PERMIT

PERMIT MUST BE POSTED AT PROJECT SITE, VISIBLE FROM ROAD

Permit Number 16-44  Permit Date: 08/29/16

Permit Granted To: Brent Olson

Project Address 1116 South Shore Drive
City, State, ZIP: Detroit Lakes, MN 56501

Project Type Impervious Surface Coverage: More than 10,000 SF in Shoreland District
**Amended permit to include Phase 2 Stormwater Management Plan**

Permit Granted with the Following Conditions to be Satisfied by the Permit Holder:

Approval of a two-phase permit as follows:

1) Installation and maintenance of storm water management practices per Stormwater Management Plan Sheets 1-8, prepared by Houston Engineering, dated 09/16/2016
2) Installation of landscape plan, prepared by LandElements, dated 09/26/2016
3) Follow Stormwater Management Maintenance plan, prepared by Houston Engineering, dated 09/26/2016
4) Verify soils a minimum of 3 feet below the designed bottom elevation of rain gardens and permeable pavers is suitable for infiltration and will be able to infiltrate a minimum of 0.8 inches/hour

**Install according to Becker County or Detroit Lakes Shoreland Ordinance and Planning and Zoning regulations, and State of MN - Department of Natural Resources**

This permit is valid for 18 months.
Permit may be revoked at any time upon violation of Pelican River Water Management Rules. Any changes to this site permit results in nullification of this permit and a new permit will have to be obtained.

Signature of Tera Guetter, District Administrator
PELCAN RIVER WATERSHED DISTRICT
PERMIT REVIEW

REVIEW DATE: September 26, 2016
WENCX REVIEW ID: 16-05
ITEM: Brent Olson Residence - Phase 2 Review

RECOMMENDATION TO DISTRICT ADMINISTRATOR:

___ Issue permit
___ X Issue phase 2 of permit with conditions
____ Verify compliance with conditions before permit issue (see end of report)
____ Deny permit

APPLICANT: Brent Olson

PURPOSE: The proposed project involves the re-development of a 1.3-acre site. The project consists of a new residence, detached garage, stormwater management and demolition of the existing structures. Following completion, approximately 12,404 square feet of the 51,116 square foot site (24%) will be converted to impervious area.

LOCATION: 1116 South Shore Drive, Detroit Lakes, MN

APPLICABILITY:
Total impervious surface (new and existing) of 10,000 sq. ft. or more within the Shoreland Zone (land located within 1,000 linear feet of a lake, or 300 linear feet of a stream or river)

EXHIBITS:
1. Construction SWPPP, by Houston Engineering, Inc., dated 8/24/16, recd. 8/24/16.
3. NRCS Web soil survey, by Houston Engineering, Inc., dated 8/24/16, recd. 9/22/16.
4. Eight Plan sheets (1 of 8 – 8 of 8), by Houston Engineering, Inc., dated 9/16/16, recd. 9/22/16.
5. Pre and Post HydroCAD modeling, by Houston Engineering, Inc., dated 9/26/16, recd. 9/26/16.
FINDINGS:

Maintenance: A detailed schedule indicating dates and sequence of land alteration activities has been provided. A detailed description of how erosion and sediment control and soil stabilization measures will be monitored, maintained, and removed has been received. The name, address and phone number of the party responsible for maintenance of all erosion control measures has been provided. A maintenance plan for on-site treatment measures has been provided.

Soils & Erosion Control Plan: Soils affected by the proposal are Abbeylake-Verndale complex, Verdale sandy loam and Verndale-Abbeylake complex (Primarily Type A soils). Preliminary landscaping plans for storm water treatment practices and site re-vegetation has been provided. Adjacent properties are protected from sediment deposition. Wetlands, waterbodies and water conveyance systems are protected from erosion. Project site is greater than 1 acre; an NPDES permit may be required.

Grading Plan: The location/dimension of existing property lines, roads, structures, utilities, easements, and paved and unpaved areas has been provided. A detailed site topographic plan (minimum 2-foot contours) for the proposed project conditions, which clearly indicates alterations to existing grades and topographic features, has been provided.

Stormwater & Hydraulics: Stormwater leaving the site is discharged into a well defined receiving channel or pipe and routed to a public drainage system. The rate of post-development runoff from the site does not exceed pre-development rates for the 5-, 25-, and 100-year, 24-hour storm events.

Water Quality: Water quality treatment facilities achieve 90% TSS and 50% total phosphorus removal. Water quality ponds, infiltration basin, or filtration basin is designed correctly.

RECOMMENDATION TO DISTRICT ADMINISTRATOR:

___ Issue permit
___ X Issue phase 2 of permit with conditions
___ Verify compliance with conditions before permit issue (see end of report)
___ Deny permit

As your re-submittal is reviewed, we may find the need to request additional information, and will so inform you.

Conditions:
1. Verify soils a minimum of 3 feet below the designed bottom elevation of rain gardens and permeable pavers is suitable for infiltration and will be able to infiltrate at a minimum of 0.8 inches/hr.
Recommendations:

1. As part of HydroCAD modeling for the site, all of the soils were modeled as ‘A’ soils, while the NRCS soils report indicates a portion of the site is ‘B’ soils and another portion near the lake shore could be ‘D’ soils. Note the tighter soils could cause a higher peak runoff in those areas than what was actually modeled.