

# Understanding Roadside Drainage

## for Ottawa County

Road Commission, Drain Commissioner, and Township Collaboration

2012

### Authority over Roadside Drainage

#### Drainage Responsibility

Roadside ditches, swales, storm sewer, culverts, or other similar drainage features are installed to convey storm water from the road surface and roadbed to an outlet such as a pond, county drain, creek, infiltration area, or other waterway.

These roadside drainage systems are typically located in the county road right-of-

way and maintained by the Road Commission or in some instances the Drain Commissioner.

Importantly, the primary role of roadside drainage is to drain the road, not adjacent private property, unless the roadside drainage system has been established as a County Drain.

#### Typical Responsibility of Drainage Systems

*Road Commission = Roadside Drainage*

*Drain Commissioner = Established County Drains*

*Property Owner = Private Property and Driveway Culverts*

### Roadside Drainage Overview

#### Maintaining Proper Drainage

A proper roadside drainage system helps reduce damage to both the road surface and the underlying layers of the roadbed from water.

Flooding, washouts, and potholes coincide with poor drainage, which typically results in costly repairs.

Throughout the year, the Road Commission and Drain Commissioner are committed to maintaining their respective roadside drainage systems to improve poor drainage within and alongside roadways.

#### Michigan Drain Code

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The Michigan Drain Code (Public Act 40 of 1956, as amended) is the law that governs the responsibilities of the Drain Commissioner.

#### Establishing a County Drain

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County Drains are established in one of two ways:

1. Through a petition process whereby property owners or a local unit of government petition the Drain Commissioner to establish a County Drain.
2. A property owner may construct a drainage system at the owner's expense and transfer authority for the operation and maintenance of the system to the Drain Commissioner through a Dedication Deed and Agreement (433 Agreement).

## Maintenance Funding

### *Who pays for maintenance?*

The cost to maintain roadside drainage systems that are not county drains is typically the responsibility of the Road Commission.

County drain maintenance is typically paid by all of the “owners” within the drainage district. These owners include all the parcels of land that receives a drainage area benefit, the Township and City/Village for public health benefits, and MDOT, the Road Commission, and County for road drainage benefits.

In some cases, the Road Commission, County, Drain Commissioner, Townships, and Cities/Villages explore cost sharing for “at large” drainage projects.

## Design Techniques

### *Overview*

A roadside drainage system is typically designed based on upstream drainage area, historic drainage patterns, available right-of-way or easement, desired conveyance, and water table levels to ensure adequate drainage, ease of maintenance, protection of water quality, and public safety.

A roadside drainage system must satisfy two main criteria if it is to be effective throughout its design life:

1. Minimize disturbance of natural drainage patterns.
2. Provide an outlet for surface and subsurface water.

## Water Quality



The Road Commission, Drain Commissioner, Townships, and Cities/Villages are active participants in local watershed groups such as, the Macatawa River, and Lower Grand. New drainage projects typically include water quality features.

## Roadside Safety



Ditches or swales are an integral feature of roadside drainage systems that are critical to control road storm water runoff. Where the right-of-way is limited, ditches with deeper and sharper slopes are used.

These features can be of concern if a motorist leaves the roadway. Solutions, such as storm sewer enclosures or guardrail, are considered to protect the traveling public.

## Help Maintain Roadside Drainage

*Recognizing the purpose of the Roadside Drainage system and qualities of effective, environmentally friendly drainage is the first step.*

*Adjacent property owners should **not** do the following activities:*

- Place any materials in or alongside the roadside ditches including: yard debris such as grass clippings or leaves (burning still contributes to the problem), landscaping such as trees or shrubs, or any other items that may impede drainage.
- Scrape, excessively mow, or expose bare soil near or within a roadside drainage system, as this can contribute to erosion and sediment pollution.
- Fertilize or apply herbicides near a roadside drainage system, as this may pollute the water.

*Property owners adjacent to public roads **are encouraged** to proactively maintain their driveway culverts or other private drainage system to be clear of debris and obstructions.*