CONSTRUCTION PLANS
FOR
PLEASURE CREEK BIOCHAR-AND-IRON-ENHANCED SAND FILTER
JULY 2019

CITY OF BLAINE
ANOKA COUNTY, MINNESOTA

PROJECT LOCATION

PROJECT LOCATION MAP

NOT TO SCALE

PROJECT VICINITY MAP

NOT TO SCALE

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WARNING:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL CONTACT Gopher State One Call at 651-454-0002 AT LEAST 48 HOURS IN ADVANCE TO LOCATE UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGER. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

Gopher State One Call
TWIN CITY AREA: 651-454-0002
TOLL FREE 1-800-252-1166
CALL BEFORE YOU DIG
WARNING:
THE CONTRACTOR SHALL CONTACT GOMPER STATE ONE CALL AT ANY TIME AT 1-800-252-1166 TO LOCATE THE LOCATION OF ALL UNDERGROUND TRENCH, CABLES, CONDUIT, PIPE LINES, MANSIONS, UTILITIES OR OTHER AIRPLANE OR HIGHWAY STRUCTURES BEFORE BEGINNING WORK. THE CONTRACTOR SHALL NOTIFY THE OWNER OR ENGINEER AND DOWNTOWN BY THE CONTRACTOR TO ENSURE NO SEDIMENT ENTERS THE BIOCHAR-AND-IRON-ENHANCED SAND FILTERS. IF CONTRACTOR TO ENSURE NO SEDIMENT ENTERS THE FILTERS, CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF SEDIMENT.

ENGINEER'S CONTROL NOTES:
1. BEST MANAGEMENT PRACTICES (BMP) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS, OR MINNESOTA PRACTICE, OR MINNESOTA PRACTICE, OR IN PLACE. CONTRARY TO BMP'S AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS, OR MINNESOTA PRACTICE, OR MINNESOTA PRACTICE, OR IN PLACE.
2. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED DURING CONTINUOUS PERIODS OF STORMS OR FLOODS.
3. ALL EROSION CONTROL DEVICES TO BE PREPARED PRIOR TO COMMENCEMENT OF WORK
4. REQUIRED TO BE INSTALLED PRIOR TO WORK BEGINS AND BE KEPT IN PLACE UNTIL AUTHORIZED BY OWNER OR ENGINEER.
5. FINAL STABILIZATION TO BE COMPLETED WITHIN 7 DAYS OF THE LAST DISTURBANCE ON ANY AREA OF THE SITE.
6. SOIL STOCKPILES SHALL BE FITTED WITH SEDIMENT TRAPPING MEASURES AND STABILIZED WITHIN 7 DAYS OF THE LAST DISTURBANCE ON ANY AREA OF THE SITE.
7. TEMPORARY EROSION CONTROL MEASURES OF STABILIZATION SHALL BE INSTALLED WITHIN 7 DAYS OF THE LAST DISTURBANCE ON ANY AREA OF THE SITE.
8. INSTALL ±85 LF FLOTATION BLANKET (CATEGORY 2, TYPE 2S) WITH SILT CURTAIN (SEE DETAIL 5/C800)
9. INSTALL DOUBLE ROW ±130 LF BIO-ROLL (BLAINE PLATE NO. EC-8)
10. INSTALL ±30 LF FLOTATION BLANKET (CATEGORY 2, TYPE 2S) WITH SILT CURTAIN (SEE DETAIL 5/C800)

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C-800 DETAILS

**FLYING SILT CURTAIN**

1. Apply a 6" minimum course of coarse aggregate over the entire area.
2. Use non-cohesive material with a maximum particle size of 10".
3. Ensure a 3" minimum embedment.

**BEDDING METHODS FOR RCP, CMP & DIP**

1. Coarse Filter Aggregate
   - MnDot Spec. 3149.2H
   - Compacted Backfill
   - Hand shaped from firm undisturbed soil
   - Compact Bedding

2. Concrete Backfill
   - To 0.5 of outside diameter with shaped bedding.
   - 2000# Compacted Backfill

3. Bedding Methods for PVC
   - D+12" Min.
   - D/4 but not less than 6"

**EXURBAN AND PRECINCT OVERLAP END JOINTS MINIMUM OF 6" AND STAPLE OVERLAP AT 1.5' INTERVALS**

**NOTE:**
- See section for field installation, use Welch on contact.
- All tie bolts must be at least 60° from top or bottom of pipe.
- For pipes segments with FES on both ends, all pipe segments shall be tied.

**PIPE FOUNDATION IMPROVEMENT MATERIAL (3149.2H)**

- Considered incidental with cost of pipe and granular borrow material (3149.2B1) in this area

**LOAD FACTOR**

- Class A: 2.3
- Class B: 1.9
- Class C-1: 1.5
- Class C-2: 1.5

**NOTE:**
- All SDR-35 PVC shall be used to a depth not to exceed 16'.
- SDR-26 PVC shall be used for depths greater than 16'.
- C-900 PVC shall be used for depths greater than 30'.

**TIE:**
- Last 3 pipe joints.
- Use 2 tie bolt fasteners per joint.
- Install at 60° from top or bottom of pipe.

VALVE VAULT-1

C802

NOT TO SCALE

A

A

TOP VIEW

B

B

SECTION A-A

4" PVC WATER SUPPLY PIPE

FLOW METER

4" PVC FLANGE ALL CONNECTIONS

3' minimum

2' minimum

INSTALL 90° BEND

0.5'

SECTION B-B

4" PVC DISTRIBUTION PIPE

GROUT ALL PIPE CONNECTIONS TO VAULT

ELEV. 888.5

ELEV. 893.5

4" PVC DISTRIBUTION PIPE

ELEV. 898.2

ELEV. 888.5

MANHOLE VAULT SLAB

IF USED BURY SLAB PLACE 48" DEEP ABOVE BASEMENT OF MANHOLE VAULT PLACE AT LEAST 3'-6" VAULT

FLAT PLATE SYSTEM PLACE IN CENTER OF PILE CAP SYSTEM

STAIRS

HELICAL ANCHORS

SEE DETAIL 2/C802

PILE CAP PLAN VIEW FOR VAULT-1

PILE CAP PLAN VIEW FOR OCS-1

1.5' MIN. (TYP)

CHANCE GALVANIZED HELICAL PIERS OR APPROVED EQUAL

CHANCE GALVANIZED PILE CAP OR APPROVED EQUAL

4,000 PSI COMPRESSIVE STRENGTH @ 28 DAYS

ENTRAINED AIR 6% ± 1.5%

REINFORCING STEEL

SEE DETAIL 2/C802

12"

12" MIN GRANULAR BEDDING MATERIAL

3" MIN

LIFT STATION DETAIL

LIFT STATION DETAIL

DATE:

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PROJECT NO.:

1239-0100-04

CLIENT:

PLEASURE CREEK BIOCHAR AND IRON-ENHANCED SAND FILTER

ANOKA COUNTY, MN

DATE:

7/26/2019 2:47:11 PM

Sheet Title:

C-802 DETAILS

Sheet No.:

SHEET TITLE:

C-802

DESCRIPTION:

DATE:

ISSUE NO.:

SHEET TITLE:

C-802

CERTIFICATION:

7500 OLSON MEMORIAL HWY

SUITE 300

GOLDEN VALLEY, MN 55427

PHONE: 763-252-6800

FAX: 952-831-1268

WWW.WENCK.COM

13632 VANBUREN STREET NE

HAM LAKE, MN 55304

PHONE: 763-755-0975

WWW.COONCREEKWD.ORG

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HELICAL ANCHOR

SET TO SCALE
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GOPHER STATE ONE CALL
TWIN CITY AREA: 651-454-0002
TOLL FREE 1-800-252-1166
CALL BEFORE YOU DIG

DATE: 6/28/2019
ISSUE NO. E100
Sheet Title: ELECTRICAL PLAN

CLIENT: PLEASURE CREEK IRON-ENHANCED SAND FILTER
PROJECT TITLE: GLP

CERTIFICATION:
7500 OLSON MEMORIAL HWY
SUITE 300
GOLDEN VALLEY, MN 55427
PHONE: 763-252-6800
FAX: 952-831-1268
WWW.WENCK.COM

6/2019

Drawings
dwg