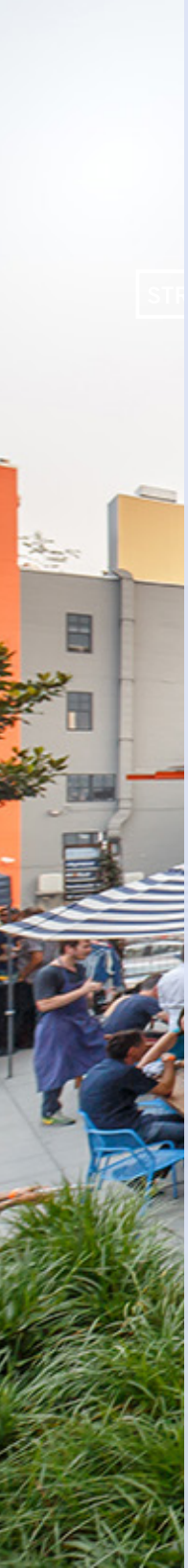
6 BUILDING DESIGN PRINCIPLES AND GUIDELINES

6.1 GENERAL INTENT *116*

6.2 OVERALL BUILT FORM GUIDELINES *118*

6.3 INDIVIDUAL BLOCK GUIDELINES *140*

The Area Plan contains many different types of buildings. This section sets out the design and performance requirements for each building type while allowing flexibility for individual creativity.



6.1 GENERAL INTENT

The vision for the public and private buildings within the SVS site is to create a distinctive, pedestrian-oriented, high-density, sustainable neighborhood that embodies the following fundamental values;

- Respect for the cultural heritage
- Respect for the environment and for the future generations that will benefit
- Respect and dignity of the users and inhabitants

SVS is a gateway site and a landmark destination serving all of Sacramento and the wider region. As a highly visible location in the central city core that embraces the future, building design shall embody a bold and expressive urban identity. An inviting urban form, well-balanced between high-density development and a pedestrian-friendly public realm, is critical to the success of delivering a welcoming and inclusive place. Building design shall comply with the requirements and guidelines of the Sacramento Railyards Specific Plan, 2016 and the Sacramento Railyards Design Guidelines, 2016. Additional and complementary site-specific requirements and guidelines are included in this section. Where this section is silent with respect to any aspect of building design, the requirements of the above referenced documents shall prevail.

Section 6.2 Overall Built Form Guidelines describes building design controls which are common to all public and private development on site, although not all controls are necessarily relevant or applicable to every block. **Section 6.3 Individual Block Guidelines** describes building design controls which are unique to each of the major components of the Area Plan. These guidelines are written to inform the final build out, although it is expected that implementation will be phased as conceptually described in Section 8 .

This chapter includes both building design principles and guidelines which distinguish between mandatory and advisory provisions. The principles represent the prescriptive or mandatory elements of project design that are used by reviewing and permitting authorities to determine project compliance with these guidelines.

Building Design Principles

The placement, massing and design of the various buildings shall be aligned with the following objectives:

Create a Distinct Sense of Place

Celebrate the unique aspects of the site by designing a memorable destination.

Capitalize on Transit Investments

The near-term transit improvements will generate long-term returns on investment for the surrounding Transit Oriented Development.

Celebrate the History

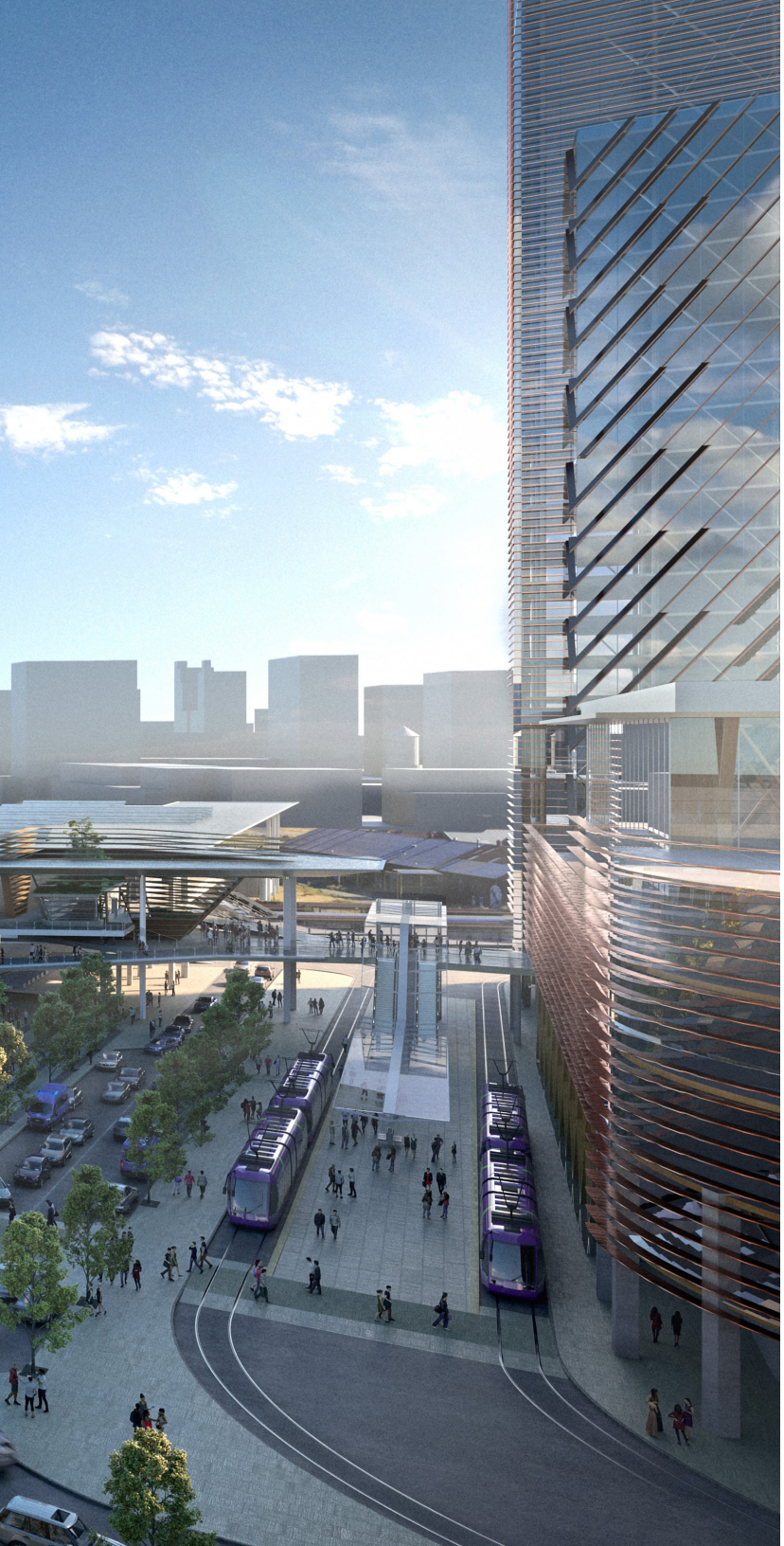
Showcase the history of Sacramento by integrating the existing architectural heritage into an inspiring new development.

Maximize the Development Potential

Establish a balanced mix of uses and a high-quality urban environment while maximizing the development potential of the site.

Establish a Vibrant District

The public realm and open spaces will provide the stage for a 24/7 vibrant, engaging and safe new district.



Conceptual view of the new station concourse

6.2 OVERALL BUILT FORM GUIDELINES

Overview

At the very core of the urban form of Sacramento Valley Station Transit Oriented Design (TOD) is an intentional effort to pay homage to the Historic Station depot and to enhance the pedestrian experience. The proposed strong axial relationship between the existing Historic Station and the new station concourse underpins the spatial organization of the rest of the buildings on the site. The Historic Station is symmetrically aligned to 4th Street on its south facade. By extending the 4th Street alignment north, through the Civic Plaza, pedestrians are guided through the Historic Station into the Transit Plaza and the new Station Concourse. On the north facade of the Historic Station, a perpendicular building extension is proposed on the west end to help define the edge of the public space and provide a more urban edge along the south side of SVS Street 2. This also allows expansion of the Historic Station program areas. This extension further strengthens the dialogue between the Historic and the new station. All the surrounding buildings, their entries and their active ground floor frontages are positioned and oriented in deference to this axial relationship. Refer to Figure 6.1 for the axis organization.

The secondary organizing axis on the site is the new plaza on the axis of G Street, west of 5th Street, to establish the 5th Street Plaza as a new eastern entrance to the Station Concourse.

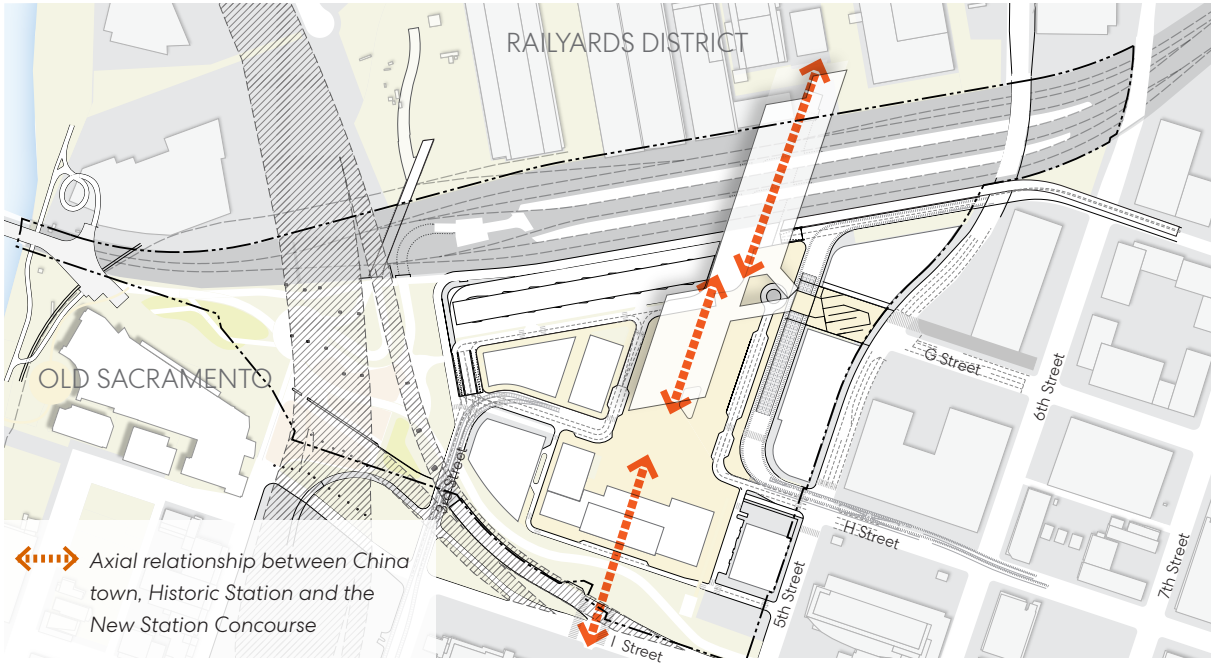


Figure 6.1 *Station Connection to Historic Site*

The proposed principles and guidelines for Lot 40, which includes the 5th Street Plaza within an easement, are primarily in response to this secondary axis.

The six buildings envisioned on the fully developed site are:

- New Station Concourse
- Bus Mobility Center
- Block A – proposed as a hotel block
- Block B – proposed as a residential block
- Lot 40 – adjacent privately-owned parcel proposed as a commercial block
- Historic Station re-purposed when build-out of new station is complete
- Regenerative Utility Center as the focus of the sustainable water and energy systems for the site showcased adjacent to the Historic Station

Refer to Figure 6.2 for nomenclature of the blocks. Note: All block and street labels that start with "SVS" are working titles for the purpose of this Area Plan document. These will eventually be replaced with permanent names through the City's formal street name approval process.

Station Concourse

The landmark Historic Station has recently been thoughtfully restored. This Area Plan is an opportunity to similarly rehabilitate the public spaces around with uses suited to today's patrons while celebrating the historic character. The proposed new Station Concourse is positioned and oriented to respect this historic architectural resource, with its width at the south aligned and centered on the highest portion of the Historic Station and its height aligned with the Historic Station's taller roofs.

Bus Mobility Center

The Station Concourse seamlessly integrates a new two-level Bus Mobility center. The Bus Mobility center is located parallel to the northern boundary of the site, south of the rail tracks and is vertically connected to the new Station Concourse on its east end. The Bus Mobility center consolidates multiple bus services, currently dispersed around and beyond the site, into one central facility at the upper level, with dedicated bus access at both ends for maximum ease of access from 3rd Street and F Street. The lower level of the Bus Mobility center provides a centralized location for all public parking on site. The eastern end of this lower level contains a bike hub, back-of-house and support facilities which are described in detail in Section 6.3.

Block A

Block A has an area of 23,500 sq. ft. and it is located south of SVS Street 4 between 3rd Street and the Historic Station. The Area Plan proposes a hotel (or residential development, should a hotel not be feasible) on this block, composed of a distinct 35 ft. (approx.) tall podium that matches the datum of the Historic Station, and a point tower. Positioned to the west of the Historic Station, this block functions as a western counterpoint to the REA building within the overall urban composition, providing the Historic Station and the Civic Plaza to the south with a consistent streetwall. Refer to Figures 6.7-6.8 for street wall requirements.

Block B

Block B has an area of 36,200 sq. ft. and it is located north of SVS Street 4 between 3rd Street and SVS Street 3. The Area Plan proposes a residential development on this block that is a composition of a midrise building and a tower. Refer to page 136 for height guidelines. Both the midrise building and the residential tower are required to have a distinct and legible 35 ft. high podium that, together with the Block A podium, continues and complements the datum established by the Historic Station. Refer to Figures 6.7-6.8 for podium and streetwall requirements.

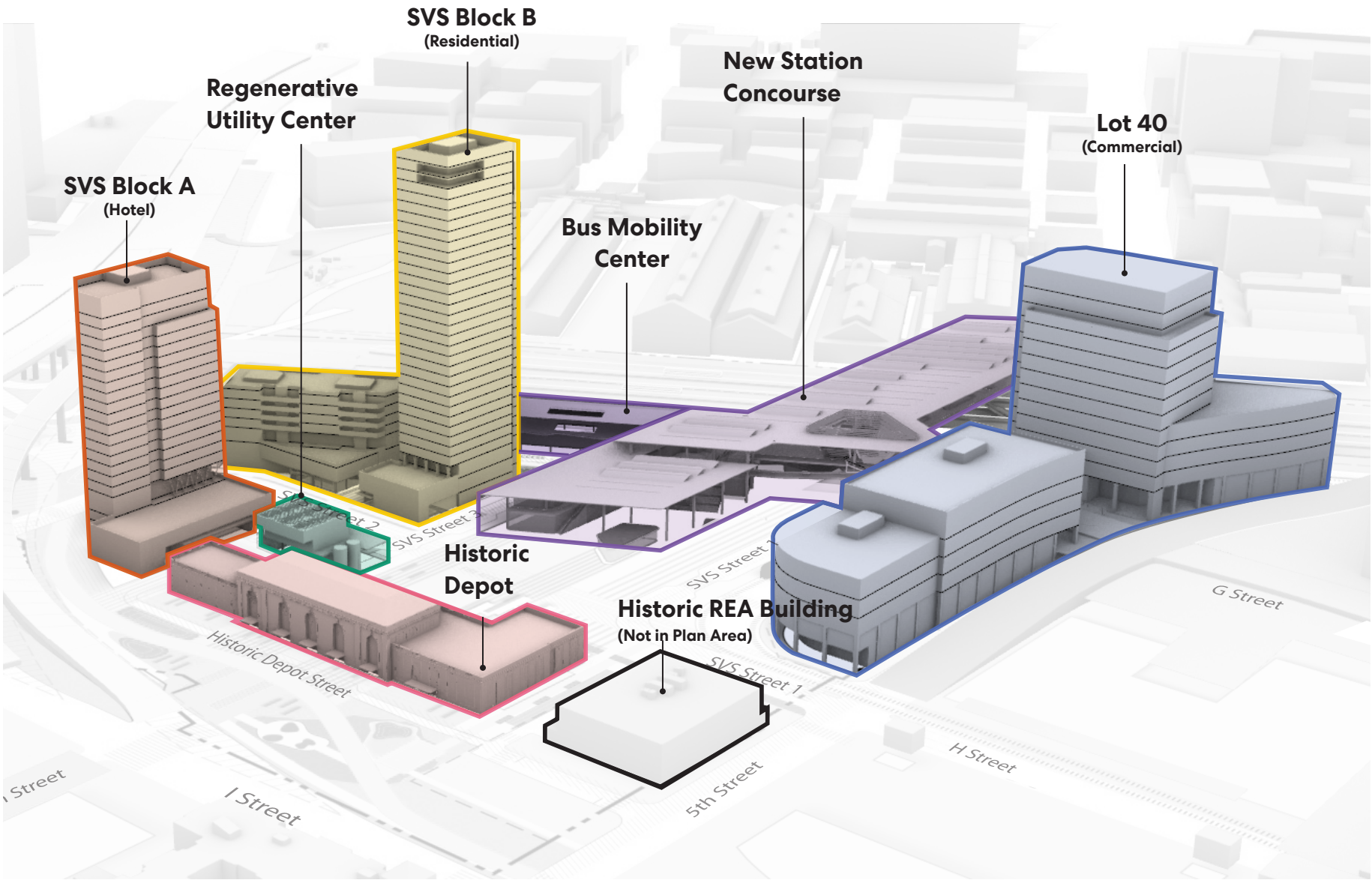


Figure 6.2 *Development Blocks*

Lot 40

Lot 40 has an area of 68,600 sq. ft. and is located to the east of the site, parallel to 5th Street. The Area Plan anticipates a high-density commercial development on this privately-owned block composed of a 100-ft. tall midrise building to the south, between G and I Streets, and a tower north of G street. Refer to the Railyards Specific Plan for height guidelines. These two sub-blocks are separated by an access easement at the 5th Street Plaza to provide pedestrian and bicycle access to the Station for people approaching from 5th Street and G Street and points further east. The width of this existing easement is insufficient for a suitably-scaled plaza with building and station access and should be the subject of further negotiations between The City and the property owner. The tower location takes advantage of the highly visible, key location at the northern end of Lot 40, providing the opportunity for a landmark presence on 5th street and creating a distinct identity for pedestrians accessing the site from G street.

Regenerative Utility Center

The regenerative Utility Center has an area of 8,700 sq. ft. and is located to the northwest side of the Historic Station. This new addition to the west side of the Transit Plaza will house the equipment for the site-wide water treatment and district energy generation. This facility will promote and celebrate the integration of infrastructure into the core of the project with interactive exhibits facing the public Plaza.

This area originally included terminal tracks for Southern Pacific's business cars and was recently converted to Amtrak's warehouse and the building mechanical cooling tower, along with a corporation yard for baggage storage and repair. Therefore, the proposed re-use is consistent with its historical purpose.

Standard and Guideline Organization

The building design principles and guidelines that follow describe the elements of quality necessary to provide physical, psychological and visual comfort in the built form. They are organized into four subsections:

- Micro-climate and Sustainability Design Considerations
- Ground Floor
- Podium
- Upper Building

Micro-Climate and Sustainability Design Considerations

To support the goals and targets of the Living Community Challenge to which the Area Plan is committed, this section focuses on a series of overarching methodologies to shape the urban form for a more comfortable, energy-efficient and a high-performance district that has a rich biophilic experience.

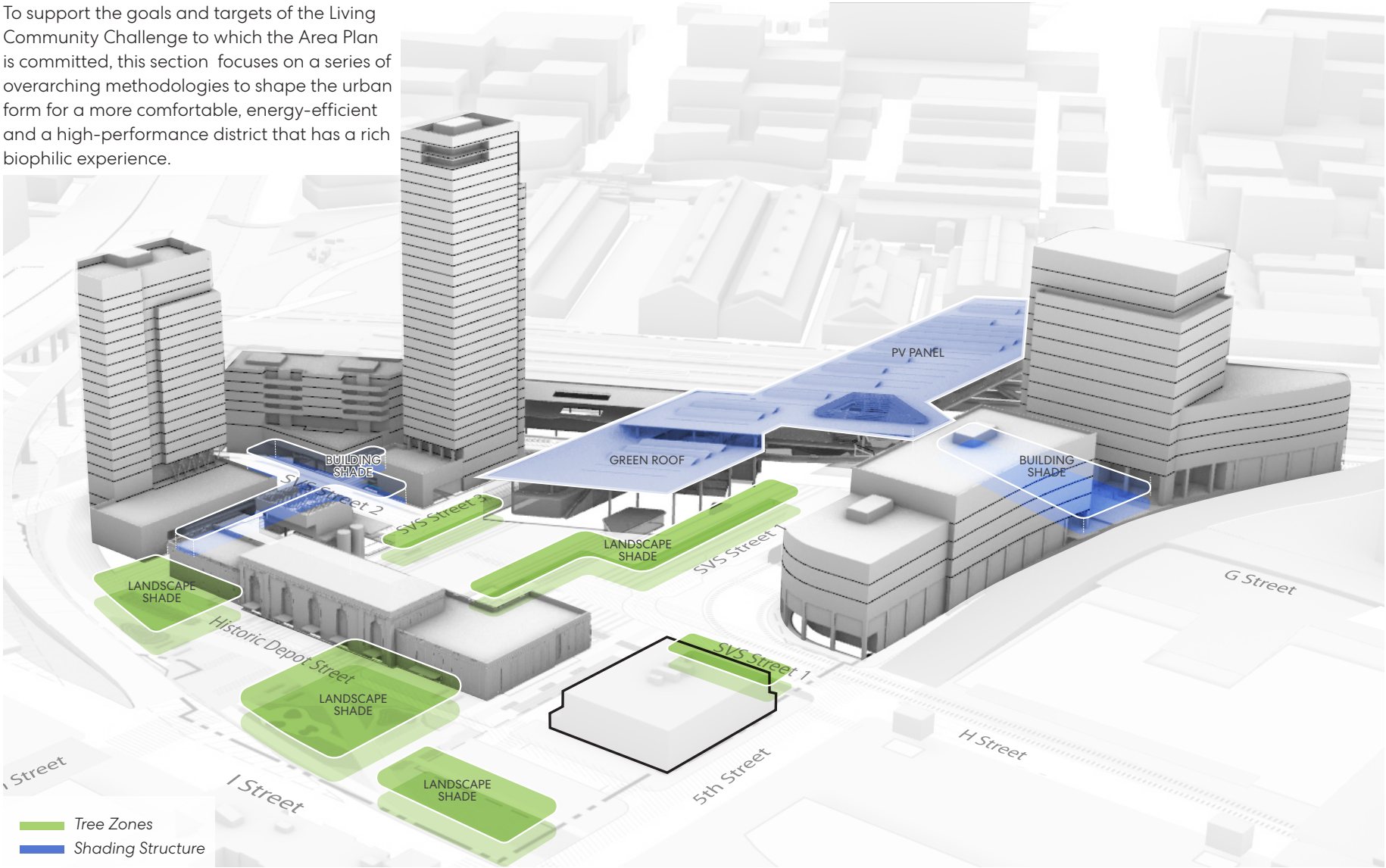


Figure 6.3 *Shading Strategy - Cooling the Building Cluster*

Clustered Buildings

Passive sustainability strategies, such as clustered buildings, are encouraged to increase shading over the public realm. Refer to Figure 6.3 for the shading strategies. The following approaches are required to improve passive shading and be consistent with Universal Access on page 126:

Principles

- Building massing shall minimize window area on east and west orientations to prevent unwanted heat gain during the cooling season.
- Buildings shall provide glazing on south façade to admit the winter sun, provided that such glazing is shaded externally to restrict summer sun.
- Buildings shall include perimeter vegetation and shade structures to maintain cool ambient air during the summer.

Guidelines

- Building massing should cluster buildings for a compact district design with minimum surface-area-to-volume ratio and in particular to shade the west facades.
- Building massing should target a window-to-wall ratio of 20-40% for heat gain and should target the higher end of this range for preferable daylighting performance.

Thermal Mass

Thermally massive interior materials (floors, walls) can help reduce cooling peaks and passively heat spaces during swing seasons (spring, fall).

Guidelines

- Considerations should be given to taking advantage of thermally massive interior materials to mitigate temperature swings. This is recommended for residential buildings but not offices, due to high office internal cooling loads.
- Green roofs contribute to exterior thermal mass and help in decreasing cooling energy load of buildings while countering the urban heat island effect. Green roofs should be considered on both commercial and residential buildings.

Natural Lighting

Natural daylighting helps conserve energy and is an important contributor to the psychological health of the occupants.

Guideline

- Buildings should be designed to maximize the amount of daylight available to interior occupiable spaces.

Solar Control

Guidelines

- Building design should consider overhangs on south façades to prevent unwanted solar heat gain in the summer while allowing in beneficial winter sun.
- Roof extensions, awnings and canopies should be considered to help shade the public realm and improve pedestrian comfort during the summer.
- Glass with a low solar heat gain coefficient (SHGC) but a high visible light transmittance should be used for solar control of windows instead of reflective or darkened glass.

Water Use Reduction

Principles

- All buildings shall connect to the district water recycling system for both non-potable water supply and wastewater discharge. Buildings shall be pre-plumbed to utilize recycled water for irrigation, toilet/urinal flushing and cooling towers.
- All buildings shall utilize water-efficient flow and flush fixtures.
- Landscapingshall utilize native plants for at a minimum 75% of the site-wide planting.
- The Area Plan shall design stormwater treatment on site per NPDES and provide treatment through natural or mechanical means and without harmful chemicals and connect to district stormwater infrastructure to manage larger storm events.

Energy And Carbon Reductions

Principles

- The Area Plan shall reduce total net annual energy consumption by 40% of a typical development baseline as prescribed by ASHRAE 90.1 2016.
- All buildings shall install photovoltaic (PV) solar energy systems on at least 50% of roof area or install equivalent façade/site renewable energy generation capacity (measured in annual energy production).
- All buildings shall reduce embodied carbon of primary materials compared to a typical development baseline by 20%.
- All buildings shall connect to the district thermal system for heating and cooling (Lot 40 may connect if mutually agreeable to the owner and the City).
- All on-site parking spaces shall be EV-capable, with adequate panel capacity for EV charging and pre-installed conduit for future EV supply equipment.
- At least ten electric vehicle charging station parking spaces shall be provided upon opening the Bus mobility center.

Healthy Interior Environment

Principles

- Buildings shall comply with the current version of ASHRAE 62.1, or international equivalent.
- Smoking shall be prohibited within any buildings or enclosed spaces, and within 25-ft. of any building opening, including air supply vents.
- Buildings shall develop a Healthy Indoor Environment Plan specific to the project's building type and location. The plan shall address cleaning protocols, the prevention of particulates and toxins through entries and implementation of at least one strategy to improve air quality.
- Buildings shall include an approach to filter all incoming outdoor air at times when outdoor air quality is poor.
- Monitoring systems for outdoor and indoor air quality check during occupancy and implementing programs to facilitate corrective action if indoor air quality falls below healthy target range, shall be installed.
- For buildings adjacent to freeway or other potential sources of outdoor air pollution, conduct testing of air quality during early/pre-design phase and implementing an approach to mitigate any pollutants of concern through landscape and/or building systems shall be required.
- Direct exhaust shall be provided for all kitchens, bathrooms and janitorial areas.
- Buildings shall provide access to views outside and daylight for at least 75% of regularly occupied spaces.

Responsible Materials And Waste Reduction

Principles

- Buildings should include interior materials with lower embodied carbon than industry average for categories that have data available.
- Buildings should include at least 50% of wood products with FSC certification and/or salvaged onsite or within 500 kilometers of the site.
- Buildings should include 20% or more of the materials (by cost) from within 500 kilometers of the site.
- Buildings should divert at least 80% of the construction waste material from the landfill.
- Buildings should incorporate dedicated infrastructure for the collection of recyclables and compostable food scraps in all buildings, and for the diversion of those materials away from landfill.

Universal Access

Principles

- All non-building infrastructure that is considered externally focused (e.g. plazas, seating or park space) should be equally accessible to all members of the public regardless of background, age, ability and socioeconomic class, with reasonable steps taken to ensure that all people can benefit from the project's creation. Refer to Figure 6.4 for the active frontages.
- Buildings should provide for and enhance the public realm through design measures and features that are accessible to all members of society, such as street furniture, public art, gardens and benches.
- Those with physical disabilities should be provided with safe access through designs meeting either the Principles of Universal design (United States Access Board), the Americans with Disabilities Act (ADA) and the Architectural Barriers Act (ABA) Accessibility Guidelines, or international equivalent.
- Buildings should not block access to, nor diminish the quality of, fresh air, sunlight and natural waterways for any member of society or adjacent developments, to the extent feasible.
- Building design should address any noise audible to the public appropriately.
- Building design and layout should protect adjacent property from any parcel-generated noxious emissions that would compromise its ability to use natural ventilation. All operational emissions shall be free of Red List items, persistent bio-accumulative toxicants and known or suspect carcinogenic, mutagenic and reprotoxic chemicals.

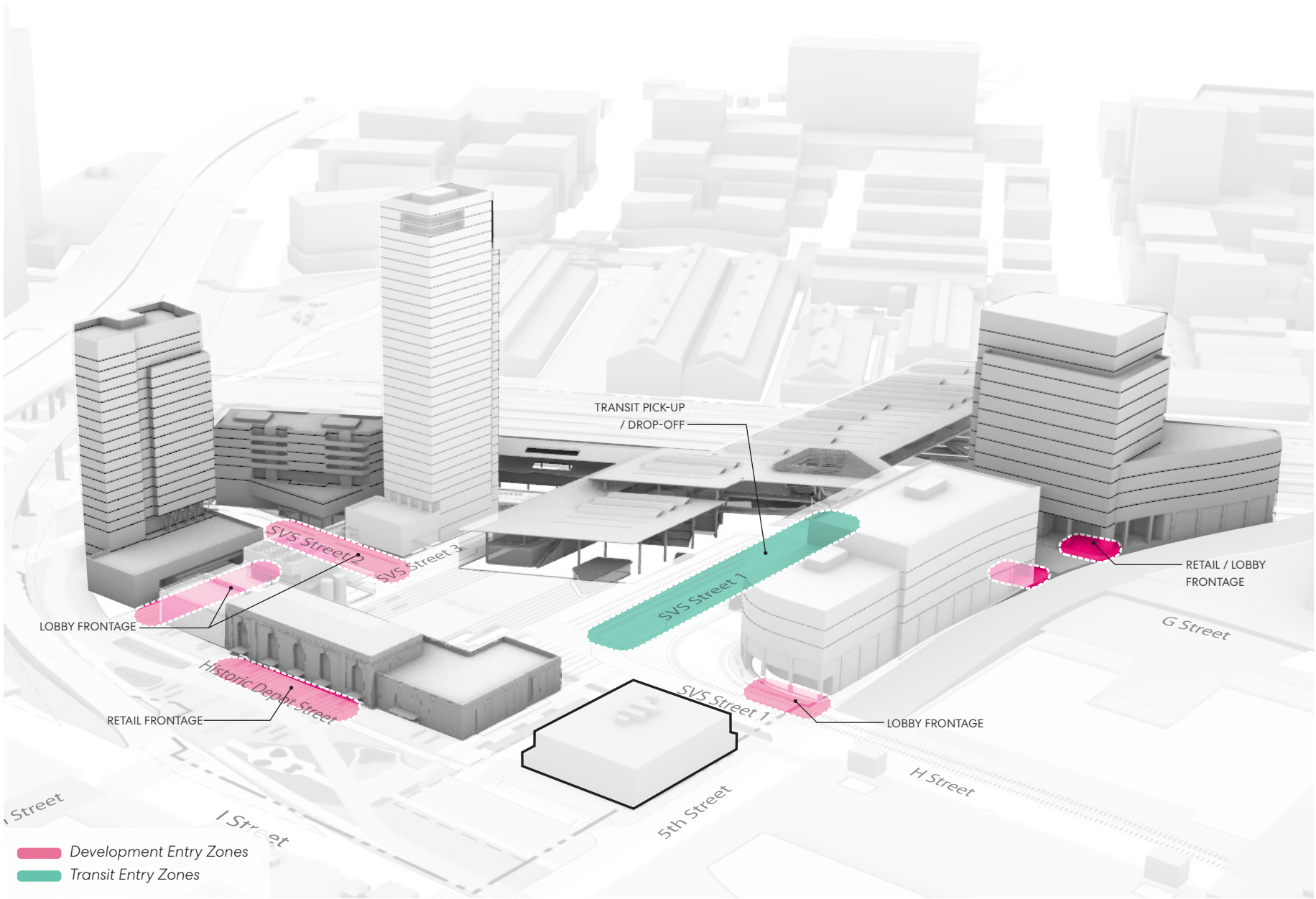


Figure 6.4 *Primary Accessible Zones*

Ecology

Principles

- The use of petrochemical fertilizers or pesticides for the operation and maintenance of the on-site landscape, including any urban agriculture, should be avoided.
- Building projects should document the site and community conditions prior to the start of work, including but not limited to identification of the project's "reference habitat(s)".
- Designs should include planting for landscapes that is native and provides habitat for birds and pollinators known to be present in the region, such as Purple Martins and honeybees.

Human-Scaled Living

Principles

- Buildings should provide places for occupants to gather and connect. Refer to Figure 6.5 for the alleys associated with active ground floor programs.
- Buildings should provide sufficient secure, weather-protected storage for human-powered vehicles and facilities, such as showers and lockers, to encourage biking.
- Designs should focus facilities for multi-user and shared vehicle parking over single-occupancy vehicle parking
- Designs should exclude surface parking and concentrate minimal site parking in district serving parking structure.
- Idling of combustion vehicles should be prohibited and areas of the site where people congregate should be free from combustion vehicles.

Resilience

Guidelines

- Where portions of buildings are located below grade, infrastructure that could be damaged by water should be placed on an upper level.
- Project designs should consider onsite battery storage and/or, if available, connection to sitewide microgrid. Do not use diesel back-up generators unless a non-combustion alternative like battery back-up is not acceptable to satisfy applicable life safety codes at time of permitting.
- Project designs should stress test systems design by modeling HVAC performance under predicted future climate data.

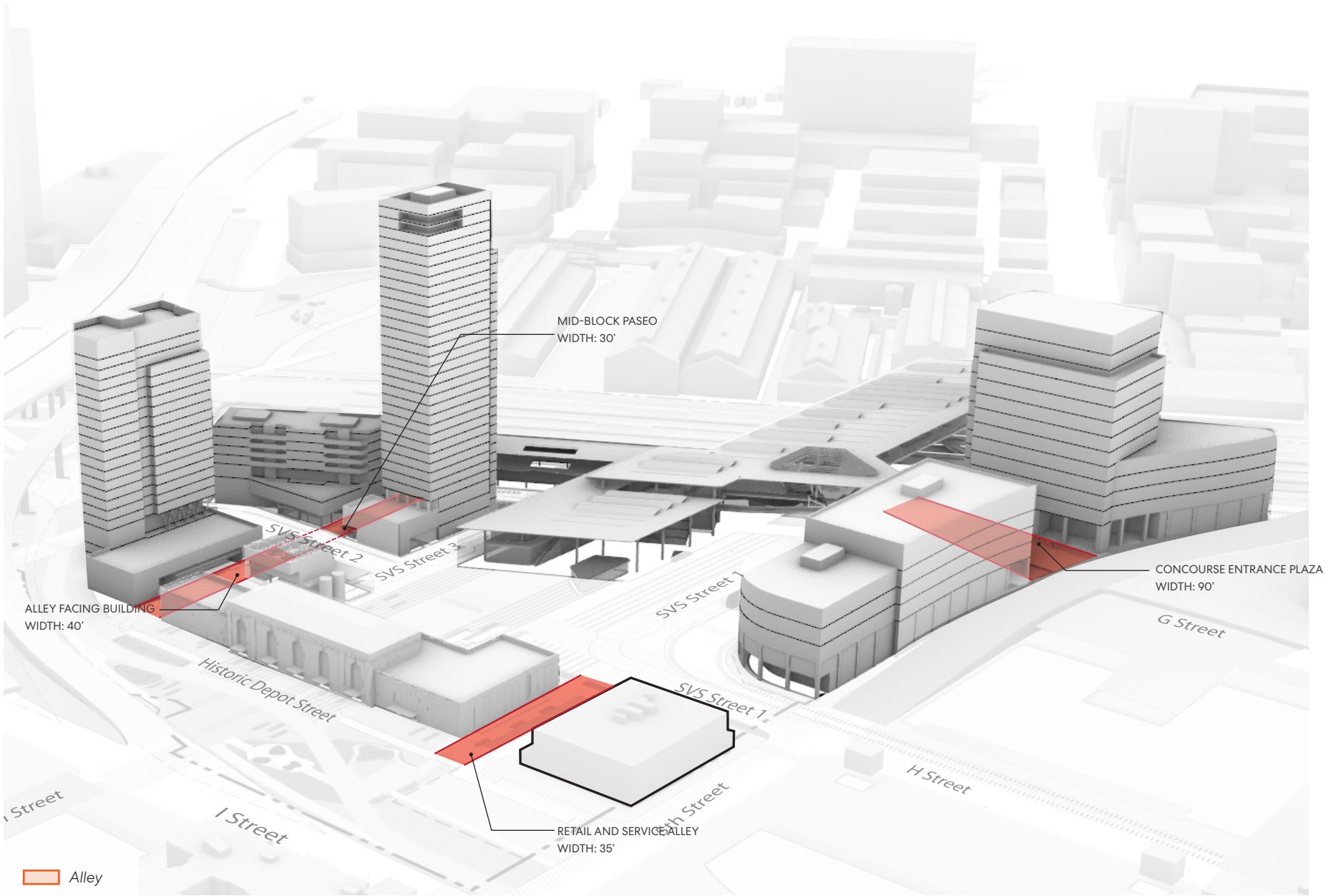


Figure 6.5 *Alleys to Active Ground Floor Frontages*

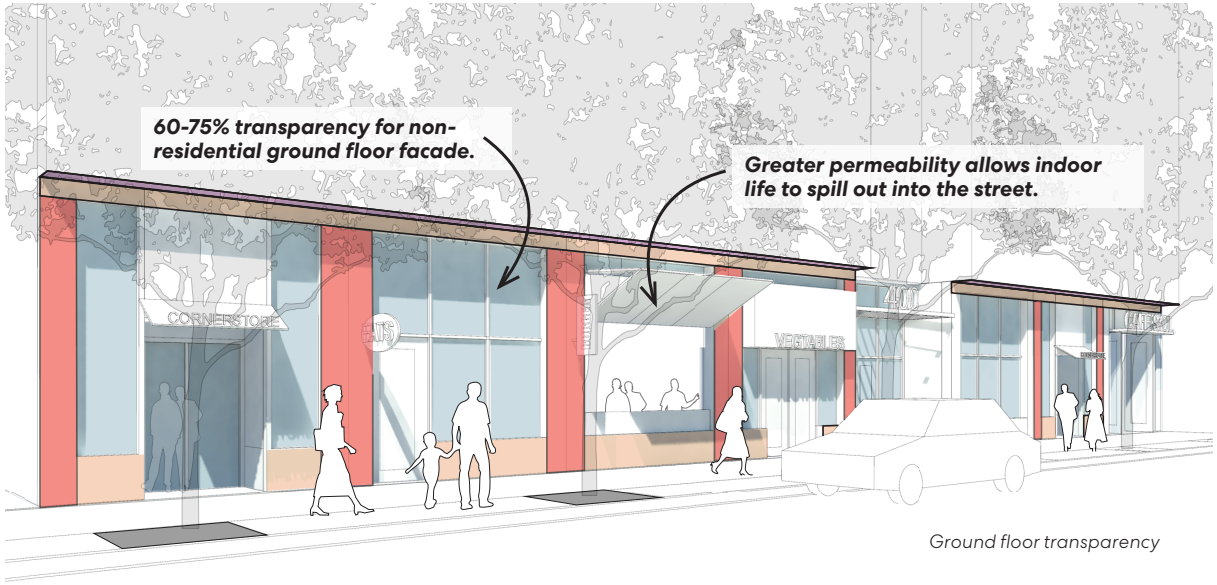
Ground Floor

Ground floor design establishes the desired relationship between the building and the pedestrian. An active and vibrant ground floor brings interest, activity and variety to the pedestrian realm. Active ground floors are defined as those that have community-facing uses with transparent street facades, providing clear visibility into the building and, have direct entry opening on to the street. Refer to Figure 6.6 for the ground floor active use.

Ground Floor Height

Principles

- Ground floor with non-residential use shall be a minimum of 15 ft. clear between finished floor and finished ceiling.
- Ground floor with non-residential use shall be flush with the finished grade of the adjacent sidewalk.
- Ground floor residential units shall be designed to have individual entries with elevated stoops.
- In the case of ground floor residential units, the floor level shall be a minimum of 2 ft. above the adjacent sidewalk, with ADA-compliant access provided for accessible units. Raised ground floor units shall be provided with sufficient ventilated crawl space below the unit to comply with all regulations pertaining to contaminated soils, where applicable.



Ground floor transparency

Ground Floor Transparency

Principles

- Building façades that face active public open spaces, such as the Transit Plaza, the Civic Plaza and 5th Street Plaza, shall include active ground floor programs.
- Any non-residential ground floor façade facing a public open space or street with active uses shall have 60 to 75% transparency.
- Clear Glass that transmits more than 70% of visible light shall be used for these ground floor facades.
- Back-of-house zones such as trash storage areas, loading bays and parking entrances are not required to comply with this principle.

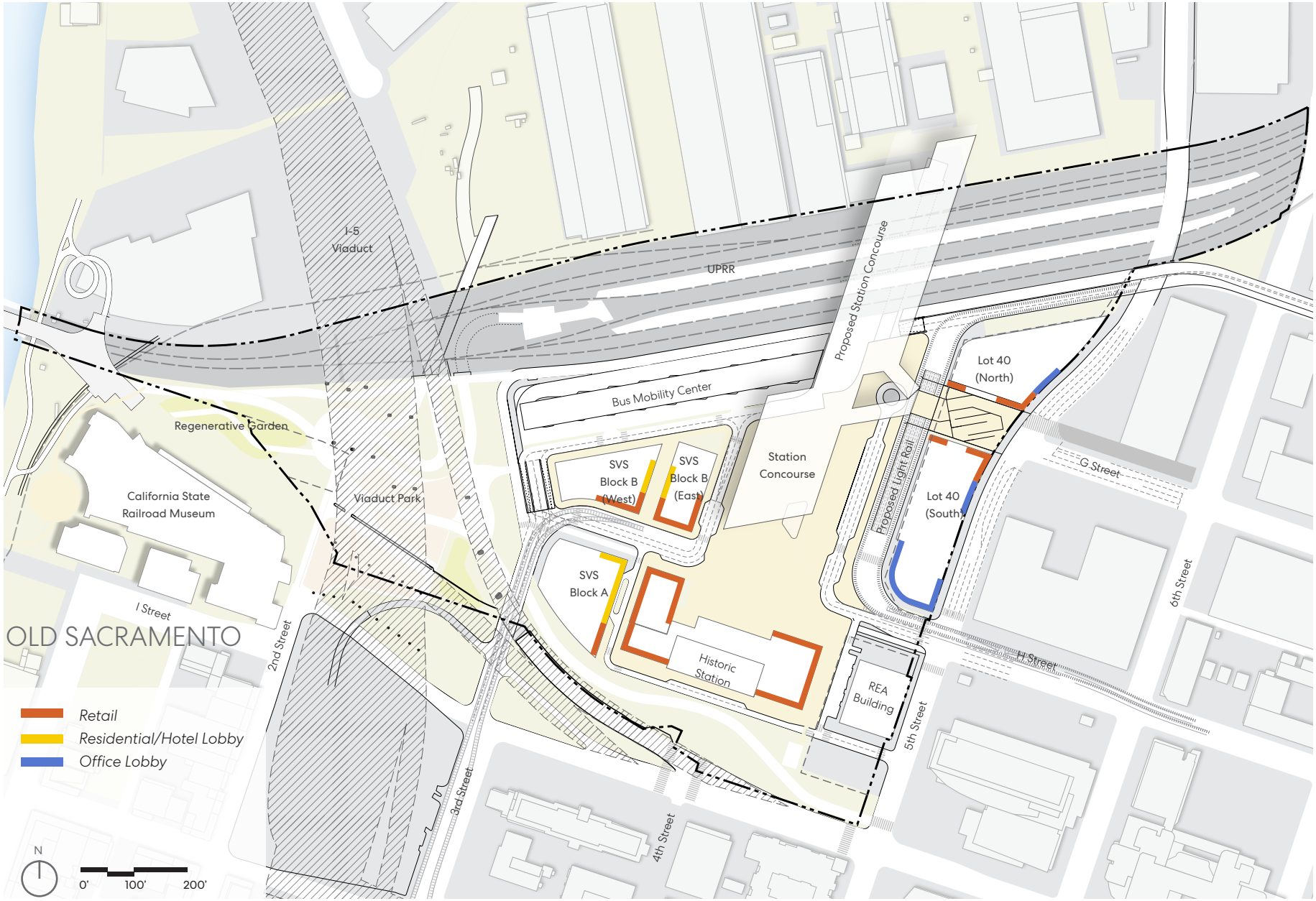
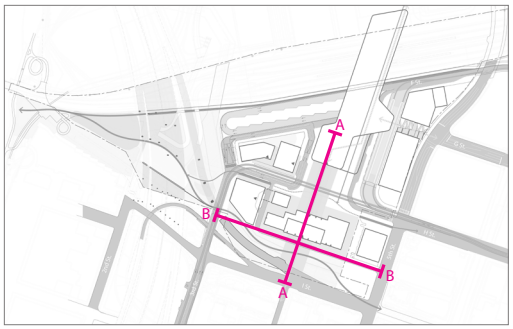
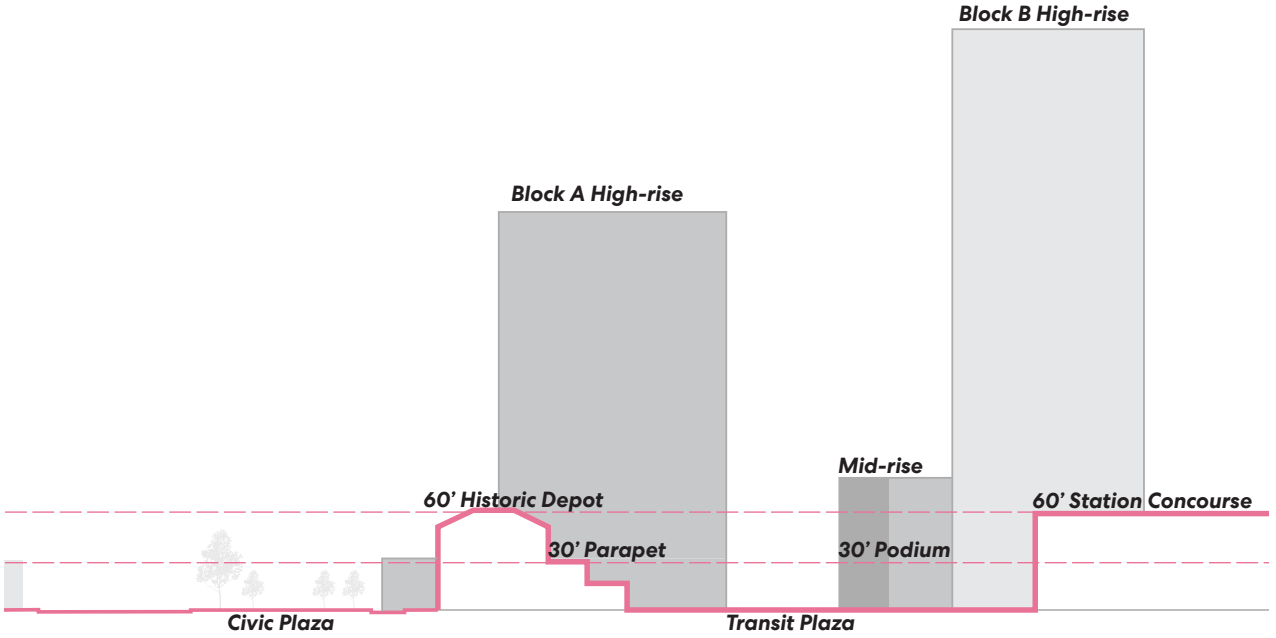


Figure 6.6 *Ground Floor Active Use*

Podium Control

The building podium design guidelines are intended to respect and complement the existing Historic Depot building scale and articulation while creating visual interest and encouraging a diversity of experiences. Refer to Figures 6.7-6.8 for the podium datum control strategies.





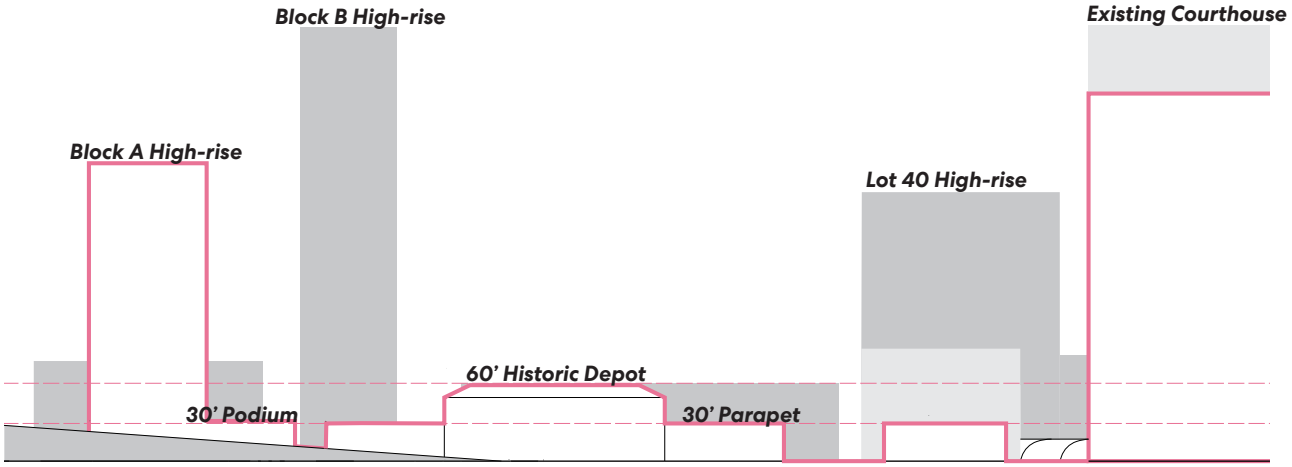


Figure 6.7 *Sections for the Transit Plaza*

Streetwall Height

Principles

- Development in visual proximity to the Historic Station, SVS Blocks A and B, shall have a lower podium of 35 ft. above grade to respect the lower parapet of the Historic Station.
- The higher, central mass of the Historic Station at 60 ft. above grade shall be mirrored by the roof height of the new Station Concourse, establishing a strong dialogue between the two buildings.

Refer to Figure 6.11 and Figure 6.12 for podium and streetwall height requirements.

Streetwall Modulation

Principles

- Streetwall modulation shall comply with the Sacramento Railyards Design Guidelines.

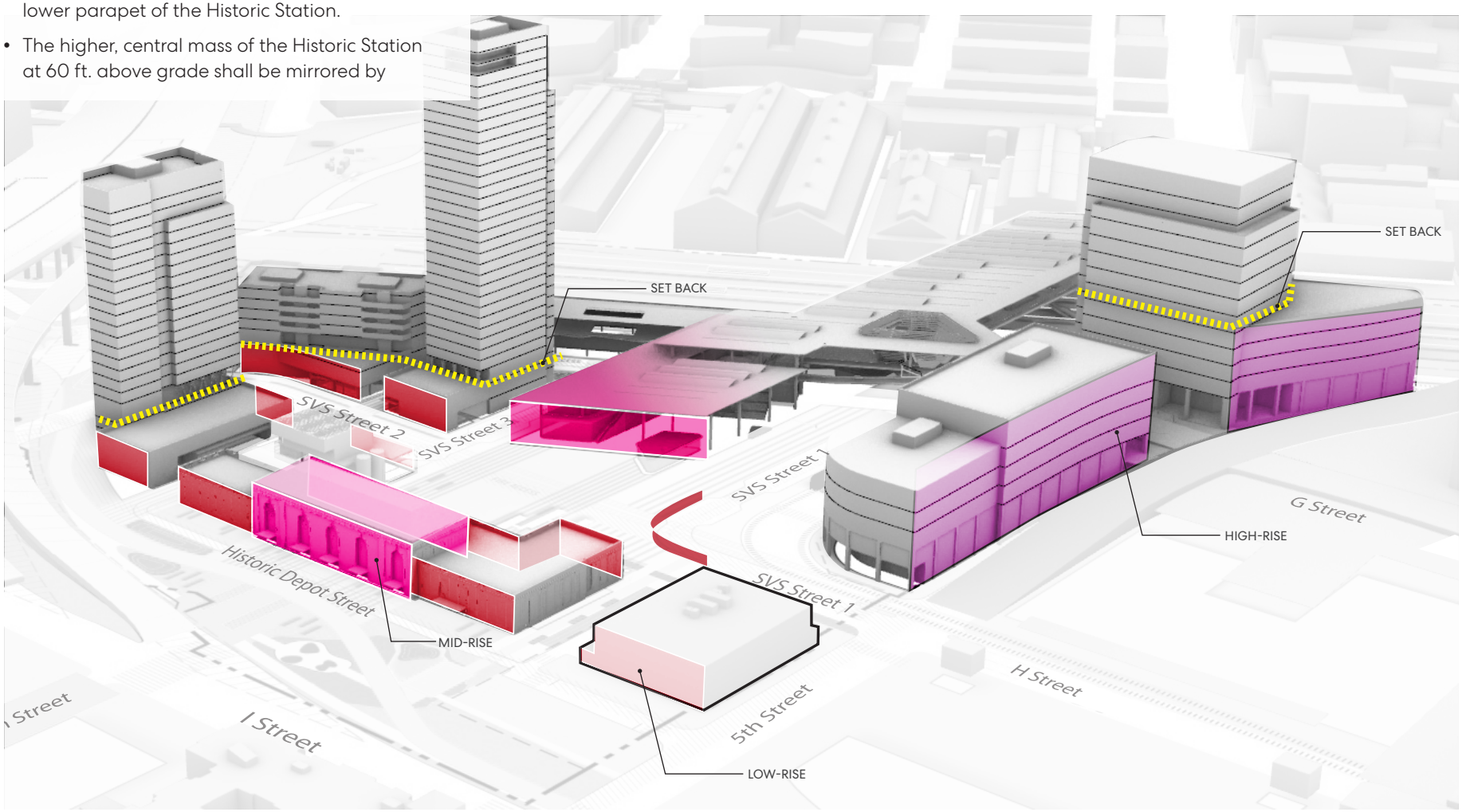


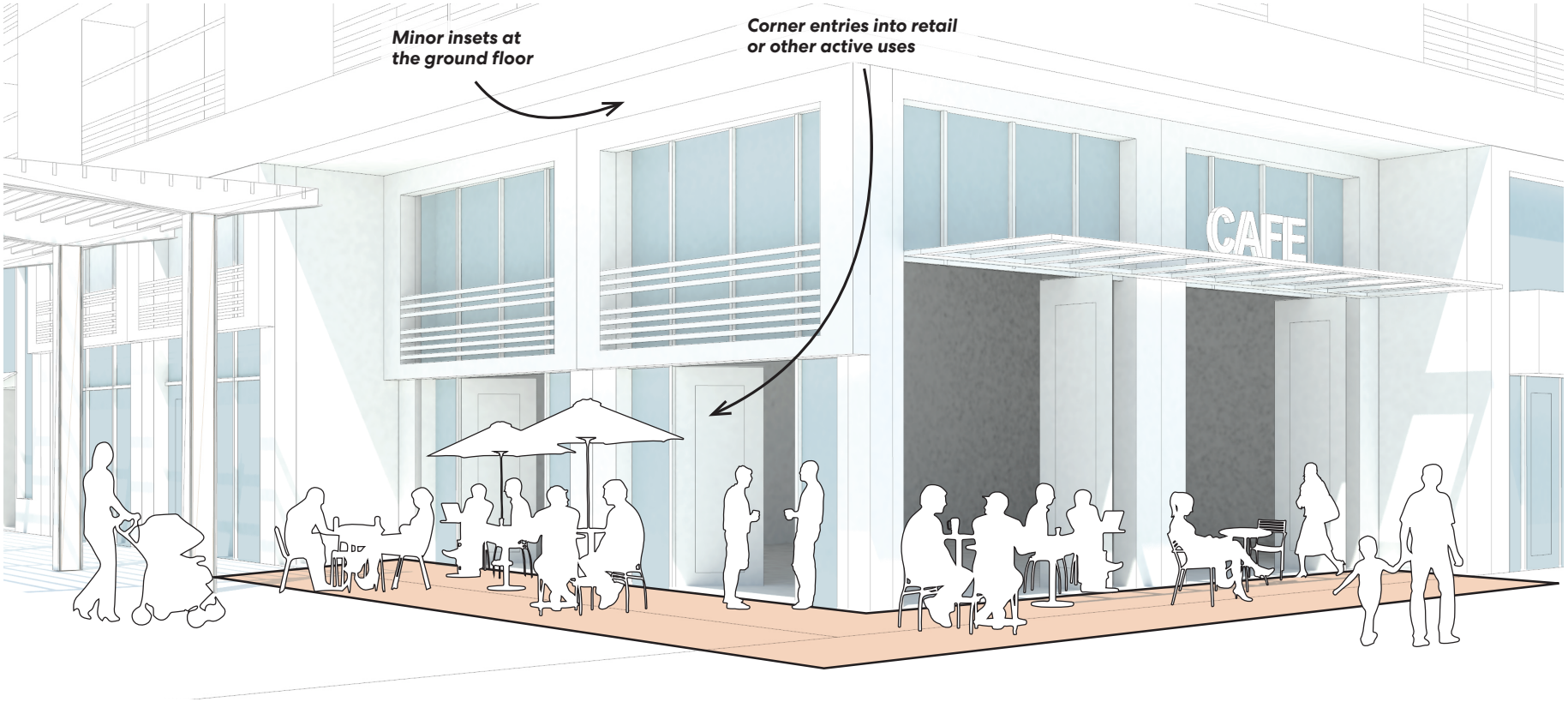
Figure 6.8 *Street Wall Strategy*

Podium Corners

Buildings with prominent and highly visible corners have a responsibility to lend a unique profile that further enhances the identity of the SVS project. This guideline is intended to establish continuity with the surrounding contemporary context as a counterpoint to the Historic fabric which focuses more on axial and symmetrical compositions of building elements. Refer to Figure 6.9 for the prominent building corners.

Guidelines

- Buildings should incorporate accentuating features at prominent building corners. These can be designed at various scales, from embellished doorways to material and volumetric articulation. Projecting and recessed balconies and entrances allow the corner to capture a volumetric expression distinct from the typically repeating elements of a facade.



Key frontages and corners

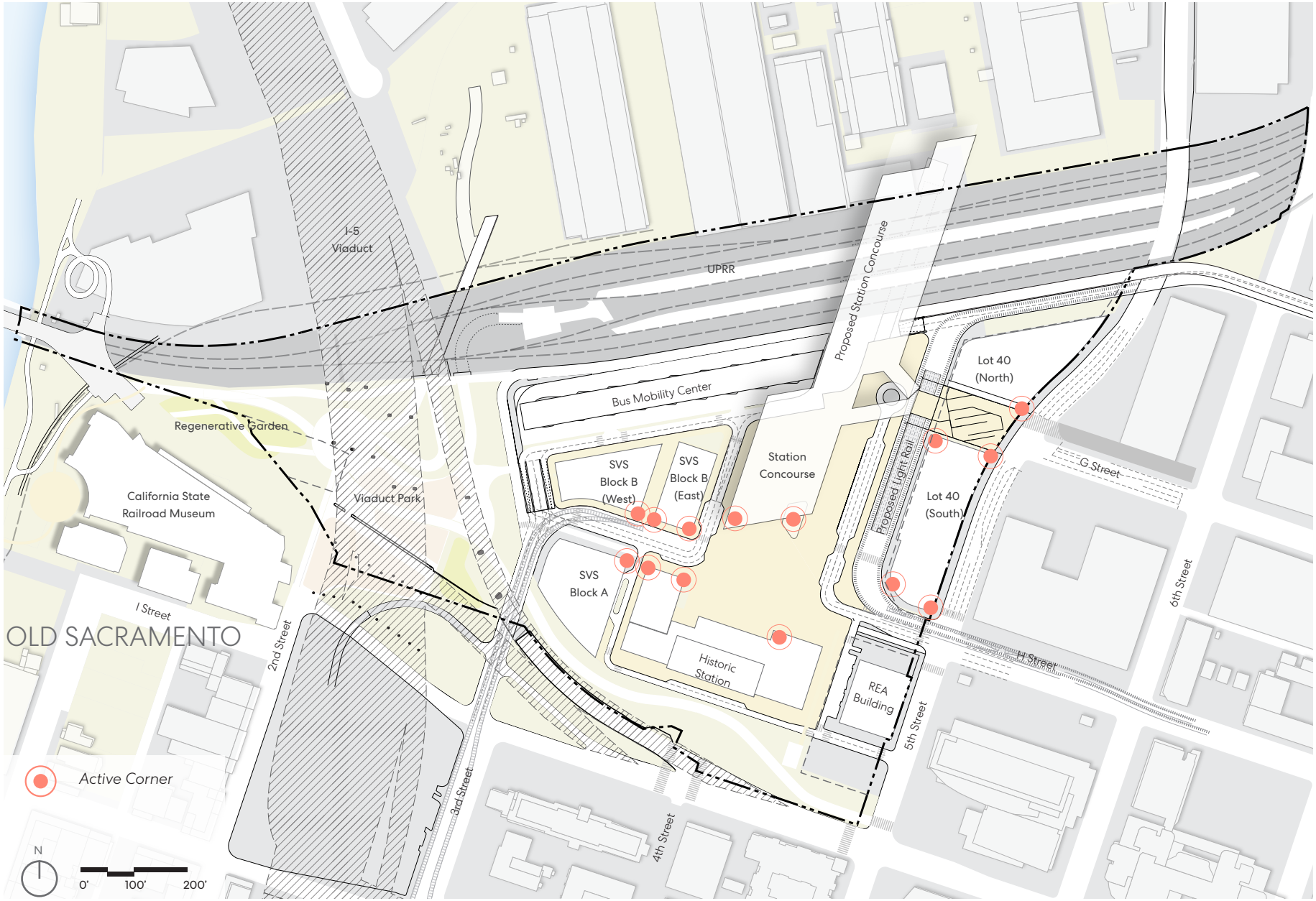


Figure 6.9 *Ground Floor Key Corners*

Upper Building

The upper portions of buildings are important contributing elements to the city skyline and project a strong urban identity. The following Principles and Guidelines are intended to ensure good upper building design that is a positive addition to the existing urban context.

Upper Building Heights

Although there is no maximum height required for the SVS site, building heights shall comply with the Sacramento Railyards Design Guidelines.

Tower Locations

Allowable zones for the location and size of each tower have been developed with respect to their relationship to the Historic Station, the staggering of tower heights, skyline articulation, sun exposure and shadowing of other buildings and public open spaces. The application of maximum floor plate size as set out in the Sacramento Railyards Design Guidelines provides for some flexibility for the location of each tower within each zone.

Principles

- The allowable location zones of towers in the Area Plan is fully compliant with the tower separation requirements of the Sacramento Railyards Specific Plan and Design Guidelines. Refer to Figure 6.10 for allowable tower zones.
- Each of the three developable blocks shall accommodate one tower.
- The location and height of towers shall fully respect the microclimate performance for LCC compliance. Refer to Appendix XX for detailed microclimate analysis and metrics for allowable shadowing of one building upon adjacent buildings.

Tower Height Differentiation

The Sacramento Valley Station Area Plan embraces the tower differentiation approach established by the Sacramento Railyards Design Guidelines. These Guidelines are written to apply to a project site with multiple towers, whereas it is anticipated that the three towers on the SVS site will be procured as separate and individual projects. Proximity to other towers is therefore regulated through tower allowable locations described above. Furthermore, tower height and differentiation is subject to the following requirements:

Principle

- The three towers shall be differentiated from each other by a minimum 50 ft. increments in height.

Application of the above requirements shall create a clear hierarchical relationship between the towers and surrounding development, proposing that the massing of Lot 40 clearly demarcates the access to the east station entrance from G Street and points further east.

Refer to pages 140-141 as an illustration of how the composition may be achieved as one possible scenario.

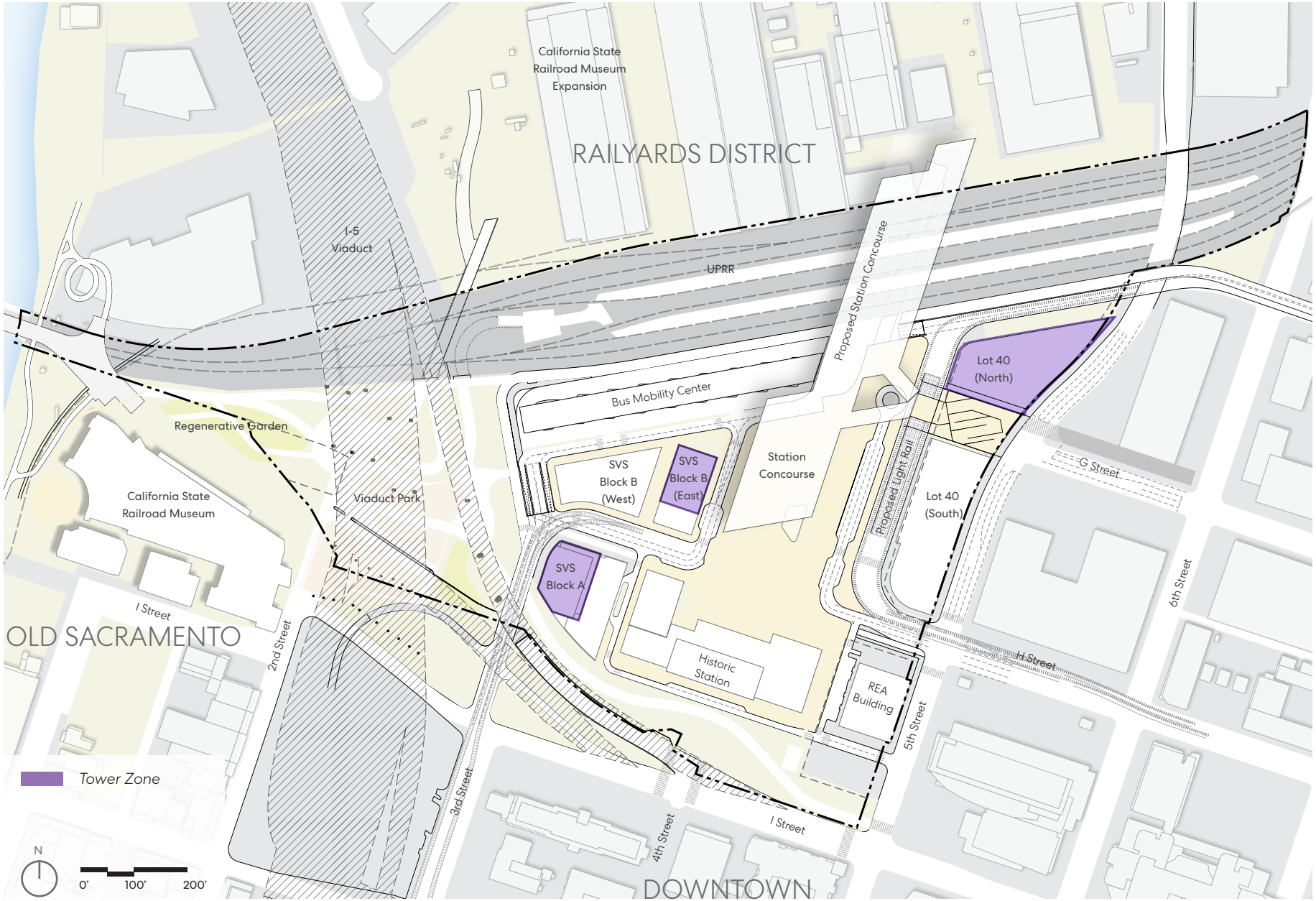


Figure 6.10 *Tower Zone*

Tower Orientation

The longer axis of low rise, mid-rise, and high-rise building floor plates shall be oriented east-west for maximum solar performance. However, due to the historic context of buildings and limitations in the parcel geometry, towers in the Area Plan shall be designed as point towers. North-south tower orientation is allowed as long as the building design complies with the Sacramento Railyards Design Guidelines for tower bulk and massing, maximum tower floorplate and maximum apparent face.

The longer axis of open spaces shall be oriented north-south for maximum wind and shading performance in the summer. Building location and massing should comply with these requirements to the extent that they define portions of the perimeter of open spaces. Refer to Figure 6.11 for building orientation suggestions.

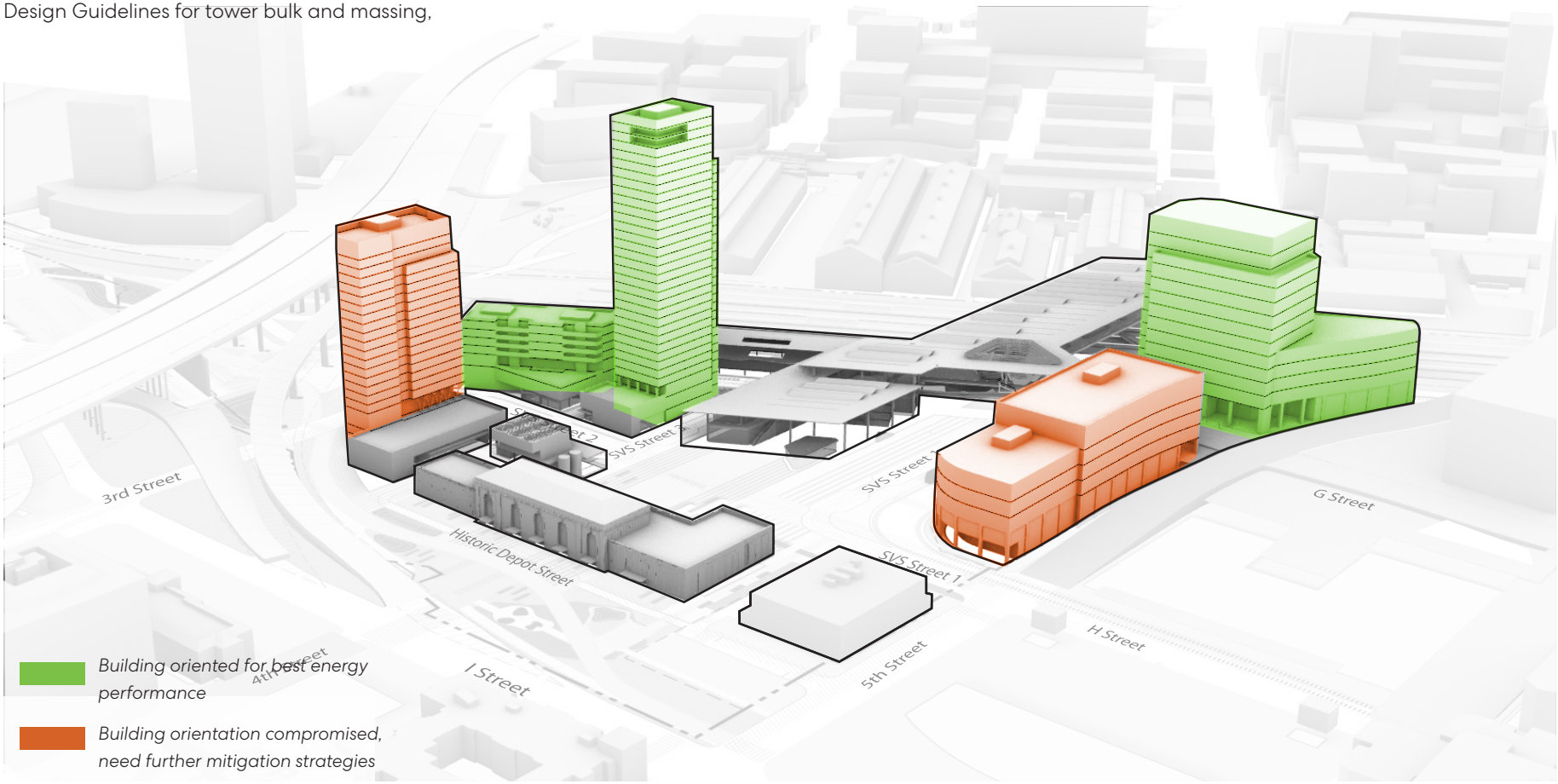


Figure 6.11 *Building Orientation and Mitigation Strategies*

Tower Bulk And Massing

The maximum plan and diagonal dimensions shall comply with the Sacramento Railyards Design Guidelines.

Maximum Tower Floorplate

The maximum tower floorplate dimensions shall comply with the Sacramento Railyards Design Guidelines.

Maximum Apparent Face

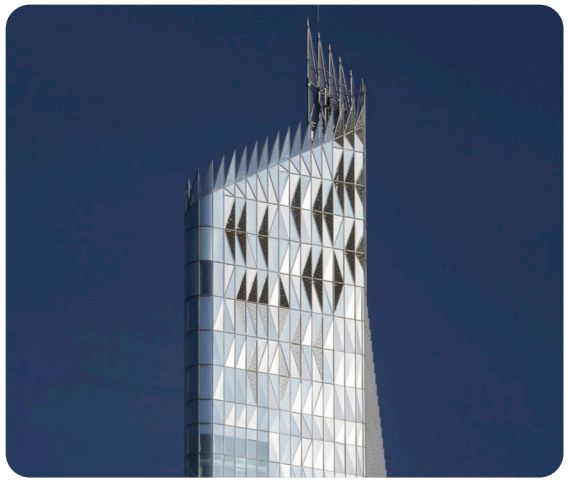
The maximum tower apparent face dimensions shall comply with the Sacramento Railyards Design Guidelines.

Upper Tower Bulk Reduction

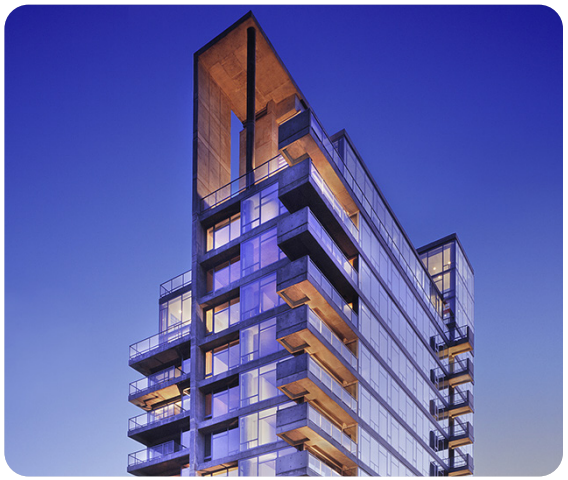
To ensure that towers meet the sky gracefully and help reduce the visual impact to the urban skyline, the Area Plan requires tapering and bulk reduction for the upper tower segments. Upper tower bulk reductions shall comply with the Sacramento Railyards Design Guidelines.

Height Variation to Break Bulk
New York, NY

Skyline Shaper
Paris, France



Visual Interest
Paris, France



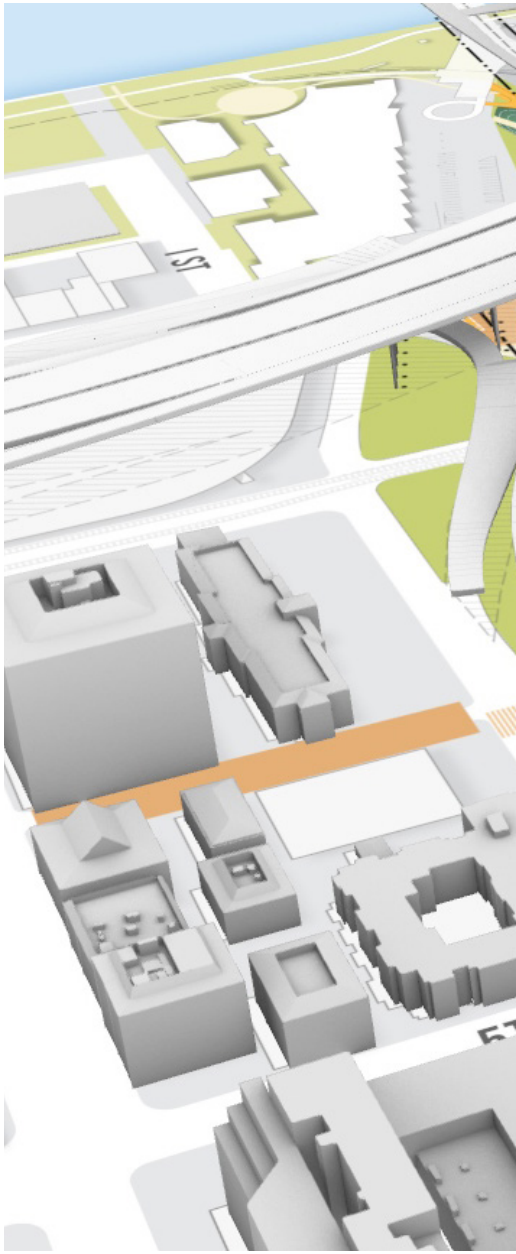
Distinctiveness and Visibility
Chicago, IL

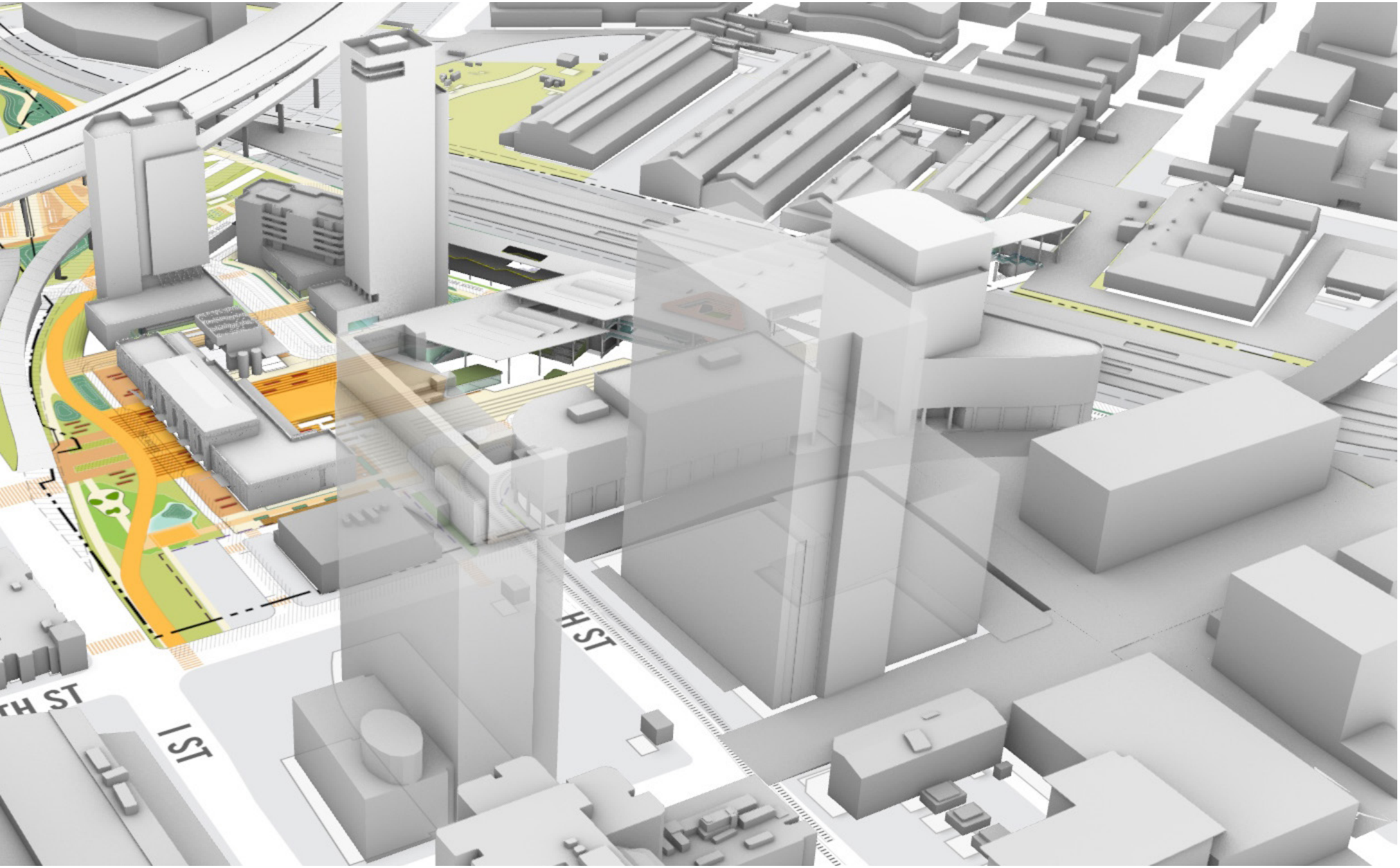
6.3 INDIVIDUAL BLOCK GUIDELINES

The Area Plan contains a wide variety of building types, some of which (Station Concourse and Bus Mobility Center) have been designed and documented in this section in sufficient detail to ensure that their building program and operational requirements can be satisfied. In these cases, the Principles and Guidelines are focused on their programmatic and technical requirements, with particular emphasis on their access, circulation and connectivity requirements for the various modes of travel which serve and connect them. In addition, building envelope and structural systems have been explored and documented at a concept level to provide high-level guidance on appropriate building footprints and structural depths to meet loads, spans and clearance requirements. Similarly, the Regenerative Utility Center (RUC) has been developed in sufficient detail to ensure the building can successfully accommodate the equipment required to meet the energy and water demands of the site-wide systems and to satisfy operational, servicing and maintenance requirements. All technical design requirements and recommendations must be verified at future detailed design phases.

In contrast, the development blocks A, B and Lot 40 are likely to be developed by third parties over a much longer period of time and their program, uses and overall design intent will be much more influenced by prevailing market conditions. In these cases, the Principles and Guidelines are more performance based, particularly with respect to their contributions to the urban character of the site-wide composition, allowing for a great deal more individual creativity in the detailed design of these buildings. To the extent that their sculptural form and architectural character are depicted in the illustrations within this report, this is intended as one of many possible ways of interpreting the Principles and Guidelines without being overly proscriptive.

Given this wide variety of design and performance requirements, this section describes the specific Principles and Guidelines for each block and/or building type in turn, which are in addition and complementary to the site-wide built form requirements of the previous sections.





Area Plan development massing overview

New Station

Station Concourse

The project vision recognizes that transit shall be made a priority to ensure a successful SVS Area Plan.

Refer to Figures 6.12-6.14 for station concourse floor plans.

Principles

- The expansion of the station facilities from the Historic Station should be planned in concert with increasing ridership and the need for direct and efficient mode transfers.
- The Station shall be designed to facilitate efficient transit operations, intuitive wayfinding and access, and smooth flow of circulation while staying flexible to accommodate current and future transit modes.
- The Station plan and layout shall allow the plan to adapt to changes in transit requirements and the needs of the surrounding multi-phased development.
- By reinforcing neighborhood connections, the Station shall create safe and optimized connectivity for transit, pedestrians and bicyclists and improve ease of transfers for passengers.

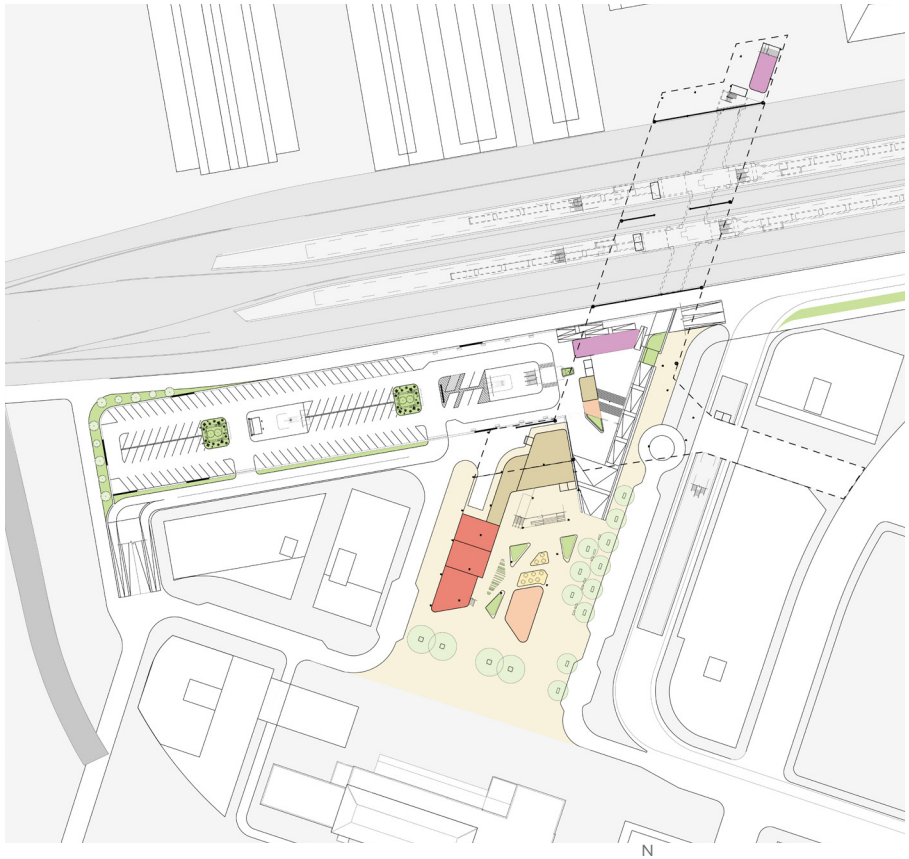


Figure 6.12 *Station Plan - Ground Floor*

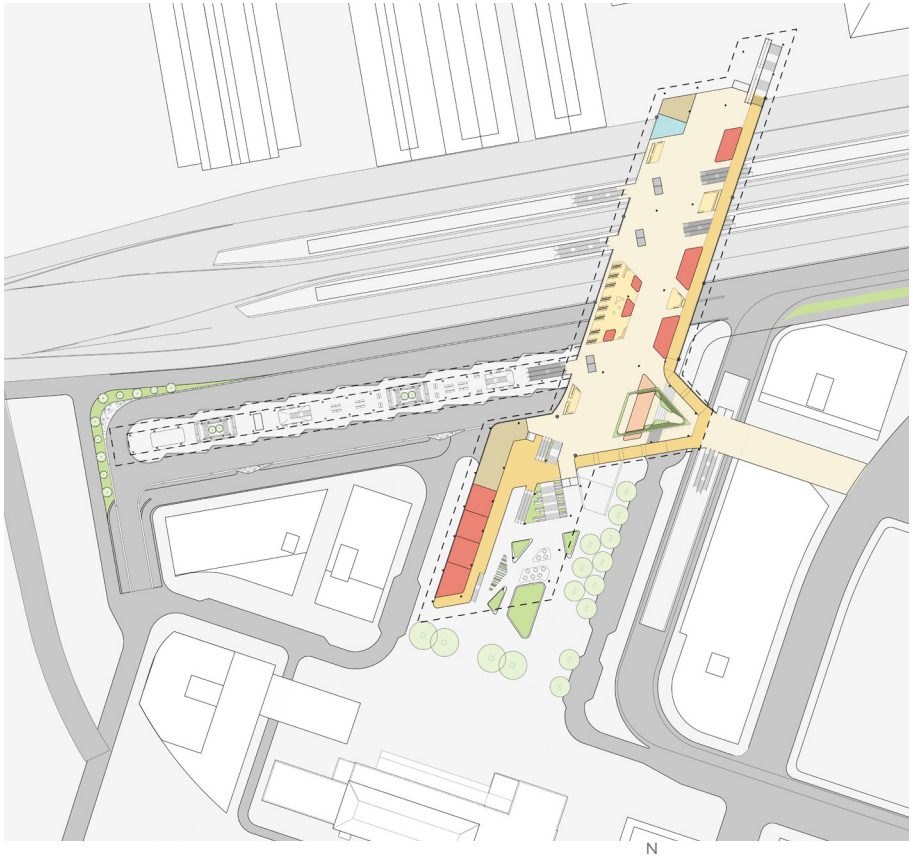


Figure 6.13 *Station Plan - Concourse Level*

- *Green roof/Planting*
- *Retail*
- *Bike Hub*
- *Front of House*
- *Station Circulation*
- *Public Circulation*
- *Restrooms*
- *Waiting & Seating Areas*
- *Main Stairs, Escalators&Elevators*

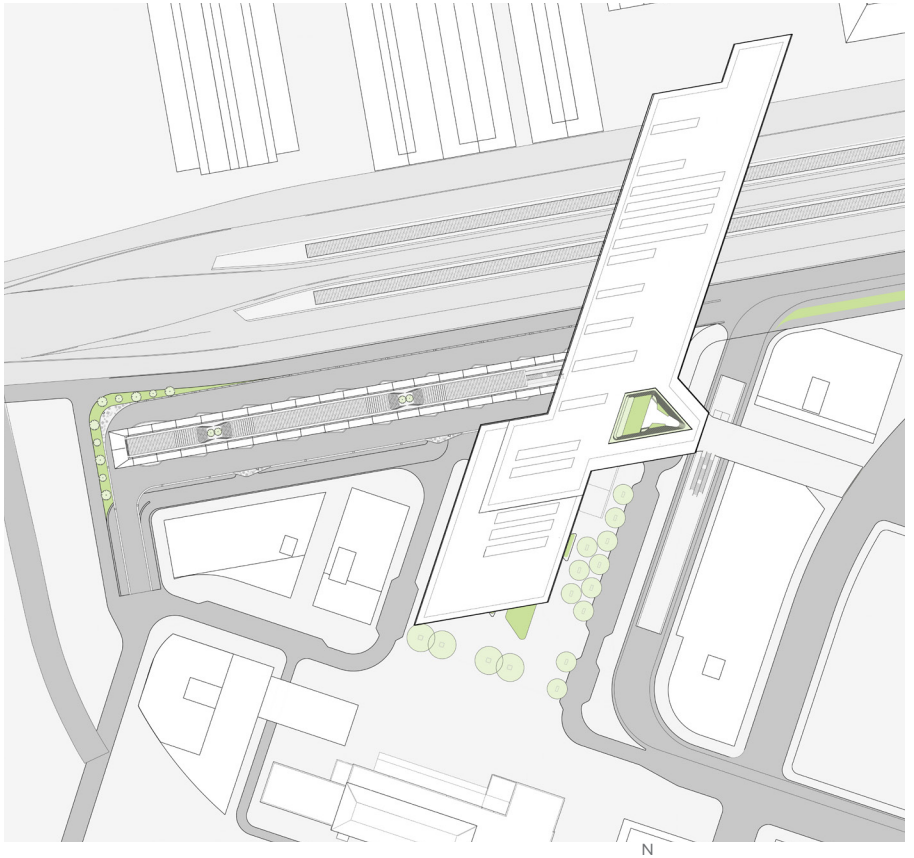


Figure 6.14 *Station Plan - Roof Level*

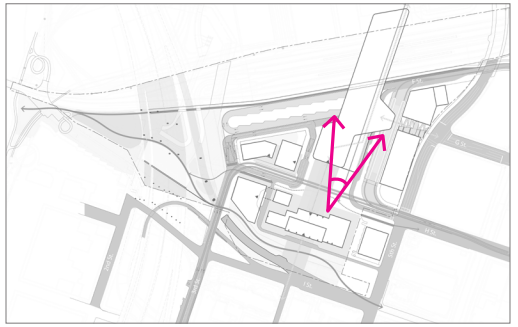
- *Green roof/Planting*

Station Entrance South (Primary Entrance)

Principles

The southern Station Entrance shall be defined by components that seamlessly move visitors and passengers from the Historic Station, through the new Transit Plaza, and welcomes them into a new and dynamic Transit Station. These components shall be as follows:

- A Station Pavilion shall greet passengers at the southern primary entrance of the Station.
- Easily adaptable, this pavilion shall be a stand-alone (approximately 1900 sq. ft.) pavilion that serves Station needs for ticketing, passenger information and bike/scooter services.
- Aside the Station Pavilion, two-levels of amenity retail shall define the western edge of the Station Concourse. This linearly aligned space shall be flexible for office and retail programming for the Station, while ensuring a robust mix of new and improved retail, food service and hospitality opportunities.
- The southernmost retail unit shall have an opportunity to have a significant second level dining terrace overlooking the Transit Plaza and Historic Station.
- The eastern side of the Station Pavilion shall remain clear and open to frame an informal welcome for patrons approaching the Station from the at-grade light rail platform and the pick-up/drop-off zone that is aligned along the Station's eastern edge.



Station view from the south entrance

Station Entrance East

The Station Entrance on its eastern side at 5th and G streets connects the station along 5th Street which is elevated approximately 18' higher than the Southern and Northern Entrances. This entrance is a key station component because it is the central-most area of the Station Concourse where passengers will make their intermodal connections.

Guidelines

- Sightlines from this area, to each transit mode and to the nearby significant urban icons such as the Historic Station, the Railyard Buildings, the River and the Courthouses should be clear and unobstructed, for intuitive wayfinding at the Station.
- This east entrance should offer a unique and recognizable moment, such as the illustrated tectonic funnel that allows light, water and natural landscape elements into the Station area. This architectural feature should represent the station's identity as being a beacon for progressive, sustainable placemaking for the citizens of Sacramento.

Station view from the east entrance

Light Rail
Taxi
Rideshare
All Trains

Station view from the east entrance

Station Entrance North

The north entrance of the station connecting to the Railyards development area will require coordination for programming and open space design to ensure adequate facilities for future transit users are provided at this location.

Principles

- The Station Concourse northern entrance shall furnish, at a minimum, pedestrian access to the Tunnel level as well as the elevated Concourse level that spans over the rail tracks. It is anticipated that the tunnel will transition to bicycle priority when the upper concourse is constructed and is available as a more attractive route for pedestrians.
- The at-grade program shall include the space required for this vertical circulation which approximates to an area of 45 ft. by 95 ft. The vertical circulation components shall include one stair, two elevators and two escalators to connect passengers from ground level to the elevated Concourse level.
- Stairs within the northern portal shall be located to the east side of the entrance to align with existing and future pedestrian circulation patterns to and from the Historic Station.
- Elevators shall also service the Tunnel level, which can also be accessed via the planned ramp and stairway.
- The ramp connection to the tunnel level supplements the stairs, and future elevators. It shall serve as a future bike-priority route, after the overhead concourse is in place. It shall be developed in collaboration with the Railyards District.

Seamless Station Access

Principles

- The station platform configuration in the Area Plan shall meet the design criteria of the agencies using the station and their corresponding vehicle specifications and operations.
- The rail slopes, platforms heights and lengths shall accommodate these modes as well as all fire life safety means of egress.
- To reduce construction costs and service disruption, the two existing platforms shall be widened towards the center without impacting the outermost tracks or freight rail lines. The current railyard configuration and track criteria can accommodate widening the platforms to 30-ft., which will allow for two escalators and one 5-ft. wide stairway to fit within the overall width of each extended platform.
- ADA-compliant access shall be provided via a pair of elevators servicing each platform. These elevators will decrease the walk time required for passengers to reach the platform, provide more comfortable access for passengers with luggage or those with greater difficulty walking, and comply with ADA requirements.
- Light Rail shall be at grade, running north-south, entering from the east side of the Station precinct along H Street, turning north to connect back to an eastbound alignment on F Street.
- Regional Buses shall enter/exit from 3rd Street, ramping up to the upper level of the Bus Mobility Center for circulation and back down to grade to enter/exit at F Street.
- The new Bus Mobility Center shall be directly accessible from the Station Concourse, serving passengers arriving and departing from the bus island.
- Local Bus Stop on G Street, east of the Station shall be connected via 5th Street Plaza to the elevated Station Concourse east entrance.
- Shuttle Buses shall be accommodated below grade in the Parking level of the Bus Mobility Center.
- As the upper concourse offers pedestrian priority and segregation from bicycles and scooters, the bicycles and scooters shall access via the existing tunnel passageway and the north entrance (at -15'below grade).
- Pedestrians shall access via the Station Concourse at grade in the Transit Plaza, descending to -15' via the tunnel passageway, or ascending over the Railyard at +32' via a sequence of elevated floors and ramps.
- Taxis/TNC - at grade via pick-up/drop-off zones to the east and west of the Station Concourse on the Southern Entrance.

Refer to Figures 6.15-6.16 for multi-modal transport access to the station concourse.

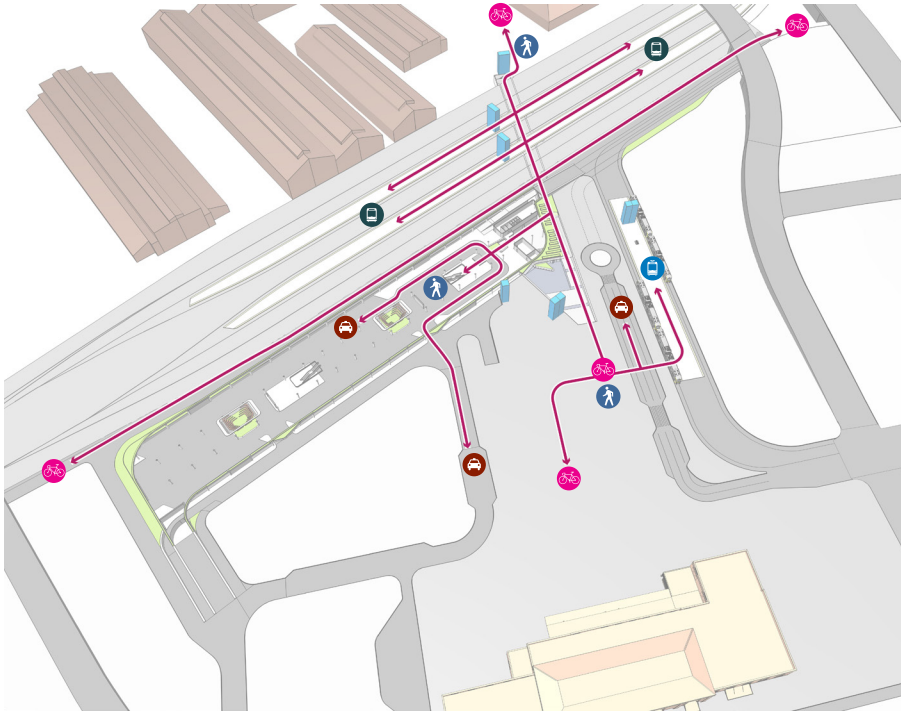


Figure 6.15 *Station Access - Ground Level*

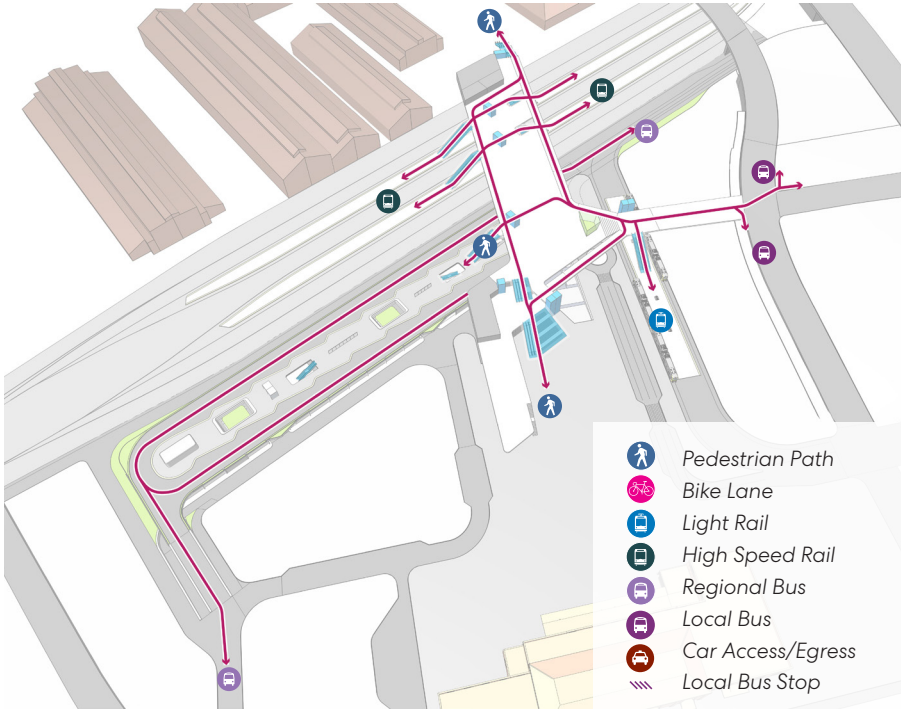


Figure 6.16 *Station Access - Concourse Level*

Station Program
Elevated Passenger Concourse

Principles

- The Station Concourse shall accommodate different types of users - from passengers accessing platforms to neighbors using the Station to cross the rail tracks.
- The concourse space shall be designed to anticipate the circulation flow of people and the type of experience which will satisfy its users: unique waiting areas, gathering spaces, retail premises and eating spaces.
- Retail program shall occur along both sides of the main circulation spaces conforming to a total 6,000 sq. ft. to properly activate the concourse space for passengers who are waiting and making transfers.
- The detailed design and program for the concourse shall be coordinated with the parameters of the rail and transit agencies in partnership.
- The eastern side shall accommodate a larger footprint of retail enclosures for longer shopping and dwelling retail experiences
- The western side shall offer smaller and more mobile or flexible retail kiosks, complemented with waiting and gathering areas. An array of seating and work/charging tables will offer patrons adequate waiting areas with vistas overlooking the railyard and railyard development site.
- This area shall be flexible to provide the footprint for a future High-Speed Rail (HSR) lounge
- The concourse shall also accommodate a pedestrian route that crosses over the rail tracks and can be kept open to the public at all times, including times when the Station is closed.
- This route shall be located along the eastern side of the elevated Station Concourse to include a connection to the 5th Street Plaza.
- The concourse design should take into account evolving technology towards paperless ticketing and carry-on baggage when providing for ticketing and luggage facilities.

Guidelines

- The main circulation path should serve as the primary arterial of the concourse with a minimum area of 45,000 sq. ft.; aligned north/south with a minimum width of 55 ft., becoming wider at the forefront access points to platform levels, providing sufficient horizontal clearance for elevators, escalators and a grand staircase.
- A minimum of 20 ft. clear should be provided in front of all vertical transportation elements to maintain clear sightlines, avoid overcrowding and offering easy and clear wayfinding to levels above and below.

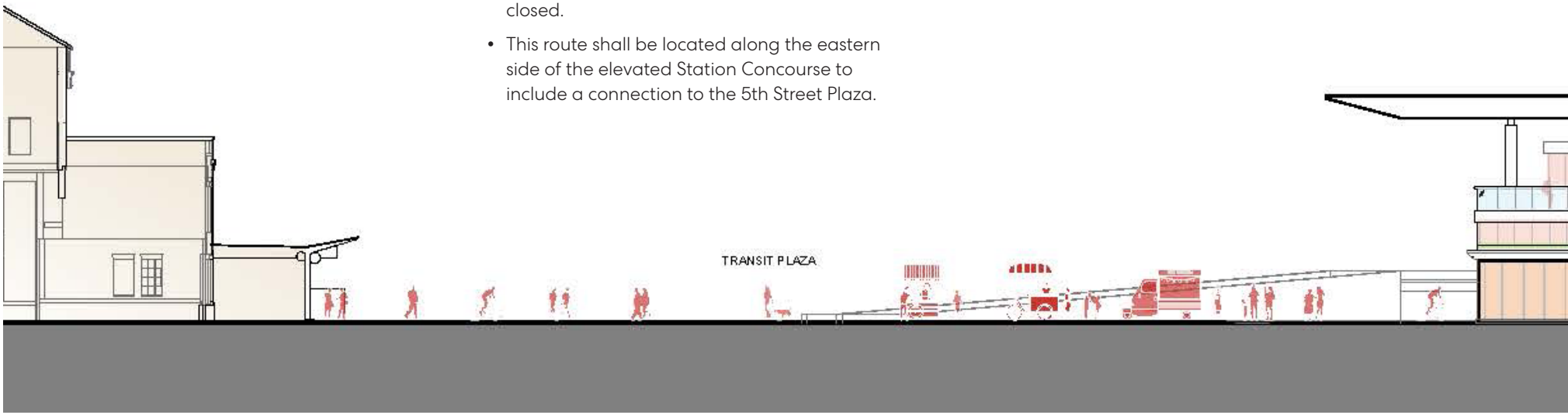


Figure 6.17 *Section - A*

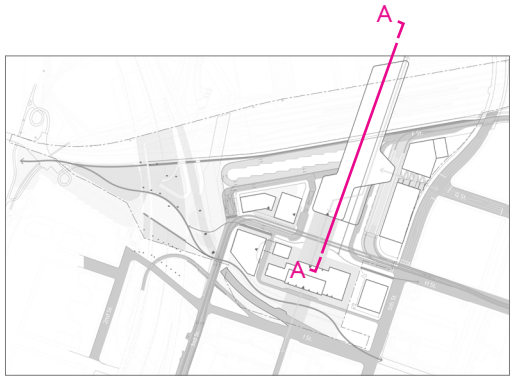
Concourse Level

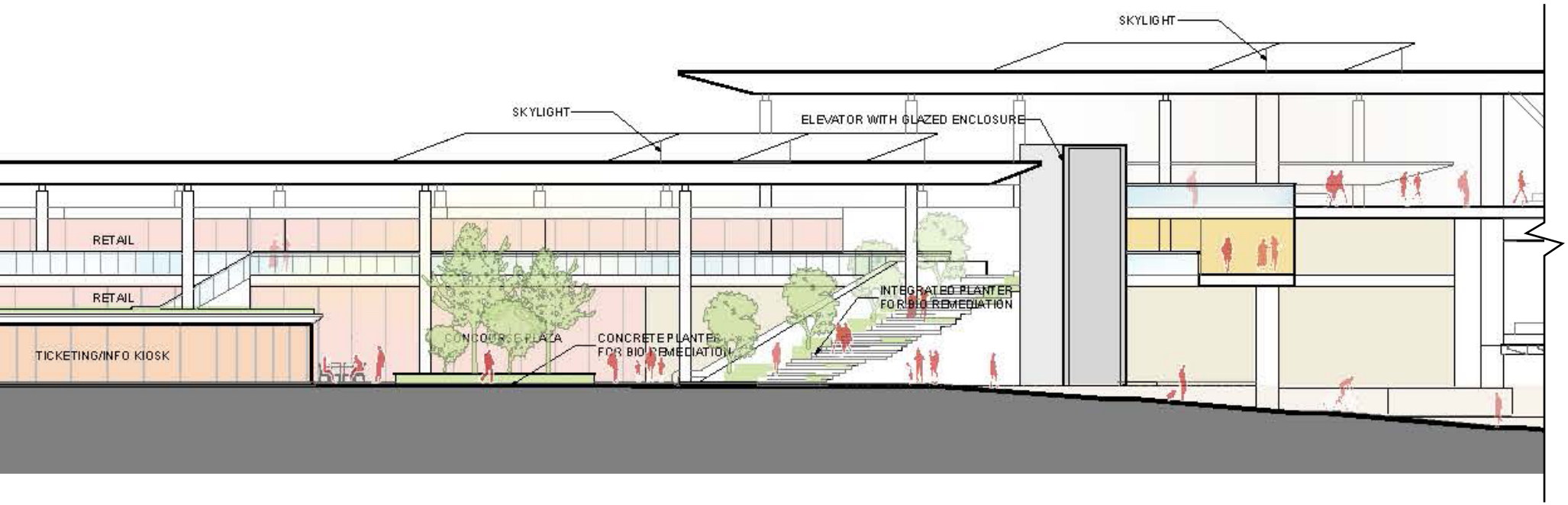
Principles

- Vertical circulation shall be provided at the northern entrance to the station from the Railyards in the form of elevators, ramp and stairs down to the mouth of the tunnel and elevator, escalator and stairs up to the elevated concourse.

Tunnel Level

A switchback ramp with straight-run stairs at the southern end of the Railyards Central Shops Plaza bring passengers down to a -15' level just before one enters the underside of the railyard. Under the rail tracks, two pairs of ramps lead from the tunnel to the two platforms above. These are 250 ft. long and 7 ft. wide and provide sufficient width for current volumes of bike, pedestrian and ADA compliant access. It is anticipated that, as pedestrian and ADA compliant access is replaced with more attractive circulation routes at the elevated concourse level, the 7 ft. width should be sufficient for the increased volumes of bikes at the tunnel level.





Principles

- The first series of ramps that bring passengers down to the -5'-0" level (to access parking of the Bus Mobility Center) shall be reconfigured to be wider and more inviting to the public.
- The existing tunnel terminates on the north end with a set of stairs. These shall be supplemented by two sets of elevators to provide ADA-compliant access and to provide a connection to ground level for cyclists and patrons with heavy baggage.
- It is anticipated that an additional ramp at the Northern Entrance shall be included to offer a means of descent to the tunnel level for a variety of users, subject to further coordination with developers of the Railyards District.

Back-Of-House

Principles

- With a vertical clearance of 14-ft. minimum, loading shall be accessed via SVS Street 1 with sufficient space for loading, storage, service elevators and trash services in this back-of-house (BOH) area.

Refer to Figure 6.17to Figure 6.20 for station consourse sections.

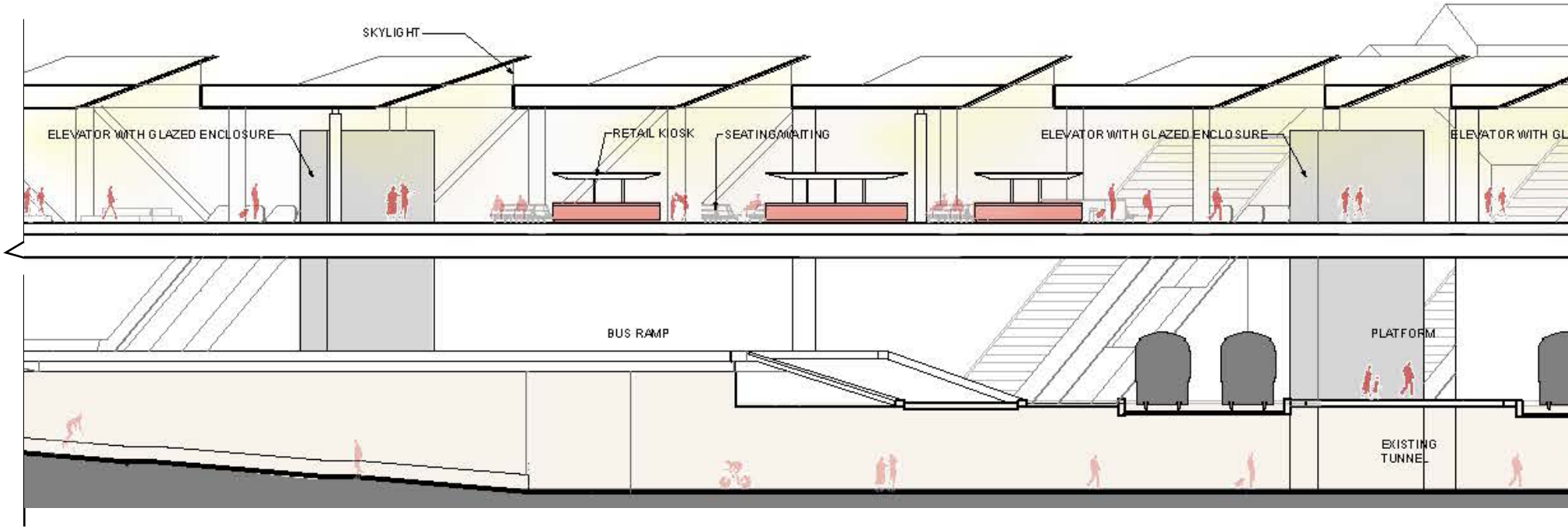


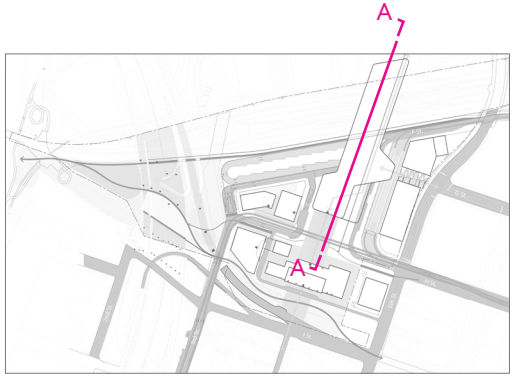
Figure 6.18 *Section - A*

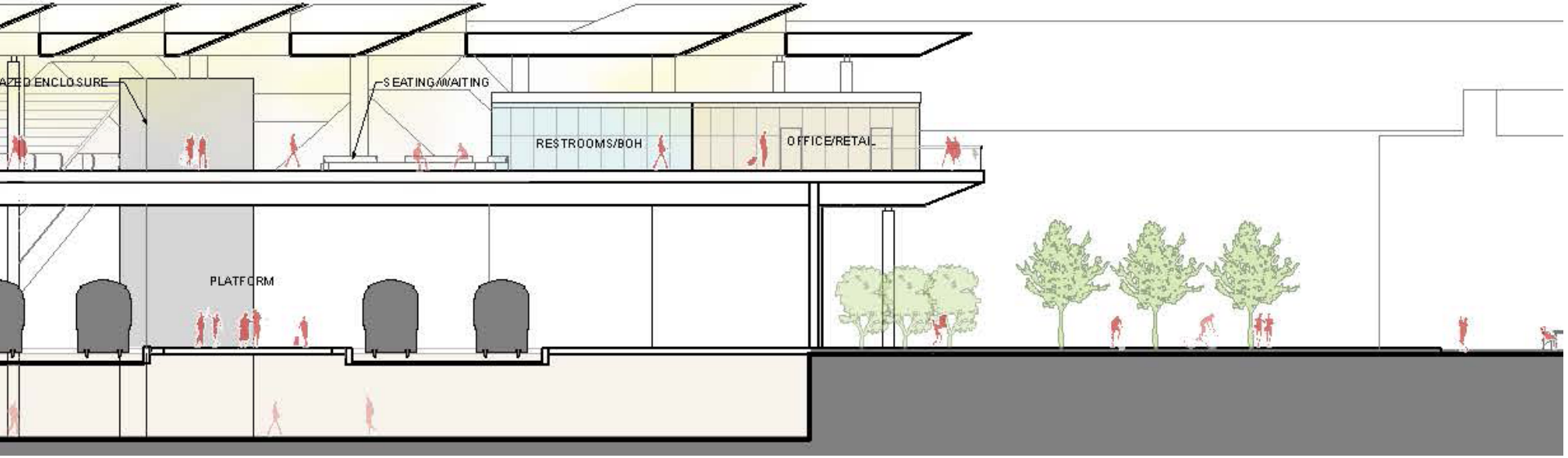
Station Structural System

The structural strategy employs an optimal system for the necessary horizontal spans and vertical clearances to allow for the transit modes to operate safely and efficiently, whilst prioritizing passenger safety and ease of transfer. The structure's gravity system is envisaged to be steel beams and trusses with concrete topped (floor) and untopped (roof) metal deck, supported on concrete columns. For the section of Concourse North of the Bus Terminal, the use of a full floor-height Vierendeel and Pratt Bridge Truss combination enables the Concourse to achieve long spans of up to 150 ft. over numerous constraints. The lateral system from the Concourse roof to floor is a mix of moment and braced frames which transfer into concrete shear walls that extend down to pile caps.

Principles

- The layout of columns shall not inhibit main circulation paths or sightlines to facilitate intuitive wayfinding.





Station Systems and Materials

Principles

- Selected materials shall have a timeless quality and avoid passing trends.
- Selected materials shall express a degree of permanence appropriate to the civic character of the precinct. High quality materials will provide an enduring presence for these projects.
- As enduring as the Historic Station itself, the new transport projects shall incorporate sustainable best practices. The selection of materials shall consider the life cycle energy demands, life span, resourcing, recycled content, and low-emitting paints, sealants, adhesives.

Sustainable measures and materials are discussed in further detail in Section 6.2.2 Micro-Climate and Sustainability Design Considerations.

Guidelines

- New transport buildings should be constructed of high-quality materials and workmanship appropriate to an urban environment.
- Primary building materials should be used for all façades of the buildings on the SVS site, since all sides will be visible from one other vantage points within the public realm.
- The choice of materials for transportation architecture should consider the Historic Station and other notable structures in the vicinity such as the Railyards district.
- The appearance, safety, sustainability and durability of materials should be considered.
- The appearance of the materials chosen should facilitate passenger guidance, information, safety and security in a pleasing manner that contributes to overall design excellence.

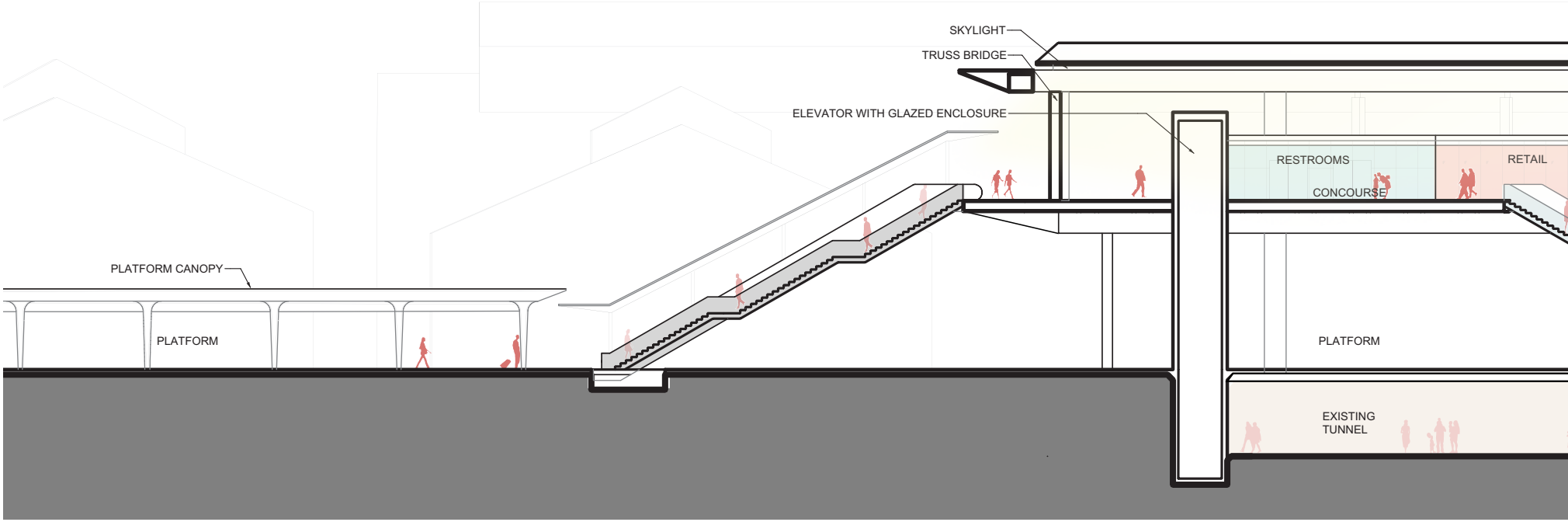
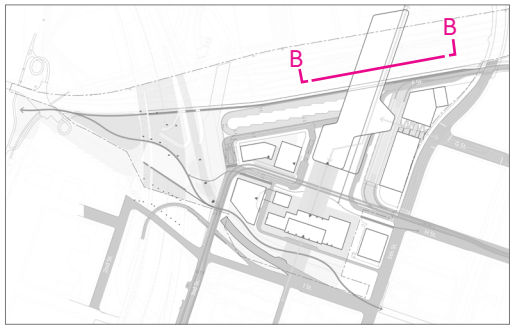
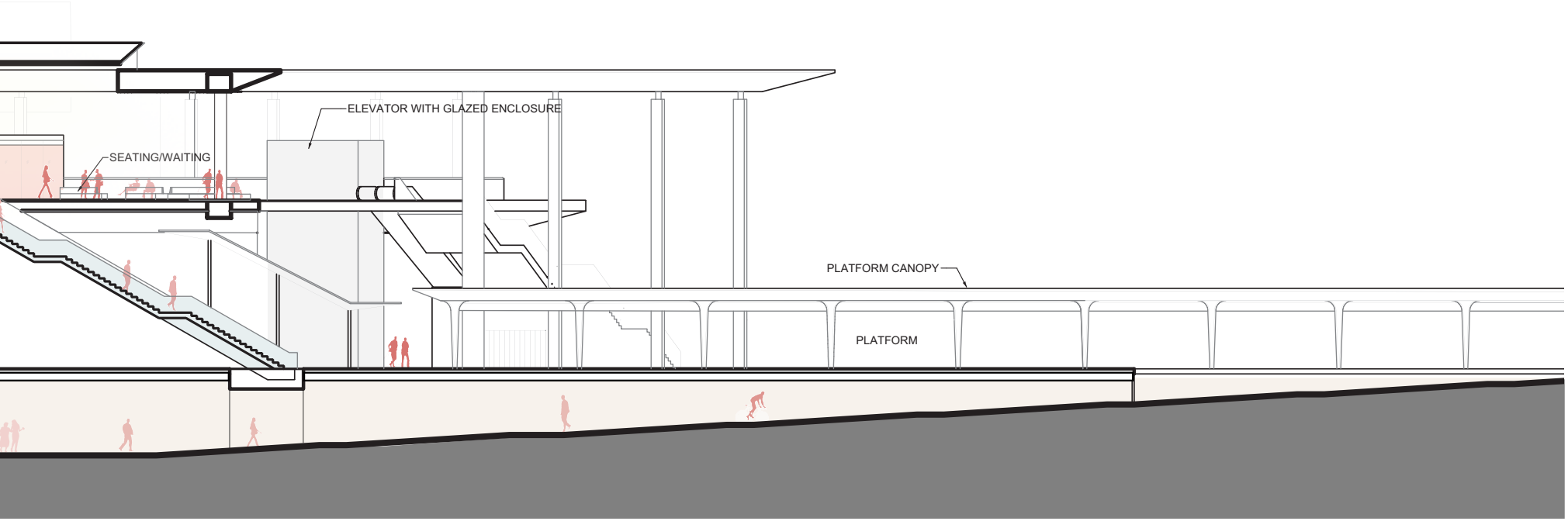


Figure 6.19 *Section - B*

- Colors should be consistent with systemwide identity colors, compatible with the project's surroundings, and of sufficient contrast and accent to attract the eye, convey feelings of warmth and conceal soiling.
- Where possible, natural and renewable, and carbon-sequestered materials should be applied to support the building's LBC initiatives. The project should explore and utilize the most relevant and sustainable emerging material technologies and product innovations to achieve the enduring and sustainable systems. Locally-made products, such as those using agricultural bi-products, should be considered.
- Materials with long lasting color and appearance over the time of their use and with exposure to the elements should be chosen.
- Areas prone to vandalism should use readily available, durable material that is easy to clean and maintain.
- The ease of replacement and maintenance of materials is a factor in choosing materials with optimal strength and quality. Installed with a high level of workmanship, the materials should also maintain a high level of performance criteria regarding combustion, acoustics and retrofitting.





Station Energy And Thermal Comfort

The Station shall optimize the application of natural ventilation systems to take advantage of the Delta Breeze and reduce energy and operating costs while also addressing issues such as occupant comfort, air filtration and acoustical isolation. Careful evaluation of the climate suitability of Sacramento and the region's forecasted temperature increase or its extreme years climate trends should determine the station ventilation cooling strategies. There are challenges in meeting comfort criteria for all occupants given different activity levels (for seated and transient occupants). It is important to create spaces that can be more closely conditioned in waiting areas. The following comfort criteria should be met:

Guidelines

- Radiant heating should be effective during the winter months to enhance comfort locally.
- Radiant cooling should be effective at reducing air temperatures to comfortable levels. Spot cooling and heating should be provided within the larger waiting areas and for any open retail areas or enclosed program elements.
- Thermal mass, if utilized effectively with night cooling, should be effective at enhancing comfort.
- Air movement should improve comfort in some areas for more active people, but care must be taken not to negatively impact seated and standing individuals.
- Enclosed retail spaces and other such enclosed spaces should be fully conditioned.

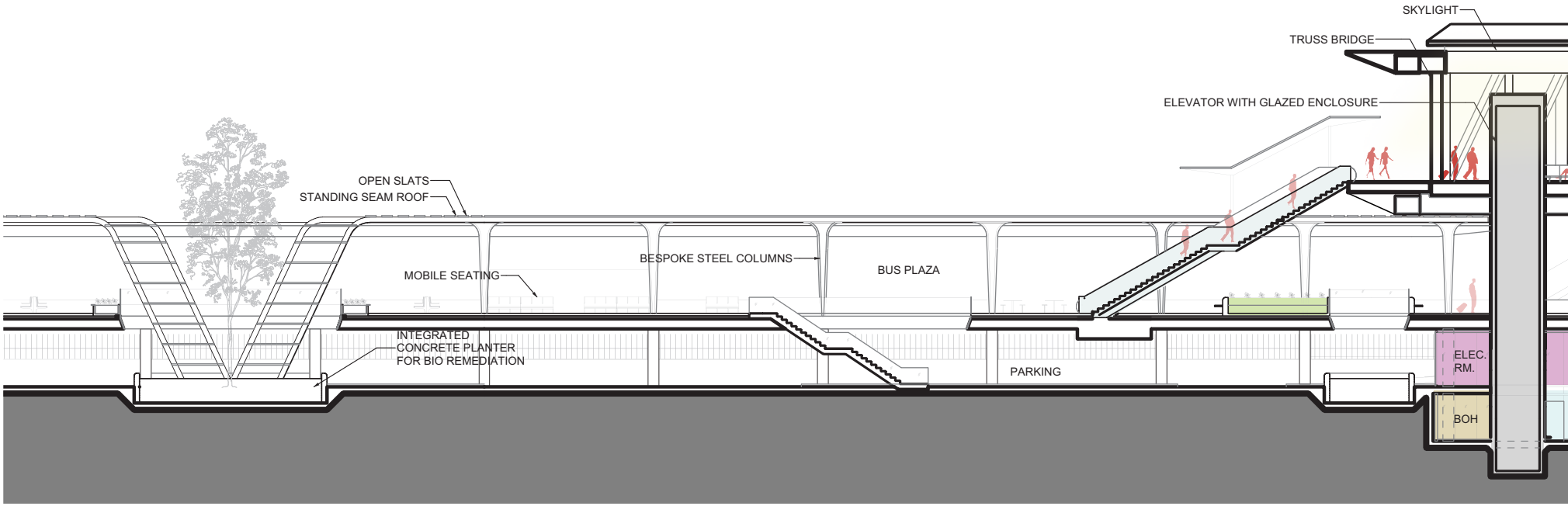
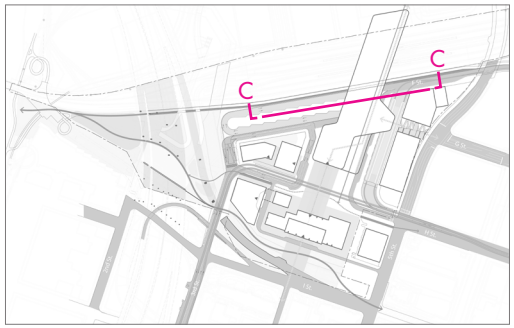


Figure 6.20 *Section - C*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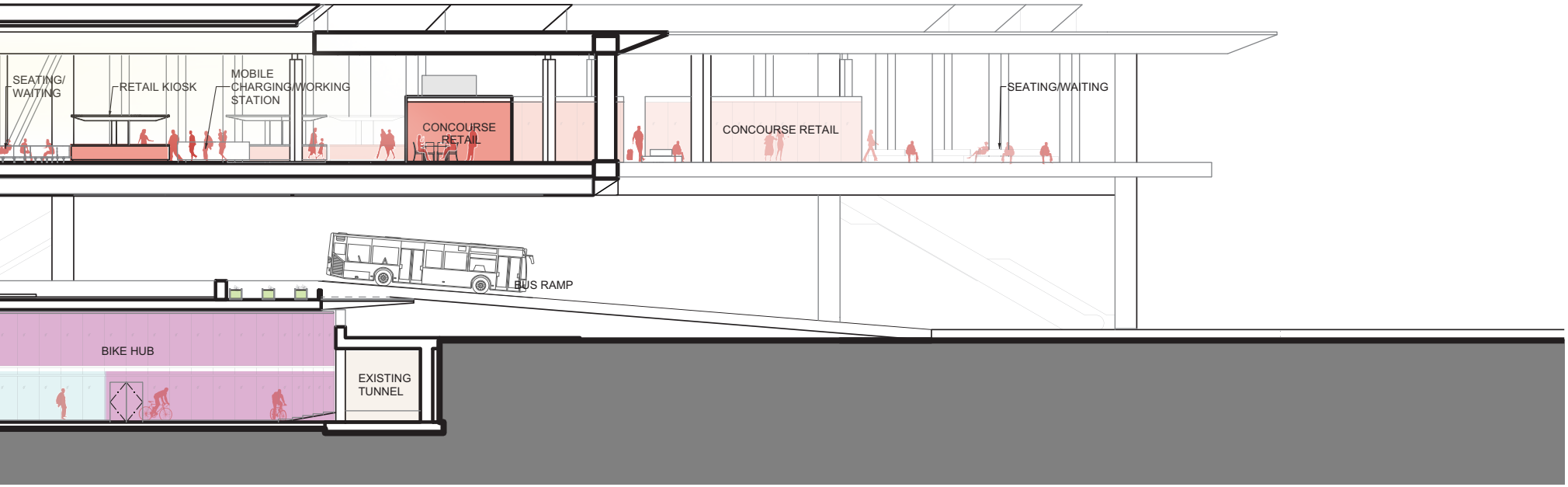

SEATING/
WAITING
RETAIL KIOSK
MOBILE
CHARGING/WORKING
STATION
CONCOURSE
RETAIL
CONCOURSE RETAIL
SEATING/WAITING
BUS RAMP
BIKE HUB
EXISTING
TUNNEL

Bus Mobility Center

The Bus Mobility Center(BMC) will provide 18 bus bays in an island configuration for inter-city and regional buses that can accommodate fleets that are up to 45' in length. Ten of these bays will initially offer EV charging, with the necessary conduit integrated to allow for all bays to provide fleet electrification in the future. The Bus Mobility Center connects several transit modes – intercity bus, regional buses, heavy rail, light rail, vehicular drop-off and pick-up with limited parking, and a network of pedestrian and bicycle paths. The Center should not rely on other development to activate the area or optimize intermodal transfers; it shall be able to stand on its own as an inviting and complete transit center.

The facility offers the Area Plan Area's only public parking facility, that will also provide electric vehicle charging capability that can be scaled to private vehicle parking and car-share parking, with a potential for a future hub for autonomous vehicle servicing hub. The BMC is also programmed for a significant Bike Hub with associated bike retail and a repair shop, public restrooms, and staff facilities such as showers and lockers. These program areas should be located at the facility's lower level (-5') while the Bus Plaza with its amenities for waiting and Bus Operators' Break Room should be positioned one level above (+8').

Refer to FIgure 6.21 for Bust Mobility Center programs and levels.

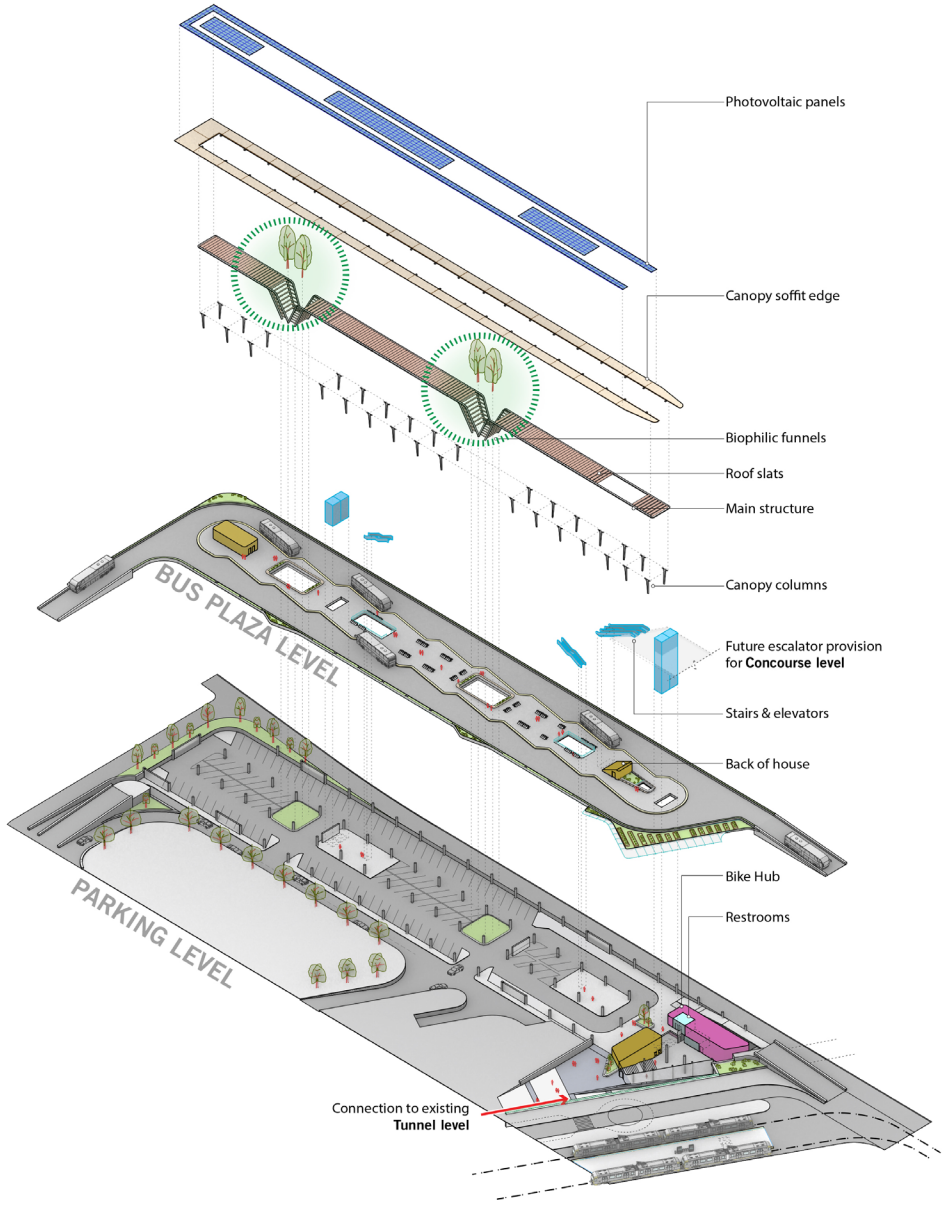


Figure 6.21 *Bus Mobility Center Overview*

Siting

The elevations of the parking level and bus plaza level have been established by a combination of site constraints, vehicle design criteria, the provision of a future Station Concourse that will be set above the Bus Mobility Center on its east side (with its own set of vertical and horizontal distance constraints) and the estimation of structural clearances. A portion of the site falls within the South Plume Remedial Action Plan Area, therefore limiting excavation within this area will minimize the cost of relocating these impacted soils. In addition, the water table typically fluctuates between 10 to 20 feet below ground surface, therefore by building mostly above grade, the need for waterproofing of structures and building components will be minimized. Utility easements restrict development in the east/west direction, and the railyard and bike path to the north constrains the Bus Mobility Center in its northward positioning. The various transit modes each have their own design criteria and vertical clear height requirements.

Preliminary structural analysis indicates a requirement for a 22" post-tensioned concrete 2-way slab for the Bus Plaza Slab, an additional 6" reserved for topping slab and another 6" for the Bus Plaza Island (curb height). These structural dimensions have been considered when setting the heights of the parking, bus plaza and canopy levels.

Access

Pedestrians

Pedestrians arriving from the south will approach the facility as they currently would, from the Historic Station and along the covered path to the rail tracks and platforms.

Principles

- The entrance to the Bus Mobility Center from the south shall be comprised of an enlarged and landscaped ramp that provides options for either entering the Parking Level on the west side, via a ramp descending to -5', and on the east side where the ramp shall continue descending to -15'. This lower level is established by the level of the existing Tunnel Passageway.
- All pedestrian circulation paths shall either be ADA-compliant or offer a similar ADA compliant path to provide ADA users an equal and inclusive opportunity to experience the Station amenities and experience as ambulatory patrons. These amenities include seating, shade, planted vegetation, retail, ticketing and information.
- The lower level shall provide for a minimum of three ticketing kiosks, a Bike Facility (with bike retail, storage, and repair services) and public restrooms. This level continues through to the existing tunnel passageway that brings passengers under the rail tracks, and with ramps and stairs, passengers ascend to the rail platforms above.
- The exiting tunnel level shall be extended beyond the north side of the rail tracks and provide access to and from the Railyards District.

Bicycles

Bicyclist access to the Bus/Mobility Center from the south is similar to pedestrian access. Bicyclists will be required to demount their bikes and walk through the Station Concourse. When the future station concourse has been built, bicyclists approaching the station from the northern and eastern entrances will also have to demount their bikes before entering the station. Bicyclists traveling along the north side of the Bus Mobility Center using the High Bridge Trail two lane bike path shall also be able to access the station at an entry point towards it east side where there is a Bike Facility.

Principles

- Along the north side of the Bus Mobility Center running east to west, the High Bridge Trail bi-directional multi-use trail shall provide an entry point to the facility on the east side with an ADA- compliant ramp that descends to the -5'-0" parking level and continues down to the -15'-0" Tunnel level.

Buses

Buses will be able to enter and exit the Bus Mobility Center via new ramps at both ends of the building. These ramps ascend to 8' level where buses will circulate around a 620 ft. long bus plaza in a one-way, clockwise direction. Forecasted regional bus ridership requires the provision for eighteen bus bays that shall each accommodate a 45 ft. long bus. Ten bays shall be provided with EV charging units, enabling regional fleet electrification.

Principles

- The facility should provide the vertical clearance for double decker buses which is currently approximately 15 ft.
- While the various regional bus fleets have varying design criteria, a minimum of an 8% slope for ramps to the Bus Plaza level and a minimum interior turning radius of 26 ft shall accommodate the range of bus fleets currently and planned for operation.

Private Vehicles

The established levels of the Bus Mobility Center are based on several physical requirements and constraints, including the starting point of the ramps to the upper bus level.

- Vehicles needing access to the parking facility will include RT Micro Transit Services with shuttles that are up to 9 ft. 6 in. tall, therefore the minimum clear height in the parking level shall be approximately 10 ft. to accommodate all users
- The circulation and access to and from the Bus Mobility Center shall be unchanged for vehicles throughout all phases of the Station development.
- Automobiles and shuttle buses shall have access to the lower level parking via the Third Street extension and two entrances from SVS Street 4.
- Any other fleet specifications that are greater than 10 ft. in height shall be accommodated at the upper Bus Plaza level.

BMC Building Design

Bus Plaza

In addition to the bus layover and boarding bays and the bus circulation loop, the Bus Plaza shall include public waiting areas and a bus operators staffroom. Refer to Figure 6.22 for the Bus Plaza level floor plan.

Principles

- Distributed seating throughout the passenger bus island shall be provided for patrons to comfortably wait for their buses.
- There shall be two main types of seating on the bus plaza.
  - *The first shall be comprised of robust transit seats or benches that can withstand the outdoor weather and resist vandalism. There shall be two of these seating areas in the bus plaza of approx. 1,300 sq. ft. each. In between the seating there shall be an additional screening structure to block strong winds.*
  - *The second type of seating shall be an extension to planter edges that circumscribe the openings to the parking level below. This seating should provide the biophilic experience in the Bus/Mobility Center to meet the requirements of the Living Building Challenge Biophilic Environment Imperative.*
- The bus operator's staffroom shall be approximately 700 sq. ft. It shall include two unisex ADA-compliant toilets, a nursing/lactation room and flexible interior layout space that can accommodate a break room, storage and janitor closets.
- The roof canopy of the Bus Mobility Center shall peel down to frame two significant openings in the roof that continue through the bus plaza floor slab and terminates at the parking level. At the parking level where the framed openings are anchored, there shall be significant planters that serve as the Bus Mobility Center's stormwater bioremediation areas. Large trees will also grow through to the bus plaza level to provide continuous vegetation throughout all levels of the Bus Mobility Center and bring a dynamic and dappled natural light to all levels.
- The Bus Mobility Center's stormwater run-off shall be collected through two main bio-remediation planters located at the parking level. The total area that will be used to collect and treat rain/stormwater shall be approx. 4,000 sq. ft.
- Trees shall be located in the planters at the parking level and shall be capable of growing beyond the horizontal datum of the canopy, providing natural daylight to the waiting seating areas at the Bus Plaza and to the parking level. The integration of these moments which opportunities for patrons' connectivity to the natural environment by creating landscaped refuge green spaces. They shall also serve as a natural, greening elements at and above canopy level, which shall enhance the roofscape, especially as viewed from the surrounding Railyards, adjacent tall buildings and Freeway Interstate-5.

Bus Mobility Center bus deck view

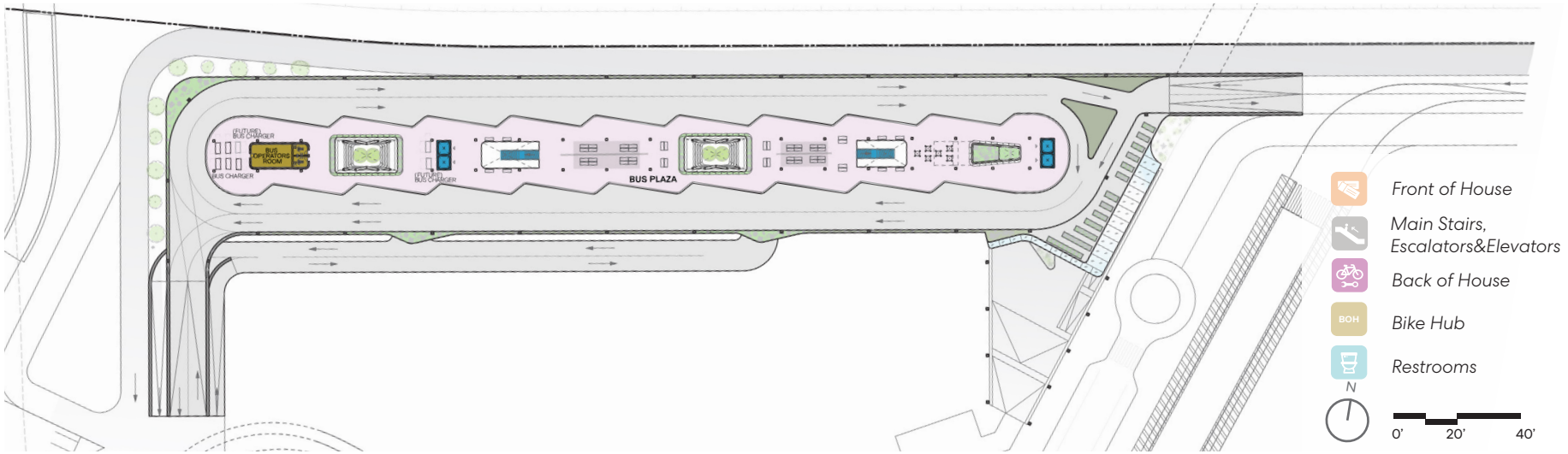


Figure 6.22 *Bus Mobility Center Floor Plan - Bus Plaza Level*

Bus Plaza Canopy

The Bus Plaza Canopy shall provide sufficient coverage for patrons waiting and boarding buses. The canopy shall be a major feature of a regenerative Bus Mobility Center in that it supports the project goals to be a net positive water and net positive energy building, thereby generating benefits to the building's site, community and environment.

Principles

- The Bus Plaza Canopy shall be a minimum of 30,000 sq. ft. (48 ft. by 620 ft.).
- The perimeter edge of the canopy shall be approx. 10 ft. wide with a standing seam roof that provides a suitable surface for roof-mounted solar panels and the underside of this edge shall be clad with wood panels, to offer a natural material to patrons that supports LBC priorities for carbon-sequestering materials.
- The central canopy surface shall be comprised of standing seam metal roof panels, which, when tautly placed together, allow for the future provision of solar panels. Closer to the planter openings, these panels shall be spaced further apart to allow a steady amount of light to penetrate into the spaces below. At the planters, these panels shall be rotated to become an armature to allow plant life to grow up them as slats.

Parking

Parking Layout

The vehicle circulation of the fully electrified garage at the parking level shall be one way in a counterclockwise direction. With a vertical clearance of approximately 10 ft., the parking facility shall accommodate most tall electric bus shuttle models. Shuttles picking-up and dropping-off patrons at the parking level should go through the vehicular loop, stopping between crosswalks at the eastern end of the facility. Patrons of the parking facility may access the Bus Plaza above from four elevators: two near the western end of the facility and two near the eastern end. Refer to Figure 6.23 for parking level floor plan.

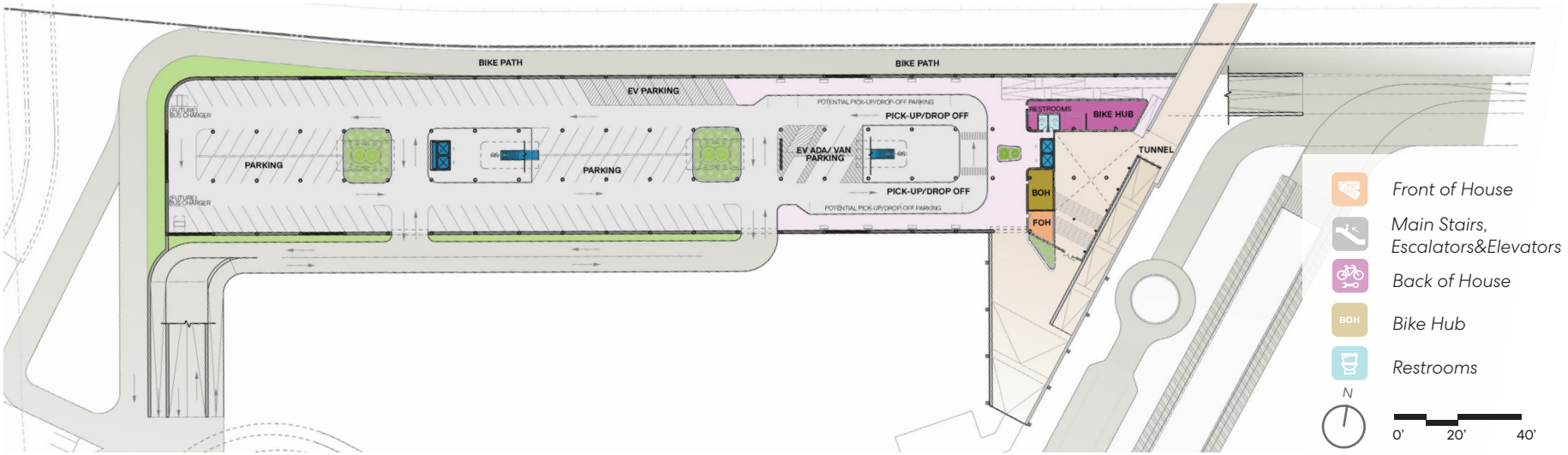


Figure 6.23 *Bus Mobility Center - Plan - Parking Level*

Principles

- The circulation loop shall provide shuttles and vans with approximately 300 linear ft. to drop-off and pick-up patrons with 250 ft. on the north and south sides dedicated to parallel parking (twelve car spaces).
- The east side of the circulation loop shall have two sidewalks to let patrons circulate between pedestrian islands with additional parking space in between for drop-offs and pick-ups.
- Two sets of stairs shall be provided to connect to the Bus Plaza above. These shall be equally offset from the elevator cores to offer distributed opportunities for access.
- The entrances and vertical circulation distributed throughout the Bus/Mobility Center shall adhere to minimum requirements for fire life safety egress and connectivity service levels.

Parking Quantities

The provision and management of public parking should be designed to be adaptable and flexible to accommodate a variety of demands over time; as parking for transit patrons, as parking for surrounding development blocks and as parking for proximate special events and destinations such as the Railyards Development and MLS Stadium.

Principles

- The facility shall include a minimum of 114 parking stalls.
- Of the 114 total parking stalls, the facility shall dedicate six to ADA-compliant and EV Van accessible parking and ten regular car EV charging stalls.
- All parking spaces shall be provided with electrical pathway infrastructure to allow for installation of EV charging at a future date.
- Beyond EV charging and ADA spaces, the location of dedicated parking spaces in preferred locations for other clean air vehicles and carpools should be considered.

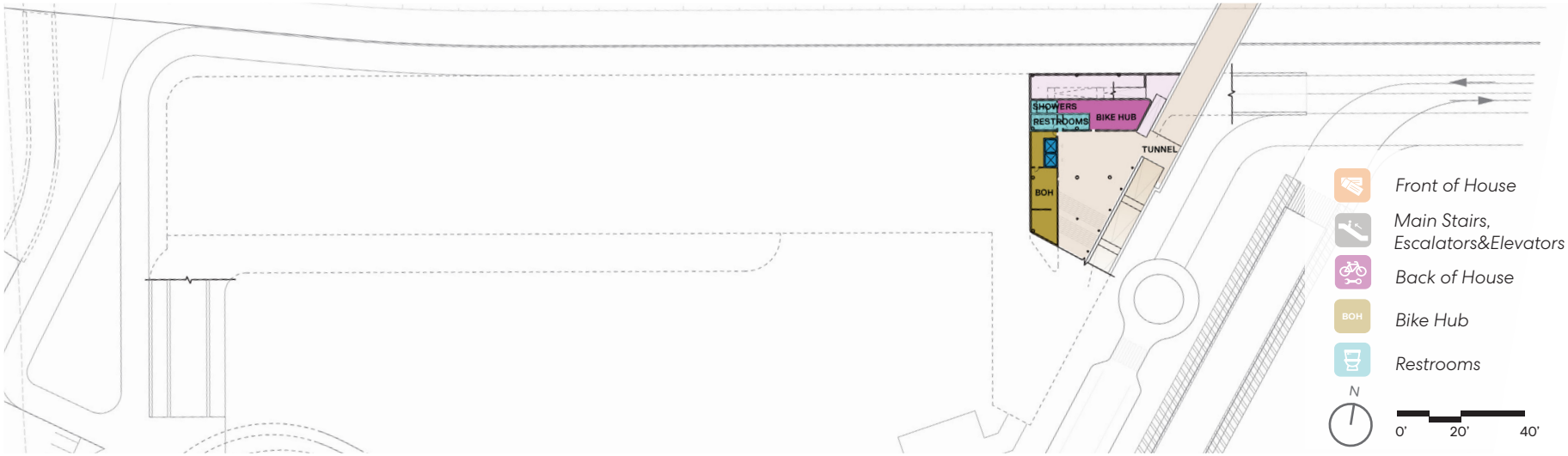


Figure 6.24 *Bus Mobility Center Floor Plan - Tunnel Level*

Parking Level Program

There are several passenger services and station support spaces which shall be provided in the parking level that include information, parking services, bicycle facilities, restrooms for transportation users, and storage for mobile cafe kiosks.

Principles

- The main customer information kiosk and ticketing facility shall be located on the parking level of the Bus Mobility Center. This room (minimum 300 sq. ft.) shall be flexible to offer either an operated ticketing room and passenger and facility information. It shall be visible from both the passenger pick-up and drop-off area and the Tunnel Entry Plaza. The glazed façade of this welcoming kiosk should match the station's other front-of-house pavilions, kiosks and retail storefronts for overall consistency and identity.
- A minimum of two ticketing vending machines (TVMs) shall be located at the lower entry Tunnel plaza level. The specific requirements shall be coordinated with City of Sacramento Parking Services Division.
- Two sets of public restrooms (per male and female genders) with multiple stalls for each shall be provided at the tunnel level. Each set of restrooms should be approx. 200 sq. ft., and both shall contain ADA-compliant stalls.
- Two unisex ADA-compliant toilets shall be provided for employees and staff located at the parking level. These may be converted into family restroom(s) at a future date.
- The Bike Services Facility will have a glazed, transparent façade in order bring light into the -15' level and provide light transmission and strong visibility of the Facility from the Tunnel Entry Plaza
- A dedicated bike ramp for patrons arriving with bikes shall be located behind the north side of the bicycle storage area.
- The total area of the Bicycle Services Facility shall be a minimum of 2,500 sq. ft. The program needed to be allocated within this 2,500 sq. ft. shall be: A bike repair/shop accessible through the Parking level and a minimum of 1,000 sq. ft.
- Additional bike storage, lockers, and provisional space for showers to be developed at a later date when the bike facility tenant is filled.

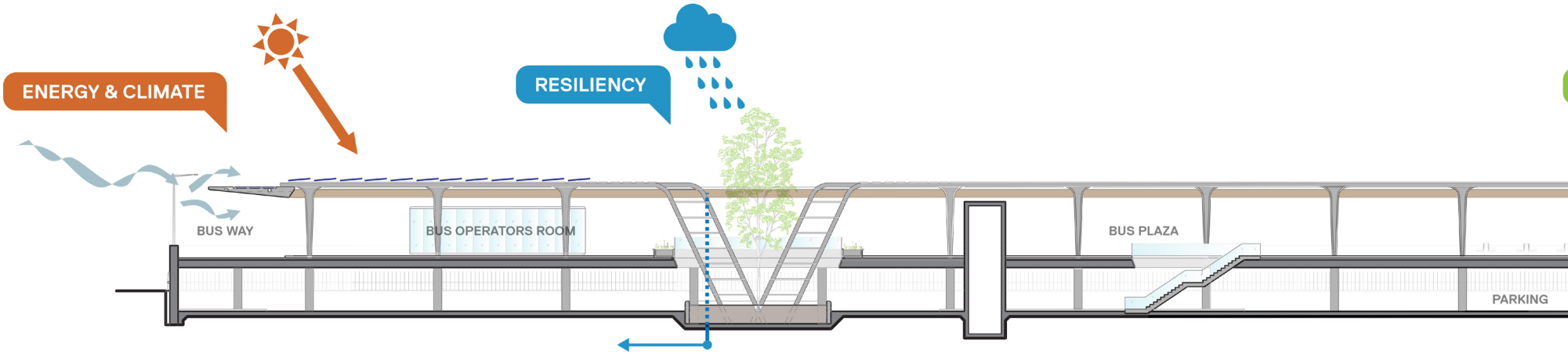


Figure 6.25 *Bus Mobility Center - Sustainability*

Back-Of-House Support

At the tunnel level there shall be a significant amount of flexible space of support spaces to accommodate any future station needs. To accommodate the increased provision of electrical parking spaces for cars, electrical charging for bus fleets and other general administrative needs such as security, storage and trash collection, this space should be located strategically to allow for growth without impacting other station program as the Transit Center's future needs become more defined. Refer to Figure 6.24 for tunnel level floor plan.

Principles

- A minimum of 1,000 sq. ft. centrally located flexible support space at the -15'-0" level shall be provided to accommodate various future needs such as storage.

Building Perimeter

A discreet and minimal fence is required on all sides of the Bus Mobility Center to ensure security and safety of the bus facilities and passengers. This fence shall be light and made of a material that will allow wind and air to flow through the facility as well as plants to climb up it.

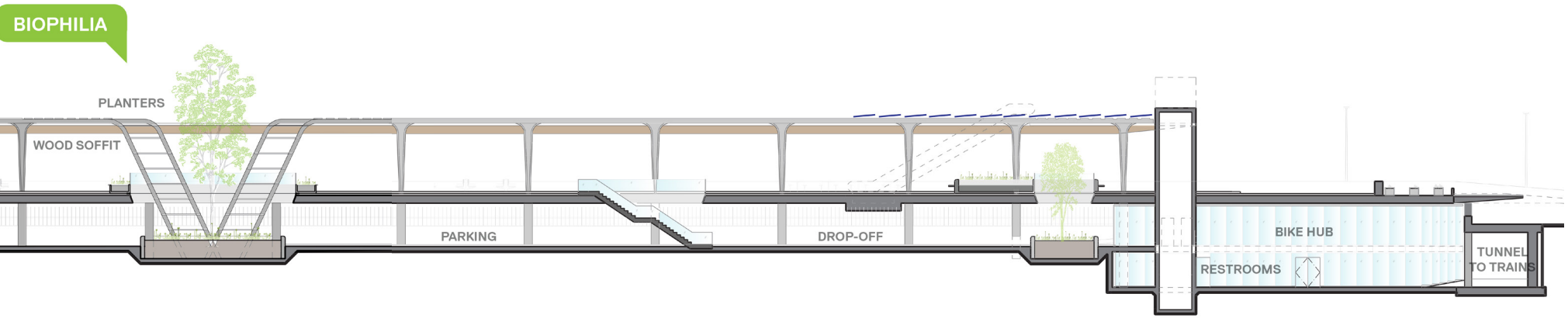
Principles

- A minimum of 1,500 linear ft. of perimeter fencing shall be provided to:
  - *secure the facility*
  - *allow for natural ventilation*
  - *allow for climbing plants to grow up it*

Sustainability

The BMC is intended as an early implementation project that announces what is to come on the site, and its sustainability features will be both aspirational and visible. As a highly sustainable building in its own right and a contributor to Living Community Challenge (LCC) certification, the Bus Mobility Center shall target Living Building Challenge (LBC) certification. Refer to section 3 for additional information pertaining to LCC requirements and targets.

Refer to Figure 6.25 for BMC sustainability performance.



Block A

Principles

- With direct proximity to the street curb pick-up and drop-off zones, the east side of the block shall include the main entrance for the hotel.
- The north edge of the block facing Block B shall be an active ground floor with a retail frontage
- To achieve desired open space area set forth in the 2016 Guidelines, an occupiable podium garden with views out towards the Transit Plaza shall be provided.
- To meet the required minimum stormwater detention for the SVS site, the podium deck shall include stormwater treatment planters to free up more land on the ground for the public realm.

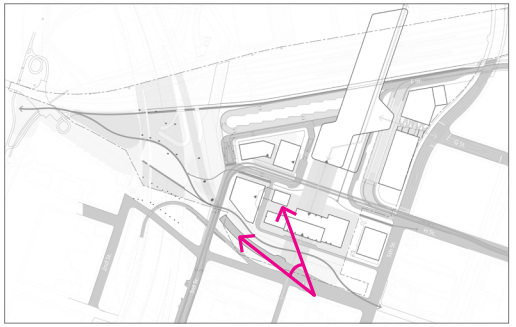
Guidelines

- Recessed ground-level design is recommended to provide a shaded entrance experience on the south edge of the block.
- When the tower core is located off-center, occupiable spaces should face prime views such as the Transit Plaza and the Civic Plaza, while back-of-house programs and circulation cores should face lesser views such as the I-5 freeway infrastructure.
- Tower façade modulation and articulation should be carefully considered to provide a human-scaled experience for building elevations facing the Transit Plaza, the Civic Plaza and SVS Block B.
- Sustainable materials should be included in the building design from structure to building envelope and the interior finishes. Cross-Laminated Timber (CLT) building materials should be considered for a more environment-friendly method of construction.
- Material selection for the building envelope should be partially relatable to the architectural character of the Historic Depot. Elements may include, but are not limited to, the color tone, scale and rhythm of components, material and patterns.

Refer to Figure 6.26 for Block A potential building design.

Recessed Ground Floor
Center for Interactive Research on Sustainability, Vancouver, CAN

Tower Facade Modulation
One Vandam, New York, NY



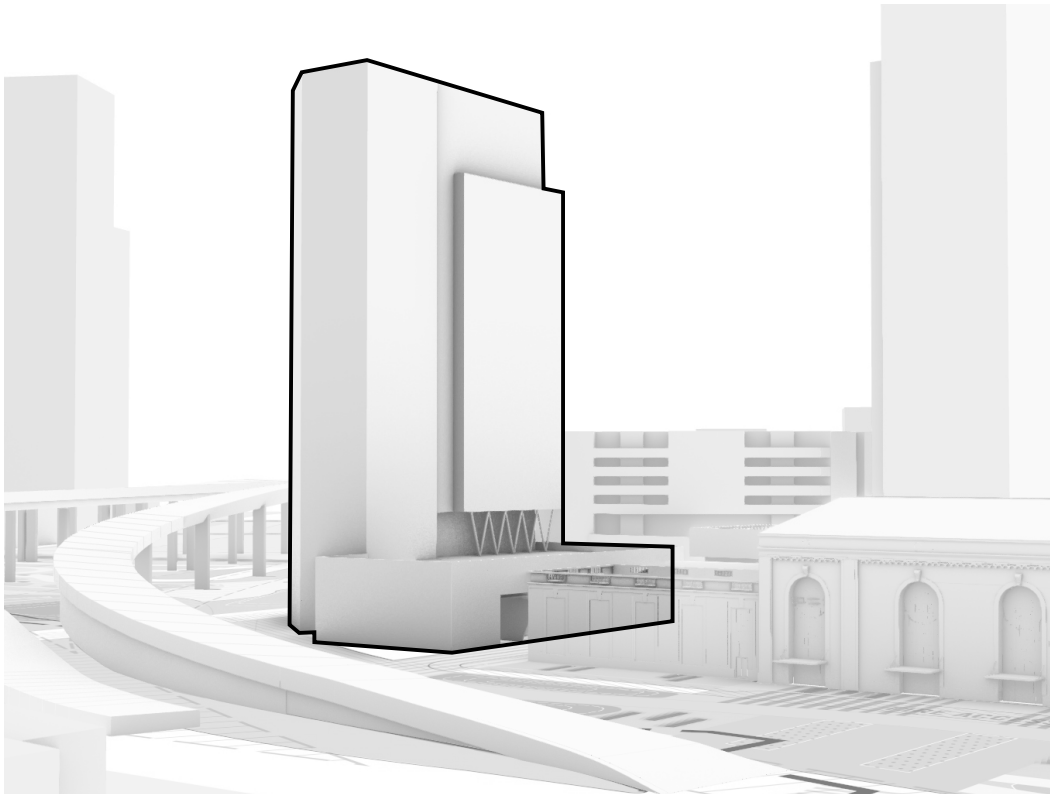


Figure 6.26 *Block A - Overall*

Block B

Principles

- Block B shall be bisected by a north-south pedestrian paseo, minimum 40 ft. wide and aligned with SVS Street 3 to the south. Refer to Figure 5.21 for a section of the paseo.
- This paseo shall subdivide Block B into two smaller distinct footprints for a mid-rise residential building and a residential tower.

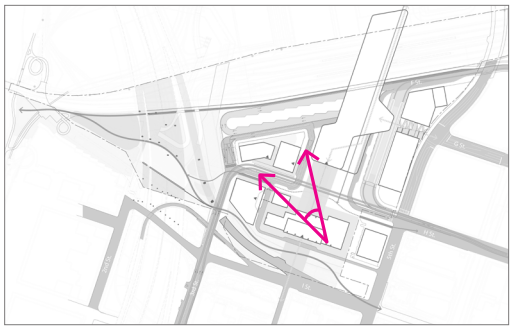
Guidelines

- The two sub-blocks may be connected by an upper level bridge, open or enclosed, provided that the underside of the bridge is no lower than the third floor level, maximum one story tall and maximum 10 ft. wide.
- The podium segment of Block B buildings should consider elements such as colonnades, awnings and canopies to protect the pedestrian zone in the hot and dry summer season.
- The design of the facades along the Paseo should prioritize human-scale elements with lobbies and retail openings for vibrant indoor-outdoor movements and active frontages.
- The podium garden space should include planters to treat stormwater to free up the land on the ground level for flexible public realm design.
- Buildings should integrate PVs for shading, stormwater planters as landscape buffers to protect the occupiable amenity spaces for human comfort.
- Edible gardens are recommended for podium gardens as a part of the urban agriculture strategy required by LCC.
- Site furnishings shall be designed to inhibit the use of skateboards on vertical and horizontal raised surfaces.
- The tower design should apply mitigation methods to maintain well ventilated interior spaces and to avoid overheating in the summer, especially for the west tower facades.
- The building designs should embrace innovative solutions in response to the local climate challenge of the dry, hot summer. Green roofs, stormwater treatment, vertical planting and PV panels should be utilized in ways that are visible from nearby occupied spaces.
- Tower façade modulation and articulation should be carefully considered to provide a human-scaled experience for building elevations facing the Transit Plaza, the Civic Plaza and SVS Block A.
- Sustainable materials should be included in the building design from structure to building envelope and the interior finishes. Cross-Laminated Timber (CLT) building materials should be considered for a more environment-friendly method of construction.
- Material selection for the building envelope should be partially relatable to the architectural character of the Historic Depot. Elements may include, but are not limited to, the color tone, scale and rhythm of components, material and patterns.

Refer to Figure 6.27 for Block B potential building design.

Residential Tower
Music Centre District, Aalborg, DNK

Facade Articulation
HafenCity, Hamburg, DEU



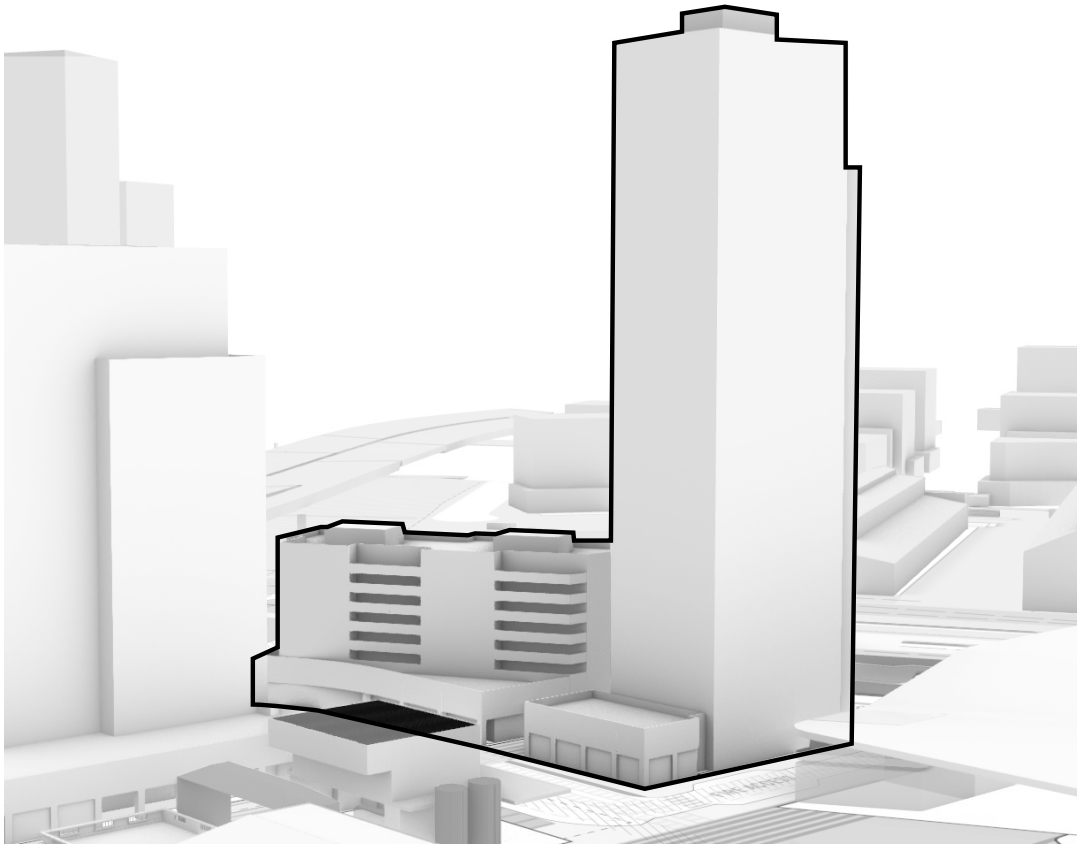


Figure 6.27 *Block B - Overall*

Paseo in SVS Block A and SVS Block B

5th Street Plaza across Lot 40 buildings

Lot 40

Principles

- Lot 40 shall maintain the existing east-west easement, minimum 16 feet wide and 14 feet high, aligned at the discretion of The City of Sacramento with G Street to the east. It is recommended that this easement be expanded in width to provide a more generous entrance to the site and the Station Concourse east entrance. Refer to Figure 5.7 for a suggested plan of an expanded common entry Plaza.

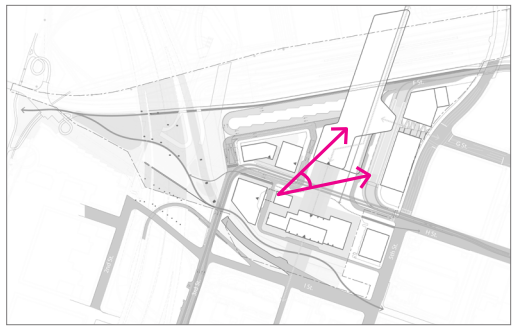
Guidelines

- The massing of the above ground structures each side of the easement should respect and emphasize the sight lines towards, and visibility of, the Station Concourse east entrance from the 5th and G Street intersection.
- If Lot 40 includes any levels of basement parking, these two sub-blocks may be connected at such levels below the easement.
- The southern façade of Lot 40 south should include a ground-level colonnade facing onto the western end of SVS Street 1. This colonnade should be lined with ground-floor retail or active uses and should be a minimum 12 ft. deep (measured from building inner face to centerline of columns) and a minimum one story high, open to the public at all times. Figure 6.28 includes an illustration of how this requirement may be achieved.
- Active ground floor frontage design along the 5th Street Plaza public realm is strongly encouraged. The integration of retail and lobby spill-out spaces will contribute to the character of 5th Street Plaza as an "open concourse" in front of the east station entrance.
- The tower design should apply mitigation methods to maintain well ventilated interior spaces and to avoid overheating in the summer, especially for the west tower facades.
- Lot 40 south building massing should consider south-facing terraces for improved solar performance.
- The building designs should embrace innovative solutions in response to the local climate challenge of the dry, hot summer. Green roofs, stormwater treatment, vertical planting and PV panels should be utilized in ways that are visible from nearby occupied spaces.
- Sustainable materials should be included in the building design from structure to building envelope and the interior finishes. Cross-Laminated Timber (CLT) building materials should be considered for a more environment-friendly method of construction.

Refer to Figure 6.28 for Lot 40 potential building design.

Recessed Ground Floor
Monroe Blocks, Detroit, MI

Active Ground Floor
Chophouse, Seattle, WA



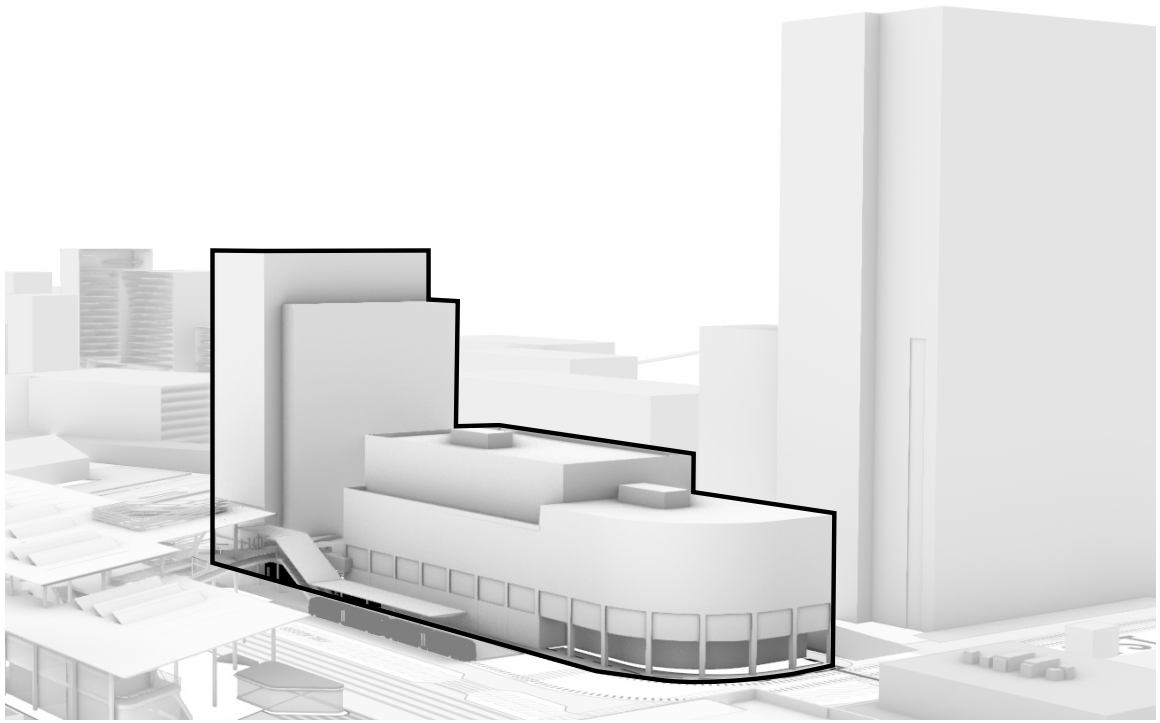


Figure 6.28 *Lot 40 - Overall*

Historic Station

The placement of new buildings and public open spaces around the Historic Station is intended to reinforce its presence as a main gateway to the City of Sacramento. The Area Plan envisions a new future and purpose for this important historic landmark. With the transit-related uses and activities being relocated to the new Station Concourse, the Historic Station is repositioned as a key component of the social and community-oriented activities for the site and the City at large.

Principles

- The ground floor of the Historic Station shall be repurposed to include retail, café, restaurants and other active uses that can support an engaging environment. The grand central hall shall be opened to transit users, residents and visitors.
- This important historic landmark shall host community-facing uses such as art displays, community events, general information, etc.
- Strategically located shading structures and seating arrangements shall be adopted to support retail, food and beverage activities as well as events such as small concerts and performances.

Regenerative Utility Center

Principles

- A new extension shall be constructed to the west wing of the building. This addition to the historic structure shall also intend to better frame the Transit Plaza while housing the Regenerative Utility Center (RUC).
- The facilities for wastewater treatment and energy generation shall be combined in the RUC with a shared servicing access. The RUC shall allow convenient service vehicle access along its west facade.
- Horizontal and vertical stepped massing of the overall volume shall respect the massing of the Historic Station.
- The height of the primary volume of the building shall not exceed the 35 ft. high parapet of the adjacent portion of the Historic Station. Any rooftop equipment above the primary volume shall be screened from view with a semi-transparent rectangular enclosure which is complementary to the main volume of the building.
- The RUC building façades shall be designed to complement and not mimic the existing Historic Station.
- The water treatment facility and processes within the RUC shall be showcased as a public demonstration process.
- The south facade of the RUC shall be a minimum 20 feet from the north facade of the Historic Station. This 20 foot wide gap may be contained within a predominantly lightweight glazed atrium.

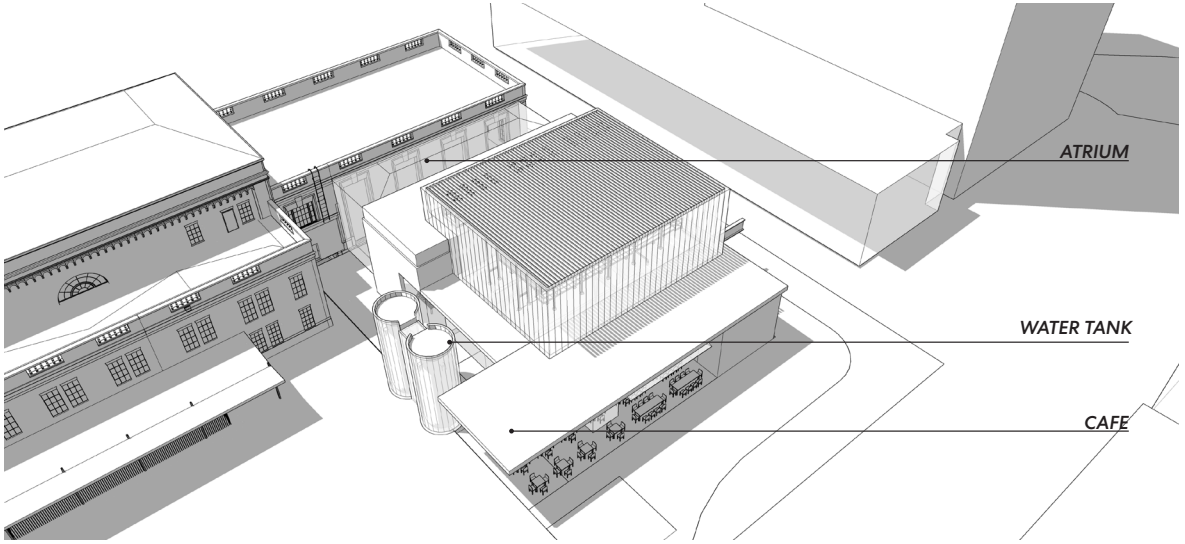
Complementary Facade
Space Asia Hub, SGP

Respect for Historic Scale
The University of Kansas, Lawrence, KS

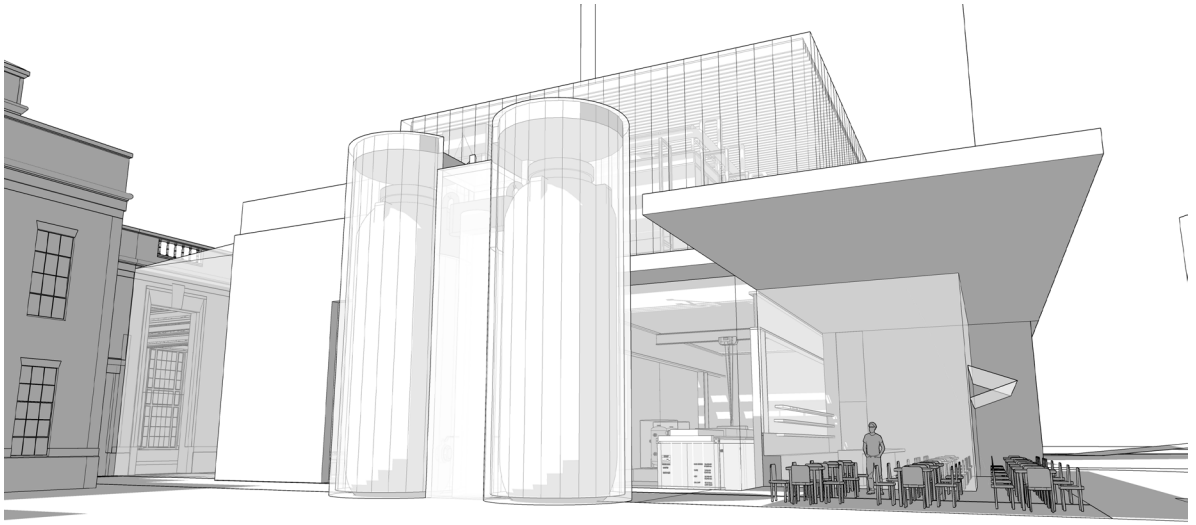
Regenerative Utility Center in the active Transit Plaza

Guidelines

- Retail and active uses should face the Transit Plaza with engaging frontage design and openings on the east and/or the north facade.
- Façade material selection should be contemporary and allow visual transparency to showcase the workings of the RUC.
- The roof design of the RUC should be consistent with either the building elevation or the transit plaza design due to its strong presence for viewers in the upper levels of surrounding buildings.
- Mechanical facilities on the roof of the RUC should be considered as a design opportunity for interpreting the unique use of the building for the benefit of viewers from the upper levels of surrounding buildings.
- Interpretive and educational components of the systems housed within the building, such as water storage tanks, may be located in or on the east side of the building to present an informative and engaging presence in the Transit Plaza.
- Portions of the ground floor of the building should be sufficiently transparent to allow views into the interior double-height volume and the workings of the systems within.



Regenerative Utility Center massing



Regenerative Utility Center active frontages