Chapter 430 Stormwater and water quality

430.01 Introduction
430.02 Applicable statutes, regulations, executive orders, and agreements
430.03 Considerations during project development
430.04 Analysis and documentation requirements
430.05 External engagement
430.06 Internal roles and responsibilities
430.07 Applicable permits and approval process
430.08 Mitigation
430.09 Abbreviations and acronyms
430.10 Glossary

430.01 Introduction

WSDOT must evaluate potential stormwater, groundwater, and water quality impacts prior to submitting permit applications to resource agencies so project construction can proceed. These water quality obligations emerge through several laws and regulations including the Clean Water Act (CWA), Safe Drinking Water Act (SDWA), and Washington State's Water Pollution Control laws and regulations (RCW 90.48 and WAC 173-201A).

Chapter 600: Construction covers aspects of erosion and sediment control and includes a section on water quality during construction. For additional water-related considerations for other disciplines, see Chapters 431: Wetlands, 432: Special flood hazard area, 420: Earth (Geology and Soils), and 436: Fish, Wildlife and vegetation.

For incorporation of climate change in Chapter 430 discipline reports, see the Stormwater Discipline Report Checklist and Groundwater Discipline Report Checklist. Specific requirements for considerations of climate change are discussed in Chapter 415. Contact the Environmental Service Office's Climate Mitigation and Adaptation Branch Manager for climate change support.

430.02 Applicable statutes, regulations, executive orders, and agreements

This section identifies the primary statutes and regulations applicable to water quality issues.

430.02(1) Federal

- **National Environmental Policy Act –** The National Environmental Policy Act (NEPA), 42 U.S.C. 4321, requires that all major actions sponsored, funded, permitted, or approved by federal agencies undergo environmental planning. This planning ensures that environmental values, such as impacts to water quality, receive appropriate consideration during decision making. 23 CFR 771 and 40 CFR 1500–1508 (CEQ) contain Federal implementing regulations. For details on NEPA procedures see Chapter 400.
- **Clean Water Act –** The Water Pollution Control Act, better known as the Clean Water Act, 33 U.S.C. 1251 et seq., provides federal regulation of waters of the United States. In Washington State, the Environmental Protection Agency (EPA) has delegated administrative authority of the CWA to the Department of Ecology (Ecology) except on tribal and Federal lands (and discharges to tribal waters).

- **Safe Drinking Water Act –** The Safe Drinking Water Act sets national primary drinking water standards, regulates underground injection of fluids, and allows for designation of Sole Source Aquifers (SSA). Implementation of the SDWA is delegated to individual states.
- **Endangered Species Act –** Projects with a federal nexus (those with federal funding, permit, or approval) must go through consultations according to Section 7 of the Endangered Species Act (ESA). The process provides pertinent information about a project's stormwater treatment facilities to biologists responsible for preparing biological assessments. For more details see the Endangered Species Act & Essential Fish Habitat webpage.

430.02(2) State

- **State Environmental Policy Act –** The State Environmental Policy Act (SEPA) requires that all major actions sponsored, funded, permitted, or approved by state and/or local agencies undergo planning to ensure environmental values receive consideration during decision making, including impacts to water quality. WAC 197-11 and WAC 468-12 describe state implementing regulations. For details on SEPA procedures see Chapter 400.
- **State Water Quality Laws and Rules –** The Water Pollution Control Act (RCW 90.48) is the primary water pollution law for Washington State, which requires the use of all known, available, and reasonable methods of prevention, control, and treatment (AKART) to prevent and control the pollution of the waters of the state of Washington. State statute prohibits the discharge of pollutants into waters of the state unless authorized. WAC 173-201A identifies and mandates water quality standards pertaining to surface waters.

  RCW 90.48 also mandates that all underground water be protected. WAC 173-200 identifies and mandates groundwater quality standards to maintain the highest quality of the state's groundwater and to protect existing and future beneficial uses of the groundwater.
- **Accommodation of Stormwater Runoff Onto Right of Way Executive Order (E 1103) –** This Secretary's Executive Order (E 1103) is a reference on accommodation of stormwater from adjacent properties onto WSDOT right of way. It cites multiple offices, manuals, procedures, and state and federal laws that provide requirements and policies on this subject.
- **Drinking Water –** Source Water Protection – Protection of drinking water sources (surface and groundwater) is mandated by the SDWA.

  In Washington, RCW 43.20.050 designates the State Department of Health (DOH) as lead agency for assuring safe and reliable public drinking water supplies, in cooperation with local health departments and water purveyors. State regulations (WAC 246-290-135 for Group A systems; WAC 246-291 for Group B systems) provide for two types of area based controls for source protection of wells and springs serving as sources of public water supplies:
- **Underground Injection Control –** The Underground Injection Control (UIC) Program, authorized by the SDWA, is designed to prevent contamination of underground sources of drinking water from the use of injection wells.

  The national UIC Program is administered by the EPA under 40 CFR 144. Ecology was delegated authority by the EPA to administer the program in Washington State, and operates under RCW 43.21A.445 and RCW 90.48 and WAC 173-218. All new underground control activities must treat the "waste" fluid before injection.

- **Growth Management Act (GMA) –** This statute (RCW 36.70A), combined with Article 11 of the Washington State Constitution, mandates development and adoption by local jurisdictions of ordinances that classify, designate, and regulate land use in order to protect critical areas defined in RCW 36.70A.030(5). Aquifer recharge areas are one type of critical area and are regulated through local critical area ordinances. Under the GMA, state agencies must comply with local comprehensive plans and development regulations; likewise, local agencies should coordinate with WSDOT. See the section of Local Critical areas Ordinances below for more information and links.
- **Local Critical Area Ordinances –** One purpose of critical area ordinances is to provide cities and counties with a mechanism to classify, designate, and regulate areas deemed necessary to provide adequate recharge and protection to aquifers used as sources of potable (drinking) water. WAC 365-190-100 identifies requirements for local jurisdictions to determine classification and designation of Critical Aquifer Recharge Areas (CARAs). Unless the local laws conflict with state law, WSDOT must meet the requirements of local regulations. Local planning departments should be contacted to determine the location or descriptive criteria of geologically hazardous areas that may impact the project. For review of other critical areas, see Chapters 431: Wetlands, 432: Special flood hazard area, 420: Earth (Geology and Soils), 455: Land use and transportation, and 436: Fish, Wildlife and vegetation. Refer to WAC 365-190-100 and ECY Publication 05-10-028; Critical Aquifer Recharge Areas Guidance.

  Additional information on local implementation of CARAs may be available at websites for the appropriate local jurisdictions.

430.02(3) Local

- N/A

430.02(4) Tribal

- Several federal environmental laws authorize EPA to treat eligible federally recognized Indian tribes as a state (TAS) for the purpose of implementing and managing certain environmental programs and functions, and for grant funding. Tribes must apply for and receive EPA approval for each specific program or function, with the exception of some portions of the Puyallup Reservation, where the Construction Stormwater General Permit (CSWGP) does not apply for discharges to surface water on land held in trust by the federal government.

  Some tribes have applied for and received EPA approval to adopt specific water quality standards that may be stricter than those required by Ecology. For projects where stormwater is discharging within tribal lands or waters, coordinate with your region's environmental staff to determine what standards apply. Information about Section 401 Water Quality Certification is available in Section 430.03 and Chapter 530:

  Tribal Approvals.

430.02(5) Interagency Agreements

Appendix B contains the following interagency agreements pertaining to stormwater and water quality:

- **Implementing Agreement Regarding Application of the *Highway Runoff Manual* (HRM) –** In February 2009, WSDOT and Ecology signed an implementing agreement committing WSDOT to apply the HRM statewide to direct the planning, design, construction, and maintenance of stormwater facilities. The implementing agreement was most recently revised in March 2024 and granted an extension through the duration of WSDOT's 2019 NPDES municipal stormwater permit.
- **Sole Source Aquifers (SSA) –** This 2014 Memorandum of Understanding between the Federal Highway Administration (FHWA) Washington Division, EPA Region 10, and WSDOT assures that each highway project that is to receive FHWA financial assistance is designed and constructed in a manner that will prevent the introduction of contaminants into a SSA in quantities that may create a significant hazard to public health.
- **Highways and Drinking Water Well Sanitary Control Areas "Screening Criteria" –** This 2006 agreement between WSDOT and the DOH clarifies expectations, establishes project screening criteria, and facilitates communication among WSDOT, DOH, and water purveyors when a proposed highway project intersects with the sanitary control area of a public water supply.

430.03 Considerations during project development

430.03(1) Planning

See the Stormwater & water quality webpage for guidance and resources on the following requirements:

- Identify receiving waters such as lakes, rivers, ponds, streams, inland waters, underground waters, salt waters and all other surface waters and watercourses within the jurisdiction of the state of Washington.
- Determine whether a project has the potential to discharge to Category 5 impaired waters on the 303(d) list or covered by a Category 4a Total Maximum Daily Load (TMDL) and identify the pollutants of concern.
- Determine if project will go through the ESA programmatic consultation process.
- Identify existing Best Management Practices (BMPs) using as-builts, WSDOT's GIS Workbench, hydraulics reports, the Stormwater BMP Specifications (SWABS) database, field verification, and guidance in the HRM.
- Identify stormwater retrofit needs using web guidance.

430.03(2) Scoping

See the Stormwater & water quality webpage for guidance and resources on the following requirements:

- Department of Ecology *2024 Stormwater Management Manuals*.
- Identify contaminant loading potential pursuant to WAC 365-190-100 Critical aquifer recharge area (CARA).
- Identify areas with a critical recharging effect on aquifers used for potable water.
- Confirm whether a project has the potential to discharge to Category 5 impaired waters on the 303(d) list or covered by a Category 4a TMDL and identify the pollutants of concern.
- Document stormwater features and discharge points when preparing hydraulics reports.
- Determine Corps jurisdiction and the certifying agencies (Ecology, EPA and/or Tribes) and permit needs regarding section 401 Water Quality Certifications.

See the Hydraulics & hydrology and *Highway Runoff Manual* *webpages for guidance and resources on the following requirements:*

- Confirm impacts to existing BMPs and address mitigation for those impacts. See the HRM for more information about assessing impacts on existing BMPs.
- If a project needs runoff treatment and/or stormwater BMPs, recommend consulting HQ Geotech Office or Region Materials Office and Region Hydraulics to discuss installing piezometers at potential BMP locations. This will aid in determining Low Impact Development (LID) BMP feasibility and site suitability for infiltration. Establishing the seasonal high groundwater table may take up to a year's worth of monitoring piezometer data.
- Read the Stormwater Retrofit Guidance section on the Hydraulics & hydrology webpage which includes considerations for scoping stand-alone stormwater retrofits, a site visit checklist, and instructions for determining cost-effectiveness and feasibility of stormwater retrofits. The scoping engineer must include seed money for the Puget Sound Basin retrofit requirement (if applicable) following the guidelines in the (RCEF) document.
  - Complete a stormwater retrofit assessment for all fish passage projects prior to Project Summary submittal for Headquarters (HQ) review. A separate assessment is required for each fish passage site in a project.
  - Determine if the project will add enough new impervious surface to trigger HRM requirements for stormwater treatment and/or flow control. If so, preliminarily select BMPs that could be used from Chapter 5 of the HRM to meet these requirements and the potential locations where they would be cited.
  - Determine if the project will add enough impervious surface to trigger ESA programmatic consultation requirements for stormwater treatment. If so, preliminarily select BMPs that could be used from Chapter 5 of the HRM to meet these requirements and the potential locations where they would be cited.
  - If this is a stand-alone retrofit project, retrofits must have an emphasis on LID BMPs (also known as green infrastructure) as defined in the HRM.

430.03(3) Design

- Document stormwater treatment and flow control BMP information in SWABS.
- Review *Geotechnical Design Manual* Chapter 3 for well decommissioning and piezometer removal requirements.
- Identify any connections to WSDOT's stormwater drainage system and follow the Accommodation of Stormwater Runoff Onto Right of Way Executive Order (E 1103) to permit each accordingly.
- Apply for a water rights permit for project work that uses surface water or groundwater. Temporary water rights can be granted for dust control during construction. Contact Ecology's regional Water Resources Program for information about water rights permits.
- If a project impacts a wetland, (e.g., draining a wetland, altering natural drainage patters, increasing or decreasing water levels), see Chapter 431: Wetlands or the Wetlands & other waters webpage and the HRM for guidance.
- Many WSDOT projects are covered under ESA programmatic consultations. These programmatics have lower thresholds for stormwater treatment than the HRM that must be considered early in design. The benefit of programmatic coverage is a significant reduction in the duration of ESA consultation for the project. For additional details, see Chapter 436.
- If a project turns groundwater into surface water, the project must follow the design requirements in the *Hydraulics Manual* and HRM.
- The design team shall consider the effects of climate change to ensure the project is resilient to changes that may occur over the design life of the project. For more information on considerations of climate change, see Chapter 415.

See the Stormwater & water quality webpage for guidance and resources on the following requirements:

- Projects that require a US Army Corps of Engineers CWA Section 404/Rivers and Harbors Act (RHA) Section 10authorization or US Coast Guard RHA Section 9 permit and discharge or have the potential to discharge pollutants into water of the United States must receive a Water Quality Certification (WQC) from the appropriate Section 401 certifying agency or tribe.
- **Individual 401 certifications** require a pre-filing meeting request form to be submitted 30 days prior to submitting section 401 request. The pre-filling meeting request form is a mandatory precursor that starts the application process. Complete most recent WQC request form (ECY 070-640). The Draft Water Quality Monitoring and Protection Plan (WQMP) needs to be prepared to ensure water quality standards (WAC 173-201A) will be met during in-water work.
- Prior to beginning in-water work, review environmental permits and approvals to determine project-specific requirements for in-water work and sampling.
- Whether or not a sampling report is prepared for a project, WSDOT must comply with the state surface water quality standards (WAC 173-201A).
- Complete the Surface Water Technical Guidance to calculate annual pollutant loads and assess potential impacts to receiving waters. The results help identify differences in impacts between project alternatives and can be included in discipline reports and other NEPA/SEPA documentation.

- Complete the ESA Stormwater Design Checklist to provide pre- and post-project runoff treatment and flow control quantities that are typically required during ESA consultation.
- Determine if a stormwater discipline report is necessary. Use the Stormwater Discipline Report Checklist to make sure all project-related stormwater impacts are considered in the discipline report.
- Determine if a groundwater discipline report is necessary. Use the Groundwater Discipline Report Checklist to make sure all project-related groundwater impacts are considered in the discipline report.
- Consider connections to special flood hazard areas. Refer to Chapter 432: Special Flood Hazard Area for more information on special flood hazard areas.

See the *Temporary Erosion and Sediment Control (TESC) Manual* and Stormwater & Water Quality webpages for guidance and resources on construction stormwater planning, including TESC plan development, plan reviews, and project completion requirements:

- Construction projects must apply for coverage under the CSWGP if the project has the potential to discharge stormwater to surface waters and will either disturb one or more acres of soil or is part of a larger common plan that will disturb one or more acres of soil. Ecology may require CSWGP coverage for smaller projects that have the potential to cause a violation in water quality standards and/or be a significant contributor of pollutants to waters of the State. CSWGP coverage will also be required for projects with known contamination.
- Ecology requires that projects apply for permit coverage by submitting a Notice of Intent (NOI) at least 60 days prior to beginning earth disturbing work. To prevent permitting delays, WSDOT advises projects apply for coverage at least 90 days prior to work. Refer to the Complete NOI Guidance document for more information on applying for National Pollutant Discharge Elimination System (NPDES) 402 coverage and specific scenarios that could extend the permitting timeline.
- WSDOT transfers CSWGP coverage to the contractor, except for special cases which must be approved by the Assistant State Construction Engineer (ASCE). Transfer of coverage is not common for design-build (DB) projects since the standard practice is for the Design-Builder to obtain CSWGP coverage. However, should it be determined that WSDOT will get the NPDES permit for a DB project, the ASCE may approve transfer of coverage for that DB project. When a contractor or Design-Builder is the permit holder, they are responsible for implementing all permit requirements, while WSDOT's role centers around contract enforcement. WSDOT's contract enforcement role is critical to demonstrate due diligence and reduce liability.
- Prepare a Stormwater Pollution Prevention Plan (SWPPP) for all work, even when not applying for coverage under the CSWGP. The SWPPP is made up of two plans, the Spill Control and Countermeasure (SPCC) plan and TESC plan (TESC narrative and Plan drawings). More information about SPCC plans is available in Chapter 447 Hazardous Materials and Solid Waste. The SPCC plan guidance and the SPCC template are located on the Stormwater and Water Quality webpage under the tools tab. The TESC plan must identify site-specific erosion risks during construction and document plans for minimizing those risks with emphasis on source control, erosion control, and supporting project Planting Plans and successful Roadside Restoration goals. There are two types of TESC plans: comprehensive TESC plan and the abbreviated TESC plan for smaller earth-disturbing work. Complete guidance for TESC plan development can be found within the WSDOT TESC Manual and TESC plan templates, which are available on the WSDOT

Stormwater and water quality webpage and should be used by projects to ensure all necessary information is included. Develop a preliminary TESC plan to be included in the project contract as an appendix. If the project is design-build, the contractor must develop a TESC plan for WSDOT review and comment. The contractor may adopt and modify the preliminary TESC Plan or develop a new plan, must submit their TESC Plans as a Type 2 Working drawing for WSDOT review and comment prior to active construction to ensure the proposed work meets WSDOT's requirements and expectations.

- Review the SWPPP prior to construction to ensure all requirements are included. WSDOT reviews the contractor's TESC plan to ensure any modifications make sense and sufficiently account for the site-specific risks and long-term asset management.
- Submit monthly discharge monitoring reports (DMRs) to Ecology's WQWebPortal once CSWGP coverage is granted, even if construction has not started or there have been no discharges. For transfer of coverage projects, WSDOT is responsible for submitting DMRs until the specific date of CSWGP transfer identified by the Headquarters CAPS Office. DMRs must be submitted monthly until the CSWGP coverage terminates or permit coverage is transferred to the contractor; failure to do so is considered a violation of the CSWGP.

See the *Highway Runoff Manual* and Hydraulics & hydrology webpages for guidance and resources on the following requirements:

- If the project will add enough new impervious surface to trigger HRM requirements for stormwater treatment and/or flow control, use the HRM to select appropriate BMPs for a project. Use the TMDL considerations in Chapter 5 of the HRM to choose appropriate BMPs if discharging to impaired waters on the 303(d) list or covered by a TMDL based on the pollutant(s) of concern.
- Develop a Hydraulics Report and BMP Maintenance Manual for all BMPs.

430.03(4) Construction

See the Stormwater & water quality webpage for guidance and resources on the following requirements:

- All contractor and Design-Build staff performing CSWGP site inspections must be current Certified Erosion and Sediment Control Leads (CESCL). WSDOT staff involved in TESC plan design and/or field implementation must successfully complete the WSDOT Construction Site Erosion and Sediment Control training in accordance with Chapter 1 of the WSDOT TESC Manual. See the Environmental training webpage for more information about course offerings.
- Report, spills, and illicit discharges that might impact the stormwater drainage system. If a spill or illicit discharge occurs, immediately follow the reporting procedures on WSDOT's Report a spill webpage.
- Ensure that all in-water work meets applicable water quality standards and follow reporting protocols. For Individual 401 Certifications, the contractor must prepare a Final WQMP/WQMPP for Ecology approval prior to in-water work if designs change after coverage is issued.
- For both Design Build and Design Bid Build projects, ensure that required TESC-related site inspections, documentation and reporting protocols are being followed, and that physical BMPs meet WSDOT material, installation, maintenance, replacement and removal requirements. Refer to the WSDOT TESC Manual, Division 8-01 and 9-14 of

the WSDOT *Standard Specifications*, and WSDOT Standard Plans, Section I for more information.

- The Environmental Compliance Assurance Policy (ECAP) must be initiated in the event of known or suspected non-compliance. See SS 1-07.5 of the WSDOT *Construction Manual*, Chapter 4 of the WSDOT TESC Manual, and RCW 47.85.030 for more information.

For more information on environmental commitments during construction, see Section 600.03.

430.03(5) Maintenance and operations

Perform inspection and maintenance activities and enter records into the Highway Activity Tracking System (HATS) database and conduct quarterly QA/QC.

430.03(6) Stormwater and water quality resources

Refer to the following resources for additional guidance and tools:

1. **GIS Workbench –** The WSDOT GIS Environmental Workbench provides a GIS interface for internal WSDOT users. It has numerous environmental and natural resource management data layers from federal, state, and local agencies that provide useful information for water quality analyses. Available databases include water resource inventory areas (WRIAs) and sub-basins, major shorelines, 303(d)s and TMDLs, and NPDES municipal stormwater permit areas. The status of Category 5 303(d) listed waters and Category 4a TMDLs change biennially and there is lag time updating the GIS Workbench, therefore it is good practice to verify status prior to permitting using Ecology's Water Quality Atlas.
2. **FHWA Guidance Documents and Resources**
   - **FHWA Technical Advisory –** FHWA Technical Advisory T 6640.8A (October 30, 1987) provides guidelines for preparing environmental documents.
   - **FHWA Environmental Review Toolkit and Guidebook –** This online resource contains several guidance documents and federal MOAs on topics related to stormwater and water quality, the CWA, and coastal zone management.
3. **Programmatic Monitoring Approach for Highway Stormwater Runoff in Support of Endangered Species Act (ESA) Section 7 Consultation –** Describes the programmatic monitoring approach for assessing the potential water quality effects of highway stormwater runoff on ESA-listed aquatic species.
4. **Department of Ecology Resources**
   - **Watershed Basin Reports and Action Plans (Local or State Plans) –** Many watershed and basin plans include specific recommended action items on priority environmental issues. The stormwater analysis should address the guidance outlined in watershed/basin action plans related to water quality.
   - **Water Quality Atlas –** The Water Quality Atlas is a web-based map application to obtain information about water quality in Washington State. Available datasets include 303(d)s and TMDLs, and NPDES municipal stormwater permit areas, among others.
   - **Ecology's Construction Stormwater General Permit –** Ecology's CSWGP webpage includes site inspection form templates, SWPPP templates, requests for chemical treatment forms, stormwater sampling guidance and videos, regional contacts, and other permit implementation resources.

430.04 Analysis and documentation requirements

This section describes analysis and documentation requirements based on regulatory requirements. Determine level of detail based on complexity/size of project, expected severity of impacts, and potential for public controversy.

430.04(1) Analysis and documentation for NEPA

WSDOT estimates potential water quality impacts during scoping and through the NEPA and SEPA environmental documentation process. If the project may result in adverse impacts to water quality, NEPA and SEPA require impact analyses to be completed and recorded in the environmental document (see Chapter 400).

1. **Determining the Necessary Level of Effort**

   Stormwater – A proposed project generally needs to analyze stormwater impacts when the project could affect receiving waters by:

   - Increasing the amount of pollutants discharged to receiving waters.
   - Presenting a risk of eroded sediments or spilled pollutants entering receiving waters.
   - Involving construction or other work in or over surface water bodies, their buffers, or floodplains.
   - Using, diverting, obstructing, or changing the natural flow or bed of receiving waters.

   Groundwater – A proposed project generally needs to analyze groundwater impacts when:

   - Introducing enough stormwater or wastewater into an aquifer or its recharge zone to create a significant adverse environmental impact.
   - Stormwater or wastewater discharges produced by any project alternatives are likely to enter SSAs, CARAs, or WPAs in quantities sufficient to produce a potential adverse environmental impact.
   - Other potential impacts (active and retired wells, septic systems, etc) to groundwater are identified.

   Situations where build options reduce the amount of pollutants to receiving waters may also require impact analyses if significant differences exist in the water quality benefits provided by each of the alternatives. Document the analysis of stormwater and groundwater impacts as part of the environmental document for the project (i.e., ECS, EA, or EIS). In rare cases, when warranted by the nature of the project, the analysis can be documented in a separate discipline report which supplements the environmental document. In these situations, use the Stormwater Discipline Report Checklist or the Groundwater Discipline Report Checklist to help ensure adequate consideration of all project-related impacts in the report.

   If uncertainty exists as to whether impacts may occur, perform a preliminary investigation of the impacts from each of the alternatives. Project managers can also contact the regional water quality lead for assistance. End the investigation if it becomes apparent no significant impacts or differences exist among the alternatives. In the project file, explain why the project did not need a stormwater or groundwater impact analysis.

2. **Methodology for Analyzing Surface Water Impacts –** Calculate annual pollutant loads to assess potential impacts of a project. The Surface Water Technical Guidance describes the two appropriate methods to use in the scoping stage of a project. Do not use other pollutant loading methodologies when analyzing impacts from stormwater.

3. ***Highway Runoff Manual*** – The *Highway Runoff Manual M 31-16 summarizes stormwater management requirements and describes approved methods of managing stormwater runoff known as Best Management Practices. Used together*, HRM and *Hydraulics Manual* M 23-03, provide tools for designing effective stormwater collection, conveyance, and treatment systems for highways, ferry terminals, park and ride lots, and other transportation-related facilities.

   The project stormwater designer must first follow HRM Chapter 2 guidelines for integrating the planning and design of stormwater-related project elements into the context of WSDOT's project development process. Then the designer must use

   Chapter 3 to determine the applicable minimum requirements for a specific project. In most cases, this process will spur the need to design construction and post construction BMPs according to the criteria in Chapters 4, 5, and 6. Chapter 6 describes and links to WSDOT's *Temporary Erosion and Sediment Control Manual* (TESCM).

   The TESCM describes how to meet the requirements of the NPDES CSWGP.

   It covers SWPPPs, BMP selection, discharge sampling and reporting, and other compliance-related issues, as well as potential effects to receiving water during construction.

   Ecology approved the TESCM and HRM, in combination, as equivalent to the Ecology *Stormwater Management Manuals for* Western and Eastern Washington for compliance with Ecology-issued stormwater permits.

   Standard BMP options from the HRM fit most projects. See HRM Section 1-4 on who to contact when a site presents a challenge and does not lend itself easily to the approaches prescribed in the manual.

4. **303(d) and TMDL Impaired Water Bodies**

   Ecology may assign WSDOT waste load allocations (WLAs) along with specific action items or compliance timelines when a TMDL identifies WSDOT discharges as a source or conveyer of the pollutant of concern. Ecology includes EPA-approved TMDLs that contain WLAs and/ or actions for WSDOT in Appendix 3 of WSDOT's NPDES Municipal Stormwater Permit.

   Category 5 303(d) listed waters and Category 4a TMDLs approved by EPA that do not assign WSDOT a WLA can also trigger requirements depending on the pollutant of concern. For example, pollution impairments for turbidity, pH, fine sediment, and/or phosphorus can trigger numerous additional requirements during construction. WSDOT policy and procedures for complying with these requirements is built into several WSDOT manuals, the *Standards Specifications*, and guidance documents.

   If a proposed project, or construction activity, occurs in a 303(d) listed segment of a waterbody, or upstream of a listed segment, and may result in further exceedances of the specific listed parameter, then Ecology WQC review will be required to determine if the project meets the programmatic WQC or will require an individual WQC.

   Follow the guidance on WSDOT's webpage to determine if stormwater from a project will discharge to an impaired water body. For more information on TMDLs or 303(d) listings, contact the Stormwater Branch in the Environmental Services Office, or visit Ecology's website, Water Quality Atlas.

5. **ESA Programmatic Consultation Stormwater Requirements**

   Many WSDOT projects are covered under ESA programmatic consultations. These programmatics have lower thresholds for stormwater treatment than the HRM that must be considered early in design. The benefit of programmatic coverage is a significant reduction in the duration of ESA consultation for the project. For additional details, see Chapter 436.

6. **Climate Change**

   For information on considerations of climate change and climate impacts vulnerability assessment, see Chapter 415 and WSDOT's Guidance for NEPA and SEPA Project-Level Climate Change Evaluations.

430.04(2) Analysis and documentation for SEPA only (No federal nexus)

SEPA requirements are the same as federal requirements.

430.05 External engagement

WSDOT documents project level environmental analysis required by NEPA and SEPA to describe impacts to human health and the environment, project benefits, and mitigation measures. WSDOT participates in appropriate external engagement during the project development process. Chapter 400 describes the community engagement process followed for compliance with NEPA and SEPA in greater detail. Public notice is also required as part of the CSWGP NOI process, and early coordination with regulators is recommended for TESC, especially on higher-risk projects, such as those with existing contamination.

430.06 Internal roles and responsibilities

430.06(1) Region/Modal Environmental Manager

- Signs water quality permit applications.
- Oversees the development of stormwater and groundwater discipline reports.
- Supports and decides on conflicting environmental issues.
- Evaluates stormwater and water quality non-compliance.
- Determines if the Environmental Compliance Assurance Policy (ECAP) is applicable and if an event should be handled at the region/project level or escalated.
- Supports stormwater compliance during design and construction phases of projects.

430.06(2) Project Engineer- Design

- Prepares design plans in compliance with water quality requirements.
- Develops and completes stormwater hydraulic reports.
- Identifies stormwater BMPs that are necessary and included in a project.
- Prepares a Water Quality Management Plan (WQMP), if required.
- Ensures mitigation requirements are incorporated into the design and contract.
- Ensures stormwater and other water quality permit commitments are included in the project contract.

- Develops and gets approval on any stormwater deviation from the HRM.
- Works with the Region/Modal Environmental Manager to identify non-compliance and determine if ECAP is applicable and if an event should be handled at the region/project level or escalated.
- Orders Suspension of Work when an environmental permit violation is known or likely to occur without mitigative action, to ensure compliance with RCW 47.85.030.

430.06(3) Project Engineer- Design and Construction

- Ensure construction compliance with stormwater and water quality permit conditions and mitigation requirements.
- Determines need for contract enforcement actions.
- Develops stormwater BMP Maintenance Plans for stormwater features.
- Works with the Region/Modal Environmental Manager to identify non-compliance and determine if ECAP is applicable and if an event should be handled at the region/project level or escalated.
- Orders Suspension of Work when an environmental permit violation is known or likely to occur without mitigative action, to ensure compliance with RCW 47.85.030.
- Provides adequate resources for inspectors to perform daily site inspections for environmental/TESC compliance.
- Consults with region SMEs on key hold points and decision-making that may affect their respective programs (e.g., roadside/Las, RMECs, etc.).

430.06(4) Region Environmental Coordinator/Permit Specialist/Biologist/ Stormwater Hydraulic Engineer

- Identifies in the ERS stormwater treatment needs and water quality discharges to Category 4a TMDL waters, and Category 5 303(d) waters.
- Identifies the need for stormwater and groundwater discipline reports.
- Identifies in the ECS stormwater treatment needs and water quality discharges to Category 4a TMDL waters, and Category 5 303(d) waters.
- Coordinates the internal review of stormwater and groundwater discipline reports.
- Submits for water quality permits and approvals.
- Identifies stormwater and water quality mitigation and permit commitments through CTS to the Design Project Engineer (PE).
- Identifies stormwater and water quality non-compliance and processes with Construction ECAP documentation.
- Identifies and coordinates mitigation for listed endangered species.
- Performs site walk-throughs with appropriate subject matter experts.

430.06(5) HQ Environmental Services Office

- Supports regions, headquarters and mega programs on the development and completion of impact analysis documents.
- Provides technical assistance on impact analysis documents.
- Coordinates with regulatory community to establish agreements and understandings on matters impacting statewide policy and practices.
- Provides policy and guidance on stormwater and water quality reports.
- Provides guidance on CSWGP-related topics prior to escalating issues to certifying agencies.
- ESO's Climate Mitigation and Adaptation Branch can provide technical assistance for incorporating considerations of climate change throughout the environmental review process.

430.06(6) Area Maintenance

- Responsible for inspecting and maintaining stormwater treatment facilities.

430.06(7) Region Maintenance Environmental Coordinator

- Coordinates with services and local agencies.
- Supports area maintenance and ensures correct permits are in place.
- Reviews In-water work windows, interference in streams, critical areas, stormwater runoff, and 303d/TMDL.
- Attends site visits for preliminary TESC plan development and prior to permit close-out.

430.06(8) Region Hydraulic Engineer

- Responsible for reviewing and accepting the Stormwater Hydraulic Report.
- Ensures designs comply with long term permanent stormwater requirements.
- Evaluates and coordinates deviations from the HRM for approval with Ecology.
- Supports stormwater compliance for local programs and developer services clients.
- Liaison for local jurisdictions.
- Supports stormwater construction and TESC plan development.

430.06(9) Region Materials Engineer/State Geotechnical Engineer

- Responsible for completing the groundwater discipline report.
- Responsible for completing the geotechnical investigations along the project, if requested by the project engineer office (PEO).

430.06(10) HQ Hydraulics Office

- Works with regions on HRM deviations and Ecology approval.
- Supports regions, headquarters, and mega programs on HRM and HM compliance for stormwater design.
- Provides final hydraulic report concurrence.
- Maintains and updates the HRM and HM.

430.07 Applicable permits and approval process

WSDOT must comply with all applicable federal, state, and local laws, regulations, policies, and plans. Consider obligations for each water quality permit or approval listed in this section during design and environmental review.

Stormwater and water quality requirements and BMPs get developed and implemented through Section 401 Water Quality Certifications, NPDES permits, WSDOT's HRM, and project-specific BMPs. See the additional information for Stormwater & water quality related permits and approvals.

430.07(1) Federal

- **US Army Corps of Engineers –** A jurisdictional determination may be required to determine what activities will be covered under the federal permit. If no federal action is required, then the project may require an AO for non-federally regulated waters.
- **EPA – CWA Section 401 –** Water quality certifications that are issued on federal and tribal land without WQC authority.

430.07(2) Tribal

Tribes with treatment as a state (TAS) may be WQC certifying authorities. The Confederated Tribes of the Chehalis Reservation, Confederated Tribes of the Colville Reservation, Jamestown S'Klallam Tribe, Kalispel Indian Community,, Lummi Tribe, Makah Indian Nation, Port Gamble S'Klallam Tribe, Puyallup Tribe of Indians, Quinault Indian Nation, Spokane Tribe of Indians, Swinomish Indian Tribal Community, and Tulalip Tribe have authority to approve Section 401 Water Quality Certifications. See Section 401 Water Quality Certification ORIA page for the current list.

430.07(3) State

- Ecology - CWA Section 401 – Water quality certifications for activities on all other federal, public, and private lands in Washington State.
- CWA NPDES 402 Construction Stormwater General Permit
- CWA NPDES Industrial Stormwater General Permit
- CWA NPDES WSDOT Municipal Stormwater General Permit
- CWA NPDES Bridge and Ferry Terminal Washing General Permit

430.07(4) Local

For more information on the permitting process, see Chapter 500 Environmental permitting, WSDOT's Environmental Services webpage, or contact the local government.

430.08 Mitigation

Guidance and resources for mitigation options can be found on the Stormwater & water quality webpage. Mitigation options include:

- Stormwater retrofit
- Special or newly researched BMPs
- Assistance with watershed priorities set through watershed planning

430.09 Abbreviations and acronyms

AKART	All Known, Available, and Reasonable Methods of Prevention, Control, and Treatment
BA	Biological Assessment
BMP	Best Management Practice
CAO	Critical Area Ordinance
CAPS	Contract Administration and Payment System
CARA	Critical Aquifer Recharge Area
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CSWGP	Construction Stormwater General Permit
CTS	Commitment Tracking System
CWA	Clean Water Act
DB	Design-Build
DOH	Washington State Department of Health
DMR	Discharge Monitoring Report
EA	Environmental Assessment
ECAP	Environmental Compliance Assurance Policy
Ecology	Washington State Department of Ecology
ECS	Environmental Classification Summary
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ERS	Environmental Review Summary
ESA	Endangered Species Act
FHWA	Federal Highway Administration
GIS	Geographic Information System
GMA	Growth Management Act
HIRUN	Highway Runoff Dilution and Loading Stormwater Model
HPA	Hydraulic Project Approval
HRM	*Highway Runoff Manual* M 31-16
LID	*Low Impact Development*
MHHW	Mean Higher High Water
MOA	Memorandum of Agreement
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
OHWM	Ordinary High Water Mark
PE	Project Engineer
PEO	Project Engineer Office

RCEF	Retrofit Cost-Effectiveness and Feasibility
RCW	Revised Code of Washington State
SCA	Sanitary Control Area
SDWA	Safe Drinking Water Act
SEPA	State Environmental Policy Act
SPCC	Spill Prevention, Control, and Countermeasures Plan
SSA	Sole Source Aquifer
SWABS	Stormwater BMP Specifications database
SWPPP	Stormwater Pollution Prevention Plan
TAS	Tribes as a State
TESCM	*Temporary Erosion and Sediment Control Manual*
TMDL	Total Maximum Daily Load
UIC	Underground Injection Control
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service
WAC	Washington Administrative Code
WLA	Waste Load Allocation
WPA	Wellhead Protection Area
WRIA	Water Resource Inventory Area
WSDOT	Washington State Department of Transportation
WSF	Washington State Ferries
WQC	Water Quality Certificate
WQMPP	Water Quality Monitoring and Protection Plan

430.10 Glossary

These definitions provided context for the Stormwater process. Some terms may have other meanings in a different context.

Council on Environmental Quality (CEQ) – Coordinates Federal environmental efforts and works closely with agencies and other White House offices on the development of environmental policies and initiatives.

Critical Aquifer Recharge Area (CARA) – An area designated by a city or county for protection under the Growth Management Act that has a critical recharging effect on aquifers used for potable water.

Groundwater – Water that occurs below the surface of the earth, contained in pore spaces. It is either passing through or standing in the soil and underlying strata and is free to move under the influence of gravity.

Group A water systems regularly serve 15 or more residential connections or 25 or more people/day for 60 or more days per year. All remaining systems are designated Group B.

Group B wells serve a single residential connection and are not considered public water supplies but are generally regulated by local ordinances.

Highway Runoff Manual (HRM) – WSDOTs *Highway Runoff Manual* M 31-16 directs the planning and design of stormwater management facilities that meet state and Federal regulations for new and redeveloped Washington state highways, rest areas, park-and-ride lots, ferry terminals, and highway maintenance facilities throughout the state.

Injection Well – Any disposal system designed to place fluids, including highway runoff and treated wastewater from on-site sewage disposal systems, into the subsurface. Such systems include bored, drilled, or dug holes; for example, dry wells, French drains, and drain fields.

National Pollution Discharge Elimination System (NPDES) – Pollution control permits that require point source dischargers to obtain permits. These are issued to WSDOT and other entities, by Ecology, for construction stormwater, municipal separate storm sewer systems, industrial, and sand and gravel operations.

Sanitary Control Area (SCA) – An area (minimum radius 100 ft) maintained around a public water source (surface or well) for the purpose of protecting that source from existing and potential sources of contamination. No sources of contamination may be constructed within the sanitary control area without the permission of the DOH and the water purveyor. DOH guidance identifies stormwater runoff and spills resulting from vehicular accidents on roadways as potential sources of contamination.

Sole Source Aquifer (SSA) – An aquifer designated by EPA that (1) supplies 50 percent or more of the drinking water to the population living over the aquifer, (2) has distinct hydrogeological boundaries, and (3) for which there is no economically feasible alternative source of drinking water if it should become contaminated.

Source Water Protection Area – Area protected for drinking water supplies; these include Wellhead Protection Areas and Sanitary Control Areas.

Stormwater – That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a stormwater drainage system into a defined surface water body or a constructed infiltration facility.

Surface Water – All water naturally open to the atmosphere, such as rivers, lakes, reservoirs, ponds, streams, wetlands, seas, and estuaries.

Total Maximum Daily Load (TMDL) – A requirement of the Clean Water Act, TMDLs consist of a watershed-based pollution control plan developed by Ecology or the EPA to address water quality impairment.

Watershed – The land area that drains into a surface waterbody; the watershed for a major river may encompass several smaller watersheds that ultimately combine at a common point.

Waters of the State or State Waters – Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters and all other surface waters and watercourses located within the jurisdiction of the state of Washington. (RCW 90.48.020)

Wellhead Protection Area – Area managed by a community to protect groundwater drinking water supplies.

Wellhead Protection Areas (WPA) – A portion of the zone of contribution for a Group A well or spring, as determined by delineation criteria based on the estimated time of travel for a particle of water from the zone boundary to its eventual arrival at the well. Water purveyors are required to inventory all known and potential groundwater contamination sources within the WPA and complete a susceptibility assessment every five years. Additional information is available in DOH's *Wellhead Protection Guidance Document*.