COON CREEK WATERSHED DISTRICT
PERMIT REVIEW

MEETING DATE: April 11, 2019
AGENDA NUMBER: 21
FILE NUMBER: 19-070
ITEM: City of Coon Rapids Street Reconstruction Project 19-2

RECOMMENDATION: Approve with 6 Stipulations

APPLICANT: City of Coon Rapids
11155 Robinson Drive
Coon Rapids, MN 55433

PURPOSE: Reconstruction of Foley Boulevard, Olive Street and Wedgewood Drive
Replace Watermain
Replace Culvert Crossing for Sand Creek at Foley Blvd.
Installation of rock vane and fish passage to address impending fisheries impairment

LOCATION: Olive Street from Main Street to 121st Ave.
Foley Blvd. from Main Street to Northdale Blvd
Culvert Crossing at Sand Creek/Foley Blvd.
Wedgewood Drive from Main Street to Round Lake Blvd
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. Appropriation of groundwater
7. Excavation or filling or a combination of excavation and filling of sand or other excavation or fill material including the laying, repairing, replacing or enlarging of a culvert or an underground pipe or facility where it crosses a public ditch or waters of the state.

EXHIBITS:
1. Construction Plan set (103 sheets); by Hakanson Anderson, dated February 8, 2019, received March 27, 2019.
2. Crossing or Culvert Installation Project Narrative Received March 27, 2019.
3. Grading and Development project Narrative received March 27, 2019
4. NPDES Permit Authorization to Discharge, Permit Number C00053115 by MPCA, dated March 13, 2019, received March 27, 2019.
5. Stormwater Pollution Prevention Plan dated March, 2019, Received March 27, 2019.
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 41 according to the public drainage map. There are no approved elevations through this property.

Existing elevation at the downstream end is 874.6 ft MSL and 876.7 ft MSL at the upstream end. slopes and condition of the ditch are good and do not represent variance
from the as-built elevations. Alternatives to repair and additional drainage have been considered and reviewed.

The ditch is a 4th order stream. The ditch serves the primary role of Trunk drainage system.

The ditch serves approximately 0 acres of agricultural land. Land use in the area is toward residential use. There are flooding concerns upstream and downstream. The ditch has been inspected. Existing elevations, slopes and condition of ditch are good. The ditch is not in need of repair. Alternatives to repair and additional drainage have been considered and reviewed.

**Ditch Hydraulics:** A crossing of the ditch is proposed. The proposed crossing involves the replacement of two culverts. Wenck performed a no-rise analysis for the new culverts. The proposed culverts meet the designed elevations, grades and dimensions provided in the no-rise analysis and are of sufficient hydraulic capacity.

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

- The SWPPP Provided appears to be for a different project. Provide a SWPPP with the correct project details and references.
- 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 and do not have a note to stabilize within seven (7) days of inactivity.
- 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.
- 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 tracking 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 and removal of all temporary and permanent erosion and sediment control practices.
• Details provided for ESC (riprap, perimeter control, concrete washout, inlet protection, etc.)

Dewatering: Shallow ground water does not exist on site. The project does not require dewatering.

Floodplain: There is floodplain on the property at the culvert replacement location according to the District model and FEMA. The District’s floodplain elevation is at 880.6 feet on the downstream end of the crossing and 883.6 feet at the upstream end. The project does not propose to place fill within the floodplain.

High Water Flooding: The new culvert crossings were modeled to ensure no change in the high water levels on Sand Creek. High water flooding for structures is applicable.

Groundwater: Geotechnical information collected in July and November, 2018, indicates long term groundwater elevation is present at 13 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.

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 The City of Coon Rapids. 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>Sump with Preserver</td>
<td>1</td>
<td>City of Coon Rapids</td>
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As a requirement of the City’s MS4 program, the city will inspect and maintain the stormwater facilities.
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. The 1-inch infiltration is achieved to the maximum extent practicable. 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 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 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 not 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 not 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/stormwater basins are not pretreated by a sediment basin/water quality pond, and are not 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 within one (1) mile of and drains to an Impaired Water. The Impaired Water is Sand Creek (CD 41). Sand Creek is impaired for Benthic macroinvertebrate bioassessments and E coli. There is an EPA approved Total Maximum Daily Load (TMDL) or Waste Load Allocation (WLA) for these waters.

There are new impervious surfaces proposed as part of this project to widen a sidewalk. The increased impervious area is offset by the reduction in street width.

**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.
If the project is present, the project does not propose substantial adverse alteration or significant detrimental impact on a species or removal of a plant species.

**Performance Escrow:** $8,150.00  
**Wetland Escrow:** $ N/A  
There are not ditch liens on the property.

**ISSUES/CONCERNS:**

<table>
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<tr>
<th>ISSUE</th>
<th>NEED</th>
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<tbody>
<tr>
<td>Escrows: $2,000 + (12.3ac * $500/ac = $8,150.00</td>
<td>1. Receipt of escrows.</td>
</tr>
</tbody>
</table>
| Soils & Erosion Control: District requires all soil stockpiles to be fitting with sediment trapping devices and be stabilized within 7 days of inactivity.  
It is unclear if dewatering is needed during the construction of the proposed project.  
The SWPPP provided is for a different project. | 2. Update plans to show that soil stockpiles will be fitted with sediment trapping devices and stabilized within 7 days of inactivity.  
3. 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 when available.  
4. Provide an updated SWPPP for this project. |
| Water Quality: The project includes installing one sump manhole with a preserver. | 5. Provide SHSAM inputs and results that indicate sumps are sized appropriately to meet District removal rates of 80% TSS. |
| Wildlife: The following comments apply to the rock vane construction.  
Coordination with Coon Creek Watershed District CCWD personnel is needed during construction.  
Considerable excavation is anticipated within the channel to remove existing sediment. No plan for in-water excavation, dewatering, or sediment disposal were provided.  
Cross-section A-A of rock vane plane view is incorrectly oriented. | 6. Please update plans with the following:  
a. Provide a note that the contractor and engineer will provide CCWD with at least 48 hours’ notice prior to beginning in-stream work.  
b. Provide construction and phasing plans for in-water excavation and sediment disposal.  
c. Re-orient cross-section A-A to run the length of the side of the rock vane.  
d. Provide bank stabilization at the upstream end of the box culverts.  
e. Clarify if sufficient distance exists between downstream most rock |
Stream excavation is likely to destabilize stream bank and lead to erosion.

The downstream most rock vane appears to be too close to the box culvert and may interfere with bank stabilization at box culvert.

Plans call for 24” of Class IV or Class V riprap. This results in a single layer of riprap and may also result in stream flow within, rather than above, the rip rap.

Rock vane plans call for geotextile filter below footer boulders, which may cause constructability issues.

Footer boulders are smaller than base riprap and wall boulders, which may cause constructability issues.

Footer boulders are shown “keyed” into streambed, however this is may be difficult due to presence of Class IV or V riprap.

In-water work may require DNR or USACE permitting.

DNR rules do not allow in-water work from March 15 – June 15.

No provision for removal of sediment captured by silt curtain is provided.

vane and box culvert or move rock vane upstream.

f. Clarify riprap plans and provide calculations supporting sufficient stream flow above riprap.

g. Clarify need for geotextile filter beneath rock vane.

h. Clarify sizes of footer and wall boulders.

i. Clarify method of keying footer boulders into riprap.

j. Provide DNR and USACE permit documents or correspondence indicating no permit is necessary.

k. Provide note indicating no in-water work may occur from March 15 – June 15.

l. Provide note on construction plans that sediment captured by silt curtain will be removed and disposed of at an upland site.

RECOMMENDATION: Approve with 6 Stipulations

Stipulations:

1. Receipt of escrows.

2. Update plans to show that soil stockpiles will be fitted with sediment trapping devices and stabilized within 7 days of inactivity.

3. 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 when available.

4. Provide an updated SWPPP for this project.

5. Provide SHSAM inputs and results that indicate sumps are sized appropriately to meet District removal rates of 80% TSS.
6. Please update plans with the following:
   a. Provide a note that the contractor and engineer will provide CCWD with at least 48 hours notice prior to beginning in-stream work.
   b. Provide construction and phasing plans for in-water excavation and sediment disposal.
   c. Re-orient cross-section A-A to run the length of the side of the rock vane.
   d. Provide bank stabilization at the upstream end of the box culverts.
   e. Clarify if sufficient distance exists between downstream most rock vane and box culvert or move rock vane upstream.
   f. Clarify riprap plans and provide calculations supporting sufficient stream flow above riprap.
   g. Clarify need for geotextile filter beneath rock vane.
   h. Clarify sizes of footer and wall boulders.
   i. Clarify method of keying footer boulders into riprap.
   j. Provide DNR and USACE permit documents or correspondence indicating no permit is necessary.
   k. Provide note indicating no in-water work may occur from March 15 – June 15.
   l. Provide note on construction plans that sediment captured by silt curtain will be removed and disposed of at an upland site.