

**THE UNIVERSITY OF MICHIGAN
MUNICIPAL STORM SEWER NPDES PERMIT MI0053902
2002 MID YEAR REPORT**

In accordance with Part III. C.2. of NPDES Permit MI0053902, The University of Michigan (UM) is required to submit a mid year report of activities associated with the storm water management program. The program is a requirement of the NPDES permit reissued on October 1, 2001 by the Surface Water Quality Division of the Michigan Department of Environmental Quality. This report covers the period from July 1, 2001 through December 31, 2001 and follows the format identified in the UM storm water management plan.

1. *Provide a brief summary of the implementation status of plans for the elimination of illicit discharges, public education, and storm water pollution prevention.*

The University has undertaken several initiatives in the management of storm water runoff and pollution prevention including the following:

Illicit Discharge Investigation

- An on-going survey of University owned and managed facilities is being performed by the Department of Occupational Safety and Environmental Health (OSEH) in an effort to identify discharge points into the storm and sanitary systems. The original facility survey was completed in October 1997. An initial sanitary discharge survey was completed in the fall of 1999. Confirmation sampling of the initial results began in February 2000 and was completed in the spring of 2001.
- The University's Storm Water Management Program divides University property into four distinct areas based on geographical separation - South Campus, Central Campus, Medical Campus, and North Campus. Dry weather screening was conducted on Central Campus for the time period covered by this report. The initial screening identified seven manholes with sufficient flow to warrant sampling and flow back tracking. Copies of the initial inspection and field screening reports for Central Campus are attached. Of the seven flows that were identified, five of the flows were found to require additional investigation by UM. These follow-up investigations are currently being conducted to determine how these flows should be addressed.

Education

- The educational programs reported in the last annual report are continuing.
- The OSEH Storm Water Web page is being maintained at www.umich.edu/~oseh/stormwater. This site contains a variety of articles on storm water quality management. Copies of the Annual Progress Reports can be found at www.umich.edu/~oseh/emoi.html. The OSEH Web site also contains information about salt reduction initiatives and the use of alternative de-icing agents.
- Storm drain curb markers have been placed on the curbs at storm drain inlets throughout the University. The markers state "Dump No Waste-Flows to River." They are applied to curbs over storm drains with an adhesive caulk. New storm drain grates at the University will have a fish logo and the wording "Dump No Waste Drains to Waterways."

Pollution Prevention

- Pollution prevention efforts continue through catch basin cleaning, street and parking lot sweeping, and litter collection programs. The University owns and maintains a vacuum truck

for storm drain cleaning. Soil erosion control efforts have been implemented and maintained at a variety of construction projects during the past year. These efforts all reduce the quantity of sediment that may reach the Huron River.

- The University is committed to reducing the amount of road salt and sand used on campus by means of its Implementation Plan for Sustainable Winter Maintenance Practices. Both solid and liquid de-icing agents are being used on campus. Liquid de-icing materials are being used more extensively to reduce the overall amount of solid abrasives. A salt brine mixture or a combination of salt brine with Caliber M1000 (trade name) is used on roads and walkways. An “anti-icing” strategy is used to apply these de-icing materials prior to the snow and ice precipitation events. This strategy will expand further in the upcoming years and is continually being revised as more is learned about the effect of alternative de-icers on vegetation, safety issues, and the cost benefit on infrastructure maintenance. Difficulty remains in judging the success of alternative de-icers versus traditional salting methods due to the variable winter conditions that are experienced year to year. The overall goal is to reduce the total amount of salt and sand utilized on campus, and in doing so, reduce the amount of these de-icing materials that flow to surface waters.

2. *Provide a report of illicit discharges and illicit connections removed, and schedules for illicit connections and their associated discharges yet to be removed.*

The following illicit discharges were identified during this reporting period:

- Law Quad: Dry weather screening identified a manhole with flow coming from this building. One source of flow is storm inlets in the lawn area that allow groundwater infiltration to drain to the storm water drainage system. An additional source of water was potentially identified as a steam condensate source. Further investigation will be conducted and appropriate corrections should be completed by the end of summer in 2002.
- Tappan Hall: Dry weather screening identified a manhole with flow coming from Angell Hall. The University identified the source as water from the cooling tower flowing to the roof drains on Angell Hall. This discharge is being evaluated to determine if these discharges can be permitted to drain to the storm water drainage system or rerouted to the sanitary sewer.
- School of Education: Dry weather screening traced flow upstream to a manhole with flow coming from both East and West Hall buildings. This discharge was identified as water from the cooling tower systems. This discharge will be evaluated to determine if it can be permitted to drain to the storm water drainage system or rerouted to the sanitary sewer by the end of summer in 2002.
- Chemistry: Dry weather screening identified a manhole with flow coming from the cooling tower, which is broken and discharging into the roof drains. The cooling tower system is scheduled for repair by the end of the summer in 2002.

- Ruthven Museum: Dry weather screening identified a manhole with flow coming from two sources. The Ruthven Museum and Central Campus Recreational Building (CCRB). Investigation of the museum source will be conducted this winter. Any repairs that are necessary will be completed by the end of the summer in 2002. The other source of flow was identified as coming from the CCRB. The University is permitted to discharge dechlorinated water from the CCRB pool to the storm water drainage system.
- Randall: The source of water is a condensate receiver connected to an ejector tank that is connected to the storm water system. The steam condensate receiver will be disconnected from the ejector tank by the end of the summer in 2002.

The following illicit connections are under further investigation.

- Kraus: The cooling tower system is suspected to be discharging to a storm water drainage cistern. The lines are being traced to find the source. Repairs should be completed by the end of the summer in 2002.
- Mosher-Jordan: An illicit connection was originally identified at a manhole with both storm and sanitary flows separated by a wall. This was corrected and then further dye testing revealed two potential cross connections at Mosher Jordan. One is from a floor drain in the laundry room and the second is from a kitchen drain. The kitchen drain has been reconnected to the sanitary sewer. Work to reconnect the laundry drain to the sanitary should be completed by the end of the summer in 2002.

The following illicit connections have been addressed.

- Medical Science II: Two floor drains were identified in the zone maintenance area as being connected to the storm water system. One of the drains was permanently capped and the second was reconnected to the sanitary sewer. An additional illicit connection identified in the ULAM cage washing area was reconnected to the sanitary sewer.
- Golf Course: A potential cross connection in the maintenance shop was investigated. Dye testing was performed and it was determined that the flow does not go to the septic system. The floor drain is connected to a dry sump. The drain has been covered and will be removed after building renovations have been completed.
- Mosher-Jordan: A potential cross connection was identified at the Mosher Jordan dormitory on Central Campus through the dry weather screening program. The initial investigation found that discharges from the building are routed to manholes that are split into both sanitary and storm water. These manholes had eroded allowing mixing of the flows. A new manhole for each of the separate flows (sanitary sewer and storm water) has been installed and the separate flows have been hard piped to eliminate the potential for a cross-connection. Further investigations were conducted at Mosher Jordan and Alice Lloyd dormitories. Dye testing found that Alice Lloyd did not have a cross connection. Tracing the flow upstream revealed that the Mosher Jordan dormitory has a cross connection from a laundry and a kitchen drain. The kitchen drain has been reconnected to the sanitary sewer.
- South Quad: A potential cross connection was identified at the South Quad dormitory. Dye testing identified the source of flow for both the dock drain and outlying manholes as a discharge from a potable water source that is allowed under the permit.

- Phoenix Memorial Laboratory: Floor drains in a mechanical room of Ford Nuclear Reactor are still connected to the storm water system. These drains have been plugged to prevent anything from entering the storm water system. A second set of floor drains in PML has also been plugged. A cooling tower secondary sump has also been identified as draining to the storm water drainage system. This discharge will be evaluated to determine if these discharges can be permitted to drain to the storm water drainage system or reconnected to the sanitary sewer by the end of the summer in 2002.
- Naval Architecture and Marine Engineering: A potential cross connection was suspected in a floor drain in room 120. Dye testing verified that the flow is going to the sanitary sewer. No further action is necessary.