

# General Permit Practicable Alternatives Analysis Informational

## SUPPLEMENT 2 COMMERCIAL, RESIDENTIAL, INDUSTRIAL STRUCTURES ALTERNATIVES TO AVOID & MINIMIZE WETLAND IMPACTS (June 2012)

This document outlines the Wisconsin Department of Natural Resources (DNR) supplemental information required from the applicant for Section 2 of the Informational Requirements for Practicable Alternatives Analysis for Projects Impacting Wetlands (PAA) specifically for commercial, residential, or industrial projects (e.g. buildings, parking lots, retaining walls, etc.). This information will also be used by the U.S. Army Corps of Engineers (ACOE) during the federal review process. The information you provide for this supplement is in addition to the information you are required to provide as outlined in the four sections of the PAA. Your PAA will be used by DNR and ACOE staff to assist with their responsibility to determine the overall project purpose and need, and least environmentally damaging practicable project alternative.

The term “practicable” means reasonably available and capable of being implemented after taking into consideration cost, site availability, available technology, logistics and proximity to the proposed project site, in light of overall purpose and scope of project.

Note: Should your project impact other aquatic resources regulated by the ACOE, such as lakes, rivers, and streams, you may use this supplement to describe practicable alternatives to impacting those resources.

**DIRECTIONS:** For proposed commercial, residential and industrial structures applicants are required to consider the following avoid and minimize project alternatives outlined below. The alternatives listed below are the minimum set of project alternatives the applicant must consider. Given that each site and project is different there may also be project specific alternatives the applicant should consider, in addition to the standard alternatives listed below. For each alternative analyzed, please show the location of the alternatives on an aerial photograph and clearly label each alternative.

**TIP:** If federal, other state or local requirements limit your ability to avoid and minimize wetland impacts, it can be helpful to request a meeting with all parties to determine possible options available to avoid and/or minimize wetland impacts that may be acceptable to the parties.

**ASSISTANCE:** If you have questions about this PAA Supplement please contact the [DNR Water Management Specialist](#) and/or the [U.S. Army Corps of Engineers Project Manager](#) for the county where your project is located for assistance. You may also request a pre-application meeting with DNR and ACOE permit reviewers to help you further understand the PAA process, the minimum project alternatives required and any project specific alternatives that should be considered for your project.

### **DEVELOPING PROJECT ALTERNATIVES**

#### **STEP 1: PROJECT ALTERNATIVES THAT AVOID WETLAND IMPACTS**

The first step in the alternatives analysis process is to determine if a practicable alternative is available that completely avoids wetland impacts. If a practicable avoid alternative exists that meets the overall project purpose, this is the project alternative the applicant should select, unless this alternative would result in other significant adverse environmental consequences. DNR and the ACOE define the overall project purpose for these types of projects as commercial, residential or industrial development.

The following project alternatives should be analyzed by the applicant to determine if the project can avoid wetlands, even if these are not your preferred alternatives. In Section 3 of the PAA you will be asked to evaluate and provide information as to why each of the alternatives analyzed is or is not practicable to meet your overall project purpose.

1. **Existing Structure.** Can an existing structure(s) meet the project needs? If the existing structure is in poor condition or inadequate, can it be upgraded or remodeled to meet needs without impacting wetlands?
2. **Relocate Proposed Structure.** Can wetland impact be avoided by moving structure to a location that is not wetlands?
3. **Relocate Other Proposed Site Features.** If the project proposes multiple structures or other development features, such as a road/driveway, stormwater ponds, parking lot or buildings, can the entire development be shifted or reconfigured so all structures and development features avoid wetlands? For example, can the parking or stormwater treatment facility be placed underground?
4. **Redesign Proposed Structure.** Can the proposed structure be redesigned to avoid wetland impacts? For example, the layout or shape of a building could be reconfigured from a square to a rectangle or an L-shape to avoid impacting a wetland
5. **Reduce Proposed Structure.** Can the size of the proposed structure or development in wetlands be reduced and still meet the basic project purpose of a commercial, residential or industrial development? For example, the number of parking spaces required for a parking lot should be decreased to the minimum number necessary for typical use, and other grassed areas could be designated for additional parking for occasional high use events. Another example would be to construct a two-story building instead of a one-story to decrease the building footprint. For a residential development, the number of lots could be reduced.
6. **Wetland Amenity.** Consider conserving wetlands on your site and incorporating them into your development as a site amenity. Most developments require a certain percent of green space; conserving wetlands as part of your development can help you meet the green space requirement, which may also increase property values. Wetlands can be site amenities for users when there is a mowed walking path adjacent to the wetland or a boardwalk; interpretive educational signs could also be installed. If the wetland is degraded, consider enhancing or restoring it. For example remove and control non-native invasive plants and replace with native wetland plantings and maintain vegetated buffers adjacent to the wetland
7. **Other Properties.** What other properties were considered at the time the project plans were first considered that would have avoided wetland impacts? These properties include properties you currently own or recently have owned and other properties that are available for sale in the area? Provide the geographic area(s) you searched for an alternative site and the specific location of other properties considered. For each of the properties considered, indicate why they were not selected. If no other sites were considered, please explain why.

## **STEP 2: PROJECT ALTERNATIVES THAT MINIMIZE WETLAND IMPACTS**

If wetland impacts are not avoidable, the second step in the alternatives analysis process is for the applicant to determine which practicable alternative will minimize wetland impacts while meeting overall project purpose of a commercial, residential or industrial development. The following project alternatives should be analyzed by the applicant to determine how the project can minimize fill into the wetland and limit project impacts to the lower quality and functioning wetlands on the site. To qualify for the wetland general permit, the applicant is required to select the project alternative that minimizes wetland impacts to the maximum amount practicable if no avoid alternative is available that meets the overall project purpose.

The project alternative that results in the least amount of impact to wetlands will likely include a combination of the alternatives listed above and below. For example, the applicant selects a project alternative that avoids wetland encroachment to the maximum extent practicable and the impact is minimized to occur along the edge of the wetland and/or within a degraded portion of the wetland complex (e.g. dominated by non-native invasive plants such as reed canary grass).

1. **Existing Structure.** Can an existing structure meet the project needs? If the existing structure is in poor condition or inadequate, can it be upgraded or remodeled to meet needs resulting in minimal wetland impacts?
2. **Relocate Structure.** Could wetland impact be decreased by moving structure?

3. **Relocate Other Site Features.** If the project proposes multiple structures or other development features, such as a road/driveway, stormwater ponds, parking lot or buildings, can the entire development be shifted or reconfigured to minimize wetland impacts?
4. **Redesign Structure.** Can the proposed structure be redesigned to minimize wetland impacts? For example, the layout or shape of a building could be reconfigured from a square to a rectangle or an L-shape to avoid impacting a wetland. Another example would be to construct a two-story building instead of a one-story to decrease the building footprint or construct underground parking or stormwater treatment/detention facility also resulting in a smaller footprint.
5. **Reduce Structure.** Can the size of the proposed structure or development be reduced and still meet the overall project purpose? Please look back to Step 1 for some examples of how a structure might be reduced.
6. **Impact at Wetland Edge.** Using the most accurate wetland information available, such as a wetland delineation, find locations where encroachment or fill would occur along the edge of the wetland rather than through the middle of the wetland complex. The edges of a wetland are often lower quality than the interior portion of the wetland and fill occurring along the wetland edge minimizes fragmentation of the wetland complex.
7. **Limit Impact to Degraded Wetlands & Avoid High Quality Wetlands.** Using the most accurate wetland information available, such as a wetland delineation, and in consultation with a DNR Water Management Specialist and/or ACOE Project Manager determine which wetlands on the site are considered degraded and those that are high quality, including rare or difficult to replace wetlands and shoreland wetlands. Limit the wetland crossing to the portion of wetland that is degraded, for example, dominated by non-native invasive plants such as reed canary grass and avoid intact native wetland communities such as a sedge meadow.
8. **Maintain Wetland Hydrology.** Minimize impacts to site wetlands by maintaining existing wetland hydrology, including water runoff quality. Increased or decreased changes to wetland hydrology can have negative impacts on a wetland, including degradation of native plant community and an opportunity for non-native invasive plants to take hold, as well as the potential to dry up a wetland. Assess the wetlands primary hydrology source and design your project to maintain existing wetland hydrology to the maximum extent practicable. For example, if a wetlands primary source of hydrology is overland flow, determine the wetlands watershed and maintain approximately the same amount of runoff, including peak flow and duration.

### **STEP 3: EVALUATING THE ALTERNATIVES**

In Section 3 of the PAA you are required to evaluate each of the alternatives considered and explain why the alternative would or would not meet the overall project purpose. You should address issues including, but not limited to cost, location, access, transportation, technological concerns and other logistics.

**Please reference the detailed outline in Section 3 of the PAA for more detailed requirements.**

To verify the reasons outlined for why an alternative is or is not feasible, you are also required to submit quantitative and reliable supporting documentation. For example, the following types of supporting documentation are typically provided for commercial, residential, and industrial projects:

- Feasibility Study
- Economic Analysis
- Available Properties for Purchase
- Safety Analysis
- Cost Comparison (per square foot, etc.)
- Applicable Local, State or Federal Requirements
- Variance or Conditional Use Application with Corresponding Decision