Chapter 430 Surface Water Quality

430.01 Surface Water Quality Requirements

Untreated and uncontrolled stormwater runoff from projects can adversely impact water resources. Water quality and other surface water-related issues that WSDOT must address during project development and design include:

- In-water work
- Interference with stream flows
- Critical areas
- Stormwater runoff discharges
- Herbicide application
- Water rights

WSDOT must comply with all applicable federal, state, and local laws, regulations, policies, and plans. According to these laws, regulations, policies, and plans, WSDOT must evaluate potential stormwater impacts prior to submitting permit applications to resource agencies so project construction can proceed.

Surface water quality obligations emerge through the Clean Water Act (CWA) Section 401 certifications, water quality modifications, and compliance with the standards in Washington State’s Water Pollution Control laws and regulations (RCW 90.48 and WAC 173-201A). Applications for water quality-related permits include the Joint Aquatic Resources Permit Application (JARPA) for Section 401 Water Quality Certifications, and the National Pollutant Discharge Elimination System (NPDES) permits. Section 430.05 lists permits, certificates, and approvals related to water quality. While this chapter focuses primarily on requirements pertaining to road projects, Section 430.06 describes surface water and water quality requirements specific to ferries, airports, rail, and non-motorized transportation.

Chapter 610 covers aspects of erosion and sediment control. Chapter 620 includes a section on water quality during construction. For other water-related issues required under NEPA and SEPA see Chapters 431, 432, and 433.
Chapter 430 Surface Water

430.02 Analyzing Surface Water Impacts

WSDOT estimates potential surface water impacts. The process begins during scoping and continues through the NEPA and SEPA environmental documentation process. If the project may result in adverse impacts to surface water, NEPA and SEPA require a surface water impact analysis to be completed and recorded in the environmental document (see Chapter 400). Surface water impact analysis involves characterizing surface water, groundwater, wellhead protection areas, source water protection areas, soils and topographic features affecting basin hydrology, existing water quality conditions, and land use patterns affecting stormwater runoff conditions. The analysis also includes assessing potential impacts to water quality in a watershed.

1. Determining the Necessary Level of Effort – A proposed project generally needs to analyze surface water impacts when the project could affect receiving waters by:
   - Increasing the amount of pollutants discharged to surface waters.
   - Increasing peak runoff flows to surface waters.
   - Presenting a risk of eroded sediments or spilled pollutants entering surface waters.
   - Involving construction within surface water bodies, their buffers, or floodplains.

Situations where build options reduce the amount of pollutants or peak flows to surface waters may also require a surface water impact analysis if significant differences exist in the water quality benefits provided by each of the alternatives. Document the analysis of surface water 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 Surface Water Discipline Report Checklist to help ensure adequate consideration of all project-related surface water issues in the report.

In the event uncertainty exists as to whether surface water impacts may occur as a result of the project, perform a preliminary investigation of the impacts from each of the alternatives. Project managers can also contact the regional water quality lead for assistance. Terminate the investigation if it becomes apparent no significant impacts or differences in water quality exist among the alternatives. In the project file, document the rationale for the determination that the project did not need a surface water 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 early planning stage of a project. Do not use other pollutant loading methodologies in analyzing surface water impacts (i.e., the Highway Runoff Dilution and Loading Stormwater (HIRUN) model).


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 instances, this process will spur the need to design construction and post construction BMPs according to the criteria provided in Chapters 4 and 5. With release of the 2014 HRM, what was formerly HRM Chapter 6 became a separate document titled *Temporary Erosion and Sediment Control Manual* M 3109 (TESCM).

The TESCM provides WSDOT procedures for meeting the statewide stormwater pollution prevention planning (SWPPP) discharge sampling and reporting requirements in the NPDES Construction Stormwater General Permit (CSWGP). It includes criteria for selecting appropriate erosion and sediment control BMPs, as well as guidelines on water quality monitoring for projects required to monitor runoff quality and potential effects to receiving water during construction.


Most projects lend themselves to relatively straightforward application of one or more of the BMP options presented in the HRM. See HRM Section 1-4 on who to contact in instances where a site presents a challenge and does not lend itself easily to the approaches prescribed in the manual.

### 430.03 303(d) and TMDL Impaired Water Bodies

The CWA Section 303(d) requires Washington State to identify polluted water bodies every two years and submit the list to the U.S. Environmental Protection Agency (USEPA). Ecology develops a Total Maximum Daily Load (TMDL) for each water body segment included on the 303(d) list (40 CFR 130.7). TMDL water cleanup plans:

- Identify water pollution problems in the watershed.
- Specify how much pollution needs to be reduced or eliminated.
- Provide targets and strategies to achieve beneficial uses.
- Include a TMDL effectiveness monitoring plan to verify compliance with targets.

Once approved by USEPA, TMDL-related obligations can be included as commitments in the Corps Section 404 and 401, or as additional requirements in NPDES 402 stormwater permits.

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

For 303(d)s and TMDLs approved by USEPA that do not specifically identify WSDOT stormwater discharges as a pollutant source, projects should avoid discharging stormwater to the impaired water body, and avoid adverse impacts where feasible. WSDOT’s *Water resources policies and procedures* webpage provides guidance for how to determine if stormwater from a project will discharge to an impaired water body and how to determine impacts. For more information on TMDLs or 303(d) listings, contact the Stormwater and Watersheds Program in the Environmental Services Office, or visit Ecology’s *Water Quality Improvement* website.
430.04 Surface Water Interagency Agreements

Appendix B contains the following interagency agreements pertaining to surface water:

- **Memorandum of Agreement (MOA) on Hydraulic Project Approvals for Transportation Activities** – WSDOT and Washington Department of Fish and Wildlife (WDFW) signed the "Administration of Hydraulic Project Approvals for Transportation Activities and Implementation of the Fish Passage Retrofit Program and Chronic Deficiency Program" MOA to establish mutual understanding and procedures between the agencies for complying with the Hydraulic Code Rules (WAC 220-660) applicable to transportation projects. Additional information about HPAs is available in Chapter 2 of the Complete Permit Application Guidance.

- **Implementing Agreement Regarding Application of the Highway Runoff Manual** – 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. In March 2014 this implementing agreement was amended and revised.

430.05 Water Quality Permits and Approvals

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.

Project notification to Ecology occurs through submittal of a JARPA application, or through telephone/email for:

- All new construction projects requiring a CWA Section 401 Water Quality Certification.
- Large or contentious projects, as well as those involving a significant amount of in-water work.
- Any project not expected to or that does not comply with conditions listed in the interagency agreements (Appendix B).

Surface water quality requirements and BMPs get implemented through the JARPA process, NPDES permits, WSDOT's HRM, actions triggered from Biological Opinions, and project-specific BMPs. Additional information can be found on the Environmental permits and approvals website.

430.05(1) Federal

- **CWA Section 404 Permit – Wetland/Streams**
- **CWA Section 401 – Water Quality Certification** – This certification requires tribal consultation or approval under federal statutes. The Confederated Tribes of the Chehalis Reservation, Kalispel Tribe of Indians, Makah Tribe, Port Gamble S'Klallam Tribe, Puyallup Tribe of Indians, Spokane Tribe of Indians, and Tulalip Tribe have authority to approve Section 401 Water Quality Certifications.
- **CWA NPDES Construction Stormwater General Permit**
- **CWA NPDES Industrial Stormwater General Permit**
- **CWA NPDES WSDOT Municipal Stormwater General Permit**
- **CWA NPDES General Permits**
- **Coastal Zone Management Act Consistency Determination**
430.05(2)  **State**
- Hydraulic Project Approval
- Aquatic Lands Use Authorization

430.05(3)  **Local**
- Floodplain Development Permit
- Shoreline Permits/Exemptions
- Critical Areas Ordinance Permit

### 430.06 Non-Road Project Surface Water Requirements

#### 430.06(1)  **Ferries**
- **General Permit Requirements** – The ferry system must abide by the same permits as the road system for upland and aquatic projects. These most commonly include the US Army Corps of Engineers Section 10 or Section 404 permits, (including Nationwide Permits (NWPs) and Letters of Permission), U.S. Coast Guard (USCG) Section 9, WDFW Hydraulic Project Approval (HPA), and local shoreline permits. Washington State Ferries (WSF) typically obtains these permits through the JARPA process. WSF terminals and facilities falling within the geographic scope of the Phase 1 and Phase 2 NPDES municipal stormwater permits have coverage under WSDOT’s NPDES municipal stormwater permit. In order to comply with permit requirements, it is important to know the accurate distance from the shoreline to the project. For marine water, measure the distance to the shoreline from the mean higher high water (MHHW). For fresh water, measure the distance from the ordinary high water mark (OHWM) or line.
- **NPDES Industrial Stormwater General Permit** – This permit governs stormwater discharges associated with industrial activities at the WSF Eagle Harbor vessel maintenance facility.

#### 430.06(2)  **Airports, Rail, and Nonmotorized Facilities**

Airport, rail, and nonmotorized projects are subject to the same water quality policies, procedures, and permits as road projects. Rail projects and railroad fills, including ties, rails, and structures over streams, are all considered pervious. For examples of pervious and impervious pavement, refer to the glossary in the HRM. To prevent materials from falling off trains into waterbodies, enclosed structures must be used to transport materials. A separate stormwater design manual exists for airports, but it has not been amended to meet Ecology's 2012 stormwater manual updates. Contact the Aviation Division for assistance designing stormwater treatment adjacent to airports.
430.07 Surface Water Quality Resource Materials

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 that provide useful information for surface water quality analyses. WSDOT works with federal, state, and local agencies to maintain a collection of the best available data for statewide environmental analysis. Available databases relevant to surface water quality include water resource inventory areas (WRIAs) and sub-basins, major shorelines, CWA Section 303(d) Impaired Waters and TMDLs, and NPDES municipal stormwater permit areas.

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 surface water quality, the CWA, and coastal zone management.

3. Department of Ecology Resources
   • Water Quality 305(b) Assessment – The CWA Section 305(b) requires Washington State to prepare a water quality assessment report every five years and submit it to USEPA. In addition, USEPA requires the state to submit certain assessment data annually for compilation in a national report. For access to the data and a description of requirements for ecoregions, stream/river basins, estuaries, and lakes, refer to the Washington State’s Current Water Quality Assessment.
   • 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 surface water analysis should address the guidance outlined in watershed/basin action plans related to surface waters.

430.08 Applicable Statutes and Regulations

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

430.08(1) Federal

1. National Environmental Policy Act – The National Environmental Policy Act (NEPA), 42 USC 4321, requires that all major actions sponsored, funded, permitted, or approved by federal agencies undergo environmental planning. This planning ensures that environmental considerations, such as impacts to water quality, receive appropriate consideration during decision making. 23 CFR 771 (FHWA) and 40 CFR 1500–1508 (CEQ) contain Federal implementing regulations. For details on NEPA procedures see Chapter 400.

2. Clean Water Act – The Water Pollution Control Act, better known as the Clean Water Act (CWA), 33 USC 1251 et seq., provides federal regulation of water pollution sources. In Washington State, USEPA has delegated administrative authority of the CWA to Ecology except on tribal and Federal lands (and discharges to tribal waters).
3. **Endangered Species Act (ESA)** – USFWS and NOAA Fisheries administer this act. A federal nexus triggers formal consultation under the act. These triggers include permits, funding or actions on federal land, and by the potential harm, harassment, or take of listed species or impacts to their habitat. Informal consultation, under Section 10 of the act, requires applicants to comply with the ESA even if a federal nexus does not occur.

The ESA has relevance to discharges to surface waters with listed aquatic species. The presence of salmonids that are listed under the ESA within a waterbody that is receiving surface water discharges may trigger additional requirements for surface water discharges beyond those required in the HRM or by Ecology. Contact a WSDOT project biologist about any additional requirements due to the presence of ESA listed species in the project-effected watershed.

### 430.08(2) State

1. **State Environmental Policy Act (SEPA)** – SEPA requires that all major actions sponsored, funded, permitted, or approved by state and/or local agencies undergo planning to ensure environmental considerations during decision making, including impacts to surface water quality. WAC 197-11 and WAC 468-12 (WSDOT) describe state implementing regulations. For details on SEPA procedures see Chapter 400.

2. **State Water Quality Laws and Rules** – The Water Pollution Control Act (RCW 90.48) is the primary water pollution law for Washington State. 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. WSDOT must apply all known, available, and reasonable methods of prevention, control, and treatment (AKART) prior to discharge into the state's waters.

With respect to all state highway rights-of-way in the Puget Sound basin under WSDOT control, WAC 173-270-030(1) requires WSDOT to use the HRM to direct stormwater management for its existing and new facilities and rights-of-way. Exceptions where more stringent stormwater management requirements may apply are addressed in WAC 173-270-030(3)(b).

3. **Coastal Zone Management (CZM) Act Certification** – Ecology includes a CZM Act Certification consistency response with the CWA Section 401 certification for any work in Washington's 15 coastal counties. Additional information is available in Chapter 4 of the Complete Permit Application Guidance.

4. **Hydraulic Code** – WDFW administers the HPA program under the State Hydraulic Code. This code protects fish and their aquatic environment. HPA permits include provisions that list BMPs that protect water quality.

### 430.08(3) Tribal

Some tribes have adopted specific water quality standards that may be stricter than those required by Ecology. For projects where stormwater is discharging within tribal lands please coordinate with your region's water quality program staff to determine what standards apply. Information about Section 401 Water Quality Certification is available in Chapter 530.
### 430.09 Abbreviations and Acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AKART</td>
<td>All Known, Available, and Reasonable Methods of Prevention, Control, and Treatment</td>
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<td>BMP</td>
<td>Best Management Practice</td>
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<td>CEQ</td>
<td>Council on Environmental Quality</td>
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<td>CFR</td>
<td>Code of Federal Regulations</td>
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<tr>
<td>Corps</td>
<td>US Army Corps of Engineers</td>
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<td>CSWGP</td>
<td>Construction Stormwater General Permit</td>
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<td>CWA</td>
<td>Clean Water Act</td>
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<td>CZM</td>
<td>Coastal Zone Management</td>
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<td>Ecology</td>
<td>Washington State Department of Ecology</td>
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<tr>
<td>EA</td>
<td>Environmental Assessment</td>
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<tr>
<td>ECS</td>
<td>Environmental Classification Summary</td>
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<td>EIS</td>
<td>Environmental Impact Statement</td>
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<td>ERS</td>
<td>Environmental Review Summary</td>
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<tr>
<td>ESA</td>
<td>Endangered Species Act</td>
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<td>FHWA</td>
<td>Federal Highway Administration</td>
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<td>GIS</td>
<td>Geographic Information System</td>
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<td>HPA</td>
<td>Hydraulic Project Approval</td>
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<td>HIRUN</td>
<td>Highway Runoff Dilution and Loading Stormwater model</td>
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<td>HRM</td>
<td><em>Highway Runoff Manual</em> M 31-16</td>
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<tr>
<td>JARPA</td>
<td>Joint Aquatic Resources Permit Application</td>
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<td>MHHW</td>
<td>Mean Higher High Water</td>
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<td>MOA</td>
<td>Memorandum of Agreement</td>
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<td>NEPA</td>
<td>National Environmental Policy Act</td>
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<td>NOAA</td>
<td>National Oceanic and Atmospheric Administration</td>
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<td>NPDES</td>
<td>National Pollutant Discharge Elimination System</td>
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<tr>
<td>NWP</td>
<td>Nationwide Permit (US Army Corps of Engineers)</td>
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<td>OHWM</td>
<td>Ordinary High Water Mark or line</td>
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<td>RCW</td>
<td>Revised Code of Washington State</td>
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<td>SEPA</td>
<td>State Environmental Policy Act</td>
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<td>SWPPP</td>
<td>Stormwater Pollution Prevention Plan</td>
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<tr>
<td>TESCM</td>
<td><em>Temporary Erosion and Sediment Control Manual</em> M 3109</td>
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<tr>
<td>TMDL</td>
<td>Total Maximum Daily Load</td>
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<tr>
<td>USC</td>
<td>United States Code</td>
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<td>USCG</td>
<td>U.S. Coast Guard</td>
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<tr>
<td>USEPA</td>
<td>U.S. Environmental Protection Agency</td>
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<tr>
<td>USFWS</td>
<td>U.S. Fish and Wildlife Service</td>
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<tr>
<td>WAC</td>
<td>Washington Administrative Code</td>
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<tr>
<td>WDFW</td>
<td>Washington State Department of Fish and Wildlife</td>
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</table>
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.

**Coastal Zone Management (CZM) Act Certification** – The Act, administered by NOAA's Office of Ocean and Coastal Resource Management, provides for management of the nation’s coastal resources, including the Great Lakes, and balances economic development with environmental conservation and applies to fifteen coastal counties in WA which are located adjacent to salt water.

**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.

**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.

**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 to address water quality impairment.

**Watershed** – The land area that drains into a surface waterbody; the watershed for a major river may encompass a number of 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)*