3.2 STREET DESIGN. All streets shall be designed to conform to the standards and technical design requirements contained within this sub-section. AASHTO, a policy on geometric design of highways and streets, shall be used as a supplement to these guidelines. In cases of conflict, a determination shall be made by the City Engineer, which determinations shall be final. These requirements may apply as required by sub-ordinance.

These requirements may apply as required by the subdivision ordinance.

3.2.1 STREET CROSS-SECTION STANDARDS. Requirements for the street cross-section configurations are shown in Table 3.1. These requirements are based on traffic capacity, design speed, projected traffic, system continuity and overall safety.

All new developments shall use street cross-sections with fifty feet (50) or more of right-of-way. Access to multi-family or commercial developments, shall use street cross-sections with sixty (60) feet or more of right-of-way.

Alternate road cross-sections incorporating the use of a planting strip may be permitted, if applicable safety and traffic standards are met and approved by the City Engineer.

3.2.2 ROADWAY NETWORK DESIGN. New roadway networks shall be designed in accordance with the general planning concepts, guidelines, and objectives provided within this sub-section.

- The "Quality of Life" for residential occupants shall be a primary concern when designing a residential roadway network.
- An emphasis on proper street hierarchy should be adhered to, namely, local streets should access residential collectors; residential collectors should access major collectors; major collectors should access minor arterials; etc.
- An emphasis on access management should provide control of the location, design, and operation of all driveways, median openings, and street connections to a roadway.
- Roadways should be designed in a curve a linear method in order to reduce, or eliminate, long straight stretches of residential roadways which encourage speeding and cut through traffic.

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- Substantial increases in average daily traffic, due to development of adjacent property on established streets not originally designed to accommodate such increases should be avoided.

- Drainage methods should concentrate on meeting the drainage needs while not impeding the movement of traffic (see drainage guidelines).

- Roads should be designed to lie within existing topographic features without causing unnecessary cuts and fills.

- A reduction in the use of cul-de-sacs should be emphasized in order to provide greater traffic circulation and less volume on collector roads. Circulation is of the up most importance, long blocks and excessive dead end streets should be avoided.

- Stopping sight distance should be considered at all intersections and curves to ensure the safety of the public, in accordance with AASHTO standards.

- Pedestrians and bicycle traffic should be considered in the planning and design of all developed streets.

Table 3.1
Street Cross-section Configurations

				Standard Section			Optional Section			
	Maximum ADT or [D.U.'s]	Traffic Index	Maximum Grade (%)	Right of Way (feet)	Pave-ment Width [1] (feet)	Sidewalk Width (feet)	Right of way (feet)	Pavement Width [1] (feet)	Planter Width (feet)	Sidewalk Width (feet)
Residential Local	<500 (2 to 50)	5	15	50	32	4	50	29	4	4
Residential Standard	510 to 1,250 (51 to 125)	5	15	50	35	4	53 [7]	32	4	4
Residential Collector	1,260 to 2,000 (126 to 200)	5.5	15	60	42	5	60	39	4	4
Major Collector [5]	2,010 to 6,000 (201 to 600)	6	12	66	49	6 [3]	70	46	4	5 [3]
Minor Arterial [5]	6,000 to 20,000	7	10	90	67	6 [3]	90	65	5	6 [3]
Arterial Major [5]	>20,000	8	8	>100	as req.	6 (min)	>100	as req'd.	6 (min)	6
Commercial Local	NA	10	8	60 [6]	43 [6]	6	66	42	4	5
Industrial Local	NA	10	6	66 [6]	48 [6]	6	68	45	4	5

1. Pavement width measured from lip of curb to lip of curb.
2. A four-foot wide or wider planter strip shall be placed between the back of curb and front of sidewalk within right-of-way widths shown.
3. A planter strip may be required between back of sidewalk and any wall, fence, hedge, etc. This area can be private or public. If public, additional right-of-way will be required. Alternate sections with meandering sidewalks may be proposed.
4. Not used.
5. Configuration of major collector and higher classifications may be adjusted with proper justification and approval of City Engineer. May require widening at intersections for turning movements. Where on street parking is allowed, additional width and other considerations may be required.
6. The minimum right-of-way and pavement width is shown. Each may be increased when required by a traffic impact study.
7. If approved by the City, a 50' wide right-of-way may be used with the three feet of sidewalk being placed in an appropriate easement.

NOTE: When approved by the City Engineer, approved modified curb (standard RU30) may be used on the Residential Local and Residential Standard streets using the Optional Section as follows:

1 - 100 ADT (2-10 lots) use Residential Local Optional Section
101-500 ADT (11-50 lots) use Residential Standard Optional Section.

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3.2.3 **IMPROVEMENT REQUIREMENTS.** All improvements including, but not limited to the following, shall be constructed in accordance with the standard specifications and drawings unless otherwise approved.

3.2.3.1 **Curb, Gutter and Sidewalk.** Required curb, gutter and sidewalk shall be constructed.

3.2.3.2 **Driveways.** Driveways shall be constructed in approved locations.

3.2.3.3 **Pavement.** All streets, public or private, shall be surfaced to grade, with asphalt concrete pavement, to the required minimum width and thickness in accordance with these specifications.

3.2.3.4 **Street lighting.** Street lighting shall be provided on all streets. The construction on public streets shall be in accordance with the standard drawings and these specifications. Standard Public street lights may be installed on private streets upon agreement with the City and the local power agency when applicable.

3.2.3.5 **Cross Gutters.** No cross gutters shall be allowed across major collector or major and minor arterial streets. On commercial and industrial streets, cross gutters are generally not allowed and require approval by the City Engineer for their use. The City Engineer may prohibit construction of cross gutters on any street deemed necessary.

3.2.3.6 **Handicap Ramps.** When new construction occurs handicap ramps shall be constructed at all street intersections, unless otherwise approved, in accordance with the standard drawings. In addition, when a project occurs where existing improvements are in place, handicap ramps shall be upgraded to meet current standards.

3.2.3.7 **Roadway Medians.** Medians on public roadways shall be approved by the City Engineer. Design and construction shall be in accordance with applicable standards.

3.2.3.8 **Minimum Access.** Proposed developments shall have only the required number of accesses to adequately address the needs of the development and only at approved locations. Too many access points or access on major routes hinder the safety and efficient travel of vehicles using these routes. In addition, too few accesses can stifle circulation and unnecessarily concentrate traffic at selected locations.

3.2.3.9 **Drainage.** Adequate drainage facilities shall be installed to properly conduct runoff from the roadway. Sub-drains and surface

drainage facilities shall be designed in accordance with the approved drainage study. Cross gutters shall be used sparingly to maintain the public's driving comfort and in accordance with these specifications.

3.2.3.10 Traffic Control Devices. Appropriate traffic control devices and street signs, as required by the City Engineer, shall be installed in accordance with the MUTCD.

3.2.3.11 Pavement Marking. Appropriate pavement markings, as required by the City shall be installed in accordance with the MUTCD.

3.2.3.12 Street Trees and Landscaping. Street trees and landscaping shall be required in accordance with current St. George City Street and Landscaping Ordinance (Shade Tree Ordinance #7-1-1994).

3.2.3.13 Other Improvements. The above-required improvements are not all inclusive. Other improvements needed to complete the development in accordance with current engineering and planning standard practice may be required by the City Engineer.

3.2.4 TECHNICAL DESIGN REQUIREMENTS. The following requirements apply to streets.

3.2.4.1 Street Grades

A. All street grades shall have a maximum grade as shown in Table 3.1

B. A request to increase the maximum street grades shown in Table 3.1 may be considered upon submittal of a request and information justifying such a request to the City Engineer. Request for approval must be based upon and in accordance with the latest edition of AASHTO's "A Policy on Geometric Design of Highways and Streets" guidelines. Any approvals for increased grades must be consistent with access requirements of fire apparatus as defined by the Fire Department. The City Engineer's decision will be final. Cost of construction will not be justification for approval.

3.2.4.2 Intersections

A. Wherever possible, all street intersections should intersect at ninety degree angles.

B. In the event an acute angle intersection is proposed, the City

Engineer may require mitigation by realigning to achieve a ninety degree intersection. If no other reasonable option for realignment exists, a skew may be allowed up to a maximum of 15° from 90°. Other design approaches to mitigate the skewed angle may be required by the City Engineer.

C. Proper combination of horizontal and vertical alignment should be obtained by engineering study and consideration of the general guidelines listed in AASHTO (Section Titled: Combination of Horizontal and Vertical Alignment, 1990 edition).

D. Intersections should not be located on the interior of, or near, sharp curves. Intersections should be located a sufficient distance from all curves to provide proper sight distance for vehicles on the intersecting road or driveway and on the through road.

E. New intersections with more than four "legs" are generally not permitted. For arterial access, only four-leg intersections, "T" intersections and modern roundabouts are permitted. When designing local road networks, "T" and "L" intersections are desired. The "L" intersection (knuckle) will only be permitted when the street length, in either direction from the angle point, is three hundred-fifty feet (350'), or less. Four-leg intersections on local road networks are generally discouraged. Where determined that a four-leg intersection is necessary, approval from the City Engineer shall be obtained prior to final design of the local road network. Exceptions to these requirements may be granted by the City Engineer on a case by case basis. The developer's engineer must provide acceptable compelling Traffic Engineering analysis justification before deviations will be granted.

F. When designing local road networks, block lengths without an intervening connector street shall not exceed eight hundred feet (800') in length unless previous approval has been obtained from the City Engineer. Cul-de-sacs are not considered an intervening connecting street.

G. New access locations created by development shall be unified whenever possible to create the fewest number of access points onto arterials or major collectors. Cross use agreements shall be required where necessary.

H. Access to corner lots should be from the lesser-classified road at the greatest distance possible from the intersection, and should not

be less than the distances shown below. This distance is measured from the PC of the corner curve. A 25' radius is considered the minimum where the existing radius is less than 25'.

Table 3.2

ACCESS DISTANCE FROM CORNER (in feet)		
Facility Type	**Upstream**	**Downstream**
Residential Access	50**	50**
Local Residential	50**	50**
Residential Standard	50**	50**
Residential Collector	100	75
Major Collector	175	150
Minor Arterial *	200	185
Major Arterial *	250	230

* All access points shall be approved by the City Engineer. Distances shown may be increased as required by the City Engineer on a case-by-case basis. Exceptions can only be approved by the City Engineer upon submittal of proper traffic justification.

** Distance shown is preferred. See Section 3.2.4.2.K below or Section 7 of the St. George Zoning Ordinance for variations.

I. The intersection of two local roads should be designed to operate with minimal traffic control devices. For example, do not design an intersection to operate with a four-way stop or signal control.

J. Direct access will not be allowed for parking, loading or driveway areas that require backing maneuvers onto major collector or higher order streets. This requirement shall apply to commercial and industrial use regardless of the order or classification of street.

K. Residential and commercial developments are generally required to provide at least two improved accesses to the development depending upon the forecasted traffic volumes. Adjacent developments may be required to combine or share driveway access to public roadways. The access shall be of proper widths to accommodate the calculated traffic volumes and expected vehicle types when the area is fully developed and shall be in accordance

with Section 7 of the Zoning Ordinance. Projected traffic volumes shall be calculated using the criteria outlined within the Traffic Impact Study requirements of these specifications.

L. Covered driveways will not be allowed unless approved by the City Engineer.

3.2.4.3 Intersection Spacing

A. Street intersections shall be spaced far enough apart so that the existing and projected traffic stopped to make left turns at one intersection does not interfere with traffic movements at the adjacent intersection and to not hinder the capacity or safety of the roadway. When a street intersects a low volume residential street, the minimum distance is 150 feet. When a street intersects a minor or major collector street, the minimum distance is 250 feet. Minimum distance measurements are centerline-to-centerline. The minimum spacing requirement on arterials shall be as determined by the City Engineer. Locations shall be based upon a number of items such as projected volumes, turning and stacking distances, intersection spacing, traffic progression, etc. Generally the minimum distance will be 650 feet for arterials and 1/4 mile for major arterials. The City Engineer shall review and give final approval to any intersection requests on arterials.

3.2.4.4 Maximum Design Volume

A. The maximum design volume shown on Table 3.1 shall be used unless otherwise approved by the City Engineer. A request to increase these volumes may be submitted for consideration to the City Engineer. This request shall include all necessary and required information including support and justification from the Traffic Impact Study.

Conditions which must be considered when reviewing a request for an increase in maximum design volume include hillsides, safety, parking, traffic studies, access requirements, etc.

3.2.4.5 Cul-de-Sac Streets

A. Such streets shall not exceed six hundred (600') feet in length as measured from center of cross street to center of cul-de-sac. The turn-around pavement radius shall not be less than forty-two and one-half feet (42 ½') (50 feet at property line). Commercial pavement radii shall be no less than forty-seven and one-half feet (47½ ') (55 feet at property line). No road shall be ended without a properly designed cul-de-sac turnaround unless otherwise approved by the City

Engineer. Major collectors and higher order roads shall not be permanently dead-ended.

3.2.4.6 Sidewalks

A. Sidewalk shall be required in all residential and commercial developments. See Table 3.1.

B. For developments which are within hillside areas, see the City of St. George Hillside Ordinance.

C. Sidewalks in areas of high pedestrian traffic may require greater width as delineated by the City Engineer.

3.2.4.7 Curb and Gutter

A. All public or private streets shall use curb and gutter of the type shown in standard drawings unless otherwise approved by the City Engineer. In large subdivisions, in rural or agricultural settings, the curb and gutter may be eliminated (although the use of the rural curb is recommended) unless required for drainage or street continuity. When eliminated, roadside drainage and shoulder shall be as shown in standard drawings.

3.2.4.8 Planter Strips

A. Planter strip areas in road right-of-way must be landscaped with at least fifty percent (50%), by area, of live vegetation.

B. Xeriscape landscaping must be approved by City's Representative.

C. Planter strips shall not be filled with concrete or other hard surfaces.

D. Special drainage requirements may be imposed by City's Representative to protect pavement and curb and gutter from damage due to irrigation of planter strips.

3.2.4.9 Design Speed

A. The design of geometric features such as horizontal and vertical alignment will depend on the design speed selected for each street. The design speed is primarily determined by the street function and classification, and is the maximum speed for safe and comfortable operation of a vehicle. The use of design speeds other than those listed below must be approved by the City Engineer who may decide that the speed provided in this sub-section be changed to that

which is reasonable and prudent under the conditions and having due regard to the actual and potential hazards.

DESIGN SPEED

Classification	Design
Residential Access	25
Local Residential	25
Local Standard	25
Residential Collector	30
Major Collector	35-40
Minor Arterial	40-45
Major Arterial Varies *	(45 min.)
Commercial Local	30
Industrial Local	35

- Variance of design speeds on residential collectors or higher order roads may be granted by the City Engineer to no greater (or less) than five MPH increments when conditions warrant. Variances will not be granted for short segments of roads, but for entire contiguous stretches so that consistency and driver expectancy are maintained.

3.2.4.10 Clear Sight Distance at Intersections

A. At intersections, adequate, clear sight distance should be provided to permit drivers entering the higher order street from a driveway or STOP-controlled intersection to see approaching traffic from a long enough distance to allow them to decide when to safely enter the higher order street and complete their turning maneuvers in advance of approaching traffic. Clear sight distance, for both left and right turning vehicles, should be in accordance with AASHTO guidelines and generally as follows:

Through Street Design Speed	Sight* Distance
25	290
30	375
35	465
40	575
45	710
50	840
55	980

* Sight distances should be adjusted with cross road grades

3.2.4.11 Vertical Alignment

A. Vertical curves shall be provided in all changes in grade where

the algebraic difference is greater than one (1).

B. Longitudinal street grades shall not be less than one-half (1/2%) unless adequate alternative street drainage is provided, nor more than fifteen percent (15%), unless specifically approved by the City Engineer.

C. Vertical curve stopping sight distance design shall utilize criteria recommended by the latest edition of AASHTO. K-values shall be noted on all design drawings.

D. Minimum cross slope from street crown shall be two percent (2%) and the maximum four percent (4%) unless otherwise approved by the City Engineer.

E. Vertical alignment with the intersection is also of special nature, and design alternatives may be required. As a guideline, the approach area where vehicles stop while waiting to enter an intersection should not exceed five percent (5%) from the gutter line of the street being intersected for a distance of fifty (50) feet, though a range of fifty (50) to one hundred (100) feet is more desirable. This applies to all intersections, except those where both intersecting streets are minor or major collectors. In this situation, the landing area for a residential and major collector which is controlled by a STOP or YIELD sign should be designed for a grade of three percent (3%) for a distance of one hundred feet. Any other major intersection streets shall be approved by the City Engineer.

3.2.4.12 Safe Stopping Sight Distance

A. The minimum sight distance (length of roadway visible to the driver) to be provided for through traffic traveling at, or near, the design speed to stop before reaching a object in its path shall comply with the requirements set forth below (AASHTO guidelines):

Design Speed	Required Distance
25	150
30	200
35	250
40	325
45	400
50	475
55	550

3.2.4.13 Horizontal Curves

A. The recommended minimum centerline radius for horizontal curves are outlined below.

Design Speed	Curve Radius in Feet
25 MPH	185*
30 MPH	310
35 MPH	419
40 MPH	628
45 MPH	730
50 MPH	926

* For residential streets use 150.

3.2.4.14 Superelevation

A. Generally, Superelevation shall not be used on urban roads with design speeds less than thirty five miles per hour unless otherwise approved by the City Engineer.

B. Maximum Superelevation for urban roads shall be 4 percent (4%) unless otherwise approved by the City Engineer.

C. The use of Superelevation shall require prior approval from the City Engineer.

3.2.4.15 Deceleration Lanes

A. Deceleration lanes may be required on streets in conjunction with driveways and/or intersections adjacent to a proposed development. They are specifically required when all of the following factors are determined to apply:

B. 5,000 vehicles per day are using or are projected to use, the street;

C. The 85th percentile traffic speed on the street is thirty-five miles per hour or greater; or forty miles per hour for a two lane (one lane each direction) roadway; and

D. Fifty vehicles or more making right turns into the driveway or street during a one-hour peak period.

The lane lengths for a deceleration lane shall be determined on a case-by-case basis and must receive prior approval of the City Engineer. In addition to the above guidelines, deceleration lanes may

be required in connection with the results of a Traffic Impact Study or by the City Engineer.

3.2.4.16 Driveway Profiles

The slope of a driveway can dramatically influence its operation. Usage by large vehicles can have a tremendous effect on operations if slopes are severe. The profile, or grade, of a driveway should be designed to provide a comfortable and safe transition for those using the facility, and to accommodate the storm water drainage system of the roadway.

Required treatments of driveway grades are shown below. In commercial use, while eight percent (8%) should be the maximum allowable initial grade, maximum grades of three percent (3%) are preferable for high-volume driveways and six percent (6%) for low-volume driveways.

For driveways that require steeper grades an engineered design is recommended.

Driveway Type and Adjacent Street Classification	Maximum Grade
Low Volume Driveway** on Local Street*	15%
Low Volume Driveway** on Collector Street	10%
Low Volume Drive** on Arterial Street	5%
High Volume Driveway*** on Any Street	5%
* For single family residential homes these values apply to only the initial 10 ft. of the driveway beyond the sidewalk or right-of-way, whichever applies. ** Low Volume Driveway - defined as a driveway with less than 100 vehicles in the peak hour in the peak direction. *** High Volume Driveway - defined as a driveway with more than 100 vehicles in the peak hour in the peak direction.	
The above requirements apply only to driveways that adjoin public streets and are recommended for those adjoining private streets.	
For grade changes greater than 12%, a vertical curve of at least 10 ft. should be used to connect the tangents.	

3.2.4.17 Alignment and Continuity - Off-Site

A. Normally, off-site pavement construction requires asphalt concrete paving to the right-of-way centerline and in some cases beyond. When asphalt pavement is existing, the developer's engineer shall submit to the City Engineer sufficient information prepared by the Engineer to indicate vertical and horizontal alignments are

maintained and adequate drainage is provided for. The developer may be required to replace all, or any portion of existing roadway, in a manner that two-way traffic can be maintained without the use of potentially hazardous alignment transitions (vertical or horizontal) and in a manner to ensure that adequate drainage is provided for. As a minimum, there shall be twenty five feet of paving to accommodate through traffic. Required parking and shoulders are not included in the 25 feet.

When off-site pavement construction consists of improvement to the right-of-way centerline (approximately), leading and trailing transition tapers shall be placed at each end of the improvements. Horizontal transition tapers shall be designed and constructed based upon the roadway speed and in accordance with the taper requirements in the MUTCD and applicable AASHTO guidelines unless otherwise approved by the City Engineer.

B. When paving for partial street construction, the edges of the pavement are to be protected by placing a minimum two feet of aggregate base material beyond the edge of pavement matching the pavement grade.

C. Wherever partial street construction is required, grades shall be set for the future curb line and approved by the City's Representative. The future grades shall be compatible with the curb and centerline grades for the partial street construction. It may be necessary to design the roadway for a minimum of two hundred (200) feet to as much as one thousand (1000) feet beyond the development to ensure a future match.

D. Where a street abruptly ends or transitions, proper signage according to the MUTCD shall be required. Safe transitions into existing elevations shall be required where new roads transition into existing surfaces, i.e. gravel or natural surface.

3.2.5 PAVEMENT STRUCTURAL DESIGN

The structural details shown on the standard drawings are minimum requirements. The actual structural section for each roadway shall be designed by accepted Engineering design methods for flexible pavement (i.e. AASHTO, **UDOT** or CALTRANS). Required subgrade soil properties shall be obtained from an on-site geotechnical investigation. Required traffic information for design shall be approved by the City Engineer.

The geotechnical investigation shall be conducted by the Geotechnical Engineer. The investigation shall include a thorough exploration and sampling program of the subgrade to determine the nature and engineering properties of the on-site soils within the roadway construction area. For new construction and reconstruction projects, the minimum sampling and testing requirements are as follows.

- Excavate test holes to a minimum depth of five feet below subgrade. There shall be three test holes for the first one thousand (1000) feet and one for every eight hundred (800) feet thereafter, or as soil type varies.

- Calculate "R" values using AASHTO T 190-93 or ASTM D2844-69 (1975) using exudation pressure of 300 PSI (2070 Kpa) corrected to 2.50 inches (63.50 mm) specimen. Calculate "CBR" values using AASHTO T 193-93 three point using T 180 (Method D) for mold compaction with exceptions as listed in 5.1.1 through 5.1.3 of Test Method T193-93.

  Minimum Testing Frequency for "R" or "CBR" values shall be as follows:
  Two tests with at least one test per significant soil type for roadway lengths of one foot to one thousand feet.

  Three tests with at least one test per significant soil type for roadway lengths of one thousand feet to five thousand feet.

  Four tests with at least one test per significant soil type for roadway lengths of five thousand feet to sixteen thousand feet.

  Two tests per five thousand feet of roadway with at least one per significant soil type for any roadway over sixteen thousand feet.

- Conduct sieve analysis using either AASHTO T27-91 or ASTM C136-95. Conduct a sand equivalent test to determine the presence or absence of plastic fine material using either AASHTO T176-86(1993) 4.3.2 alternate method No. 2, pre-wet 4.3.3 mechanical shaker or ASTM D2419-91 9.4.2 Procedure B, 11.6.1 mechanical shaker. Either method shall use distilled or demineralized water for the working solution.

  One test for each stratum of each test hole.

- Calculate density in place using the drive-cylinder method ASTM D2937-83 or nuclear method ASTM D2922-93.

  Two tests per test hole.

- Calculate resistivity and pH using test methods AASHTO T-288-91 and AASHTO T-289-91.

  One test for each corrugated metal pipe culvert location.

- Test for soluble salts using St. George Standard Test Method S2297-96 at one-third of the number of test hole locations.

- Expansion index of soils shall be determined using the ASTM D4829-88 test method. This test shall be conducted whenever potentially expansive soils are encountered in a test hole.

  The above schedule represents minimum sampling and testing requirements. The Registered Professional Engineer responsible for directing and controlling the geotechnical investigation shall analyze each project to determine actual sample locations, frequency and testing program beyond the minimums given above.

  The above testing and design requirements may be waived by the City's Representative providing a prior development has already performed the above testing, design and construction on the first half of the roadway in the same location. In this case the new development shall match the existing roadway section.

3.2.6 CURB SIDE MAIL BOXES. All roadside mail boxes should be installed in accordance with applicable postal standards in the following locations:. In areas where the sidewalk is next to the curb, install boxes behind the sidewalk so as to not encroach into the sidewalk; in areas where a planter strip is provided, mail boxes may be installed within the strip, provided no part extends into the sidewalk or beyond the back of the curb; in rural areas where no barrier curb is installed, a minimum clear zone of ten feet from the traveled way should be provided.

3.2.7 SIGNS AND PAVEMENT MARKINGS. All street name and traffic control signs and pavement markings required on the street system within a

development or as a result of the development, shall be installed at the developer's expense in accordance with the standard drawings and MUTCD standards. A signing plan should be submitted with the engineering drawings, however, additional signing and traffic control may be added to the project as determined by the City's Representative.

3.2.8 UNDERGROUND WATER. When underground water in or adjacent to the site is encountered by geotechnical investigation or during the construction work, the City's Representative and the Project Engineer shall be notified immediately. The Project Engineer shall cause the necessary studies to be made and the required mitigation work to be installed. Do not ignore the situation!