

NOAA/EPA DECISIONS ON CONDITIONS FOR THE MICHIGAN COASTAL NONPOINT PROGRAM

FOREWARD

The 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 approved coastal zone management programs to develop and implement management measures for nonpoint pollution control to restore and protect coastal waters (coastal nonpoint programs).

This document explains 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 Michigan has met the conditions that the Federal agencies had identified in the earlier approval of Michigan's coastal nonpoint program in 1997 pursuant to CZARA (1997 findings). The document discusses how the State program modifications satisfy each of the conditions and how the State's program otherwise conforms to the guidance document published under section 6217(g) of CZARA.

DECISION

The Federal agencies issued findings on September 24, 1997, approving Michigan's coastal nonpoint program submission subject to conditions identified at that time. Those findings are available at <https://coast.noaa.gov/data/czm/pollutioncontrol/media/findmi.txt>. Since that time, Michigan has undertaken a number of 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 Michigan has satisfied all conditions on the Federal agencies' approval of its coastal nonpoint program.

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 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' 1997 findings to support approval of Michigan's program, with conditions, grouping together the conditions related to each major nonpoint source category or subcategory, as well as conditions related to a strategy for monitoring. The structure for each condition follows a standard format. Each original finding and condition identified in 1997 is repeated, followed by the Federal agencies' rationale for how the State has met each condition.

For further understanding of terms in this document, please refer to the following:

- 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. Further information and analysis are contained in the administrative record for this decision and is available upon request at 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 (202/596-5039)

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

II. AGRICULTURE¹

1997 FINDING: Michigan’s program includes management measures in conformity with the 6217(g) guidance. The State has identified back-up enforceable policies and mechanisms to implement the agricultural management measures, but has not yet demonstrated the ability of these authorities to ensure implementation throughout the coastal nonpoint management area.

¹ This section begins with Roman numeral two because it follows the organization that was used for the Federal agencies’ 1997 findings to support the approval of Michigan’s program with conditions available at <https://coast.noaa.gov/data/czm/pollutioncontrol/media/findmi.txt>. Gaps in numbering or lettering of subsequent sections and subsections exist for this similar reason.

1997 CONDITION: Within one year, Michigan will develop a strategy (in accordance with Section XIV, page 16) to implement the agricultural management measures throughout the coastal nonpoint program management area.

2023 DECISION: Michigan has satisfied this condition.

RATIONALE: Michigan has developed a strategy to implement its voluntary-based approach for addressing the 6217(g) agriculture management measures throughout the coastal nonpoint program management area. As part of its strategy, the State has described how it will encourage the use of the voluntary agricultural best management practices (BMPs) contained within the *Agricultural Best Management Practices Manual* and its *Generally Accepted Agricultural and Management Practices* (GAAMPs), which NOAA and EPA previously found to be consistent with the 6217(g) management measures (see 1997 findings document for Michigan’s Coastal Nonpoint Program). Michigan has also provided a legal opinion affirming that the State has adequate back-up authority to ensure implementation of the agriculture management measures, demonstrated its commitment to use its back-up authority when needed, and described how it will monitor and track voluntary implementation. In addition, since gaining approval with conditions in 1997, Michigan has provided information with regard to several direct authorities, such as its Combined Animal Feeding Operations National Pollutant Discharge Elimination System (NPDES) General Permit and its pesticide control statute in Part 83 of Michigan’s Natural Resources and Environmental Protection Act (NREPA) that allows Michigan to implement significant portions of the 6217(g) management measures for pesticides and for facility wastewater and runoff from confined animal facility management (large units).

First, in 2002, Michigan adopted a NPDES general permit for concentrated animal feeding operations (CAFOs) which was most recently renewed in 2020.² This general permit applies to all CAFOs that the Michigan Department of Environment, Great Lakes, and Energy (EGLE) has determined do not require individual NPDES permits. Michigan further defines “CAFOs” as all large or medium CAFOs, or other animal feeding operation that is designated by EGLE under Michigan Rule 323.2196(3) as a medium or small CAFOs (Rule 323.2102(i)). The specific numbers of animals that comprise “large” and “medium” CAFOs can be found in Rule 323.2103(g) and (m), respectively. These size thresholds are equal to or lower than the size thresholds established for the 6217(g) management measure for large confined animal facilities except for swine and dairy. The size threshold for Michigan’s “medium CAFO” swine and dairy operations are 755-2,499 and 200-699 animals, respectively, whereas the 6217(g) management measure for large confined animal facilities is 200 or more swine and 70 or more dairy cattle. Per CZARA guidance, any facility that is required to receive NPDES permits are exempt from the

² Michigan EGLE. 2020. National Pollutant Discharge Elimination System Wastewater Discharge General Permit: Concentrated Animal Feeding Operations. (Permit No. MIG010000). Accessed 8/29/2023. https://www.michigan.gov/documents/deq/wrd-mpdes-cafo-GP_2015_488595_7.pdf

6217(g) management measures.³ Therefore, Michigan is exempt from the 6217(g) management measures for large and small confined animal facilities where these NPDES permits are issued.

Second, the 6217(g) pesticide management measure calls on states to reduce contamination of surface and ground water from pesticides by:

1. Evaluating the pest problems, previous pest control measures, and cropping history;
2. Evaluating the soil and physical characteristics from the site,
3. Using integrated pest management (IPM) strategies that:
 - a) Apply pesticides only when an economic benefit to the producer will be achieved; and
 - b) Apply pesticides efficiently and at times when runoff losses are unlikely;
4. Considering the persistence, toxicity, runoff potential, and leaching potential of products in making selections when pesticide applications are necessary and a choice of registered materials exist;
5. Periodically calibrating pesticide spray equipment; and
6. Using anti-backflow devices on hoses used for filling tank mixtures.

Through Part 83, Pesticide Control of NREPA, the Michigan Department of Agriculture and Rural Development (MDARD) has regulatory authority over the licensing and certification of pesticide applicators, groundwater protection and other aspects of pesticide registration. Section 324.8330(4) generally states, “A pesticide shall be handled, stored, displayed, or transported so that it will not endanger human beings and the environment or endanger food, feed, or other products that are stored, displayed, or transported with the pesticide.” In order to apply a pesticide for a commercial purpose or in the course of employment, an individual must be either a certified pesticide applicator or a registered applicator (Sections 324.8311, 324.8313 and 285.636). Individuals must pass qualification exams to become certified pesticide applicators or registered applicators. To maintain their qualifications, applicators must pass another exam or accrue certification credits by attending training webinars every three years. The training manuals for the certification exam cover a variety of pesticide BMPs that are consistent with the 6217(g) management measures. For example, the manual for regulatory pesticide management for commercial applicators discusses integrated pest management, knowledge of depth to water table, proper selection of pesticides for protection of surface and groundwater, equipment calibration, use of anti-backflow devices, and consideration of weather conditions during application.⁴

Michigan’s strategy to address the remaining agriculture management measures (erosion and sediment control, facility wastewater and runoff from confined animal facility management (large and small units), nutrient management, grazing, and irrigation water management) involves promoting BMPs consistent with the 6217(g) management measures through

³ EPA. 1993. Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters. (Management Measure for Facility Wastewater and Runoff from Confined Animal Facility Management (Large Units). EPA-840-B-92-002. Accessed 8/29/2023. <https://www.epa.gov/nps/guidance-specifying-management-measures-sources-nonpoint-pollution-coastal-waters>

⁴ Michigan State University Extension. 2006. *Regulatory Pesticide Management: A Guide for Commercial Applicators*. Extension Bulletin E-2055. Accessed 8/29/2023. https://www.canr.msu.edu/ipm/uploads/files/TrainingManuals_Regulatory/ReducedSize.pdf

MDARD's Right to Farm Program and Michigan Agriculture Environmental Assurances Program. MDARD's Right to Farm Program provides technical assistance to encourage Michigan farmers to adopt established GAAMPs. The Right to Farm Act (Act 93 of 1981) incentivizes farmers to adopt GAAMPs. The Act grants farmers that follow GAAMPs a certain level of protection if a nuisance complaint is filed against them (Section 286.473). NOAA and EPA's 1997 findings on Michigan's Coastal Nonpoint Program discussed how the State relied on GAAMPs to address the 6217(g) management measures for confined animal facilities, grazing and irrigation. Since then, Michigan has also developed GAAMPs for nutrient management that are consistent with the 6217(g) management measures for both nutrient management and erosion and sediment control.⁵ The nutrient management GAAMP specifies soil fertility testing and analyzing the nutrient needs of the crops, including consideration of the nutrients provided by organic matter, legumes, manure and other biosolids. Fertilizer application rates should be based on soil fertility tests, the growth and demand of crops, soil and weather conditions, and realistic crop yields. In addition, the GAAMP recommends using special fertilizer application methods in environmentally sensitive areas such as wellhead protection areas, sandy soils and other areas sensitive to groundwater contamination to minimize runoff and leaching. It also calls for routine equipment calibration to ensure proper application rates are maintained.

The nutrient management GAAMP also provides guidance to farmers on soil erosion control practices. This section recommends adopting soil conservation practices such as conservation tillage, crop rotation, strip cropping, contour planting, cover crops and vegetative filter strips. The GAAMP recommends that farmers look to the Natural Resource Conservation Service's latest Field Office Technical Guides for additional guidance on soil conservation best practices which is consistent with the 6217(g) erosion and sediment control management measure.

The Michigan Agriculture Environmental Assurances Program (MAEAP) was established in 1998 to provide outreach and assistance to farmers to promote effective land stewardship practices that comply with state and federal regulations. Authorized under Part 82 of NREPA (MCL 324.8202) and codified into law by Senate Bill 122 and House Bill 4212, now Public Acts 1 and 2 of 2011, MAEAP technicians show producers how to identify and mitigate environmental risks on their farms.⁶ Each farmer can obtain MAEAP verification for their farm by attending an education session, undergoing an on-farm risk assessment, and then seeking third-party verification from MDARD, which verifies that the GAAMPs and other MAEAP requirements are being implemented. MAEAP verified farmers receive regulatory protections because they are following approved best management practices and preferred consideration for technical assistance and cost-share.⁷

⁵ Michigan Department of Agriculture and Rural Development. 2021. Generally Accepted Agriculture Management Practices for Nutrient Utilization. January 2021. Accessed 8/29/2023.

https://www.michigan.gov/documents/mdard/Nutrient_Utilization_2021_GAAMPs_714231_7.pdf

⁶ Michigan Department of Agriculture and Rural Development. Undated. Michigan Agriculture Environmental Assessment Program (website). Accessed 8/29/2023.

<https://www.michigan.gov/mdard/environment/maeap/content/michigan-agriculture-environmental-assurance-program-maeap>

⁷ Michigan Agriculture Environmental Assurances Program. Undated. Michigan Agriculture Environmental Assurances Program (website). Accessed 8/29/2023. <https://maeap.org/>

To support the voluntary aspects of the agriculture management measure, Michigan provided a legal opinion from the assistant attorney general stating that the State has the authority to broadly prevent nonpoint pollution, and ensure implementation of the agriculture management measures, when needed, under Parts 17, 31, and 91 of the NREPA (MCL 324.1701-324.1706; MCL 324.3101-324.3134; MCL 324.9101-324.9313).⁸ Michigan has also described how MDRAD and EGLE work together through Michigan's Agricultural Complaint Investigation Procedure to take enforcement actions as needed.⁹ In addition, the State provided several examples of enforcement actions taken to address agriculture nonpoint source pollution that resulted in implementation of actions consistent with the 6217(g) management measures for agriculture, demonstrating its commitment to use its back-up authorities, when needed, to ensure implementation of the 6217(g) management measures for agriculture. Michigan is tracking voluntary implementation of the agriculture management measures through its section 319 NPS Program annual reports and MAEAP program.

III. FORESTRY

1997 FINDING: Michigan's program includes management measures in conformity with the 6217(g) guidance. Michigan has identified a back-up enforceable policy and mechanism for the forestry management measures but has not yet demonstrated the ability of this authority to ensure implementation of the management measures throughout the coastal nonpoint management area.

1997 CONDITION: Within one year, Michigan will develop a strategy (in accordance with Section XIV, page 16) to implement the forestry management measures throughout the coastal nonpoint program management area.

2023 DECISION: Michigan has satisfied this condition.

RATIONALE: As discussed in NOAA and EPA's 1997 Findings document, Michigan relies largely on a voluntary forestry BMP program that combines BMP guides, training and technical assistance programs, and incentive-based programs to meet the forestry management measures. However, at the time of its 1997 approval with conditions, the State lacked a strategy to implement the management measures throughout its coastal nonpoint management area. By subsequently providing a legal opinion that describes an adequate back-up authority to ensure implementation of the 6217(g) measures for forestry, demonstrating its commitment to use this back-up authority when needed, and describing how it will monitor and track implementation of its voluntary program, Michigan has demonstrated that it has a strategy in place to implement the forestry measures throughout its coastal nonpoint program management area.

Michigan provided a legal opinion from the assistant attorney general stating that the State has the authority and obligation to broadly prevent pollution and potential pollution, including

⁸ Letter from James R. Piggush, Assistant Attorney General, Environment, Natural Resources, and Agriculture Division. RE: Supplemental Letter on Michigan Nonpoint Source Statutory Authorities. September 29, 2004.

⁹ Michigan Department of Agriculture and Rural Development Right to Farm Program and Michigan EGLE, Water Resources Division. 2019. Water Complaint Response Procedure. January 2019.

nonpoint pollution, under Parts 17, 31, and 91 of the NREPA (MCL 324.1701-324.1706; MCL 324.3101-324.3134; MCL 324.9101-324.9313).¹⁰ The opinion includes citations to, and analysis of, the specific parts of NREPA that provide Michigan with authority to require implementation of the State's coastal nonpoint program, including the forestry management measures.

The State has also provided information documenting its commitment to implement the management measures and, as needed, to use its back-up authority to ensure implementation.¹¹ On state lands, Michigan requires implementation of BMPs as a stipulation of timber sale contracts, as a necessary element of state forest certification, and in response to violations on state lands. Michigan further implements the forestry management measures by coordinating with other resource management agencies and divisions during so-called compartment reviews. Compartment reviews determine which subsections in each geographic compartment should be managed (i.e., cut, thinned, left intact, revegetated, etc.) for wildlife or other purposes over the following ten years. These reviews also solicit input from other Michigan Department of Natural Resources (DNR) divisions and other agencies. In addition, the reviews provide opportunities for public comment and input on localized forest planning. Compartment reviews identify additional BMPs required to protect water quality, streamside habitat, and riparian habitats and are then incorporated into the overall prescription (i.e., forestry management plan, timber sale contract, etc.).

Michigan has also described how it uses its Nonpoint Source (NPS) Program Plan, Resource Damage Reporting database, and audit programs to track and evaluate implementation of the forestry management measures. The State's 2019 NPS Program Plan identifies long- and short-term goals for NPS improvements, including those caused by forestry activities, and includes annual reporting on specific actions taken to address those goals.¹² Michigan's Forest Services Division uses a Resource Damage Reporting database to track issues where forestry BMPs on State lands are not being followed. The Sustainable Forestry Initiative, overseen by an independent board, also conducts audits of forestry BMPs to ensure compliance with Michigan's water quality standards.¹³ Each of these tracking and monitoring efforts strengthens the State's ability to implement the forestry component of its coastal nonpoint program.

IV. URBAN

A. NEW DEVELOPMENT

¹⁰ Letter from James R. Piggush, Assistant Attorney General, Environment, Natural Resources, and Agriculture Division. RE: Supplemental Letter on Michigan Nonpoint Source Statutory Authorities. September 29, 2004.

¹¹ Three examples include: 1) Marquette County site inspections of the Plum Creek Timber Company on July 3 and 22, 2014, resulting in a Violation Notice and Order to Restore (Complaint File Number 14-52-0011-V); 2) inspection of a forestry harvest site on the Cliff Lake Club property conducted on November 1, 2007, that resulted in three specific violations and an agreement to remediate past impacts and mitigate future impacts; and 3) JM Longyear, LLC permit violations which required BMP implementation and action to restore Yellow Dog River and Big Pup Creek and meet permit compliance (July 19, 2005).

¹² Michigan EGLE. 2019. Michigan's Nonpoint Source Program Plan. Accessed 8/29/2023.

<https://www.michigan.gov/egle/-/media/Project/Websites/egle/Documents/Programs/WRD/NPS/General/program-plan-2019.pdf?rev=2e944aa1dbc9419dbe922204e2222980&hash=277EE091EC9EF14C1EAF92BB80835AE8>

¹³ Michigan Sustainable Forest Initiative (SFI). 2021. Sustainable Forestry Initiative (website). Accessed 8/29/2023. <https://sfimi.org/>

1997 FINDINGS: Michigan's program does not include management measures in conformity with the 6217(g) guidance. Michigan has identified a back-up enforceable policy and mechanism for this management measure but has not yet demonstrated the ability of this authority to ensure implementation throughout the coastal nonpoint management area.

1997 CONDITION: Within two years, Michigan will include in its program management measures in conformity with the 6217(g) guidance. Within one year, Michigan will develop a strategy (in accordance with Section XIV, page 16) to implement the new development management measure throughout the coastal nonpoint management area.

2023 DECISION: Michigan has satisfied this condition.

RATIONALE: Michigan meets the new development management measure largely through the State's voluntary watershed planning approach and multi-pronged, proactive education and outreach efforts. Michigan developed a targeted strategy to encourage communities in urban cluster areas (not associated with municipal separate storm sewer systems (MS4s) to adopt or update stormwater ordinances that are consistent with the 6217(g) management measure for new development. The State will initially target eight urban cluster areas that have the greatest potential for new and redevelopment activities to impact water quality.

The new development management measure requires states to ensure that new development, redevelopment, and road, highway, and bridge projects meet the following standards for all storms up to and including the two-year, 24-hour event:

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 predevelopment loadings; and
2. To the extent practicable, maintain post-development peak runoff rate and average volume at levels that are similar to predevelopment levels.

State coastal nonpoint programs are no longer required to include the new development management measure in urbanized areas subject to Phase I or Phase II NPDES MS4 permits because these regulations are redundant with this management measure for those permitted areas. See NOAA and EPA's 2002 memorandum, *Policy Clarification on Overlap of 6217 Coastal Nonpoint Programs with Phase I and II Storm Water Regulations*.¹⁴ Currently, there are 21 designated MS4s in Michigan's coastal nonpoint management area.

There are 23 urban cluster areas within Michigan's coastal nonpoint program management area that are not associated with MS4s. Michigan will focus its targeted approach on eight of these urban clusters: Houghton/Houghton County, Marquette/Grand Traverse County, Traverse

¹⁴ NOAA and EPA. 2002. *Policy Clarification on Overlap of 6217 Coastal Nonpoint Programs with Phase I and II Storm Water Regulations*. Accessed: 8/29/2023.
https://coast.noaa.gov/data/czm/pollutioncontrol/media/NPDES_CZARA_Policy_Memo.pdf

City/Grand Traverse and Leelanau Counties, Manistee/Manistee County, Ludington/Mason County, Whitehall/Muskegon County, Alma/Gratiot County, and Adrian/Lenawee County. Many Michigan counties have lost population since the early to mid-1990s. Only six of the 23 urban clusters in the coastal nonpoint program management area that are not associated with an MS4, have experienced a net increase in population between 2010 and 2018. The eight targeted urban clusters represent the areas that had an average annual increase of housing units of 2.5 housing units per year per square mile or more and a 2010 population of at least 8,000. If new census data reveal a change in these trends, the State will adjust its priority urban cluster areas as needed. The coastal nonpoint program allows states to target implementation of the 6217(g) management measures to focus resources on preventing and controlling significant impacts from nonpoint source pollution.¹⁵ NOAA and EPA agree that targeted implementation that focuses on these eight urban clusters is consistent with the 6217(g) guidance and implements the new development management measure where the most significant areas of new and redevelopment are likely to occur given expected growth and development trends.

Michigan's watershed management planning process serves as the foundation for the State's targeted approach for addressing the new development management measure. Nineteen of the 23 urban cluster areas are already covered in whole or in part by watershed management plans, including the eight targeted urban cluster areas. A watershed management plan covering the Mt. Pleasant urban cluster is under development and slated for completion by 2023. The three remaining urban cluster areas that currently lack watershed management plans (Escanaba, Ironwood and Menominee) are located in Michigan's Upper Peninsula and do not encompass the eight targeted urban clusters.

EGLE staff will provide technical assistance to watershed groups as they develop and update their watershed management plans to ensure all new and updated plans include recommendations for controlling post-construction stormwater runoff consistent with the new development management measure. The State has set a goal of completing one new plan or two plan updates a year within the coastal nonpoint program management area. This pace would result in the development of watershed plans for the four urban cluster areas that currently do not have watershed plans as well as updates to the watershed plans covering the 19 other urban cluster areas by 2035.

EGLE staff will also provide targeted outreach, technical and financial assistance annually to local governments, and watershed and environmental groups within the eight urban cluster areas to encourage them to implement recommendations in their watershed management plans related to the new development management measure. EGLE staff will encourage and assist the communities and groups to apply for funding through the State's Nonpoint Source (NPS) and Coastal Zone Management (CZM) programs to carry out their implementation activities.

¹⁵ NOAA and EPA. 1998. *Final Administrative Changes to the Coastal Nonpoint Pollution Control Program Guidance*. October 16, 1998. Accessed 8/29/2023.
<https://coast.noaa.gov/data/czm/pollutioncontrol/media/6217adminchanges.pdf>

As part of EGLE's outreach and technical assistance efforts, staff will work with the 15 cities and villages within these eight targeted urban cluster areas to adopt new ordinances and standards that are consistent with the new development management measure. This effort will include analyzing the communities' existing stormwater codes and standards and identifying any gaps that need to be addressed to be fully consistent with the new development management measure. The State's goal is to complete this analysis for all 15 local governments by 2024. EGLE staff would then share the results and provide recommendations for how the gaps could be addressed. Staff will also provide the communities with a copy of Michigan's stormwater model ordinance which is consistent with the new development management measure.¹⁶ The model ordinance is intended to serve as a guide for making updates to existing ordinances to address identified gaps. EGLE has committed to funding local ordinance reviews and the development of local stormwater ordinances that are consistent with the new development management measure. EGLE's goal is to fund one project within the targeted urban clusters a year to achieve ordinance updates for all 15 cities and villages that make up the eight targeted urban clusters by 2035.

Other elements in the State's proactive outreach strategy include: holding webinars targeted to communities within the eight priority urban clusters to further assist them in how to revise their stormwater ordinances to be consistent with the new development management measure; organizing an annual watershed summit that includes presentations on practices and policies local governments could implement that are consistent with the new development management measure; targeted invitations to attend the watershed summits to watershed groups and local governments representing the eight targeted urban clusters; and continuing to update and develop new outreach materials on post-stormwater control measures and practices consistent with the new development management measure and distributing these materials through EGLE's websites, social media, and listservs.

To further support its technical assistance and education and outreach efforts, Michigan has two core guidance manuals consistent with the new development management measure that it will continue to promote as part of its proposed education and outreach efforts to the eight targeted urban cluster areas: the *Michigan Nonpoint Source Best Management Practices Manual* (BMP manual) and the *Low Impact Development Manual for Michigan* (LID manual). Both manuals serve as best management practices manuals for EGLE's section 319 grants program, providing basic guidance on stormwater BMP siting and design standards. The BMP manual contains recommendations for the selection of BMPs to ensure the rate and volume of post-development runoff is not greater than the pre-development rates for the two-year, 24-hour storm event and prioritizes BMPs that infiltrate precipitation.¹⁷ The manual includes a variety of BMPs for controlling stormwater such as infiltration basins, wet detention ponds, and riparian buffers that are designed to achieve the goal of the new development management measure.

The 2008 LID manual contains information on structural and non-structural BMPs that can be used to apply low impact development techniques on projects located on new, existing and

¹⁶ Additional details on the model ordinance and how it is consistent with the new development management can be found in the paragraph below describing the *Low Impact Development Manual for Michigan*.

¹⁷ Michigan EGLE. 2017. *Michigan Nonpoint Sources Best Practices Manual*. Rev. 6/27/2017. Accessed 8/29/2023. <https://www.michigan.gov/egle/about/organization/Water-Resources/nonpoint-source/BMP-manual-and-design-references>

redeveloped sites.¹⁸ The LID manual contains information and BMP design recommendations that can be used to achieve removal of 80 percent of total suspended solids and maintain post-development runoff rates so that they are no greater than pre-development rates. In addition, the LID manual contains a model stormwater ordinance that includes suggested onsite stormwater performance requirements that are consistent with the new development management measure. For example, Section 4 of the model ordinance states “No net increase in runoff from storm events up to the two-year, 24-hour event from pre-settlement conditions unless local information and analysis is available that determines that less than two-year is adequate” (Section 4.03.A). It goes on to state: “The following water quality criteria shall be met. Water quality criteria are met when retaining the volume control criteria. (Section 4.03.A.6) For those areas not retaining the volume criteria, the site shall be designed to remove 80 percent of Total Suspended Solids from the stormwater runoff through a combination of BMPs.” (Section 4.03.A.6a). In addition, Section 6.02.A also generally states that the water discharged from the development shall not create adverse impacts, including degradation of water quality or habitat.

Michigan has provided a legal opinion from the State’s Attorney General asserting that Parts 17, 31, and 91 of the NREPA (MCL 324.1701-324.1706; MCL 324.3101-324.3134; MCL 324.9101-324.9313) provide adequate legal authority for the State to ensure the implementation of the 6217(g) management measures, including new development, throughout the coastal nonpoint management area. The State has committed to use relevant back-up authorities described in its legal opinion to ensure implementation of the 6217(g) guidance management measures, including the new development management measure, within the coastal nonpoint management area, as needed. Michigan also demonstrated its commitment to use its back-up authorities by providing example enforcement actions taken under Parts 31 and 91 of the NREPA, among other authorities. The State will track and evaluate voluntary implementation of the new development management measure over time through several mechanisms. Michigan’s NPS Program tracks watershed plan approvals and revisions and both the NPS Program and CZM Program have mechanisms in place for tracking projects that implement the new development management measure that are supported with section 319, coastal zone management, and Great Lakes Restoration Initiative funds. To track projects, including local updates to stormwater ordinances and design standards, which are funded through other sources, EGLE will send a short questionnaire to local governments and watershed and environmental groups within the 23 urban clusters every five years to assess progress on implementing the new development management measure and identify barriers to implementation. EGLE will then combine the financial and watershed plan tracking data and questionnaire results with data from its surface water quality monitoring program to assess how effective its voluntary-based strategy has been. If areas of low implementation and/or poor water quality are identified that are a result of new development or redevelopment activities in the priority urban cluster areas, the State will employ an adaptive approach and adjust their planned actions, as needed, to ensure implementation of the new development management measure in the targeted areas.

¹⁸ Southeast Michigan Council of Governments. 2008. *Low Impact Development Manual for Michigan*. September 2008. Accessed 8/29/2023.
<https://semcog.org/desktopmodules/SEMCOG.Publications/GetFile.ashx?filename=LowImpactDevelopmentManualforMichiganSeptember2008.pdf>

B. WATERSHED PROTECTION AND EXISTING DEVELOPMENT

1997 FINDING: Michigan’s program includes management measures for watershed protection and existing development in conformity with the 6217(g) guidance, except for siting development to protect the natural integrity of waterbodies and natural drainage systems. Michigan has identified a back-up enforceable policy and mechanism for these management measures but has not yet demonstrated the ability of this authority to ensure implementation throughout the coastal nonpoint program management area.

1997 CONDITION: Within three years, Michigan will include in its program management measures for siting development to protect the natural integrity of waterbodies and natural drainage systems in conformity with the 6217(g) guidance for watershed protection. Within one year, Michigan will develop a strategy (in accordance with Section XIV, page 16) to implement the watershed protection and existing development management measures throughout the coastal nonpoint program management area.

2023 DECISION: Michigan has satisfied this condition.

RATIONALE: Michigan relies on its robust watershed planning program, backed by enforceable authorities, to implement the watershed protection and existing development management measures. The watershed planning process also helps to site development to protect the natural integrity of waterbodies and natural drainage systems.

Existing Development

Michigan has addressed its condition for the existing development management measure by developing a voluntary strategy to identify, prioritize, and address nonpoint sources of pollution resulting from existing development through watershed-based plans. Michigan further supports the implementation of the existing development management measure through its targeted grant funding guidelines.

The existing development management measure requires states to develop and implement watershed management programs to:

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 waterbodies and their tributaries.

First, in accordance with NOAA and EPA’s 2002 *Policy Clarification on Overlap of 6217 Coastal Nonpoint Programs with Phase I and II Storm Water Regulations*, States are exempt from implementing the existing development management measure in designated MS4 areas

subject to Phase I or Phase II NPDES permits.¹⁹ There are 21 designated MS4s within the coastal nonpoint management area.

Outside of designated MS4 areas, Michigan will target implementation of the existing development management measure within the 21 urban cluster areas that are not associated with an MS4 area as this is where nonpoint source pollution impacts from existing urban development will likely be greatest. Michigan addresses all elements of the existing development management measure through voluntary watershed-based plans. In accordance with the State's criteria for approving watershed-based plans, an approvable plan must: identify the causes and sources of impairments or threats to water bodies, describe and prioritize the management measures needed to achieve proposed load reductions, and include a schedule for implementation.²⁰ As a result, watershed-based plans are a means to identify, prioritize, schedule and implement projects that aim to: retrofit existing development, protect natural conveyances, and/or establish riparian buffers to address nonpoint source pollution resulting from existing development where it is a threat to water quality. All of Michigan's approved watershed-based plans meet EPA's nine minimum elements for watershed plans, as will all plans developed in the future.

The *Grand Traverse Bay Watershed Protection Plan* and the 2019 *Boardman River Watershed Prosperity Plan*, that addresses a subwatershed of the Grand Traverse Bay watershed in more detail, are illustrative examples of how watershed-based plans address the elements of the existing development management measure.^{21,22} The *Grand Traverse Bay Watershed Plan*, developed in 2003, encompasses a large-scale watershed in northern Michigan. The plan included many recommendations to address runoff from existing development along Kids Creek, a tributary within the watershed and the only waterway within a non-MS4 urban cluster in the Michigan coastal nonpoint management area that has a designated use impairment resulting from urban development. For example, one of the primary goals of the plan is to protect and improve the quality of water resources within Grand Traverse Bay and its watershed through a variety of means, including by controlling and reducing the amount of stormwater runoff and associated pollutant loadings entering the Bay and its tributaries. Related implementation tasks described in the plan include implementing one major stormwater BMP project each year in urban areas in the watershed and implementing stormwater BMP projects that include low impact design elements in the Kid's Creek area. Since the completion of the plan, many projects have been implemented that align with these recommendations such as installing bioretention basins and downspout planters, replacing existing asphalt parking lots with pervious pavers, restoring a natural floodplain, and restoring riparian buffers.

¹⁹ NOAA and EPA. 2002. *Policy Clarification on Overlap of 6217 Coastal Nonpoint Programs with Phase I and II Storm Water Regulations*. Accessed 8/29/2023.

https://coast.noaa.gov/data/czm/pollutioncontrol/media/NPDES_CZARA_Policy_Memo.pdf

²⁰ Michigan EGLE. n.d. *Checklist for a 319 Approved Watershed Management Plan*. Accessed 8/29/2023.

<https://www.michigan.gov/egle/-/media/Project/Websites/egle/Documents/Forms/WRD/NPS/EQP9252-Checklist-319-Approved-Watershed-Mgmt-Plan.pdf?rev=727175a05f8946259a7595665d6e0572&hash=4FE0821531D91B6DA039DD0ED9A864B1>

²¹ The Watershed Center Grand Traverse Bay. 2005. *Grand Traverse Bay Watershed Protection Plan*. Accessed 8/29/2023. <https://dspace.nmc.edu/handle/11045/24215>

²² The Watershed Center Grand Traverse Bay and Public Sector Consultants, Inc. 2016 *Boardman River Watershed Prosperity Plan*.

The Boardman River watershed, a subwatershed of Grand Traverse Bay which includes Kids Creek, is covered by its own approved watershed-based plan. The *Boardman River Watershed Prosperity Plan* was completed in 2019 to further expand upon and update the *Grand Traverse Bay Watershed Plan* for this critical area. The plan includes goals and prioritizes implementation tasks to mitigate the impacts of urban development. For example, one of the high-priority implementation tasks listed in the plan is to implement one large-scale (estimated cost is \$200,000/project) stormwater BMP including low impact design elements, riparian buffers and filter strips, and stormwater filtering and retention systems in the Kids Creek area each year.

Another example of how watershed-based plans results in actions that are consistent with the existing development management measure is the *Rogue River Watershed Management Plan*.²³ The Rogue River watershed is located in west central lower Michigan and its upper reaches contain several non-MS4 urban clusters. Although designated use impairments resulting from urban development have not been documented in the watershed, runoff from impervious surfaces is thought to be one source of pollutants threatening water quality in the Rogue River. The plan also identifies runoff from impervious surfaces as a high priority suspected cause of pollution. Many of the projects described in the plan will help to prevent future impairments by managing runoff from impervious surfaces and protecting areas from future development. For example, the plan calls for the creation of 98.5 acres of riparian buffer strips and for the protection of approximately 3,000 acres of land, including riparian corridors and wetlands, via conservation easements over a ten-year implementation period. These proposed actions are consistent with the existing development management measure.

Michigan has developed a voluntary strategy to ensure that watershed-based plans cover each non-MS4 urban cluster in the coastal nonpoint management area. As of 2019, 16 of the 21 urban clusters in the coastal nonpoint management area are already covered by an approved watershed-based plan. A watershed-based plan covering the Mount Pleasant urban cluster is in development and is expected to be completed by 2023. Michigan will supply technical and/or financial assistance to support the development of watershed-based plans for the four non-MS4 urban clusters that are not yet covered by an approved plan with the goal of reaching coverage of all urban clusters by 2034. Finally, Michigan has committed to developing or updating watershed-based plans, as needed, to address new designated use impairments resulting from urban development should they be documented in the future.

Michigan further supports the implementation of the existing development management measure by targeting its CWA section 319 and Clean Michigan Initiative pass-through grant funding for low impact development projects. Specifically, Michigan's 2020 Nonpoint Source Program Request for Proposals stated that low impact development and green infrastructure projects that are a high priority for funding will: be in watersheds with impacts caused by unstable hydrologic conditions; be identified as a high priority activities necessary to address restoration or protection goals in the associated approved watershed management plan; and be focused on critical areas

²³Alliance of Rouge Communities. 2012. Rouge River Watershed Management Plan. June 21, 2012. Accessed 8/23/2023. <https://www.allianceofrougecommunities.com/login.html>

identified in approved watershed management plans.²⁴ For watersheds that do not have water quality impacts due to urban development, Michigan has stated that funding will be prioritized towards protection-oriented projects (e.g., development of stormwater ordinances and conservation easements) to prevent water quality impacts and towards education and outreach activities.

Watershed Protection

The watershed protection management measure calls on states 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.

Michigan's strategy for addressing the watershed protection management measure is based on the State's well-funded watershed management planning program. EGLE encourages local groups to develop watershed plans. In order for a local group to receive section 319 funding to implement nonpoint source reduction projects, it must have a watershed plan approved by EGLE in place. EGLE also provides technical and sometimes financial assistance to groups developing and updating these watershed plans. In FY2020, seven of the 10 projects that received section 319 funding were wholly or partially within the coastal nonpoint management area.

The watershed plans are required to take into consideration: designated and desired uses; water quality threats and/or impairments; known or suspected causes of each threat or impairment; the source of the pollutant; a prioritized list of pollutants; goals and tasks; BMPs, revisions to laws and other land use management tools, as well as activities needed to institutionalize watershed protection; outreach and educational activities; and a description of the process to evaluate the effectiveness of plan implementation.²² As of April 2021, EGLE has approved 69 watershed management plans in the coastal nonpoint management area.

The watershed plans developed through this process are consistent with the 6217(g) watershed protection management measure because they identify areas that are particularly susceptible to erosion and sediment loss and include actions to prevent disturbance of these areas. They also include actions to preserve areas that provide important water quality benefits and help ensure that development is sited to protect waterbodies and natural drainage. For example the goals of the *Grand Traverse Bay Watershed Protection Plan* call for protecting the integrity of aquatic and terrestrial ecosystems within the watershed and promoting land and water management practices that conserve and protect the natural resources of the watershed.²³ In addition, the plan includes specific actions such as promoting open space and land preservation and protection through conservation easements and "watershed friendly design," maintaining and enhancing stream canopy, and promoting practices to preserve riparian areas and stabilize streambanks that are susceptible to erosion.

²⁴ Michigan EGLE. 2019. Nonpoint Source Program Request for Proposals.

Enforceable Policies and Mechanisms—Existing Development and Watershed Protection

Michigan tracks voluntary implementation of watershed-based plans and related BMPs through EPA's Grants Reporting and Tracking System, annual section 319 reports to EPA, and through the EGLE grant application processes, which require applicants to provide a summary of activities conducted to implement the water quality priorities of approved plans each time they apply for grant funding.

Michigan has provided a legal opinion from the State's Attorney General, asserting that Parts 17, 31, and 91 of the NREPA (MCL 324.1701-324.1706; MCL 324.3101-324.3134; MCL 324.9101-324.9313) provide adequate legal authority for the State to ensure the implementation of the 6217(g) management measures, including existing development and watershed protection, throughout the coastal nonpoint management area. The State has committed to use relevant back-up authorities, described in its legal opinion to ensure implementation of the 6217(g) guidance management measures, including the existing development and watershed protection management measures, within the coastal nonpoint management area, as needed. Michigan also demonstrated its commitment to use its back-up authorities by providing example enforcement actions taken under Parts 31 and 91 of the Natural Resources and Environmental Protection Act, among other authorities (see Agriculture and Forestry Sections above).

C. SITE DEVELOPMENT

1997 FINDING: Michigan's program includes management measures in conformity with the 6217(g) guidance, except for protecting areas that provide important water quality benefits and limiting disturbance of natural drainage features and includes enforceable policies and mechanisms to ensure implementation.

1997 CONDITION: Within three years, Michigan will include in its program management measures in conformity with the 6217(g) guidance for site development.

2023 DECISION: Michigan has satisfied this condition.

RATIONALE: Michigan has satisfied the condition on its coastal nonpoint program related to the site development management measure through a combination of its voluntary *Nonpoint Source Best Management Practices Manual* and direct regulatory controls through Part 91 of NREPA and its Natural Rivers Program. In addition, other voluntary guidebooks such as the *Soil and Erosion Sediment Control (SESC) Training Manual* and *SESC Guidebook* reinforce the goals of the site development management measure and promote implementation of plans and practices that are consistent with the management measure.

The goal of the site development management measure is to reduce the generation of nonpoint source pollution and to mitigate the impacts of urban runoff and associated pollutants from all site development. These controls and policies are necessary to ensure that development occurs so that nonpoint source concerns are incorporated during the site selection and the project design

and review phases and are intended to apply to individual sites rather than watersheds or regional drainage basins. Specifically, the site development management measure calls on states 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;
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.

In NOAA and EPA's 1997 Finding for Michigan's Coastal Nonpoint Program, the federal agencies found that the State had programs in place consistent with elements 2 and 3 of the site development management measure. Therefore, this rationale focuses on how Michigan has since addressed elements 1 and 4.

Under Michigan's erosion and sediment control requirements, the State requires the protection of areas that provide important water quality benefits or are particularly susceptible to erosion (Part 91 of NREPA). A landowner must obtain an erosion and sediment control permit and develop an erosion and sediment control plan for any site development activity within 500 feet of state waters (e.g., lake, stream, river or floodplain, or any wetland regulated by Part 303 of NREPA), and for sites that disturb one or more acres ((R 323.1702). Exceptions are limited to disturbances less than 225 square feet and certain activities related to crop production, logging, and mining operations (R 323.1705). Additionally, any non-exempt site development activities (e.g., not within 500 feet of a stream or lake or less than one acre) are still subject to the enforcement procedures under Part 91 if the activity results in an adverse water quality impact (Part 91 of NREPA 324.9117). Specific earth change activities exempt from permits are also not exempt if they result in a water quality violation, and it is expected that they will conform to the same standard as if they required a permit (Part 91 of NREPA 324.9115, 324.9115a, and 324.9116).

The permit requires the landowner to "design, construct, and complete an earth change in a manner that limits the exposed area of any disturbed land for the shortest possible period" and "stabilize the area with permanent soil erosion control measures" and take other actions that protect areas that are particularly susceptible to erosion and sediment loss and limit disturbance of natural drainage features and vegetation (R 323.1709). Part 91 regulatory staff also place specific conditions on the erosion and sediment control permits to address the specific site characteristics and earth change activities of the project. These provisions are crafted to prohibit any activity that would destabilize a stable bank or shoreline. Additionally, the conditions prohibit any activity that would exacerbate natural erosion of a bank or shoreline.

In addition to direct regulatory authorities under Part 91 of NREPA, the *Michigan Nonpoint Source Best Management Practices Manual* (manual) was written to voluntarily promote watershed planning and site development practices that protect water quality. The manual includes BMPs that are consistent with elements 1 and 4 of the site development management measure.²⁵ Page 23 of the manual contains an outline of the BMPs to be used in the site

²⁵ Michigan DEQ. *Michigan Nonpoint Source Best Practices Manual*. Rev 2017.6.27. Accessed 8/29/2023. https://www.michigan.gov/documents/deq/wrd-nps-bmp-intro_577101_7.pdf

development process to protect water quality through the soil, vegetation, drainage and hydrological assessments intended to protect soils, vegetation, drainages and hydrological features that are necessary to protect and restore water quality and wildlife habitat. Specific goals are identified to: limit activities to critical areas of the site; minimize runoff by preservation of existing vegetation to the extent possible; minimize cut and fill at the development site; preserve and utilize existing natural drainage systems; and reproduce pre-development hydrologic conditions.

The manual also promotes other practices that address the intent of site development management measure elements 1 and 4. These practices include: tree protection; the use of wetland crossings; riparian buffers (consistent with designated riparian buffer requirements in the Natural Rivers In Michigan Program²⁶); land clearing management (addresses vegetation protection, erosion-prone soils and steep slopes); critical area stabilization (addresses highly-erodible soils, steep slopes and areas adjacent to concentrated flows); and sediment controls for access roads (addresses vegetative cover protection, erosion prevention, reduction in soil compaction and water quality protection).

Implementation of the site development management measure elements 1 and 4 are also promoted through Michigan Department of Technology Management and Budget (DTMB)'s *Soil and Erosion and Sediment Control (SESC) Guidebook* (SESC guidebook) and *SESC Training Manual*. DTMB established these SESC procedures to provide effective soil erosion and sediment control, inspection and enforcement on State of Michigan construction projects. The *SESC Training Manual* states that sites shall be planned and designed to avoid development in critical or sensitive areas, preserve natural buffers, and protect wetlands.²⁷

The SESC guidebook includes basic principles of erosion and sediment control that encourage the protection of site features that provide important water quality benefits.²⁸ These principles are implemented by DTMB, project architects and the SESC Program during the planning, design and construction phases of all projects. The SESC guidebook also includes detailed BMPs that are consistent with both elements 1 and 4 of the site development management measure. For example, where existing natural or created grades are subject to surface flows capable of creating gullies, rills, or other surface erosion problems, the guidebook calls for developing a grading plan considering flow paths and rates, soil permeability, and vegetative cover and avoiding sensitive areas (e.g., watercourses, wetlands, vegetative buffers) with grading and shaping, among other measures. The guidebook also recommends retaining vegetative root masses to aid in slope stabilization by minimizing grubbing, cutting vegetation within a few inches of natural ground surface, and leaving the root zone intact. Other BMPs that are consistent with the intent of the site development management measure include: identification of sensitive resource areas (waterbodies/wetlands) prior to initiation of site grading activities; maintenance of existing

²⁶ Michigan EGLE Natural Rivers Program. Accessed 8/29/2023. https://www.michigan.gov/dnr/0,4570,7-350-79136_79236_82211---,00.html

²⁷ Michigan DEQ. 2010. *Certified Stormwater Operator and Soil Erosion and Sediment Control Inspector/Training Manual*. Revised February 2010. Accessed 8/29/2023. https://www.michigan.gov/documents/deq/wrd-cswo-sesc-training-manual_556364_7.pdf

²⁸ Michigan DTMB. 2019. *Soil Erosion and Sediment Control Guidebook*. Accessed 8/29/2023. https://www.michigan.gov/documents/dtmb/SESC_Guidebook_2019_660638_7.pdf

natural buffer/filter strips, where possible, especially along watercourses; protection of critical resource area; and limiting the area of disturbance areas.

Finally, while more limited in scope, the Michigan DNR administers Michigan's Natural Rivers Program, established under Part 305 of NREPA. This program aims to protect the ecological and aesthetic integrity of rivers and riparian corridors through a public process that involves formally designating the river as a "Natural River," and establishing zoning rules for guiding development and controlling other activities within the corridor, or "natural river district." Local governments may adopt the zoning rules as local zoning ordinances. The DNR implements and enforces the rules where they are not administered by local governments. The zoning rules include requirements to protect vegetation in riparian buffers and sensitive areas such as wetlands (R 281.57 Rule 7.1 and R 281.57 Rule 7.14).

D. CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL

1997 FINDING: Michigan's program includes management measures in conformity with the 6217(g) guidance, except for construction sites that disturb less than one acre or are not within 500 feet of a lake or stream, and includes enforceable policies and mechanisms to ensure implementation.

1997 CONDITION: Within two years, Michigan will include in its program management measures in conformity with the 6217(g) guidance, or demonstrate that exemptions do not preclude the State from fully implementing the management measure for construction site erosion and sediment control throughout the coastal nonpoint program management area.

2023 DECISION: Michigan's program is exempt from the management measure for construction site erosion and sediment control.

RATIONALE: Effective December 20, 2002, NOAA and EPA have determined that these activities are no longer subject to requirements of CZARA section 6217 Coastal Nonpoint Pollution Control Program due to their coverage in NPDES stormwater permit program (Phase I and II). State coastal nonpoint programs need no longer include the construction site erosion and sediment control management measure because the NPDES permit application regulations for stormwater associated with industrial activities, including construction activity, apply nationwide (including the coastal nonpoint management areas of the various coastal states and territories) and have thus rendered the CZARA management measure redundant. See NOAA/EPA memorandum, *Policy Clarification on Overlap of 6217 Coastal Nonpoint Programs with Phase I and II Storm Water Regulations*.²⁹

E. CONSTRUCTION SITE CHEMICAL CONTROL

²⁹ NOAA and EPA. 2002. *Policy Clarification on Overlap of 6217 Coastal Nonpoint Programs with Phase I and II Stormwater Regulations*. Accessed 8/29/2023. https://coast.noaa.gov/data/czm/pollutioncontrol/media/NPDES_CZARA_Policy_Memo.pdf

1997 FINDING: Michigan's program does not include management measures in conformity with the 6217(g) guidance, but includes enforceable policies and mechanisms to ensure implementation.

1997 CONDITION: Within two years, Michigan will include in its program management measures in conformity with the 6217(g) guidance.

2023 DECISION: Michigan's program is exempt from the management measure for construction site chemical control.

RATIONALE: Effective December 20, 2002, NOAA and EPA have determined that these activities are no longer subject to requirements of CZARA section 6217 Coastal Nonpoint Pollution Control Program due to their coverage in NPDES stormwater permit program (Phase I and II). State coastal nonpoint programs need no longer include the management measure for construction site chemical control because the NPDES permit application regulations for stormwater associated with industrial activities, including construction activity, apply nationwide and therefore throughout Michigan's coastal nonpoint management area. See NOAA/EPA memorandum, *Policy Clarification on Overlap of 6217 Coastal Nonpoint Programs with Phase I and II Storm Water Regulations*.³⁰

F. NEW AND OPERATING INSITE DISPOSAL SYSTEMS (OSDS)

1997 FINDING: Michigan's program does not include management measures in conformity with the 6217(g) guidance and does not include enforceable policies and mechanisms to ensure implementation.

1997 CONDITION: Within three years, Michigan will include in its program management measures in conformity with the 6217(g) guidance. Within three years, Michigan will include in its program enforceable policies and mechanisms to ensure implementation of the new and operating onsite disposal system management measures throughout the coastal nonpoint program management area.

2023 DECISION: Michigan has satisfied this condition.

RATIONALE: Michigan employs a suite of state and local authorities to meet the new OSDS management measure, such as the Michigan Criteria for On-site Wastewater Treatment and the Administrative Rules for On-Site Water Supply and Sewage Disposal for Land Divisions and Subdivisions. In addition, the State has demonstrated it has a mix of state rules and local ordinances, and robust education and outreach efforts to ensure that existing OSDS are operated and maintained to prevent the discharge of pollutants (Element 1 of the operating OSDS management measure). Michigan has developed a targeted strategy that relies on local ordinances in nine counties and seven other jurisdictions and voluntary-based approaches,

³⁰ NOAA and EPA. 2002. *Policy Clarification on Overlap of 6217 Coastal Nonpoint Programs with Phase I and II Storm Water Regulations*. Accessed 8/29/2023.
https://coast.noaa.gov/data/czm/pollutioncontrol/media/NPDES_CZARA_Policy_Memo.pdf

backed by enforceable authorities, in other areas to ensure operating OSDS throughout the coastal nonpoint management area will be inspected at a frequency adequate to ascertain failure (Element 2 of the operating OSDS management measure). Michigan has also provided information documenting that excess nitrogen due to septic systems is not a concern for waters within Michigan's coastal nonpoint management area. Therefore, the elements of the new and operating OSDS management measures related to nitrogen-limited waters are not applicable to the state. In addition to direct enforcement authorities, Michigan has also provided a legal opinion stating it has enforceable policies and mechanisms to ensure implementation of the OSDS management measures throughout the coastal nonpoint management area where voluntary-based approaches may be employed.

New OSDS

The management measure for new OSDS calls on 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 groundwater that is closely hydrologically connected to surface waters;
2. Direct the placement of OSDS away from unsuitable areas (e.g., poorly drained soils; areas with shallow water tables or high seasonal water tables; areas within floodplains); Where placement in unsuitable areas is not practicable, ensure that the OSDS is designed or sited at a density so as not to adversely affect surface waters or groundwater closely hydrologically connected to surface waters;
3. Establish protective setbacks from surface waters, wetlands, and floodplains;
4. Establish protective separation distances between OSDS and groundwater which is 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.

EGLE and local health departments have shared responsibility for regulating new OSDS. All systems that discharge less than 1,000 gallons per day must meet the requirements of local sanitary codes. All systems that discharge more than 10,000 gallons per day must obtain a state ground water discharge permit (Part 22, Groundwater Rules M.A.C. R323.2201-R323.2211). OSDS that discharge 1,000 to 10,000 gallons per day are regulated by local health departments using state criteria.³¹ In addition, OSDS in subdivisions or on lots less than an acre must comply with the Land Division Act (Act 288 of 1967) and Administrative Rules for On-Site Water Supply and Sewage Disposal for Land Divisions and Subdivisions (M.A.C. R 560.406 to R 560.428).

³¹ Michigan DEQ. 2013. *Michigan Criteria for On-site Wastewater Treatment*. January 29, 2013. Final Edited Draft. Accessed 8/29/2023 https://www.michigan.gov/documents/deq/MIC_Chpt_01-14_final_edited_draft_01-29-13_411944_7.pdf

The *Michigan Criteria for On-site Wastewater Treatment* (criteria) provides minimum uniform siting and design standards that are consistent with the new OSDS management measure.³² The criteria apply to all OSDS that discharge less than 20,000 gallons per day except for private single and two-family systems that are governed by local health department standards. For example, systems must be at least 100 feet from surface waters and 50-200 feet from water supply wells, depending on the type of well. OSDS also need to be set back 50 to 100 feet from storm drains unless there is no question the storm drain will be above the high-water table, but never closer than 25 feet. In addition, OSDS and their components must be located outside of the 100-year floodplain. To establish protective separation distances from groundwater, there must be a minimum of three feet of unsaturated soil between the bottom of the infiltrative surface and the high groundwater elevation or restrictive layer. The criteria also establish minimum requirements for site evaluation, system design, and new system inspection to ensure that OSDS are located, designed, installed and inspected to prevent the discharge of pollutants. For example, the criteria note that slopes greater than 12 percent are to be avoided and establish protocols for assessing soil permeability to ensure OSDS are not placed in unsuitable areas.

The *Administrative Rules for On-Site Water Supply and Sewage Disposal for Land Divisions and Subdivisions* (Land Division Rules), which apply to all OSDS located in a subdivision or on lots less than one acre, requires OSDS be set back 100 feet from surface waters and 50 feet from private wells (M.A.C. R560.417). The rules also include other requirements to ensure OSDS are not placed in unsuitable areas or located too close to sensitive areas consistent with the new OSDS management measure. OSDS cannot be located within the floodplain (M.A.C. R560.419) and must be located on suitable slopes. OSDS planned for slopes greater than 12 percent need to submit a detailed development plan for additional review (M.A.C. R560.418). In addition, to provide for adequate separation from groundwater, there must be at least three feet of unsaturated soil between the high groundwater table or bedrock and the bottom of the infiltrative surface of the OSDS (M.A.C. R560.421).

For OSDS not subject to the Land Division Rules, local health departments establish specific siting and design criteria for smaller OSDS that discharge less than 1,000 gallons per day or that serve private single and two-family residential units. While specific requirements for new OSDS vary among the local sanitary codes, at a minimum, all local codes are required to address system sizing, provide protective setbacks from sensitive areas, and vertical separation distances from groundwater that are consistent with the new OSDS management measure. The State evaluates local health departments on a three-year cycle as part of the Michigan Local Public Health Accreditation Program.³³ The program is a collaborative effort between the Michigan Public Health Institute, MDARD, EGLE, The Michigan Department of Health and Human Services, the Michigan Association for Local Public Health, and Michigan's local public health departments. To maintain their accreditation, local health departments must demonstrate they have programs

³² Michigan DEQ. 2013. *Michigan Criteria for On-site Wastewater Treatment*. January 29, 2013. Final Edited Draft. Accessed 8/29/2023. https://www.michigan.gov/documents/deq/MIC_Chpt_01-14_final_edited_draft_01-29-13_411944_7.pdf

³³ Michigan Local Public Health Accreditation Program. 2018. *Michigan Local Public Health Accreditation Program Tool 2018 – MPR Indicator Guide Section VI: Onsite Wastewater Treatment Management*. Accessed 8/29/2023. https://accreditation.localhealth.net/wp-content/uploads/2017/10/Onsite-Wastewater_Cycle-7_MPR-and-Indicator-Guide.pdf

in place to evaluate OSDS sizing, design and installation requirements for new systems. They must also have site evaluation processes in place to assess the suitability of the site for OSDS, including assessing soil characteristics, seasonal high-water table, slope, and isolation distance, among other requirements.

In addition to these OSDS-specific rules, Michigan has additional laws that require OSDS be set back from other sensitive areas. For example, OSDS need to be 100 to 200 feet from designated “natural rivers,” depending on the river (M.A.C. R281.51 to R 281.395). Also, in high-risk erosion areas, the OSDS setback must be sufficient to keep the OSDS out of the zone of active erosion for 30 to 60 years (M.A.C. R 281.22).

As discussed more in the operating OSDS management measure section below, EGLE, Michigan State University Extension (MSUe), local health departments and other groups conduct various education and outreach programs to ensure homeowners know how to properly maintain their OSDS, consistent with the first element of this management measure. For example, EGLE participates in the U.S. EPA’s SepticSmart Program and distributes EPA’s booklet titled *A Homeowners Guide to Septic Systems*.³⁴ The brochure provides many tips for maintaining septic systems including installing water-efficient plumbing fixtures and avoiding the use of garbage disposals.

Operating OSDS

To address the operating OSDS management measure, states need to:

- 1) Establish and implement policies and systems to ensure that existing OSDS are operated 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 ground waters that are closely hydrologically connected to surface waters;
- 2) Inspect OSDS at a frequency adequate to ascertain whether OSDS are failing; and
- 3) Consider replacing or upgrading OSDS to reduce nitrogen loadings by 50 percent where conditions indicate that nitrogen-limited surface waters may be adversely affected by OSDS, and where nitrogen loadings from OSDS are delivered to ground water that is closely hydrologically connected to surface waters.

Michigan meets the first element of the operating OSDS management measure through a mix of regulatory and voluntary approaches including state and local laws and robust education and outreach programs. At the state level, EGLE and MSUe both have active OSDS education and outreach programs consistent with the first element of the operating OSDS management measure. EGLE maintains a webpage for onsite wastewater that includes information about programs, laws, and technical guidance. The site includes various resources for homeowners on septic system maintenance such as brochures, frequently asked questions and short education videos.³⁵ MSUe also operates a website for septic system education that instructs homeowners

³⁴ EPA. 2012. *A Homeowner’s Guide to Septic Systems*. September 2012. EPA-832-B-12-005. Accessed 8/29/2023. <https://www.michigan.gov/egle/about/organization/drinking-water-and-environmental-health/onsite-wastewater-management/septicmart>

³⁵ Michigan EGLE. Undated. Onsite Wastewater (website). Accessed 8/29/2023. https://www.michigan.gov/egle/0,9429,7-135-3313_71618_51002---,00.html

about septic systems, including good maintenance practices.³⁶ In partnership with EGLE, local health departments and others, MSUe has also held several workshops on homeowner septic system use and maintenance across the state and developed a recorded webinar of the workshop that is available from its educational webpage. MSUe promotes the recorded webinar annually as part of its Septic Smart Week outreach activities. Both EGLE's and MSUe's educational materials promote a variety of best practices related to septic system maintenance such as having the tank inspected by a qualified professional every three years, pumping the tank every three to five years, avoiding putting grease and solids such as coffee grounds down the drain, using water-efficient plumbing fixtures, spreading out water use, and discouraging the use of garbage disposals.

Michigan also has state-wide rules that require the repair and replacement of any failing or failed OSDS (Part 31 Water Resources Protection, section 3109 - MCL 324.3109, and Drain Code, Act 40 of 1956, Section 423 – MCL 280.423). Other state rules limit phosphorus loadings to the OSDS. The state has banned the use of phosphorous in laundry detergents since 1977, allowing no more than 0.5 percent phosphorous, by weight (M.A.C. R 323.1173(3)). At the time, dishwasher detergent was exempted from the ban since so few households had dishwashers. In 2010, the phosphate ban was extended to dishwasher detergent as well (M.A.C. R 324.3901(1)(b)).

At the local level, 11 counties that are at least partially within the coastal nonpoint management area have sanitary codes that require routine maintenance of all OSDS in the county (Allegan, Arenac, Clare, Genesee, Gladwin, Isabella, Kalamazoo, Lenawee, Monroe, Osceola, and Van Buren). For example, the Environmental Health Code for Lenawee County states that:

“Every private sewage disposal system shall be maintained in a satisfactory operating condition at all times. Septic tanks shall be maintained in a sound and watertight condition. Septic tanks shall be routinely pumped to prevent the accumulation of solids and scum to an extent that solids and scum do not carry over into the absorption field. Septic tanks are recommended to be pumped every 3 to 5 years.” (Chapter 2, Section 1(q)).

In addition, many local health departments distribute information about proper OSDS maintenance, including through online websites. For example, the Berrien County Health Department's webpage on septic system maintenance notes the importance of conserving water to avoid overloading the system, diverting other water sources such as downspouts and sump pumps away from the system, and having the system inspected every three years.³⁷ It also includes links to other state and federal resources on good septic system maintenance.

To address Element 2 of the operating management measure—inspect existing OSDS at a frequency adequate to ascertain whether OSDS are failing—nine counties within the coastal nonpoint management area (Benzie, Isabella, Kalamazoo, Macomb, Manistee, Ottawa, Shiawassee, Washtenaw, and Wayne) and seven other communities (Brooks Township of Newaygo County,

³⁶ Michigan State University Extension. Undated. Septic System Education, News, Programming and Other Resources from MSU Extension (website). Accessed 8/29/2023. https://www.canr.msu.edu/septic_system_education/

³⁷ Berrien County Health Department. Undated. On-Site Septic (website). Accessed 8/29/2023. <http://www.bchdmi.org/760/On-Site-Septic>

Milton Township of Antrim County, Secord Township of Gladwin County, West Bloomfield Charter Township of Oakland County, Long Lake Township of Grand Traverse County and both Glen Arbor Township and the village of Empire in Leelanau County) have ordinances in place requiring OSDS inspections at the time of property transfer. Michigan estimates that approximately 18 percent of the OSDS within the coastal nonpoint management area are located within these counties and communities and therefore subject to direct regulatory authorities that require inspections.

Outside of these counties and communities, Michigan has developed a targeted strategy that is focused largely on voluntary-based approaches, backed by enforceable authorities, to ensure existing OSDS are inspected at a frequency adequate to ascertain failure. The State has set a goal of inspecting 88 percent of existing OSDS within the coastal nonpoint program boundary over the next 15 years through this multi-pronged strategy that combines the local ordinance requirements described above, state and local conducted inspections, and voluntary-based approaches. The State's strategy includes interim milestones and benchmarks, including how many inspections will be achieved through each prong of the strategy.

Michigan's targeted approach will focus on the watersheds within the coastal nonpoint management area that have the highest density of OSDS and the greatest likelihood of having water quality impacts from OSDS. The State will target 69 ten-digit HUC watersheds within the Lower Peninsula with an average OSDS density of more than 21 systems per square mile.³⁸ OSDS density in the Upper Peninsula is low and generally less than 10 systems per square mile. Within these targeted watersheds, Michigan will use watershed planning, education and outreach, and technical and financial assistance to achieve inspections of existing OSDS and the adoption and update of local ordinances and standards to require routine inspections. These targeted watersheds represent 44 percent of the watersheds and approximately 71 percent of the OSDS within the coastal nonpoint management area.

EGLE staff will provide financial and technical assistance to communities and watershed groups within the targeted watersheds to develop new or update existing watershed plans. All new watershed plans and updates will include an OSDS section that describes the distribution and density of OSDS within the watershed, summarizes related water quality data, and reviews local OSDS codes and ordinances. The watershed plans and updates will also include recommendations consistent with the 6217(g) operating OSDS management measure, including specific recommendations for increasing OSDS inspections through a mix of regulatory (e.g., ordinance updates) and voluntary approaches. To be eligible for NPS funding to support additional efforts to achieve OSDS inspections, communities must have approved watershed plans in place. Thirty-six of the 69 targeted watersheds are currently fully covered by watershed plans. In addition, EGLE has set a goal of approving one new plan or two plan updates a year within the coastal nonpoint management area. This approach is expected to result in 15 new plans or 30 plan updates or an equivalent combination of new plans and plan updates over the next 15 years.

³⁸ 10-digit HUC (hydrologic unit code) watersheds are generally between 40,000-250,00 acres in size.

EGLE will also provide financial and technical assistance to further implement the inspection recommendations within the watershed plans. For example, over the next 15 years, EGLE has set a goal to fund 30 education and outreach campaigns to encourage OSDS inspections and eight projects that would directly inspect approximately 900 OSDS. During this time, EGLE also plans to provide technical and financial support to 15 communities within the targeted watersheds to update local ordinances to require routine inspections of existing OSDS. In addition, EGLE will partner with the Wastewater Education Organization, the group that provides training to certified pumpers in the state, to increase the rate of inspections that are conducted as part of routine pump-outs.

Michigan has provided a legal opinion from the State's Attorney General, asserting that the Parts 17, 31, and 91 of the Natural Resources and Environmental Protection Act (MCL 324.1701-324.1706; MCL 324.3101-324.3134; MCL 324.9101-324.9313) provide adequate legal authority for the State to ensure the implementation of the 6217(g) management measures, including the operating OSDS, throughout the coastal nonpoint management area. The State has committed to use relevant back-up authorities described in its legal opinion to ensure implementation of the operating OSDS management measure within the coastal nonpoint management area, as needed. Michigan also demonstrated its commitment to use its back-up authorities by providing example enforcement actions taken under Parts 31 and 91 of the Natural Resources and Environmental Protection Act.

The State will track and evaluate implementation of the voluntary aspects of the operating OSDS management measure through several mechanisms. Michigan's NPS Program tracks watershed plan approvals and revisions and both the NPS Program and CZM Program have mechanisms in place for tracking implementation projects for the operating OSDS management measure that are supported with section 319, coastal zone management, and Great Lakes Restoration Initiative funds. Projects funded by the NPS Program within the coastal nonpoint program boundary are also required to conduct a Social Indicators Data Management and Analysis (SIDMA) survey that includes custom questions on OSDS maintenance and inspection to assess how frequently homeowners are inspecting their systems. EGLE estimates that over 35 surveys will be implemented over the next 15 years, covering half of the targeted watersheds. In addition, EGLE will work with the Wastewater Education Organization to develop a questionnaire to collect information on OSDS inspections from OSDS pumpers. This questionnaire would be sent to pumpers every five years to track inspections associated with pump-outs. The inspections that are reflected in the survey would be reported in the state progress reports and used to adjust state strategies and efforts to increase the number of inspections resulting from outreach and education efforts. Finally, the State also conducts *E. coli* monitoring on a five-year rotating basin cycle. The monitoring data will help the State to identify critical areas to prioritize for additional education and outreach activities, OSDS inspections, and enforcement actions.

Nitrogen-limited Waters (New and Operating OSDS)

Nitrogen limitations of freshwater systems are rare and there are no known instances of nitrogen-limited freshwater systems within Michigan's coastal nonpoint program management area. Michigan has one U.S.EPA-approved total maximum daily load (TMDL) for nitrates and no other nitrogen TMDLs or 303(d) listings. The nitrate TMDL is for a 16-mile stretch of the River

Raisin in Lenawee County. While this river section is within the coastal nonpoint program management area, the estimated nitrogen-loading for OSDS is approximately only 0.76 percent of the estimated total annual nitrogen load to the River Raisin at this location. Agricultural sources, followed by atmospheric deposition, are the largest controllable nitrogen sources in the TMDL area, accounting for over 70 percent and 21 percent of the nitrogen inputs, respectively. Therefore, the elements of the new and operating OSDS management measures addressing nitrogen-limited surface waters are not applicable in Michigan. Conditions do not indicate there are nitrogen-limited surface waters adversely affected by significant groundwater nitrogen-loadings from OSDS nor are there nitrogen loadings from OSDS that are delivered to groundwater that is closely hydrologically connected to surface waters.

G. ROADS, HIGHWAYS AND BRIDGES

1997 FINDING: Michigan's program includes management measures for roads, highways, and bridges in conformity with the 6217(g) guidance except for the construction site chemical control measure for construction sites of less than 5 acres. Michigan has identified a back-up enforceable authority for this management measure but has not yet demonstrated its ability to ensure implementation of the management measures throughout the coastal nonpoint program management area.

1997 CONDITION: For construction site chemical control, Michigan will, within two years, include in its program management measures in conformity with the 6217(g) guidance. Within one year, Michigan will develop a strategy (in accordance with Section XIV, page 16) to implement the management measures for roads, highways and bridges.

2023 DECISION: Michigan has satisfied this condition.

RATIONALE: Since NOAA and EPA issued their 1997 Findings document, NOAA and EPA have granted all states an exemption from the management measure for controlling chemicals at construction sites for roads, highways and bridges because the NPDES permit application regulations for stormwater associated with industrial activities, including construction activity, apply nationwide and therefore throughout Michigan's coastal nonpoint management area. See NOAA/EPA memorandum, *Policy Clarification on Overlap of 6217 Coastal Nonpoint Programs with Phase I and II Storm Water Regulations*.³⁹

Michigan has also provided a legal opinion that describes an adequate back-up authority to ensure implementation of the 6217(g) measures for roads, highways and bridges, demonstrated its commitment to use this back-up authority when needed, and described how it will monitor and track implementation of the roads, highways and bridges management measures. Therefore, the State has demonstrated that it has a strategy in place to implement the roads, highways and bridges throughout its coastal nonpoint program management area.

³⁹ NOAA and EPA. 2002. *Policy Clarification on Overlap of 6217 Coastal Nonpoint Programs with Phase I and II Storm Water Regulations*. Accessed 8/29/2023. https://coast.noaa.gov/data/czm/pollutioncontrol/media/NPDES_CZARA_Policy_Memo.pdf

Michigan provided a legal opinion from the assistant attorney general stating that the State has the authority and obligation to broadly prevent pollution and potential pollution, including nonpoint pollution, under Parts 17, 31, and 91 of the NREPA (MCL 324.1701-324.1706; MCL 324.3101-324.3134; MCL 324.9101-324.9313). The opinion includes citations to, and analysis of, specific parts of NREPA that provide Michigan with authority to require implementation of the State's coastal nonpoint program, including the roads, highways and bridges management measures. Michigan also demonstrated its commitment to use its back-up authorities by providing example enforcement actions taken under Parts 31 and 91 of the NREPA, among other authorities (see Agriculture and Forestry Sections above). Michigan uses the Nonpoint Source (NPS) Program Plan and annual reports to track and evaluate implementation of the roads, highways and bridges management measures. The State's 2019 NPS Program Plan identifies long- and short-term goals for NPS improvements, including those caused by roads, highways and bridges and includes annual reporting on specific actions taken to address those goals.⁴⁰ Therefore, the State has demonstrated that it has a strategy in place to implement the roads, highways and bridges throughout its coastal nonpoint program management area.

V. MARINAS AND RECREATIONAL BOATING

A. STORMWATER RUNOFF MANAGEMENT MEASURE

1997 FINDING: Michigan's program includes management measures in conformity with the 6217(g) guidance, except for stormwater runoff, and includes enforceable policies and mechanisms to ensure implementation.

1997 CONDITION: Within three years, Michigan will include in its program management measures for stormwater runoff in conformity with the 6217(g) guidance.

2023 DECISION: Michigan has satisfied this condition.

RATIONALE: The marina stormwater runoff management measure requires states to implement effective runoff control strategies. The strategies need to include the use of pollution prevention activities and the proper design of hull maintenance areas which will reduce the average annual loadings of TSS in runoff from these areas by 80 percent. Michigan addresses this management measure directly through the State's NPDES permit as well as through its voluntary clean marina certification program.

Michigan administers the NPDES program through Part 31 of the Natural Resources and Environmental Protection Act, 1994 PA 451. Marinas classified under Standard Industrial Classification (SIC) code 4493 and discharge wastewater to surface waters of the State (i.e., boat and equipment wash water) are required to obtain a NPDES Storm Water Discharges from

⁴⁰ Michigan EGLE. 2019. *Michigan's Nonpoint Source Program Plan*. Accessed 8/29/2023. <https://www.michigan.gov/egle/-/media/Project/Websites/egle/Documents/Programs/WRD/NPS/General/program-plan-2019.pdf?rev=c1b74bf300ca42d7bc48699ba32c25af&hash=BDC98017E0F1F3B6B1B987432D2876CD>

Industrial Activity (Storm Water General Permit) permit (MIS310000⁴¹ or MIS410000⁴²) from EGLE. SIC 4493 marina facilities are defined as facilities that rent boat slips, store boats, and generally perform a range of other marina services including boat or equipment washing, incidental boat repair, and boat maintenance activities.

Any stormwater discharge that is covered under a NPDES permit is exempt from the coastal nonpoint program.⁴³ Therefore, marinas subject to a NPDES permit are exempt from the stormwater runoff management measure.

For marinas that are not subject to coverage under NPDES, Michigan addresses the stormwater measure through its voluntary clean marina certification program. Michigan Sea Grant, in coordination with EGLE and numerous other state agencies and industry partners, developed the program and a comprehensive *Clean Marina Best Management Practice Guide* (guide) for marina operators.⁴⁴ The guide discusses specific practices that marinas should implement to control impacts to water quality and habitat from stormwater runoff. As of March 2021, 79 marinas have been certified as clean marinas within the coastal nonpoint management area.

The *Clean Marina Best Management Guide* not only contains guidance to help regulated marinas meet NPDES stormwater requirements, but also describes practices that address the 6217(g) stormwater runoff management measure. The guide emphasizes avoidance strategies to minimize stormwater runoff during the siting and design of marinas and notes the following practices to further address detrimental discharges of suspended sediments or toxic substances:

- Limiting boat washing activities to designated areas as far inland from the shore as practical to contain waste materials.
- Clearly marking boat washing areas with signs or identifying boat washing areas in marinas rules so that patrons know appropriate areas for washing their boats.
- Installing catch basin filters and/or recirculating water supply systems to power washing areas.
- Where a designated maintenance or wash area cannot be located as far from shore as desired:
 - Provide tarps to patrons for hull maintenance,
 - Restrict painting outside of designated shops to rollers and brushes only (not spray), with the proper use of tarps and tenting to protect the surrounding area.
 - Confine maintenance areas to indoor or impervious surfaces locations designed to capture pollutants, when possible.

⁴¹ Michigan DEQ. NPDES Wastewater Discharge Permit MIS310000. Accessed: 8/29/2023.
https://www.michigan.gov/documents/deq/wrd-npdes-general-MIS310000_399769_7.pdf

⁴² Michigan DEQ. NPDES Wastewater Discharge General Permit MIS040000. Accessed: 8/29/2023.
https://www.michigan.gov/documents/deq/wrd-npdes-general-permit-MIS040000_579822_7.pdf

⁴³ NOAA and EPA. 1993. *Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance*, January 1993. Accessed 8/29/2023.
<https://coast.noaa.gov/data/czm/pollutioncontrol/media/6217proguidance.pdf>

⁴⁴ Michigan Sea Grant. *Great Lakes Clean Marina Best Management Practices Guide*. Published 2012. Updated 2017. Accessed 8/29/2023. <https://www.michiganseagrant.org/great-lakes-clean-marina/wp-content/uploads/sites/5/2020/03/MICHU-17-504-Great-Lakes-Clean-Marina-Best-Management-Practices-Guide-2020-TM-update.pdf>

Michigan Clean Marina Program staff provide training and technical assistance to help marinas become certified as clean marinas. The program also offers various incentives to marinas to encourage them to become certified. Certified clean marinas are allowed to use the official clean marina logo on promotional materials, and are provided with education fact sheets, posters and a press release template. Certified marinas also receive discounts on green cleaning supplies and liability insurance.⁴⁵ In addition, certified marinas are publicized on the Michigan Boating Industries Association social media, website and newsletters, as well as in the Michigan Boating Annual Directory.

Michigan has provided a legal opinion from the assistant attorney general stating that Parts 17, 31, and 91 of the NREPA (MCL 324.1701-324.1706; MCL 324.3101-324.3134; MCL 324.9101-324.9313) provide adequate back-up authority to ensure implementation of the 6217(g) management measures, including the stormwater management measure for marinas. EGLE, which implements NREPA, partners with several other organizations to administer the Clean Marina Certification Program and distribute the marina guidebook. Michigan also demonstrated its commitment to use its back-up authorities by providing example enforcement actions taken under Parts 31 and 91 of the NREPA, among other authorities (see Agriculture and Forestry Sections above). Voluntary adoption of the marina management measures is tracked through the certification program.

VI. HYDROMODIFICATION

1997 FINDING: Michigan's program includes management measures in conformity with the 6217(g) guidance, except for eroding stream banks and shorelines, and includes enforceable policies and mechanisms to ensure implementation, except exemptions in Michigan's Drain Code preclude the State from fully implementing management measures for new channelization projects.

1997 CONDITION: Within one year, Michigan will develop a process to address new channelization projects which are not reviewed under existing authorities. Within three years, Michigan will include in its program management measures in conformity with the 6217(g) guidance for eroding streambanks and shorelines.

2023 DECISION: Michigan has satisfied this condition.

RATIONALE: Michigan has satisfied the hydromodification condition through a mix of direct regulatory authorities, such as Part 31, Waters Resource Protection, and Part 301, Inland Lakes and Streams, of NREPA and Michigan Drain Code, as well as voluntary-based approaches that include watershed planning and strong outreach and education efforts such as the Michigan Natural Shoreline Partnership.

Management Measures for Channelization and Channel Modification

⁴⁵ Michigan Clean Marina Program; Benefits of Certification. Accessed 8/29/2023.
<https://www.michiganseagrant.org/michigan-clean-marina-program/get-certified-recertified/why-certify/>

There are two 6217(g) management measures that address channelization and channel modification—one which addresses the physical and chemical characteristics of surface waters and another which addresses instream and riparian habitat restoration. Per the 6217(g) guidance, new channelization projects are to:

1. evaluate the potential effects of the proposed project on the physical and chemical characteristics of surface waters and on instream and riparian habitat; and
2. plan and design the projects to reduce undesirable impacts.

Michigan has demonstrated its ability to address new channelization projects through its administrative rules under Part 31, Waters Resource Protection, and Part 301, Inland Lakes and Streams, of the State's NREPA. Section 324.3104(1) of Part 31 provides EGLE with control over alterations of natural or present watercourses of rivers and streams, including new channelization projects. Generally, Section 324.30102 requires all channelization activities to obtain a permit. When issuing the permit, EGLE must consider the possible effects of the proposed action, such as a new channelization project, upon the waterway and its designated uses and is prohibited from issuing a permit for a proposed project or structure that would unlawfully impair or destroy any waters or other natural resources of the state (Section 324.30106). In addition, under Section 324.30102(f) it is specifically prohibited to “construct, dredge, commence, extend, or enlarge an artificial canal, channel, ditch, lagoon, pond, lake, or similar waterway where the purpose is ultimate connection with an existing inland lake or stream, or where any part of the artificial waterway is located within 500 feet of an ordinary high-water mark of an existing inland lake or stream.”

Some limited exemptions for certain maintenance activities are permitted under Section 324.3103 so long as the work is not associated with a drain that constitutes mainstream portions of certain natural watercourses defined in Section 281.818. For example, maintenance of drains legally established or constructed prior to January 1, 1973, do not need a permit provided that appropriate BMPs are implemented. Similarly, the construction and maintenance of minor drainage structures defined in Section 281.817, such as certain crossroad culverts and roadside ditches that do not serve as streams, also do not require a permit. Although these exempted activities are not regulated directly, BMP manuals still provide guidance on how activities should be conducted to minimize impacts to instream water quality and instream and riparian habitat. For example, the Michigan Association of County Drain Commissioner's *Soil Erosion and Sediment Control Manual* establishes basic principles that guide drain maintenance and improvement projects such as prioritizing preventive maintenance activities that will minimize soil erosion, including: minimizing soil disturbance; encouraging and maintaining vegetated buffer strips; repairing blowouts, seeps and slumped areas as soon as possible; removing obstructions and sediment which exacerbate scouring; and establishing stable streambank slopes that can withstand anticipated flows.⁴⁶ The manual also promotes many vegetative methods for stabilizing eroding areas such as seeding with native plants, sodding, and planting trees and shrubs.

⁴⁶ Michigan Association of County Drain Commissioner. 2018. *Soil Erosion and Sediment Control: Authorized Public Agency Procedures Manual*. Accessed 8/29/2023. https://macdc.us/wp-content/uploads/2018/04/2018_SESC_Web-Version-20180423.pdf

Management Measure for Eroding Streambanks and Shorelines

The management measure for eroding streambanks and shorelines calls on states to:

1. Stabilize streambanks and shorelines where erosion is a nonpoint source pollution problem. Vegetative methods are strongly preferred unless structural methods are more cost-effective;
2. Protect streambank and shoreline features with the potential to reduce nonpoint source pollution; and
3. Protect streambank and shorelines from erosion due to uses of either the shorelands or adjacent surface waters.

Michigan addresses nonpoint source pollution from eroding streambanks and shorelines through a variety of authorities and programs such as its watershed management program, Michigan Drain Code, fisheries assessments, and other efforts.

First, EGLE's watershed management program, discussed in more detail in the Urban section of this document, provides a process for identifying where streambank and shoreline erosion is a nonpoint source pollution problem and stabilization is needed, as well as for identifying and protecting streambank and shoreline features with the potential to reduce nonpoint source pollution. As of April 2021, there were 69 approved watershed plans within the coastal nonpoint management area, covering roughly 53 percent of the land within the coastal nonpoint management area. Through the watershed planning process, local watershed management groups must inventory the sources and causes of polluted runoff within the watershed, including eroding streambanks and shorelines, if applicable, and prioritize actions to take to address identified pollution sources.⁴⁷ For example the *Broadman River Prosperity Plan* prioritizes several shoreline stabilization projects for action.⁴⁸

In addition, under the Michigan Drain Code, county drain commissioners are responsible for maintaining designated county drains that can encompass some natural streams and rivers (Public Act 40 of 1956, as amended). As part of their maintenance responsibilities, they also initiate or support projects to identify and stabilize eroding streambanks that can include using vegetative and other soft engineering methods. As noted in the Channelization and Channel Modification section above, the Michigan Association of County Drain Commissioner's *Soil Erosion and Sediment Control Manual* establishes best practices that guide routine maintenance activities for drainage structures, including the identification and repair of erosion problems, and promotes the use of vegetative methods. For example, in 2017, Allegan County inspected and maintained approximately 140 drains in the county, which included stabilizing eroding streambanks and restoring streams.⁴⁹ A restoration project for Upper Sand Creek, completed in 2020, included streambank stabilization and re-contouring to address the eroding, channelized

⁴⁷ Michigan EGLE. n.d. *Checklist for a 319 Approved Watershed Management Plan*. Accessed 8/29/2023. <https://www.michigan.gov/egle/-/media/Project/Websites/egle/Documents/Forms/WRD/NPS/EQP9252-Checklist-319-Approved-Watershed-Mgmt-Plan.pdf?rev=727175a05f8946259a7595665d6e0572&hash=4FE0821531D91B6DA039DD0ED9A864B1>

⁴⁸ The Watershed Center Grand Traverse Bay and Public Sector Consultants, Inc. *2016 Boardman River Watershed Prosperity Plan*.

⁴⁹ Allegan County, Michigan. Undated. Drain Crew Maintenance Program (website). Accessed 8/29/2023. <https://www.allegancounty.org/departments/drain-office/drain-maintenance>

stream.⁵⁰ Another project in Macatawa Watershed in southwestern Michigan included reshaping the stream channel using natural design techniques and materials to prevent future erosion⁵¹.

EGLE also promotes best management practices for land and water uses to reduce streambank and shoreline erosion and encourage the use of vegetative methods to stabilize eroding streambanks and shorelines, where feasible. For example, the Michigan Natural Shoreline Partnership, a collaboration of state agencies, academic institutions, nonprofit groups, and private industry, developed a website, training materials and shoreline ambassador program to educate homeowners about shoreline erosion and best practices to prevent and correct erosion problems.⁵² The partnership promotes practices such as siting homes and other structures at least 100 feet from the shoreline, preserving native riparian vegetation, minimizing impervious surfaces adjacent to the shoreline, limiting turf grass, and using natural or soft engineering techniques that use native plants to stabilize eroding areas. EGLE has also developed or partnered with others to develop several brochures and guides to promote the use of natural shoreline techniques when stabilizing shorelines such as *The Water's Edge, Natural Shorelines for Inland Lakes, and Shoreline Living*.^{53,54,55} The State also maintains a list of certified natural shoreline professionals to easily find contractors, landscapers and other professionals that are knowledgeable in natural shoreline stabilization techniques.⁵⁶

To support its voluntary-based approaches for addressing these hydromodification management measures, Michigan provided a legal opinion from the assistant attorney general stating that Parts 17, 31, 91, and 301 of the NREPA (MCL 324.1701-324.1706; MCL 324.3101-324.3134; MCL 324.9101-324.9313) provide adequate back-up authority to ensure implementation of the 6217(g) management measures, including the channelization and eroding streambanks management measures. Michigan has provided examples of enforcement actions that resulted in implementation of the 6217(g) management measures, demonstrating a commitment to use its back up authority, when needed. Michigan tracks voluntary adoption of these management measures through its watershed management program, and section 319 grant tracking program.

XIII. MONITORING

1997 FINDING: Michigan'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.

⁵⁰ Michigan Nonpoint Source Program. Undated. Upper Sand Creek Restoration (October 1, 2017-September 30, 2020). Accessed 8/29/2023. https://www.michigan.gov/documents/egle/wrd-nps-Sand-Creek_731517_7.pdf.

⁵¹ Michigan Nonpoint Source Program. Undated. Phosphorous Reduction in the Macatawa Watershed (February 2018-December 2020).

⁵² Michigan Natural Shoreline Partnership. (Undated). Michigan Natural Shoreline Partnership (website). Accessed 8/29/2023. <https://www.shorelinepartnership.org/>

⁵³ Michigan Department of Natural Resources and Environment. 2010. The Water's Edge. Accessed 8/29/2023. https://www.michigan.gov/documents/deq/wrd-waters-edge_555440_7.pdf

⁵⁴ Michigan DEQ and Michigan Sea Grant. Undated. Natural Shorelines for Inland Lakes. MICHU-11-501. Accessed 8/29/2023. https://www.michigan.gov/documents/deq/wrd-natural-shorelines-inland-lakes_366530_7.pdf

⁵⁵ Midwest Glacial Partnership. 2020. Shoreline Living. January 2020. Accessed 8/29/2023. <http://midwestglaciallakes.org/resources/shorelineliving/>

⁵⁶ Michigan Natural Shoreline Partnership. (Undated). Michigan Shoreline Professionals-Listing (website). Accessed 8/29/2023. <https://www.shorelinepartnership.org/find-a-shoreline-contractor.html>

1997 CONDITION: Within one year, Michigan will develop a plan that enables the State to assess over time the extent to which implementation of management measures is reducing pollution loads and improving water quality.

2023 DECISION: Michigan has satisfied this condition.

RATIONALE: Michigan has developed a plan, *Michigan Surface Water Monitoring Strategy Update 2017*, which enables the State to assess over time the extent to which implementation of management measures is reducing pollution loads and improving water quality.⁵⁷ The plan includes four goals: 1) assess the current status or condition of state waters and determine whether water quality standards are being met; 2) measure spatial and temporal water quality trends; 3) evaluate the effectiveness of water quality restoration and protection programs; and 4) identify new and emerging water quality problems. The monitoring plan includes 10 essential elements: water chemistry; beaches and other recreational waters (pathogens); biological condition; fish contaminants; inland lake quality and eutrophication; aquatic invasive species; wildlife contaminants; sediment chemistry; hydrology/stream geomorphology; and volunteer monitoring. The plan focuses on the monitoring work being done by the EGLE, but also emphasizes coordination with Michigan DNR, EPA, U.S. Fish and Wildlife Service (USFWS), Canadian Agencies, Native American Tribes, and other groups and plans.

Michigan's goal is to assess at least 80 percent of Michigan's perennial stream miles over a five-year period. Each watershed in the State is assessed once every five years. The State employs both targeted and probabilistic monitoring approaches depending on the specific questions it wants to answer. Tracking implementation of BMPs to control nonpoint source pollution also occurs under the monitoring strategy, particularly in conjunction with the State's targeted monitoring activities. In addition, every nonpoint source BMP project that EGLE funds has some level of effectiveness monitoring.⁵⁸ Although the benefits of a particular BMP may be intuitive to those closest to the watershed, sound effectiveness monitoring strategies must be developed and implemented wherever necessary to provide objective assessments of the merits of nonpoint source pollution control projects.

Adaptive management is also a key component of Michigan's monitoring strategy. Through the iterative, adaptive process, the State evaluates monitoring approaches to determine whether newer science techniques and technologies exist to better evaluate the goals of the strategy. Adaptive management allows the State to monitor and evaluate new and emerging issues as part of its routine monitoring (e.g., *E. coli* counts at water chemistry monitoring program probabilistic stations) or through the design of special projects (e.g., harmful algal bloom assessment in inland lakes and beaches).

⁵⁷ Michigan DEQ. 2017. Michigan Surface Water Monitoring Strategy Update 2017. January 2017. Accessed 8/29/2023. https://www.michigan.gov/documents/deq/wrd-swms-strategy-2017_556101_7.pdf

⁵⁸ Michigan DEQ. 2004. Nonpoint Source Environmental Monitoring Strategy. September 2004. Accessed 8/29/2023. https://www.michigan.gov/documents/deq/wrd-nps-monitoring-strategy_554895_7.pdf

Based on the monitoring program description that Michigan provided, NOAA and EPA are satisfied that the State has in place a plan to assess over time the success of the management measures in reducing pollution loads and improving water quality.

List of Acronyms

BMP(s)	best management practice(s)
BMP Manual	Michigan Nonpoint Source Best Management Practices Manual
CAFOs	concentrated animal feeding operations
CZARA	Coastal Zone Act Reauthorization Amendments
CZM	coastal zone management
DNR	Department of Natural Resources
EGLE	Department of Environment, Great Lakes, and Energy
EPA	Environmental Protection Agency
GAAMPs	generally accepted agricultural management practices
HUC	hydrologic unit code
LID	low impact design
MAEAP	Michigan Agriculture Environmental Assurances Program
MDARD	Michigan Department of Agriculture and Rural Development
MDNR	Michigan Department of Natural Resources
MS4	Municipal Separate Storm Sewer Systems
MSUe	Michigan State University Extension
NPDES	National Pollution Discharge Elimination System
NPS	nonpoint source pollution
NOAA	National Oceanic and Atmospheric Administration
NREPA	Natural Resources and Environmental Protection Act
OSDS	onsite sewage disposal system
TMDL	total maximum daily load
TSS	total suspended solids
SESC	soil erosion and sediment control
SIC	standard industrial classification
SIDMA	social indicators data management and analysis
USFWS	United States Fish and Wildlife Service