

West Oaks Regional Detention Basin Improvements

Novi, Michigan

The City of Novi identified the need to repair and improve the West Oaks Regional Detention Basin. The basin includes a permanent water elevation and provides stormwater detention for 169 acres of commercial retail area before outletting into an open watercourse.

The basin has aging infrastructure identified for repair and includes replacing two inlets to the basin, repairing eroded areas along the banks, repairing inlet structures, and modifying the outlet control structure's bar grate to prevent clogging under high flow conditions.



One of the main sources of bank erosion is the drainage from two curb cuts in an adjacent parking lot. Repair of the erosion problem calls for routing the drainage from the curb cuts through a vegetated swale prior to discharging into the basin. The vegetated swale serves to prevent soil erosion and provide pre-treatment of the stormwater to increase water quality prior to entering the basin.

To further improve the water quality within the basin, which ultimately discharges into a natural water course, structure Best Management Practices (BMPs) were evaluated for the five storm sewer inlets into the basin. The level of water quality protection incorporated into the inlets was determined by evaluating the current level of water quality protection provided by the downstream vegetated channel. The water quality goal was dictated by the requirements of the City's National Pollutant Discharge Elimination System (NPDES) Phase II stormwater discharge permit.

Finally, a means to further enhance the basin as suitable habitat for wildlife will be achieved by incorporating stump islands within the wet basin. The stump islands mimic the natural habitat of native fish species and other aquatic wildlife.

OWNER / CLIENT

City of Novi

PROJECT START - END

January 2009 - Ongoing

SDA PROJECT NO.

NV09-002