

Section 10 Street Standards

10.1 Introduction

The street system within Mesa Proving Grounds is an important part of the vision for the community and is intended to provide connectivity and use of other modes of transportation. Additionally, the street system is planned in conjunction with the building form, block character, and circulation character outlined within the LUGs. The goal is to create an urban street system that provides focus on the street as it relates to its surrounding form as prescribed by the LUGs. This focus places the importance of moving pedestrians and bicycles as well as vehicles. Street sections are also established herein that encourage pedestrians to use both sides of the streets by providing convenient street widths and crossing placement. This design principle emphasizes the make-up of the entire function of the street versus typical design functions that emphasize vehicular movement and traffic speeds.

In order to accomplish these goals, this section intends to provide the necessary regulations to direct the design of streets within the Property. Street sections include dimensions for travel and parking lanes, sidewalks, medians, back of curb, and landscape options.

10.2 Urban Great Streets

The fabric that ties together the urban neighborhoods within Mesa Proving Grounds is its network of urban great streets. These streets differ from suburban streets as they are the setting for social life within the community. The streets within the community will be designed, as appropriate with the following key elements:

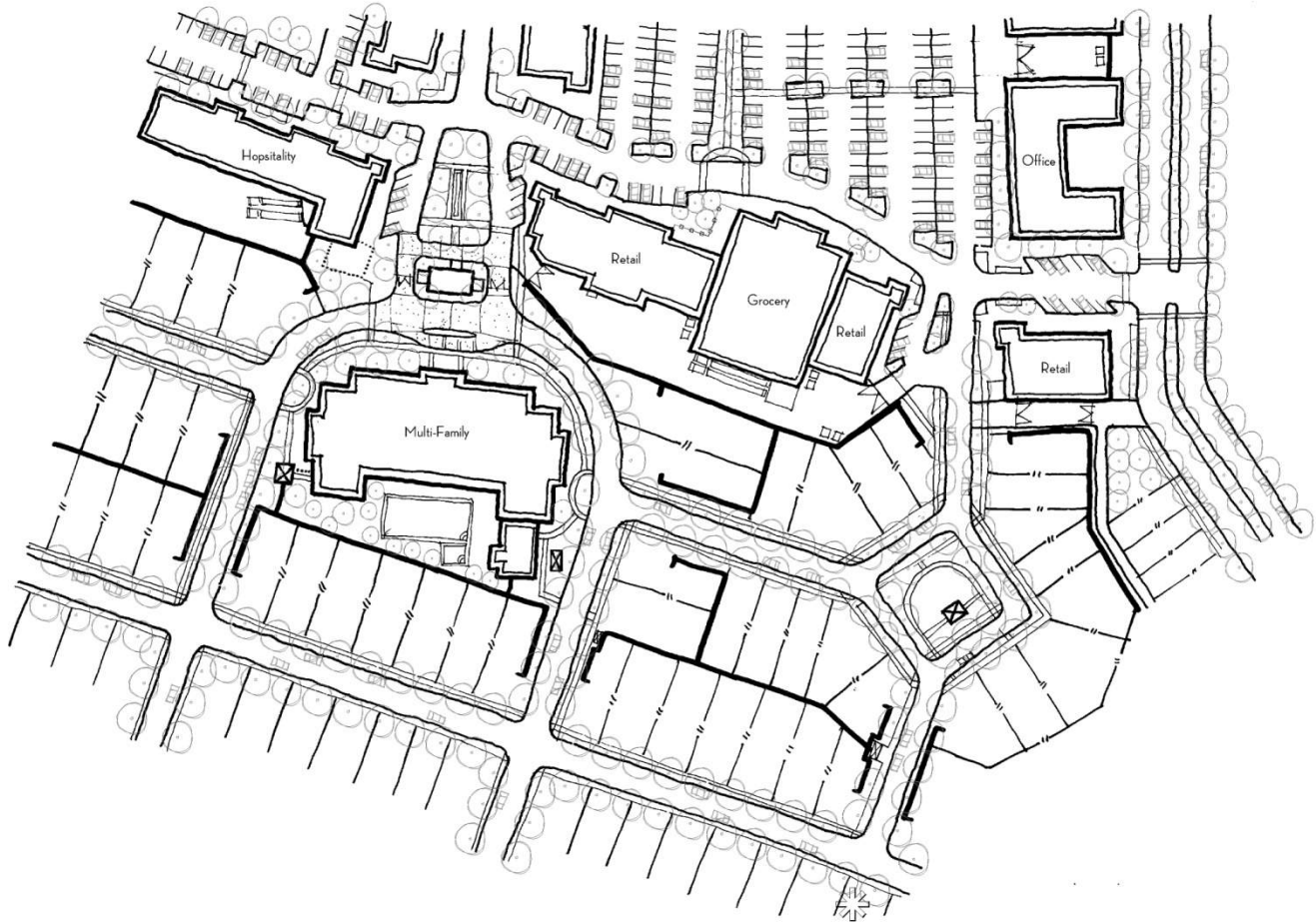
- Connected grid - complete streets
- Cul-de-sacs where necessary, but street space and connectivity continue unbroken
- Designed to enhance the walking experience (pedestrian dominated)
- Utilities de-emphasized, hidden and screened
- Sidewalk separated from vehicular traffic on desert and natural streets
- Curb separated sidewalk
- Parking buffer
- Tree/street furniture buffer
- Activity buffer
- Shaded walkways
- Street trees
- Awnings and canopies
- Arcades and colonnades
- Intensity appropriate lighting
- Ambient lighting in low intensity (residential character) areas, soft on the eyes
- Vibrant lighting in high intensity/core areas to add to the energy of the experience
- Narrow streets made visually narrower with street trees or buildings close to the street to demand slow traffic speeds



Note: Photos are intended to be representative of the character and quality of typical urban streets and are not intended to express specific design details, colors or materials.

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Exhibit 10.1 - Typical Urban Neighborhood Plan



10.3 Right-Of-Way Standards

A. General

- The Property's rights-of-way ("ROW") are intended to be public streets utilized by pedestrians, bicycles, and vehicles to provide access to parcels, lots and open spaces
- Roadways shall be designed in context with the urban form and desired design speed through each DU and LUG. Roadways may be designed with altered design speeds, widths and sections as the ROW passes from one DU and/or LUG to another DU and/or LUG
- Roadways shall be designed to achieve an urban form by emphasizing the pedestrian experience while having the ability to move vehicles through the Property. Design conflict between pedestrian and vehicular movement generally shall be decided in favor of the pedestrian. Within LUG V and LUG UC, pedestrian comfort shall be the primary consideration of the roadway
- ROW shall generally terminate at other ROW, forming a network. Cul-de-sacs and hammerheads are generally limited, unless providing motor court access, service access, or when a through route is not practical or detracts from the urban form. Each Lot shall have frontage on a ROW or access easement that connects to a ROW
- Standards for bicycle routes and lanes are described within Section 10.9. Refer to *Exhibit 10.22* - Typical Bicycle Lanes and Routes
- The City of Mesa Street Design Standards has been adopted in the CP as amended
- Future modifications to the Street Standards may be approved by the City Traffic Engineer during the DU, Site Plan or subdivision level processes
- The Mesa Proving Grounds Master Transportation Plan shall be used to determine basic roadway requirements including but not limited to: roadway classifications, rights of way, dimensions, number of lanes, medians, bike paths and speeds for all internal streets unless amended by the DUP
- The street sections in this section locate the ROW at back of curb for all street sections except for the arterial streets. City Standard Details and Figures, Maricopa Association of Governments Standard Details and other applicable details depiction of ROW in a location other than back of curb shall be amended by this CP to show the ROW at back of curb
- Per Title 9 Chapter 5 of the City Code, Primary Vehicular Alley Access shall be amended by this CP to allow vehicular access to and from alleys and service lanes within Mesa Proving Grounds
- Off-site Improvement Regulations of Title 9, Chapter 8 of the City Code shall be amended by this CP to the extent specified in Section 9.

B. Transportation and Traffic Reports

- The City utilizes a current Transportation Master Plan. The Master Transportation Plan for Mesa Proving Grounds supersedes the Mesa Transportation Plan within the Mesa Proving Grounds Property, except for the perimeter (external) arterial streets should other analysis and evaluation indicate different cross sections are needed
- A more detailed analysis for each DU will be provided with each DU Transportation Plan that will address changes in the DUs and adjacent DUs which may occur as development progresses and densities change. Updates to the Master Transportation Plan may be required if significant changes are made to the land uses and assumptions utilized to prepare the Master Transportation Plan.

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C. Typical Street Sections, Speeds, Hierarchy and Character

1. For District and Arterial Streets, typical sections, speeds and hierarchy for arterial and district are depicted on **Exhibits 10.2** - District and Arterial Streets - Typical Sections, Speeds and Hierarchy and **Exhibit 10.3** - District and Arterial Streets - Roadway Hierarchy. The suggested posted speed limits are intended to be both the posted speeds and the design speeds for the roadways with the intention of lowering the actual travel speeds on the roadways. For details regarding these typical street sections refer to Sections 10.3D, 10.3E and 10.3F.
2. The remainder of the street network (that which is not District or Arterial Streets) within the Property can be typified as Neighborhood Streets. Refer to **Exhibit 10.4** - Neighborhood Streets - Typical Sections and Character for the typical sections and character for neighborhood streets. The neighborhood streets are intended to provide a connected network of streets that extend throughout the community. This exhibit also provides images of the street character that is intended to be created by these sections. For details regarding these typical street sections refer to Sections 10.3D, 10.3E and 10.3F.
3. For Service Lanes, typical sections and character are depicted on **Exhibit 10.5** - Service Lanes - Typical Section and Character. They are intended to provide access to supporting areas and uses of the community. This exhibit also provides images of the character of service lanes. For details regarding these typical street sections refer to Sections 10.3D, 10.3E and 10.3F.
4. Bicycle Lanes and Parking options may be incorporated in or along District and Neighborhood Streets and are referred to as District and Neighborhood Streets Elements. **Exhibit 10.6** - District and Neighborhood Street Elements - On Street Parking Character and **Exhibit 10.14** - On-Street Parking and Bicycle Lane Options - Details, provide a list of options that can be used beyond the edge of the travel lane on various street cross sections for bicycle lanes, on street parking and parking character. The combination of these elements with the detailed street cross sections provide the menu of typical cross sections provided for arterial, district and neighborhood streets as well as the service lanes. The images express the conceptual character of these elements. For details regarding these elements refer to Section 10.3E.
5. On-street transit centers are anticipated in the urban cores. Sufficient ROW or easements along the street will be required to accommodate the transit centers.

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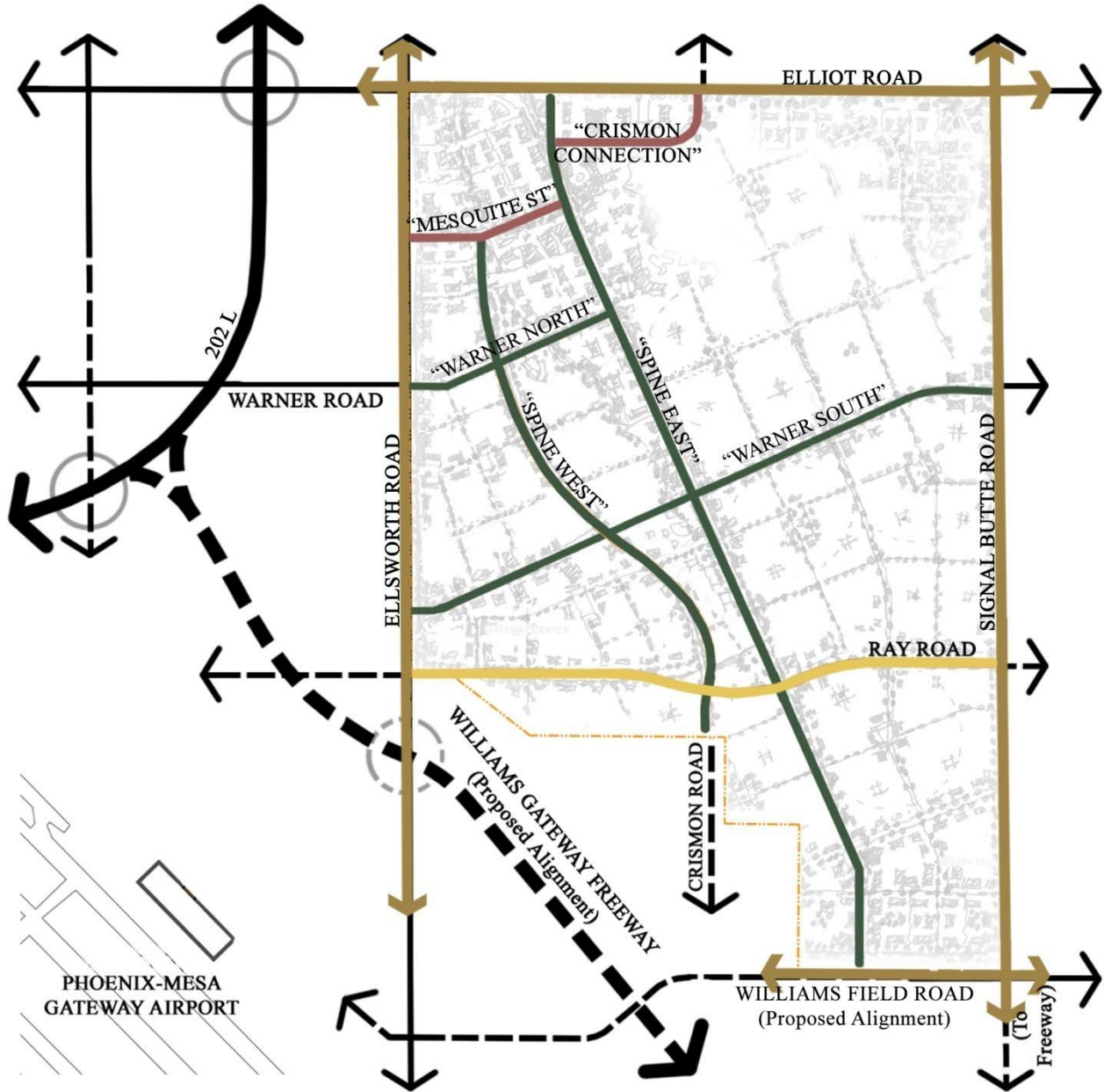
Exhibit 10.2 - District and Arterial Streets - Typical Sections, Speeds, and Hierarchy

| | Two-way, Two Lane District Street Raised Median* | Two-way, Two Lane District Street Flush Median | Two-way, Four Lane District Street Raised Median* | Two-way, Four Lane District Street Flush Median | Six Lane Perimeter Arterial/ Six Lane Internal Arterial Raised Median* |
|--|--|--|---|---|--|
| No Parking | | | | | |
| No Parking With Bike Lane | | | | | |
| Parallel Parking | | | | | |
| Parallel Parking with Traffic-side Bike Lane | | | | | |
| 30° Angle Parking | | | | | |
| 45° Angle Parking | | | | | |
| 60° Angle Parking | | | | | |

*Please refer to *Exhibit 10.15* - Medians and Turn Lanes - Details

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Exhibit 10.3 - District and Arterial Streets - Roadway Hierarchy



LEGEND:

- Two-Way Four Lane District Street
- 6 Lane Perimeter Arterial
- Two-Way Two Lane District Street
- 6 Lane Internal Arterial (Ray Road)
- Existing Interchange
- Proposed Interchange

SUGGESTED POSTED SPEED LIMIT

| | |
|---|----|
| Elliot, Signal Butte, Williams Field, Ellsworth | 45 |
| Ray Road | 40 |
| Spine West | 35 |
| Spine East, Mesquite St, Warner North, Warner South | 30 |
| Crismon Connection | 25 |

Note: Roadway locations shown are conceptual. Final locations may vary. All intersections of district streets with arterial streets shall be where traffic signals are permitted. Refer to *Exhibit 10.17* - Signalized Intersection Locations.

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Exhibit 10.4 - Neighborhood Streets - Typical Sections and Character

| | Neighborhood Street Two-way | Neighborhood Street One-way |
|-------------------|--------------------------------|--------------------------------|
| No Parking | | |
| Parallel Parking | | |
| 30° Angle Parking | | |
| 45° Angle Parking | | |
| 60° Angle Parking | | |
| 90° Angle Parking | | |



Note: Photos are intended to be representative of the character and quality of typical neighborhood streets and are not intended to express specific design details, colors or materials.

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Exhibit 10.5 - Service Lanes - Typical Section and Character

| | Service Lane Two-way | Service Lane One-way |
|-------------------|----------------------|----------------------|
| No Parking | | |
| Parallel Parking | | |
| 30° Angle Parking | | |
| 45° Angle Parking | | |
| 60° Angle Parking | | |
| 90° Angle Parking | | |



Note: Photos are intended to be representative of the character and quality of typical service lanes and are not intended to express specific design details, colors or materials.

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Exhibit 10.6 - District and Neighborhood Street Elements - On Street Parking Character



Angular Parking



Parallel Parking



Perpendicular Parking



Parallel Parking

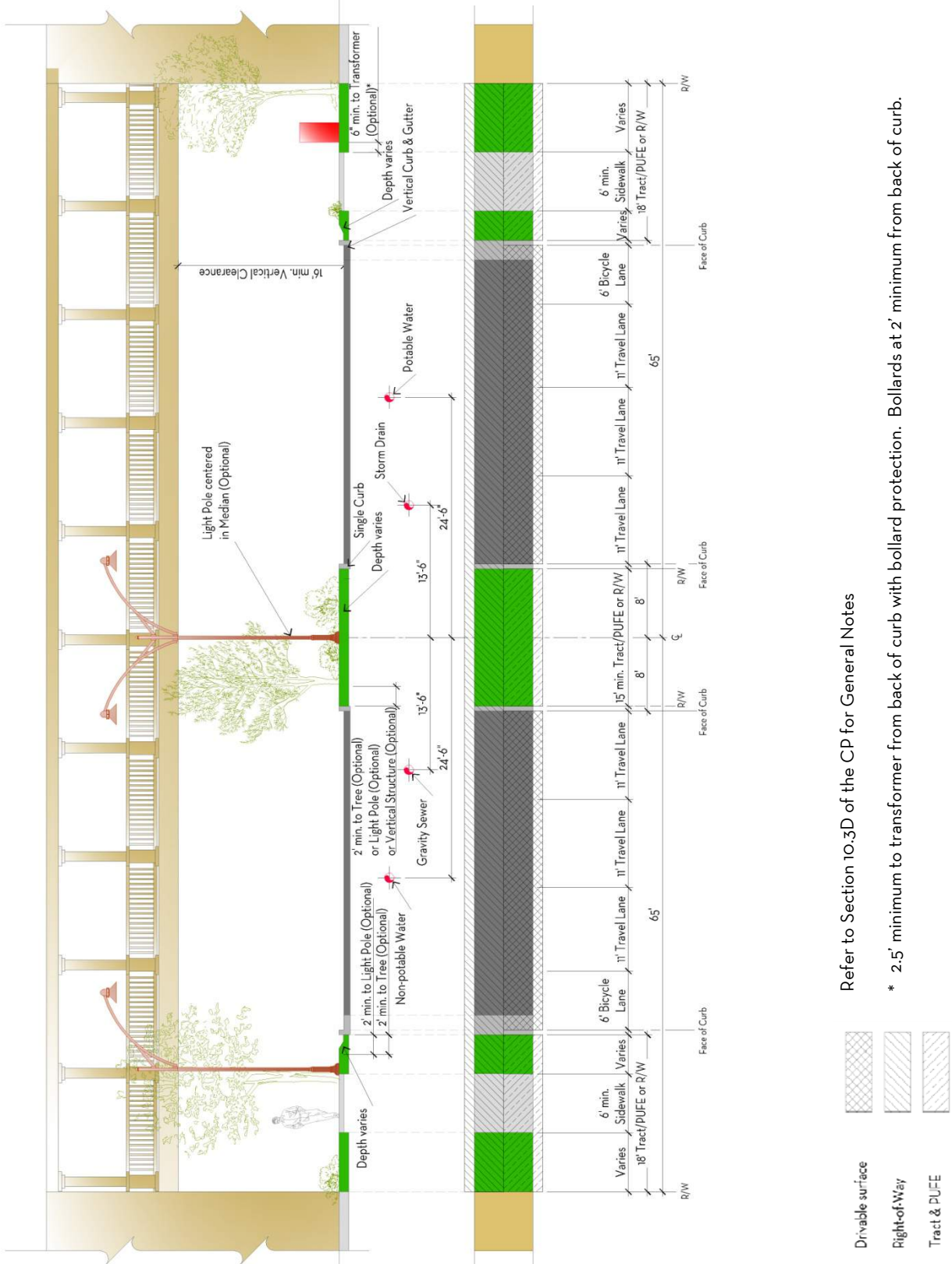
Note: Photos are intended to be representative of the character and quality of on street parking and are not intended to express specific design details, colors or materials.

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- D. The following general notes apply to all of the Detailed Cross Sections that follow. Refer to *Exhibits 10.7 - 10.13*
1. Trash collection is not permitted on arterial streets.
 2. Trash barrels are not permitted in travel lanes.
 3. Minimum vertical clearance requirement for trash collection under overhead structures is eighteen (18) feet for trash barrel collection and twenty-six (26) feet for trash bin collection.
 4. Minimum vertical clearance requirement is fifteen (15) feet on fire lanes and fourteen (14) feet on all other streets, except arterial streets. Minimum vertical clearance on arterial streets is sixteen (16) feet.
 5. Except for service lanes, sidewalks are to be provided on both sides of a street but may be separated from the curb by parking lane or other feature. Sidewalk conditions are set forth in Section 10.10.
 6. Structures may encroach into ROW provided all structures encroaching into ROW are specifically approved by the City.
 7. Trash collection on one-way streets and service lanes, shall be on the right side only.
 8. Trash collection on two-way service lanes, is preferred on one (1) side only.
 9. Bicycle lanes may be added at the edge of travel lane, except on service lanes.
 10. Parking options may be added at the edge of travel lane for all streets except arterial streets. Only parallel parking options may be used on four (4) lane district streets. Perpendicular parking is not permitted on district streets.
 11. Typical utility locations are shown. Specific locations will be based on actual planned utilities within roadways that may include water, sewer, non-potable water, storm drain and dry utilities. Water mains will typically be located in frontage roads and not in service lanes.
 12. When ribbon curb is used, no part of the curb shall be considered part of the drivable surface.
 13. When rolled curb is used, the first nine (9) inches shall be considered part of the drivable surface.
 14. When vertical curb is used, the entire surface up to the face-of-curb shall be considered part of the drivable surface. When travel lanes are less than eleven (11) feet wide and against a vertical curb, one (1) additional foot of width in the travel lane is required to allow the driver to shy away from the curb. The travel lane may continue straight through with the curb being set back one (1) foot to provide the extra lane width. Refer to *Exhibit 10.15 - Medians and Turn Lanes - Details* for an example of this.
 15. Easements along ROW shall be in a form acceptable to the City. Easements shall be able to accommodate the elements of Section 10, so long as the elements are appropriate to the setting.

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Exhibit 10.7 - 6 Lane Perimeter Arterial/6 Lane Internal Arterial (Ray Road) - Detailed Cross Section

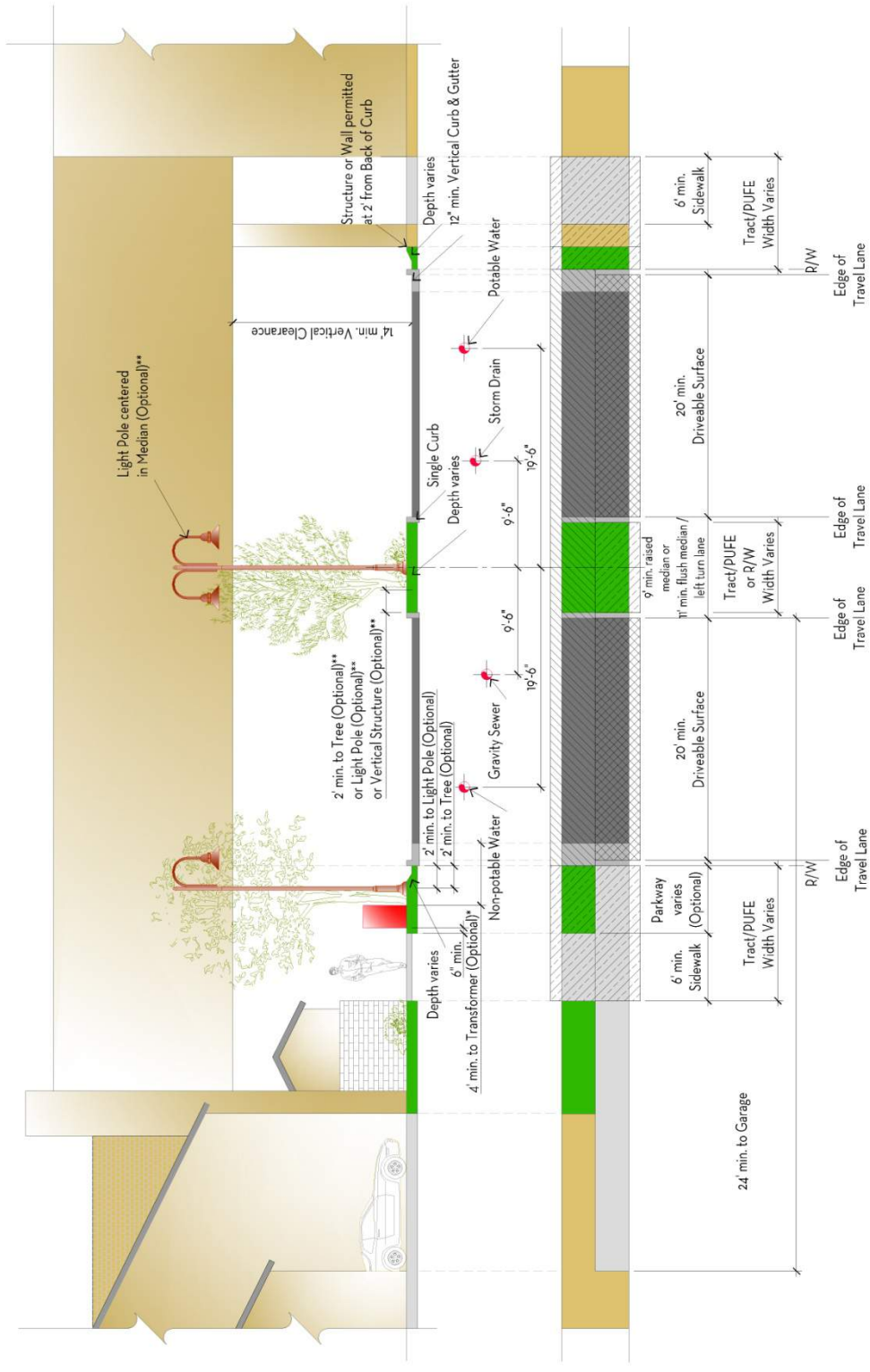


Refer to Section 10.3D of the CP for General Notes




* 2.5' minimum to transformer from back of curb with bollard protection. Bollards at 2' minimum from back of curb.

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Exhibit 10.8 - Two-Way Four Lane District Street - Detailed Cross Section



Refer to Section 10.3D of the CP for General Notes

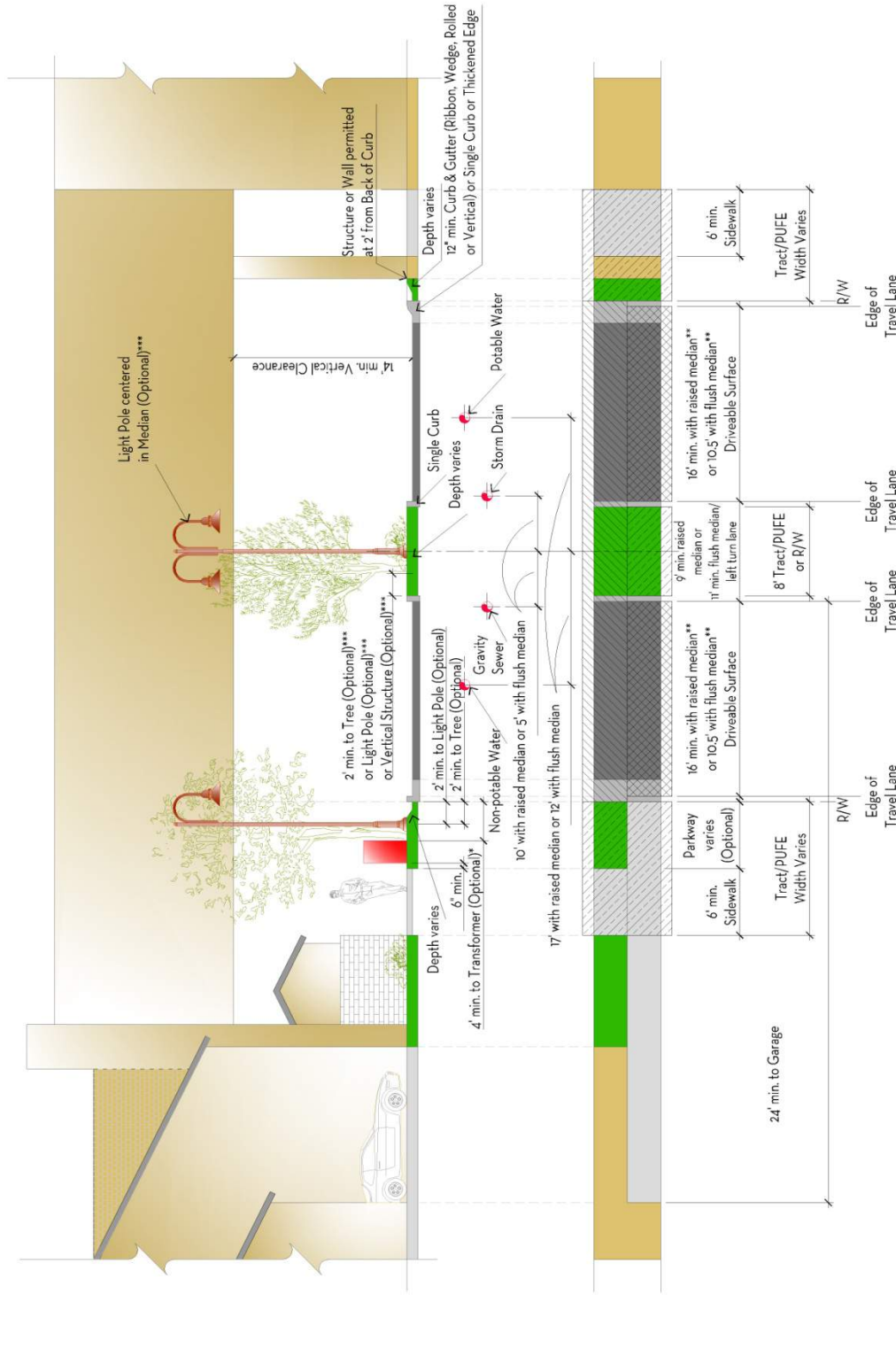
-  Drivable surface
-  Right-of-Way
-  Tract & PUFE

* 2.5' minimum to transformer from back of curb with bollard protection. Bollards at 2' minimum from back of curb.

** Raised median option only

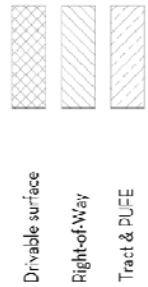
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Exhibit 10.9 - Two-Way Two Lane District Street - Detailed Cross Section



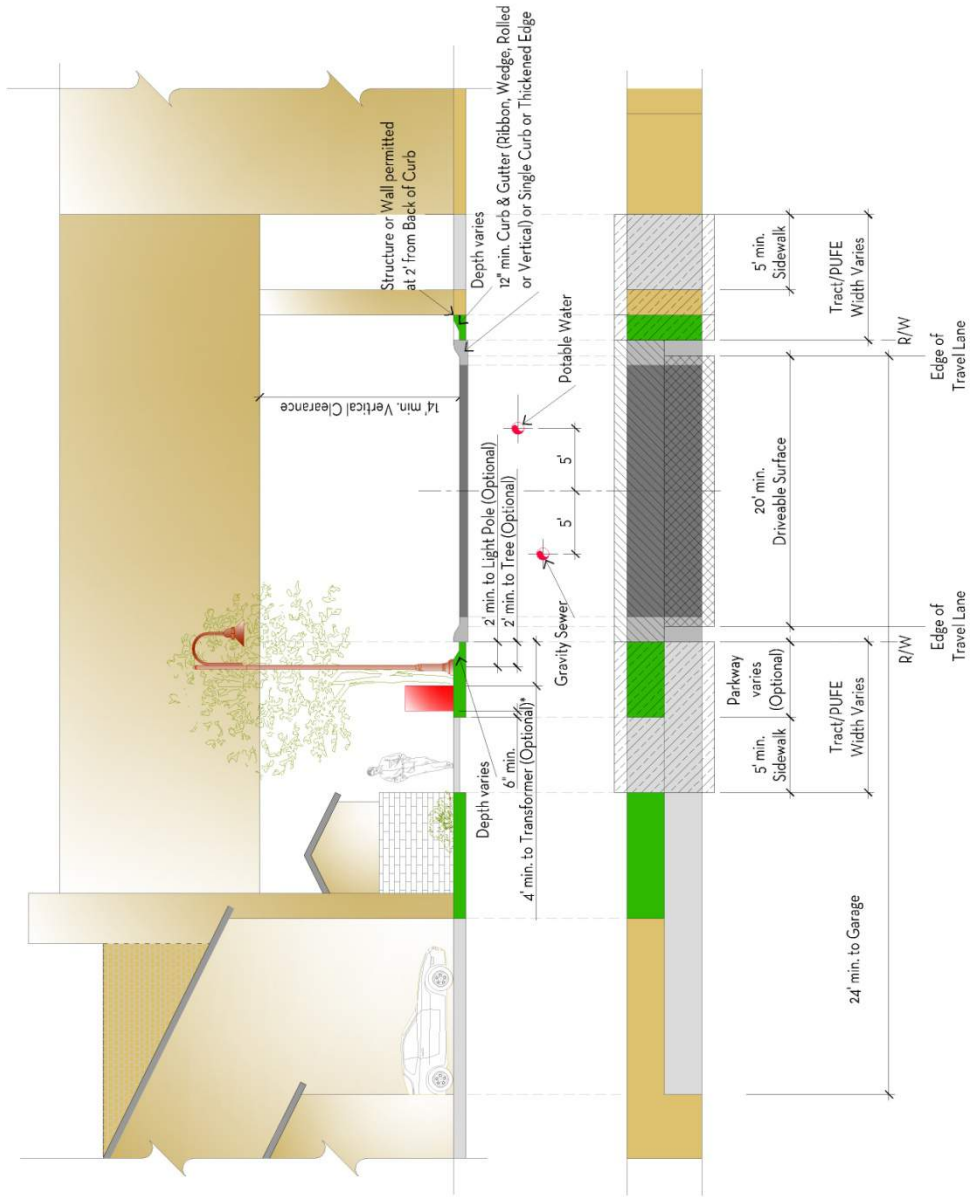
Refer to Section 10.3D of the CP for General Notes

- * 2.5' minimum to transformer from back of curb with bollard protection. Bollards at 2' minimum from back of curb.
- ** Any fire lanes with less than a 20' clear drivable surface require a defensible position. Refer to **Exhibit 10.16** - Defensible Positions in Section 10 of CP.
- *** Raised median option only



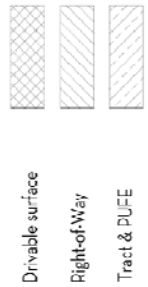
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Exhibit 10.10 - Two-Way Neighborhood Street - Detailed Cross Section



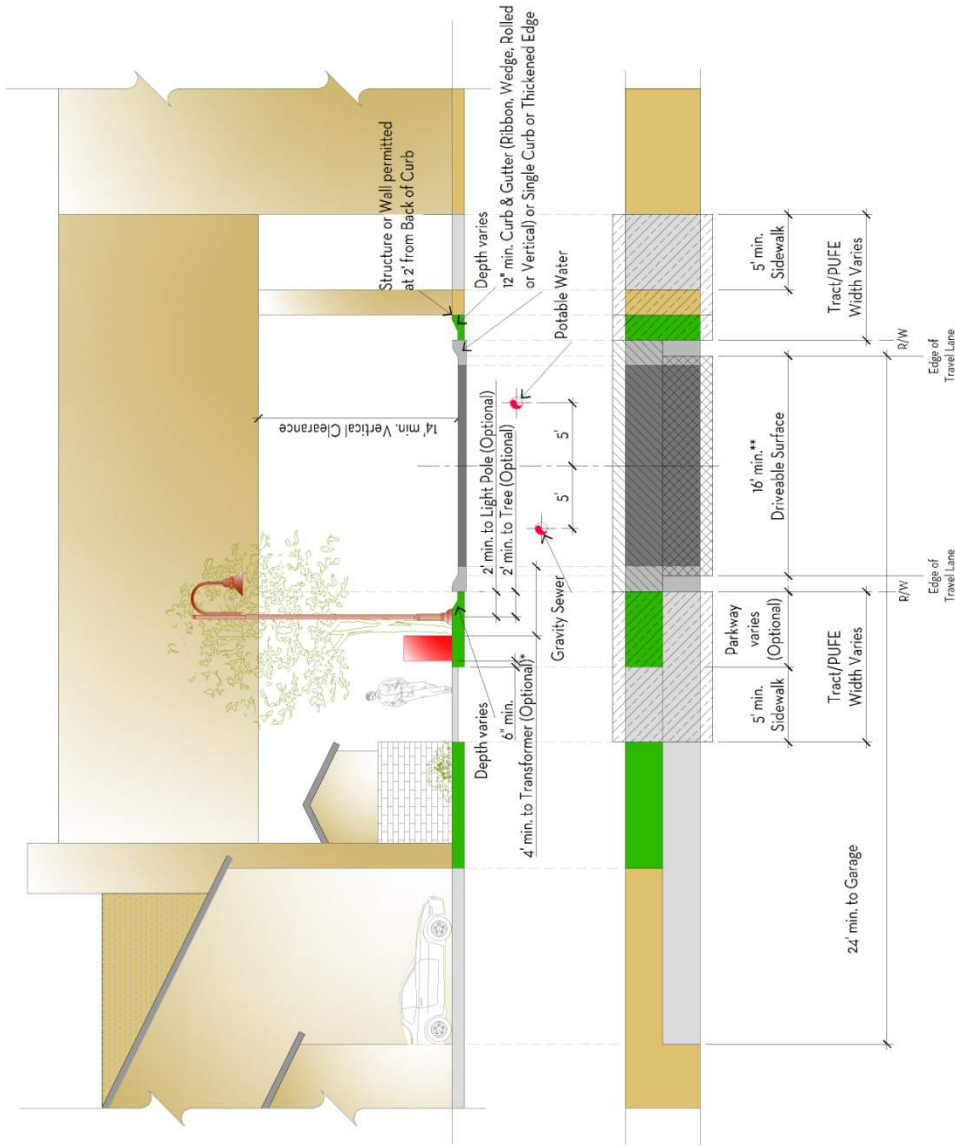
Refer to Section 10.3D of the CP for General Notes

* 2.5' minimum to transformer from back of curb with bollard protection. Bollards at 2' minimum from back of curb.



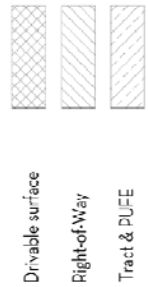
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Exhibit 10.11 - One-Way Neighborhood Street - Detailed Cross Section



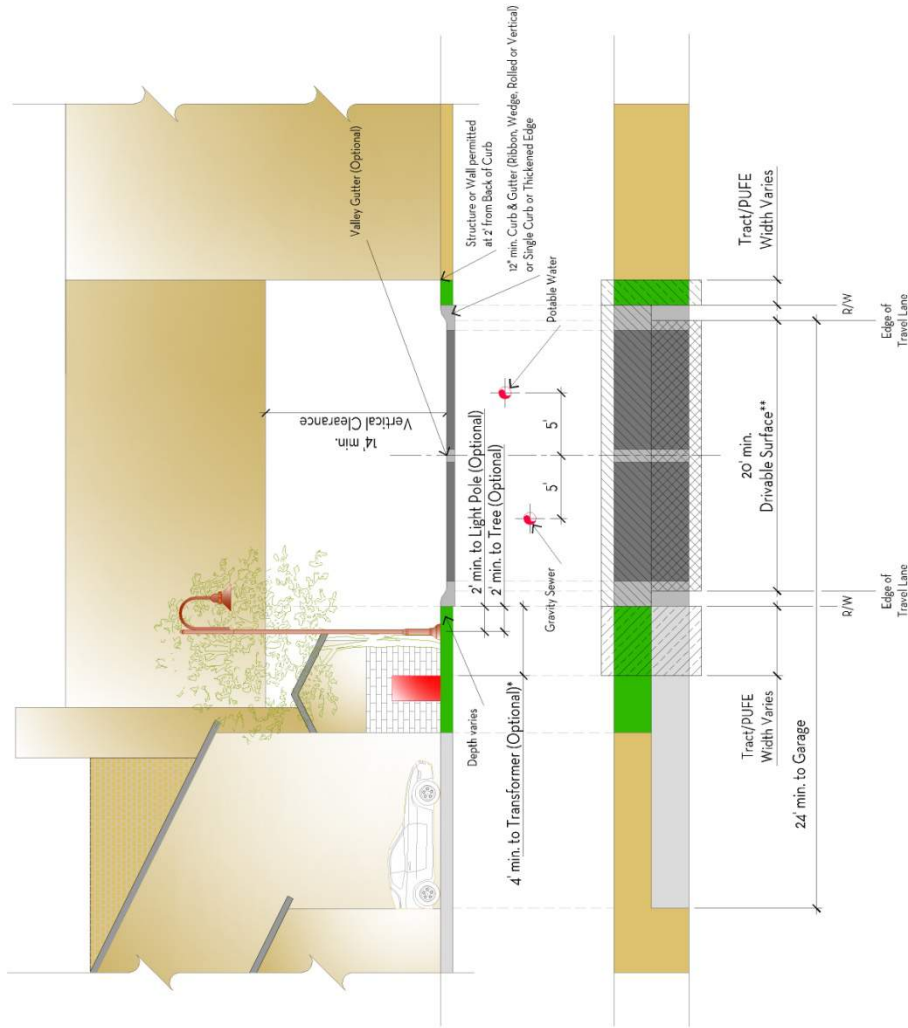
Refer to Section 10.3D of the CP for General Notes

- * 2.5' minimum to transformer from back of curb with bollard protection. Bollards at 2' minimum from back of curb.
- ** Any fire lanes with less than a 20' clear drivable surface require a defensible position. Refer to **Exhibit 10.16** - Defensible Positions in Section 10 of CP.



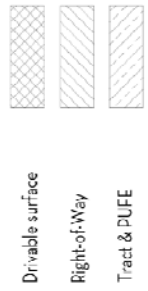
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Exhibit 10.12 - Two-Way Service Lane - Detailed Cross Section



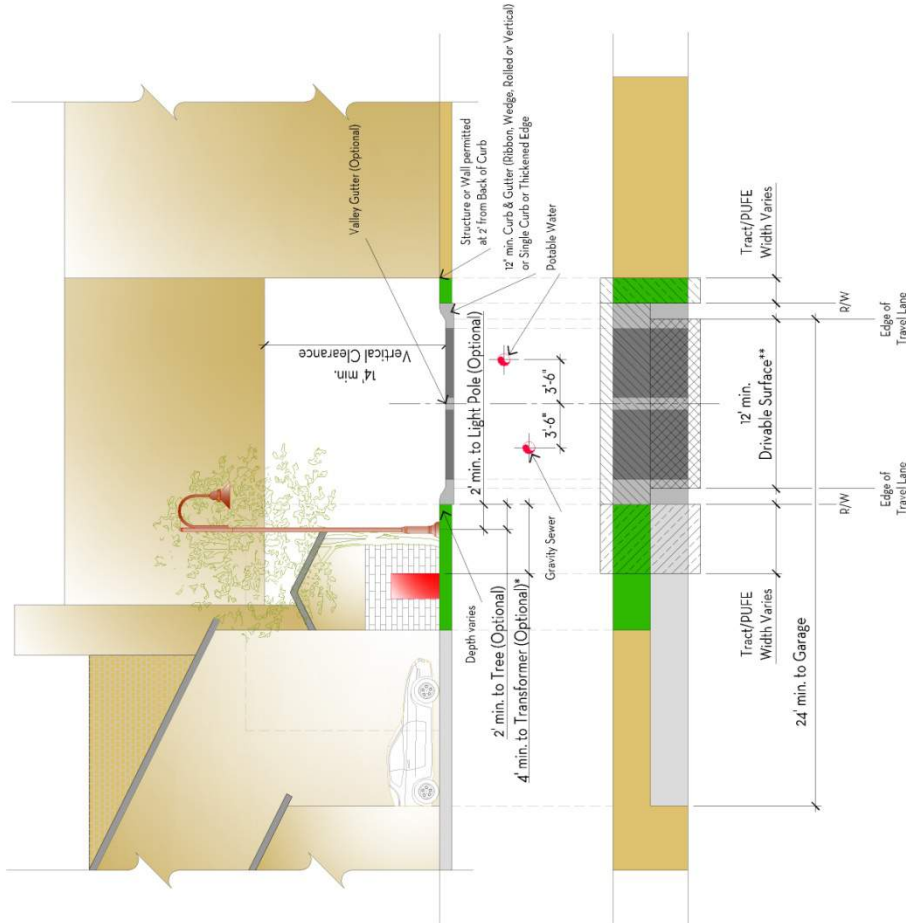
Refer to Section 10.3D of the CP for General Notes

* 2.5' minimum to transformer from back of curb with bollard protection. Bollards at 2' minimum from back of curb.



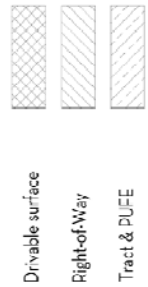
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Exhibit 10.13 - One-Way Service Lane - Detailed Cross Section



Refer to Section 10.3D of the CP for General Notes

- * 2.5' minimum to transformer from back of curb with bollard protection. Bollards at 2' minimum from back of curb.
- ** Any fire lanes with less than a 20' clear drivable surface require a defensible position. Refer to **Exhibit 10.16** - Defensible Positions in Section 10 of CP.



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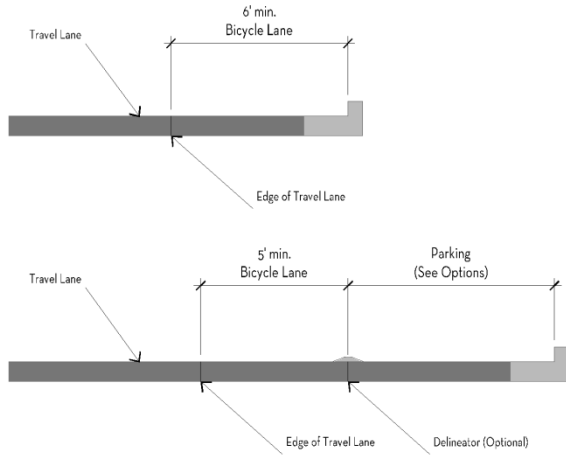
E. On-street Parking

1. **Exhibit 10.14** - On-Street Parking and Bicycle Lane Options - Details provides a list of detailed options that can be used beyond the edge of the travel lane on various street cross sections.
2. Public On-street parking may be within the ROW.
3. Private On-street parking may adjacent to the ROW with a ribbon curb defining the edge of the ROW.
4. Parking is allowed only on paved parking surfaces. Pavement may be concrete, asphalt, or a porous material approved by the City Engineer. Where decomposed granite or similar porous pavement is used, it shall conform to ADA guidelines.
5. Public or private on-street parking spaces may be used to accommodate the required parking of adjacent properties.
6. A curb, wheel stop, vertical element (such as bollards, pots, or other street furniture) or bumper guard at least four (4) inches in height, shall be installed to delineate the parking areas from other adjacent uses such as landscape or pedestrian pathways. Parking may overhang landscape or hardscape by two (2) feet. Parking may likewise overhang required pathways by two (2) feet when the minimum required pathway width is maintained exclusive of the overhang. In either case, the length of a parking stall may be reduced by two (2) feet.
7. All parking spaces may be marked or denoted, and the paved area shall be properly drained or appropriately designed to handle stormwater retention. Changes in paving type, texture, color, curb design, tree placement, painted stripes or similar elements may be used to denote parking stalls. Parallel parking stalls along streets, service lanes or access ways do not require striping for individual parking stalls.
8. Private on-street parking spaces may be publicly or privately metered by a pay per use, lease, long term purchase or other similar agreement.
9. Public on-street parking spaces may be publicly metered by a pay per use or other similar agreement by the City or the Master Developer.
10. Availability of public on-street parking for “reserved”, “loading” or other such use may be designated at any time so long as such designation is not intended to reserve spaces for a specific or individual user. On public streets and service lanes, the designation shall be made and monitored by the Master Developer. The City shall not be responsible to make, monitor or maintain such designations.
11. Availability of private on-street parking for “reserved”, “guest”, “loading” or other such use may be designated at any time. On public streets and service lanes, the designation shall be made and monitored by the Master Developer. The City shall not be responsible to make, monitor or maintain such designations.
12. Vehicle charging stations or other alternative energy solutions may be provided as part of the parking stall without additional space requirements so long as the largest typical alternative vehicle’s size is accommodated.
13. Small parking stalls may be provided for Neighborhood Electric Vehicles (NEVs) or other alternative transportation vehicles. Such parking stalls will count at a ratio of one-to-one (1:1) toward any parking requirements.

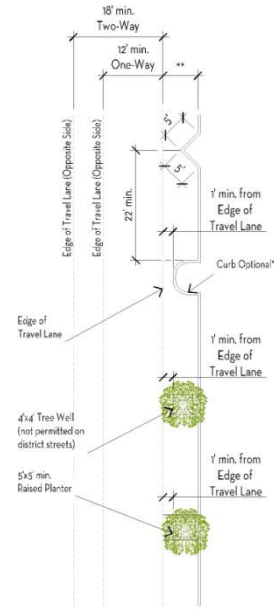
- F. **Exhibit 10.15** - Medians and Turn Lanes - Details provides options that can be used for medians and turn lanes on all streets except the arterial streets. Other options may be approved by the City Traffic Engineer and Fire Chief.

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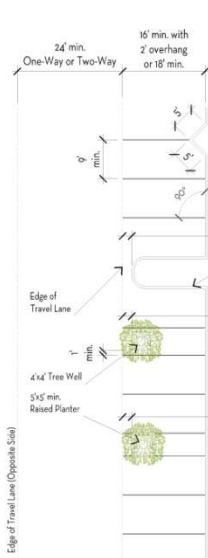
Exhibit 10.14 - On-Street Parking and Bicycle Lane Options - Details



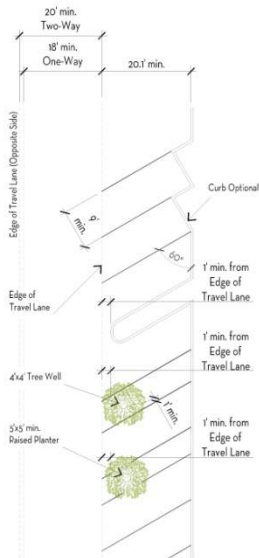
Bicycle Lane Options



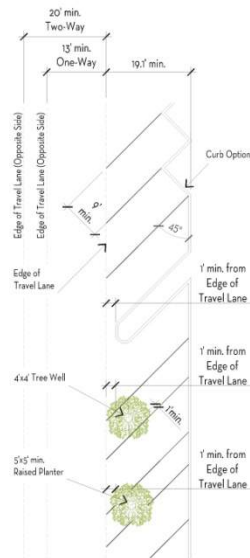
Parallel Parking (0°)



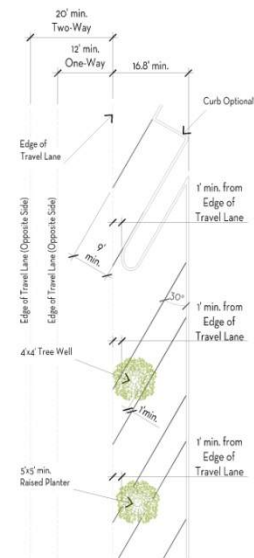
Perpendicular Parking (90°)



Angular Parking (60°)



Angular Parking (45°)



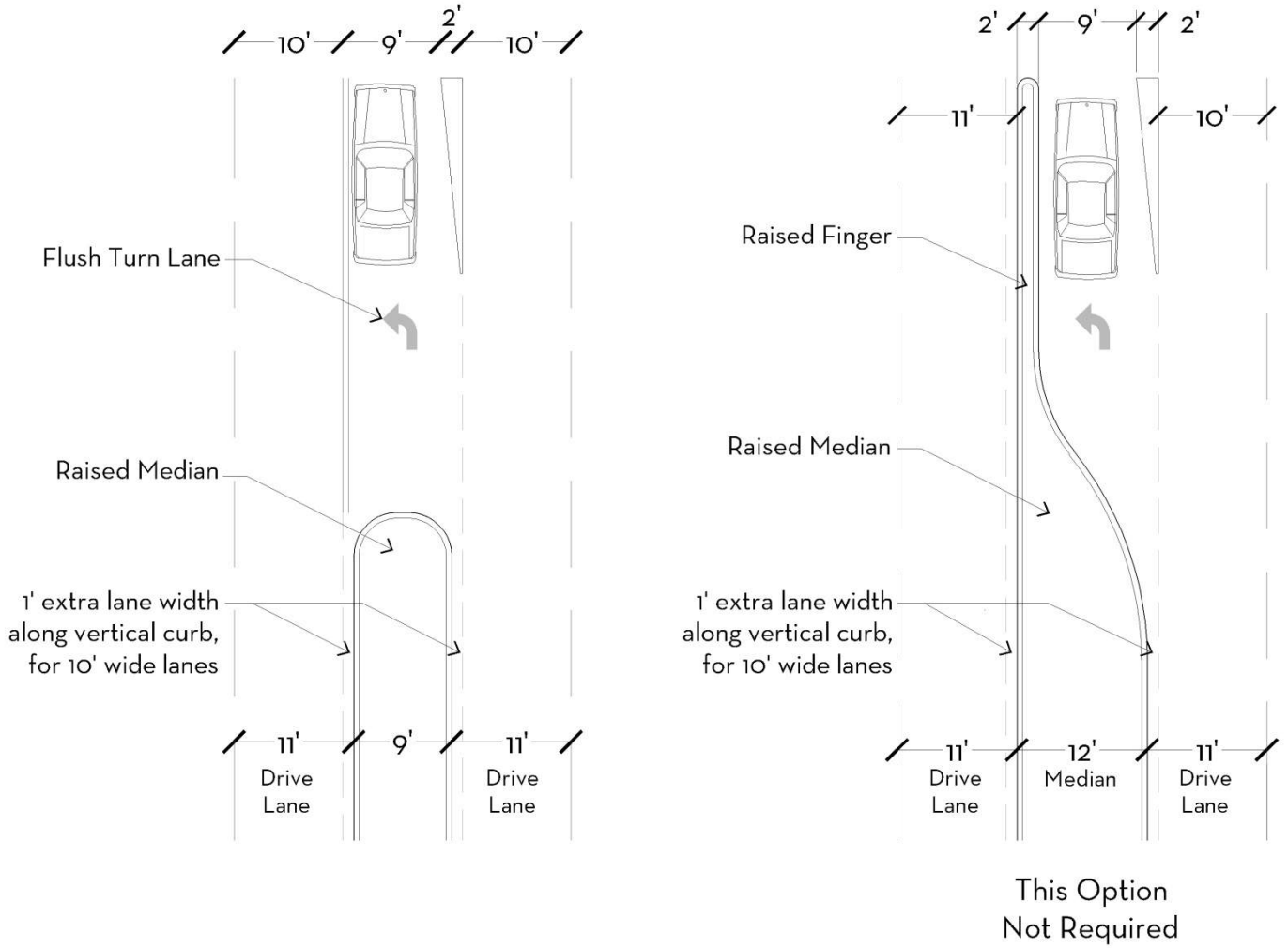
Angular Parking (30°)

General Notes

1. Parallel Parking is only parking option allowed on Four Lane District Street
 2. Perpendicular Parking is not permitted on District Streets
 3. No parking allowed on 6 Lane Arterial Streets
 4. Bicycle Lanes may be part of a fire lane, parking stall areas may not. Refer to **Exhibit 10.16** - Defensible Positions.
- * Curb, Vertical Element, Wheel Stop or Bumper Guard
 ** 8' minimum on District Streets and 7' minimum on all other streets. Additional width required on District Streets where needed to allow transit buses to stop clear of traffic and bike lanes.

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Exhibit 10.15 - Medians and Turn Lanes - Details

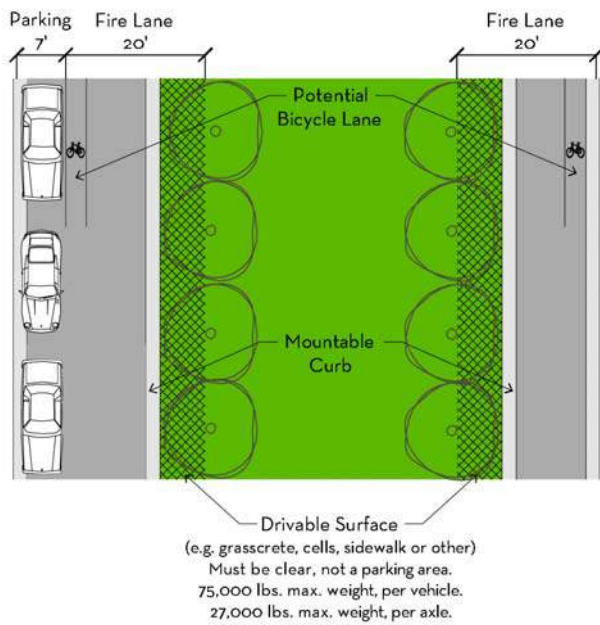
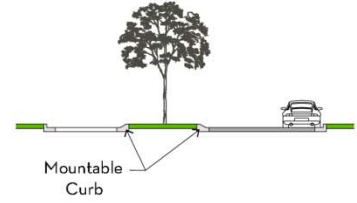
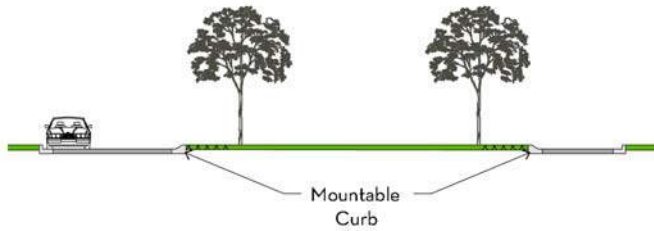


10.4 Public Street Infrastructure Design

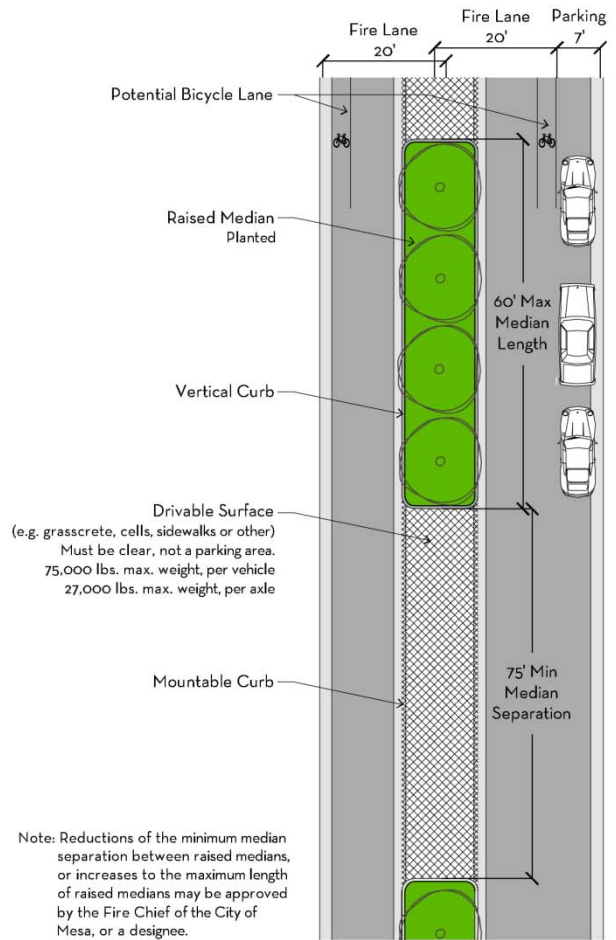
- A. AASHTO guidelines shall be used for roadway design, sight distance design and associated requirements. Other guidelines may be approved at the DUP, Site Plan or subdivision level processes by the City Traffic Engineer.
- B. Reduced geometric requirements for fire department and solid waste vehicles. The Master Developer will continue to work with the City Fire and Solid Waste Departments to determine allowable modifications to City accessibility requirements that still provide ingress and egress and access for fire and solid waste vehicles to properly serve the community. Access routes, details, and other design criteria may be approved at the DUP, Site Plan or Subdivision level processes by the Fire Chief and City Traffic Engineer.
- C. Where a fire lane is required, and the street pavement width including bicycle lanes (excluding the area for parked vehicles) does not accommodate the entire fire lane width, a defensible position is required. Defensible positions along these roads shall be as detailed in *Exhibit 10.16* - Defensible Positions.

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Exhibit 10.16 - Defensible Positions



Note: The City agrees to continue to work with the Developer to find alternative solutions that do not detract from the aesthetics and the physical enjoyment of the park or open space.



Note: Reductions of the minimum median separation between raised medians, or increases to the maximum length of raised medians may be approved by the Fire Chief of the City of Mesa, or a designee.

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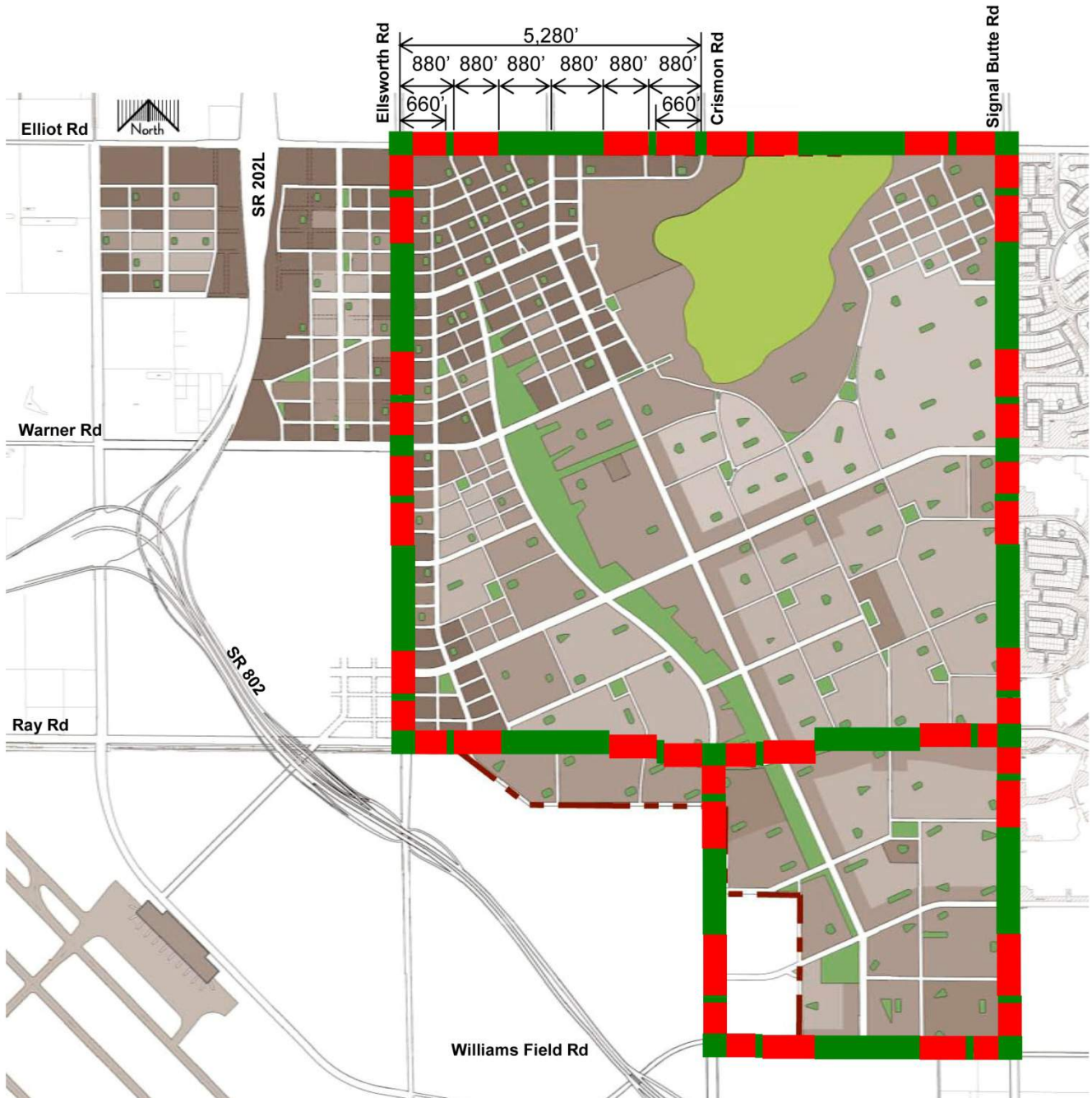
- D. Driveway locations may be modified from standard locations. The details may be approved at the DUP, Site Plan or subdivision level processes by the City Traffic Engineer.
- E. Pavement sections may include various types of structural sections including, but not limited to, asphaltic concrete, concrete, porous pavements, recycled materials, or other alternatives. The geotechnical details may be approved at the DUP, Site Plan or subdivision level processes by the City Engineer.
- F. Alternative types of curbs including, but not limited to, vertical, roll, ribbon, wedge, and mountable may be introduced into the Property to improve ease of pedestrian use and to provide a framework that allows a constant evolution of adjacent uses. The details may be approved at the DUP, Site Plan or subdivision level processes by the City Traffic Engineer.
- G. Sidewalks will be provided per the pedestrian circulation plan of each DUP and per the street sections. The pedestrian circulation plan and locations may be altered at the Site Plan or subdivision level processes as approved by the City Traffic Engineer. Refer to *Exhibit 10.24* - Typical Walkways and Sidewalks and *Exhibit 10.25* - Typical Walkways and Sidewalks Conditions Diagram.
- H. Alternative types of sidewalk ramps may be introduced into the Property. The details may be approved at the DUP, Site Plan or subdivision level processes by the City Traffic Engineer.
- I. Alternative types of driveways including, but not limited to, curb cut, curb return, flush, and mountable may be introduced into the Property. The details may be approved at the DUP, Site Plan or subdivision level processes by the City Traffic Engineer.
- J. Private drives may connect to public streets without distinct delineation. Curb returns that continue the urban street fabric are allowed at private drives. Specific details may be approved with the DUP, Site Plan or subdivision plat approval. Transitions between public and private streets shall be designed so that a driver may choose to remain on a public street by turning on to a side street or turning around completely. Street design shall not force a driver on a public street to continue on a private street.
- K. Alternative types of bus shelters and pullouts may be introduced into the Property. The details may be approved at the DUP, Site Plan or subdivision level processes by the City Traffic Engineer.
- L. Alternative materials may be introduced for construction of curbs, sidewalks, driveways, trails, and pavements including, but not limited to, porous materials, recycled materials, pavers, stamped concrete or other alternatives. The details may be approved at the DUP, Site Plan or subdivision level processes by the City Traffic Engineer and City Engineer.
- M. Alternatives to City regulations and the regulations of the CP for fire lanes markings or no parking designation signage may be approved by the Fire Chief. The details may be approved at the DUP, Site Plan or subdivision level processes by the City Traffic Engineer and City Engineer. The Fire Chief and City Traffic Engineer will work in good faith with the Master Developer to explore alternatives to marking fire lanes (other than red painted curbs) that are functionally effective and provide an aesthetically pleasing street scene that is conducive to the business of luxury resorts, corporate headquarters and exclusive residential neighborhoods.
- N. Utilities and associated appurtenances including, but not limited to, above ground water meters, backflow preventers, and air release valves may have alternative locations and screening than City standard details and requirements. The locations, details, and such appurtenances may be approved at the DUP, Site Plan or subdivision level processes by the City Engineer.

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- O. Signals and full movement intersections are likely to occur over time at every eighth mile (or sixth mile) along arterial and district streets as the urban cores become more intense over time. Traffic signals shall not be permitted at the one-quarter (1/4) mile and three-quarter (3/4) mile intersections on arterial streets as these locations potentially limit the flow of traffic on the arterial streets. Refer to *Exhibit 10.17* - Signalized Intersection Locations and *Exhibit 10.18* - Median Break Locations for Un-signalized Intersections.
- P. Vehicular access to a Lot or parcel for residential or other uses may be provided by service lanes.
- Q. Custom street fixtures and furniture may be used for street signs, streetlight poles, traffic light poles, equipment cabinets, fire lanes and fixtures. Specific details for the designation of fire lane markers, neighborhood or district signs, benches, pots, tree grates, drinking fountains, bicycle racks and bollards may be approved by the City Traffic Engineer and/or City Engineer as applicable with the DUP, Site Plan or subdivision plat approval.
- R. Stamped concrete, pavers or other similar materials that are installed within the public ROW shall be maintained by the Master Developer.
- S. One-way cross slope roadways are permitted.
- T. Service lanes may have inverted crowns with a valley gutter installed for drainage.
- U. Turnarounds, hammerheads, and dead ends are permitted as depicted on *Exhibit 10.20* - Typical Urban Cul-de-Sacs and *Exhibit 10.21* - Typical Urban Hammerheads. Turnarounds, hammerheads, and dead ends, when used as fire lanes, shall meet the requirements of Section 10.4 B and 10.4 C.
- V. Irrigation sleeves may be installed beneath pavement, in ROW and beneath hardscape.
- W. The sustainable re-use of existing asphalt and concrete track pavement and base course for the base course of roadways on the Property shall be permitted as long as the structural quality is approved by the City Engineer for the use proposed.

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Exhibit 10.17 - Signalized Intersection Locations



N.T.S.

Legend

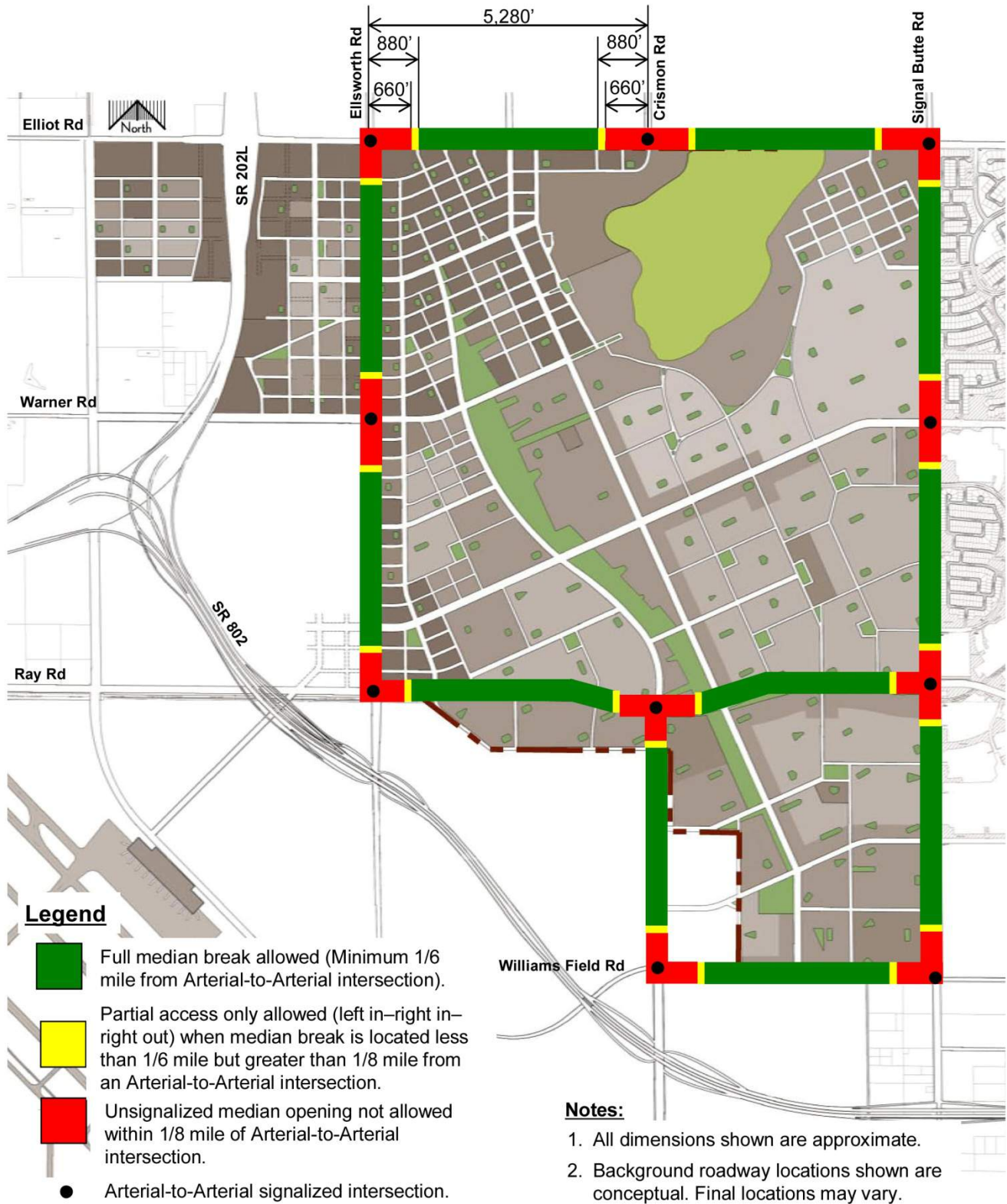
- Signalized intersection permitted within this zone.
- Signalized intersection not permitted within this zone.

Notes:

1. Signalized intersections may occur at 1/6 mile or 1/8 mile intersections (except at the 1/4 and 3/4 mile intersections).
2. All dimensions shown are approximate.
3. Background roadway locations shown are conceptual. Final locations may vary.

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Exhibit 10.18 - Median Break Locations for Un-signalized Intersections



N.T.S.

10.5 Public Street Lighting Standards

- A. The intent is to provide adequate illumination of the public street transportation system without excessive illumination of the street system. The major streets and active areas of Mesa Proving Grounds will be illuminated to appropriate levels for nighttime traffic and activity. Neighborhood streets in low activity levels shall be illuminated to provide a comfortable environment.
1. Arterial Streets shall be lighted per the City standards.
 2. District Streets shall be illuminated per the City standards.
 3. Neighborhood Streets within LUG C, LUG GU, and LUG UC shall be illuminated per the City standards.
 4. Neighborhood Streets within LUG OS, LUG CS, LUG E, LUG V, LUG D, LUG R and Service Lanes shall require street lights only:
 - a. At all public street intersections and all locations where private commercial driveways with heavy nighttime use, multi-family driveways serving twenty (20) or more units, or service lanes intersect a public street
 - b. At all marked or un-marked pedestrian crosswalks
 - c. At all marked or un-marked pedestrian, bicycle, equestrian or multi-use pathway street crossings (crosswalks)
 - d. At the end of a cul-de-sac or hammerhead
 - e. At all public driveway entrances to schools or civic buildings
 - f. Continuously along streets where adjacent major nighttime gathering locations are brightly lighted and there is not fence or other physical barrier between the street and the outdoor facility that limits pedestrian access to specific crossing points
- B. Public street lights may be hung from cables. The details may be approved at the DUP, Site Plan or subdivision level processes by the City Traffic Engineer.
- C. Custom light poles and traffic signal poles and arms may be approved at the DUP level with the DUDGs or during the Site Plan or subdivision plat processes. The Master Developer shall be responsible for providing an adequate stock, as determined by the City Traffic Engineer, of custom poles, arms, fixtures or other devices for the maintenance and repair. The Master Developer shall bear additional incremental cost for operation and maintenance due to the use of custom poles, arms, fixtures or other devices.
- D. Where appropriate within LUGs C, R, UC, and GU, lighting levels and uniformity ratios from private lighting source may exceed recommendations outlined in the Illuminating Engineering Society Handbook (IES RP8 or latest version).
- E. All lamps shall be high pressure sodium or alternative as approved by the City Traffic Engineer. Alternative energy efficient lamp sources such as LED, induction fluorescent and compact fluorescent lamps that meet light level requirements and have comparable life cycle costs will be considered. Metal halide shall be a permitted alternate. Costs of alternate lamps (installation and maintenance) above the typical cost for City street lighting shall be borne by the Master Developer.
- F. Location of street light poles may vary and as approved by the City Traffic Engineer.

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- G. Public street light components such as lighting control cabinets may be aesthetically altered to blend into the setting as approved by the City Traffic Engineer.
- H. Street light locations may vary to complement a specific development design. This may include location regarding side of street, clearance from driveways and clearance from landscaping. The traffic clearances and required roadway illumination must be maintained. The street light locations may be approved at the DUP, Site Plan or subdivision level processes by the City Traffic Engineer.

10.6 Traffic Signals Standards

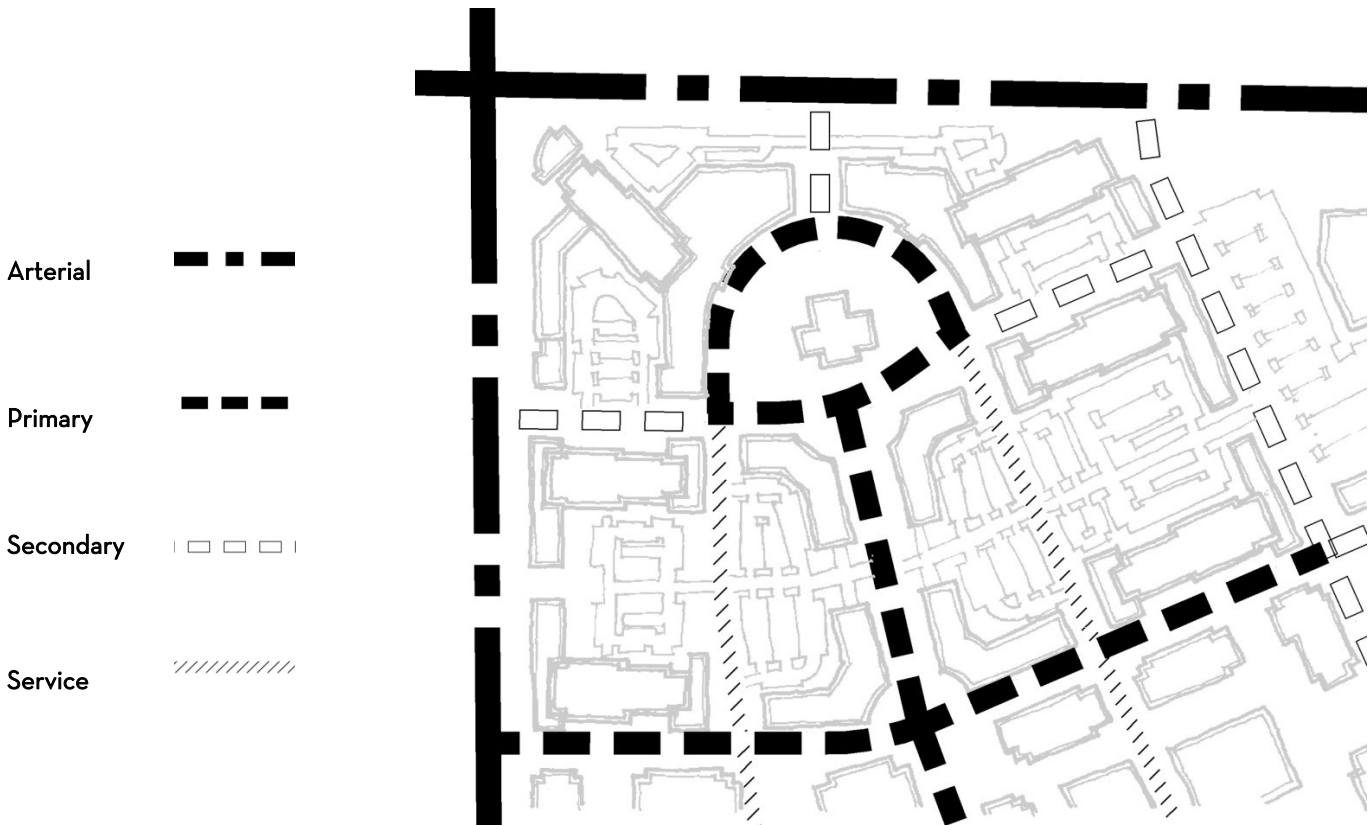
- A. The intent is to provide a safe and functional traffic signal system along the public street transportation system.
- B. The Master Developer may install custom poles, mast arms, traffic signal faces, pedestrian push button stations, control cabinets, and other hardware other than those outlined in the City Standards. Custom traffic signal elements can be used to change the aesthetic conditions, but not the functional operations and performance of the traffic signals. The details may be approved at the DUP, Site Plan or subdivision level processes by the City Traffic Engineer. The Master Developer shall be responsible for providing an adequate stock as determined by the City Traffic Engineer, of custom poles, arms, fixtures or other devices for the maintenance and repair. The Master Developer shall bear any additional incremental cost for operation and maintenance due to the use of custom poles, arms, fixtures or other devices.
- C. Traffic signals may be hung from cables. The details may be approved at the DU, Site Plan or subdivision level processes by the City Traffic Engineer.

10.7 Street Types

As part of the DUP submission, urban form street types will be assigned to streets within the DU. This is not the street classification or cross section but rather an urban form designation. Following are the five (5) street types:

- Arterial types are very high volume vehicular traffic streets with little pedestrian activity moving along the length of the street
- Primary types are intended to be high volume vehicular traffic streets with tighter urban cross-section and high pedestrian activity moving along the length of the street
- Secondary types will generally be connectors or supporting streets between other street types. Pedestrian and automobile traffic volumes may vary
- Service types are intended to handle the service needs and vehicle access. Refuse collection, back of house areas, parking areas, and mechanical equipment are anticipated along these streets or service lanes
- Special condition is reserved for types that do not fit the above conditions. Full description of street character and urban form of surrounding LUGs is required as part of the DUP process

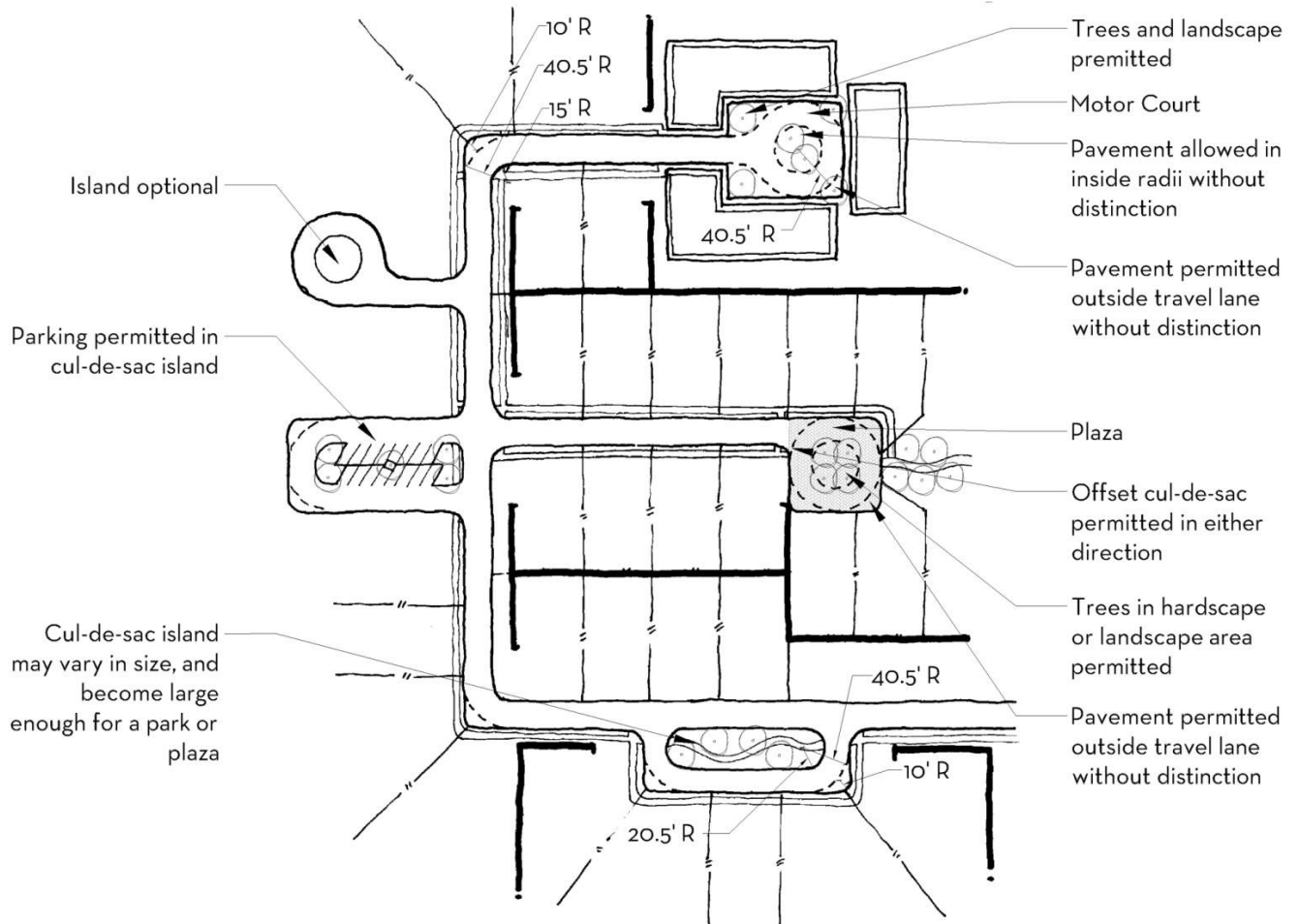
Exhibit 10.19 - Typical Street Types Diagram



10.8 Urban Cul-de-Sacs and Hammerheads

A connected urban grid is highly desired, and as a result, cul-de-sacs dead ends and hammerheads are typically avoided, Cul-de-sacs and hammerheads are often a practical solution for the tight vehicular circulation requirements of an urban setting. In urban settings, cul-de-sacs and hammerheads often provide motor court or service access to reduce the impact of the vehicle on the pedestrian street frontage along district, arterial and primary streets.

Exhibit 10.20 - Typical Urban Cul-de-Sacs

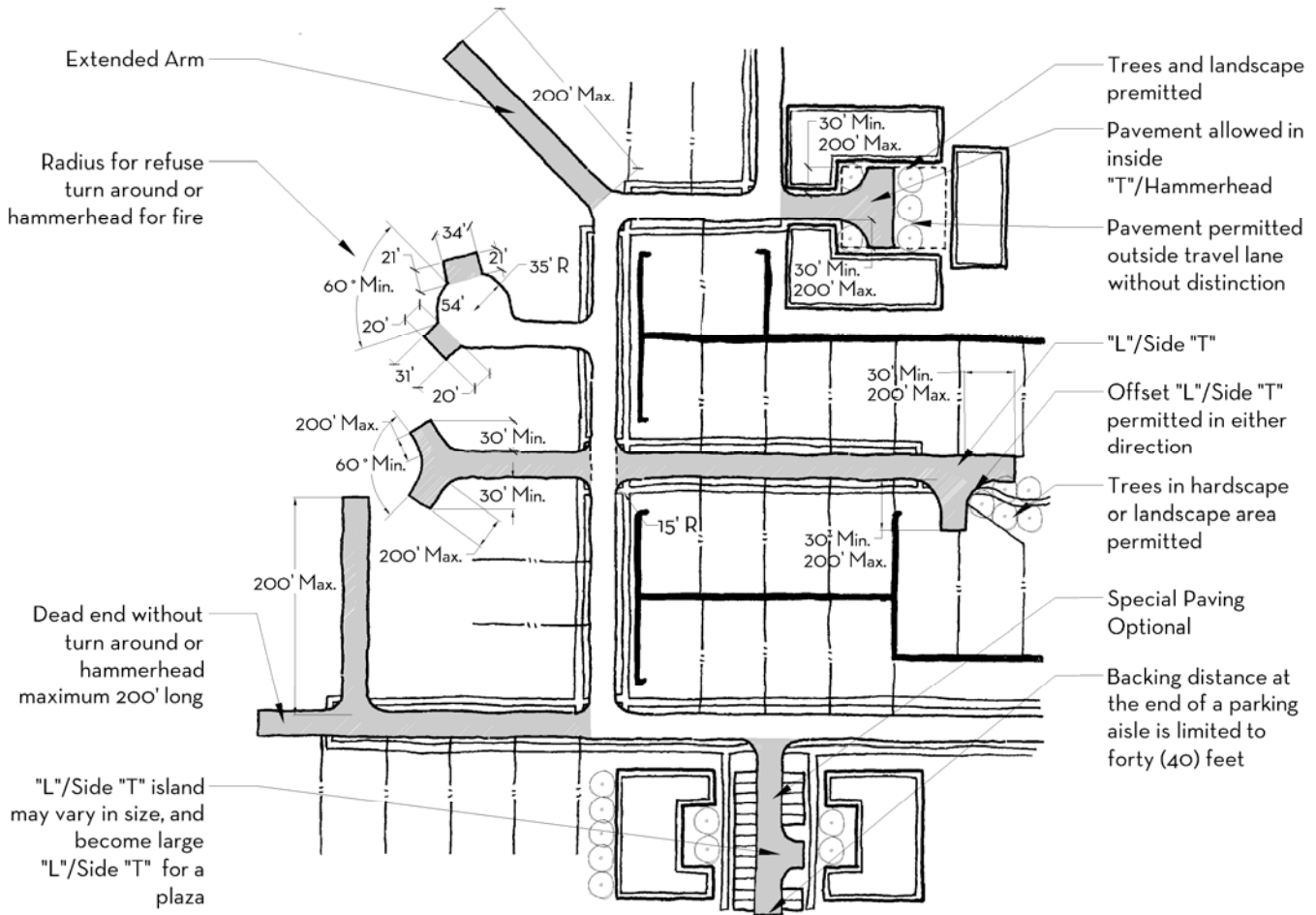


General Notes

- Parking, paving, landscape, trees, and tree grates are permitted in cul-de-sac islands.
- Cul-de-sacs are generally discouraged, unless providing motor court access, service access, or when a through route is not practical or detracts from the urban form.
- Public streets and service lanes which cannot be swept by City street sweepers must be maintained by the association.

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Exhibit 10.21 - Typical Urban Hammerheads



General Notes

■ No trash service provided on dead end streets without turn around provided.

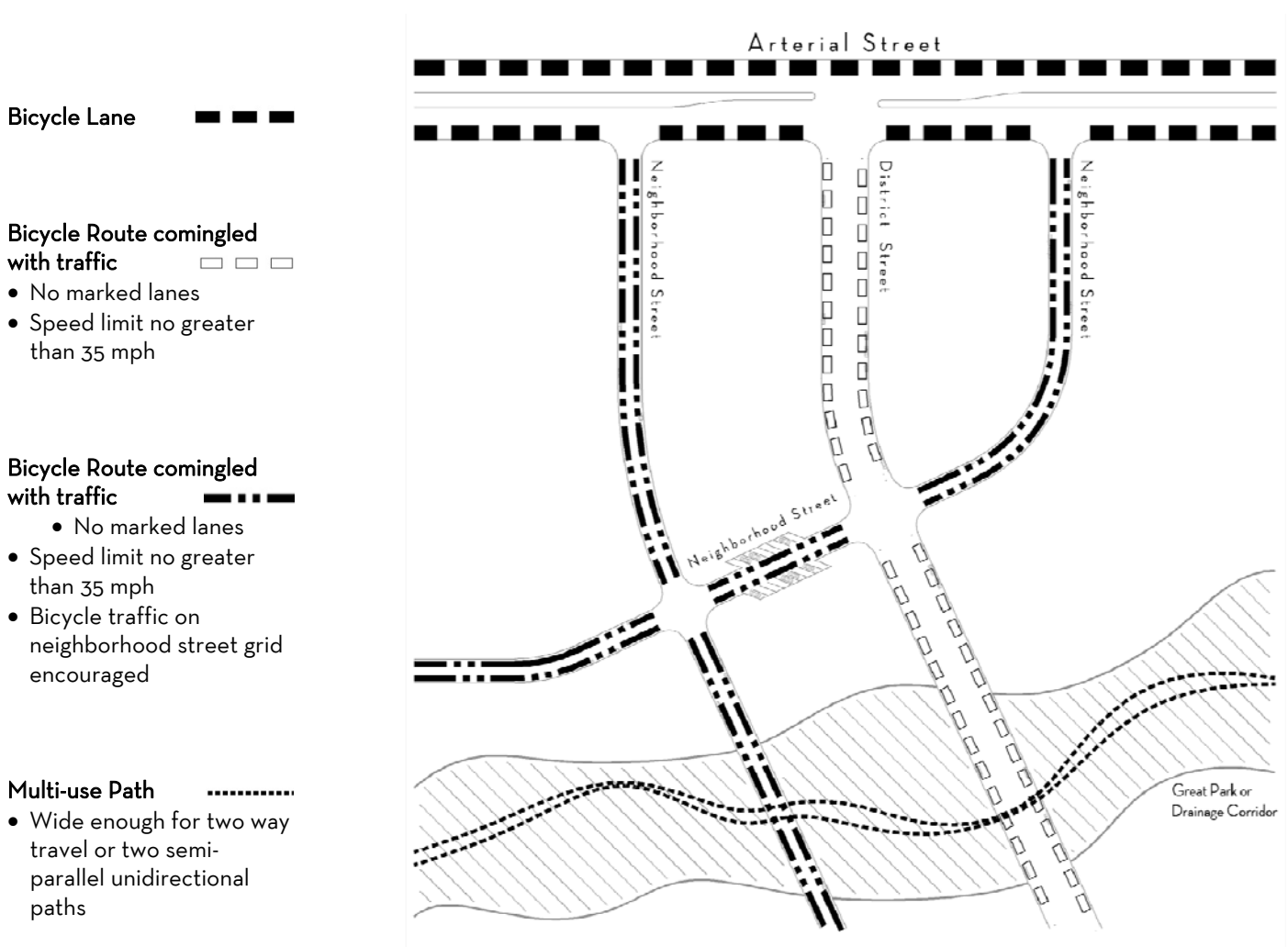
- Hammerheads are generally discouraged, unless providing motor court access, service access, or when a through route is not practical or detracts from the urban form.
- An arm may also be used for an access drive.
- Public streets and service lanes which cannot be swept by City street sweepers must be maintained by the association.

10.9 Bicycle Lanes and Routes

Striped bicycle lanes will be provided along all arterial roadways in and around Mesa Proving Grounds per the street section provided herein. District and neighborhood streets have been designed to intentionally slow and intermingle traffic modes. These streets are designed to have posted speeds at or below thirty-five (35) mph so that neighborhood electric vehicles and other alternative forms of transportation can share the road with bicyclists and automobiles. Rather than creating isolated independent uses for each of these modes, the street will provide a mingled system to further slow traffic and heighten awareness of the surroundings.

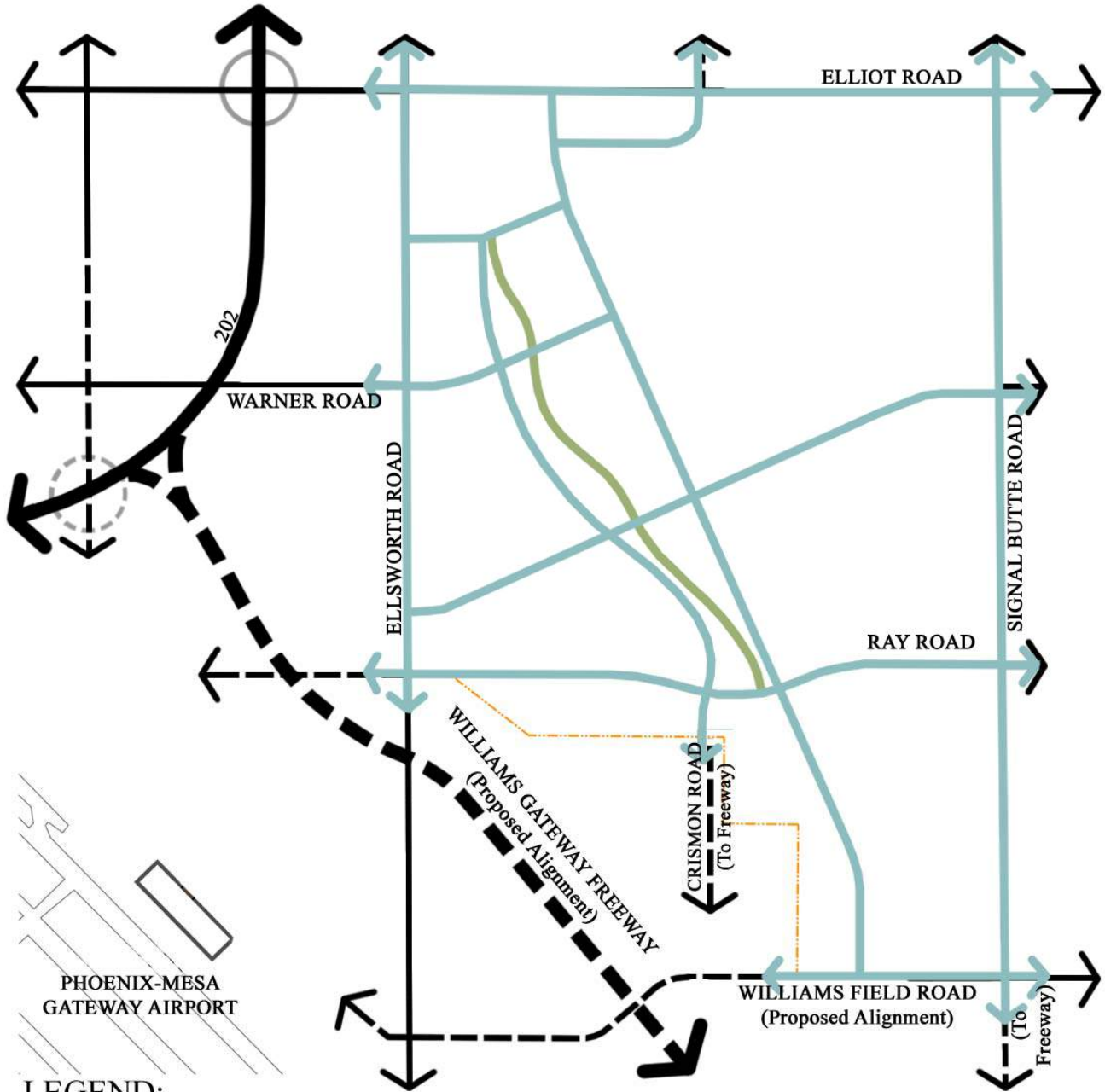
The use of the Great Park and neighborhood streets as the preferred bicycle routes will be encouraged. Continuous connectivity of neighborhood streets will be provided throughout Mesa Proving Grounds. Cyclists who do not wish to use the district streets can easily use neighborhood streets to reach areas along district streets. The Great Park shall include a multi-use path (minimum ten (10) feet wide) to use as a north-south route for cyclists through the Property. The outside lanes of Warner South shall include an additional four (4) feet of lane width (exclusive of the gutter) for use as an east-west route for cyclists through the Property.

Exhibit 10.22 - Typical Bicycle Lanes and Routes



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Exhibit 10.23 - Pedestrian & Bicycle Circulation Plan



LEGEND:

- Street oriented pedestrian and bicycle circulation
- Open space oriented pedestrian and bicycle circulation
- ➔ Potential future connection for pedestrian and bicycle circulation

Note:
All pathways shown in approximate locations. Size, location, configuration and condition may vary.

This represents the major pedestrian and bike system. Future refinement with intermediate paths at the DUP stage.

10.10 Walkways and Sidewalks

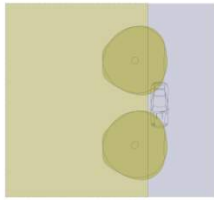
Walkways in an urban setting take on a wide variety of forms: attached at back of curb, attached at back of curb with street side plantings, curb separated, retail and under colonnade; in some cases, it may be appropriate and desirable to have no sidewalk or walkway. In urban settings, walkways may seamlessly transition from one type to another, providing a varied walking experience while responding to the adjacent building forms. In activity areas, total quantity of sidewalk may increase rather than minimize sidewalk widths and in many cases, sidewalks may be indistinguishable from plazas they may cross. Scoring patterns, color, texture and material may all be used to vary the pedestrian experience. Walkways and sidewalks must comply with Americans with Disabilities Act accessible route requirements.

Walkways and Sidewalks are:

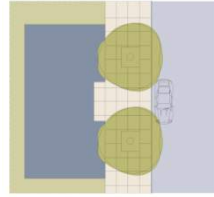
- Highly varied to complement character and use
- In LUG GU and LUG UC congestion and activity encouraged
- In LUG V, peaceful, pleasant shaded and strolling encouraged
- Connectivity to destinations
- Designed for walking experience

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Exhibit 10.24 - Typical Walkways and Sidewalks

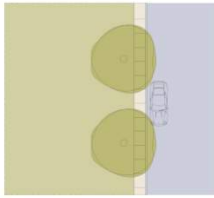


No Sidewalk

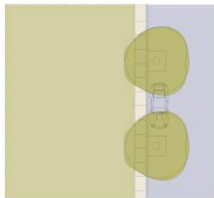


“Retail” - Attached with Planters or Street Furniture Behind Back of Curb

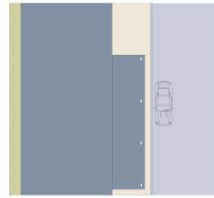
- Minimum three (3) foot wide ADA accessible route (clear)
- Typical minimum five (5) foot wide clear route on neighborhood streets
- Typical minimum six (6) foot wide clear route on district and arterial streets



Sidewalk Attached at Back of Curb

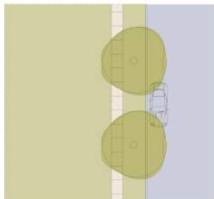


Sidewalk Attached at Back of Curb - with Street Side Plantings

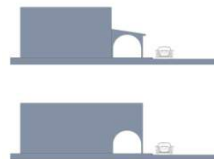


Walkway through Colonnade (Gallery, Arcade, Arbor Covered Walkway Canopy, Awning)

- Minimum three (3) foot wide ADA accessible route (clear)
- Typical minimum five (5) foot wide clear route on neighborhood streets
- Typical minimum six (6) foot wide clear route on district and arterial streets

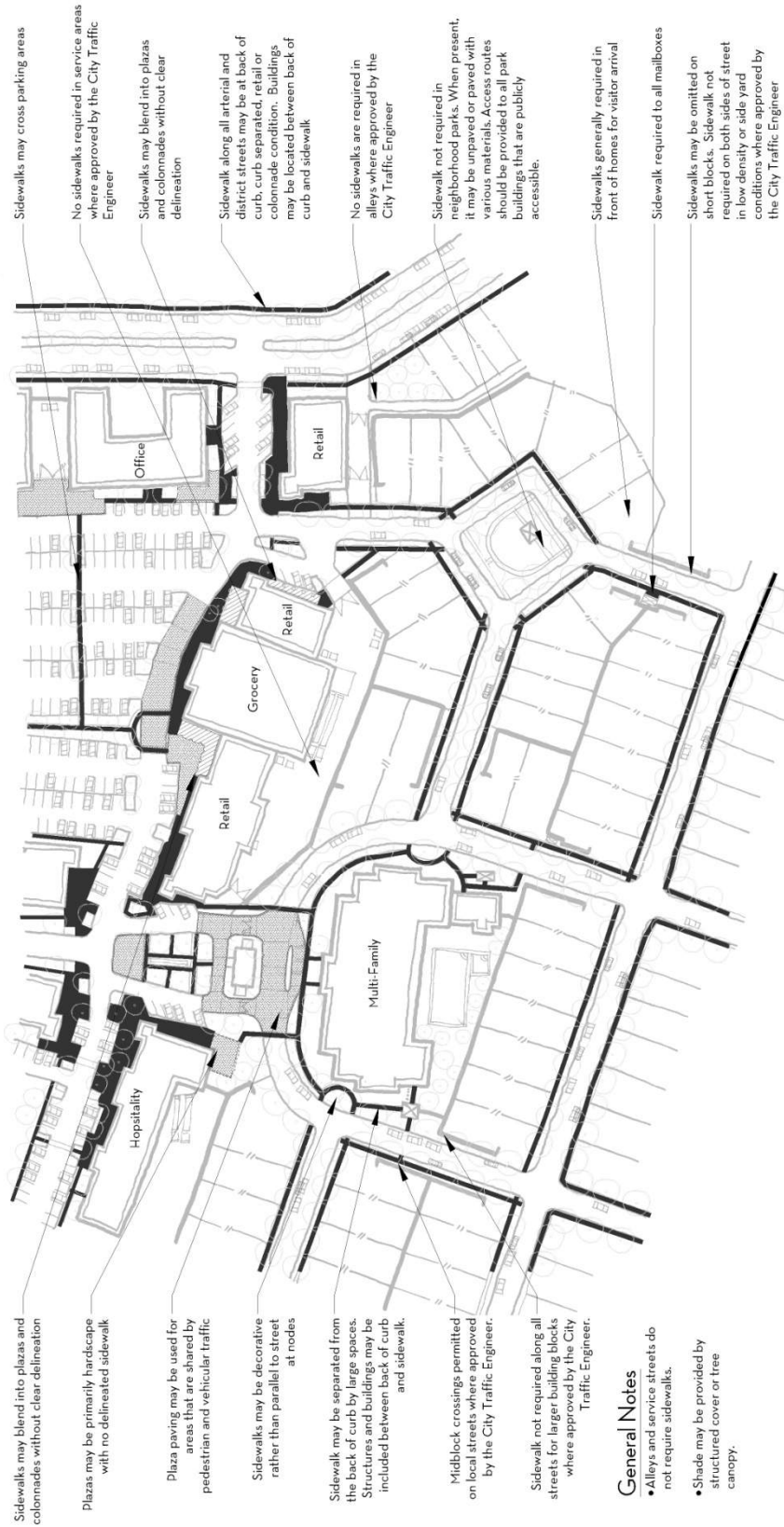


Curb Separated - Landscape Parkway Between Back of Curb and Sidewalk



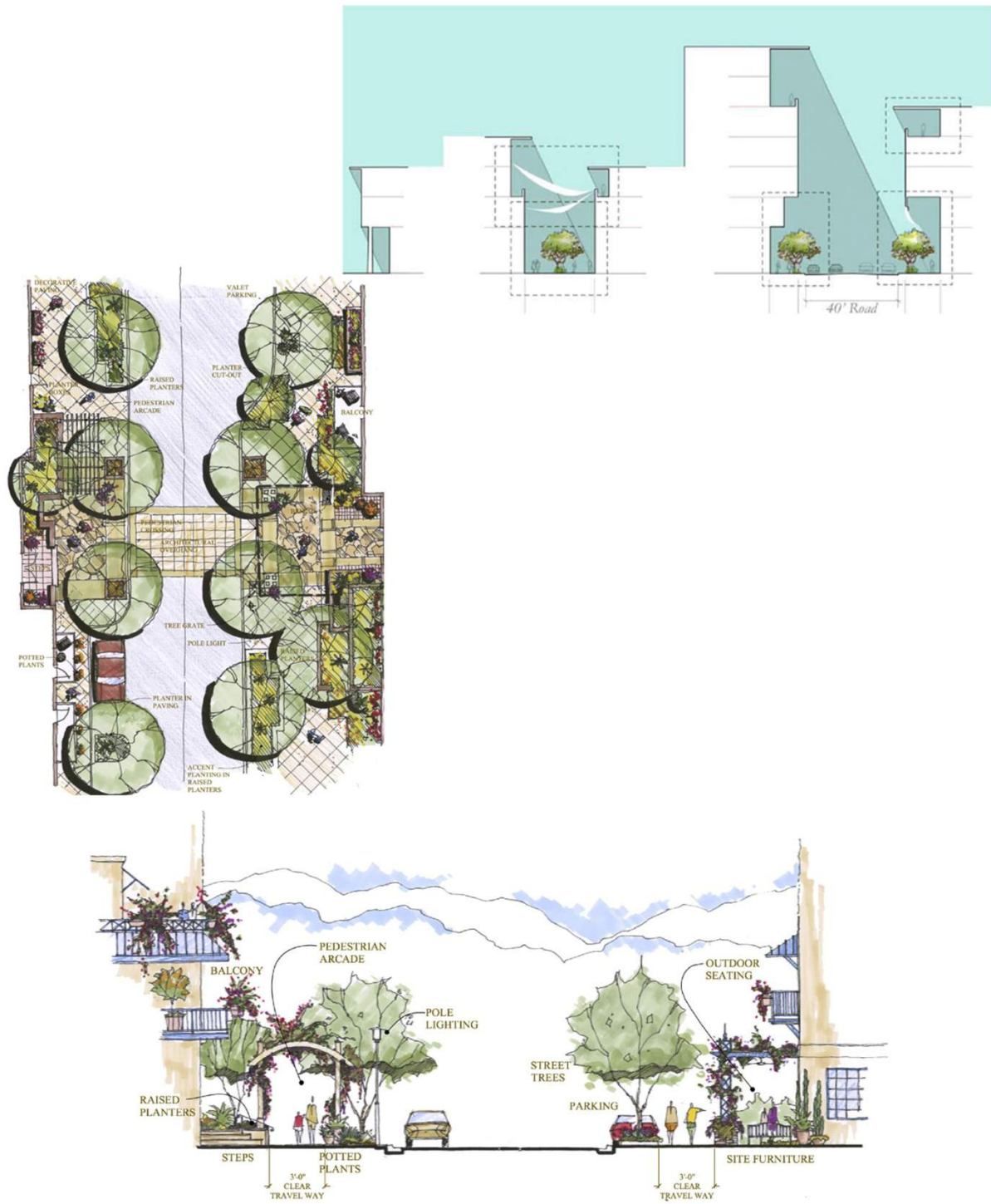
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Exhibit 10.25 - Typical Walkways and Sidewalk Conditions Diagram



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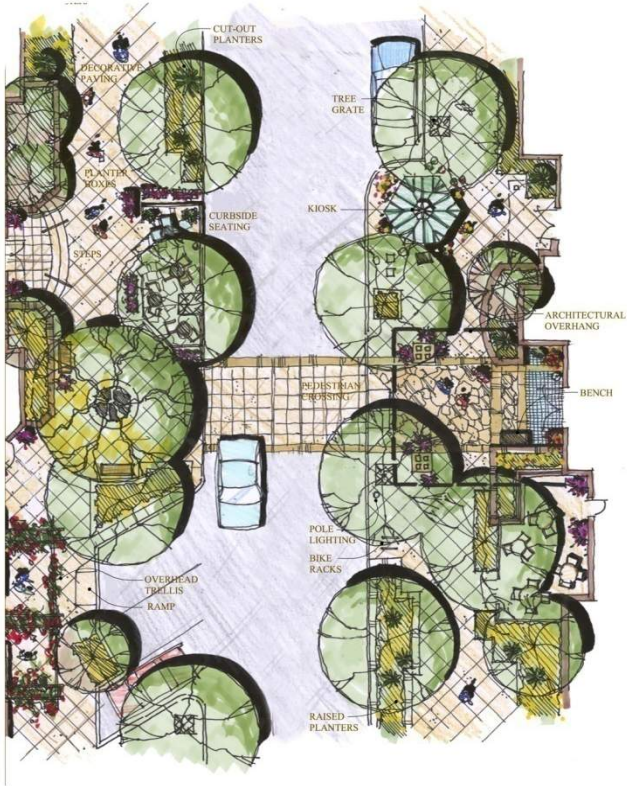
Exhibit 10.26 - Walkways and Sidewalk Character and Elements



Note: Photos and sections are intended to be representative of the character and quality of walkways and sidewalks and are not intended to express specific design details, colors or materials.

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Exhibit 10.27 – Walkways and Sidewalk Character and Elements



Note: Photos and sections are intended to be representative of the character and quality of walkways and sidewalks and are not intended to express specific design details, colors or materials.

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Exhibit 10.28 – Walkways and Sidewalk Character and Elements



Note: Photos and are intended to be representative of the character and quality of walkways and sidewalks and are not intended to express specific design details, colors or materials.