

**STATE OF WISCONSIN  
DEPARTMENT OF NATURAL RESOURCES**



**GENERAL PERMIT TO PLACE, CONSTRUCT, AND MAINTAIN  
TEMPORARY WATERWAY CROSSINGS FOR FOREST MANAGEMENT ACTIVITIES**

PERMITTEE: The General Public in Wisconsin

PERMIT NO.: GP12-2015-WI (WDNR-GP12-2015)

ISSUING OFFICE: Waterways & Wetland Protection Section, Bureau of Watershed Management, Water  
Division, Wisconsin Department of Natural Resources (DNR)

ISSUANCE DATE: 04/23/2015

EXPIRATION DATE: 04/23/2020

**GENERAL PERMIT AUTHORIZATIONS:**

In compliance with the provision(s) of Wis. Stats. section 30.12(1) and (2m) and section 30.123 (2) and (6m), no person may place any structure or construct or maintain a bridge or culvert in, on, or over any navigable waterway unless an individual or a general permit has been issued under this section or authorization has been granted by the legislature through an exemption.

**Note:** Wis. Stats. ss. 30.123(6) and 30.12(1g) and Wis. Admin. Code chs. NR 320 and NR 329 allow for the placement, construction, and maintenance of certain culverts, bridges, and temporary instream crossings that are exempt from permitting requirements. However, Wis. Stats. ss. 30.12 (2m) and 30.123(6m) allow the Department to require that an individual permit or general permit be obtained in lieu of an exemption for activities at certain sites. Work performed to place, construct, or maintain temporary structures that meet the requirements of this general permit at sites designated as Areas of Special Natural Resources Interest (ASNRI) under Wis. Admin. Code s. NR 1.05, or at a site where the Department otherwise requires a permit under Wis. Stats. s. 30.12(1) or (2m) or 30.123(2) or (6m) may be authorized by this general permit unless explicitly prohibited by this general permit.

The Department has authority to issue general permits under Wis. Stats. s. 30.206(1)(am) that authorize any person in the State of Wisconsin to perform work in accordance with the terms and conditions of the general permit specified below after satisfying all applicable permit terms and conditions. Please refer to the following sections of this permit for the specific eligibility standards, application requirements, certification requirements and responsibilities, conditions, findings of fact, conclusions of law, and definitions required by WDNR-GP12-2015.

**OTHER AUTHORIZATIONS NECESSARY:** WDNR-GP12-2015 authorizations are subject to all applicable terms and conditions specified in this permit. However, **WDNR-GP12-2015 authorizations are provisional and require that project proponents obtain any other local, state or federal permits before any work may proceed.** Please be aware that local zoning ordinances may place restrictions on activities located in mapped floodplains or in shoreland zones.

**PROJECT DESCRIPTION AND LOCATION:** WDNR-GP12-2015 applies to placement, construction, and maintenance of a temporary bridge, temporary culvert, or similar temporary waterway crossing structure placed in, on or over a navigable waterway for the primary purpose of forest management activities. The placement, construction, and maintenance of culverts, bridges, and other similar waterway crossings structures is regulated under Wis. Stats. s. 30.12(1) or 30.123(2). Any person that intends to place, construct, or maintain a structure at a site where the Department requires a permit under Wis. Stats. s. 30.12(2m) or 30.123(6m) must comply with all applicable provisions of this general permit or apply for an individual permit under Wis. Stats. s. 30.12(3m) or 30.123(8).

**GENERAL PERMIT COVERAGE:** Unless notified by the DNR to the contrary, the effective date of coverage under this general permit is 30 calendar days after a complete notification package has been received by the designated DNR office. A list showing the office and address to which you must send your complete notification package (based on the county where the project is located) can be found at [http://dnr.wi.gov/topic/Waterways/about\\_us/county\\_contacts.html](http://dnr.wi.gov/topic/Waterways/about_us/county_contacts.html). **Unless otherwise indicated in this general permit, WDNR-GP12-2015 permit coverage is valid for a period of 5 years from the date the department determines the activity is authorized by this general permit or until the authorized activity has been completed, whichever occurs first.** Thereafter, permit coverage terminates unless another complete notification package is submitted to retain coverage under this permit or a reissued version of this permit.

State of Wisconsin Department of Natural Resources  
For the Secretary

  
Watershed Bureau Director

4-23-15  
Date Permit Signed

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## **WDNR-GP12-2015 TERMS AND CONDITIONS**

The following sections describe the general permit authorization procedures implemented by the DNR in WDNR-GP12-2015. Projects must meet all the terms and conditions of this permit to be eligible for coverage under WDNR-GP12-2015.

**NOTE:** The term "you" and its derivatives, as used in this general permit, means the person(s) who submitted and signed the complete notification package for coverage under the General Permit or the person who places temporary waterway crossing structures under coverage of this General Permit. The term "the Department" or "this office" refers to the appropriate Wisconsin Department of Natural Resources (DNR) Service Center, DNR Region or Central Office headquarters of the Wisconsin DNR having jurisdiction over the authorized activity or the appropriate official of that office acting under the authority of the Secretary of the Department.

### **SECTION 1 – WDNR-GP12-2015 ELIGIBILITY STANDARDS AUTHORIZATION**

Any person who places a temporary bridge, temporary culvert or similar temporary water crossing structure in, on, or over any navigable waterway for the primary purpose of forest management activities in an area that is designated as an area of special natural resource interest (ASNRI), or at a site where the Department requires a permit under Wis. Stats. s. 30.12(1) or ((2m) or 30.123(2) or (6m), must meet all of the following standards to be eligible for coverage and authorization under this general permit.

**NOTE:** Projects that do not meet all standards in this general permit are not eligible for this general permit and are therefore excluded from coverage under WDNR-GP12-2015. For waterway crossing structures that do not qualify for WDNR-GP12-2015, you may apply for an Individual Permit as outlined in Wis. Stats. s. 30.208(2). The department has authority under Wis. Stats. s. 30.206(3r) to require an individual permit in lieu of a general permit if the department has determined that the proposed activity is not authorized under WDNR-GP12-2015 **OR** has conducted an investigation, visited the site and has determined that conditions specific to the site require restrictions on the activity in order to prevent significant adverse impacts to the public rights and interest, environmental pollution, as defined in Wis. Stats. s. 299.01(4), or material injury to the riparian rights of any riparian owner.

**NOTE:** WDNR-GP12-2015 eligibility is limited to temporary water crossing structures for forest management activities that could impact navigable waters. Temporary water crossing structures for forest management activities that could impact wetlands as defined in Wis. Stats. 281.36(4) are not eligible for coverage under WDNR-GP12-2015.

#### **A. GENERAL STANDARDS APPLICABLE TO TEMPORARY WATERWAY CROSSINGS FOR FOREST MANAGEMENT ACTIVITIES**

1. The temporary waterway crossing shall be used to provide temporary access to an area for the primary purpose of engaging in normal forest management activities, including but not limited to those activities that are undertaken on forest land to establish, maintain or enhance a forest. These activities include planting trees, thinning and trimming trees, and harvesting timber and other forest products. These activities do not include cutting firewood exclusively for personal use.
2. The placement of a temporary waterway crossing for the primary purpose of forest management activity may not result in significant adverse impacts to the public rights and interests, cause environmental pollution as defined in Wis. Stats. s. 299.01(4), or result in material injury to the riparian rights of any riparian owner pursuant to Wis. Stats. s. 30.206(3r)(a)2. The placement also may not cause more than minimal adverse environmental impacts, materially interfere with navigation, or have an adverse impact on the riparian property rights of adjacent riparian owners pursuant to Wis. Stats. s. 30.206(1)(am).

3. There is no limit to the number of waterway crossings that can be authorized as part of this general permit and placed as part of a project. A project as defined in section 7 is an “an activity that involves the placement of temporary water crossing structures for the primary purpose of accessing a location for forest management activities that affects any navigable waterway within the property boundaries of a single riparian property owner. This may include multiple properties if the landowner is the same and the properties are contiguous to each other.” This means multiple waterway crossings can be authorized on multiple navigable waterways under this general permit.
4. The applicant or co-applicant is the riparian owner or has obtained permission of the riparian owner to place a temporary waterway crossing.
5. To the extent practicable, the temporary waterway crossing shall be placed and removed during frozen or low flow conditions if any portion of the structure is placed below the Ordinary High Water Mark (OHWM).
6. The temporary waterway crossing shall be removed after the forest management project requiring access is completed or 160 days after installation, whichever occurs first, unless:
  - a. If the temporary crossing **is a timber mat, pole ford or similar structure as described in Section 1D**, after the structure is removed it may be reinstalled according to the standards listed in Section 1F., or the applicant may request a one-time extension of the 160 day limit described above for a period not to exceed 60 days. The extension request must be based on site conditions or other site-specific issues that preclude access to the site (e.g., saturated soils, equipment failure, etc.) and must be made to the Department Water Management Specialist before removal. Please use the WDNR website at: <http://dnr.wi.gov/topic/Waterways/contacts.html> to find the county contact for your project to whom you must send the extension request.
  - b. If the temporary crossing **is a clearspan bridge or a culvert as described in sections 1B and 1C**, after the structure is removed it may be reinstalled according to the standards listed in Section 1F, **OR** it may be left in place longer than 160 days provided it is removed before the earlier of **3 years from the date the department determines the activity is authorized by this general permit or 7 days after the forest management project requiring access for which the structure was placed or maintained has been completed, whichever occurs first.**
7. Fish Spawning. To minimize adverse impacts on fish movement, fish spawning, and egg incubation periods, placement or removal of a temporary waterway crossing **below the ordinary high watermark (OHWM)** may not occur during the following time periods. **Note:** this standard does not apply to temporary waterway crossings placed wholly on top of frozen waters.
  - September 15th through May 15th for all trout streams; and upstream to the first dam or barrier on the Root River (Racine County), the Kewaunee River (Kewaunee County), and Strawberry Creek (Door County). To determine if a waterway is a trout stream, you may use the WDNR website trout maps which can be found at <http://dnr.wi.gov/topic/fishing/trout/streammaps.html>
  - March 1st through June 15th for ALL OTHER waters.

The regional Department Fisheries Biologist may waive or modify these timing restrictions in writing. To request in writing a waiver or modification of fish spawning timing restrictions for your project please use the checklist listed as Appendix 1 and use the WDNR website at: <http://dnr.wi.gov/topic/Waterways/contacts.html> to find the county contact for your project to send the requested information.

8. The bridge, culvert, or similar waterway crossing **may not** be located within a public rights feature as described in Wis. Admin. Code s. NR 1.06, unless a written waiver allowing the placement is

obtained from the regional Water Management Specialist in consultation with the Department resource manager. To obtain a written waiver use the WDNR website at: <http://dnr.wi.gov/topic/Waterways/contacts.html> to find the county contact for your project.

9. The bridge, culvert, or similar waterway crossing structure **may not** be located on a wild river designated under Wis. Admin. Code ch. NR 302 or where similar federal, state or local regulations prohibit the construction of such structures, unless expressly allowed under Wis. Admin. Code s. NR 302.03 or NR 302.07.
10. The bridge, culvert, or similar waterway crossing **may be** located in an area of special natural resource interest as described in Wis. Admin. Code s. NR 1.05, or at a site where the Department requires a permit under Wis. Stats. s. 30.12(2m) or 30.123(6m).
11. The structures must be placed in a manner that prevents the collection, removal or dispersal of sediment away from the project site to the maximum extent practicable. Temporary sediment control measures used to accomplish this should be completely removed from the waterbody after the structure installation activity is completed and the site is stabilized.
12. All temporary sediment control measures must follow all state lighting requirements and cannot materially obstruct navigation if the sediment control structures are located below the Ordinary High Water Mark (OHWM).
13. Removal of material above the ordinary high water mark is a land grading activity under Wis. Stats. s. 30.19. Any grading, excavation and land disturbance shall be confined to the minimum area necessary for the placement, repair and removal of the structure and may not exceed 10,000 square feet unless a separate land grading activity permit is obtained.
14. Dredging and deposition of sand, gravel or stone on the streambed in order to install a stream crossing structure , to the extent practicable, is permitted under this general permit provided the removal or deposit totals less than 3 cubic yards to the extent practicable and is limited to the volume necessary to properly install the structure, and the area immediately underneath or within 2 feet of the structure.
15. Any material removed from streambed and banks should total less than 3 cubic yards, to the extent practicable and may not be placed in a wetland or floodway unless the deposit of material meets Section 1A, standard number 14.
16. Erosion control measures must meet or exceed the technical standards for erosion control approved by the department under Wis. Admin. Code ch. NR 151 subch. V. Any area where topsoil is exposed during construction must be immediately seeded and mulched or ripped to stabilize disturbed areas and prevent soils from being eroded and washed into the waterway.  
**Note:** These standards can be found at the following website:  
<http://dnr.wi.gov/topic/stormwater/standards/>.
17. All temporary erosion and sediment control practices must be removed upon final site stabilization unless they are part of a permanent stormwater management system. Areas disturbed during construction or installation must be restored.
18. All equipment used for the project shall be designed and properly sized to minimize the amount of sediment that can escape into the water.
19. Placement, repair and removal of the structure shall minimize the removal of trees, shrubs and other shoreline vegetation above the ordinary high water mark. **Note:** Local zoning ordinances may place restrictions on activities located in mapped floodplains or in shoreland zones. The

riparian landowner or applicant applying on behalf of the riparian is responsible for ensuring that their project is in compliance with any local zoning requirements and does not adversely affect adjacent property.

20. Construction or installation of the stream crossing cannot occur during periods of high stream flow or high water conditions where the flow is not confined to the immediate stream channel.
21. If the waterway crossing requires approach fill, the approach fill shall be a maximum of one foot deep at the bank and 0 feet at 15 feet landward of the bank, unless a greater amount of fill is required to meet the standard listed in Section 1, Number 21. Geotextile fabric shall be placed under approach fill to facilitate removal and reduce soil compaction. If more than one foot of approach fill is required, an open ramp style that does not impede flow shall be used instead of fill.
22. If the waterway crossing requires the construction of an approach road, the approach road can be at or above the elevation of the surrounding natural ground elevation (at or above grade). **Side slopes** must be constructed to facilitate a crowned approach intended to shed water away from the road surface and to minimize runoff flowing directly into the navigable waterway.
23. If the waterway crossing requires the construction of an approach road, the approach road may not be steeper than 5H:1V toward the navigable waterway.

#### **B. STANDARDS APPLICABLE TO TEMPORARY PLACEMENT OF CLEARSPAN BRIDGES AS WATERWAY CROSSINGS FOR FOREST MANAGEMENT ACTIVITIES**

In addition to the standards listed in Section 1A, clearspan bridges, as defined in Section 7, may be placed for forest management activities according to the following standards:

1. The department may require navigational clearance of more than 5 feet when any of the following apply:
  - a. the waterway has been or is likely to be navigated when it is above its ordinary high water mark elevation or,
  - b. if the waterway is used by watercraft or snowmobiles requiring greater clearance.
2. The department may allow navigational clearance of less than 5 feet **when all of the following apply**:
  - a. The waterway is known to have little or no navigation or snowmobile use.
  - b. The waterway is not anticipated to have navigational use by other than lightweight craft.
  - c. A portage is provided over or around the bridge crossing.
  - d. The reduced clearance would not be detrimental to the public interest.
3. The bridge may not be located on a wild river designated under Wis. Admin. Code ch. NR 302, or where similar federal, state or local regulations prohibit the construction of such structures.
4. The bridge shall completely span the navigable waterway from Ordinary High Water Mark (OHWM) to OHWM with no support pilings in the stream.
5. At least one end of the bridge shall be firmly anchored in a manner that the bridge will not be transported downstream during flood conditions.

### C. STANDARDS APPLICABLE TO TEMPORARY PLACEMENT OF CULVERTS AS WATERWAY CROSSINGS FOR FOREST MANAGEMENT ACTIVITIES

In addition to the standards listed in Section 1A, culverts, as defined in Section 7, may be placed for forest management activities according to the following standards:

1. Culvert placement and installation must mimic the natural streambed, width, and gradient above and below the culvert channel. This means no perched culverts or impounding culverts.
2. Structures consisting of culverts, pipes, arches etc. that are designed to allow stream flow through the structure must be buried to not result in creating an impoundment or dam upstream of the structure or a waterfall or riffle area downstream of the structure.
3. Both ends of the culvert shall be installed so a minimum of 4 inches, and a maximum of 8 inches for a round culvert and 6 inches for a pipe arch culvert, lie below the bed of the waterway. **Note:** In most cases, the pipe arch culvert is the recommended culvert design because it is effective in low clearance installations, generally requires less fill, and the wider bottom allows for the better retention of natural substrates.
4. If flow conditions require the use of a multiple culvert arrangement, culverts shall be placed side by side at varying elevations; one buried in the bed according to Section 1C, standard number 3, and the other culvert positioned at 4 inches to 8 inches higher than the top of the stream bed, to facilitate base and low flows as well as larger rain or snowmelt events and properly spaced to allow for proper compaction as required by Section 1C, standard 5.
5. Clean fill material shall be firmly compacted around the culvert. If flow conditions require the use of multiple culverts arranged side by side, there shall be a minimum of 2 feet horizontal distance between adjacent culverts to allow adequate compaction of fill material. The culvert shall be designed or protected to prevent crushing.
6. Culvert inlets may not be capped with screens, bars or any other means which prevent movement of fish or wildlife or collect debris, with the exception of beaver control measures.
7. Culverts shall be designed to prevent washout. Culverts shall be long enough so road fill does not extend beyond the ends of the culvert. The culvert shall extend at least one foot beyond the fill.
8. If placement of riprap is necessary to protect the stream bank near the ends of the culvert, placement shall include an adequate filter layer or filter fabric.
9. Dredging or the deposition of sand, gravel or stone on the streambed may be associated with the placement of a culvert provided that the dredging is limited to the volume necessary to bury the culvert as required in Section 1C, standard number 3, and the deposit is limited to the area immediately underneath or within 2 feet of the culvert.
10. The culvert area cannot exceed 20 sq. ft. as described in Wis. Admin Code s. 320.07(1) and (2) and listed in Appendix 2 for ease of compliance, except as provided in Section 1C, standard number 11.
11. If the culvert area exceeds 20 square feet, you must submit plans approved by a professional engineer. Plans by a professional engineer, as defined in Section 7, means plans designed by a person registered as a professional engineer under Wis. Stats. s. 443.04 and Wis. Admin Code ch. A-E 4,

**D. STANDARDS APPLICABLE TO TEMPORARY PLACEMENT OF POLE FORDS, TIMBER MATS, OR SIMILAR STRUCTURES AS WATERWAY CROSSINGS FOR FOREST MANAGEMENT ACTIVITIES**

In addition to the standards listed in Section 1A, pole fords, timber mats, or similar structures may be placed for forest management activities according to the following standards. ***WDNR-GP12-2015 does not authorize the placement of a ford or any structure consisting of rock or gravel, placed on the bed of a navigable waterway to facilitate crossing the waterway.***

1. If the temporary waterway crossing is not a clearspan bridge or culvert as defined in Section 7, the temporary waterway crossing shall consist of timber mats, poles, small logs, pipes, or similar structures that are placed side by side in or on the stream channel parallel to the stream flow.  
**Note:** If the intended use of the structure is to span the waterway from OHWM to OHWM please place the structure under the clearspan bridge standards listed in Section 1B.
2. For trout streams or tributaries of trout streams as identified under Wis. Admin. Code s. NR 1.02 (7), the temporary waterway crossing shall not obstruct fish passage.

To determine if a waterway is a trout stream, you may use the WDNR website trout maps which can be found at <http://dnr.wi.gov/topic/fishing/trout/streammaps.html>.

The regional Department Fisheries Biologist may modify these fish passage requirements in writing. To request in writing a waiver or modification of fish passage requirements for your project please use the checklist listed as Appendix 1 and use the WDNR website at: <http://dnr.wi.gov/topic/Waterways/contacts.html> to find the county contact for your project to send the requested information.

3. The timber mats, poles, small logs, pipes, or similar structures shall be cabled, chained or banded together to the extent practicable prior to installation to facilitate complete removal.
4. The timber mats, poles, small logs, pipes, or similar structures cannot be placed in a manner that results in creating a dam or an impoundment upstream of the structure.

**E. STANDARDS APPLICABLE TO THE TEMPORARY REPLACEMENT OF EXISTING UNAUTHORIZED CULVERTS OVER 24 INCHES IN DIAMETER AS WATERWAY CROSSINGS FOR FOREST MANAGEMENT ACTIVITIES**

Wis Stats. s. 30.123(6)(e) allows for the construction or placement and the maintenance of a culvert to replace a culvert that has an inside diameter that does not exceed 24 inches. In addition to the standards listed in Section 1B, pre-existing culverts that were not previously authorized under a permit issued under Wis. Stats. s. 30.12 or 30.123 and that have an inside diameter that exceeds 24 inches **may be replaced as a temporary structure** under WNDR-GP12-2015 according to the following standards:

1. The primary purpose of the replacement culvert must be as a temporary structure for forest management activities and the replacement culvert must meet the standards listed in Section 1A and 1C unless otherwise stated below.

2. If the pre-existing culvert's cross section is 20 sq. ft. or less, it may be replaced with a larger culvert up to 20 sq. ft. as long as the replacement culvert meets the standards listed in Section 1C.
3. If the existing culvert's cross section exceeds 20 sq. ft., it may not be enlarged but may be replaced in-kind provided the replacement culvert meets the standards listed in Section 1C , except Section 1C, standard number 11 (professional engineer requirement).
4. If the existing culvert's cross section exceeds 20 sq. ft. and needs to be enlarged, the replacement must meet the standards listed in Section 1C, including Section 1C, standard number 11 (professional engineer requirement).

**F. STANDARDS APPLICABLE WHEN REINSTALLING A TEMPORARY STRUCTURE PREVIOUSLY AUTHORIZED UNDER THIS GENERAL PERMIT AS A WATERWAY CROSSING FOR FOREST MANAGEMENT ACTIVITIES**

Permit fees are required under Wis. Stats. s. 30.28 for authorization to proceed under a general permit. However, to facilitate partnership efforts to enhance forestry management practices and to encourage forestry management practices that are consistent with existing state forestry management plans for sustainable forestry management, the standards in this part of the general permit allow persons who receive general permit authorization to place a temporary waterway crossing in, on, or over a navigable waterway to reinstall the structure again once it is removed. In certain circumstances no additional permit fees apply.

1. Eligibility standards apply to persons who:
  - a. paid a permit fee,
  - b. were granted coverage under this general permit, removed the structure as required under Section 1A, and now want to either:
    - i. reinstall the temporary structure again under their initial general permit coverage authorization OR
    - ii. reinstall a temporary structure again under their initial general permit coverage authorization **and** add additional temporary structures at sites not identified under the initial general permit coverage authorization, hereby referred to as "add on" sites.
2. Temporary waterway crossings that were removed under Section 1A must be reinstalled according to the applicable standards listed under WDNR-GP12-2015. All general permit terms and conditions will apply. General permit standards are found in Section 1. General permit conditions are found in Section 4.
3. Add on sites must be installed according to the applicable standards listed under WDNR-GP12-2015. All general permit terms and conditions will apply. General permit standards are found in Section 1. General permit conditions are found in Section 4.
4. There is no limit to the number of reinstallations after coverage for the initial installation is granted under this general permit, but, the temporary crossing must be removed before the earliest of these 3 dates:
  - a. 5 years from the date the department determines the activity is authorized by this general permit.
  - b. 7 days after the forest management project requiring access is complete.
  - c. the applicable date the temporary crossing is required to be removed under this general permit (Section 1A)

**Note:** When reinstalling a temporary waterway crossing after coverage for the initial installation was granted the time limits described in Section 1A, Standard 6 still apply to the structure.

5. A person seeking to reinstall a temporary waterway crossing that was initially placed under WDNR-GP12-2015 must notify the Department of the docket or identification number of the initial general permit coverage each time a structure is reinstalled. **Note:** Please use the WDNR website at: <http://dnr.wi.gov/topic/Waterways/contacts.html> to find the county contact for your project to send the reinstallation request.
6. If there is a change to the type of structure to be reinstalled or the location of the structure to be reinstalled, the following information must also be provided to the Department in addition to the information described in Section 1F, Standard 5.
  - a. A project diagram that shows all of the following:
    - i. Project location.
    - ii. The location of silt fences or any other sediment control devices.
    - iii. The type of structure originally placed and the type of structure now proposed to be placed relative to the Ordinary High Water Mark (OHWM).
  - b. Photographs that represent existing project site conditions.
7. A person seeking to reinstall a temporary waterway crossing that was initially placed under WDNR-GP12-2015 **and** add additional temporary structures not identified under the initial general permit coverage authorization (**add on site**) must notify the department and provide the following:
  - a. The docket or identification number of the initial general permit coverage.
  - b. A Complete Application form certifying that the new add on sites meets the terms and conditions of WDNR-GP12-2015. This form can be found at <http://dnr.wi.gov/permits/water/>.
  - c. A project diagram that shows all of the following:
    - i. The new add on site project location.
    - ii. The location of silt fences or any other sediment control devices.
    - iii. The type of structure originally placed and the type of structure now proposed to be placed relative to the Ordinary High Water Mark (OHWM).
  - d. Photographs that represent existing project site conditions.
8. An additional permit fee **is** required for:
  - a. Temporary waterway crossings that will be reinstalled in a different navigable waterway than the waterway identified in the initial general permit coverage authorization, except as provided in Section 1F, standard number 9d.
  - b. Temporary waterway crossings that will be reinstalled and be placed in a different location on the same navigable waterway identified in the initial general permit coverage authorization, except as provided in Section 1F, standard number 10a or 10c.
  - c. Temporary crossings placed as “add on” sites **on the same** navigable waterway, except as provided in Section 1F, standard number 9a or 9c.
  - d. Temporary crossings placed as “add on” sites **in a different** navigable waterway than the waterway identified in the initial general permit coverage authorization, if the additional waterway **is** designated as an Area of Special Natural Resource Interest (ASNRI).**Note:** Waterways with different Water Body Identification Codes (WBIC) are considered different waterways. Please visit the Department’s Surface Water Data Viewer (SWDV) to determine if your location is ASNRI and identify the WBIC. <http://dnr.wi.gov/topic/surfacewater/swdv/>
9. An additional permit fee **is not** required for any of the following:
  - a. Temporary crossings required to be moved to a different location under the direction of the Department after initial placement
  - b. Temporary crossings placed in the identical location that was previously authorized under general permit coverage.
  - c. Temporary crossings placed within 100 linear yds. upstream or downstream of a location that was previously authorized under general permit coverage.

- d. Temporary crossings placed as “add on” sites **in a different** navigable waterway than was identified in the initial general permit coverage authorization provided the waterway **is not** designated as an Area of Special Natural Resource Interest (ASNRI).

**Note:** Notification as described in Section 1F, standards 5-7, is required.

10. Permit coverage to reinstall and maintain temporary waterway crossings under Section 1A or place new temporary waterway crossings as add on sites terminates 5 years from the date the Department grants coverage for the initial temporary waterway crossing locations or 7 days after the forest management project for which access was needed is completed, whichever occurs first.

## SECTION 2: WDNR-GP12-2015 APPLICATION REQUIREMENTS FOR COVERAGE

You are required to comply with the following application requirements:

1. After you have carefully confirmed that your project(s) meet(s) the purpose and all the terms and conditions of this permit, you must submit a *complete application package*, outlined in item 5 below, to the Department. The complete application package should be received at least 30 calendar days before the desired project start date. Information about submitting an application can be found at [http://dnr.wi.gov/topic/Waterways/about\\_us/county\\_contacts.html](http://dnr.wi.gov/topic/Waterways/about_us/county_contacts.html)

**NOTE:** The Department will forward a copy of your application package to the U.S. Army Corps of Engineers for their review and determination regarding federal permit requirements and coverage.

2. Unless notified by the Department to the contrary, the effective date of coverage under this permit is 30 calendar days after Department receives and acknowledges a complete application package.

3. Permit fees are required under ss. 30.28 Wis. Stats., for authorization to proceed under a general permit. However, to encourage projects, as defined in Section 7, to place temporary structures in a way that protects water quality (i.e. placed higher in the watershed) and to minimize the number of crossings needed for a project while acknowledging the review needed for multiple waterway crossings, the following fee requirements apply to this general permit:

- a. If the project requires a single navigable waterway crossing that waterway crossing requires a fee.
- b. If the project requires multiple waterway crossings on a single navigable waterway, only one waterway crossing requires a fee
- c. If the project requires multiple waterway crossings on multiple navigable waterways a fee is required for one crossing, and any additional crossings that are located on waterways designated as an Area of Special Natural Resource Interest (ASNRI).

**NOTE:** Section 2, requirement 3 applies to the initial general permit coverage authorization for the placement of a temporary crossing and does not apply to the reinstatement of temporary crossings previously authorized under WDNR-GP12-2015. Those fees are outlined in Section 1F.

4. The Department may request that you provide additional information necessary to verify compliance with the terms and conditions of this permit. The Department may request additional information one time during the 30-day period. If the department requests additional information, the 30-day period is paused on the date the person applying for authorization receives the request for additional information. The clock remains paused until the date on which the department receives the information, at which point the clock resumes from the point it was initially stopped.

5. The Department may determine the project is not eligible for this general permit and require that the project be reviewed through the individual permit process outlined in Wis. Stats ch. 30.

6. To the extent practicable, the application must be submitted to the Department electronically using the Internet-based application process. A complete application package must include all of the following information:

- a. A Complete Application form certifying that the project meets the terms and conditions of WDNR-GP12-2015. This form can be found at <http://dnr.wi.gov/permits/water/>.
- b. The appropriate application fee.
- c. A copy of the deed or similar proof of ownership of the site where the activity will occur. If you do not own the site, also include proof of any permission(s) required by Section 1A, standard 4 of this General Permit.
- d. A project diagram that shows all of the following:
  - i. The location of the project.

- ii. The location of silt fences or any other sediment control devices.
- iii. The location of the structure proposed to be placed in/over the waterway relative to the OHWM of the waterway.
- iv. Detailed waterway dimensions in the location of the proposed structure, including but not limited to the bed and bank widths and depths relative to the OHWM.
- e. If the project involves placing a culvert according to the standards listed in Section 1C, the information outlined in the culvert sizing worksheet (Appendix 2) should be submitted to help verify the placement of the culvert meets Section 1C, standard 10.
- f. A description of materials and equipment to be used for the placement of the temporary waterway crossing and the purpose and need for the placement.
- g. Maps of the project site that show all of the following:
  - i. The location of the property lines for the property where the project will occur.
  - ii. The location of the placement of the temporary waterway crossing(s).
  - iii. If available, a flood insurance rate map obtained from <http://msc.fema.gov>
- h. Photographs that represent existing site conditions where the project will occur.

### SECTION 3: WDNR-GP12-2015 CERTIFICATION AND RESPONSIBILITIES

The applicant certifies and agrees to the following:

1. You agree to be the responsible party that supervises and oversees all aspects of the project to ensure compliance with the terms and conditions of WDNR-GP12-2015.
2. Upon submittal of a complete application package to the Department, you have certified that the project will be conducted in compliance with all the terms and conditions of WDNR-GP12-2015.
3. You certify that pursuant to Wis. Stats. ss. 30.206(1)(am) and (3r)(a)2., the placement of temporary waterway crossing structures will not result in significant adverse impacts to the public's rights and interest in the waterway, environmental pollution as defined by Wis. Stats. s. 299.01(4), material injury to the riparian rights of any riparian owner, more than minimal adverse environmental impacts, material interference with navigation, and will not have an adverse impact on the riparian property rights of adjacent riparian owners.

### SECTION 4: WDNR-GP12-2015 GENERAL PERMIT CONDITIONS

The applicant agrees to comply with the following conditions:

1. **Application.** You must submit a complete application package to the Department as outlined in Section 2 of this general permit. If requested, you must furnish to the Department within a reasonable timeframe any information the Department needs to verify compliance with the terms and conditions of this permit.
2. **Certification.** Acceptance of general permit WDNR-GP12-2015 and efforts to begin work on the activities authorized by this general permit signify that you have certified the project meets all eligibility standards outlined in Section 1 of this permit and that you have read, understood and agreed to follow all terms and conditions of this general permit.
3. **Project Plans.** This permit does not authorize any work other than the work that is specifically described in the notification package and plans submitted to the Department and that you certified is in compliance with the terms and conditions of WDNR-GP12-2015

4. **Expiration.** This WDNR-GP12-2015 is valid for a period of 5 years from the date of issuance. Any activity that the Department determines is authorized by this WDNR-GP12-2015 remains authorized under WDNR-GP12-2015 for a period of 5 years from the date of the Department's determination or until the activity is completed, whichever occurs first, regardless of whether WDNR-GP12-2015 expired before the activity is completed.

5. **Other Permit Requirements.** You are responsible for obtaining any other state permits and any other permits or approvals that may be required for your project by local zoning ordinances (e.g., shoreland zoning, floodplain zoning, etc.) and the U.S. Army Corps of Engineers (USACE) before starting your project.

To locate the USACE staff responsible for reviewing projects in Wisconsin please visit <http://www.mvp.usace.army.mil/Missions/Regulatory.aspx>

To locate the local zoning staff responsible for your county please visit <http://buckyman00.wix.com/wcca#!contacts/cuy0>

6. **Project Start.** You must notify the Department using the information provided on the confirmation of coverage letter you receive before starting any activity and again not more than 5 days after each activity is completed.

7. **Permit Posting.** You must post a copy of this permit at a conspicuous location on the project site for at least 5 days prior to the project starting, and the copy must remain posted on the project site at least five days after the project is complete. You must also have a copy of the permit and approved plan available at the project site at all times until the project is complete.

8. **Permit Compliance.** The Department may modify or revoke coverage of this permit if placement of temporary stream crossing structures is not carried out in compliance with the terms and conditions of this permit, or if the Department determines the project will be detrimental to the public interest. Any act of noncompliance with this permit constitutes a permit violation and is grounds for enforcement action. Additionally, if any conditions of this permit are found to be invalid or unenforceable, authorization for all activities to which that condition applies is denied.

9. **Project Completion.** *Within one week* of project completion submit a series of photographs to the department showing the placement of the structure at the sit and showing stabilization of disturbed areas on the site. The photographs shall be taken from different vantage points and depict all work authorized by the permit.

10. **Project maintenance.** Accumulated brush, debris and other obstructions that are trapped in or underneath the waterway crossing structure shall be regularly removed to prevent upstream flooding and maintain structural integrity. The structure shall be designed and constructed to prevent structural failure and maintained in good condition at all times.

11. **Project site restoration after removal of temporary structure.** Immediately upon removal of a waterway crossing structure that is required to be removed under GP12-2015, the disturbed bed and bank area must be restored as close as possible to pre-installation conditions. Disturbed areas should be stabilized and provide for a self-sustaining vegetative cover that is sufficient to provide for bank stability, maintenance of fish habitat and filtering of pollutants from upslope overland flow areas under sheet flow conditions.

12. **Site Access.** Upon reasonable notice, you must allow access to the site to any Department employee who is investigating the project's construction, operation, maintenance or compliance with the terms and conditions of WDNR-GP12-2015 and applicable laws.

**13. Erosion and Sediment Control Practices.** The project site must implement erosion and sediment control measures that adequately control or prevent erosion, and prevent damage to waterways and wetlands as outlined in Wis. Admin. Code s. NR 151.11(6m). These standards can be found at the following website: [http://dnr.wi.gov/topic/Stormwater/standards/const\\_standards.html](http://dnr.wi.gov/topic/Stormwater/standards/const_standards.html). Any area where topsoil is exposed during the project should be immediately seeded and mulched to stabilize disturbed areas and prevent soils from being eroded and washed into the waterway.

**14. Invasive Species.** To stop the spread of invasive species and viruses from one navigable waterway to another navigable waterway, all equipment or portions of equipment used for constructing, operating, or maintaining the project, including tracked vehicles, barges, boats, silt or turbidity curtains, hoses, sheet piles, and pumps, must be decontaminated for invasive species and viruses before and after use **or** prior to use within another navigable waterway. Follow the most recent Department approved washing and disinfection protocols and Department approved best management practices to avoid the spread of invasive species as outlined in Wis. Admin. Code ch. NR 40. These protocols and practices can be found on the Department website at <http://dnr.wi.gov/topic/Invasives/bmp.html> and at <http://dnr.wi.gov/topic/Invasives/documents/EquipOper.pdf>

**15. Federal and State Threatened and Endangered Species.** WDNR-GP12-2015 does not affect the DNR's responsibility to ensure that all authorizations comply with Section 7 of the Federal Endangered Species Act, Wis. Stats. s. 29.604, and applicable state laws. The project must either avoid impacts to endangered or threatened species in accordance with Wis. Stats. s. 29.604 or receive an incidental take authorization under Wis. Stats s. 29.604. No Department authorization under this permit will be granted for projects found not to comply with these laws. No activity is authorized that is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation as identified under the Federal Endangered Species Act or state law or both, or that is likely to destroy or adversely modify the critical habitat of a species as identified under the Federal Endangered Species Act.

**16. Historic Properties and Cultural Resources.** WDNR-GP12-2015 does not affect the DNR's responsibility to ensure that all authorizations comply with Section 106 of the National Historic Preservation Act and Wis. Stats. s. 44.40. No Department authorization under this permit will be granted for projects found not to comply with these laws. The project must avoid impacts to archaeological sites or historic structures and is subject to Departmental and Wisconsin Historical Society review and approval before authorization under this general permit is valid. Information on the location and existence of historic resources can be obtained from the State Historic Preservation Office and the National Register of Historic Places. If cultural, archaeological, or historical resources are unearthed **during** activities authorized under this permit, work must be stopped immediately and the State Historic Preservation Officer must be contacted for further instruction.

**17. Preventive Measures.** Measures must be adopted to prevent potential pollutants from entering a wetland or waterbody. Construction materials and debris, including fuels, oil, and other liquid substances, may not be stored in the construction work area in a manner that would allow them to enter a wetland or waterbody as a result of spillage, natural runoff, or flooding. In addition, biodegradable hydraulic fluid should be used to the extent practicable in equipment that is operated below the Ordinary High Water Mark. A spill kit is required to be on site during any installation or removal activities. If a spill of any potential pollutant should occur, it is the responsibility of the permittee to remove such material immediately upon seeing a release, minimize any contamination resulting from this spill, and immediately notify the State Duty Officer at **1-800-943-0003**.

**18. Property Rights.** This permit does not convey any property rights of any sort or any exclusive privilege. The permit does not authorize any injury or damage to private property, any invasion of personal rights, or any infringement of federal, state or local laws or regulations.

19. **Limits of State Liability.** In authorizing work, the State Government does not assume any liability, including for any of the following:

- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
- b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the State in the public interest.
- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
- d. Design or construction deficiencies associated with the permitted work.
- e. Damage claims associated with any future modification, suspension, or revocation of this WDNR-GP12-2015.

20. **Reevaluation of Decision.** This office may reevaluate its decision on any authorization under WDNR-GP12-2015 at any time the circumstances warrant and may suspend, modify or revoke any previous authorization. Suspension, modification or revocation may result in enforcement action. Circumstances that could require a reevaluation include, but are not limited to, the following:

- a. The applicant fails to comply with the terms and conditions of WDNR-GP12-2015.
- b. The information provided by the applicant in support of the permit application proves to have been false, incomplete, inaccurate, or false
- c. Significant new information surfaces which the Department did not consider in reaching the original public interest decision.

#### **SECTION 5: WDNR-GP12-2015 FINDINGS OF FACT**

1. The Department has determined that the project site and project plans meet the standards in WDNR-GP12-2015 to qualify for this General Permit.

2. The proposed project will not cause more than minimal adverse environmental impacts, will not materially interfere with navigation, and will not have an adverse impact on the riparian property rights of adjacent riparian owners pursuant to Wis. Stats. s. 30.206(1)(am), nor result in significant adverse impacts to the public rights and interest, cause environmental pollution as defined in Wis. Stats. s. 299.01(4), or result in material injury to the riparian rights of any riparian owner pursuant to Wis. Stats. s. 30.206(3r)(a)2., if completed in accordance with this permit.

3. The Department and the applicant have completed all procedural requirements, and the project as permitted will comply with all applicable requirements of WDNR-GP12-2015 and Wis. Admin. Code chs. NR 102, 103, 150, 299, and 310.

#### **SECTION 6: WDNR-GP12-2015 CONCLUSIONS OF LAW**

1. The Department has authority under Wis. Stats. ch. 30 to issue a permit for the completion of this project.

2. The Department has complied with Wis. Stats. s. 1.11.

3. The Department has complied with NR 150.

#### **SECTION 7: WDNR-GP12-2015 DEFINITION OF TERMS**

You accept the following definitions for use with this general permit:

1. "Add-on site" means a temporary waterway crossing that was not identified under the initial general permit coverage authorization

2. "Area of special natural resource interest" has the meaning in Wis. Stats. s. 30.01 (1am) and as identified by the department in Wis. Admin. Code s. NR 1.05.  
**Note:** "Area of special natural resource interest" means any of the following:
  - a. A state natural area designated or dedicated under Wis. Stats. ss. 23.27 to 23.29.
  - b. A surface water identified as a trout stream by the department pursuant to Wis. Admin. Code s. NR 1.02(7).
  - c. A surface water identified as an outstanding or exceptional resource water under Wis. Stats. s. 281.15.
  - d. An area that possesses significant scientific value as identified by the department in Wis. Admin. Code s. NR 1.05.
- Note:** Wis. Admin. Code s. NR 1.05 (4) includes wild rice waters as identified in a written agreement between the department and the Great Lakes Indian Fish and Wildlife Commission.
3. "Bridge" means any private or public structure except municipal highway bridges constructed in or over a navigable waterway to provide a walkway or roadway for pedestrians, animals or vehicles, and includes pipe arches and culverts.
- 4.
5. "Channel" means a natural or artificial water course with defined bed and banks to confine and conduct the normal flow of water.
6. "Clearance" means the vertical distance between the inside top of a culvert or the bottom of the lowest member of the bridge span and the ordinary high water mark of the waterway.
7. "Clearspan bridge" means a continuous span of which no portion of the bridge piling or other supporting structure may be located within the channel except for abutment protection.
8. "Culvert" means the same as a "Bridge." See Bridge definition above.
9. "De minimus" activity means the dredging of less than 2 cubic yards in a calendar year from a specific waterbody **or** disturbance of bottom material during the manual removal of aquatic plants that meet the requirements of Wis. Admin. Code s. NR 109.06 (2). **Note:** Where the bed material is privately owned, the permission of the property owner is required.
10. "Department" means the Department of Natural Resources.
11. "Dredged material" means any material removed from the bed of a navigable waterway by dredging. The bed of a navigable waterway extends landward to the Ordinary High Water Mark (OHWM).
12. "Dredging" means any part of the process of the removal or disturbance of material from below the OHWM or from the bed of a navigable waterway, transport of the material to a disposal, rehandling or treatment facility; treatment of the material; discharge of carriage or interstitial water; and disposal of the material. For the purpose of Ch. 30, Stats., dredging does not include "de minimus" activities.
13. "Ford" means a structure consisting of rock or gravel, placed on the bed of a navigable waterway to facilitate crossing the waterway

14. "Forest Management" means activities that are taken on forest land to establish, maintain or enhance a forest including planting trees, thinning and trimming trees, and harvesting timber and other forest products. This does not include the cutting of firewood for exclusive personal use.
15. "Frozen Conditions" means when the stream is covered with ice thick enough to support vehicles.
16. "Low flow conditions" means when there is little or no water in the streambed.
17. "Maintain" means to repair, replace, own or possess all or a portion of a structure
18. "Navigable waterway" means any body of water with a defined bed and banks that is navigable under Wisconsin law. In Wisconsin, a body of water is navigable if it is capable of floating on a regularly recurring basis the lightest boat or skiff used for recreation or any other purpose. This incorporates the definition at Wis. Stats. s. 30.01(4m), and current case law, which requires a watercourse to have a bed and banks, *Hoyt v. City of Hudson*, 27 Wis. 656 (1871), and requires a navigable waterway to float on a regularly recurring basis the lightest boat or skiff, *DeGayner & Co., Inc. v. DNR*, 70 Wis. 2d 936 (1975); *Village of Menomonee Falls v. DNR*, 140 Wis. 2d 579 (Ct. App. 1987).
19. "Ordinary high water mark" means the point on the banks or shore up to which the presence and action of water is so continuous as to leave a distinct mark either by erosion, destruction of terrestrial vegetation or other easily recognizable characteristic.
20. "Perched culvert" means a culvert where the inlet or outlet elevation is higher than the streambed elevation, thereby effectively reducing or eliminating fish migration and fish passage.
21. "Professionally engineered" means designed by a person registered as a professional engineer under Wis. Stats. s. [443.04](#) and [Wis. Admin. Code ch. A-E 4](#).
22. "Project" means an activity that involves the placement of temporary water crossing structures for the primary purpose of accessing a location for forest management activities and that affects any navigable waterway within the property boundaries of a single riparian property owner. This may include multiple properties if the landowner is the same and the properties are contiguous to each other.
23. "Replacement" means a degree of structural changes to a structure by which some or all of the structure is being removed or recreated.
24. "Riprap" means a layer or layers of rock, including filter material, placed on the bed and bank of a navigable waterway to prevent erosion, scour or sloughing of the existing bank.
25. "Riparian" or "Riparian Landowner" means an owner of land abutting a navigable waterway.
26. "Stabilize" means the process of making a site steadfast or firm, minimizing soil movement by the use of practices such as mulching and seeding, sodding, landscaping, paving, graveling or other appropriate measures.

27. "Timber Mats" as used in the phrase "timber mats, poles, small logs, pipes, or similar structures" in WDNR GP12-2015, means a structure placed on the bed of a waterway (below the ordinary high water mark) or a structure placed above the OHWM and completely across a waterway, that allows vehicles, equipment or people to safely cross from one side of a waterway to the other. These structures can include poles, timber mats, or composite mats.

**APPENDIX 1**

**Request for Waiver of Construction Season Limits in Waterway General Permits**

This checklist shall be used to request a waiver from the time period restrictions and/or fish passage requirements for applicable projects that qualify for WDNR-GP12-2015. The completed waiver request may be submitted with the application where the applicant seeks a waiver from the applicable statewide general permit conditions that place fisheries based restrictions on the project. The signature of the Department Fisheries Biologist on this checklist only waives the time period and/or fish passage restrictions and does not constitute a permit, approval, or other concurrence with the proposed project.

Applicant Name: \_\_\_\_\_

Proposed Project: \_\_\_\_\_

Project Location: \_\_\_\_\_ ¼, \_\_\_\_\_ ¼, Section \_\_\_\_\_, Town \_\_\_\_\_ N, Range \_\_\_\_\_ E/W

Name of Waterbody: \_\_\_\_\_

County of Waterbody: \_\_\_\_\_

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**FOR DNR USE ONLY**

The applicant listed above has consulted with me about their proposed project in navigable waters. Based on their project description, plans and other existing information available to me, I find that:

- there is suitable habitat at or near the proposed project, or
- there may be an impact on spawning fish or spawning activities.

Or

- there is no suitable habitat at or near the proposed project, or
- there will be no impact on spawning fish or spawning activities.

Consequently, the time period restrictions of the applicable statewide general permit are/are not (circle one) necessary to protect fish spawning for the proposed project and I approve/disapprove (circle one) this waiver.

Signed by:

\_\_\_\_\_

Department Fisheries Biologist

\_\_\_\_\_

Date

## APPENDIX 2

**NR 320.07 Culvert area calculation, culvert sizing, and culvert length determination.** Applicants shall use the following calculation and assessment methods:

**CALCULATION OF REQUIRED CULVERT AREA.** To determine the required culvert area, 3 measurements shall be made: channel width of the stream in feet at the ordinary high water mark (W1), channel width of the stream in feet at the stream bottom (W2), and the height in feet of the high water above the stream bottom (H) (see diagram). These 3 measurements shall be made at each of 3 locations or transects along the stream: the location of the proposed crossing, 100 feet upstream from the crossing, and 100 feet downstream from the crossing. The individual measurements of W1, W2 and H shall be averaged to derive the final W1, W2 and H values. The required culvert area is then calculated with the following equation: *Required Culvert area (square feet) = H x (W1 + W2)* - [See PDF for diagram](#)

**CULVERT SIZING.** Once the required culvert area has been determined, the applicant can identify the proper culvert size by reviewing the following tables. The minimum size culvert needed to pass flows must have an area that is as much or more than the required culvert area. For example, the recommended culvert size for a culvert area calculation of 8.50 square feet would be 42 inches.

**Table 1.** Round culvert diameters and corresponding culvert area.

| <u>Culvert diameter (in.)</u> | <u>Culvert area (sq. ft.)</u> |
|-------------------------------|-------------------------------|
| 18                            | 1.80                          |
| 24                            | 3.10                          |
| 30                            | 4.90                          |
| 36                            | 7.10                          |
| 42                            | 9.60                          |
| 48                            | 12.60                         |
| 54                            | 15.90                         |
| 60                            | 19.60                         |
| 66                            | 23.80                         |

**Note:** To find the area of any round culvert, use the following equation:

Culvert diameter (in.) divided by 2 = \_\_\_\_\_ divided by 12 = \_\_\_\_\_ (radius in ft.)

Radius x Radius x 3.14 = \_\_\_\_\_ (area of culvert in sq. ft.)

**Table 2.** Pipe arch dimensions and corresponding culvert area.

| <u>Pipe width or span (in.)</u> | <u>Pipe height or rise (in.)</u> | <u>Culvert area (sq. ft.)</u> |
|---------------------------------|----------------------------------|-------------------------------|
| 43                              | 27                               | 6.4                           |
| 50                              | 31                               | 8.7                           |
| 58                              | 36                               | 11.4                          |
| 65                              | 40                               | 14.3                          |
| 72                              | 44                               | 17.6                          |
| 73                              | 55                               | 22.0                          |
| 85                              | 54                               | 25.3                          |
| 81                              | 59                               | 26                            |
| 87                              | 63                               | 31                            |
| 95                              | 67                               | 35                            |
| 103                             | 71                               | 40                            |

**CULVERT LENGTH DETERMINATION.** The proper culvert length is determined by the following calculation:

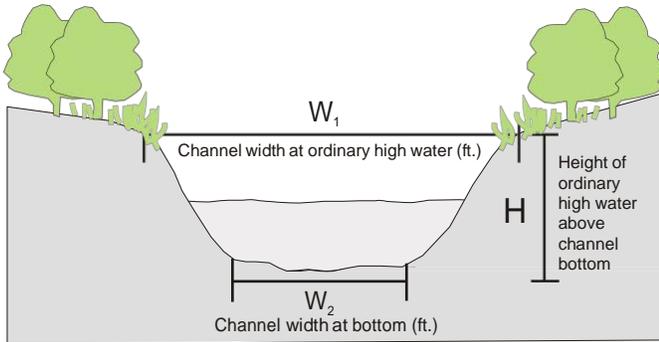
- [See PDF for diagram](#)

**APPENDIX 2**

General Permit  
Worksheet  
Culvert Placement on Navigable  
Waterways

The information contained in this sample worksheet should accompany general permit application materials submitted for the placement of a culvert in navigable waters

**CULVERT SIZING**



**Calculating Culvert area**

To determine the required culvert area, 3 measurements should be made: channel width of the stream in feet at the ordinary high water mark ( $W_1$ ), channel width of the stream in feet at the stream bottom ( $W_2$ ), and the height in feet of the ordinary high water above the stream bottom ( $H$ ) (see diagram). These 3 measurements are made at each of 3 locations or transects along the stream: the location of the proposed crossing, 100 feet upstream from the crossing, and 100 feet downstream from the crossing. The individual measurements of  $W_1$ ,  $W_2$  and  $H$  are averaged to derive the final  $W_1$ ,  $W_2$  and  $H$  values. The required culvert area is then calculated with the following equation:

Required Culvert area (square feet) =  $H \times (W_1 + W_2)$

Height:  \*  $W_1$   +  $W_2$   = Culvert Area (square feet)