CHAPTER 2 - STREETS CONSTRUCTION

2.00 General Requirements

A. Preconstruction Conference Requirement

See Section 1 of this Volume of the City Standards for requirements.

B. Construction Standards

All street, roadway, or sidewalk construction within public right-of-way shall conform to the most recent design standards of the City and other requirements of the City. All work and materials shall be in accordance with this document and the Standard Specifications (WDOT Standard Specifications for Road, Bridge, and Municipal Construction). Where conflicts exist the more stringent specification shall apply, as determined by the City Engineer.

C. Plans and Specifications

The installation of street and sidewalks shall be in accordance with construction plans and specifications prepared by the developer's engineer and reviewed and approved by the City.

2.01 Surfacing Requirements

A. General Requirements

Subgrade, aggregate base, and pavement shall be constructed in accordance with the Standard Specifications.

B. Aggregate Base

All aggregate shall meet WDOT specifications for base rock.

During compaction, materials shall be maintained within 2 percent of the optimum moisture content. The contractor shall begin compaction of each layer immediately after the material is spread, and continue until a density of not less than 95 percent of the maximum density has been achieved. Maximum density will be determined by AASHTO T-180, or WDOT Test Method 705.

C. Asphalt Pavement

The base course of asphalt concrete (AC) streets shall be WDOT class "B" and the wearing course shall be WDOT class "B" or "G".

The compaction shall be at least 91 percent based on a Rice theoretical maximum density, as determined in conformance with AASHTO T 209, as modified by WDOT. In addition, for each mix used, a 50 blow Marshall (AASHTO T 245) shall be performed and all related test data shall be provided to the City Engineer. The minimum stability shall be 1800 pounds, the flow shall be between 8.0 and 16.0 hundredths of an inch, and the voids shall be between 3.0 and 5.0 percent. The Marshall requirement may be waived by the City Engineer on a case-by-case evaluation.

2.02 Curb & Gutter

All curb and gutter shall be constructed with Class B concrete, and shall be constructed over a prepared foundation of compacted aggregate.

When new curbing is being placed, a stamp shall be placed to mark where each water and sanitary sewer service crosses the curb line. The method of marking the curb shall be approved by the City Engineer and noted on the approved construction plans. If an imprinting stamp is used, the impression left for a water service shall be the letter "W"; for a sanitary service, it shall be the letter "S". These impressions shall be 2 inches high, placed on the top of the curb.

2.03 Concrete Sidewalks

All sidewalks shall be five inch (5") thick Class B concrete, and shall be constructed over a prepared foundation of compacted aggregate with a stiff broom finish. At driveways the concrete shall be six inches (6") thick.

2.04 Driveways

A. Clearance from structures.

No object (including fire hydrants, light or power poles, street trees) shall be placed or allowed to remain within fifteen feet (15') of the driveway edge.

Where the building facade or other design element is less than ten feet (10') behind the sidewalk front setback both pedestrian and vehicular sight distance shall be maintained.

B. Construction shall be per Standard Drawings.

2.05 Mailboxes

It shall be the responsibility of the developer to ascertain mailbox design requirements as required by the Postmaster. Mailboxes, in the general case, shall be set:

A. Bottom or base of box forty-four inches (44") above road surface or as directed by the Postmaster.

B. Placement in relation to curb or sidewalk:

1. Local Streets. Front of mailbox one foot (1') back of vertical curb face or outside edge of shoulder; six inches (6") behind back edge of rolled curbs.

2. Arterial Streets. Front of mailbox one foot (1') behind the back of sidewalk.

C. On posts strong enough to give firm support but not to exceed (4") x (4") wood or one and one-half inch (1-1/2") diameter pipe, or material with comparable breakaway characteristics.

D. Sidewalk widening behind the mailbox shall be five feet (5') long with a ten to one (10:1) taper to the standard sidewalk section.

2.06 Survey Monuments

Monument case and cover - see WDOT Standard Drawings.

2.07 Street Illumination

A. Signing. See WDOT Standard Drawings for typical installations and details.

B. Pavement Marking. All materials shall conform to the "State of Washington Standard Specifications for Road, Bridge, and Municipal Construction," latest edition.

C. Traffic Signal Modification. The developer's engineer shall use the standard specifications developed by the City Engineer in conjunction with the current edition of the Washington State Department of Transportation's (WDOT) "Standard Plans and Specifications for Road, Bridge, and Municipal Construction".

2.08 Safety Railings

A. Safety railings shall be constructed of 2" galvanized steel pipe or aluminum with vertical supports ten feet (10') on center and 3 horizontal railings fourteen inches (14") on center, the lowest railing center being fourteen inches (14") above finished grade. All joints shall be welded, cold galvanized if welded after galvanizing, and the entire safety railing may be painted or vinyl coated to assure corrosion protection and a pleasing appearance. Railings shall be erected and adjusted, if necessary, after initially set to assure a continuous line and grade.

B. Wooden railings may be used when approved by the Engineer. Wooden railings shall be sturdily constructed of pressure treated timbers and galvanized carriage bolts (no nails allowed). Posts shall be minimum 4" x 4" on four-foot (4') centers. Three (3), 3" x 6" rails shall be bolted to the posts. Alternate designs may be considered.

2.09 Utilities

A. Depth

Underground utilities shall be buried a minimum depth of thirty (30) inches as measured from finished grade to top of utility. See Chapters 3, 4, and 5 for additional requirements.

B. Curb markings.

When new curbing is being placed, a stamp shall be placed to mark where each water and sanitary sewer service crosses the curb line. The method of marking the curb shall be approved by the City Engineer and noted on the approved construction plans. If an imprinting stamp is used, the impression left for a water service shall be the letter "W"; for a sanitary sewer service, it shall be the letter "S". These impressions shall be two (2) inches high, placed on the top of the curb.

C. Trench restorations.

Trench restoration shall be either by a patch or overlay method. When a patch method is used, the trench limits shall be sawcut prior to the final patch.

All trench and pavement cuts shall be made by sawcuts. The sawcuts shall be a minimum of 1 foot (1') outside the trench width. If the permit requires an overlay, the contractor may use a jack hammer for the cutting of the existing pavement.

All trenching shall be backfilled with crushed surfacing materials conforming to Section 4-04 of the Standard Specifications. Unless the Public Works Director requires/allows CDF (control Density fill), the trench shall be compacted to ninety-five percent (95%) maximum density, as described in Section 2-03 of the Standard Specifications.

Backfill compaction shall be performed in 8 to 12-inch lifts. The compaction tests shall be performed in four-foot (4') increments maximum. The test results shall be given to the Engineer for review and approval prior to paving. Number of tests required shall be as specified in Chapter 1. Additional testing may also be performed by the City.

Temporary restoration of trenches for overnight use shall be accomplished by using MC mix (cold mix), ATB, or steel plates. ATB used for temporary restoration may be dumped directly into the trench, bladed out and rolled. After rolling, the trench must be filled flush with asphalt to provide a smooth riding surface.

Tack shall be applied to the existing pavement and edge of sawcuts and shall be emulsified asphalt grade CSS-1 as specified in Section 9-02.1(6) of the Standard Specifications. Tack coat shall be applied as specified in Section 5-04 of the Standard Specifications.

Asphalt concrete Class B shall be placed on the prepared surface by an approved paving machine and shall be in accordance with the applicable requirements of Section 5-04 of the Standard Specifications, except that longitudinal joints between successive layers of asphalt concrete shall be displaced laterally a minimum of twelve (12) inches or unless otherwise approved by the City Engineer. Fine and coarse aggregate shall be in accordance with Section 9-03.8 of the Standard Specifications. Asphalt concrete over two inches (2") thick shall be placed in equal lifts not to exceed two inches (2") each.

All street surfaces, walks or driveways within the street trenching areas affected by the trenching shall be feathered and shimmed to an extent that provides a smooth-riding connection and expeditious drainage flow for the newly paved surface. Shimming and feathering as required by the Engineer shall be accomplished by raking out the oversized aggregates from the Class B mix as appropriate.

Surface smoothness shall be per Section 5-04.3(13) of the Standard Specifications. The paving shall be corrected by removal and repaving of the trench only.

Asphalt patch depths will vary based upon the streets being trenched and whether the trenching is parallel or perpendicular to the streets. The actual depths of asphalt shall be shown on the Right-of-Way Use Permit and the work shall be performed as required by the attached details.

Compaction of all lifts of asphalt shall be an average of ninety-two percent (92%) of maximum density as determined by WDOT Test Method 705. Number of tests required shall be as specified in Chapter 1.

All joints shall be sand sealed using paving asphalt AR4000W.

When trenching within the roadway shoulder(s), the shoulder shall be restored to its original or better condition.

The final patch shall be completed as soon as possible and shall be completed within thirty (30) days after first opening the trench. This time frame may be adjusted if delays are due to inclement paving weather, or other adverse conditions that may exist. However, delaying of final patch or overlay work is allowable only subject to the Engineer's approval. The Engineer may deem it necessary to complete the work within the thirty (30) days time frame and not allow any time extension. If this occurs, the Contractor shall perform the necessary work as directed by the Engineer.

2.10 Inspection

A. Step Inspections

The following items of work shall be inspected by City forces.

1. For street or sidewalk work, subgrade shall be inspected by the City (and tested by the Contractor) prior to placement of crushed surfacing.

2. Crushed surfacing shall be inspected by the City (and tested by the Contractor) prior to placement of paving, curb, or sidewalks.

3. Pavement, curb, and sidewalk. Notify the City prior to the placement of any paving, curbs, or sidewalk.

4. Compaction of bedding and backfill of utility trenches.

5. Compaction of bedding within public right-of-way and slope easement.

Other items of inspection notification are included under the various items of work outlined in these Standards.

B. Progress of Construction

Construction shall proceed in a systematic manner that will result in a minimum of inconvenience to the public.

2.11 Contractor's Requirement for Testing

Testing shall be performed per the requirements of the Standard Specifications and Chapter 1 of Volume 2 of these Standards.