



Missouri Department of Natural Resources

CLEAN WATER ACT SECTION 401 WATER QUALITY CERTIFICATION 2020 GENERAL AND SPECIFIC CONDITIONS

Water Protection Program

10/2020

Division of Environmental Quality

PUB2815

Consistent with Section 401 of the Clean Water Act, these precertified conditions are designed to ensure activities carried out under Nationwide Permits (NWP) authorized by the U.S. Army Corps of Engineers (USACE) will comply with Missouri water quality requirements. Where applicable, these conditions are in addition to, not a replacement for, any federal requirements or conditions.

The conditions outlined in this document apply to those authorized projects where the project proponent has chosen to accept these conditions instead of pursuing an individual Clean Water Act Section 401 Water Quality Certification (WQC) for the following NWP:

- Only General Conditions apply to projects authorized by NWP 5, 15, 18, 22, 23, 25, 27, 29, 30, 31, 36, 39, 40, 42, 43, 45, 46, and E.
- Both General and Specific Conditions apply to projects authorized by NWP 3, 4, 6, 7, 12, C, D, 13, 14, 16, 19, 20, 33, 41, 53, and 54.

Alternatively, a project proponent may apply for individual WQC if they do not wish to accept the conditions outlined in this document.

Projects authorized by NWP 17, 21, 32, 34, 37, 38, 44, 48, 49, 50, 51, 52, A, and B require individual WQC by the Department of Natural Resources.

NWP 1, 2, 8, 9, 10, 11, 28 and 35 authorize projects under Section 10 of the Rivers and Harbors Act of 1899 only. An activity needing only a Section 10 permit may require a WQC if that activity can reasonably be expected to result in any discharge either during construction or operation of the facility. Thus, if the USACE determines the activity is likely to result in a discharge during construction or operation, the Department of Natural Resources has the discretion to require a WQC for a Section 10 activity. The USACE will advise a Section 10 permit project proponent that they may need a WQC if there is a reasonable expectation that a discharge will occur either during the construction or operation of the project.

Pursuant to Chapter 644.037, RSMo, the Department of Natural Resources shall certify without conditions NWP as they apply to impacts on wetlands in Missouri.

Pursuant to Chapter 644.038, RSMo, the Department of Natural Resources certifies all NWP for impacts in all waters of the state without the above-stated or any other conditions for the construction of highways and bridges approved by the Missouri Highway and Transportation Commission. The Memorandum of Understanding of 2016 and any subsequent modifications between the two agencies outline the requirements by which the Missouri Department of Transportation will design and construct projects in order to protect the water quality of waters of the state.

GENERAL CONDITIONS

1. A stream's pattern, profile, and dimension, including but not limited to sinuosity, slope, and channel width, shall be maintained as much as practicable. Streambed gradient shall not be adversely impacted during project construction. No project shall accelerate bed or bank erosion. This will ensure compliance with the Missouri Water Quality Standards general criterion requiring waters to be free from physical, chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(G)].
2. Channelization of streams is not allowed under this precertification. Channelization includes but is not limited to reducing the length of the channel, widening the channel for increased water storage or flow, and/or construction of hard structures which concentrate flow. Unless necessary for a stream crossing associated with infrastructure projects and contained within an associated right-of-way, bank stabilization activities only along one bank of a stream are permitted, including, but not limited to,

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bank sloping and riprapping. The redirection of flow by excavation of the opposite bank or a streambed is considered a channel modification and is not authorized by this WQC. This will ensure compliance with the Missouri Water Quality Standards general criterion requiring waters to be free from physical, chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(G)].

3. No new or expanded wet stormwater retention basins or similar impoundment structures may be constructed unless they are located off-channel. In-channel dry stormwater detention basins are allowable if the stream channel is either temporarily or not adversely affected by the basin. This will ensure compliance with the Missouri Water Quality Standards general criterion requiring waters to be free from physical, chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(G)].
4. Only clean, nonpolluting fill shall be used. The following materials are not suitable where contact with water is expected and shall not be used due to their potential to cause violations of the general criteria of Missouri's Water Quality Standards [10 CSR 20-7.031(4)(A)-(H)]:
 - a. Earthen fill, gravel, and broken concrete where the material does not meet the Suitable Material specifications stated in the "Missouri Nationwide Permit Regional Conditions" (<https://usace.contentdm.oclc.org/digital/collection/p16021coll11/id/2662/>) in locations where erosive flows are expected to occur on a regular basis, such as streambanks and/or lake shorelines.
 - b. Fragmented asphalt.
 - c. Concrete with exposed rebar.
 - d. Tires, vehicles or vehicle bodies, and construction or demolition debris are solid waste and are excluded from placement in the waters of the state.
 - e. Liquid concrete, including grouted riprap, if not placed in forms as part of an engineered structure.
 - f. Any material containing chemicals that would result in violation of Missouri Water Quality Standards general criteria [10 CSR 20-7.031(4)] or specific criteria [10 CSR 20-7.031(5)].
5. Waste concrete or concrete rinsate shall be disposed of in a manner that does not result in discharge to any jurisdictional water ways. This will ensure compliance with the Missouri Water Quality Standards general criteria requiring waters be free from unsightly bottom deposits [10 CSR 20-7.031(4)(A)]; substances resulting in toxicity [10 CSR 20-7.031(4)(D)]; and physical, chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(G)].
6. Missouri Water Quality Standards antidegradation requirements dictate all appropriate and reasonable Best Management Practices related to erosion and sediment control, project stabilization and prevention of water quality degradation are applied and maintained; for example, preserving vegetation, streambank stability and basic drainage [10 CSR 20-7.031(3)(B)]. Best Management Practices shall be properly installed prior to conducting authorized activities and maintained, repaired and/or replaced as needed during all phases of the project to limit the amount of discharge of water contaminants to waters of the state. The project shall not involve more than normal stormwater or incidental loading of sediment caused by project activities so as to comply with Missouri's general water quality criteria [10 CSR 20-7.031(4)(A)-(H)]; <https://www.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-7a.pdf>
7. Clearing of vegetation and trees shall be the minimum necessary to accomplish the activity except for the removal of invasive or noxious species and placement of ecologically beneficial practices. This will ensure compliance with the Missouri Water Quality Standards antidegradation requirement for Best Management Practices [10 CSR 20-7.031(3)(B)].
8. Care shall be taken to keep machinery out of the water way as much as possible. If work in the water way is unavoidable, it shall be performed in a way that minimizes the duration and amount of any disturbance to banks, substrate, and vegetation to prevent increases in turbidity. Fuel, oil and other petroleum products, equipment, construction materials, and any solid waste shall not be stored below the ordinary high water mark at any time or in the adjacent flood-prone areas beyond normal working hours. All precautions shall be taken to avoid the release of wastes or fuel to streams and other adjacent waters as a result of this operation. This will ensure compliance with the Missouri Water Quality Standards antidegradation requirement for Best Management Practices [10 CSR 20-7.031(3)(B)] and Missouri Water Quality Standards general criteria requiring waters be free from substances preventing beneficial uses [10 CSR 20-7.031(3)(A)]; substances causing unsightly color or turbidity [10 CSR 20-7.031(4)(C)]; and physical, chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(G)].
9. Petroleum products spilled into any water or on the banks where the material may enter waters of the state shall be immediately cleaned up and disposed of properly. Any such spills of petroleum shall be reported as soon as possible, but no later than 24 hours after discovery to the Department of Natural Resources' Environmental Emergency Response number at 573-634-2436 or website at <http://dnr.mo.gov/env/esp/esp-eer.htm>. This will ensure compliance with Missouri Environmental Improvement

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Authority to provide for the conservation of state water resources by the prevention of pollution and proper methods of disposal [Chapter 260.015, RSMo] and Missouri Water Quality Standards general criteria requiring waters be free from substances that prevent maintenance of beneficial uses; cause unsightly bottom deposits, color, turbidity, or toxicity; and/or impair the natural biological community [10 CSR 20-7.031(4)(B)-(G)].

10. All efforts shall be made to minimize exposure of unprotected soils. To the best of the applicant's ability, project activity shall be conducted at times of little or no rainfall to limit the amount of overland flow and sediment disturbance caused by heavy equipment. This will ensure compliance with Missouri antidegradation requirements for Best Management Practices [10 CSR 20-7.031(3)(B)].
11. Notification to the Department of Natural Resources is required for any NWP issued on a water that is:
 - a. Listed for a sediment-related impairment, contamination from metals or other pollutants, aquatic habitat alteration, channelization, or unknown impairment as listed in the most current Water Quality Report (Section 305(b) Report) at <http://dnr.mo.gov/env/wpp/waterquality/303d/303d.htm>; or
 - b. Located in or occur within two miles upstream of a designated outstanding state or national resource water as found in Missouri Water Quality Standards [10 CSR 20-7.031] at <http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-7a.pdf>.

The Department of Natural Resources shall review the proposed project and respond within 15 days whether or not individual WQC will be required. This will ensure compliance with the Missouri Water Quality Standards antidegradation requirements for maintenance and protection of designated uses [10 CSR 20-7.031(3)] and/or the preservation of water quality in outstanding national and state resource waters [10 CSR 20-7.031(3)(C)].

To determine the location of the waters noted above, Department of Natural Resources' geospatial data is available upon request, and all published data is available on the Missouri Spatial Data Information Services website at msdis.missouri.edu/. Additional information to identify the project location, including stream reaches with listed impairments or special water designations, may be obtained from the Department of Natural Resources' Water Protection Program at 573-522-4502.

12. NWPs authorized by the USACE for which the district engineer waives the impact limit related to stream or wetland size and/or volume of fill shall require notification to the Department of Natural Resources. The Department of Natural Resources shall respond within 15 calendar days whether or not individual WQC would be required. This will ensure compliance with the Missouri antidegradation requirement for maintenance and protection of designated uses [10 CSR 20-7.031(3)].
13. NWPs authorized by the USACE for which the district engineer waives any "Missouri Nationwide Permit Regional Condition," except regional conditions related to sensitive aquatic species, invasive and exotic species, and seasonal restrictions in spawning areas, shall require notification to the Department of Natural Resources. The Department of Natural Resources shall respond within 15 calendar days whether or not individual WQC would be required. This will ensure compliance with the Missouri antidegradation requirement for maintenance and protection of designated uses [10 CSR 20-7.031(3)].
14. After avoidance and minimization for the proposed project, all unavoidable, adverse impacts shall be mitigated appropriately based on type and extent of impacts to ensure compliance with the Missouri Water Quality Standards antidegradation requirement for maintenance and protection of designated uses [10 CSR 20-7.031(3)] and Missouri Clean Water Law, which provides the Department authority to adopt remedial measures to prevent, control, or abate pollution [Chapter 644.026.1(9), RSMo] and approval authority for compensatory mitigation used in connection with any WQC [Chapter 644.026.1(26), RSMo]. Unless the Department is notified and agrees to an alternative, mitigation for loss of aquatic resources shall be in conformance with the compensatory mitigation guidance currently approved for use in Missouri, including guidance provided by the Missouri Stream Mitigation Method, the Missouri Wetland Mitigation Method, and/or Missouri guidance regarding compensatory wetland mitigation ratios. Compensatory mitigation shall be within the state of Missouri. The project proponent shall comply with the higher value of compensatory mitigation required by either the Department of Natural Resources or the USACE, but not both unless explicitly noted. Mitigation guidance documents can be located online at www.nwk.usace.army.mil/Missions/RegulatoryBranch/StateofMissouri/.
15. Acquisition of NWPs and the attendant WQCs shall not be construed or interpreted to imply the requirements for other permits are replaced or superseded, including Clean Water Act Section 402 National Pollutant Discharge Elimination System Permits required under Missouri Clean Water Law [Chapter 644.026.1, RSMo] for land disturbance or return water from material deposition. Permits or any other requirements shall remain in effect. Project proponents with questions are encouraged to contact the Department of Natural Resources' regional office in the project area. A regional office map with contact information is located at www.dnr.mo.gov/regions/.

SPECIFIC CONDITIONS

16. Nationwide Permit 3 Maintenance
- Silt, sediment, and debris removal shall be limited to a maximum of 100 LF upstream and 100 LF downstream of structures. This will ensure compliance with the Missouri Water Quality Standards antidegradation requirement for maintenance and protection of designated uses [10 CSR 20-7.031(3)].
 - During dewatering, water shall not be returned directly to the water way but shall be pumped upland and filtered through an appropriate treatment device as prescribed in any CWA Section 402 National Pollutant Discharge Elimination System Permit required under Missouri Clean Water Law [Chapter 644.026.1, RSMo]. If, however, instream flow is 1 cubic foot per second (cfs) or greater and the return rate is set at 1 cfs or less, return may be made directly to the stream.
17. Nationwide Permit 4 Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities
Any inorganic or extraneous debris such as may be found on Christmas trees shall be removed to qualify as clean, nonpolluting fill. This will ensure compliance with the Missouri's Water Quality Standards general criteria that waters shall be free from unsightly bottom deposits [10 CSR 20-7.031(4)(A)] and solid waste [10 CSR 20-7.031(4)(H)].
18. Nationwide Permit 6 Survey Activities
Water, fines, and excavated materials displaced by activities such as borings, shall not be returned directly to the water way, but shall be pumped upland and filtered through an appropriate treatment device as prescribed in any CWA Section 402 National Pollutant Discharge Elimination System Permit required under Missouri Clean Water Law [Chapter 644.026.1, RSMo].
19. Nationwide Permit 7 Outfall Structures and Associated Intake Structures
A WQC does not replace or negate the need to obtain any required state permits under the Missouri Clean Water Law (Chapter 644, RSMo) for construction of wastewater treatment facility components including outfall structures; permits to release wastewater effluents; or for the construction of components related to public water supplies including intake structures as may be required by the Missouri Safe Drinking Water Law (Chapter 640, RSMo).
20. Nationwide Permit 12 Oil and Natural Gas Pipeline Activities,
Nationwide Permit C Electric Utility Line and Telecommunications Activities, and
Nationwide Permit D Utility Line Activities for Water and Other Substances
- For project crossings that must disturb a water body, work shall be conducted in such a manner as to seal off the work area from flow and minimize sediment transport. Material resulting from the activity shall not be sidecast into waters of the state for more than one month. This will ensure compliance with the Missouri Water Quality Standards antidegradation requirement for Best Management Practices [10 CSR 20-7.031(3)(B)] and general criteria requiring waters be free from substances that prevent maintenance of beneficial uses; cause unsightly color, turbidity, or toxicity; and/or impair the natural biological community [10 CSR 20-7.031(4)(B)-(G)].
 - If Horizontal Directional Drilling is used, drilling mud and/or other materials shall not be discharged into waters of the state. Best Management Practices shall be implemented to prevent possible discharges from reaching waters of the state. In the event materials are inadvertently discharged to waters of the state, notification to the Department of Natural Resources is required within 24 hours by calling 573-522-4502. This will ensure compliance with Missouri Water quality Standards antidegradation requirement for Best Management Practices [10 CSR 20-7.031(3)(B)] and Missouri Environmental Improvement Authority [Chapter 260.015, RSMo] to provide for the conservation of state air, land, and water resources by the prevention of pollution and proper methods of disposal.
 - Project crossings shall be placed as close to perpendicular as possible and shall be limited to a maximum crossing length of no more than one and one-half times the width of the stream. This will ensure compliance with the Missouri antidegradation requirement for maintenance and protection of designated uses [10 CSR 20-7.031(3)] and Best Management Practices [10 CSR 20-7.031(3)(B)].
 - Projects authorized by NWP 12, C, or D which (1) Cross more than one jurisdictional water, (2) Cumulatively result in greater than 0.50 acre of new impacts to jurisdictional waters, and (3) Travel through more than two county jurisdictions or more than one state jurisdiction shall be viewed as a whole project in the WQC process and require individual WQC of all crossings, excluding crossings that use Horizontal Directional Drilling. This will ensure compliance with the Missouri antidegradation requirement for maintenance and protection of designated uses [10 CSR 20-7.031(3)].
21. Nationwide Permit 13 Bank Stabilization
Bank stabilization approaches utilizing innovative but non-traditional techniques require consultation with the Department of Natural Resources prior to approval and may require an individual WQC. The permittee shall invite the USACE and the Department of Natural Resources as well as the other state and federal resource agencies to examine innovative approaches. This will ensure compliance with the Missouri Water Quality Standards general criterion requiring waters to be free from physical, chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(G)].
22. Nationwide Permit 14 Linear Transportation Projects

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- a. The permittee shall propose and employ measures to mitigate the removal of impounded sediment (e.g., sand, gravel) in the unstable area upstream of a proposed project to prevent it from being transported downstream and/or construct a notched weir to slow the release of impounded sediment from upstream of the proposed project. This will ensure compliance with the Missouri Water Quality Standards general criteria requiring waters be free from substances causing unsightly color or turbidity [10 CSR 20-7.031(4)(C)] and physical chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(G)]. Accumulated gravel may be allowed to naturally deposit into downstream plunge pool voids. Consultation with a hydrologist or other scientist is recommended if the amount of accumulated unconsolidated gravel exceeds the volume of plunge pool voids.
 - b. Where this NWP is used to authorize bridge and culvert structures, stream channel work shall be limited to a maximum of 100 feet upstream and a maximum of 100 feet downstream of the bridge or culvert. For purposes of this condition, a channel modification is any activity that alters the width, depth, length and/or sinuosity of a water way. This will ensure compliance with the Missouri antidegradation requirement for maintenance and protection of designated uses [10 CSR 20-7.031(3)] and the Missouri Water Quality Standards general criterion requiring waters be free from physical, chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(G)].
23. Nationwide Permit 16 Return Water from Upland Contained Disposal Areas
These activities could have specific tasks or processes involved which may require the acquisition of separate general or site specific permits, including CWA Section 402 National Pollutant Discharge Elimination System Permits required under Missouri Clean Water Law [Chapter 644.026.1, RSMo]. All project proponents shall contact the Department of Natural Resources' Water Protection Program at 573-522-4502 to determine any specific requirements which may or may not require an individual WQC.
24. Nationwide Permit 19 Minor Dredging
These activities could have specific tasks or processes involved which may require the acquisition of separate general or site specific permits, including CWA Section 402 National Pollutant Discharge Elimination System Permits required under Missouri Clean Water Law [Chapter 644.026.1, RSMo]. All project proponents shall contact the Department of Natural Resources' Water Protection Program at 573-522-4502 to determine any specific requirements which may or may not require an individual WQC.
25. Nationwide Permit 20 Response Operations for Oil and Hazardous Substances
 - a. These activities could have specific tasks or processes involved which may require the acquisition of separate general or site specific permits, including CWA Section 402 National Pollutant Discharge Elimination System Permits required under Missouri Clean Water Law [Chapter 644.026.1, RSMo]. All project proponents shall contact the Department of Natural Resources' Water Protection Program at 573-522-4502 to determine any specific requirements which may or may not require an individual WQC.
 - b. Oil and hazardous substance releases shall be reported to the Department of Natural Resources' Environmental Emergency Response number at 573-634-2436. Continue to report updates with regard to the containment and cleanup of releases. This will ensure compliance with Missouri Environmental Improvement Authority [Chapter 260.015, RSMo] to provide for the conservation of state water resources by the prevention of pollution and proper methods of disposal.
26. Nationwide Permit 33 Temporary Construction, Access and Dewatering
 - a. The use of this NWP shall be limited to impacts of six months or less in duration. This will ensure compliance with the Missouri Water Quality Standards antidegradation requirements for maintenance and protection of designated uses [10 CSR 20-7.031(3)]
 - b. Any removal of accumulated sediment (e.g., sand, gravel) upstream of a proposed project shall be limited to the quantity necessary to relieve any obstruction or to protect downstream habitat. The permittee must propose and employ measures to mitigate the removal of impounded sediment in the unstable area upstream of a proposed project to prevent it from being transported downstream and/or construct a notched weir to slow the release of impounded sediment from upstream of the proposed project. This will ensure compliance with the Missouri Water Quality Standards general criteria requiring waters be free from substances causing unsightly color or turbidity [10 CSR 20-7.031(4)(C)] and physical chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(G)].
27. Nationwide Permit 41 Reshaping Existing Drainage Ditches
Material from the reshaping activities shall not be sidecast into any jurisdictional waters. This will ensure compliance with the Missouri Water Quality Standards antidegradation requirement for Best Management Practices [10 CSR 20-7.031(3)(B) and general criteria requiring waters be free from substances that prevent maintenance of beneficial uses; cause unsightly color, turbidity, or toxicity; and/or impair the natural biological community [10 CSR 20-7.031(4)(B)-(G)].
28. Nationwide Permit 53 Removal of Low-Head Dams
 - a. The permittee must propose and employ measures to mitigate the removal of impounded sediment (e.g., sand, gravel) in the unstable area upstream of a proposed project to prevent it from being transported downstream and/or construct a notched weir to slow the release of impounded sediment from upstream of the proposed project. This will ensure compliance with the

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Missouri Water Quality Standards general criteria requiring waters be free from substances causing unsightly color or turbidity [10 CSR 20-7.031(4)(C)] and physical chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(G)]. Accumulated gravel may be allowed to naturally deposit into downstream plunge pool voids. Consultation with a hydrologist or other scientist is recommended if the amount of accumulated unconsolidated gravel exceeds the volume of plunge pool voids.

- b. Stream channel work shall be limited to a maximum of 100 feet upstream and a maximum of 100 feet downstream of the dam. This will ensure compliance with the Missouri Water Quality Standards antidegradation requirement for maintenance and protection of designated uses [10 CSR 20-7.031(3)] and the Missouri Water Quality Standards general criterion requiring waters to be free from physical, chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(G)].
- c. Restoration of the stream channel to its former, natural state is authorized. Individual WQC is required for non-natural channel modifications. This will ensure compliance with the Missouri Water Quality Standards general criteria requiring waters be free from physical chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(G)]. For purposes of this condition, a channel modification is any activity that alters the width, depth, length and/or sinuosity of a water way.

29. Nationwide Permit 54 *Living Shorelines*

Shoreline stabilization approaches utilizing innovative but non-traditional techniques require consultation with the Department of Natural Resources prior to approval and may require an individual WQC. This will ensure compliance with the Missouri Water Quality Standards general criterion requiring waters to be free from physical, chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(G)]. Project proponents should invite the USACE and the Department of Natural Resources as well as the other state and federal resource agencies to examine innovative approaches.

Unless the Department agrees to an alternative, requests for WQC should be sent electronically to wpsc401cert@dnr.mo.gov [Section 644.026.26, RSMo and 10 CSR 20-6.060(5)]. A request for Water Quality Certification shall (1) identify the project proponent and point of contact; (2) identify the proposed project; (3) identify the applicable USACE permit; (4) identify the location of any potential discharge that may result from the project and location of receiving waters; (5) include a description of any methods and means proposed to monitor the discharge and the equipment or measures planned to treat, control, or manage the discharge; (6) include all other federal, interstate, state, or local agency authorizations required for the proposed project, including all approvals or denials already received. Although not required to apply for WQC, the Department may request additional information prior to providing a WQC decision to ensure Missouri water quality requirements are met, such as a response to comments from the Department, other resource agencies, and/or the public; planned compensatory mitigation; and/or an analysis of practicable alternatives.

An issued WQC, whether programmatically or individually issued, becomes part of and expires with the Section 404 and/or Section 10 permit unless explicitly stated in the WQC.

The Department of Natural Resources encourages, but does not require the permittee to consider environmentally-friendly design techniques to include stormwater management strategies that maintain or restore the original site hydrology through infiltration, evaporation, or reuse of stormwater. Designs might include using porous pavement or creating vegetated swales and/or rain gardens. More information can be found at these websites: www.epa.gov/owow/NPS/lid/ and www.lid-stormwater.net/lid_techniques.htm.

The Department of Natural Resources encourages the use of native vegetation to protect impacted areas from future water quality concerns. Native vegetation has evolved with Missouri's geology, climate and wildlife to occur within a region as a result of natural processes rather than human intervention. For areas where direct impacts to streams are to be avoided, the Department of Natural Resources recommends a minimum riparian buffer strip width of 50 feet as measured from top of bank.

The Department of Natural Resources encourages the use of Horizontal Directional Drilling for stream and wetland crossings when practicable. If properly utilized, Horizontal Directional Drilling is an alternative to more traditional, open-trench methods and can result in significant minimization and/or complete avoidance of aquatic resource impacts.

The following publication provides guidance on how to protect water quality through Best Management Practices on project sites. For more information, please read: "Protecting Water Quality: A field guide to erosion, sediment and stormwater best management practices for development sites in Missouri and Kansas" dated January 2011 and located online at <http://dnr.mo.gov/env/wpp/wpcp-guide.htm>.

To help determine if a proposed activity could encounter species or sites of conservation concern within or near a project, including those that have not been recorded, the project proponent is encouraged to visit:

- Missouri Department of Conservation's "Natural Heritage Review" website at <https://naturalheritagereview.mdc.mo.gov/>, and

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- U.S. Fish and Wildlife Service’s “Information, Planning and Conservation” website at <http://ecos.fws.gov/ipac/>.

If the proposed project encounters and will potentially affect a species of concern, please report it to the Missouri Department of Conservation and the U.S. Fish and Wildlife Service.

For more information

Missouri Department of Natural Resources

Water Protection Program

P.O. Box 176

Jefferson City, MO 65102-0176

wpsc401cert@dnr.mo.gov

800-361-4827 or 573-522-4502

<http://www.dnr.mo.gov/env/wpp>
