Downtown Public Improvements Design Standards

City of Lubbock, Texas

February, 2018
Approved by the City Council

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CHAPTER 1: Introduction

Overview

In 2008 the City Council of the City of Lubbock (Council) adopted the *City of Lubbock Downtown Revitalization Action Plan (CBD Action Plan)* to articulate the preferred vision for the revitalization process of the Central Business District (CBD) of the City of Lubbock (see Figure 2). The *CBD Action Plan* was shaped after extensive citizen input through a collaborative effort between the urban design consulting firm EDAW, Inc. from Denver, Colorado, the economic development firm Development Strategies of St. Louis, Missouri, local design firm Parkhill, Smith, and Cooper, Inc., and the City of Lubbock (City). The City's Planning Department adjusted the boundaries of the *CBD Action Plan* areas slightly to coordinate with existing and proposed zoning in the CBD.

While the *CBD Action Plan* provides a vision for the CBD, more specific technical guidance is needed for a coherent, unified design in the CBD. This document is just one of several documents needed to guide that design.

The primary mechanism for private sector redevelopment is the CBD zoning districts in the City of Lubbock Code of Ordinances (Code). The Council, on the recommendation of the Planning and Zoning Commission (P&Z), adopted the CBD zoning districts into the Code that provide for the specific needs of different areas of the CBD, including those identified in the *CBD Action Plan*.

Like other sections of the Code, each CBD zoning district includes standards for: height and building orientation; building mass and scale; parking areas; and, landscape areas. Each of the CBD zoning districts fully adopts the *Design Standards for the Central Business District (CBD Design Standards)* in order to provide more detailed design standards for new construction and rehabilitation projects in the CBD. The *CBD Design Standards* provide a mechanism for review and approval of construction and remodeling plans within the CBD zoning districts, including an appeals process.

This document, the *Downtown Public Improvements Design Standards (Public Improvements Standards)*, serves as the second guide for CBD development. While the CBD zoning districts, and the *CBD Design Standards* that are incorporated within them, govern private property within the CBD, they also include requirements for parts of the public right-of-way. These *Public Improvements Standards* do not replicate the requirements of the CBD zoning districts, but set a minimum standard for all right-of-way improvements in the CBD.

These *Public Improvements Standards* provide a basic design concept for right-of-way improvements in the CBD that can be used by the City and by private developers. The public improvements suggested in these *Public Improvements Standards* will create a desirable environment for downtown life while providing a framework for private development in the CBD. These *Public Improvements Standards* will apply within the boundaries shown on *Figure 1: Public Improvements Standards Boundary*.

Rebuilding the right-of-way improvements in the CBD will generally follow the pattern of private development. These *Public Improvements Standards* apply to all projects within the CBD, whether privately funded by developers of adjacent property, or publicly funded by the City or any other governmental entity.

Using the Downtown Public Improvements Design Standards

These *Public Improvements Standards* apply to any project in the CBD that:

1. Affects the ***façade**** of the structure on or in which the project is planned;
2. Requires a building permit; and
3. Is valued at one hundred thousand dollars ($100,000) or more.

The developer of any such project is required to have a building permit pre-application meeting with the City of Lubbock Director of Planning, or his designee, prior to the issuance of a building permit for the project. The Director of Planning, in consultation with the Director of Parks and other City staff members, will determine if the proposed project meets the intent of the CBD Action Plan and these Public Improvements Standards. If the Director of Planning determines that the project satisfies the requirements of the CBD Action Plan and these Public Improvements Standards, then the project can proceed through the City's normal building permit process. The Director of Planning, in consultation with respective members of City Staff, may require that the developer of a project produce documentation that provides evidence as to the value of the project. If a proposed project is in the public right-of-way, or if a proposed project directly affects the public right-of-way, then these Public Improvements Standards shall apply to the project even if the project would have otherwise been exempt from these Public Improvements Standards. If a proposed project is the result of an act of God, a natural disaster, or an event beyond the control of all parties related to the proposed project, then these Public Improvements Standards shall not apply.

If the Director of Planning determines that the project does not satisfy the requirements of the *CBD Action Plan* and these *Public Improvements Standards*, then the developer of the project has two (2) options:

1. The developer can bring the project into conformance with the *CBD Action Plan* and these *Public Improvements Standards*; or,

2. The developer can work with City Planning staff to request that the Urban Design and Historic Preservation Committee (UDHPC) waive certain requirements in the *CBD Action Plan* and these *Public Improvements Standards* for the project. The UDHPC may approve the application as submitted, approve the application with conditions, or deny the application. When conditions are attached to a project's approval, the conditions will require modifications to the proposed design that are necessary to ensure the project's conditional compliance with these *Public Improvements Standards*.

The developer of the project may bring to the Zoning Board of Adjustment (ZBA) of the City an appeal of the decision of the UDHPC concerning the project.

For the purposes of these Public Improvements Standards, a façade includes the walkway, parking area, landscape, building edge, building signage, and the exterior of any building within the CBD. Exterior painting or changes to the interior of a building that do not affect the exterior of the building are not subject to these Public Improvements Standards. Public projects that undergo a public review or comment process do not require a review by the UDHPC, but still require standard permitting and staff review.

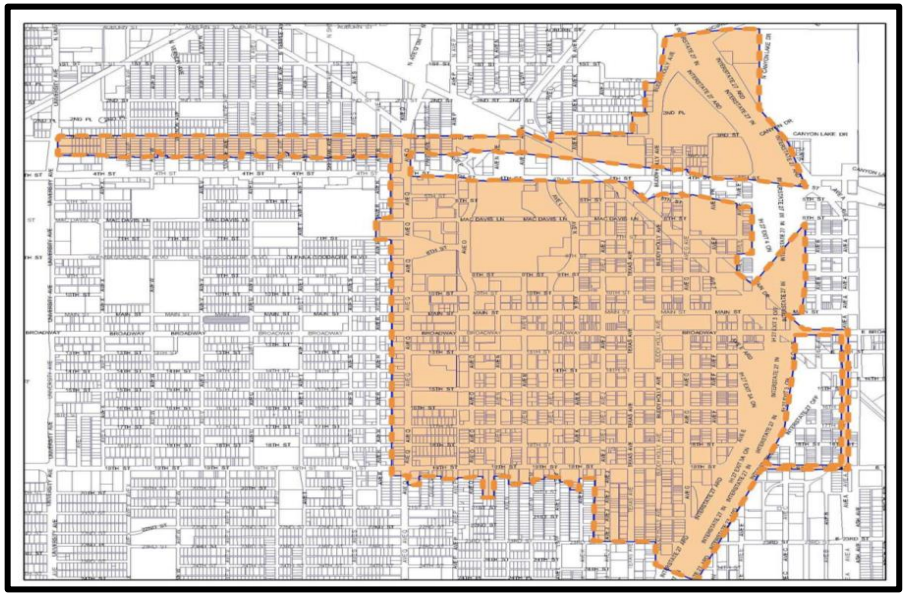


Figure 1: Public Improvements Standards Boundary

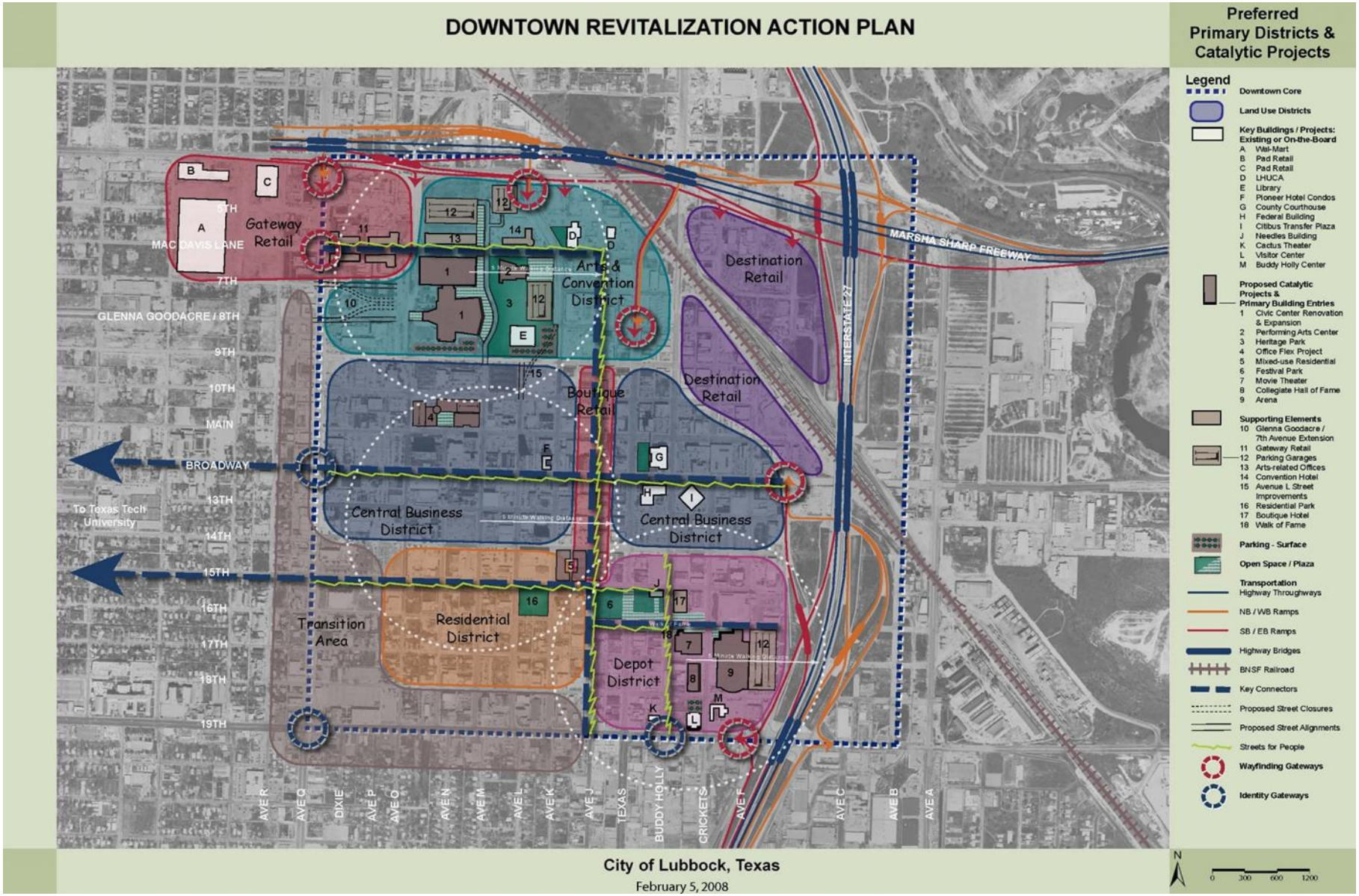


Figure 2: Downtown Revitalization Action Plan (CBD Action Plan)

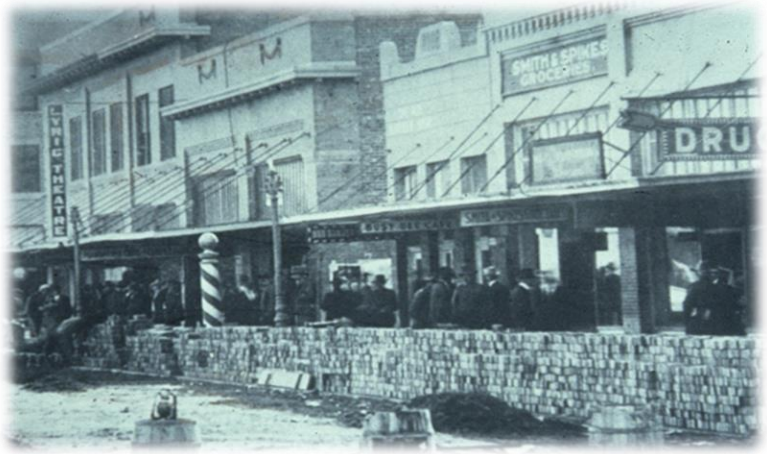
CHAPTER 2: Design Concepts

The CBD is distinguished from other parts of Lubbock by the presence of numerous historic buildings sites, the use of time-honored building materials, and the large scale of buildings at the street level. As the CBD returns to a center for living, working, and recreation, a consistent urban character will need to be maintained in the CBD through the use of historical elements and appropriate building scale.

Although each of the CBD zoning districts has unique needs and opportunities for redevelopment, the right-of-way elements provided in these *Public Improvements Standards* will be coordinated throughout the CBD. Street furnishings are a fundamental component to the success of street and neighborhood aesthetic cohesiveness. Street furnishings provide places places for people to sit, deposit trash, and secure bicycles. Beyond the functional benefits, the right street furnishings can attract and engage the public by creating a safe, comfortable, and welcoming environment.

Historic Brick Pavers

Many of the streets in the CBD are paved with fired clay brick pavers. These bricked streets were built during the 1920's and 1930's primarily by the City's public works programs. Over the years, much of the historic brick removed from CBD streets during reconstruction projects has been stored for future repair, construction, and reuse. If a project in the CBD requires the use of brick pavers, a developer should use such stored historic brick before using new or non-historic brick pavers. Before a property owner or developer completes the design of or begins construction on a CBD project, the property owner or developer should contact the City to verify the available quantity and size of historic brick pavers that are required for the project.



In 2006, the Council adopted revisions to the Code that protected most of the existing brick pavers in the CBD. The Code was amended to, among other things:

- Provide continued protection of brick streets and alleys by requiring appropriate repairs as outlined in the 1982 resolution and the repair details prepared by Streets Engineering;
- Specify that all bricks salvaged from any removal or repair of streets will remain the property of the City; and
- Specify a review process for removal that allows an UDHPC determination with appeal to the Council, using the same concept of review and appeal that currently governs Lubbock Historic Landmark Certificates of Appropriateness.

Requirements for the repair and maintenance of brick streets are addressed in the Code in Section 36.07.011 Brick Streets, Section 36.08.006 Brick Alleys, and Section 40.03.3224. The UDHPC has made recommendations for continued preservation and improvement of brick streets. See *Figure 3: UDHPC Recommendations for Historic Brick Streets.*

Figure 3: UDHPC Recommendations for Historic Brick Streets

Specialty Paving

Sidewalks, and related pavement elements such as crosswalks, direct movement, define space, and provide for pedestrian safety. Enhanced pedestrian crossings at intersections will facilitate pedestrian movement and help slow traffic. Specialty paving adds visual interest and articulates special landscape features.

In the CBD, differing patterns and materials will identify and separate the different spaces of the sidewalk environment. However, sidewalk surfaces should present a consistent and unifying element in the district. Sidewalks will be built to existing City construction standards, though the Lubbock Building Board of Appeals can consider alternate styles.

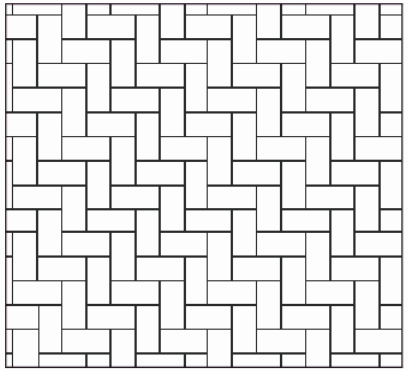
- The approved brick pavers for sidewalk and crosswalk enhancement are the Pavestone Holland Stone Parkway Series (non-chamfered edges) in the Antique Buff, Antique Red, or Antique Terra Cotta color patterns or equivalent as approved by Director of Planning.

- Subject to landscape plan review, this series may be used in sidewalk projects encompassing one full block face or more. Selected concrete pavers should comprise at least fifty percent (50%) of the sidewalk surface area. *See Figure 7: Corridor and Gateway Parkway*

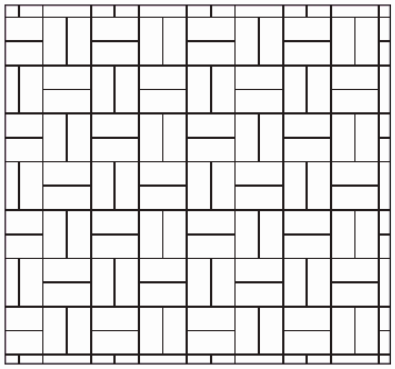
- The clear pedestrian path of the sidewalks should be at least five feet (5') wide when the total parkway width is less than ten feet (10') wide, with the remaining width serving as the amenity zone. If the total parkway width is ten feet (10') wide or greater, the sidewalk should be fifty percent (50%) of the width of the total parkway, with the remaining width serving as the amenity zone as approved by Director of Planning.

- Paver patterns should be consistent within sidewalk spaces by block, for example, one pattern for the primary walkway and one pattern for the hardscape apron between tree grates. Sidewalk design and materials will be approved as part of the permit or contract review process.

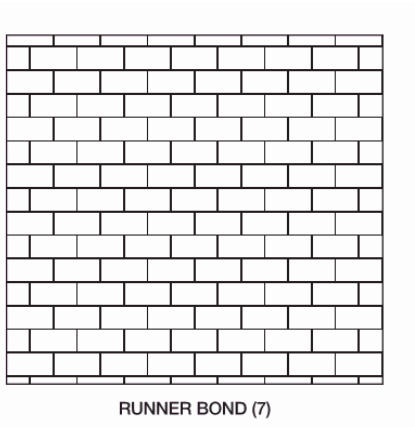
- Approved paving patterns are Harringbone, Parguet, and Runner Bond. Please see the following three (3) examples of each.



HERRINGBONE (2)



PARQUET (5)



Please note the Stack pattern is not approved.

- Specialty paving may be used to extend the sidewalk visually across the street at selected gateway and corridor intersections. All crosswalks shall be approved concrete pavers with concrete banding. No historic brick surfaces will be disturbed to create intersection paving features. All four (4) sides shall be updated at once.

Exposed aggregate concrete is not an approved paving surface for redevelopment in the CBD.

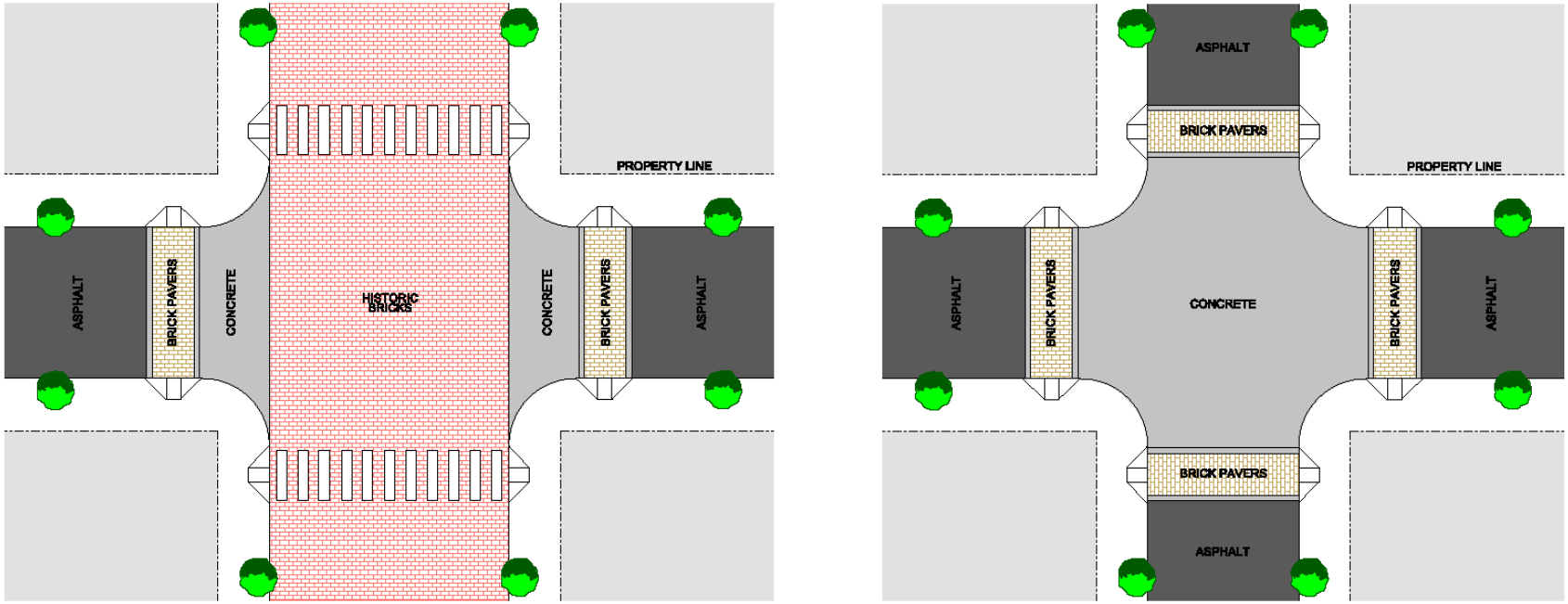


Figure 4: Intersection Paving Concepts

Specialty Vehicular and Pedestrian Lighting

Lighting is important both for the safety and ambiance of a neighborhood. Pedestrian level lighting further reinforces the human scale of the CBD and encourages outdoor activity.

In the CBD, specialty lighting fixtures have been selected to provide a unique identity for the area. Two (2) levels of lighting poles have been selected to provide flexibility in the public right-of-way: a medium pedestrian light standard and a tall vehicular or roadway lighting standard.

- Specialty vehicular lighting will be restricted to gateway and corridor streets as identified in *Chapter 3. Gateway and Corridor Streets.*
- Street and pedestrian lighting is specified in *Appendix A: Vehicular and Pedestrian Lighting Specifications*.
- Specialty pedestrian lighting is required on all gateway and corridor streets and for any projects encompassing a full block face or more and may be installed for smaller projects if approved in the landscape plan review.
- A lighting plan will be submitted to and approved by the City on all projects where lighting is required or proposed in the right-of-way.
- Pedestrian lighting shall be tied to streetlights for power.

The following general conditions will apply in every area where specialty lighting is used. More detailed information is included in *Appendix A: Vehicular and Pedestrian Lighting Specifications*.

- Lighting will include full cutoff or cutoff lighting fixtures as defined by the Illuminating Engineering Society of North America (IES).
- All new vehicular and pedestrian lighting shall be LED to provide a white-colored light that is excellent for color clarity.
- Pedestrian lighting will be spaced evenly along the block in relationship to each other and to the street centerline. Across the street relationships should also be considered, as well as spacing to provide illumination at alley intersections.
- Vehicular lighting will be placed at every intersection, with at least one additional light at mid-block.

Public Parks, Plazas, and Features

Several parks and open spaces have been proposed in the *CBD Action Plan* to serve the public by providing green spaces. These spaces will serve as anchors for the proposed districts. Designs for these public spaces shall conform to these *Public Improvements Standards* and specific plans will be reviewed under the process outlined in this document.

Public Art and Banners

Public art is a major component in enhancing a community's visual image. In the CBD, sculpture, architectural trellises, pavilions, and similar symbolic structures will add interest to public parks, plazas, and squares. Many of these elements have already been implemented in various parts of the CBD and new works should complement existing art. In addition, banners from vehicular light standards on gateway and corridor streets will add to the urban ambiance of the CBD.

Any proposed artwork or banner in the public right-of-way should be submitted to the City for consideration and approval before the work is installed. Artwork and banners will meet all Code requirements and be approved by the City's Planning Department. Any such artwork or banner may neither have a business name included nor be an artistic expression of the particular type of business on the parcel.

Street Signage

Street signs, stop signs, parking signs, directional signs, and informational signs will be coordinated to establish a unified appearance within the CBD.

- Signage should be placed to ensure a clear pedestrian pathway without restricting visibility at intersections
- The City shall provide a decorative logo on street sign toppers as recommended by the CBD Tax Increment Financing Board.
- Signs shall be installed in a visually pleasing manner that coordinates with the rest of the street amenities. However, all devices will be installed in accordance with the latest edition of the Texas Manual on Uniform Traffic Control Devices (TMUTCD).

Utilities

Resolution 2011-R0287, adopted by the City on July 14, 2011, noted that "among the goals and objectives of the Downtown Revitalization Plan were the goals of reducing the fragmentation of blocks caused by bidirectional alleys, [and] working with utilities to consolidate and co-locate physical infrastructure located in these alleys." In adopting this Resolution, the "City Council has determined that it is reasonably necessary for all utilities located overhead in the streets and alleys of the Downtown area to be relocated into an underground duct system as this public improvement is installed by the City of Lubbock" and provided a mechanism for notification of utility relocation.

The City's intent is to keep the alleys and pedestrian area of the right-of-way clear of utility obstructions, including poles and control boxes. The pre-application conference with the Director of Planning will include discussion on the requirements for underground utility placement and positioning and the relocation of aboveground obstructions into the City-installed underground duct system.

Public and private utility services should be placed to avoid trees and not to disrupt their alignment or spacing. Special attention must be paid to preserving visual access at corners for pedestrians and motorists. Utilities should be placed before any right-of-way improvements are made.

Traffic signal boxes, transformers, telephone switching boxes, or other utilities that cannot be located underground or accommodated by easements on adjacent private property should be located away from building entrances and main views within the right-of-way.

Any utility boxes that are visible in the right-of-way shall be flat black or forest green.

Benches

Benches in the CBD shall be Witt Oakley Standard Collection, Item **M6-BCH-ARM-BK**, 72 inch slatted metal bench with armrest, powder coated flat black, or equal as approved by Director of Planning.

Witt Oakley Standard Collection
Item M6-BCH-ARM-BK

Bollards

Although bollards are not encouraged, they may be needed in some areas for pedestrian safety, and will be approved on a case-by-case basis by the Director of Planning in the landscape plan review. Lighted bollards will not be allowed.

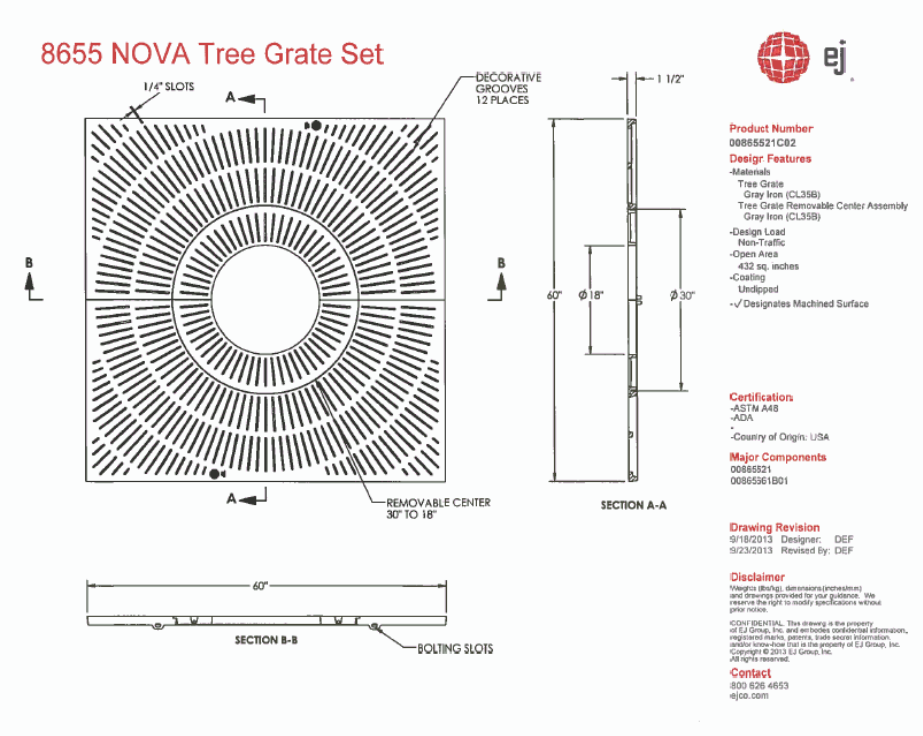
Trash Receptacles

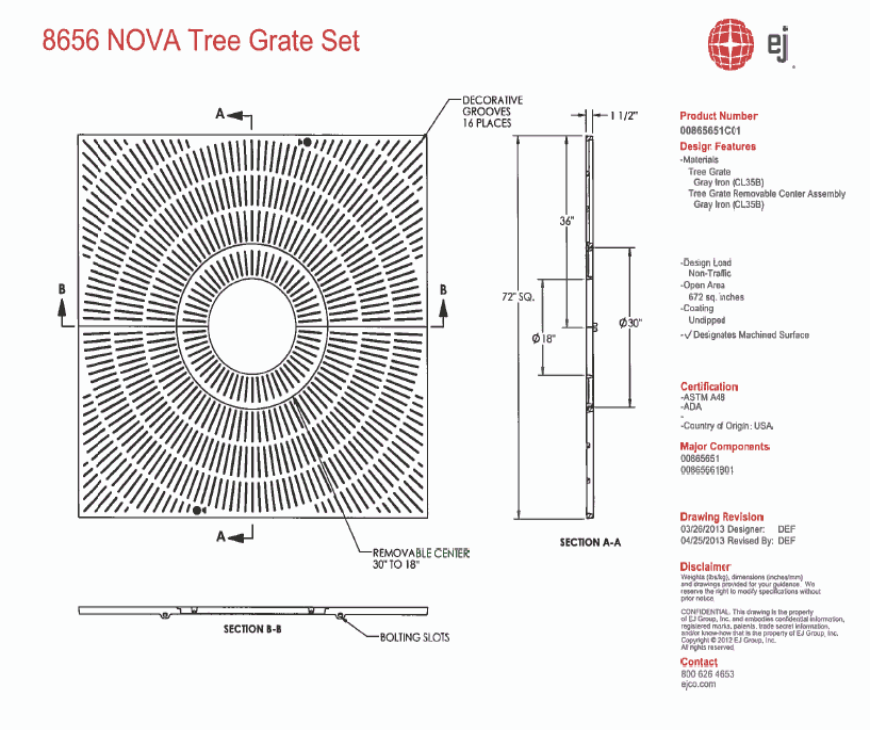
Trash Receptacles shall be Witt Oakley Standard Collection, thirty-six (36) Gallon Steel Bar Receptacle, Item **M3601-FT-BK**, powder coated black. Installed at the Southwest Corner of all gateway and corridor intersections.

Witt Oakley Standard Collection
Item M3601-FT-BK

Tree Grates

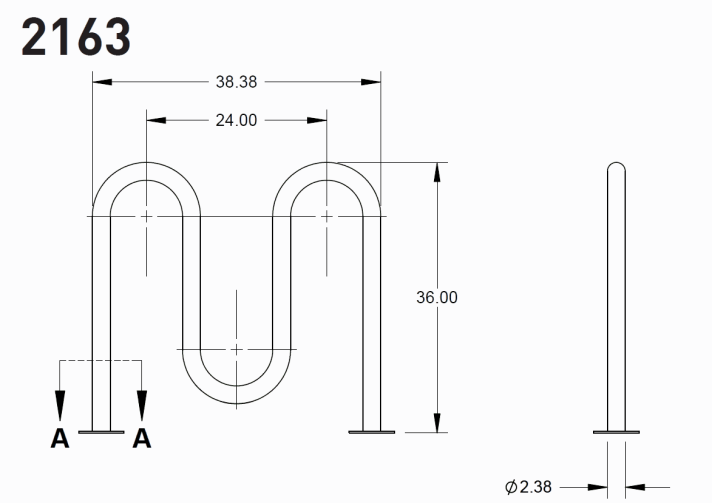
The selected tree grates for the CBD shall be East Jordan Iron Works **8655** Nova sixty inch (60") square gray iron or **8656** Nova seventy-two inch (72") square gray iron, or equal as approved by the Director of Planning.

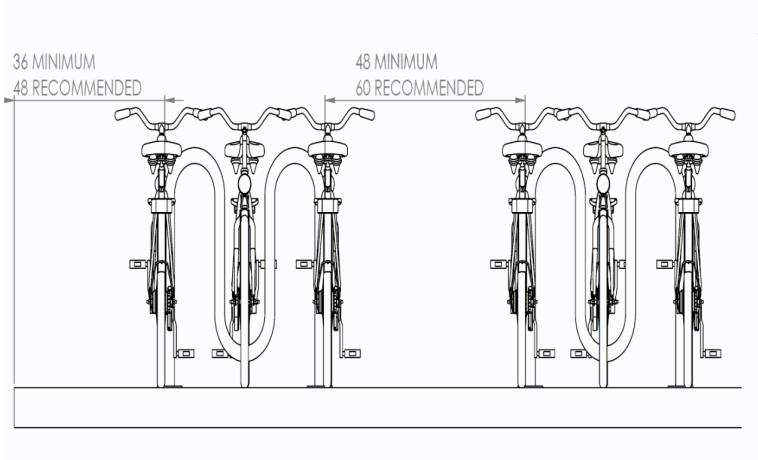




Bicycle Racks

Bicycle racks shall be Saris Parking Outdoor Bike Rack, Wave Rack, with capacity of five (5) bikes, Model No. **2163**, tube size greater than two inch (2”) with a flanged mount, powder coated black, or equal as approved by Director of Planning.





Bus Stops

Bus shelters are only allowed on designated bus routes in the CBD. Bus shelters will include seating and provide for protection from the wind and sun. Bus shelters placed as part of a private redevelopment effort must be reviewed by the City and Citibus.

CHAPTER 3: Gateway and Corridor Streets

Introduction

During the initial studies of the CBD, a framework for improvements was established by first identifying the main gateway and corridor streets that define the area. Gateway features, specialty paving, landscaping, street furnishings, and banners on light poles will serve as unifying elements and contribute to the ambiance of gateway and corridor streets. See *Figure 5: Gateways and Corridors.*

The gateway streets include the portions of Avenue Q, 19th Street, Broadway Avenue, Buddy Holly Avenue, Mac Davis Lane, Glenna Goodacre Boulevard, and Avenue L shown on *Figure 5: Gateways and Corridors.* Avenue J, 15th Street, and 16th Street are corridor streets connecting different areas of the CBD. Since 19th Street and Avenue Q are under the jurisdiction of the Texas Department of Transportation (TxDOT), any improvements on those streets must be approved by and coordinated with TxDOT's District Office in Lubbock.

Certain amenities will be limited to gateway and corridor streets. Street furnishings will be spaced along each block, including three benches, a trash receptacle, and two bicycle racks per block face. Specialty vehicular lighting where banners can be displayed will help define the special nature of these streets. Banner locations will be limited to these streets. Unique pedestrian crossings, including specialty paving, will add to the character of the street by further defining intersections and promoting pedestrian safety.

Markers and monuments create a sense of arrival into the CBD as well as transition between CBD zoning districts. Such features give the first impression of a place. The CBD has several identified gateway points that will require a special treatment. Recommended locations of gateway features are indicated on *Figure 5: Gateways and Corridors.*

Traffic Impact

Any development that expects to generate high average daily traffic (ADT) or high traffic due to regularly-scheduled events shall be required to conduct and provide the City with results from traffic studies. The traffic studies should show analysis with current street layouts or proposed street modifications. Current and future impacts to the CBD's pedestrian, vehicular, and transit circulation should be considered in the traffic analysis.

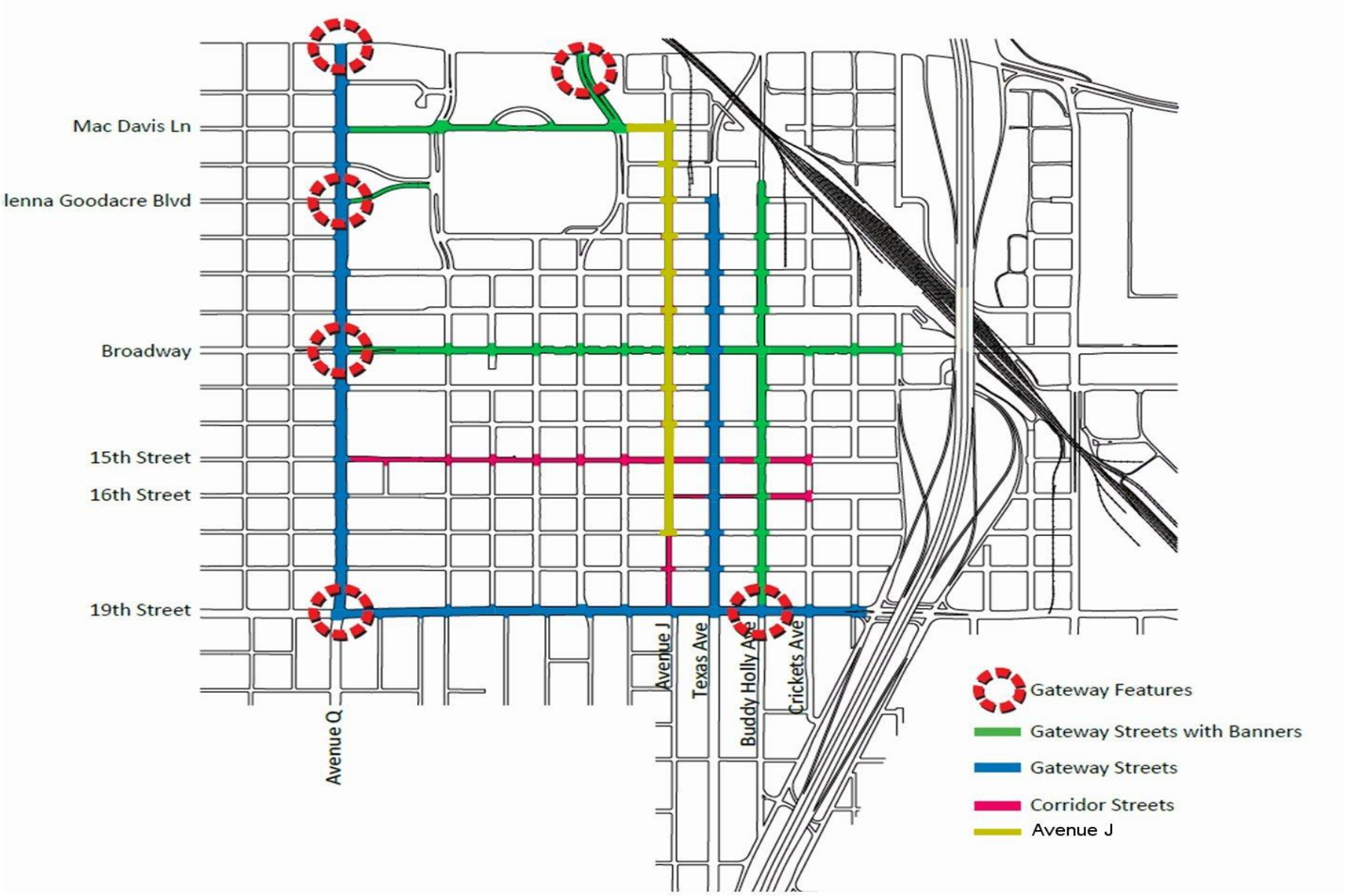


Figure 5: Gateway and Corridors

Gateway Streets

Gateway streets are the major streets into the CBD and the introduction of the CBD to most travelers. See *Figure 5: Gateway and Corridors.* These streets typically have a higher volume of vehicular traffic. Because of their higher traffic carrying capacity, gateway streets should have less frequent vehicular access points or curb cuts. The size and number of vehicular access points or curb cuts per site development on the Gateway and Corridor streets will be coordinated with the City for staff for approval.

Broadway Avenue

Broadway Avenue has historically been the spine of the CBD, linking the entrance to Texas Tech University and the CBD. In 1995, improvements on Broadway Avenue between University Avenue and Martin Luther King Boulevard were completed with a major TxDOT grant. Pedestrian and vehicular lighting, street trees, and specialty paving were early efforts to establish an urban design theme for the CBD.

Some changes will be needed to unify Broadway Avenue's existing enhancements with those proposed for the rest of the corridor. Any redevelopment of property along the Broadway corridor will be required to match the style and design of the existing corridor as best possible with additional requirements of required site furnishings as per this document.

Buddy Holly Avenue

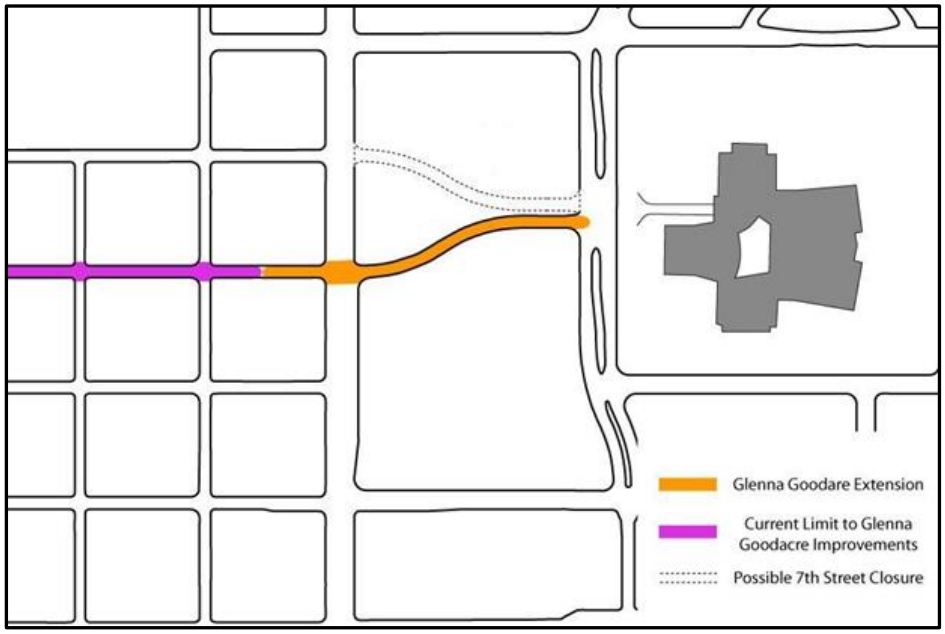
Buddy Holly Avenue is already established as the gateway to the Depot District. It also serves as a corridor through the CBD, terminating at IH-27 on both the north and south. The Buddy Holly Avenue right-of-way measures one hundred feet (100') between property lines. This expansive width allows for multiple lanes of vehicular traffic, tree-lined streets, and on-street parking.

Mac Davis Lane

Mac Davis Lane is a gateway into the Memorial Civic Center and Arts District from Avenue Q. A special treatment is necessary to distinguish arrival into these special zones. Additional trees located on properties adjacent to the right-of-way will create a park-like setting within the Civic Center district.

Glenna Goodacre Boulevard

During the redevelopment of North Overton, Glenna Goodacre Boulevard was designated as the central spine through that neighborhood. Extending the Glenna Goodacre improvements across Avenue Q to Avenue O will enhance the entry to the Civic Center.



Corridor Streets

Corridor streets serve as the crucial links between districts within the CBD. The most important of these is Avenue J, which has been identified as the best link between the Depot District and the Arts District. Similarly, portions of 15th Street and 16th Street will serve as corridors within the Depot District. Special street conditions are necessary for such corridors in order to accommodate pedestrian activity. The identified gateway streets mentioned previously will also serve as corridor streets.

Avenue J

Avenue J will serve as the link between the Depot District and the Arts District. Avenue J was proposed in the *Central Business District Action Plan* to become a ground-floor retail corridor. It is important that Avenue J shall be developed as a pedestrian friendly retail corridor with limited parallel parking directly on Avenue J.

The Avenue J right-of-way measures seventy-five feet (75') between property lines. This presents a complex design challenge as the corridor must allow for pedestrian and cyclist activities, street amenities and plantings, outdoor dining spaces, and lanes for medium-level vehicular traffic.

Avenue J is proposed as the main retail spine between the Depot District and the Arts District. It is important that the right-of-way improvements within this corridor promote a pedestrian-friendly environment.

Removal of existing angled parking along Avenue J will provide additional area for pedestrian traffic. An increased level of pedestrian seating will accommodate outdoor activity. Additional trash receptacles will ensure the cleanliness of the corridor and extra bike racks will promote transportation by bicycle.

15th Street & 16th Streets

15th Street and 16th Street between Avenue J and Crickets Avenue are also corridor streets with the Depot District and will receive a similar treatment to Avenue J.

CHAPTER 4: Landscaping

General Landscaping

The following general landscaping standards apply to all public right-of-way in the CBD and should be used as a supplement to the existing requirements for right-of-way maintenance in the Code. Lubbock has a semi-arid climate with a limited selection of native plant material that can thrive on the small amount of annual rainfall received. Therefore, it is in the best interest of the City to pursue landscaping enhancements that promote water conservation.

When a private developer initiates a project in the CBD, a landscape plan will be submitted as part of a building permit request. During zoning review, the Director of Planning will coordinate review of the landscape and irrigation plan with the Director of Parks.

- Coordination of any landscaping shall be done as to not interfere with existing pipes and utilities.

- All plant material planted in the public right-of-way, including trees, will be irrigated. Permanent, automatic irrigation systems will be installed and tested prior to the installation of any plant material. Irrigation systems will utilize drip irrigation, subsurface irrigation, or other water-conserving methods or technologies where possible.

- Irrigation shall be maintained and paid by the landowner.

- The use of a hose bib for irrigation in the public right-of-way, as allowed elsewhere in the Code, shall not be allowed within the area included in these *Public Improvements Standards*.

- A balance of trees, shrubs, ornamental grasses, and groundcover is encouraged. Climate-adapted plant species should predominate for hardiness in urban conditions and to minimize maintenance. See *Appendix B: Plant Materials* for a list of selected plant materials for the CBD.

- Trees, shrubs, ornamental grasses, and groundcovers of the same species should be massed in groupings. Individual plants should only be planted when the intent is to highlight the species due to its unique color or form. Plantings with similar watering patterns will be grouped within the proper irrigation zones.

- The use of flowering or brightly colored foliage creates color and interest. Seasonal color is encouraged as an accent to permanent bed plantings.

- The use of raised planters is highly encouraged to make plantings visible and easier to maintain where foot traffic is dense or parkway width is limited.

- Planting beds shall be dressed with a minimum of one and one-half inches (1.5”) of “Jog Blend” limestone screenings mulch from R.E. Janes Gravel Company, Slaton, Texas, or equivalent, or as pre-approved by the Director of Planning, or three inches (3”) of shredded cedar bark mulch to retain soil moisture, establish healthy root systems, and reduce weeds.

- The use of shade trees is encouraged in and around surface parking lots, streets, and other large areas of paving. Deciduous trees on the south and west sides of buildings and public use areas add shade in the summer and allow filtered light in the winter.

- Trees in or adjacent to the right-of-way will be trimmed so that foliage is less than eighty inches (80”) above the top of curb of the adjacent street. Plant materials other than trees in the right-of-way may not exceed two to three feet (2’-3’) in height as required by the Code, Section 40.03.212.

- Turf will only be used in low-density residential parkways, single-family yards, public parks, and open spaces exceeding four hundred square feet (400 sqft) in the CB-3 Zoning District.

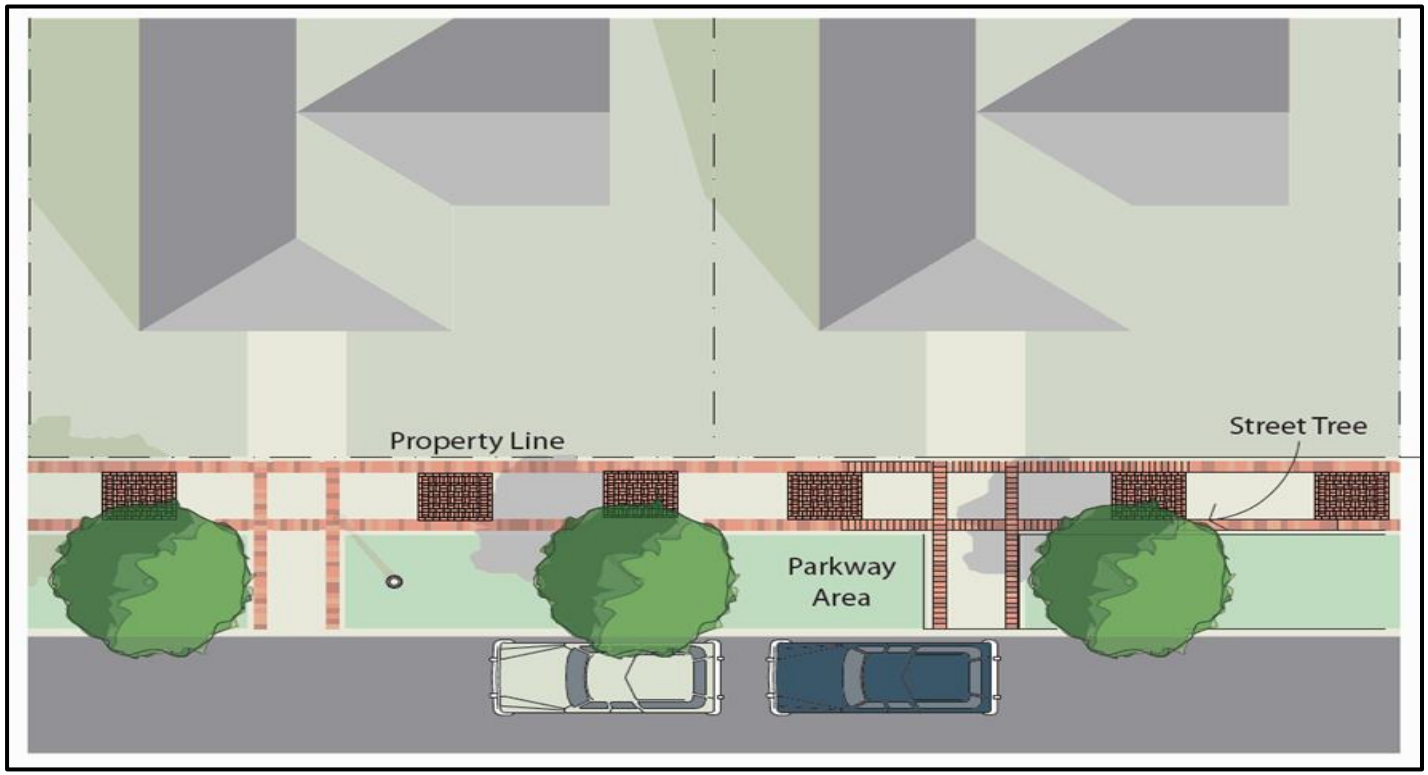


Figure 6: Non Gateway or Corridor Parkway Detail

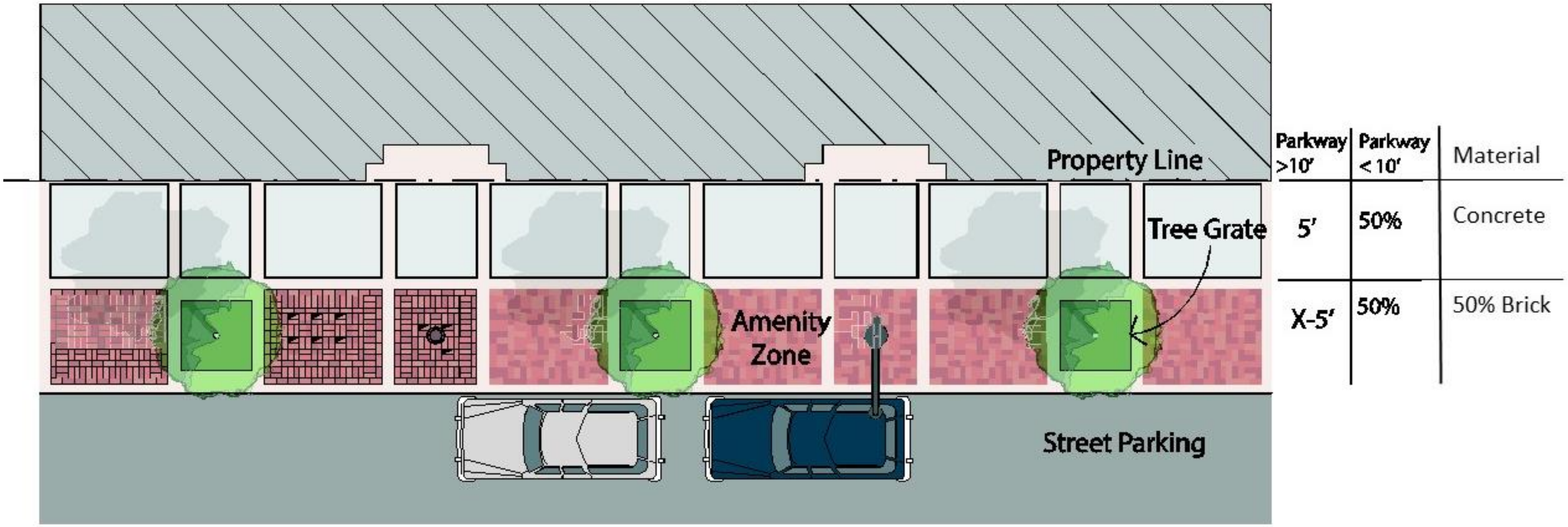


Figure 7: Corridor and Gateway Parkway

Street Tree Framework

Street trees are inviting and help define major gateways and corridors in the CBD. They soften the edges where buildings meet the street, offer shade to pedestrians, and help cool the pedestrian environment.

In order to establish a consistent design concept for public spaces in the CBD, Figure 9: Street Tree Framework Plan, specifies the specific tree species for each street and at each intersection. Trees will have a minimum four-inch (4") caliper as measured by ANSI standard nursery practices.

The following general street tree standards apply to all streets or adjacent properties undergoing improvements and should be used with Figure 9: Street Tree Framework Plan in developing landscape plans.

- Street trees are required on all streets or adjacent properties undergoing improvements. Space trees a maximum of sixty feet (60') on center along a street block with allowance for variations in spacing for curb cuts, alleys, and drives.

- The sixty-foot (60') spacing is derived from the historic block dimension of most CBD blocks being approximately two hundred fifty feet (250') square with twenty-foot (20') alleys in the center for a total block dimension of two hundred seventy feet (270'). One (1) tree per every sixty feet (60) should allow for an approximately forty-five feet (45') of clear zone from the property line corners of each block and five (5) subsequent trees in the midblock zone per historic two hundred seventy feet (270') of block face. See *Figure 10: Typical Block Spacing Diagram*.

- Trees shall be aligned and in straight rows, parallel to the curb. Ideally, trees will be centered in the space in which they are planted but need to line up along the continuous length of the street when possible. Align trees across the street and space them evenly along the block in relationship to each other and to the street centerline where possible.

- Adjustments can be made for blocks not having the traditional dimensions, but tree spacing should be kept proportional. Where blocks have been consolidated, this spacing should be maintained as closely as possible to coordinate with spacing throughout the CBD. See Figure 10: Typical Block Spacing Diagram.

- Existing trees and their root systems should be protected during construction through the use of barricades and fencing.

- Tree grates are required for trees in the right-of-way in all zoning districts except CB-3. Tree grates provide for the required exchange of water and oxygen for tree roots while still providing a navigable surface for pedestrian walking. See *Tree Grate Detail, Page 14*.

Figure 9: Street Tree Framework Plan

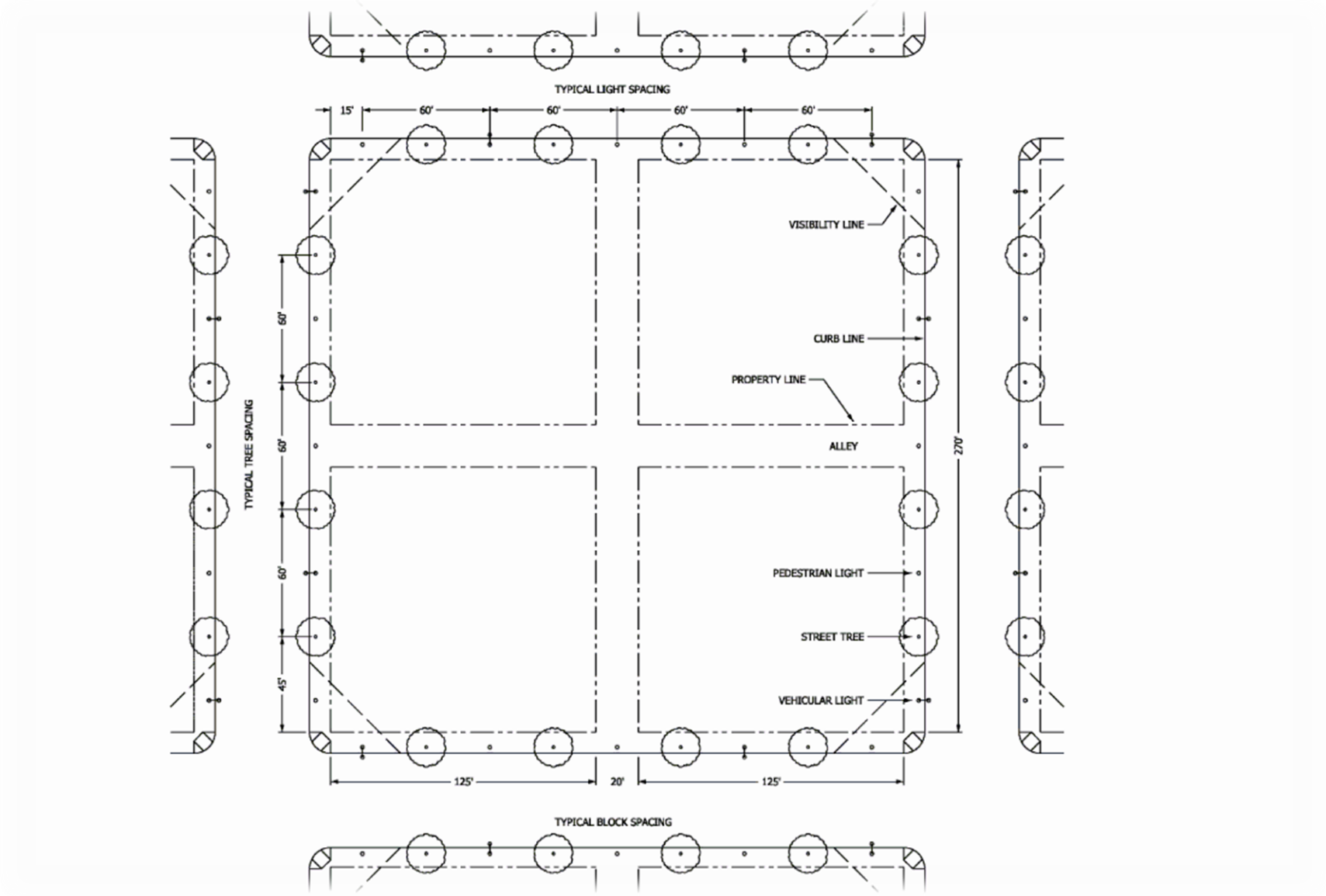


Figure 10: Typical Block Spacing Diagram for Trees and Lights

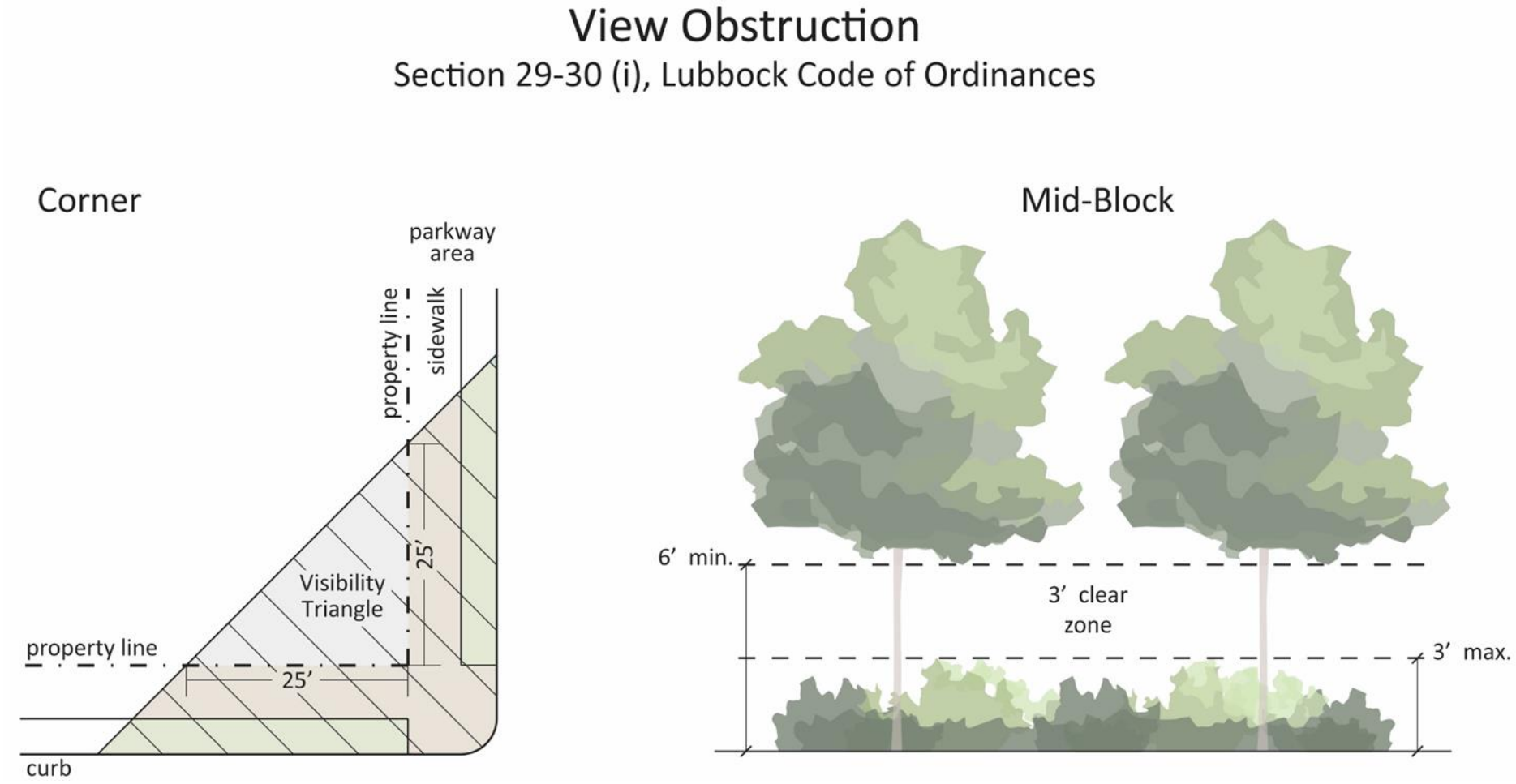


Figure 11: View Obstruction Illustration

Appendix A: Street and Pedestrian Lighting Specification

Lighting is important both for safety and for the ambiance of the neighborhood. Pedestrian level lighting further reinforces the human scale of the neighborhood and encourages outdoor activity. Two (2) levels of light standards have been selected to provide flexibility in the public right-of-way: a medium pedestrian light pole and a tall vehicular or roadway lighting pole. In addition, a coordinating wall-mounted fixture is provided for use on private properties adjacent to the right-of-way. All lighting shall include full cutoff and cutoff lighting fixtures as defined by the Illuminating Engineering Society of North America (IES), and all vehicular and pedestrian lighting in the CBD shall be LED to provide a white-colored light that is excellent for color clarity.

Vehicular lighting poles on Gateway and Corridor Streets identified in Chapter 4 will include both inserts spun into the standards for banner arms.

Approved Pedestrian Lights

- Poles – American LitePole; Round Tapered Steel; Catalog Number **RNS-10-40-11-PT-PCBL** Round Non-Tapered Pole, ten feet (10') in height, base diameter of four inches (4"), Gauge 11 wall thickness (0.1196 inches), Anchor Base, Powder Coated in Black. With Decorative Split Base Cover.

- Luminaires – Omero MRP LED Area Luminaire; Model **MRP LED 1 638350/40K SR2 MVOLT DBLXD** 350mA with MultiVolt option in Black

Approved Wall-Mounted Area Light

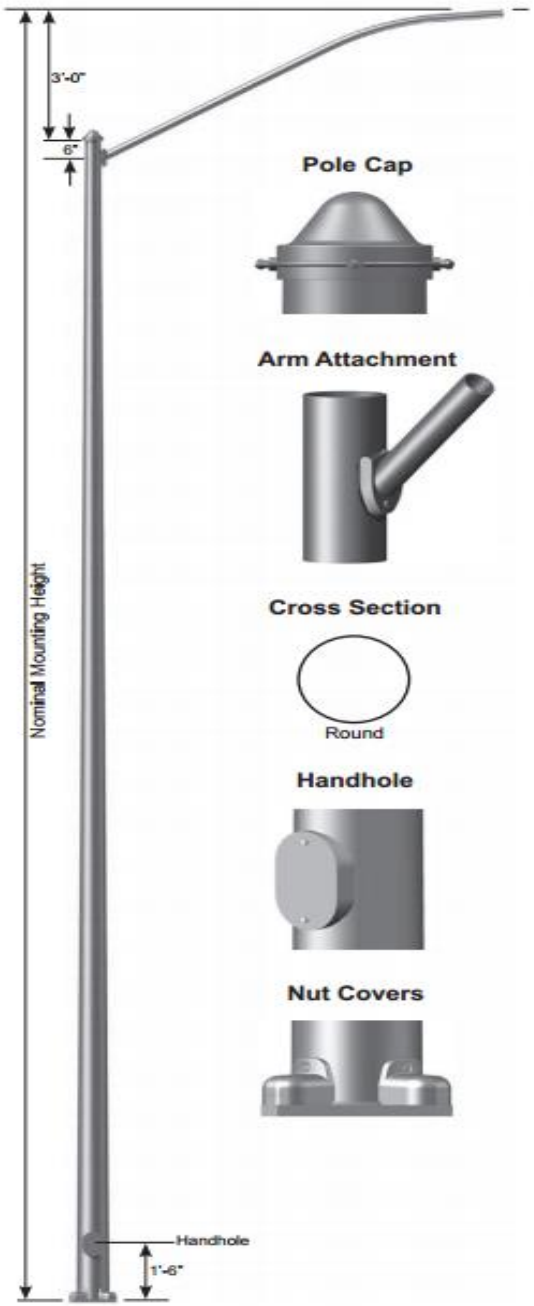
Some circumstances may call for flush-mount pedestrian or area lighting on building facades. If private property owners wish to coordinate with the streetscape lighting, it must be done with the Director of Planning.

Approved Vehicular Lights

- Poles –Valmont Industries, Inc., twenty-five feet (25') above grade, arm length six feet (6'), Breakaway coupling, Black in color; Model **DS500-R700A220-8S-FP-BK-V1**

- Pole Clamshell Base – Valmont Industries, Inc., Washington series, twenty-four inches (24") in diameter and eighteen inches (18") in height, Steel in material, Black in color; Model **WA24AC-BK**

- Luminaries – King Luminaire Inc., Pendant Series, Solitaire style with sag lens, LED lighting. Model **K803-FASA-III-165-SSL-1600-120-BK**



Pedestrian and Vehicular Lighting Spacing

- Vehicular lighting should be placed at every intersection with additional lights the greater of at least one (1) per mid block or one (1) per every one hundred twenty-five feet (125') of continuous block length along each block face. Vehicular lighting at intersections should include two (2) lights per intersection on diagonally opposing corners. Preferably, all intersection lights will be on the southwest and northeast corners of intersections. Each block face should include a minimum of two (2) vehicular lights; one (1) light at an intersection and one (1) light near mid block. Where obstructions at these locations exist, a plan review should be coordinated with the City.

- Pedestrian lighting should be spaced every sixty feet (60') on center along each side of a block, centered between street trees. The dimension of sixty feet (60') is derived from the historic block dimension of most CBD blocks being two hundred seventy feet (270') square. One (1) pedestrian light per every sixty feet (60') should allow for five (5) pedestrian or vehicular lights per the historic two hundred seventy feet (270') of each block face. Where vehicular lights are required, they may be substituted for a pedestrian light. Where blocks have been consolidated, this spacing should be maintained as best possible to tie to the spacing throughout the CBD.

Pedestrian and Vehicular Lighting Exception for Residential

The following conditions will apply for residential redevelopment projects encompassing one (1) block face or more with traditional single-family, townhouse, duplex, or similar medium density residential housing.

- Pedestrian light poles serving blocks with residential structures should generally be spaced evenly in relationship to the street trees. They should be spaced every one hundred twenty five feet (125') on center along each side of a block. The dimension of one hundred twenty five feet (125') is derived from the historic block dimension of most Downtown blocks being two hundred fifty feet (250') square. One (1) pedestrian light per every one hundred twenty five feet (125') should allow for one (1) pedestrian light per historic two hundred fifty feet (250') of each block face. Where vehicular lights are required, they may be substituted for a pedestrian light. Where blocks have been consolidated, this spacing should be maintained where feasible to tie to the spacing throughout the remaining area.

- Light poles will not obstruct a walkway into a residential yard.

- Vehicular lighting should be spaced at every intersection with additional lights per every two hundred seventy feet (270') of continuous block length along each side of a block. Vehicular lighting at intersections should include two (2) lights per intersection on diagonally opposing corners. Preferably, all intersection lights will be on the southwest and northeast corners of intersections.

Appendix B: Plant Materials

Street Trees within the Right-of-Way

All street trees, whether in planter pockets or parkways, shall be single-trunked and have a minimum four-inch (4") caliper as measured by ANSI standard nursery practices. Coniferous pines or upright evergreens such as junipers and cedars are not allowed as street trees.

Austrian Pine	*Pinus nigra*
Bur Oak	*Quercus macrocarpa*
Cedar Elm	*Ulmus crassifolia*
Chinese Pistache	*Pistacia chinensis*
Chitalpa	*Chilapsis x catapla*
Desert Willow	*Chilopsis linearis*
Live Oak	*Quercus virginiana*
Red Oak	*Quercus shumardii*
Texas Red Oak	*Quercus buckleyii 'Texana'*
Thornless Honeylocust	*Gleditsia triachanthos inermis*
Thornless Mesquite	*Prosopis glandulosa 'Maverick'*
Japanese Zelkova	*Zelkova serrate 'Green Vase'*
Vitex	*Vitex angus-castus*
Yaupon Holly	*Ilex vomitoria*

Accent Trees

Accent trees may only be used in the right-of-way at gateways and special intersections and will have a minimum four-inch (4") caliper as measured by ANSI standard nursery practices. They may not be used to fulfill the street tree requirement.

Allee Lacebark Elm	*Ulmus parvifolia 'Allee'*
Bald Cypress	*Taxodium distichum*

Street Shrubs and Low-Height Perennials

The following species may be used in the right-of-way planting pockets.

Autumn Joy Sedum	*Sedum x 'Autumn Joy'*
Autumn Sage	*Salvia greggii*
Blackfoot Daisy	*Melampodium leucanthum*
Blanket Flower	*Gaillardia pulchella*
Brown-Eyed Susan	*Rudbeckia hirta*
Coreopsis	*Coreopsis spp.*
Dianthus	*Dianthus spp.*
Dwarf Mexican Petunia	*Ruellia brittoniana*
Guara	*Gaura lindheimeri*
Indian Hawthorn	*Raphiolepis indica*
Lantana	*Lantana spp.*
Siberica Iris	*.Iris sibirica*
Stella de Oro Dwarf Daylily	*Hemerocallis x 'Stella de Oro'*
Texas Sage	*Leucophyllum frutescens*
Yarrow	*Achillea spp.*

Other Plant Materials

Shrubs and Perennials

Artemisia	*Artemisia spp.*
Aster	*Aster spp.*
Barberry	*Barberry spp.*
Butterfly Bush	*Buddleia davidii*
Columbine	*Aquilegia spp.*
Forsythia	*Forsythia intermedia*
Red Yucca	*Hesperaloe parviflora*
Rose (Multiple Varieties)	*Rosa spp.*
Russian Sage	*Perovskia atriplicifolia*
Sedum	*Sedum spp.*
Silverberry	*Eleagnus ebbingei*
Spirea	*Spirea vanhouttei*
Yellow Yucca	*Hesperaloe parviflora*

Vines

Coral Honeysuckle	*Lonicera sempervirens*
Five Leaf Akebia	*Akebia quinata*
Purple Honeysuckle	*Lonicera japonica 'Purpurea'*
Texas Wisteria	*Wisteria frutescens*

Groundcovers

Blue Rug Juniper	*Juniperus horizontalis 'Wiltonii'*
Dusty Miller	*Senecio cineraria*
Green or Gray Santolina	*Santolina virens*
Huntington Carpet Rosemary	*Rosmarinus officinalis 'Huntington Carpet'*
Ice Plant	*Carpobrotus edulis*
Lambs Ear	*Stachys spp.*
Purple leaf Euonymous	*Euonymous fortune 'Colorado'*
Verbena	*Verbena canadensis*
Winter creeper	*Euonymous fortune*

Ornamental Grasses

Big Blue Lily Turf	*Liriope muscari*
Blue Grama Grass	*Buchloe gracilis*
Blue Lyme Grass	*Elymus arenarius*
Buffalo Grass	*.Buchloe dactyloides*
Fountain Grass	*Pennisetum alopecuroides*
Giant Liriope	*Liriope muscari 'Gigantea'*
Hameln Grass	*Pennisetum alopecuroides 'Hamlen'*
Japanese Ribbon Grass	*Phalaris arundinacea*
Japanese Silvergrass	*Miscanthus sinensis 'Variegata'*
Karl Forester Feather Reed Grass	*Calamagrostis acutiflora 'Karl Forester'*
Lindheimer's Muhly	*Muhlenbergia linheimeri*
Northern Seat Oats	*Chasmanthium latifolium*
Purple Fountain Grass	*Pennisetum staceum 'Rubrum'*
Side Oats Grama	*Bouteloua curtipendula*