



# Delivery and Operations Division

## Project Delivery Operational Notice

Operational Notice Number <b>PD-05</b>	Original Effective Date 4/4/2006	Revised Effective Date 9/1/2023	Review or Rescind Date 9/1/2025	Reviewing Position <b>Statewide Project Delivery Manager</b>
Operational Notice Title <b>Post-construction Stormwater Management for Environmental Compliance</b>			Topic or Program <b>Resources Hydraulic Engineering</b>	

### Purpose

This operational notice directs project teams to the resources required to identify and comply with post-construction stormwater management design requirements applicable to all projects delivered by Oregon Department of Transportation (ODOT), as well as local agency projects funded by ODOT (including those using state or federal funds).

Implementation of this notice facilitates:

- compliance with local, state, and federal environmental regulations regarding the quality of stormwater discharges from highways and local roads into jurisdictional waters;
- protection and improvement of the quality of those water resources; and
- predictable, constructible, maintainable, and economically feasible project design outcomes.

This operational notice is not intended to address stormwater management or erosion and sediment control on construction sites, provide guidance relating to maintenance, describe specific regulatory requirements, or prescribe the process of stormwater management design.

## Abbreviations

BO	Biological opinion
CIA	Contributing impervious area
CWA	Clean Water Act
DEQ	Oregon Department of Environmental Quality
DFI	Drainage facility identification
EPA	U.S. Environmental Protection Agency
EPS	Environmental performance standards
ESA	Endangered Species Act
FAHP	Federal Aid Highway Program programmatic biological opinion
MS4	Municipal separate storm sewer system
MSA	Magnuson-Stevens Fishery Conservation and Management Act
NMFS	National Marine Fisheries Service
O&M	Operation and maintenance
OAR	Oregon administrative rule
ODOT	Oregon Department of Transportation
SLOPES	Standard Local Operating Procedures for Endangered Species programmatic biological opinion
SWMP	Stormwater management plan
TMDL	Total maximum daily load
UIC	Underground injection control system
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WQC	Clean Water Act Section 401 water quality certification

## Definitions

The following definitions apply to these terms as they're used within this document.

**Clean Water Act** — The common name of the body of federal law codified at 33 U.S.C. §1251 et seq. (1972), which establishes the foundation for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters.

**Contributing impervious area** — The area of impervious surface that drains to a certain point or area, and for which stormwater management is required. In common practice, a project's contributing impervious area (CIA) consists of impervious areas that are either owned by the project's proponent agency or are being constructed or reconstructed by the project, and is the sum of (a) the impervious footprint of the action that constitutes a stormwater management trigger, (b) the contiguous impervious areas that discharge runoff into the trigger area over the pavement surface, and (c) additional contiguous areas that drain through or adjacent to the trigger area through a ditch or pipe, in cases where the ditch or pipe are modified by the project.

**Evapotranspiration** — The combined effects of evaporation (movement of water directly to the air from plant and other surfaces), and transpiration (the movement of water from plant root systems through the plant and into the air as water vapor).

**Infiltration** — The flow or movement of water through the soil surface and into the ground.

**Jurisdictional waters** — Waters which are either "waters of the state" under Oregon Department of Environmental Quality (DEQ) Oregon Administrative Rules (OARs), or "waters of the U.S." under the CWA.

**Post-construction stormwater management** — Stormwater management that occurs because of permanent design features and unimproved ground that manage stormwater emanating from project areas on a permanent basis. Post-construction stormwater management is distinguished from temporary measures to control stormwater, erosion, and sediment during the construction phase.

**Regulatory instrument** — Any legally binding authority which has the effect of requiring ODOT and ODOT-funded local agency projects to manage stormwater to protect receiving waters. These include local, state, and federal ordinances, rules, statutes, regulations, biological opinions (BOs), water quality certifications (WQCs), program-wide permits, and project-specific permits.

**Stormwater** — Water from precipitation or snowmelt that runs off pervious and impervious surfaces due to its flow and volume exceeding the capacity of those surfaces and their vegetative covers to prevent runoff through infiltration and evapotranspiration.

**Stormwater management** — Directing stormwater through natural and artificial features (e.g. dispersion areas, bioswales, ponds, manufactured treatment devices) that remove pollutants or reduce the volume and flow rate of the stormwater to standards prescribed by project-specific regulatory instruments.

**Stormwater management plan** – A document required by DEQ as a condition of WQCs that describes a proposed project and its context, its receiving waters, pollutants of concern, and the project design’s stormwater management features.

Descriptions of relevant regulatory instruments are found in Table 1 and Table 2, and personnel positions are described in the “Roles and Responsibilities” section.

## Background and Rationale

ODOT and ODOT-funded local agency projects are required to manage stormwater draining from impervious surfaces in such a way that they protect receiving jurisdictional waters from potential adverse impacts resulting from the presence, maintenance, and normal use of those impervious surfaces. These requirements stem from several regulatory instruments, including local, state, and federal ordinances, rules, statutes, and regulations, and the project approvals that are issued as a result of them.

These regulatory instruments can be broadly described as those which are applicable to ODOT’s and local agencies’ operations *generally*, and those which impose requirements on *specific* projects.

**Table 1. Post-construction stormwater management regulatory instruments applicable to operations generally**

Regulatory Instrument	Agency	Description
Clean Water Act (CWA): Municipal Separate Storm Sewer System (MS4) Permit	EPA DEQ	ODOT’s MS4 permit regulates ODOT’s management of the highway storm sewer system in general. In addition to post-construction site runoff control, it requires: <ul style="list-style-type: none"> <li>• public education and involvement;</li> <li>• illicit discharge detection and elimination;</li> <li>• construction site runoff control;</li> <li>• pollution prevention and good housekeeping;</li> <li>• winter maintenance program measures; and</li> <li>• implementation of a stormwater retrofit strategy.</li> </ul> Local governments are subject to their own MS4 permits with similar requirements.
OAR 340-041	DEQ	State water quality standards are found in OAR 340-041. DEQ’s various permits are aimed at achieving compliance with these standards.
OAR 340-042 & CWA: Total maximum daily loads (TMDLs)	EPA DEQ	A TMDL is a numerical value that represents the highest amount of a pollutant a surface water body can receive and still meet Oregon state water quality standards. The CWA requires DEQ to establish TMDLs for pollutants in Oregon streams and identify designated management agencies responsible for implementing strategies to comply with TMDLs. ODOT is a designated management agency, as are some local agencies.
ORS 366.297 & OAR 734-024	ODOT	As required by ORS 366.297, ODOT adopted rules incorporating environmental performance standards (EPS) into the design and

Regulatory Instrument	Agency	Description
		<p>construction of all state highway construction projects, including local government highway construction projects funded by the department. ODOT's EPS are found in OAR 734-024, which requires implementing environmental guiding principles in project design and construction. These include:</p> <ul style="list-style-type: none"> <li>• selecting, designing, and constructing state highway projects in a context sensitive and sustainable manner;</li> <li>• mitigating impacts where practicable; and</li> <li>• enhancing resources where cost-effective even when not required by permits.</li> </ul>
OAR 340-044 and 045, and ODOT's underground injection control (UIC) permit	DEQ	Rules pertaining to the permitting and construction of UIC systems. These rules govern the issuance of ODOT's UIC permit.

**Table 2. Post-construction stormwater management regulatory instruments applicable to specific projects**

Although some of the following regulatory instruments are programmatically issued, regulators usually review individual project designs to verify consistency with the programmatic conditions and limits. For that reason, they're listed in Table 2 rather than Table 1.

Regulatory Instrument	Agency	Description
Endangered Species Act (ESA): Individual Project BOs	NMFS (National Marine Fisheries Service) USFWS	BOs are ESA-required assessments that state whether a project is likely to jeopardize the continued existence of listed species or destroy or adversely modify critical habitat, and what measures are necessary for impact minimization. Individual BOs are required when programmatic BOs (e.g., FAHP or SLOPES) do not apply.
ESA: Federal Aid Highway Program BO (FAHP)	NMFS USFWS	The FAHP applies to certain classes of activities that use Federal Aid Highway Program funds. The FAHP is one of the most common regulatory instruments to require stormwater management by federally funded transportation projects in Oregon.
ESA: Standard Local Operating Procedures for Endangered Species (SLOPES) BO	NMFS USFWS	SLOPES applies to certain classes of activities that use US Army Corps of Engineers (USACE) permits.

Magnuson-Stevens Fishery Conservation and Management Act (MSA) Consultations	NMFS	MSA consultations regulate actions that may affect natural fisheries. NMFS' ESA BOs for individual projects typically incorporate the results of essential fish habitat consultations under the MSA, and the impact minimization measures in those BOs are intended to satisfy both ESA and MSA.
CWA: Section 401 WQCs	EPA DEQ	WQCs require management of post-construction stormwater runoff from project areas that require a federal permit—such as a dredge/fill permit from USACE—and which discharge runoff to jurisdictional waters. They also usually require preparation of stormwater management plans (SWMPs). The WQC is one of the most common regulatory instruments to require stormwater management.
Municipal ordinances	Cities, counties, special districts	Cities, counties, and special districts establish ordinances regulating stormwater discharges within their jurisdictional boundaries. These vary widely between jurisdictions. Some local requirements are more prescriptive than state or federal requirements.

## Actions Required

Projects may require one or more of the project-specific environmental regulatory instruments described in Table 2, and may include the physical features that trigger stormwater management according to those regulatory instruments. Each project therefore falls into one of four categories:

### Category 1: Projects without project-specific regulatory instruments or stormwater triggers

The ODOT Hydraulics Design Manual lists certain triggering characteristics that require stormwater management. Projects that do not include any of these triggers or triggers found in regulatory instruments are not required to implement stormwater management to regulatory standards. However, to satisfy ODOT's EPS, project teams must identify and consider implementing opportunities, if any, to reduce the pollutant load in stormwater runoff from the project's impervious surfaces that can be accomplished with minimal additional cost, within the project's physical constraints, and without extending the project's schedule.

Typically, such efforts would consist of lengthening a flow path of runoff through vegetated ground. For example, occasionally small bridges have more deck drains than design standards require. Low-cost reductions in pollutant discharge can be accomplished by plugging a drain and forcing runoff to the end of the bridge or to a different drain which discharges to vegetated ground that is higher than the ordinary high water elevation of the stream, and implementing appropriate erosion control measures.

### Category 2: Projects with project-specific regulatory instruments, but no stormwater triggers

Projects may be subject to regulatory instruments found in Table 2, but not include any features which trigger stormwater management. For example, a project may use federal funds and involve

streambank repairs requiring a WQC, but not have stormwater triggers such as modifying the impervious road surface.

Projects that do not include any triggers are not required to implement stormwater management to regulatory standards. As with Category 1 above, to satisfy ODOT's EPS, the project team must identify and consider implementing opportunities, if any, to reduce the pollutant load in stormwater runoff from the project's impervious surfaces that can be accomplished with minimal additional cost, within the project's physical constraints, and without jeopardizing the project's schedule.

Project teams must follow the prescriptions of the applicable regulatory instruments. Although this may mean that stormwater management is not required, it is likely that the applicable regulatory instruments still require documentation describing the rationale for not providing treatment to regulatory standards (such as in a SWMP or FAHP forms).

### **Category 3: Projects with stormwater triggers, but without project-specific regulatory instruments**

On rare occasions, a project will have features typically considered stormwater management triggers, but the project will not be subject to any of the regulatory instruments in Table 2. These generally consist of projects that increase the CIA size or affect drainage, but do not use federal funds, do not require earthwork in jurisdictional waters, and are not located within a city or county whose regulations require stormwater management.

Although no project-specific regulatory instrument mandates stormwater management for such projects, project teams must follow the ODOT Hydraulics Design Manual, which prescribes stormwater management for projects with certain triggering characteristics. Treatment in such cases must be practicable and commensurate with the scope and scale of the project.

Providing treatment for projects with triggers even when no regulatory instrument requires it ensures compliance with ODOT's EPS, ensures design consistency across projects with similar characteristics, and contributes to ODOT's compliance with its MS4 permit's requirement to implement a stormwater retrofit program.

### **Category 4: Projects with stormwater triggers and project-specific regulatory instruments**

Projects with regulatory instruments found in Table 2 that include stormwater triggers described in those instruments must implement stormwater management measures adequate to satisfy regulatory requirements. Examples of such projects include bridge replacements and highway widening projects that impact jurisdictional waters.

### **For all projects with stormwater management triggers (Categories 3 and 4 above):**

Project team members including roadway engineers, hydraulic engineers, and water resources specialists must implement the provisions of the latest versions of the established guidance documents to ensure that ODOT and ODOT-funded local agency projects remain in compliance with all applicable regulatory instruments.

Guidance includes:

- ODOT Hydraulics Design Manual.
- ODOT Water Resources Specialist Manual.
- ODOT FAHP Programmatic User's Guide.
- DEQ's Section 401 Water Quality Certification Post-Construction Stormwater Management Plan Submission Guidelines. (For ODOT projects, this is accomplished by using the ODOT SWMP Template and SWMP Template Instructions.)

These guidance documents describe concepts and prescribe processes necessary to determine the presence of triggers and the boundaries of impervious areas requiring treatment, and describe preferred treatment technologies, design methods, processes, and deliverables.

One of the purposes of these documents is to clarify the underlying legal requirements found in the regulatory instruments listed in Tables 1 and 2 above to aid in their implementation. In the event of any discrepancy between the manuals and those underlying legal authorities, the underlying authorities take precedence.

### **Ensuring Quality**

Project team members must follow the quality control and assurance protocols described in the latest versions of relevant quality management plans. For ODOT projects, these include but are not limited to the Hydraulic Engineering Quality Control/Quality Assurance Work Plan (for hydraulic engineering deliverables) and the Statewide Water Resources Quality Plan (for SWMPs).

### **Roles and Responsibilities**

Staff in the following positions are responsible to carry out this directive:<sup>1</sup>

<b>Role</b>	<b>Responsibility</b>
Project teams	Teams consisting of a transportation project manager and representatives of all relevant disciplines. During project team meetings and through plan reviews, team members including representatives of maintenance districts, construction offices, environmental, geotechnical, and other disciplines provide relevant information to the rest of the team including the project hydraulic engineer and water resources specialist regarding physical, constructability, and maintenance constraints.

<sup>1</sup> These roles and responsibilities are specific to positions and teams within ODOT; although this section does not attempt to describe the roles and responsibilities of all positions and teams within local agencies and consulting firms, the direction in this operational notice apply to them nonetheless.



<b>Role</b>	<b>Responsibility</b>
Project hydraulic engineer	Primary project team member responsible for developing the stormwater management design. Works with the water resources specialist to: <ul style="list-style-type: none"> <li>• scope project areas;</li> <li>• identify stormwater triggers and receiving waters;</li> <li>• assist in delineating CIAs;</li> <li>• identify stormwater management features which satisfy regulatory requirements.</li> <li>• provide project plans;</li> <li>• provide hydraulic and stormwater design reports; and</li> <li>• provide stormwater control facility operation and maintenance (O&amp;M) manuals.</li> </ul>
Project bridge engineer	Primary project team member responsible for developing bridge designs, including deck drainage. May play a primary role in designing certain stormwater management features, especially when the primary concern is conveyance.
Project roadway engineer	Primary project team member responsible for developing roadway designs. May play a primary role in designing certain stormwater management features, especially when the primary concern is conveyance.
Project water resources specialist	Primary environmental staff (regardless of actual title) responsible for communicating relevant regulatory requirements to hydraulic engineers and other project team members, and for preparing the SWMP.
Region environmental unit manager	Oversees the work of the environmental unit, and together with the region hydraulic engineering unit manager, defines the specific points of cooperation and precise roles of water resources specialists and hydraulic engineers.
Region hydraulic engineering unit manager	Oversees the work of the region hydraulic engineering unit, and together with the environmental unit manager, defines the specific points of cooperation and precise roles of water resources specialists and hydraulic engineers.
Region senior hydraulic engineer	Provides concurrence on hydraulic design deviation requests, provides technical design support, reviews stormwater management designs, and assists local agency staff in project scoping and development.
Senior stormwater hydraulic engineer	Evaluates hydraulic design deviation requests, reviews and approves O&M manuals, manages ODOT's stormwater asset inventory, assigns stormwater DFI numbers, develops and maintains hydraulic engineering standards and specifications, and provides technical assistance on roadway drainage and stormwater design.
State hydraulic engineer	The lead for all ODOT hydraulic engineering disciplines. The state hydraulic engineer has delegated authority to carry out the administration, operations, and management functions of the Engineering & Technical Services Branch and the authority to implement plans, policies and actions approved by the Oregon Transportation Commission relating to stormwater hydraulic engineering design standards and practices.
Transportation project manager	Leads and coordinates the efforts of project teams to ensure the production of a constructible and maintainable design for each project, within a prescribed scope, schedule, and budget.

<b>Role</b>	<b>Responsibility</b>
Water resources program coordinator	Provides quality control reviews of SWMPs, maintains ODOT's SWMP template, provides project support to region staff, and serves as the primary program-level ODOT liaison to DEQ's CWA Section 401 Unit.

## References

The following reference materials may be obtained using the links provided below in the electronic version of PD-05.

### ***ODOT Guidance and Resources***

#### [Environmental and Hydraulic Engineering Bulletins](#)

- GE07-03(B): Underground Injection Control Systems
- GE16-01(B): Stormwater Control Facility Operation and Maintenance Plan Development Drafting Guidance
- GE16-02(B): Stormwater Operation and Maintenance Manuals

#### [Highway Design Manual](#)

#### [Hydraulics Design Manual](#)

#### [Project Delivery Guide](#)

#### [Water Resources Specialist Manual](#)

### ***Underlying Regulatory Instruments***

#### [FAHP Programmatic BO User Guide](#)

Local stormwater ordinances and manuals

#### [Magnuson-Stevens Fishery Conservation and Management Act](#)

#### [MS4 permit](#)

#### [NMFS & USFWS FAHP Programmatic BOs](#)

#### [OARs](#)

#### [ORS 366.297](#)

#### [Section 401 Water Quality Certification Post-Construction SWMP Submission Guidelines](#)

#### [SLOPES Programmatic BO](#)

#### [UIC permit](#)