

TITLE 9

STREETS AND SIDEWALKS

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CHAPTER 9.02

MINIMUM DESIGN STANDARDS FOR STREETS

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9.02.01 Definitions

Street

Arterial street – A street or road of considerable continuity that serves, or is intended to serve, as the principal traffic way between separated areas or districts which is the main means of access to the primary street system or expressways.

Minor arterial street – a street or road that does not meet the definition of a full arterial street, but which is expected to carry more traffic than the typical collector street, especially more truck traffic.

Collector street – a street which in addition to serving abutting properties, intercepts neighborhood streets, connects with community facilities and carries neighborhood traffic to the arterial street system. Typically residential lots do not front on collector streets.

Neighborhood streets – a street used primarily to carry traffic from abutting properties.

Industrial streets – a street that serves an industrial park or district, or that carries primarily industrial traffic. (Ord. No. 2006-44, Sec. 1.)

9.02.02 Minimum street design requirements

A. Streets The location and width of all streets and roads shall conform to the official Master Street Plan.

B. New street requirements

1. ~~Major~~ **Arterial streets**

*5 lane
12' lane widths*

Right-of-way: 80 feet (minimum).

Pavement width: As determined by traffic study.

Edges: Curb and gutter.

Asphalt section: As determined by site-specific geotechnical study; however, shall not be less than 6 inches of type 2 asphalt, over 8 inches of Class 7 base, over 12 inches of improved subgrade, over 36 inches of suitable material.

Concrete section: As determined by geotechnical study; however, shall not be less than 7 inches of Portland cement concrete, over 4 inches of Class 7 base, over stable subgrade and lower layers.

Crown: 2 percent; super-elevation when required AHTD standards.

Axial slope: 0.5 percent to 8 percent.

Turning radius: For intersection – 30 feet; for through street turn – based on AASHTO design standards for posted speed. (Ord. No. 2006-44, Sec. 2.)

2. **Minor arterial streets**

Right-of-way: 80 feet standard (60 feet minimum, where permitted by the city).

Pavement width: As determined by traffic study.

Edges: Curb and gutter.

Asphalt section: As determined by site-specific geotechnical study; however, shall not be less than 6 inches of type 2 asphalt, over 8 inches of Class 7 base, over 12 inches of improved subgrade, over 36 inches of suitable material.

Concrete section: As determined by geotechnical study; however, shall not be less than 7 inches of Portland cement concrete, over 4 inches of Class 7 base, over stable subgrade and lower layers.

Crown: 2 percent; super-elevation when required AHTD standards.

Axial slope: 0.5 percent to 8 percent.

Turning radius: For intersection – 30 feet; for through street turn – based on AASHTO design standards for posted speed. (Ord. No. 2006-44, Sec. 2.)

3. **Collector streets**

Right-of-way: 60 feet.

Pavement width: 32 feet for two-lane street; 36 foot for three-land street; number of lanes required to be determined by traffic study.

Edges: Curb and gutter.

Asphalt section: Not less than 4 inches of type 2 asphalt, over 6 inches of Class 7 base, over 12 inches of improved subgrade, over 24 inches of suitable material. When required by the Planning Commission, a geotechnical study shall be performed for pavement design.

Concrete section: 6 inches of Portland cement concrete, over 4 inches of Class 7 base, over stable subgrade and lower layers. When required by the Planning Commission, a geotechnical study shall be performed for pavement design.

Crown: 3 percent; super-elevation when required on curves where AASHTO criteria requires it.

Axial slope: 0.5 percent to 10 percent. Steeper slopes allowed in hilly areas, but never to exceed 16 percent.

Turning radius: For intersection – 25 feet; for through street turn – based on AASHTO design standards for posted speed. (Ord. No. 2006-44, Sec. 2.)

4. *Local* **Neighborhood streets**

Right-of-way: 50 feet, 120 foot diameter for cul-de-sacs.

Pavement width: 30 feet; 100 ft diameter for cul-de-sacs.

Edges: Curb and gutter.

Asphalt section: 3 inches of type 2 asphalt, over 6 inches of Class 7 base, over 9 inches of improved subgrade, over 24 inches of suitable material.

Concrete section: 5 inches of Portland cement concrete, over 3 inches of Class 7 base, over stable subgrade and lower layers.

Crown: 3 percent; super-elevation not required.

Axial slope: 0.5 percent to 10 percent. Steeper slopes allowed in hilly areas, but never to exceed 18 percent.

Turning radius: For intersection – 25 feet; for through street turn – 50 feet. (Ord. No. 2006-44, Sec. 2.)

5. Industrial streets

Right-of-way: 60 feet minimum.

Pavement width: 36 feet minimum; traffic study required to determine required width and turning lane provisions.

Edges: Curb and gutter.

Pavement section: A specific design must be made for industrial streets, based on geotechnical studies.

Crown: 2 percent; super-elevation where required by AASHTO standards.

Design Feature	<i>Local</i>					
	Arterial	Minor Arterial	Collector	Neighborhood	Industrial	Local
Right-of-Way	80 ft	80 ft./ 60 ft.	60 ft.	50 ft./ 120 ft. cul-de-sacs	60 ft.	
Number of Lanes			2 or 3			
Pavement Width	Traffic Study	Traffic Study	2 lanes – 32 ft. 3 lanes – 36 ft.	30 ft./ 100 ft. cul-de-sacs	36 ft.	
Lane Width						
Shoulder Width						
Edges	Curb & Gutter	Curb & Gutter	Curb & Gutter	Curb & Gutter	Curb & Gutter	
Asphalt – Type 2	6 in.	6 in.	4 in.	3 in.		
Class 7 Base	8 in.	8 in.	6 in.	6 in.		
Improved Subgrade	12 in.	12 in.	12 in.	9 in.		
Suitable Material	36 in.	36 in.	24 in.	24 in.		
Concrete – Portland	7 in.	7 in.	6 in.	5 in.		
Class 7 Base	4 in.	4 in.	4 in.	3 in.		
Subgrade & Lower Layers	Stable	Stable	Stable	Stable		
Crown	2%	2%	3%	3%	2%	
Axial Slope	0.5-8%	0.5-8%	0.5-10%	0.5-10%	0.5-10%	
Turning Radius-Intersection	30 ft.	30 ft.	25 ft.	25 ft.	50 ft.	
Turning Radius-through Street	AASHTO standards	AASHTO standards	AASHTO standards	50 ft.	80 ft.	

Axial slope: 0.5 percent to 10 percent.

Turning radius: For intersection – 50 feet; for through street turn – 80 ft.

(Ord. No. 2006-44, Sec. 2.)

“9.02.03 Miscellaneous Street Design Requirements

- A. Sidewalks shall be constructed in accordance with chapter 9.03.
- B. All pipes and sleeves installed under streets shall be backfilled using one of the two following methods. At the discretion of the city, alternative methods of trench backfill under streets may be allowed.
 - 1. Backfill full depth using Class 67 aggregate up to the bottom of the base course. Base course construction shall be in accordance with chapter 9.02.04.
 - 2. Backfill with Class 7 base material above the initial backfill of Class 67 aggregate up to the bottom of the base course, placed in 8” lifts, compacted to a minimum of 95% of Modified Proctor Density.
- C. Street design shall include provisions for prevention of groundwater from affecting the stability of the subgrade, causing unsatisfactory pavement performance or surfacing through pavement or seams between the pavement and the gutter.
- D. Pavement width shall be measured from back-to-back of curb.
- E. Construction drawings shall be sufficiently detailed to describe construction of the street, including all earthwork, and indicate how run-off will flow across pavement and through intersections. For residential and commercial subdivisions, the customary drawing set will include: Street plan and profiles; storm drainage plan and profiles (which may or may not be the same drawings as the street plan and profile); street cross-sections at 50-foot intervals and at intersections. Full grading plans, including existing and proposed contour lines, shall be provided for the entire project, including enlarged scale plans at intersections.
- F. When required, overlays of gravel roads or chip and seal roads shall be a minimum of 3 inches of hot mix asphaltic concrete.
- G. Super-elevation of pavement for drainage purposes shall be at the discretion of the city. (Ord. No. 2010-17 Sec.3)”

"9.02.04 Street Construction Standards

The roadway, base, drainage, and pavement drawings and specifications for proposed streets and roads shall equal or exceed the following minimum standards and be in accordance with the standards set forth in this chapter. Any conditions or items not covered shall be in accordance with the current AHTD Standard Specifications. (Ord. No. 2010-17, Sec. 4.)

A. Clearing and Grubbing

1. All trees, stumps, roots and other obstructions not designated to remain shall be cleared and/or grubbed in such a manner as to not cause damage to other items designated to remain. Stump holes shall be filled with suitable material and compacted.
2. If material is to be burned, the burning activities shall comply with all applicable laws and ordinances, including any temporary burn bans, and shall be under the constant care of competent watchmen.
(Ord. No. 2010-17, Sec 4)

B. Roadway Excavations and Embankment

1. Suitable material shall consist of soil; or a mixture of soil, stone, or gravel; shall be free of sod, logs, stumps, roots and other deleterious matter; and shall be capable of forming a stable embankment when compacted.
2. All suitable material obtained during excavating operations may be used in the construction of roadway embankments and subgrade; and all unsuitable material shall be used behind the curb or hauled to an approved waste area.
3. All roadway cuts and grades shall conform to those shown on the approved plans. Changes from approved plans shall not be made without the approval of the city.
4. Sod and vegetation shall be removed from the surface upon which an embankment of less than four feet is to be placed.
5. Roadway embankment shall be constructed in layers not to exceed 8 inches (loose measurement). Each layer shall be compacted at or near optimum moisture for that particular soil to at least 95 percent of the maximum standard Proctor density.
6. In areas where rock is encountered, it shall be excavated to a depth of 8 inches below subgrade elevation and replaced with approved material.
7. Rock obtained during excavation operations may be placed in layers not exceeding 30 inches. The rock shall be placed in a manner that the voids between the rock fragments are filled with suitable material. The top 12 inches of the finished subgrade shall not contain rock pieces over 4 inches in greatest dimension.

8. Embankment which is adjacent to structures and inaccessible to normal compaction equipment shall be placed in 4 inch (loose measurement) layers and compacted to at least 95 percent of maximum standard Proctor density. The material shall be compacted with special mechanical equipment where it is inaccessible to normal compaction equipment. (Ord. No. 2010-17, Sec.4)

C. Subgrade

1. Suitable material for subgrades shall have a minimum California Bearing Ration (CBR) of 8.0 and classified as a GM (silty gravel) or GC (clayey gravel) soil. All soils with a liquid limit greater than 40, or a plasticity index greater than 15, or a CBR value less than 8.0 shall be undercut and removed from the street section or improved by a designed method of stabilization accepted by the city engineer.
2. Where soils are encountered below the subgrade level that will not adequately support the intended street, the soil shall either be improved or removed and replaced with suitable material that will give adequate support. The depth of this zone below the subgrade differs for different classes of streets, as stated elsewhere in these regulations.
3. The subgrade shall be improved to the depth indicated previously in these regulations. Subgrade shall be compacted at or near optimum moisture content to 95 percent of standard Proctor density. This shall be accompanied by scarifying as necessary, and shaping and compacting to the required grade.
4. Finished subgrade shall be within 0.5 inch above to 0.75 inch below the required subgrade elevation per the approved drawings. However, subgrade shall positively drain as required by the design, so that adjustment of the thickness or shape of the upper courses is not required to achieve proper drainage. (Ord. No. 2010-17, Sec. 4.)

D. Base Course

1. Base course shall be constructed to the thicknesses indicated previously and shall meet the requirements of AHTD Class 7 aggregate base course. It shall be shaped and compacted to the lines and grades indicated on the approved drawings.
2. Compaction shall be at or near optimum moisture content to 95 percent of modified Proctor density.
3. The finished base course surface shall be within 0.5 inches above to 0.75 inches below the elevation required by the approved drawings, except that the design thickness of base course shall not be reduced to achieve drainage. (Ord. No. 2010-17, Sec. 4.)

E. Curb and Gutter

1. Curb and gutter shall be constructed on the same improved layers as the pavement section, except that the thickness of the base course may be reduced at the discretion of the city engineer.
2. The base course shall be extended 12 inches behind the back of curb.
3. All utility lines, utility services, sleeves for future utilities and storm drain crossing of the street shall be constructed before construction of curb and gutter. Any of these that are not constructed before construction of curb and gutter shall be installed by boring.
4. Curb and gutter shall be constructed of Portland cement concrete meeting the requirements of AHTD Class S (AE) air entrained concrete, shall have a minimum 28 day compressive strength of 4,000 psi, and a maximum slump of 4".
5. Gutter cross-slope shall be not less than 5 percent, with 8.33 percent being the preferred slope. Greater slope may be provided at transition to curb inlet throats.
6. For flexible pavement, curb and gutter shall have contraction joints at intervals not to exceed 20 feet. Contraction joints shall be constructed to the proper width and depth, cleaned, and joint filler material installed in compliance with manufacturer's recommendations.
7. Expansion joints shall be provided at all stationary structures, and at intervals not to exceed 200 feet. Expansion joint material shall comply with AASHTO M 213.
8. Curb and gutter shall be cured with curing compound or wet burlap. In cold weather, curb and gutter shall be protected from excessive heat loss until curing is complete.
9. Finished curb and gutter shall provide positive drainage without intermediate low points or high points, to the drainage structure that removes drainage from the road. Finished curb and gutter shall not vary from plan grade by more than 1/4 inch per 10 feet.
10. In subdivisions, the subdivision developer shall construct depressed curb sections to A.D.A. standards and handicapped-accessible ramp as described in chapter 9.03. (Ord. No. 2010-17, Sec. 4.)

F. Asphalt Pavement

Asphalt courses shall meet the AHTD standard specifications for hot mix binder and surface courses, with the following provisions:

1. The thickness of the asphalt hot mix courses shall not be less than 1/4 inch of the thickness required by the approved drawings.

2. Crushed stone base course shall be primed. Prime coat shall meet AHTD standards specification requirements. Prime coat shall cure at least 72 hours, unless a shorter curing time is approved in writing by the city.
3. A tack coat shall be placed between succeeding asphalt layers. Tack coat shall meet AHTD standard specifications.
4. Binder course shall meet AHTD gradation for type 2 binder course or type 2 surface course.
5. Surface course shall meet AHTD gradation for type 2 surface course.
6. Binder and surface courses may be designed either with a Marshall stability test per the 1996 AHTD standard specifications, or a Superpave method per the 2003 AHTD standard specifications (or approved equals, or later editions).
7. A copy of the approved mix design shall be submitted to the city for review prior to placing any asphalt paving.
8. Both binder and surface courses shall be compacted to a minimum of 92 percent and a maximum of 96 percent of maximum theoretical density as determined by the 50 blow Marshall design procedures.
9. When a nuclear gauge is used to determine asphalt density, it must be correlated with cores taken from the roadway.
10. Thickness of asphalt courses placed shall be dependent on the capabilities of compaction equipment being used. Courses thicker than 4 inches may require pre-approval by the city.
11. The final asphalt surface, when checked with a 10 foot straightedge, shall not vary from the approved drawings by more than $\frac{1}{4}$ inch.
12. Asphalt construction shall not be performed during weather conditions that are unsuitable for the type of material being placed as stated in the AHTD Standard Specifications. In general, hot mix asphalt shall not be placed when the surface temperature is below 40 degrees, or when there is frost in the base or subgrade. Asphalt construction shall be suspended whenever weather conditions deteriorate such that these conditions are not met. (Ord. No. 2010-17, Sec. 4.)

G. Portland Cement Concrete Paving

Portland cement concrete pavement shall meet AHTD standard specification requirements, and the following criteria:

1. Thickness of concrete pavement shall not be less than $\frac{1}{4}$ inch of the thickness required by the approved drawings.

2. Concrete shall have a minimum 28 day compressive strength of 4,000 psi. Concrete shall contain an air entraining agent which produces 5 percent (+/-2 percent) air entrainment in the concrete. Slump shall be 2 to 4 inches if conventional paving equipment is used, and 1 to 2 inches if slip forming equipment is used.
3. Concrete shall be placed on the required base course, which must be wet as concrete is placed.
4. Concrete pavement shall be checked with a 10 foot straightedge after placement, consolidation, and initial finishing to verify that the required lines and grades by the approved drawings have been obtained. Any surface irregularities shall be corrected at this time while the concrete is still in a plastic condition. Completed concrete pavement shall have a broom or tined texture.
5. Jointing, reinforcing, tying and doweling details and specifications shall be included with the construction documents for all rigid pavements.
6. Concrete pavement shall be cured with a curing compound meeting AHTD standard specifications.
7. Joints shall be constructed as indicated on the approved construction plans. Special saw joints shall be made to control cracking around penetrations in the pavement, such as manholes and other structures, and at corner radii.
8. Joints shall be filled with a silicone joint material, preformed joint material, or joint material meeting AHTD requirements. Backer rod materials are permitted where allowed by sealant manufacture's recommendations. (Ord. No. 2010-17, Sec. 4.)

H. **Transition to Unimproved Street or Road Continuation**

1. The construction should provide for a smooth transition from improved streets with curb and gutter to existing streets/roads/highways.
2. Where the continuing street is already finished with curb and gutter, provide a smooth transition to match the existing curb and gutter.
3. Where the existing road or highway includes a ditch, provide a smooth transition from curb and gutter to the ditch, and from pavement radii to the existing pavement. The transition should prevent erosion and undermining of pavement, and should allow for adequate pavement to reduce the chances of vehicles turning into the ditch.
(Ord. No. 2010-17, Sec. 4.)

I. Adjacent Street Improvements

Where a development is proposed on a street that is unimproved on both sides (i.e., this is the first development on that portion of that street), the planning commission has the choice of having the developer complete one of the following three options for improvement:

1. Option 1 – Half Street Improvements

- a. The first developer shall improve streets adjacent to their development for half the street width to the standards for collector street or neighborhood street, as applicable. This will include: adjustment for axial street grade to meet city standards for streets (unless this requirement is waived by the planning commission which may occur in special circumstances); improvements to the existing road bed to support traffic loads or demonstrate via a geotechnical report that the existing surface meets city standard for street; drainage improvements sufficient to carry the ten (10) year storm; curb and gutter for the full length of the development; pavement section (base course and either flexible or rigid pavement) according to city standards. Since the resulting street will be partially improved, the developer is responsible for providing a smooth transition from improved to unimproved portions, with the result providing for correct drainage and smooth and safe traffic flow.
- b. The second or subsequent developers shall improve adjacent streets according to city standards for collector streets or neighborhood streets as applicable. This will include: improvements to the existing road bed to support traffic loads or demonstrate via a geotechnical report that the existing surface meets city standard for street; drainage improvements sufficient to carry the ten (10) year storm; curb and gutter for the full length of the development; pavement section (base course and either flexible or rigid pavement) according to city standards. Since part of the road will have already been developed, subsequent developers will be responsible for completing the road so that both sides of the road match, resulting in a pleasing appearance and smooth traffic movement. If significant time has passed since the improvement made by the first development; any damage to prior construction, unless as a result of negligence of the first developer, shall be completed as part of the subsequent development.

2. **Option 2 – Limited, Full Street Improvements**

- a. The first developer shall be responsible for partially developing the existing unimproved road. This will include: adjustment of axial street grade to meet city standards for streets (unless this requirement is waived by the planning commission which may occur in special circumstances); improvements to the existing road bed to support traffic loads or demonstrate via a geotechnical report that the existing surface meets city standards for street; drainage improvements consistent with full street improvements on both sides that also work for the limited street improvements; overlay of the road to the width set by the planning commission, which will normally be twenty-five (25) feet. Since roads constructed under this option will be partial improved roads, the finish grade should be designed to be consistent with future improvements.
- b. Subsequent developers will be responsible for completing the previously, partially improved street to city standards on both sides. This will include: subgrade improvements in the widened portion as required by geotechnical studies and/or lab and on-site tests; drainage improvements consistent with a fully-developed street to carry the ten (10) year runoff; curb and gutter the full length of both sides of the street and connecting to existing and proposed subdivision entrances; pavement of the widened portion of any repairs necessary, with a minimum of 1.5 inches of asphalt. For streets where home builders have not constructed sidewalks due to uncertainty of grades or incomplete drainage improvements, subsequent developers shall construct the sidewalk on the opposite side of the street.

3. **Option 3 – Fee in Lieu of Street Improvements**

At the discretion of the planning commission, based upon the recommendation of the city street superintendent, the developer may be required to deposit with the city a fee in-lieu-of constructing normally required adjacent and/or offsite street improvements. The fee shall include a reasonable amount to offset inflation increases for a five (5) year period. The amount of the fee shall be agreed to in writing between the

city street superintendent and the developer, and shall be presented to the planning commission for approval. The fee in-lieu-of shall be paid as follows: twenty-five percent (25%) prior to the start of construction and seventy-five percent (75%) before the final plat of the development is presented to the planning commission. (Ord. No. 2010-17, Sec. 4.)

J. Off-site Street Improvements

Off-site improvements will be required for any development that would increase traffic to such a point that existing streets, either improved, partially improved, unimproved, or a combination thereof, will not safely and efficiently carry the resulting traffic. In general, off-site improvements will consist of: widening; overlaying to improve the strength and the wearing course; and drainage improvements consistent with the type of road after the improvements.

In any circumstances, the planning commission may ask for a traffic study, to be paid for by the developer, to determine the extent of off-site improvements required. (Ord. No. 2010-17, Sec. 4.)”

“9.02.05 Street Construction Observation and Inspection.

Developer must employ the services of a registered professional engineer to observe construction of all public streets and drainage. Any inspection that the city performs does not supersede developer’s responsibility in this area. Engineer shall make periodic site visits, and may employ qualified construction observers to assist engineer in fulfilling his obligations. Engineer shall provide the city with a copy of the construction observer’s qualifications. Engineer (or construction observer) shall make a daily written report of site observations at the same time that the construction is being performed. These daily reports shall be provided to the city at least weekly.

The city, at its discretion, may require that the construction observer be onsite at all times to observe all phases of construction.

The city will make periodic visits during street construction to observe the work. Visits by the city do not reduce the need for the developer’s engineer to observe the construction.

The city will make a final inspection of the work when the developer indicates the work is ready for final inspection. Since the cost for the city’s time to perform this inspection is borne by the developer, the request for inspection must come from the developer or the developer’s engineer, not from the contractor.” (Ord. No. 2010-17, Sec 5)

9.02.06 Street Testing.

Contractor, developer, or engineer shall inform the city forty-eight (48) hours in advance of when testing will take place, to allow the city to witness these tests. If the city elects not to observe the tests, the tests may be conducted under the supervision of the developer's engineer. In either case, developer's engineer shall furnish the city a copy of the construction observer's report for the day, indicating what tests were performed and what the results of those tests were (i.e., pass, fail, or numerical results).

- A. Developer shall retain the services of a testing laboratory to perform all sampling and testing. Developer will be responsible for the costs of all sampling and testing performed on the project, including any additional sampling and testing required as a result of failing tests and or poor workmanship.
- B. The testing laboratory shall copy the city with all test results. In the event the testing laboratory fails to copy the city, developer is responsible for forwarding copies to the city.
- C. In the case of failing tests or substandard work, the city may direct the testing laboratory to perform additional sampling and testing. The developer will be responsible for the costs of any additional sampling and testing results from failing tests and/or substandard work.
- D. The following tests shall be performed during construction, except that in all cases, a minimum of one test shall be made for each day of construction. Also, for small projects, a minimum of two of each test shall be performed:
 - 1. **Cross-drain backfill:** Minimum of one density test per pipe or box culvert location in every other lift including the top two lifts of backfill. This also applies for any other crossing/construction in street where Class 7 base material is used as backfill.
 - 2. **Embankment:** Minimum of one density test per each 8 inch lift per maximum width of 30 feet and maximum of 500 linear feet of embankment.
 - 3. **Subgrade:** Minimum of one density test, including determination of moisture content, per 800 lane-feet of roadway and 1 test under curb and gutter for every 800 linear feet of curb and gutter. In addition, subgrade, including subgrade under curb and gutter shall be proof-rolled with a fully loaded tandem-axle truck, or equivalent load to look for yielding subgrade. Any location that yields shall be reworked and proof-rolled again.
 - 4. **Curb and gutter:** Minimum of one set of 3 cylinders per 800 linear feet of curb and gutter. One cylinder shall be tested at 7 days, and the other two at 28 days.

5. **Base course:** Minimum of one density test, including determination of moisture content, per 800 lane-feet of roadway and 1 test under curb and gutter for every 800 linear feet of curb and gutter. There shall also be one sounding for base course thickness for every 800 lane-feet of roadway. In addition, subbase including subbase under curb and gutter shall be proof-rolled. Any location that yields shall be reworked and proof-rolled again.
 6. **Asphalt pavement:** Minimum of one density test and one depth measurement by coring per 800 lane-feet of roadway. Depending on the results of these tests, the city may increase the frequency of this testing. In addition, the city may direct that tests be taken at any location where they believe the finished roadway quality to be substandard.
 7. **Concrete pavement:** Minimum of one set of three cylinders at the beginning of the pour; then one set per 800 lane-feet of pavement, with a minimum of one set per project. One cylinder shall be tested at 7 days and the other two at 28 days. Concrete streets shall be cored every 800 lane feet or portion thereof for the purpose of checking thickness. (Ord. No. 2010-17, Sec 6)
- E. The developer must demonstrate that the pavement, curb and gutter adequately provide for removal of run-off. This may be accomplished either by wetting the pavement to allow the city to check for low points and non-draining areas, or by waiting until after rainfall to schedule the inspection for this purpose. (Ord. No. 2010-17, Sec. 6.)”

9.02.07 Signage and striping (Street signs, traffic control signs and striping)

- A. Signage and striping will be as shown on the construction plans, which shall be approved by the street superintendent and by the Centerton Police Department, and shall be installed before the final plat is presented to the planning commission." (Ord. No. 2010-17, Sec. 7 A)
- B. Street signs and traffic control signs will be procured by the city and either installed by the city or by the developer. The city will invoice the developer for the cost of the signs and labor, as applicable. Payment of invoices will be due 15 days after the date of the invoice.
- C. Striping will be the responsibility of the developer.
(Ord. No. 2006-44, Sec. 7.)

9.02.08 Final acceptance of streets Newly constructed public street will be accepted by the city to become part of the city's public infrastructure as part of the final plat process for subdivision, or part of the certificate of occupancy process for developments, in accordance with the following provisions:

- A. Before acceptance, street construction shall be completed. In some cases, the Planning Commission may accept streets into the public infrastructure prior to completion, upon presentation by the developer of an appropriate bond.
- B. Upon completion, and at the request of the developer of the developer's engineer, streets shall be inspected by the city. Any deficiencies noted during this inspection shall be corrected and the areas re-inspected until found acceptable.
- C. Record (as built) drawings shall be delivered to the city, reflecting any changes to the streets and storm drainage system. These drawings shall be submitted in both paper and electronic format.
- D. Developer shall present the city with a street maintenance bond, which shall warranty the streets against any defect for a period of two (2) years from the date of the recording of the final plat. The bond amount shall be for one hundred percent (100%) of the construction cost of the streets, inclusive of the base course, pavement, and curb and gutter. The bond time period and amount may be reduced at the discretion of the Planning Commission if the stated bond requirements present a unique substantial hardship to the developer. A variance in the bond shall be requested and reviewed using the same procedure and criteria as used when requesting a variance from subdivision regulations.
(Ord. No. 10-06, Sec. 9.02.08.d)
- E. At the city's discretion, streets that fail to meet any aspect of these standards may be approved for incorporation to city public infrastructure upon presentation of a longer term Maintenance Bond with a larger bond amount. Depending on the circumstances, this could be up to three years and up to 200 percent of the street construction cost.
- F. Bond shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. Bond signed by an agent must be accompanied by a certified copy of such agent's authority to act. Bonding company shall be acceptable to the city.

- G. Repairs made during the warranty period shall be warranted from the date of the repair for the same amount of time as the original construction was warranted.
- H. Provisions must be in place for continued storm water pollution prevention after Final Plat approval. This shall take one of the following forms, at the developer's choosing:
 - 1. The developer shall obtain an NPDES permit that will be in effect after the construction NPDES permit, and which will not be cancelled by a Notice of Termination with ADEQ for a period of one year, unless houses are under construction on all lots in less than one year. If the developer sells all lots in the subdivision to another developer after final plat approval, the purchaser will become the permittee.
 - 2. The entire subdivision site, except the location where the building pads will be constructed, shall be seeded and mulched before a final plat is issued. (Ord. No. 2006-44, Sec. 8.)

9.02.09 Warranty period responsibilities

- A. During the warranty period, which shall be for two years from the date of filing of Final Plat, the developer will be responsible for the following activities:
 - 1. The mowing or areas of the subdivision that do not have ongoing construction activities including detention ponds. Mowing shall occur at least monthly during the primary growing season and as need during other times of the year.
 - 2. Areas shall be watered, sodded and seeded as required to maintain growth. Watering may be reduced or eliminated only when rainfall is sufficient to maintain growth.
 - 3. Sediment and debris shall be removed from all curb inlets, junction boxes, storm sewers and detention ponds. This must be done as often as necessary to protect infrastructure from damage and to maintain public safety, based upon activities in the subdivision.
 - 4. Erosion control measures shall be maintained in areas that do not have ongoing construction activities. This includes the inspection and removal of accumulated sediment and repair or replacement of damaged/deteriorated erosion control measures.

- B. The activities needed to remove debris from pavement and drainage facilities will vary depending on the circumstances in the development, the proper installation, maintenance, and functioning of erosion control best management practices, and the care taken by all entities working in a development. The fact that construction may be on-going does not relieve the developer from the responsibility of cleaning debris and sediment as described in this section. The division of responsibilities between the developer and others working in the subdivision shall be as defined by regulations promulgated by ADEQ.
- C. The city will conduct warranty period inspections from time to time during the warranty period. If defects are noted, the city will inform the engineer, developer or contractor, in writing, of the defect. A thirty (30) day period is allowed for the correction of any reported defect. It is not allowed to accumulate defects as punch list items and repair them at the end of the warranty period. If the defect is not repaired at the end of the thirty (30) day period, the city will notify the bond issuer of the failure of the developer or contractor to comply with the city's requirements and the city's intention to repair the defect at the bond issuer's expense. The city will also request payment for the repairs. At the city's discretion, the 30-day time period for the correction of the defect may be extended." (Ord. No. 2010-17 Sec. 9 C)
- D. Any warranty repairs made shall be under warranty for the same time period (i.e., 2 years) from the date the repair is accepted by the city.
- E. Any time a developer fails to act promptly on maintenance activities required by this section, the city will either: complete the work and charge the developer, or will exercise its rights under the street and drainage maintenance bond. (Ord. No. 2006-44, Sec. 9.)