SAGINAW COUNTY ROAD COMMISSION

PROCEDURE FOR PRIORITIZING CATCH BASINS FOR ROUTINE INSPECTION, MAINTENANCE, AND CLEANING BASED ON PREVENTING OR REDUCING POLLUTANT RUNOFF

BACKGROUND

Beginning in 2002, the Saginaw County Road Commission (SCRC) began inspecting and cleaning all catch basins. The goal was to clean all the catch basins on a ten-year schedule. The first round of cleaning was completed in 2014. During the time of the MS4 permit application review process, 2016, the Saginaw County Road Commission began their second round of inspection, maintenance, and cleaning of all their catch basins. It should be noted that all the catch basins were cleaned when they were inspected. In addition, if the level of sediment in the catch basin was up to the pipe invert, the pipes going from the catch basin to the main storm sewer line were jetted to remove any sediment that was in them. Table 1., below, depicts the catch basin cleaning schedule that has occurred since 2002 with the section numbers referring to the Saginaw County Road certifications map book. The amounts of sediment removed from the catch basins during this second round since 2016 has been less than what was found during the previous round of cleaning. The number of catch basins, the locations cleaned, and the amount of sediment removed per day were recorded by the Saginaw County Road Commission.

Table 1. Cleaning Schedule for Catch Basins Maintained by SCRC since 2002

Year	Location
2002	Carrollton Twp. section 8-12
2003	Saginaw Twp. sections 20-19,20-20, Bridgeport Twp. sections 6-1,6-16,6-9 and Buena Vista Twp. section 7-33
2004	Saginaw Twp. sections 20-29,20-30,20-32,20-20,20-33
2005	Saginaw Twp. sections 20-18 and 20-21
2006	Saginaw Twp. section 20-17
2007	Saginaw Twp. section 20-16
2008	Saginaw Twp. sections 20-18 and 20-14
2009	Saginaw Twp. sections 20-9,20-10 and 20-11
2010	Chesaning Twp. section 10, Saginaw Twp. sections 20-12,20-2A,20-5, 20-7, St. Charles Twp. section 21-8, Maple Grove section 17 and Buena Vista section 7-26
2011	Saginaw Twp. section 20-4,20-3
2012	Freeland Road and Bridgeport Twp. section 6-11,6-9,6-10,6-7,6-13,6-4,6-6,6-15 Buena Vista sections 7-8,7-31,7-17, and 7-21
2013	Thomas Twp. section 25-27,25-30,25-30B,25-36,25-13,25-14,25-25 and 25-24
2014	Buena Vista Twp. section 7-20
2015	Nothing recorded
2016	Carrollton Twp. (note this is starting the cleaning rotation again)

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2017	Saginaw Twp. 20-33,2-30,20-29
2018	Saginaw Twp. section 20-28,20-21,20-20 and 20-19

The Saginaw County Road Commission received a SAW Grant in which included the mapping of owned catch basins within the 2010 Census Bureau Urbanized Area. The SAW Grant has been finalized and to date, there are 13,033 catch basins owned by the Saginaw County Road Commission in the urbanized areas of Saginaw County.

PRIORITIZATION

Per request of the Michigan Department of Environment, Great Lakes, and Energy (MDEGLE), the Road Commission is abandoning its current cleaning schedule. Utilizing the catch basin information obtained from their SAW Grant, the Urbanized Area maps per the most current Census Bureau, land use maps, aerial photography, reviewing the existing storm drainage system, the age of drainage systems, known drainage problems, areas in the floodway or floodplain, areas with gravel roads or parking spaces, known areas of potential contaminants in proximity to the municipal systems, and areas with historic problems, the Road Commission has prioritized each catch basin with a low, medium, or high priority designation. It should be noted that this is only for catch basins owned or maintained by the SCRC. This includes catch basins on Local Township roads that are maintained by the SCRC and does **not** apply to Michigan Department of Transportation (MDOT) roads or private developments.

This inventory will be updated annually following the construction of a catch basin or a change in the priority level. This inventory will be updated by either the Road Commission's appointed Stormwater Program Manager and/or the Road Commission's designee. Any updates will be included in future progress reports submitted to the Michigan Department of Environment, Great Lakes, and Energy.

High, Medium, and Low Priority designations are as follows:

High Priority

Commercial/Business Areas, Industrial Areas, Educational Institutions, and similar high pedestrian traffic areas. Other areas to consider are commercial areas that have several restaurants or night clubs/taverns; that have a lot of activity on weekends and some evenings. These areas tend to accumulate larger volumes of trash due to heavy foot traffic, material handling issues, large parking areas, or business activities. The inlet grates to the catch basins in these areas have a lot of trash in them after significant storm events. Other areas to consider are those that potentially can contribute large sediment loads in stormwater runoff and can deposit large quantities of sediment in the catch basin sumps.

The specific areas within Saginaw County are as follows:

- Industrial/ commercial areas with large parking lots and heavy traffic
- Schools

Medium Priority

These areas include residential, industrial, and commercial areas with low foot traffic, for example, high density residential areas, commercial, medical clinics, small industries where all operations are inside and

there are few employees (generally less than thirty (30) staff or employees). These areas can also be located at major intersections that generate moderate amounts of trash. These areas generate moderate levels of trash that collects at the catch basin inlets.

The specific areas within Saginaw County are as follows:

- Small commercial/ industrial areas with low traffic
- Hospitals/ medical buildings

Low Priority

These areas include residential areas that are medium density or single-family homes and have very low foot traffic. These areas are typically well kept up and do not generate much volume as far as trash or debris are concerned.

The specific areas within Saginaw County are as follows:

- Residential areas (including subdivisions, apartment complexes, and senior living)
- Open spaces and parks

Table 2. Catch Basin Priority Designation Summary

Priority	Number of Catch Basins
High	619
Medium	1,021
Low	11,393
Total Catch Basins =	**13,033**

Please refer to the attached documentation for low, medium, and high priority designations.

CATCH BASIN INSPECTION AND CLEANING

During the permit cycle, inspections will be performed by the Road Commission per the following schedule:

1. **Year 1** – Inspection of all high priority catch basins (619). Inspection of approximately 1,628 low priority catch basins.
2. **Year 2** – Inspection of all high priority catch basins (tbd)*. Inspection of approximately 50% (~510) medium priority catch basins. Inspection of approximately 1,628 low priority catch basins.
3. **Year 3** – Inspection of all high priority catch basins (tbd)*. Inspection of the remaining 50% (~511) medium priority catch basins. Inspection of approximately 1,628 low priority catch basins.
4. **Year 4** – Inspection of all high priority catch basins (tbd)*. Inspection of approximately 50% medium priority catch basins (tbd)*. Inspection of approximately 1,628 low priority catch basins.
5. **Year 5** – Inspection of all high priority catch basins (tbd)*. Inspection of approximately 50% medium priority catch basins (tbd)*. Inspection of approximately 1,628 low priority catch basins.
6. **Year 6** – Inspection of all high priority catch basins (tbd)*. Inspection of approximately 1,628 low priority catch basins.
7. **Year 7** – Inspection of all high priority catch basins (tbd)*. Inspection of approximately 1,628 low priority catch basins.

The catch basins will be re-prioritized with a low, medium, or high designation after the initial inspection according to the criteria in Table 3, below.

Table 3. Individual Catch Basin Priority Designation Table

Catch Basin Condition *	Priority
No problems - new system	Low
Sump has no sediment	Low
Sump has 6" of sediment	Low
Sump has 12" of sediment	Medium
Sump is half full of sediment (sediment is within 18 inches of the pipe invert of the discharge pipe)	High
Sump has sediment at pipe invert	High
Sump has bad odor	High
Catch basin interior is cracked; sand is coming into the cracks; no displacement is noted at the cracks	High
There is settling around the rim; the interior has gaping cracks and displacement; sinkholes are nearby; the sump is full	High
If built out of brick; bricks are failing; bricks are missing; the rim is settling into the street or parking lot; the sump is full	High

*For purposes of this procedure, a conservative assumption will be made that the sump is 36 inches deep and the catch basin will be cleaned if sediment is within 18 inches of the pipe invert of the discharge pipe.

(tbd)* - The number of catch basins in each priority designation will change every year after the initial catch basin inspections and reprioritization.

High priority catch basins will be inspected every year. Medium priority catch basins will be inspected in years two, three, four, and five. It will take seven years to inspect and reprioritize all the catch basins.

During inspections, catch basins that are 50% full will be cleaned. The Saginaw County Road Commission can reasonably clean approximately 800 structures on an annual basis. The Saginaw County Road Commission has two tile jet vac trucks used to clean out catch basins; Tile Jet 123, a 2012 Freightliner, and Tile Jet 129, a 2004 Sterling. Catch basin cleaning material will be dewatered at the Road Commission's facility located at 1905 Hess Avenue, Saginaw, MI. This facility is a cold storage area with a paved parking lot in the combined sewer area. Once dewatered, the material will then be taken to Waste Management (Landfill) located at 4143 East Rathbun Road, Birch Run, MI 48415.

The County will perform any maintenance (repairs, replacement, etc.) warranted depending on inspection results; schedules for performing this maintenance will be determined by the County staff when any repairs or replacements are deemed necessary. All documentation/reports of these activities will be maintained by the County.

Please see the Drainage System Maintenance Standard Operating Procedure for additional recommended protocols for the maintenance and cleaning of catch basin/inlet structures.

MEASURABLE GOALS

• Number of annual revisions or updates after new construction or re-construction.

• Number of individual catch basins re-prioritized after annual inspection.

• Volume of sediment removed from the system per year.

• Number of structures cleaned or maintained per year.