

elm creek

Watershed Management Commission

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Project Review Maple Grove Public Works Facility Maple Grove, 2010-023

Project Overview: The City of Maple Grove is proposing to expand their existing Public Works facility at 9030 Forestview Lane. The proposed project will construct a new office building, vehicle storage building, salt/sand storage building, storage/maintenance area, and parking lots. The impervious area of the site will be increased from 7.6 acres to 16.8 acres. The entire project site is 27.3 acres. About 22 acres will be disturbed.

The project will be constructed in two phases. The first phase will be constructed in fall 2010 and will consist of mass grading, excavation of the pond and infiltration basin, and storm sewer installation. At the end of Phase 1, the entire site will be seeded for the season. Phase 2 construction will begin early 2011 and will consist of minor grading, utilities, paving, building construction, and final turf and landscaping establishment.

This will be reviewed as a commercial redevelopment project. Staff will review the project for compliance with the Commission's erosion and sediment control and stormwater quality/quantity standards.

Applicant. Ken Ashfeld – City of Maple Grove, 12800 Arbor Lakes Parkway, Maple Grove, MN 55311. Phone (763) 494-6351; fax (-). E-mail: kashfeld@ci.maple-grove.mn.us.

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Exhibits:

1. Request for plan review and approval, received on July 30, 2010.
2. Plan review fee \$7,100.00, received on August 10, 2010.
3. Project narrative from the Engineer, dated July 30, 2010.
4. HydroCad results for the existing and proposed conditions, dated July 30, 2010, revised August 16, 2010.
5. PondNet spreadsheets for the existing and developed conditions, and nutrient analysis.
6. Existing and proposed drainage area maps.
7. Geotechnical Evaluation Report, prepared for Oertel Architects. Report is prepared by Braun Intertec Corp., and signed by Nathan L. McKinney on July 23, 2010.
8. Preliminary staff comments to the City and the Engineer, dated August 10, 2010.
9. Revised packet from the Engineer, dated August 16, 2010, responding to staff comments of August 10, 2010.
10. Revised Site Plan Sheets (dated August 16, 2010, signed by Beth A. Engum):

- Sheet 1 Title Sheet
- Sheet 2 Details
- Sheet 3 Existing Conditions & Removal Plan
- Sheet 4 Grading, Drainage and Erosion Control Plan
- Sheet 5 Erosion Control and Turf Establishment Plan
- Sheet 6 Future Grading and Drainage Plan

11. Staff comments to the City and the Engineer, dated August 23, 2010.

Findings:

General:

1. The statutory 60-day project review deadline, per MN Statute 15.99, is October 9, 2010.
2. City of Maple Grove is the LGU administering the WCA. Wetland impacts for this project have been replaced in Corcoran.

Stormwater Management Plan:

The existing site has a small dry pond, which will be filled up and replaced with a much larger storm water pond. The site receives about 8 acres of off-site drainage from the Forestview Lane. A small bio-filter basin will be constructed on the northwest corner to treat a small drainage area.

3. **Runoff Rate Control:** All runoff from the developed site will be treated by the proposed pond. The runoff rates from the pond meet the Commission's requirements.

Runoff Rates Summary (cfs)			
	2-year	10-year	100-year
Existing	24.51	40.55	64.01
Proposed	8.22	11.43	14.78

4. **Channel Protection Volume:** Hydrologic soil group used for C_{VP} (Type C soil) does not match the soil types used in the submitted HydroCad model (soil types B & C are used in HydroCad). Hennepin County soil survey map shows type B soils for this site. It is not certain if this would change the results, but soil types must be verified and the actual soil types must be used with all the models and computations.
5. **Water Quality Control:** Water quality computations must be revised based on the following:

In Attachment C:

Existing Area:

- a) Undeveloped area on the north side (about 12.37 acres) has about 2.75 acres of woodland. This would bring the existing P loads to about 4.13 lbs/yr, from 4.95 lbs/yr.
- b) Area 3S (12.516 acres) is 72% impervious (from HydroCad).
- c) Area 1S (8.03 acres) is 30 % impervious (from HydroCad).
- d) When using PondNet to determine P loads from these areas, one should use the impervious fraction as the runoff coefficient (please see Walker's instructions from www.elmcreekwatershed.org/PondNet.pdf). The submitted models have used runoff coefficient R=0.90, and R=0.80 for areas 3S and 1S. These R values should be 0.72 and 0.30, respectively. The existing pond can be assumed to be a dry pond with no P removal properties.

- e) Please recalculate the existing P values accordingly.

Proposed Site:

- f) According to HydroCad data, the post-development average impervious cover for the entire drainage area (32.92 acres) should be around 63%. Similar to the existing conditions, PondNet must be run with the appropriate runoff coefficients (R=0.63).
- g) The mean depth of the new pond at NWL=912' is 5.14', not 7.0'. Mean pond depth is calculated by:
- h) Mean Depth=Volume at NWL / surface area at NWL (321,582 / 62,624=5.135'). Please run PondNet using the correct mean depth. In PondNet product of "pond surface area" and "pond mean depth" must be equal to the wet pond volume at normal water elevation.
- i) Please recalculate the proposed P loads accordingly.
- j) Please provide a new P load summary for the existing and proposed conditions.
6. The proposed bio-filtration system does not have a pretreatment system. Although the bio-filter system is not included in the nutrient analysis, its future maintenance might be affected due to the lack of pretreatment. The filtering basin will receive runoff from a small area through a curb cut. At a minimum staff recommends a riprap transition between the curb cut and the filtering system.
7. Floodplain Management: There are no floodplains on this property.
8. Erosion and Sediment Control Plan: The submitted erosion control plan does not meet the Commission's requirements. During the grading operations the methods that will be utilized to keep the site dry and control erosion must be identified. The following items must be addressed prior to approval:
- a) An existing RCP enters the site at 91st Ave. N. This clean water must be routed around the site and remain clean without disturbing the grading activities. Please address how this will be accomplished in your staging and erosion control plans.
- b) During grading operations, prior to storm sewer installation, the area of the proposed new building and its front parking lot will be sloped toward the north without provisions to divert the water into the temporary sediment ponds. Please identify how this water will be controlled prior to storm sewer installation.
- c) If the infiltration pond will be used as a temporary sediment pond, all engineered soils and drain tile should be installed after the site is stabilized and sediment is removed from the pond. This should be addressed in your staging and erosion control plans.
- d) Temporary and permanent water controls must be addressed on the following areas:
- The area draining from the future front parking lot to the infiltration pond and
 - The area draining into the NW corner of the large pond from the driveway/parking lot.
- e) The permanent seeding/mulching must be done within 72 hours after rough grading is complete.
- f) The existing and proposed contour lines do not seem to match up to each other at the southeast corner of the construction limits on the site.

Recommendation: All the pertinent issues listed above must be submitted for review.

August 27, 2010
Date

Ali Durgunoglu, Ph.D., P.E.
Technical Advisor to the Commission

SITE LOCATION

