COON CREEK WATERSHED DISTRICT
PERMIT REVIEW

MEETING DATE: August 11, 2014
AGENDA NUMBER: 18
FILE NUMBER: 14 - 090
ITEM: Sharper Homes Office

RECOMMENDATION: Table with 9 Stipulations

APPLICANT: Sharper Homes, Inc.
9240 Baltimore Street NE
Ham Blaine, MN 55449

PURPOSE: Development of an office and warehouse

LOCATION: Lot 1, Block 1, North Pines Third Addition, Ham Lake, Minnesota
APPLICABILITY:
1. One or more cumulative acres of land disturbance.
2. Activities upstream from land that is dependent upon removal of water from the soil profile for their continued use (Drainage Sensitive Uses)
3. Appropriation and use of groundwater.

EXHIBITS:
1. Stormwater Management Plan, Dated 7/9/2014, Received 7/28/2014
2. Soil boring and Percolation Test Results, Dated 7/1/2014, Received 7/28/2014
3. Plan Sheets C1-C6, Dated 7/9/2014, Received 7/28/2014

HISTORY & CONSIDERATIONS:
The site is a vacant lot in the North Pines Third Addition in the City of Ham Lake.

FINDINGS:
Ditches and Drainage: There is not a public ditch on the property. The project site is tributary to County Ditch 59. The trend in land use for this drainage area is toward residential, commercial and industrial. There are no flooding concerns downstream. Alternatives to additional drainage considered and reviewed include storage and infiltration.

Floodplain: There is no floodplain on the property according to FEMA. The District Atlas 14 model predicts the 100-year elevation for the subwatershed at 883.3 feet.

Groundwater: Soil borings did not reach ground water. Mottled soil elevation for Boring #5 at the proposed office location is 6ft 4inches below ground level or approximately 891.4. The site does include groundwater sensitive areas. Information has been provided to substantiate low floor elevations. Low floor elevations meet the criteria for the City of Ham Lake (1 ft above mottled soil elevation, 1 ft above 100-year).

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 proposed project does include a ditch maintenance easement and utility line crossings along Aberdeen Street NW. A drainage and utility easement is not provided for the storm water/infiltration ponds shown on the drainage plan. Property owners affected by changes in drainage have not been notified and have not acknowledged the changes proposed.

Soils & Erosion Control: Soils affected by the proposal are Lino and Zimmerman. Stabilizing vegetation is proposed for disturbed areas within two weeks of rough grading. Adjacent properties are not protected from sediment deposition. All wetlands,
waterbodies, ponds, infiltration basins and water conveyance systems are not protected from erosion and sedimentation. Project site is greater than 1 acre; an NPDES permit is required.

**Stormwater & Hydraulics:** It is unknown whether the applicant is meeting the volume management requirement equivalent to infiltrating runoff from the first inch of precipitation because there are no soil borings near the proposed infiltration areas. Stormwater leaving the site is discharged into a well-defined receiving channel or pipe and routed to a public drainage system. Drainage sensitive uses exist downstream from the proposed site. It is unknown whether the rate of post development runoff from the site does exceed predevelopment rates, or rates which would interfere with sensitive downstream land uses.

**Water Quality:** Project does not include new impervious drainage areas greater than 1 acre. All discharges into wetlands are pretreated by a sediment basin/water quality pond and are designed correctly. 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.

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

**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:** $2,755.00

**ISSUES/CONCERNS:**

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<tr>
<th>Stormwater &amp; Hydraulics:</th>
<th>1. Provide stormwater runoff calculations that show the site is meeting the volume management requirement equivalent to infiltrating runoff from the first inch of precipitation. If it cannot be met, meet the requirement to the greatest extent practical and explain why it cannot be met.</th>
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<tr>
<td>The applicant is not meeting the volume management requirement equivalent to infiltrating runoff from the first inch of precipitation. All projects in the Coon Creek Watershed District must meet this requirement. If applicants cannot meet this 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>
<td>2. The HydroCAD model is underestimating the rate and volume of runoff by using a composite Curve Number.</td>
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<td>The HydroCAD model needs to be revised to either separate the pervious and impervious drainage areas or use the modeling feature within HydroCAD to</td>
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separate the areas and not have a composite Curve Number.

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<tr>
<th>The infiltration basins may not capture the design storm event. The opening of the cut may not be long enough to capture the 100-year event.</th>
<th>3. Provide curb cut capture calculations showing the width is adequate to capture the 100-year inflow on the driveway and a curb detail showing a depression in the curb.</th>
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<td>The applicant is proposing a one year period for the infiltration basins to vegetate. It appears that the rate, water quality and volume standards won’t be met for this one year vegetation establishment period.</td>
<td>4. Explain how District rules for rate, water quality and volume will be met during the one year period when the infiltration basins are establishing vegetation.</td>
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<td>The infiltration basins appear susceptible to sedimentation clogging because there is not pretreatment.</td>
<td>5. Provide pretreatment to capture solids for each of the infiltration basins.</td>
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<td>The infiltration basins may not drain down in 48 hours.</td>
<td>6. Provide soils information showing a minimum 3’ separation from the bottom of the infiltration basin to ground water.</td>
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<td>The emergency overflow may become blocked over time.</td>
<td>7. Show location of 4’ broad crested weir on the drawings for each infiltration basin outlet.</td>
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<td>No easement is provided over the infiltration basins nor is an Operation and Maintenance Agreement proposed.</td>
<td>8. Provide easements over the infiltration basins.</td>
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<td><strong>Escrows:</strong> $2,000 + (1.51 ac * $500/ac) = $2,755.00</td>
<td>9. Receipt of escrows.</td>
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**RECOMMENDATION:** Table with 9 Stipulations

**Stipulations:**

1. Receipt of escrows.
2. Provide stormwater runoff calculations that show the site is meeting the volume management requirement equivalent to infiltrating runoff from the first inch of precipitation. If it cannot be met, meet the requirement to the greatest extent practical and explain why it cannot be met.
3. Revise the HydroCAD model to separate the impervious surface from the overall project site to account for the directly connected impervious.
4. Explain how District rules for rate, water quality and volume will be met during the one year period when the infiltration basins are establishing vegetation.
5. Provide pretreatment to capture solids for each of the infiltration basins.
6. Provide soils information showing a minimum 3’ separation from the bottom of the infiltration basin to ground water.
7. Show location of 4’ broad crested weir on the drawings for each infiltration basin outlet.
8. Provide curb cut capture calculations showing the width is adequate to capture the 100-year inflow on the driveway and a curb detail showing a depression in the curb.
9. Provide easements over the infiltration basins.