

Activities 120 through 129 Drainage General Instructions

Adequate drainage of surface and ground water must be provided and maintained to:

- Provide for natural drainage.
- Prevent water damage to the roadway structure.
- Minimize the risk of failure caused by underground water.
- Maximize use of the roadway.
- Protect the rights of others.

Refer to the *Desired Conditions of Maintenance Features on State Highways* document.

ODOT may also be responsible for inspecting and/or maintaining other water facilities located on or over ODOT property, including irrigation ditches or facilities, siphons, and flumes. Refer to the Structures (Activities 160 through 169) series of activities for work involved with major structures.

Refer to the ODOT *Hydraulics Manual* for criteria for design of drainage facilities. Maintain each drainage facility such that the facility adequately achieves its designed performance. Request assistance from the Region Technical Center as needed or to evaluate special problem areas.

Seek approval from the Region Bridge Inspector regarding the structural integrity of culverts before entry. Refer to the Underground Work Permit Standard, STD99002 of the ODOT *Safety and Health Manual*.

A Professional Engineer must approve some proposed maintenance or repair work, including:

- Any culvert replacement for fish passage.
- Any in-stream channel modifications.
- Any stream bank repair or armoring that enhances the original design.

Refer to ODOT *Policy DES 05-02*. Request assistance from the Region Technical Center as appropriate.

All drainage is, or eventually becomes, part of a waterway or stream. All waterways and streams in Oregon are protected by the Clean Water Act and Oregon's Salmon Recovery Plan.

Plan and perform all work such that waterways and streams are not unacceptably impacted. Work with the District Manager and the Region Environmental Coordinator to determine the need for and to acquire permits.

Before beginning any excavation work in areas where utility or other non-ODOT facilities could be buried, contact the Oregon Utility Notification Center (OUNC) so the facility owners can mark the location of their facilities.

Work under this series of activities may involve areas that contain endangered species or sensitive areas. Refer to the *Resource Area Maps* and comply with all restrictions for work in those areas. Seek assistance from the District Manager and the Region Environmental Coordinator as needed.

At a minimum, address the concerns identified in the ODOT *Routine Road Maintenance Water Quality and Habitat Guide Best Management Practices* document. Use appropriate methods and devices, such as those shown in the *Field Manual for Erosion and Sediment Control*, to control erosion and sedimentation.

Oregon has adopted the civil law doctrine of drainage that sets forth the following principles:

- A landowner may not divert water onto adjoining land that would not otherwise have flowed there.
- An upper landowner may not change the place where the water flows onto the lower owner's land.
- The upper landowner may not greatly accelerate the flow onto a lower owner's land by accumulating large quantities of water and then releasing it.

Follow those principles whenever maintaining or improving drainage. Also, consider those principles when evaluating the impact of an improvement adjacent to ODOT property.

ODOT has secured easements from adjacent property owners in order to construct and maintain some drainage facilities. The Transportation Maintenance Manager should be familiar with those easements and plan and perform ODOT maintenance responsibilities.

ODOT personnel may also need to access adjacent property to maintain a drainage facility. As appropriate, secure permission from the property owner or secure an easement. If ownership or maintenance responsibility for property or a facility is uncertain, seek assistance from the District Manager and/or the Region Right of Way Supervisor.