Streets and parking lots

Protecting Sensitive Areas

During Transportation Construction and Maintenance Activities

Low-cost solutions

Engage local community officials, regulators, contractors, and subcontractors early to discuss environmental protection goals.

Do not dispose of soil material in or near natural or cultural resources.

Conduct on-site monitoring during and immediately after construction to ensure environmental resources are protected as planned.

Avoid mobile fueling of vehicles.

SEMCOG

Our Water. Our Future.

Ours to Protect

What's the Problem?

Transportation improvement projects are often located near environmentally sensitive areas, such as wetlands, woodlands, and streams. These projects have the potential to negatively impact these resources during construction and maintenance activities.

To avoid or minimize these impacts, identify the environmentally sensitive resources in your community and consider them during the planning, design, construction, and maintenance phases of all projects.

Overall Guidelines for Planning and Preventing Environmental Impacts

Once the environmentally sensitive resources have been identified, first try to avoid these natural resources if at all possible by limiting the project scope or redesigning the project. If the project requires activity that will cause an impact, minimize then mitigate the impact as much as possible. Regardless of the type of project or the natural resource that may be impacted, consider the following guidelines during the planning, design, construction, and maintenance phases of transportation projects:

- Conduct an inventory to determine the presence of environmentally sensitive resources.
- Employ context sensitive solutions (CSS) principles early in project development. CSS considers the entire scope of the improvement project in a collaborative, interdisciplinary approach to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic, and environmental resources while maintaining safety and mobility.
- Identify and employ soil erosion and sedimentation control practices. For additional information, visit www.michigan.gov/deqland.
- Determine if a watershed management plan exists and coordinate with planners to remain consistent with similar objectives.
- Integrate stormwater management into the site design using low-impact development practices where appropriate.
- Discuss environmental protection goals with community officials, regulators, contractors, and subcontractors during a preliminary meeting.

Source: Macomb County

Overall Guidelines for Planning and Preventing Environmental Impacts (continued)

- Confine construction areas to the smallest area possible and clearly mark boundaries.
- Properly handle, store, and dispose of hazardous materials (e.g., paint, solvent, epoxy) and use the least hazardous materials possible.

The following guidelines are more specific to some common environmentally sensitive resources, describing good planning practices that will help ensure a blend of sound construction techniques with desired environmental goals.

Water Resources

- If the project is located near a water body, maintain as much of the riparian vegetation as possible.
- If vegetation needs to be reestablished, plant native species, or use hydroseed and mulch blankets immediately after site disturbance.
- Utilize bioengineering techniques, where possible, to stabilize stream banks.
- Block storm drains in areas where construction debris, sediment, or runoff could pollute waterways.
- During and after construction activities, sweep the streets to reduce sediment from entering the storm drain system.
- Avoid hosing down construction equipment at the site unless the water is contained and does not get into the storm drain system.
- Implement spill control and clean-up practices for leaks and spills from fueling, oil, or use of hazardous materials. Use dry clean-up methods (e.g., absorbents) if possible. Never allow a spill to enter the storm drain system.
- Avoid mobile fueling of equipment. If mobile fueling is necessary, keep a spill kit on the fueling truck.
- Properly dispose of solid waste and trash to prevent it from ending up in our lakes and streams.

Wetlands

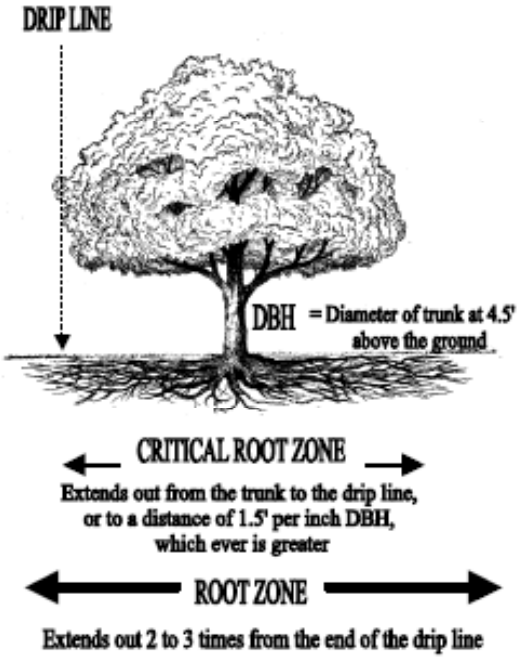
- Avoid impacts to wetlands whenever possible. If impractical, determine if a wetland permit is needed from the state or local government.
- Excavate only what is absolutely necessary to meet engineering requirements. Do not put excavated material in the wetland. (Excavated material could be used in other areas of the site to improve seeding success.)
- If construction activities need to occur within a wetland, activities should be timed, whenever possible, when the ground is firm and dry. Avoid early spring and fish-spawning periods.
- Install flagging or fencing around wetlands to prevent encroachment.
- Travel in wetlands should be avoided. Access roads should avoid wetlands whenever possible. Crossing a wetland should be at a single location and at the edge of the wetland, if possible.
- Never allow a spill to enter area wetlands.

Floodplains

- Design the project to maintain natural drainage patterns and runoff rates if possible.
- Maintain as much riparian vegetation as possible. If riparian vegetation is damaged or removed during construction, replace with native species.
- Use bioengineering techniques to stabilize stream banks.
- Keep construction activity away from wildlife crossings and corridors.
- Stockpile materials outside of the floodplain and use erosion control techniques.

Source: Michigan Department of Transportation

Woodlands



- Protect trees on sites with severe design limitations, such as steep slopes and highly erodible soils.
- Preserve trees along watercourses to prevent bank erosion, decreased stream temperatures, and to protect aquatic life.
- Protect the critical root zone of trees during construction. This is the area directly beneath a tree's entire canopy. For every inch of diameter of the trunk, you must protect 1.5 feet of area away from the trunk.
- Avoid trenching utilities through the tree's critical root zone.
- Avoid piling excavated soil around any tree.
- Replace trees removed during construction with native trees.
- Conduct post-construction monitoring to ensure trees impacted by construction receive appropriate care.

Cover photo: Identify and cover storm drains in areas where construction debris, sediment, or runoff could pollute our waterways.

Top left photo: Properly implement soil erosion and sedimentation control practices along roadsides to stabilize the site.

Top right photo: Protect natural areas by using silt fencing and avoiding activity in these areas.

Back photo: Avoid any activity that could potentially harm a tree's root system.

Web-Based Tool for Identifying Environmentally Sensitive Areas

SEMCOG has analyzed possible impacts on environmentally sensitive resources from projects included in the 2030 Regional Transportation Plan for Southeast Michigan (RTP). First, SEMCOG defined the resources and then identified planned transportation projects. These projects were mapped and buffered using Geographic Information Systems (GIS). Finally, project buffers were intersected with environmentally sensitive resources. Where a project buffer and an environmentally sensitive resource intersect, an impact is considered possible.

Please visit our Web site
to download maps of the resources in PDF or to download data in GIS format:
www.semcog.org/TranPlan/Environment/index.htm

Protecting Sensitive Areas

Resources

AASHTO Center for Environmental Excellence. Environmental Stewardship Practices, Procedures, and Policies for Highway Construction and Maintenance. www.environment.transportation.org and go to "Construction and Maintenance Practices."

SEMCOG. Integrating Environmental Issues in the Transportation Planning Process: Guidelines for Road and Transit Agencies. 2007.

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