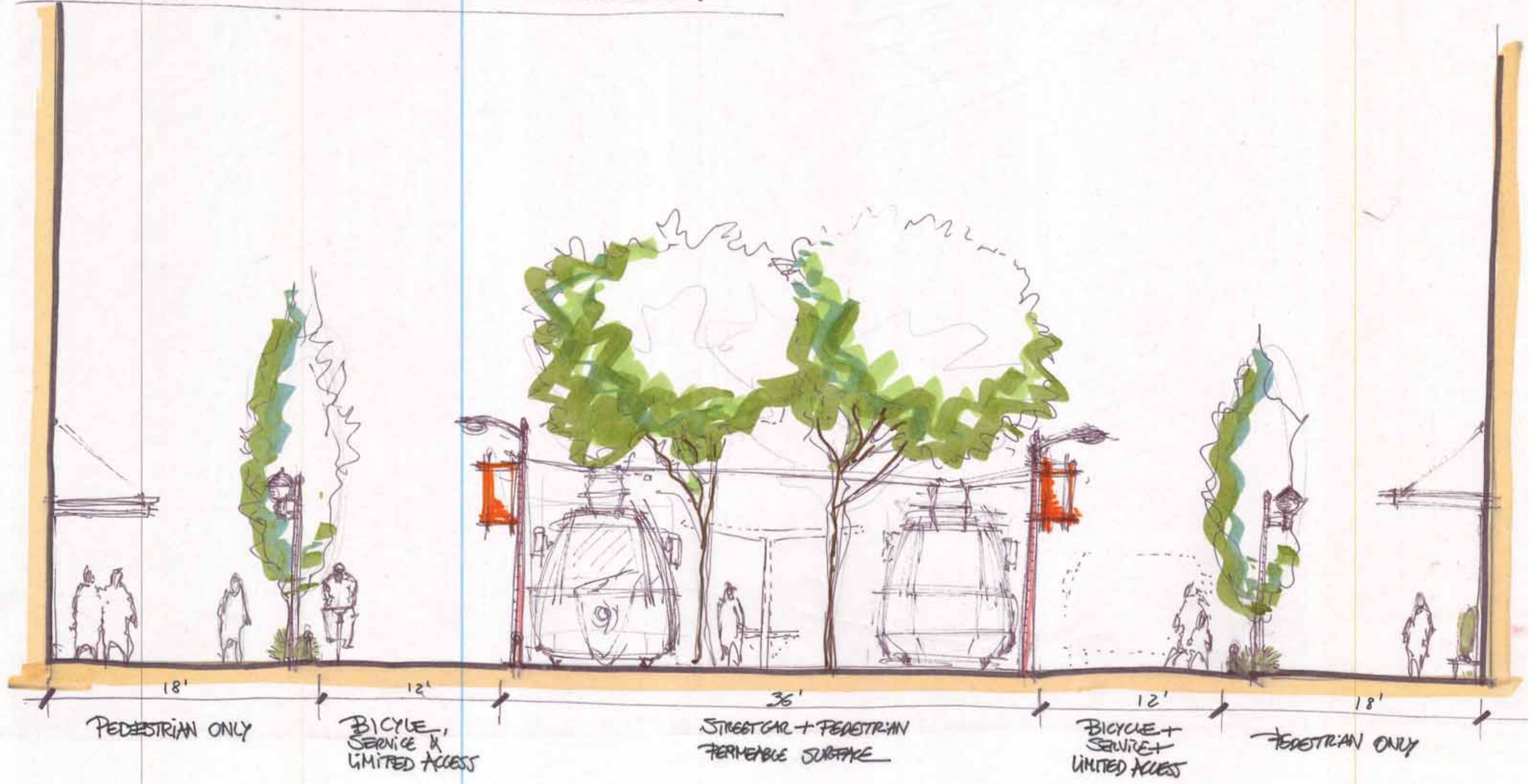
- INTEGRATING BUILT ENVIRONMENT w/ GREEN STREET TRANSIT FLEXIBLE OPEN SPACE
- NEW PUBLIC CENTER AT 4th + MARION

South Downtown Redevelopment and Ecological Restoration Area

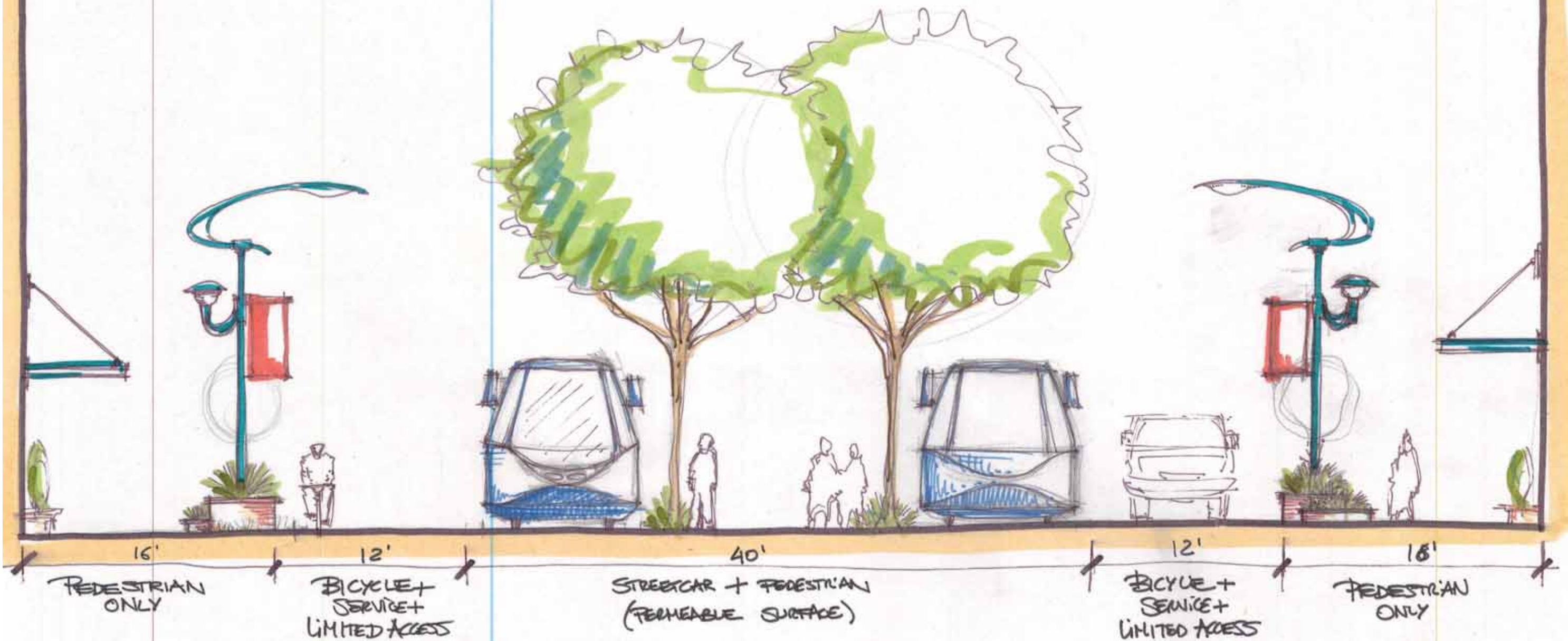




SHARED STREET CONCEPT

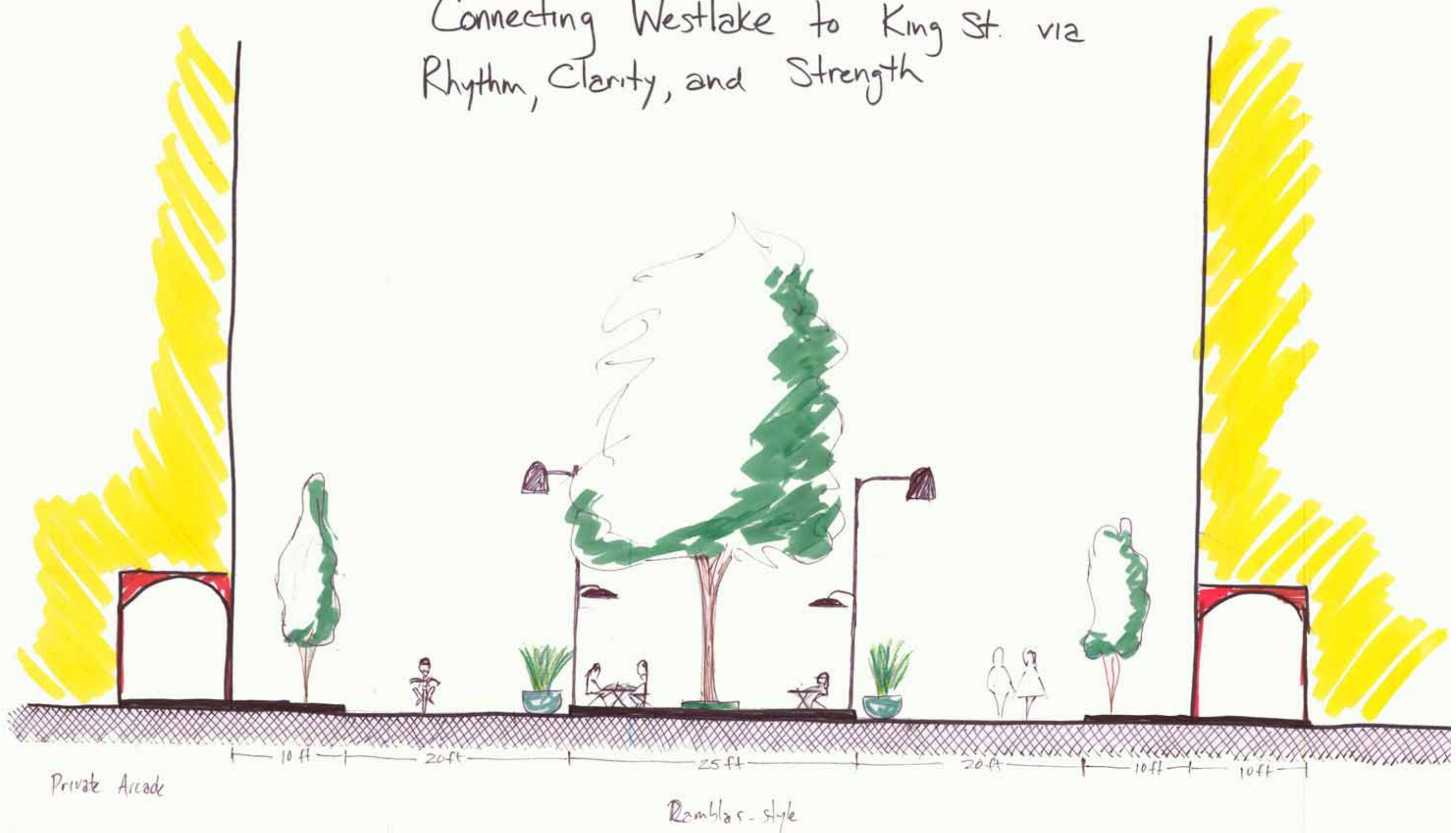


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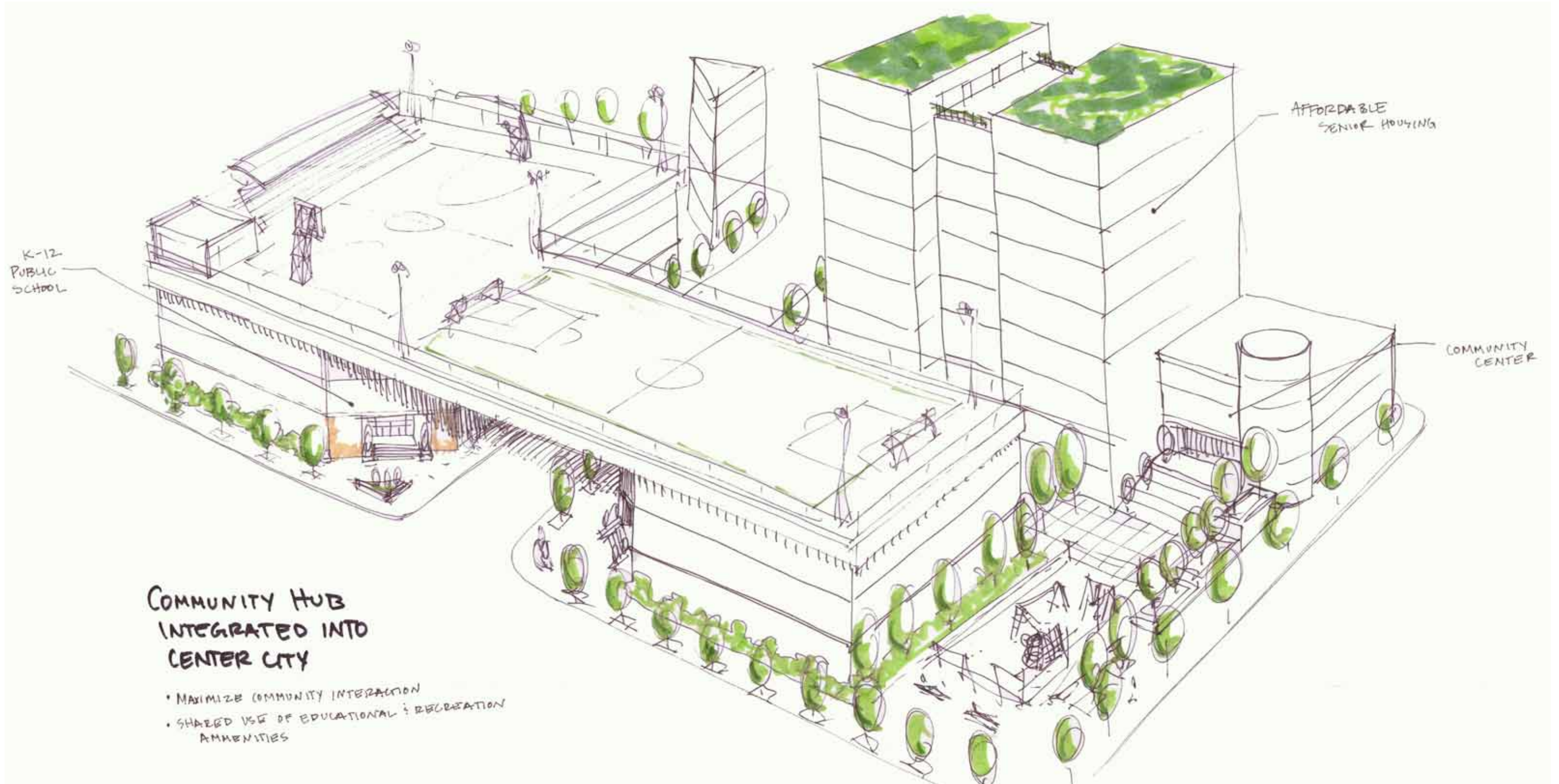


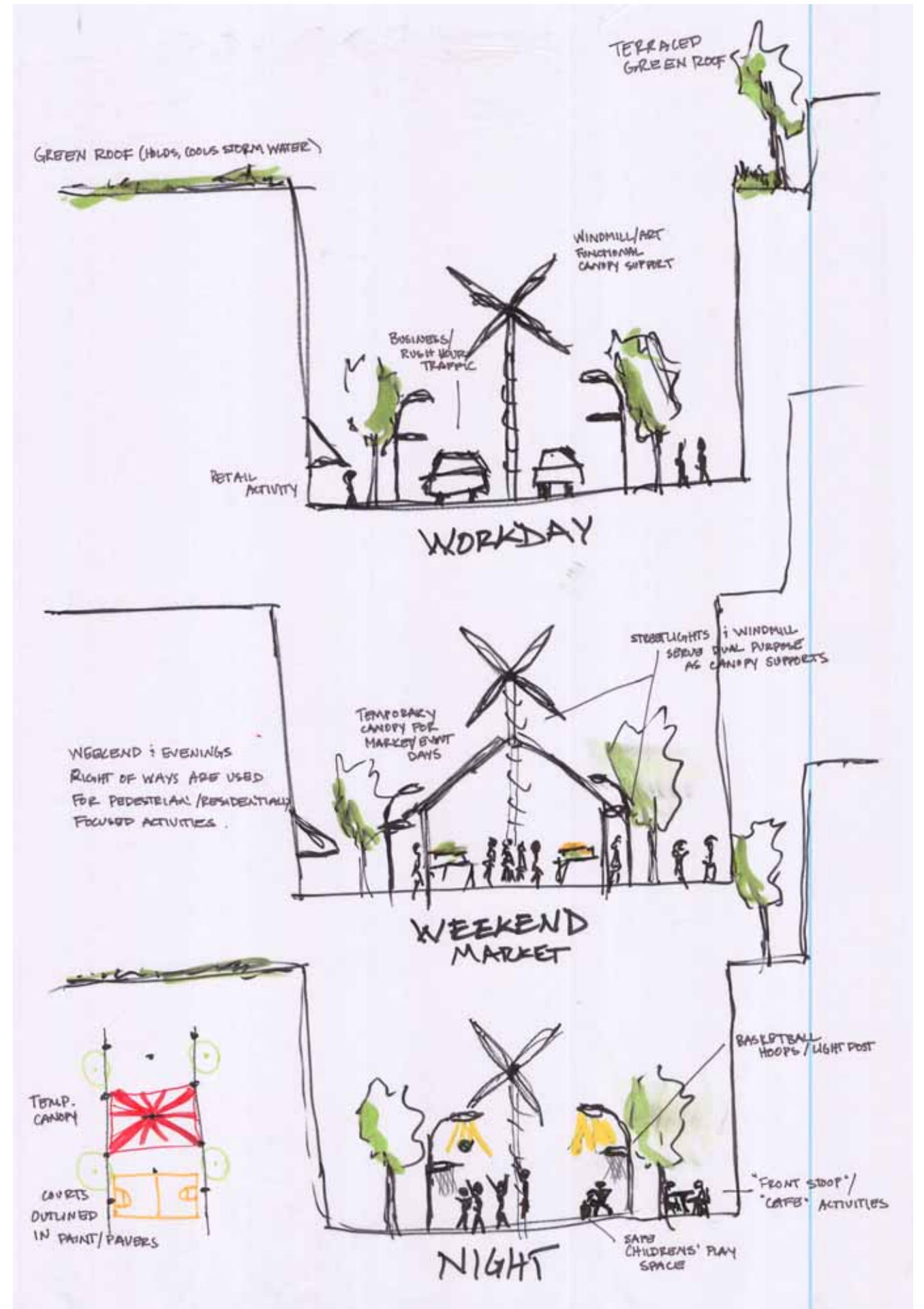
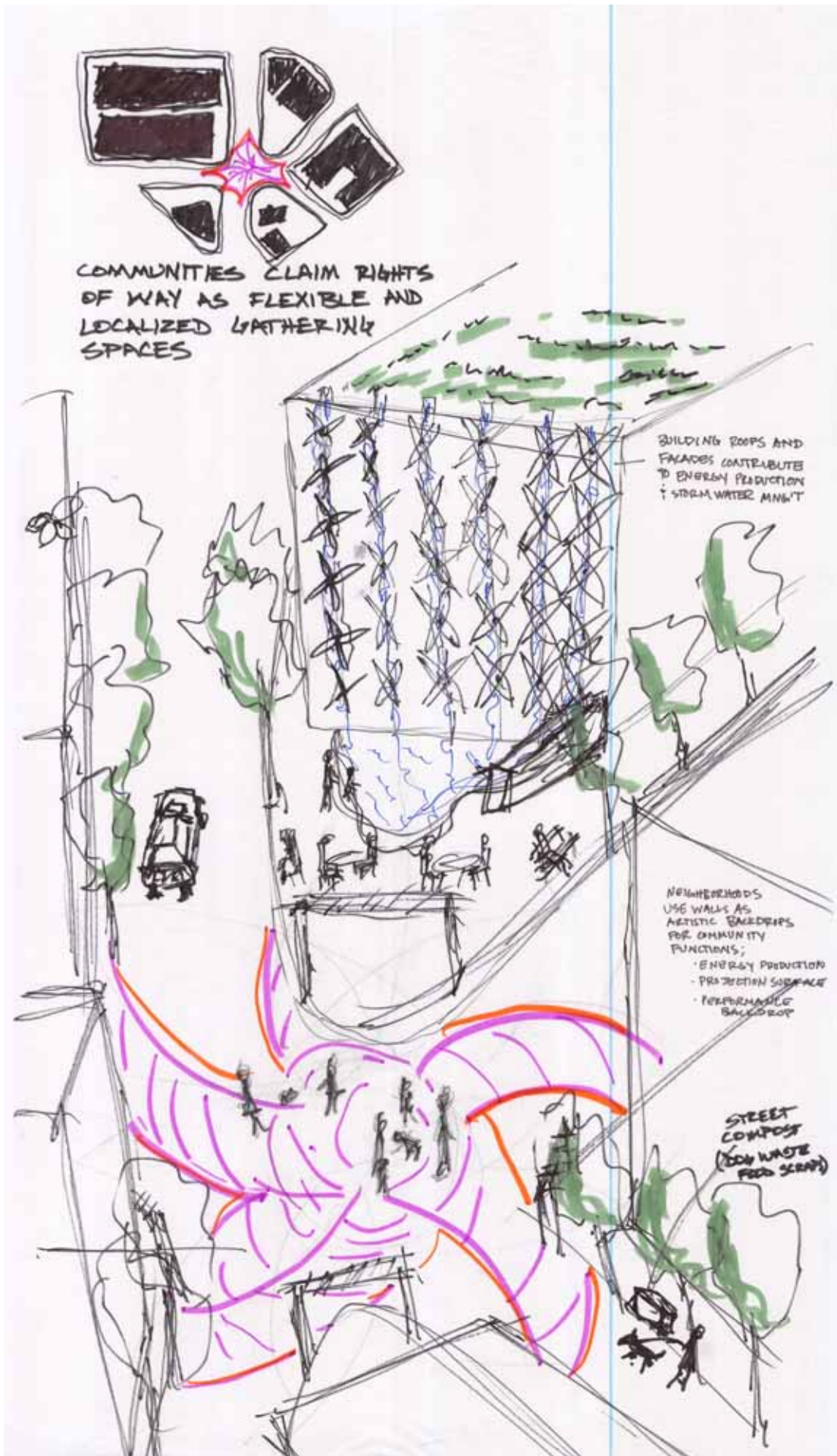
4th Ave

Connecting Westlake to King St. via
Rhythm, Clarity, and Strength



Flexible Community Spaces





URBAN GARDENS CROSS SECTION

"GREEN" HIGH RISE ROOFTOP
• HELPS/COOLS RUNOFF
• PROVIDES VIEWS OF GREEN "CEILING" TO CITY.

DIVERSE GARDENS UTILIZE VARIED SURFACES FOR MULTIPLE PURPOSES

ROOFTOP FOOD PRODUCTION GARDEN
• PERSONAL "KITCHEN" GARDENS

RESIDENTIAL COURTYARD GARDEN
• PROVIDES "PRIVATE" OUTDOOR SPACE

LINEAR ORCHARD
• URBAN FOOD PRODUCTION FOR ALL PEOPLE

TRELLISED GREEN WALL

STORMWATER DRAINAGE "RAIN" GARDEN

COMMUNITY GARDEN "P-PATCH"
• SPACE FOR FOOD PRODUCTION
• COMMUNITY GATHERING SPACES BE SHARED HOUSING/NEIGHBORHOOD EVENTS
• DUAL USE STRUCTURES MAXIMISES USES
TABLE : DINING

PUMP CISTERN
• COLLECTS RAINWATER
IRRIGATES P-PATCH

CENTER CITY NEIGHBORHOODS RETAIN LOCAL CHARACTER WITH