Chapter 6: Existing Policies and Programs

6.1 Introduction

Implementation of certain policies and programs can lead to improvements in water quality. Many policies and programs that provide water quality benefits are already in place in the study area or are required by existing permits. For the purposes of this report, it is assumed that these policies and programs will continue and, therefore, they are not analyzed separately in this report. Water quality impacts from existing policies and programs are implicit in the water quality models as a result of the model calibration. Changes to existing policies and programs based on the final recommended plan will be discussed in Chapter 12, *MMSD Implementation Plan,* of the Milwaukee Metropolitan Sewerage District (MMSD) *Facilities Plan Report* and Chapter XI of the Southeastern Wisconsin Regional Planning Commission (SEWRPC) Planning Report No. 50, *A Regional Water Quality Management Plan Update for the Greater Milwaukee Watersheds*. Twenty-two existing policies and programs are identified and discussed herein.

The technologies included in this chapter are listed in Table 6-1.

TABLE 6-1

OUTLINE OF CHAPTER 6 TECHNOLOGIES

6.2 Agricultural Practices - Crop Management

6.3 Agricultural Practices - Feed Lots

6.4 Agricultural Practices - Irrigation

6.5 Industrial and Chemical Management Controls, and Materials Storage and Containment

6.6 Construction Erosion Control

6.7 Critical Areas Protection

6.8 Development Rights for Watershed Protection

6.9 Watercourse Dredging to Address Contamination

6.10 Household Hazardous Waste

6.11 Illicit Discharge Control

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6.13 Leaf Disposal Program

6.14 MMSD Industrial Waste Pretreatment Program

6.15 Zoning or Land Use Restrictions

6.16 Wastewater Treatment Plant Discharge Permits

6.17 Spill Prevention Plans

6.18 Stormwater Rules and Redevelopment

6.19 Residential Sump Pump Disconnect

6.20 Surface Drainage Management

6.21 Use Controls (Beach Closings)

6.22 WPDES Cooling Water Permits

6.23 Waste Storage Facilities

6.2 Agricultural Practices - Crop Management

All cropland operations in Wisconsin must abide by the agricultural performance standards identified in the Wis. Admin. Code Agriculture, Trade and Consumer Protection (ATCP) 50 (Soil and Water Resource Management Program) and Natural Resources (NR) 151 (Runoff Management). The agricultural performance standards for cropland are:

- To control cropland erosion to meet tolerable rates ("T")
- To follow a nutrient management plan designed to limit entry of nutrients into state waters

Cropland erosion control measures may include conservation cover, conservation crop rotation, cover crop, buffer strips, contour farming, windbreaks, and crop residue management.

A nutrient management plan must be developed for field specific nutrient application. The plan should account for source, rate, timing, form, and method of application. The plan should be updated annually based on method utilized and results. A soil test is required once every four years.

6.3 Agricultural Practices - Feed Lots

Concentrated Animal Feeding Operations (CAFOs) are regulated by Wis. Admin. Code NR 243 (Animal Feeding Operations). All livestock operations in Wisconsin are required to comply with the manure management prohibitions and the performance standards identified in ATCP 50.

CAFOs with 1,000 or more animal units are required to obtain a Wisconsin Pollutant Discharge Elimination System (WPDES) CAFO Permit. The purpose of the permit is to ensure that proper planning, construction, and manure management practices are used to protect water quality.

To obtain a permit, the CAFO must complete an application that includes specific information about the operation, a preliminary Manure Management Plan, an environmental analysis questionnaire, and information on proposed and existing manure storage facilities and runoff control systems. The permit includes runoff control, manure storage, and manure management measures. Upon issuance of a permit, the CAFO must submit a finalized manure management plan, a monitoring and inspection program, and annual reports.

The Wisconsin Department of Natural Resources (WDNR) is currently revising the regulations (NR 243) to reflect federal law changes and to promote practices that help avoid manure-related pollution of lakes, streams, groundwater, and drinking water. Proposed changes to the regulation include the following:

- Prohibiting application of liquid manure on frozen or snow covered ground unless it's injected or immediately incorporated into the soil.
- Prohibiting application of solid manure on frozen or snow-covered ground during February and March unless it's immediately incorporated into the soil.
- Requiring large CAFOs to provide six-months of liquid manure storage. A large CAFO has 1,000 or more animal units, which equals 700 milking cows, 1,000 beef cattle, 2,500

pigs, or 55,000 turkeys. WDNR Form 3400-25A can be used to determine the number of animal units for other animals.

- Requiring manure spread on land to be set back from private and public drinking water wells.
- Requiring farms to implement nutrient management plans based on applying the right amount of phosphorous.
- Requiring farms that apply manure near lakes and streams to implement practices such as leaving crop residue on fields to protect against manure runoff.
- Requiring farms to develop an emergency response plan to address manure spills or discharges.

Manure management prohibitions for all livestock operations are as follows:

- No overflow of manure storage facilities.
- No unconfined manure piles within 100 feet of a navigable water or conduit to a navigable water (a 35-foot vegetated buffer or conservation practices equivalent to a 100-foot setback may be used). A greater distance is required for farms within a Water Quality Management Area.
- No direct runoff from feedlots of stored manure into state waters.
- No trampled streambanks or shorelines from livestock (limit livestock access to state waters by using a fence or other means, and maintain adequate or self-sustaining sod cover along waterways.)

The Natural Resources Board voted to adopt the NR 243 rule revisions on May 24, 2006. The proposed revisions have gone to the Wisconsin Legislature for review.

6.4 Agricultural Practices - Irrigation

Irrigation water management is discussed in the U.S. Environmental Protection Agency (USEPA) guidance document, *National Management Measures to Control Nonpoint Pollution from Agriculture* and is also defined by the Natural Resources Conservation Service Conservation Practice Standard Code 449.([1]) Effective irrigation management reduces runoff losses, controls deep percolation and, along with cropland sediment control, reduces erosion and sediment delivery to waterways. Irrigation management determines and controls the volume, frequency, and application rate of irrigation water to manage soil moisture while decreasing nonpoint source pollution.

Any irrigation system that pumps water directly from a stream or lake requires a permit per Wis. Stat. sec. 30. Systems using ground water must comply with Wis. Admin. Code NR 812. In accordance with Wis. Admin. Code NR 812.09(4)(a) & (b), high capacity ground water well systems require prior approval for the construction, reconstruction, or operation. Prior approval is also necessary before a high capacity well or well system can be operated after a change of ownership. Wis. Admin Code NR 812.07(53) defines a high capacity well system as one or

more wells used to withdraw water for any purpose on one property, if the total pumping or flowing capacity of all wells on one property is 70 or more gallons per minute.

6.5 Industrial and Chemical Management Controls, and Materials Storage and Containment

There are several regulatory programs that address storage and handling of materials at industrial facilities. The programs are typically designed to prevent or control exposure of potentially harmful materials and chemicals to the environment. State programs include Wis. Admin. Code NR 216 (Storm Water Discharge Permits) related to stormwater discharges from industrial facilities, NR 400 (Air Pollution Control Definitions) related to air emissions from industrial processes, NR 600 (Environmental Protection-Hazardous Waste Management) related to hazardous waste, and Wis. Admin. Code Commerce (Comm) 10 (Flammable and Combustible Liquids) related to petroleum products. Federal programs enforced by the USEPA and/or state include Emergency Planning and Community Right to Know, Hazardous Chemical Inventory (Tier II) reporting, Toxic Release Inventory reporting, and the Spill Prevention Control and Countermeasure rules of Title 40 Protection of Environment of the Code of Federal Regulations (40 CFR Part 112). Other regulations apply to certain substances, including polychlorinated biphenyls, pesticides and asbestos; and the Toxic Substance Control Act regulates lead-based paint. Local regulations may also apply.

6.6 Construction Erosion Controls

Construction sites that disturb more that one acre of land are required to be permitted by the WDNR under NR 216. A WPDES Construction Site Erosion Control and Storm Water Discharge Permit should be obtained by the property owner prior to starting land disturbing activities.

Obtaining and complying with the permit involves the following:

- Development of a Stormwater Pollution Prevention and Erosion Control Plan that describes the best management practices that will be used for erosion control.
- Preparation and submittal of a Notice of Intent and permit fee to the WDNR.
- Implementation of the best management practices.
- Inspection of the site on a weekly basis.

Typical best management practices include silt fences, tracking pads, revegetation, vegetated buffers, sediment traps, flow diversion, erosion matting, and storm drain inlet filters.

Erosion controls for the construction of public buildings and places of employment are regulated under Comm 2, 20, 21, 60 and 61. Erosion controls for construction sites directed and supervised by the Wisconsin Department of Transportation (WisDOT), are regulated by Transportation 401. WDNR is responsible for regulating erosion controls for all other regulated construction projects and also comments on WisDOT erosion control plans. Erosion controls for all three agencies are intended to be compatible with NR 216.

6.7 Critical Areas Protection

There are several programs and regulations related to the protection of critical habitat and environmentally sensitive areas. The following chapters in the Wisconsin Administrative Code regulate the protection of critical areas:

- NR 151 (Runoff Management) defines protective areas as an area of land along lakes, streams, rivers, and wetlands. NR 151 includes post-construction requirements to minimize impervious surfaces, establish new impervious surfaces and reduce total suspended solids and peak discharges.
- NR 102 (Water Quality Standards for Wisconsin Surface Waters), 103 (Water Quality Standards for Wetlands), and 105 (Surface Water Quality Criteria and Secondary Values for Toxic Substances) set water quality standards for surface waters.
- NR 115 (Wisconsin's Shoreland Management Program) establishes shoreland management programs.

The Natural Resources Conservation Service manages the Wildlife Habitat Incentives Program and the Wetlands Reserve Program, which are voluntary programs for private landowners.(2,3)

The MMSD has also implemented a program called Greenseams, formerly known as the Conservation Plan, which permanently protects key infiltration areas as well as areas along stream corridors that connect the region's public properties. By preserving natural storage and infiltration areas, Greenseams provides added support and protection for MMSD's structural flood management projects, including infrastructure investments worth hundreds of millions of dollars.

6.8 Development Rights for Watershed Protection

Property development rights can be sold or traded to protect or preserve an area from development. The development rights to a property may be sold to or held by a trust, government agency, or private party. The U.S. Department of Agriculture (USDA) manages the Farm and Ranch Land Protection Program, which is designed to protect farmland.(4)

6.9 Watercourse Dredging to Address Contamination

The WDNR has a contaminated sediment program. The goal of the program is to restore surface waters to assure that applicable water quality standards are achieved where resource uses have been impaired or damaged by the presence of contaminated sediment and soils. The program is an integrated effort with the Bureau of Watershed Management including the Bureau of Remediation and Redevelopment.(5)

Key elements of the program include: sediment quality assessment tools, site-specific sediment quality objectives, integrating sediment issues into various regulatory programs, maintaining a statewide sediment database and inventory, development of a site ranking and prioritization system, and investigation of new remedial and treatment technologies.

6.10 Household Hazardous Waste

The MMSD has sponsored a successful Household Hazardous Waste Collection Program for Milwaukee County residents for 10 years. During this time, the program has collected about 7.5 million pounds of harmful chemicals, such as oil, gas, antifreeze, paint, and pesticides. These chemicals are then disposed of properly, instead of being discharged into the environment. Many of the collected wastes have constituents such as metals and organics which, if discharged into a water body, would cause conditions toxic to fish and aquatic life.

6.11 Illicit Discharge Control

Wis. Admin. Code NR 216 requires that municipal stormwater permits include a program to detect and remove illicit discharges and improper disposal of wastes into the municipal separate storm sewer system. Unauthorized discharges must be eliminated or separately permitted. An illicit discharge program includes the following:

- Measures to prohibit non-stormwater discharges into the storm sewer system.
- Strategies to address all illicit discharges.
- Procedures to conduct on-going field screening.
- Procedures to investigate portions of the municipal separate storm sewer system.
- Procedures to immediately investigate reports of illicit discharges.
- Procedures for immediate notification of the WDNR of spills or releases of a hazardous substance into or from a municipal separate storm sewer system.
- Procedures to prevent, contain, and respond to spills that may enter the municipal separate storm sewer system.
- Measures to eliminate leakage or discharge from sanitary conveyance systems into storm sewer systems, and a field screening analysis for illicit connections and discharges.

Wis. Admin. Code NR 216 also requires industries with a stormwater discharge permit to evaluate and eliminate or separately permit illicit unauthorized non-stormwater discharges.

6.12 Industrial Stormwater Management

Industries of designated Standard Industrial Classification Codes are required to be permitted for stormwater discharges by the WDNR under NR 216. A WPDES Industrial Stormwater Discharge Permit must be obtained before the business begins operation. Existing businesses should already have a permit.

Obtaining and complying with the permit involves the following:

- Development of a Stormwater Pollution Prevention Plan that describes potential existing sources of stormwater contamination and best management practices that will be used to reduce or eliminate the source
- Preparation and submittal of a Notice of Intent and permit fee to the WDNR

- Implementation of best management practices
- Inspection and reporting

Typical best management practices include good housekeeping, spill prevention and response, preventive maintenance, elimination of non-stormwater discharges, regular inspection, and employee training.

Municipalities may impose additional requirements on local industries under their stormwater management programs.

6.13 Leaf Disposal Program

Wis. Admin. Code NR 151 requires municipalities with an average density of 1,000 people per square mile or greater to implement a municipal program for the collection and management of leaf and grass clippings. The leaf and grass clippings management programs should include public education regarding the program. Municipalities permitted by NR 216 are also required to conduct a public education and outreach program, including promotion of the beneficial onsite reuse of leaves and grass clippings.

Several communities in the southeastern Wisconsin region have curbside leaf collection program throughout the fall months and several accept bagged leaves and lawn clippings from residents.

6.14 Milwaukee Metropolitan Sewerage District Industrial Waste Pretreatment Program

The WDNR approved MMSD's Industrial Waste Pretreatment Program in 1983. Through this program, MMSD regulates industrial wastewater to:

- Help protect Lake Michigan
- Prevent the discharge of pollutants that could damage sewers or treatment plants
- Maintain a high quality production of Milorganite® fertilizer
- Avoid violations of MMSD's treatment plant discharge limits

The MMSD currently issues permits to approximately 135 industrial facilities. The permits impose a combination of environmentally-based local limits and federal technology-based limits.

To make sure industrial users are following the rules, MMSD inspects each facility at least once per year to review the operations generating wastewater, and both MMSD and the regulated facilities collect and analyze samples. If violations are found, enforcement action can range from warning letters to litigation seeking penalties up to $10,000 per day per violation.

In addition to regulatory work, the Industrial Waste Pretreatment Program ensures that sewer user charges for industrial facilities are proportional to the volume and concentration of the discharged wastewater.

6.15 Zoning or Land Use Restrictions

Zoning and land use restrictions are programs to regulate the type of development within a community. Zoning and land use restrictions can be used to promote environmentally sound development with respect to impacts on watersheds and environmentally sensitive areas.

6.16 Wastewater Treatment Plant Discharge Permits

No person may legally discharge to the waters of the state of Wisconsin without an approved discharge permit. The WPDES permit program was established by Wis. Stat. sec. 283.13(1) (Pollutant Discharge Elimination Effluent Limitations). In Wisconsin, WPDES permits are issued by the WDNR Bureau of Watershed Management, with federal oversight from the USEPA. The WDNR is responsible for the issuance, re-issuance, modification, and enforcement of all WPDES permits issued for discharges into the waters of Wisconsin (except discharges occurring on Native American lands, which are regulated directly by USEPA). Wisconsin regulates discharges to both groundwater and surface water; USEPA only requires regulation of surface water discharges.

6.17 Spill Prevention Plans

Hazardous substance spills and reporting are governed by Wis. Stat. sec. 292, also known as the Wisconsin Spill Law. This law requires that a person who possesses or controls a hazardous substance or who causes a discharge of a hazardous substance shall notify the WDNR immediately of any discharge not exempted.

Spill Prevention, Control and Countermeasure (SPCC) plans are required by 40 CFR Part 112 for facilities that store greater that 1,320 gallons of oil above ground that could potentially reach navigable water. The SPCC plans document the oil storage, containment, and spill prevention and response measures.

Spill prevention and response measures are required as part of a Storm Water Pollution Prevention Plan for facilities with a stormwater discharge permit. Spill prevention planning is also required as part of an Integrated Contingency Plan required for facilities handling and storing hazardous materials.

6.18 Stormwater Rules and Redevelopment

There are several programs to address stormwater runoff from existing and new development. Regulatory programs include NR 151 and NR 216, which were described earlier in this chapter.

6.19 Residential Sump Pump Disconnect

The connection of a sump pump to the sanitary sewer system is prohibited under Chapter 3 (Infiltration and Inflow Controls) of the MMSD Discharge Regulations and Enforcement Procedures (MMSD Rules) and under all applicable plumbing codes. MMSD requires

municipalities in the separate sewer area to inspect sump pump installations if a prohibited connection is suspected and to require disconnection if connected to the sanitary sewer. In the combined sewer area, connection to the combined system is allowed, but MMSD encourages owners to direct the pump discharge onto a pervious area rather than to the combined sewer if feasible. It is important to note that directing sump pump discharges to pervious areas is not required under the MMSD Rules.

6.20 Surface Drainage Management

Chapter 13 (Surface Water and Storm Water) of the MMSD Rules preserves current hydraulic conditions by preventing increases to peak flows in watercourses during the 100-year flood (the flood flow with an annual exceedance probability of about 1%; i.e., it is exceeded on average once every 100 years) and the 2-year flood (the flood flow with an annual exceedance probability of about 50%; i.e., it is exceeded on average once every 2 years) events. The rule applies to new development and redevelopment that result in an increase in impervious area of one-half acre or more. The main objective of the rule is to manage flows and stages and to provide uniform flood protection standards across watersheds in MMSD's planning area.

Wis. Admin. Code NR 151 establishes runoff pollution performance standards for nonagricultural facilities and transportation facilities and performance standards and prohibitions for agricultural facilities and practices designed to achieve water quality standards as required by Wis. Stat. sec. 281.16 (2) and (3). Similar to MMSD's Chapter 13, NR 151 includes requirements for maintaining or reducing the peak runoff discharge rates. Wis. Admin. Code NR 151 requires new developments and redevelopments to maintain or reduce the peak runoff discharge rates, to the maximum extent practicable, as compared to predevelopment conditions for the 2−year, 24−hour design storm applicable to the post-construction site.

6.21 Use Controls (Beach Closings)

The Federal Beaches Environmental Assessment and Coastal Health Act was passed in October 2000, requiring states that border coastal or Great Lakes waters to develop beach monitoring and public notification programs. The WDNR coordinates a statewide beach-monitoring program which includes 192 beaches along Lakes Michigan and Superior. The purpose of the beach program is to monitor recreational waters for health risks to help people make informed choices when they go to the beach. The program is coordinated by the WDNR; however, local health departments have authority over public beaches within their jurisdictions. Advisory signs are posted to inform the public about the current water conditions based on testing for E. coli bacteria. The advisory standards are based on data from USEPA studies.

6.22 Wisconsin Pollutant Discharge Elimination System Cooling Water Permits

The discharge of cooling water, whether contact (water that comes in contact with raw material, product, byproduct, or waste or is produced as a result of an operation) or non-contact (water that

does not come into direct contact with any raw material, product, byproduct, or waste), is also regulated under the WPDES permit program.

6.23 Waste Storage Facilities

Waste storage facility design should include sediment and erosion control measures. Potential erosion areas are haul roads, cover areas (areas where soil has been placed to cover waste materials), and other areas where vegetation or other stabilization measures are not in place. Measures should also be in place to reduce the exposure of waste materials to stormwater. This may include buffer strips or other filtering measures and collection and treatment of runoff. These measures are required under Wis. Admin. Code NR 506 (Landfill Operational Criteria) and Comm 10 (Flammable and Combustible Liquids) as well as the WPDES program and local ordinances that require proper storage and secondary treatment of hazardous materials.

References

(1) U.S. Environmental Protection Agency, *National Management Measures to Control Nonpoint Pollution from Agriculture* (Washington, D.C.: EPA-841-B-03-004, July 2003)

(2) U.S. Department of Agriculture, Wildlife Habitat Incentives Program [Internet], available at http://www.nrcs.usda.gov/Programs/Wildlife/

(3) U.S. Department of Agriculture, Wetlands Reserve Program [Internet], available at http://www.nrcs.usda.gov/programs/wrp/

(4) U.S. Department of Agriculture, Farm and Ranch Land Protection Program [Internet], http://www.nrcs.usda.gov/programs/frpp/

(5) Wisconsin Department of Natural Resources, *Wisconsin's Contaminated Sediment Program* website [Internet], http://dnr.wi.gov/org/water/wm/wqs/sediment/