



Traffic Engineering Manual

**Lexington-Fayette Urban County Government
Lexington, Kentucky**

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APPENDIX

LFUCG Traffic Engineering Standard Drawings

CHAPTER 1 INTRODUCTION

1.1 Purpose

The purpose of the **Lexington-Fayette Urban County Government (LFUCG) Traffic Engineering Manual (hereinafter called “TEM”)** is to promote the consistent application of LFUCG Division of Traffic Engineering policies, standards, and practices. This **TEM** shall be used in the design and construction of traffic control devices and access points on public and private streets, access easements, parking facilities, and other vehicular use areas. It is intended to serve as a companion guide to supplement Division of Engineering Manuals, KYTC Manuals, and standard practices for use by LFUCG staff, engineers, developers, and contractors.

While the **TEM** provides standards and guidance for plan development, review, and construction, it does not address every unique situation. Engineering judgment, experience, and expertise should be used appropriately to apply the provisions.

1.2 General Standards

The **TEM** has been developed in coordination with the LFUCG Complete Streets Manual, LFUCG Code of Ordinances, Zoning Ordinances, Land Subdivision Regulations, and LFUCG Division of Engineering Manuals. If a conflict arises between this **TEM** and any other LFUCG design guidance for traffic control related matters, this **TEM** shall take precedence.

The Manual on Uniform Traffic Control Devices (MUTCD) published by the Federal Highway Administration (FHWA) establishes the basic traffic control standards. These standards apply to any street, highway, bikeway, or private road open to public travel in Kentucky. All supplemental LFUCG traffic engineering design, construction, and operations-related information is either contained in this **TEM** or referenced from it. Where a conflict exists between this **TEM** and the MUTCD, the MUTCD shall take precedence.

The following technical documents were used as reference materials in the development of the **TEM**:

Manual on Uniform Traffic Control Devices for Streets and Highways. 11th ed., U.S. Department of Transportation, 2023.

Signal Timing Manual. 2nd ed., NCHRP Report 812, National Cooperative Highway Research Program, Transportation Research Board, 2016.

Traffic Signal Control Strategies for Pedestrians and Bicyclists. NCHRP Report 969, National Cooperative Highway Research Program, Transportation Research Board, 2021.

Neighborhood Traffic Management Program Guide. Lexington-Fayette Urban County Government, 2016.

LFUCG Standard Drawings. Lexington-Fayette Urban County Government, 2017.

KYTC Standard Drawings. Kentucky Transportation Cabinet, 2020.

KYTC Highway Design Guidance Manual. Kentucky Transportation Cabinet, 2017 with revisions.

KYTC Traffic Operations Manual. Kentucky Transportation Cabinet, 2005 with revisions.

Public Right-of-Way Accessibility Guidelines (PROWAG). United States Access Board, 2023.

FHWA Traffic Control Devices Handbook, 2nd edition.

Standard Highway Specifications for Road and Bridge Construction. Kentucky Transportation Cabinet, 2019.

1.3 Engineering Details

The Division of Engineering, in cooperation with the Division of Traffic Engineering, has developed a series of Standard Drawings, listed on the [LFUCG Division of Engineering webpage](#). In the absence of a standard drawing detail or definition of requirements provided in this **TEM**, the latest KYTC standards and details shall apply. Additional Standard Drawings regarding traffic calming and intersection treatments can be found in the Appendix of this manual. These drawings shall be referenced for roadway and intersection design as indicated in the LFUCG Complete Streets Manual.

1.4 Definitions

All other terms used will conform to the documents listed in Section 1.2, unless otherwise defined within the **TEM**.

1.5 Functional Classification

The roadway network is divided into a hierarchy of classes based on access and mobility that the link provides. In Lexington-Fayette County, the following functional classifications are used:

1. Interstate
2. Freeway/Expressway
3. Major arterial
4. Minor arterial
5. Collector
6. Local
7. Alley

The functional class of existing streets can be found in the [LFUCG Street Centerlines GIS layer](#) on the [LFUCG Data Hub](#). The functional class is used by various agencies and engineers when conducting traffic studies.

A separate classification system is used for Complete Streets, as created by the LFUCG Division of Planning, and used by LFUCG for the planning of certain roadways, pedestrian, and bicycle design elements.

1.6 Deviations from the Standards

This **TEM** provides the general operational practices of the Division of Traffic Engineering technical staff and field crews. Deviation from these Standards, where required for site-specific issues, are to be

justifiable and based upon sound engineering judgment and general conformance with the documents listed in section 1.2, and as may be otherwise applicable.

1.7 Revision Schedule & Notice

Revisions to the **TEM** will be updated periodically and only on an as-needed basis. Changes will be posted on the LFUCG website by the first day of June and December, to take effect on the first day of July and January, respectively. Posting revisions to a website maintained for this purpose by the Division of Traffic Engineering will be considered sufficient notice after the initial release of the **TEM**. Any changes will be documented in a separate updated notification listing posted on the LFUCG Traffic Engineering website.

CHAPTER 2 SIGNS

2.1 Introduction

This chapter includes requirements concerning the design, installation, and maintenance of signage on the local roadway network. Except as noted in this chapter, all signs shall be fabricated, installed, and maintained according to the MUTCD, current adopted edition, and the Standard Highway Signs and Markings book. The purpose of this chapter is to discuss any additions to, departures from, or emphasis of the MUTCD.

This chapter is divided into two sections. Section 2.2 provides information on signs on public and private streets and section 2.3 provides information on signs within off-street parking areas, parking drive aisles, drive-thru facilities, and other vehicular use areas as defined in Article 16 of the LFUCG Zoning Ordinance. This separation allows for a logical break where the MUTCD does and does not apply, as well as an acknowledgement of the difference in operating environments.

2.1.1 General

Effective signing provides clear information and instructions to motor vehicle operators, pedestrians, and bicyclists. Properly installed and maintained signage facilitates legal, safe, and orderly progress on roadways.

2.1.2 Signage Plans

A signage plan shall be required for all roadway and parking lot construction plans. Signage plans shall be legible and of a size and scale (generally not exceeding one (1) inch equals forty (40) feet), which enables clear presentation of required information. A signage plan shall include the following for all signs:

- a) Location
- b) Size
- c) Sheeting
- d) Legend or symbol
- e) Support type
- f) If standard, the MUTCD sign identifier

Signage plans may be combined with pavement marking plans, where legibility of the information will not be degraded.

Special details should be shown in the plans for non-standard signage. The details should include the size, sheeting, legend, and supports. Additional notes detailing the signage should be considered for the benefit of the contractor.

Signage plans for roadways shall be prepared by and stamped a professional engineer licensed to practice in the Commonwealth of Kentucky. Signage plans for parking lots shall be prepared by and stamped a professional engineer or landscape architect licensed to practice in the Commonwealth of Kentucky.

2.2 Signs on Public & Private Streets

2.2.1 Scope

This section shall apply to all public roadways, private roadways, and access easements open to public travel. For information regarding signage within parking lots, drive-thru facilities, parking drive aisles, and other off-street vehicular use areas, see section 2.3.

2.2.2 General Standards

All new and replaced signs shall meet the design, installation, and maintenance requirements of the MUTCD, current edition, and the Standard Highway Signs and Markings book. Signs and associated plaques/rider assemblies should be combined onto a single sign blank, where possible.

2.2.3 Sign Supports

If located within a clear zone, post-mounted sign supports shall be yielding and breakaway. All new and replaced sign supports shall conform to current MUTCD, KYTC, and LFUCG crashworthiness standards.

2.2.4 Developer Responsibilities

The Developer or permittee of any construction or improvement plan shall be responsible for the installation of all signage located within the development and along the development's frontage, where required.

Signage for streets in new developments shall be installed by the Developer **prior** to the plat being recorded. All maintenance shall be performed by the Developer until the LFUCG Division of Engineering releases the roadway portion of the Surety.

2.2.5 Stop Signs

The STOP sign (R1-1) is used to assign the right-of-way so that roadway users may proceed through an intersection in an orderly and safe manner. Normally, the selection of the approach to be stopped should be made in accordance with the functional class of the roadway, where the roadway with the lower functional class should be stopped. Where two roadways of the same functional class intersect, the roadway with the lower traffic volume should be stopped.

A STOP sign shall be erected at the point where the vehicle is to stop or as near thereto as possible and may be supplemented with a 24" Stop Bar line and the word STOP on the pavement. All STOP signs shall be high reflective, 30" or larger and follow all MUTCD requirements.

2.2.6 All-way Stop Control

The warrants for all-way stop control are set forth in the latest adopted edition of the MUTCD.

Where a Developer is proposing the modification of an intersection to all-way stop control, they shall provide a study to determine if the control is warranted to the satisfaction of the Division of Traffic Engineering. When conducting an all-way stop control warrants analysis, the data to support the crash experience or volume warrants shall be collected and analyzed in accordance with MUTCD.

The satisfaction of an all-way stop control warrant or warrants shall not in itself require the installation of all-way stop control. The Division of Traffic Engineering encourages the consideration of alternative intersection designs, such as mini or standard roundabouts and traffic circles. These alternative intersection designs can help improve traffic flow and safety outcomes when used appropriately. The use of alternative intersection designs shall be made in consultation with the Division of Traffic Engineering.

2.2.7 Speed Limits & Speed Limit Signs

LFUCG Code of Ordinances Chapter 18 Article IV establishes statutory speed limits and the procedures for altering such limits for local streets and roads. KRS 189.390 and KYTC TO-402-5 should be referred to for state roadways.

Speed limit signs on all streets, including private streets, shall display speeds at multiples of five (5) miles per hour. On LFUCG streets with a speed limit of twenty-five (25) miles per hour the special “Lexington – Unless Posted Otherwise” variant of the speed limit (R2-1) sign shall be used.

Requests for speed limit revisions shall be reviewed and determined by the Division of Traffic Engineering. The Division of Traffic Engineering shall perform an engineering study as outlined in Section 2B.21 of the MUTCD to determine the appropriate speed limit. If the Division of Traffic Engineering concludes that a speed limit revision is justified based on the study, the results and recommended speed limit shall be forwarded to the Urban County Council for consideration of revision by ordinance.

2.2.8 Parking Control Signs

When parking control signs with arrows are used to indicate the extent of the restricted or permitted zones, the signs should be set at an angle forty-five (45) degrees wherever possible, and in no case should it be less than thirty (30) degrees with the line of traffic flow in order to be visible to approaching traffic.

2.2.9 Stub Street Signs

All stub streets within a development shall have an LFUCG stub street sign installed above an OM4-3 object marker sign at the midpoint of the cross-section at the edge of the existing pavement. Two additional OM4-3 object marker signs shall be installed at the one-third (1/3) and the two-thirds (2/3) points of the cross-section at the edge of the existing pavement. The OM4-3 signs shall be mounted at least forty-eight (48) inches above the finished grade.

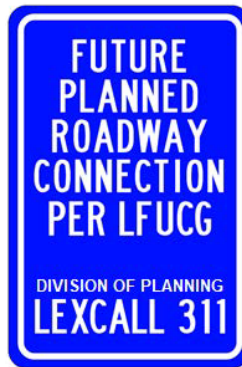


Figure 2-1: Standard LFUCG stub street sign

2.2.10 Street Name Signs

All new and replacement street name signs shall:

- Use nine (9)-inch high sign blanks.
- Use high-intensity sheeting.
- Have a green background with white lettering.
- Use 'Highway' B, C, or D font.
- Display the street name in title case.

For private streets the street name sign shall have a "PVT" flag on the far-left side. The flag shall have a black background with the white lettering "PVT" placed vertically within. The flag shall be three (3) inches in width.

For approved street name abbreviations, refer to the *Addressing Guide for the Lexington-Fayette Urban County Government*.



Figure 2-2: Nine (9) inch enhanced street name signs for public streets



Figure 2-3: Nine (9) inch enhanced street name signs for private streets

2.3 Signage Within Parking Lots & Other Off-street Vehicular Use Areas

2.3.1 Scope

This section shall apply to all off-street parking areas, parking drive aisles, drive-thru facilities, and other vehicular use areas as provided in Article 16 of the Zoning Ordinance. For information regarding signs on public roadways, private roadways and access easements open to public travel see section 2.2.

2.3.2 Regulatory Signs at Intersections

Due to the unique nature of parking lots, drive aisles, and other off-street parking areas, and the number of intersections present in such locations, regulatory signs such as “STOP” signs and “YIELD” signs shall not be required at intersections where all approaches are within an off-street vehicular use area. In lieu of regulatory signs, pavement markings shall be installed as per section 3.3.4. The provision of this section shall not preclude the installation of signage should it be recommended based on engineering judgment.

Where an off-street vehicular use area drive aisle intersects with a public roadway, a private roadway, or an access easement open to public travel, a STOP sign and any other applicable regulatory signs shall be installed in accordance with the standards for a roadway open to public travel.

2.3.3 ADA Accessible Parking Signage

Americans with Disabilities Act (ADA) compliant accessible parking spaces shall comply with the applicable *ADA Standards for Accessible Design* in addition to the LFUCG requirements listed herein. In the event of any present or future conflict, the *ADA Standards for Accessible Design* shall take precedence unless a LFUCG minimum is more stringent. For LFUCG ADA accessible parking spaces marking requirements see section 3.3.3.

- a) All ADA accessible parking spaces shall be clearly signed as an accessible space. If an ADA accessible parking space is van accessible it shall be an 11' min. width and also be clearly signed as such with a supplemental sign (R7-8b).
- b) Without interrupting the defined accessible route, the LFUCG requirement of a minimum 8' wide accessible loading area shall have pavement markings to indicate the prohibition of parking within.
- c) Signs shall be mounted with the bottom edge of the lowest sign a minimum of sixty (60) inches and a maximum of seventy-two (72) inches above the finished grade.

CHAPTER 3 PAVEMENT MARKINGS

3.1 Introduction

This chapter provides the requirements concerning the design, installation, and maintenance for pavement markings on the local highway system. Except as noted in this chapter, all markings shall conform to the MUTCD, current adopted edition. The purpose of this chapter is to discuss any additions to, departures from, or emphasis of the MUTCD.

This chapter is divided into two sections. Section 3.2 provides information on pavement markings on ring roads, public streets and private streets. Section 3.3 provides information on pavement markings within off-street parking areas, parking drive aisles, drive-thru facilities, and other vehicular use areas as provided in Article 16 of the Zoning Ordinance. This separation allows for a logical break where the MUTCD applies and does not, as well as an acknowledgement of the difference in operating environments.

3.1.1 *Pavement Marking Plans*

Pavement marking plans shall be required for roadway construction plans, all commercial projects that have a new or reconfigured parking lot (i.e. new construction, pavement sealing, and / or site paving), a zone change, or an addition made to a principal structure of more than thirty percent (30%) of the floor area. The pavement markings shall be required to be updated to current **LFUCG TEM Standards**. Pavement marking plans may be combined with a signage plan, where legibility of the information will not be degraded.

In a pavement marking plan all markings on the roadway, drive aisles, parking areas, paved access easements and other vehicular use areas (VUA) should be shown, including but not limited to, the following:

- a) Edge lines (white & yellow) (when applicable)
- b) Lane lines
- c) Center lines (double solid, double broken, broken single, double – one broken, one solid)
- d) 24” Stop bars
- e) Crosswalks
- f) Transverse, diagonal or hatching lines (white & yellow)
- g) Curb markings (yellow or red, as required)
- h) Island markings (white & yellow)
- i) Parking lot stall markings (white)
- j) Directional lane arrows (white)
- k) Word or text legends (white)
- l) Railroad symbol markings
- m) School symbol markings
- n) Accessible parking markings (blue)
- o) Chevron markings (white & yellow)
- p) Speed hump markings (white)

In addition, the pavement marking plan shall specify the following:

- a) The widths of drive lanes, drive-thru lanes and drive aisles.
- b) The pavement marking dimensions.
- c) The type of material to be used for each marking.

Special detail drawings should be shown in the plans for each thermoplastic marking and any atypical markings. These should be drawn to an appropriate scale for the contractor to properly place the markings. Additional notes detailing the markings should be considered for the benefit of the contractor.

All pavement marking plans shall be prepared and stamped by a Professional Engineer licensed to practice in the Commonwealth of Kentucky.

3.2 Pavement Markings on Public & Private Streets

3.2.1 Scope

This section shall apply to all public roadways, and private roadways and access easements open to public travel. Pavement markings shall follow the KYTC Traffic Operations Manual and KYTC Standard Drawings unless the **LFUCG TEM** states more stringent requirements. For information regarding pavement markings within off-street parking areas, drive-thru facilities, parking drive aisles, and other off-street vehicular use areas see section 3.3.

3.2.2 Longitudinal Striping

Longitudinal markings are center lines (including two-way left-turn lane lines and flush island outlines), lane lines, edge lines, and channelizing lines. Left edge line pavement markings shall consist of a normal width, solid yellow line. They shall be installed on divided roadways, and one-way streets to delineate the left-hand edge of the roadway. Right edge line pavement markings shall consist of a normal width, solid white line. They shall be installed on multi-lane roadways, and one-way streets to delineate the right-hand edge of the roadway.

Where installed for LFUCG facilities, the normal width for center lines, lane lines, edge lines, and channelizing lines shall be as provided in Table 3-1.

Table 3-1: Longitudinal striping widths by roadway functional classification.

Facility Class	Center Line	Lane Line	Edge Line	Channelizing Line
Local (w/o curbs)	4"	4"	4"	N/A
Industrial	6"	6"	6"	12"
Collector	6"	6"	6"	12"
Arterial	6"	6"	6"	12"

Broken lane lines shall be a forty (40) foot cycle consisting of a ten (10) foot stripe with a thirty (30) foot gap between. Dashed lane lines shall be a twelve (12) foot cycle consisting of a three (3) foot stripe with a nine (9) foot gap between.

Center lines, lane lines, and edge lines shall be placed as follows:

- a) *Edge line*. The center of the edge line (when applicable) shall be applied at least six (6) inches from the edge of pavement.
- b) *Lane line*. The nearest edge of the lane line shall be applied at least 2 inches away from any construction joint.
- c) *Center line*. The edge of any center line shall be at least 2 inches away from any construction joint. This can be achieved by allowing the centerline to straddle the construction joint.

3.2.3 Edge & Center Lines on Narrow Roadways

Where the pavement width of a roadway *without curbs* is sixteen (16) feet or less, edge lines should be installed based on engineering judgement. Center lines shall not be installed on roadways sixteen (16) feet or less.

Where the pavement width of a roadway *without curbs* is between sixteen (16) feet and twenty (20) feet, edge lines or center lines should be installed based on engineering judgement. Edge and center lines shall not be installed together.

Where the pavement width of a roadway *without curbs* is greater than 20' wide and 1,000 ADT or greater shall have white edge lines and yellow thermoplastic centerlines.

3.2.4 Inlaid Pavement Reflectors

Where centerlines are installed on a collector roadway or any roadway *without curbs*, yellow inlaid pavement reflectors shall be installed every forty (40) feet between the two yellow lines for double lines. Inlaid pavement reflectors installed along collector roadways with dashed lines shall be installed every forty (40) feet between and in line with the dashes.

3.2.5 Stop Bars

Stop bars shall be twenty-four (24) inch wide white thermoplastic. Stop bars shall be used to mark the desired stop location on all approaches to traffic signals. Stop bars may be used on approaches to intersections controlled by a stop sign. In left turn lanes, stop bars should be located so vehicles at the stop bar do not interfere with left-turning vehicles from other approaches. Stop bars shall not be used for yield conditions or in a left-turn lane on an uncontrolled intersection approach. Stop bars shall be shown on all Development Plans and construction plans.

If a marked crosswalk is present, stop bars should be placed a minimum of 4 feet in advance of the nearest point of the crosswalk. In the absence of a marked crosswalk, stop bars placement should be determined by the design Engineer.

3.2.6 Crosswalk Markings

Where crosswalks are installed, they shall consist of one (1) foot wide white thermoplastic longitudinal lines which are spaced three (3) feet on center and be a minimum of six (6) feet wide. Other longitudinal markings shall be discontinued at least four (4) feet on either side of the crosswalk markings.

Where a special decorative crosswalk (a.k.a. aesthetic crosswalk) is installed, it shall be contained within two (2) six (6) inch wide white thermoplastic transverse lines. If the decorative crosswalk is installed by a third-party and is intended to be permanent, a maintenance agreement shall be entered into between the third-party and LFUCG.

Crosswalk markings shall be shown on all Development Plans and construction plans.

3.2.7 Roundabout Markings

Transverse markings and curved-stem arrows (MUTCD 2B-5) shall be installed for roundabouts. Pavement markings for roundabouts shall be thermoplastic beginning at a distance prior to the roundabout of not less than the dimension of the outer edge diameter of the roundabout measured from the outer lanes back of curb.

Roundabout pavement markings shall be shown on all Development Plans and construction plans.

3.2.8 Parking Restriction Markings

Curbs may be marked yellow to reinforce existing prohibitions of parking adjacent to the curb. Yellow striping on the pavement, including edge lines and diagonal hatching shall not be used on the right edge of a travel way. All pavement striping on the right edge of a travel way shall be white. Parking restricted areas designated with crosshatched pavement markings shall be thermoplastic.

3.3 Pavement Markings within Off-Street Vehicular Use Areas

3.3.1 Scope

This section shall apply to all off-street parking areas, parking lots, parking drive aisles, drive-thru facilities, and other vehicular use areas as provided in Article 16 of the Zoning Ordinance. For information regarding pavement markings on public roadways, private roadways, and access easements open to public travel use or see section 3.2.

3.3.2 General Parking Space Striping

General parking spaces shall be delineated by a minimum four (4) inch wide white striping except where the parking space is against a curb or other defined barrier. General parking space markings may be roadway-grade paint. Surface parking lot striping does not require reflectivity. For additional requirements in parking structures see section 3.3.8.

3.3.3 ADA Accessible Parking Space Markings

Americans with Disabilities Act (ADA) compliant accessible parking spaces shall comply with the applicable *ADA Standards for Accessible Design* in addition to the requirements listed herein. In the event of any present or future conflict, the *ADA Standards for Accessible Design* shall take precedence. For ADA accessible parking spaces signage requirements see section 2.3.3.

- a) Accessible parking spaces shall be delineated by four (4) inch wide non-slip, light blue thermoplastic striping.
- b) The space shall have the International Symbol of Accessibility Parking Space Marking in thermoplastic centered horizontally within the space. The bottom edge of the symbol shall be no more than twelve (12) inches from the bottom edge of the parking space.
- c) Access aisles shall be clearly delineated with non-slip, light blue thermoplastic cross hatching and the text legend “NO PARKING” in white facing towards the drive aisle.
- d) Thermoplastic pavement markings shall be installed at a minimum thickness of 60 mils.

3.3.4 Markings at Intersections and conflict points

Due to the unique nature of parking lots, drive aisles, frontage roads and other off-street parking areas that typically have several intersections (i.e. conflict points), it is important to define the preferential right-of-way. Engineering judgment should be applied to determine the appropriate level of control (e.g. 2-way, all-way, yield, etc.). Conflict points within an off-street parking area shall defined with appropriate pavement markings and or signage.

Where it has been determined that an approach should yield right-of-way, the following markings shall be installed:

- a) For a stop-controlled approach, a twenty-four (24) inch wide non-slip, white thermoplastic stop bar, and a thirty-six (36”) inch high white thermoplastic “STOP” legend placed between eighteen (18) and twenty-four (24) inches from the stop bar. Thermoplastic pavement markings shall be installed at a minimum thickness of 60 mils.
- b) For a yield-controlled approach, a twenty-four (24) inch non-slip, wide thermoplastic yield line and a thirty-six (36”) inch high white thermoplastic “YIELD” legend placed between eighteen (18) and twenty-four (24) inches from the stop bar. Thermoplastic pavement markings shall be installed at a minimum thickness of 60 mils.

3.3.5 Curb Markings

Curbs within a parking area may be marked yellow to indicate a prohibition of parking adjacent to the curb. Curbs may also be marked red to indicate a dedicated Fire Lane. Any prohibitions may also be signed as such.

3.3.6 Word Legends & Directional Arrows

Word legends shall be white thermoplastic and shall be a minimum of thirty-six (36) inches in height or larger. Directional arrows shall be non-slip, white thermoplastic and shall be installed at a minimum thickness of 60 mils.

3.3.7 Decorative & Branded Pavement Tattoos

Where pavement tattoos are installed, they shall conform to the following standards:

- a) Pavement tattoos shall only be installed within off-street vehicular use areas, such as parking lots and drive-thru lanes. They shall not be installed within public or private right of way or shared access easements.
- b) Pavement tattoos shall be thermoplastic.
- c) Pavement tattoos within parking areas and drive-thru facilities may contain colors similar to the official colors within the MUTCD but shall not imitate an official traffic control device or marking.
- d) Pavement tattoos shall be comprised of contrasting colors to the pavement. Black or white supplemental markings may be used in combination with a pavement tattoo to create contrast with the pavement.

3.3.8 Additional Requirements for Parking Structures

In addition to the other requirements for off-street vehicular use areas, parking structures and garages shall also conform to the following Standards:

- a) All drive aisle pavement markings shall be reflective.
- b) Where two-way traffic is permitted, a 4" double yellow, thermoplastic centerline shall be installed to separate traffic travelling in opposing directions.
- c) End bay drive aisles with two-way traffic shall be a minimum of 26' plus a 3' minimum inner radius crosshatched island / buffer. End bay drive aisles with one-way traffic (i.e angled parking) shall be a minimum of 20' plus a 3' minimum inner radius crosshatched island / buffer.
- d) Parking stalls adjacent to walls, columns, elevators, stairs, etc. shall be a minimum of 10'-0" wide at the narrowest point of the parking stall. No portion of any column or other protrusion can be within the measured 10'-0" parking stall width.
- e) Vehicle access points should be visible and easily identifiable with the minimum distance of entry/exits from corner intersections at least 100 feet (preferably 150 feet). Entrances and exits should have clear lines of sight.
- f) Control access gates shall be located a minimum of 30' from the edge of the right-of-way and / or pedestrian sidewalk to allow at least one vehicle behind the vehicle in the service position (at a ticket dispenser, card reader or cashier booth). Entry/exit areas that have parking control equipment should have a maximum 3% slope.

3.3.9 *Exception for Pavers*

Where a parking area is paved with an approved paver product, markings may be incorporated as a contrasting paver elements in lieu of pavement markings applied to the surface by other means. ADA accessible parking space markings shall still conform to the color requirements as provided in section 3.3.3.

CHAPTER 4 LOCAL & NEIGHBORHOOD STREETS

4.1 Introduction

This chapter provides guidance for the design and placement of traffic control devices on local and neighborhood streets, which may at times include collector class streets. These streets are characterized by low speeds, short travel distances, pedestrian activity, and frequent residential driveways and intersections.

Neighborhood streets often serve a variety of users and uses beyond the mobility of motor vehicles. This chapter emphasizes context-sensitive design, safety for vulnerable road users, and the promotion of complete street environments.

4.2 Traffic Calming

The primary purpose of traffic calming is to support the livability and vitality of neighborhoods by reducing vehicle speeds or volumes on a single street or a street network. Traffic calming measures consist of horizontal, vertical, lane narrowing, roadside, and other features that use self-enforcing physical or psychological perception means to produce desired effects.

To be effective, traffic calming devices need to be part of a strategy extending along a street. The aim is to control traffic over an area, not at an isolated site, and to be compatible with street activities and adjacent land uses. Traffic calming strategies have the common goals of improving safety for motorists, pedestrians, and cyclists, providing a greater sense of security, and increasing neighborhood livability.

To administer the application of traffic calming devices and measures the Neighborhood Traffic Management Program (NTMP) was established within the Division of Traffic Engineering. All designs and specifications for traffic calming installations shall conform to the requirements of the *Neighborhood Traffic Management Program Guide* and the *LFUCG Complete Streets Manual*.

The following table provides examples of traffic calming which can be considered:

Table 4-1: References for traffic calming measures and approving authorities

Traffic Calming Measure	Complete Streets Section	Approval via
Curb Extensions (Bump-outs/Bulb-outs)	6.3.3.1	<i>Traffic Engineering</i>
On-Street Parking (Lanes)	6.3.5.2	<i>LFUCG Ordinance</i>
Raised Speed Reducers (Speed Humps, Speed Cushions/Speed Pillows, Raised Intersections)	6.3.2	<i>Traffic Engineering</i>
Raised Crossings/Crosswalks		<i>Traffic Engineering</i>
Raised Medians/Pedestrian Refuges	6.3.3.4	<i>Traffic Engineering</i>
Signs & Pavement Markings	References MUTCD	<i>Traffic Engineering</i>

Traffic circles and roundabouts are considered by the Division of Traffic Engineering to be typical intersection designs and not only a traffic calming measure. Their implementation is subject to the approval of the Division of Traffic Engineering.

4.3 Signs

4.3.1 Decorative Signs & Posts on Neighborhood Streets

Where a residential developer, homeowners/neighborhood association, or other similar organization, would like to install specialized street name signs or other neighborhood-oriented signs on any post within the right of way that is decorative or non-standard they should refer to the Division of Traffic Engineering's *Guidelines for Decorative Signs and Posts on Neighborhood Streets*.

4.3.2 Radar Speed Feedback Signs

Radar Speed Feedback Signs (RSFB) should be located on collector or higher-class roadways. RSFBs shall conform to the criteria set forth in the latest adopted version of the MUTCD. RSFBs should be located on street with a demonstrated and documented speeding problem where the 85th percentile speed is at least 6mph over the posted speed limit or where engineering judgement recommends.

4.4 Pavement Markings

Longitudinal pavement markings, mostly consisting of center and edge lines, are not typically required on local streets due to the lower speeds and volumes. Where engineering judgement determines pavement marking are warranted, the markings shall be installed in accordance with Chapter 3.

CHAPTER 5 TEMPORARY TRAFFIC CONTROL

5.1 Introduction

The Division of Traffic Engineering is responsible for issuing temporary blockage permits within the public right-of-way in section 17-22 of the LFUCG Code of Ordinances. The purpose of this chapter is to provide requirements and guidelines for the protection of the workforce and the public while minimizing interference for pedestrian, bicycle, and vehicular traffic. All temporary traffic control devices shall comply with the latest adopted edition of the MUTCD.

5.2 Blockage Permit Application Requirements

Contractors, public utility companies, railroads, government agencies, or others performing any work within the right-of-way or any work so close to the right-of-way that it restricts pedestrian, bicycle, or vehicular flow shall apply for a blockage permit. Work on private streets may also require a permit to ensure appropriate notification for emergency services.

- All applications and application materials shall be submitted to the Division of Traffic Engineering using the approved methods provided.
- Applications shall be submitted at least three (3) business days prior to the requested date(s) for general work and at least fourteen (14) business days prior to the requested date(s) for complete closure requests.
- Permit link: <https://www.lexingtonky.gov/working/event-permits/lane-blockage-permit>

5.2.1 Project Description & Summary

The applicant shall provide a summary description of the proposed project. The applicant should also consider the following questions which will be needed to complete the permit application:

- What is the scope of the work?
- What portion or portions of the right-of-way will need to be blocked and for how long?
- What will be the effect on local parking and where will parking be for project vehicles and employees?
- What is the duration of the project?
- Can the project be phased to minimize impacts on the traveling public? If so, what is the anticipated phased construction timeline?

5.2.2 Public Notification

It shall be the responsibility of the applicant to provide advance notice to affected residents, organizations, and other stakeholders, in a manner and timeframe approved by the Division of Traffic Engineering. The Division of Traffic Engineering maintains an online listing of active permits with a significant effect on the travelling public and provides a daily report on normal business days of all active permits to other government agencies and news outlets.

5.2.3 Temporary Traffic Control Plan

A Temporary Traffic Control Plan (TTCP) shall provide for the safe passage of the public through or along the construction work zone.

The applicant shall provide a dimensioned drawing showing the footprint of the proposed project site and the temporary traffic control measures including signs and devices based on the MUTCD. Consult the TTCP Checklist below to confirm basic TTCP requirements are met.

The applicant shall adequately justify to LFUCG why there is a need to block a sidewalk, lane, or street as well as the duration of time requested (include project staging/schedule).

Creating a TTCP is an iterative and collaborative process. TTCP's describe pedestrian, biking, traffic, and parking management techniques and illustrate the placement of traffic control devices. Include a justification for the closure in the application.

The checklist below was created to help the designer incorporate the required traffic plan elements into the proposed TTCP.

- ☐ Show the location (address, intersection) and dimensions of proposed project site.
- ☐ Label streets within plan limits and provide a north arrow.
- ☐ Indicate schedule of work hours and duration of work in phases with each phase shown on individualized plan sheets.
- ☐ Indicate the proposed size of temporary signs.
- ☐ Indicate staging area and materials storage area, as appropriate.
- ☐ Indicate location of construction signs, barricades, delineators, and other MUTCD approved traffic control devices.
- ☐ Show advanced warning area, transition area, buffer area, active work zone, and termination area
- ☐ Show proposed temporary pavement markings, if applicable.
- ☐ Show existing conditions in the vicinity of the work area, including:
 - ☐ Curbs, sidewalks, driveways, and intersections.
 - ☐ Traffic signals and signs.
 - ☐ Pavement markings.
 - ☐ Parking restriction zones, signs, and meters.
 - ☐ Show direction of travel and proposed lane widths.

5.3 Work Timeframe & Duration

In general, work on local streets will be permitted between the hours of 8 am and 4 pm and between 9 am and 3 pm on collectors and higher-class roadways. Work may also be permitted outside of peak travel times, such as weekends, evenings, and overnight periods. Work overnight will need a Noise Variance Permit, as detailed in section 5.9.1.

- a) The Division of Traffic Engineering may recommend or require adjustments to work hours, duration, or both including but not limited to evening and overnight periods.
- b) If an active permit requires an extension, the permittee shall apply for the extension no later than two (2) business days prior to the expiration date of the permit.

- c) If an active permit is no longer required, the permittee shall inform the Division of Traffic Engineering ***in writing*** (via email) as soon as practical and in no case more than twenty-four (24) hours after the work has been completed.

5.4 Closures

All existing modes of travel in a work zone area shall be accommodated where impacted by the construction activity. The safe passage of pedestrians, bicyclists, transit providers, and motorists are of equal importance when planning out a work zone; no pre-existing mode of travel may be eliminated without the express approval of the Director of Traffic Engineering.

Access to adjacent property should be maintained at all times. When access must be temporarily blocked to complete work, it should be scheduled for periods of short duration at non-critical times and only after sufficient notice has been given to any affected organization, property owner, and resident.

5.4.1 Complete Road Closures

Complete road closures on collectors and local streets will be considered on a case-by-case basis. Complete road closures are typically not permitted on arterial or higher-class roadways. When a complete road closure is approved the applicant shall be required to

- a) Place Variable Message Board(s) (VMBs) detailing the location and duration of the closure. The location(s) and message of the VMBs shall be outlined in the TTCP. The VMBs shall be active at least five (5) business days prior to the closure on local streets and at least seven (7) business days prior to the closure on collector and higher-class roadways.
- b) Provide a detour route for all modes of travel which are accommodated by the segment of road to be closed. The route shall be adequately signed.

5.4.2 Emergency Closures

Closures are sometimes necessary to complete unplanned work for water main breaks, gas leaks, sinkholes, severe weather damage, traffic collisions, and other emergencies. The safety of the public is still paramount in these work zones. For emergency closures the following actions shall be taken:

- a) When an emergency closure occurs outside of normal business hours, the closure shall be immediately reported to the Lexington Division of Police non-emergency line at (859) 258-3600. The emergency closure shall also be reported to the Division of Traffic Engineering via email to lane_blockage@lexingtonky.gov and traffic@lexingtonky.gov, as soon as practical, and in no case more than two (2) hours after the initial report.
- b) All applicable temporary traffic control procedures shall be implemented, and required temporary traffic control devices deployed, in accordance with this chapter.

This section shall apply equally to unpermitted work, and to work which would otherwise be permitted but is undertaken outside of the approved permit timeframe.

5.5 Parking Impacts

Where parking will be restricted due to the proposed work the TTCP shall address mitigation for the loss of parking and should include provisions for business deliveries, where appropriate. The closing of a parking lane only should be considered as shoulder work and treated as such in the TTCP.

5.5.1 Paid On-street Parking Spaces

Where paid on-street space parking spaces will be restricted, each affected space shall be “bagged” by the Lexington and Fayette County Parking Authority (LexPark), and a dated bagged meter receipt shall be submitted prior to the issuance of a permit.

5.5.2 Temporary No Parking Signage

If required, it shall be the applicant’s responsibility to obtain temporary "NO PARKING" signs from the Lexington Division of Police (LPD). The LPD temporary no parking procedures are:

1. The request must be made twenty-four (24) hours in advance.
2. When a parking restriction form is received, LPD will review the form for completeness and sign that it was received.
3. The LPD will advise the requesting party that they will be notified upon approval. Although signs and bags may be given to requesting parties at the time of request, signs should not be posted until notification of approval is made.
4. Once approved/disapproved, the request will be given to the desk officer who will make the notification.
5. The applicant must post the signs and call the LPD twenty-four (24) hours in advance. The signs will not be enforced if the applicant fails to notify the LPD twenty-four (24) hours in advance.

5.6 Temporary Traffic Control Devices

Temporary traffic control devices are an important part of maintaining a safe and efficient work zone. When using temporary traffic control devices, the standards listed below shall be followed:

- a) A temporary traffic control device shall not be placed in a manner which would obstruct travel along a sidewalk, trail, bicycle facility, or travel lane which is open, and travel along it poses no safety hazard.
- b) A temporary traffic control device shall not be placed in a manner which would obstruct or unduly limit the line of sight of pedestrians, bicyclists, or motorists, especially at or near intersections.
- c) The placement of temporary traffic control signs should be prioritized as follows:
 1. On an existing post, streetlight, or utility pole.
 - i. Signs shall be strapped, rather than bolted to utility poles and streetlights.
 2. Within the utility strip.
 3. Within the parking lane or shoulder.
 4. Within a median area.

5. If no other suitable option exists, the sign should be placed so as to limit the impact to all road users as much as possible.
- d) When not in use, a temporary traffic control device shall be removed, covered, turned down, or otherwise positioned so as not to confuse or mislead road users.
- e) Where a continuous barrier system is utilized, it should not be greater than forty-eight (48) inches in height, as measured from roadway grade.
- f) Each temporary traffic control device should be marked with an owner's name and phone number. The mark should be readily visible upon inspection. The mark shall not be retroreflective, resemble any official traffic control symbol or device, nor detract from the function of the device in any way.

5.7 Temporary Pavement Markings

Where work will last more than thirty (30) days and require semi-permanent lane closures or shifting, especially continued overnight, existing conflicting pavement markings shall be obliterated and temporary pavement markings installed to guide traffic through the work zone.

Unless justified based on engineering judgment, temporary pavement markings should not remain in place for more than 14 days after the completion of work. The permittee shall be responsible for restoring the original pavement markings to the satisfaction of the Division of Traffic Engineering.

5.8 Inspections

Any party issued a permit pursuant to this chapter shall make the work-site available to LFUCG staff and to all others as authorized by law for inspection at all reasonable times during the execution of and upon completion of the work. At the time of inspection, the Division of Traffic Engineering staff may order the immediate cessation of any work that it in good faith believes poses a serious threat to the life, health, safety, or well-being of the public.

The Director of Traffic Engineering may issue an order to the permittee for any traffic control method or device that does not conform to the terms of the permit or other applicable ordinance, resolution, regulation, standard, condition, or code. The order shall state that failure to correct the violation will be cause for revocation of the permit. The permittee shall proceed with the corrective work before undertaking any additional work under the permit. Within five (5) days after issuance of the order, the permittee shall present proof to the Director of Traffic Engineering that the violation has been corrected. If such proof has not been presented within the required time, the director may revoke the permit, or for good cause shown, extend the period of time allowed for the corrective work to be completed.

5.9 Additional Resources

This section provides information for additional permits and contacts for work zone assistance from Division of Police. The Division of Traffic Engineering only issues permits to allow temporary traffic control and blocking of the right-of-way, therefore the work to be completed shall be permitted by the appropriate authority before the Division of Traffic Engineering issues a permit.

5.9.1 Other Permits

The following are other permits which cover various types of work:

- a) *Right-of-Way Surface Cut Permit.* Where proposed work includes excavation, digging, or cutting into and through a paved street surface within the right-of-way or boring, digging or tunneling under such a paved street surface, a Right-of-Way Surface Cut Permit shall be required prior to the issuance of a blockage permit. A Right-of-Way Surface Cut Permit may be obtained from the Division of Engineering, Right-of-Way Management Section.
- b) *Right-of-Way Installation Permit.* Where proposed work includes the construction, installation, repair, replacement, or maintenance of facilities in the right-of-way that is not covered by a surface cut permit, a Right-of-Way Installation Permit shall be required prior to the issuance of a blockage permit. A Right-of-Way Installation Permit may be obtained from the Division of Engineering, Right-of-Way Management Section.
- c) *Encroachment Permit.* Where proposed work will be within the right-of-way of a state-owned roadway, a Kentucky Transportation Cabinet (KYTC) Encroachment Permit shall be required prior to the issuance of a blockage permit. An Encroachment Permit may be obtained from the District 7 Office of KYTC.
- d) *Noise Variance Permit.* When proposed work is to be completed between the hours of 11:00 pm and 7:00 am a Noise Variance Permit shall be required prior to the issuance of a blockage permit. A Noise Variance Permit may be obtained from the Department of Public Safety.
- e) *Land Disturbance Permit.* Where development work is covered under a Land Disturbance Permit, the issued permit shall be submitted prior to the issuance of a blockage permit. A Land Disturbance Permit may be obtained from the Division of Engineering, New Development Section.
- f) *Steel Plates.* Where steel plates are utilized, they shall be registered with the Division of Streets & Roads.

5.9.2 Work Zone Assistance

- a) *Police Detail.* The police can assist in some aspects of temporary traffic control and a police presence in a work zone can encourage safe driver behavior. An applicant may contact the Lexington Division of Police main line at (859) 258-3600 to request police assistance.
- b) *Traffic Signal Tech.* Where work will impact the operation of a signalized intersection the Division of Traffic Engineering's Signals Section, may provide assistance with at least twenty-four (24) hours of advance notice.

CHAPTER 6 BICYCLE FACILITIES

6.1 Introduction

This chapter provides the requirements concerning the design, installation, and maintenance of signage and markings on bicycle facilities. Except as noted in this chapter, all installations shall conform to the MUTCD, current adopted edition. The purpose of this chapter is to discuss any additions to, departures from, or emphasis of the MUTCD.

6.2 On-street Pavement Markings

6.2.1 Shared Lane Markings

Shared lane markings (“sharrows”) may be used sparingly on local and collector streets without dedicated bike facilities where it would be useful to provide route or lateral positioning guidance away from the door zone of parked vehicles.

Share lane markings shall not be installed on roadways with a speed limit of thirty-five (35) mph or greater except within shared turn lanes as required in section 6.2.2.

6.2.2 Markings Within Shared Turn Lanes

Shared lane markings shall be installed in mandatory motor vehicle turn lanes which are shared with bicycle through and turn movements with a dedicated facility on the approach to the turn lane. The shared lane markings shall be centered horizontally within the lane to encourage proper lateral positioning.

The standard bike lane marking and through arrow combination, and lane extension markings shall not be used within shared turn lanes.

6.2.3 Curbside Transit Stops

Where a curbside transit stop exists along a bike facility, the bike lane line shall be dotted across the area of the transit stop. The dotted lane line shall consist of two (2) foot line segments and six (6) foot gaps. The dotted lane line should be at least the length specified in Table 6-1 based on the stop position and longest vehicle which regularly uses the route.

Where a buffer is present, it shall be discontinued, and only the lane line adjacent to the motor vehicle travel way shall be dotted across the area of the transit stop. If the bike lane including any buffers is eight (8) feet or greater at the transit stop the word markings “BIKE BUS ONLY” shall be installed within the transit stop lane.

Table 6-1: Minimum lengths for dotted lane lines at transit stops based on bus length

Stop Position	40-foot Bus	60-foot Bus
Near-side	100 ft	120 ft
Midblock	120 ft	145 ft
Far-side	90 ft	100 ft

6.2.4 Obstruction Markings

Where a hazard or obstruction exists, taper markings shall be considered on the upstream side to guide bicyclists away from the hazard. A primary example of this is catch basins; bike lanes are often near the curb line and, as such, are next to stormwater infrastructure, which can pose a hazard to cyclists.

6.2.5 Bike Lane Extensions

Where dedicated on-street bike facilities are provided, dotted bike lane extensions consisting of two (2) foot line segments and six (6) foot gaps shall be provided on both sides within intersections and across any conflict zone where motor vehicles must weave or turn across the bicycle facility. Transverse green pavement markings shall be installed between the two (2) foot segments as required in section 6.2.8. The bike lane extensions shall be laterally offset from marked crosswalks by at least one (1) foot.

A yellow centerline extension shall also be provided for two-way bike facilities and shall also consist of two (2) foot line segments and six (6) foot gaps in line with the lane line extensions.

Shared lane markings shall not be installed within bike lane extensions.

6.2.6 Bike Boxes/Advanced Stop Bars

A bike box, also known as an advanced stop bar, may be used to increase the visibility of stopped bicycles on the approach to a signalized intersection during the portion of the signal cycle when a red signal indication is being displayed to drivers in the approach lane(s) that are behind the box.

Bike boxes shall be at least ten (10) feet deep and shall only be installed where a bike facility is provided on the approach. Bicycle boxes shall use green colored pavement markings where required in section 6.2.8. Where green pavement markings are required within the bike box, consideration should be given to extending the green pavement markings into the bike lane approach.

Bike boxes shall be considered at signalized intersections under any or all of the following conditions:

- a) Where a bike facility approach is to the right of a combined through and right turn lane and there is a high volume of right-turning vehicles.
- b) Where the bike facility ends at the intersection and does not continue downstream of the intersection.
- c) Where there is a high volume of left-turning bicycle traffic and other treatments such as two-stage turn box or protected intersection are not practical and there is no more than one (1) vehicular through lane on the same approach.
- d) At other locations where it is determined that a bike box may improve safety.

6.2.7 Two-stage Turn Boxes

Two-stage turn boxes provide a designated space in front of a crossroad approach and on the same side as the bicycle facility where cyclists can wait for the crossroad green interval. This allows cyclists to complete turns without merging across upstream traffic or using crosswalks.

Two-stage turn boxes shall be at least six (6) feet by six (6) feet in dimension and shall only be installed where a bike facility is provided on the approach which would be utilized by the turn box. Two-stage turn boxes shall use green colored pavement markings where required in section 6.2.8.

Two-stage turn boxes shall be considered at signalized intersections where the approach is two (2) or more lanes wide and any or all of the following conditions exist:

- a) Where a protected intersection is not practical.
- b) Where there is a high volume of turning bicycle traffic which would otherwise need to merge across lanes or use a crosswalk to complete the turn.
- c) Where a designated bike route turns onto a crossroad and the turn would require merging across lanes or the use of a crosswalk to follow the route.
- d) To transition from a one-way facility to a two-way facility on the opposite side of the roadway.

6.2.8 Use of Green Pavement Markings

Green pavement markings can reinforce the roadway users' expectations of where cyclists should be, improving conflict awareness. The green markings may be included in lane extensions where conflicts occur, bike boxes, two-stage turn boxes, and full green fill for areas dedicated to bicycle traffic. If specified, green pavement markings shall be applied according to the matrix below.

Table 6-2: Green pavement markings selection matrix

Facility Type	Shared Lane	Bike Lane (all types)	Exclusive/Separated Trail Crossings (Crossbikes)	On-Street Trail Segment	Bike & Two-stage Turn boxes ³	Shared-Use Trail Crossing
Local	N/A	N/A				Enhanced crosswalk markings only ¹
Collector < 5,000 AADT		Based on engineering judgement	Lane extensions ²	N/A		
Collector > 5,000 AADT		Lane extensions ²	Full fill & lane extensions ²	Full fill		
Arterial						
KYTC Owned		Lane extensions ^{2, 4}	Full fill & lane extensions ^{2, 4}	Full fill ⁴	Enhanced crosswalk markings only ^{1, 4}	

¹ Shown for clarity, green markings shall not be permitted for shared crossings. See section 3.2.6 for details on enhanced crosswalk markings.

² See section 6.2.5 for details on bike lane extensions.

³ See section 6.2.6 for details on bike boxes and section 6.2.7 for details on two-stage turn boxes.

⁴ With permit/approval from KYTC.

6.3 Signs On Off-street Bicycle Facilities

Where signs are used on off-street facilities, they shall be retroreflective and should be the size as provided in MUTCD Table 9A-1. Bicycle Facility Sign and Plaque Minimum Sizes.

Larger sizes may be utilized, where engineering judgement determines that it would be beneficial due to unique situations. Where larger sizes are used, care should be taken when installing signs to ensure they do not encroach into the path of the facility.

6.4 Pavement Markings on Off-street Bicycle Facilities

6.4.1 Centerlines

Under most conditions, centerline markings are not necessary, users will tend to keep right except to pass. On shared use paths and other off-street bicycle facilities with higher volumes, the use of a centerline may help organize pathway traffic. Centerlines may also be helpful in sharp curves, or where a path narrows abruptly.

Where utilized, centerlines on off-street bicycle facilities shall consist of a single solid four (4) inch wide yellow line, where passing is prohibited and a single broken four (4) inch wide yellow line where passing is permitted. The broken centerline shall be a twelve (12) foot cycle consisting of a three (3) foot stripe with a nine (9) foot gap.

6.4.2 Lane Lines on Shared Use Paths

A four (4) inch wide solid white line may be used on shared-use paths to separate different types of users travelling in the same direction. This treatment should only be considered where adequate width exists to allow space for all users.

6.4.3 Edge Lines

Edge Lines shall consist of a four (4) inch wide solid white line and should be considered where a shared use path or other off-street bicycle facility has an abrupt change in horizontal alignment or width, has high evening/overnight use, or is constrained against barriers or other natural terrain.

6.4.4 Word Markings & Symbols

Smaller-sized pavement word markings (24" min.) and symbols (30" min.) should be used on shared-use paths and off-street bicycle facilities. Where arrows are needed on shared-use paths or off-street bicycle facilities, half-size layouts of the arrows should be used.

CHAPTER 7 STREET LIGHTING

7.1 Introduction

This chapter outlines the policies, responsibilities, procedures, and design standards related to street lighting within Lexington-Fayette County. Street lighting is an important component to the transportation systems and community character, and a properly lit street provides safety benefits to all users. It is important to ensure consistent, safe, and appropriate lighting across both urban and rural areas in accordance with this **TEM**, other local regulations, and engineering best practices.

7.2 Tax Districts – Urban & Rural Service Areas

The Urban County Charter lists streetlights as an urban service which are provided through special tax districts. Local, collector, and in some cases, arterial streets where fronting properties are classified as tax districts 1, 4, 5 and 6 are eligible for streetlight installation. Since the mid-1980s it has been the policy of the Urban County Government to classify all new developments with public streets which are inside the [Urban Service Area](#) as tax district 1.

For various historical reasons, some local and collector streets within the Urban Service Area are not within a tax district which includes streetlights. These streets are not eligible for the installation of streetlights unless and until the property owners successfully complete the [required petition process](#) to change their tax district to one which includes streetlights. A properties current tax district can be obtained from the [Fayette County Property Valuation Administrator \(PVA\)](#).

In general, streets within the Rural Service Area (all properties outside of the [Urban Service Area](#)) are ineligible to have streetlights installed and are ineligible to petition to add streetlights as an urban service. A limited number of streetlights have been installed at rural intersections and other short segments where it was determined such lighting would be beneficial for traffic safety. Any additional streetlights installed within the Rural Service Area shall be at the discretion of the Division of Traffic Engineering and only for the purpose of improving traffic safety. Continuous lighting should not be provided within the Rural Service Area.

Streetlights located in the Rural Service Area and along some arterials in the [Urban Service Area](#) without fronting properties are paid for by general funds, rather than by special tax districts, due to the unique structure of Urban Service tax districts.

7.3 Developer Responsibilities & Requirements

Per section 6-8(j) of the Land Subdivision Regulations, easements necessary for provision of lighting shall be provided and shall be label as “street light easement”. The location and dimensions of streetlight easements shall be determined in coordination with the Division of Traffic Engineering and where needed the local electric utility. LFUCG shall be responsible for the design and cost of installation of street lighting along public streets within developments except as provided in sections 7.4 and 7.3.1.

7.3.1 Modification of Existing Lighting

The modification of lighting which is owned or leased by LFUCG shall not be made without the approval of the Division of Traffic Engineering. A street lighting plan shall be submitted to the Division of Traffic Engineering which shows the proposed modifications meet or exceed the existing lighting level. If approved, the Division of Traffic Engineering shall authorize the appropriate operator to make the modifications. In some cases, the work may be completed by the utility provider directly and they may invoice the developer, as needed, for the work completed.

The developer shall be responsible for the cost of all modifications, including but not limited to, the removal or relocation of existing streetlights, installation of new conduits/bases, or changeouts/upgrades.

7.3.2 Requirements for Small Cell Conversions

Cellular network operators who wish to convert a streetlight to a small cell shall provide, operate, and maintain a luminaire to replace the existing streetlight. The luminaire shall be a preapproved LED model equivalent to the existing luminaire. The list of approved LED Luminaires for use in replacing existing High-Intensity Discharge (HID) fixtures is available by contacting the Division of Traffic Engineering. Should an operator wish to use a different model, they shall submit the manufacture's specifications to the Division of Traffic Engineering for approval as equivalent. All replacement luminaires shall have an equivalent light output at 3000K Correlated Color Temperature (CCT), have the same distribution, and shall be mounted at the same height and distance over the roadway as the fixture it is replacing.

7.4 Private Lighting on Public Streets

Urban County Council Resolution 50-90 establishes a process that allows developers, homeowners and neighborhood associations, and other local management organizations to propose alternative lighting styles to the LFUCG standard.

At the proponent's expense, they shall provide a street lighting plan. The style of lighting shall be selected from what is offered by the local electric utility serving the area, except directional flood lighting. The lighting levels provided shall be comparable to the standards used for projects installed by LFUCG and the Division of Traffic Engineering should coordinate with the proponents to ensure the standards are met.

The Division of Traffic Engineering shall make a recommendation to the Commissioner of Environmental Quality and Public Works for final approval.

If approved, LFUCG will contribute to the project a one-time amount equal to the normal estimated expenditure for the installation of standard lighting fixtures. Any additional expenses shall be covered by the proponent. The proponent shall also enter into two agreements:

1. An agreement with the local electric utility to install, service, maintain, and power the streetlights.
2. An agreement with LFUCG which provides that the property in the project area will continue to be taxed at the normal streetlight rate and holds LFUCG harmless from liability.

After installation, the proponent shall bear the cost of any removals or changeouts, including those required for termination of the agreement and the assumption of lighting responsibilities by LFUCG.

7.5 Design Standards & Criteria

This section provides standards and values to be used when designing street lighting. All designs should conform to the standards and guidelines provided in the AASHTO *Roadway Lighting Design Guide* and ANSI/IES – RP-8.

7.5.1 Illuminance Values & Criteria Selection

The R2/R3 road surface classification values shall be used for lighting calculations, except where a segment longer than two-hundred and fifty (250) feet is paved with Portland cement concrete, in which case the R1 road surface classification values shall be used. The surrounding land use context and any available pedestrian count data should be used to select between the design categories of commercial/high pedestrian activity, intermediate/medium pedestrian activity, or residential/low pedestrian activity. Pedestrian activity levels are defined in section 7.5.3.

The facility type or location, road surface classification and land use context shall be used to select the required average illuminance, uniformity ratio, and veiling luminance ratio used in the design process. Table 7-1 provides the design values for R2/R3 average maintained illuminance, uniformity ratio, and veiling luminance ratio.

Table 7-1: Design values for street lighting by functional class or location.

Functional Class/Location	R2/R3 Average Maintained Illuminance by Context (E_{avg}) (min)			Uniformity Ratio (E_{avg}/E_{min}) (max)	Veiling Luminance Ratio ($L_{v,max}/L_{avg}$) (max)
	Commercial	Intermediate	Residential		
Local	0.8	0.7	0.4	6:1	0.4:1
Collector	1.1	0.8	0.6	4:1	0.4:1
Minor Arterial	1.4	1.0	0.7	4:1	0.3:1
Major Arterial	1.6	1.2	0.8	3:1	0.3:1
Sidewalk	0.9	0.6	0.2	C: 3:1 / I: 4:1 R: 6:1 ²	C: 0.3:1 / I: 0.4:1 R: 0.6:1 ²
Midblock Crossing	Mount height 20 feet or greater: 2.0 Mount height under 20 feet: 4.0 ³			Use values of crossing street	
Bike Facility ¹	2.0			3:1	0.3:1
Intersection	Sum of intersecting street classes			Use values of higher class	

¹ For separate facilities only. When adjacent to roadways use the roadway values.

² C: Commercial, I: Intermediate, R: Residential

³ Higher average illuminance to counter increased glare from lower mount heights.

E_{avg} : Average maintained illuminance (footcandle)

E_{min} : Minimum illuminance (footcandle)

$L_{v,max}$: Maximum veiling luminance (candela per square meter – cd/m²)

L_{avg} : Average maintained pavement luminance (candela per square meter – cd/m²)

7.5.2 General Guidelines

Care should be taken to keep streetlights away from street trees, fire hydrants, other underground utilities, and driveways, as much as practical. Direct bury poles, which can be less intrusive than digging and pouring foundations, may be used on streets with a speed limit of 25 MPH or less and breakaway or crashworthy foundations shall be used on street with a speed limit greater than 25 MPH.

7.5.3 Pedestrian Activity Levels

If used, the pedestrian activity level criteria shall be defined as the following:

- a) *Low pedestrian activity* is 10 or fewer pedestrians per hour on average overnight. Examples may include suburban streets, low-density residential developments, and rural areas.
- b) *Medium pedestrian activity* is between 11 and 100 pedestrians per hour on average overnight. Examples may include downtown periphery areas, neighborhood shopping centers, apartment complexes, and other medium density developments.
- c) *High pedestrian activity* is over 100 pedestrians per hour on average overnight. Examples may include college campuses, the core downtown areas, stadiums, transit centers and other high density or large commercial developments.

7.5.4 Light Loss Factor

Light Loss Factor (LLF) is a depreciation factor applied to calculations to account for loss of output lumens over time. Lamp and voltage fluctuations as well as dirt accumulation is considered in the factor. The LLF may be calculated, obtained from manufacture specifications, or selected by the approving authority. KYTC requires the use of 0.65 for the LLF on state roadway lighting designs. The LLF should be taken into consideration when using fixtures other than what is provided by local electric utilities.

7.5.5 Lighting Distributions

Lighting distributions describe how light spreads from a fixture. Type II and III are the most commonly used for streetlights.

- Type I: A narrow, two-way lateral distribution ideal for walkways, sidewalks, and narrow paths.
- Type II: A slightly wider pattern for narrow roadways, alleys, and side streets, casting light further out than Type I.
- Type III: The most common for roadways providing a wide and more forward throw to cover larger areas than type II.
- Type IV: The type IV distribution produces a semicircular light and is used in some cul-de-sacs with older High-Pressure Sodium (HPS) fixtures.
- Type V: Produces a circular distribution that has the same intensity at all angles. Not typically used in street lighting.

Figure 7-1 graphically shows the different patterns produced by the various distribution types.

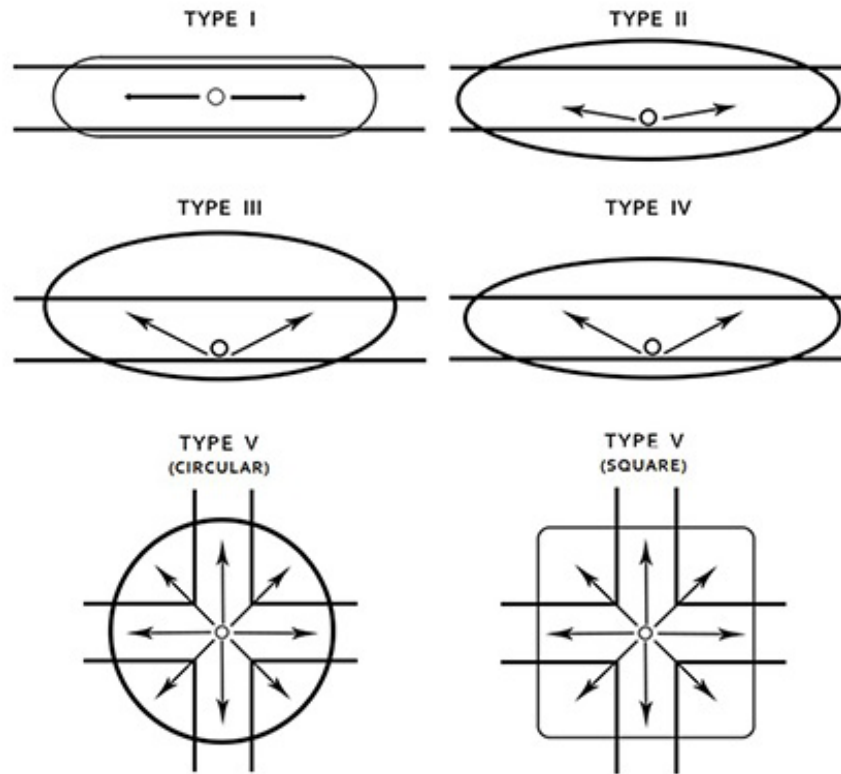


Figure 7-1: Lighting distribution patterns

7.5.6 Intersection & Midblock Crossing Considerations

Positive contrast has shown to improve safety outcomes at crossings. Placing streetlights on the nearside approach to intersections and midblock crossings can help provide this improved contrast. Figure 7-2 shows the locations where lighting shall be considered to improve safety at crossings. Designs should take intersections and midblock crossings into account when determining the uniformity, illuminance, and veiling luminance to ensure the overall segment has the appropriate lighting level.

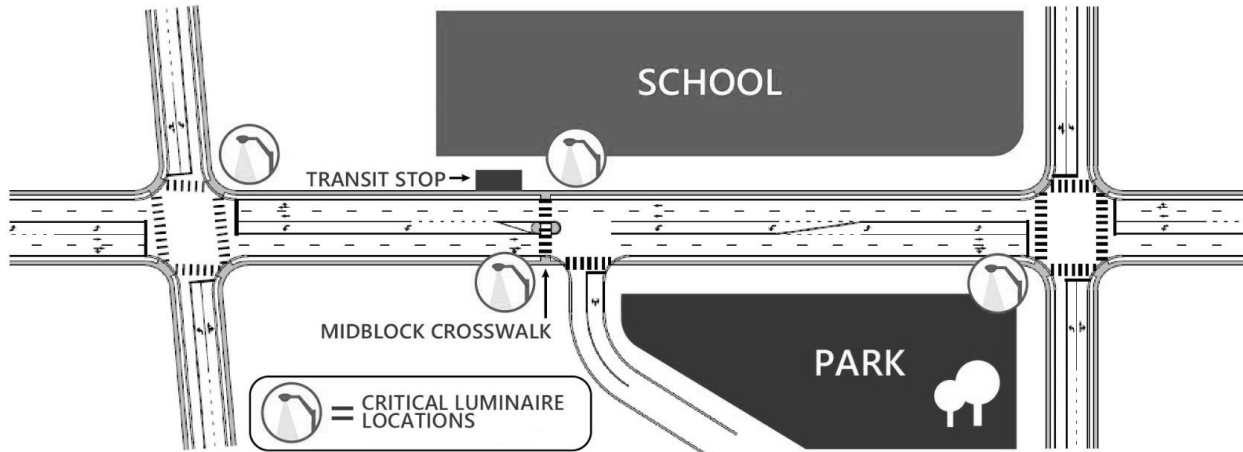


Figure 7-2: Critical luminaire locations for intersections and midblock crossings.
Source: FHWA Pedestrian Lighting Primer April 2022

7.5.7 Typical Values for Standard Fixtures

The Table 7-2 lists typical types and spacing for Cobra Head fixtures along tangent sections of roadways by functional class and configuration. The spacing of lighting may need to be adjusted based on the curvature of the roadway, midblock crossings, or intersections. Any adjustments in spacing should be checked to ensure lighting levels meet the design values in section 7.5.1. Some larger intersections or wider arterials may require the use of the KU Type C fixtures.

Table 7-2: Typical values for Cobra Head fixtures by functional class

Functional Class	KU Type Code	Mount Height (ft)	Arm Length (ft)	Distribution Type	Configuration	Typical Spacing (ft)
Local	Type D	25	6	II	Staggered	150-200
					One-sided	80-130
Collector	Type D	25	6	II	Staggered	140-180
					One-sided	80-120
	Type E	30	6	II	Staggered	180-220
					One-sided	120-160
Major/Minor Arterial	Type B	30	10	III	Staggered	160-220

CHAPTER 8 SITE ACCESS & DESIGN

8.1 General

Commercial entrances and Residential driveways are shown in the LFUCG Division of Engineering Standard Drawings.

8.2 Commercial Entrances & Access Easements

- Commercial entrances shall be located a minimum of three feet (3') from property line to allow corresponding apron flare to remain inside projected property line and shall be constructed in compliance with LFUCG Standard Drawing 307-2.
- Entrance spacing along Commercial frontage roads or access easements must meet local road spacing requirements as defined in Article 16 of the LFUCG Zoning Ordinance and each entrance must meet LFUCG Standard Drawing 307-2.
- Provide tracking path simulation (e.g. AutoTURN) showing all maneuvers for possible largest vehicle usage when geometric modifications are proposed (conflicting Entrances, Entrances at median openings, adding a driveway at an intersection, curb radius modification etc.).
- New entrances must have adequate sight distance that meets both sight and stopping sight distance requirements. A sight distance calculation and diagram shall be provided by the design Engineer upon request to the Division of Traffic Engineering.
- Commercial Entrances must be at least 100' from rail crossing right-of-way **OR** to the maximum extent possible based on roadway lot frontage.
- All curb cuts shall be restored for entrances that are abandoned or no longer used for vehicular access including replacing sidewalk panels and curbs.
- No full access point, including frontage roads, access easements, private roadway or roundabout shall be placed within 800' of any Arterial Roadway measured from the nearest stop bar of the Arterial to the nearest stop bar or tangent point of the initial intersection.
- No Commercial access shall be within 150' of a signalized intersection, 60' from the approach to a stop controlled or uncontrolled intersections, or 60 feet from the exit (downstream corner) of any intersection. Downtown Area access points shall be permitted at any distance provided that the access point is located a maximum distance away from any intersection.
- Existing curb cuts that remain unused, barricaded or blocked for more than 18 months are required to be removed for new and / or future development at the direction of the Division of Traffic Engineering.
- All Commercial entrance locations shall be approved by Division of Traffic Engineering.

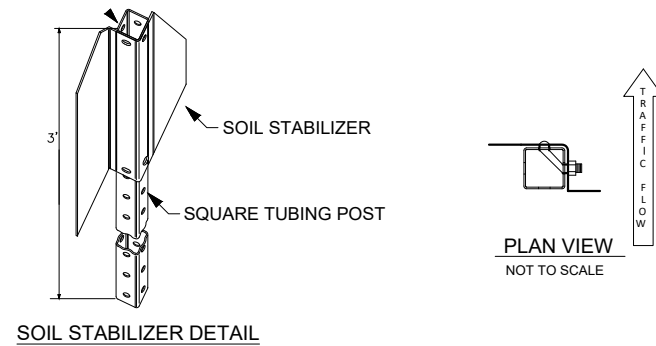
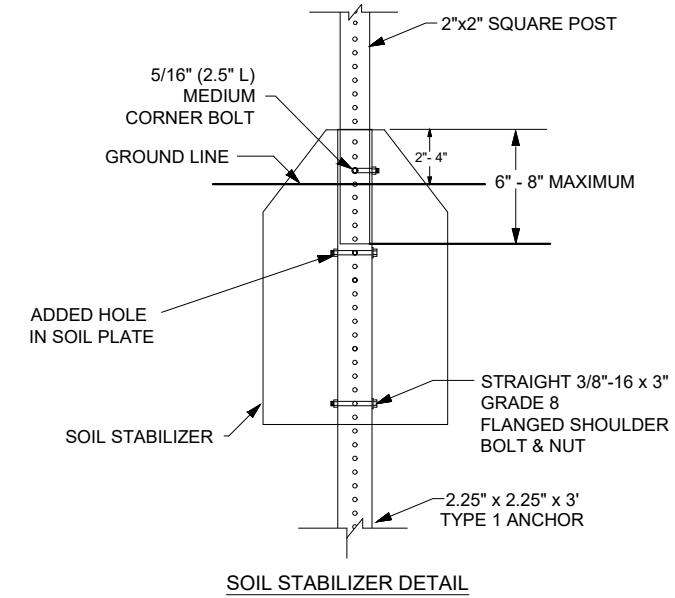
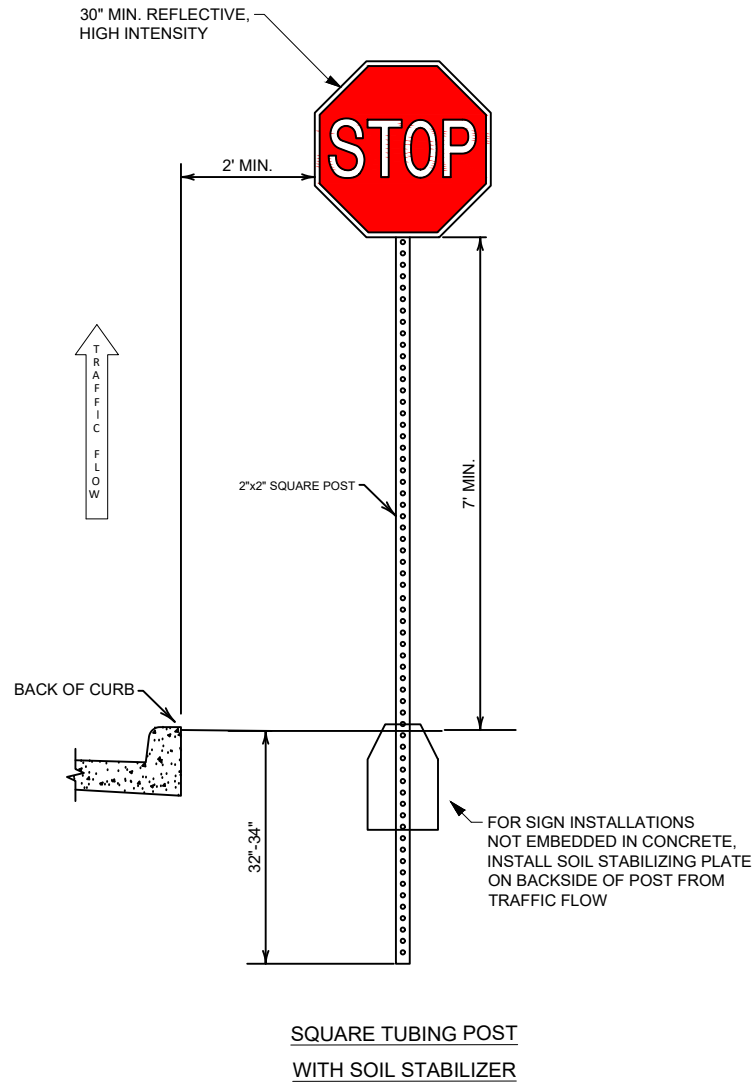
8.3 Drive-Thru Facilities & Drive-Up Windows

A vehicular stacking area as defined in Article 16 of the LFUCG Zoning Ordinance, shall be provided for any drive-up window or drive-thru facility. The required number of stacking spaces shall be regulated by land use as established in Article 16 of the Zoning Ordinance. Such vehicular stacking areas shall not include any right-of-way, be provided wholly on the property and not impede any parking stalls. The drive-thru lane must be a minimum of 12' wide with a 2' minimum offset from the side of any adjacent building. The drive-thru lane must be able to accommodate the turning movements of a design vehicle

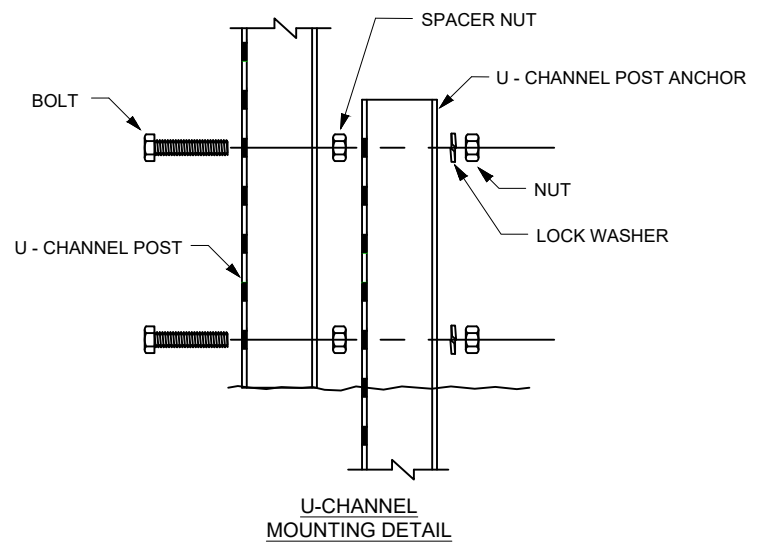
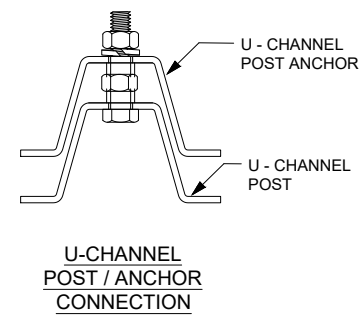
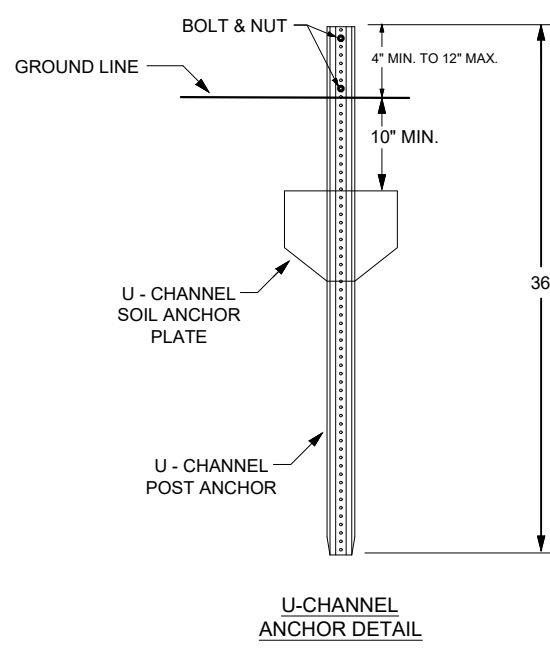
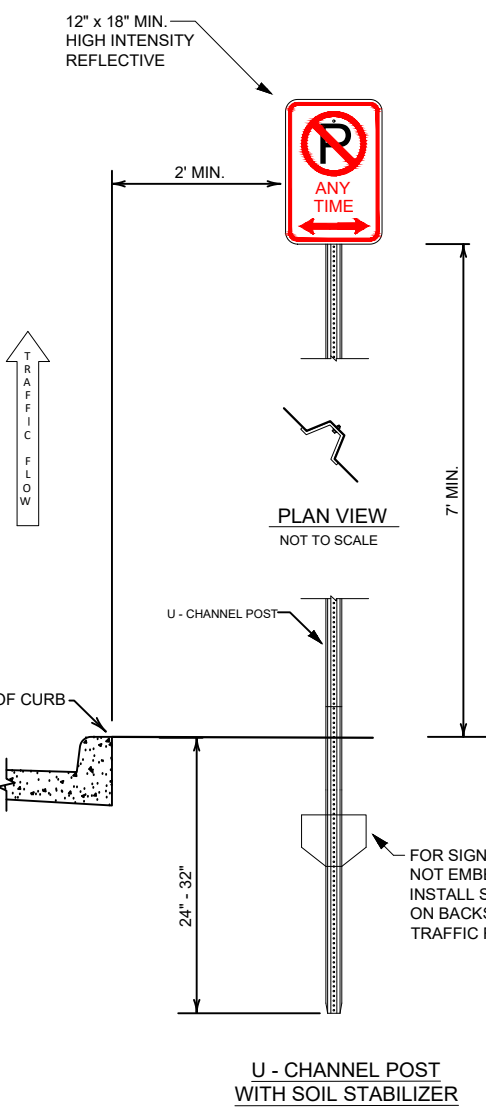
19' long and 7' wide. The minimum number of required stacking spaces within the vehicular stacking area shall include the space at the initial point of service, including but not limited to, an order / pick up window, menu board, service area or other stopping point. Each stacking space shall be twenty-two (22) feet in length. The vehicular stacking area shall not include the area between the initial point of service and any subsequent window, service area or other stopping point.

8.4 Residential Entrances & Access Easements

- Residential entrance(s) shall be located a minimum of 3' from property line to allow corresponding apron flare to remain inside projected property line and shall be constructed in compliance with LFUCG Standard Drawing 307-1.
- A driveway can be widened when an appropriate Paving Permit is submitted and approved through the Division of Building Inspection and meets all LFUCG requirements. Any widening will require all portions of the existing driveway apron within a right-of-way to be removed and replaced to current LFUCG Standards.
- No residential (single family) corner lot shall have more than one driveway or access point per roadway frontage.
- Residential driveway location(s) (i.e., distance from intersection) must be located a maximum distance away from any intersection. Note: New residential entrances must be located a maximum distance away from intersection, when possible. (25' minimum from local, 50' minimum for Collector).
- Circular driveways are permitted on Arterial and Collector roadways only. A 12' maximum width of the circular portion of the driveway is allowed and meets the requirements as outlined in Appendix drawing TE 570.
- No residential driveway shall be permitted on a median divided roadway unless provided for on a Development Plan.

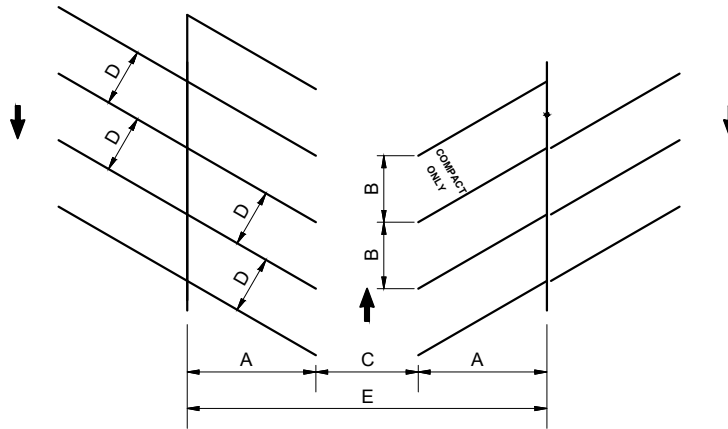


	STOP SIGN INSTALLATION	
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	APPROVAL: _____ DIRECTOR OF TRAFFIC ENGINEERING DATE _____ COMMISSIONER	DATE _____

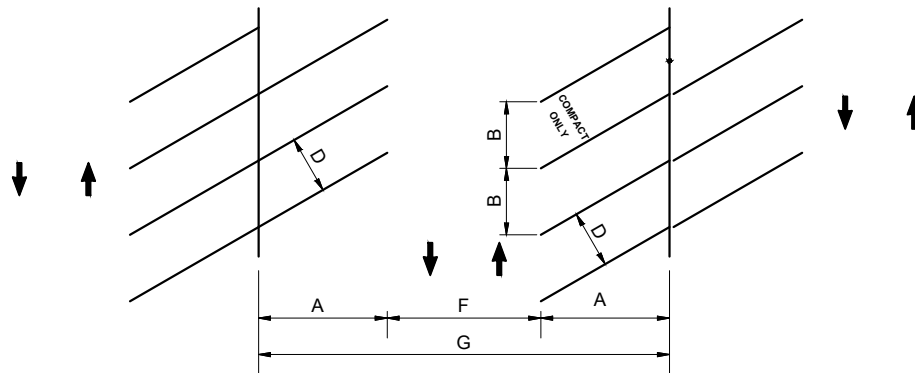


NOTES
NO PARKING SIGNAGE SHALL BE
INSTALLED AT 45 DEGREES TO
ADJACENT LANE OF TRAFFIC FLOW

	LFUCG DIVISION OF TRAFFIC ENGINEERING		NO PARKING SIGN INSTALLATION		N.T.S. STANDARD DRAWING NO. 505
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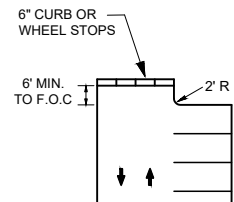


**ONE-WAY ANGLED
PARKING LAYOUT**



**TWO-WAY ANGLED
PARKING LAYOUT**

ANGLE	STALL WIDTH	A	B	C ¹	D ²	E	F ^{1,3}	G
45°	** 8'	18'	11'-3"	17'	8'	53'	24'	60'
	8'-6"	19'	12'	19'	8'-6"	57'	26'	64'
	9'+	19'	12'-9"	18'	9'+	56'	24'	62'
60°	** 8'	19'	9'-3"	18'	8'	56'	24'	62'
	8'-6"	20'	9'-10"	20'	8'-6"	60'	26'	66'
	9'+	20'	10'-5"	19'	9'+	59'	24'	64'
90°	** 8'	17'	8'	24'	8'	58'	24'	58'
	8'-6"	18'	8'-6"	26'	8'-6"	62'	26'	62'
	9'+	18'	9'+	24'	9'+	60'	24'	60'



**90° PARKING
TURNOUT**

** 8' MIN. WIDE STALLS ARE FOR **COMPACT** VEHICLES ONLY AND MUST BE SIGNED AS SUCH AND INCLUDE THERMOPLASTIC 12" TEXT LEGEND '**COMPACT ONLY**' PAVEMENT MARKING

¹ Drive aisles over 24' are required to have traffic calming for surface parking lots.

² Parking stalls shall be a minimum of 10' wide at the narrowest point of the parking stall when the side of the parking stall abutts a wall, column, light pole base, stairwell, etc.

³ Wheel stops for parking stalls may be placed up to 2' from the pavement edge.

N.T.S.



LFUCG DIVISION OF
TRAFFIC ENGINEERING

**PARKING LOT
STANDARD LAYOUT**

STANDARD DRAWING NO.

511

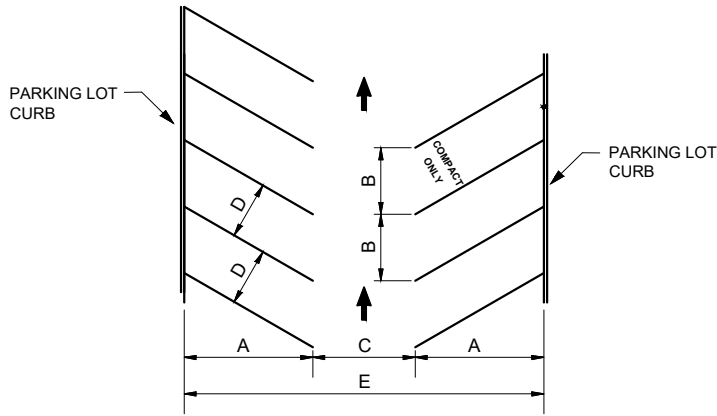
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DIRECTOR OF TRAFFIC ENGINEERING

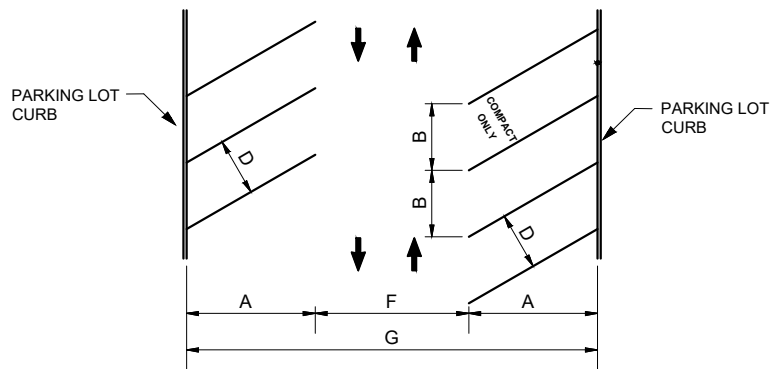
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COMMISSIONER

DATE

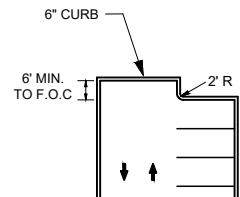


**ONE-WAY ANGLED
PARKING LAYOUT**



**TWO-WAY ANGLED
PARKING LAYOUT**

ANGLE	STALL WIDTH	A ^{***}	B	C ¹	D ²	E	F ¹	G
45°	** 8'	16'	11'-3"	17'	8'	49'	24'	56'
	8'-6"	16.5'	12'	19'	8'-6"	52'	26'	59'
	9'+	16.5'	12'-9"	18'	9'+	51'	24'	57'
60°	** 8'	16'	9'-3"	18'	8'	50'	24'	56'
	8'-6"	17.5'	9'-10"	20'	8'-6"	55'	26'	61'
	9'+	17.5'	10'-5"	19'	9'+	54'	24'	59'
90°	** 8'	16'	8'	24'	8'	56'	24'	56'
	8'-6"	17'	8'-6"	26'	8'-6"	60'	26'	60'
	9'+	17'	9'+	24'	9'+	58'	24'	58'



**90° PARKING
TURNOUT**

** 8' MIN. WIDE STALLS ARE FOR **COMPACT** VEHICLES ONLY AND MUST BE SIGNED AS SUCH AND INCLUDE 12" MIN. TEXT LEGEND '**COMPACT ONLY**' PAVEMENT MARKING

¹ Drive aisles over 24' are required to have traffic calming for surface parking lots.

² Parking stalls shall be a minimum of 10' wide at the narrowest point of the parking stall when the side of the parking stall abutts a wall, column, light pole base, stairwell, etc.

*** Wheel stops placed in parking stalls with curb shall add 2' to the stall length - 'A'.

N.T.S.



LFUCG DIVISION OF
TRAFFIC ENGINEERING

**CURBED PARKING
LOT LAYOUT**

STANDARD DRAWING NO.

512

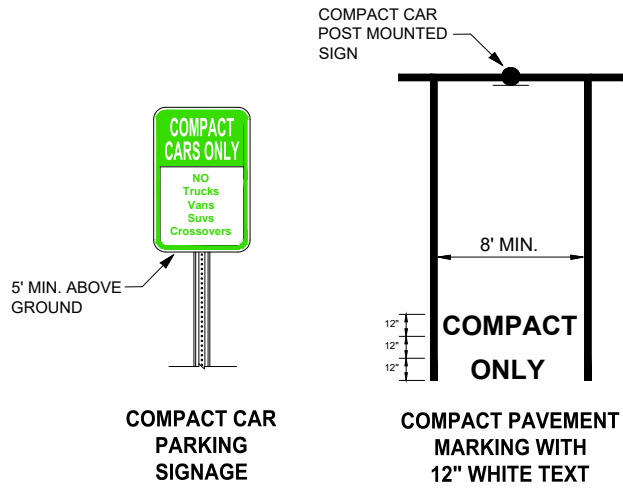
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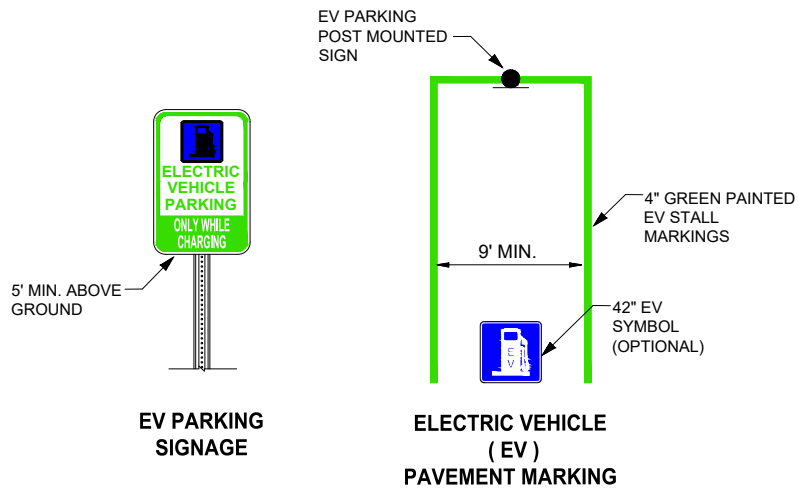
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COMMISSIONER

DATE



COMPACT PARKING LAYOUT & SIGNAGE



ELECTRIC VEHICLE PARKING LAYOUT & SIGNAGE

N.T.S.



LFUCG DIVISION OF
TRAFFIC ENGINEERING

RESERVED
PARKING STALLS

STANDARD DRAWING NO.

513

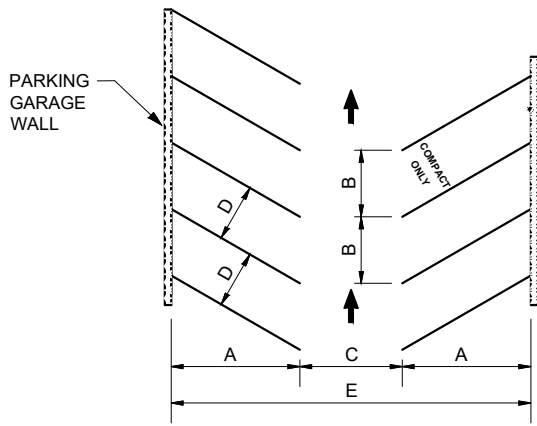
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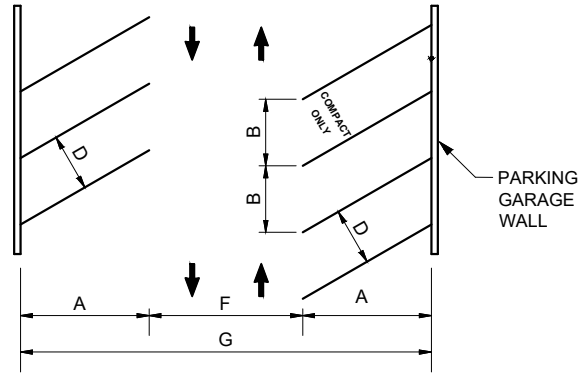
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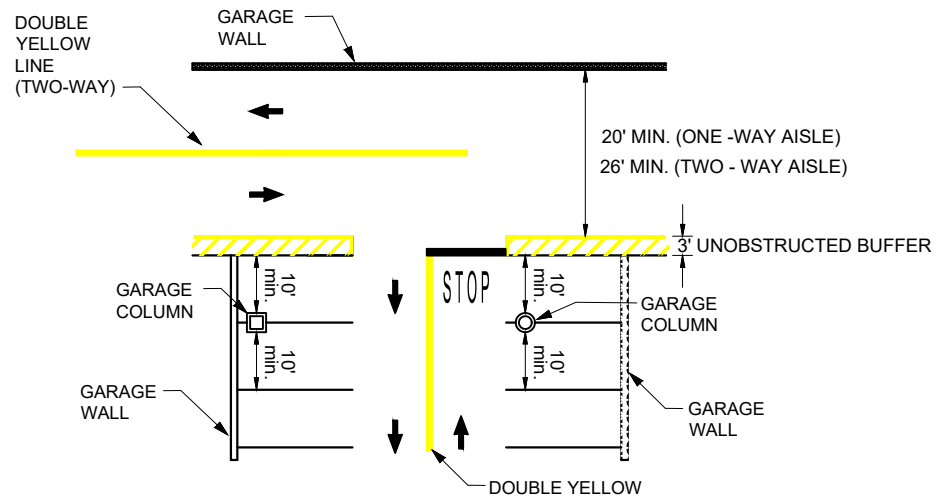
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**ONE-WAY ANGLED
PARKING LAYOUT**



**TWO-WAY ANGLED
PARKING LAYOUT**



ANGLE	STALL WIDTH	A	B	C ¹	D ²	E	F ¹	G
45°	** 8'	19'	11'-3"	17'	8'	58'	24'	62'
	8'-6"	20'	12'	19'	8'-6"	62'	26'	66'
	9'+	20'	12'-9"	18'	9'+	61'	24'	64'
60°	** 8'	20'	9'-3"	18'	8'	61'	24'	64'
	8'-6"	21'	9'-10"	20'	8'-6"	65'	26'	68'
	9'+	21'	10'-5"	19'	9'+	64'	24'	66'
90°	** 8'	18'	8'	24'	8'	60'	24'	60'
	8'-6"	18'	8'-6"	26'	8'-6"	62'	26'	62'
	9'+	18'	9'+	24'	9'+	60'	24'	60'

** 8' MIN. WIDE STALLS ARE FOR **COMPACT** VEHICLES ONLY AND MUST BE SIGNED AS SUCH AND INCLUDE THERMOPLASTIC 12" TEXT LEGEND '**COMPACT ONLY**' PAVEMENT MARKING

¹ Drive aisles over 24' with a pedestrian crossing are required to have traffic calming for surface parking lots.

² Parking stalls shall be a minimum of 10' wide at the narrowest point of the parking stall when the side of the parking stall abutts a wall, column, light pole base, stairwell, etc.

N.T.S.



LFUCG DIVISION OF
TRAFFIC ENGINEERING

PARKING GARAGE STANDARD LAYOUT

STANDARD DRAWING NO.

514

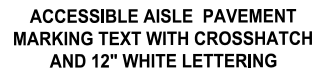
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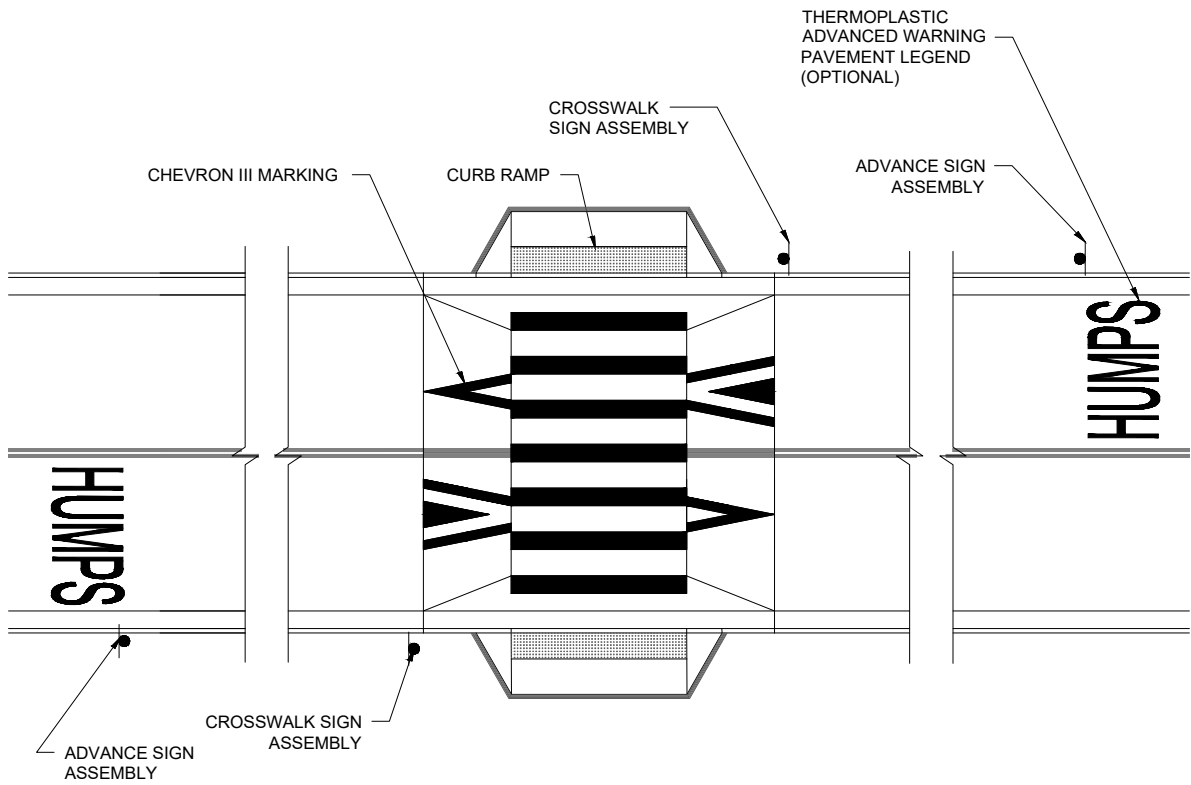
DIRECTOR OF TRAFFIC ENGINEERING

DATE

COMMISSIONER

DATE





RAISED CROSSWALK MARKING AND SIGNS



CROSSWALK ASSEMBLY



ADVANCE ASSEMBLY

RAISED CROSSWALK SIGN ASSEMBLIES *

*Signage is OPTIONAL in parking lots

N.T.S.



LFUCG DIVISION OF
TRAFFIC ENGINEERING

RAISED CROSSWALK
SIGNAGE

STANDARD DRAWING NO.

526

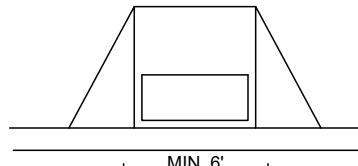
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COMMISSIONER

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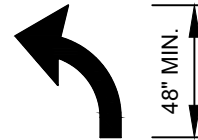
MIN. 6'



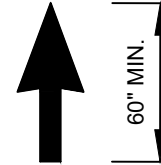
AT - GRADE
THERMOPLASTIC
CROSSWALK MARKING

12" WHITE
THERMOPLASTIC

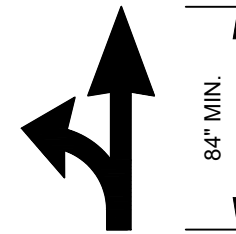
24"



48" MIN.

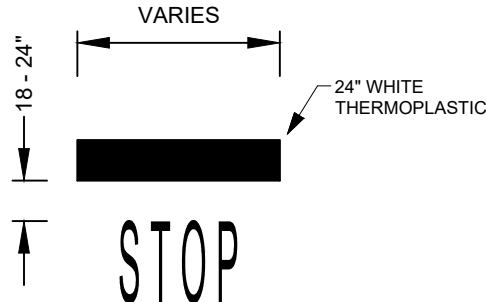


60" MIN.



84" MIN.

THERMOPLASTIC
DIRECTIONAL ARROWS



THERMOPLASTIC
STOP BAR



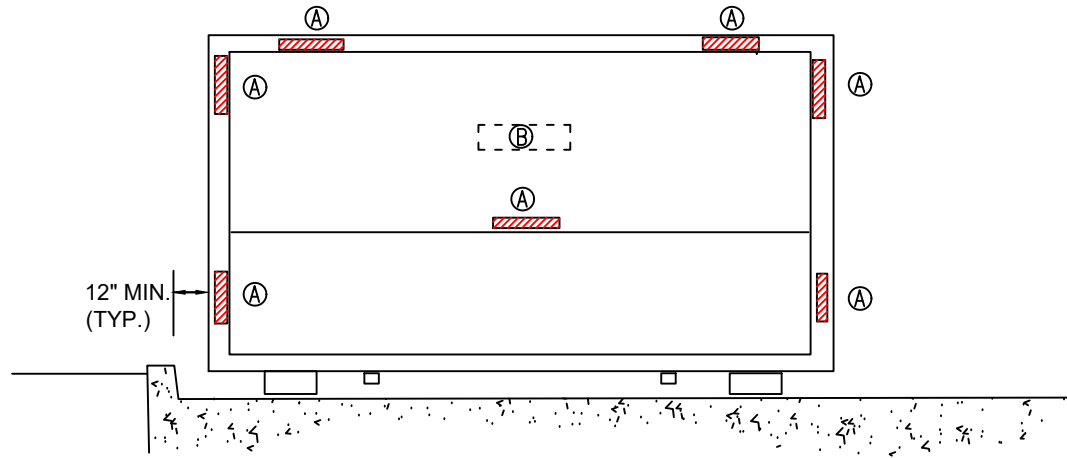
THERMOPLASTIC
TEXT LEGEND

NOTES

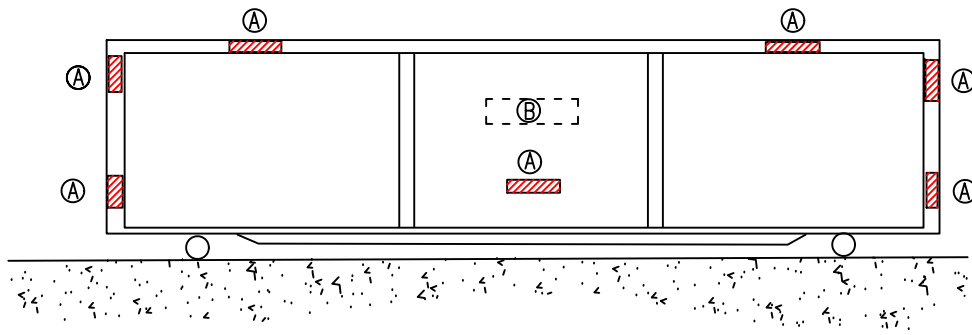
- 1) ALL PARKING LOT PAVEMENT MARKINGS SHALL BE 60 MILS MIN. THERMOPLASTIC OR METHYL METHACRYLATE (MMA) WITH GLASS BEADS APPLIED FOR PEDESTRIAN FRICTION SAFETY EXCEPT FOR REGULAR PARKING STALL MARKINGS.
- 2) A DEFINED STOP CONDITION SHALL BE REQUIRED AT ALL VEHICULAR CONFLICT POINTS WITHIN A PARKING LOT.
- 3) 24" STOP BARS ARE REQUIRED AT ALL STOP CONDITION LOCATIONS AND ALL EXIT POINTS ONTO ANY PUBLIC ROADWAY, PRIVATE ROADWAY, OR ACCESS EASEMENT.
- 4) STOP BARS ARE REQUIRED AT THE ENDS OF ALL PARKING LOT DRIVE AISLES.
- 5) TEXT LEGENDS ARE REQUIRED AT ALL STOP BAR LOCATIONS NOT ACCOMPANIED WITH A STOP SIGN.
- 6) ONE - WAY DRIVE AISLES AND DRIVE AISLES OVER 24' WIDE SHALL HAVE DIRECTIONAL ARROWS.
- 7) ALL PARKING LOT TRAFFIC CONTROL TEXT LEGENDS SHALL BE 36" MIN. HEIGHT INCLUDING YIELD, DRIVE THRU, EXIT, ETC. AND SHALL FOLLOW THE SAME HEIGHT TO WIDTH RATIO. TWO COATS OF HIGH BUILD PAINT THAT MEETS **FEDERAL SPECIFICATION TTP-1952F, TYPE III** CAN BE USED FOR TEXT LEGENDS ONLY.
- 8) LOCATIONS OF STOP CONDITIONS MAY USE A 30" STOP SIGN IN-LIEU OF A STOP TEXT LEGEND IN PARKING LOTS, IF DESIRED.

LFUCG DIVISION OF TRAFFIC ENGINEERING	PARKING LOT PAVEMENT MARKINGS	N.T.S.
		STANDARD DRAWING NO. 527
		APPROVAL: _____ DIRECTOR OF TRAFFIC ENGINEERING _____ DATE _____ COMMISSIONER _____ DATE _____





END VIEW



SIDE VIEW

REGULATIONS:

- 1) ALL DUMPSTERS OR STORAGE CONTAINERS PLACED ON A PUBLIC STREET MUST BE PERMITTED BY THE L.F.U.C.G. DIVISION OF TRAFFIC ENGINEERING.
- 2) **A** - MINIMUM OF (7) SEVEN (12") 12 INCH LONG HIGH REFLECTIVE MARKINGS ON ALL SIDES OF THE DUMPSTER OF EITHER RED OR WHITE SAFETY TAPE. ALL SAFETY MARKINGS MUST BE KEPT IN GOOD CONDITION.
- B** - COMPANY NAME OR LOGO REQUIRED ON UNIT WITH COMPANY PHONE NUMBER
- 3) ALL DUMPSTERS AND STORAGE CONTAINERS MUST BE KEPT CLEAN AND NEAT IN APPEARANCE.
- 4) UNITS ARE TO BE EMPTIED WHEN FULL OR WITHIN 24 HOURS OF NOTICE.
- 5) TRAFFIC ENGINEERING MAY GRANT A DUMPSTER PERMIT ON A PUBLIC STREET FOR UP TO 90 DAYS AND MAY GRANT A STORAGE CONTAINER FOR UP TO 30 DAYS. THE L.F.U.C.G. CHIEF ADMINISTRATIVE OFFICER (CAO) MAY GRANT EXTENSIONS DUE TO EXTENUATING CIRCUMSTANCES.
- 6) PERMITS ARE ISSUED AT THE DISCRETION OF TRAFFIC ENGINEERING. HEALTH, SAFETY AND WELFARE OF THE TRAVELLING PUBLIC IS THE MOST IMPORTANT CONSIDERATION. IF A REASONABLE ALTERNATIVE EXISTS ON PRIVATE PROPERTY, A DUMPSTER OR STORAGE CONTAINER PERMIT WILL NOT BE ISSUED.
- 7) DUMPSTERS AND STORAGE CONTAINERS ARE SUBJECT TO IMPOUNDMENT IF IT IS LOCATED ON A PUBLIC STREET WITHOUT A PERMIT.

N.T.S.



LFUCG DIVISION OF
TRAFFIC ENGINEERING

DUMPSTER / CONTAINER
DETAILS

STANDARD DRAWING NO.

540

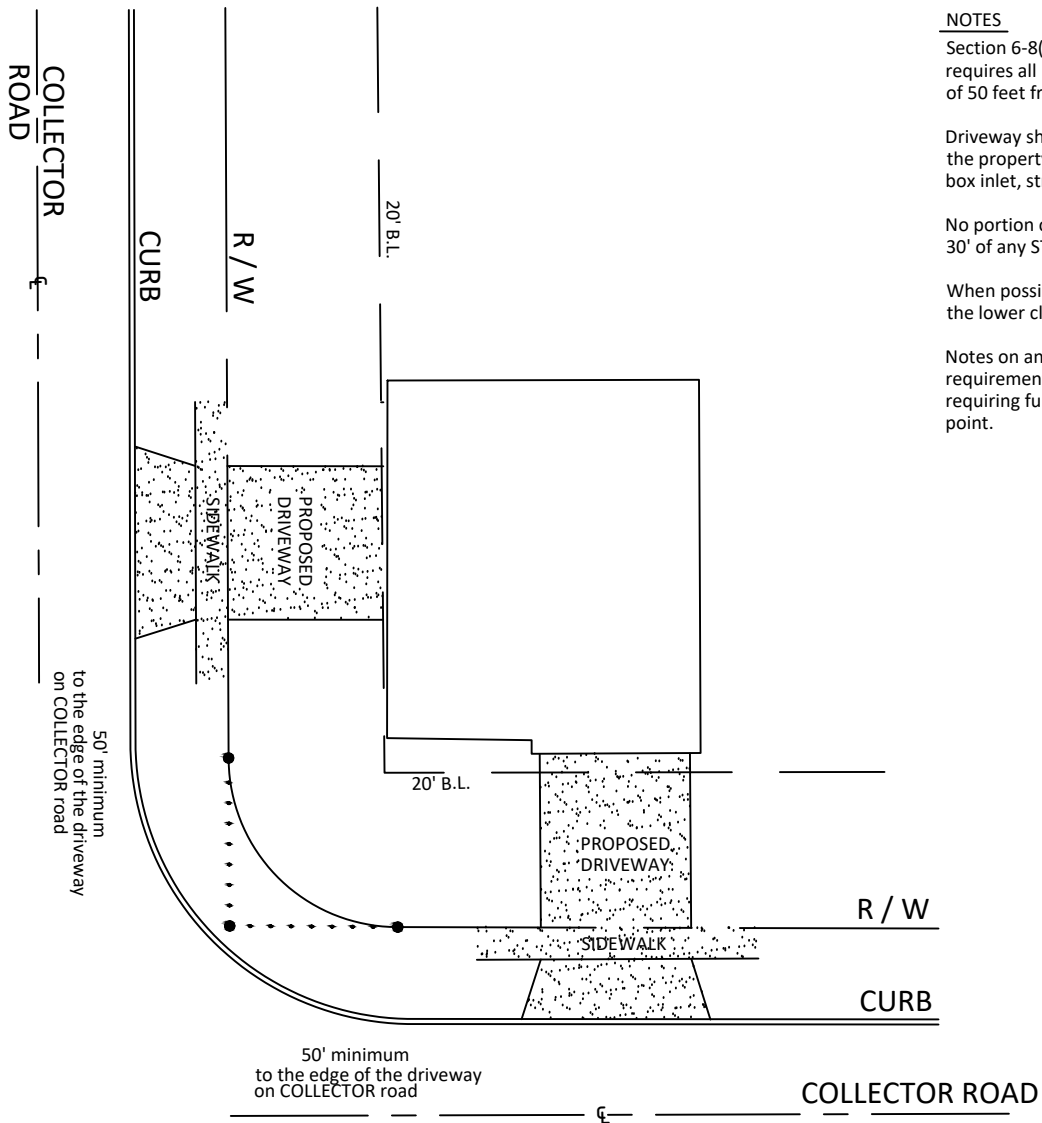
APPROVAL:

DIRECTOR OF TRAFFIC ENGINEERING

DATE

COMMISSIONER

DATE



NOTES

Section 6-8(q)(3) of Land Subdivision Regulations requires all residential accesses to be a minimum of 50 feet from any collector street intersection.

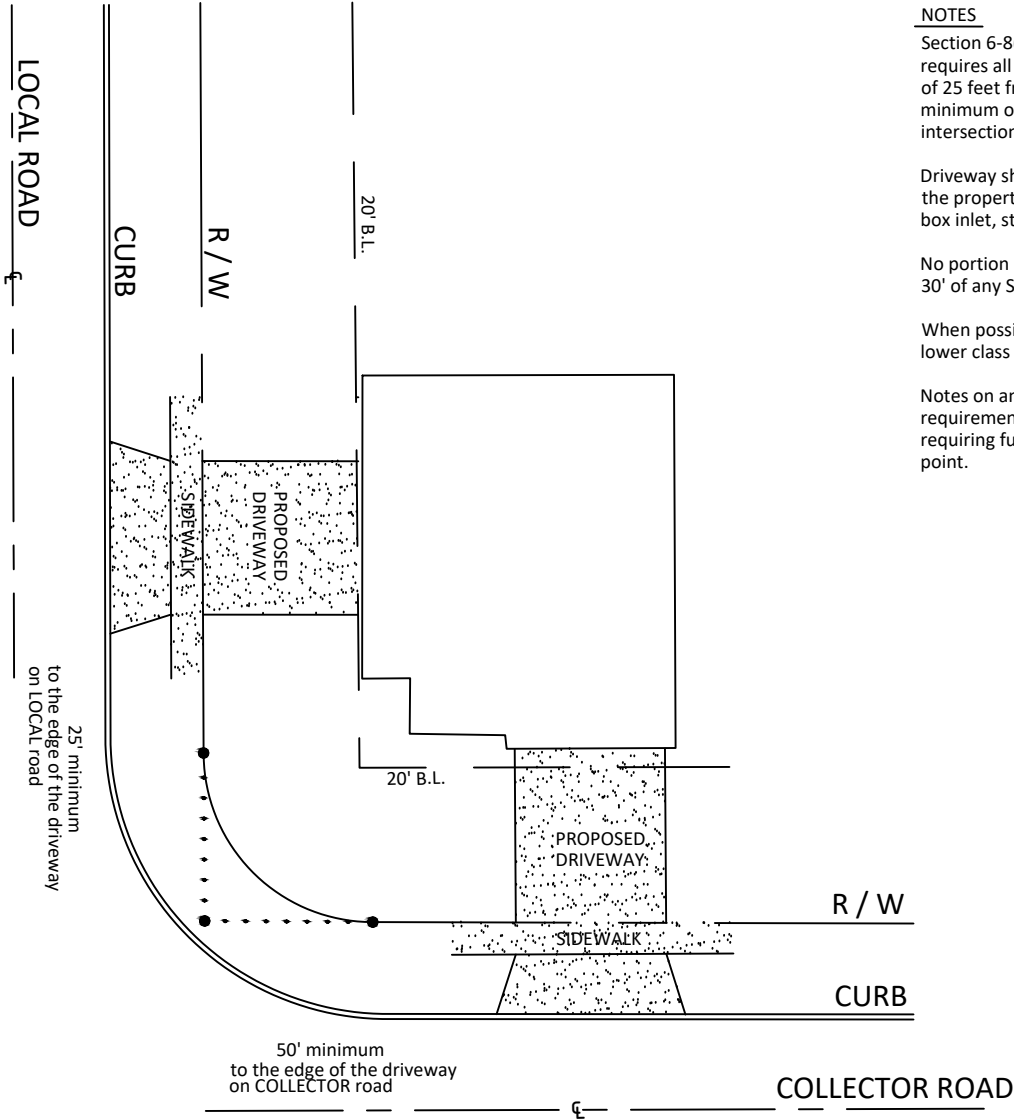
Driveway shall not be placed closer than 3' from the property line or less than 3' from any curb box inlet, streetlight or fire hydrant.

No portion of a driveway shall be placed within 30' of any STOP sign

When possible, the driveway shall be placed on the lower class street with less traffic.

Notes on any Final Record Plat shall supercede all requirements and may be more restrictive thus requiring further distances from intersection point.

© 2014 LEXINGTON, URBAN COUNTY GOVERNMENT	COLLECTOR / COLLECTOR CORNER LOT	
	LFUCG DIVISION OF TRAFFIC ENGINEERING	N.T.S. STANDARD DRAWING NO. 560
	APPROVAL: DIRECTOR OF TRAFFIC ENGINEERING COMMISSIONER	DATE DATE



NOTES

Section 6-8(q)(3) of Land Subdivision Regulations requires all residential accesses to be a minimum of 25 feet from any local street intersection and a minimum of 50' from any collector street intersection.

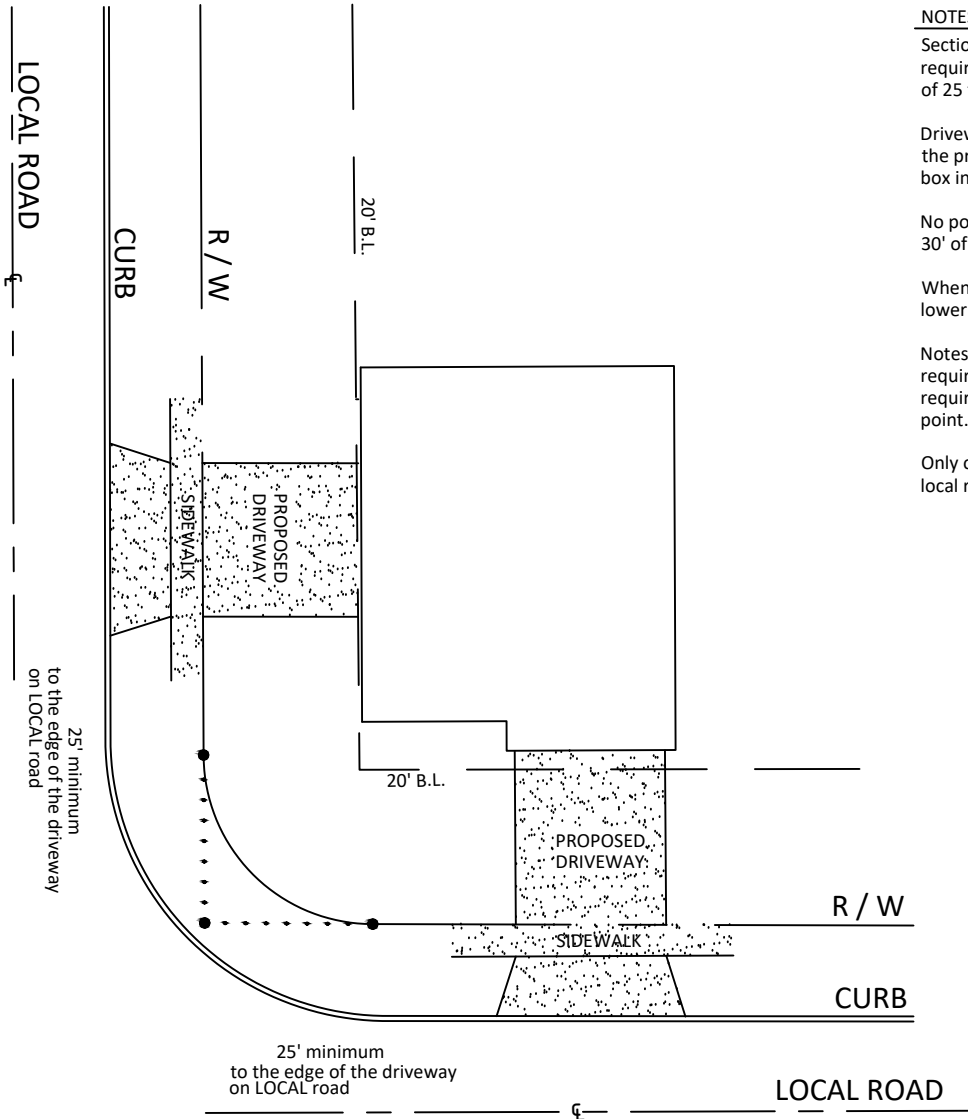
Driveway shall not be placed closer than 3' from the property line or less than 3' from any curb box inlet, streetlight or fire hydrant.

No portion of the driveway shall be placed within 30' of any STOP sign

When possible, driveway shall be placed on the lower class street with less traffic.

Notes on any Final Record Plat shall supercede all requirements and may be more restrictive thus requiring further distances from intersection point.

© 2010 LEXINGTON, URBAN COUNTY GOVERNMENT	COLLECTOR / LOCAL CORNER LOT	
	LFUCG DIVISION OF TRAFFIC ENGINEERING	N.T.S. 561
	STANDARD DRAWING NO. APPROVAL: DIRECTOR OF TRAFFIC ENGINEERING COMMISSIONER	DATE DATE



NOTES

Section 6-8(q)(3) of Land Subdivision Regulations requires all residential accesses to be a minimum of 25 feet from any local street intersection.

Driveway shall not be placed closer than 3' from the property line or less than 3' from any curb box inlet, streetlight or fire hydrant.

No portion of the driveway shall be placed within 30' of any STOP sign

When possible, driveway shall be placed on the lower class street with less traffic.

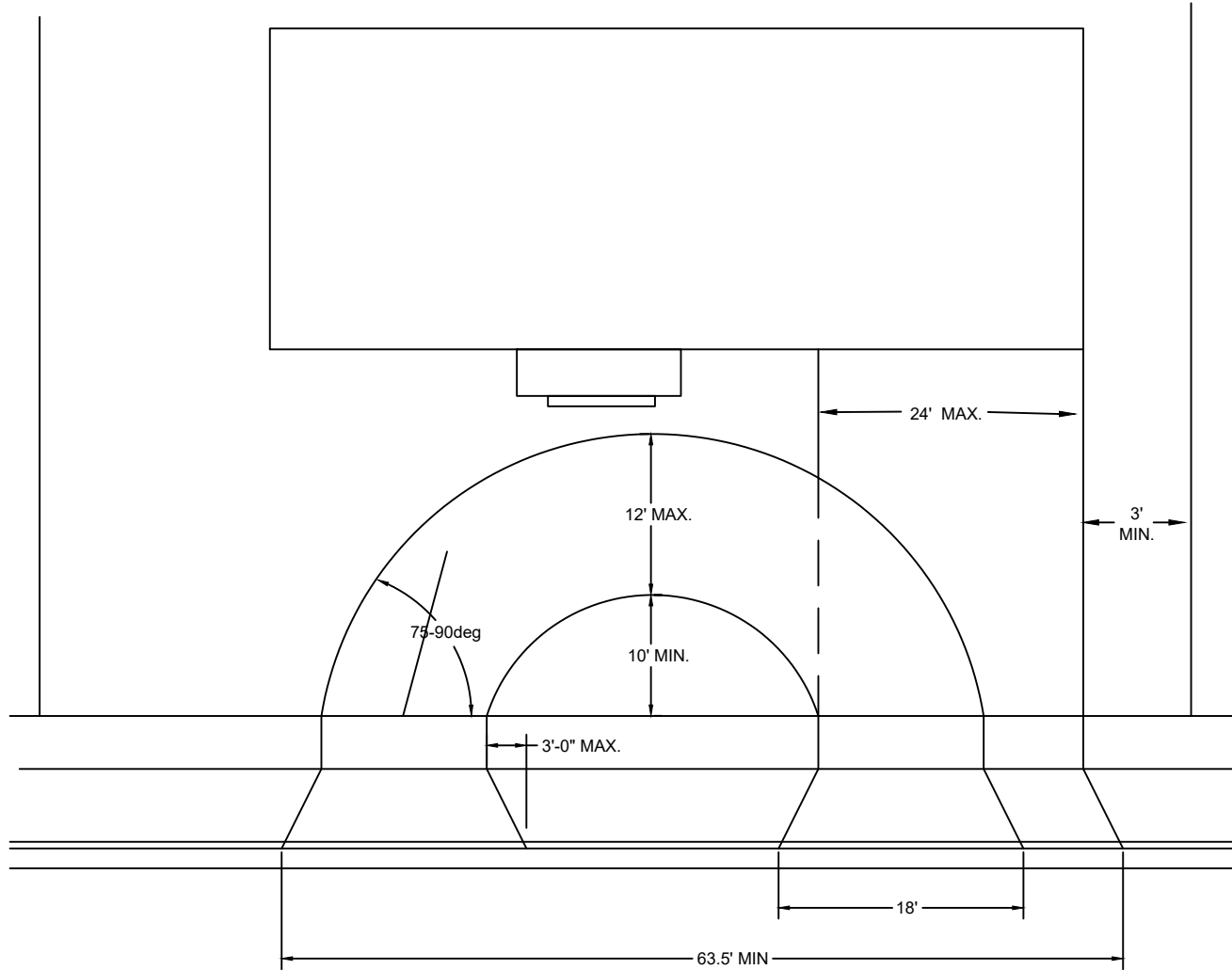
Notes on any Final Record Plat shall supercede all requirements and may be more restrictive thus requiring further distances from intersection point.

Only one driveway shall be permitted on any local road per property.

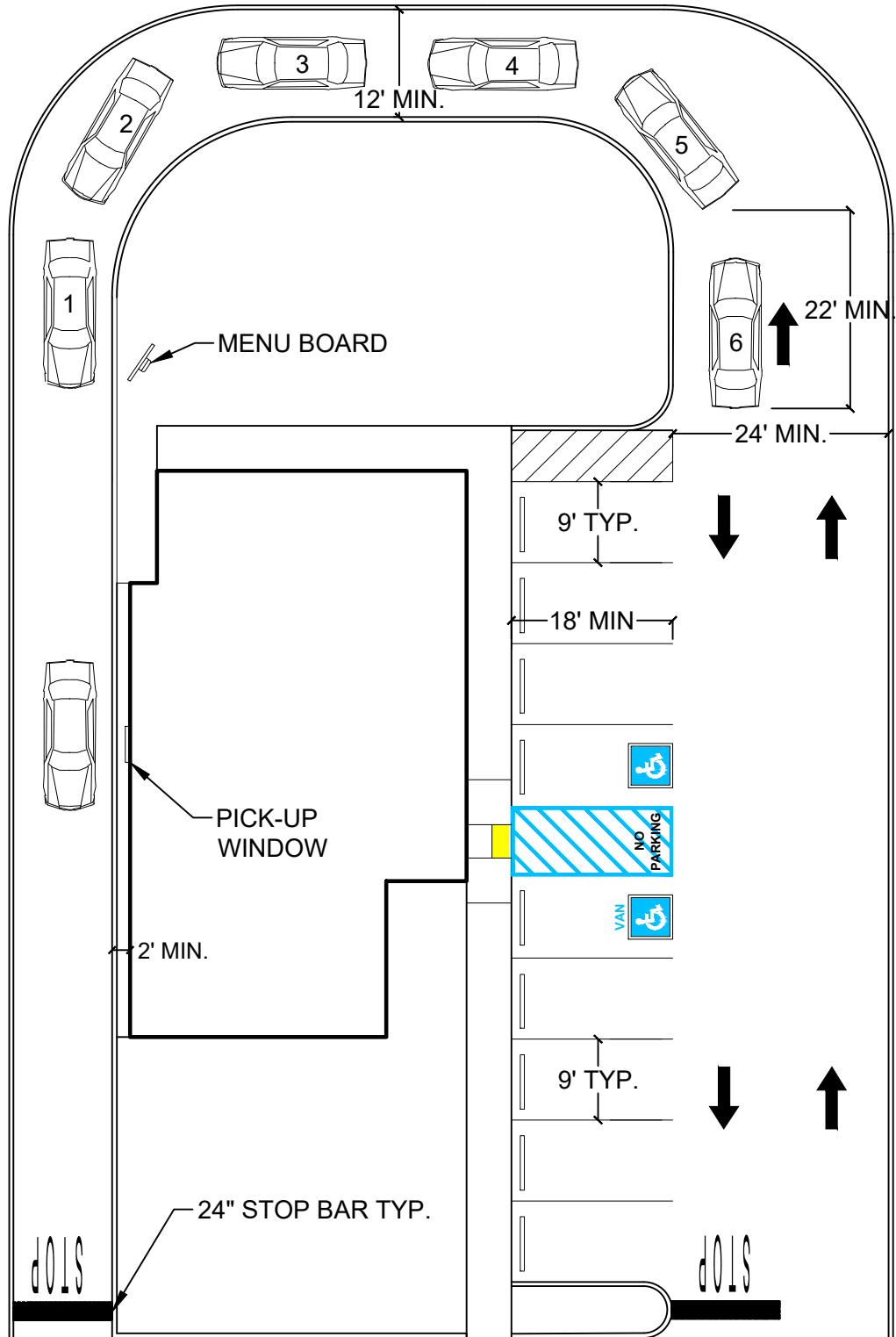
© 2014 LEXINGTON, KY AND FAYETTE COUNTY, KY	LOCAL / LOCAL CORNER LOT		N.T.S.
	LFUCG DIVISION OF TRAFFIC ENGINEERING	STANDARD DRAWING NO. 562	DATE
		APPROVAL: DIRECTOR OF TRAFFIC ENGINEERING COMMISSIONER	DATE

Note

Circular driveways are only permitted on Arterial and Collector classified roadways



N.T.S.	STANDARD DRAWING NO. 570	
	APPROVAL:	
	DIRECTOR OF TRAFFIC ENGINEERING	DATE
	COMMISSIONER	DATE
LFUCG DIVISION OF TRAFFIC ENGINEERING		RESIDENTIAL CIRCULAR DRIVEWAY



* Drive-thru stacked vehicles shall not impede ANY parking stall

N.T.S.



LFUCG DIVISION OF
TRAFFIC ENGINEERING

DRIVE - THRU
LANE

STANDARD DRAWING NO.

590-1

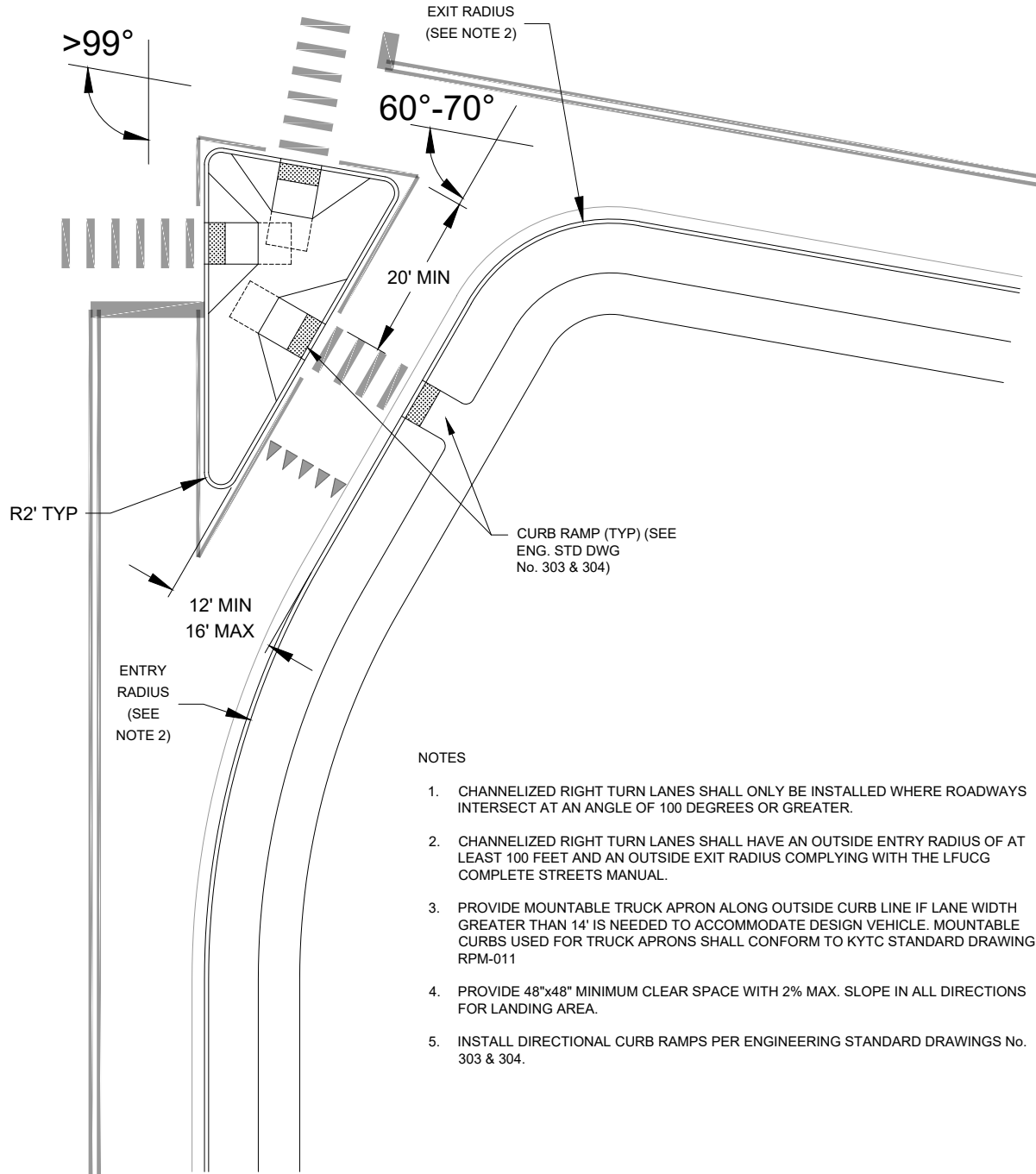
APPROVAL:

DIRECTOR OF TRAFFIC ENGINEERING

DATE

COMMISSIONER

DATE



NOTES

1. CHANNELIZED RIGHT TURN LANES SHALL ONLY BE INSTALLED WHERE ROADWAYS INTERSECT AT AN ANGLE OF 100 DEGREES OR GREATER.
2. CHANNELIZED RIGHT TURN LANES SHALL HAVE AN OUTSIDE ENTRY RADIUS OF AT LEAST 100 FEET AND AN OUTSIDE EXIT RADIUS COMPLYING WITH THE LFUCG COMPLETE STREETS MANUAL.
3. PROVIDE MOUNTABLE TRUCK APRON ALONG OUTSIDE CURB LINE IF LANE WIDTH GREATER THAN 14' IS NEEDED TO ACCOMMODATE DESIGN VEHICLE. MOUNTABLE CURBS USED FOR TRUCK APRONS SHALL CONFORM TO KYTC STANDARD DRAWING RPM-011
4. PROVIDE 48"x48" MINIMUM CLEAR SPACE WITH 2% MAX. SLOPE IN ALL DIRECTIONS FOR LANDING AREA.
5. INSTALL DIRECTIONAL CURB RAMPS PER ENGINEERING STANDARD DRAWINGS No. 303 & 304.



LFUCG DIVISION OF
TRAFFIC ENGINEERING

CHANNELIZED RIGHT TURNS

STANDARD DRAWING NO.

APPROVAL:

DIRECTOR OF TRAFFIC ENGINEERING

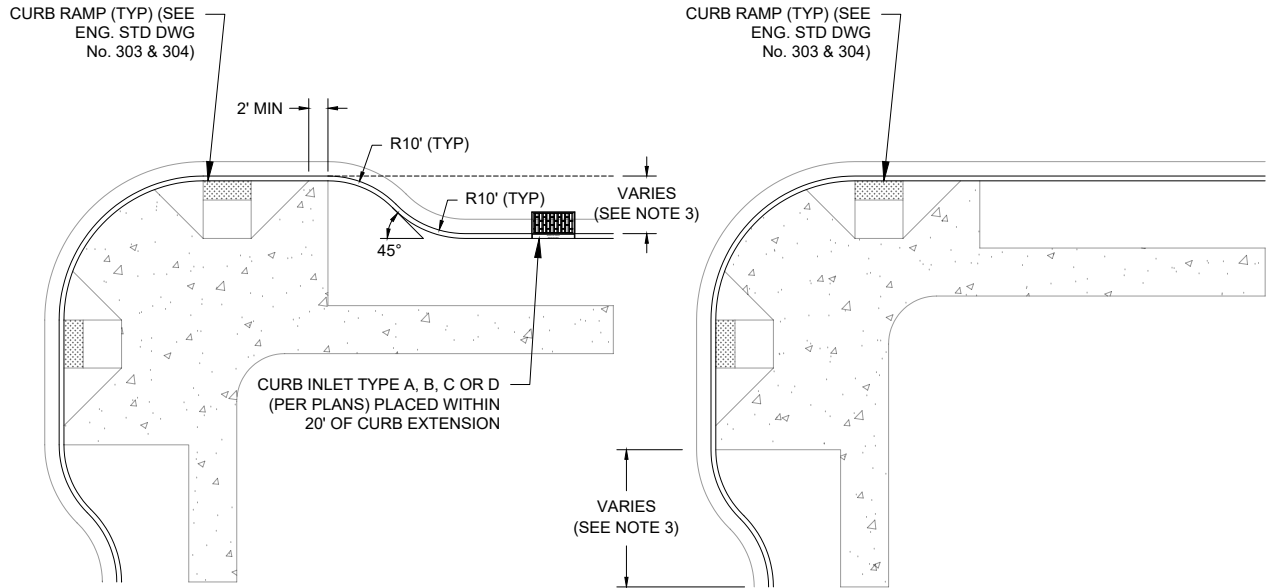
COMMISSIONER

N.T.S.

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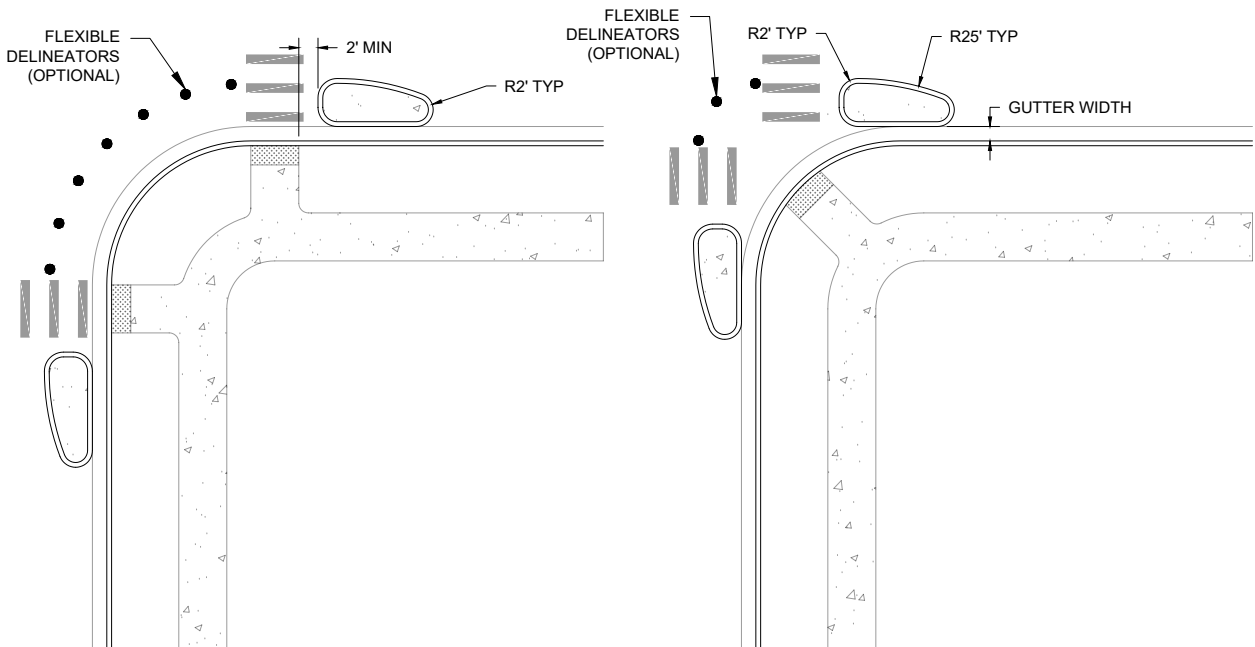
DATE

DATE



CURB EXTENSIONS ON BOTH STREETS

CURB EXTENSIONS ON SIDE STREET ONLY



FLOATING CURB EXTENSIONS - DIRECTIONAL RAMPS

FLOATING CURB EXTENSIONS - DIAGONAL RAMPS

NOTES

1. CURBS SHALL CONFORM TO LFUCG ENGINEERING STANDARD DRAWINGS No. 301 & 302.
2. RAMPS SHALL CONFORM TO LFUCG ENGINEERING STANDARD DRAWINGS No. 303 & 304.
3. THE WIDTH OF THE CURB EXTENSION AND THE LENGTH OF THE TRANSITION AREA WILL VARY BASED ON THE SPECIFIC SITE CONDITIONS.
4. FLOATING CURB EXTENSION ISLANDS SHALL ONLY BE USE FOR RETROFITS WHERE DRAINAGE IS A CONCERN WHICH CANNOT BE MITIGATED WITH ADDITIONAL CATCH BASINS. ALL NEW CONSTRUCTION SHALL USE INTEGRATED CURB EXTENSIONS.
5. FOR RETROFITS, THE FLOATING CURB EXTENSION ISLANDS SHALL BE LOCATED OUTSIDE THE EXISTING GUTTER OR WHERE NONE EXISTS AT LEAST 2' OFF OF THE CURB LINE. A 2' TYPICAL CURB RADIUS IS PREFERRED FOR ALL ISLAND CORNERS. FOR ISLANDS LESS THAN 10 SQUARE FEET IN SIZE, A 1' CURB RADIUS MAYBE USED TO IMPROVE CONSTRUCTABILITY.



LFUCG DIVISION OF
TRAFFIC ENGINEERING

CURB
EXTENSIONS

STANDARD DRAWING NO.

N.T.S.

AAA

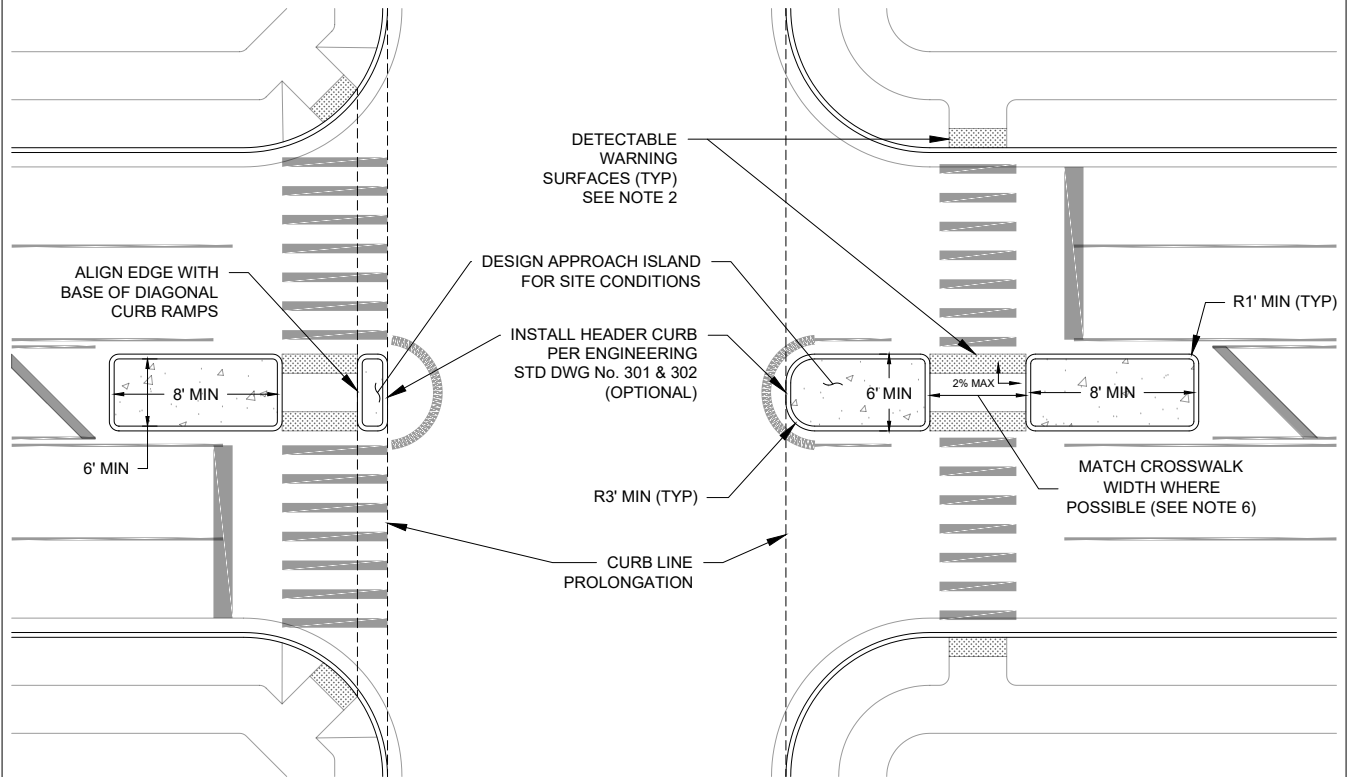
APPROVAL:

DIRECTOR OF TRAFFIC ENGINEERING

DATE

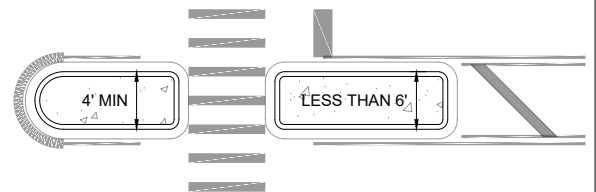
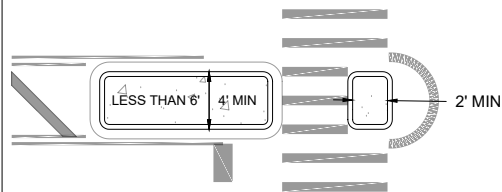
COMMISSIONER

DATE



ISLAND GREATER THAN 6' WIDE - DIAGONAL RAMPS (RETROFITS)

ISLAND GREATER THAN 6' WIDE - DIRECTIONAL RAMPS



ISLAND LESS THAN 6' WIDE - DIAGONAL RAMPS (RETROFITS)

ISLAND LESS THAN 6' WIDE - DIRECTIONAL RAMPS

NOTES

1. A MINIMUM OF 6 FOOT WIDTH IS REQUIRED TO PROVIDE PEDESTRIAN REFUGE. WIDTHS OF 8 TO 10 FEET ARE PREFERRED WHERE PEDESTRIAN VOLUMES ARE HIGH, WHERE PEOPLE WITH MOBILITY DEVICES CROSS, OR WHERE BICYCLISTS CROSS. THE MINIMUM WIDTH IS 4 FEET, BELOW WHICH A HARDENED CENTERLINE IS PREFERRED WHERE IT IS DESIRED TO SLOW LEFT-TURNING MOTORISTS.
2. DETECTABLE WARNING SURFACES SHALL BE USED IF CROSSING ISLAND SERVES AS A PEDESTRIAN REFUGE. DETECTABLE WARNINGS SHALL BE 24" DEEP WHEN THE CROSSING ISLAND IS 6' OR MORE IN WIDTH.
4. THE TOTAL LENGTH OF THE CROSSING ISLANDS AND CROSSWALK SHALL BE LIMITED TO 30 FEET OR LESS ON STREETS WITH ONLY ONE THROUGH LANE IN EACH DIRECTION.
5. AT SIGNALIZED INTERSECTIONS, IF THE CROSSING ISLAND IS AT LEAST 6 FEET WIDE, THEN A PEDESTRIAN PUSH BUTTON MAY BE PROVIDED WITHIN THE CROSSING ISLAND WITH LFUCG APPROVAL. PUSH BUTTON LOCATIONS SHALL CONFORM TO THE REQUIREMENTS OF THE MUTCD, CURRENT EDITION. PUSH BUTTONS SHOULD BE LOCATED WITHIN 18 INCHES FROM CURB FACE. IF CROSSING ISLANDS ARE LESS THAN 6 FEET WIDE, THEN PEDESTRIAN CROSSING SIGNALS MUST BE TIMED TO ALLOW COMPLETE CROSSING AND NO PUSH BUTTONS SHALL BE LOCATED IN THE CROSSING ISLAND.
6. IF THE PEDESTRIAN MEDIAN OPENING IS GREATER THAN 9 FEET WIDE, THEN A BOLLARD MAY BE CONSIDERED TO PREVENT VEHICLES FROM ENCROACHING INTO THE PEDESTRIAN REFUGE SPACE. INSTALL BOLLARDS IN DETECTABLE WARNING SURFACE (DWS) AT 2' MAXIMUM, ALLOWING A MINIMUM OF 4' PATH IN BETWEEN BOLLARDS. FROM THE FLOW LINE NARROWING THE PEDESTRIAN MEDIAN OPENING TO LESS THAN THE CROSSWALK WIDTH MAY BE CONSIDERED IN ORDER TO CREATE SUFFICIENT SPACE FOR AN APPROACH NOSE.
7. FOR RETROFITS, WHEN DIAGONAL RAMPS ARE PRESENT, AN APPROACH NOSE MAY BE ADDED BY NARROWING THE CROSSING WIDTH. THE CROSSING WIDTH SHALL MAINTAIN A WIDTH OF AT LEAST 6' FEET.
8. RAISED PAVEMENT MARKERS (RPM'S) ONE-WAY CLEAR (WHITE) OR ONE-WAY AMBER (YELLOW) SPACED 2' CENTER-TO-CENTER MAY BE INSTALLED ON THE CROSSING ISLAND DEPENDING ON ITS LOCATION.
9. THE NUMBER OF AND CONFIGURATION OF LANES SHOWN AS WELL AS THE FLUSH MEDIANS OUTSIDE OF THE 8' ISLANDS ARE ILLUSTRATIVE ONLY. THE CONFIGURATION OF TRAVEL LANES AND MEDIANS WILL BE SITE SPECIFIC.

N.T.S.



LFUCG DIVISION OF
TRAFFIC ENGINEERING

MEDIAN REFUGES

STANDARD DRAWING NO.

AAA

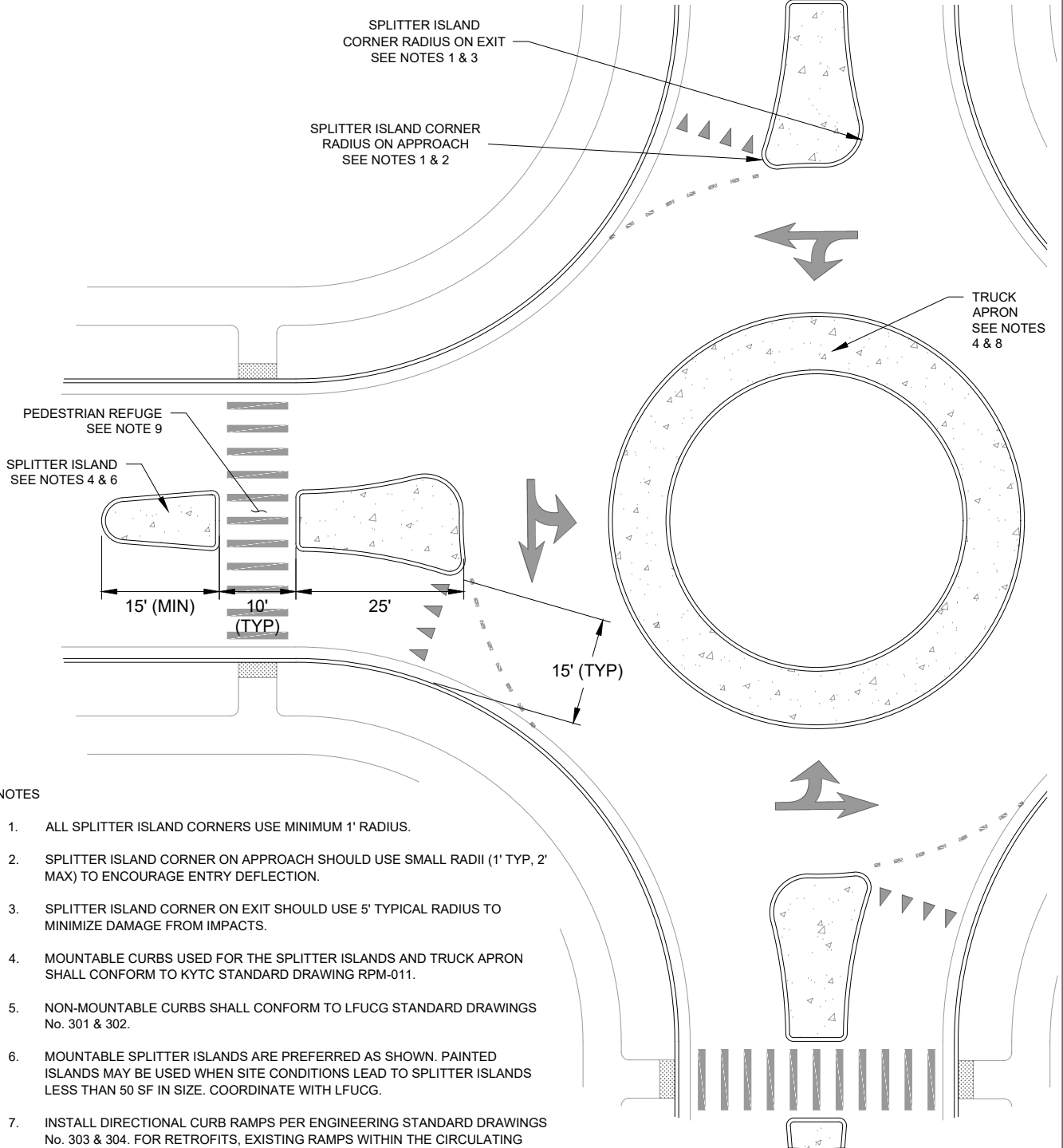
APPROVAL:

DIRECTOR OF TRAFFIC ENGINEERING

DATE

COMMISSIONER

DATE



NOTES

1. ALL SPLITTER ISLAND CORNERS USE MINIMUM 1' RADIUS.
2. SPLITTER ISLAND CORNER ON APPROACH SHOULD USE SMALL RADII (1' TYP, 2' MAX) TO ENCOURAGE ENTRY DEFLECTION.
3. SPLITTER ISLAND CORNER ON EXIT SHOULD USE 5' TYPICAL RADIUS TO MINIMIZE DAMAGE FROM IMPACTS.
4. MOUNTABLE CURBS USED FOR THE SPLITTER ISLANDS AND TRUCK APRON SHALL CONFORM TO KYTC STANDARD DRAWING RPM-011.
5. NON-MOUNTABLE CURBS SHALL CONFORM TO LFUCG STANDARD DRAWINGS No. 301 & 302.
6. MOUNTABLE SPLITTER ISLANDS ARE PREFERRED AS SHOWN. PAINTED ISLANDS MAY BE USED WHEN SITE CONDITIONS LEAD TO SPLITTER ISLANDS LESS THAN 50 SF IN SIZE. COORDINATE WITH LFUCG.
7. INSTALL DIRECTIONAL CURB RAMPS PER ENGINEERING STANDARD DRAWINGS No. 303 & 304. FOR RETROFITS, EXISTING RAMPS WITHIN THE CIRCULATING LANE SHALL BE REMOVED. DIAGONAL RAMPS SHALL NOT BE USED.
8. PCC PAVEMENT WITHIN TRUCK APRONS AND SPLITTER ISLANDS SHALL BE DISTINCT FROM THE ROADWAY AND SIDEWALKS. PCC APPLICATION MAY USE INTEGRAL COLOR, AND SURFACE TEXTURE MAY ALSO BE APPLIED.
9. IF THE SPLITTER ISLAND IS AT LEAST 6 FEET WIDE, DETECTABLE WARNINGS SHALL BE USED WITHIN THE REFUGE AREA. DETECTABLE WARNINGS SHALL BE 24" DEEP.
10. THE TRAFFIC CONTROL DEVICES, PAVEMENT MARKINGS, AND SIGNS ASSOCIATED WITH THE CONSTRUCTION OF ROUNDABOUTS SHALL CONFORM TO THE MUTCD, LATEST EDITION.

DESIGN PERFORMANCE CHECKS:

ROUNDABOUTS SHALL BE DESIGNED IN CONFORMANCE WITH THE KYTC ROUNDABOUT DESIGN GUIDANCE. ALL DESIGN PERFORMANCE CHECKS PROVIDED IN THE GUIDANCE SHALL BE COMPLETED, INCLUDING SIGHT DISTANCE, ANGLE OF VISIBILITY AND A FASTEST PATH ANALYSIS TO ENSURE DESIGN VALUES FOR ENTRY DEFLECTION, EXIT CURVES, AND SPEED DIFFERENTIAL ARE WITHIN THE RECOMMENDED VALUES FOR A MINI, SINGLE OR MULTI LANE ROUNDABOUT AS APPROPRIATE.



LFUCG DIVISION OF
TRAFFIC ENGINEERING

MINI ROUNDABOUT

STANDARD DRAWING NO.

APPROVAL:

DIRECTOR OF TRAFFIC ENGINEERING

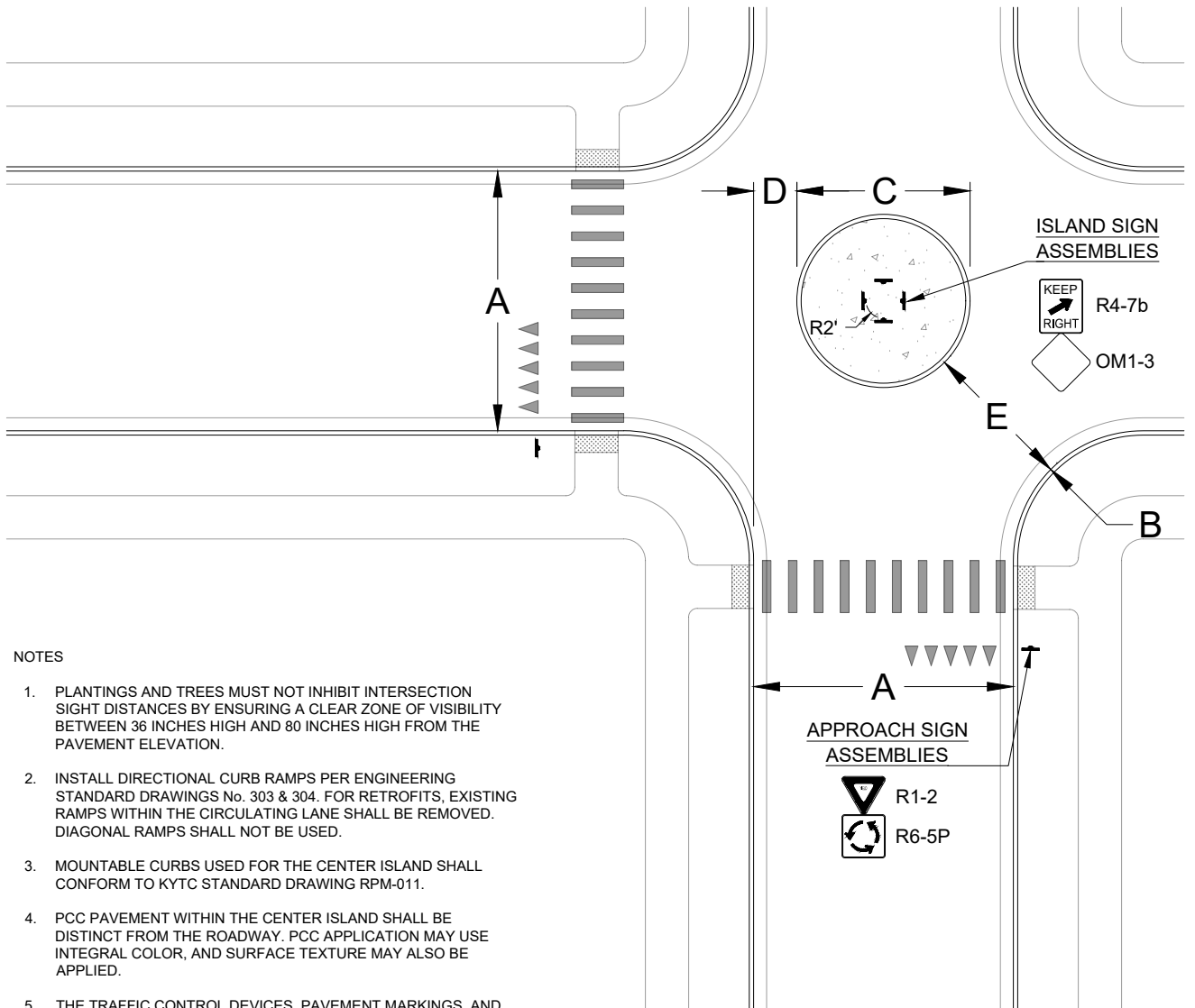
COMMISSIONER

N.T.S.

AAA

DATE

DATE



NOTES

1. PLANTINGS AND TREES MUST NOT INHIBIT INTERSECTION SIGHT DISTANCES BY ENSURING A CLEAR ZONE OF VISIBILITY BETWEEN 36 INCHES HIGH AND 80 INCHES HIGH FROM THE PAVEMENT ELEVATION.
2. INSTALL DIRECTIONAL CURB RAMP PER ENGINEERING STANDARD DRAWINGS No. 303 & 304. FOR RETROFITS, EXISTING RAMP WITHIN THE CIRCULATING LANE SHALL BE REMOVED. DIAGONAL RAMP SHALL NOT BE USED.
3. MOUNTABLE CURBS USED FOR THE CENTER ISLAND SHALL CONFORM TO KYTC STANDARD DRAWING RPM-011.
4. PCC PAVEMENT WITHIN THE CENTER ISLAND SHALL BE DISTINCT FROM THE ROADWAY. PCC APPLICATION MAY USE INTEGRAL COLOR, AND SURFACE TEXTURE MAY ALSO BE APPLIED.
5. THE TRAFFIC CONTROL DEVICES, PAVEMENT MARKINGS, AND SIGNS ASSOCIATED WITH THE CONSTRUCTION OF NEIGHBORHOOD TRAFFIC CIRCLES SHALL CONFORM TO THE MUTCD, LATEST EDITION.
6. USE TYPICAL DIMENSIONS AS A DESIGN GUIDE. FINAL DIMENSIONS TO BE DETERMINED BY THE ENGINEER.
7. WHERE CROSSING STREETS ARE NOT THE SAME WIDTH, CONSIDER CURB EXTENSIONS ON WIDER ROAD TO CREATE CONSISTENT APPROACH WIDTHS.
8. WHERE THE OPENING WIDTH (E) IS LESS THAN 20 FEET WIDE, A MOUNTABLE TRUCK APRON MAY BE REQUIRED.
9. FOR LOCATIONS WITH NON-STANDARD STREET WIDTHS, THE RELATIONSHIP BETWEEN THE OFFSET AND THE OPENING WIDTH IS DETERMINED BY THE OPENING WIDTH TABLE:

OPENING WIDTH	
D OFFSET DISTANCE (ft)	E OPENING WIDTH (ft)
5.5 (MAX)	16 (MIN)
5.0	17
4.5	18
4.0	19
3.5 OR LESS	20 (MAX)

TYPICAL DIMENSIONS

A ROADWAY WIDTH (ft)	B CURB RETURN (ft)	C CENTER ISLAND DIAMETER (ft)
28' RESIDENTIAL CUL-DE-SAC & CONTINUING LOCAL	15	18
	20	20
	25	22
30' RESIDENTIAL CONTINUING LOCAL OR COMMERCIAL SERVICE	15	20
	20	22
	25	24
36' NEW RESIDENTIAL COLLECTOR	15	27
	20	29
	25	33
40' RESIDENTIAL COLLECTOR & INDUSTRIAL LOCAL	15	32
	20	34
	25	38



LFUCG DIVISION OF
TRAFFIC ENGINEERING

NEIGHBORHOOD
TRAFFIC CIRCLE

STANDARD DRAWING NO.

N.T.S.

AAA

APPROVAL:

DIRECTOR OF TRAFFIC ENGINEERING

DATE

COMMISSIONER

DATE