COON CREEK WATERSHED DISTRICT
PERMIT REVIEW

MEETING DATE: March 25, 2019
AGENDA NUMBER: 8
FILE NUMBER: 19-056
ITEM: Arroyo Villas

RECOMMENDATION: Table with 16 Stipulations

APPLICANT: Jon Blattman, Hedburg Homes, Inc.
4297 117th Ave. NE
Blaine, Mn 55449

PURPOSE: Residential Development
22 Lots on 5.3 Acres

LOCATION: West of Ulysses St. NE and south of 116th Ave. NE, Blaine

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. High water table, outwash and organic soils
7. High infiltration soils
8. Highly erodible soils

EXHIBITS:
1. Construction Plan set (6 sheets); by Carlson McCain, dated 3/13/19, received 3/13/19
4. Wetland Delineation Report; by Bopray Environmental, dated 12/12/17, received 12/14/17.

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 41 (Sand Creek) according to the public drainage map. The approved elevations through this property are 885.5 ft MSL at the downstream end and 885.7 ft MSL at the upstream end. The existing conditions through this property are 886.3 ft MSL at the downstream end and 885.1 ft MSL at the upstream end and 0.8-0.6 ft variance from the approved
elevations. 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 commercial and residential. There are flooding concerns downstream. The ditch has been inspected. Existing elevations, slopes and condition of ditch are good condition. 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 not proposed.

**Erosion and Sediment Control:** Soils affected by the proposal are Isanti, and Markey.

- 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 not 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 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 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.
- Details provided for ESC (riprap, perimeter control, concrete washout, inlet protection, etc.)

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

**Floodplain:** There is floodplain on the property according to the District model and FEMA. The District’s floodplain elevation is at 892.8 feet. The project proposes to place negligible amount of fill within the floodway. There are flooding concerns downstream.
High Water Flooding: Information has been provided to substantiate low floor elevations. Low floor elevations meet the criteria for the City of Blaine; 2 ft above mottled, 2 ft above 100 yr.

Groundwater: Geotechnical information collected in January 2018 indicates long term groundwater elevation is present at 888.3 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 unknown. 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>Wet Pond</td>
<td>1</td>
<td>Unknown</td>
</tr>
<tr>
<td>Filtration Basin</td>
<td>1</td>
<td>Unknown</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 not feasible due to high groundwater. The 1-inch filtration is not achieved. The stormwater management system utilizes filtration. Calculations have not been provided that illustrate the 1-inch infiltration 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 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 wetlands/stormwater basins are pretreated by a sediment basin/water quality pond, 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 within one (1) mile of and drains to an Impaired Water. The Impaired Water is Sand Creek. Sand 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 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 not exist on-site according to the 1987 Federal manual, NWI, PWI and Soil Survey. CCWD issued a Notice of Decision on 1/22/18

**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:** $4,450.00
**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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<td>Escrows: $2,000 + (4.9 ac * $500/ac = $4,450.00</td>
<td>1. Receipt of escrows.</td>
</tr>
<tr>
<td>Floodplain: Rip rap at outlet of Pond 100 will extend into floodplain.</td>
<td>2. Provide detail for riprap at Pond 100 outlet that shows top of riprap matching existing elevation to ensure no floodplain fill.</td>
</tr>
</tbody>
</table>
The District Atlas 14 model indicates floodplain at the private ditch on the western side of the project and on at the 894’ ft. contour on Lots 2-4, Block 1. Fill is proposed in these areas and no compensatory storage is provided. The District model for this area has not been updated.

3. District will update floodplain model and provide information to applicant. Compensatory storage may be required.

### 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.

- Ditch easement not provided for Sand Creek.

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

5. 50-foot easement from center lines needs to be provided for Sand Creek.

### Stormwater & Hydraulics:

- A post construction test on the infiltration basin will be required to verify the assumed infiltration rates are obtained.

- Curve Numbers appear low for both existing and proposed. The SSURGO database indicates this area is an A/D hydrologic soil group, historic land use included some agriculture and grazing.

- An increased Curve Number (A to B, B to C, etc.) must be used in proposed conditions calculations to account for compaction, or a statement on the grading plan that proposed open areas will be scarified up to 6 inches.

- The weir in the splitter structure is too close to the outlet pipe to promote full expansion of the flow. The weir length should be maximized and pulled as far

6. The applicant must provide a note on the construction plans that a post construction test on the infiltration basin will be conducted 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.

7. Consider updating hydraulic calculations with Curve Numbers that represent the SSURGO soils hydrologic soil groups with historic land use.

8. Provide calculations for proposed conditions with an increased Curve Number to account for compaction, or provide a statement on the grading plan that soils will be scarified 6”.

9. Consider revising the weir configuration in the flow splitter Manhole or providing a larger
back from the discharge pipe as possible. We suggest increasing the diagonal angle of the weir.

Rate control for the site must be met.

Proposed grading within private ditch. Impacts to conveyance capacity and bank stability are unknown.

The applicant is not meeting the volume management requirement equivalent to infiltrating runoff from the 1.1 inches of precipitation. All projects in the City of Blaine must meet this requirement. Sufficient groundwater separation is present at soil borings 11, 12, and 13.

<table>
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<tr>
<th>Soils &amp; Erosion Control: District requires all stabilization vegetation to be within seven (7 days of rough grading or inactivity. It is unclear if dewatering is needed during the construction of the proposed project. Grading is indicated beneath the silt fence on the west side of the property and immediately adjacent or within the private ditch. Details for all erosion control measures must be provided (inlet protection, silt fence, etc.)</th>
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<td>10. Provide Calculations showing the project is meeting rate control requirements.</td>
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<td>11. Provide calculations and cross-sections indicating ditch provides sufficient conveyance and maintains bank stability.</td>
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<td>12. Applicant must meet the volume management requirement. If the applicant cannot meet the volume management requirement due to site constraints in its entirety, they must meet it to the greatest extent practical and explain why it cannot be met.</td>
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<td>13. Update construction plans (grading plan) to include a note to stabilize with vegetation within 7 days of rough grading or inactivity.</td>
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<td>14. 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>
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<td>15. Clarify location of grading and silt fence. Add additional erosion and sediment control measures to prevent deposition of sediment in private ditch.</td>
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<td>16. Provide details for all proposed erosion and sediment control measures</td>
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**Stipulations:**

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16. Provide details for all proposed erosion and sediment control measures.