MEETING DATE: November 13, 2017
AGENDA NUMBER: 17
FILE NUMBER: 17-208
ITEM: Catchers Creek East

RECOMMENDATION: Table with 10 Stipulations

APPLICANT: Mark Smith
2120 Otter Lake Drive
Saint Paul, MN 55110

PURPOSE: 39 Lots on 19.1 Acres

LOCATION: SW of intersection of Butternut St and Andover Blvd, Andover, MN

APPLICABILITY:
1. Within 1 mile of an impaired waters.
2. Any work within or adjacent to a Public ditch within the Watershed District.
3. Any work in or adjacent to wetlands, lakes or water courses
4. One or more cumulative acres of land disturbance
5. The lands and waters that have been, or may be covered by the regional flood.
6. Activities upstream from land that is dependent upon removal of water from the soil profile for their continued use (Drainage Sensitive Land Uses)
7. High water table, outwash and organic soils

EXHIBITS:
1. Construction Plan set (10 sheets); by Landform, dated 10/27/17, received 10/26/17.

PREVIOUS ACTION TAKEN: This is a new application.
FINDINGS:

Pre-application Meeting: The project as submitted has not received a general review during a pre-application meeting.

Ditches: There is a public ditch on the property. The public ditch is County Ditch 57 according to the public drainage map. The approved elevations through this property are 869.6 ft MSL at the downstream end and 869.7 ft MSL at the upstream end. Existing elevations, slopes and condition of the ditch are 871.1 ft MSL at the downstream end and 870.9 ft MSL at the upstream end and represent a 1.5-1.2 ft variance from the approved elevations. The ditch is a 5th order stream. The ditch serves the primary role of a trunk drainage system. The ditch serves approximately 0 acres of agricultural land. Land use in the area is toward residential. There are no flooding concerns upstream or downstream. The ditch has been inspected. Existing elevations, slopes and condition of ditch are fair. Alternatives to repair and additional drainage have been considered and reviewed. The ditch is not in need of repair.

Ditch Hydraulics: A crossing of the ditch is not proposed.

Erosion and Sediment Control: Soils affected by the proposal are Lino, Sartell and Zimmerman.

- Stabilizing vegetation is not proposed for disturbed areas within seven (7) days of rough grading.
- Soil stockpiles have been proposed to be fitted with sediment-trapping measures to prevent soil loss.
- Adjacent properties and stormwater ponds are protected from sediment deposition.
- Construction schedules detailing when sediment trapping measures will occur; stabilization of earthen structures and the general timing of construction phases have been provided.
- Stormwater runoff does pass through a sediment basin or other sediment trapping BMP with equal or greater storage capacity.
- Stabilization adequate to prevent erosion has been provided at the outlets of all storm sewer pipes.
- All storm sewer inlets are protected from sediment-laden water during construction.
- All work adjacent to water or related resource has taken precautions to contain sediment, and stabilize the work area during construction.
- Provisions have been made to minimize transport of sediment (mud) by runoff or vehicle raking onto the paved surface.
- Provisions have been made for cleaning road surfaces where sediment is transported by the end of the day.
- Construction entrance points are clearly located on the erosion and sediment control plan.
- The erosion and sediment control plan does provide for the repair and maintenance of all temporary and permanent erosion and sediment control practices.
Dewatering: Shallow ground water does exist on site. It is unknown if the project will require dewatering.

Floodplain: There is floodplain on the property according to the District model and FEMA. The District’s floodplain elevation is at 880.6 feet on the east to 880.4 feet on the west. The project does not propose to place fill within the floodplain. There are no flooding concerns upstream or downstream.

High Water Flooding: Information has been provided to substantiate low floor elevations. Low floor elevations may meet the criteria for the City of Andover; 3 ft above mottled soils/groundwater, 2 ft over 100 yr.

Groundwater: Geotechnical information collected in March 2014 indicates long term groundwater elevation is present at 6-31 feet below the surface.

The site is not within a Municipal Drinking Water Supply Area (DWSMA).

The project site is not within the Emergency Response Area/10 Year Well Head Protection Area/Drinking Water Supply Management Area.

The proposal does not contain a land use discouraged or prohibited by the Safe Drinking Water Supply Act (SDSA).

Historic Sites: The proposed project does include sites of historic or archeological significance.

Local Planning & Zoning: The proposed project is consistent with local planning and zoning. There is an approved local water plan.

Property owners affected by changes in drainage should be notified and acknowledge the changes proposed.

Maintenance: The Owner of the Stormwater Management features and treatment practices is City of Andover. The Stormwater Treatment Practices (STPs) consisting of the following:

<table>
<thead>
<tr>
<th>Stormwater Treatment Practices</th>
<th>Number</th>
<th>Maintenance Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basins</td>
<td>4</td>
<td>City</td>
</tr>
</tbody>
</table>

As a requirement of the City’s MS4 program, the city will inspect and maintain the stormwater facilities.
Easements: The proposed project does include ditch maintenance easement. A ditch maintenance easement is required. A maintenance access to all storm water management features is provided.

**Stormwater & Hydrology:** Infiltration is allowed within the project area. The 1-inch infiltration may be achieved. The stormwater management system utilizes infiltration and wet ponds. Stormwater leaving the site is discharged into a well-defined receiving channel or pipe and routed to a public drainage system.

Drainage sensitive uses do exist downstream from the proposed site. The rate of post-development runoff from the site does not exceed predevelopment rates, or rates which would interfere with sensitive downstream land uses. Properties and waterways downstream from the project are not protected from erosion due to increases in the volume, velocity and peak water flow rates of stormwater runoff. Concentrated storm water leaving a site is discharged directly into a well-defined natural or man-made off-site receiving channel or pipe. All on-site constructed storm water conveyance channels are constructed to withstand the expected velocity from a 2-year frequency storm without erosion.

**Water Quality:** The proposed project does not cause an exceedance of State water quality standards. The project does not contribute to the adverse impact of wetlands through inundation or volume of flow. All discharges into infiltration basins are not pretreated. All work adjacent to wetlands, waterbodies and water conveyance systems are protected from erosion. The proposal will not detrimentally affect the existing water quality of the receiving water. The proposal will not cause extreme fluctuations of water levels or temperature changes.

**Impairments:** This project is within one (1) mile of and drains to an Impaired Water. The Impaired Water is Coon Creek (County Ditch 57). Coon Creek is impaired for (Aquatic Life (Macro-invertebrates)/ Aquatic Recreation (E. coli). The major stressors are Total Suspended Solids (TSS)/ Total Phosphorus (TP)/E.coli. There is not an EPA approved Total Maximum Daily Load (TMDL) or Waste Load Allocation (WLA) for this water.

There are new impervious surfaces proposed as part of this project.

**Wetlands:** Wetlands do exist on-site according to the 1987 Federal manual, NWI, PWI and Soil Survey. Wetlands have been delineated. The most recent delineation was completed on September 5, 2014. The wetland boundary has been checked and approved, there are no wetland impacts. The wetland is not a DNR protected water.

**Wetland Replacement Plan:** A wetland replacement plan is not required.

**Wildlife:** The proposed project does not include endangered or threatened species, rare natural communities, colonial waterbird nesting sites, migratory waterfowl concentration areas, deer wintering areas or wildlife travel corridors.
**Performance Escrow:** $10,650.00  
**Wetland Escrow:** $ N/A  
There are not ditch liens on the property.

## ISSUES/CONCERNS:

<table>
<thead>
<tr>
<th>ISSUE</th>
<th>NEED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Escrows:</strong> $2,000 + (17.3 ac * $500/ac) = $10,650.00</td>
<td>1. Receipt of escrows.</td>
</tr>
<tr>
<td><strong>Stormwater &amp; Hydraulics:</strong> A post construction test on the infiltration basin will be required to verify the assumed infiltration rates are obtained.</td>
<td>2. The applicant must acknowledge that they will conduct a post construction test on the infiltration basin by filling the basin to a minimum depth of 6 inches with water and monitor the time necessary to drain. The Coon Creek Watershed District shall be notified prior to the test to witness the results.</td>
</tr>
<tr>
<td>Need clarification on the impacts of backyard basin’s outlet clogging during 100-Yr storm event.</td>
<td>3. Provide a model that removes outlet for Basin B to illustrate what the HWL will be if outlet were to become clogged.</td>
</tr>
<tr>
<td>Due to mass grading on site during construction, soils will become compacted which will reduce infiltration ability.</td>
<td>4. Either update proposed model to soil type B or add a note on the construction plans that the soil will be scarified prior to reseeding to reduce soil compaction.</td>
</tr>
</tbody>
</table>
| Pond 12P  
  - Device #2’s elevation does not appear to match grading plans.  
  - A 2” orifice may easily clog. | 5. For 12P  
  a. Provide clarity/consistent information for Device #2 between construction plans and model.  
  b. Provide EOF that ensures water will discharge to the south. |
| **Groundwater:** Geotechnical Report indicates that the seasonal high groundwater is conservatively set at 880.0 ft. | 6. Provide additional information on how the infiltration basin allows for a 3 foot separation from seasonally high groundwater. |
| **Soils & Erosion Control:** District requires all stabilization vegetation be within seven (7) days of rough grading or inactivity. | 7. Update construction plans to stabilize vegetation in 7 days of rough grading or inactivity. |
It is unclear if dewatering is needed during the construction of the proposed project.

8. Provide statement whether dewatering will be required for the construction of the proposed project. If yes, provide well-field location, rates, discharge location, schedule and quantities.

**Water Quality:** Discharges into Basin A are not pretreated.

9. Pretreatment is needed for Basin A to ensure long term infiltration. If a sump is to be used for pretreatment, provide calculations (SHASM can be used) to indicate sumps are appropriately sized to meet district removal rates of 80% TSS. A minimum of 4-foot depth is required to prevent resuspension.

**Floodplain:** Due to updated District Model, the HWL noted on plans for Ditch 57 is no longer correct.

10. Update Ditch 57 HWL on plans to state 880.6 ft on the eastern side and 880.2 ft on the western side.

**RECOMMENDATION:** Table with 10 Stipulations

**Stipulations:**

1. Receipt of escrows.
2. The applicant must acknowledge that they will conduct a post construction test on the infiltration basin by filling the basin to a minimum depth of 6 inches with water and monitor the time necessary to drain. The Coon Creek Watershed District shall be notified prior to the test to witness the results.
3. Provide a model that removes outlet for Basin B to illustrate what the HWL will be if outlet were to become clogged.
4. Either update proposed model to soil type B or add a note on the construction plans that the soil will be scarified prior to reseeding to reduce soil compaction.
5. For 12P
   a. Provide clarity/consistent information for Device #2 between construction plans and model.
   b. Provide EOF that ensures water will discharge to the south.
6. Provide additional information on how the infiltration basin allows for a 3 foot separation from seasonally high groundwater.
7. Update construction plans to stabilize vegetation in 7 days of rough grading or inactivity.
8. Provide statement whether dewatering will be required for the construction of the proposed project. If yes, provide well-field location, rates, discharge location, schedule and quantities.
9. Pretreatment is needed for Basin A to ensure long term infiltration. If a sump is to be used for pretreatment, provide calculations (SHASM can be used) to indicate sumps are appropriately sized to meet district removal rates of 80% TSS. A minimum of 4-foot depth is required to prevent resuspension.
10. Update Ditch 57 HWL on plans to state 880.6 ft on the eastern side and 880.2 ft on the western side.