OHIO COASTAL NONPOINT PROGRAM
NOAA/EPA DECISION ON CONDITIONS OF APPROVAL

FOREWORD

The obligation of a state to establish and update a Coastal Nonpoint Pollution Control Program, set forth in Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA), 16 U.S.C. § 1455b, addresses nonpoint source pollution problems in coastal waters. Section 6217 directs states and territories with coastal zone management programs under the Coastal Zone Management Act to develop and implement management measures for nonpoint pollution control to restore and protect coastal waters (coastal nonpoint programs).

This document provides the bases for the determination by the National Oceanic and Atmospheric Administration (NOAA) and the United States Environmental Protection Agency (EPA) (collectively, Federal agencies) that Ohio has met the conditions that the Federal agencies had identified in the earlier approval of Ohio's coastal nonpoint program in 2002 pursuant to CZARA (2002 findings). In this document, the Federal agencies describe how the state program modifications satisfy each of the conditions identified in the 2002 findings.

DECISION

The Federal agencies issued findings on June 4, 2002, approving Ohio's coastal nonpoint program submission subject to conditions. Those findings are available at https://coast.noaa.gov/czm/pollutioncontrol/media/6217oh_fnl.pdf. Since that time, Ohio has undertaken actions to address each of the identified conditions. Based on those actions and the materials provided by the State that document how its program meets each condition, NOAA and EPA find that Ohio has satisfied all conditions on its coastal nonpoint program. Before making this finding, the federal agencies announced a proposed finding that Ohio has satisfied all conditions placed on its coastal nonpoint program in 2002 in the Federal Register for a 30-day public comment period (86 FR 60616). No comments were received.

INTRODUCTION

CZARA directed EPA to develop technical guidance to assist states and tribes in designing coastal nonpoint programs. On January 19, 1993, EPA issued that guidance in the document, titled *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters*, 840-B92-002 (January 1993), which addresses five major source categories of nonpoint pollution: (1) urban runoff, (2) agriculture runoff, (3) forestry runoff, (4) marinas and recreational boating, and (5) hydromodification. The guidance also addresses nonpoint source pollution issues associated with the loss or damage to wetlands and riparian areas. The guidance is commonly referred to as the 6217(g) guidance because the statutory direction to EPA appears in CZARA Section 6217(g).

This document is organized following the same structure that was used for the Federal agencies' 2002 findings to support approval of Ohio's program, with conditions, grouping together the

conditions related to each major nonpoint source category or subcategory, as well as a condition related to Ohio's strategy for monitoring. The structure for each condition follows a standard format. Each original finding and condition identified in 2002 is repeated, followed by the Federal agencies' rationale for how the State has met each condition. A list of acronyms is included at the end of this document.

For further understanding the terms in this document, please refer to the following:[1]

- Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters (EPA, January 1993)
- Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance (NOAA/EPA, January 1993)
- Flexibility for State Coastal Nonpoint Programs (NOAA/EPA, March 1995)
- Final Administrative Changes to the Coastal Nonpoint Pollution Control Program Guidance for Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) (NOAA/EPA, October 1998) ("Final Administrative Changes")
- Policy Clarification on Overlap of 6217 Coastal Nonpoint Programs with Phase I and II Storm Water Regulations (NOAA/EPA, December 2002).

The Federal agencies rely on, but do not repeat here, except as relevant to the findings, extensive information that the State included in various submittals to support its coastal nonpoint program. This and further information are contained in the administrative record for this decision and available upon request from the following locations:

U.S. EPA Headquarters, Office of Water
Nonpoint Source Management Branch
1200 Pennsylvania Ave., NW (4503-T)
Washington, DC 20460
Contact: Don Waye (202/566-1170)

NOAA, Office for Coastal Management
SSMC-4, N/OCM6
1305 East-West Highway
Silver Spring, MD 20910
Contact: Allison Castellan (240/533-0799)

U.S. EPA Region 5, Water Division
77 W. Jackson Blvd.
Chicago, IL 60604-3608
Contact: Paul Thomas (312/886-7742)

I. AGRICULTURE

[1] All of the guidance documents for the Coastal Nonpoint Program are available online at: https://coast.noaa.gov/czm/pollutioncontrol/.

2002 FINDING: Ohio's program includes management measures in conformity with the 6217(g) guidance for erosion and sediment control, pesticides, grazing, nutrient management, and wastewater and runoff from confined animal feeding operations. Ohio's program does not include management measures in conformity with the 6217(g) guidance for irrigation waste water. The Ohio program has enforceable policies and mechanisms in place for erosion and sediment control, confined animal feeding operations, and grazing. The State has identified backup enforceable authorities for the agriculture management measures but has not yet demonstrated the ability of these authorities to ensure implementation throughout the coastal nonpoint management area.

2002 CONDITION: Within two years, Ohio will include in its program management measures in conformity with the agricultural management measures for irrigation water management. Within one year, Ohio will submit a legal opinion and supporting documentation to demonstrate that back-up authorities can be used as enforceable policies and mechanisms to implement the irrigation, nutrient, and pesticide management measures throughout the coastal nonpoint management area, as described in the Final Administrative Changes (see Section XIV).

2022 DECISION: Ohio has satisfied this condition.

RATIONALE: The goal of the management measure for irrigation water management is to reduce nonpoint source pollution of surface waters caused by irrigation through the:

1. Operation of the irrigation system so that the timing and amount of the irrigation water applied matches crop water needs; and
2. The inclusion of backflow preventers for wells, when chemigation is used, to minimize the harmful amounts of chemigation waters that discharge from the edge of the field, and to control deep percolation.

To address the irrigation management measure, the Ohio Coastal Management Program provided funding to the Ohio Farm Bureau, which developed a voluntary guide in 2007 for producers and nurseries that utilize irrigation water. The *Irrigation Water Management for Ohio: Producer Guide for the Development and Implementation of a Systematic Water Management Program* addresses irrigation water management issues consistent with the 6217(g) guidance.[2] For example, the guide calls for scheduling irrigation only when crops need it and includes best practices for chemigation, including backflow preventers and safety checks to control transport to surface and groundwaters. The guide also includes self-assessment tools to help producers assess their irrigation needs and manage irrigation water effectively. The State has funded workshops, seminars, and other outreach activities associated with the producer guide across its coastal nonpoint management area and both the State and U.S. Department of Agriculture's Natural Resource Conservation Service continue to promote the guide online and through other venues.

[2] Ohio Farm Bureau. 2007. Producer Guide for the Development and Implementation of a Systematic Water Management Program. Accessed 12/06/2021. https://ohiodnr.gov/static/documents/coastal/technical-resources/Irrigation%20Producer%20Guide.pdf

Ohio has also provided a legal opinion from the Attorney General that demonstrates that Ohio's Revised Code and rules, specifically Ohio Revised Code at Title 15 and Title 37, specifically Chapter 3745 (Ohio Environmental Protection Agency), provides sufficient back-up authority to ensure implementation of the irrigation, nutrient, and pesticide management measures throughout the coastal nonpoint program management area, as needed. Ohio has provided an example of enforcement action taken under these authorities demonstrating its commitment to use its back-up authorities. Ohio tracks implementation of these management measures through its Section 319 annual reporting[3] and the Soil and Water Conservation Districts' project reporting system (Beehive)[4].

II. URBAN

A. NEW DEVELOPMENT

2002 FINDINGS: The State does not include management measures for new development that are consistent with the 6217(g) guidance.

2002 CONDITION: Within two years, Ohio will include in its program management measures for new development in conformity with the 6217(g) guidance. Within one year, Ohio will submit a legal opinion and supporting documentation to demonstrate that back-up authorities can be used as enforceable policies and mechanisms to implement these management measures throughout the coastal nonpoint management area, as described in the *Final Administrative Changes* (see Section XIV).

2022 DECISION: Ohio has satisfied this condition.

RATIONALE: The 6217(g) new development management measure calls for states to ensure they have programs and authorities in place that:

1. By design or performance:
    a. After construction has been completed and the site is permanently stabilized, reduce the average annual total suspended solid (TSS) loadings by 80 percent, or
    b. Reduce the post-development loadings of TSS so that the average annual TSS loadings are no greater than pre-development loadings.
2. To the extent practicable, maintain post-development peak runoff rate and average volume at levels that are similar to pre-development levels.

Ohio has met the new development management measure through requirements to control post-construction stormwater runoff that are included in its general National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharges associated with construction. The State no longer needs to submit a legal opinion and supporting documentation as stated in

[3] Ohio EPA. Nonpoint Source Pollution Control Program Annual Reports (website). Accessed 12/6/2021 https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/surface-water/reports-data/319-grant-reports
[4] Ohio Soil and Water Conservation Districts. Soil and Water Information Management System/Beehive (website). Accessed 12/6/2021. https://agri.ohio.gov/wps/portal/gov/oda/divisions/soil-and-water-conservation/local-swcd-resources/chapter-3%2B-soil%2Band%2Bwater%2Binformation%2Breporting%2Band%2Bguidance

the 2002 condition placed on its coastal nonpoint program because Ohio now addresses the new development management measure through direct permitting authorities and no longer relies on back-up authorities for this management measure.

Ohio issued general permit #OHC000005 for stormwater discharges from construction activities in April 2018, which applies State-wide to all construction activities that disturb one or more acres.[5] The general permit includes requirements for erosion and sediment control from active construction activities as well as post-construction requirements. Post-construction requirements include the development of a site-specific Storm Water Pollution Prevention Plan (SWP3) that includes a description of the post-construction best management practices (BMPs) to be installed and the rationale for their selection, as well as post-construction maintenance plans. The permit requires that Post-Construction Storm Water Management Controls, which include BMPs, be designed so that the receiving streams' "physical, chemical and biological characteristics are protected, and stream functions are maintained, post-construction storm water practices shall provide long-term management of runoff quality and quantity" (See Part II.G of OHC000005). The permit also specifically requires that the "BMP(s) chosen and identified in the SWP3 must be sized to treat the water quality volume and ensure compliance with Ohio's Water Quality Standards in OAC Chapter 3745-1. The water quality volume shall be equivalent to the volume of runoff from a 0.90-inch rainfall. (See Part III.G.2.e). The permit also requires detailed drawings and maintenance plans for these post-construction BMPs that include, among other things:

- a designated entity for stormwater inspection and maintenance responsibilities;
- a description of the necessary maintenance tasks;
- a schedule for inspection and maintenance; and
- any necessary legally binding maintenance easements and agreements needed to ensure the long-term viability of all post-construction stormwater management.

NOAA and EPA have reviewed Ohio's methodology for establishing the water quality volume, published by Ohio State University, and determined that these permit requirements are consistent with the new development management measure to construct BMPs to control and treat runoff post-development so that 80 percent of TSS loadings are removed and, to the extent practicable, maintain post-development peak runoff rate and average volume at levels that are similar to pre-development rates.[6]

To augment this permit, Ohio has published and promotes its *Rainwater and Land Development Manual*, which describes construction and post-construction best management practices and associated specifications.[7] Ohio revised this manual in 2018 to bring it into consistency with the State's 2018 construction storm water general permit noted above.

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[5] Ohio EPA. 2018. General Permit Authorization for Storm Water Discharge Associated with Construction Activities Under the National Pollutant Discharge and Elimination System (#OHC000005). April 23, 2018. Accessed 12/17/2020. https://epa.ohio.gov/static/Portals/35/permits/OHC000005/Final_OHC000005.pdf

[6] Ohio State University Stormwater Program. February 12, 2018 memo to Ohio EPA RE: WQv Analysis. Accessed 12/17/2020. http://epa.ohio.gov/portals/35/permits/OHC000005/Ohio%20WQv%20Analysis%20Final%202018-02-12.pdf

[7] Ohio EPA. 2018. Rainwater and Land Development Manual. Accessed 12/17/2020. https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/surface-water/guides-manuals/rainwater-and-land-development

Ohio also promotes post-development runoff controls through its Balanced Growth Best Local Land Use Practices Toolkit.[8] The toolkit encourages localities to "control the post-development peak rate of runoff up to the critical storm (e.g., 5-year, 24-hour) so that the peak discharge from more frequent storm events including the critical storm does not exceed the pre-development peak discharge from the 1-year, 24-hour duration storm event…." The toolkit particularly promotes low impact development (LID) practices that are consistent with the goals of the new development management measure, and Ohio offers very low interest loans to install LID and other stormwater management practices. These loans are substantially directed at projects that help implement approved watershed action plans and total maximum daily loads (TMDLs).

B. WATERSHED PROTECTION AND EXISTING DEVELOPMENT

2002 FINDING: Ohio's program does not include management measures for watershed protection and existing development in conformity with the 6217(g) guidance.

2002 CONDITION: Within two years, Ohio will include in its program watershed protection and existing development management measures in conformity with the 6217(g) guidance. Within one year, Ohio will submit a legal opinion and supporting documentation to demonstrate that back-up authorities can be used as enforceable policies and mechanisms to implement the management measures throughout the coastal nonpoint management area, as described in the *Final Administrative Changes* (see Section XIV).

2022 DECISION: Ohio has satisfied this condition.

RATIONALE: Ohio addresses the watershed protection management measure through a mix of voluntary and regulatory programs including Ohio's NPDES stormwater construction general permit #OHC000005, Nonpoint Source Management Plan, and Balanced Growth Program. The State's Watershed Action Plans and TMDLs, also enable the State to satisfy the existing development management measure. To support voluntary programs, Ohio submitted a legal opinion and supporting documents demonstrating it has adequate back up authorities to implement both management measures, as needed.

Watershed Protection
The goal of the watershed protection management measure is to develop a watershed protection program to:

1. Avoid conversion, to the extent practicable of areas that are particularly susceptible to erosion and sediment loss;
2. Preserve areas that provide important water quality benefits and/or are necessary to maintain riparian and aquatic biota; and
3. Site development, including roads, highways and bridges, to protect to the extent practicable the natural integrity of waterbodies and natural drainage systems.

[8] Ohio Lake Erie Commission. Balanced Growth Toolkit (website). Accessed 12/6/2021 https://balancedgrowth.ohio.gov/Best-Local-Land-Use-Practices/Toolkit-Model-Ordinances-2004

With regard to the first and third elements of this measure, Ohio relies on its construction stormwater general NPDES permit, which requires that all development one acre or greater avoid or minimize impacts to water and soil resources.[9] Under the permit, soil conditions are evaluated and mapped to determine how the site is to be developed to avoid or minimize erosion and sediment loss. Also under the permit, development must incorporate storm water pollution protection plans that include: avoiding or minimizing impacts to steep slopes; establishing a protective 50-foot undisturbed natural buffer around surface waters, if feasible; and implementing "practices which preserve the existing natural condition as much as feasible."

With regard to the second element of this measure, Ohio's 2019-2023 Nonpoint Source Management Program plan has identified protection strategies and priority watersheds within Ohio's coastal nonpoint management area and has established goals, objectives and milestones through FY 2023.[10] The plan outlines strategic goals and objectives to protect and restore high quality waters. The plan also states that "streams that have been identified in Ohio's Integrated Report as meeting these aquatic life use designations shall also be designated as priority high quality waters for the purpose of Ohio's NPS management support and assistance." Ohio's 2019 NPS management plan outlines three priority actions for identified High Quality Waters for preservation of areas that provide important water quality benefits. These are:

1. restore and protect high quality in-stream habitat;
2. manage invasive species; and
3. acquire and protect high quality riparian areas.

One example of a successful project that preserved areas that provide important water quality benefits and protected riparian areas that was implemented through the NPS management plan was the restoration of a former golf course site at the headwaters of Euclid Creek.[11] The project restored floodplain, riparian areas, and the natural flow of the stream channel. It also installed vegetative infiltration and retention systems and permeable pavers to further treat stormwater runoff and removed invasive species.

Further, Section 6111.12(A)(2) of the Ohio Revised Code specifically requires that the Ohio EPA establish provisions "ensuring that waters of exceptional recreational and ecological value are maintained as high quality resources for future generations." Ohio has established a classification system to establish "Outstanding Resource Waters" or "Superior High Quality Waters" and has classified several hundred river miles in the Lake Erie basin with such protective designations.

With regard to all three elements, the Ohio Lake Erie Commission administers the Balanced Growth Program, which provides State funding incentives for participating local communities. Participating communities work to identify priority conservation areas, including "areas susceptible to erosion that would affect existing or planned development within it" and then

[9] Ohio EPA. 2018. General Permit Authorization for Storm Water Discharge Associated with Construction Activities Under the National Pollutant Discharge and Elimination System (#OHC000005). April 23, 2018. Accessed 12/16/2021. https://epa.ohio.gov/static/Portals/35/permits/OHC000005/Final_OHC000005.pdf
[10] Ohio EPA. 2019. Ohio Nonpoint Source Management Plan Update. Accessed 12/6/2021. https://epa.ohio.gov/static/Portals/35/nps/2019-NPS_Mgmt_Plan.pdf
[11] Cuyahoga Soil and Water Conservation District. Acacia Restoration (website). Accessed 12/6/2021. http://www.cuyahogaswcd.org/euclid-creek/programs/acacia-restoration.

implement protective local land use practices. As of December 2020, 112 communities and counties within the coastal nonpoint management area participate in the program. Practices outlined in the Program's *Best Local Land Use Practices Toolkit* that avoid conversion of areas particularly susceptible to erosion and sediment loss and that protect waterbodies from site development include:[12]

- Conservation Development;
- Compact Development;
- Stream, Floodplain and Wetland Protection Model Ordinances & Practices;
- Tree and Woodland Protection; and
- Steep Slope Protection

Existing Development

The goal of the existing development management measure is to develop and implement watershed management programs to reduce runoff pollutant concentrations and volumes from existing development through the following elements:

1. Identify priority local and/or regional watershed pollutant reduction opportunities (e.g., improvements to existing urban runoff control structures);
2. Contain a schedule for implementing appropriate controls;
3. Limit destruction of natural conveyance systems; and
4. Where appropriate, preserve, enhance or establish buffers along surface water bodies.

Effective December 20, 2002, NOAA and EPA have determined that state coastal nonpoint control programs are no longer required to include the existing development management measure in urbanized areas subject to Phase I or Phase II NPDES permits for municipal separate storm sewer systems (MS4).[13] Thirteen of the 35 counties in Ohio's coastal nonpoint management area are currently subject to Phase I or Phase II permitting.

Outside of these areas, Ohio's coastal nonpoint program includes all four elements of the existing development management measure through a variety of programs and requirements. For the first two elements, Ohio relies on:

- conducting watershed assessments at the HUC-12 scale[14], which identify primary sources and causes of point and nonpoint pollution and are updated every five to ten years;
- developing and implementing TMDLs; and
- developing and implementing watershed action plans, which meet EPA's nine key element watershed plans for prioritized implementation under Clean Water Act section 319 funding.

To date, watershed assessments have been completed for all HUC-12 watersheds across the Lake Erie basin and TMDLs for some of these watersheds have also been completed or are under development across Ohio's entire coastal nonpoint management area. There are 21 approved

[12] Ohio Lake Erie Commission. 2012. Balanced Growth Toolkit (website). Accessed 12/6/2021 https://balancedgrowth.ohio.gov/Best-Local-Land-Use-Practices/Best-Local-Land-Use-Practice-Chapters.
[13] NOAA and EPA. Policy Clarification on Overlap of 6217 Coastal Nonpoint Programs with Phase I and II Storm Water Regulations. 2002. Accessed 12/6/2021. https://coast.noaa.gov/data/czm/pollutioncontrol/media/NPDES_CZARA_Policy_Memo.pdf
[14] The U.S. Geological Survey categorizes watersheds by hydrologic unit codes (HUCs). HUC-12 watershed are generally 10,000 to 40,000 acres and HUC-10 watersheds are generally 40,000 to 250,000 acres.

Ohio TMDL reports for HUC-10 watersheds in the coastal nonpoint program management area. Additionally, as of June 2020, 100 watershed strategies for HUC-12 watersheds that are consistent with EPA's nine key element watershed plan guidance for watershed planning, providing greater specificity and accountability, have been approved within the coastal nonpoint management area. These TMDLs and watershed plans are guiding prioritization and implementation. Ohio's TMDLs and watershed plans both identify priority watershed pollutant reduction opportunities based on field data collection and develop schedules to address priorities including addressing impacts from existing development. Implementation is supported through CWA section 319 funding, the Lake Erie Protection Fund, the Great Lakes Restoration Initiative, and the Alternative Stormwater Infrastructure Loan Program administered by the Ohio Water Development Authority. Since FY2018, the nine key element watershed plans have been the primary tool Ohio uses to determine eligibility for CWA section 319 funding and Great Lakes Restoration Initiative funding. The Lake Erie Basin (i.e., coastal nonpoint program management area) is a priority watershed for both funding programs. Additionally, funds have been available in past years in the State's Surface Water Improvement Fund, administered by Ohio EPA, to support retrofitting best management practices that serve existing developed sites. Finally, the Ohio Public Works Commission (OPWC) makes funds available to localities to address priority stormwater retrofits that serve existing development. For example, in South Euclid, Ohio, OPWC funds were used to retrofit the Langerdale Detention Basin, an existing detention pond serving a direct tributary to Lake Erie, to improve its nutrient reduction functions.

For the last two elements of this measure (limit destruction of natural conveyance systems and where appropriate, preserve, enhance or establish buffers along surface water bodies), Ohio relies on its NPDES general permit #OHC000005.[15] Under the permit, construction sites that are one acre or greater must develop and maintain storm water pollution protection plans that include establishing a protective 50-foot undisturbed natural buffer around surface waters, if feasible; and implementing "practices which preserve the existing natural condition as much as feasible." Under the permit, redevelopment sites that have been previously developed where no post-construction BMPs were installed shall either ensure a 20 percent net reduction of the site impervious area, provide for treatment of at least 20 percent of the water quality volume, or a combination of the two. Green roofs are encouraged through a one-for-one credit towards the 20 percent net reduction of impervious area.

Where Ohio relies on voluntary programs to address the watershed protection and existing development management measures, the State has provided a legal opinion from the Attorney General demonstrating that Ohio's Revised Code and rules, specifically Ohio Revised Code Chapter 3745 (Ohio Environmental Protection Agency) and Chapter 6111 (Water Pollution Control Law), provides sufficient back-up authority to ensure implementation of these management measures, as needed. Ohio has provided examples of enforcement actions taken under these authorities demonstrating the State's commitment to use its back-up authority and has demonstrated how it tracks and evaluates implementation of the voluntary elements through its Clean Water Act section 319 annual reports, watershed action plans, and TMDL website.

[15] Ohio EPA. 2018. General Permit Authorization for Storm Water Discharge Associated with Construction Activities Under the National Pollutant Discharge and Elimination System (#OHC000005). April 23, 2018. Accessed 12/16/2021. https://epa.ohio.gov/static/Portals/35/permits/OHC000005/Final_OHC000005.pdf

C. SITE DEVELOPMENT

2002 FINDING: The Ohio program does not include management measures for site development in conformity with the 6217(g) guidance.

2002 CONDITION: Within two years, Ohio will include in its program management measures for site development in conformity with the 6217(g) guidance. Within one year, Ohio will submit a legal opinion and supporting documentation to demonstrate that back-up authorities can be used as enforceable policies and mechanisms to implement these management measures throughout the coastal nonpoint management area, as described in the Final Administrative Changes (see Section XIV).

2022 DECISION: Ohio has satisfied this condition.

RATIONALE: The goal of this management measure is to plan, design, and develop sites to:

1. Protect areas that provide important water quality benefits and/or are particularly susceptible to erosion and sediment loss;
2. Limit increases of impervious areas, except where necessary;
3. Limit land disturbance activities such as clearing and grading, and cut and fill to reduce erosion and sediment loss; and
4. Limit disturbance of natural drainage features and vegetation.

Through its 2018 issuance of its NPDES general permit for storm water discharges associated with construction activities, Ohio has met the elements of this measure, as described above.[16] The permit requires that the permittee develop and maintain a storm water pollution protection plan which includes "practices which preserve the existing natural condition as much as feasible" and "may include: preserving existing vegetation and vegetative buffer strips, phasing of construction operations in order to minimize the amount of disturbed land at any one time and designation of tree preservation areas or other protective clearing or grubbing practices. For all construction activities immediately adjacent to surface waters of the State, the permittee shall comply with the buffer [restrictions]," including if feasible a 50-foot undisturbed natural buffer around surface waters. Additionally, under this permit, "the SWP3 shall incorporate measures which control the flow of runoff from disturbed areas so as to prevent erosion from occurring" and "that the natural physical and biological characteristics and functions are maintained and protected." The permit requires redevelopment projects to reduce overall site imperviousness by at least 20 percent or provide for treatment of 20 percent of the water quality volume. The permit encourages nonstructural stormwater practices designed to reduce the effective imperviousness, such as green roofs. The permit also requires minimizing the avoidance of steep slopes.

Additionally, Ohio is promoting its *Rainwater and Land Development Manual* by reference through its *Construction Stormwater General Permit*, its Balanced Growth Program, and its

[16] Ohio EPA. 2018. General Permit Authorization for Storm Water Discharge Associated with Construction Activities Under the National Pollutant Discharge and Elimination System (#OHC000005). April 23, 2018. Accessed 12/16/2021. https://epa.ohio.gov/static/Portals/35/permits/OHC000005/Final_OHC000005.pdf

many local watershed action plans and nine key element watershed plans.[17,18] Both the watershed action plans and 9-Key Element watershed strategies directly promote the elements of the site development management measure. About 40 percent of the coastal nonpoint management area is covered by watershed action plans. In addition, most urban areas within the coastal nonpoint management area are now addressed by nine key element watershed plans, providing greater specificity and accountability. Goals of Ohio's *Rainwater and Land Development Manual* include reduction of impervious surfaces during site development, controlling high risk pollutant sources and erosion, minimizing disturbance of natural drainage features and vegetation, and protecting surface water. Ohio has also developed a variety of training partnerships with outside organizations that also promote site development practices through their own professional development programs and conferences.

D. NEW AND OPERATING ONSITE DISPOSAL SYSTEMS (OSDS)

2002 FINDING: The Ohio program includes elements (1), (2), (4) and (5) of the new onsite disposal systems (OSDS) management measure in conformity with the 6217(g) guidance and enforceable policies and mechanisms for new residential OSDS. However, the Ohio program does not adequately address element (3) of this measure, nor does it have a management measure in conformity with the 6217(g) guidance or enforceable policies and mechanisms applicable to nonresidential OSDS. The Ohio program identifies an authority that may address non-residential OSDS (the Semipublic Sewage System Program), but information on how this program will ensure implementation of the management measures throughout the coastal nonpoint management area is needed.

2002 CONDITION: Within two years, Ohio will include in its program management measures for: (1) establishing protective setbacks for surface waters, wetlands and floodplains in conformity with the 6217(g) guidance; (2) new nonresidential OSDS; and (3) operating OSDS in conformity with the 6217(g) guidance. Also, within two years, Ohio will include enforceable policies and mechanisms to ensure implementation of the management measures for nonresidential new OSDS and existing OSDS throughout the coastal nonpoint management area.

2022 DECISION: Ohio has satisfied this condition.

RATIONALE: Ohio satisfies the remaining elements of new and operating OSDS management measures largely through its Household Sewage Treatment System regulations. The State has also developed a database to help track inspections of operating OSDS.

New OSDS

[17] Ohio EPA. 2018. Rainwater and Land Development Manual. Accessed 12/16/2021. https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/surface-water/guides-manuals/rainwater-and-land-development

[18] Ohio Lake Erie Commission. 2012. Balanced Growth Toolkit (website). Accessed 12/6/2021 https://balancedgrowth.ohio.gov/Best-Local-Land-Use-Practices/Best-Local-Land-Use-Practice-Chapters.

The purpose of the new OSDS management measure is to protect the coastal nonpoint management area from pollutants discharged from OSDS. To achieve this goal, the 6217(g) guidance calls for states to:

1. Ensure that new OSDS are located, designed, installed, operated, inspected, and maintained to prevent the discharge of pollutants to the surface of the ground and to the extent practicable reduce the discharge of pollutants into groundwaters that are closely hydrologically connected to surface waters;
2. Direct placement of OSDS away from unsuitable areas;
3. Establish protective setbacks from surface waters, wetlands, and floodplains for conventional as well as alternative OSDS;
4. Establish protective separation distances between OSDS system components and groundwater which is closely hydrologically connected to surface waters; and
5. Where conditions indicate that nitrogen-limited surface waters may be adversely affected by excess nitrogen loadings from groundwater, require the installation of OSDS that reduce total nitrogen loadings by 50 percent.

Ohio satisfied all of these elements for residential OSDS, except for Element 3, establishing protective setbacks, in 2002 when the program was first approved, with conditions.

To address the protective setbacks element, for all OSDS installed after January 1, 2015, Ohio requires a fifty-foot protective setback between septic system drainfields and all surface waters and wetlands (Ohio Administrative Code (OAC) § 3701-29-06(G)(3)(b)). Also, no component of an OSDS installed after this date is to be sited in a floodway, except that below-grade drainfields may be sited in the 100-year floodplain, unless otherwise prohibited (OAC § 3701-29-06(H)(1)). Further, Ohio may impose more stringent lateral setbacks on a case-by-case basis at the discretion of the State's Director of Health, including as required to comply with Ohio's requirement that OSDS not cause a violation of water quality standards or drinking water standards (OAC § 3701-29-06(E)(3)).

With regard to meeting the other elements of the new OSDS management measure for non-residential OSDS, Ohio has now demonstrated it has promulgated regulations that apply to the siting, design and installation of new non-residential OSDS to minimize impacts to water bodies and to operate them. Non-residential "small-flow on-site sewage treatment systems" (SFOSTS) that are not regulated as point sources must adhere to Ohio's Household Sewage Treatment System regulations at OAC § 3701-29 and OAC § 3745-42-11, which include various siting and design requirements for all new OSDS. These non-residential requirements meet or exceed all of the requirements already applicable for single-family residential systems. For example, under OAC § 3701-29-11, SFOSTS must be designed to control the maximum daily flow and waste strength in accordance with specific design flow and waste strength requirements established in Table A-1 of OAC § 3745-42-05, or alternative daily design flow as established by the State Director of Health. When a system is otherwise expected to exceed typical residential sewage strength, OAC 3701-29-11 requires that additional treatment components are incorporated into the design in order to meet effluent quality standards unless it can be shown that an alternative soil loading rate is appropriate. Additionally, under OAC § 3701-29-06, no OSDS shall be sited within the sanitary isolation radius of a public water system well, and SFOSTS shall have additional design and operation and maintenance requirements when sited within the inner

management zone of a drinking water source protection area determined by the Ohio EPA to be highly susceptible to contamination. Also, the Ohio EPA has a working partnership with local health departments for inspection and enforcement of large non-residential facilities, which includes contracts with local health departments to conduct inspection and enforcement services for non-residential OSDS. The Code provision at OAC § 3701-29-09 requires inspections upon construction of all new OSDS, including non-residential OSDS (SFOSTS), with additional inspections during the progress of the installation as necessary to ensure proper installation. Follow-up inspections of fully installed systems are required within the first year of installation to ensure all new OSDS are operating properly. Therefore, NOAA and EPA find that the State has suitable measures in place to site, design and install new non-residential systems.

Operating OSDS
For operating OSDS, the 6217(g) guidance directs states to:

1. Establish and implement policies and systems to ensure that existing OSDS are operated and maintained to prevent the discharge of pollutants;
2. Inspect OSDS at a frequency to ascertain whether OSDS are failing; and
3. Where conditions indicate that nitrogen-limited surface waters may be adversely affected by groundwater nitrogen loadings from OSDS and where nitrogen loadings from OSDS are delivered to groundwater that is closely hydrologically connected to surface water, consider replacing or upgrading OSDS to treat influent so that total nitrogen loadings are reduced by 50 percent.

Ohio's Household Sewage Treatment System regulations establish standards and requirements for OSDS operation and maintenance and education programs that must be developed by local boards of health (OAC § 3701-29-19). For permitted OSDS, the regulations call for owners or health boards to demonstrate compliance with operation permit requirements based on system type. All OSDS installed after 2007 are automatically covered under the NPDES general household permit, and local health boards must develop timelines for phasing in coverage to older systems, prioritized by risk factors such as system age, complexity and risk to public health. Under Ohio Revised Code Chapter 3718.02(A)(7), if an owner of a household OSDS is not able to provide proof of the required maintenance in the form of maintenance contract or an inspections report from a certified inspector, they are subject to an inspection by the local health board at the owner's expense. The local programs track operation and maintenance activities and establish operation permit conditions to ensure existing OSDS are operated and maintained to prevent polluted runoff. In addition, an owner of an existing OSDS must obtain authorization under Ohio EPA's household NPDES general permit prior to any replacement or system upgrade (OAC § 3701-29-06(E)(8)).[19]

State law at OAC § 3701-29-04 requires that the State conduct surveys of local health district programs every three years to ensure compliance with State requirements, including demonstrations of reasonable progress on enrolling the backlog of existing systems. If any local board is found non-compliant, it is given time to take corrective actions, and if still non-compliant thereafter, the Ohio Department of Health (ODH) disapproves the program and either

[19] Ohio EPA. 2017. Discharging Household Sewage Treatment Systems - General Permits. Accessed 12/15/2021. https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/surface-water/permitting/discharging-household-sewage-treatment-systems-general-permits

assigns another local board to take over or ODH itself takes over program administration. NOAA and EPA have determined that Ohio's regulatory approach is consistent with the inspection element of the operating OSDS management measure.

Beyond this regulatory approach, Ohio has developed a statewide database to help track local OSDS activities throughout the State, as part of its Environmental Health Data Systems Integration System, and is encouraging its use by local health departments. This database facilitates the storage and retrieval of OSDS inspections and repair records. Additionally, Ohio supports repairs to and replacements of failing OSDS by providing low/no-interest loans through the State Water Pollution Control Loan Fund to help low- and moderate-income homeowners.

Regarding the element for considering the replacement of OSDS with denitrifying systems where nitrogen loadings from these systems are a water quality issue, OAC § 3701-29-14(C) allows the State director of health or any local board of health to establish nutrient reduction standards for OSDS in sensitive hydrogeologic settings where ground water is at risk, or where ground water discharges to surface water. The rule states that when total nitrogen reduction is required, pretreatment components that meet a 50 percent reduction in the total nitrogen concentration shall be used. ODH has already established nutrient reduction standards as recommended by Ohio's Sewage Treatment Systems Technical Advisory Committee (TAC).[20] Further, Ohio relies on this TAC and ODH's standards and guidelines for approving OSDS technologies that are capable of achieving the required nitrogen reductions.

E. PLANNING, SITING, AND DEVELOPING ROADS AND HIGHWAYS; SITING, DESIGNING AND MAINTAINING BRIDGES; ROAD, HIGHWAY AND BRIDGE CONSTRUCTION PROJECT EROSION AND SEDIMENT CONTROL; ROAD, HIGHWAY AND BRIDGE CONSTRUCTION SITE CHEMICAL CONTROL; ROAD, HIGHWAY AND BRIDGE OPERATION AND MAINTENANCE; ROAD, HIGHWAY AND BRIDGE RUNOFF SYSTEMS

2002 FINDING: For State and Federal roads, Ohio's program includes management measures for roads, highways and bridges in conformity with the 6217(g) guidance and enforceable policies and mechanisms, except the program does not include management measures in conformity with the construction site chemical control, the operation and maintenance, and the runoff systems measures and enforceable policies and mechanisms to implement these measures throughout the coastal nonpoint management area. For local roads, highways, and bridges, Ohio's program does not include management measures in conformity with the 6217(g) guidance and enforceable policies and mechanisms to ensure implementation throughout the coastal nonpoint management area.

2002 CONDITION: Within two years, Ohio will: (1) develop management measures in conformity with the 6217(g) guidance for operation and maintenance, and runoff systems and (2) develop management measures in conformity with the 6217(g) guidance and enforceable

[20] Ohio Department of Health and Sewage Treatment Systems Technical Advisory Committee. 2019. Standards, Guidelines, and Protocols for Ohio Revised Code Section 3718.04 Review of Sewage Treatment System Products or Components (Appendix A), Accessed 12/15/2021. https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/sewage-treatment-systems/media/odh-orc371804review

policies and mechanisms for local roads, highways, and bridges throughout the coastal nonpoint management area. Within one year, Ohio will submit a legal opinion and supporting documentation to demonstrate that back-up authorities can be used as enforceable policies and mechanisms to implement the construction site chemical control, operation and maintenance, and runoff systems management measures, as described in the *Final Administrative Changes* (see Section XIV).

2022 DECISION: Ohio has satisfied this condition.

RATIONALE: Ohio satisfies the planning, siting and developing roads, highways and bridges management measures for local roads through a mix of regulatory and voluntary requirements, including its stormwater construction general permit, Rainwater and Land Development Manual, ODOT's Location and Design Manual, and Local Transportation Assistance Program (LTAP). ODOT's Location and Design Manual and LTAP, and other efforts such as ODOT's integrated vegetation and management and adopt-a-litter programs also support the operation and maintenance management measure. Ohio developed a long-term strategy to identify and implement priority projects to address polluted runoff from existing local roadways to address the runoff systems management measure and provided a legal opinion and supporting documentation demonstrating the State has adequate back-up authority for all roads, highways and bridges management measures.

NPDES Exclusions
Per NOAA and EPA's December 20, 2002, memo, *Policy Clarification on Overlap of 6217 Coastal Nonpoint Programs with Phase I and II Stormwater Regulations*, Ohio is excluded from implementing the road, highway, and bridge construction site chemical control management measure throughout the coastal nonpoint management area.[21] In addition, Ohio is also excluded from implementing the roads, highway and bridge runoff systems and operation and maintenance management measures within designated MS4s, or on ODOT-maintained roads, as they are covered under MS4s permits. In addition, 13 counties with Ohio's coastal nonpoint management area designated NPDES Phase I or Phase II MS4 communities.

Planning, Siting and Developing Local Roads, Highways, and Bridges
The management measure for planning, siting and developing roads and highways calls on states to plan, site and develop roads and highways to:

1. Protect areas that provide important water quality benefits, or are particularly susceptible to erosion or sediment loss;
2. Limit land disturbance such as clearing and grading and cut and fill to reduce erosion and sediment loss; and
3. Limit disturbance of natural drainage features and vegetation.

[21] NOAA and EPA. Policy Clarification on Overlap of 6217 Coastal Nonpoint Programs with Phase I and II Storm Water Regulations. 2002. Accessed 12/15/2021.
https://coast.noaa.gov/data/czm/pollutioncontrol/media/NPDES_CZARA_Policy_Memo.pdf

Similarly, the bridges management measure calls on states to site, design and maintain bridge structures so that sensitive and valuable aquatic ecosystems and areas providing important water quality benefits are protected from adverse effects.

Ohio has satisfied these management measures for local roads, highways and bridges largely through its NPDES stormwater programs, including its *Construction Stormwater General NPDES Permit*, as well as additional strategies. First, all local road projects in Ohio that disturb more than an acre are required to adhere to the State's *Construction Stormwater General NPDES Permit.*[22] As discussed in more detail in the site development rationale, the permit ensures that development, including roads and bridges, is sited and designed in a way that protects areas which provide important water quality benefits, limits the disturbance of land and natural drainage features and vegetation, and reduces nonpoint source pollution. The permit also promotes the use of the State's *Rainwater and Land Development Manual*.[23] Goals of Ohio's *Rainwater and Land Development Manual* include reduction of impervious surfaces during site development, controlling high risk pollutant sources and erosion, minimizing disturbance of natural drainage features and vegetation, and protecting surface water.

In addition, all ODOT-led projects, including projects managed cooperatively between ODOT and the local jurisdictions, are required to adhere to ODOT's *Location and Design Manual, Volume 2*.[24,25] Moreover, all ODOT- and federally funded local road projects are required to use the manual, as well as any local community that participates in an ODOT assistance program such as the Credit Bridge Program, Small City Program (for populations between 5,000 and 25,000) and the Rural Planning Assistance Program. The *Location and Design Manual* includes specific road and bridge design practices to control post-construction runoff and requires any proposed longitudinal highway encroachments on floodways to undergo alternative location studies.

Furthermore, all publicly-funded local roads outside the limits of municipal corporation limits, must also comply with Ohio's Scenic Rivers Program when located within 1,000 feet of a State-designated scenic river (Ohio Revised Code Chapter 1547.81 and 1547.82).[26,27]

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[22] Ohio EPA. 2018. General Permit Authorization for Storm Water Discharge Associated with Construction Activities Under the National Pollutant Discharge and Elimination System (#OHC000005). April 23, 2018. Accessed 12/16/2021. https://epa.ohio.gov/static/Portals/35/permits/OHC000005/Final_OHC000005.pdf

[23] Ohio EPA. 2018. Rainwater and Land Development Manual. Accessed 12/16/2021. https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/surface-water/guides-manuals/rainwater-and-land-development

[24] Ohio Department of Transportation. 2020. Location and Design Manual, Volume 2. Accessed 12/15/2021. http://www.dot.state.oh.us/Divisions/Engineering/Hydraulics/Location%20and%20Design%20Volume%202/Pages/LandD-Vol-2.aspx

[25] Ohio DOT. 2020. Local-let Manual of Procedures—Introduction and Process Overview. Accessed 12/15/2021. https://www.transportation.ohio.gov/wps/portal/gov/odot/working/publications/local-let-manual

[26] Ohio Department of Natural Resources. Ohio Scenic Rivers Program (website). Accessed 12/15/2021. https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/land-water/rivers-streams-wetlands/scenic-rivers-program

[27] Memorandum of Agreement between the Ohio Department of Transportation and the Ohio Department of Natural Resources (Division of Watercraft) for Project Coordination on Ohio State's Wild, Scenic and Recreational Rivers. Signed (Agreement Number: 11323). Signed 2014. Accessed 12/15/2021. http://www.dot.state.oh.us/Divisions/Planning/Environment/Ecological_Resources_Permits/Ecology/Documents/Agreements/2014_State_Scenic_River_MOA_Final.pdf

Lastly, ODOT also provides a variety of technical assistance and training to local governments to further educate local staff about good road planning, siting and design practices to reduce polluted runoff. Training programs include the Local Transportation Assistance Program (LTAP) and ODOT partnerships with ODNR and the Ohio Environmental Protection Agency.[28] LTAP offers a variety of training opportunities including eLearning modules, online webinars, regional in-person workshops and onsite classes. Specific topics address stormwater management, road design and siting in floodplains, drainage design, and assessing and protecting water resources. ODOT's Ohio Research Initiative for Local Programs also developed an online tool to help local jurisdiction's select appropriate post-construction stormwater BMPs for local roadways.[29]

Operation and Maintenance

The goal of the management measure for operation and maintenance is to incorporate pollution prevention procedures into the operation and maintenance of roads, highways, and bridges to reduce pollutant loadings to surface water. To address this management measure outside of designated MS4s, Ohio employs a mix of regulatory and voluntary approaches. ODOT's *Location and Design Manual* notes that all post-construction stormwater control best management practices need to be properly maintained.[30] ODOT's Integrated Vegetation and Management Program also promotes vegetation maintenance and pesticide and herbicide application practices to reduce roadside pollutants.[31] For example, ODOT's vegetation maintenance permit for local road managers also restricts herbicide use along roadways and requires applicators to obtain a license.[32] Through the Local Technical Assistance Program (LTAP), ODOT provides training to local jurisdictions on pesticide and herbicide best practices, including training needed to receive an applicator's license.[33] To promote routine litter pick-up along roadways, the State administers an Adopt-A-Highway Program and has a memorandum of understanding with the Ohio Department of Rehabilitation and Correction to operate an inmate litter pick-up program.[34] In addition, ODOT, in partnership with the Ohio Water Resources Council, published a best management practices guide for salt storage facilities to minimize salt contamination to waterways.[35]

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[28] Ohio Department of Transportation. Local Transportation Assistance Program (website). Accessed 12/15/2021. http://www.dot.state.oh.us/Divisions/Planning/LocalPrograms/LTAP/Pages/default.aspx

[29] Ohio Department of Transportation. Stormwater Best Management Practices for Local Roadways. Accessed 12/15/2021. http://www.dot.state.oh.us/groups/oril/Pages/BMP-Tool.aspx.

[30] Ohio Department of Transportation. 2020. Location and Design Manual, Volume 2. Accessed 12/15/2021. http://www.dot.state.oh.us/Divisions/Engineering/Hydraulics/Location%20and%20Design%20Volume%202/Pages/LandD-Vol-2.aspx

[31] Ohio Department of Transportation. 2017. Guide for Roadside Integrated Vegetation Management of Prohibited Noxious Weeds in Ohio. Accessed 12/15/2021. https://www.dot.state.oh.us/Divisions/Planning/LocalPrograms/LTAP/Documents/ODOT_EVMP_SJN134834_Guide_for_RIVM.pdf

[32] Ohio Department of Transportation. Vegetation Maintenance Permitting for Visibility of Locations Off the Right-of-Way. Effective 8/22/2007. Standard Procedure No. 512-001 (SP). Accessed 12/15/2021. https://www.dot.state.oh.us/Divisions/Engineering/RealEstate/EPermitting/Vegetation%20Maintenance%20Standard%20Procedure.pdf

[33] Ohio Department of Transportation. Local Transportation Assistance Program (website). Accessed 12/15/2021. http://www.dot.state.oh.us/Divisions/Planning/LocalPrograms/LTAP/Pages/default.aspx

[34] Ohio Department of Transportation. Ohio Adopt-A-Highway Program (website). Accessed 12/15/2021 https://www.transportation.ohio.gov/wps/portal/gov/odot/about-us/resources/adopt-a-highway

[35] Ohio Water Resources Council. 2013. Recommendations for Salt Storage: Guidance for Protection Ohio's Water Resources. Accessed 12/15/2021. https://epa.ohio.gov/static/Portals/35/owrc/SaltStorageGuidance.pdf

ODOT also provides a variety of technical assistance and training to local governments to further educate local staff about good operation and maintenance practices to reduce polluted runoff. For example, as noted above, ODOT, through its Ohio Research Initiative for Locals Program, launched an online tool in 2015 to assist local communities in identifying and selecting appropriate post-construction best management practices for local road projects.[36] Training programs include the LTAP and ODOT partnerships with ODNR and the Ohio Environmental Protection Agency.[37] ODOT also partners with the County Engineers Association of Ohio, which hosts an annual stormwater conference that includes a track focused on best management practices to reduce stormwater runoff from roadways.

Runoff Systems

The purpose of the management measure for roads, highways and bridges runoff systems is to develop and implement runoff management systems for existing roads, highways and bridges to reduce runoff pollutant concentrations and volumes entering surface waters by identifying priority watershed pollutant reduction opportunities and establishing schedules for implementing appropriate controls. To address the runoff systems management measure for local roads outside of MS4 areas, ODNR developed a long-term strategy to identify and prioritize retrofit opportunities to reduce polluted runoff from roads, highways and bridges. ODNR is partnering with the Chagrin River Watershed Partners to develop and implement this strategy. As part of the strategy, ODNR will be developing a watershed prioritization model to help identify which watersheds to target first for retrofit opportunities and will survey county engineers and township road superintendents to compile an inventory of stormwater runoff issues related to local roads, highways and bridges. This information will then be used to develop a schedule to implement priority retrofit projects between 2020 and 2034. Ohio has identified EPA's Section 319 program, Ohio Public Works Commission Infrastructure Programs, the Great Lakes Commission Sediment and Nutrient Reduction Program, the Great Lakes Restoration Initiative, local stormwater utilities, Northeast Ohio Areawide Coordinating Agency, and the Toledo Metropolitan Area Council of Governments Transportation Improvement Program as potential funding sources to support retrofit installation and the State provides technical assistance to municipalities to help them obtain funding for priority projects.

The State has committed to track implementation of priority projects by tracking State funding that supports priority projects and by conducting an annual poll of county engineers and township road superintendents to determine additional projects that were implemented through non-State funds. In addition, ODNR evaluates the effectiveness of these projects at reducing stormwater impacts to Lake Erie by conducting local water quality monitoring and estimating pollutant load reductions for the implemented projects.

Education and outreach are also an important component of ODNR's strategy for addressing the runoff systems management measure for local roads. In partnership with the Chagrin River Watershed Partners, the State holds various trainings for township road superintendents, county engineers, and other stakeholders to increase their awareness about the importance of retrofitting

[36] Ohio Department of Transportation. Stormwater Best Management Practices for Local Roadways. Accessed 12/15/2021. http://www.dot.state.oh.us/groups/oril/Pages/BMP-Tool.aspx.
[37] Ohio Department of Transportation. Local Transportation Assistance Program (website). Accessed 12/15/2021. http://www.dot.state.oh.us/Divisions/Planning/LocalPrograms/LTAP/Pages/default.aspx

existing local roads and bridges to reduce polluted runoff and how to go about implementing retrofit opportunities. Training topics address how to obtain funding for priority projects, demonstration projects, and project inspection and maintenance.

Finally, though not required as part of the approval conditions, the State is undertaking additional work to support the institutionalization of the runoff systems management measure. The State is in the process of developing a model code for local road operation and maintenance BMP implementation and encouraging adoption in relevant coastal communities. The model code is expected to be complete by the end of 2021. Development of the model code is informed by a State-led review of non-MS4 communities' road, highway and bridge-related policies and programs. In addition, ODNR is funding further efforts to work with ODOT to incorporate the same concepts that will be covered in the model code into ODOT guidance documents for local communities.

Enforceable Policies and Mechanisms
Ohio has provided a legal opinion from the Attorney General asserting that Ohio's Revised Code and rules, specifically Ohio Revised Code Chapter 3745 (Ohio EPA) and Chapter 6111 (Water Pollution Control Law), provide sufficient back-up authority to ensure implementation of all road, highway and bridge management measures, as needed. Ohio has demonstrated its commitment to use its back-up authorities by providing examples of enforcement actions taken under these authorities.

Additionally, ODOT and ODNR's Office of Coastal Management have established a memorandum of understanding to ensure that road, highway and bridge activities conducted by ODOT within Ohio's coastal zone are coordinated with the Ohio Coastal Management Program and consistent with the State's coastal policies.[38] Among other objectives, the coastal policies call for "controlling nonpoint source pollution to reduce sediment, nutrients, and other pollutants."

The State tracks implementation of the voluntary aspects of these measures through a variety of mechanisms. Regarding local roads outside of designated MS4 permit areas, ODOT tracks many current and future roadway construction projects, including those for runoff control or operation and maintenance, through its Transportation Information Management System (TIMS) database.[39] Additionally, local and regional stormwater training programs provided through Ohio EPA and their local partners, such as the Northeast Stormwater Training Council, track participation in trainings at the local community level. As described in more detail in the Runoff Systems section above, the State will further track and evaluate the implementation of the runoff systems management measure through surveys to local governments, tracking State funds spent on priority retrofits and effectiveness studies.

[38] Memorandum of Understanding Between the State of Ohio, Department of Natural Resources and the State of Ohio, Department of Transportation for Federal and State Consistency Reviews. Signed December 18, 2018. Accessed 12/15/2021. http://www.dot.state.oh.us/Divisions/Planning/Environment/manuals_guidance/Documents/Ecological/Coastal%20Zone%20Memorandum%20of%20Understanding%20Between%20ODNR%20and%20ODOT-2018.pdf
[39] Ohio Department of Transportation. Transportation Information Management System (TIMS) (website). Accessed 12/15/2021. https://gis.dot.state.oh.us/tims

III. MARINAS AND RECREATIONAL BOATING

A. SITING AND DESIGN

2002 FINDING: The Ohio program includes management measures for marina siting and design in conformity with the 6217(g) guidance for water quality assessment, habitat assessment, marina flushing, and sewage facilities. The Ohio program does not include management measures in conformity with the 6217(g) guidance for shoreline stabilization, stormwater runoff, and fueling station design. The program includes enforceable policies and mechanisms to ensure implementation of the water quality assessment, habitat assessment, marina flushing and sewage facilities management measures. The program does not include enforceable policies and mechanisms for shoreline stabilization, stormwater runoff, and fueling station design. The State has identified backup enforceable policies and mechanisms but has not demonstrated its ability to ensure implementation throughout the coastal nonpoint management area.

2002 CONDITION: Within two years, Ohio will include in its program management measures for shoreline stabilization, stormwater runoff, and fueling station design in conformity with the 6217(g) guidance. Within one year, Ohio will submit a legal opinion and supporting documentation to demonstrate that back-up authorities can be used as enforceable policies and mechanisms to implement these management measures throughout the coastal nonpoint management area, as described in the Final Administrative Changes (see Section XIV).

2022 DECISION: Ohio has satisfied this condition.

RATIONALE: The siting and design management measures for marinas ensure that marinas with 10 or more boat slips are sited and designed to minimize polluted runoff to coastal waters. Specifically, where shoreline erosion is a nonpoint source pollution problem, the shoreline stabilization management measure calls for the shoreline to be stabilized and encourages the use of vegetative methods unless structural methods are more cost-effective. The stormwater runoff management measure requires the implementation of effective runoff control strategies which include the use of pollution prevention activities and the proper design of hull maintenance to reduce the average annual TSS loadings by 80 percent. The fueling station design management measure also calls for designing fueling stations to allow for ease in cleanup of spills.

Ohio has addressed these marina siting and design conditions through the development of a Clean Marina Program and guidebook that includes practices in conformity with the shoreline stabilization, stormwater runoff, and fueling station design management measures, as well as other 6217(g) marina management measures.[40] Ohio Sea Grant, in coordination with the ODNR and numerous other State agency and industry partners, administers the program. The Ohio Sea Grant program, with funding from the ODNR, developed a Clean Marinas Best Management Practices Guidebook, which is a comprehensive guidebook for marina operators that discusses specific practices that marina operators should implement to control impacts to water quality

[40] Ohio Sea Grant. Clean Marina Program (website). Accessed 1/11/2021. https://ohioseagrant.osu.edu/clean

and habitat from marina operation and maintenance, boat operation and maintenance, and marina siting and construction (of both new and expanding marinas).[41]

To address the shoreline stabilization management measure, the guidebook calls for stabilizing eroding shorelines and prioritizes the use of non-structural vegetative techniques or hybrid approaches that combine structural and non-structural methods where vegetative approaches, by themselves, are not appropriate for stabilizing the shore. Regarding fueling station design, guidebook identifies locating fuel docks in areas protected from waves and boat docks, using stable platforms for filling personal watercraft, and installing automatic back-pressure shut-off values on all fuel nozzles. The guidebook also promotes various best management practices to control stormwater runoff from the marina site such as maintaining vegetated buffers between the upland and water's edge, directing downspouts to vegetated areas, minimizing the amount of impervious surface and using grassed swales to manage stormwater runoff consistent with the stormwater runoff management measure. In addition to these voluntary practices, the guidebook notes that any marina that allows boat maintenance activities or is equipped with a cleaning operation is required to obtain a NPDES industrial stormwater permit to ensure that potential runoff from hull maintenance areas is managed appropriately. The approval condition for the hull maintenance elements of the stormwater runoff management measure for marinas and recreational boating, therefore, no longer applies for Ohio because those activities are regulated through a NPDES permit.[42]

The Clean Marina Program promotes implementation of the management measure through a variety of mechanisms, including a fairly rigorous certification process. To become a certified clean marina, each marina must first sign a Clean Marina Pledge indicating its interest in becoming certified. It must then conduct a self-assessment of its facility using Ohio's Clean Marina Best Practices Guidebook and checklist to determine which practices it already implements and which additional practices it will need to implement to obtain certification. Staff from the Ohio Clean Marina Program provide technical assistance to pledged marinas to help them adopt appropriate best management practices and conduct site visits to confirm adoption of the full set of BMPs and officially certify qualifying marinas as clean marinas. Clean Marina Program staff also conduct "re-affirmation" site visits to re-certified marinas every three years to ensure the marinas are still implementing the clean marina best management practices. Certified clean marinas receive incentives such as: a certificate; an Ohio Clean Marina flag to fly onsite; authorization to use the Ohio Clean Marina logo on their letterhead and in advertising; and recognition on the Clean Marina website and in public displays.

Ohio's Clean Marina Program also includes an extensive education and outreach program to complement the distribution of the guidebook, including through promotional events, fact sheets, magazine articles, and news releases. In addition, the Clean Marina Program routinely holds workshops throughout each year to inform marina operators about Ohio's program, explain the

[41] Ohio Sea Grant. 2012. Clean Marina Best Practices Guidebook. Accessed 12/15/2021. https://ohioseagrant.osu.edu/archive/_documents/cmarina/gbook.pdf

[42] NOAA and EPA. Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance. January 1993. (Appendix B: National Pollutant Discharge Elimination System). Accessed 12/15/2021. https://coast.noaa.gov/data/czm/pollutioncontrol/media/6217progguidance.pdf

procedures for becoming a clean marina and the use of the guidebook, and provide opportunities for marina operators to take the Clean Marinas pledge. Since 2017, the program has organized an annual Clean Marinas conference to further support the program. As of June 2020, 64 marinas, or roughly 25 percent of the marinas within Ohio's coastal nonpoint management area, are certified clean marinas. The Ohio Clean Marinas Program continues to provide outreach efforts to obtain new pledges and ultimately certified clean marinas. The program recently moved toward a tiered system of certifications, where marinas can obtain not only basic but also gold or platinum status by implementing enhanced water quality BMPs at their marinas.

In September 2003, Ohio provided the required legal opinion from the State's Attorney General asserting that Ohio's Revised Code and rules, specifically Ohio Revised Code Chapter 3745 (Ohio Environmental Protection Agency) and Chapter 6111 (Water Pollution Control Law), provide sufficient back-up authority to ensure implementation of the marina management measures, as needed. Ohio has demonstrated its commitment to use its back-up authorities by providing examples of enforcement actions taken under these authorities. Ohio tracks voluntary implementation of the marina management measures by tracking the number of marinas participating in the Clean Marina Program.

B. OPERATION AND MAINTENANCE

2002 FINDING: The Ohio program includes management measures for marina operation and maintenance in conformity with the 6217(g) guidance for solid waste, liquid material, boat cleaning, public education, maintenance of sewage facilities, and boat operation. The Ohio program does not include management measures in conformity with the 6217(g) guidance for fish waste and petroleum control. The program includes enforceable policies and mechanisms to ensure implementation of the solid waste, liquid material, boat cleaning, maintenance of sewage facilities, and boat operation management measures. The program does not include enforceable policies and mechanisms for the fish waste and petroleum control management measures. The State has identified backup enforceable policies and mechanisms but has not demonstrated its ability to ensure implementation throughout the coastal nonpoint management area.

2002 CONDITION: Within two years, Ohio will include in its program management measures for fish waste and petroleum control in conformity with the 6217(g) guidance. Within one year, Ohio will submit a legal opinion and supporting documentation to demonstrate that back-up authorities can be used as enforceable policies and mechanisms to implement these management measures throughout the coastal nonpoint management area, as described in the Final Administrative Changes (see Section XIV).

2022 DECISION: Ohio has met this condition.

RATIONALE: The marina operation and maintenance management measures are designed to ensure that marinas with 10 or more boat slips are operated and maintained to minimize nonpoint source pollution to surface waters. For example, the fish waste management measure promotes sound fish waste management through a combination of fish-cleaning restrictions, public education, and proper disposal of fish waste, whereas the purpose of the petroleum

control management measure is to reduce the amount of fuel and oil from boat bilges and fuel tank air vents entering marinas and surface waters.

Ohio addresses the fish waste and petroleum control marina operation and maintenance management measures through practices promoted in the State's Clean Marina Program and *Clean Marinas Best Practices Guidebook*. The guidebook includes best management practices consistent with the fish waste management measure such as establishing designated fish cleaning stations and prohibiting fish cleaning elsewhere, and providing proper waste disposal options for fish waste to help keep it out of the water. The guidebook also calls for the use of anti-backflow nozzles on fueling stations, use of oil absorbent pads, and offering the service of installing fuel/air separators on boats to prevent fuel from leaking into the water. All of these practices are consistent with the management measure for petroleum control.

Also, as noted in the marinas siting and design section above, Ohio submitted a legal opinion and supporting documentation demonstrating it has back-up authorities in place that can be used to ensure implementation of the marina management measures, including those for operation and maintenance, throughout the coastal nonpoint management area, when needed.

IV. HYDROMODIFICATION

2002 FINDING: The Ohio program includes management measures for hydromodification in conformity with the 6217(g) guidance for: (1) evaluating the potential effects of proposed channelization and channel modification on physical and chemical characteristics of surface waters in coastal areas (2) plan and design channelization and channel modification to reduce undesirable impacts and (3) erosion and sediment control for dams. The Ohio program does not include management measures in conformity with the 6217(g) guidance for developing an operation and maintenance program for existing modified channels, streambank and shoreline erosion, chemical and pollution control for dams, and protection of surface water quality and instream and riparian habitat for dams. The State has identified backup enforceable policies and mechanisms but has not demonstrated its ability to ensure implementation throughout the coastal nonpoint management area.

2002 CONDITION: Within two years, Ohio will include in its program management measures for developing an operation and maintenance program for: (1) existing modified channels; (2) streambank and shoreline erosion; (3) chemical and pollution control for dams; and (4) protection of surface water quality and instream and riparian habitat for dams in conformity with the 6217(g) guidance. Within one year, Ohio will submit a legal opinion and supporting documentation to demonstrate that back-up authorities can be used as enforceable policies and mechanisms to implement the hydromodification management measures throughout the coastal nonpoint management area, as described in the *Final Administrative Changes* (see Section XIV).

2022 DECISION: Ohio has satisfied these conditions.

RATIONALE: The purpose of hydromodification management measures are to reduce polluted runoff from several different types of hydromodifications: channelization and channel modifications; dams; and streambank and shoreline erosion. Specifically:

- The channelization and channel modification management measures call for developing an operation and maintenance program for existing modified channels.
- The dam management measure for the protection of surface water quality and instream and riparian habitat calls for developing and implementing a program to manage the operation of dams in coastal areas that includes the assessment of:
    - surface water quality and instream and riparian habitat and the potential for improvement; and
    - significant nonpoint source pollution problems that result from excessive surface water withdrawals.
- The management measure for chemical and pollutant control for dams limits the application, generation and migration of toxic substances, ensures the proper storage and disposal of toxic materials, and states that nutrients shall be applied at rates necessary to establish and maintain vegetation without causing significant nutrient runoff to surface waters.
- The management measure for eroding streambanks and shorelines states:
    - Where streambank or shoreline erosion is a nonpoint source pollution problem, streambanks and shorelines should be stabilized and that vegetative methods are preferred unless structural methods are more cost-effective.
    - Protect streambank and shoreline features with the potential to reduce nonpoint source pollution.
    - Protect streambank and shorelines from erosion due to uses of either the shorelands or adjacent surface waters.

Ohio has addressed these management measures largely through voluntary efforts, backed by enforceable authorities, such as the State's watershed action plans, total maximum daily load program, and the nonpoint source management plan. These efforts are also supported by various guidance documents such as Stream Management Guide Factsheets, a series of factsheets related to stream management, the *Ohio Coastal Design Manual*, and *Best Management Practices for Dams* and technical assistance programs. Ohio also submitted a legal opinion and supporting documents demonstrating the State has adequate back-up authorities to support these voluntary programs.

First, per NOAA and EPA's December 20, 2002, memo, *Policy Clarification on Overlap of 6217 Coastal Nonpoint Programs with Phase I and II Stormwater Regulations*,[43] Ohio no longer requires the nonpoint management measure for chemical and pollutant control from dams because it regulates that pollution through NPDES permits. The NPDES stormwater regulations for industrial activities on construction sites, which address requirements consistent with this management measure, apply nationwide, including throughout a state's coastal nonpoint management area.

[43] NOAA and EPA. Policy Clarification on Overlap of 6217 Coastal Nonpoint Programs with Phase I and II Storm Water Regulations. 2002. Accessed 12/15/2021. https://coast.noaa.gov/data/czm/pollutioncontrol/media/NPDES_CZARA_Policy_Memo.pdf

To address the operation and maintenance requirements for existing modified channels and streambank and shoreline erosion, Ohio relies largely on its watershed action plans and total maximum daily load (TMDL) programs. Through these programs, the State identifies opportunities to improve modified channels and eroding streambanks and shorelines to enhance the physical and chemical characteristics of surface waters and to restore instream and riparian habitat consistent with the 6217(g) guidance and prioritizes actions for funding. The Ohio EPA conducts watershed assessments on a rotating basin schedule. These assessments identify opportunities to improve stream segments within HUC-12 watersheds, specifically to enhance water quality and habitat value. Tools such as the Qualitative Habitat Evaluation Index, the Headwater Habitat Evaluation Index, Soil and Water Assessment Tool Model and its streambank erosion module help the State identify and prioritize corrective actions as part of these assessments.[44,45,46]

Once opportunities to improve modified channels and eroding streambanks and shorelines are identified, Ohio funds priority operation and maintenance projects through a variety of financial assistance programs such as the State's Clean Water Act Section 319 Nonpoint Source Program, Water Resources Restoration Sponsorship Program, and Water Pollution Control Loan Fund.[47,48,49] Ohio's current five-year Section 319 plan, the *State of Ohio Nonpoint Source Management Plan Update (2019),* specifically identifies the protection and restoration of effective riparian buffers and streambank and shoreline stabilization projects as funding priorities.[50] The State's TMDL website and recent Section 319 annual reports include examples of hydromodification projects, including some in Cuyahoga County, that have been implemented to improve modified channels and eroding streambanks.[51,52] Projects have included restoring channelized streams to create a natural meandering stream, using native vegetation to restore eroding streambanks, and removing low-head dams to restore natural stream flow and riparian habitat to a previously impounded stream segment. For example, one project restored a portion of Coe Creek in Fairview Park, Ohio, by using natural channel design

[44] Ohio EPA. 2006. Methods for Assessing Habitat in Flowing Waters: Using the Qualitative Habitat Evaluation Index. Ohio EPA Technical Bulletin. EAS/2006-06-01. Accessed 12/15/2021. https://www.epa.state.oh.us/portals/35/documents/QHEIManualJune2006.pdf
[45] Ohio EPA. 2018. Field Methods for Evaluating Primary Headwater Streams. October 2018. Accessed 12/15/2021. https://www.epa.state.oh.us/Portals/35/rules/PHWHManual_2018_Ver_4%200_10-22-18.pdf
[46] Soil and Water Assessment Tool (website). Accessed 12/15/2021. https://swat.tamu.edu/
[47] Ohio EPA. Ohio Nonpoint Source Pollution Control (website). Accessed 12/15/2021. https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/surface-water/about/ohio-nonpoint-source-pollution-control-program
[48] Ohio EPA. Water Resources Restoration Sponsorship Program (website). Accessed 12/15/2021. https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/environmental-financial-assistance/financial-assistance/water-resource-restoration-sponsor-program
[49] Ohio EPA. Water Pollution Control Loan Fund (website). Accessed 12/15/2021. https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/environmental-financial-assistance/financial-assistance/wpclf
[50] Ohio EPA. 2020. Ohio Nonpoint Source Management Plan Update. Accessed 12/15/2021. https://epa.ohio.gov/static/Portals/35/nps/2019-NPS_Mgmt_Plan.pdf
[51] Ohio EPA. Total Maximum Daily Load (TMDL) Program (website). Accessed 12/16/2021. https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/surface-water/reports-data/total-maximum-daily-load-tmdl-program
[52] Ohio EPA. Nonpoint Source Pollution Control Program Annual Reports (website). Accessed 12/16/2021 https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/surface-water/reports-data/319-grant-reports

to daylight a 175-foot linear section of the creek. The project also used native plantings to restore the adjacent riparian area. These efforts improved water quality, natural flow conditions, and in-stream and riparian habitat.

In addition to the State's active watershed planning and TMDL programs, Ohio also provides technical assistance on operation and maintenance best management practices for modified channels, streambanks and shorelines. Ohio's Soil and Water Conservation Districts (SWCDs) and other programs play an important role in providing this technical assistance. For example, Ohio's Stream Management Guide Factsheets provide guidance on a variety of stream restoration techniques and operation and maintenance practices for modified channels and streams, such as removing debris and obstructions.[53] ODNR has also held training workshops for consultants, engineers, contractors, landscape architects, regulatory agency staff and other stakeholders on nature-based shoreline stabilization techniques and is working to expand this training series into a formal Ohio Nature-Based Shoreline Certification Program. Implementation of the certification program is planned for Spring 2022. Along the Lake Erie Shoreline, the Ohio Coastal Design Manual[54] discusses the importance of regular inspection and maintenance of eroding shorelines. The manual provides for structural engineering approaches for shoreline erosion control that are consistent with the 6217(g) management measure. Although not needed to meet the condition for eroding streambanks and shorelines, as part of its program implementation Ohio intends to develop a second edition of the design manual that will include additional information on softer vegetative approaches (e.g., "living shorelines") to stabilize shorelines. The stream management factsheets are a good model for the type of information needed for the shoreline erosion guidance.

To address the operation and maintenance requirements for the protection of surface water quality and instream and riparian habitat for dams, Ohio has developed a *Best Management Practices Guidebook for Dams* and a strategy that describes how the State will implement a dam operation and maintenance program.[55] The guidebook includes information on dam operation and maintenance practices to improve water quality and instream habitat. The guidebook covers six focus areas: 1) watershed practices; 2) reservoir practices; 3) operational practices at dams; 4) modifications at dams; 5) water quality improvements in streams; and 6) removal of dams. Another section of the guidebook provides information on funding opportunities that can be used to support these types of activities. ODNR is providing outreach to promote this guidebook to various organizations. For example, since 2013 Ohio has held workshops on the guidebook that present an overview of the impacts of dams on water quality and aquatic habitats, BMPs for dam management to improve water quality, decision-making factors for dam modification and removal of dams, and available resources and technical assistance to support BMPs for management of dams to improve water quality and habitat.

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[53] Ohio DNR. 2007. Ohio Stream Management Guides (website). Accessed 12/16/2021. https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-ODNR/water-resources/water-inventory-planning/stream-management-guides

[54] Ohio DNR. 2011. Ohio Coastal Design Manual. Accessed 12/16/2021. https://ohiodnr.gov/wps/portal/gov/odnr/business-and-industry/best-management-practices/coastal-erosion-and-shoreline-protection

[55] Ohio DNR. 2012. Best Management Practices Guidebook for Dams. Accessed 12/16/2021. https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-ODNR/coastal-management/ohio-coastal-mgmt-program/bmp-guidebook-dams

Ohio has developed a strategy for implementing BMPs for the operation and maintenance of dams in Ohio to protect and improve surface water quality and instream and riparian habitat that describes how the Dam Safety Program within ODNR's Division of Water Resources conducts dam safety inspections at all Class I, II and III dams on a five-year rotating cycle. The information collected during each inspection, along with information about any potential BMPs that might be applicable to each dam for water quality and habitat improvements, and the dam BMP guidebook, will be provided to the dam owner as part of the inspection report.

ODNR has already implemented several BMP pilot projects to improve water quality and habitat around dams. For example, ODNR worked with the City of Cuyahoga Falls and the Ohio EPA to remove two Class III concrete lowhead dams originally constructed for hydroelectric power generation in the early 1900s. The removal of these dams has enhanced fish passage, improved surface water quality, and increased instream and riparian habitat. The dams were removed by successive notching, thereby lowering the dam elevation slowly in order to better manage sediment releases and minimize impacts to river geomorphology. Ohio took additional measures to improve water quality, such as stabilizing the exposed channel and redistributing sediment to improve habitat by constructing riffles and pool features in the active riverbed.

Finally, Ohio has provided a legal opinion from its Attorney General asserting that Ohio's Revised Code and rules, specifically Ohio Revised Code Chapter 3745 (Ohio Environmental Protection Agency) and Chapter 6111 (Water Pollution Control Law), provides sufficient back-up authority to ensure implementation of all hydromodification management measures, as needed. The State has demonstrated its commitment to use this back-up authority by providing examples of enforcement actions it has taken under it to address nonpoint source pollution. Ohio has also demonstrated how it tracks implementation of these operation and maintenance practices through its Section 319 Annual Report, the Soil and Water Conservation Districts' SWIMS reporting system, and dam safety tracking program.

V. WETLANDS, RIPARIAN AREAS AND VEGETATED TREATMENT SYSTEMS

2002 FINDING: The Ohio program includes management measures in conformity with the 6217(g) guidance for the protection and restoration of wetlands and riparian areas. The State has identified backup enforceable policies and mechanisms but has not demonstrated their ability to ensure implementation throughout the coastal nonpoint program management area.

2002 CONDITION: Within one year, Ohio will submit documentation to demonstrate that back-up authorities can be used as enforceable policies and mechanisms to implement the management measure for the protection of wetlands and riparian areas throughout the coastal nonpoint program management area, as described in the Final Administrative Changes (see Section XIV).

2022 DECISION: Ohio has satisfied this condition.

RATIONALE: Ohio has provided a legal opinion from its Attorney General asserting that Ohio's Revised Code and rules, specifically Ohio Revised Code Chapter 3745 (Ohio Environmental Protection Agency) and Chapter 6111 (Water Pollution Control Law), provides sufficient back-up authority to ensure implementation of the wetlands and riparian management measures, as needed, throughout the coastal nonpoint program management area. The State has demonstrated its commitment to use this back-up authority by providing examples of enforcement actions it has taken under it to address nonpoint source pollution. Ohio has also demonstrated how it tracks implementation of these practices through its Section 319 Annual Report and the Soil and Water Conservation Districts' reporting system, among others.

VI. MONITORING

2002 FINDING: Ohio's program does not include a plan to assess over time the success of the management measures in reducing pollution loads and improving water quality.

2002 CONDITION: Within one year, Ohio will include in its program a plan that enables the State to assess over time the extent to which implementation of management measures is reducing loads and improving water quality.

2022 DECISION: Ohio has satisfied this condition.

RATIONALE: Ohio has demonstrated how it combines its ambient water quality monitoring data with BMP implementation tracking to assess over time the extent to which implementation of management measures is reducing loads and improving water quality.

The State has a variety of programs and mechanisms to track BMP implementation, including the Soil and Water Conservation District's (SWCD) Beehive database, SWCD Watershed Action Program Annual Reports, Nonpoint Source Program Annual Reports, and Grants Reporting and Tracking System (GRTS) database.[56,57,58,59] The Ohio Department of Agriculture's Division of Soil and Water Conservation Beehive database replaced the Soil and Water Information Management System database in 2018. It is used to track implementation of management measures and BMPs by watershed. Local soil and water conservation district staff and others enter each measure into the database. Information reported to the database is then used to inform the State's Watershed Grant Program and Nonpoint Source Program annual reports.

Ohio's Watershed Action Program promotes the development of voluntary watershed plans to meet water quality protection and restoration needs and support the goals of the coastal nonpoint

[56] Ohio Soil and Water Conservation Districts. Soil and Water Information Management System/Beehive (website). Accessed 12/16/2021. https://agri.ohio.gov/wps/portal/gov/oda/divisions/soil-and-water-conservation/local-swcd-resources/chapter-3%2B-soil%2Band%2Bwater%2Binformation%2Breporting%2Band%2Bguidance
[57] Ohio Soil and Water Conservation Districts. Watershed Program Grants. Accessed 12/16/2021. https://agri.ohio.gov/wps/portal/gov/oda/divisions/soil-and-water-conservation/resources/watershed_program_report
[58] Ohio EPA. Nonpoint Source Pollution Control Program Annual Reports (website). Accessed 12/16/2021 https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/surface-water/reports-data/319-grant-reports
[59] U.S. EPA. Grants Reporting Database (website). Accessed 12/16/2021. https://www.epa.gov/nps/grants-reporting-and-tracking-system-grts

program. Each year, the State produces an annual report for the program that presents data on the number of BMPs implemented for the State-endorsed watershed plans and includes project case studies to showcase estimated water quality improvements, including load reductions and increased habitat value, achieved by implementing these BMPs.

Ohio's Nonpoint Source Management Program annual reports are an important way the State summarizes BMP implementation and water quality data to show pollutant load reductions from Clean Water Act section 319-funded activities. The Ohio Environmental Protection Agency tracks these load reductions and enters this data into EPA's GRTS database. The annual reports tabulate and summarize results from GRTS and other BMP implementation efforts such as the Surface Water Improvement Fund and Great Lakes Restoration Initiative to assess the effectiveness of these nonpoint source pollution reduction efforts. These reports also provide information on the number of watersheds that have shown improvement.

To further understand how its BMP implementation is reducing loads and improving water quality, Ohio undertakes long-term ambient water quality monitoring on a rotating basin cycle. The State measures a variety of parameters such as nutrients, sediment, bacteria, physical characteristics and samples for macroinvertebrates and fish as well. This ambient monitoring informs the *Ohio Integrated Water Quality Monitoring and Assessment Report* (or Integrated Report) which discusses the overall health of Ohio's waters and identifies areas not meeting water quality standards.[60] For watersheds where water quality impairments are found, Ohio develops TMDLs. Ohio then prioritizes these impaired areas for implementation funding through its watershed planning and Section 319 programs so that load reductions will be achieved, and water quality standards met. The State uses Integrated Reports to fully understand how implementation projects have contributed to improvements of impaired waterbodies.

In addition to these State-specific efforts, Ohio is also participating in several broader Lake Erie regional efforts to improve water quality and reduce polluted runoff such as the Western Basin of Lake Erie Collaborative, Annex 4 of the Great Lakes Water Quality Assessment (which addresses nutrients), and the Lake Erie Lakewide Action and Management Plan (LAMP).[61,62] Ohio is focused on implementing remedial action plans for Areas of Concern (AOC) which were formally identified in the early 1980s to improve Ohio's coastal water quality. Ohio tracks progress across these AOCs by measuring against restoration targets. Ohio developed an AOC program framework and updated its delisting guidance and restoration targets for these AOCs to provide clarity for how the State partners are to work together to implement management measures needed to achieve beneficial uses.[63] The guidance also helps track progress toward

[60] Ohio EPA. Integrated Water Quality Monitoring and Assessment Report. (Website). Accessed 12/16/2021. https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/surface-water/reports-data/ohio-integrated-water-quality-monitoring-and-assessment-report

[61] U.S. EPA. 2016. Great Lakes Water Quality Agreement Nutrient Annex 4 Objectives and Targets Development Task Team: Muli-Modeling Report--Final. August 31, 2016. Accessed 12/16/2021. https://www.epa.gov/sites/production/files/2016-11/documents/nutrientannex4multimodelingreportfinalappendicessep2016.pdf

[62] U.S. EPA. Lake Erie Lakewide Action and Management Plan (website). Accessed 12/16/2021. https://www.epa.gov/greatlakes/lake-erie-lamps-and-associated-reports

[63] Ohio EPA. 2017. Delisting Guidance and Restoration Targets for Ohio Areas of Concern. December 2017. Accessed 12/16/2021.

achieving delisting goals under the Great Lakes Regional Collaboration and the associated Great Lakes Initiative Action Plan. These efforts help Ohio assess over time the extent to which implementation of management measures is reducing loads and improving water quality. NOAA and EPA encourage Ohio to continue to work through these partnerships to ensure that robust assessment programs that will help Ohio assess how BMP implementation is leading to improved water quality are incorporated into these regional efforts.

LIST OF ACRONYMS

6217(g)	Section 6217(g) of the Coastal Zone Act Reauthorization Amendments
AOC	area of concern
BMP	best management practice
CWA	Clean Water Act
CZARA	Coastal Zone Act Reauthorization Amendments
EPA	U.S. Environmental Protection Agency
GRTS	grants reporting and tracking system
LID	low impact development
LTAP	Local Transportation Assistance Program
MS4	municipal separate storm sewer system
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPS	nonpoint source pollution
OAC	Ohio Administrative Code
ODH	Ohio Department of Health
ODNR	Ohio Department of Natural Resources
ODOT	Ohio Department of Transportation
Ohio EPA	Ohio Environmental Protection Agency
OPWC	Ohio Public Works Commission
OSDS	onsite disposal systems
SFOSTS	small-flow on-site sewage treatment systems
SWCD	soil and water conservation district
SWP3	stormwater pollution prevention plan
TAC	technical advisory committee
TIMS	Transportation Information Management System
TMDL	Total Daily Maximum Load
TSS	Total Suspended Solids

https://lakeerie.ohio.gov/static/AOC_Docs/Delisting+Guidance+%26+Restoration+Targets+for+Ohio's+AOCs_v4_August2020.pdf