PLAN PREPARATION GUIDELINES
FOR CIVIL PLAN REVIEW

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Engineering plans are required for all projects requiring a grading permit, unless otherwise determined by the City Engineer or his/her designated assignee. All engineered plans, reports, technical calculations, and variance requests submitted for approval shall be stamped/signed by a professional engineer currently licensed to practice in the State of Washington.

The goal of Civil Plan Review is to review for general conformance the applicable City of Marysville codes and ordinances, identify general constructability concerns, and also identify and avoid potential long-term operations/maintenance issues. At the conclusion of the plan review process, the City will apply a stamp to each plan sheet acknowledging their review. However, conformance of the design with all applicable laws and regulations, and any errors/omissions which may be later discovered, are the full and complete responsibility of the licensed engineer whose stamp and signature appear on the applicable design documents. Acknowledgement of construction plan review does not imply City approval for construction activities that require other County, State, or Federal permits/approvals. The property owner and licensed design engineer shall be responsible for the acquisition of, and compliance with all applicable permits or authorizations.

GENERAL PLAN REQUIREMENTS:

The following is a set of general plan requirements. Plans not meeting these requirements will not be accepted for review:

- All Plans shall be stamped/signed by a professional engineer currently licensed to practice in the State of Washington. Plans shall be depicted on a boundary/topographic survey prepared by a professional surveyor licensed to practice in the State of Washington. The survey shall be adjusted to NAD83 State Plane Coordinates and NAVD88 Vertical datum.

- All plans shall be prepared on 22”x34” sheets, using dark lines on a light background. Plans shall be reasonably legible and clearly depict all features with industry-standard linetypes and symbols (such as APWA drafting standards). All plans shall be drawn to a standard engineering scale (1:10, 1:20, 1:30, 1:40, 1:50, 1:60). North arrows and scales shall be provided for each sheet or individual viewport.

- All plans shall have a title block which includes the project name, City file number, and design engineer’s stamp/signature. Each sheet shall include a prominent notice to obtain utility locates prior to construction.

811 Know what's below. Call before you dig.

- All plan sheets shall include the City’s standard approval block (3”-tall x 4”-wide). Alternatively, the plans may simply provide a 3”-tall x 4” wide blank rectangle on each sheet for the City to affix the approval block to.

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CIVIL PLAN PREPARATION GUIDELINES:

The following are general guidelines to assist in the preparation of plans for Civil Plan Review. Generally speaking, plan sets will usually require some or all of the following sheets. The engineer may use his/her discretion as to which sheets are needed and which sheets may be combined, or separated into multiple sheets. Plans must be clearly depicted for benefit of the plan reviewers, project contractor, and also because they are filed as a permanently researchable public record upon their approval.

Title Sheet:

- Include contact information for Applicant and applicable team members involved in the site design (Engineer, Surveyor, Geotechnical Engineer, Critical Areas Consultant, Landscape Architect, etc). Contact persons, phone numbers and e-mail addresses shall be provided for each contact.

- The title sheet shall include a vicinity map, site address(es), tax parcel number(s), legal description(s), identification of survey datum (vertical & horizontal), and grading quantities.

Boundary/Topographic Survey Sheet:

- The project boundary and all existing topographic features shall be depicted on at least one sheet of the plans, to document the existing site conditions. All adjacent parcels shall be clearly identified with tax parcel numbers.

Stormwater Pollution Prevention Plan (or TESC Plan):

- Clearly identify the project limits (including any off-site disturbance).

- All proposed erosion/sediment control features shall be clearly shown, such as silt fence, interceptor swales, sediment traps/ponds, stabilized construction entrances, and any temporary drainage features used to convey runoff while the site is under construction. The plan should generally depict these features over the existing site conditions, since TESC measures are typically the first items to be installed.

Site Plan:

- Depict all proposed property lines, rights-of-way, easements, franchise utility corridors, building setback lines, critical areas, and buffers. Label all proposed roadways and lots with their respective street names and lot numbers.

- Depict centerline alignments and stationing for all proposed roadways and drive aisles. All tangent portions shall have bearing/distance labels; all curves shall include radius/length/Δ labels. Roadway monuments shall be specified at all public road intersections, centers of cul-de-sacs, and PC/PT of any horizontal curves.

- Provide roadway cross-sections for all proposed roadway improvements. All horizontal dimensions shall be referenced from the right-of-way centerline. Cross sections shall also indicate all appropriate pavement/base thicknesses.

- Depict all proposed roadway channelization (signage & striping)

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Grading Plan:

- Provide clearly-labeled contour lines depicting both the existing and proposed topography. All proposed contours shall be shown to tie-off to existing ground contours within the proposed disturbance limits of the project.

- Clearly identify all walls with top/toe elevation callouts. Callouts shall be provided at all angle points where the wall changes direction, and at all locations where significant changes in wall heights will occur. Wall symbols shall be drawn approximately to-scale. All walll-drain and wall-drain discharge locations shall be clearly depicted.

- Provide finished pad elevations for all proposed lots and/or building sites.

Roadway Profiles:

- Clearly depict existing & proposed profiles of all roadways. Profiles are assumed to follow right-of-way centerlines unless otherwise labeled. In the case of frontage improvements, where only a portion of the road is being constructed, a curb-flowline profile is acceptable.

- Roadway profiles shall include slope labels for all tangent sections, and appropriate dimensions for all vertical curves. Those dimensions shall include PVC, PVI, & PVT stations and elevations, as well as curve lengths. Vertical curves shall be provided for any grade differential greater than 2%.

Drainage Plans and Profiles:

- Clearly depict all pipe and structure locations in plan-view. All structures shall be labeled with individual structure numbers and coordinates where they intended to be installed.

- Clearly depict all pipe and structure locations in profile view. All structure types, rim/invert elevations, pipe sizes and pipe materials shall be identified. Thru-curb inlets shall be provided at all sag points.

- Provide specific details for construction of all stormwater detention, treatment, and low-impact BMPs. Ensure that all stormwater facilities are consistent with the design calculations provided in the accompanying drainage report.

Water Plans:

- Clearly depict all proposed water features in plan-view. Callouts shall be provided at each node of the water system design (bends, tees, caps, etc), to include a coordinate, each required appurtenance, and the connection type of each appurtenance (MJ/FL/PE).

- Any required hydrant, meter, and backflow prevention features shall be clearly located and identified. Commercial and multi-family projects shall specify the required size/location of all FDCs, fire lines, and backflow prevention features.

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Sewer Plans/Profiles:

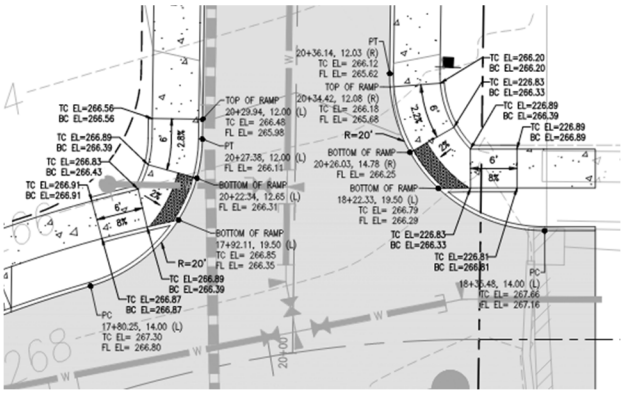
- Clearly depict all pipe and structure locations in plan-view. All structures shall be labeled with individual structure numbers and coordinates where they intended to be installed.

- Clearly depict all pipe and structure locations in profile view. All structure types, rim/invert elevations, pipe sizes and pipe materials shall be identified.

Project Notes/Details Sheets:

- All applicable project notes and standard details from the City's Engineering Design & Development Standards shall be provided in the planset.

- Details shall be provided for all proposed curb returns, cul-de-sacs, and ADA ramps. At minimum, curb returns shall have spot-elevations provided at the PC, PT, 1/4Δ locations, and any high/low points. ADA ramps shall have appropriate spot elevations and dimensions provided to verify ADA-compliance. See example below:



DRAINAGE REPORT GUIDELINES
FOR CIVIL PLAN REVIEW

A drainage report is required for most projects requiring a grading permit. A drainage report shall be prepared, stamped & signed by a professional engineer currently licensed to practice in the State of Washington.

The goal of Civil Plan Review is to review for general conformance the applicable City of Marysville codes and ordinances, identify general constructability concerns, and also identify and avoid potential long-term operations/maintenance issues. However, conformance of the design with all applicable laws and regulations, and any errors/omissions which may be later discovered, are the full and complete responsibility of the licensed engineer whose stamp and signature appear on the report. The property owner and licensed design engineer shall be responsible for the acquisition of, and compliance with all applicable permits or authorizations.

DRAINAGE REPORT PREPARATION GUIDELINES:

The following are general guidelines to assist in the preparation of a drainage report for Civil Plan Review. The engineer is afforded some flexibility in the arrangement of the report, but the items below are expected to be covered:

General:

- Provide a summary discussion of the proposed proposal along with a vicinity map.
- Provide an evaluation of which minimum requirements are applicable to the project and how each is addressed.

Minimum Requirement #1 – Preparation of Stormwater Site Plans:

- Provide basin maps for both the existing and proposed conditions (REQUIRED)
  - Outline all project basins (TDAs), upstream tributary basin, and discharge point(s)
- Identify any accompanying project plans and/or SWPPP reports.
- Indicate whether the following are required:
  - DOE Construction Stormwater Permit
  - Underground Injection Control (UIC) registration

Minimum Requirement #2 – Construction Stormwater Pollution Prevention Plan:

- Discuss all of the 13 required TESC elements and how they are addressed. The discussion should be consistent with the TESC plan.
- Provide sizing calculations for any engineered ESC facilities.
- This section of the drainage report can serve as the SWPPP for the project, or a separate stand-alone SWPPP may be provided.

Minimum Requirement #3 – Source Control:

- Identify whether source control is required. If so, discuss where it is required and how it is implemented.

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Minimum Requirement #4 – Preservation of Natural Drainage Systems & Outfalls

- Identify the historic downstream flowpath from each TDA.
- Identify the proposed downstream flowpath from each TDA. If any areas are diverted from one basin to another, provide justification and identify how this requirement is met.

Minimum Requirement #5 – On-site Stormwater Management

- Identify whether the project proposes to meet the LID flow-control standard, or implement BMP's on List #1 or List #2.
- If the project elects to implement one of the BMP lists, provide a feasibility evaluation of each potential BMP in the order of preference listed in the manual for each type of surface. If a BMP is determined to be infeasible, provide the specific infeasibility criteria in the manual.

Minimum Requirement #6 – Runoff Treatment

- Provide a discussion that follows the runoff treatment design procedure outlined in the DOE Manual:
  - Step 1 - Provide discussion of downstream pollutants of concern. The DOE Water Quality Atlas can be a good resource for this information. (https://apps.ecology.wa.gov/waterqualityatlas/wqa/map)
  - Step 2 - Identify whether oil-control is required and discuss any proposed oil-control measures.
  - Step 3 - Discuss whether stormwater infiltration is feasible for treatment, and refer to the findings in the project's geotechnical report.
  - Step 4 – Phosphorus Control
    [*This step may be omitted. There are no phosphorus control areas within the City*].
  - Step 5 – Identify whether enhanced treatment is required.
  - Step 6 – Discuss all runoff treatment mechanisms proposed for the site. Provide design calculations as needed.
- Any proprietary treatment system must have GULD-approval from the Dept. of Ecology.
- Clearly depict and explain any flow-control trades that are utilized for the project.

Minimum Requirement #7 – Flow Control

- Discuss whether or not any flow control exemptions are applicable to the site.
- Discuss the soil and land-use conditions used for site modeling
- Clearly identify any bypass basins or treatment-trades utilized for the project.

Minimum Requirement #8 – Wetland Protection

- Provide a discussion of wetland protection strategies employed at the project site.
- Provide hydroperiod modeling, if needed.

Minimum Requirement #9 – Operations & Maintenance

- Provide the applicable operations/maintenance recommendations from the DOE Manual.
- Provide the applicable operations/maintenance/installation recommendations from the manufacturer for any proprietary flow-control or treatment features.

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