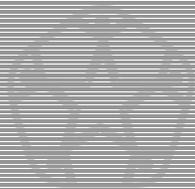


CITY OF ST. PETERS

DESIGN CRITERIA AND

STANDARD SPECIFICATIONS

FOR STREET CONSTRUCTION



City of St. Peters
One St. Peters Centre Blvd.
P.O. Box 9
St. Peters, Missouri 63376

Engineering & Development
Services
(636) 477-6600 ext. 670
Fax (636) 477-9077

Effective Date: May 13, 2002



The rules contained herein are promulgated by the City Engineer as authorized in
Section 405.610 of Title IV of the St. Peters City Code.



1.0 CONTENTS

10.10 Definitions

20.10 Arterial Street Design Criteria

20.20 Major Collector Street Design Criteria

20.30 Residential Street Design Criteria

20.40 Non-Residential Street Design Criteria

20.50 Recommended Design Control for Vertical Curves

30.00 Reserved

40.10 Street Improvement

40.20 Street Standards

40.30 Sight Distance at Intersections

40.40 Entrance Standards

40.50 Sidewalks and Curb Ramps

40.60 Reserved

40.70 Reserved

50.10 Reserved

50.20 Reserved

50.30 Reserved

50.40 Reserved

50.50 Reserved

50.60 Reserved

50.70 Reserved

50.80 Reserved

60.00 Traffic Handling for Construction

70.00 Listing of Standard Abbreviations

80.00 Listing of Tables

90.00 Listing of Figures

100.00 Listing of Standard Drawings

Standard Drawings

Standard Drawings Cross Reference

Index



10.10 DEFINITIONS

The definitions of terms used in these specifications are as follows:

A.A.S.H.T.O.: American Association of State Highway and Transportation Officials.

A.D.A.: American with Disabilities Act.

Applicant: The company, contractor, developer, or individual seeking permission to work within the public right-of-way under the jurisdiction of the City of St. Peters.

Arterial Street: A multi-lane facility designed for movement of a relatively large volume of traffic, which serves the major centers of activity within the City. Arterial streets typically intersect the corporate boundaries and provide connections between local and collector streets and the freeways.

Arterial Road System: The system of roads classified by the City, which provides the principal routes for arterial type traffic.

Backfill: The material used to fill an excavation.

Base Flood: The 100-year flood, hereafter referred to as the base flood, is a measure of flooding of a specific magnitude used as a standard in the National Flood Insurance Program. The base flood has a one-percent chance of occurrence in any given year. The depicted one-percent chance flood has one chance in 100 of being equaled or exceeded in any future one-year period.

Bedding: The material on which the pipe or conduit is supported and protected.

Bench Mark: A definite point of known elevation and location and of more or less permanent character. The identity and elevation shall be based on United States Geological Society (U.S.G.S.) Datum.

Bridge: A structure having a clear span greater than 20 feet measured on a horizontal plane along the centerline of the roadway; also a multiple span structure where the total length of spans are in excess of 20 feet. For both single and multiple span bridges, the clear span shall be construed to mean the total distance from stream face to stream face of end bents or outer walls of structure. For multiple pipes, the span shall be construed to mean the total distance measured between the two exterior pipes, provided the clear distance between each pipe is less than one-half the diameter of the pipe.

Channel: A natural or artificial watercourse.

City: The City of St. Peters, Missouri.



City Engineer: The duly appointed engineer of the City, or his/her designee.

City of St. Peters Design Criteria and Standard Specifications for Street Construction: As contained herein, the City of St. Peters Design Criteria and Standard Specifications for Street Construction shall be used by all those engaged in locating, designing, and improving roads and rights-of-way within the City of St. Peters.

Collector Street: See Major Collector Street and Minor Collector Street.

Comprehensive Plan: A long-range master plan for area development including studies of land use, traffic volume and flow, schools, parks, and other public buildings and as defined by Missouri State Statutes.

Construction Standards: See St. Louis County Standard Specifications for Highway Construction, current edition.

Cross Access -A commonly shared or used private pedestrian way or vehicular driveway that internally connects or serves two or more adjacent properties.

Crossroad Culvert -A pipe or box culvert passing surface drainage carried in side ditches or channels beneath roads to adjacent property.

Design Speed -On existing roadways, design speed shall be the 85th percentile speed of motorists on the roadway as established by radar studies, or 5 m.p.h. greater than the posted speed limit, whichever is greater. On new roadways design speed shall be 5 m.p.h. greater than the anticipated posted speed limit. For non-residential and residential streets with a pavement width of 36 feet or less, the design speed shall be the anticipated posted speed limit.

Developer -Any individual, firm or corporation by whom a tract will be subdivided into not less than two (2) parcels and/or improved to the requirements of the City of St. Peters Land Use Regulations.

Drainage Facility -Any system of artificially constructed drains, including open channels and separate storm water sewers, used to convey storm water, surface or ground water, either continuously or intermittently to natural water courses.

Driveway: A privately maintained travelway used for vehicular access to a site and distribution within a site, not including sidewalks.

Driveway Approach, Common Entrance: A single driveway approach providing vehicular access to two adjoining properties.



Easement: A grant by a property owner to the public, a corporation, or a person, for the use of land for a specific purpose.

Easement, Cross Access: A designated private access way for the servicing of aisles or driveways that internally connect two or more properties.

Easement, Permanent Drainage: A permanent drainage easement (PDE) is granted for the purpose of constructing drainage systems in, on, upon, along, over, through and across the easement. A PDE grants the right to survey, stake, slope, alter existing grade, construct, reconstruct, place, keep, operate, maintain, inspect, control, add to and relocate at will, at any time, the drainage systems, lines, pipes and other appurtenances associated with the drainage system.

Easement, Temporary Construction: A temporary construction easement (TCE) grants the right, permission, privilege and authority to use easement to survey, stake, slope, alter the existing grading, reshape and otherwise use the easement area while making improvements. The TCE shall cease and terminate after the construction activities have ended.

Engineer -A professional engineer registered in the State of Missouri.

Entrance, Commercial -A driveway providing ingress and egress for commercial site.

Entrance, Residential - A driveway providing ingress and egress for a residential site.

Escrow - An agreement between the developer and the City whereby the developer establishes funds to cover the cost of completion of required on-site improvements as depicted upon approved site development improvement plans.

F.E.M.A -Federal Emergency Management Agency.

Floodplain -A geographic area susceptible to periodic inundation from the overflow of natural waterways during the base (100-year) flood. It is determined as to extent in St. Peters, by the current Federal Emergency Management Agency Flood Insurance, with accompanying Flood Insurance Rate Maps and Flood Boundary and Floodway Maps.

Floodway -The area designated as Floodway on the Federal Emergency Management Agency Flood Boundary and Floodway Maps. It is derived by determining that portion of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.



Floodway Fringe -That area of the 100-year Flood Plain excluding the floodway is known as the floodway fringe. It is also that portion of the 100-year Flood Plain, which can be developed without cumulatively raising the base flood elevation more than one foot.

Frontage –All property on one (1) side of a street between two (2) intersecting streets (crossing or terminating), measured along the right-of-way line of the street, or if the street is dead-ended, then all property abutting on one (1) side between an intersecting street and the dead-end of the street.

Geotechnical Report -A report, signed and sealed by an engineer, used to determine extent of development and grading, slope Stability in the form of maximum slopes, sink hole conditions, need for interceptor ditches and any items that may affect the extent of development and/or location of structures on the site.

Grade –The slope of the surface, expressed in percentages (i.e., 2%, 3%, etc.).

Highway -Same as street.

Hydraulic Grade Line -A line coinciding with the level of flowing water at any given point along an open channel; or the level to which water would rise in a vertical tube connected to any point along a pipe or closed conduit flowing under pressure.

Improvements – Grading, sanitary and storm sewer, water mains, pavements, curbs and gutters, sidewalks, road signs, lights, trees and other appropriate improvements required to render land suitable for the use proposed.

Land Surveyor -A professional land surveyor registered in the State of Missouri.

Local Street: A minor street generally serving the local subdivisions and providing direct access to abutting land.

MoDOT -Missouri Department of Transportation.

Monument -A marker placed by a land surveyor and/or as directed by the City Engineer.

Monuments and Signs, Ornamental Entrance -A structure or device designed or intended to convey information to the public in written or pictorial form, and which identifies residential or non-residential subdivision and/or commercial developments.

M.U.T.C.D. -Manual on Uniform Traffic Control Devices for Streets and Highways, U.S. Department of Transportation and the Federal Highway Administration, Washington, D.C., current edition.

Parcel (Tract) of Land: A separately designated area of land delineated by identifiable legally recorded boundary lines.



Pave (pavement) -The act or result of applying a hard, impermeable material to any ground surface in such manner as to present a uniform surface over large areas.

Pedestrian Way -An easement or right-of-way designated to facilitate pedestrian access to adjacent streets and properties.

Permit- The Site Development Permit issued by the City.

Property Line -The boundaries of a parcel.

Right-of-way - A public way established or dedicated by duly recorded plat, deed, grant, governmental authority or by operation of the law.

Road -The entire width and length of the right-of-way or the easement of a road, street, avenue or boulevard or similar item.

Roadway -That portion of a road intended for use by the general traveling public, typically delineated by curbs, edgelines, or edge of pavement.

Roadway Right-of-Way Line -The boundary, which divides a parcel from a public or private roadway.

Sidewalk - A paved area separate from the highway or roadway intended to be used by pedestrians.

Sight Distance At Intersections – The sight distance at an intersection at grade required to be unobstructed to allow an operator of a vehicle approaching the intersection to have a view of the intersection to avoid collisions. There must be an unobstructed sight distance along both approaches of both roads and across their included corners for a distance sufficient to allow the operators of vehicles to see the intersection. Sight obstructions may include: buildings, parked vehicles, cut slopes, trees, bushes, or tall grasses.

Slope- The rate of deviation of the ground surface from the horizontal surface, expressed in percentages or proportions (i.e., 3%, 3 horizontal:1 vertical, etc.).

Soils Report -See Geotechnical Report.

St. Louis County Standard Specifications for Highway Construction: The “St. Louis County Standard Specifications for Highway Construction”, current edition, shall constitute the basis for all roadway construction and incidental work to be performed on roadways under the jurisdiction of the City of St. Peters.

Standard Specifications: See City of St. Peters Design Criteria and Standard Specifications for Street Construction.



Steep Grade - Roadway grades in excess of 6% or 8% as applicable to the street classification.

Street – Any public or private right-of-way, which affords the primary means of access to abutting property.

Street, Major Collector: A multi-lane facility, which distributes traffic from arterials through the City to the ultimate destination, typically distributing traffic to minor collector and local streets from arterials. Major collector streets provide access to residential, commercial and industrial areas.

Street, Minor Collector: A street located within a residential or non-residential subdivision, which collects from and distributes traffic to local streets and connects to major collector and arterial streets.

Street, Non-Residential - A street serving an area other than residential or as determined by the City Engineer.

Street, Private – A street not accepted for maintenance through dedication or otherwise by the Board of Aldermen.

Street, Public - A street dedicated and maintained by the City.

Street, Residential – A street contained within a residential subdivision or which primarily serves a residential area or as determined by the City Engineer.

Subdivision – The division or re-division of land into two or more parcels, tracts, sites, or parcels for the purpose of transfer of ownership or for development, or the dedication or vacation of a public or private right-of-way or easement.

Subdivision Regulations – Regulations as adopted by the Board of Aldermen regulating the subdivision of land as contained in Chapter 405 Zoning and Subdivision Regulations of the City of St. Peters Municipal Code.



20.10 ARTERIAL STREET DESIGN CRITERIA

Table 20.1			
Arterial Street Right-of-Way and Pavement Width Requirements			
Street Classification	Right-of-Way Width (feet)	Pavement Width (feet)	Standard Drawing No.
5 Lane Arterial	90	65	S20.10
4 Lane Arterial	80	53	S20.11

In situations where existing streets are to be improved, i.e. overlays and widening work, the City Engineer shall determine the design pavement section on a case by case basis.

All of the above designated pavement widths shall be constructed with a 2-½ foot wide and six (6)-inch high mountable integral concrete curb and gutter on both sides of the roadway. Refer to Standard Drawing S40.22B for typical sections and details.

Table 20.2	
Arterial Street Pavement Thickness Requirements ⁽¹⁾	
Flexible Pavement	<u>Full Depth Asphalt</u> 2" Type "C" Asphaltic Concrete Wearing Surface 9" Type "X" Asphaltic Concrete Base Course 4" Type 5 Aggregate Base ⁽²⁾
Rigid Pavement⁽¹⁾	8" Portland Cement Concrete 4" Type 5 Aggregate Base ⁽²⁾
⁽¹⁾	15' maximum joint spacing and longitudinal tie bars at 30" on center spacing on a prepared subgrade with a minimum compaction of 90% modified proctor. Compaction curves to be used in subgrade testing will be supplied to the City Engineering Department by the developer. Crack sealant shall be in accordance with ASTM 1190 or an approved equal.
⁽²⁾	Fines not to exceed 0-25% passing #30 sieve and 0-8% passing #200 sieve, unless otherwise authorized by the City.

Refer to Standard Drawings S40.40 through S40.44 for residential and commercial entrance design details.

Traffic shall be prohibited from traveling on newly constructed concrete streets for a minimum of seven (7) days following construction.

Backfilling curbs shall be completed within ten (10) days after completion of initial construction of streets.



Table 20.3			
Arterial Street Design Horizontal & Vertical Alignment Requirements			
Street Classification	Grades ⁽¹⁾⁽²⁾	Centerline Alignment⁽³⁾	Anticipated Posted Speed Limit ⁽⁴⁾
4 or 5 Lane Arterial	2% Minimum 6% Maximum	6 Degree Maximum (955'R) >6 Degrees by special approval by City Engineer.	40 MPH minimum
⁽¹⁾ Roadway grades less than 2% or in excess of 6% must be approved by the City Engineer prior to the preparation of design plans, and special design may be required. Refer to Figure "Recommended Design Control for Vertical Curves" on page 20.50-1.			
⁽²⁾ Pavement Lugs are required when street grades are greater than 4% (Refer to Standard Drawings S40.23 and S40.24).			
⁽³⁾ Minimum Corner Radii = 45 feet at back of curb.			
⁽⁴⁾ Design Speed – On existing roadways, design speed shall be the 85 th percentile speed of motorists on the roadway as established by radar studies, or 5 m.p.h. greater than the posted speed limit, whichever is greater. On new roadways, design speed shall be 5 m.p.h. greater than the anticipated posted speed limit.			
⁽⁵⁾ Refer to Standard Drawings S20.13 Superelevation and S20.14 Street Intersection Platform for design controls.			

Sidewalk Requirements:

Concrete sidewalks are required on both sides of the street. Refer to Standard Drawings S40.60 through S40.63. Minimum width of sidewalk shall be five (5) feet in residential and commercial districts unless otherwise specified by the Planning and Zoning Commission.



20.20 MAJOR COLLECTOR STREET DESIGN CRITERIA

Table 20.4			
Major Collector Right-of-Way & Pavement Width Requirements			
Street Classification	Right-of-Way Width (feet)	Pavement Width (feet)	Standard Drawing No.
3 Lane Major Collector	65	41	S20.20

In situations where existing streets are to be improved, i.e. overlays and widening work, the City Engineer shall determine the design pavement section on a case by case basis.

The above designated pavement width shall be constructed with a 2-½ foot wide and six (6)-inch high mountable integral concrete curb and gutter on both sides of the roadway. Refer to Standard Drawing S40.22B for typical sections and details.

Table 20.5	
Major Collector Pavement Thickness Requirements	
Flexible Pavement	<u>Full Depth Asphalt</u> 2" Type "C" Asphaltic Concrete Wearing Surface 9" Type "X" Bituminous Concrete Base Course 4" Type 5 Aggregate Base ⁽²⁾
Rigid Pavement	<u>Rigid Pavement</u> ⁽¹⁾ 8" Portland Cement Concrete 4" Type 5 Aggregate Base ⁽²⁾
⁽¹⁾ 15' maximum joint spacing and longitudinal tie bars at 30" on center spacing on a prepared subgrade with a minimum compaction of 90% modified proctor. Compaction curves to be used in subgrade testing will be supplied to the City Engineering Department by the developer. Crack sealant shall be in accordance with ASTM 1190 or an approved equal.	
⁽²⁾ Fines not to exceed 0-25% passing #30 sieve and 0-8% passing #200 sieve, unless otherwise authorized by the City.	

Refer to Standard Drawings S40.40 through S40.44 for residential and commercial entrance design details.

Traffic shall be prohibited from traveling on newly constructed concrete streets for a minimum of seven (7) days following construction.

Backfilling curbs shall be completed within ten (10) days after completion of initial construction of streets.



Table 20.6			
Major Collector Horizontal & Vertical Alignment Requirements			
Street Classification	Grades ⁽¹⁾⁽²⁾	Centerline Alignment ⁽³⁾	Anticipated Posted Speed Limit ⁽⁴⁾
3 Lane Collector	2% Minimum 6% Maximum	6 Degree Maximum (955' R) >6 Degrees by special approval of City Engineer	40 MPH minimum
⁽¹⁾ Roadway grades less than 2% or in excess of stated maximum must be approved by the City prior to the preparation of improvement plans, and special design may be required. Refer to Figure "Recommended Design Control for Vertical Curves" on page 20.50-1.			
⁽²⁾ Pavement Lugs are required on roadways with grades greater than 4% (refer to Standard Drawings S40.23 and S40.24).			
⁽³⁾ Minimum Corner Radii = 40 feet at back of curb.			
⁽⁴⁾ Design Speed – On existing roadways, design speed shall be the 85 th percentile speed of motorists on the roadway as established by radar studies, or 5 m.p.h. greater than the posted speed limit, whichever is greater. On new roadways, design speed shall be 5 m.p.h. greater than the anticipated posted speed limit.			
⁽⁵⁾ Refer to Standard Drawings S20.13 Superelevation and S20.14 Street Intersection Platform for design controls.			

Sidewalk Requirements:

Concrete sidewalks are required on both sides of the street. Refer to Standard Drawings S40.60 through S40.63. Minimum width of sidewalk shall be five (5) feet in residential and commercial districts unless otherwise specified by the Planning and Zoning Commission.



20.30 RESIDENTIAL STREET DESIGN CRITERIA

Table 20.7			
Residential Street Right-of-Way Width & Pavement Width Requirements			
Street Classification	Right-of-Way Width⁽¹⁾ (feet)	Pavement Width⁽²⁾⁽³⁾ (feet)	Standard Drawing No.
3 Lane Minor Collector	60	36	S20.30
2 Lane Local	50	26	S20.31
(1)	All dead-end streets shall terminate in a circular turnaround having a minimum right-of-way diameter of 100 feet. Temporary turnarounds may be allowed on dead-end streets, which are less than 250 feet in length and are planned to be extended in the near future. (Refer to Standard Drawings S20.32 and S20.33).		
(2)	All streets shall be constructed with integral concrete rolled curb and gutter with the exception of the following condition (Refer to Standard Drawing S40.22A): a) Where subdivisions are approved with commercial parcel frontages, which require six (6)-inch high mountable integral concrete curb and gutter.		
(3)	Radius of cul-de-sac court at back of curb shall be 42 feet minimum. Radius of right-of-way width at court shall be 55 feet minimum. Refer to Standard Drawing S20.34.		

In situations where existing streets are to be improved, i.e. overlays and widening work, the City Engineer shall determine the design pavement section on a case by case basis.



Table 20.8	
Residential Street Pavement Thickness Requirements	
3 Lane Minor Collector	<u>Flexible Pavement-Full Depth Asphalt</u> 2" Type "C" Bituminous Concrete Wearing Surface 8" Type "X" Bituminous Concrete Base (2 lifts) 4" Type 5 Aggregate Base ⁽²⁾ <u>Rigid Pavement</u> ⁽¹⁾ 7" Portland Cement Concrete 4" Type 5 Aggregate Base ⁽²⁾
2 Lane Local	<u>Flexible Pavement – Full Depth Asphalt</u> 2" Type "C" Bituminous Concrete Wearing Surface 8" Type "X" Bituminous Concrete Base (2 lifts) 4" Type 5 Aggregate Base ⁽²⁾ <u>Rigid Pavement</u> ⁽¹⁾ 6" Portland Cement Concrete 4" Type 5 Aggregate Base ⁽²⁾
⁽¹⁾ 15' maximum joint spacing and longitudinal tie bars at 30" on center spacing on a prepared subgrade with a minimum compaction of 90% modified proctor. Compaction curves to be used in subgrade testing will be supplied to the City Engineering Department by the developer. Crack sealant shall be in accordance with ASTM 1190 or an approved equal.	
⁽²⁾ Fines not to exceed 0-25% passing #30 sieve and 0-8% passing #200 sieve, unless otherwise authorized by the City.	

Refer to Standard Drawing S40.40 for design details.

Traffic shall be prohibited from traveling on newly constructed concrete streets for a minimum of seven (7) days following construction.

Backfilling of curbs shall be completed within ten (10) days after completion of initial construction of streets.



Table 20.9 Residential Street Horizontal & Vertical Alignment Requirements			
Street Classification	Grades ⁽¹⁾⁽²⁾	Centerline Alignment ⁽³⁾	Anticipated Posted Speed Limit ⁽⁴⁾
3 Lane Minor Collector	2% Minimum 6% Maximum	15 Degree Maximum (375'R)	30 MPH minimum
2 Lane Local	2% Minimum 8% Maximum	150' R Minimum <150' R by special approval of the City Engineer.	25 MPH minimum
<p>⁽¹⁾ Roadway grades less than 2% or in excess of stated maximum must be approved by the City prior to the preparation of improvement plans and special design may be required. Refer to Figure "Recommended Design Control for Vertical Curves" on page 20.50-1.</p>			
<p>⁽²⁾ Pavement lugs are required when street grades are greater than 4% (refer to Standard Drawings S40.23 through S40.24).</p>			
<p>⁽³⁾ Minimum Corner Radii = 32 feet at back of curb.</p>			
<p>⁽⁴⁾ Design Speed – On existing roadways, design speed shall be the 85th percentile speed of motorists on the roadway as established by radar studies, or 5 m.p.h. greater than the posted speed limit, whichever is greater. On new roadways, design speed shall be 5 m.p.h. greater than the anticipated posted speed limit.</p>			
<p>⁽⁵⁾ Refer to Standard Drawings S20.13 Superelevation and S20.14 Street Intersection Platform for design controls.</p>			

Sidewalk Requirements:

A minimum four (4)-foot wide concrete sidewalk shall be required on one side of all subdivision roadways to facilitate access and connection to community facilities and adjacent subdivisions. Refer to Standard Drawings S40.60 through S40.63 for sidewalk construction details.



THIS PAGE BLANK INTENTIONALLY.



20.40 NON-RESIDENTIAL STREET DESIGN CRITERIA

Table 20.10			
Non-Residential Street Right-of-Way & Pavement Width Requirements			
Street Classification	Right-of-Way Width⁽¹⁾	Pavement Width⁽²⁾⁽³⁾	Standard Drawing No.
3 Lane Minor Collector	65	41 ⁽¹⁾	S20.40
2 Lane Local	50	28 ⁽¹⁾	S20.41
⁽¹⁾	All dead-end streets shall terminate in a circular turnaround having a minimum right-of-way diameter of 100 feet. Temporary turnarounds may be allowed on dead-end streets, which are less than 250 feet in length and are planned to be extended in the near future. (Refer to Standard Drawings S20.42 and S20.43).		
⁽²⁾	Pavement widths shown for all classifications require 2½-foot wide and 6" high mountable concrete integral curb and gutter on both sides of the roadway. (Refer to Standard Drawing S40.22B).		
⁽³⁾	Radius of cul-de-sac court at back of curb shall be 42 feet minimum. Radius of right-of-way at court shall be 55 feet minimum. (Refer to Standard Drawing S20.44).		

In situations where existing streets are to be improved, i.e., overlays and widening work, the City Engineer shall determine the design pavement section on a case by case basis.

Table 20.11	
Non-Residential Street Pavement Thickness Requirements	
All classifications and pavement widths	<u>Flexible Pavement</u> 2" Type "C" Bituminous Concrete Wearing Surface 8" Type "X" Bituminous Concrete Base 4" Type 5 Aggregate Base ⁽²⁾
	<u>Rigid Pavement⁽¹⁾</u> 7" Portland Cement Concrete 4" Type 5 Aggregate Base ⁽²⁾
⁽¹⁾	15' maximum joint spacing and longitudinal tie bars at 30" on center spacing on a prepared subgrade with a minimum compaction of 90% modified proctor. Compaction curves to be used in subgrade testing will be supplied to the City Engineering Department by the developer. Crack sealant shall be in accordance with ASTM 1190 or an approved equal.
⁽²⁾	Fines not to exceed 0-25% passing #30 sieve and 0-8% passing #200 sieve, unless otherwise authorized by the City.

Refer to Standard Drawings S40.40 through S40.44 for commercial entrance design details.

Traffic shall be prohibited from traveling on newly constructed concrete streets for a minimum of seven (7) days following construction. Backfilling of curbs shall be completed within ten (10) days after completion of initial construction of streets.



Table 20.12 Non-Residential Street Horizontal & Vertical Alignment Requirements			
Street Classification	Grades ⁽¹⁾	Centerline Alignment ⁽²⁾	Anticipated Posted Speed Limit ⁽³⁾
3 Lane Minor Collector	2% Minimum 6% Maximum	10 Degree Maximum (575' R)	35 MPH Minimum
2 Lane Local	2% Minimum 8% Maximum	150'R Minimum <150' R by special approval of City	25 MPH minimum
⁽¹⁾ Roadway grades less than 2% or in excess of stated maximum must be approved by the City prior to the preparation of improvement plans and special design may be required. Refer to Figure "Recommended Design Control for Vertical Curves" on page 20.50-1.			
⁽²⁾ Minimum Corner Radii: 2 Lane Local = 32 feet at back of curb 3 Lane Minor Collector = 40 feet at back of curb			
⁽³⁾ Design Speed – On existing roadways, design speed shall be the 85 th percentile speed of motorists on the roadway as established by radar studies, or 5 m.p.h. greater than the posted speed limit, whichever is greater. On new roadways, design speed shall be 5 m.p.h. greater than the anticipated posted speed limit.			
⁽⁴⁾ Refer to Standard Drawings S20.13 Superelevation and S20.14 Street Intersection Platform for design controls.			

Sidewalk Requirements:

A minimum of a five (5) -foot wide concrete sidewalk shall be required on both sides of all roadways. Refer to Standard Drawings S40.60 through S40.63 for sidewalk construction details.

Design Speed M.P.H.	"K" VALUES FOR CREST & SAG VERTICAL CURVES								Minimum Value of "L" (feet)
	2 Lane Pavement		3 Lane Pavement		4 Lane Pavement		5 Lane Pavement		
	Crest	Sag	Crest	Sag	Crest	Sag	Crest	Sag	
15	10	10	10	10	15	10	15	10	50
20	20	20	20	20	20	20	25	20	60
25	25	25	30	30	35	30	35	30	75
30	35	35	40	40	45	40	55	40	90
35	50	50	55	50	65	50	70	50	105
40	80	70	80	70	80	70	90	70	120
45	120	90	120	90	120	90	120	90	135
50	160	110	160	110	160	110	160	110	150
55	220	130	220	130	220	130	220	130	165
60	310	160	310	160	310	160	310	160	180
65	400	180	400	180	400	180	400	180	195
70	540	220	540	220	540	220	540	220	210

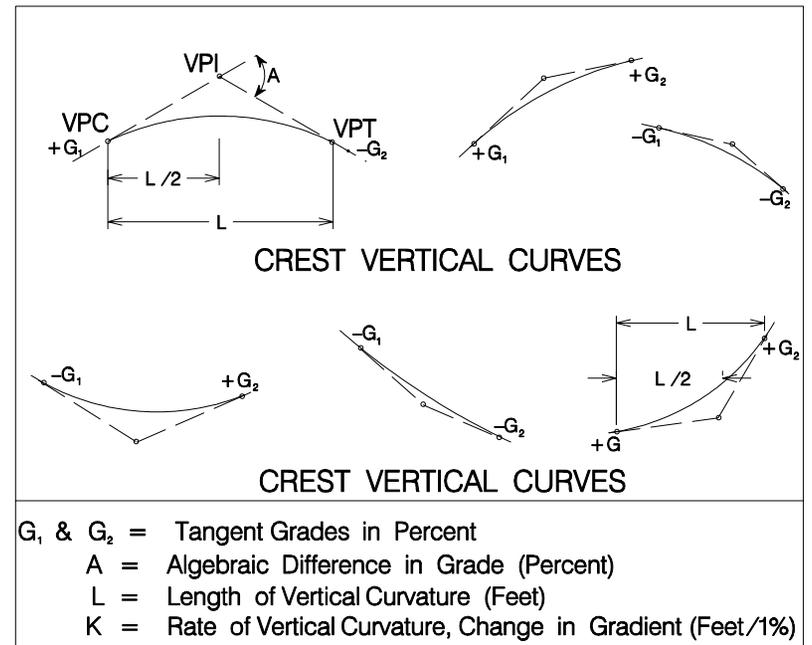
FORMULAS: $K=L/2$ OR $L=KA$

EXAMPLE 1: 4 Lane Arterial, Design Speed=45 MPH
Crest Vertical Curve where $A=6.0$
 $L=(120 \text{ feet}) \times (6.0) = 720 \text{ feet}$

EXAMPLE 2: 3 Lane Minor Collector, Non-Residential, Design Speed=40 MPH
Sag Vertical Curve where $A=3.0$
 $L=(70 \text{ feet}) \times (3.0) = 210 \text{ feet}$

EXAMPLE 3: 2 Lane Local Residential, Design Speed=30 MPH
Crest Vertical Curve where $A=2.5$
 $L=(35 \text{ feet}) \times (2.5) = 87.5 \text{ feet}$
Use Minimum "L" as shown in right column, $L=90 \text{ feet}$

CAUTION! Special attention to drainage must be exercised where a "K" value greater than 160 is used.



GENERAL NOTES

1. On existing roadways, the design speed shall be the 85th percentile speed of motorists on the roadway as established by radar studies, or 5 MPH greater than the posted speed limit, whichever is greater.
2. On new roadways, the design speed shall be 5 MPH greater than the anticipated posted speed limit.
3. Ultimate Pavement Width shall be used to determine "K" values.

Recommended Design Control
for Vertical Curves

513/2002

City of St. Peters





30.00 RESERVED



THIS PAGE BLANK INTENTIONALLY.



40.10 STREET IMPROVEMENTS

The City of St. Peters adopts the St. Louis County Standard Specifications for Highway Construction (current edition) as the City's Standard Specifications for Street Construction not inconsistent with the design criteria and street standards herein contained.

All streets shall be graded and the roadway improved by surfacing. Roadway surfacing shall be in accordance with City of St. Peters Design Criteria and Standard Specifications for Street Construction (Design Criteria) and St. Louis County Standard Specifications for Highway Construction, current edition. All grading and surfacing shall be done under observation and inspection of the City and shall be subject to its approval. The treatment of the intersection of any new street with a State highway shall be subject to approval by the District Engineer of the Missouri Department of Transportation.

At such times as a subdivision is proposed adjacent to a street that is accepted and maintained by the City, that street and other streets required shall be improved to handle the increased traffic due to said subdivision as directed by the City of St. Peters Transportation Network Improvement Plan as shown in the City's Comprehensive Plan. The additional right-of-way and the cost of improvement of the right-of-way adjacent to the proposed subdivision shall be included in the overall subdivision improvements. The improvements shall be made to current Design Criteria and St. Louis County Standard Specifications for Highway Construction, current edition.

In certain cases involving the subdivision of tracts of property, the reservation of right-of-way access may be required for future road improvements as authorized by the tract's preliminary plat.

1. **Street Design** - All street construction, modification or widening shall be designed in accordance with the requirements of the City and the classification, design criteria and standards of the City as follows:

<u>Classification</u>	<u>Section</u>
Arterial	20.10
Major Collector	20.20
Residential	20.30
Non-Residential	20.40

2. **Construction and Inspection** - All construction of pavement, including subgrade work, curb and gutter, base course, wearing surface course, and other appurtenances shall be done in a workmanlike manner, according to plan, specifications, good construction practices, and within the general intent of these Design Criteria and the St. Louis County Standard Specifications for Highway Construction, current edition.



All construction, details and specifications pertaining to roadway improvements within the City's right-of-way shall be accomplished under the observation and inspection of the City and shall be subject to its approval.

All street work performed shall be subject to testing by the City of St. Peters personnel or by agents or contractors retained by the City. Tests, such as compaction, moisture content, material quality, gradation, pavement depth, temperature, etc., shall be performed as per provisions of the St. Louis County Standard Specifications for Highway Construction, current edition.

Inspections shall be performed as may be appropriate. All phases of pavement construction shall be inspected. No construction may begin on any phase until the City has been properly notified. The contractor or developer's representative shall give a minimum 24-hour notice of proposed work to take place.

3. **Street Name Signing** - Reflectorized street signs bearing the name of the street, as designated on the record plat, shall be placed at street intersections. Each and every intersection formed by the developer shall have at least one street name sign for each intersecting street mounted in a bracket on top of one post. Refer to Standard Drawings S40.10 and S40.11.

City personnel shall perform installation of all street name signs on all city maintained streets. The City shall provide a cost estimate for the installation of all street name signs on city maintained streets and submit the estimate to the developer for payment.

The required sign post location shall depend upon the traffic volume on the roadway and the width of pavement. Each post shall be placed a minimum of 3.5 feet from the back of the curb. Street name sign posts shall be located where they may be used for future "Stop" or "Yield" signs. This means that one set of street name signs shall be installed on the near right corner for the lesser volume roadway. With the exception of T-intersections, 2 sets of street name signs shall be required where one of the intersection streets is 36 feet or greater in width, or when one street is an arterial roadway. Refer to Standard Drawings S40.10 and S40.11.

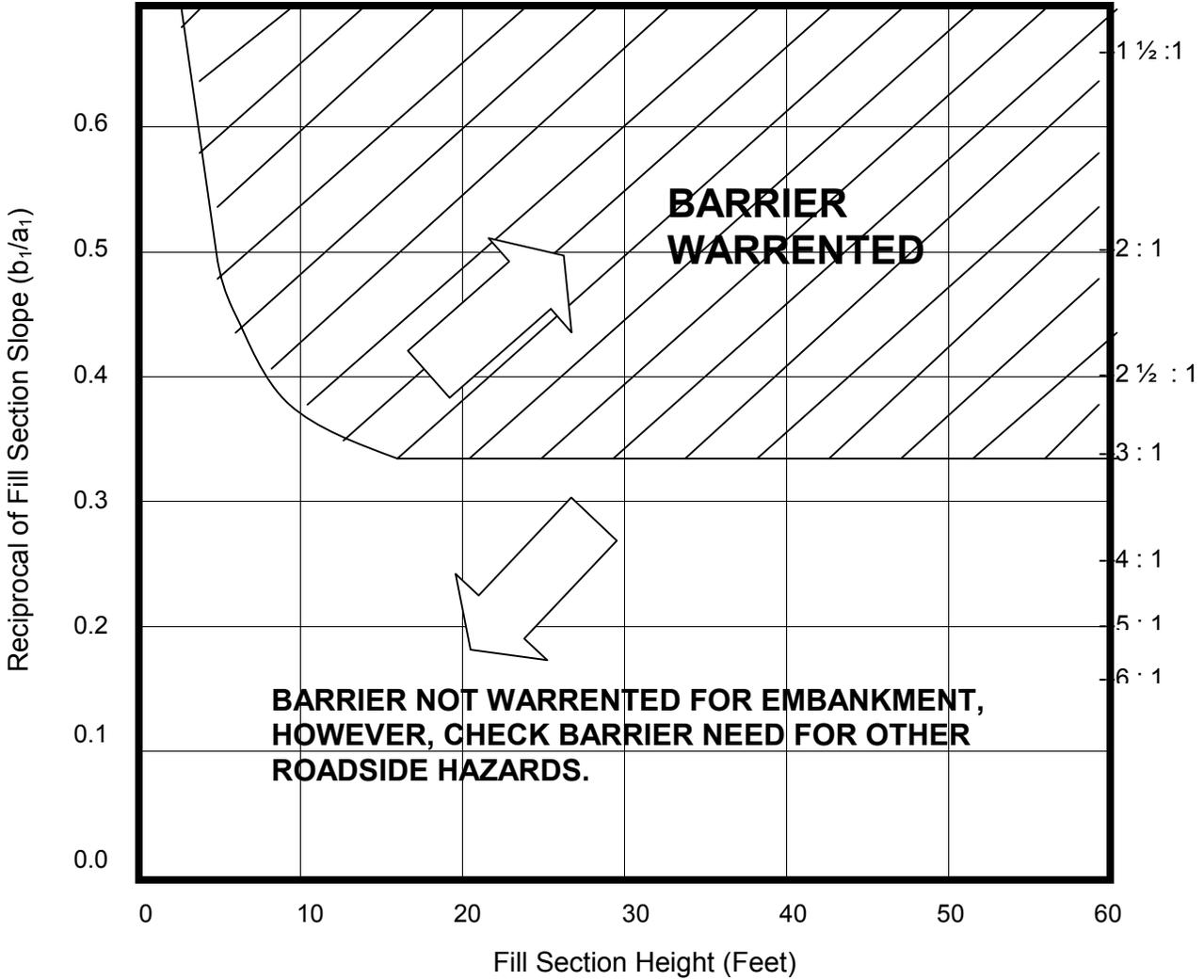
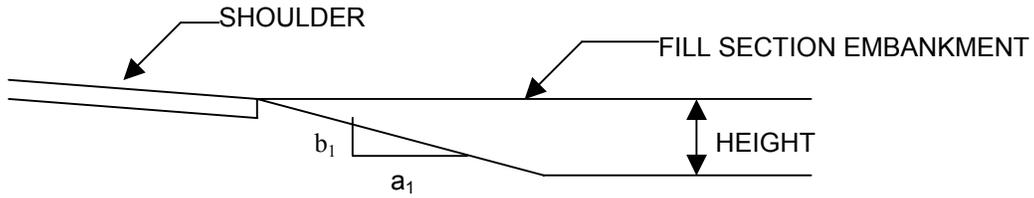
4. **Medians** - Medians may be required by the City to restrict through and/or left turning movements at or near driveways, commercial entrances and/or street intersections. Refer to Standard Drawings S40.12 through S40.15. Where medians are located at four-way street intersections, their widths shall conform to the requirements of Standard Drawing S40.46. For 'T' type street intersections, where the median is proposed on the minor side street, wider medians may be permitted by the City Engineer. Refer to Standard Drawings S20.12, S20.21, S20.22, S20.35, and S20.36 for exclusive right and exclusive left turn lanes.



5. **Guard Rail** -Guard rail shall be required to protect traffic from hazardous features. Guard rail will be required for roadway fill sections when the fill height and fill slope for a particular location fall within the "Barrier Warranted" area of the figure shown on page 40.10 -4.

Terminal sections will be required for both directions of traffic flow on two-way pavement. Where the distance between terminal sections of two sections of guard rail will be 100 feet or less, one continuous length of guard rail shall be installed.

Guard rail shall be provided for protection of traffic adjacent to creeks and lakes, at bridge ends, piers, signs and headwalls, and other obstacles as directed by the City. Refer to Standard Drawings S40.17 through S40.19.



GUARDRAIL WARRANTS

(Source: American Association of State Highway and Transportation Officials, "Roadside Design Guide," 1996)

40.20 STREET STANDARDS

The arrangement, character, extent, width, grade and location of all streets and required improvements shall be considered in their relation to existing and proposed streets, to topographical conditions, to public convenience and safety, and in their appropriate relation to the proposed uses of the land to be served by such streets. All streets shall be designed to meet the minimum requirements set forth in these Standard Specifications. These Standard Specifications are designed to provide the maximum allowable flexibility in street construction standards, while at the same time, insuring the protection of the public interest. The widths of right-of-way and pavement are allowed to vary as functions of the type of street and the corresponding intensity of use. The following standards shall apply:

1. Arrangement of subdivision streets shall be approved by the City and the developer shall make provisions for the extension and/or relocation of major, collector and minor streets, which impact the property. Except for dead-end streets, streets normally shall connect with streets already established, or provide for future connections to adjoining unsubdivided tracts, or shall be a reasonable projection of streets in the nearest subdivision tracts.
2. Stub streets shall be constructed to the property lines when required to provide for future connections to adjoining undeveloped tracts. Reasonable projections of streets in nearby subdivisions will establish the location of certain stub streets.
3. Where a subdivision abuts or contains an existing or proposed major street, the City may require frontage or service streets, double frontage parcels with screen planting, and non-access strips at the rear of such parcels.
4. Minor street intersection jogs or discontinuities with centerline offsets of less than one hundred (100) feet shall be avoided.
5. Reserved strips of land which control or limit access at the terminus of streets or prevent access to streets located adjacent to undeveloped land are prohibited.
6. A subdivision entrance street shall intersect the major or collector street with an interior angle of seventy (70) to ninety (90) degrees unless otherwise approved by the City Engineer. Each entrance street shall be positioned to provide required sight distance along each intersecting roadway as determined by the City. Refer to Section 40.30 for Sight Distance at Intersections.
7. A minimum radius of twenty (20) feet at street right-of-way intersection and a minimum radius of thirty-two (32) feet at the back of the curb shall be required. Greater radii and channelization may be required at an intersection with a major or collector street or to provide access for vehicles having large turning radius

requirements. The City may permit a series of comparable cut-off or chords approximating the edge of pavement radius.

8. All interior residential streets intersecting on minor collector streets shall be directly opposite existing or other proposed streets or shall be a minimum of three hundred (300) feet distant, as measured between street center lines. All other streets intersecting on arterial, major collector or non-residential streets shall be directly opposite existing or other proposed streets or shall be a minimum of four hundred (400) feet distant, as measured between street center lines.
9. Streets shall be constructed to the City's Standard Specifications and in accordance with St. Louis County Standard Specifications for Highway Construction, current edition.
10. All stub streets in excess of two-hundred and fifty (250) feet in length (measured from the centerline of the street intersection to the property line or plat boundary), which are planned to be extended in the near future shall be constructed with a temporary turnaround. Permits will not be issued for building construction on parcels abutting a temporary turnaround as shown on any recorded subdivision plat unless and until the temporary facility is actually constructed and has been approved by the City. Refer to Standard Drawing S20.32 and S20.42.

Prior to expiration of the escrow agreement, the estimated cost of the removal of the temporary turnaround surfacing shall be paid to the City.

11. Any subdivision platted along an existing street shall provide additional right-of-way, as necessary, along a tangent section of road, to meet the width requirements herein set forth. Additional right-of-way in excess of twenty (20) feet may be required when the subdivision is located on the inside of a curved roadway or conditions exist on the opposite side of the right-of-way which dictate right-of-way offset from the right-of-way centerline. When the subdivision is located on only one side of an existing street, one-half of the required right-of-way width shall be provided, measured from the centerline of the right-of-way as originally established, unless otherwise directed by the City. The centerline must meet the requirements of the City with regard to radius when located on a curved roadway. If the City requests right-of-way dedication in excess of twenty (20) feet for conditions other than stated above, the developer may appeal such request to the Board of Adjustment.
12. Where in the best interest of the traveling public, to provide circulation, health and safety measures, the City Engineer may require a street to be dedicated to public use.



13. Additional lanes and/or widening, pavement thickness, drainage facilities, granular base and/or traffic control devices may be required to accommodate heavy traffic volumes, unsuitable soil conditions, steep grades or other conditions not apparent at the time of the Preliminary Plat approval.
14. The developer shall provide adequate temporary off-street parking for construction employees. Parking on non-surfaced areas shall be prohibited in order to eliminate the condition whereby mud from construction and employees vehicles is tracked onto the pavement causing hazardous road and driving conditions.
15. If any public roads are proposed within a development, they must be built above the 100-year flood elevation with a minimum of 2 feet of freeboard, or protected from flood damage by an approved levee. Any roads and/or drives proposed below this elevation, not protected by an approved levee, are to be private and will not be accepted for dedication by the City.
16. A tangent of less than one hundred (100) feet in length shall be avoided between reverse curves on arterial and collector streets.
17. Street creep typically occurs opposite "T" intersections, at the ends of cul-de-sacs and on the outside of curves.
 - A. Pavement lugs shall be required on all street grades of four percent (4%) or greater, which have been approved by the City Engineer. Refer to Standard Drawings S40.23 and S40.24 for pavement lug construction details. Spacing of pavement lugs shall be as follows:
 - a) 200-foot intervals on tangent sections;
 - b) 100-foot intervals on horizontal curve sections;
 - c) Pavement lugs shall be located at or near the point at which the street grade first reaches four percent (4%) and proceed uphill at the required spacing with the last pavement lug located at or near the point at which the street grade becomes less than four percent (4%);
 - d) Pavement lugs shall be constructed four (4) feet deep for street grades between four percent (4%) and 11.9%;
 - e) Pavement lugs shall be constructed five (5) feet deep for street grades 12% and greater; and
 - f) Pavement lugs shall not be constructed within 30 feet of grated troughs (Refer to Standard Drawing S40.20)

-
- B. In order to reduce the adverse effects of street creep, the installation of Type A2 expansion joints (See Standard Drawing S40.21) are required on residential streets at the following locations:
- a) At end of radius on each approach to "T" intersection;
 - b) Across the throat of cul-de-sacs;
 - c) The beginning (PC) and the end (PT) of curved sections of street. For construction details of pavement sections at cul-de-sacs and "T" intersections, refer to Standard Drawings S40.22A and S40.22B.
18. In subdivision developments it is recommended that two (2) access points be established whenever possible for the benefit of emergency vehicles.
19. When portions of roadway improvements required for the safety of the public require the acquisition of additional right-of-way and easements from private property, the normal sequence of design, right-of-way acquisition and construction shall commence immediately upon approval of the requested rezoning. If the developer is unable to acquire the necessary right-of-way and easements through negotiation with the particular property owners involved, the City may acquire same through eminent domain proceedings. The cost of appraisals, negotiations, administration, court proceedings and all associated costs incurred by the City proceedings shall be paid by the developer.
20. Proposed developments utilizing roadways with structurally deficient pavement within the site, or providing access to the development from such roadways, may be required to overlay the existing road surfacing or make other remedial improvements, as required by the City Engineer, to bring the structural stability of the pavement up to minimum requirements.



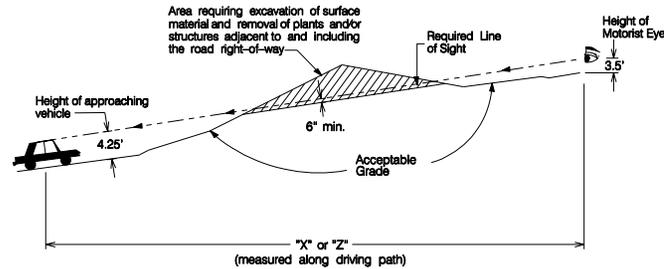
40.30 SIGHT DISTANCE AT INTERSECTIONS

The sight distance at an intersection at grade is required to be unobstructed to allow an operator of a vehicle approaching the intersection to have a view of the intersection to avoid collisions. There must be an unobstructed sight distance along both approaches of both roads and across their included corners for a distance sufficient to allow the operators of vehicles to see the intersection. Sight obstructions may include: buildings, parked vehicles, cut slopes, trees, bushes, or tall grasses.

Sight distance criteria shall be based upon the ultimate number of lanes required for the roadway. Refer to Figure 40.30-2 for Sight Distance at Intersections criteria. If required sight distance cannot be provided at the access location, acquisition of right-of-way, removal of plant material, reconstruction of pavement, and other off-site improvements may be required to provide the required sight distance as directed by the City Engineer.

**SIGHT DISTANCE FOR VEHICLE ENTERING ROADWAY FROM STOPPED POSITION
ASSOCIATED WITH NEW DEVELOPMENT**

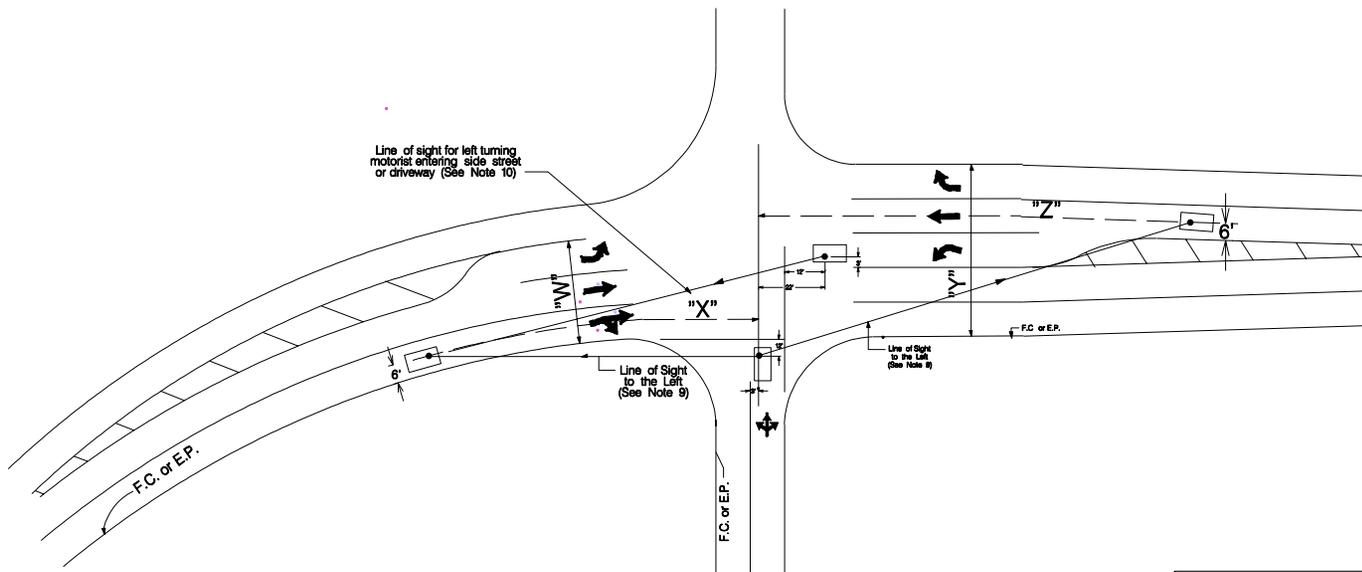
Design Speed on Thru Roadway (m.p.h.)	Sight Distance to the Left ("X") in feet			Sight Distance to the Right ("Z") in feet			
	"W" = 1 Lane	"W" = 2 Lanes	"W" = 3 Lanes	"Y" = 2 Lanes	"Y" = 3 Lanes	"Y" = 4 Lanes	"Y" = 5 Lanes
15	150	155	165	155	165	180	190
20	200	210	225	210	225	235	250
25	250	260	260	260	280	295	315
30	300	310	335	310	335	355	375
35	350	360	390	360	390	415	440
40	400	415	445	415	445	470	500
45	450	465	500	465	500	530	565
50	500	515	555	515	555	590	625
55	550	570	610	570	610	650	690
60	600	620	665	620	665	710	710
65	650	670	720	670	720	765	815
70	700	720	775	720	775	825	875



TYPICAL PROFILE ALONG LINE OF SIGHT TO THE LEFT

GENERAL NOTES

1. Do not scale drawing. Follow Dimensions.
2. Sight distance design criteria shall be based upon the number of lanes of the ultimate roadway.
3. On existing roadways, the design speed shall be the 85th percentile speed of motorists on the roadway as established by radar studies, or 5 m.p.h. greater than the posted speed limit, whichever is greater.
4. On the roadways, the design speed shall be 5 m.p.h. greater than the anticipated posted speed limit.
5. For residential and non-residential roadways either existing or new, with pavement width of 36 feet or less, the design speed shall be the anticipated posted speed limit.
6. If "W" is greater than 3 lanes or "Y" is greater than 5 lanes, sight distance shall be increased extrapolating from values on the chart.
7. If "W" or "Y" include a median, sight distance data shall be increased by interpolating between values shown on the chart.
8. Height of motorist eye in stopped vehicle is 3.50 feet. Height of approaching vehicle = 4.25 ft.
9. Sight distance requirements shall be satisfied looking left and right for a motorist in each exit lane of a side street or driveway.
10. Sight distance requirement for left turning motorist on the through roadway attempting to enter a side street or driveway shall be the same as that required for "X" in the nearest exit lane plus an additional 22 feet of sight distance.



"W" = Total number of through and left turn lanes approaching intersection from the left.

"X" = Sight distance to the left for a motorist in each exit lane of a side street or driveway. (Measured along driving path of nearest lane of approaching motorist).

"Y" = Total number of through and left turn lanes across entire pavement looking to the right.

"Z" = Sight distances to the right for a motorist in each exit lane of a side street or driveway. (Measured along driving path of nearest lane approaching motorist).

**Sight Distance
at Intersections**

5/13/2002

City of St. Peters





40.40 ENTRANCE STANDARDS

All entrance construction within City roadway right-of-way shall be constructed of concrete in accordance with the City of St. Peters Design Criteria and Standard Specifications for Street Construction and the Entrance Standards, shown on Standard Drawings S40.40 through S40.44. Refer to Figure 40.30-2 for Sight Distance at Intersections criteria. Refer to Standard Drawings S20.12, S20.21, S20.22, S20.35, and S20.36 for exclusive left and exclusive right turn lanes.

1. **Residential Entrances** - Residential entrances shall not be less than twelve (12) feet wide nor greater than 36 feet wide at the right-of-way line.

Residential entrances shall be located so the edges of the curb opening shall be a minimum of five (5) feet from the nearest edge of street inlets and twenty (20) feet from the street corner radius point. The edges of the curb opening shall not project beyond the side property line extended normal to the pavement. Clearances and dimensions are shown on Figures 40.40-4 through 40.40-6.

In the case of corner parcels, no driveways shall be constructed on any portion of a lot within any sight distance area at intersections. Refer to Section 40.30 Sight Distance at Intersections.

When residential development conditions necessitate reduction of the distance between adjacent residential entrances to ten (10) feet or less, the City may require a common entrance driveway approach.

Refer to Chapter 505.040 of the St. Peters City Code regarding requirements for full depth transverse construction joints in residential driveways.

2. **Commercial Entrances** - Commercial entrances shall not be less than twenty-four (24) feet wide or more than forty (40) feet wide at the right-of-way line. If three lanes are provided, lane striping and delineation is required. The radius used to increase the opening at the curb or pavement edge shall not be less than twenty (20) feet nor more than forty (40) feet. Exception to the width and/or radius may be required, or allowed with special approval by the City Engineer, to insure adequate provisions for large vehicles and/or high traffic volumes.

Commercial entrances shall be located in accordance with the site plan requirements and shall be designed so the edges of the curb opening shall be a minimum of five (5) feet from the nearest edge of street inlets and thirty (30) feet from the street corner radius point. The edges of the curb opening shall not project beyond the side property line extended normal to the pavement.

Clearances and dimensions are shown on Figures 40.40-7 and 40.40-8.



Businesses adjacent to, or integrated in, a shopping center or cluster of commercial facilities shall use the common access with other business establishments in that center.

In the case of corner parcels, no entrances, parking spaces or other obstacles shall be constructed or placed on any portion of a lot within the sight distance area at intersections. Sign poles may be allowed if they are fifteen (15) inches or less in diameter and if the sign they support is not visually obstructing the view of traffic at the intersection.

The number of commercial entrances for each property or site shall be restricted on the basis of traffic requirements as determined by the City Engineer. The maximum number of commercial entrances allowed, if all traffic requirements are satisfied, shall be as indicated in the following guidelines:

**Table 40.1
Commercial Entrances for Non-Corner Parcels**

Frontage (feet)	Maximum Number of Commercial Entrances
Less than 200	One (1)
200-500	Two (2)
500 - 1,000	Three (3)
More than 1,000	As directed by City Engineer

Properties, which have frontage on two or more streets, shall have the number of commercial entrances on each street restricted in accordance with traffic requirements and the above guideline. The distance between adjacent commercial entrances shall be minimum of one hundred (100) feet measured along the road right-of-way line, unless otherwise approved by the City Engineer. When feasible, opposing commercial entrances should be aligned opposite or should be off-set a minimum of 100 feet. Higher volume driveways may require greater off-set to be determined by the City Engineer.

For a new development on a corner lot, one (1) entrance from each street shall be permitted and located as far as possible from the street intersection corner, and as approved by the City Engineer.

For redevelopment of a present use or a change in use of a parcel presently served by less than three (3) entrances, one (1) entrance from each street shall be permitted at locations approved by the City Engineer located as far as possible from the street intersection corner.



For redevelopment of a present use or change in use, which is presently served by three (3) or more entrances, the two (2) entrances located farthest from the corner may remain. The entrance located nearest to the corner on the outbound street approach from the intersection shall be removed and the right-of-way restored to surrounding conditions or improved as required. The entrance located nearest to the corner on the inbound street approach of the intersection may remain provided that this entrance is restricted, where required by the City Engineer, to right turns in and right turns out by an existing or required median.

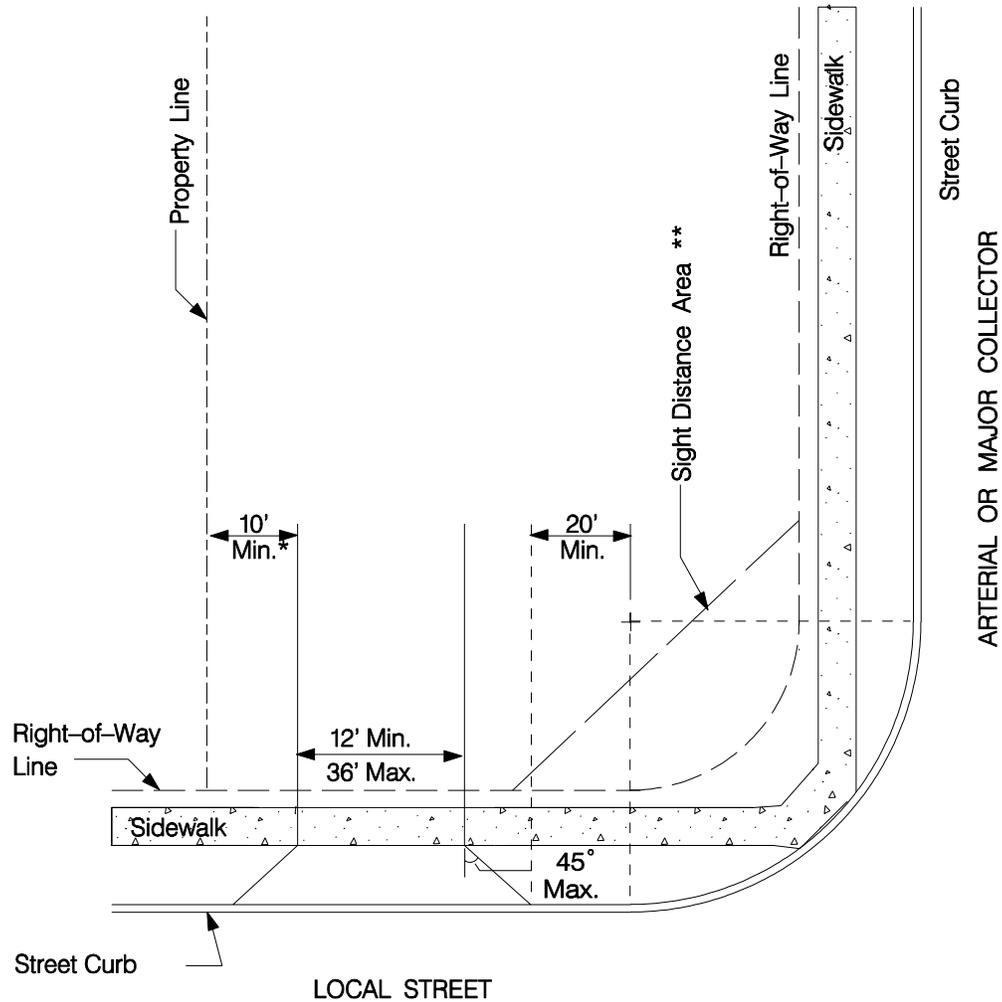
For remodeling or renovation of an existing use (minor architectural changes or treatments) all existing entrances shall be permitted to remain except when there will be changes to traffic circulation patterns. The entrances shall then be subject to further review and possible elimination may be required by the City Engineer.

3. **Left Turn Restrictions** - The restriction of entrance turning movements will require the construction of right in-right out channelized entrances or raised medians, as directed by the City Engineer, based upon proximity to the nearest intersecting street or driveway, left turn storage requirements within the public right-of-way, development land use and traffic generation, sight distance limitations and cross access provisions as indicated in the following guidelines.

**TABLE 40.2
LEFT TURN RESTRICTIONS**

Frontage (feet)	Maximum Number of Commercial Entrances	Left Turn Restrictions (When Required)	
		Method of Restriction	Standard Drawing Number
Less than 200	One (1)	Median	S40.12
200-500	Two (2)	Median or Right In/Right Out Channelized Entrance	S40.12 or S40.42A
500 - 1,000	Three (3)	Median or Right-In/Right-Out Channelized Entrance	S40.42B or S40.42A
More than 1,000	As directed by City Engineer	Median or Right-In/Right-Out Channelized Entrance	S40.42B

4. **Entrance Clearance** - Residential and commercial driveway entrance locations which do not meet the side property line clearance requirements shall not be approved for construction without a consent letter from the abutting property owner.



* When residential development conditions necessitate reduction of the distance between adjacent residential entrances to ten feet (10') or less, the City may require a Common Entrance Driveway Approach.

** Refer to Sight Distance discussion on page 40.30-1.

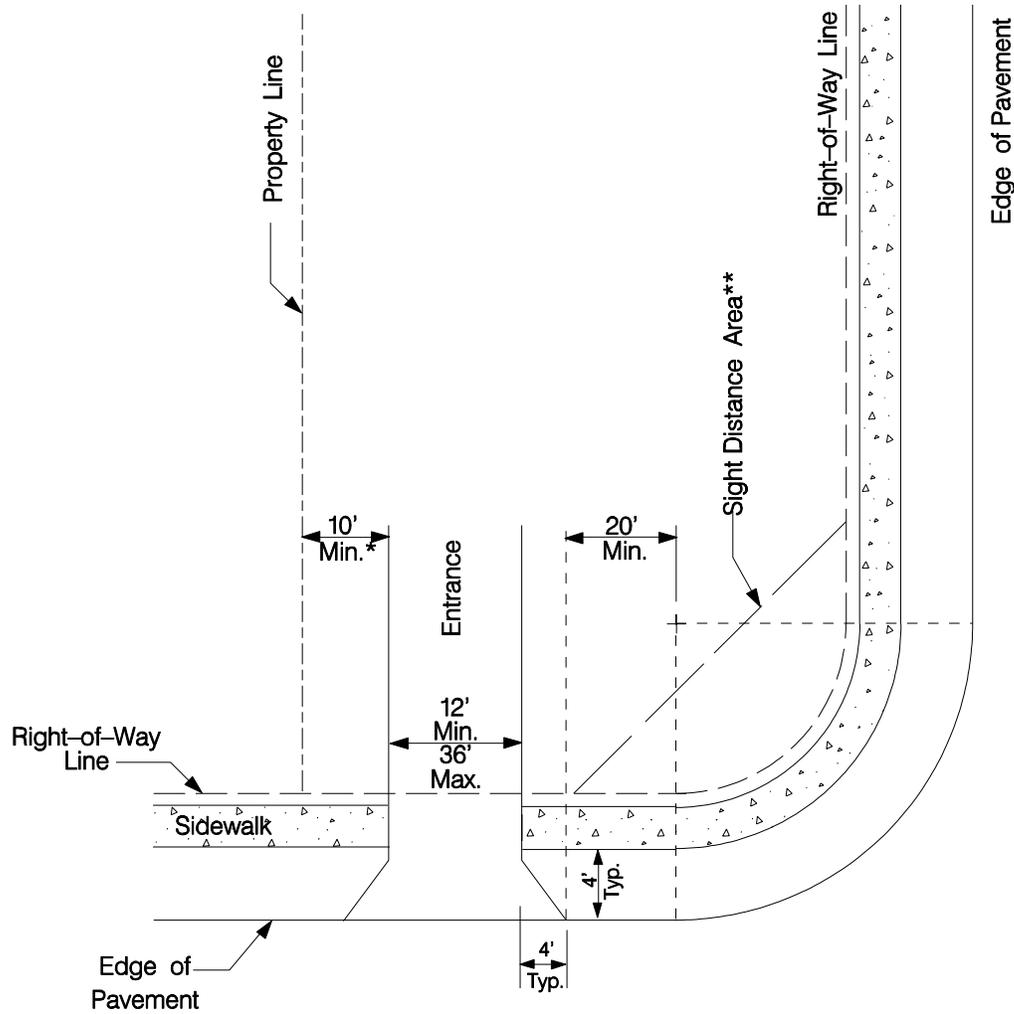
NOTE:

See Standard Drawing S40.40 for entrance Construction Details not shown.
See Standard Drawings S40.60, S40.61, S40.62 and S40.63 for Sidewalk Details.

**Type 1
Residential Entrances**

City of St. Peters





* When residential development conditions necessitate reduction of the distance between adjacent residential entrances to ten feet (10') or less, the City may require a Common Entrance Driveway Approach.

** Refer to Sight Distance discussion on page 40.30-1.

Note:

See Standard Drawing S40.40 for Entrance Construction Details not shown.

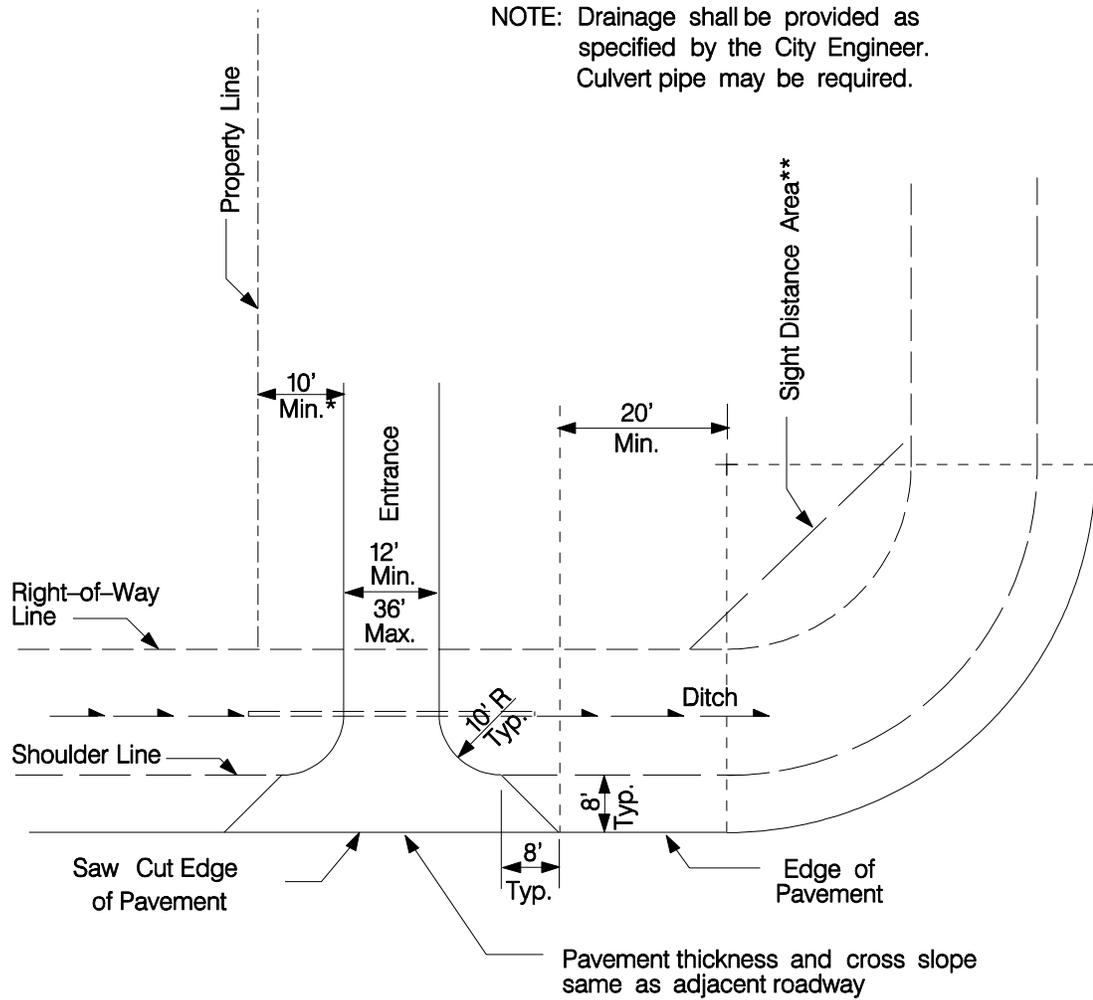
See Standard Drawings S40.60, S40.61, S40.62, and S40.63 for Sidewalk Details.

**Type 2
Residential Entrances**

City of St. Peters



NOTE: Drainage shall be provided as specified by the City Engineer.
Culvert pipe may be required.



- * When residential development conditions necessitate reduction of the distance between adjacent residential entrances to ten feet (10') or less, the City may require a Common Entrance Driveway Approach.
- ** Provide onsite turnaround capabilities and clear vegetation as directed to provide adequate sight distance. Refer to Sight Distance discussion on page 40.30-1.

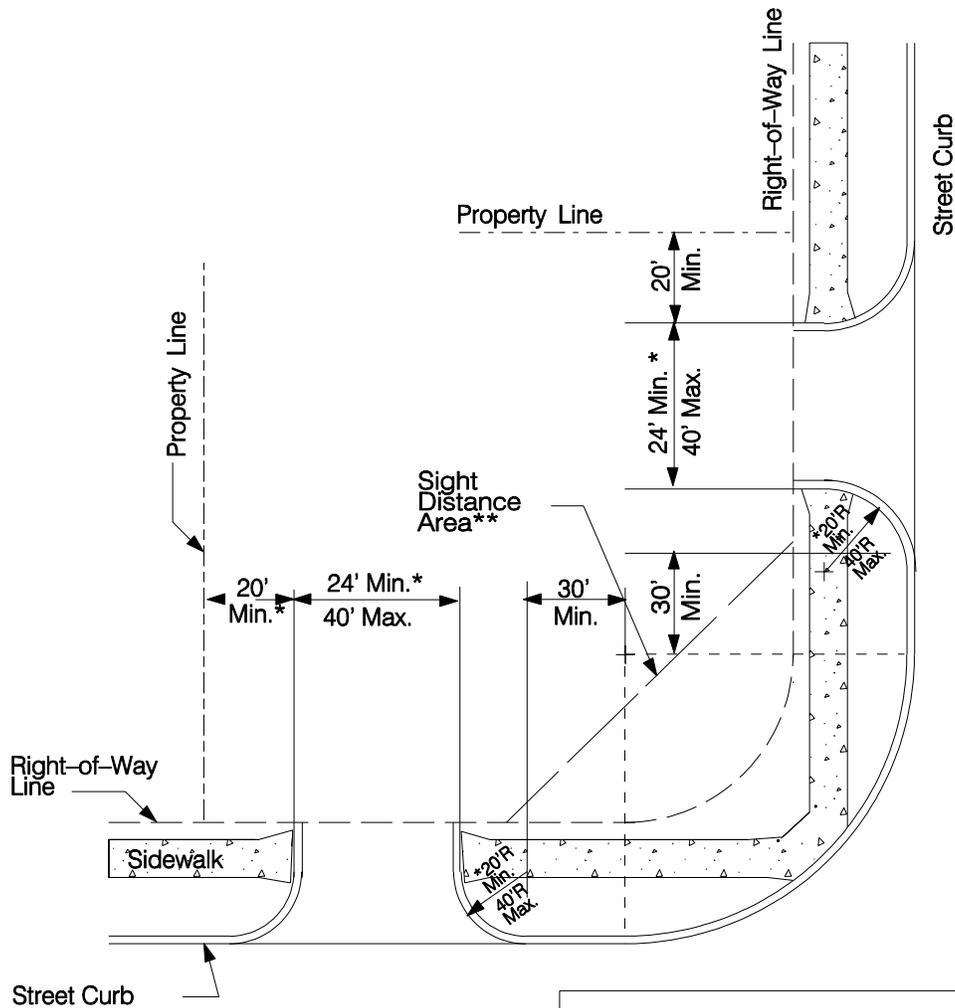
NOTE:

See Standard Drawing S40.40 for Entrance Construction Details not shown.

**Type 3
Residential Entrances**

City of St. Peters





NOTE:
Further restrictions may apply due to additional zoning requirements.

* Exception to the width and/or radius may be required, or allowed with special approval by the City Engineer, to insure adequate provisions for large vehicles and/or high traffic volumes.

** Refer to Sight Distance discussion on page 40.30-1.

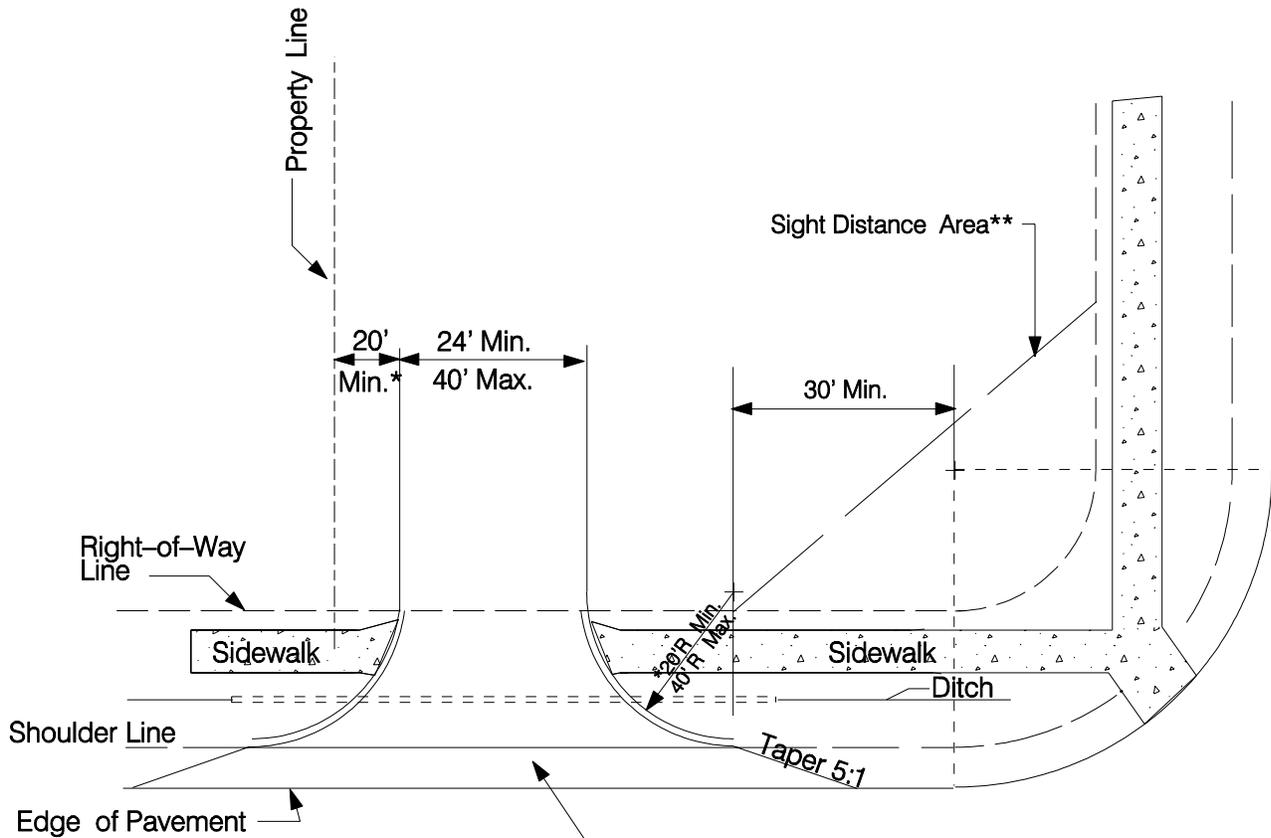
NOTE:

See Standard Drawings S40.41 through S40.44 for Entrance Construction Details not shown.
See Standard Drawings S40.60 through S40.63 for Sidewalk and Curb Ramp Details.

**Type 1
Commercial Entrances**

City of St. Peters





Pavement thickness and cross slope same as adjacent roadway.

NOTE:
Further restrictions may apply due to additional zoning requirements.

* Exception to the width and/or radius may be required, or allowed with special approval by the City Engineer, to insure adequate provisions for large vehicles and/or high traffic volumes.

** Refer to Sight Distance discussion on page 40.30-1.

NOTE:

See Standard Drawings S40.41 through S40.44 for Entrance Construction Details not shown. See Standard Drawings S40.60 through S40.63 for Sidewalk and Curb Ramp Details.

**Type 2
Commercial Entrances**

City of St. Peters





40.50 SIDEWALKS AND CURB RAMPS

All sidewalks and curb ramps within City road right-of-way or easement shall be constructed in accordance with City of St. Peters Design Criteria and Standard Specifications for Street Construction, the Saint Louis County Standard Specifications for Highway Construction (current edition), and the approved American with Disabilities Act Accessibility Guidelines, current edition, (see Standard Drawings S40.60, S40.61, S40.62, and S40.63).

1. **Sidewalk Construction** - Sidewalks shall be a minimum of five (5) feet wide on or adjacent to Arterial, Collector and Non-residential street sections and four (4) feet wide on Residential street sections. Sidewalks shall be constructed of four-inch thick concrete, except across driveways and temporary turn-arounds where the thickness shall be increased to match the driveway approach or adjacent pavement thickness, as shown on Standard Drawing S40.63. Also, for commercial entrances, the thickness of the first section of sidewalk or curb ramp on each side of the entrance shall be increased to match the driveway approach pavement thickness as shown on Standard Drawing S40.41. Additional width shall be required when sidewalks are adjacent to curbs and/or in commercial areas. Where sidewalks are located adjacent to or intersect with street curbing within the City road right-of-way or easement, concrete curb ramps shall be required.



THIS PAGE BLANK INTENTIONALLY.

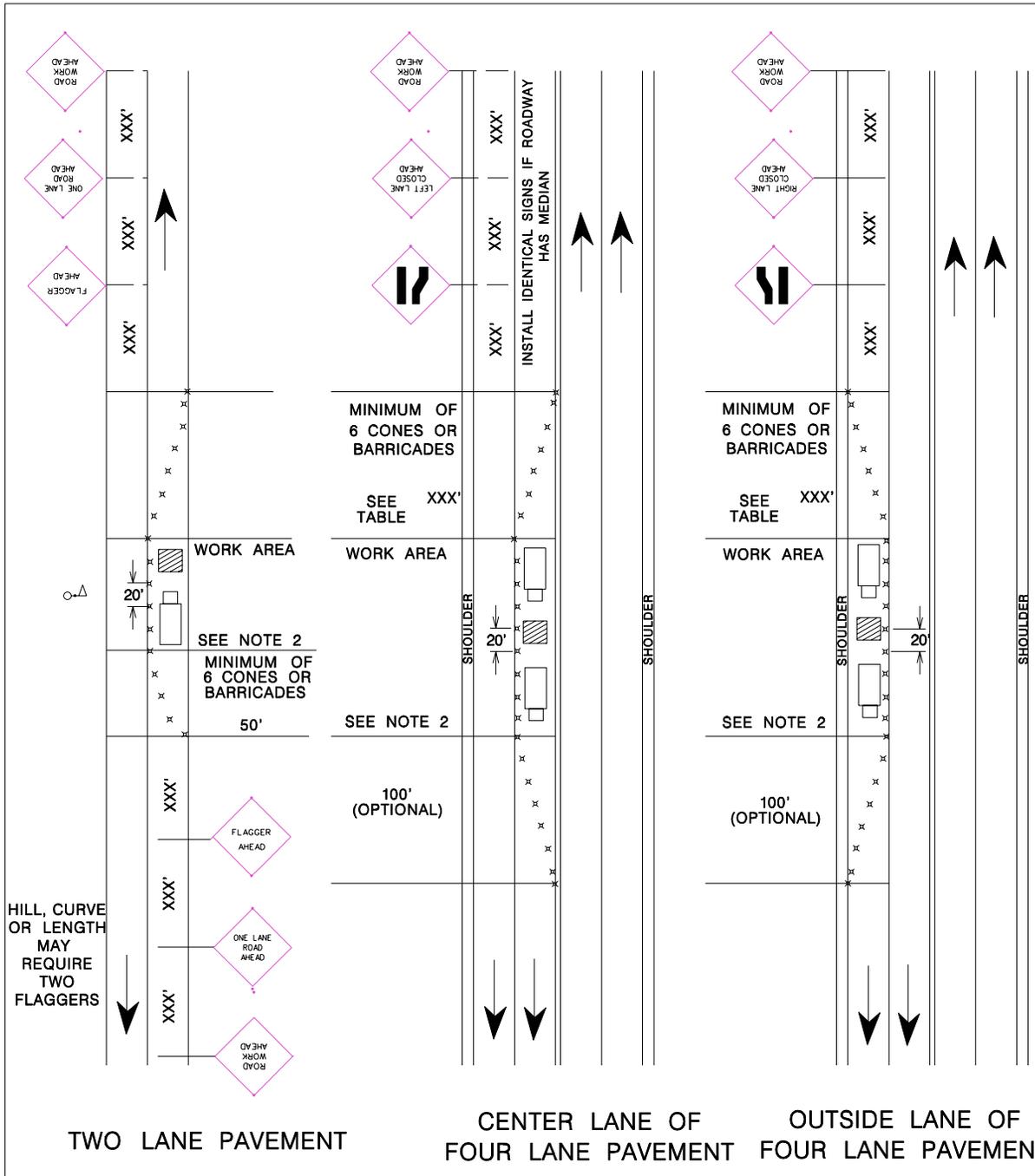


60.00 TRAFFIC HANDLING FOR CONSTRUCTION

All detours/lane closures must be handled using traffic control devices conforming to the Manual on Uniform Traffic Control Devices, current edition, and must be approved by the City.

Refer to Schedule Typical Applications for Traffic Controls shown on page 60.00-2 for establishment of proper traffic handling provisions.

Situations not covered in the examples shall be coordinated with the City at the time of application for permit. The applicant may be required to furnish additional devices subject to the conditions at the work site.



GENERAL NOTES

1. Do not scale drawing. Follow dimensions.
2. Truck barricade with flashing lights and/or arrow board may be required by the City.
3. All overnight detours when specifically authorized by the City shall use drums or barricades with steady burn lights (optional) for transitioning traffic.
4. All signing must be in accordance with the Manual on Uniform Traffic Control Devices.

TWO LANE PAVEMENT Sign Spacing by Speed Limit

Speed	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH
Sign	200'	200'	350'	350'	500'

FOUR LANE PAVEMENT Taper Lengths/Sign Spacing by Speed Limit

Speed	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH
Taper	120'	180'	240'	300'	540'
Sign	200'	200'	350'	350'	500'

Typical Applications
for
Traffic Controls

City of St. Peters





70.00 LISTING OF STANDARD ABBREVIATIONS

The following abbreviations may be used in addition to those provided in the Standard Construction Specifications and/or shown on plans.

<u>Word</u>	<u>Abbreviation</u>
Abutment	Abut.
Acre	Ac.
Actuated	Act.
Additional	Addn.
Aggregate	Aggr.
Alignment	Align.
Aluminum	Alum.
And	&
And others	Etal.
And so forth	Etc.
Angle	An.
Approach or Approaches	Appr.
Approved	Appv.
Approximately	Approx.
Area or Algebraic Difference	A
Asbestos	Asb.
Asphalt or Asphaltic	Asph.
Asphaltic Concrete	Asph. Conc.
Assumed Design Speed	V
At	@
Avenue	Ave.
Average	Avg.
Average Daily Traffic	A.D.T.
Average Weekday Traffic	A.W.T.
Azimuth	Az.
Back	Bk.
Backfill	Bkfl.
Back of Curb	BC or BOC
Back Plate	BP
Back Sight	BS
Back to Back	Bk. to Bk. or B-B
Balance	Bal.
Base of Rail	B.R.
Base Line	B
Basement	Bsmt.
Bearing	Brg.
Bench Mark	BM
Bevel or Beveled	Bev.
Bituminous	Bit.
Bituminous Surface Treatment	Bit. Surf. Treat.
Blanket	Blkt.
Block	Blk.
Borrow	Borr.



<u>Word</u>	<u>Abbreviation</u>
Bottom	Bott.
Bottom of Slop	BOS
Boulevard	Blvd.
Boundary	Bndry.
Build	Bld.
Building	Bldg.
Calculated	Calc.
Cast Iron Pipe	CIP
Cement	Cem.
Center	Ctr.
Center to Center	Ctr. to Ctr.
Centerline	C or CL
Centers	Cts.
Chain Link	Ch. Lk.
Change	Chg.
Channel	Chan.
Check	Ck.
Chord	Chd.
Circular	Circ.
Class	Cl.
Cleanout	CO
Clear or Clearing	C&G
Clearance	Clr.
Clearing and Grubbing	C&G
Commercial Entrance	C.E.
Common	Com.
Compact or compaction	Comp.
Company	Co.
Concrete	Conc.
Concrete Monument	Conc. Mon.
Concrete Pipe	CP
Condition	Cond.
Conduit	Condt.
Connect or Connection	Conn.
Construct or Construction	Const.
Construction Limits	C.L.
Continue or Continued	Cont.
Conventional	Conv.
Corner	Cor.
Corrugated Metal Pipe	CMP
Corrugate Metal Pipe Arch	CMP Arch
County	Co.
Court	Ct.
Creek	Cr.
Cross over	X-over
Cross Section	X-sec.
Crossing	X-ing
Crosswalk	X-walk



<u>Word</u>	<u>Abbreviation</u>
Crown	Cr.
Cubic feet	C.F.
Cubic feet per second	cfs
Cubic Yard	CY
Cultivated	Cult.
Culvert	Culv.
Curb and Gutter	C. & G.
Curb and Gutter Transition	C. & G. Trans
Deduction or Deducted	Ded.
Degree of Curve	D
Departure	Dep.
Design	Des.
Design High Water	D.H.W.
Detail	Det.
Detector	Det.
Diagonal	Diag.
Diameter	Dia.
Difference	Diff.
Dimension	Dim.
Discharge (c.f.s.)	Q
Distance	Dist.
Distance Vertical Curve Changes 1%	K
Distribution	Distr.
Ditch	Dt.
Ditch Block	Dt. Blk.
Divide or Division	Div.
Don't Walk	DW
Double	Db.
Down Light	D.L.
Drain or Drainage	Dr.
Drainage Area	D.A.
Drawing	Dwg.
Drive	Dr.
Drop Inlet	D.I.
Each	Ea.
Easement	Esmt.
East	E
Eastbound	E.B.
Edge of Pavement	E.P.
Electric	Elec.
Electric Light Post	E.L.P.
Elevation	El.
Embankment	Emb.
Engineer	Engr.
Entrance	Ent.
Equation	Eq.
Equipment	Equip.
Equivalent	Equiv.



<u>Word</u>	<u>Abbreviation</u>
Estimate	Est.
Excavation	Exc.
Except or Exception	Exc.
Existing	Ex.
Expansion	Exp.
Extension or Extend	Ext.
External Distance	E
Extreme High Water	E.H.W.
Face of Curb	F.O.C.
Face to Face	F-F
Federal	Fed.
Federal Aid	F.A.
Federal Aid Interstate	F.A.I.
Federal Aid Primary	F.A.P.
Federal Aid Secondary	F.A.S.
Federal Aid Urban	F.A.U.
Federal Emergency Management Agency	F.E.M.A.
Feet per second	f.p.s.
Fence	Fen.
Fence Corner	Fen. Cor.
Fence Post	Fen. Post
Fill	F
Finish	Fin.
Fire Hydrant	F.H.
Flashing Don't Walk	FDW
Flat Bottom	F.B.
Flood Insurance Rate Map	F.I.R.M.
Flood Limits	F.L.
Flow Line	F.L.
Floor	Fl.
Flume	Fl.
Foot or Feet	Ft. or '
Foot per Foot	Ft./Ft. of 'Ft.
Footing	Ftg.
Foresight	F.S.
Forward	Fwd.
Foundation	Fnd.
Furnish	Furn.
Furnish & Install	Furn. & Inst.
Gage or Gauge	Ga
Galvanized	Galv.
Galvanized Iron	Galv. Iron
Garage	Gar.
Gas	G
Gas Drip	G.D.
Gas Service Valve	G.S.V.
General	Gen.



<u>Word</u>	<u>Abbreviation</u>
Grade	Gr.
Gravel	Gr.
Graded Earth	G.E.
Granular	Gran.
Grated Inlet	G.I.
Green	G
Ground	Gnd or G
Grout	Grt.
Grubbing	Grub
Gutter	Gut.
Handicap Ramp	H.C. Ramp
Header	Hdr.
Headwall	Hdwl.
Heavy	Hvy.
Heavy Stone Revetment	H.S.R.
Height	Hgt.
Height of Instrument	H.I.
High Pressure	H.P.
High Water	H.W.
Highway	Hwy.
His Wife	h/w
Horizontal	Horiz.
House	Hse.
Improvement	Imp.
Inch	In. or “
Included or Inclusive	Incl.
Increase	Incr.
Industrial	Ind.
Inside Diameter	I.D.
Install	Inst.
Integral	Int.
Interconnect	I
Intersection	Inter.
Invert	Inv.
Iron Pipe or Pin	I.P.
Island	Is.
Joint	Jt.
Jumper	J
Junction	Jct.
Junction Box	J.B.
Kilovolt-ampere	KVA
Lamp Hole	L.H.
Land Surveyor	L.S.
Lane	Ln.
Latitude or Lateral	Lat.
Leave in Place	L.I.P.
Left	Lf.
Length	Lg.



<u>Word</u>	<u>Abbreviation</u>
Length of Curve	L
Length of offset spiral	Los
Length of spiral	Ls
Length of curve in spiral data	Lc
Length of vertical curb	L.V.C.
Light Stone Revetment	LSR
Light Standard	L.S.
Lighting	Ltg.
Limit	Lim.
Linear or Lineal	Lin.
Linear Foot	LF
Location	Loc.
Long	Lg.
Longitudinal	Long.
Low Flow Line	L.F.L.
Low Water	L.W.
Lump Sum	L.S.
Machine Grading	M.G.
Magnetic	Mag.
Mail Box	M.B.
Mainline	M.L.
Maintenance	Maint.
Major	Maj.
Manhole	M.H.
Manual on Uniform Traffic Control Devices	MUTCD
Mark	Mk.
Marker	Mkr.
Masonry	Mas.
Material	Mat.
Maximum	Max.
Median	Med.
Mercury Vapor Lamp	M.V.L.
Metropolitan St. Louis Sewer District	M.S.D.
Middle Ordinate of Vertical Curve	M.O.
Mile	Mi.
Miles per Hour	m.p.h.
Minimum	Min.
Miscellaneous	Misc.
Missouri Department of Transportation	MoDOT
Modified	Mod.
Monument	Mon.
Mounting	Mtg.
Nail & Washer	N. & W.
Normal Crown	Norm. Cr.
North	N
Northbound	NB
Not to Scale	NTS



<u>Word</u>	<u>Abbreviation</u>
Number	No. or #
Obliterate	Oblit
Offset	Off
Old Iron Pipe	O.I.P.
Opposite	Opp.
Optically Limiting	O.L.
Ordinary High Water	O.H.W.
Original	Orig.
Outside Diameter	O.D.
Overflow	O.F.
Overhead	O.H.
Owner	Own.
Panel	Pn.
Parabolic	Parab.
Parallel	Par.
Parcel	Par.
Parapet	Parp
Parking Space	P.S.
Parkway	Pkwy.
Pavement	Pavt.
Pedestrian	Ped.
Perforated	Perf.
Permanent	Perm.
Permanent Drainage Easement	PDE
Permanent Footing Easement	PFE
Phase	0
Pilaster	Pil.
Pipe	P.
Place	Pl.
Plan	Pl.
Plat	Pl.
Point	Pt.
Point of Compound Curvature	P.C.C.
Point of Curve	P.C.
Point of Intersection	P.I.
Point of Reverse Curve	P.R.C.
Point of Tangency	P.T.
Point on Back Tangent	P.O.B.T.
Point on Curve	P.O.C.
Point on Forward Curve	P.O.F.C.
Point on Tangent	P.O.T.
Point Vertical Curve	P.V.C.
Point Vertical Intersection	P.V.I.
Point Vertical Tangent	P.V.T.
Polyvinyl Chloride	P.V.C.
Porch	Por.
Portland Cement Concrete	P.C.C. or P.C. Concrete
Pounds	Lbs.



<u>Word</u>	<u>Abbreviation</u>
Pounds per cubic foot	p.c.f.
Pounds per square foot	p.s.f.
Pounds per square inch	p.s.i.
Power	Pwr. or P
Power pole	P.P.
Preliminary	Prelim.
Prepared	Prep.
Present	Pres.
Previous	Prev.
Private	Pvt.
Private entrance	P.E.
Professional Engineer	P.E.
Profile Grade	P.G.
Project	Proj.
Property Line	P.L.
Proposed	Prop.
Protection	Prot.
Provision	Prov.
Pull Box	P.B.
Push Button	P.B.
Quantity	Quant.
Radius	R
Railroad	RR
Range	R.
Red	R
Reference	Ref.
Reflectorized	Reflec.
Reinforced	Reinf.
Reinforced Concrete Pipe	R.C.P.
Relocate or Relocation	Reloc.
Remove	Rem.
Replace	Repl.
Required	Req.
Resident Engineer	R.E.
Residential	Res.
Retaining	Ret.
Reverse	Rev.
Revised	Rev.
Revetment	Revet.
Right	Rt.
Right-of-Way	R/W or ROW
Road	Rd.
Roadway	Rdwy.
Roadway Construction, Maintenance and Utility Easement	R.C.M.U.E.
Rock	Rk.
Rounding	Rndg.
Route	Rte.



<u>Word</u>	<u>Abbreviation</u>
Salvaged	Sal.
Sandstone	S.S.
Sanitary	San.
Scarify	Scar.
Section	Sec.
Service	Serv.
Sewer vent	S.V.
Sheet	Sht.
Shield	S
Shielded	S
Shoulder	Shldr.
Sidewalk	S.W.
Signal	Sig,
Skew	Sk.
Slope	Sl.
Slope Line	S.L.
South	S
Southbound	S.B.
Space	Sp.
Special	Spec.
Specifications	Spec.
Spiral to Curve	S.C.
Spiral to Tangent	S.T.
Square	Sq.
Square foot	S.F.
Square yard	S.Y.
Stabilized	Stab.
Standard	Std.
Station	Sta.
Steel	Stl.
Stone	Stn.
Stone Monument	Stn.. Mon.
Stopping Sight Distance	S.S.D.
Story	Sty.
Stream	Str.
Street	St.
Street sign	S.S.
Structure	Struc.
Subdivision	Subd.
Subgrade	Subg.
Superelevation	S.E.
Supplementary	Suppl.
Surface	Surf.
Survey	Surv.
Symmetrical	Sym.
System	Sys.
Tabulation	Tab.
Tangent	Tan.



<u>Word</u>	<u>Abbreviation</u>
Tangent Length	T
Ton	T
Tangent to Spiral	T.S.
Telephone	Tel.
Telephone Booth	Tel. Booth
Telephone Pole	T.P.
Temporary	Temp.
Temporary Construction Easement	T.C.E.
Terminal	Ter.
Timber	Tmbr.
To be Abandoned	TBA
To be Abandoned and Filled	T.B.A. & F.
To be Filled	T.B.F.
To be Removed	T.B.R.
To be Removed and Relocated	T.B.R.& Reloc.
To be Removed and Replaced	T.B.R.& R.
To Curve	T.C.
Top of Curb	TOC
Top of Slope	T.O.S.
Top of Structure	T.S.
Top of Wall	T.W.
Topography	Topo.
Township	T or Twp.
Traffic Generation Assessment	T.G.A.
Trail	Tr.
Transition	Trans.
Transverse	Travs.
Traverse	Travs.
Treatment	Treat.
Tube jacket	Tube Jkt.
Turning Point	T.P.
Typical	Typ.
Underdrain	Undrn.
Undergrade Cut	U.C.
Underground	U.G.
United States Geological Society	USGS
Upper Flow Line	U.F.L.
Use in Place	UIP
Utility Pole	U.P.
Vacated	Vac.
Variable	Var.
Vent Pipe	V.P.
Vertical	Vert.
Vitrified Clay Pipe	V.C.P.
Volume	Vol.
Walk	W
Waste	Wst.
Water	W.



<u>Word</u>	<u>Abbreviation</u>
Water Meter	W.M.
Water Valve	W.V.
Weight	Wt.
West	W
Westbound	WB
Widen or Widening	Wid.
Width	Wid.
With	w/
Without	w/o
Yard	Yd.
Yellow	Y



THIS PAGE BLANK INTENTIONALLY.



80.00 LISTING OF TABLES

	Page
Table 20.1 Arterial Street Right-of-Way and Pavement Width Requirements	20.10-1
Table 20.2 Arterial Street Pavement Thickness Requirements	20.10-1
Table 20.3 Arterial Street Design Horizontal & Vertical Alignment Requirements	20.10-2
Table 20.4 Major Collector Right-of-Way & Pavement Width Requirements	20.20-1
Table 20.5 Major Collector Pavement Thickness Requirements	20.20-1
Table 20.6 Major Collector Horizontal & Vertical Alignment Requirements	20.20-2
Table 20.7 Residential Street Right-of-Way & Pavement Width Requirements	20.30-1
Table 20.8 Residential Street Pavement Thickness Requirements	20.30-2
Table 20.9 Residential Street Horizontal & Vertical Alignment Requirements	20.30-3
Table 20.10 Non-Residential Street Right-of-Way & Pavement Width Requirements	20.40-1
Table 20.11 Non-Residential Street Pavement Thickness Requirements	20.40-1
Table 20.12 Non-Residential Street Horizontal & Vertical Alignment Requirements	20.40-2
Table 40.1 Commercial Entrances for Non-Corner Parcels	40.40-2
Table 40.2 Left Turn Restrictions	40.40-3



THIS PAGE BLANK INTENTIONALLY.



90.00 LISTING OF FIGURES

	Page
Recommended Design Control for Vertical Curves	20.50-1
Guard Rail Warrants	40.10-4
Sight Distance at Intersections	40.30-2
Type 1 Residential Entrances	40.40-4
Type 2 Residential Entrances	40.40-5
Type 3 Residential Entrances	40.40-6
Type 1 Commercial Entrances	40.40-7
Type 2 Commercial Entrances	40.40-8



THIS PAGE BLANK INTENTIONALLY.



100.00 LISTING OF STANDARD DRAWINGS

Drawing Number	Drawing Description	Revision Date
S20.10	5 Lane Arterial Typical Section (90' ROW, 65' Pavement)	
S20.11	4 Lane Arterial Typical Section (80' ROW, 53' Pavement)	
S20.12	Arterial Exclusive Left Turn Lane	
S20.13	Superelevation (Straight Line Method)	
S20.14	Street Intersection Platform	
S20.20	3 Lane Major Collector Typical Section (65' ROW, 41' Pavement)	
S20.21	Major Collector Exclusive Right Turn Lane	
S20.22	Major Collector Exclusive Left Turn Lane	
S20.30	Residential 3 Lane Minor Collector Typical Section (60' ROW, 36' Pavement)	
S20.31	Residential 2 Lane Local Typical Section (50' ROW, 26' Pavement)	
S20.32	Residential 2 Lane Local Temporary Turnaround	
S20.33	Residential Minor Collector Temporary Turnaround	
S20.34	Residential Cul-de-Sac Detail	
S20.35	Residential Minor Collector Exclusive Right Turn Lane	
S20.36	Residential Minor Collector Exclusive Left Turn Lane	
S20.40	Non-Residential 2 Lane Minor Collector Typical Section (65' ROW, 41' Pavement)	
S20.41	Non-Residential 2 Lane Local Typical Section (50' ROW, 28' Pavement)	
S20.42	Non-Residential Minor Collector Temporary Turnaround	
S20.43	Non-Residential 2 Lane Local Temporary Turnaround	
S20.44	Non-Residential Cul-de-Sac Detail	
S40.10	Sidewalks, Street Name Signs and Monuments	
S40.11	Street Name Signs, Details and Locations	
S40.12	6" Raised Doweled-On Concrete Median, Existing Pavement Only	
S40.13	Concrete Traffic Barrier Types A & B	
S40.14	Concrete Traffic Barrier Types A & B Typical Location Details	
S40.15	Concrete Traffic Barrier, Temporary Traffic Barrier, Precast Connecting Details	
S40.17A	Type E Guard Rail	
S40.17B	Guard Rail, Typical Locations	
S40.18A	Guard Rail	
S40.18B	Guard Rail	



S40.18C	ET2000 Details
S40.19	Guard Rail, End Anchor Details
S40.20	Grated Trough (Cast-Iron)
S40.21	Joints and Curbs Details
S40.22A	Integral Rolled Curb and Concrete Pavement Typical Section & Details
S40.22B	Mountable Curb & Concrete Pavement Typical Section & Details
S40.23	Pavement Lugs
S40.24	Pavement Lug Locations
S40.40	Residential Concrete Entrances
S40.41	Commercial Concrete Entrances
S40.42A	Right In-Right Out Channelized Street or Commercial Entrance
S40.42B	Right In-Right Out Channelized Street or Commercial Entrance
S40.43	Interim Right In-Right Out Channelized Street or Commercial Entrance
S40.44	4" Raised Concrete Channelization Island with Curb Ramps
S40.45	Guidelines for Joint Filler Installation
S40.46	Median and Intersection Configuration
S40.60	Concrete Sidewalk and Curb Ramps
S40.61	Concrete Sidewalk and Curb Ramps
S40.62	Concrete Sidewalk and Curb Ramps
S40.63	Concrete Sidewalk and Curb Ramps
S60.00	Guidelines for Pavement Marking & Lane Striping



STANDARD DRAWING CROSS REFERENCE

Drawing Number	Drawing Description	Page
S20.10	5 Lane Arterial Typical Section (90' ROW, 65' Pavement)	20.10-1
S20.11	4 Lane Arterial Typical Section (80' ROW, 53' Pavement)	20.10-1
S20.12	Arterial Exclusive Left Turn Lane	40.10-2 40.40-1
S20.13	Superelevation (Straight Line Method)	20.10-2 20.20-2 20.30-3 20.40-2
S20.14	Street Intersection Platform	20.10-2 20.20-2 20.30-3 20.40-2
S20.20	3 Lane Major Collector Typical Section (65' ROW, 41' Pavement)	20.20-1
S20.21	Major Collector Exclusive Right Turn Lane	40.10-2 40.40-1
S20.22	Major Collector Exclusive Left Turn Lane	40.10-2 40.40-1
S20.30	Residential 3 Lane Minor Collector Typical Section (60' ROW, 36' Pavement)	20.30-1
S20.31	Residential 2 Lane Local Typical Section (50' ROW, 26' Pavement)	20.30-1
S20.32	Residential 2 Lane Local Temporary Turnaround	20.30-1 40.20-2
S20.33	Residential Minor Collector Temporary Turnaround	20.30-1
S20.34	Residential Cul-de-Sac Detail	20.30-1
S20.35	Residential Minor Collector Exclusive Right Turn Lane	40.10-2 40.40-1
S20.36	Residential Minor Collector Exclusive Left Turn Lane	40.10-2 40.40-1
S20.40	Non-Residential 2 Lane Minor Collector Typical Section (65' ROW, 41' Pavement)	20.40-1
S20.41	Non-Residential 2 Lane Local Typical Section (50' ROW, 28' Pavement)	20.40-1
S20.42	Non-Residential 3-Lane Minor Collector Temporary Turnaround	20.40-1 40.20-2
S20.43	Non-Residential 2 Lane Local Temporary Turnaround	20.40-1
S20.44	Non-Residential Cul-de-Sac Detail	20.40-1
S40.10	Sidewalks, Street Name Signs and Monuments	40.10-2
S40.11	Street Name Signs, Details and Locations	40.10-2



Drawing Number	Drawing Description	Page
S40.12	6" Raised Doweled-On Concrete Median, Existing Pavement Only	40.10-2 40.40-3
S40.13	Concrete Traffic Barrier Types A & B	40.10-2
S40.14	Concrete Traffic Barrier Type A & B Typical Location Details	40.10-2
S40.15	Concrete Traffic Barrier, Temporary Traffic Barrier, Precast Connecting Details	40.10-2
S40.17A	Type E Guard Rail	40.10-3
S40.17B	Guard Rail, Typical Locations	40.10-3
S40.18A	Guard Rail	40.10-3
S40.18B	Guard Rail	40.10-3
S40.18C	ET2000 Details	40.10-3
S40.19	Guard Rail, End Anchor Details	40.10-3
S40.20	Grated Trough (Cast Iron)	40.20-3
S40.21	Joints and Curbs Details	40.20-4
S40.22A	Integral Rolled Curb and Concrete Pavement Typical Section & Details	20.30-1 40.20-4
S40.22B	Mountable Curb and Concrete Pavement Typical Section & Details	20.10-1 20.20-1 20.40-1
S40.23	Pavement Lugs	20.10-2 20.20-2 20.30-3 40.20-3
S40.24	Pavement Lug Locations	20.10-2 20.20-2 20.30-3 40.20-3
S40.40	Residential Concrete Entrances	20.10-1 20.20-1 20.30-2 40.40-1
S40.41	Commercial Concrete Entrances	20.10-1 20.20-1 40.40-1 40.50-1
S40.42A	Right In-Right Out Channelized Street or Commercial Entrance	20.10-1 20.20-1 40.40-1 40.40-3



Drawing Number	Drawing Description	Page
S40.42B	Right In-Right Out Channelized Street or Commerical Entrance	20.10-1 20.20-1 40.40-1 40.40-3
S40.43	Interim Right In-Right Out Channelized Street or Commercial Entrance	20.10-1 20.20-1 40.40-1
S40.44	4" Raised Concrete Channelization Island with Curb Ramps	20.10-1 20.20-1 40.40-1
S40.46	Median and Intersection Configuration	40.40-2
S40.60	Concrete Sidewalk and Curb Ramps	20.10-2 20.20-2 20.30-3 20.40-2 40.50-1
S40.61	Concrete Sidewalk and Curb Ramps	20.10-2 20.20-2 20.30-3 20.40-2 40.50-1
S40.62	Concrete Sidewalk and Curb Ramps	20.10-2 20.20-2 20.30-3 20.40-2 40.50-1
S40.63	Concrete Sidewalk and Curb Ramps	20.10-2 20.20-2 20.30-3 20.40-2 40.50-1



THIS PAGE BLANK INTENTIONALLY.



A	Page and/or Standard Drawing
Abbreviations	70.00-1
Aggregate Base	
Arterial Street	20.10-1
Major Collector Street	20.20-1
Non-Residential Street	20.40-1
Residential Street	20.30-1
Alignment	See Horizontal Alignment
Approaches, Paved	S40.40, S40.41
Arterial Streets	See Streets
Asphaltic Pavement.....	See Flexible Pavement
B	
Backfill.....	10.10-1, 20.10-1, 20.20-1
Barrier, Traffic	40.10-4
Base Flood	10.10-1
Benchmark.....	10.10-1
Bituminous Concrete Pavement	See Flexible Pavement
Bridge	10.10-1
C	
Channel.....	10.10-1
City.....	10.10-1
Collector Street	See Street
Common Entrance	See Entrance
Comprehensive Plan	10.10-2, 40.10-1
Corner Parcel	40.40-1, 40.40-2
Cross access.....	See Easement
Cul-de-Sac	
Non-Residential Street	S20.44
Residential Street	S20.34
Culvert.....	10.10-2
Curb	S40.21
Curb and Gutter	See Mountable Curb and Gutter See Integral Rolled Curb and Gutter
Curb and Gutter Requirements	
Arterial Street	20.10-1
Major Collector Street	20.20-1
Non-Residential Street	20.40-1
Residential Street	20.30-1
Curb Ramps.....	40.50-1, S40.60 through S40.63
Curve	See Vertical Curve



D

Page and/or Standard Drawing

Definitions	
Design Criteria	
Arterial Street	20.10-1
Major Collector Street	20.20-1
Non-Residential Street	20.40-1
Residential Street	20.30-1
Design Speed.....	10.10-2, 20.10-2
Drainage Facility	10.10-2
Driveway	10.10-2, See Entrance

E

Easement.....	10.10-3
Cross Access.....	10.10-2, 10.10-3
Permanent Drainage	10.10-3
Temporary Construction	10.10-3
Entrance	
Clearance	40.40-3
Commercial.....	40.40-1, 40.40-7, 40.40-8, 40.50-1, S40.41 through S40.44
Common	10.10-2, 40.40-2
Residential.....	10.10-3, 40.40-1, 40.40-4 through 6, S40.40
Restrictions.....	40.40-3
Right In/Right Out	S40.42A, S40.42B, S40.43
Standards	40.40-1, S40.16
Subdivision	40.20-1
Escrow	10.10-3
ET2000 End Treatment.....	S40.18C

F

FEMA.....	10.10-3
Floodplain	10.10-3
Flexible Pavement	
Arterial Street	20.10-1
Major Collector Street.....	20.20-1
Non-Residential Street	20.40-1
Residential Street	20.30-2
Floodway.....	10.10-3
Fringe.....	10.10-3



G

Page and/or Standard Drawing

Grades	10.10-4, 20.10-2, 20.20-2, S20.14
Steep	10.10-6, 20.50-1, S20.14
Street	20.10-2, 20.20-2, 20.30-3, 20.40-2, S20.14
Grading	40.10-1
Grated Trough	S40.20
Guard Rail	40.10-3, S40.17A, S40.18A, S40.18B, S40.18C, S40.19
Typical Locations	S40.17B
Warrants	40.10-4
Gutter	20.10-1, 20.20-1, 20.30-1, 20.40-1

H

Horizontal Alignment	20.10-2, 20.20-2
----------------------------	------------------

I

Integral Rolled Curb and Gutter	S40.21, S40.22A
Intersection	
Configurations	40.20-2
Sight Distance at	40.30-1, 40.30-2
Street Platform	S40.14
Islands	See Medians

J, K

Joint Filler	S40.45
Joints	S40.21

L

Landscaping	40.30-1
Lane Striping	40.40-1, 60.00-2, S60.00
Left Turn Restrictions	40.40-3, S20.12, S20.22, S20.36



M

Page and/or Standard Drawing

Major Collector Street.....	See Street
Minor Collector Street.....	See Street
Median	40.10-2, 40.40-3, S40.16, S40.44
Concrete.....	S40.12, S40.44
Doweled-on	S40.12
Guardrail	S40.17A
Traffic Barrier.....	S40.13, S40.14, S40.15
Monuments	10.10-4
Mountable Curb and Gutter.....	20.10-1, 20.20-1, S40.21, S40.22B

N, O

Non-Residential Streets	See Streets
-------------------------------	-------------

P, Q

Parking.....	40.20-3, 40.30-1
Pavement.....	10.10-4
Deficient	40.20-4
Requirements.....	20.10-1, 20.20-1, 20.30-1, 20.40-1
Sections	S40.22A, S40.22B
Thickness	20.10-1, 20.20-1, 20.30-1, 20.40-1
Widths	20.10-1, 20.20-1, 20.30-1, 20.40-1
Pavement Lug.....	40.20-3, S40.23, S40.24
Pavement Markings.....	S60.00
Permits.....	10.10-5
Plantings	See Landscaping

R

Radius	
Cul-de-Sac	20.30-1, 20.40-1
Minimum.....	20.10-2, 20.20-2, 20.30-2, 20.40-2, 40.20-1
Ramps.....	40.50-1, S40.60, S40.61, S40.62, S40.63
Residential Street.....	See Street
Restrictions	See Left Turn, Median, Right Turn
Right-of-Way	
Acquisition.....	40.20-4
Dedication	40.20-2
Width.....	20.10-1, 20.20-1, 20.30-1, 20.40-1
Right Turn Restrictions.....	S20.21, S20.35, S40.42A, S40.42B, S40.43
Road	See Streets
Roadway	See Streets
Rolled Curb and Gutter	S40.21, S40.22A



S	Page and/or Standard Drawing
Sidewalk.....	10.10-5, 40.50-1, S40.10, S40.60, S40.61, S40.62, S40.63
Arterial Street	20.10-2
Curb Ramp.....	40.50-1, S40.60, S40.61, S40.62, S40.63
Major Collector Street.....	20.20-2
Non-Residential Street	20.40-2
Residential Street	20.30-3
Sight Distance	10.10-5, 40.30-1, 40.30-2
Signs	
Details and Locations	S40.10, S40.11
Entrance.....	
Street Name	40.10-2, S04.10, S40.11
Signals	See Traffic Signals
Speed	See Design Speed
Posted.....	20.10-2, 20.20-2, 20.30-3, 20.40-2
Steep Grades.....	See Grades
Standard Drawings.....	100.00-1
Street	
Arterial.....	20.10-1, S20.10, S20.11, S20.12
Cul-de-Sac	
Non-Residential	S20.44
Residential.....	S20.34
Construction	40.10-1
Creep	40.20-3
Design.....	20.10-1, 40.10-1
Frontage.....	40.20-1
Grades	See Grades
Improvements.....	40.10-1
Inspection.....	40.10-1
Intersection Platform.....	S20.14
Intersections	40.20-2
Local	10.10-4
Non-Residential	S20.41
Residential	S20.31
Major Collector	10.10-6, 20.20-1, S20.20, S20.21, S20.22
Minor Collector	10.10-6
Non-Residential	S20.40 through S20.44
Residential.....	S20.30 through S20.36
Name Signs.....	40.10-2, S40.11
Details	S40.10, S40.11
Non-Residential.....	10.10-6
Private.....	10.10-6
Public	10.10-6, 40.20-2, 40.20-3
Residential	10.10-6
Standards.....	40.20-1
Stub.....	40.20-1, 40.20-2
Surfacing.....	40.10-1
Striping.....	40.40-1, 60.00-2, S60.00



Subdivision
 Access.....40.20-3, 40.20-4
SuperelevationS20.13

T

Tangent
 Lengths40.20-3
Temporary
 Termination of Pavement.....20.30-1, 20.40-1
 Turnaround..... 20.30-1, 20.40-1, S20.32, S20.33, S20.42, S20.43
Traffic Barrier40.10-4
Traffic Control Devices60.00-1
Traffic Handling.....60.00-1
Turnaround S20.32, S20.33, S20.42, S20.43

U, V, W, X, Y, Z

Vertical Alignment20.10-2, 20.20-2, 20.30-3, 20.40-2
Vertical Curve
 Design Control.....20.50-1