BROADWAY STATION DEVELOPMENT

URBAN DESIGN STANDARDS & GUIDELINES
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1 INTRODUCTION

1.1 PURPOSE & OVERVIEW
1.2 CONTEXT
1.3 HISTORY
1.4 SITE
1.5 PLAN OVERVIEW
1.6 DOCUMENT ORGANIZATION
1.7 APPLICABILITY
1.1 PURPOSE AND OVERVIEW

The purpose of these Broadway Station Development Urban Design Standards and Guidelines (UDSG) is to illustrate the vision for implementing the land use, urban design, public realm, and infrastructure improvements building off of the City and County of Denver’s (CCD) Broadway Station Area Plan for the Broadway Station Development project.

The design standards and guidelines put forth in this document will provide a comprehensive road map for developers, urban designers, and architects to guide the process of designing and constructing streets, pedestrian connections, buildings, and outdoor spaces consistent with the transit-oriented mixed-use vision and direction of the project. The UDSG further refines design elements regulated by the zoning code and defined by the Infrastructure Master Plan (IMP). This document addresses parcels adjacent to Vanderbilt Park and the Consolidated Main Line (CML) corridor between I-25 and Mississippi Avenue.

FIG. 1 SITE CONTEXT

1.2 CONTEXT

Broadway Station development site is characterized by a high density of rail and roadway infrastructure and industrial uses which creates challenges for neighborhood connectivity. The area to the east along Broadway consists of a mix of office, residential, and some retail uses and the buildings in the area are mostly ranging from one to two stories to a maximum of four stories. The area to the west is bounded by Santa Fe Drive and the South Platte River regional trail which connects the site to Central Platte Valley and other regional destinations. Vanderbilt Park and newly redeveloped Johnson’s Habitat Parks are major open spaces along the South Platte River which would provide recreational amenities to the development. The area to the north connects the site to the Alameda Light Rail Station, provides access to Broadway, and the Denver Design District.
1.3 HISTORY

The Broadway Station site was home to The Gates Rubber Company, one of nation’s largest manufacturers of rubber products for the automotive and industrial businesses for more than 80 years in the 20th century. With over 5,000 employees at its peak, the site was operating as a mixed-use industrial campus with administrative, recreational and retail uses for the employees. The campus encompassed an area of approximately 80 acres south of I-25 on either side of South Broadway and south of Mississippi Avenue. Broadway Station Partners, LLC currently owns 41.8 acres of land (Gates East) west of Broadway.

Since the plant’s closure the site has gone through a transformation of environmental cleanup including demolition of the old factory buildings and export of contaminated soils to prepare the site for redevelopment. The last remnant buildings from the rubber plant were demolished in 2014, however the historic water tower from Gates period still exists on the site.
1.4 SITE

The Urban Design Standards and Guidelines area is bounded by Interstate-25 on the north, South Broadway on the east, West Mississippi Avenue on the south side, and Santa Fe Drive, the South Platte River, and Vanderbilt Park on the west. Refer to Fig. 2 for the UDSG Area of Applicability. A north-south rail corridor over 300 feet wide bisects the site. The eastern parcels include the existing Light Rail Transit (LRT) Station, owned by RTD, and existing environmental remediation sheds, and the western parcels include designated open space and right-of-way parcels owned by the City and County of Denver.

The RTD flyover and Interstate-25 elevated expressway create visual and physical barriers for pedestrian access to the site and impede porosity to the neighborhoods. The overall topography of the site is sloping from the east to the west, and the Vanderbilt Park East into the South Platte River is the low point of the area. Existing slopes on the east side vary from 1% to 2%, whereas the slopes on the west side range from 2% to 5%.

The South Platte River, one of Denver’s greatest natural resources, flows through the western portion of the site.

FIG. 2 LOCATION MAP NOT TO SCALE
Location Map is for illustrative purposes only.
1.5 PLAN OVERVIEW

1.5.1. VISION & PRINCIPLES FOR THE DESIGN STANDARDS & GUIDELINES

The Broadway Station Development is envisioned as a high quality, mixed-use transit-oriented development that reconnects and re-purposes an isolated 50-acre former industrial site, thereby mending the city’s urban network. It aims to act as a link between surrounding neighborhoods and Vanderbilt Park and South Platte River trail amenities, and provide pedestrian and bike connectivity across the Consolidated Main Line (CML) railroad, South Platte River, and hard roadway barriers. The UDSG complements the vision established in the Broadway Station Area Plan and underlying zoning for the property. The UDSG provides additional standards above and beyond zoning requirements, or prescribes a preferred implementation of a zoning standard where alternatives exist. The redevelopment will emerge as an urban environment that connects with the past and celebrates Denver’s future. Streets will be activated with appropriate accompanying uses including retail, office and residential. The site affords quintessential Front Range mountain views and is readily accessible to nature through an extensive bicycle and regional trail corridor along the South Platte River.

PLANNING VALUES

A core set of design and development Planning Values have been established to inform the planning of the proposed program and implementation framework for the site. These Planning Values should be achieved through the Guiding Principles, Intents, Standards and Guidelines in the following chapters. The Planning Values are as follows:

1. Create an appealing urban environment
   Provide a high-density, high-quality mixed use development with buildings and public spaces of notable architectural character that maximize the overall value of the site and surroundings.

2. Enhance connections and activate the street
   Ensure connectivity throughout the site and to the surrounding neighborhoods and emphasize walkability and bike access. Support these connections by activating the ground-plane with a place-making program composed of a mix of market-supportable retail uses, innovative commercial space, and community facilities.

3. Create a multi-modal transit hub at the heart of the development
   Leverage the site’s unique transit assets to make I-25 & Broadway Station the heart of Denver’s newest mixed-use urban neighborhood, easily accessed by residents and employees across the site and throughout the surrounding neighborhoods.

4. Integrate with site surroundings
   Coordinate with public plans currently proposed on adjoining parcels or under construction, including Broadway and Mississippi streetscape and roadway widening improvements, and Kentucky Avenue relocation, I-25 reconfiguration, and I-25 & Broadway Station improvements as envisioned in the I-25 and Broadway Station Area Plan.

5. Protect and celebrate notable views
   Preserve view corridors to the mountains (via the Washington Park View Plane) from important public and private open spaces, orient buildings to take advantage of views of the mountains and downtown Denver skyline, and create a new signature view of Broadway Station Development from I-25.

6. Develop a variety of exterior public realm spaces for all to enjoy
   Provide high quality, publicly accessible, and character giving open spaces and streetscapes that create fluid connections throughout the project and beyond for social interaction and outdoor enjoyment to occur.

7. Transform the site from brown to green
   Serve as a model in environmental stewardship with effective remediation and green features using sustainable best practices.

8. Reconnect with the past
   Enhance and communicate the historic value of the site to the region by preserving remaining features where feasible, incorporating historic forms and materials in new development.

9. Reconnect with the South Platte River
   Enhance and restore the water quality of the South Platte River by implementing innovative green infrastructure practices and educating site users of their benefit.
1.5 PLAN OVERVIEW

1.5.2. DEVELOPMENT OVERVIEW & SUBAREAS
The development area leverages the site’s opportunities by creating a vibrant mixed-use community that will transform the area into a greater regional asset. The overall development comprises office uses, residential uses, landscape and open spaces, and active ground floor retail uses. Sufficient parking spaces will serve the entire development. Thoughtful development of the site will transform an area that currently lacks access and pedestrian character into a lively, urban destination with parks, plazas, multi-functional pedestrian and bicycle bridges, public art, and active ground floors.

The site is composed of four subareas with connections between each of the subareas across the CML rail corridor, South Platte River, and into the surrounding neighborhoods. The character and vision for each subarea is described in the following pages.
1.5 PLAN OVERVIEW

MARKET PLACE MIXED-USE DISTRICT
The Market Place Mixed-use District is envisioned as an important resource for the development, surrounding communities and transit users, and will be a regional destination for retail, shopping, dining, and gathering. The mixed-use district is organized around a pedestrian and bicyclist priority street which could be a shared curbless multi-use ‘living’ street to facilitate movement throughout the district. The architectural character is inspired by the industrial history of the site, and envisioned as a district of robust, loft-like masonry buildings relating to the industrial structures that were once located here, with a pedestrian-oriented public realm defined by sustainable landscaping, outdoor cafes, restaurants, galleries and retail spaces that engage with the street. On special occasions, the Shared Street could be closed for events like farmer’s market, food truck festivals, and other events that tie it back to the RTD District. The upper levels of the vertical development are envisioned to contain primarily residential multi-family living space, along with office space if demand is present. A public street along the rail corridor will provide at least a single lane of parking and be the primary location for access to service entrances and garages for buildings fronting the west side of the Shared Street.

SANTA FE RESIDENTIAL DISTRICT
Santa Fe Residential District is ideal as a primarily multi-family mixed-use residential area with buildings scaled and designed to maximize mountain views to the west. A strong Park Promenade will provide a link from Mississippi Avenue along S. Santa Fe Drive to the pedestrian bridges and Vanderbilt Park East. It will also provide those using bicycles a connection from the South Platte River Trail, along the Park Promenade to Mississippi Avenue and then Broadway. A series of live-work residential loft units will line the Promenade creating activity along the public corridor. The Park Promenade provides a buffer and separation from the high traffic volumes on the S. Santa Fe couplet; pedestrian and bicycle access; and integrates stormwater detention and water quality areas in the form of constructed wetlands and extended detention basins. The Park Promenade will also serve as a community open space amenity.

I-25 & BROADWAY STATION DISTRICT
I-25 & Broadway Station District is envisioned as the heart and soul of the entire development. RTD’s bus transfer facility and light rail platforms play a critical role in making this redevelopment site a thriving community. Development around the transit station will aim to activate and enhance the experience under the I-25 bridge, minimize I-25 noise deflection, and will include office, residential, and civic uses with ground floor active uses which generate activity and frame the public realm. Transit facilities are integrated into the fabric of the place, but notable wayfinding will ensure that transit users can find their way to the platforms and bus facility.

NOTE:
I-25 & BROADWAY STATION DISTRICT
Specific intents, standards and guidelines will be developed separately prior to redevelopment of the station site, through amendment of this document. Those standards and guidelines shall be consistent with the planning principles identified for the other sub-areas and the following vision for this I-25 & Broadway Station District subarea.
1.5 PLAN OVERVIEW

OFFICE & PARKLAND DISTRICT
Located in the northwest corner of the site adjacent to Interstate-25, the Santa Fe couplet, and Vanderbilt Park, this district is ideal for large business campus users which surround Vanderbilt Park East. Ground floor active uses like restaurants, co-working spaces, park amenities, and retail will activate the ground floors of office buildings fronting the park on the east and create an active pedestrian edge to the park. The parcel has tremendous visibility from the highway and offers adjacent transit access along Denver’s busiest transit lines. A direct and clear entry sequence and drop-off areas from the Santa Fe couplet will assist in wayfinding for the office users and visitors to Vanderbilt Park East. A series of courtyards and plazas with landscaping and seating along with the expanse of Vanderbilt Park East and Vanderbilt Park will provide recreational and gathering places for the office community, as well as nearby residents and community members. Courtyards, plaza spaces, and landscaped areas will incorporate innovative stormwater management practices that help aesthetically tie the site to the South Platte River while improving water quality of drainage to the river. The office campus is envisioned to have primarily offices, mixed commercial, retail and restaurant spaces.

SITE CONNECTIVITY
Providing full access to the variety of transportation modes available on site is vital to the success of the development and will improve connections for the greater community. Maintaining visual/aesthetic connections between iconic site elements to reinforce natural east-west wayfinding will further support this goal. Two pedestrian/bicycle bridges over the CML rail corridor will enable residents from the Broadway Station development, Ruby Hill, Athmar Park, and Overland Park neighborhoods better access to the transit station and walk or bike to access Internal Street, West Washington Park, and Platt Park. To create the energy envisioned on Internal Street, the south bridge will provide a vital link to the Santa Fe Residential district. Both bridges and bridge landings will be designed to accommodate future ramps and will also be served by passenger elevators, connect to a multi-use trail in the Park Promenade along S. Santa Fe Drive, and include bike troughs to further encourage use by cyclists. Mississippi Ave. will be improved for pedestrians and cyclists with methods that do not require changes to existing road and bridge widths. The “Internal Street” will include an at-grade connection with these Mississippi Ave. improvements. A new vehicular bridge connection is envisioned over S. Platte River, marking a gateway entrance to the northwest via Cherokee Street. This bridge will also include a multi-modal connection from I-25 & Broadway Station to Vanderbilt Park and the regional trail along the river. South Bannock Way and South Cherokee Street will be shared roadways, extending north from Overland Park and into the development site.
1.6 DOCUMENT ORGANIZATION

The Broadway Station Development Urban Design Standards and Guidelines are organized according to four main categories; Site Design, Building Design, Landscape and Open Spaces, and Signage. For each topic there are general guiding principles followed by more specific intent statements, standards, and guidelines. Map diagrams and photographs are used to illustrate certain standards and guidelines. The goal of these Standards and Guidelines is to ensure an objective level of site and building design quality without eliminating creativity or flexibility. Below is a brief description of the role of each of these parameters for each category.

GUIDING PRINCIPLES

Each of the four categories within this document contains a set of Guiding Principles, which express the overarching design goals and objectives for the continued evolution of Broadway Station Site. These principles lay the groundwork for the more specific intent statements tailored to the different subareas and topics addressed within each subject category.

INTENT STATEMENTS

Intent Statements establish the goals or objectives within each category. In circumstances where the appropriateness or applicability of a Design Standard or Design Guideline is in question, the Intent Statement will provide additional direction.

DESIGN STANDARDS

Design Standards are prescriptive criteria that provide a specific set of directions for achieving the Intent Statements. Standards denote issues that are considered essential. Standards use the term “shall” to indicate that compliance is mandatory.

DESIGN GUIDELINES

Design Guidelines provide suggested approaches to achieve the goals or objectives set forth in the Intent Statements, or provide an alternate to the standards if the standard cannot be met. Guidelines use the term “should” or “may” to denote they are considered relevant to achieving the Intent Statement, and will be pertinent to the review process.

1.7 APPLICABILITY

All subdivision, new construction, exterior building renovation, site impacts, signage projects, and new or expanded outdoor use areas proposed within the Site, as shown in Section 1.4 and Fig. 2, and including all parcels described in Broadway Station Rezoning Application # 2015I-00131, dated March 15, 2016, Exhibit B: Legal Descriptions, are subject to compliance with these Standards and Guidelines and to review by the appropriate City agencies.

Any areas of land that are dedicated as right-of-way are controlled by Public Works rules, regulations, and criteria. These UDSG cannot override Public Works criteria. However, if portions of the UDSG propose a higher level of finish or infrastructure that is acceptable to Public Works, those requirements may be allowed in the right-of-way.

AMENDMENTS

Amendments to the Broadway Station Development Urban Design Standards and Guidelines shall be adopted according to the process for adopting rules and regulations stated in Chapter 12 of the Denver Revised Municipal Code. All amendments shall be reviewed and adopted according to the same process followed to adopt the original Urban Design Standards and Guidelines. If the City should initiate any amendment to this document, the City shall notify all property owner(s) affected by this change, prior to processing the change through the Planning Board review process. Amendment will be necessary for the I-25 and Broadway Station District sub-area to establish specific intents, standards, and guidelines prior to submittal for redevelopment of the station site.

RELATION TO OTHER DEVELOPMENT REGULATIONS

These Urban Design Standards and Guidelines, as Rules and Regulations adopted by the Community Planning and Development Department (CPD), are supplementary to other regulations that may apply to the Site, including without limitation subdivision, zoning, Department of Transportation and Infrastructure (DOTI), Office of the City Forester (OCF), and building regulations codified in the Denver Revised Municipal Code. If any standard or guideline in these Urban Design Standards and Guidelines conflicts with a subdivision, zoning, or building regulation applicable to the Site, the more restrictive provision shall apply.
2 SITE DESIGN STANDARDS & GUIDELINES

2.1 BLOCK CONFIGURATION
2.2 VEHICULAR CIRCULATION, STREET HIERARCHY, & STREETSCAPE
2.3 PARKING GARAGE AND SERVICE ACCESS
2.4 BICYCLE AND PEDESTRIAN CIRCULATION
2.0 SITE DESIGN

INTRODUCTION

Site Design Standards and Guidelines cover issues related to block configuration, vehicular circulation, street hierarchy, parking, service areas, and sustainable site design across different area and uses on the site. Fig. 4 Map of Block Configuration & Urban Design Street Typology (p. 13) serves as a primary reference for all Site Design Standards & Guidelines.

GUIDING PRINCIPLES

• Provide a high-density, high-quality mixed use development.
• Ensure safe and easy circulation throughout the site and to the surrounding neighborhoods.
• Reinforce wayfinding and east-west connectivity.
• Prioritize walkability and bike access.
• Leverage the site’s unique transit assets in the creation of a mid-town for the City and center for surrounding neighborhoods.
• Provide high quality, publicly accessible and character giving open spaces and streetscapes.
• Utilize sustainable site design features that balance development priorities with environmental best practices.
• Integrate large-scale green amenities (parks and open spaces) and encourage site-scale green infrastructure practices to maximize treatment of stormwater runoff from the site and protect the neighboring South Platte River.
2.0 SITE DESIGN

FIG. 4 MAP OF BLOCK CONFIGURATION & URBAN DESIGN STREET TYPOLOGY

LEGEND
- LIGHT RAIL STATION
- GATEWAY POINT
- SHARED STREET
- GATEWAY STREET
- SECONDARY STREET
- RAIL CORRIDOR STREET
- EXISTING STREET
- DEVELOPMENT PARCEL
- OPEN SPACE
- REQUIRED PEDESTRIAN & BICYCLE PASSAGeway
- PEDESTRIAN PASSAGeway
- I-25 & BROADWAY STATION DISTRICT SUB-AREA

This document will be amended to establish specific intents, standards and guidelines prior to submittals for redevelopment of the station site.

UDSG AREA OF APPLICABILITY
2.1 BLOCK CONFIGURATION

OVERALL

INTENT STATEMENTS

- To extend the city street grid and create an interconnected and walkable extension of the existing neighborhoods.
- To create block modules that establish a framework of pleasant pedestrian spaces through resulting buildings.
- To maximize views between buildings from all areas of the site.
- To provide convenient, alternative routes for pedestrians and bicycles.
- To create a civic plaza that becomes an activated and connected heart for the development.

2.1.A DESIGN STANDARDS

1. Blocks shall be no longer than 600 feet on any given side, or shall contain a minimum 30 feet through-block passage, alley, or plaza that breaks up buildings on the block.
2. Secondary building facades and service areas shall be oriented toward Rail Corridor Streets, Secondary Streets, service alleys, and shared property lines. Refer to Fig. 4.
3. The block bounded by Broadway, Internal Street, W. Kentucky, and W. Tennessee shall include a minimum 30 feet wide full-height through-block pedestrian passage or alley aligned with S. Bannock Way. Refer to Fig. 4.
4. Two points of access shall be provided to any block for Fire Trucks.
5. Adjacent to the southern pedestrian bridge eastern terminus/landing, a plaza shall be created to accommodate a public pedestrian/bicycle way. Refer to Fig. 4 for plaza location.
6. The development parcel at the corner of W. Tennessee Avenue and South Platte River Drive shall have a minimum 10 ft wide passageway easement to accommodate a public pedestrian/bicycle way. Refer to Fig. 4.

2.1.B DESIGN GUIDELINES

1. Block lengths should allow comfortable walking distances on all sides.
2. The potential for a future civic plaza near the transit station should be explored with RTD. (This document will be amended to establish specific intents, standards and guidelines prior to submittals for redevelopment of the station site.)
3. Through-block gaps between buildings should be used where they would provide key pedestrian connections or maximize views.
2.2 VEHICULAR CIRCULATION, STREET HIERARCHY, & STREETSCAPE

STREETSCAPE SECTIONS
For the purpose of Urban Design Classification, proposed streets within Broadway Station Development are designated as follows: Shared Street, Gateway, Secondary and Rail Corridor Streets (refer to Fig. 4 for locations). These designations describe street right-of-way functionality, dimensions and form, and work in conjunction with zone lot classification. Existing streets that have a unique relationship to the Broadway Station site are South Santa Fe Drive, South Platte River Drive, Mississippi Avenue and Broadway. The following street cross sections generally illustrate the design intent and width standards of designated street typologies. Refer to Section 4, Landscape and Open Space for streetscape planting species and to the IMP for further specificity and details.

OVERALL

INTENT STATEMENTS
• To provide clear entry points and gateways to the site from critical intersections.
• To establish a street hierarchy that balances vehicular, bicycle and pedestrian needs.
• To provide multi-modal connections to the RTD station from the north, south and east.
• To provide appropriate light levels for safe navigation while minimizing light pollution and glare.
• To provide attractive pedestrian realm and streetscape environments.
• To provide a unique design for private streets.

2.2.A DESIGN STANDARDS
1. Streets to be dedicated as public rights-of-way shall meet, at a minimum, Department of Public Works rules, regulations and criteria. District Streets shall meet standards within these UDSG and other applicable standards that apply to private streets.
2. Vehicular and pedestrian lighting fixtures on public streets shall be selected to prevent glare and light trespass onto adjacent property and surrounding neighborhoods and meet CCD and Xcel Standards.
3. Shared street(s) shall be privately maintained and incorporate unique design features that may vary from the City Standards.
4. Adequate loading and maneuvering space shall be provided for transit operations (bus and service vehicles).
5. Minimum widths designated for pedestrian walks shall be free of all obstructions.

PUBLIC R.O.W & DISTRICT STREETS:
Streets to be dedicated as public rights-of-way shall be designed in accordance with Department of Public Works standards, as such standards may be altered by approved Department of Public Works variances. All District Streets shall be designed in accordance with the UDSG and other applicable standards that apply to private streets. Design of District Streets shall be submitted to the City for review through the City’s requirements for horizontal site development plans. If any conflicts exist between Department of Public Works standards and the UDSG, then the UDSG shall apply to any dedicated right-of-way only when it proposes a higher standard than the Department of Public Works standards.

DISTRICT STREETS is defined in the Glossary.

2.2.B DESIGN GUIDELINES
1. Consider reduced vehicular lane widths and pedestrian-oriented design strategies, particularly on District Streets.
2. Entry points should assure dispersion of project related vehicle trips to and from the site and minimize impact on the vehicular movement along existing streets such as Santa Fe Drive and S. Broadway
3. On-street parking should be restricted at locations of pedestrian amenity zones, drop off areas, and on critical pedestrian circulation routes in order to expand the pedestrian realm, particularly on District Streets.
2.2 VEHICULAR CIRCULATION, STREET HIERARCHY, & STREETSCAPE

THE SHARED STREET

INTENT STATEMENTS
- To enhance pedestrian and bicycle connections and retail activation of the storefronts.
- To minimize and slow vehicular traffic.
- To create a unique, designed shared street environment that provides tree canopy, pedestrian amenities and a special character environment.
- To promote community gathering through pedestrian scaled special paving and lighting, furniture location and the creation of areas to congregate.
- To facilitate the safe passage and free flow of bicyclists and pedestrians through the district on a European style shared curbless street.

2.2.C DESIGN STANDARDS
1. Shared travel lanes shall meet fire apparatus access road criteria, and support continuous two way traffic. Refer to Fig. 5.
2. Shared Streets shall be continuously curbless.
3. Parking on the Market Place District Shared Street shall be parallel parking, with no more than four parking spaces in a row, alternating from one side of the street to the other with no parking areas occurring or overlapping across the street from one another, leaving 50% minimum of the block face unparked. Parking on the Office Parkland Shared Street shall be parallel and located on the east side of the street. Refer to Fig. 5A, 5B, 6A, 6B, 6C, 7A, 7B.
4. Bollards and signage shall be used to delineate parking areas and outside edge of shared travel lanes.
5. Minimum clear pedestrian walk width shall be 7 feet adjacent to outdoor cafes, tree trenches, or site amenities. Refer to Fig. 8A&8B.
6. 10 feet wide multi-modal paths shall be provided for connection from the Market Place District Shared Street to the north under the Light Rail Bridge and to the south through a passageway to Mississippi Ave.
7. Minimum tree planting area shall be 8 feet wide by 15 feet long or when these dimensions are not achievable, planting area shall comply with the current Office of the City Forester minimum soil volume per tree standards.
8. Vehicular lighting fixtures shall be selected to meet City and Xcel Standards.
9. Pedestrian level lighting shall be provided at multiple heights and through multiple types of fixtures; such as bollards, adjacent architectural wall lighting, pedestrian light columns, step lights and at grade lighting.

2.2.D DESIGN GUIDELINES
1. Special paving should be utilized in a continuous pattern across the right of way section and extend into adjacent private development site plaza and patio areas.
2. The Shared Street should be designed to allow for larger sidewalk and amenity zones.
3. Green urban stormwater practices should be utilized where possible.

FIG. 5A MARKET PLACE DISTRICT SHARED STREET PLAN

Plaza with continuous paving material by future vertical developer
2.2 VEHICULAR CIRCULATION, STREET HIERARCHY, & STREETSCAPE

FIG. 6A MARKET PLACE DISTRICT
SHARED STREET (APPLICABLE TO AREAS WITH NO PARKING)

FIG. 7A MARKET PLACE DISTRICT
SHARED STREET
(APPLICABLE TO AREAS WITH PARKING)

*Note - Parking alternates from one side to the other side of the street with no parking areas occurring or overlapping across the street from one another. There shall be no more than 4 parking spaces in a row and no more than one row per block face. Refer to 2.2.C.3.

FIG. 8A MARKET PLACE DISTRICT
SHARED STREET
(APPLICABLE TO AREAS AT BUILDING SETBACK)

Refer to 2.2.C.5.
GATEWAY STREETS

INTENT STATEMENTS

- To emphasize and differentiate gateway areas from through streets through pedestrian oriented site design.
- To integrate vehicular patterns in and out of the site with traffic flows on connecting streets.
- To highlight key entry points into the site through attractive landscape and welcoming site design.

2.2.E DESIGN STANDARDS

1. Travel lanes with a minimum width of 10 feet shall be provided.
2. To allow for easy access and visibility into the district, on-street parking shall not be allowed on gateway streets.
3. Pedestrian sidewalks shall be minimum 7.5 feet wide.
4. Planting strip shall be minimum 5 8 feet wide and minimum 15 feet long or when these dimensions are not achievable, planting area shall comply with the current Office of the City Forester minimum soil volume per tree standards.
5. Minimum tree planting areas shall comply with current Office of the City Forester minimum soil volume per tree standards.
6. Street tree spacing within ROWs shall be coordinated with the Office of the City Forester.

7. Visible and iconic signage and wayfinding to the I-25 & Broadway Station and the Broadway Station Development shall be located at Gateway Streets. Refer to Section 5, Signage Standards and Guidelines.

2.2.F DESIGN GUIDELINES

1. Gateway streets should enhance entrances to the site via signage and building articulation.
2. Street furnishings should be provided that are within the Broadway Station Development palette of site furnishings.
3. Special pedestrian level light fixtures should be incorporated into the pedestrian amenity zone.

For location of Gateway Streets refer to page 13, Fig. 4
(2.2.E Design Standards & 2.2.F Design Guidelines)

Note: Fig. 11 not used.
2.2 VEHICULAR CIRCULATION, STREET HIERARCHY, & STREETSCAPE

FIG. 12 GATEWAY STREET - 4 LANES (TENNESSEE EAST ENTRY)

FIG. 13 GATEWAY STREET - 5 LANES (KENTUCKY WEST ENTRY)

FIG. 14 SECONDARY STREET (TENNESSEE TRANSITION BETWEEN BANNOCK WAY & INTERNAL STREET, FACING WEST) Refer to 2.2G and 2.2H for corresponding Standards & Guidelines.
Note: Department of Public Works has approved a Variance (#2015PM000429) for parking on one side of the street only. Refer to Section 8.3, Appendix for Variance Letter.
2.2 VEHICULAR CIRCULATION, STREET HIERARCHY, & STREETSCAPE

SECONDARY STREETS

INTENT STATEMENTS

- To enhance multi-modal connections throughout the site.
- To limit interruption of vehicular circulation on Broadway, Mississippi Avenue & South Santa Fe.
- To create a finer grain of integrated streets that allow for dispersion of vehicles and pedestrians throughout the site.

2.2.G DESIGN STANDARDS

1. Streets shall provide 12.5 feet maximum travel lanes with 7.5 feet wide parking. See Fig. 14, 15, 16, & 17.
2. Pedestrian sidewalks shall be, minimum 6 feet wide.
3. Planting areas shall comply with OCF minimum soil volume per tree standards.
4. Planting strip shall be planted with shrubs and groundcover or low water use turf.
5. Street tree spacing within the ROW shall be coordinated with the Office of the City Forester.
6. A 10 feet wide sidewalk with 2 feet wide crusher fines paved edge shall be provided within Vanderbilt Park East to allow for north-south bicycle connections.
7. A shared use pathway, minimum 12.5 feet wide, shall be provided between the South Pedestrian Bridge east landing plaza and Internal Street at the south side of W. Tennessee Ave. Refer to Fig 14.

2.2.H DESIGN GUIDELINES

1. Secondary streets should favor right in/right out turns.
2. On street parking should be allowed.

For location of Secondary Streets refer to page 13, Fig. 4 (2.2.G Design Standards & 2.2.H Design Guidelines)
2.2 VEHICULAR CIRCULATION, STREET HIERARCHY, & STREETSCAPE

RAILWAY CORRIDOR/REAR STREET

INTENT STATEMENTS
- To provide public streets that provide primary vehicular access points to service areas and parking structures.
- To buffer the CML rail corridor with landscaping.

2.2.I DESIGN STANDARDS
1. Pedestrian sidewalks shall be minimum 5 feet wide.
2. Planting strip shall be minimum 8 feet wide.
3. Planting strip shall be planted with shrubs, groundcover or low water use turf.
4. Street tree spacing within the ROW shall be coordinated with the Office of the City Forester.
5. On street parking shall be allowed on at least one side of the street.
6. A continuous landscape buffer shall be planted to visually screen the CML corridor and right-of-way.
7. Planting treatment along RTD edge shall be in conformance with RTD Standards. Refer to Section 8.2, Appendix for RTD Light Rail tracks requirements.

2.2.J DESIGN GUIDELINES
1. Sidewalks should provide safe, shaded and direct pedestrian connections.
2. CML Landscape buffer should consist of columnar tree species that provide year round screening, such as upright evergreen trees. The tree types should be planted at intervals to provide a continuous opaque screen as viewed from first and second stories of adjacent structures.
3. Given their backside orientation, Rail Corridor Streets should serve as the primary service and parking structure entry/exit points.

FIG. 18 RAILWAY CORRIDOR / REAR STREET (S. BANNOCK WAY & S. CHEROKEE STREET)
Note: Department of Public Works has approved a Variance (#2015PM000429) for parking on one side of the street only. Refer to Section 8.3, Appendix for Variance Letter.
2.2 VEHICULAR CIRCULATION, STREET HIERARCHY, & STREETSCAPE

SANTA FE DRIVE

INTENT STATEMENTS
• To connect and invite pedestrians and bicycles to the transit center and surrounding area.
• To enhance Santa Fe with landscape and landforms.
• To buffer users from the street with landscaping and create a welcoming front door.
• To manage stormwater through an attractive design solution.

2.2.K DESIGN STANDARDS
1. Multi-Use paths shall be minimum 12 feet wide or minimum 10 feet wide with a 2 feet wide soft pavement shoulder.
2. Planting between road and path shall be minimum 10 feet wide.
3. Planting areas shall utilize native and low water use plant material.
4. Landform shall be incorporated to provide visual interest and screening from Santa Fe traffic, as well as a safety buffer between vehicles and detention / water quality.
5. A multi-use path set back from Santa Fe Drive shall be provided for north south connectivity from Mississippi to Kentucky.
6. Evergreen trees and riparian multi-stem trees spaced per their mature spread shall be planted in native style groupings of 3 or more to create buffer plantings and be compatible with the Platte River ecosystem.

2.2.L DESIGN GUIDELINES
1. Project entry signage should be located within the open space near the street to identify the overall project as well as east/west bike and pedestrian connectivity. Refer to Section 5, Signage Standards and Guidelines.

FIG. 19 NORTHBOUND SANTA FE (LOOKING NORTH)
2.2 VEHICULAR CIRCULATION, STREET HIERARCHY, & STREETSCAPE

MISSISSIPPI AVENUE & BROADWAY

INTENT STATEMENTS
- To enhance the pedestrian experience through the underpass and into the site.
- To improve the corridor with access, landscape, paving, art, and light.
- To create a connection for pedestrians and bicycles that facilitates a neighborhood bikeway along the Shared Street.
- To implement the CCD Broadway & Mississippi design while integrating features within these Standards and Guidelines.

2.2.M DESIGN STANDARDS
1. Pedestrian sidewalks shall be minimum 10 feet wide on Broadway.
2. From Hoye Place to Mississippi Ave, Broadway frontage shall include a 10’ multi-use trail and 10’ sidewalk. Refer to Fig. 20.5. No tables, chairs, railing permits, or other encroachments will be allowed to encroach into the multi-use trail.
3. Street trees shall be in minimum 8 feet by 15 feet grates or comply with the current Office of the City Forester minimum soil volume per tree standards.
4. Planting strip between walk levels and along Mississippi where applicable shall be planted with trees, low shrubs, and groundcover.
5. Street tree spacing within ROWs shall be coordinated with Office of the City Forester.
6. Streetscape elements along Broadway shall be the responsibility of the adjacent BSP property developer and be consistent and coordinated with the Broadway widening improvement plans.
7. Street lighting shall meet CCD lighting standards.

2.2.N DESIGN GUIDELINES
1. Opportunities for art and creative underpass treatments and welcoming public entrance points for bikes and pedestrians approaching the project from the south should be explored.
2. Mississippi underpass should be enhanced with lighting that meets CCD requirements.
3. The design of the Broadway streetscape adjacent to the area of applicability should closely resemble the design by CCD east of the CML, as well as integrate special paving and furnishings within the Broadway Station Development.
4. The amenity zone along Broadway should be hardscaped as needed to respond to adjacent land uses.

For location of Mississippi Ave. & Broadway refer to page 3, Fig. 4
2.2 VEHICULAR CIRCULATION, STREET HIERARCHY, & STREETSCAPE

INTENT STATEMENTS
- To enhance pedestrian and bicycle connections to parks, trails and adjacent neighborhoods.
- To create an iconic western gateway to the project
- To integrate vehicular patterns in and out of the site with traffic flows on connecting streets.

2.2.O DESIGN STANDARDS
1. On-street parking shall not be allowed on the bridge.
2. A pedestrian sidewalk shall be located on the north side of the bridge and shall be minimum 8 feet wide, 10 feet preferred, and shall be shared with a minimum 10 feet wide two-way bikeway.
3. Pedestrian and bike zones shall be protected from vehicular traffic through fixed planters, decorative railings or bollards.
4. Pedestrian and bike traffic shall be clearly delineated on the bridge with pavement markings and material differentiation.
5. Pedestrian amenities such as lighting and art shall be incorporated into the bridge design.

2.2.P DESIGN GUIDELINES
1. The bridge should enhance the bicycle and pedestrian connection to Vanderbilt Park and the South Platte River Trail.
2. The South Platte River Trail connection point should be visible and well designated to provide safe access for bicycles and pedestrians to and from the Kentucky Ave. Bridge West.
3. Trail connection to South Platte River bicycle trail should meet AASHTO and Denver Parks standards.

For location of Kentucky Ave. Bridge West refer to page 3, Fig. 4 (2.2.O Design Standards & 2.2.P Design Guidelines)

KENTUCKY AVENUE BRIDGE WEST

FIG. 22 KENTUCKY AVE. BRIDGE WEST AT SOUTH PLATTE RIVER (LOOKING EAST)
2.3 PARKING GARAGE AND SERVICE ACCESS

INTENT STATEMENTS

• To minimize conflict between pedestrians and service vehicles.
• To minimize visual and physical presence of parking structures and loading facilities on areas of high pedestrian activity and retail uses.
• To provide sufficient and functional service areas for all mixed uses.
• To provide logical and intuitive entry points to buildings and parking structures.

2.3.A DESIGN STANDARDS

1. Service vehicle access shall be sited to minimize conflicts with primary pedestrian or bicycle access to, and within, the Site, and shall not be located in Street Level Active Uses zones indicated in Fig. 25.
2. When access to required on-site loading abuts or crosses a publicly accessible sidewalk, walkway, pedestrian-only corridor, or publicly accessible open space, the pedestrian connection shall be continued across the loading access way at the raised sidewalk elevation and shall be given priority over the loading access by paving materials which continue the sidewalk.
3. Adequate space shall be provided to allow for required loading, including maneuvering, to take place completely out of a public or private street right-of-way.
4. Vehicle access to parking garages and loading facilities for Santa Fe District shall be oriented towards S. Cherokee Street along the CML corridor.
5. Vehicle access to parking garages and loading facilities serving the Office & Parkland District shall not be oriented to frontage along Vanderbilt Park East and Vanderbilt Park.
6. Vehicle access to parking garages and loading facilities serving Market Place Mixed Use District shall be oriented to South Bannock Way, West Hoye Place, or service alleys.
7. Curb cut locations on streets that are dedicated R.O.W. or on District Streets that approach the R.O.W. must be approved by Public Works.

2.3.B DESIGN GUIDELINES

1. Curb cuts should be discouraged close to major street intersections or within the limits of turn lanes.
2. Trash receptacles, loading docks and service areas should be combined and shared between tenants.
3. Curb cuts should be shared in common between multiple uses.
4. The number of curb cuts should be minimized to reduce the conflict between pedestrians, and cars and service vehicles.
5. Secondary and rail corridor streets should be used for service areas, and parking garage access to the extent feasible.
6. If shared parking access along the Shared Street cannot be avoided, it should be limited to one shared vehicular access point per block.

OVERALL

2.3.A.2 - Prioritizing pedestrian sidewalk at vehicular entrance.
2.3.A.1 - Example of service alley access that minimizes visual presence of parking structures and loading facilities.
2.4 BICYCLE AND PEDESTRIAN CIRCULATION

FIG. 23 MAP OF ENHANCED PEDESTRIAN CONNECTIONS

OVERALL

CONNECTIONS:
See pp. 15 - 24 & Figures 5 - 22 for more information and illustrations of pedestrian paths and sidewalks in Streetscapes.
See pp. 42 - 57 Sections 4.1, 4.2, 4.3, & 4.10 for more on paths in Landscape and Open Spaces.
2.4 BICYCLE AND PEDESTRIAN CIRCULATION

OVERALL

FIG. 24 MAP OF ENHANCED BIKE CIRCULATION

Legend:
- **LIGHT RAIL STATION**
- **REGIONAL TRAIL ACCESS (EXIST/PROP)**
- **SHARED STREET**
- **PROPOSED SHARED USE PATH**
- **PROPOSED NEIGHBORHOOD BIKEWAY**
- **PROPOSED SEPARATED BIKEWAY**
- **PROPOSED SHARED BIKE/PEDESTRIAN PATH**
- **EXISTING/PLANNED BIKE ROUTE**
- **REGIONAL TRAIL**
- **I-25 & BROADWAY STATION DISTRICT SUB-AREA**
- **UDSG AREA OF APPLICABILITY**
- **PROPOSED PEDESTRIAN BRIDGE**

**NEIGHBORHOOD, PROTECTED, AND SEPARATED BIKEWAYS** are defined in the Glossary.
2.4 BICYCLE AND PEDESTRIAN CIRCULATION

OVERALL

INTENT STATEMENTS

• To create a safe environment that encourages pedestrian and bicycle circulation and reduces short distance vehicular trips.
• To create a variety of circulation experiences that allow for the different needs of bicycle commuters and recreational bicyclists.
• To align routes with neighboring bicycle and pedestrian commuter patterns and link into citywide bicycle networks and regional multi-purpose trails.
• To provide bike and pedestrian routes to transit connections and neighborhood destinations.
• To minimize pedestrian, bicycle, vehicular and bus conflicts.

2.4.A DESIGN STANDARDS

1. Pedestrian and bicycle crossing shall occur at intersections and be grade separated where possible.
2. Traffic calming strategies such as cross walks and/or bump outs shall be located at critical signaled intersections, where there is on-street parking, or where there is a potential conflict between vehicles and bikes or pedestrians.
3. Dedicated bike lanes shall be provided on W. Tennessee Ave. from Internal Street to Broadway.
4. A protected pedestrian and bicycle route shall be provided on the proposed vehicular bridge over the South Platte River that incorporates planters, bollards, and lighting features. Refer to Fig. 22, p.24.
5. Two pedestrian and bicycle bridges shall be provided from western parcels; one that lands near the rail station platform, and one that lands at the Southeast Corner of W. Tennessee and S. Banock Way. Each bridge shall incorporate public art, seating, and lighting amenities, with a shared pedestrian/bicycle path. Each bridge shall include passenger elevator access and be designed not to preclude future ramps. Bridge access stairs shall have a gentle rise/run ratio (6 inches/15 inches suggested). Seating areas and bike troughs shall be integral to their design. The north bridge shall have a minimum width of 22 feet and the south bridge shall have a minimum width of 12 feet.
6. A continuous minimum 7 feet wide pedestrian network shall be provided as shown in Fig. 23, p.26. This route shall be wider where required elsewhere in this UDSG.
7. Provide a multi-use path in the Southern and Central Promenades along Santa Fe that is a minimum of 12 feet wide to accommodate bicycle and pedestrian connections to Mississippi and the new vehicular/pedestrian bridge.
8. Clear wayfinding and signage shall be provided for pedestrians and bicycles at critical intersections and at bridge landings.

2.4.B DESIGN GUIDELINES

1. Pedestrian and bicycle circulation should be given priority over vehicular circulation to the maximum extent feasible.
2. New routes should create or enhance existing connections to the South Platte River Trail and Vanderbilt Park West from the Broadway Station Development.
3. New routes should create or enhance existing connections to Mississippi from the Broadway Station Development.
4. New routes should create or enhance existing connections to I-25 & Broadway Station.
5. Bicycle facility design should be coordinated with Denver’s Bikeway Design Standards and Guidelines.
6. Bicycle storage facilities should be located throughout site streetscapes, at building entrances, at community gathering areas and at transit destinations. Refer to Section 4.4, Site Furnishings for bicycle rack design Standards and Guidelines, p.50.
3
BUILDING DESIGN STANDARDS & GUIDELINES

3.1 BUILD-TO-LINES AND SETBACKS
3.2 BUILDING MASS AND SCALE
3.3 FACADE ARTICULATION & BUILDING MATERIALS
3.4 PEDESTRIAN ORIENTED GROUND FLOOR DESIGN
3.5 STRUCTURED PARKING
3.0 BUILDING DESIGN

INTRODUCTION

Building Design Standards and Guidelines section of the document covers issues related to build-to-lines and setbacks, massing and scale, facade articulation and building materials, pedestrian oriented ground floor design and structured parking design across different districts on the site. Fig. 25, Building Design Reference Map and Fig. 26, Zone Lot Street Classification Map serve as references for all the Building Design Standards & Guidelines. The Building Design Standards & Guidelines are complementary to the basic requirements stipulated by the Denver Zoning Code (DZC) for each district, and with which all buildings shall also comply.

GUIDING PRINCIPLES

• Create a regional destination for retail, shopping, dining, and encourage gathering on the public spaces.
• Conceive buildings in response to site conditions and follow massing and scale guidelines, in order to contribute more successfully to an integrated streetscape/landscape.
• Pay special attention to the ground story of buildings, and activate them with elements (e.g. windows, doors, awnings, patios, colonnades) to create an interesting and welcoming environment for pedestrians.
• Encourage buildings designed according to sustainable best practices, in order to minimize environmental impacts of the site.
• Build with durable, low-maintenance materials that withstand the effects of time and contribute to the long term viability of neighborhoods.
• Encourage architecture that is distinctive in character, is harmonious, and clearly expressive of its purpose.
• Encourage thoughtfully detailed buildings of a variety of styles and materials, for which all visible sides and roofs are given equal design consideration.
3.0 BUILDING DESIGN

For Parking Garage and Service Access, refer to Section 2.3, page 25.

STREET LEVEL ACTIVE USES is defined in the Glossary.
FIG. 26 ZONE LOT STREET CLASSIFICATION MAP

LEGEND

- **T** LIGHT RAIL STATION
- **RED** PRIMARY STREET ZONE LOT FRONTAGE
- **ORANGE** SIDE STREET ZONE LOT FRONTAGE
- **GREEN** OPEN SPACE/PARKS
- **BRONZE** DEVELOPMENT PARCEL
- **GRAY** REAR ZONE LOT FRONTAGE
- **BLUE** SIDE INTERIOR ZONE LOT FRONTAGE

This document will be amended to establish specific intents, standards and guidelines prior to submittals for redevelopment of the station site.

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I-25 & BROADWAY STATION DISTRICT SUB-AREA

UDSG AREA OF APPLICABILITY
3.1 BUILD-TO-LINES AND SETBACKS

INTENT STATEMENTS

- To provide a consistent street edge that reinforces urban character and human scale.
- To enhance the experience on Broadway from curb to building face, while accommodating the planned shared-use sidewalk.
- To provide additional space in Market Place Mixed-Use District in which to incorporate innovative landscaping and gathering spaces to enhance the pedestrian experience.
- To mark the primary entrance to Internal Street at Tennessee and S. Broadway intersection and establish a view corridor to the south pedestrian bridge.
- In Santa Fe and Office & Parkland Districts, to provide additional space for public access and sustainable stormwater management bordering Vanderbilt Park and the riverfront.

3.1.A DESIGN STANDARDS

1. Zone lots with side street zone lot lines on the following streets and open spaces, as shown in Fig. 26, shall comply with setback and build-to standards as specified below for the applicable side street:
   a. Broadway Frontage: For all buildings fronting Broadway, the minimum setback shall be 0 feet. For residential only buildings, the build-to percentage shall be 75% within a range of 0-10 feet; for all other buildings, the build-to percentage shall be 75% within a range of 0-5 feet.
   b. Central and Southern Promenade Frontage: For all buildings fronting the promenade, the minimum setback shall be 10 feet. For all buildings fronting the promenade, the build-to percentage shall be 70% within a range of 10-20 feet.
   c. Hoye St Frontage: For all buildings fronting the south side of Hoye St., the minimum setback shall be 2 feet. Refer to Fig. 16.5

2. Build-to alternatives as outlined in DZC Section 7.3.6.1 shall apply.

3.1.B DESIGN GUIDELINES

1. Buildings at gateway point corners shown in Fig. 25 should provide additional building setbacks at ground floor to allow for expanded pedestrian space.
2. Additional small plaza setbacks, as illustrated in Fig. 25, should be provided to create space for building entrances, outdoor dining, landscaping and other activities and features that enhance the pedestrian experience. To obtain maximum space at amenity zones and buffers illustrated in Fig. 25, setbacks should be provided at the maximum zoning build-to range, or utilize permitted zoning build-to alternatives, such as courtyards and outdoor seating areas.
3. Where buildings fronting Broadway can be set back, such setbacks should be a minimum depth of 5 feet to allow ample space for activation of the shared-use sidewalk.
3.2 BUILDING MASS AND SCALE

INTENT STATEMENTS
• To encourage a human-scaled urban environment that includes a varied and changing visual experience for pedestrians.
• To maximize energy efficiency and create opportunities for effective sustainable design.
• To guard against noise deflection from I-25 and Broadway to the adjacent neighborhoods, including West Washington Park.

3.2.A DESIGN STANDARDS
1. Wall surface planes larger than 15,000 square feet shall be provided with facets, recesses or projections that break the flat façade into visually separate parts and shall be of sufficient dimension to create depth and variation of light and shadow.
2. Vertical and horizontal articulation of buildings shall also be achieved by using scaling elements outlined in Denver Zoning Code (DZC) Section 13.1.6.2-A.5.b. such as material, color, and/or fenestration changes, variations in parapet walls, integrating balconies, terraces, or arcades, and/or employing upper story step backs.
3. Buildings facing Vanderbilt Park and the Santa Fe Promenade shall be designed to minimize shadows cast on the park and riverfront open space.

3.2.B DESIGN GUIDELINES
1. Buildings should be designed using varied upper story step back heights and staggered tower locations.
2. Additional stepbacks should be considered for buildings on the south or east sides of streets in order to provide more sun penetration to ground level.
3. Building surfaces should be oriented to minimize deflection of Interstate 25 (I-25) and Broadway traffic noise back into adjacent neighborhoods, including West Washington Park.
4. Rooftop amenities, such as decks, pools, gardens, etc. should be designed and oriented in a direction that does not create noise disturbance to adjacent neighborhoods, including West Washington Park, in excess of noise ordinance limits.
5. Through-block gaps in building mass above the podium level should be used where they would provide visual interest and/or maximize views.
3.3 FACADE ARTICULATION & BUILDING MATERIALS

INTENT STATEMENTS

- To ensure high-quality and visually engaging building facades with human-scaled architectural details at pedestrian level(s).
- To ensure thoughtfully detailed architecture of a variety of styles and materials.
- To ensure buildings are constructed with durable, low-maintenance materials that withstand the effects of time.
- To enhance important or desirable building features and conceal less important or less desirable building features.
- To minimize noise deflection from I-25 and Broadway to the adjacent neighborhoods, including West Washington Park.
- To minimize light glare from the Broadway Station Development to roads and adjacent neighborhoods, including West Washington Park.

3.3.A DESIGN STANDARDS

1. The ground and second floors shall utilize additional Wall Design Elements outlined in Denver Zoning Code (DZC) Section 13.1.6.2-A.5.b. The Wall Design Elements shall be combined into a unified wall design that provides visual interest, scale, and integrates into the architecture of the building.
2. Building facades at gateway corners and pedestrian bridges shall be enhanced by distinctive material and color, increased percentage of glazing, and/or significant architectural features.
3. Rooftop mechanical equipment shall be screened from street view and integrated into the overall building design.
4. High-quality materials such as brick, stone, terra cotta, cast stone, metal framing systems, metal panels, zinc, stainless steel, and glass shall be used.

3.3.B DESIGN GUIDELINES

1. The building envelope and windows should be designed to mitigate the impact of noise generated by I-25, Santa Fe Drive, South Broadway, and the rail corridor.
2. Combinations of different materials and/or textures should be used on each building facade to create character and interest through the interaction of texture and color.
3. Facade design should take into consideration all sides and surfaces of each building.
4. Long facades (i.e. over 150 feet) should be articulated by utilizing material changes, shallow projections and recesses, and fenestration details.
5. Features integral to the building and appropriate to its style should be used to provide architectural detail at the roofline.
6. Building materials on the ground floor should be particularly suitable for the pedestrian environment, shall be resistant to vandalism, easy to maintain, neither sharp nor overly rough, shall be properly assembled/detailed for longevity.
7. EIFS (Exterior Insulation Finish Systems), fiberglass, synthetic stucco, and similar less durable materials should be limited to non-visible rooftop bulkhead applications above the 8th story.
8. Vinyl siding and asphalt shingles should not be used.
9. The use of synthetic materials that imitate natural materials such as artificial stone and thin-brick veneer should be avoided. Synthetic materials should be used in ways that reflect their intrinsic character.
10. Highly reflective glazing, i.e. glazing with a reflective factor above 0.20 or with first surface reflective coatings, should be avoided in order to minimize glare to the adjacent neighborhoods, including West Washington Park.
3.4 PEDESTRIAN ORIENTED GROUND FLOOR DESIGN

ACTIVE USES/STOREFRONT DESIGN

INTENT STATEMENTS
• To create an animated pedestrian experience appropriate for a high-quality commercial office and residential neighborhood and regional destination for retail, shopping, dining and gathering.
• To concentrate Street Level Active Uses and retail along primary and side streets and limit zones with less pedestrian activity.
• To encourage pedestrian circulation within all Districts to I-25 & Broadway Station and throughout the site.

3.4.A DESIGN STANDARDS
1. Generous ground floor to ceiling heights (14 ft floor to floor height minimum, 20ft floor to floor height suggested) shall be provided to suit retail uses and promote visual prominence.
2. Building frontages on the following streets and open spaces, as shown in Fig. 25, shall contain Street Level Active Uses for 100% of the building meeting the minimum build-to requirement for a depth of 15 feet as set forth in standards 3.1.A.1 in these UDSG.
   a. Broadway Frontage
   b. Central and Southern Promenade Frontage
3. At least 50% of the building frontage facing Vanderbilt Park East and Vanderbilt Park, as shown in Fig. 25, but not fronting a street, shall be occupied by Street Level Active Uses, including retail, building entrances and lobbies, and private building amenities such as cafeterias and exercise rooms, to animate the park edges.

3.4.B DESIGN GUIDELINES
1. The corners of buildings fronting pedestrian bridges should be planned to include storefronts and cafes, residential lobby entrances, leasing offices, and other residential amenities, as shown in Fig. 25.
2. The portion of buildings fronting Internal Street and S. Broadway should have a high concentration of foot-traffic-generating uses such as residential lobby entrances, retail, restaurants, etc. that engage with the public realm by means of transparency and storefront entrances.
3. The design of awnings or canopies from one building to the next should be diverse, but also compatible with the architecture and streetscape design. Refer to p.15 - p.24, Streetscape Fig. 5 - 22. Awnings should be sized and located such as to minimize right-of-way tree impact. Awnings should be self-supported without columns projecting into the sidewalk.

STREET LEVEL ACTIVE USES are defined in the Glossary.

Refer to Fig. 25 Building Design Reference Map for location of Street Level Active Uses.
3.4 PEDESTRIAN ORIENTED GROUND FLOOR DESIGN

GROUNDFLOOR TRANSPARENCY

INTENT STATEMENTS
• To provide visual interest to building facades, to activate the street and sidewalk, and to provide a safe pedestrian realm.
• To concentrate transparency along primary streets and side streets abutting important pedestrian routes.

3.4.C DESIGN STANDARDS
1. Street Level Active Uses and retail shall use transparent storefront glazing to allow views to and from the establishment.
2. Commercial retail building facades fronting on public right-of-way or open space shall not be less than sixty percent (60%) clear glazing on the ground floor.
3. In addition to the street level activation transparency requirements for windows found in the Denver Zoning Code (DZC), no portion of the ground floor building facade shall have highly reflective glass (maximum reflectance factor of 0.25) and there shall be no reflective coatings on the first surface (i.e. exterior) of the glass.
4. Building facades fronting S. Broadway and W. Mississippi shall be designed to meet Denver Zoning Code (DZC) street level activation transparency requirements as for a Primary Street, i.e. transparency of minimum 60%, except residential only buildings shall have a minimum transparency of 40%.
5. Ground floors of building facades fronting the following open spaces, as shown in Fig. 25, shall have a minimum transparency of 30% for residential only buildings, and 40% for all other buildings.
   a. Central and Southern Promenade Frontage
   b. Vanderbilt Park East and Vanderbilt Park
6. Transparency alternatives as outlined in DZC Section 7.3.6.3 shall apply.

3.4.D DESIGN GUIDELINES
1. Large and opaque displays that block views into the establishment should be avoided.
2. If a building face at the sidewalk edge cannot be glazed, then the blank wall should be treated in an interesting way with decorative architectural elements or plant materials.
3. Awnings or canopies should be used to reduce glare and reflections on storefront glass and provide shade for pedestrians.
4. Additional transparency should be provided at entrances, corners, or on facades overlooking parks or plazas.

TRANSPARENCY, PRIMARY STREET AND SIDE STREET is defined in the Glossary.

Refer to Fig. 26 Zone Lot Street Classification Map for Primary and Side Street designations.
### 3.4 PEDESTRIAN ORIENTED GROUND FLOOR DESIGN

**BUILDING ENTRIES**

**INTENT STATEMENTS**
- To provide convenient and clearly visible building entrances for all primary uses from streets and pedestrian areas.
- To concentrate main building entrances along primary and side streets.
- To encourage pedestrian activity.

**3.4.E DESIGN STANDARDS**
1. Pedestrian main entrances shall front onto a publicly accessible, privately owned street/plaza, a public street, or a public open space.
2. Buildings shall be designed to maximize the number of entrances into Street Level Active Uses as defined in the Denver Zoning Code (DZC).
3. Entrances shall be differentiated from the surrounding facade and shall be easily discernible from a distance.
4. Vehicular drop-off areas shall not be permitted to interrupt sidewalks or pedestrian areas at building entrances.
5. Pedestrian main entrances shall be located a minimum of 30 ft from vehicular and/or service entrances.

**3.4.F DESIGN GUIDELINES**
1. Entrances should be marked with facade recesses that create additional space for pedestrian circulation.
2. Store frontages and/or entries should be designated by providing overhangs or canopies and awnings constructed of fabric, metal, and/or glass.

3.4.E.3 - Differentiated entrance is clearly visible.
3.4.E.1 - Entrance fronts onto a publicly accessible sidewalk
3.4.F.1&2 - Entrance with recess and overhang.
3.5 STRUCTURED PARKING

INTENT STATEMENTS

• To integrate the design of structured parking with the character and quality of the adjoining buildings, streetscapes, and the overall character of the Development.
• To minimize visual impact of parked cars on the streetscape and the pedestrian experience.
• To animate the ground floor and encourage pedestrian activity.

3.5.A DESIGN STANDARDS

1. The design of façade areas with visible structured parking along Primary and Side Streets shall be integrated with the design of the surrounding building façade.
2. Architectural screening shall be provided where exposed parking is permitted.
3. Standalone parking garages fronting publicly accessible open spaces and primary streets shall be wrapped with Street Level Active Uses.
4. Parking garages within buildings situated on Internal Street shall be wrapped with retail and Street Level Active Uses for a minimum of 75 percent of building frontage along Internal Street and along Broadway.
5. Mechanical ventilation systems for structured parking shall not be located along a primary street façade, Broadway, and along the Central and Southern Promenades.

3.5.B DESIGN GUIDELINES

1. When unusual site conditions do not permit orientation of parking garages toward rear or service streets, parking garages should be architecturally screened or wrapped with retail or other active uses to guard against glare from automobile headlights penetrating adjacent neighborhoods, including West Washington Park.
2. Screening should provide articulated, creative and distinctive use of materials, lighting, or visual effects.
3. Structured parking should take advantage of grade changes to locate parking below the street level where possible.
4. Parking structures shall minimize the impact of vehicle noise from within the parking structure to adjacent streets.

Refer to Section 10.4.6.5 of the Denver Zoning Code for Parking Structure Design Standards.

"Parking structures shall be designed to conceal the view of all parked cars and internal light sources from adjacent public rights-of-way and publicly accessible open space for the full height of the structure."
4

LANDSCAPE & OPEN SPACE STANDARDS & GUIDELINES

4.1 OPEN SPACE FRAMEWORK
4.2 PARKS AND OPEN SPACE
4.3 PUBLICLY ACCESSIBLE PLAZAS, STREETSCAPES & PRIVATE COURTYARDS
4.4 SITE FURNISHING
4.5 SCREENING, FENCING, WALLS AND RAILINGS
4.6 SITE DETENTION AREAS/WATER QUALITY
4.7 PUBLIC ART
4.8 SITE LIGHTING
4.9 PLANT MATERIAL AND IRRIGATION
4.10 PEDESTRIAN BRIDGE LANDSCAPE DESIGN
4.11 PEDESTRIAN AND SPECIALTY VEHICULAR PAVING
4.12 STREET TREE MASTER PLAN
4.13 CML LANDSCAPE TREATMENT
4.0 LANDSCAPE & OPEN SPACE DESIGN

The Landscape & Open Space Design Intent, Standards & Guidelines address all of the exterior public realm softscape and hardscape elements. These elements such as parks, open spaces, site furnishings, plantings, streetscape and plaza areas address City and County of Denver, and Broadway Station Metro District improvements as well as future improvements on private parcels that will be developed by private entities as the project builds out over time. Refer to Fig. 27 Parks and Open Space Map for delineation of open spaces.

GUIDING PRINCIPLES

• Provide high quality public realm places that encourage recreation and social interaction.
• Provide creative site design elements that reference the previous industrial character and/or the river corridor character of the Broadway Station sub areas.
• Utilize sustainable site features and site design practices throughout the project, as practical.
• Link transportation and land use activities by using the public realm and open space systems as the connective tissue of the project.
• To provide the necessary infrastructure to ensure long-term tree canopy development and growth.

CONNECTIONS:

See Fig. 23, Map of Enhanced Pedestrian Connections, and Fig. 24, Map of Enhanced Bike Circulation, for continuity of key routes linking Streetscape, Landscape, and Open Spaces throughout the Site and beyond.

Open spaces provide opportunities for recreation and social interaction.
4.1 OPEN SPACE FRAMEWORK

INTENT STATEMENTS

• To create well-distributed open space throughout the project with coherent and fluid connections for maximum social interaction and outdoor enjoyment to occur.

• To ensure that exterior spaces on private parcels completed by future developers for active and passive program uses are harmonious with the publicly accessible improvements that are planned.

• To provide public open spaces designed to be clearly open to the public while creating a safe, accessible and comfortable environment.

• To integrate thoughtful best management practices for stormwater management while maximizing usable space for people.

• To seamlessly connect with adjacent existing open spaces and trail systems.

4.1.A DESIGN STANDARDS

1. Public open spaces, as shown in Fig. 27, shall be connected to one another through logical and intuitive circulation routes as shown in Figures 23 and 24 (Section 2).

2. Open spaces shall allow for interim uses and programmed events while the project is completed, as permitted by zoning.

3. Open spaces, other than those undergoing the separate DPR design process, shall be planned and designed to enable the use of Best Management Practices (BMP’s) for stormwater management and water quality.

4.1.B DESIGN GUIDELINES

1. Public open spaces should be welcoming and accessible, and allow for passive public oversight.

2. Exterior spaces should be responsive to the sun and shade patterns, and view orientations across the site.

3. Open spaces should provide a variety of user experiences at various times of day.

4. Private development parcels should include additional open space and recreation amenities such as pools, amenity roof decks, community gardens, and internal recreation facilities.
4.2 PARKS AND OPEN SPACE

PUBLIC PARKS

INTENT STATEMENTS

- To design public Parks and Open Spaces that are publicly accessible, meet ADA standards and are safe and welcoming.
- To create a park and open space program developed with City and County of Denver and Denver Parks Department to include active and passive uses that complement nearby community parks and meet the project’s overall 10% publicly accessible open space acreage requirement.
- To create parks that have a unique character and identity.
- To utilize plant materials appropriate for the Denver High Plains arid climate and for ease of maintenance.
- To soften the visual impact of the development while keeping a predominant urban character.
- To develop Vanderbilt Park East as the major park facility and green space for the entire project and the surrounding community.
- To enhance Vanderbilt Park through new bike trail connections, additional amenities such as a dog park, pathways and improvements and connections to the surrounding community.

4.2.A DESIGN STANDARDS

1. Park elements shall be designed to provide a unique identity and character reflective of the site’s previous industrial character and its proximity to the South Platte River.
2. Park designs shall incorporate BMP’s from the CCD standards for stormwater management and water quality, where possible.
3. Parks shall be designed per Denver Parks and Recreation and Denver Forestry standards and guidelines and subject to DPR final approval.
4. Plants shall be selected from the Sample Landscape Plant List (Refer to Section 8.1 in Appendix), and in accordance with the Office of the City Forester approved street tree list, which is intended to provide a mix of species appropriate for the climate.

4.2.B DESIGN GUIDELINES

1. Where possible and in consultation with Denver Urban Gardens, space should be made available for community gardens.
2. Unattractive elements such as dumpsters and service corridors should be screened by elements like planting or fencing that provide year-round screening.
3. Plantings and landforms should be used to screen users from busy roadways.
4. If a dog park is provided within Vanderbilt Park, bike path facilities should not be located immediately adjacent to the dog park or a buffer should be provided.
5. Parks should be designed to be flexible to accommodate community events such as festivals, movies, etc.
6. Pet facilities should be located within BSP developer’s property line.
7. Dog bag facilities should be located within easy access of public walkways.
4.2 PARKS AND OPEN SPACE

SANTA FE PROMENADE

INTENT STATEMENTS
- To provide a safe, continuous pedestrian and bicycle connection that links Vanderbilt Park East, the Kentucky Avenue Multi-modal Bridge, CML Bridges, and Mississippi underpass to one another.
- To provide a visual and audible landscape buffer between Santa Fe and future development.
- To provide storm water quality and detention facilities.

4.2.C DESIGN STANDARDS
1. Water quality and detention areas shall utilize native grasses and low water use plant material that blend with the adjacent Platte River ecosystem.
2. Site amenities along the Santa Fe Promenade shall include seating areas, pedestrian lighting, and limited areas of turf for informal seating.
3. The Santa Fe Promenade shall provide a minimum 10 feet wide continuous multi-purpose path with an adjacent 2 feet compacted decomposed granite path along the west edge of the development fronting the promenade.

4.2.D DESIGN GUIDELINES
1. Sculptural landforms and landscape should be used to create a buffer zone between Santa Fe and future multi-use paths and development.
2. Building development adjacent to the promenade should incorporate planting pockets and exterior deck and patio areas as a transition space.
3. Evergreen trees should be considered within the buffer zone to create year round visual and audible screening.

4.2.C.3 - The Santa Fe Promenade shall provide a minimum 10 feet wide continuous multi-purpose path with an adjacent 2 compacted decomposed granite path along the west edge of the development fronting the promenade.

4.2.D.2 - Building development adjacent to the promenade should incorporate planting pockets and exterior deck and patio areas as a transition space.
4.2 PARKS AND OPEN SPACE

NORTH MARKET PLAZA

INTENT STATEMENTS
- To create a common neighborhood space that is anchored by the public sidewalk on the Shared Street.
- To facilitate pedestrian movement to and from I-25 & Broadway Station.
- To establish a dynamic gateway element between the I-25 & Broadway Station District and the Market Place Mixed-Use District.

4.2.E DESIGN STANDARDS
1. The main plaza area shall be a minimum of 7,500 square feet, and shall include publicly accessible sidewalk area that is a minimum of 10 feet wide, running adjacent to the Shared Street.
2. The plaza shall incorporate publicly accessible gathering, seating, and landscaping areas into the space.
3. The plaza shall extend underneath the RTD flyover to help create a pedestrian scaled passageway to and from the I-25 & Broadway Station.
4. The plaza shall be designed to promote and ease of access between the Broadway Station Districts for both pedestrians and cyclist.
5. The plaza shall be designed to accommodate community events and functions such as Farmers Markets, Art Shows, Holiday Events, etc.

4.2.F DESIGN GUIDELINES
1. Decorative hardscape, landscape, furnishing, trellis structures, art, and lighting elements should be used to enliven the Plaza during times of less active use.
2. Creative lighting and decorative design elements should be used to create visual interest below the RTD flyover and make it an amenity to the site.
3. Temporary or permanent restroom facilities should be allowed to support community events.
4. Interpretive and educational information plaques should be incorporated into the plaza design that tell the story of the context and past history of the site.
5. Buffering via landscape or architectural elements of the RTD flyover abutment wall should be encouraged.
4.2 PARKS AND OPEN SPACE

FIG. 27 PARKS AND OPEN SPACE MAP

**LEGEND**

<table>
<thead>
<tr>
<th>Open Space</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Santa Fe Promenade</td>
</tr>
<tr>
<td>2</td>
<td>Vanderbilt Park</td>
</tr>
<tr>
<td>3</td>
<td>Vanderbilt Park East</td>
</tr>
<tr>
<td>4</td>
<td>Pedestrian Bridges</td>
</tr>
<tr>
<td>5</td>
<td>South Ped Bridge Plaza</td>
</tr>
<tr>
<td>6</td>
<td>Shared Street Enhanced Streetscape</td>
</tr>
<tr>
<td>7</td>
<td>Platte River Trail Connections</td>
</tr>
<tr>
<td>8</td>
<td>Landscape Buffer</td>
</tr>
<tr>
<td>9</td>
<td>North Market Plaza</td>
</tr>
<tr>
<td>10</td>
<td>North Ped Bridge Plaza</td>
</tr>
<tr>
<td>11</td>
<td>Entry Buffer</td>
</tr>
</tbody>
</table>

**T** LIGHT RAIL STATION

- PARTIALLY CREDITED PUBLIC OPEN SPACE
- FULLY CREDITED PUBLICLY ACCESSIBLE OPEN SPACE
- BONUS OPEN SPACE
- I-25 & BROADWAY STATION DISTRICT SUB-AREA

This document will be amended to establish specific intents, standards and guidelines prior to submittals for redevelopment of the station site.

- UD SG AREA OF APPLICABILITY
- STORM WATER DETENTION
4.3 PUBLICLY ACCESSIBLE PLAZAS/STREETSCAPE & PRIVATE COURTYARDS

INTENT STATEMENTS

• To provide accessible, high quality, character giving, external spaces that enhance the pedestrian experience and provide a unique character to the overall development reflective of the site’s previous industrial character.
• To ensure that pedestrian oriented streetscapes slow down automobile and bike users, and to encourage social interaction and safety within the public realm.
• To allow for additional publicly accessible plaza spaces and private courtyards adjacent to buildings that will accommodate special amenities such as cafés, public art and unique plantings that are an important part of the overall open space network.
• To provide streetscape, courtyards and plaza spaces that can be utilized during all four seasons.
• To encourage, on each development block, some form of outdoor space that is connected to the public realm either directly or by a Publicly accessible walkway.
• To provide open spaces that give variety, relief, and interest to the streetscape and urban pattern.
• To provide outdoor spaces that serve for relaxation, socialization, congregation, and community interaction.
• To create a variety of distinct places, providing memorable experiences that add to place making and activate the street level.
• To provide open spaces such as plazas, courtyards, and small parks as an extension of the work environment or community rooms into an outdoor environment.
• To provide architectural and streetscape elements to physically shape the plaza space and activate the street.
• To provide the necessary infrastructure to ensure long-term tree canopy development and growth.
4.3 PUBLICLY ACCESSIBLE PLAZAS/STREETSCAPE & PRIVATE COURTYARDS

4.3.A DESIGN STANDARDS
1. Special paving at plazas shall match the material used in the sidewalk within the R.O.W. to connect plaza areas to the streetscape and encourage indoor-outdoor relationships.
2. Grass areas shall only be placed where they provide for active community use and interaction.
3. Visual cues and gateway elements shall be used to welcome and direct transit and community users coming and going through this location from all directions.
4. Plazas shall provide for safe and easily accessible multi-modal transit connections and connect to publicly accessible walkways.
5. Materials and patterns shall be used that will visually connect the plazas and streetscapes throughout the project.
6. Special paving, crosswalk markings, lights or corner bump-outs shall be used to achieve traffic calming at intersections and crosswalks.
7. The north bridge landings into plazas on either end shall be emphasized as key visual vantage points that engage the public spaces in the district.
8. Areas within the public R.O.W. shall be subject to Public Works review and approval.
9. Publicly accessible plazas may include urban gardens and outdoor rooms, but shall not include off-street loading areas, driveways, permanent off-street parking areas, utility boxes, or service access.
10. Walkways abutting or within publicly accessible plazas shall be a minimum of 6 feet wide.
11. Trees in grates shall utilize tree grates per the Office of the City Forester-Public Works details, to allow for more air and water to tree roots. Where grates are to be used in all public areas, including ROW and parks, critical soil volume standards as specified by the Office of the City Forester must be met under paved surfaces via CCD-approved uncompacted soil technologies.
12. Publicly accessible, privately maintained open space shall be located outside of the R.O.W. or build-to zone.

4.3.B DESIGN GUIDELINES
1. Plazas should be shaped by and reinforce the ground floor uses and entrance points of adjacent buildings.
2. Public Plazas and Private Courtyards should incorporate elements from the surrounding buildings such as low walls, canopies, trellises, balconies, roof top terraces, roll up doors and overhangs to frame and create unique and comfortable exterior spaces and enjoyment of the outdoors.
3. Each development parcel should look for ways to increase open space connectivity throughout the project.
4. Visual connections across two sides of a street should be encouraged unless there is an undesirable view.
5. A special amenity or urban design element should be incorporated every 300 feet along major pedestrian circulation routes to give relief and interest.
6. Public Plazas, Private Courtyards, and Streetscapes should consider the ease and storage of snow removal.
7. Exterior pedestrian spaces underneath bridges should be enlivened through elements like lighting and public art.
8. Plazas shall provide a balance of hard and softscape elements that help provide shade, soften and buffer appropriate areas of the plazas.
9. Plazas should be enhanced with site amenities such as public art, water features, unique site furnishings, trellis structures, and made of durable materials.
10. Tree planting areas in plazas should strive to be 8’ wide min. for root and canopy growth or where not possible, meet the OCF minimum soil volume per tree standards.
11. Landscape materials should be selected for each plaza’s unique micro-climate.
12. Building access, either public or secure, should be located on each plaza to encourage regular use.
13. Private courtyards immediately adjacent to public walkways should be at least 8 feet deep x 20 feet long.
INTENT STATEMENTS

- To establish a unique and different palette of site furnishings given the unique historic man made and natural features that physically shape the Broadway Station site area.
- To select a palette of unique and consistent site furnishings to unify and reinforce the overall character and identity of the public realm throughout the project through repetition of product materials, forms and colors.
- To select and locate site furnishings to encourage pedestrian activity and community gathering in the public realm and streetscape areas.
- To provide adequate pedestrian and bike facilities to encourage non-vehicular modes of transportation to and around the site.

4.4.A DESIGN STANDARDS

1. Pedestrian site lighting shall create an environment that in both day and night is unique and pleasing to the eye and encourages pedestrian activity and a sense of safety at night.
2. RTD lighting standards for transit facilities shall be met at the Transit Facility.
3. Street furnishing elements shall be high quality and include a consistent palette of benches, trash receptacles, bike and scooter racks, pedestrian street lights, trench drains, game tables, planter pots, bollards, public signage features, site railings, tree grates and seat walls to provide pedestrian comfort and convenience as illustrated in this section.
4. Site furnishings shall be chosen from the selection in Fig. 28, Site Furnishings Palette to create district unity and identity on streetscapes, in plazas and within publicly accessible open spaces. Should any of these site furnishings no longer be manufactured, then ones that are similar in style, color, and scale shall be utilized.

4.4.B DESIGN GUIDELINES

1. The placement of site furnishings should be adequate in number, provide consistency and be coordinated with the overall organization, context and placement of all building and site elements.
2. Trash receptacles that allow for a separate recycling container should be used to promote sustainability.
3. If approved by Denver Parks and Recreation, this specific style of street furnishings should be utilized in dedicated parks within the project.
4.4 SITE FURNISHINGS

FIG. 27 SITE FURNISHINGS PALETTE

1. Bollard*
   Manufacturer: Hess America
   Model: Toro Barrier Bollard - TOR900-A - Direct Embed

2. Bike Rack*
   Manufacturer: Forms + Surfaces
   Model: Capitol, Color: Rust Powdercoat

3. Wood Bench, with 1/2" steel plate legs
   Manufacturer: Custom, Repurposed wood bench

4. Trash Receptacle*
   Manufacturer: Modern Site Furnishings
   Model: Swiss Bin

5. Trench Drain Grate
   Manufacturer: Urban Accessories
   Model: Jamison, 12" width
   Material: 100% Recycled Grey Iron
   Requirements: ADA Compliant, Heel Safe

6. Tree Grate
   Manufacturer: Urban Accessories
   Model: Jamison, 5'x10'
   Material: 100% Recycled Grey Iron
   Requirements: ADA Compliant, Heel Safe

7. Pedestrian Light*
   Manufacturer: Selux
   Model: MTR Light Column LED, MTRCL-8" round, 12' ht.

8. Concrete Bench
   Manufacturer: Custom, CIP concrete bench

9. Concrete Bench (option)
   Manufacturer: Wausau
   Model: TF5119 and TF5117; Color: A23 Gray
   * Powdercoat metal Color: Cardinal T091-BR47, Polyester TGIC D.C., S/G Special Rust
4.5 SCREENING, FENCING, WALLS AND RAILINGS

INTENT STATEMENTS
• To utilize architectural and landscape screening elements that help mitigate undesirable utility and service use functions.
• To locate service and utility areas away from main entry points into buildings.

4.5.A DESIGN STANDARDS
1. Architectural walls, screens and railings shall be consistent with the design and materials of the building to which they are connected or adjacent.
2. Where landscaping is utilized for screening it shall be layered sufficiently to screen the undesirable view from the streetscape and adjacent properties.
3. Landscape screening shall incorporate evergreen plant material or deciduous plant material with dense branching habit to provide effective screening during the winter.
4. Plant installation size and spacing shall be sufficient to provide 75% screening of the intended object within 2 years of installation.
5. The periphery of all surface parking lots shall be screened with a hedge of at least 3 feet high, a decorative low 3 foot architectural wall, or a 3 foot high decorative metal screen fence. Parking lot screening shall also meet Denver Zoning Code.
6. Interim parking during site development shall be screened for the duration of its use through temporary decorative screen fencing or single row of 30 inch height planting.

4.5.B DESIGN GUIDELINES
1. Landscape screening should be utilized in conjunction with screen walls to provide varied screening and avoid a hard monotonous treatment.

4.5.A.1 - Architectural screening shall be consistent with adjacent architectural elements.
4.5.A.3 - Landscape screening should incorporate evergreen and deciduous plant material.
4.6 SITE DETENTION AREAS/ WATER QUALITY

INTENT STATEMENTS

- To integrate the latest best management practices for on-site storm water management and water quality treatment as appropriate.
- To feature sustainability practices that provide public benefit, education and awareness on environmental stewardship.
- To utilize best practices for storm water management that bring additional benefits to the site, including tree canopy, useful pedestrian features such as planter benches that also provide street level seating, and create an overall sense of environmental stewardship in this riverfront site.
- To minimize directly connected impervious surfaces using strategically placed landscaping.
- To ensure green infrastructure blends with and enhances public open space.

4.6.A DESIGN STANDARDS

1. All projects shall meet current CCD drainage standards and requirements.
2. Urban storm water management and water quality ponds shall utilize native and xeric plant materials appropriate to the Colorado High Plains climate.
3. The Flood Control District’s Urban Storm Drainage Criteria Manual, Volume 3 shall be used as a primary resource.

4.6.B DESIGN GUIDELINES

1. The project should strive to utilize the CCD’s Ultra Urban Green Infrastructure Guidelines for on-site storm water management and water quality treatment. Bioswales, green roofs, and other cost effective sustainable strategies and techniques should be employed.
2. Street level plantings should be utilized to manage and treat roof and right of way runoff as much as possible.
3. Impervious surfaces should be broken up with landscaping and pervious paved areas as much as possible.
4. Green infrastructure should be designed to match the proposed streetscape aesthetic as outlined in this set of standards & guidelines.
4.7 PUBLIC ART

INTENT STATEMENTS

- To incorporate public art into the design of infrastructure elements and key public plaza and park spaces of the project to enrich the public realm experience.
- To create a unique sense of place by utilizing public art to add to the overall character of the public realm.

4.7.A DESIGN STANDARDS

1. Public art pieces and locations shall be approved by the Broadway Station Metro District and reviewed per the DURA public art committee as necessary.
2. Public art pieces required by Division 4 of Article IV of Chapter 20 of the Denver Revised Municipal Code shall meet all CCD standards and requirements.
3. Public art locations shall be placed where pedestrians can relax and linger.

4.7.B DESIGN GUIDELINES

1. Public art should be placed to be visible along key sight lines and as focal points in highly trafficked areas.
2. Public art should be constructed of durable materials that will withstand the sun and extreme freeze thaw conditions of Denver’s climate.
3. Public art should be utilized to enliven underpass conditions.
4.8 SITE LIGHTING

INTENT STATEMENTS

- To provide safe and well-lit pedestrian walkways and public realm environments.
- To provide unique pedestrian scaled light fixtures throughout Broadway Station Development creating a distinct pedestrian environment both day and night.
- To minimize light pollution and impacts on building occupants and adjacent developments.

4.8.A DESIGN STANDARDS

1. Building entries shall be well lit.
2. All exterior lighting fixtures to be utilized on the project shall be LED or high efficiency.
3. Exterior lighting shall be designed to provide consistent coloration and uniform light distribution without hot or dark spots and shall utilize cutoff or downward focused fixtures to minimize glare on adjacent properties.
4. All private exterior lighting shall be low wattage or LED fixtures and shall comply with ASHRAE 90.1-2010.
5. Street roadway lighting along all public rights of way shall meet CCD and Xcel standards.
6. Unique pedestrian light fixtures throughout the project shall be used as a thematic element. Refer to page 49 for Site Furnishings Pallete.
7. Site lighting at the RTD Transit Plaza shall meet RTD standards.
8. Flood-type light distribution to illuminate large areas of landscaping shall not be allowed.

4.8.B DESIGN GUIDELINES

1. Building lighting should be used to enhance important architectural features such as main entrances.
2. Lighting sensors for occupancy usage should be encouraged for private lighting areas.
3. Illumination sources that are low to the ground such as bollards, step and walkway lighting are encouraged.
4.9 PLANT MATERIAL AND IRRIGATION

INTENT STATEMENTS

• To respect the native Colorado environment and low water use requirements in the landscape materials selected.
• To utilize low water use irrigation systems, technologies and applications throughout the project to manage and conserve water use.
• To provide high quality and well maintained landscape and irrigation throughout the project that enhances overall property values and a sense of project pride and identity.
• To utilize plant material that is adaptable to Denver Recycled Grey Water standards.
• To thoughtfully select plant materials that create links between open spaces and urban areas and provide a number of benefits including improved air and water quality and habitat enhancement.

4.9.A DESIGN STANDARDS
1. Plant material shall conform to the American Standard for Nursery Stock and shall be of specimen quality.
2. Plant material shall be delivered to the site and installed in a healthy condition without significant damage and need for pruning.
3. Soil tests of planting media shall be preformed to identify necessary soil amendments.
4. Landscape areas shall be tested for soil percolation and provide remediation drainage as determined by test.
5. Mulch shall be provided within all planting beds and shall be placed directly on the soil without weed barrier fabric.
6. All areas utilizing turf shall be sodded and not seeded.
7. Rain and soil moisture sensors shall be installed with all irrigation systems.
8. Irrigation in public parks shall be subject to review and approval by Denver Parks and Recreation.
9. Single stem trees shall be used within public R.O.W.
10. Plants treated with neonicotinoids or other bee killing chemicals at any stage in their germination shall not be used.
11. Minimum plant material size shall be as follows:
   - Deciduous Trees shall be 2.5 inch caliper minimum
   - Ornamental Trees shall be 2.5 inch caliper or 6 feet clump minimum
   - Large Evergreen Tree shall be 8 feet height minimum
   - Small Evergreen Tree shall be 6 feet height minimum
   - Upright shrubs shall be 3 feet height minimum
   - Shrubs shall be 5 gallon Container minimum
   - Perennials shall be 1 gallon Container minimum
   - Grasses shall be 1 gallon Container minimum
   - Groundcover shall be 4 inch Pots minimum

4.9.B DESIGN GUIDELINES
1. Installation of irrigation flow meters should be encouraged to help detect leaks in the irrigation system.
2. The use of spray irrigation should be limited to turf areas only.
3. Plant diversity and the use of pollinator friendly plant species should be encouraged.
4.10 PEDESTRIAN BRIDGE LANDSCAPE DESIGN

INTENT STATEMENTS

• To design the North and South Pedestrian bridges to be open spaces and landscape amenities of the project, not just a means of circulation.

• To provide opportunities for seating and viewing along the bridges west to the mountains, north to the Downtown skyline, and from the bridge overlooks to Vanderbilt Park East and the Shared Street plazas.

• To accommodate a safe, accessible, direct and low-stress pedestrian and bicycle circulation route.

• To provide a distinct architectural form for the bridges that helps reinforce the overall public realm palette of the project.

4.10.A DESIGN STANDARDS

1. The bridge deck surface shall be a durable material able to withstand Colorado sun, freeze/thaw, snow conditions and maintenance.

2. Railings shall be designed to meet railroad and RTD height and safety requirements, and shall be durable and attractive.

3. Consistent material, form and color shall be used on both bridge structures that relates to the architecture of the buildings and other site elements for project continuity.

4. Some bridge hardscape materials and details shall be consistent on both bridges.

5. A minimum 8 foot clear and reasonable direct pedestrian/bicycle zone shall be provided on bridge decks.

6. High speed bike traffic shall be discouraged through bridge site design elements.

7. Safe lighting shall be provided on the pedestrian bridge decks and stairways, and shall be designed to avoid extreme contrasts between light and shadow.

4.10.B DESIGN GUIDELINES

1. Site furnishings and seating areas should be incorporated along the extent of the north bridge.

2. Planting areas should be raised above the bridge deck surface in raised planters with a minimum 18 inch soil depth and should cover enhance and soften the overall pedestrian experience along the bridges.
**4.11 PEDESTRIAN AND SPECIALTY VEHICULAR PAVING**

**INTENT STATEMENTS**
- To unify and give character and visual interest to the overall public realm of the project through paving materials and patterns.
- To help promote safe interaction of vehicles, bicycles, and pedestrians by utilizing paving materials.
- Encourage the use of permeable paving into the overall storm water management plan for the project, when feasible.

**4.11.A DESIGN STANDARDS**
1. Special paving shall provide a consistent and unique character on the Shared Street to create a distinctive curbless private street along its entire length. Individual parcel projects that abut a private pedestrian priority street shall match the same paving material and patterns.
2. Paving materials shall meet slip resistant coefficient of standard City sidewalks.

**4.11.B DESIGN GUIDELINES**
1. Pavement material texture, pattern and color should be used to guide movement and define use areas.
2. Enhanced crosswalk material should be used at intersections within public right of way.
4.12 STREET TREE MASTER PLAN

INTENT STATEMENTS
• To identify groupings of street trees selected for each street in accordance with CCD regulations. Refer to Fig. 28.
• To create an order and sequence to the street tree plantings that define a unique character for different areas and corridors of the site and to help frame important views.
• To define the road edges by enclosing the pedestrian zone within the right-of-way.

4.12.A DESIGN STANDARDS
1. Street trees shall help promote pedestrian shade, comfort and reduce urban heat island effects.
2. Street trees and their spacing in public right-of-way shall meet CCD Forester’s standards.
3. Landscaping type and location within and adjacent to the Rail corridor easement shall comply with the attached guidelines for building adjacent to RTD rail R.O.W. Also, shade tree canopy for a mature tree shall be located so that roots and canopies do not intrude into the trackway/R.O.W. per the attached requirements. Refer to Section 8.2 in Appendix.
4. Street tree patterns shall be selected with form, color, salt tolerance and seasonality in mind.

Fig. 28
PARKS AND OPEN SPACE MAP

LEGEND
- RIPARIAN/SHADE TREES
- SHADE TREES
- MIX OF SHADE & EVERGREEN TREES
- 26'-29' SPREAD TREES
- 15'-20' SPREAD TREES
- I-25 & BROADWAY STATION DISTRICT SUB-AREA

500 ft
N
4.13 CML LANDSCAPE TREATMENT

INTENT STATEMENTS

• To incorporate Public art into the railway infrastructure to blend it into the project.
• To create a buffer, both physical and visual, to separate users from the rail corridor.
• To explore ways to utilize landscape material to soften the rail corridor.

4.13.A DESIGN STANDARDS

1. A landscape buffer of minimum 10 feet, except at the North Market Plaza location, shall be incorporated into areas adjacent to the CML.
2. Native grasses, shrubs, and trees, as allowed, shall be incorporated into a landscape buffer adjacent to the rail corridor to buffer and screen the corridor on the site.
3. Fences and walls shall be used, as applicable, to create a visual and safety barrier to the rail corridor.

4.13.B DESIGN GUIDELINES

1. Landscape and walls should be placed to attenuate sound as much as possible.
2. Landscape should be grouped in a natural arrangement.
3. Public art locations should be incorporated where possible.
4. Ongoing discussions with CML Rail companies and RTD should continue to discuss creative treatments of the corridor.
5
SIGNAGE STANDARDS & GUIDELINES

5.1 DISTRICT SIGNAGE
5.2 BUILDING SIGNAGE
5.0 SIGNAGE

Sign standards and guidelines address issues related to sign type, location, materials and design, and sign lighting. All building signage must conform to the Denver Zoning Code (DZC).

GUIDING PRINCIPLES

• Create signage programs that are seamless, integral to the site and its history, and responsive both materially and stylistically to its surroundings.
• Utilize signage as a defining, forward-looking ‘branding’ and development tool that distinguishes the district’s topography and infrastructure (including its perimeters, major focal points and modes of transit) and its unique character.
• Establish district-wide signage that is a consistent and instantly recognizable suite of elements, scaled from the largest components (trailblazer signs viewable at a distance) down to the smallest details of pedestrian wayfinding and regulatory signage.
• Promote district signage and building signs that reflect variety in their design and fabrication.
• Ensure district-wide signage is compatible with district building signage of businesses, institutions and retail establishments that will gravitate to Broadway Station.
5.1 DISTRICT SIGNAGE

INTENT STATEMENTS
- To identify the district in a dramatic and unique way.
- To aid pedestrian and vehicular navigation.
- To identify major streets, paths, the Light Rail Transit Station and other transportation nodes.
- To create a suite of sign types that are coordinated in both physical detail as well as in messaging and wayfinding guidance.
- To enhance the visual environment with signs that are well-designed, well-crafted, and creative.
- To avoid visual clutter, in terms of graphic display, illumination, scale, and over-proliferation of installations.

5.1.A DESIGN STANDARDS
1. All district signs shall conform to the Denver Zoning Code and require proper sign documentation.
2. All district signs shall be well constructed using materials of appropriate strength and durability.
3. Supports, illumination, and electrical feeds and housing — where visible — shall be designed to be seen, i.e. with attractive finishes and hardware, and secure, tamper-proof fixtures.
4. District signs shall be located no closer than 25 feet from any other district sign or fixture of similar (or competing) scale.
5. Wayfinding signage for vehicular parking shall be located at key gateway points and intersections.
6. District signs shall not impact the operation of the streets or intersections/driveway sight lines.

5.1.A.3 - Lighting shall be diffused (no exposed bulbs).
5.1.A.2 & 3 - Structure and electrical feeds shall be concealed and durable.
5.1.B.3 - Sign design and structure shall complement district architecture and materials.

5.1.B DESIGN GUIDELINES
1. District signage should be located at primary intersections and transportation nodes.
2. District signage should be located in the Public Amenity Zone with deference to pedestrian traffic and clearance requirements.
3. District signage design should complement the architectural design (scale, materials and detailing) of surrounding buildings.
4. A large facility Comprehensive Sign Plan (CSP) or series of CSPs should be considered to ensure that District Signage is a well-coordinated system of signage consistent with requirements in the Denver Zoning Code (DZC).
5.2 BUILDING SIGNAGE

INTENT STATEMENTS

• To inspire creativity and sensitivity in the design of the retail environment.
• To promote the use of a rich palette of materials, colors, and fabrication methods.
• To ensure signage is intelligently planned and complementary to both the surrounding architecture and district-wide signage.
• To maintain a sensitivity to adjacent residential areas (both within the site and in neighboring sites).

5.2.A DESIGN STANDARDS

1. All building signs shall conform to the Denver Zoning Code and require proper sign documentation.
2. All district building signs shall be well-constructed using high quality materials of appropriate strength and durability, such as steel, wood, bronze and glass.
3. Building sign design shall be compatible with the building’s architecture in materiality, color, finish, and attachment details.
4. Retail and other non-residential signage shall not infringe on residential entryways.
5. Signs shall be oriented or illuminated so that they do not adversely affect existing nearby residential uses or structures. Examples of adverse effects may include but are not limited to glare from intense illumination, and large signs or support structures that visually dominate an area to the detriment of existing or proposed land uses.

5.2.B DESIGN GUIDELINES

1. A large facility Comprehensive Sign Plan (CSP) or series of CSPs should be considered to ensure that Building Signage is a well-coordinated system of signage consistent with requirements in the Denver Zoning Code (DZC).
2. Predominantly textured, matte and patina finishes should be used in lieu of high gloss finishes.
3. Plastics should be limited to minimal use (such as diffusers in illuminated signage).
4. Materials, hardware and fabrication details and finishes should be sustainable.
6

COMPLIANCE

6.1 REVIEW PROCESS
6.2 SUBMITTAL REQUIREMENTS
6.1 REVIEW PROCESS

Compliance with these Standards and Guidelines will be reviewed during site plan review under Section 12.4.3 of the Denver Zoning Code. The applicable City staff will review all site plan submittals for compliance with these Standards and Guidelines, as well as compliance with zoning and all other applicable city regulations. A site development plan subject to these Standards and Guidelines shall not be approved unless City staff makes a specific finding of compliance with these Standards and Guidelines.

The Site Development Plan Review process may be initiated by scheduling a pre-application concept plan review and is mandatory before submittal of a formal site development plan application. During the concept plan review, the City staff will confirm the applicability of site development plan review to the proposed development activity and the specific procedures and submittal requirements the applicant will follow. It also provides an opportunity for informal discussion of the specific circumstances of a project and how the Standards and Guidelines might affect its development. Submittal requirements to show compliance with the Standards and Guidelines should also be discussed at the pre-application meeting.

At the Concept and/or Site Development Plan submittal, the applicant must submit a comprehensive analysis of these Standards and Guidelines and how they apply to the project that is the subject of the site development plan submittal. At the time of vertical site development plan submittal, the applicant also must submit proof of acceptance/support by the Design Review Board that administers any private design review on the site.

The sign standards and guidelines are supplemental and complimentary to the Denver Zoning Code that Development Services staff refers to when reviewing signage applications, and compliance is not assured through site plan review, but through separate procedures described below.

All signs must be approved by all applicable City agencies. In cases of a Comprehensive Sign Plan, City staff will use these standards and guidelines as a means to review design intent when making determinations to allow for flexibility in size, type and location of signs. Staff will review all sign submittals for conformance with the DZC sign code and the Broadway Station Development Urban Design Standards and Guidelines.

6.2 MODIFICATIONS

The Standards and Guidelines are intended to be flexible. The applicable City staff may grant modifications to a design standard if the applicable City staff finds the applicant has shown the following:

1. The modification is consistent with the stated intent of the design standard at issue;
2. The modification achieves or implements the stated intent to the same degree or better than strict compliance with the standard would achieve; and
3. The modification will not result in adverse impacts on properties abutting the Site.

The applicable City staff shall review the proposed modification and shall approve or deny the request within 14 calendar days of receiving a complete request.

DESIGN REVIEW BOARD is defined in the Glossary.

For Amendment Process, refer to Section 1.7 Applicability, pg. 10.
7
GLOSSARY OF TERMS
The terms included here are terms that are consistently referenced throughout this UDSG document. Many of the terms are consistent with the Denver Zoning Code definitions but are included here for ease and accessibility. In case of conflict between the UDSG and the Denver Zoning Code, the Denver Zoning Code shall apply. For terms that are not included here, refer to the City and County of Denver’s Zoning Code, Division 13.3 Definitions of Words, Terms & Phrases, Division 13.1 Rules of Measurement, and Article 11, Division 11.12, Use Definitions.

**Articulation:** Variation in the depth of the building plane, roof line, or height of a structure that breaks up plain, monotonous areas and creates patterns of light and shadow.

**Block:** A tract of land bounded by platted streets, public parks, cemeteries, railroad rights-of-way, shore lines, or corporate boundaries of the city.

**Build-to:** An alignment at the primary street or side street setback line of a zone lot, or within a range of setback from the zone lot line abutting a street, along which a street-facing, primary building wall must be built.

**Building Front or Frontage:** That exterior wall of a building facing a front line of the zone lot.

**Canopy:** A structure, fully supported by the building wall, providing shade and cover from the weather for a sidewalk, stoop or terrace.

**City or CCD:** The City and County of Denver.

**Compatibility or Compatible:** The characteristics of different uses or activities or designs that allow them to be located near or adjacent to each other without adverse effect. Some elements affecting compatibility include height, scale, mass and bulk of structures. Other characteristics include pedestrian or vehicular traffic, circulation, access, and parking impacts. Other important characteristics that affect compatibility are landscaping, lighting, noise, odor, building materials, and building architecture. Compatibility does not mean “the same as.” Rather, compatibility refers to the sensitivity of development proposals in maintaining the character and context of existing development.

**Design Review Board:** The Design Review Board is a private board that administers private design guidelines related to vertical development on the site. The Design Review Board reviews all vertical development, and private plazas and courtyards, within private parcels in the Broadway Station Metropolitan District. All district owned streetscapes are also reviewed by the board.

**District Streets:** A dedicated street or route that is owned and maintained by the District(s), which is subject to review through the City’s requirements for horizontal site development plans.

**Facade:** Any exterior wall surface located at the ground level of a building that encloses the interior of the building.

**Frontage:** All of the zone lot fronting on one side of an intersecting or intercepting street, or between a street and right-of-way, end of dead-end street, waterway, or City boundary measured along the street line. An intercepting street shall determine only the boundary of the frontage on the side of the street that it intercepts.

**Guideline:** An indication of policy or preferences; compliance is not mandatory like a standard, but rather compliance is encouraged to further the City’s land use goals and policies. A zoning application may not be denied solely for failure to comply with a guideline.

**Impervious Material:** A surface that has been compacted or covered with a layer of materials that is highly resistant to infiltration by water. Impervious materials include, but are not limited to, surfaces such as compacted sand, lime rock, or clay; asphalt concrete, driveways, retaining walls, stairwells, stairways, walkways, decks and patios at grade level, and other similar structures.

**Landscaping:** The treatment of pervious surfaces with organic/inorganic plant materials such as grass, ground cover, trees, shrubs, vines and other horticultural materials. Landscaping may also include other decorative surfacing such as wood chips, crushed stone or other mulch materials.

**Light Fixture:** The complete lighting unit consisting of some or all of the following: the lamp, ballast, housing, and the parts designed to distribute the light, to position and protect the lamps, and to connect the lamp to the power supply.
GLOSSARY OF TERMS

**Loading Space:** An off-street space or berth on the same site with a building, or contiguous to a group of buildings, for the temporary parking of a commercial vehicle while loading or unloading merchandise or materials, and which abuts upon a street, alley, or other means of access.

**Mixed Use Development:** The development of a site or building with two or more different principal or primary uses including, but not limited to residential, office, manufacturing, retail, public or entertainment uses.

**Mode (Of Transportation):** A particular form or method of travel, for example, walking, automobile, bicycling, public transit, bus or train.

**Multi-modal:** The issues or activities that involve or affect more than one mode of transportation or a path that can be traversed through different forms of travel. Includes transportation connections, choices, cooperation and coordination of various modes. Also known as “inter-modal.”

**Neighborhood Bikeway:** Neighborhood bikeways are routes on low-speed streets enhanced for bicycle safety and comfort by added signage, pavement markings and/or crossing improvements. Treatment options include traffic calming, intersection crossing treatments, wayfinding signage and bikeway signage. Traffic calming measures such as planting street trees or building curb extensions cause drivers to slow down by constricting the perceived or actual road space. Intersection crossing treatments highlight to cross traffic that bicyclist and pedestrians are crossing the roadway at that location. Wayfinding elements are posted signage or painted street markings that provide clear direction to popular destinations. Bikeway signage indicates to bicyclists that they are on a designated bikeway and makes motorists aware of the bicycle route. The description above is the meaning of the term referenced throughout this design standards and guidelines document; general information on Neighborhood Bikeways can be found in the Denver Bikeway Design Guidelines.

**Open Space, Publicly Accessible:** Space that is clearly intended to be usable, publicly accessible, and a visual amenity, but not including parking lots or vestigial landscaped areas left over after the placement of buildings and parking on a zone lot. Publicly accessible open space may be publicly or privately owned, managed or maintained.

**Patio:** A level hard surfaced area at finished grade. (For an above-grade patio, see Deck)

**Pedestrian Connection:** A clear, obvious, and publicly accessible route and connection between the Primary Street and the primary uses within the building.

**Plaza:** An open area at ground level accessible to the public at all times, and which is unobstructed from its lowest level to the sky. Any portion of a plaza occupied by landscaping, statuary, pools and open recreation facilities shall be considered to be a part of the plaza. The term “plaza” shall not include off-street loading areas, driveways, off-street parking areas.

**Protected Bikeway:** Protected bikeways are routes physically separated from motor vehicle traffic. They can be at street level, sidewalk level or an intermediate level. Curb separation, landscaped medians and grade separation are barrier types appropriate for protected bikeways. For most conditions, the minimum dimension for a protected bikeway with two way bicycle traffic is 10 feet wide, although a 12 feet width is preferred. In special conditions, such as the north and south pedestrian bridges, the minimum dimension for a protected bikeway with two way bicycle traffic is 8 feet wide. Protected bikeways can be shared with pedestrian traffic and multi-use trails are considered a protected bikeway. The description above is the meaning of the term referenced throughout this design standards and guidelines document; general information on Protected Bikeways can be found in the Denver Bikeway Design Guidelines.

**RTD:** Denver’s Regional Transportation District comprising local and regional public bus and rail service.

**Right-of-Way:** The area of land under public ownership and commonly reserved for public use as a street, which may also include areas devoted to tree lawns, sidewalks, trails, bicycle paths, benches, and other public amenities and subsurface utilities.

**Patio:** A level hard surfaced area at finished grade. (For an above-grade patio, see Deck)
GLOSSARY OF TERMS

Separated Bikeway: Separated bikeways are routes designed exclusively for bicycle travel on a roadway and are differentiated from vehicle travel lanes by striping, pavement stencils and other treatments. A separated bike lane is designated for the exclusive use of bicycle riders using pavement markings and signage. A separated bikeway should have a 6 feet minimum width when adjacent to curb and gutter, or be 3 feet wider than the gutter pan width if the gutter pan is wider than or equal to 2 feet wide. They are typically located on the right side of roadway either adjacent to the curb or a curbside parking lane. The description above is the meaning of the term referenced throughout this design standards and guidelines document; general information on Separated Bikeways can be found in the Denver Bikeway Design Guidelines.

Scale: The perceived size of a building, space, or roadway in relation to a human or automobile that affects the apparent size of street spaces and how comfortable they feel to pedestrians and drivers. Architectural design details and overall organization of the street can affect scale.

Screening: A method of visually shielding or obscuring one abutting or nearby structure or use from another by fencing, walls, berms, or densely planted vegetation.

Setback: See the City and County of Denver’s Zoning Code, Division 13.1 Rules of Measurement.

Sign: A sign is any object or device or part thereof situated outdoors or indoors which is used to advertise or identify an object, person, institution, organization, business, product, service, event or location by any means including words, letters, figures, designs, symbols, fixtures, colors, motion illumination or projected images. Signs do not include the following:
- a. Flags of nations, or an organization of nations, states and cities, fraternal, religious and civic organizations;
- b. Merchandise, pictures or models of products or services incorporated in a window display;
- c. Time and temperature devices not related to a product;
- d. National, state, religious, fraternal, professional and civic symbols or crests;
- e. Works of art which in no way identify a product.

Site Development Plan: A specific development plan for a zone lot, use, or building, specifying how the entire site will be developed including, but not limited to, building envelopes, uses, densities, open space, parking/circulation, access, drainage, building area, landscaping, and signs.

Standard: A mandatory regulation. Noncompliance with a standard may be grounds for denial of a proposal for development, and may subject an applicant or a development to the enforcement and penalty provisions of this Code. Mandatory standards are indicated by use of the terms “shall” and “must.”

Story: That portion of a building included between the upper surface of a floor and the upper surface of the floor or roof next above.

Street: A public thoroughfare, avenue, road, highway, boulevard, parkway, driveway, lane, court or private easement providing, generally, the primary roadway to and egress from the property abutting along its length.

Street Level: The first story or level in a building or structure in which the ceiling is 4 feet or more above grade at the nearest building line.

Street Level Active Uses: The intent of Street Level Active Uses, as defined in the DZC, is to promote activity on the street and sidewalk, enhance safety and encourage a vibrant urban environment.

1. Street Level Active Uses include all permitted primary uses in the C-MX and C-MS Zone Districts except the following:
   a. Mini-storage Facility; or
   b. Wholesale Trade or Storage, Light.

2. Street Level Active Uses include all permitted accessory uses in the C-MX and C-MS Zone Districts except the following:
   a. Car Wash Bay Accessory to Automobile Services or Hotel Uses; or
   b. Drive Through Facility Accessory to Eating/Drinking Establishments and to Retail Sales, Service, and Repair Uses.

3. Street Level Active Uses shall not include Parking Spaces or Parking Aisles.

4. Street Level Active Uses shall occupy Street Level floor area for a minimum depth of 15 feet (may include the depth of a recessed entrance allowed to meet minimum pedestrian access standards).
Transparency, Primary Street and Side Street: The intent of transparency requirements, as more fully described in the DZC and which vary by Zone District, is to provide visual interest to building facades, to activate the street and sidewalk, and to provide a safe pedestrian realm. The Zone of Transparency is the area between 2 feet and 9 feet above the finished Street Level height across the entire street-facing Street Level building facade. Street Level transparency, primary or side street, is measured as the total amount of linear feet of windows or permitted alternatives provided within the Zone of Transparency divided by the total length of that same street-facing building facade (including any open parking structure entrances). Windows shall be provided to satisfy the transparency requirement, except where a transparency alternative is permitted.

Transparency Alternatives: Where permitted by the DZC, Transparency Alternative Requirements may be used singularly or in combination as alternatives to a transparency requirement. These include:
  c. Display cases and automated teller machines
  d. Wall design elements
  e. Permanent Outdoor Eating/Serving Areas
  f. Permanent Art Drive Through Facility Accessory to Eating/Drinking

Upper Story Setback: The horizontal distance that an upper portion of a building facade is set back from the property or zone lot boundary line.

Upper Story Step-Back: The horizontal distance that an upper portion of a building facade is set back from the face of the building’s lower portion.

Zone Lot: The land designated as the building site for a structure; also, the land area occupied by a use or a structure. Such land area may be designated as a zone lot only by the owner or owners thereof.

Zone Lot Line: Any boundary of a zone lot.
APPENDIX

8.1 SAMPLE LANDSCAPE PLANT LIST
8.2 RTD LIGHT RAIL TRACKS REQUIREMENTS
8.3 BROADWAY STATION VARIANCE REQUESTS LETTER
## 8.1 SAMPLE LANDSCAPE PLANT LIST

**APPENDIX – LANDSCAPE PLANTS**

*Current City of Denver Forestry Standards and specifications take precedence over design guidelines. Master Landscape Plan per City Forester’s requirements shall be developed at the time of permit and reviewed to meet current species diversity, spacing, and planting standard requirements.*

### PLANT SPACING
- 35' between shade trees
- 25' between ornamental trees
- 30' from curb at intersections
- 20' from street lights
- 10' from alleys, driveways, and fire hydrants
- 7' from attached sidewalks

### SAMPLE PLANT LIST

#### DECIDUOUS TREES

**High salt tolerance**
- Amelanchier canadensis
- Crataegus crus-galli
- Glycine triacanthos inermis
- Ptelea trifoliata
- Quercus robur
- Shadblow Serviceberry
- Cockspur Hawthorn
- Honeylocust (not ‘Sunburst’ variety)
- Wafer Ash / Hoptree
- English Oak

**Moderately high salt tolerance**
- Gymnocladus dioica
- Prunus cerasifera
- Prunus padus
- Prunus virginiana
- Quercus bicolor
- Quercus macrocarpa
- Sophora japonica
- Syringa amurenensis japonica
- Kentucky Coffee Tree
- Purple Leaf Plum
- Mayday Tree
- Chokecherry
- Swamp White Oak
- Bur Oak
- Japanese Pagoda Tree
- Japanese Lilac

**Moderate salt tolerance**
- Catalpa speciosa
- Celtis occidentalis
- Ginkgo biloba
- Koehnearia paniculata
- Maclura pomifera 'White Shield'
- Platanusacerifolia
- Pyrus species
- Ulmus sp.
- Northern Catalpa
- Hackberry
- Maidenhair Tree
- Goldenrain Tree
- Osage-Orange ‘White Shield’
- London Plane
- Ornamental Pear (not ‘Bradford’)
- Elm (DED resistant cultivars only)

**Slight salt tolerance**
- Malus sp.
- Apple and Crabapple

**Sensitive or intolerant of salt**
- Acer saccharum
- Sugar Maple

**ornamental tree**

**shade/street tree**
## 8.1 SAMPLE LANDSCAPE PLANT LIST

### CONIFEROUS TREES

<table>
<thead>
<tr>
<th>Salt Tolerance Level</th>
<th>Tree Name</th>
<th>Height</th>
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</thead>
<tbody>
<tr>
<td>High salt tolerance</td>
<td>Black Hills Spruce</td>
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<tr>
<td></td>
<td>Vanderwolf Pyramidal Pine</td>
<td>medium</td>
</tr>
<tr>
<td></td>
<td>Austrian Pine</td>
<td>medium</td>
</tr>
<tr>
<td>Moderately high salt tolerance</td>
<td>Rocky Mountain Juniper</td>
<td>medium</td>
</tr>
<tr>
<td></td>
<td>Ponderosa Pine</td>
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</tr>
<tr>
<td>Slight salt tolerance</td>
<td>Norway Spruce</td>
<td>large</td>
</tr>
<tr>
<td></td>
<td>Blue Spruce</td>
<td>large</td>
</tr>
<tr>
<td></td>
<td>Eastern White Pine</td>
<td>large</td>
</tr>
<tr>
<td></td>
<td>Scot's Pine</td>
<td>medium</td>
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### DECIDUOUS SHRUBS

<table>
<thead>
<tr>
<th>Salt Tolerance Level</th>
<th>Shrub Name</th>
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<tbody>
<tr>
<td>Very high salt tolerance</td>
<td>Fourwing Saltbush</td>
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<tr>
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<td>Siberian Peashrub</td>
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<tr>
<td></td>
<td>Silverberry</td>
</tr>
<tr>
<td></td>
<td>Tatarian honeysuckle</td>
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<tr>
<td></td>
<td>Glossy Buckthorn</td>
</tr>
<tr>
<td></td>
<td>Squawbush</td>
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<tr>
<td></td>
<td>Staghorn Sumac</td>
</tr>
<tr>
<td></td>
<td>Van Houtte Spirea</td>
</tr>
<tr>
<td></td>
<td>Snowberry</td>
</tr>
<tr>
<td></td>
<td>Common Lilac</td>
</tr>
<tr>
<td></td>
<td>Jackman's potentilla</td>
</tr>
<tr>
<td>Moderately high salt tolerance</td>
<td>Red Chokeberry</td>
</tr>
<tr>
<td></td>
<td>Fringed Sagewort</td>
</tr>
<tr>
<td></td>
<td>Basin Big Sagebrush</td>
</tr>
<tr>
<td></td>
<td>Rubber Rabbitbrush</td>
</tr>
<tr>
<td></td>
<td>Forsythia</td>
</tr>
<tr>
<td></td>
<td>Rose of Sharon</td>
</tr>
<tr>
<td></td>
<td>Hydrangea</td>
</tr>
<tr>
<td></td>
<td>St. John's Wort</td>
</tr>
<tr>
<td></td>
<td>Honeysuckle</td>
</tr>
<tr>
<td></td>
<td>Sweet Mockorange</td>
</tr>
<tr>
<td></td>
<td>Dwarf Red-leaf Sand Cherry</td>
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<tr>
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<td>Willow</td>
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<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td>Froebel's spirea</td>
</tr>
<tr>
<td></td>
<td>Arrowwood Viburnum</td>
</tr>
<tr>
<td></td>
<td>Wayfaringtree Viburnum</td>
</tr>
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</table>
### 8.1 SAMPLE LANDSCAPE PLANT LIST

<table>
<thead>
<tr>
<th>Slight to moderate salt tolerance</th>
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<tbody>
<tr>
<td>Artemisia cana</td>
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<tr>
<td>Berberis fremontii</td>
<td>Fremont Barberry</td>
</tr>
<tr>
<td>Fallugia paradoxa</td>
<td>Apache Plume</td>
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<tr>
<td>Rosa woodsii</td>
<td>Wood's Rose</td>
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<tr>
<td>Salix exigua</td>
<td>Coyote Willow</td>
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<tr>
<td>Viburnum dilatatum</td>
<td>Linden Viburnum</td>
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<table>
<thead>
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<tbody>
<tr>
<td>Ligustrum vulgare</td>
<td>Common Privet</td>
</tr>
<tr>
<td>Viburnum opulus</td>
<td>High Bush Cranberry</td>
</tr>
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</table>

#### EVERGREEN SHRUBS (NOT ALL CONIFEROUS)

**Very high salt tolerance**

<table>
<thead>
<tr>
<th>Ephedra species</th>
<th>Mormon Teas</th>
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**High salt tolerance**

<table>
<thead>
<tr>
<th>Pinus mugo</th>
<th>Mugo Pine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Juniperus sp.</td>
<td>Junipers</td>
</tr>
<tr>
<td>Cytisus scoparius</td>
<td>Scotch Broom</td>
</tr>
<tr>
<td>Euonymus japonica</td>
<td>Euonymus</td>
</tr>
</tbody>
</table>

**Moderately high salt tolerance**

<table>
<thead>
<tr>
<th>Arborvitae sp.</th>
<th>Arborvitae</th>
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</thead>
<tbody>
<tr>
<td>Juniperus communis</td>
<td>Common Juniper</td>
</tr>
<tr>
<td>Buxus microphylla</td>
<td>Japanese Boxwood</td>
</tr>
<tr>
<td>Euonymus sp.</td>
<td>Wintercreeper</td>
</tr>
<tr>
<td>Mahonia japonica</td>
<td>Mahonia</td>
</tr>
<tr>
<td>Pyracantha sp.</td>
<td>Pyracantha</td>
</tr>
<tr>
<td>Yucca sp.</td>
<td>Yucca</td>
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</table>

#### PERENNIALS

**High salt tolerance**

<table>
<thead>
<tr>
<th>Aquilegia micrantha</th>
<th>Cliff Columbine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machaeranthus xylorrhiza</td>
<td>Common Woody Aster</td>
</tr>
<tr>
<td>Psilostrophe bakerii</td>
<td>Paperflower</td>
</tr>
<tr>
<td>Stanley pinnata</td>
<td>Prince's Plume</td>
</tr>
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</table>

**Moderately high salt tolerance**

<table>
<thead>
<tr>
<th>Asclepias tuberosa</th>
<th>Butterfly Weed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achillea sp.</td>
<td>Yarrow</td>
</tr>
<tr>
<td>Delosperma nubigenum</td>
<td>Yellow Ice Plant</td>
</tr>
<tr>
<td>Hemerocallis spp</td>
<td>Daylily</td>
</tr>
<tr>
<td>Iberis sempervirens</td>
<td>Candytuft</td>
</tr>
<tr>
<td>Iris sibirica</td>
<td>Siberian Iris</td>
</tr>
<tr>
<td>Oenothera caespitosa</td>
<td>Tufted Evening Primrose</td>
</tr>
<tr>
<td>Sedum sp.</td>
<td>Stonocrop</td>
</tr>
</tbody>
</table>

**Slight salt tolerance**

<table>
<thead>
<tr>
<th>Gallardia s.</th>
<th>Blanketflower</th>
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</thead>
<tbody>
<tr>
<td>Eryngium planum</td>
<td>Sea Holly</td>
</tr>
</tbody>
</table>

#### GRASSES/FORBES
### 8.1 SAMPLE LANDSCAPE PLANT LIST

**High salt tolerance**  
- Agropyron elongatum  
- Agropyron smithii  
- Distichlis  
- Elymus triticeodes  
- Lotus corniculatus  
- Puccinellia  
- Sporobolus airoides  
- **Tall Wheatgrass**  
- **Western Wheatgrass**  
- **Saltgrass**  
- **Beardless wildrye**  
- **Birdsfoot trefoil - a legume**  
- **Alkali grass**  
- **Alkali sacaton**

**Moderately high salt tolerance**  
- Bromus marginatus  
- Chasmanthium latifolium  
- Equisetum scirpoide  
- Lolium perenne  
- Miscanthus sinensis  
- Panicum virgatum ‘Dallas Blues’  
- **Trifolium fragiferum**  
- **Mountain brome**  
- **Northern Sea Oats**  
- **Dwarf Horsetail**  
- **Perennial ryegrass**  
- **Dwarf Maiden Grass**  
- **Dallas Blues Switch Grass**  
- **Strawberry clover**

**Moderate salt tolerance**  
- Agropyron cristatum  
- Agropyron riparium  
- Agropyron trachycaulum  
- Arrhenatherum elatius  
- Bromus inermis  
- Buchloe dactyloides  
- Bouteloua gracilis  
- Dactylis glomerata  
- Elymus giganteus  
- Elymus junceus  
- Festuca arundinacea  
- Medicago sativa  
- Phalaris arundinacea  
- Zoysia spp.  
- **Crested Wheatgrass**  
- **Streambank Wheatgrass**  
- **Streambank Wheatgrass**  
- **Tall meadow oatgrass**  
- **Smooth brome**  
- **Buffalograss**  
- **Blue grama**  
- **Orchardgrass**  
- **Mammoth wildrye**  
- **Russian wildrye**  
- **Tall Fescue**  
- **Alfalfa**  
- **Reed Canarygrass**  
- **Zoysia grass**

**VINES**

**High salt tolerance**  
- Parthenocissus quinquefolia  
- **Virginia Creeper - Woodbine**

**Slight salt tolerance**  
- Lonicera japonica  
- **Japanese Hall’s Honeysuckle**
1. Purpose and Scope:
The Engineering Division has responded to enquiries from development groups and cities, attended meetings, and reviewed plans regarding proposed developments adjacent to RTD’s light rail system. While most meetings, conversations, and emails touch upon some of the issues, others are not addressed. This document lists the major issues of building and operating next to an active light rail track.

RTD has a design criteria document that governs the design of its Light Rail System. Electronic copies of the criteria will be provided on request. Contact Engineering@RTD-Denver.com for questions related to this document.

2. Implementation:
Track and systems planning, design, construction, and operation require precautions that developers, design professionals, contractors, and other agencies need to understand. Engineering Division staff can distribute copies of this document to raise awareness.

3. Planning and Design
A. Sight distance is extremely important for the train operator and for the safety of the general public. Trains need a significant distance to stop, once brakes are applied. A train traveling at 20 miles per hour (mph) requires approximately 230 feet to come to a complete stop. For a pedestrian crossing the tracks, the train operator needs about 5 seconds and 100 feet at 20 mph, once the pedestrian steps off the curb, to slow the train to allow the pedestrian to cross safely. Higher speeds require additional time and distances. Having a clear line of sight is therefore extremely important. To obtain this line of sight:
1. Avoid creating visual obstructions for the train driver.
3. Wherever practicable, all posts, pipes, signs, bollards, markers, and other small obstructions should be given a side clearance of at least 10 feet measured from track centerline and meet standards of the local jurisdiction, AASHTO and MUTCD.
4. Minimize locations where people can accidently fall onto the track. Do not place benches and seating areas close to the track.
5. Encourage pedestrian crossing movements to be at intersections.
B. Maintaining the safety of the system is very important as well as creating an environment which benefits both the public and operations of the transit system. Designing elements in and around the trackway should therefore take this into consideration.

1. In emergency situations, the train may need to stop anywhere on the track, open its doors, and let out people on the adjacent sidewalks and roadways.
2. Minimize trip hazards on adjacent sidewalks.
3. Avoid creating restricted areas where people could get pinned between the train and an obstruction of the sidewalk. A minimum setback of 10 feet from the center line of track is strongly recommended for all elements placed adjacent to the trackway.
4. Station platforms and sidewalks adjacent to platforms, where waiting areas and platform areas merge, should preferably have a width of 12 feet to accommodate accessible highblocks, waiting area for passengers, and to allow for free flow of pedestrian movement. Each location should be evaluated depending on projected use of the area.
5. Breakaway units shall be used where the installation is in a location exposed to traffic.
6. Snow removal shall be considered in the design of facilities so as to not impede pedestrian flow, vehicular traffic and train operations.
7. The train system generates vibration and noise. Owners of adjacent properties should take these factors into account.

C. Train operations also require the integrity of the trackway be maintained at all times. The trackway and the catenary system (the overhead electrical system) needs to have a clear pathway in which to operate. The catenary system may sway. The dynamic envelope of the train generally requires 6 feet 2 inches clear horizontally from centerline of track, in order not to hit an obstruction in the path of the train. At locations where the train follows a curve, additional clearance is required. Determining the dynamic envelope in these instances will require additional analysis. The trackway itself needs a stable foundation on which to be placed so as not to shift and therefore have the potential for the train to derail or leave the trackway. Therefore:

1. No obstruction is permitted within the dynamic envelope of the train.
2. Tree canopies should be situated beyond 20-feet of the centerline of the track. It reduces the potential for the tree roots to undermine the trackway. It also reduces the danger from the need to prune or replace the tree, and keeps people and equipment needed to perform these activities from coming in contact with the overhead electrical system.

3. Excavation within the proximity of RTD tracks which encroaches into the supporting subgrade as described in the attached Figure 1, General Shoring Requirements, shall comply with the requirements of BNSF/UPRR Guidelines for Temporary Shoring. Live load for design of shoring adjacent to Light Rail tracks shall correspond to the attached RTD LRV Loading Diagram from the Light Rail Design Criteria. Contractor shall submit shoring plans and design calculations, stamped and signed by a Professional Engineer registered in the State of Colorado, to RTD for review and acceptance. The submittal shall include a stamped and signed cover letter stating that the shoring design complies with the BNSF/UPRR Guidelines for Temporary Shoring. Shoring design and plans shall be submitted no later than 60 days prior to planned start of construction. Construction adjacent to the tracks shall not begin prior to RTD acceptance of the shoring design.

4. RTD will review all proposed utilities across light rail tracks. Please see http://www.rtd-denver.com/Reports.shtml under the section “RTD Utility Agreements” for the process and requirements.

5. Open cutting for utility installation is not allowed across the light rail tracks because of the potential to undermine the track as well as creating an unsafe operating condition.

6. RTD cannot make any assurances to the horizontal location and cannot confirm depth to top or bottom of RTD duct banks between RTD tracks due to signal interference from track rails. The contractor shall identify the horizontal location and vertical depth of RTD underground electric and communication ducts without compromising the integrity of the RTD tracks or dynamic envelope. This may be accomplished by various means of locating the top and bottom of the RTD ducts as approved by RTD Engineering.

7. Existing contributory drainage areas and flows shall be maintained such that drainage to and/or across RTD LRT tracks is equal to or less that historic conditions.
8. The proposed development shall be designed to safely collect and convey historic flows from RTD's trackways and shall not construct obstructions that can divert additional flows into the trackway or create back water conditions for the trackway.

9. The proposed development shall not discharge storm water directly into the trackway. All onsite drainage shall discharge into an approved storm drain system.

10. The proposed development shall not discharge storm water drainage from adjacent property due to construction onto or across the tracks. Ballasted track in particular can lose its strength, if the ballast gets clogged with dirt.

11. The proposed underground appurtenances shall not interfere with the continuity of the RTD underdrain system. All onsite dewatering systems shall be designed such that they do not surcharge the RTD underdrain system.

D. Light Rail vehicles operate on a direct current (DC) electrical system. Stray DC current leaks are possible and therefore can create a corrosive environment near the trackway. For this reason, provide cathodic protection for buried metallic conduits and utilities near or crossing the tracks.

E. Operation of the train may create electro-magnetic interference (EMI) to the surrounding area. Sensitive electronic equipment should therefore not be placed near the trackway. EMI generating type of equipment may also interfere with the train control system and therefore should be avoided near the train's signal control system which is normally part of the trackway.

F. All metallic objects that are within 15 feet of the centerline of the near rail shall be grounded. Metallic objects should be connected to the ground grid if available or else a ground rod shall be driven. A minimal ground resistance test of 25 Ohms or less shall be achieved.

G. Coordinate design and construction with RTD Operations, Engineering and Maintenance-of-Way. Early discussions and submittals are encouraged. Final Construction Plans need to be submitted a minimum of thirty days prior to construction. Complex projects may take longer to review.
12. Design Reviews
RTD Engineering shall review plans, and work with developers, design professionals, and other agencies to resolve comments and concerns.

13. Rail Right-of-Way Access
This shall apply to construction impacting RTD rail and/or within 25 feet of RTD tracks.

A. Contractor shall be responsible for obtaining Maintenance-of-Way (MOW) light rail right of way access permit to perform work. The RTD light rail right of way access request permit can be found at: http://www.rtd-denver.com/documents/rail-operations-access-permit.doc
All personnel who shall be within 25-feet of the track shall undergo On Track Safety Training, prior to receiving the access permit.

B. In order to receive an access permit to be in or work on the RTD alignment, a completed electronic access permit must be emailed to railopspermits@rtd-denver.com no later than noon on the Wednesday prior to the week the work will begin. When you submit a request, attendance is also required at the weekly Access Allocation meeting which will be held every Wednesday at 2:00 p.m. at the RTD Maintenance of Way Facility at 1350 Rio Court, Denver, CO 80204. If no representative attends the meeting, the request will not be approved.

C. Contractor is responsible for providing and maintaining a written safety program conforming to the requirements of the RTD Construction Safety Manual. RTD’s on-track safety training is required for all personnel performing work in the vicinity of light rail, commuter rail and freight rail systems. Contact Safety Compliance Officer at 303-299-2077 to schedule.

14. Construction Inspections
Contractor must contact RTD Engineering a minimum of 48 hours prior to start of construction to schedule a pre-construction meeting and arrange for on-site inspection during construction.
8.2 RTD LIGHT RAIL TRACKS REQUIREMENTS

15. Construction Contracts
Based on the nature of proposed construction, RTD Risk Management may review construction contract coverages and limits, and require that RTD be named as an additional insured on policies.

16. Approval

<table>
<thead>
<tr>
<th>Revision Level</th>
<th>Summary</th>
<th>Approved By</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
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<td>Jyotsna Vishwakarma, P.E. Acting Senior Manager Engineering / Chief Engineer</td>
<td>[Signature]</td>
<td>02/22/16</td>
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<tr>
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<td>Terry Emmons, Assistant General Manager, Rail Operations</td>
<td>[Signature]</td>
<td>02/22/16</td>
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<tr>
<td>0</td>
<td>Initial Baseline Issue</td>
<td>John F. Tarbert, Acting Assistant General Manager Safety, Security &amp; Facilities</td>
<td>[Signature]</td>
<td>02/22/16</td>
</tr>
</tbody>
</table>

February 22, 2016
GENERAL NOTES:

All dimensions are measured perpendicular to the track.

Prior to commencing any work, the contractor shall submit for approval by the Railroad detailed plans indicating the nature and extent of the track protection shoring proposed. The contractor shall install the temporary shoring system per the approved plans. Design of the temporary shoring system to comply with GUIDELINES FOR TEMPORARY SHORING.

For excavations which encroach into zone A or B, shoring plans shall be accompanied by design calculations. Plans and calculations must be signed and stamped by a Professional Engineer registered in the state where the work will be performed.

GENERAL EXCAVATION ZONES

Shoring must be designed for Railroad live load surcharge in addition to OSHA Standard loads for excavation in Zone A. APPLICABLE RAILROAD LIVE LOAD: COOPER EBO

Figure 1
NOTE:
1. TOTAL CRUSH LOAD 130 KIPS/CAR
2. 1 to 4 CAR TRAINS SHALL BE CONSIDERED WHEN DETERMINING MAXIMUM STRUCTURAL RESPONSE

Diagram:
- Dimensions: 13.0', 25.33', 5.9', 2.33', 30.67' to C TRUCK, 78.67' CAR LENGTH OVER CAR BODY ENDS
- LRV Loading Diagram

BUILDING IN CLOSE PROXIMITY TO EXISTING LIGHT RAIL TRACKS

LIGHT RAIL DESIGN CRITERIA

FIGURE: 6.1
April 28, 2016

Matt Buster, P.E.
Matrix Design Group
1601 Blake Street Suite 200
Denver, CO 80202

Re: Broadway Station Variance Requests (2015PM000429)

Dear Mr. Buster:

The variance committee has reviewed your requests for the Broadway Station Project dated April 8th, 2016, pertaining to the proposed street widths, amenity zone widths, intersection lane offsets, and 100-year storm water detention. We have discussed these request with the Department of Public Works, the Parks Department (i.e., Forestry), and the Fire Department.

The variance request to eliminate the on-street parking on one side of the street, and narrow the flowline to flowline width to 32', is approved for South Bannock Way and South Cherokee Street along the rail corridor. This request can be approved because the need for extra width for parking, truck, and passenger loading is not essential adjacent to the rail corridor. However, the other streets (if they are going to be dedicated as Right-of-Way), must be designed to Public Works standards with room for parking on both sides of the street (i.e., Kentucky Avenue, Tennessee Avenue, Hoyle Avenue, and the portion of South Cherokee Street north of Kentucky Avenue). Having at least the standard 40' flowline to flowline width gives Public Works the ability to maximize the amount of available on-street parking while also providing room for valet, passenger, and truck loading to support the adjacent development. On street parking also provides more separation of the pedestrians from the traffic lanes which improves the pedestrian environment. Parking can be eliminated on both sides of Tennessee Avenue between the private street and Broadway Street to provide room for the required turn lanes at the Broadway Street intersection.

The variance request to narrow the proposed amenity zone is partially approved. The amenity zone can be reduced to 7.5' (8' to the flowline) on all streets to be dedicated as Right-of-Way. The 7.5' dimension is the minimum width that will still allow the project to be able to use raised planters, which are strongly recommended by the City’s Forestry office because it protects the landscaping from being walked on and leaves the landscaping open to the air. We can allow the sidewalk to be placed immediately adjacent to the Right-of-Way line, which means that you can fit a 6' wide sidewalk and 7.5' amenity zone within the standard 68' Right-of-Way width.

The variance request to allow a 4' though-lane offset at the private street and Tennessee Avenue intersection is something that Public Works is willing to consider. However, the ultimate intersection operation at the Tennessee Avenue and the private street intersection must be determined. The variance request letter states that the average peak hour queue (from Broadway Street) will extend nearly to the private street. This means that half of the time, during the ultimate peak hour, cars will...
Page 2
April 28, 2016
Mr. Matt Buster, P.E.

Likely be blocking the intersection. If queues do extend back to the private street, then the all-way operation has the potential to gridlock. We ask that the project’s traffic engineer take a closer look at how this intersection can be operated when queues do extend back from Broadway Street. Also, the exhibit provided in the variance request did not show a 4’ offset for the westbound Tennessee Avenue through movement. The 4’ offset should be measured between the edges of the through lane and the edge of the through lane on the narrower section of Tennessee Avenue. This dimension should be a minimum 13’ from the flowline because we do not count the concrete pan as part of the lane for through lanes. It appears that this may be possible by adjusting the width of the turn lanes on Tennessee Avenue.

Finally, we understand the project is adjacent to the South Platte River and accept the analysis demonstrating that storm water release from the site will “beat the peak” of the main drainage basin. Therefore, the variance request to waive 100-year detention volume is approved with the condition that the design will safely convey the 100-year flows to the river without violating Denver’s Storm Drainage Design and Technical Criteria. The EURV volume shall be sized and released per UDFCD Volume 2.

Please contact Eric Osmundsen at (720) 865-3042 with any questions regarding the Transportation variances, or Rick Abeyta (720) 913-0816 with any questions regarding the Wastewater variance.

Sincerely,

Alan Sorrel, P.E.
Manager
Development Engineering Services

cc: Duncanson, Osmundsen, Sandler, Turner, Abeyta, Sorrel, Jennings-Golich, Chief Gonzales, Dave Clark, Brasel, Dodson, Huetig, Davis