Conceptual Post Construction Stormwater Management Plan

Project Name: Avenue One
PCSMP Number: TBD
Subdivision Name: Avenue One
Total Acreage: 264.11 Acres
Acreage Draining to Basins: 234.75 acres
Required Water Quality Treatment Volume: 479,360 CF
Provided Water Quality Treatment Volume: 479,360 CF

Drainage and Treatment Summary

The existing site consists of seven different drainage basins, five that outlet into existing culverts under Dodge and 192nd Streets and two that discharges into the park on the southeast boundary line of the project. The existing site is primarily agricultural land. There are two existing farmsteads with large tree masses, and additional tree masses are scattered throughout the property. There is also an existing ballfield facility, consisting of three fields and a home located just south of the fields. The proposed site drainage areas will be generally the same as the existing. In the proposed condition, drainage is directed into 8 (eight) different dry detention basins via overland flow and storm sewer as seen on the attached plan. Water quality requirements will be met with outlet structures within the ponds that include perforated plates attached to them.

This area contains delineated wetlands that are planned to be primarily unaffected, except for the roadway crossing and culvert installation as shown on the attached exhibit. Coordination with the Corps of Engineers is anticipated.

Basin EX-1/P1 also includes 9.98 acres of off-site run-on, which is included in the stormwater calculations.

The requirement for areas west of 192nd Street is to treat the first ½” runoff volume and “no net increase” for the 2-, 10- and 100-year storm events. However, according to information we’ve received from the Nebraska Department of Roads, the culverts were likely designed for the maximum allowable headwater at one foot above the top of culvert in the 50-year design storm. As such, we have designed our stormwater detention ponds such that the proposed 100-year storm event release rate is less than or equal to the existing 50-year storm flow rate. The design also meets the City of Omaha water quality treatment requirement and the 2- and 10-year detention requirements.

Please refer to the attached PCSMP exhibits for further information.