

## **Catch Basin Prioritization Procedure for Saginaw Valley State University**

A university map was used to develop districts based on residential and educational use areas, maintenance areas, storage areas, recreational areas, and open spaces. Also considered were the age of the drainage systems, known drainage problems, areas with gravel roads or parking spaces, areas where the flow is directed to additional structural controls and known areas of potential contaminants in proximity to the storm system.

This inventory will be updated annually following the construction of a catch basin or a change in the priority level.

### **Priority A (High):**

High priority zones consist of University Administration Areas, Maintenance/Storage Areas, Educational Areas, and similar high pedestrian traffic areas where the discharge from catch basins does not flow to additional structural controls, such as wet detention basins or constructed wetlands. 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. Since there are no additional structural the controls there is a greater potential for pollutants to be discharged with storm water to waters of the state. 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 are as follows:

1. Education and Administration Area.....
2. Industrial Area.....
3. Sports areas.....
4. Gravel/Dirt roads, parking areas.....

### **Priority B (Medium):**

These areas include high density residential or areas with moderate foot traffic, for example, university apartments and medical clinics. These areas can also be located at major intersections that generate moderate amounts of trash. Overall, the maintenance staff or grounds staff know the area generates moderate levels of trash that collects at the catch basin inlets or in the open drains and detention areas on public properties. Also included are high pedestrian traffic areas where the discharge from catch basins is directed to additional structural controls, such as wet detention basins or constructed wetlands.

### **Priority C (Low):**

These areas include vacant land, open space and residential areas that are medium density or single-family homes which have very low foot traffic. These areas are typically well kept up and do not generate much sediment, trash or debris.

In addition, high density residential or areas with moderate foot traffic where the discharge from catch basins is directed to additional structural controls such as wet detention basins or constructed wetlands are also considered a low priority.

**Table 1. Catch Basin Priority Designation Summary Table (prior to July 2019 inspections)**

<b>Priority</b>	<b>Number of Catch Basins</b>
Priority A (High)	241
Priority B (Medium)	336
Priority C (Low)	35
Total Catch Basins =	<b>612</b>

All catch basins at SVSU were inspected in July 2019. After the inspections, the catch basins were reprioritized based on the criteria beginning on page 1, paragraph 3 - page 2, paragraph 2. For all catch basin inspections conducted after July 2019, the criteria in Table 2 and Table 3 will be used to reprioritize catch basins.

**Table 2. Individual Catch Basin Priority Designation for Catch Basins that discharge to a storm sewer that flows directly to waters of the state.**

<b>Catch Basin Condition *</b>	<b>Priority Level</b>	<b>Inspection Schedule (years)</b>
<b>No problems - new system</b>	<b>Low</b>	<b>5</b>
<b>Sump has no sediment</b>	<b>Low</b>	<b>5</b>
<b>Sump has 6" of sediment</b>	<b>Low</b>	<b>5</b>
<b>Sump has 12" of sediment</b>	<b>Medium</b>	<b>Every 2 years</b>
<b>Sump is half full of sediment (within 18 inches of pipe invert)</b>	<b>High</b>	<b>Every year</b>
<b>Sump has sediment at pipe invert</b>	<b>High</b>	<b>Every year</b>
<b>Sump has bad odor</b>	<b>High</b>	<b>Every year</b>
<b>Catch basin interior is cracked; sand is coming into the cracks; no displacement is noted at the cracks</b>	<b>High</b>	<b>Every year</b>
<b>There is settling around the rim; the interior has gaping cracks and displacement; sinkholes are nearby; the sump is full</b>	<b>High</b>	<b>Every year</b>
<b>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</b>	<b>High</b>	<b>Every year</b>

**Table 3. Individual Catch Basin Priority Designation for Catch Basins that discharge to other structural controls that collect the sediment (i.e. wet detention basins, constructed wetlands).**

<b>Catch Basin Condition *</b>	<b>Priority Level</b>	<b>Inspection Schedule (years)</b>
<b>No problems - new system</b>	<b>Low</b>	<b>5</b>
<b>Sump has no sediment</b>	<b>Low</b>	<b>5</b>
<b>Sump has 6" of sediment</b>	<b>Low</b>	<b>5</b>
<b>Sump has 12" of sediment</b>	<b>Low</b>	<b>5</b>
<b>Sump is half full of sediment (within 18 inches of pipe invert)</b>	<b>Medium</b>	<b>Every 2 years</b>
<b>Sump has sediment at pipe invert</b>	<b>High</b>	<b>Every year</b>
<b>Sump has bad odor</b>	<b>High</b>	<b>Every year</b>
<b>Catch basin interior is cracked; sand is coming into the cracks; no displacement is noted at the cracks</b>	<b>High</b>	<b>Every year</b>
<b>There is settling around the rim; the interior has gaping cracks and displacement; sinkholes are nearby; the sump is full</b>	<b>High</b>	<b>Every year</b>
<b>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</b>	<b>High</b>	<b>Every year</b>

Upon reprioritization, the following inspection and maintenance schedule will be used per the NPDES permit cycle:

1. Low priority catch basins will be inspected once every 5 years (before permit application submittal). If the sediment is greater than 18 inches below the pipe invert it does not need to be cleaned. If the sump is half full of sediment \* (sediment is within 18 inches of the pipe invert of the discharge pipe) it will be cleaned as soon as possible (within 90 days).
2. Medium priority catch basins will be inspected once every 2 years. If the sediment is greater than 18 inches below the pipe invert it does not need to be cleaned. If the sump is half full of sediment \* (sediment is within 18 inches of the pipe invert of the discharge pipe) it will be cleaned as soon as possible (within 90 days).
3. High priority catch basins will be inspected every year. If the sediment is greater than 18 inches below the pipe invert it does not need to be cleaned. If the sump is half full of sediment \* (sediment is within 18 inches of the pipe invert of the discharge pipe) it will be cleaned as soon as possible (within 90 days). For structures that are failing, at the time of the inspection it will be determined when the structure will be fixed or replaced.

\*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 (half full of sediment).

When a catch basin is cleaned, the depth of the sump will be documented. All documentation/reports of these activities will be presented in the permit progress reports.

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

Measurable Goals:

- Number of individual Catch Basins reprioritized per permit cycle.
- Number of revisions or updates annually after new construction or reconstruction.

Map indicates priority areas as of June 2019.

