COON CREEK WATERSHED DISTRICT
PERMIT REVIEW

MEETING DATE: August 27, 2018
AGENDA NUMBER: 14
FILE NUMBER: 18-155
ITEM: National Sports Center Dome Facility

RECOMMENDATION: Table with 14 Stipulations

APPLICANT: Neil Ladd (National Sports Center)
1700 105th Ave NE
Blaine, MN 55449

PURPOSE: Sports Dome Facility Construction

LOCATION: 1700 105th Ave NE, Blaine, MN 55449

APPLICABILITY:
1. Any work within or adjacent to a Public ditch within the Watershed District.
2. Any work in or adjacent to wetlands, lakes or water courses
3. One or more cumulative acres of land disturbance
4. The lands and waters that have been or may be covered by the regional flood.
5. High water table, outwash and organic soils

EXHIBITS:
1. Construction Plan set (20 sheets); by LHB, INC, dated 8/15/18, received 8/15/18.
2. Stormwater Management Report; by LHB, INC, dated 8/15/18, received 8/15/18.
PREVIOUS ACTION TAKEN: This is a new application.

FINDINGS:

Pre-application Meeting: The project as submitted has received a general review during a pre-application meeting.

Ditches: There is a public ditch bordering the property to the east. The public ditch is County Ditch 41 (Sand Creek) according to the public drainage map. The approved/as-built elevations through this property are 890.0 ft MSL at the downstream end and 890.03 ft MSL at the upstream end.

The ditch is a 3rd order stream. The ditch serves the primary role of

a. Collector system

The ditch serves no acres of agricultural land.

Land use in the area is composed of parks, commercial, and vacant land.

There are flooding concerns upstream and/or downstream.

The ditch has been inspected.

Existing elevations, slopes and condition of ditch are good.

The ditch not in need of repair.

Ditch Hydraulics: A crossing of the ditch is not proposed.
**Erosion and Sediment Control:** Soil affected by the proposal is Rifle.

- Stabilizing vegetation is proposed for disturbed areas within seven (7) days of rough grading.
- Soil stockpiles have not 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 not pass through a sediment basin or other sediment trapping BMP with equal or greater storage capacity.
- Stabilization adequate to prevent erosion has not 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 racking onto the paved surface.
- Provisions have not 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.
- Silt fence does not contain all disturbed/bare ground within the construction limits.

**Dewatering:** Shallow ground water does exist on site. The project may require dewatering.

**Floodplain:** There is a floodplain on the property according to the District model and FEMA. The District’s floodplain elevation is at 896.8 feet. The project does propose to place fill within the floodplain. The total floodplain impact is approximately 9 acre-feet. The proposed impact is within the flood fringe. Compensatory storage is not provided. There are flooding concerns upstream and downstream.

**High Water Flooding:** Information has been provided to substantiate low floor elevations. Low floor elevations do meet the criteria for the City of Blaine; 2 ft above mottled, 2 ft above 100 yr.

**Groundwater:** Geotechnical information collected in June 2018 indicates long term groundwater elevation is present at 3.5 – 4.7 feet below the surface.
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.

**Maintenance:** The owner of the Stormwater Management features and treatment practices is Neil Ladd - National Sports Center. The Stormwater Treatment Practices (STPs) consisting of the following:

<table>
<thead>
<tr>
<th>Stormwater Treatment Practices</th>
<th>Number</th>
<th>Inspection &amp; Maintenance Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biofiltration Trench</td>
<td>6</td>
<td>National Sports Center</td>
</tr>
<tr>
<td>Biofiltration Basin</td>
<td>1</td>
<td>National Sports Center</td>
</tr>
</tbody>
</table>

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 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 but is not feasible due to high water table. The 1-inch filtration is achieved. The stormwater management system utilizes biofiltration. Calculations have been provided that illustrate the 1-inch filtration volume is achieved below outlet.

Drainage sensitive uses do not 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 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 wetlands are pretreated via grass swales/overland flow and are designed correctly. 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 not within one (1) mile of an Impaired Water.

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

**Wetlands:** Wetlands do not exist on-site according to the 1987 Federal manual, NWI, PWI and Soil Survey.

**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:** $8,000

**Wetland Escrow:** $ N/A

There are not ditch liens on the property.

### ISSUES/CONCERNS:

<table>
<thead>
<tr>
<th>ISSUE</th>
<th>NEED</th>
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<tbody>
<tr>
<td><strong>Escrows:</strong> $2,000 + (12 ac * $500/ac) = $8,000</td>
<td>1. Receipt of escrows.</td>
</tr>
<tr>
<td><strong>Floodplain:</strong> The floodplain elevation is 896.8 for the project area. Current plans appear to fill approximately 9 AF of floodplain which results in an increase of 0.3 feet in the area.</td>
<td>2. Compensatory storage is required. Provide calculations that indicate amount of fill being placed above 896.8 and location and volume of compensatory storage.</td>
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<tr>
<td><strong>Stormwater &amp; Hydraulics:</strong> The applicant is meeting the volume management requirement equivalent to filtrating runoff from the first inch of precipitation. A post construction test on the filtration basin will be required to verify the assumed filtration rates are obtained. Runoff from area 6 on the proposed drainage map does not appear to be treated before discharging offsite.</td>
<td>3. The applicant must acknowledge that they will conduct a post construction test on the filtration 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></td>
<td>4. Runoff from area 6 should be routed to biofiltration trenches or explain why runoff from area 6 is not treated.</td>
</tr>
</tbody>
</table>
EOF for biofiltration basin and trenches is modeled in HydroCAD but not shown on plans.

3 runs of 4” drain tile are modeled as a 12” pipe for biofiltration basin outlet device.

Drain tile for biofiltration trenches is shown on plans 4” but modeled in HydroCAD as 12” pipe.

It is unclear if the soil media or drain tile is the limiting factor for drawdown time for the biofiltration basin and trenches.

Biofiltration basin outlet rim elevation is inconsistent on plans and in HydroCAD model.

Biofiltration trench appears to go through paved walkway on west side of site.

Filter sock is proposed around drain tile in biofiltration basin. MPCA no longer recommends using filter sock due to clogging.

5. Show EOF for biofiltration basin and trenches on plans and provide detail.

6. Model drain tile as 3 separate 4” pipes for biofiltration basin outlet device.

7. Update construction plans or HydroCAD model to show consistent size for biofiltration trench drain tile.

8. Include soil media and drain tile as an outlet device for biofiltration basin and trenches.

9. Update HydroCAD model or construction plans to show consistent biofiltration basin outlet rim elevation.

10. Clarify if walkway is proposed in that location. If so, update biofiltration trench.

11. Remove filter sock from biofiltration basin underdrain.

12. Update construction plans to include the following:
   a. After initial grading, completely surround biofiltration basins with erosion control measures to prevent the basin from clogging.
   b. Provide sediment trapping measures around soil stockpiles to prevent soil loss.
   c. Provide stabilization (rip rap) adequate to prevent erosion at outlets of all storm sewer pipes.
   d. Include provisions to clean road surfaces where sediment is transported by the end of the day.
   e. Provide a temporary sedimentation basin to provide treatment of runoff before it leaves the construction site.

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

Soil stockpiles are not proposed to be fitted with sediment trapping measures to prevent soil loss.

Stabilization adequate to prevent erosion has not been provided at the outlets of all storm sewer pipes.

Provisions have not been made for cleaning road surfaces where sediment is transported by the end of the day.
<table>
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<tr>
<th>Project does not propose a temporary sedimentation basin. When 10 or more acres of disturbed soil drain to a common location a temporary sedimentation basin is required.</th>
<th>f. Provide adequate perimeter control of all disturbed areas.</th>
</tr>
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<tr>
<td>It is unclear if dewatering is needed during the construction of the proposed project.</td>
<td>13. Provide statement whether dewatering will be required for the construction of the proposed project. If yes, provide well-field location, rates, discharge location, schedule, quantities, and copy of DNR permit if required.</td>
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<tr>
<td><strong>Maintenance:</strong> 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.</td>
<td>14. Provide an O&amp;M Agreement that meets District requirements.</td>
</tr>
</tbody>
</table>

**RECOMMENDATION:** Table with 14 Stipulations

**Stipulations:**

1. Receipt of escrows.
2. Compensatory storage is required. Provide calculations that indicate amount of fill being placed above 896.8 and location and volume of compensatory storage.
3. 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.
4. Runoff from area 6 should be routed to biofiltration trenches or explain why runoff from area 6 is not treated.
5. Show EOF for biofiltration basin and trenches on plans and provide detail.
6. Model drain tile as 3 separate 4” pipes for biofiltration basin outlet device. Update construction plans or HydroCAD model to show consistent size for biofiltration trench drain tile.
7. Update construction plans or HydroCAD model to show consistent size for biofiltration trench drain tile.
8. Include soil media and drain tile as an outlet device for biofiltration basin and trenches.
9. Update HydroCAD model or construction plans to show consistent biofiltration basin outlet rim elevation.
10. Clarify if walkway is proposed in that location. If so, update biofiltration trench.
11. Remove filter sock from biofiltration basin underdrain.
12. Update construction plans to include the following:
   a. After initial grading, completely surround biofiltration basins with erosion control measures to prevent the basin from clogging.
   b. Provide sediment trapping measures around soil stockpiles to prevent soil loss.
c. Provide stabilization (rip rap) adequate to prevent erosion at outlets of all storm sewer pipes.

d. Include provisions to clean road surfaces where sediment is transported by the end of the day.

e. Provide a temporary sedimentation basin to provide treatment of runoff before it leaves the construction site.

f. Provide adequate perimeter control of all disturbed areas.

13. 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.

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