

**Suggested Best Management Practices for Utility Corridor Projects
in Accordance with Part 303, Wetlands Protection, of the Natural Resources and Environmental
Protection Act, 1994 PA 451, as amended (NREPA)**

During the planning process of a utility corridor project it is important to be aware of wetland areas and map all activity locations with the goal of avoiding impacts to wetlands. Once avoidance has been planned to the greatest extent possible, Part 303, Wetlands Protection, of the NREPA, requires best management practices be used during construction to minimize impacts to wetlands. This applies to both exempt and non-exempt utility projects.

Avoidance and minimization requires up-front planning and knowledge. The following are suggested best management practices (BMP) for avoiding and minimizing impacts to wetlands:

Planning

Having a plan in place that addresses and avoids impacts to the known natural resources in a utility corridor can provide for less long-term costs associated with clean-up efforts and corrective actions. The avoidance and minimization process should start with utilizing in-office resources such as Wetland Inventory Maps, Soils Maps, and aerial photographs to determine what resources may be present in the corridor. Areas shown as wetlands, wetland soils, or open water on these resources are potential wetlands, and deserve further site investigation to verify if wetlands are actually present. Only an on-site evaluation performed in accordance with Part 303 can identify if wetland is present and if a permit is required for a project. Proper permits should be sought early in the planning process. Once all permits are obtained, they should be supplied to the contractors performing the work. Holding a Pre-job Briefing Meeting will ensure that all contractors and workers know the plan for each site including areas to be avoided or any special measures that are required to minimize impacts. Items to be discussed at these meetings are the what, where, when, and how of each specific construction activity to be performed, and identification of the areas to be avoided should be marked in the field. And finally, proper construction oversight is necessary to ensure that the work is carried out properly.

Access

Access routes should be planned for locations that are not in wetlands or any areas dominated by invasive species to the greatest extent possible. Accessing the utility corridor manually (without equipment) is the best way to ensure impacts to wetlands are avoided. This may be possible for routine maintenance activities. If equipment is necessary and these areas cannot be avoided, access routes should be located to cross at the narrowest point of the wetland. The crossing should be done in a straight line and not at an angle.

Once an access route is established, it should be traveled with one pass in and out. Multiple trips should be discouraged. The access route should be memorialized and used at each subsequent maintenance activity. This can be done through establishing GPS points and associating it with that maintenance file. Marking the route in the field is recommended, but may not always be feasible because of landowner permissions, locations, etc. Width of, and clearing for, the access routes should be kept to a minimum to allow passage of the required equipment.

Matting can be used in access areas that cannot avoid wetlands to minimize disturbance. There are multiple matting types and methods that may be appropriate to use in wetlands, but the goal should be to

use them in a way that will minimize wetland soil disturbance (e.g., choosing compatible materials and installation methods, planning appropriate timing, and avoiding areas with standing water).

Staging

Designate a location that will be the staging area for the job. The staging area will serve as the decontamination zone for inspecting and cleaning all equipment and work supplies both prior to starting and after completing the work. This area may also serve as the fueling, storage, and dust control center. Care should be taken to locate the area where potential spills cannot reach wetlands, lakes, or streams; typically it is recommended to be at least 100 feet from such features. Where this is not possible, ensure that contamination is not able to reach actively flowing water.

Timing

The timing of work can greatly reduce the impacts to wetlands and wildlife if done during the following conditions:

- Periods of frozen ground when equipment is less likely to disturb the earth
- Low flow and standing water periods (generally July 1-Oct 1). This also helps to avoid flooding issues such as potential erosion problems and potential loss of equipment.
- After songbird nesting season (generally ends June 15)
- In certain forested areas, tree cutting should take place during time periods outside of bat roosting timeframes. Check with the US Fish & Wildlife Service to ensure federal Threatened and Endangered Species are not affected.

Installation Methods

Excessive rutting and grubbing should be avoided in wetland areas. Trees should be cut at the base leaving the stump intact wherever possible. Stump removal should be kept to the areas of active excavation. The type of equipment used at the site will largely determine the amount of disturbance the work will have. Generally, when hand tools and manual access are not feasible, the equipment chosen should have the following characteristics in order to minimize wetland impacts:

- Low ground pressure
- Wide tires
- Rubberized tracks
- Lightweight

These types of machines are often able to transverse wetter sites without much disturbance, when coupled with the proper soil erosion control measures.

Necessary precautions should be taken to ensure that wetland drainage does not occur through the installation of pipelines with gravel backfill. This can be accomplished through clay plugs at the wetland/upland boundary in areas where water may follow the pipeline as a conduit.

Caution should be used to ensure excess bore pressure is not applied during drilling operations which is likely to cause the rupture of the wetlands strata or stream bottom. A geotechnical engineer or hydrogeologist should be consulted to determine the maximum allowable bore pressure that would prevent such rupturing.

Soil Erosion and Sedimentation Control (SESC) Measures

Utilizing proper SESC measures is required for any project. It is also not just limited to active earth disturbance areas since it can be utilized to prevent the disturbance of soil. Matting is especially important in wetland areas that are being traversed by machinery. Proper use of matting during the right conditions can result in little to no impact to a wetland area. Using SESC control measures when working in an upland area adjacent to wetlands is also important. Common effective upland SESC measures are silt fence, sediment filters, and stone check dams. These should be designed to the specific site conditions. It should be noted that these should only be used in upland situations and not in streams or wetlands. Any

slurry resulting from dewatering operations should be discharged through a filter bag or pumped to a sump located away from surface waters. Slurry should filter through natural upland vegetation, gravel filters, or other engineered devices for a sufficient distance and/or period of time necessary to remove sediment or suspended particles. All SESC measures should be inspected and maintained in working order throughout the construction and until permanent stabilization and re-vegetation of disturbed areas has occurred. Temporary measures such as silt fence are to be removed after stabilization.

Spoils Management

When earth must be displaced as part of the maintenance project, proper care must be taken when managing their spoils placement to minimize wetland impacts and prevent erosion or potential siltation to surface waters. Spoils piles should be placed in upland areas whenever possible. Spoils piles should be temporary, and if not immediately removed, the spoils piles should be temporarily stabilized with silt fence, seed, and possibly mulch blanket. All temporary spoils should be removed within 90 days. If left over winter, raw earth within 100 feet of a surface water should be temporarily stabilized with mulch blankets in accordance with the following dates: September 20 for the Upper Peninsula, October 1 for the lower Peninsula north of US-10, and October 10 for the Lower Peninsula south of US-10. These dates are guidelines and actual conditions may require modifications.

Selective Cutting and Specialized Mowing

Evaluating an area for the vegetation that must be removed can reduce impacts greatly. A corridor should be assessed for the maximum height allowed for that utility and planned accordingly. Low vegetation should be maintained in its natural state. Brush hogging indiscriminately can cause great damage to a wetland ecosystem. Selectively cutting only the taller trees is less intrusive. If an area must be maintained at a low level, raise mower blades to 10-12" above ground to leave some minor ground cover. This will reduce erosion and allow some remaining wildlife cover. Tree cutting for access areas should be kept to the minimum area required and stumps should be left in place.

Invasive Species

Avoiding the spread of invasive species can be as simple as limiting the active work area, avoiding earth disturbance, and/or decontaminating equipment prior to entering another watershed or site without the invasive species. However, there are some specific ways to avoid and minimize the spread of invasive species that requires knowledge of the species and its means of spreading. The following are ways to help:

- know what species are present and where
- Know how the species spreads
- Know when the species goes to seed

Once this is determined, a species-specific plan can be developed to minimize the spread that could include the following:

- plan work and access areas accordingly to avoid invasive species.
- time the maintenance activities prior to seed set.
- select a maintenance method that does not make the problem worse. For example, cutting or mowing certain species, especially at particular times of the year, causes some species to spread more rapidly. In this case, it may be more beneficial to use herbicide as the maintenance method. Table 1 shows several common invasive species and their primary means of spread.
- manual access minimizes the potential for the spread on invasive species to other areas since the decontamination procedures required will be more simplistic than when using machinery.

Table 1. Common Michigan Invasive Species and their Means of Spreading

Means of Spread

| Species | Mowing | Construction | Logging | Vehicles | Recreation | Seed | Veg Spread |
|----------------------|--------|--------------|---------|----------|------------|------|------------|
| Autumn Olive | no | no | ? | no | ? | yes | no |
| Bush Honeysuckle | no | no | ? | no | ? | yes | no |
| Common Buckthorn | no | no | yes | no | ? | yes | no |
| Glossy Buckthorn | no | no | yes | no | ? | yes | no |
| Black Locust | no | no | yes | no | ? | yes | yes |
| Multiflora Rose | no | ? | ? | no | ? | yes | no |
| Oriental Bittersweet | no | ? | ? | no | ? | yes | no |
| Garlic Mustard | yes | yes | yes | yes | yes | yes | no |
| Spotted Knapweed | yes | yes | yes | yes | yes | yes | no |
| Canada Thistle | yes | yes | ? | yes | yes | yes | yes |
| Crown Vetch | yes | yes | ? | ? | ? | yes | no |
| Teasels | yes | ? | ? | ? | ? | yes | no |
| Leafy Spurge | yes | yes | ? | ? | yes | yes | yes |
| Birds Foot Trefoil | yes | yes | ? | ? | ? | yes | no |
| Purple Loosestrife | yes | yes | ? | ? | yes | yes | yes |
| Sweet Clover | yes | yes | ? | ? | ? | yes | no |
| Wild Parsnip | yes | yes | ? | ? | ? | yes | |
| Japanese Knotweed | yes | ? | ? | ? | ? | ? | yes |
| Reed Canary Grass | yes | yes | yes | ? | ? | yes | yes |
| Phragmites | yes | ? | ? | ? | ? | yes | yes |
| Hybrid Cattail | ? | ? | ? | ? | ? | ? | yes |

Site Restoration

Upon completion of the project, any disturbed wetland areas are to be restored to the original contour elevations and revegetated with species native to Michigan and appropriate to the site. This can be done through both seeding and plantings as appropriate. Areas may be mulched to prevent erosion and protect seeds or plantings as necessary. Adjacent upland areas are also to be stabilized with seed and mulch according to the site SESC plan. Temporary seeding of winter wheat, annual rye, or oats should take place immediately after the project work is completed, or if the work is halted and will remain undisturbed for a period. Seeding of native species is typically best completed from April 1 to June 15 or from September 15 to first frost. Optimal wetland seeding time is October 1 through first frost to allow repeat freeze-thaw cycles to incorporate the seed into the substrate and provide cold stratification to break seed dormancy. Seeding should not be performed during periods of any snow cover. Wetland seeding should not be applied on areas of standing water, but rather during dry periods.

The BMPs herein should not be considered an all-inclusive list but as a starting point to help with the planning process for utility corridor projects. For further information see [Restoration and Follow-up of Utility Corridor Projects](#). For wetland regulations information go to Michigan.gov/Wetlands.