

# CHAPTER 9:

## LONG-TERM MAINTENANCE

The Wayne County Storm Water Management Standards require storm water management systems to be maintained in perpetuity to ensure that they function effectively as designed. Long-term maintenance generally begins when construction of the storm water system is complete and the County releases the storm water construction approval. The County issues a long-term maintenance permit for the project that identifies, among other things, the limits of the storm water system, the party responsible for maintenance, and the activities required to ensure that the system functions effectively. A sample long-term maintenance permit is presented in Appendix C to this manual.

This chapter describes general long-term maintenance requirements for storm water management systems approved by Wayne County. This chapter also identifies specific maintenance activities that should be performed for closed conduits and watercourses, and describes situations where storm water management components may be maintained by others (e.g., closed conduits operated by Wayne County or the Michigan Department of Transportation). Specific maintenance activities for open detention basins, retention basins, forebays, and other components of storm water management systems are described in Chapter 8 and in Table 1 of Exhibit B to the sample permit presented in Appendix C.

This chapter does not describe maintenance activities that are necessary during construction. Temporary measures that must be utilized during construction are described in Chapter 7.

### 9.1 Requirements for Long-Term Maintenance Plans

Applications for a storm water construction approval must be accompanied by a long-term maintenance plan for the storm water management system. The maintenance plan generally must include the following elements:

- The plan must identify the physical limits of the storm water management system and the party responsible for maintaining each system component.
- The plan must identify the manner in which the applicant will assure, through a legally binding instrument, that the storm water management system will be maintained in perpetuity.
- The plan must identify the preventative maintenance activities that are necessary to ensure that the system functions properly.
- The plan must provide for periodic monitoring of the system to determine whether the system is functioning properly.
- The plan must commit the entity responsible for maintenance to performing remedial actions necessary to repair, modify, or reconstruct the system in the event the system does not function properly as designed.
- The plan must set forth a schedule for implementing the activities necessary to ensure the proper functioning of the system.

The remainder of this section provides more information about the elements of an approvable long-term maintenance plan. A sample long-term maintenance plan is included as Exhibit B to the sample long-term maintenance permit presented in Appendix C.

#### 9.1.1 Identifying the Limits of System and Responsible Entities

Long-term maintenance plans must define the physical limits of the storm water management system associated with the plan and identify the entity that is responsible for maintenance. Buffer strips and routes of access to components of a storm water management system for maintenance purposes should be identified. Typically, the limits of the system can be shown on a map or drawing that includes a legend that labels each component of the system and identifies the entity responsible for maintaining each component. A sample diagram is included as Exhibit

A to the sample long-term maintenance permit presented in Appendix C.

### **9.1.2 Ensuring Maintenance in Perpetuity**

#### Agreement with Public Entity

A public entity, such as a local unit of government or a drainage district established under the Michigan Drain Code, must assume long-term maintenance responsibility for storm water management systems that require a Wayne County storm water construction approval. This maintenance responsibility must be assumed through a legally binding instrument (such as an ordinance, resolution, contract, or equivalent instrument approved by the County) as a condition of final project approval. The instrument is attached to and made a part of the long-term maintenance permit issued by the County. (See Appendix C.) Examples of options for establishing maintenance responsibility (e.g., a resolution from a local government accepting maintenance responsibility) are shown in Appendix B to this manual.

The public entity may perform the long-term maintenance of a storm water management system itself, or it may designate another entity (such as a homeowner's association, condominium association, or property owner) to undertake this responsibility. The maintenance agreement entered into between the public entity and the person or organization that agrees to perform maintenance activities is attached to the maintenance permit. However, even if the responsibility for maintenance activities is designated to another entity, the public entity identified in the long-term maintenance permit remains ultimately responsible for ensuring that the required maintenance is performed.

A public entity annually may accept maintenance responsibility for all approved storm water systems within its jurisdiction through a single, legally-binding instrument. The instrument may identify one or more individuals within the organization who have authority to accept and execute maintenance permits for specific projects. To ensure the local government's continued commitment to accepting maintenance, the instrument must be renewed or re-enacted by the entity at least annually. A copy of the

primary instrument is attached to the maintenance permit for each project. Communities interested in establishing a single annual maintenance instrument are invited to contact the Wayne County Permit Office for additional information.

For certain types of projects, an applicant may submit a request to the Wayne County Drain Commissioner to establish the storm water management system as a County drainage district. Through the establishment of a drainage district, Wayne County finances, administers and performs maintenance of the storm water management system in accordance with the Drain Code. The listing of applicable projects and the process for requesting that the storm water management system be established as a County Drain are presented in Appendix D to this manual.

#### Notifying Future Property Owners

Long-term maintenance plans must describe in general terms the method or methods that will be relied on to ensure that maintenance is performed in perpetuity. Public entities that assume responsibility for the long-term maintenance of a storm water management system must prepare, execute and (if necessary) record any agreements, contracts, or other documents that may be required to ensure that maintenance occurs in perpetuity. Such documents must include a method of ensuring that subsequent property owners are notified of long-term maintenance obligations and that the property may be subject to limitations or restrictions related to storm water management.

There are a number of methods of providing notification to future property owners. For example:

- Maintenance agreements between a local community and a property owner can be recorded on the deed to the property with the Wayne County Register of Deeds.
- Maintenance agreements for storm water management systems in subdivisions can be included in the bylaws for the subdivision or homeowner's association and/or included on the plat.
- Maintenance agreements in condominium developments may be included in the master deed,

bylaws, and/or rules and regulations associated with the development.

- Maintenance agreements for mobile home parks may be included in the community rules for the park.

### 9.1.3 Maintenance and Monitoring Activities

Typical long-term maintenance plans include a detailed description of the following elements:

- Maintenance activities for all components of the storm water system, including closed conduits, watercourses, outflow control structures, best management practices, and other related appurtenances. The plan must clearly identify the means of accessing storm water management components for purposes of maintenance, and identify the location of all access points.
- Debris removal from catch basins, watercourses, manufactured detention systems, manufactured treatment systems, forebays and detention basins.
- Dredging operations for watercourses, including detention basins and forebays. The County generally requires removal of sediment when the forebay volume is reduced by 30%.
- Detailed description of the procedures for both preventative and corrective maintenance activities. Preventative maintenance should include periodic inspections, adjustments, replacements, and record keeping of operations.
- A schedule for routine and non-routine inspection of all components of the system.
- Provision for maintenance of buffer strips.
- A description of ongoing landscape maintenance needs.
- Provision for necessary permits from others.

See Table 1 in Exhibit B to the sample long-term maintenance permit presented in Appendix C for an example listing of maintenance activities.

## 9.2 Closed Conduits

The Michigan Department of Transportation (MDOT) is responsible for maintaining storm sewers within its jurisdiction, such as those within state road rights-of-way. The Wayne County Department of Public Services

(WCDPS) maintains County-owned storm sewers within County property (for example, County road rights-of-way including those within subdivision developments). The Wayne County Department of Environment (WCDOE) Facilities Management Division maintains storm sewers that enclose County Drains. In some cases, local governments conduct storm sewer maintenance on behalf of WCDPS or WCDOE through special agreements.

### Maintenance Activities

Storm sewer operation is affected by the buildup of sediments and collection of debris such as paper, rags, and small branches. The frequency in which enclosures experience this problem depends on the storm sewer's velocity, the street maintenance program, and the litter collection practices of adjacent development. Storm sewer inlets and outlets should be checked annually for clogging and the system should be cleaned as required. Regular pipe inspection should be made to verify that the piping is not cracked or broken. Grates on inlets, outlets and other storm sewer structures should be cleaned regularly, and sediment should be removed from structures when the accumulation reaches 30% of the structure's volume.

Catch basins should be inspected at least twice a year for debris and sediment buildup. If debris accumulates in the outlet pipe, cleaning the catch basin can become much more time-consuming and expensive.

## 9.3 Watercourses

WCDPS maintains watercourses in County road rights-of-way that provide drainage for County roads. The WCDOE Facilities Management Division maintains watercourses that are designated as County Drains. The U.S. Army Corps of Engineers (USACE) maintains the lower Rouge River and the Detroit River within Wayne County. Maintenance of watercourses other than those described above is a function sometimes performed by the local municipality or property owners. It should be noted that some watercourse maintenance activities may require a permit from another public agency (e.g., the Michigan Department of Environmental Quality or USACE). Chapter 3 of this manual provides an overview of select local, state, and federal regulations governing activities in watercourses. Chapter 12 of this manual provides contact

information for select local, state, and federal regulatory agencies.

#### Maintenance Activities

Watercourses generally should be kept open to allow maximum water flow, storm water transport, and water quality improvements. Buildup of sediment and debris in watercourses can cause low flow problems, flooding problems and degradation of the water quality.

Watercourses and the riparian corridor should be maintained according to the riparian corridor management techniques described in Sections 8.4 and 8.5.