

WSDOT Guidance – Cut Slope Wetlands

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Cut slopes are created, when earth is removed or cut back, to establish or widen a road that bisects a slope. It is common for cut slopes to intersect a water table on the slope, resulting in slope wetlands forming along the cut. This document describes what cut slope wetlands are and how they are documented, regulated, and mitigated when impacts are unavoidable.

Definition – Cut Slope & Cut Slope Wetland

A cut slope is typically required to accommodate roadway placement or widening in areas that traverse a hillside. A cut slope is the vertical cut adjacent to the road, where earth is removed to accommodate the road. The entire cut slope is part of the [road prism](#) or transportation infrastructure.

Sometimes the cut intersects a water table, bringing groundwater to the surface and inadvertently creating a slope wetland on previously upland hillsides. These wetlands, created by road-building activities, are called cut slope wetlands and are often referred to as hillside, groundwater-discharge, seep, or slope wetlands (Figure 1).

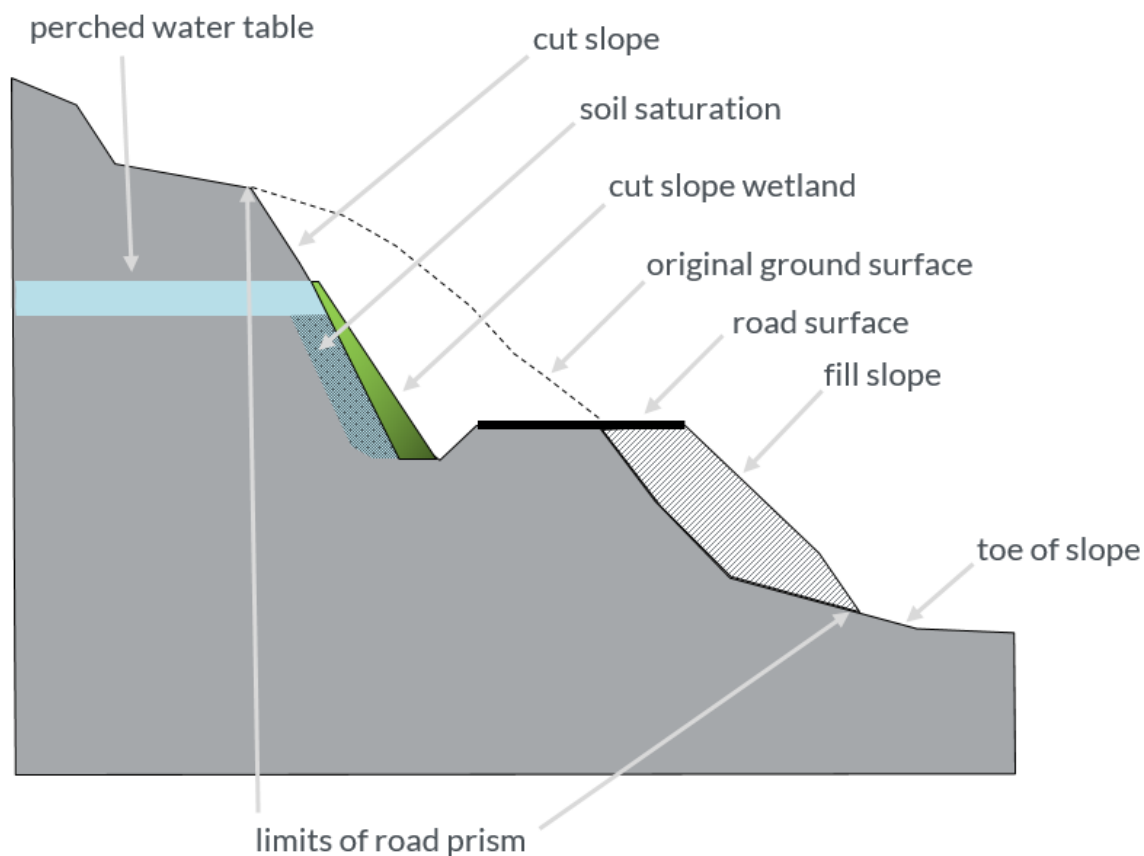


Figure 1. Cross-section view of roadway on a cut slope

Cut Slope Wetlands & Regulation

We treat cut slope wetlands the same as naturally occurring slope wetlands. Federal, state, and local agencies generally regulate cut slope wetlands, and so we identify and delineate them. Impacts to these wetlands by proposed WSDOT projects require permitting and mitigation.

Cut Slopes & Wetland Impacts

Figure 2 depicts a cross section view of a cut slope wetland adjacent to a road. Section A (in green) represents the cut slope wetland. Section B (in orange) represents the portion of the ditch regulated as wetland when the three wetland factors are present and it is contiguous with a cut slope wetland. Section C (in blue) includes the portion of the ditch occurring on the road prism and is not regulated as wetland. Obtain federal, state, and local permits and provide compensatory mitigation prior to conducting any ground-disturbing activities when impacts to cut slope wetlands (sections A and B) are unavoidable. Should the slope require additional modifications, each subsequent impact would require additional permitting and mitigation.

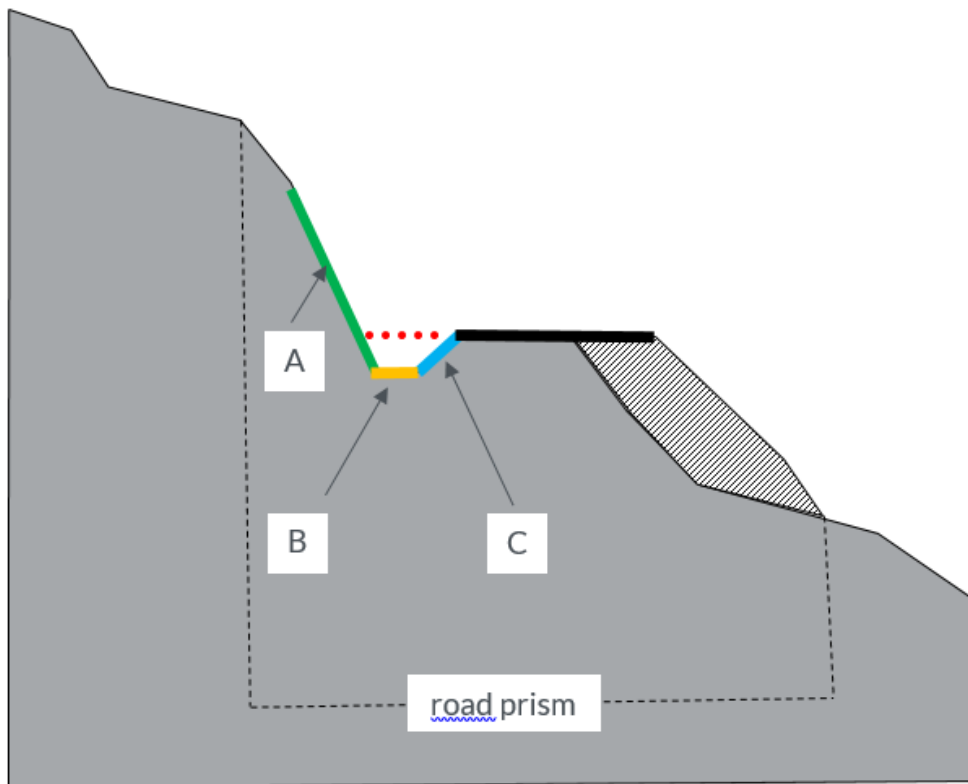


Figure 2. Cross-section of cut slope wetland and roadside ditch

Cut Slope Wetlands & Ditches

On a cut slope, the ditch occurs below the level of the road surface (Figure 2, red dotted line). The ditch contains two distinct areas shown in Figure 2: section C (in blue), the side of the ditch occurring on the fill slope of the road prism, and section B (in orange), the portion of the ditch that is regulated as wetland when it is contiguous with a cut slope wetland (A) and has the three wetland factors. If a cut slope wetland (A) is adjacent to a ditch that displays wetland characteristics, then section B (in orange) is delineated as part of the jurisdictional wetland (also shown in Figure 3 sections B and C). Find additional information on [road prisms](#) and [ditches](#) from the WSDOT web page.

Figure 3 shows a plan view of a cut slope wetland (A) adjacent to a ditch. If the ditch meets wetland criteria, delineate that section of ditch directly adjacent to the wetland (B) as part of the cut slope wetland. The area down gradient from the wetland ditch section (C) is included in the wetland delineation as jurisdictional wetland when wetland criteria are present. Alternately, section C may be a jurisdictional stream if ordinary high water mark indicators are present instead of wetland vegetation indicators. The wetland biologist uses best professional judgement to determine where to break the wetland unit for section C. Extend the wetland boundary down-gradient as long as wetland criteria are present.

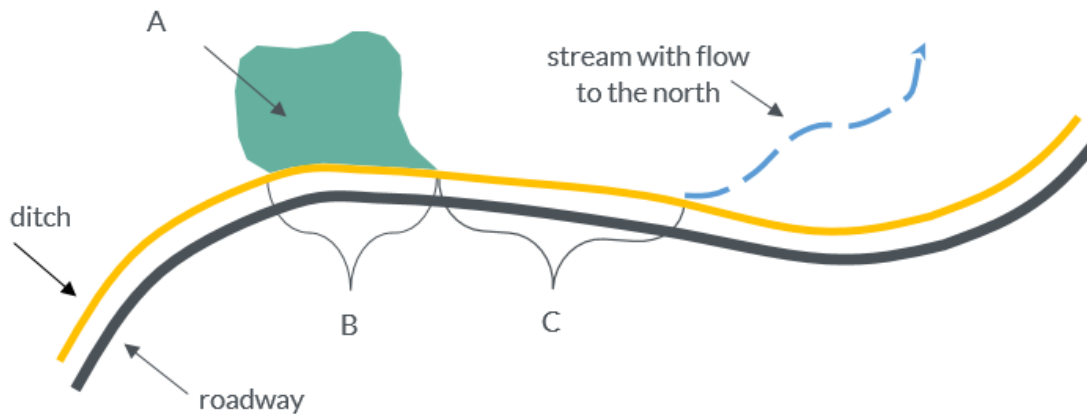


Figure 3. Plan view of cut slope wetland and ditch

Cut Slope Wetlands & Isolation

A cut slope wetland may appear to be an isolated wetland (thus not under federal jurisdiction), but a wetland biologist should carefully evaluate this. If a wetland biologist believes a cut slope wetland to be isolated, they notify the WSDOT project contact, who then contacts the Army Corps of Engineers to make the final decision on isolation. Figure 3 depicts a roadside cut slope wetland (A) that is not isolated because it is connected, via a ditch (B and C), to a “water of the U.S.” (in this case, a federally regulated stream). Please refer to [WSDOT Guidance on Isolated Wetlands](#) to review how court decisions affect the way isolated wetlands are federally regulated.

Even if a wetland is isolated and not under federal jurisdiction, it is likely a “water of the state,” therefore under Department of Ecology and/or local jurisdiction.

Cut Slope Wetlands & Hydrology Indicators

The following provides WSDOT guidance on use of hydrology indicators for slope and cut slope wetlands using the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008) or the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (USACE 2010), hereinafter referred to as The Regional Supplements.

Slope and cut slope wetlands typically have wetland hydrology in the form of soil saturation. This is either a direct result of a water table intersecting the slope, or indirect result from that same water table seeping down the slope subsurface (Figure 1). Typical use of Indicator A3: Saturation from The Regional Supplements requires that soil saturation be directly above a water table, however in slope wetlands, the water table is often above the saturated slope.

Indicator A3: Saturation is likely the most appropriate indicator to document the saturated soil conditions common to slope wetlands. Consider adding language to the hydrology remarks section of

the Wetland Determination Data Form documenting why, in the typical slope wetland situation, saturation is not observed directly above the water table.

References

1. [USACE] US Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), ed. Wakeley JS, Lichvar RW, Noble CV, editors. Vicksburg (MS): US Army Engineer Research and Development Center. ERDC/EL TR-08-28. Available at:
https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/reg_supp/
2. [USACE] US Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), ed. Wakeley JS, Lichvar RW, Noble CV, editors. Vicksburg (MS): US Army Engineer Research and Development Center. ERDC/EL TR-10-3. Available at:
https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/reg_supp/