Instruction Guide for the Kitsap County Residential Stormwater Worksheet

This is a guide to complete the Residential Stormwater Worksheet, a required submittal item for your building permit. The numbered blue headings on this worksheet correspond with the numbered headings on the stormwater worksheet.

There are 3 sections in this guide. The first section includes important definitions that may be helpful as you begin the worksheet. The second section includes step by step instructions to prepare your Stormwater Worksheet for submittal. The third and final section entails important stormwater related items to consider before you submit for your permit to ensure a complete permit application.

Definitions:

Census-Defined Urbanized Area: Territories that consist of areas of high population density and urban land use resulting in a representation of "urban footprint." The territories include residential, commercial and other nonresidential urban land uses.

Critical Areas: areas and ecosystems identified as: wetlands; areas with a critical recharging effect on aquifers; fish and wildlife habitat conservation areas; geologically hazardous areas; and frequently flooded areas.

Critical Drainage Areas: areas which have a high potential for stormwater quantity or quality problems.

Downspout Dispersion Systems: These systems use splash blocks or gravel filled trenches to spread roof runoff over vegetated areas.

Full Dispersion: Stormwater Best Management Practice (BMP) that allows for "fully dispersing" runoff from impervious surfaces and cleared areas of Project Sites into areas preserved as forest, native vegetation, or cleared area.

Hard Surface: an impervious surface, a permeable pavement, or a vegetated roof.

Impervious Surface: a nonvegetated surface area that either prevents or retards the entry of water into the soil mantle as under natural conditions prior to development. A nonvegetated surface area which causes water to run off the surface in greater quantities or at an increased rate of flow from the flow present under natural conditions prior to development.

Common impervious surfaces include, but are not limited to, rooftops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, packed earthen materials, and oiled, macadam or other surfaces which similarly impede the natural infiltration of stormwater.

Infiltration: Infiltration refers to the use of the filtration, adsorption, and biological properties of native soils, with or without amendments, to remove pollutants as stormwater soaks into the ground.

Land Disturbing Activity: any activity that results in a change in the existing soil cover (both vegetative and nonvegetative) and/or the existing soil topography.

Perforated Stub-Out Connection: a length of perforated pipe within a gravel-filled trench placed between roof downspouts and a stub-out to the local drainage system.

Permeable Pavement: Permeable pavement is a specific type of pavement with a high porosity that allows rainwater to pass through it into the ground.

Rain Garden: a shallow planted depression designed to retain or detain stormwater before it is infiltrated or discharged downstream.

Replaced Impervious Surface: For structures, the removal and replacement of any exterior impervious surfaces or foundation. For other impervious surfaces, the removal down to bare soil or base course and replacement.

Sheet Flow Dispersion: the simplest method of runoff control. This BMP can be used for any impervious or pervious surface that is graded to avoid concentrating flows.

Site Development Activity Permit: a permit that the Department of Community Development reviews for land disturbing activities for project development. Required for Large Projects.

Soil Amendment: Material that is added to soil to improve its physical properties for vegetation growth.

**Additional Definitions may be found in Kitsap County Code (KCC) 12.08 and Appendix A of the 2021 Kitsap County Stormwater Design Manual (KCSDM).

How Do I Prepare my Residential Stormwater Worksheet?

This is a guide to complete the Residential Stormwater Worksheet, a required submittal item for your building permit. The numbered blue headings on this worksheet correspond with the numbered headings on the stormwater worksheet.

The pen icon  refers to an item on the Stormwater Worksheet that needs to be filled out.

Begin by reading, signing, and dating the Application Authorization and Acknowledgment at the top of the Stormwater Worksheet. This can be signed either digitally or physically. If the worksheet is filled out physically (with pen and paper) then the document will need to be scanned and uploaded to the permit.

1. Project Impacts

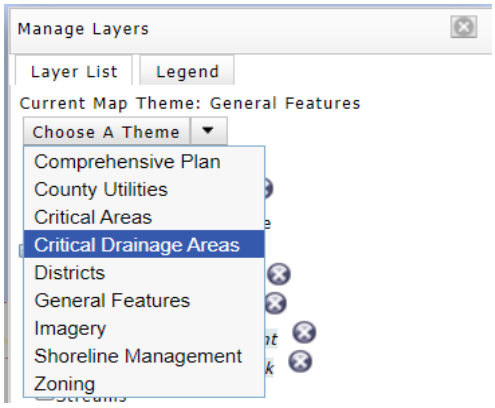
Fill in the table to summarize the size of your site, total area disturbed, and total hard surface amount created by the project.

If you already have an associated Site Development Activity Permit (SDAP) write the permit number on the associated line and stop there. If you have an SDAP the remainder of the worksheet is not necessary.

2. Parcel Mapping Information

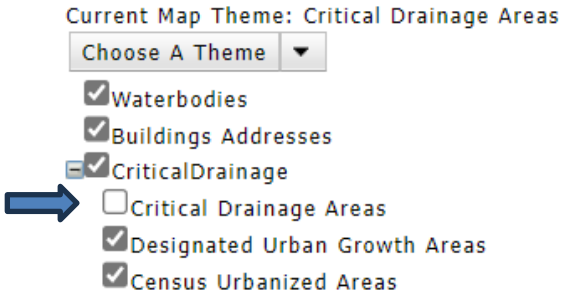
Visit the Kitsap County Parcel Search Site.

- Use the search bar at the top left of the page to search for your parcel using the site address or parcel number. This will take you to your parcel.
- In the Manage Layers box, click the drop-down arrow at Choose a Theme, then select Critical Drainage Areas.



Based on the Parcel Search results, check either Box 1 or Box 2 on the Stormwater Worksheet.

- Under the Critical Drainage sub-section, uncheck the checkbox for Critical Drainage Areas



Based on the Parcel Search results, check either Box 3 or Box 4 on the Stormwater Worksheet.

3. Critical Areas

Visit the Kitsap County PREP Site.

- Use the search bar in the top left corner of the page to search for your parcel using the site address or parcel number.
- Once you have searched your parcel, view the information shown on the right side of the screen. The information shown here provides an overview of the parcel and assigns a color- green, yellow or red- to your parcel based on critical areas that may impact the project.

Based on the PREP Report, indicate the color of your parcel on the Stormwater Worksheet.

4. Project Type

On the Stormwater Worksheet, check any of boxes 5-11 that are applicable to your project. Then, check either box 12 or 13 depending on which above box(es) were checked.

If you checked box 12 STOP HERE. A Site Development Activity Permit (SDAP) is required.
Visit the Permit Pathways: Get PREPared & Apply with Confidence page to apply for an SDAP.

5. Drainage Review

Fill out the flow chart on the Stormwater Worksheet to determine the type of Drainage Review that will be required for project.

The following lists identify information to be included for each drainage review type from the chart. All required items must be uploaded before the submittal can be accepted. Submittals determined to be incomplete will be returned to the applicant for corrections.

No Additional Drainage Review
Minimum Requirement #2 applies.
Submit the following:

1. Residential Stormwater Worksheet, pages 1-4
2. Site plan with SWPPP elements
3. Geologic Assessment (if applicable)

Simplified Drainage Review
Minimum Requirements #1-5 apply.
Drainage is reviewed as part of the building permit. A professional engineer is NOT required.
Submit the following:

1. Residential Stormwater Worksheet, all pages
2. Site plan with SWPPP elements
3. Geologic Assessment (if applicable)

4. Infiltration Test and Subsurface Investigation (if applicable, requires professional)
5. Native Vegetation Retention Area Site Plan (only required when full dispersion is selected on pages)

Simplified Drainage Review – Engineered:
Minimum Requirements #1-5 apply.
Drainage is reviewed as part of the building permit. A professional engineer IS required.
Additional building permit fees are required.
Submit the following:

1. Residential Stormwater Worksheet, pages 1-5
2. Engineered Drainage Plans
3. Engineered Drainage Report
4. Geotechnical Report (if applicable)
5. Native Vegetation Retention Area Site Plan (only required when full dispersion is selected on page 10)

**Simplified Drainage Review – Engineered Requires a separate permitting fee.

6. Post Construction Soil Quality and Depth Worksheet

This section will help determine the soil amendment quantity needed for your project to meet the requirements for post-construction soil quality and depth. The Kitsap County Stormwater Design Manual requires soil amendment where native soils or vegetation are disturbed by construction or development activity.

Begin by selecting whether a custom soil amendment or pre-approved soil amendment will be used.

Custom Soil Amendment: must meet the requirements of the Kitsap County Stormwater Design Manual (Volume 2, Section 5.4.1), and the Stormwater Management Manual for Western Washington (Volume 5, BMP T5.13).

To use Pre-Approved Soil Amendment, you may:

- Purchase compost from off-site sources and till it into existing soil. Compost used for soil amendment must not exceed contaminant limits identified in Table 220-B, Testing Parameters, in WAC 173.350.220. The compost must have an organic matter content of 40-65% and a carbon to nitrogen ratio under 35 to 1.

OR

- Stockpile, protect, and reuse existing soil and forest duff and till it into existing soil.

Stockpiled soil and duff should be covered with woven weed barrier and protected during construction. Stockpiled topsoil may need to be amended with compost to meet the organic matter and volume requirements for the pre-approved rates.

OR

- Chip and stockpile wood waste from site clearing and till it into existing soil. Branches and other woody material may be chipped and stockpiled along with stockpiled soil and duff. Invasive plant species such as Scotch broom, Himalayan blackberry, English ivy, and holly may not be used.

OR

- Import topsoil of sufficient organic content and depth to meet the requirements below.

  ➢ Imported soils shall not contain excessive clay or silt fines (more than 5% passing a No. 200 sieve) because that could restrict stormwater infiltration.

  ➢ For planting beds: use a mix by volume of 35% compost with 65% mineral soil to achieve the requirement of a minimum 8% (target 10%) organic matter by loss-on-ignition test.

  ➢ For turf areas: use a mix by volume of 20% compost with 80% mineral soil to achieve the requirement of a minimum 4% (target 5%) organic matter by loss-on-ignition test.

  ➢ Scarify subsoil and mulch planting beds as described below.

OR

Use any combination of the above.

Next, Fill out the chart below the soil amendment selection portion of the Stormwater Worksheet. This section asks questions about the areas that will be disturbed by your project to determine the amount of amended soil that will be required in cubic yards. This table also addresses landscaping areas where much may be required.

7. Post Construction Soil Quality and Depth Worksheet

This section will outline how stormwater runoff will be mitigated during the construction process.

A complete description of each Construction BMP with associated detail is found in the 2019 Department of Ecology Stormwater Management Manual for Western Washington, Vol. II, Chapter 3. There are 13 Required Elements of the Stormwater Pollution Prevention Plan

Identify proposed cut and fill amounts and existing site conditions in section 6 of the Stormwater Worksheet.

For Required Elements 1-9 identify the applicable BMP(s) that will be utilized during construction to address each element. For Elements 10-12 describe how the elements will be implemented. BMPs that are selected in this section will need to be shown on your projects SWPPP Site plan.

8. Post Construction Soil Quality and Depth Worksheet

The infeasibility checklist portion of the worksheet will help you determine the most effective way to manage stormwater for your project. There are a variety of stormwater best management practices or "BMPs". These BMPs are tools that mitigate stormwater runoff from developed projects.

Begin by indicating which types of hard surface that your project includes in Section 1 of the chart.

The charts shown in this section of the Stormwater Worksheet display stormwater BMPs in their preferred order of use which has been determined by the Washington State Department of Ecology. For each type of surface that you selected in Section 1, make your way through the charts in the order that they are presented.

For each question, place a mark in either the Yes or No column. For each No answer, move on to the subsequent question within the BMP section.

If a Yes answer is given, then the BMP is not feasible and is not required in accordance with Minimum Requirement #5. If "No" is selected for all questions within a BMP chart, then that BMP is feasible and must be used to meet Minimum Requirement #5.

When you have identified the first feasible BMP in the list for all applicable hard surface types you are finished with the worksheet.

Items to Double-Check Before Submittal

- Verify that your hard surface quantities match what is shown on the site plan and architectural plans. If these numbers are inconsistent your permit may be returned.
- Confirm the correct level of drainage review required for your project (from step 5) – Is a SDAP required? SDAPs should be submitted prior to building permit application.
- Are there any critical areas on the parcel that will be impacted by your project? Does the project require additional technical reports for critical areas?

- What utilities will serve the residence? Does the proposed BMP meet setback requirements to septic systems and wells? Setback information can be found in Table II-5.2 and Table II-5.3 of the Kitsap County Stormwater Design Manual (KCSDM).

- Does your site plan show all erosion control BMPs and the stormwater mitigation method?

- Does your site plan include all required information?
    - All projects must include Base Map and Basic Site Plan items.
    - Simplified Drainage Review Projects must include the base map and basic site plan elements as well as the additional elements outlined in KCSDM Vol. II 1.4.2.3.
    - Simplified Drainage Review - Engineered Projects must include the base map and basic site plan elements as well as the additional elements outlined in KCSDM Vol. II 1.4.2.3.

Contact Us

We offer free 15 minute in-person and virtual appointments where you can meet with a stormwater reviewer.

Hours are 9am-12pm Tuesday-Thursday. Virtual appointments are offered 9am-12pm on Tuesdays. Walk-ins are available.

Schedule an Appointment