

## APPENDIX F

### PLAN CHECKLIST

#### *ROAD CONSTRUCTION PLAN CHECKLIST*

##### ***Title Block & Border:***

The title block and border for each plan shall generally conform to the standard Whatcom County format. Plan sheet size is 24" x 36". Title block shall run along the bottom edge parallel with the 36" length and shall include:

- Project name;
- Clients name;
- Section – Township – Range;
- Drawing date;
- Revision Number Box;
- Agency Approval Box;
- Drawing description
- Sheet number of plan set and total number of plans (sheet x of y);
- Professional Certification & seal box;
- Engineer of Record business information;

##### ***Horizontal Plan:***

The horizontal plan view shall at a minimum include the following elements:

- Vicinity map shall be drawn on the cover sheet at an appropriate scale to locate the project in relationship to major adjacent streets;
- When more than four sheets are required, the first sheet shall show a table of contents and an index summary;
- Section, Township, Range information with breakdown to land division boundaries. Shall also include a Section, Township, and Range detail locating the project at a map scale of 1"=1000';
- Control Datum Summary including monuments, basis of bearing, and vertical benchmark;
- Road alignments with 100-foot stationing, generally increasing from left to right, regardless of compass direction, or where North points in reference to the top of the sheet, and stationing at points of curve, tangent, and intersections with ties to sections and/or quarter corners surrounding the improvement. Stations in the profile view shall be aligned vertically with these same stations in the plan view as closely as practical;
- Bearings, distances, and coordinates on centerlines. The Washington State coordinate systems are preferred, others to be specified;
- Curve data, including radius, delta, and arc length on all horizontal curves;
- Rights-of-way lines and widths for proposed, existing, and intersecting roads. Easement lines and widths for utilities dimensioned from property or rights-of-way lines;

- All topographic features located within rights-of-way and/or easement limits and sufficient area beyond to resolve questions of setback, slope, stormwater, access onto abutting properties, and road continuations. This shall include ditches and flow lines, all stormwater structures with invert elevations, utility locations, edge of pavement, sidewalks and wheelchair ramps, curbing and approaches, retaining walls, fences, mail boxes, buildings, pertinent trees and shrubbery, contours at a 2-ft interval, and other features which would affect the construction of the project. A minimum of 50 feet should be shown on either side of the centerline;
- All existing and proposed utility locations including all crossings. A separate plan shall be dedicated to identifying and analyzing all new proposed utility crossing to evaluate potential conflicts and resolution. The Utility Conflict Resolution plan shall define all utility sizes, inverts, clearances, and other appropriate data;
- Identification of all roads, adjoining roads, and land divisions;
- Sidewalks and curb ramps;
- Mailbox location and sidewalk widening;
- All traffic control elements, pavement markings, and street signing locations;
- Intersection sight distance calculation;
- All existing and proposed streetlights;
- All existing and proposed stormwater features including the location and size of all features and facilities, directions of flow, and all other requirements as stated in *Chapter 2-Stormwater Management* of the development standards (see Stormwater Plan Checklist);
- All temporary erosion and sedimentation control measures required as stated in *Chapter 2: Stormwater Management* of the development standards;
- All intersection curb return design layout with warping profiles for each;
- Scale bar with a drawing scale appropriate for the design application. A scale of  $1'' = 40'$  is preferred, however  $1'' = 100'$  may be optional for development of lots 1 acre or larger in size. Details for clarification may be shown as a convenient scale;
- North arrow and Legend;
- When the plan view extends over more than one sheet, the first sheet of the plan set should illustrate an overall composite of the development layout, with the relationship of roads, utilities, stormwater, lots, and all other features clearly indicated, including street names/numbers and lot numbers. Further, a match line between drawings shall be clearly indicated complete with a 50 ft. overlap beyond the match line into the next plan for the purpose of illustrating features beyond the match line;
- General notes outlining the specifications and design standards used to create the plans;
- All other applicable data necessary for the specific project.

**Vertical Profile:**

The vertical profile view shall at a minimum include the following elements:

- Original ground profile along the centerline and rights-of-way lines, listing elevations at 50-foot stations, and at significant ground breaks and topographic features, with accuracy to within 0.1 ft. on unpaved services and 0.02 ft. on paved services. When roads extend to the perimeter of the project, the ground lines shall be extended at least 200 feet to illustrate any changes in contour which may affect the profile of the proposed road;
- Road, sewer, water, and storm drain profile with stationing the same as and aligned with the horizontal plan, reading from left to right. All vertical alignment data to be provided including, but not limited to,

stationing points of curve, tangents, vertical curves, points of intersection, grades, and elevations accurate to 0.01 ft, and K-values;

- All proposed utility crossings. A separate plan shall be dedicated to identifying and analyzing all new proposed utility crossing to evaluate potential conflicts and resolution. The Utility Conflict Resolution plan shall define all utility sizes, inverts, clearances, and other appropriate data;
- Warping profiles of flowline for all intersection curb returns and curb sections in cul-de-sacs;
- Urban profiles shall be clearly labeled to show the centerline. Rural profiles shall be clearly labeled to show the centerline and ditch flow lines. All vertical alignment data shall be shown on the profile complete with a numbered grid with reference to a control datum;
- Datum used and benchmarks, which refer to established control when available. Note: United States Coast and Geodetic Survey and United States Geological Survey (USGS & USGS) is preferred;
- Superelevation data for all roadways;
- Profile of flow lines at all curves showing, at a minimum, the stations and elevations of the beginning, midpoint, and ending of the curve. In cul-de-sacs, elevations shall be shown at the 1/8 angle points;
- A vertical scale with a 10:1 exaggeration with respect to the horizontal drawing scale (typical vertical scale of 1"=4' with the preferred plan scale of 1"=40');
- All other applicable data necessary for the specific project.

### **Cross Sections:**

Plans shall include both *Typical Cross Sections* and *Extracted Cross Sections*, and at a minimum shall include the following elements:

Separate full width *Typical Cross-Section* for each street or portion of street having a different section. *Typical Cross-Section* shall include:

- Width information – Existing and proposed pavement, centerline to curb flowline, sidewalk, ditches, medians, and rights-of-way;
- Depth Information – pavement structures including base and sub-base gravels, and hard surfacing; sub-grade soil conditions;
- Materials information – gravels and pavements;
- Slope information – Road crown, gutters, medians, and sidewalks;
- Utility locations;
- Specifications, details, and all other applicable data necessary for the specific project.

A separate sheet of *Cross Sections* extracted every station (i.e. every 100 ft) and at breaks or locations appropriate to the site conditions. *Extracted Cross Sections* shall include:

- The existing ground surface within the right-of-way. The surface extraction shall extend a minimum of 50 feet on either side of the centerline, and beyond the right-of-way boundary where required to adequately assess and resolve the drainage conditions;
- The proposed finished ground surface within the right-of-way.