

ADMINISTRATION

Chapter 4

PLANS AND CONSTRUCTION DRAWINGS

Sec. 401. PLAN SUBMITTAL PROCEDURE

- A. **General.** Plans for proposed street construction covered by these Standards, shall be prepared and submitted in accordance with the following:
1. **Plans - Required Drawings.** When street construction is planned in a City right-of-way or future right-of-way dedication a complete set of horizontal plans and vertical profiles, together with applicable drainage and erosion-sedimentation control plans, shall be submitted to the Public Works Director for review and approval. These same submittal requirements shall also apply to private street construction serving subdivisions, PUD's, and similar residential, commercial, or industrial developments.
 2. **Plans - Preparation and Submittal.** Plans shall be prepared by a licensed civil engineer who shall sign each sheet over his seal. A complete set of plans shall be submitted to the Public Works Director for review and approval. Final horizontal plans and profiles, drawings, and drainage plans must be approved by the Public Works Director before construction can begin, or the plat, binding site plan or other such instrument can be recorded. In addition to the plans required by this section, drainage and erosion sedimentation control plans shall also be submitted in accordance with the requirements outlined in the Storm Drainage and Land Alteration parts of these Standards. A preconstruction conference shall be held with approval of the Public Works Director before any construction begins.
 3. **Plans - City Contract Construction.** Engineering Plans for City labor force or City contract construction shall be submitted in the format required by the Public Works Director according to his instructions. The plans shall be reviewed and approved by the Public Works Director and, if applicable, by higher funding authority prior to construction.

Sec. 402. **SUPPLEMENTAL DRAWINGS**

- A. **Drainage Plan.** A drainage plan conforming to the drainage plan requirements in Part 3 of these Standards shall be submitted along with the drawings required in this chapter. The drainage plan may be submitted either integral with the plans required in this chapter if graphic space permits, or on separate plan and data sheets. In either case, the drainage plan shall include runoff calculations keyed to topographic maps; location, specific size, grade, and elevation data on all hydraulic features; and facilities for retention and/or detention.
- B. **Temporary Erosion Sedimentation Control Plan.** A temporary erosion/sedimentation control plan, showing the control measures intended to minimize the effects of erosion due to construction operations and their locations shall be submitted with the construction plans in accordance with the provisions of Chapters 12 and 13.

Sec. 403. **PLAN FORMAT AND SUBMITTAL REQUIREMENTS**

Engineering plans and construction drawings shall be formatted, copied and submitted as described below:

A. **Private Projects**

- 1. **Drawing Material and Size.** Plan sheets and profile sheets, or combined plan and profile sheets, and detail sheets as required, shall be good quality reproducible, mylar or equal, all in sheet sizes 24" x 36".
- 2. **Content of First Submittal.** Two complete sets of prints of the street plans, including plan, profile, utilities such as sewer and water if any, and other related facilities together with any detail sheets. The Drainage Plan and drainage calculations and/or the grading and erosion/ sedimentation control plans shall be submitted in accordance with the Stormwater Drainage and Land Alteration parts of these standards. Both drainage and erosion/sedimentation plans may be incorporated with the street plans. If corrections are required, the check prints will be returned to the designing engineer.
- 3. **Final Submittal.** The final submittal shall include the complete set of corrected original plans, two complete sets of prints the plans, and the complete set(s) of the check prints and calculations. Upon approval by the Public Works Director, the original set of plans will be signed and returned to the designing engineer.

4. **As-Built Submittal.** Prior to final acceptance of any street, structure, or facility for maintenance by the City, a complete set of good quality reproducible copies of the corrected plans (mylar or equal), two paper copies, as well as a set of as-builts on 3.5 inch disk(s) in latest version of AutoCad in APWA format shall be submitted to the Public Works Director by the designing engineer. Such drawings shall describe any and all revisions or additions to the approved plans. On the first page of the as-built drawings, the project engineer shall certify the construction by signing the following statement and affixing his seal to the same.

"I hereby certify that the improvements in (development name) have been inspected by (firm name) and constructed in conformance with the plans approved by the Public Works Director for said development and the general specifications adopted by the City of Ferndale Department of Public Works."

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B. Projects Designed by City Staff

1. **City Contract Construction.** Plans for City Contract construction shall be submitted and approved according to instructions from the Public Works Director and applicable funding authorities.

Sec. 404. PLAN VIEW DRAWINGS

A. General Requirements. Horizontal plan elements shall include the following:

1. **Vicinity Map.** A vicinity map shall be drawn on the cover sheet at an appropriate scale to show the location of the project in relationship to major streets.
2. **Street Alignments.** Street alignments with 100 foot stationing reading from west to east/south to north, and stationing at points of curve, tangent, and intersections with ties to sections and/or quarter corners surrounding the improvement.
3. **Section Information.** Section, Township, Range with breakdown to subdivision or short plat boundaries.
4. **Survey Data.** Bearings and distances on center lines. Note: Washington State Coordinate Systems preferred, others to be specified.

5. **Curve Data.** Curve data, including radius, delta, arc length on all horizontal curves. Right-of-way lines and width for proposed street and intersecting street.
6. **Topography.** All topographic features within right-of-way limits and sufficient area beyond to resolve questions of setback, slope, drainage, access onto abutting property, and street continuations. A minimum of 50 feet shall be shown on either side of centerline, and minimum of 200 feet shall be shown from the terminus of a street, or such additional terrain as directed by the Public Works Director.
7. **Utilities.** All existing and proposed utility locations.
8. **Adjoining Streets and Subdivisions.** Identification of all streets and adjoining streets and subdivisions.
9. **Traffic Control.** All traffic control and street signing locations.
10. **Drainage Features.** Existing and proposed drainage features, indicating direction of flow, size, and kind of each drainage channel, pipe, and structure and other requirements in Chapter 9 of these Specifications.
11. **Scale.** Plans shall be drafted at a maximum Scale of 1" = 50'. However, 1" = 100' shall be optional for development one acre or larger lots. Details for clarification may be shown at convenient scale.
12. **North arrow.**
13. **Multiple Sheet Plan Views.** When the plan view extends over more than one sheet, then the first sheet shall show an overall development layout, with the relationship of streets, utilities, drainage, lots, and other features clearly indicated, including street names/numbers and lot numbers. When more than five sheets are used, the first sheet shall show a table of contents and an index sheet.
14. **Handicap Facilities.** Sidewalk and wheel chair ramp locations shall be shown.
15. **Mailboxes.** Mailbox locations shall be indicated in urban sections. When concrete sidewalks are to be constructed, block outs shall be provided. Also, all street lighting shall be located.
16. **Temporary Erosion/Sedimentation Measures.** Temporary erosion/sedimentation control measures as specified in Part 3, Stormwater Management of these Specifications.

17. **Landscape Plan.** If applicable, any critical areas.
18. **General Notes.** The general notes shall list the specifications and design standards used.

Sec. 405. PLAN PROFILE DRAWINGS

A. General Requirements. Plan profile drawings shall include the following information:

1. **Original Ground Line.** The original ground line along centerline and right-of-way lines at 100-foot stations and at significant ground breaks and topographic features, with accuracy to within 0.1 feet on unpaved surfaces and 0.02 feet on paved surfaces. When streets extend to the perimeter of the project, the ground lines shall be extended at least 200 feet to show any changes in contour which might affect the profile of the proposed street.
2. **Final Profiles with Stationing.** Final street, sewer, water and storm drain profile with stationing same as horizontal plan, reading from left to right, to show stationing of points of curve, tangent, and intersection of vertical curves, with elevations to 0.01 feet.
3. **Street Profiles.** Urban street profiles shall be clearly labeled to show both curbs and centerline. Values for grade and length of vertical curve shall be shown with the profile(s) on a numbered grid.
4. **Superelevation Data.** Superelevation data shall be included for all streets.
5. **Curb Returns.** A profile of curb returns showing the stations and elevations of the beginning, mid-point, and ending of the curb return.
6. **Datum.** Datum used and all benchmarks, which refer to established control when available. Note: United States Coast and Geodetic Survey (USG & GS) preferred.
7. **Scale.** Vertical scale 1" = 5', generally. Vertical scale can be 1" = 10', if optional 1" = 100' horizontal scale is used on developments of lots one acre or larger. Clarifying details may be done to a convenient scale.
8. **Other Information.** Such other data as may be necessary to accurately represent the specific project.

Sec. 406. **CROSS-SECTION DRAWINGS**

A. **General Requirements.** Cross-section Drawings shall include the following information:

1. **Width Information.** Widths of pavement, curb, walks, ditches, and right-of-way. Total width from centerline to curb, plus width of new pavement on widening of existing streets.
2. **Curb Type.**
3. **Depth Information.** Depth of gravel base, crushed surfacing, and hard surfacing.
4. **Sub-grade Soil.**
5. **Slope.** Slope of crown, gutter depth.
6. **Separate Full Width Sections.** A separate, full-width typical section for each street or portion of street having a different section.
7. **Other Information.** Such other data as may be necessary to accurately represent the specific project.