COON CREEK WATERSHED DISTRICT
PERMIT REVIEW

MEETING DATE: November 14, 2016
AGENDA NUMBER: 14
FILE NUMBER: 16-144
ITEM: Shaw’s Glen 2nd Addition

RECOMMENDATION: Table with 9 Stipulations

APPLICANT: Robert Almeida
1950 157th Ln NW
Andover MN 55304

PURPOSE: Single Family Development

LOCATION: Southeast corner of Nightingale St NW and 157th Lane NW, Andover, Minnesota
APPLICABILITY:
1. Any work in or adjacent to wetlands, lakes or water courses
2. One or more cumulative acres of land disturbance
3. The lands and waters that have been, or may be covered by the regional flood.
4. Activities upstream from land that is dependent upon removal of water from the soil profile for their continued use (Drainage Sensitive Land Uses)

EXHIBITS:
1) Construction Plans by Plowe Engineering, Inc; dated 10/17/16, received 10/26/16.
2) Site Drainage Narrative and Calculations by Plowe Engineering, Inc.; dated 10/24/16, received 10/26/16.
3) Wetland Delineation Report by Jacobsen Environmental; dated 8/11/16, received 9/8/16

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. A meeting was held on November 10, 2016 with the applicant, City of Andover and the District.

Ditches: There is not a public ditch on the property.

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

Erosion and Sediment Control: Soils affected by the proposal are Isanti and Sartell.
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- 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 not 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 not protected from sediment-laden water during construction.
- All work adjacent to water or related resource has not 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 racking 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 not 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 dewatering is required.

**Floodplain:** There is floodplain on the property according to the District model at 895.8 feet (88 NGVD). The project does propose to place fill within the floodplain. The total floodplain impact is unknown, no calculations have been provided. The proposed impact is within the flood fringe. Compensatory storage is not provided. There are flooding concerns downstream.

**High Water Flooding:** Information has been provided to substantiate low floor elevations. Low floor elevations do not meet the criteria for the City of Andover; 3 ft above highest anticipated water table, 2 ft over 100 yr.

**Groundwater:** Geotechnical information was not collected for this project. However, groundwater was collected in December 2004 for Shaw’s Glen 1st Addition and indicates long term groundwater elevation is present at 892 or 0 to 10 feet below the surface.

The site is 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 not 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 have been notified and acknowledge the changes proposed.

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

<table>
<thead>
<tr>
<th>Stormwater Treatment Practices</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infiltration Basin</td>
<td>1</td>
</tr>
<tr>
<td>Swale</td>
<td>1</td>
</tr>
</tbody>
</table>

It is unknown who will be responsible for the inspection and maintenance of stormwater facilities. A maintenance agreement has not been executed. The applicant has not submitted a Maintenance Plan for each Stormwater Treatment Practice.

**Easements:**
The proposed project does not include ditch maintenance easement. A ditch maintenance easement is not required. A maintenance access to all storm water management features is not provided.

**Stormwater & Hydrology:** Infiltration is allowed within the project area from roofs. The 1-inch infiltration is not achieved. The stormwater management system utilizes overland flow, swales and an infiltration basin. 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 exceed predevelopment rates, or rates which would interfere with sensitive downstream land uses. An updated model needs to be provided. Properties and waterways downstream from the project may not be protected from erosion due to increases in the volume, velocity and peak water flow rates of stormwater runoff. Concentrated storm water leaving the site is discharged directly into a well-defined natural or man-made off-site receiving channel or pipe. It is unknown if 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 contribute to the adverse impact of wetlands through inundation or volume of flow. All discharges into wetlands are pretreated by a sediment basin/water quality pond, and are not designed correctly. All work adjacent to wetlands, waterbodies and water conveyance systems are not protected from erosion. The proposal may detrimentally affect the existing water quality of the receiving water. The proposal will cause extreme fluctuations of water levels or temperature changes.

**Impairments:** This project is within one (1) mile and drains to an Impaired Water. The Impaired Water is Coon Creek. Coon Creek is impaired for Aquatic Life (Macro-invertebrates) / Aquatic Recreation (E. coli). The major stressors of 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:** Wetland 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 August 11, 2016. The wetland boundary has been checked.

The wetland is not a DNR protected water.

The total proposed wetland impact is 0 square feet.

**Wetland Replacement Plan:**
A wetland replacement plan has not been submitted and 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:** $3,400.00
**Wetland Escrow:** N/A
There are not ditch liens on the property.

<table>
<thead>
<tr>
<th>ISSUES/CONCERNS:</th>
<th>NEED</th>
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<tr>
<td><strong>Escrows:</strong> $2,000 + (2.8 ac * $500/ac) = $3,400.00</td>
<td>1. Receipt of escrows.</td>
</tr>
<tr>
<td><strong>Stormwater &amp; Hydraulics:</strong> Drainage areas in model are not accurate based on existing basins, storm sewer and topography</td>
<td>2. Updated model must be provided. a. Subwatersheds need to be updated to reflect drainage from the north (Cardinal Ridge) that is directed in 2P and also drainage from</td>
</tr>
</tbody>
</table>
Nightingale Street NW and the area to the south that drain into 3P. The property boundary cannot be used as the subwatershed boundary.

<table>
<thead>
<tr>
<th>Rainfall distribution associated with Atlas -14 needs to be used (MSC-3), not Type II.</th>
<th>b. Rainfall distribution type MSC-3 needs to be used, not Type II.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate control is not met. Due to drainage sensitive uses, the proposed 100-Yr rate must be less than the existing 25-Yr rate.</td>
<td>c. Drainage sensitive uses exist downstream of project. The 100-Yr proposed rate must be less than existing 25-Yr rate. If rate control cannot be met, a detailed reason why must be provided that is acceptable to the District.</td>
</tr>
<tr>
<td>Overflows listed in model are not shown on the grading sheet.</td>
<td>3. Grading plan requires the following updates/clarifications: a. Show 1P and 3P overflow on grading plans. Need to extend drainage map to the south to include entire 3P area.</td>
</tr>
<tr>
<td>Proposed contours are shown in the wetland on sheet C2.</td>
<td>b. On sheet C2, there is proposed grading in the wetlands area. Either change contours to existing contours or provide calculations of wetland impacts.</td>
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<td>Swale needs to be modeled to ensure runoff will be contained in the swale and that there will not be erosive velocities during the 2-Yr storm event.</td>
<td>4. Swale updates required: a. Model the 2-Yr storm event to ensure swale does not have erosive flows (&gt;1.5 fps). b. Model the 10 &amp; 100-Yr events will be contained within the swale and not cause a blowout at the bend. c. Show spot elevations to ensure proper drainage.</td>
</tr>
<tr>
<td><strong>Floodplain:</strong> District model indicates that the 100-Yr flood plain is at 895.8 feet.</td>
<td>5. Floodplain issues: a. Provide calculations for amount of fill proposed and amount of compensatory storage provided.</td>
</tr>
</tbody>
</table>
### Groundwater:
Infiltration basin does not meet the 3 foot groundwater separation requirement.

6. Seasonal high groundwater elevation assumed to be approximately equal to northern basin water level (892 feet NGVD). This value is consistent with the Geotechnical Report included in the Shaw’s Glen 1st Addition project.

### Soils & Erosion Control:
Infiltration basins are not protected from erosion and sedimentation during construction. After initial grading the District requires that infiltration basins be completely surround by erosion control measures to prevent the basin from clogging.

7. After initial grading completely surround the proposed infiltration basins with erosion control measures to prevent the basin from clogging.

District requires all stabilization vegetation to be installed within seven (7) days of rough grading or inactivity.

8. Erosion Control Requirements:
   a. Update SWPPP to stabilize vegetation in 7 days of rough grading or inactivity.
   b. Extend silt fence to 896 contour on southern edge of infiltration basin
   c. Show inlet protection at CBs on 157th and Nightingale on erosion control plan.
   d. Show construction entrance on erosion control plan.

Wetland is not fully protected from construction activities.

### Maintenance:
It is unknown who will be responsible for the inspection and maintenance of stormwater facilities. A maintenance agreement has not been executed. The applicant has not submitted a Maintenance Plan for each Stormwater Treatment Practice.

9. Provide an O&M Agreement that meets District requirements.

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boundary cannot be used as the subwatershed boundary or show that the curb lines and storm sewer system are the boundary.

b. Rainfall distribution type MCS-3 needs to be used, not Type II.

3. Drainage sensitive uses exist downstream of project. The 100-Yr proposed rate must be less than existing 25-Yr rate. If rate control cannot be meet, a detailed reason why must be provided that is acceptable to the District.

4. Grading Plan:
   a. On sheet C2, there is proposed grading in the wetlands area. Either change contours to existing contours or provide calculations of wetland impacts.
   b. Show 1P and 3P overflow on grading plans. Need to extend drainage map to the south to include entire 3P area.

5. Swale:
   a. Model the 2-Yr storm event to ensure swale does not have erosive flows (>1.5 fps).
   b. Model the 10 & 100-Yr events will be contained within the swale and not cause a blowout at the bend.
   c. Show spot elevations to ensure proper drainage.

6. Floodplain exists on the western portion of the project area along Nightingale to 895.8 feet (88 NGVD).
   a. Provide calculations for amount of fill proposed and amount of compensatory storage provided.
   b. LFEs do not meet the 100-Yr 2 foot separation for the City of Andover. LFEs must be at least 897.7 feet.

7. Infiltration Basin:
   a. Does not meet 3 foot groundwater separation. Seasonal high groundwater elevation assumed to be approximately equal to northern basin water level (892 feet NGVD). This value is consistent with the Geotechnical Report included in the Shaw’s Glen 1st Addition project.
   b. After initial grading completely surround the proposed infiltration basins with erosion control measures to prevent the basin from clogging

8. Erosion Control:
   a. Update SWPPP to state that stabilize vegetation will take place within 7 days of rough grading or inactivity.
   b. Extend silt fence to 896 contour on southern edge of infiltration basin
   c. Show inlet protection at CBs on 157th and Nightingale on erosion control plan.
   d. Show construction entrance on erosion control plan.

9. Provide an O&M Agreement that meets District requirements.