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Jewelry & Art  
by Kathy Young

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Jewelry & Art

# 3

# STREETSCAPES

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# STREETSCAPES

## 3A INTRODUCTION

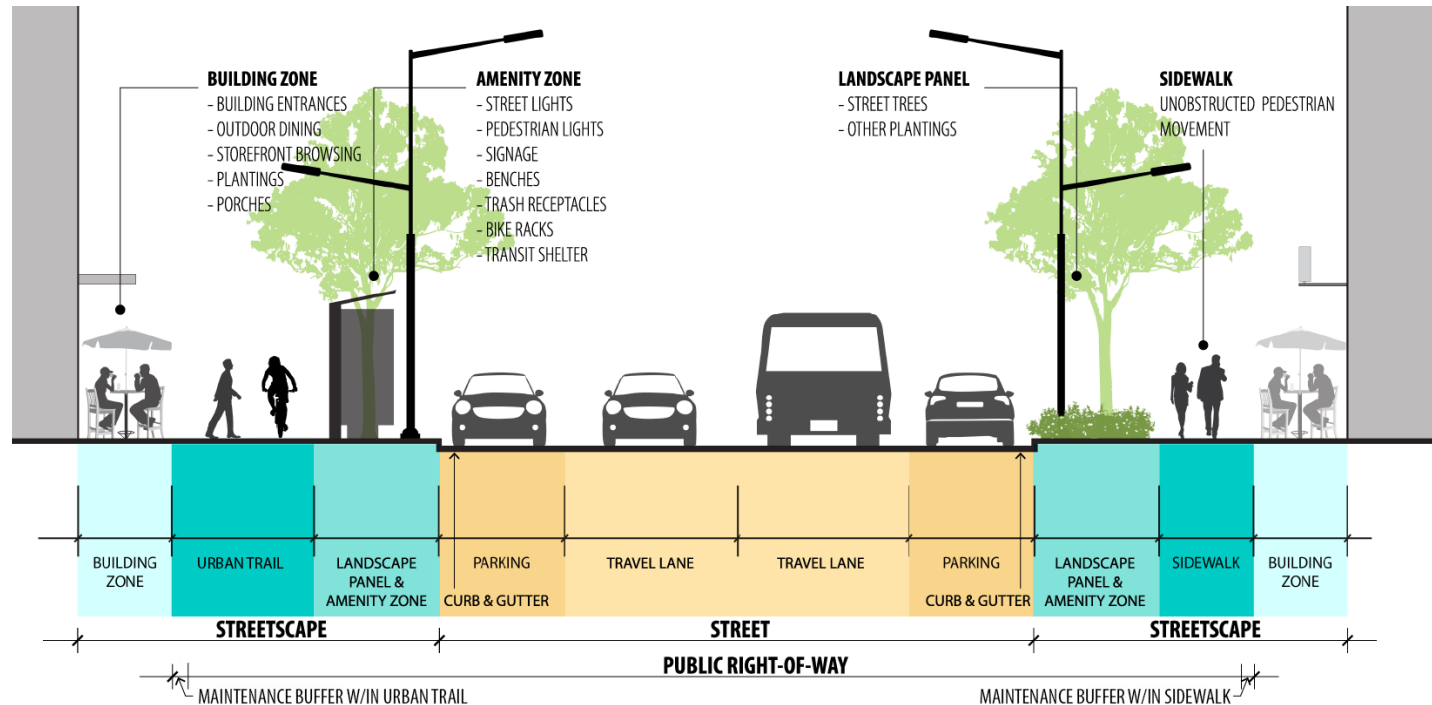
The pedestrian realm is the public space where people move through and interact with one another. It is comprised of the streetscape and park spaces (See Chapter 5). These are some of the most visible areas within the urban environment and are critical elements to connect the McLean CBC visually and physically. The pedestrian realm can be a source of placemaking where people socialize, host activities, and where features such as furnishings, lighting, and art contribute to a unique environment. It can provide environmental benefits through tree cover, remediation of heat island effects, and stormwater infiltration.

The streetscape is the space within the pedestrian realm that is between the building facade, or build-to line, and the curb. The character of the streetscape will differ depending on the scale of the adjacent roadway and the type of adjacent land uses.

## 3B STREETSCAPE CONCEPT

The McLean CBC has two primary street typologies: Avenues and Local Streets. Old Dominion Drive and Chain Bridge Road are categorized as Avenues and all other streets, except Dolley Madison Boulevard, are categorized as Local Streets. Avenues are generally wider roadways with 3-5 travel lanes and have higher posted vehicle speeds of 30 to 35 mph. Beverly Road and Elm Street which are classified in the Comprehensive Plan as a special type of Local Street tend to be pedestrian-scaled with 2-3 travel lanes, on-street parking, and 25 mph speed limits.

**FIGURE 3-1:  
TYPICAL  
STREETSCAPE  
COMPONENTS**



## AVENUE CONCEPT



London Olympic Village, London, UK

## LOCAL STREET CONCEPT



Main Street, Greenville, South Carolina

The streetscape concept treats Avenues and Local Streets differently based on their respective facilities and adjacencies.

The design concept for **Avenues** places an emphasis on trees and landscaping to buffer the pedestrian from moving vehicles, to form a continuous green canopy framing the street and sidewalk, and to soften the edges of adjacent buildings. The Landscape Panel is treated as a “green corridor” employing canopy trees and densely planted, colorful annuals and perennials which provide ecological benefits. The Building Zone may also provide a similar landscape treatment, framing the sidewalk with greenery. Landscaping should have a less formal, more natural appearance. Due to the volume and speed of passing vehicles, cyclists are accommodated off-road within the streetscape.

The design concept for **Local Streets** places an emphasis on the Building Zone adjacent to the ground floor of the building. The Building Zone provides for a wide variety of spaces and experiences where socialization and business-related activities can occur. Its function and size will change depending on the adjacent building use. Building Zones adjacent to commercial uses should have seating areas, signage and displays, and additional landscaping. Building Zones adjacent to residential uses may include small gardens, seating, and stoops.

Regardless of the building’s use or type of street, the Building Zone, if designed properly, can be used to strengthen the pedestrian’s experience by creating a relationship between the building and the public sidewalk.

## STREETSCAPE CONCEPT

### TOP LEFT

An Avenue is characterized as a “green corridor”, offering an enhanced buffer between people and vehicles

Image Credit: Vladimir Guculak @Pinterest.com

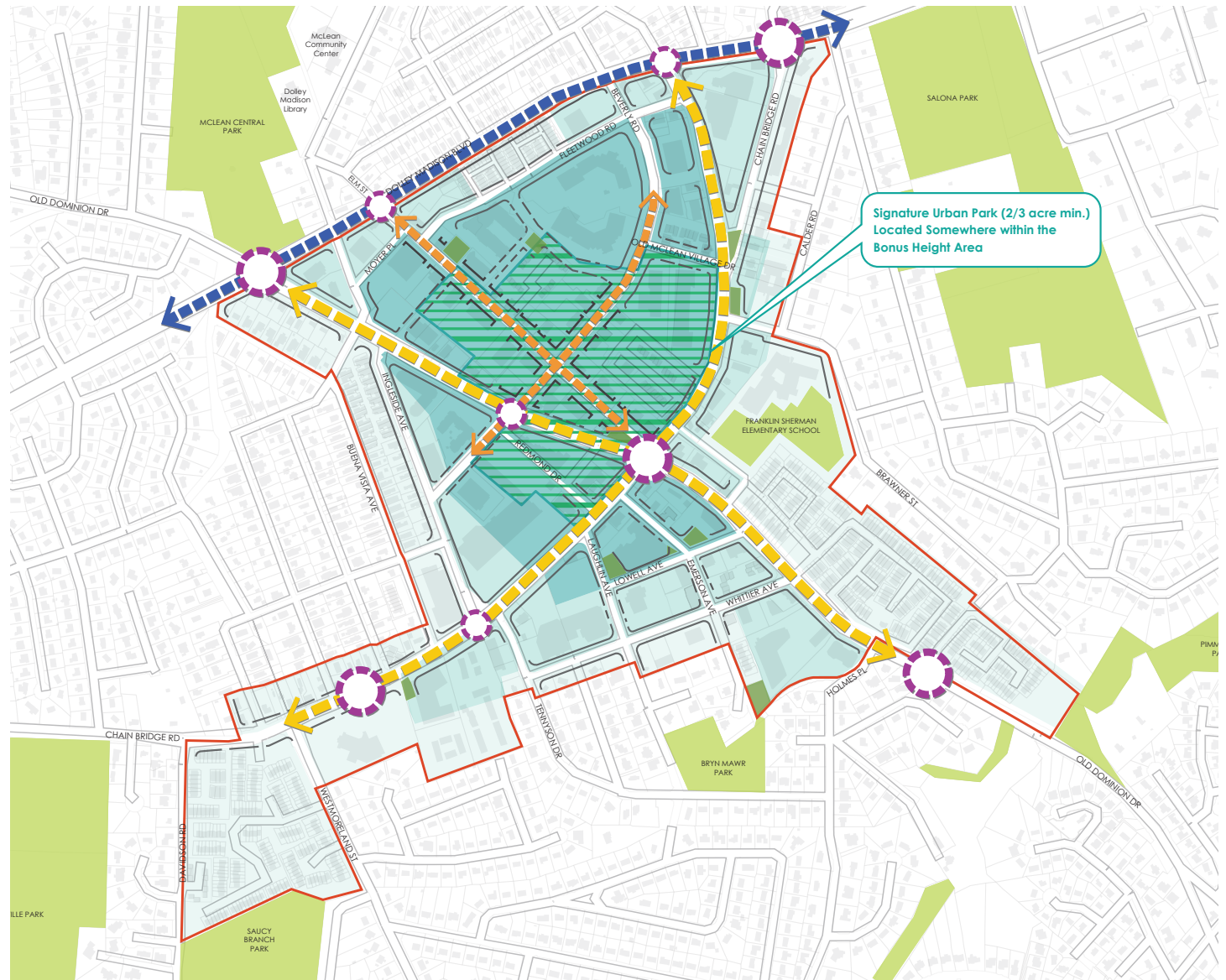
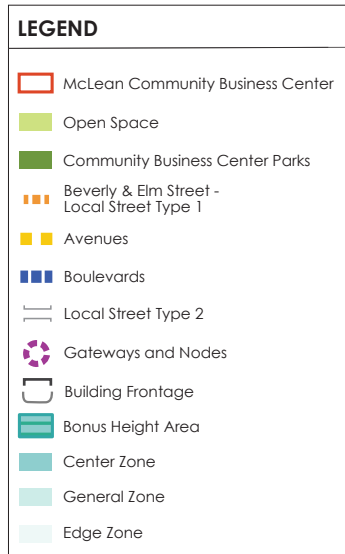
### BOTTOM LEFT

Well-designed Local Streets emphasize the Building Zone, creating a relationship between the building and the public sidewalk

Image Credit: Everydaytourist.ca

FIGURE 3-2: STREET &amp; BLOCK PLAN

The Street & Block Plan (Figure 3-2) depicts the street network in the McLean CBC. Old Dominion Drive and Chain Bridge Road are categorized as Avenues and all other streets, except Dolley Madison Boulevard are Local Streets. Portions of Beverly Road and Elm Street are highlighted on this map to signify that they are *Local Streets Type 1* according to the Comprehensive Plan and where commercial and other activated ground floor uses should be emphasized. See Chapter 4 for more information on the ground floor design along these streets.



## STREETSCAPE CONCEPT (CONT'D)

### Utility Undergrounding

The Comprehensive Plan recommends burying all overhead utilities underground as part of site redevelopment. The location of underground utility duct banks, manholes and vaults, and easements should be determined at the time of the rezoning plan. This will reduce potential conflicts with streetscape features, such as trees, during site plan review and/or construction.

- **Location:** Generally, duct banks should be located under the sidewalk. Utility boxes should be placed within the Building Zone and obscured from view using site features such as signage, low walls, landscaping, or furnishings (See example).
- **Streetscape Dimensions:** Utilities should not prevent the planting of street trees within the Landscape Panel. Additional streetscape space may be required if duct banks and easements cannot be located entirely under the sidewalk.
- **Vault Cover Design:** Vault covers located within the sidewalk should match, to the extent feasible, the sidewalk paving material so that the covers blend into the streetscape. Vault designs are required to meet ADA standards.

### VDOT Multimodal System Design Guidelines & Appendix B(2)

The *Multimodal System Design Guidelines* (MMDG) and corresponding *VDOT Road Design Manual Appendix B(2)* provide alternative street designs for urbanizing, mixed-use areas. Major features of the MMDG are alternative street classifications, reduced intersection spacing standards, wider pedestrian and bicycle facility standards, reduced sight distance requirements, and smaller driveway widths.

As of the publication date of this document, the MMDG have not yet been approved for use in McLean. In the interim, projects are encouraged to use these standards however, waivers of the typical VDOT Road Design Manual standards may need to be requested by applicants and are subject to VDOT approval.

[VDOT Road Design Manual Appendix B\(2\) - Multimodal Design Standards for Mixed Use Urban Centers](#)

### References and Notes

This chapter builds on guidance found in Chapter 2 of the Volume I Urban Design Guidelines, pertaining to the design, material selection, and location of the streetscape components (see Figure 3-1). All streetscape dimensions and the full roadway cross-sections are provided in the “Urban Street Network Design” section of the Comprehensive Plan for the McLean CBC.

Note 1: Developments should follow the cross-section guidance, including arrangement and dimensions depicted in the Comprehensive Plan.

Note 2: Unless otherwise stated, all streetscape facilities should be provided consistently on both sides of a street.

Note 3: The terms ‘Shared Use Path’, ‘Urban Trail’, and ‘Pedestrian and Bicycle Pathway’ are used interchangeably and refer to the same facility type. ‘Urban Trail’ is a term defined by the Fairfax County Department of Transportation to refer to Shared Use Paths in mixed use areas where a wide variety of paving materials can be employed along with modified engineering standards to account for urban street conditions.

Note 4: The widths of sidewalks, walkways, and Urban Trails include a VDOT-required 1-foot maintenance buffer so that the edge of rights-of-way correspond to the edge of the facility.



#### LEFT

Vault cover in the sidewalk with brick inlay provides consistency in streetscape design

Image Credit: Manholecoversupply.com

### 3C AVENUES (OLD DOMINION DRIVE & CHAIN BRIDGE ROAD)

#### OLD DOMINION DRIVE (Comprehensive Plan Avenue Type 1)

On Old Dominion Drive, an Urban Trail will accommodate both cyclists and pedestrians within the streetscape. An Urban Trail is a multi-use facility designed to safely and comfortably accommodate pedestrians, cyclists, and other wheeled micromobility vehicles traveling in both directions. Cyclists are expected to travel close to the speed of pedestrians when on an Urban Trail within the CBC.



#### RIGHT

Avenues offer an enhanced Landscape Panel planted with colorful annuals and perennials, and maintains a consistently spaced, robust tree canopy.

Image Credit: John Gollings, Landezine.com

Constitution Avenue, Canberra, Australia

**FIGURE 3-3: TYPICAL AVENUE STREETSCAPE - BIRDSEYE PERSPECTIVE****STREET ORIENTED ACCESS**

Create a sense of arrival and hierarchy with architectural features and paving

**ALLEE OF TREES**

Provide a double row of trees within the building zone and the landscape panel

**LANDSCAPED MEDIAN**

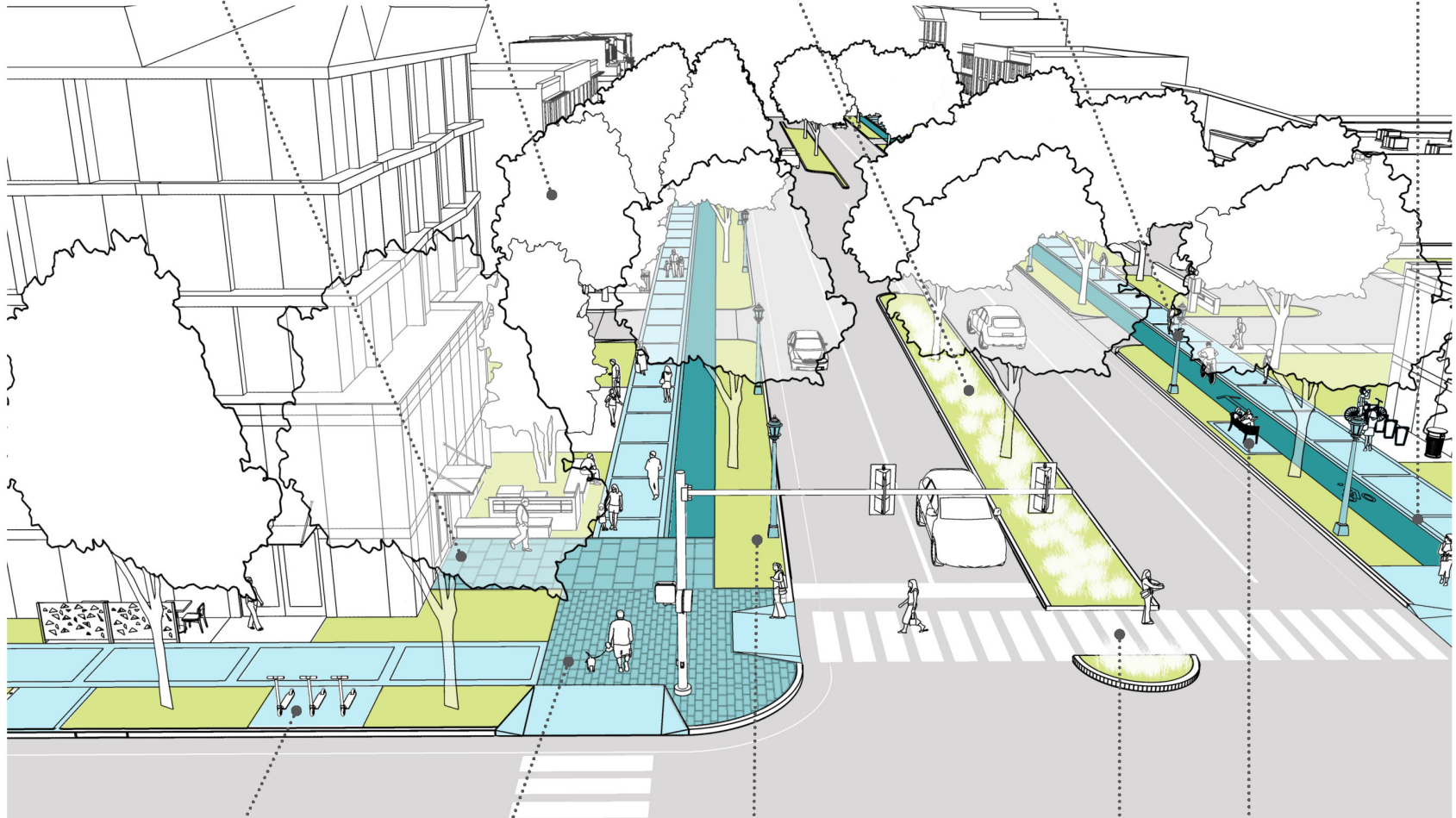
Where medians are proposed, add trees and landscaping for a Boulevard design

**STREET LIGHT**

Provide lighting for roadways and the public realm

**BIKE AND PEDESTRIAN PATHWAYS**

Off-street bike facilities are necessary on Avenues

**MULTIMODAL PARKING**

Provide parking for multimodal transportation

**INTERSECTION PLAZA**

Shared space for pedestrians and cyclists as they approach the intersection

**LANDSCAPE PANEL**

Landscaped buffer with understory planting

**CROSSWALK REFUGE**

Median refuge includes a bullnose to protect crosswalk

**STREETSCAPE FURNISHINGS**

Bench seating provided within the landscape panel



## AVENUES (CONT'D)

### Old Dominion Drive Urban Trail Features

- **Width:** The facility is 12-feet wide.
- **Materials:** The surface should be flush and made of a consistent set of materials for the entire width, including brick pavers with concrete banding as depicted in Sub-section 3E. Rolled asphalt should not be used as a surface material.
- **Vertical Clear Zone:** A vertical clear zone of 8-feet should be provided between the paving surface and the urban trail.
- **Horizontal Clear Zone:** A horizontal clear zone of 2-feet where no fixed objects may be installed should be provided.
- **Multimodal Signage to delineate the space within the Urban Trail:** Located in the Landscape Panel, signs should state: 'Bikes Yield to Pedestrians' and 'Slow'. Signage may also

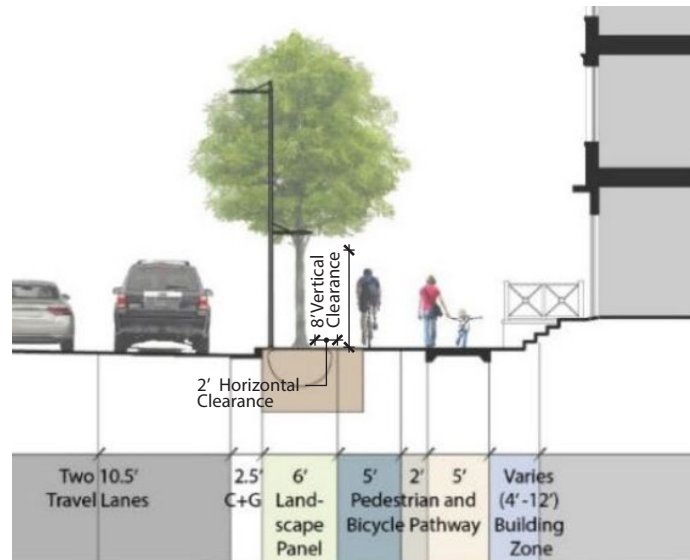
direct cyclists to the stay to the left, while pedestrians travel on the right. Since the trail is considered a two-way facility for cyclists, all signage should be directed both ways.

- **Refer to the following guidance for more information on Urban Trails:** VDOT Road Design Manual Shared Use Path requirements, Manual of Uniform Traffic Control Devices, and AASHTO's Guide for the Development of Bicycle Facilities (refer to the "Modified Shared Use Path" design).

### Old Dominion Drive (between Holmes Place and Southeastern CBC Boundary)

An 8 to 10-foot Urban Trail should be provided. The trail should be made of brick or concrete, depending on adjacent surfaces. Brick intersection treatments are recommended.

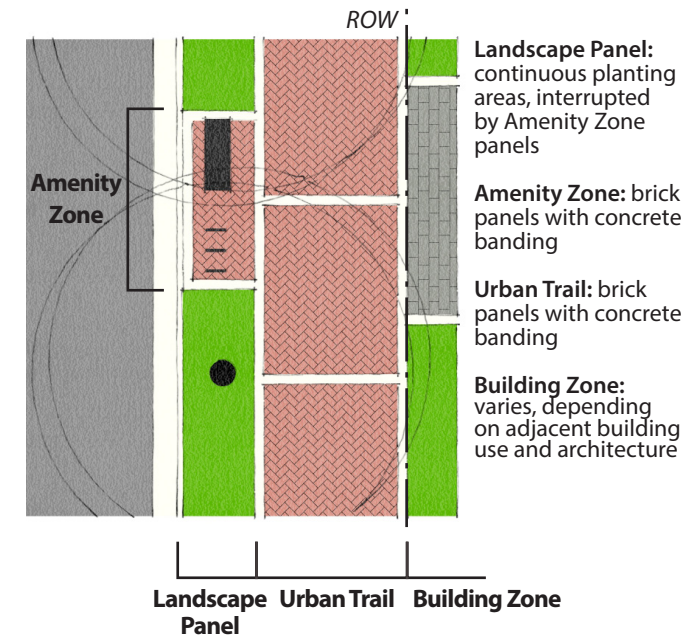
**BOTTOM LEFT**  
Avenue: Old Dominion Drive  
public realm section  
Image Credit: Fairfax County



**BOTTOM RIGHT**  
Avenue: Old Dominion Drive  
paving design concept  
Image Credit: Fairfax County



### OLD DOMINION DRIVE PAVING MATERIALS



**CHAIN BRIDGE ROAD (Comprehensive Plan Avenue Type 2)**

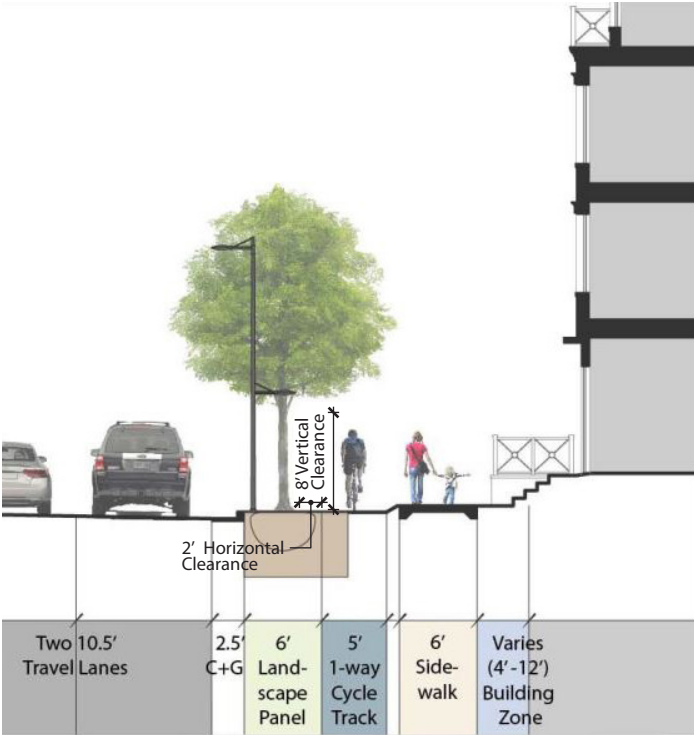
On Chain Bridge Road, cyclists are accommodated in an off-street, one-way cycletrack that is adjacent to the sidewalk on both sides of the road. To promote accessibility for all users, a small, detectable separation between the two facilities is required.

**Chain Bridge Road Cycletrack Features**

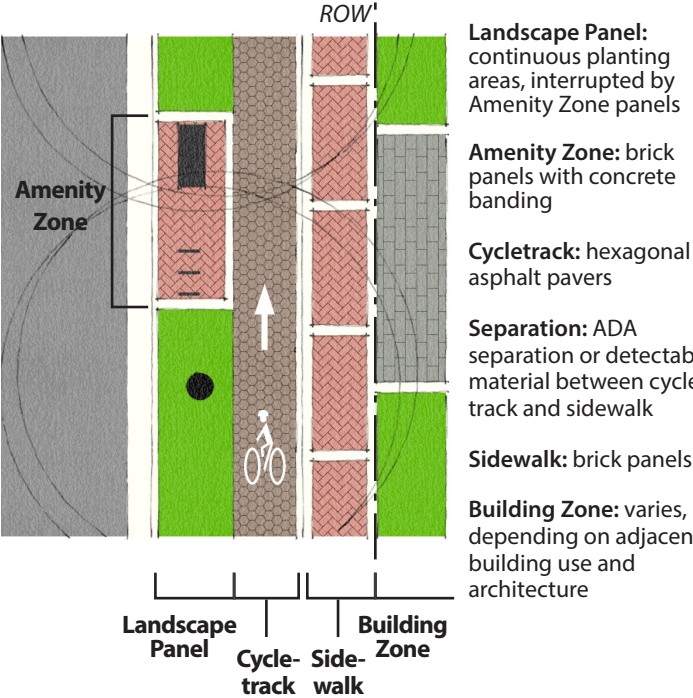
- **Width:** The facility is 5-feet wide.
- **Separation between cycletrack and sidewalk:** a 1-foot ADA separation should be provided. It can be concrete and comprised of a low-curb or a level grade, detectable warning strip. Alternatively, if there is space, a 2-foot wide (or wider) landscape strip may also be provided.

- **Cycletrack Materials:** Surface should be hexagonal, asphalt tiles as depicted in Sub-section 3E. Under certain limited circumstances, concrete with saw-cut joints may be used. Rolled asphalt should not be used as a surface material.
- **Vertical Clear Zone:** A vertical clear zone of 8-feet should be provided between the paving surface and the cycletrack.
- **Horizontal Clear Zone:** A horizontal clear zone of 2-feet where no fixed objects may be installed should be provided.
- **Signage:** Pavement markings and/or signage in the Landscape Panel can be used to designate the cycletrack and the direction of its traffic.

**AVENUES (CONT'D)**



**CHAIN BRIDGE ROAD PAVING MATERIALS**



**BOTTOM LEFT**  
Avenue: Chain Bridge Road public realm section  
Image Credit: Fairfax County

**BOTTOM RIGHT**  
Avenue: Chain Bridge Road paving design concept  
Image Credit: Fairfax County

## AVENUES (CONT'D)



Private Street Along the Signet Park, McLean

### Chain Bridge Road Sidewalk Features

- **Width:** The facility is 6-feet wide.
- **Sidewalk Materials:** Paving should include brick pavers with concrete banding as depicted in Sub-section 3E.

### Chain Bridge Road from Ingleside Avenue/Tennyson Drive to Davidson Road

An 8 to 10-foot Urban Trail should be provided. The trail should be made of brick or concrete, depending on adjacent surfaces. Brick intersection treatments are recommended.



Indianapolis Cultural Trail (ICT), Indianapolis, Indiana

#### TOP

Preferred sidewalk style with brick pavers and concrete banding  
Image Credit: Fairfax County

#### BOTTOM

Cyclists and pedestrians share the space within an Urban Trail, similar to proposed design for Old Dominion Drive  
Image Credit: Rundell Ernstberger Associates

**FIGURE 3-4: CHAIN BRIDGE ROAD (AVENUE TYPE 2) STREETSCAPE - EYE LEVEL PERSPECTIVE**

**STREETSCAPE FURNISHINGS**  
Bench seating provided within the landscape panel

**AMENITY ZONE**  
Paved with a similar treatment as the sidewalk

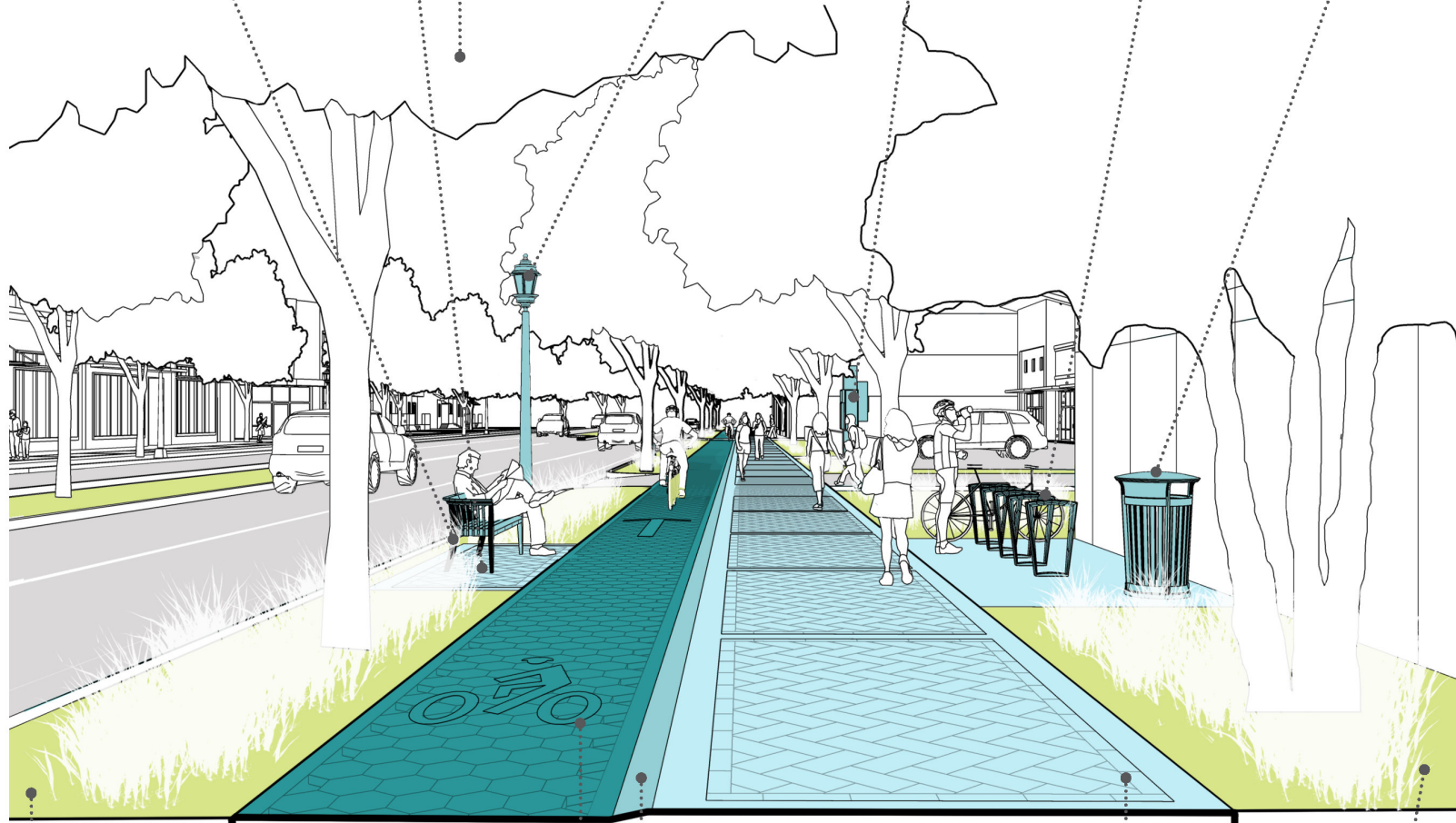
**ALLEE OF TREES**  
Provide a double row of trees within the building zone and the landscape panel

**STREET LIGHT**  
Provide lighting for roadways and the public realm

**SIGNAGE**  
Locate within parcel to indicate location for both pedestrian and vehicular users

**BIKE RACKS**  
Provide parking for bikes to encourage multimodal transportation

**RECEPTACLE**  
Provide receptacles in the public realm



**LANDSCAPE AMENITY PANEL**  
Landscaped buffer with understory planting and amenity zone

**CYCLE TRACK**  
Asphalt pavers and signage to indicate directional bike pathways

**DETECTABLE SEPARATION**  
Vertical separation of bike and pedestrian pathways with curb

**SIDEWALK**  
Provide sidewalk with brick paving and concrete band

**PLANTING AREA**  
Create foundational planting within the building zone

## AVENUES (CONT'D)

### AVENUE STREETSCAPE FEATURES

#### On-street Parking

On-street parking is not anticipated on McLean's Avenues.

#### Landscape Panel Design

(See also Sub-section 3H on Street Trees and Understory Landscaping)

A key aspect of the Avenue street design is for these wider, busier streets to contain a heavily treed and landscaped buffer in the Landscape Panel. Where possible and if consistent with activated building frontages and other site design guidance, this may be complemented by a secondary row of trees in the Building Zone to create an allée of trees that strengthens the buffer between busy roadways and adjacent buildings.

- **Landscape Panel Width:** 6-foot wide. Tree rooting space should be provided under the sidewalk so that the total width of the rooting space is 8-feet. Various methods to provide rooting space are illustrated in Chapter 2 and the Appendix of the Volume I Urban Design Guidelines.

Alternatively, an 8-foot-wide (or wider) Landscape Panel may be installed to avoid providing rooting space under the sidewalk or to avoid utility, easement, or VDOT conflicts.

A minimum 8-foot-wide space is required if stormwater bioretention facilities are provided within the Landscape Panel.

- **Continuous Design:** The preferred planting area for street trees is a continuous Landscape Panel which maximizes soil volume and nutrients for multiple trees. These are preferred to individual tree wells wherever possible.
- **Tree fencing:** Fencing may be used where pedestrian traffic is anticipated to be high or where pedestrian short-cuts may compact soils.

### Amenity Zone within the Landscape Panel

Amenity Zones, located within the Landscape Panel, serve a few purposes. They can be places of respite along the streetscape where pedestrians or cyclists can sit on a bench or park their bicycle. They typically contain the streetscape furnishings so that they do not impede walking or biking. They also serve as buffer elements between the street and sidewalk, calming traffic and adding to pedestrian comfort. By having them placed occasionally, rather than frequently, they allow for a more continuous Landscape Panel to maximize tree root space and planting areas.

- **Size:** Amenity Zones should be the full width of the Landscape Panel and should be at least 8-feet long or longer, if they include multiple furnishings.
- **Location and Frequency:** There should be at least one Amenity Zone per block or every 200-feet. Amenity Zones should also be aligned with building entrances to complete the connection from the front door to the curb.
- **Furnishings:** Benches should be sited parallel to the roadway, facing the sidewalk. Trash and recycling receptacles should be placed near benches or where an Amenity Zone is near a building entrance. Bike racks are also recommended in Amenity Zones. See Sub-section 3G for furnishing specifications.
- **Amenity Zones and Street Trees:** Amenity Zones should not be constructed within 4-feet of a street tree. They may be designed as "floating" where no foundation is constructed so that adjacent trees may utilize the rooting space under the Amenity Zone.
- **Paving Material:** Amenity Zones can be constructed of brick pavers with concrete banding as depicted in Sub-section 3E. Amenity Zones can also be made of other materials that do not require foundations.

### Intersection Plaza Treatment - Urban Trails and Cycle Tracks

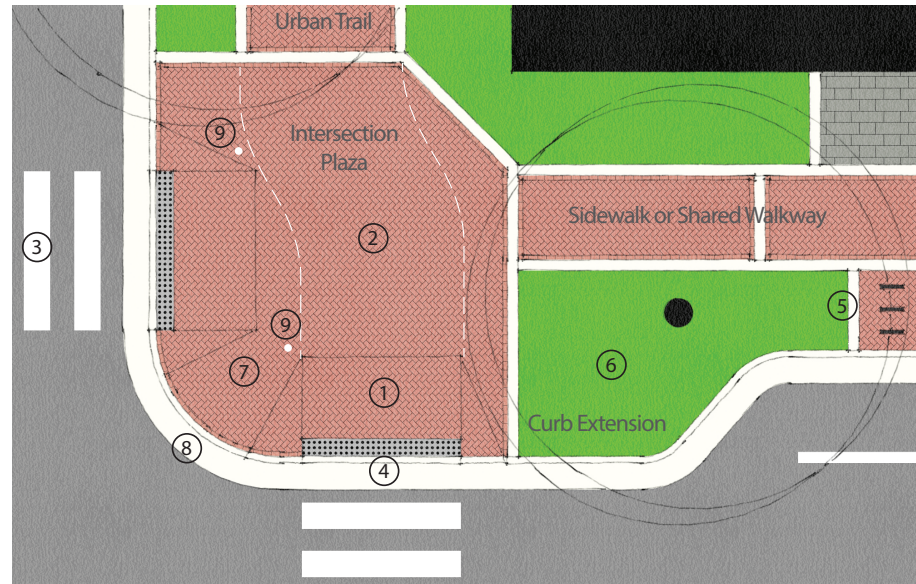
Intersection Plazas make it easier for cyclists and pedestrians, potentially crossing different legs of an intersection, to slowly and safely navigate the space together. Where Urban Trails or cycletracks approach a roadway intersection, an Intersection Plaza treatment should be used. The length of an Intersection Plaza is based on several factors and will be determined at the time of rezoning or site plan. Curb ramps and crosswalks that are equal to the width of the widest sidewalk or trail facility, meet cycling standards, and adhere to VDOT Road Design Manual Shared Use Path ramp requirements, should be provided at all crossings. Intersection Plazas are only needed at roadway crossings and are not necessary when crossing driveways.

- **Intersection Plaza Materials:** Paving should be brick pavers as depicted in Sub-section 3E.
- **Ramps:** should be made of brick with ADA-compliant trunked dome pavers in gray colored concrete provided at the curb.



### TYPICAL INTERSECTION PLAZA DESIGN

1. Ramp widths match width of the widest facilities on the corner
2. Facility width is continued through intersection with adequate clearance from vertical elements
3. High visibility crosswalk markings
4. Contrasting color detectable warning surfaces
5. Bike racks set back from intersection to allow for sight distance at intersection
6. Curb extension reduces crossing distance
7. Ramps are directional with two ramps per corner and ramps pointing in the direction of the crosswalk
8. Corner radius is small which allows directional ramps without pushing crosswalk too far back from adjacent right turn lanes to be seen
9. At signalized intersections, pushbuttons, if needed should be placed on the right side at the landing where a cyclist can reach them



**TOP RIGHT**  
Intersection Plaza on the  
Indianapolis Cultural Trail  
Image Credit: ICT

### 3D LOCAL STREETS

- **Beverly Road (Comprehensive Plan Local Street Type 1)**
- **Elm Street (Comprehensive Plan Local Street Type 1)**
- **Other streets designated by VDOT as a Local or Collector (Comprehensive Plan Local Street Type 2)**

Local Streets are narrower roads with lower traffic volumes and slower vehicular speeds than Avenues. There are variations of the Local Street as depicted in the Comprehensive Plan's cross-sections, labeled as Type 1 and Type 2. Cyclists may travel on the roadway on Local Streets; however, on Beverly Road and Elm Street, a Shared Walkway within the streetscape accommodates cyclists who would prefer to travel outside of vehicle lanes.

Beverly Road and Elm Streets are considered special, character-building "Main Streets" where a high level of pedestrian activity and a diversity of adjacent uses is expected. On these streets, the Building Zone should be emphasized through the creation of usable and engaging spaces located between the sidewalk and the building.



**BOTTOM**  
Engaging and active  
streetscape along 2nd Street  
in Austin, Texas  
Image Credit: CWDG

Austin, TX

#### Local Street Features

Most Local Streets will include the following features:

#### On-street Parking

In the Comprehensive Plan, on-street parking is generally depicted on one side of the street due to existing right-of-way availability. If desired and right-of-way is available, a second on-street parking lane can be added to the other side of the road. Retention of existing on-street parking is encouraged.

- **Size:** generally, parking spaces should be 22-feet long and 8-feet wide, measured from the face of curb.
- **Striping of on-street parking:** pavement markings should be provided. This is particularly important to align vehicles with sidewalk access points.
- **Access and ADA:** Accessible movement between parked vehicles and the sidewalk can be provided by one of two methods:
  - a. A paved pathway between the curb and the sidewalk. Ideally the pathway is aligned with every two parking spaces such that each parking space can have access at either the head or the foot of the parking space.
  - b. A step-off curb of at least 24 inches in width. The step-off curb can be made of brick, granite tiles, or another decorative material. If it does not have a structural foundation, the underlying soil may be counted towards tree soil volumes; however, the step-off curb shall not be installed within 2-feet of a tree trunk.

[Appendix A\(1\) VDOT Complete Streets in the Road Design Manual](#) includes information on the expected quantity and design of accessible on-street parking spaces on a block. ([virginiadot.org](http://virginiadot.org))

**FIGURE 3-5: TYPICAL LOCAL STREET STREETSCAPE - BIRD EYE PERSPECTIVE**

**STREET ORIENTED ACCESS**

Create a sense of arrival and hierarchy with architectural features and paving

**BIORETENTION**

Performs stormwater management, integrated seating, and green space within parcel

**TREE CANOPY**

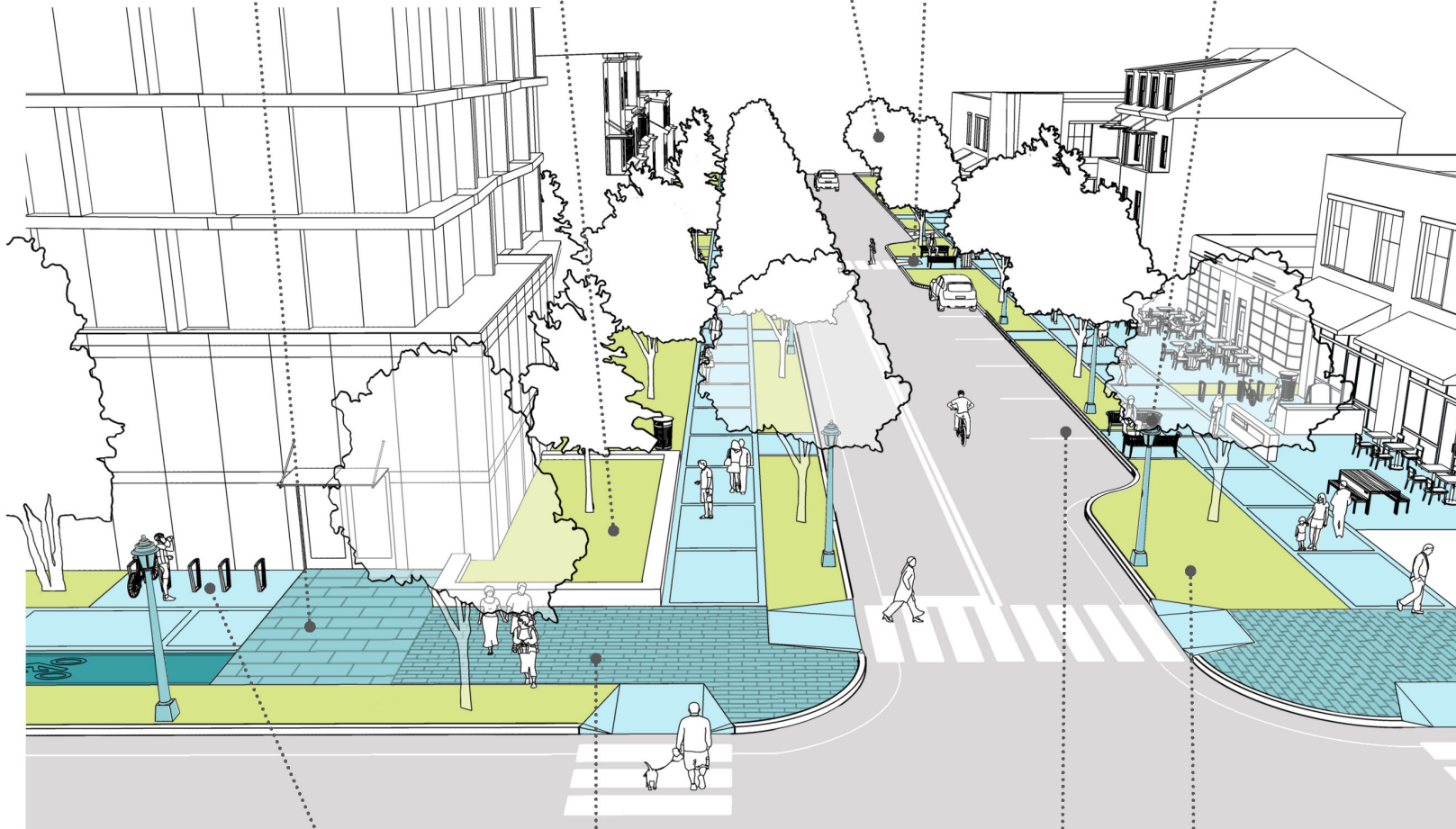
Provide a row of trees along sidewalk and roadways within the tree strip

**CROSSING**

Provide mid-block crossing opportunities to maximize pedestrian access

**STREET LIGHT**

Provide lighting for roadways and the public realm



**BIKE RACKS**

Provide parking near doorways to encourage multimodal transportation

**INTERSECTION PLAZA**

Add paving to make corner a distinct destination

**PARKING**

Parking provided on street where available

**LANDSCAPE PANEL**

Maximize green space opportunities at intersections



## LOCAL STREETS (CONT'D)

### Landscape Panel Design (see also Sub-section 3H on Street Trees and Understory Landscaping)

- **Width:** 6-feet wide. Tree rooting space should be provided under the sidewalk so that the total width of the rooting space is 8-feet. Various methods to provide rooting space are illustrated in Chapter 2 and the Appendix of the Volume I Urban Design Guidelines.

As an option, an 8-foot wide (or wider) Landscape Panel may be installed to avoid providing rooting space under the sidewalk or to avoid utility, easement, or VDOT conflicts or to provide curb extensions for on-street parking.

A minimum 8-foot wide space is required if stormwater bioretention facilities are provided within the Landscape Panel.

- **Continuous Design:** The preferred planting area for street trees is a continuous Landscape Panel which maximizes soil volume, air, water, and nutrients for multiple trees. Continuous Landscape Panels are preferred to individual tree wells wherever possible.
- **Tree fencing:** Fencing, typically under 24 inches in height, may be used where pedestrian traffic is anticipated to be high or where pedestrian short-cuts may compact soils.

### Amenity Zone within the Landscape Panel

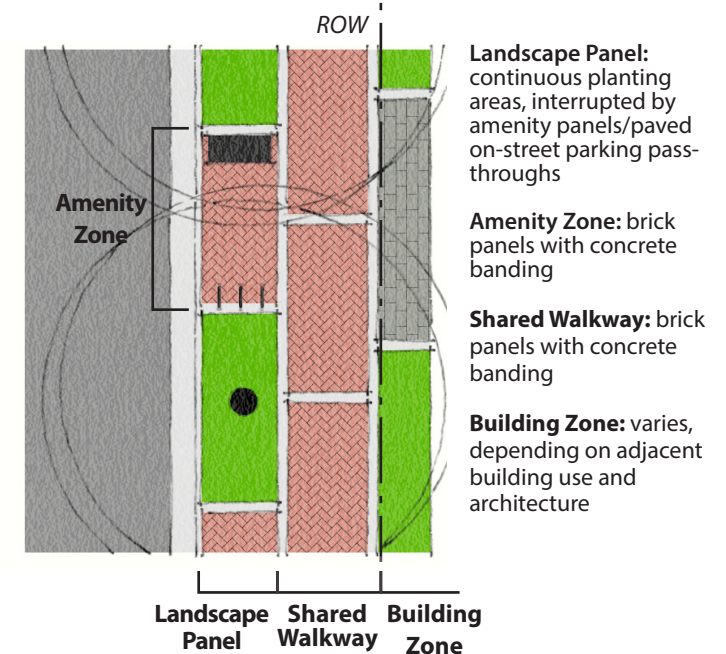
Amenity Zones, located within the Landscape Panel, serve a few purposes. They can be places of respite along the streetscape where pedestrians or cyclists can sit on a bench or park their bicycle. They typically contain the streetscape furnishings so that they do not impede walking. Amenity Zones can function as pedestrian access points between the street or on-street parking and the sidewalk. They also serve as buffer elements between the street and sidewalk, slowing traffic and adding to pedestrian comfort.

- **Size:** Amenity Zones should be the full width of the Landscape Panel and should be at least 8-feet long or longer, if they include multiple furnishings.

**BOTTOM RIGHT**  
Typical Local Street paving design concept  
Image Credit: Fairfax County

- **Furnishings:** Benches should be sited perpendicular to the roadway. Benches should not be wider than the Landscape Panel. Trash and recycling receptacles should be placed near benches or where an Amenity Zone is near a building entrance. Bike racks are also recommended in Amenity Zones. See Sub-section 3G for furnishing specs.
- **Frequency:** There should be at least one Amenity Zone per block or every 200-feet.
- **Amenity Zones and Street Trees:** Amenity Zones should not be constructed within 4-feet of a street tree. They may be designed as "floating" where no foundation is constructed so that adjacent trees may utilize the rooting space under the Amenity Zone.
- **Paving Material:** Amenity Zones can be constructed of brick pavers with concrete banding as depicted in Sub-section 3E. Amenity Zones can also be made of other materials that do not require foundations.

### LOCAL STREET PAVING MATERIALS

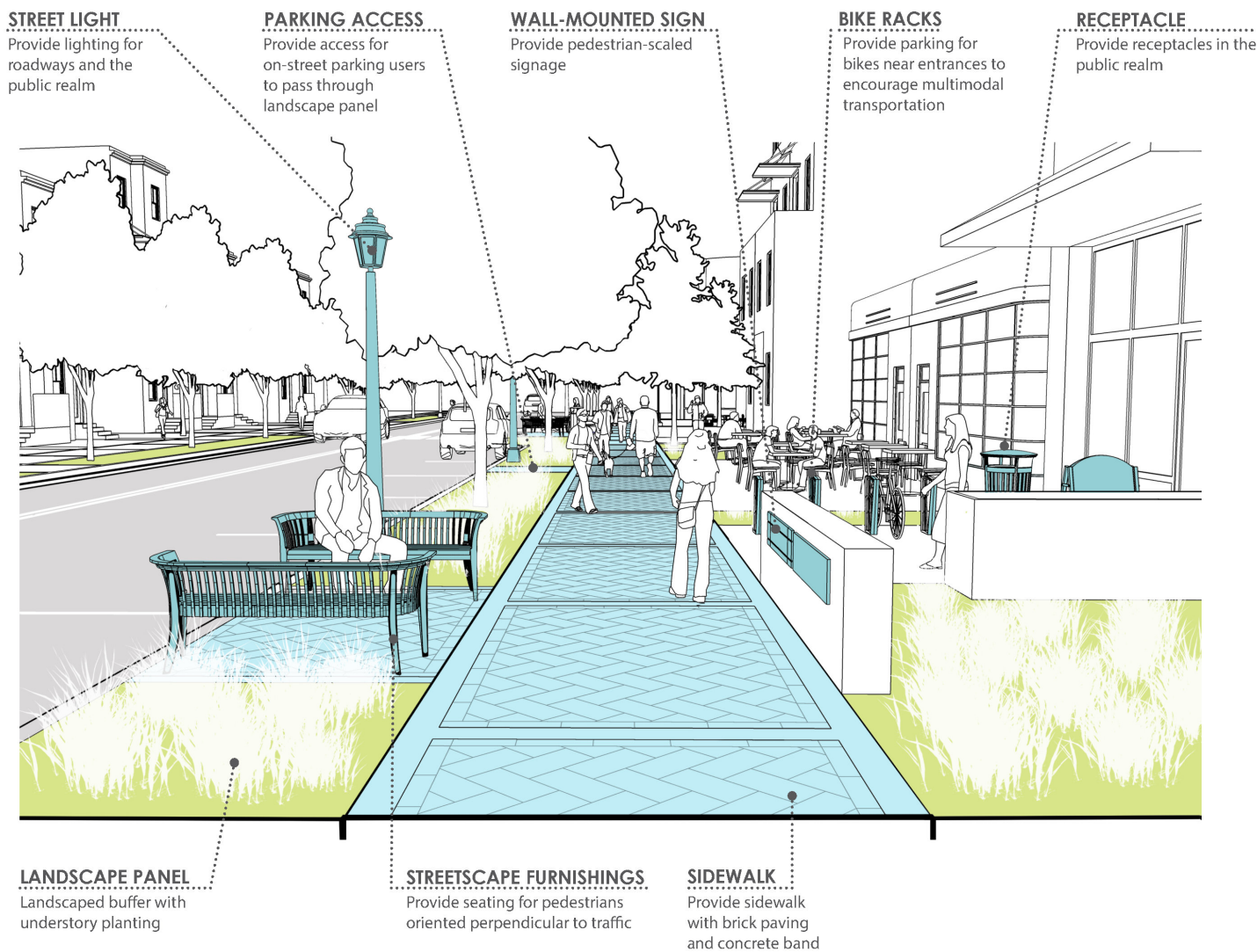


## LOCAL STREETS (CONT'D)

### Sidewalk and Shared Walkway Features

- **Shared Walkway Size (Local Street Type 1):** The width is 8-feet to accommodate both pedestrians and bicyclists.
- **Sidewalk Size (Local Street Type 2):** The width is 6-feet.
- **Materials:** Paving should include brick pavers with concrete banding as depicted in Sub-section 3E.
- **Intersection Materials:** Paving should be brick pavers as depicted in Sub-section 3E.

**FIGURE 3-6: TYPICAL LOCAL STREET STREETSCAPE - EYE LEVEL PERSPECTIVE**



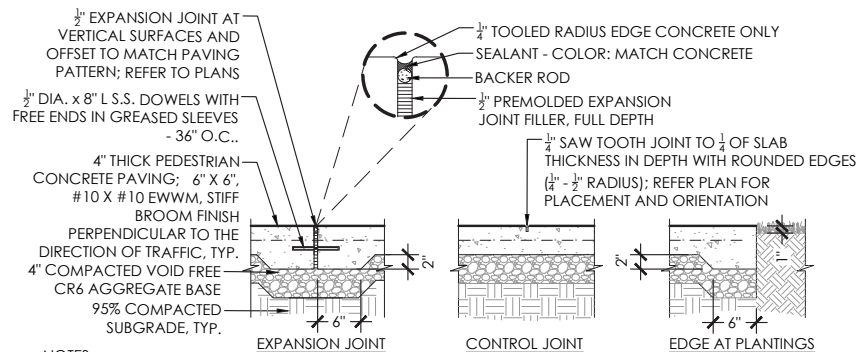
### 3E PAVING DESIGN & SPECIFICATIONS

Consistency in streetscape paving across McLean will contribute to a sense of arrival as well as create a visual identity for the Neighborhood Village concept. Brick pavers with concrete banding is the dominant streetscape paving design for the sidewalks and Amenity Zones. Intersections and curb extensions should also be made of brick. See Chapter 4 on Building Zone designs for paving strategies outside of the right-of-way.

#### Accessibility

A critical aspect to ensuring that McLean's sidewalks are accessible and safe for all users, particularly people with disabilities and aging populations, is for the paving surface to be level, free of tripping hazards, provide adequate friction when wet, and remain in good condition over the life of the sidewalk. The following material selection and construction standards are designed with these factors in mind.

#### SIDEWALK CONSTRUCTION DETAILS FOR BRICK PAVERS (SEE APPENDIX A-2 FOR LARGER IMAGES)

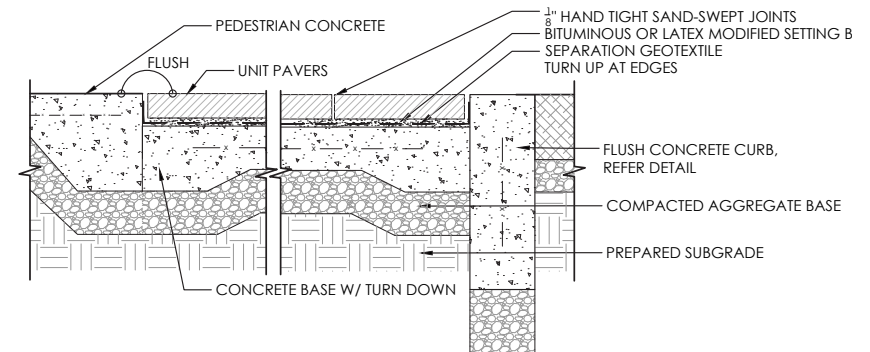


#### NOTES:

1. CONDITIONS VARY, PROVIDE EXPANSION JOINT WHERE WALKS ARE POURED AGAINST VERTICAL SURFACES AND/OR DIFFERENT PAVING MATERIALS AND AS SPECIFIED IN CIVIL DRAWINGS. EXPANSION JOINTS SHALL OCCUR EVERY 400 SF OR 20 LF IN SIDEWALKS.
2. MEET 1" ABOVE ADJACENT FINISHED LAWN AND PLANTING AREA GRADES.
3. REMOVE TOOL MARKS.
4. CROSS SLOPES ON SIDEWALKS MUST NOT BE LESS THAN 1% OR EXCEED 2%. MANHOLES, VALVE BOXES AND OTHER AT GRADE UTILITIES AND COVERS MUST BE ADJUSTED TO MEET FINISH GRADE.

#### PEDESTRIAN CONCRETE PAVING

1" = 1'-0"



#### NOTES:

1. INSTALL PAVER COURSES IN STRAIGHT LINES AND TRUE ARCS AND TANGENTS.
2. FOR ALL CUTS, REPLICATE EDGE CONDITION OF UNCUT UNIT.
3. INSTALL CUT UNITS MIN. 10 UNITS FROM ENDS OF COURSE. CUT UNITS LESS THAN 1/2 PAVER DIMENSION ARE PROHIBITED. REMOVE CUT UNIT AND 2 ADJACENT UNITS; INSTALL 3 EQUAL CUT UNITS.
4. FOR RADIAL COURSES, INSTALL SYMMETRICALLY CUT UNITS AT REGULAR INTERVALS. CUT EACH UNIT FOR SMALLER RADII AND AS DIRECTED BY ARCHITECT.

#### UNIT PAVERS AT OTHER PAVING

1 1/2" = 1"

#### Brick Sidewalk Foundation

Proper construction details are key to installing brick sidewalks which do not move or settle over time. See Appendix A-2 for construction standards that should be used for all brick paver applications.

- A 4-inch full depth concrete base should be provided under brick pavers.
- The concrete base should be doweled at expansion joints to reduce movement in opposite directions. It should also be doweled at driveways and storm structures when their top surfaces are part of the sidewalk.
- Concrete edge restraints (curbs) can be flush or raised, depending on the edge condition. Curbs should be doweled into the concrete base.
- Curbs should be 8 or 12-inch wide. If the total sidewalk is 6-feet wide or less, an 8-inch wide curb is recommended.

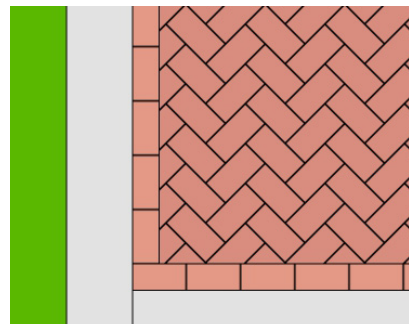
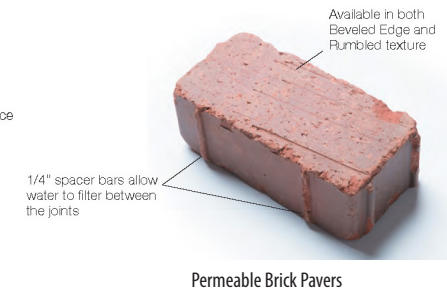
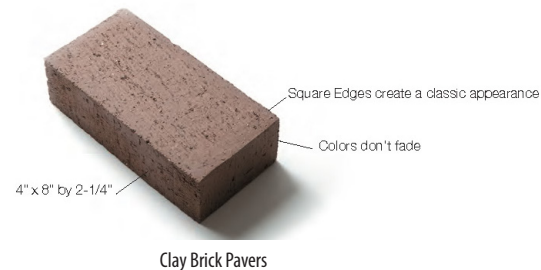
## PAVING DESIGN & SPECIFICATIONS (CONT'D)



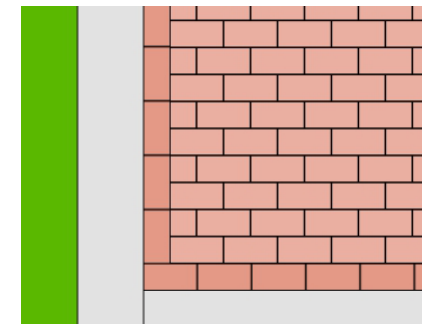
Desired Clay Brick Color Blend: Pine Hall Pathway Full Range or Similar

### Brick Material Specifications

- **Clay brick paver specification:** Pavers should be wire cut.
- **Color:** The color blend of the brick should match or be similar to the product Pine Hall® Pathway Full Range.
- **Permeable clay brick pavers may be used as an alternative.** A maintenance plan should be developed for permeable pavers so that they remain permeable long-term.
- **Permeable paver specification:** Pavers should have beveled edges and large spacer bars that allow rain to filter between washed aggregate in the joints to a specially constructed catchment area underneath the pavers. The water then dissipates into native soils. Permeable pavers are available in standard 4" x 8" by 2-1/4" thickness as well as 2-3/4" thickness for heavy vehicular applications.
- **Concrete pavers may not be used as a replacement for clay brick.**



Preferred Pattern: Herringbone with running bond edging



Alternate Pattern for Certain Applications: Running bond with edging

## PAVING DESIGN & SPECIFICATIONS (CONT'D)

### Brick Installation

- Most sidewalks should be installed in a herringbone pattern with a running bond edge.
- Running bond with edging may be used in certain situations, such as at intersections or sidewalks narrower than 4-feet.
- Pavers should be laid with a minimum of 1/16" sand joint to minimize chipping.
- Hand tight joints are preferred to mortared joints.

### Cycle Track Material Specifications (Chain Bridge Road)

- **Material:** Asphalt Block Pavers
- **Size and shape:** 8-inch Hexagonal
- **Suggested manufacturer:** Hanover Architectural Products, Commercial Asphalt Block, Color: Dark Red: A80012
- **Installation:** See manufacturer's installation specifications.



## 3F CROSSWALKS, RAMPS & DRIVEWAY CROSSINGS

Pedestrian and bicycle facilities should be the dominant infrastructure within the streetscape. Vehicular driveways should not interrupt consistency in the sidewalk material or grade.

### Street Crosswalks

- **Type:** All crosswalks, including mid-block crosswalks should include high visibility pavement markings (aka bar pairs, continental, ladder), where permitted by VDOT. Brick or other materials are generally not recommended for crosswalks.
- **Width:** Crosswalks should match the width of the entire pedestrian and cyclist travel way inclusive of any Urban Trail, cycletrack, shared walkway, or sidewalk.
- **Curb extensions:** Reducing the length of the crosswalk with curb extensions is strongly encouraged, particularly for mid-block crosswalks and where on-street parking is present (see *Typical Intersection Plaza Design*, page 3-13).

### Curb Ramps

- **Material:** Ramps should be made of brick with ADA-compliant trunked dome pavers in gray colored concrete provided at the curb.

### Driveway Crossings: Sidewalk, Urban Trail and Shared Walkway

- **Material:** The same paving treatments, typically brick, should be provided where sidewalks, Urban Trails, or shared walkways cross a driveway, unless not permitted by VDOT or FCDOT.
  - Vehicular rated brick should be used for these crossings
  - Vehicle rated brick comes in 4" x 8" x 2 -3/4"
- **Entrance throats:** Driveways should be as narrow as permitted. See the VDOT Road Design Manual (RDM). Where applicable, see RDM Appendix B(2) for alternative specifications.

- **Grades:** Sidewalks, Urban Trails, and walkways should not ramp down to the driveway grade, they should remain at a consistent grade across the driveway.
- **For commercial driveways and residential driveways with greater than 20 trips/day:** ADA-compliant trunked dome pavers in gray colored concrete should be provided at the edges of the driveway to warn pedestrians of cross-traffic.

### Dolley Madison Blvd. Crossing – McLean CBC to McLean Central Park, McLean Community Center, and Dolley Madison Library

The Comprehensive Plan recommends evaluating pedestrian crossings from the CBC to the McLean Central Park and nearby public facilities to make a safer and more comfortable experience for people to walk and bike to these assets. Possible improvements specifically for crossing Dolley Madison Blvd. at Elm Street or Ingleside Avenue may include:

- Study the inclusion of a ‘High-Intensity Activated crossWalk beacon’ (HAWK) signal.
- Improve pedestrian lighting.
- Widen crosswalks to accommodate pedestrians and cyclists.
- Replace ‘corner-type’ ramps with crosswalk-aligned ramps.
- Widen sidewalks along Dolley Madison Blvd.
- Enhance landscaping.



Elm Street at Dolley Madison Blvd



Maple Avenue, Vienna, VA



Hemenway Street near Museum of Fine Arts, Boston, MA

#### TOP RIGHT

Brick sidewalk continues across the vehicular driveway entrance to prioritize the pedestrian experience  
Image Credit: Fairfax County

#### BOTTOM LEFT

Existing pedestrian crossing at Elm Street and Dolley Madison Blvd would benefit from an improved pedestrian experience  
Image Credit: Fairfax County

#### BOTTOM RIGHT

Widen, raised crosswalk with ADA detectable tag strip. The width of the crosswalk matches the width of the sidewalk  
Image Credit: Fairfax County

### 3G FURNISHING & LIGHTING SPECIFICATIONS

Furnishings and lighting are key elements that contribute to the pedestrian experience as well as help to define the Neighborhood Village aesthetic. Recommended furnishings such as benches and trash receptacles, as well as the post-top light fixtures embody a traditional, transitional or contemporary style that carries familiar design characteristics and humanistic qualities of scale and proportion.

#### 3G.1 SPECIFICATIONS - STREET LIGHT



Metroscap Full Cut-off - Preferred



Full Cut-off Acorn - Alternate

Existing streetlights in McLean are post-top Carlyle Acorn lights. These lights do not meet dark sky guidance and therefore a new lighting style is recommended.

In the public right-of-way and on private streets with public access, decorative post-top light fixtures are preferred to taller arm-mounted lighting. In some locations on Old Dominion Drive, Chain Bridge Road, and Dolley Madison Boulevard, taller, arm mounted fixtures may be necessary. All fixtures are generally provided and maintained by Dominion Energy, or other utility providers and must meet the county's Public Facility Manual standards for site lighting designs. Illumination levels should comply with AASHTO standards.

**Replacement of Existing Fixtures:** as development occurs, older, non-compliant fixtures should be replaced with the fixtures recommended in these Guidelines.

- **Style:** Attractive fixture that contributes to the Neighborhood Village Concept and promotes pedestrian-scaled elements in the streetscape.
- **Performance:** LED, 2700-3000K (warm white light)
- **Technology:** "Smart City" enabled.
- **Environmental Features:** Energy-efficient LED and Dark Sky compliant.

- **Color/material:** Black housing, aluminum
- **Preferred Fixture:** Signify brand Metroscap flat lens LED with Comfort Optics. *Note: as of the publication date of this document, the Metroscap has not been approved by Dominion Energy for inclusion into their standard fixture catalog. If the Metroscap is added to the catalog, it should be used for all developments.*
- **Alternative Fixture:** Full cut-off Acorn.
- **Post-Top Pole:** Decorative Fluted Tapered Composite.
- **Mounting Height:** 14-feet.
- **Installation Method:** Direct burial.
- **Arm-mounted Fixture (for wider roadways such as Avenues):** Decorative Shoebox (full cut-off), dark bronze housing with dark bronze decorative pole. Arm-mounted fixtures may be supplemented with post-top fixtures to illuminate streetscapes and pedestrian areas.
- **Arm-mounted Pole:** Dark Bronze Aluminum for Decorative Shoebox Luminaires
- **Mounting Height:** Varies.
- **Installation Method:** Direct burial.
- **Flag Brackets (where desired and permitted):** Black, aluminum brackets, ranging from 4.5 to 30-inches long, manufactured by Shakespeare Composite Structures.



Flag Brackets



Decorative Shoebox - Arm-mounted fixture for wider roadways (where necessary)

### 3G.2 SPECIFICATIONS - BENCHES



Image Credit: Landscape Forms©



Image Credit: Landscape Forms©

Landscape Forms - Melville Bench shown with powder coated bronze color and redwood



Image Credit: Forms + Surfaces©



Image Credit: Forms + Surfaces©

Forms + Surfaces - Cordia Bench shown with powder coated dark bronze and Jatoba hardwood

1. **Material:** Mix of wood and factory powder-coat aluminum or steel.
2. **Style:** Traditional or Modern Transitional style. Center divider arm preferred.
3. **Color:** Black or warm gray powder coated metal, natural-oiled finish hardwood. Wood should be FSC certified.
4. **Size:** 48-78"
5. **Installation Method:** Surface-mounted or embedded to a concrete pad/footer with brick over.
6. **Location and Orientation:**

- Bench spacing should be ~200-feet for accessibility purposes. Each development should provide at least one (1) bench along their frontage within the Landscape Panel. Additional seating may be provided in the Building Zone. Seating in the Building Zone does not need to conform with the styles depicted in the Guidelines.
- On Avenues, benches should be sited parallel to the roadway, facing the sidewalk in the Landscape Panel.
- On Local Streets, benches should be oriented perpendicular to streets in the Landscape Panel.
- Benches are encouraged near intersections and near building entrances where people are expected to congregate.
- Along publicly-accessible linear parks and trails. Parallel to the walkway ~200-foot spacing.

**Landscape Forms - Melville Bench Materials**

Powercoated colors:

1 - Stone	2 - Bronze
3 - Black Gloss	

Hardwood:

4 - Ipe	5 - Redwood
---------	-------------

**Forms + Surfaces - Cordia Bench Materials**

Powercoated colors:

1 - Dark Bronze Metallic Texture	2 - Slate Gloss
3 - Black Gloss	

Hardwood:

4 - Cumaru	5 - Jatoba
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### 3G.3 SPECIFICATIONS - BICYCLE RACKS



Image Credit: Landscape Forms©

Landscape Forms - Emerson Bike Rack shown with powder coated bronze

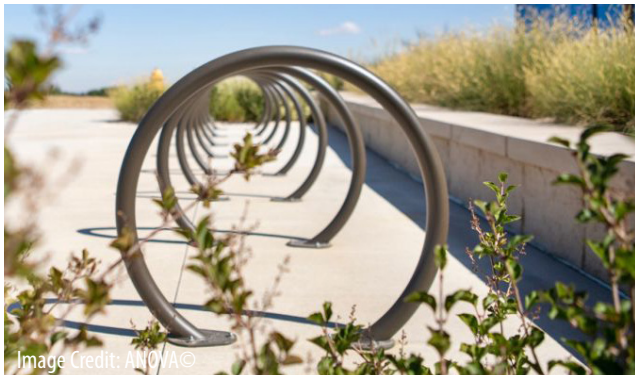
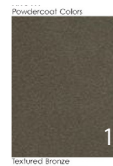


Image Credit: ANOVA©

ANOVA - Tandem Bike Rack shown with powder coated textured bronze



Landscape Forms -  
Emerson Bike Rack Materials  
Powercoated colors:  
1 - Stone  
2 - Bronze  
3 - Black Gloss



ANOVA -  
Tandem Bike Rack Materials  
Powercoated colors:  
1 - Textured Bronze

1. **Material:** Aluminum or steel with factory powder-coated finish.
2. **Style:** Modern Transitional. Individually ground-mounted racks - must have two anchor points into the ground.
3. **Color:** Black or warm gray powder coated metal.
4. **Size:** 27 to 35-inches tall.
5. **Installation method:** Surface-mounted or embedded to a concrete pad / footer with brick over.
6. **Location and Orientation:**
  - Within ~50 feet of primary building entrances.
  - Near bike access routes to parks and trails.
  - In the streetscape, locate racks within the Amenity Zone in the Landscape Amenity Panel. Do not place within a cycletrack, Urban Trail, or sidewalk.
  - Spaced a minimum of 3-feet apart, a minimum of 2.5-feet from surrounding vertical objects, and set back a minimum of 3-feet from the sidewalk.
7. **Quantity and Additional Locational Requirements:** [Fairfax County Bicycle Parking Guidelines](#)

### 3G.4 SPECIFICATIONS - TRASH & RECYCLING RECEPTACLES



Image Credit: Landscape Forms©  
Landscape Forms - Poe Receptacle shown with powder coated bronze



Image Credit: Forms + Surfaces©  
Forms + Surfaces - Cordia Receptacle shown with powder coated dark bronze and Jatoba hardwood

1. **Material:** Factory powder-coated aluminum or steel. Wood accents are encouraged.
2. **Style:** Traditional or Modern Transitional. Covered opening. Side access preferred.
3. **Color:** Black or warm gray powder coated metal. Natural-oiled finish hardwood. Wood should be FSC certified.
4. **Size:** 34-gallon liner or larger.
5. **Installation method:** Surface-mounted or embedded to a concrete pad / footer with brick over.
6. **Co-Location of Trash and Recycling:** Place receptacles in pairs of (1) trash and (1) recycling receptacle with each installation.
7. **Location in Parks:** In all urban parks, along publicly-accessible linear parks and trails near points of entry.
8. **Location and Frequency:**
  - **Streetscapes:** Within the Amenity Zone in the Landscape Amenity Panel or near intersections. Do not place within a cycletrack, Urban Trail, or sidewalk.
  - **Frequency:** Every development with at least 100-feet of public street frontage, should include at least one pair of receptacles. Generally, receptacles should be spaced every 200 to 400-feet.

**Landscape Forms - Poe Receptacle Materials**

Powercoated colors:  
 1 - Stone  
 2 - Bronze  
 3 - Black Gloss

Hardwood:  
 4 - Ipe  
 5 - Redwood

**Forms + Surfaces - Cordia Receptacle Materials**

Powercoated colors:  
 1 - Dark Bronze Metallic Texture  
 2 - Slate Gloss  
 3 - Black Gloss

Hardwood:  
 4 - Cumaru  
 5 - Jatoba

### 3G.5 SPECIFICATIONS - BUS SHELTERS



Image Credit: Columbia Equipment Company, LLC

McLean Shelter Design



Shelter Logo



Shelter at the Sunrise, McLean with brick pavement

The existing bus shelter in McLean contributes to its character. For consistency, the specific shelter listed below should be used for all new bus shelter facilities in McLean. There are many available options for mounting, lighting, materials, and other technologies so property owners should work with FCDOT on the specific transit shelter features.

#### Location

Bus shelters should be located in the Building Zone, immediately adjacent to the sidewalk.

#### Shelter Structure

**Style:** 6-feet by 12-feet. Three sides with open front or optional windscreen. Barrel-vaulted roof with acrylic glazing. Gold muntin style grillwork. 8-foot wall-mounted bench with backrest.

**Models:** 1. Columbia Equipment Co., Brandford Shelter, Model #8002S, 2. Brasco International, Inc., Slimline Series, or equivalent.

**Colors:** Shelter framing is powder coated with RAL 6028. Grilles are a Golden Gauge finish.

**Shelter Logo:** The oval 'McLean' logo from the *McLean Chamber of Commerce's* welcome signage should be used on the shelter's gable ends.

#### Shelter Pad

6-inch thick, reinforced concrete pad that is a minimum of 13-feet long by 6-feet wide and that is connected directly to the sidewalk for accessibility purposes.

The surface of the shelter pad should be clay brick with a concrete band to match the sidewalk.

### 3G.6 SPECIFICATIONS - LOW WALLS & RAISED PLANTERS



Low walls, under 4-feet in height, introduce additional visual and functional features into the streetscape contributing to the pedestrian experience. They create edges, delineate spaces and can buffer views of parking or utilities. When located between vehicles and pedestrians, they may increase safety by incorporating vertical elements into the urban landscape, acting as a buffer between travel modes. Some offer places to sit and encourage people to linger.

When provided, the design of the low walls and planters should be creative and contribute to McLean's sense of place.

- **Locations:** Low walls and raised planters should be considered around parking lots, along the edge of the Building Zone, and in plazas and pocket parks and other gathering spaces, generally outside of the public right-of-way.
- **Seat Wall Dimensions:** Masonry walls that are at a comfortable seat height, between 18 and 24 inches high and a minimum of 18 inches deep, can serve both as a structural element and for seating.
- **Materials:** in McLean, low walls and planters should be comprised of brick or stone. Wood or a concrete cap may also be used, and is encouraged when a wall is designed for seating. Split face CMU should be avoided.

### 3H STREET TREES & UNDERSTORY LANDSCAPING

Street trees are one of the most important features of the streetscape for their value to the environment, the pedestrian, and even the local economy. McLean already has a mature tree canopy in portions of the CBC with approximately 26 different tree species represented.

For additional guidance on street trees, See Chapter 2F in the Volume I Urban Design Guidelines, Chapter 122 of Tree Conservation Ordinance, and Chapter 12 of the Public Facilities Manual.

As of February 2023, Fairfax County permits street trees within VDOT right-of-way to receive 10-year canopy credit when meeting certain county standards. See the [Street Tree Canopy Credit and Alternative Planting Standard Appendix in the Volume I Urban Design Guidelines](#).

#### Design Principles

##### Green Corridors

Tree planting should emphasize a diversity of native and non-invasive species that maximize tree canopy coverage to create continuous green corridors. To maximize tree canopy coverage, developments should first attempt to preserve existing, healthy trees to the extent feasible as long as these trees are not invasive, such as Bradford Pears. See Transitions and Flexibility with Existing Conditions sub-section later in this chapter for more information on how streetscapes can be designed to preserve existing trees. The Landscape Panel can be used to maximize the number of trees that can be planted by minimizing hardscape, reducing physical interruptions, and ensuring that it is appropriately sized to the adjacent street, considering clear zone and sight distance requirements.

##### RIGHT

Allee effect created by double rows of trees. One row of street trees plus one row of trees in the Building Zone  
Image Credit: Pinterest.com



Boulevard Voltaire, Paris, France

## STREET TREES & UNDERSTORY LANDSCAPING (CONT'D)

### Multi-strata Urban Landscapes

Multi-strata landscapes recreate or mimic natural conditions in an urban setting. Landscape plans should employ a full spectrum of plant materials from ground cover, shrubs, and large, shade trees to create multi-layered landscapes. Such landscapes can provide a range of ecosystem benefits, such as reducing heat island impacts and reestablishing native plant communities. They also contribute to a beautiful pedestrian environment with seasonal interest that is well buffered from adjacent roadways.



Klyde Warren Park, Dallas, Texas

### Neighborhood Village Aesthetic

Trees and understory landscaping serve as key elements of McLean's character. A differentiated planting design is recommended for Avenues and Local Streets to form this character.

Avenues should contain a heavily treed and planted Landscape Panel. Where possible and if consistent with activated building frontages and other site design guidance, the Landscape Panel may be complemented by a second row of trees in the Building Zone (outside of the right-of-way) to create an allée design for the sidewalk.

Local Streets should include a consistent tree planting in the Landscape Panel but may need to allocate more hardscape space in the Landscape Panel or in the Building Zone for building activities and adjacent uses.

To differentiate streets, a specific list of species is recommended for four key street types. Along both Avenues and Local Streets, developments should employ an informal planting design with flowering plants and bright colors to provide human scale, variety, and interest to streetscapes.



Image Credit: Scape Studio

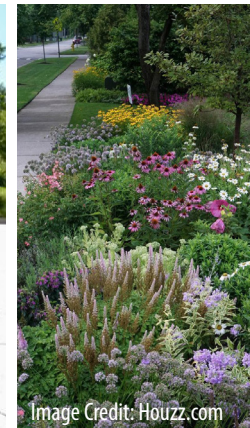


Image Credit: Houzz.com

#### TOP

Urban landscape planting of various species from shade trees, understory plantings, to ground cover mimics natural habitats  
Image Credit: Office of James Burnette

#### BOTTOM

Planting beds with flowering plants and bright colors provide human scale, variety, and interest to streetscapes

## STREET TREES & UNDERSTORY LANDSCAPING (CONT'D)

### Low-maintenance Designs

In new developments, use native or non-invasive, drought resistant, hardy, and low-maintenance species to the extent feasible. Maximizing soil volume, providing continuous Landscape Panels, using high-quality soils, and/or installing suspended pavement or other structural soil systems can reduce long-term maintenance costs and premature death.

A drip irrigation system is recommended for trees and plants within the Landscape Panel.



### Street Tree Concept

**Species Selection - Avenues and Beverly and Elm Streets (Local Street Type 1):** To build a sense of unity and identity for key streets in McLean, distinct pairs of tree species with similar or complementary physical characteristics should be planted within the Landscape Panel. These pairs will serve as visual cues to help orient pedestrians and motorists while forming a consistent character for each street.

**Species Selection - Local Street Type 2:** Refer to the Appendix of *Volume I Urban Design Guidelines* for street tree species options. It is recommended that no more than two species be used in the Landscape Panel within each street block on all other such streets in the McLean CBC.

**Species Planting Pattern:** One species should be planted in the Landscape Panel within each street block. Species should alternate by block to avoid monocultures. See Figure 3-7 (Avenue) and Figure 3-8 (Local).

**Planting Arrangement - Old Dominion Drive and Chain Bridge Road:** Where desired and if there is at least 8-feet of width, trees

may be planted in both the Landscape Panel and in the Building Zone to create an allée. Planting should be aligned with the sidewalk, staggered between the two areas, and should be planted at approximately 40-foot spacing, although spacing can be adjusted depending on the species. If a second row of trees is not accommodated, trees should be planted at approximately 30-foot spacing.

**Planting Arrangement - Other Streets:** Trees should be consistently spaced and aligned in the Landscape Panel at approximately 30-foot spacing, although spacing can be adjusted depending on the species. More informal or irregular tree arrangements are desirable in other planting areas as well as in neighborhood parks and plazas. Regularly planted street trees will create a unified streetscape character with a consistent canopy, a sense of enclosure, and a memorable visual character in McLean's streets.

**Planting Size:** Trees should be between 3 and 4-inches in caliper at time of planting.

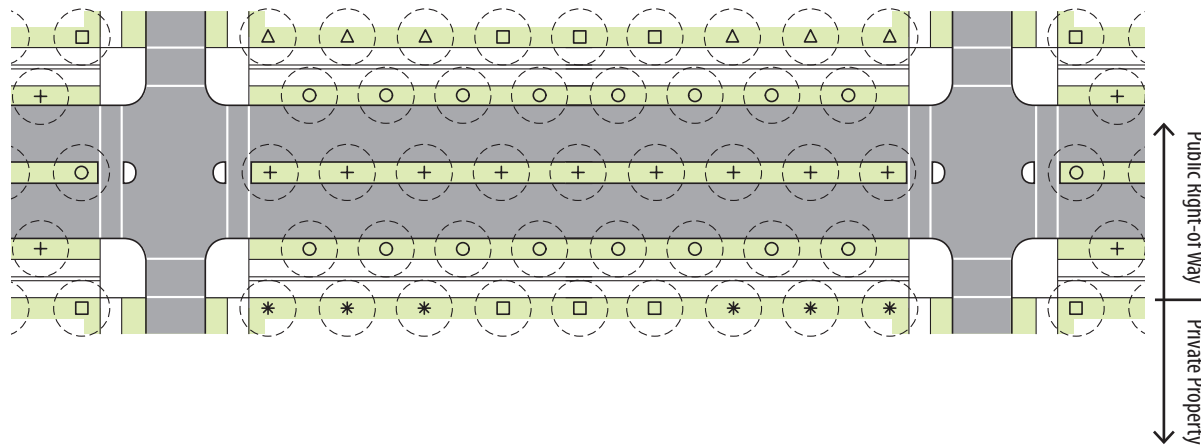
**FIGURE 3-7: TREE PLANTING PATTERN FOR AVENUES - LANDSCAPE PANEL AND BUILDING ZONE**

Figure 3-7 Notes:

**Tree Spacing** = ~40-feet, depending on species and understory landscaping.

**Tree Caliper** = 3 to 4 inches at time of planting.

**Building Zone Option:** Trees may only be planted in the Building Zone if it is at least 8-feet wide and if desired for the development.



**STREET TREES & UNDERSTORY LANDSCAPING (CONT'D)**

**KEY**

- Tree Species 1
- + Tree Species 2
- Planting Areas

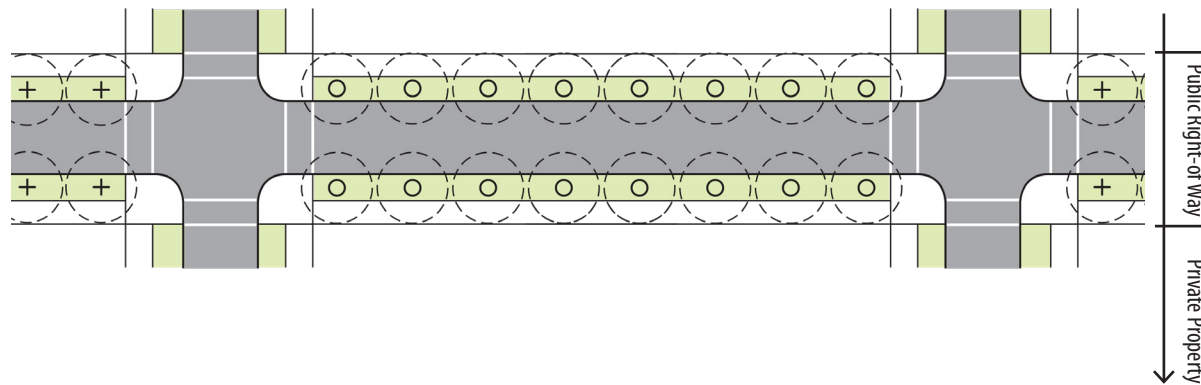
Landscape Panel: Species 1 & 2  
 Building Zone: Different Species than within the landscape panel

**FIGURE 3-8: TREE PLANTING PATTERN FOR LOCAL STREET - LANDSCAPE PANEL**

Figure 3-8 Notes:

**Tree Spacing** = ~30-feet, depending on species and understory landscaping.

**Tree Caliper** = 3 to 4 inches at time of planting.



**KEY**

- Tree Species 1
- + Tree Species 2
- Planting Areas

Landscape Panel: Species 1 & 2



## STREET TREES & UNDERSTORY LANDSCAPING (CONT'D)

### TABLE 3-1: TREE SPECIES BY STREET NAME

Street Name	Common Name	Scientific Name	Category	Native	Characteristics
Chain Bridge Road	London Planetree	Platanus x acerifolia	IV	N	50-100 feet tall, pyramidal to vase shape when mature. Exfoliating bark and yellow to brown fall foliage. Resistant to DED.
	Lacebark elm	Ulmus parvifolia	IV	N	
Old Dominion Drive	Black gum	Nyssa sylvatica	III	Y	Well-known shade trees growing 60 to 80 feet in height. Has a spreading crown and dark green leaves in summer that turn yellow and red in fall. Usually free of pests and diseases.
	Northern Red Oak	Quercus rubra	IV	Y	
Beverly Road	Hackberry	Celtis occidentalis	IV	Y	Large shade trees (60-80 feet tall) with a dense canopy of dark green, almond shaped leaves and the graceful arching habit and adaptable to streetscape conditions. Showy fall yellow foliage.
	Japanese zelkova	Zelkova serrata	IV	N	
Elm Street	Jefferson elm	Ulmus americana 'Jefferson'	IV	Y	Similar Bark, showy fall foliage. DED resistant.
	American basswood	Tilia americana	IV	Y	

### IMAGES OF TREES FOR AVENUES



*Note: When bioretention planters are proposed, other species that are appropriate for bioretention should be planted.*

## STREET TREES & UNDERSTORY LANDSCAPING (CONT'D)

### IMAGES OF TREES FOR LOCAL STREETS

Beverly Road



Hackberry

Japanese Zelkova

Elm Street



Jefferson Elm

American Basswood

*Note: When bioretention planters are proposed, other species that are appropriate for bioretention should be planted.*

### Understory Landscaping

See Chapter 2, [Volume I Urban Design Guidelines](#) for plant species that are preferred in Landscape Panels.

- Developments should use an informal planting design with flowering plants and bright colors that take into account seasonal interest.
- Understory landscaping should not exceed 2-feet in height (at maturity) if within a roadway site distance triangle.
- Native plants and ornamental grasses are encouraged.
- Turf grass should be avoided.



Washington, DC

#### LEFT

Example of a Landscape Panel with understory ornamental grasses  
Image Credit: Fairfax County

### 3I STORMWATER MANAGEMENT IN LANDSCAPE PANELS

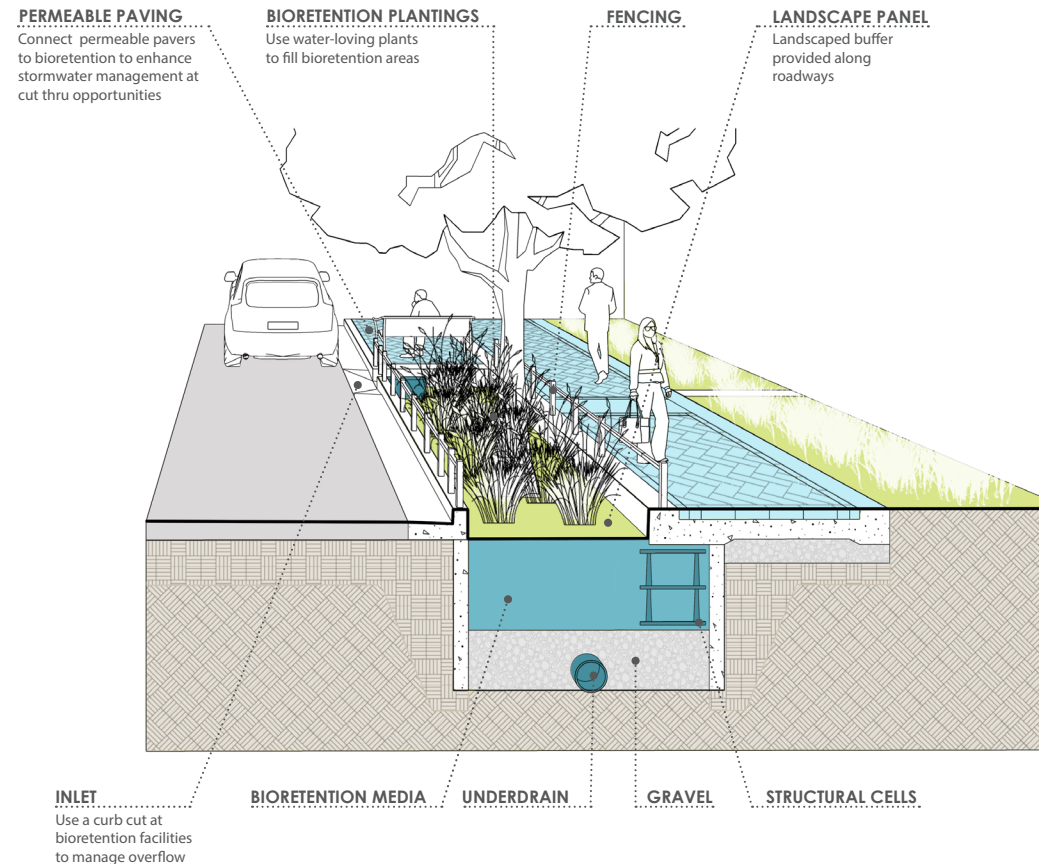
It is desirable for Landscape Panels to include bioretention planters where possible (See Figure 3-9). However, it is important that bioretention planters do not inhibit the planting of street trees.

**Trees and Width:** Bioretention planters should include a street tree. According to the Public Facilities Manual, planters are required to be a minimum of 8-feet wide to provide sufficient soil volume and space for facility maintenance and to accommodate a tree. Tree species appropriate for bioretention facilities should be used in lieu of those recommended in Section 3H.

**Depth:** Typical depth varies. Within VDOT right-of-way, bioretention facilities should generally avoid exceeding 12-inches in depth, measured from the sidewalk surface to the bioretention media. Facilities deeper than 12-inches may be permitted but may have additional requirements such as fencing, according to VDOT standards.

**Fencing:** Bioretention planters with basins that are 12 inches or less from the sidewalk surface may include a short metal fence, metal curb, or granite curb. The color of metal fences or curbs should be black or match the color of other metal furnishings in the streetscape.

**FIGURE 3-9: STORM WATER PLANTER DETAIL**



**Vegetation Selection:** The Volume I Urban Design Guidelines, State DEQ Handbook, and the County's stormwater ordinance provide species lists for appropriate vegetation which are mostly native and are able to thrive in highly permeable soils.

**Soils:** High-quality soil that is appropriate for bioretention planters is critical to the success of street trees planted in these areas. Soil specifications are located in the State DEQ Handbook.

**Drainage:** Underdrains are needed if the existing water table is close to bottom of the basin, or if soils below the basin are not sufficiently permeable.

**Reference:** [Stormwater Handbooks | Virginia DEQ](#); [BMP Design Specifications | Virginia DEQ](#)



McLean, VA



**TOP**  
 Example of a bioretention planter with a tree and decorative fencing in the McLean CBC  
 Image Credit: Fairfax County

**BOTTOM**  
 Attractive educational signage in a bioretention planter explains the various natural processes that the facility mimics.  
 Image Credit: Fairfax County

### 3J TRANSITIONS & FLEXIBILITY FOR EXISTING CONDITIONS

Transitioning between existing and new streetscapes is an important consideration in street design. Transitions may be necessary to address present conditions such as existing trees and legacy infrastructure or as land uses or neighborhood character change, in particular at the edges of the CBC. Variations in the streetscape design may include different facility types (i.e., an Urban Trail transitioning to a sidewalk and cycletrack), dimensions, location or orientation, or paving material. A common occurrence in McLean is where older, narrow sidewalks with little to no buffer from the street abut new streetscapes that include wider sidewalks, street trees, and sometimes bicycle facilities.

- **Change in Streetscape Configuration:** Transitioning from one streetscape configuration to another should occur at a natural point of change such as an intersection or driveway crossing. Avoid mid-block transitions or where two materials adjoin each other abruptly, if possible. If a transition must occur mid-block, introduce a different paving material (such as scored concrete or London pavers) to act as the transition in order to make the change appear intentional.

It is generally recommended that the transition align with a building entrance or public space where paving is already wider. Intersection Plazas are another place where transitioning sidewalk dimensions can occur more seamlessly.

- **Flexibility for Existing Trees:** Flexibility is afforded to streetscape configurations to preserve existing, healthy trees regardless of the species (unless it is considered invasive).

**LEFT**  
Sidewalk transition occurs at an storm inlet working around existing conditions  
Image Credit: Fairfax County



Elm Street, McLean, VA

**RIGHT**  
Two different streetscape designs transition naturally at a street corner (one sidewalk is setback from the curb and one is adjacent to the curb)  
Image Credit: Fairfax County



Fleetwood Road, McLean, VA

For example, sidewalk paving may meander around a tree. Or, for larger trees, the order of streetscape elements may be rearranged to support tree preservation, provided that all streetscape elements are included, and transitions back to the proper order at the edges of parcels are made.

The edge of paving should be at least 3-feet from the center of the tree. Fairfax County Urban Forestry Management Division should be consulted to determine the health and anticipated life span of the tree(s) and the feasibility of preserving the tree(s) during construction.

- **Flexibility for Existing Sidewalks:** Where streetscape has been built to prior standards and is in good condition, consider creative designs that achieve the intent of the Guidelines while retaining the existing configuration (see example photo, page 3-36).
- **Tying-in to Existing Development:** In limited circumstances, completion of off-site streetscape may be suggested to make important pedestrian connections.



Santana Row, San Jose, CA

**LEFT**  
Development worked around an existing mature oak tree and turned it into a memorable place  
Image Credits: The Offices at Santana Row

### 3K MAINTENANCE RESPONSIBILITY

Anticipating and establishing maintenance responsibility and expectations is critical to the long-term success of McLean's streetscapes and pathways. Depending on the type of infrastructure, maintenance may be the responsibility of the property owner, Fairfax County, the Virginia Department of Transportation (VDOT), or utilities such as Dominion Energy.

**Unless otherwise specified, it is generally preferred that maintenance of all facilities that are proffered and constructed as part of a new development should be maintained by the property owner in perpetuity. This includes features within the right-of-way.**

**The Building Zone, located outside of the right-of-way, will be privately owned, and maintained.**

#### Roadways and Streetscapes

In McLean, most roadways depicted in the Comprehensive Plan's Multimodal Network Map (Figure 15) already exist and are maintained by VDOT. Fairfax County's Department of Public Works and Environmental Services (DPWES) also operates a program for maintenance of legacy non-standard features including portions of the streetscape, gateway signs, and certain public spaces, much of which is located within the right-of-way. Additional routine maintenance services such as street sweeping, trash removal, remediation of trip hazards, landscaping, and weed spraying are also provided within McLean by DPWES.

Developers may construct on-street parking, Landscape Panels, sidewalks, and sometimes bicycle facilities that border travel lanes, in the right-of-way and which are subject to VDOT's inspection and acceptance into its secondary road system.

VDOT will not accept landscape or sidewalks constructed with non-standard features or encumbered by easements, including:

- Easements that Dominion Energy requires for new installations of electric distribution duct-banks and manholes.

- Brick pavers
- Street trees
- Street furnishings
- Other special features

In these instances, the property owner must enter into a '[Covenant of Perpetual Maintenance](#)' with VDOT which obligates the property owner to on-going maintenance of the streetscape.

#### Overhead Utilities in the Right-of-Way

Many of McLean's roadways contain overhead electric distribution lines, fixed atop wooden poles that may also have streetlights attached to them. The Comprehensive Plan recommends that these overhead lines should be buried in duct-banks and standalone decorative streetlights be installed. Dominion Energy requires easements over the duct-banks and associated manholes or vaults which are typically located under the sidewalk. VDOT will not accept easements in its road system therefore maintenance of these encumbered spaces is the obligation of the property owner.

During the rezoning process, developers should account for the required dimensions of duct-banks and manholes and ensure maintenance responsibility is articulated.

#### Streetlights

The LED streetlight models referenced in these Guidelines are either part of Dominion Energy's standard streetlight catalog or are in the process of being accepted into their catalog. Listing in this catalog ensures maintenance by Dominion Energy including replacement of damaged or non-working fixtures. Where non-standard fixtures are installed, private maintenance is required.

#### Pedestrian Pathways (outside of the right-of-way)

The Comprehensive Plan and these Guidelines encourage the creation of off-street pedestrian pathways, as shown on the Multimodal Network Map (Figure 15 in the McLean Comprehensive Plan) and the Park Network Map (Figure 5-1 in these Guidelines). Pathways may be planned entirely within a new development

or may include paving, lighting, and other improvements across multiple parcels. In either instance, proffered pathways must stipulate who is responsible for maintaining the pathway surface and any landscaping or other special features installed and energizing any light fixtures. VDOT will not accept these pathways into their system for maintenance.

Public access easements should be recorded for pedestrian pathways that are intended for public use.