

Skaggs Method for Determining Lateral Effects of a Borrow Pit on Adjacent Wetlands

The Environmental Evaluation section of the Reclamation Plan Procedures requires a qualified environmental consultant (DEO for Operations projects) to perform appropriate site investigations for each proposed borrow pit location.

The environmental consultant (DEO for Operations projects) shall consider impacts to adjacent wetlands and surface waters within a 400' perimeter of the proposed site. If jurisdictional areas are identified within the proposed pit or the 400' perimeter and dewatering, wet mining, or excavating below seasonal water table or adjacent streambed elevation is planned, the Contractor shall maintain a 400' buffer between the land disturbing activity or obtain concurrence for the proposed activity from the USACE.

In order to obtain concurrence from the USACE for buffers less than 400', the contractor's Level III-B Erosion and Sediment Control/Stormwater responsible party (Lead Engineer for Operations projects) must show through hydrologic analysis that the borrow pit activity will not adversely effect the surrounding jurisdictional features. The following method has been approved by the USACE for determining the minimum buffer required between borrow pit activities and adjacent jurisdictional features.

Step 1: Determine Borrow Pit Type

- Type 1: Flow from wetland to pit
- Type 2: Flow from pit to wetland
- Type 3: Flow through pits: wetland to pit on one side, pit to wetland on other side.

* Utilize hydraulic conductivity (K) values from soils excavated in borrow pit.

*Existing and proposed ground elevations must be provided to support the determination.

*Type 2 pits do not require Skaggs Method calculations. A minimum buffer of 25' from wetland or 50' from stream will be required.

*Daylighting from pit perimeter to wetland boundary may be needed to provide diffuse flow for surface drainage to wetland.

*Skaggs Method calculations will be required for cases where direction of flow is uncertain.

Step 2: Determine Buffer Setbacks for Type 1 and 3 Borrow Pits

- Download the Skaggs Method computer software application from:
http://www.bae.ncsu.edu/soil_water/lateral_effect/software/release/software_lateral_effect.htm
- Input the necessary information into the application to obtain the minimum buffer setback. Soil type information can be found using Soil Survey maps or by going to the Web Soil Survey at <http://websoilsurvey.nrcs.usda.gov/app/>. The application contains a very useful Step-By-Step Help Guide.
- Print a report showing the minimum setback buffer and attach to the Reclamation Plan.