COON CREEK WATERSHED DISTRICT
PERMIT REVIEW

MEETING DATE: April 25, 2016
AGENDA NUMBER: 10
FILE NUMBER: 16-060
ITEM: Grey Oaks 4th Addition

RECOMMENDATION: Table with 10 Stipulations

APPLICANT: RC Development
Attn: Rick Novak
8857 Zealand Ave N
Brooklyn Park MN 55445

PURPOSE: Residential Development

LOCATION: West of Hanson Blvd, North of 155th Lane NW, in Andover, Minnesota
APPLICABILITY:
1) Any building within the floodplain of any natural water course (1.07 sub 1)
2) Construction of 1 acre or greater of impervious surface
3) Project site is not greater than 5 acres, a NPDES permit is required

EXHIBITS:
1. Construction Plan set (12 sheets) by Carlson McCain, dated 4/12/16, received 4/13/16.
2. Stormwater Memo and Calculations by Carlson McCain, dated 4/12/16, received 4/14/16.

HISTORY & CONSIDERATIONS: This is a new application. Grey Oaks Ultimate Development, which included this site was approved in 1998.

FINDINGS:
Ditches: There is a public ditch on the property. The public ditch is County Ditch 37 according to the public drainage map. County Ditch 37 was established in 1900. The ditch was last inspected in 2014. The ditch was repaired April 2016 by removing woody debris.

The approved elevations and grades through this property are 889.4 ft MSL at 155th Ln and 889.8 ft MSL at 156th Ln and 0.04% slope. Existing elevations, slopes and condition
of the ditch are 888.9 ft MSL at 155<sup>th</sup> Ln and 890.2 ft MSL at 156<sup>th</sup> Ln and represent a 0.000125% variance from the as-built elevations. Alternatives to repair and additional drainage have been considered and reviewed.

The ditch is a 2nd order stream. The ditch serves the primary role of
a. Storm water conveyance

The ditch serves approximately 0 acres of agricultural land. Land use in the area is trending toward residential/multi-use. There are no flooding concerns upstream and/or downstream.

A 16.5 foot grass strip is required.
A 16.5 foot grass strip is present.
The 16.5 foot grass strip has been inspected. (103E.075 subd 4)
The grass strip is not in need of repair or maintenance.

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

**Erosion and Sediment Control:** Soils affected by the proposal are Isanti, Rifle and Sartell. Stabilizing vegetation is not proposed for disturbed areas within two weeks (14 days) of rough grading. Adjacent properties and stormwater ponds are protected from sediment deposition. Project site is greater than 1 acre, a NPDES permit is required.

**Floodplain:** There is floodplain on the property according to the District model but not FEMA. The project does propose to place fill within the floodplain. The total floodplain impact is unknown, no calculations provided. The proposed impact is within the floodway. Compensatory storage is not provided. There are no flooding concerns upstream and/or downstream.

**Groundwater:** Geotechnical information has been submitted for Grey Oaks 3<sup>rd</sup> Addition which is directly NW of proposed site. Geotechnical information collected in December 2014 indicates long term groundwater elevation is present at 893.5 feet below the surface. Wetlands and Ditch NWL at site location indicated approximate groundwater elevation of 891.8 ft.

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

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

The project is within the 10 Year Well Head Protection Area. The project does not propose to collect, handle, use store, transfer or dispose of solid or liquid material or wastes.
Storage and use of petroleum products exceeding fifty-five (55) gallons is not proposed on-site.

**High Water Flooding:**
Information has been provided to substantiate low floor elevations. Low floor elevations do meet the criteria for the City of Andover; 3 ft above highest anticipated water table, 1 ft over 100 yr.

**Dewatering:**
It is unknown if the project does require dewatering.

**Ground Water Dependent Water Resources:**
It is unknown if Ground Water Dependent water resources are within the cone of depression.

**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 not been notified and acknowledge the changes proposed.

**Maintenance:** The Owner of the Stormwater Management features and treatment practices is City of Andover. The City of Andover is an MS4 and is required to maintain the Stormwater Treatment Practices (STP’s) consisting of the following:

<table>
<thead>
<tr>
<th>Stormwater Treatment Practices</th>
<th>Number</th>
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<tbody>
<tr>
<td>Infiltration Basin</td>
<td>1</td>
</tr>
<tr>
<td>Detention Basin</td>
<td>1</td>
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**Easements:** The proposed project does include ditch maintenance easement but it is not shown on the plans. A maintenance access to all storm water management features is provided.

**Stormwater & Hydrology:** Infiltration is allowed within the project area from roof area only, all other impervious surfaces must be filtered prior to infiltration. The 1-inch infiltration is not achieved. The stormwater management system does utilizes a 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. It is unknown if the rate of post-development runoff from the site exceeds predevelopment rates, or rates which would interfere with sensitive downstream land uses.
**Water Quality:** The proposed project does not cause an exceedence 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 by overland flow. 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 and does not drain to an Impaired Water.

The project does not propose site stabilization within 14 days after construction. The proposed stormwater system does retain at least one inch of runoff from the project site.

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 March 30, 2016. The wetland boundary has not 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 needed.

**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. No substantial adverse alteration or significant detrimental impact on a species food supply, security or reproductive cycle or the alteration or removal of a plant species will occur.

The proposed project does not result in:
- Loss of any existing environmental value linked to receiving waters
- Pose a significant threat to aquatic fauna or flora, especially groundwater-dependent ecosystems,
- Soil erosion or local flooding
- Harm to native vegetation (via flooding or toxicity)
- Erosion of structures or services
- Sediment build-up in drains, waterways or wetlands
- Nuisance to the local community such as foul odors; harm to plants or property
- Hazard to human health or safety
- Loss or discernible reduction of flow in public or private water sources.

**Performance Escrow:** $7,150.00
**Wetland Escrow:** $N/A
There are not ditch liens on the property.

**FINDINGS/ISSUES/CONCERNS:**

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<tr>
<th>ISSUE</th>
<th>NEED</th>
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<tbody>
<tr>
<td><strong>Groundwater:</strong> It is unclear if dewatering is needed during the construction of the proposed project.</td>
<td>1. 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.</td>
</tr>
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<td><strong>Erosion and Sediment Control:</strong> Stabilizing vegetation is not proposed for disturbed areas within two weeks (14 days) of rough grading.</td>
<td>2. Provide note on SWPPP that stabilization vegetation is required within 14 days of rough grading or inactivity.</td>
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<td><strong>Floodplain:</strong> There is floodplain on the property according to the District model. The 100-Yr elevation is 894.2 ft (NAVD 88). The total floodplain impact is unknown, no calculations provided. Proposed pond will provide some compensatory storage but calculations have not been provided.</td>
<td>3. Calculations need to be provided for floodplain impact and compensatory storage volumes.</td>
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<td><strong>Groundwater:</strong> Groundwater levels on site are anticipated to be approximately 891.8 ft based on District model and aerial photos of wetlands. The site is within a DWSMA and WHP which limits the infiltration on site.</td>
<td>4. Starting elevation for Pond should be adjusted to 891.8’.</td>
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<td><strong>Maintenance:</strong> A drainage and utility easement needs to be provided for basin. There is a ditch easement on property but it is not shown on the plan set.</td>
<td>5. Provide drainage and utility easement for Pond. 6. Show CD 37 ditch easement on plan set.</td>
</tr>
<tr>
<td><strong>Stormwater &amp; Hydrology:</strong> The site is within a DWSMA and WHP which limits the infiltration on site.</td>
<td>7. Due to groundwater levels and site constraints, the infiltration basin should be removed from design. Runoff from the roofs can be treated via overland flow and amended soils before entering the adjacent wetlands.</td>
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Boundary conditions for the HydroCAD model need to be updated. Based on District model, the HWL for the wetlands and CD 37 is 894.2 ft.

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<th>8. The model will need to be updated to use correct boundary conditions. The model will need to use Dynamic Routing to determine the backwater effects to the Pond. The District SWMM model can be provided for the area if needed.</th>
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It is unknown if the rate of post-development runoff from the site exceeds predevelopment rates, or rates which would interfere with sensitive downstream land uses.

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<th>9. Construction activities on site will likely compact soils resulting in a reduction in infiltration capabilities. In order to account for this the proposed conditions should be modeled with a B type soil (one less than the A soil), or, the applicant can choose to amend the soil so that it has runoff characteristics of an A soil. This will need to be labeled on the plan accordingly. CN for 1S-W1 should reflect wetland land use, not woods or grass.</th>
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**Escrows:** $2,000 + (10.3 ac * $500/ac) = $7,150.00

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<th>10. Receipt of Escrows</th>
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**RECOMMENDATION:** Table with 10 Stipulations

**Stipulations:**

1. Receipt of escrows.
2. 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.
3. Provide note on SWPPP that stabilization vegetation is required within 14 days of rough grading or inactivity.
4. The design is within the floodplain, calculations need to be provided for impact and compensatory storage volumes.
5. Provide drainage and utility easement for Pond.
7. Starting elevation for Pond should be adjusted to 891.8’.
8. Due to groundwater levels and site constraints, the infiltration basin should be removed from design. Runoff from the roofs can be treated via overland flow and amended soils before entering the adjacent wetlands.
9. The model will need to be updated to use correct boundary conditions. The model will need to use Dynamic Routing to determine the backwater effects to the Pond. The District SWMM model can be provided for the area if needed.
10. Construction activities on site will likely compact soils resulting in a reduction in infiltration capabilities. In order to account for this the proposed conditions should be modeled with a B type soil (one less than the A soil), or the applicant can choose to amend the soil so that it has runoff characteristics of an A soil. This will need to be labeled on the plan accordingly. CN for 1S-W1 should reflect wetland land use, not woods or grass.