

EROSION CONTROL LEGEND

PROPERTY LINE

LIMITS OF DISTURBANCE

LAYDOWN AREA

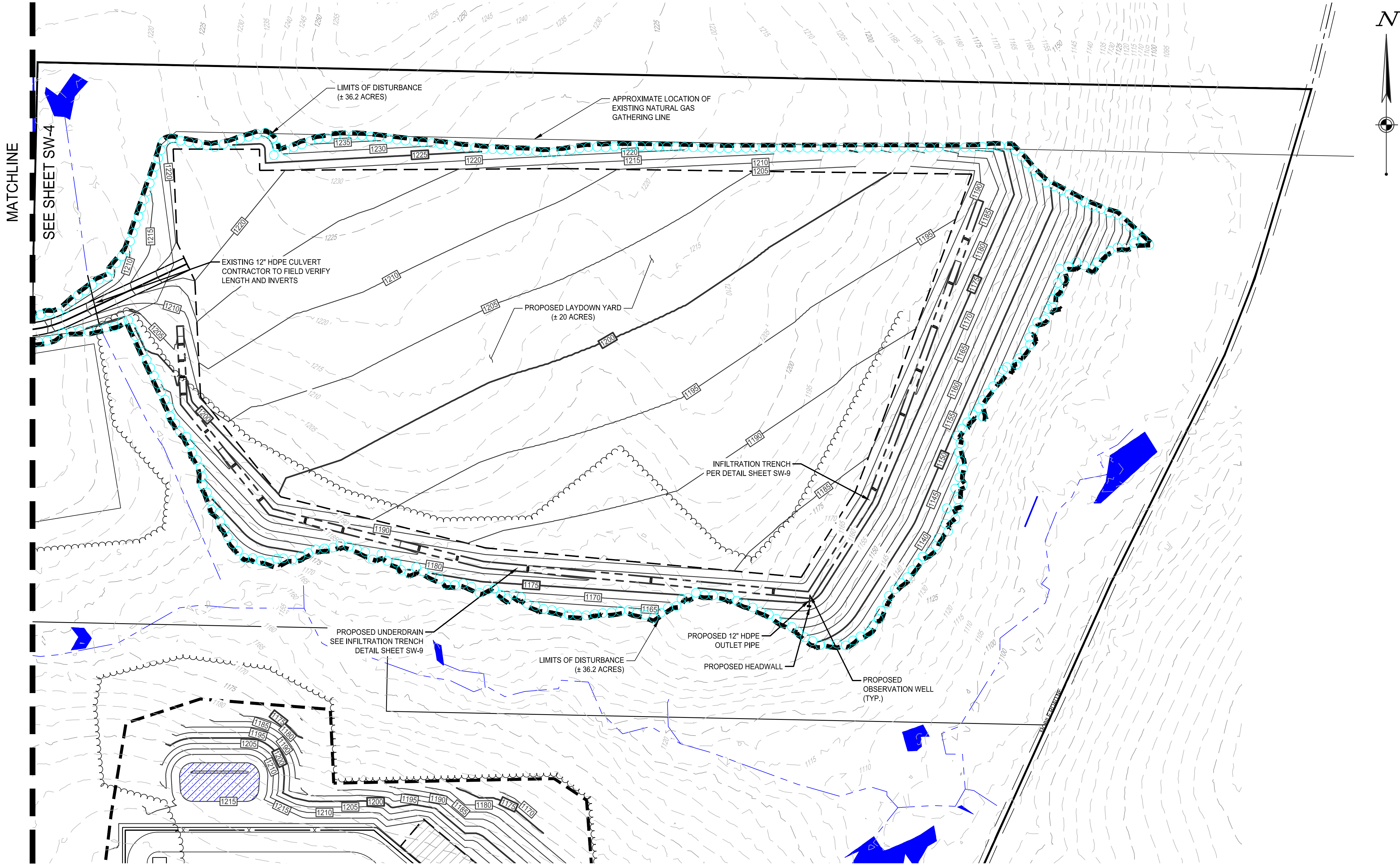
EXISTING TREE LINE

PROPOSED FILTER SOCK

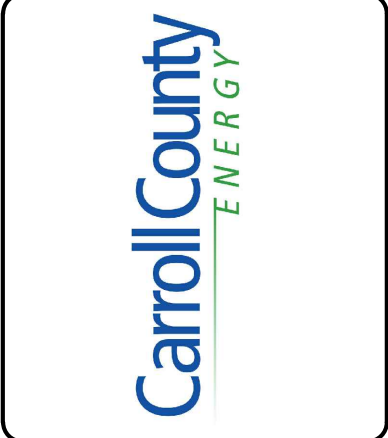
ROCK CHECK DAM

EXISTING WETLAND

EXISTING STREAM



REVISIONS		DESCRIPTION
NO.	DATE	
0	11/06/14	INITIAL SUBMITTAL
1	11/06/14	REV. WITH NEW GAS LINE LOCATION
2	11/14/14	REV. WITH 20 ACRE FOOTPRINT



DURING CONSTRUCTION SWPPP

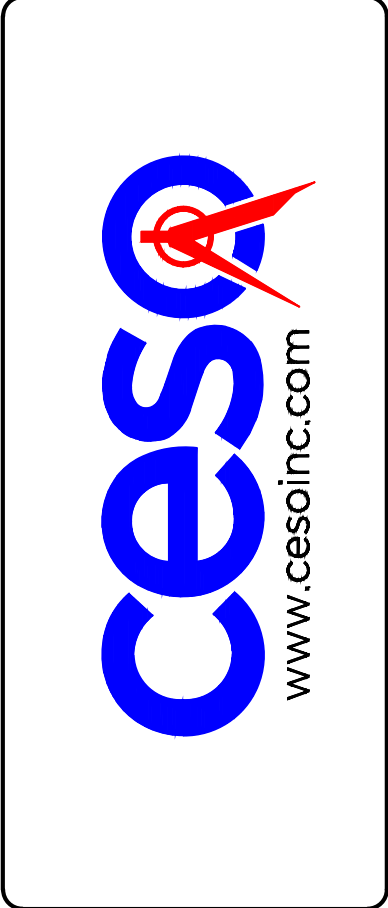
(WEST)

CARROLL COUNTY ENERGY

WASHINGTON TOWNSHIP

OHIO

NOT FOR
CONSTRUCTION



ISSUE:	
PRELIM	
DATE:	
10/27/14	
JOB NO.:	5188
DESIGN:	CBW
DRAWN:	CBW
CHECKED:	DMK
SHEET NO.	
SW-5	

EROSION CONTROL LEGEND

PROPERTY LINE

LIMITS OF DISTURBANCE

LAYDOWN AREA

EXISTING TREE LINE

INFILTRATION TRENCH

EXISTING WETLAND

EXISTING STREAM

PROPOSED FLEXTERRA

The main site plan illustrates a proposed construction area with various erosion control features. Key elements include:

- Property Lines:** Indicated by solid black lines.
- Limits of Disturbance:** Shown as dashed black lines, covering approximately 36.2 acres.
- Laydown Area:** A designated area for material storage, outlined with a dashed line.
- Existing Tree Line:** Represented by a wavy line.
- Infrastructure:** Includes a proposed temporary topsoil stockpile (± 2 acres), a proposed gas line, a proposed water line, and a proposed stone access drive.
- Topography:** Contour lines are shown throughout the site, with elevations ranging from 1215 to 1295 feet.
- Wetlands:** Existing wetland areas are shaded in blue.
- Streams:** Existing stream channels are shown as blue lines.
- Flexterra:** Proposed Flexterra erosion control measures are indicated by green dashed lines.
- Annotations:** Several areas are marked with the instruction "APPLY FLEXTERRA HP-FGM AS PER MANUFACTURER'S INSTRUCTION".
- Matchline:** A dashed line on the right side indicates a matchline to sheet SW-7.

100 0 100 200
GRAPHIC SCALE (IN FEET)

REVISIONS		DESCRIPTION
NO.	DATE	
0	11/06/14	INITIAL SUBMITTAL
1	11/06/14	REV. WITH NEW GAS LINE LOCATION
2	11/14/14	REV. WITH 20 ACRE FOOTPRINT

POST CONSTRUCTION SWPPP
(EAST)

CARROLL COUNTY ENERGY

OHIO

WASHINGTON TOWNSHIP

NOT FOR
CONSTRUCTION

ISSUE:	
PRELIM	
DATE:	
10/27/14	
JOB NO.:	5188
DESIGN:	CBW
DRAWN:	CBW
CHECKED:	DMK
SHEET NO.	
SW-6	

Z:\PROJECTS\ADVANCED POWER\XXXXXX-ADDITIONAL LAYDOWN YARD\03-CIVIL\PLAN\LOT5188_SWPPP.DWG - 11/14/2014 10:43 AM

EROSION CONTROL LEGEND

PROPERTY LINE

LIMITS OF DISTURBANCE

LAYDOWN AREA

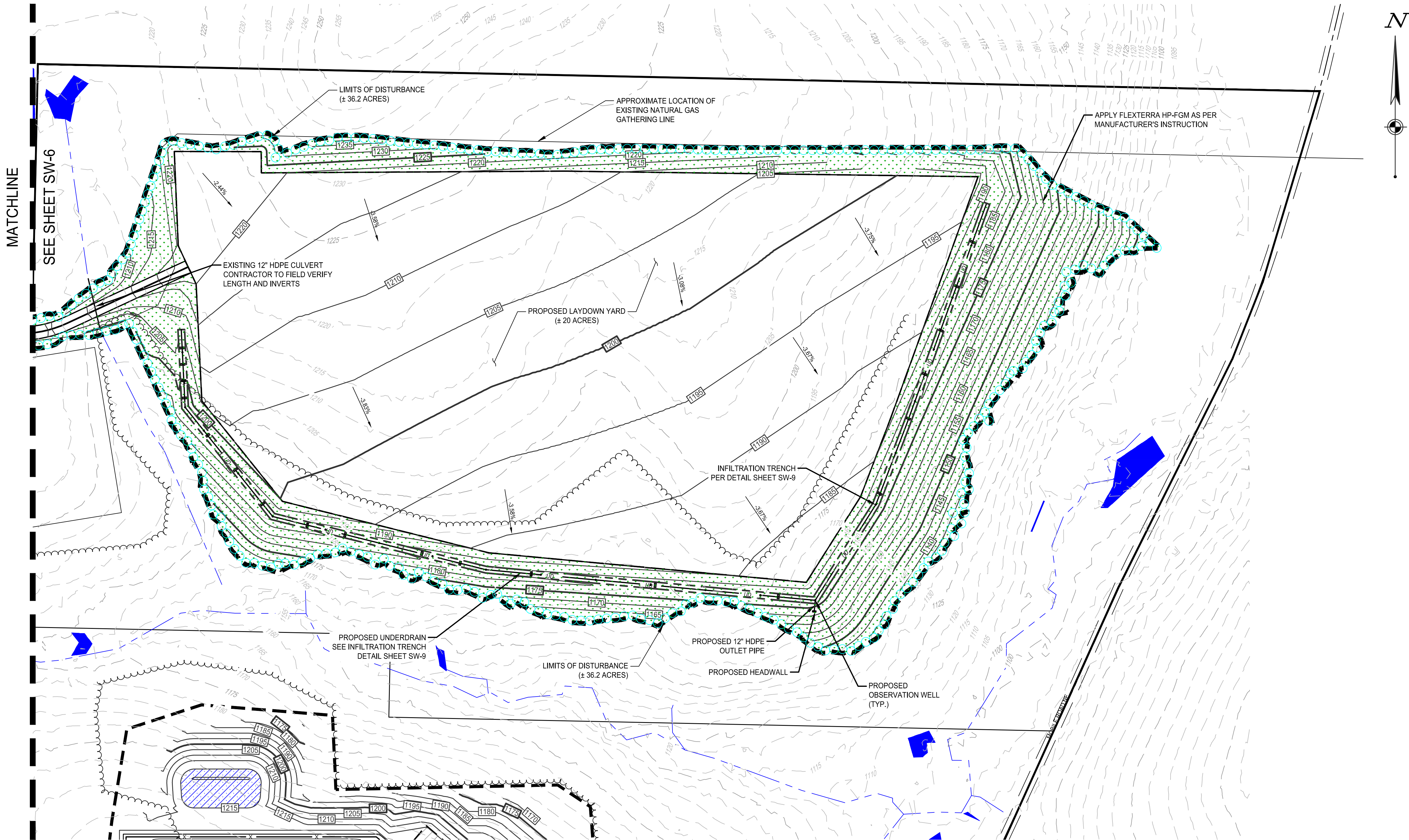
EXISTING TREE LINE

INFILTRATION TRENCH

EXISTING WETLAND

EXISTING STREAM

PROPOSED FLEXTERRA



REVISIONS		DATE	DESCRIPTION
NO.	0	11/06/14	INITIAL SUBMITTAL
1	1	11/06/14	REV. WITH NEW GAS LINE LOCATION
2	2	11/14/14	REV. WITH 20 ACRE FOOTPRINT



POST CONSTRUCTION SWPPP
(WEST)

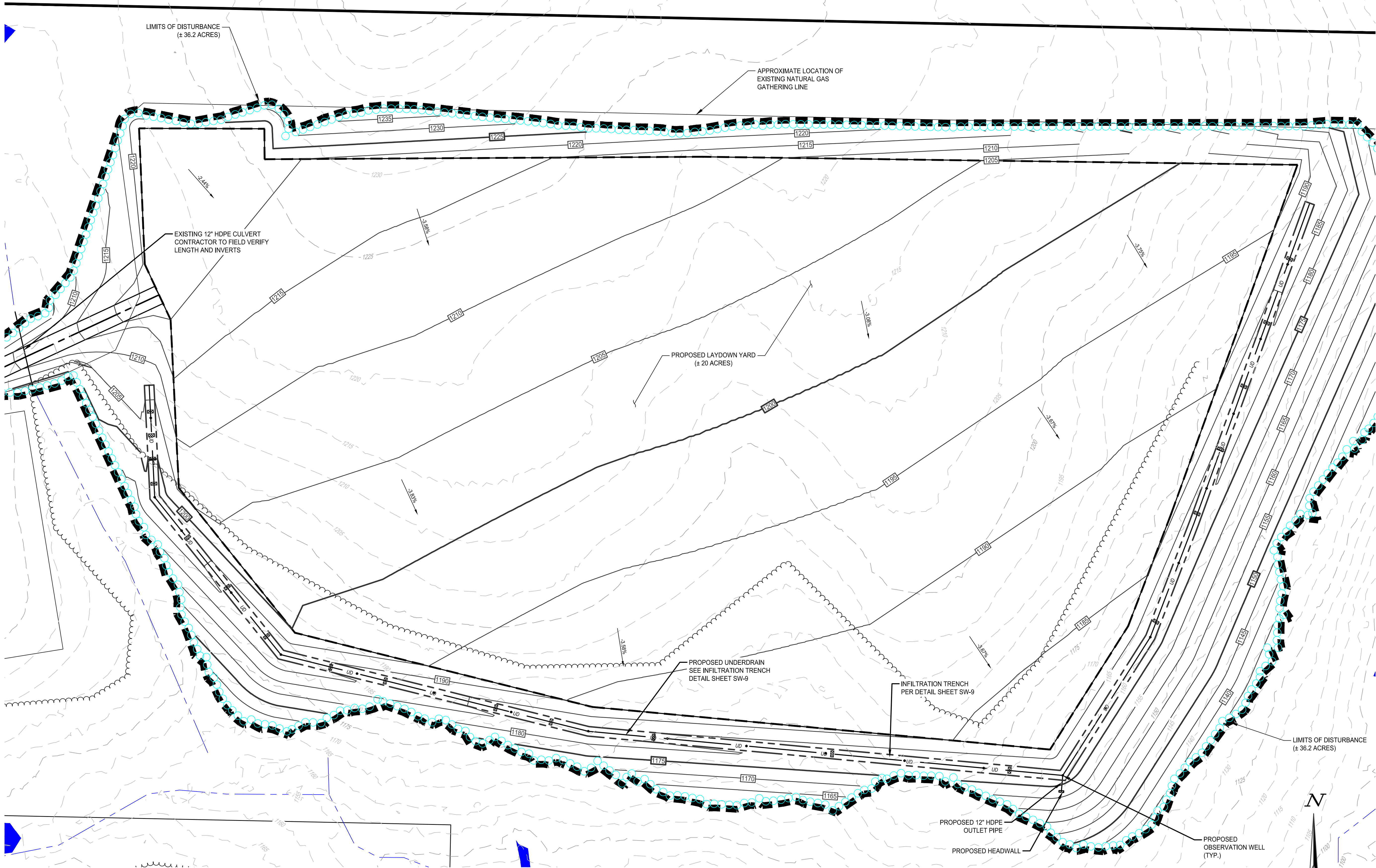
CARROLL COUNTY ENERGY

WASHINGTON TOWNSHIP OHIO

NOT FOR
CONSTRUCTION



ISSUE: PRELIM	
DATE: 10/27/14	
JOB NO.:	5188
DESIGN:	CBW
DRAWN:	CBW
CHECKED:	DMK
SHEET NO. SW-7	



INFILTRATION TRENCH DETAIL

INFILTRATION TRENCH TABLE								
	LENGTH (ft)	WIDTH (ft)	DEPTH (ft)	TOTAL EXCAVATED VOLUME (cf)	WATER QUALITY VOLUME (sf)	POROSITY OF THE STONE	EXFILTRATION RATE (ft/hr)	DRAWDOWN TIME (hr)
PROPOSED INFILTRATION TRENCH	2,200	12	2	52,800	52,300	0.40	0.11	45

REVISIONS		DESCRIPTION	
NO.	DATE	INITIAL	SUBMITTAL
0	11/06/14		REV. WITH NEW GAS LINE LOCATION
1	11/06/14		REV. WITH 20 ACRE FOOTPRINT
2	11/14/14		



INFILTRATION TRENCH DETAILS

CARROLL COUNTY ENERGY

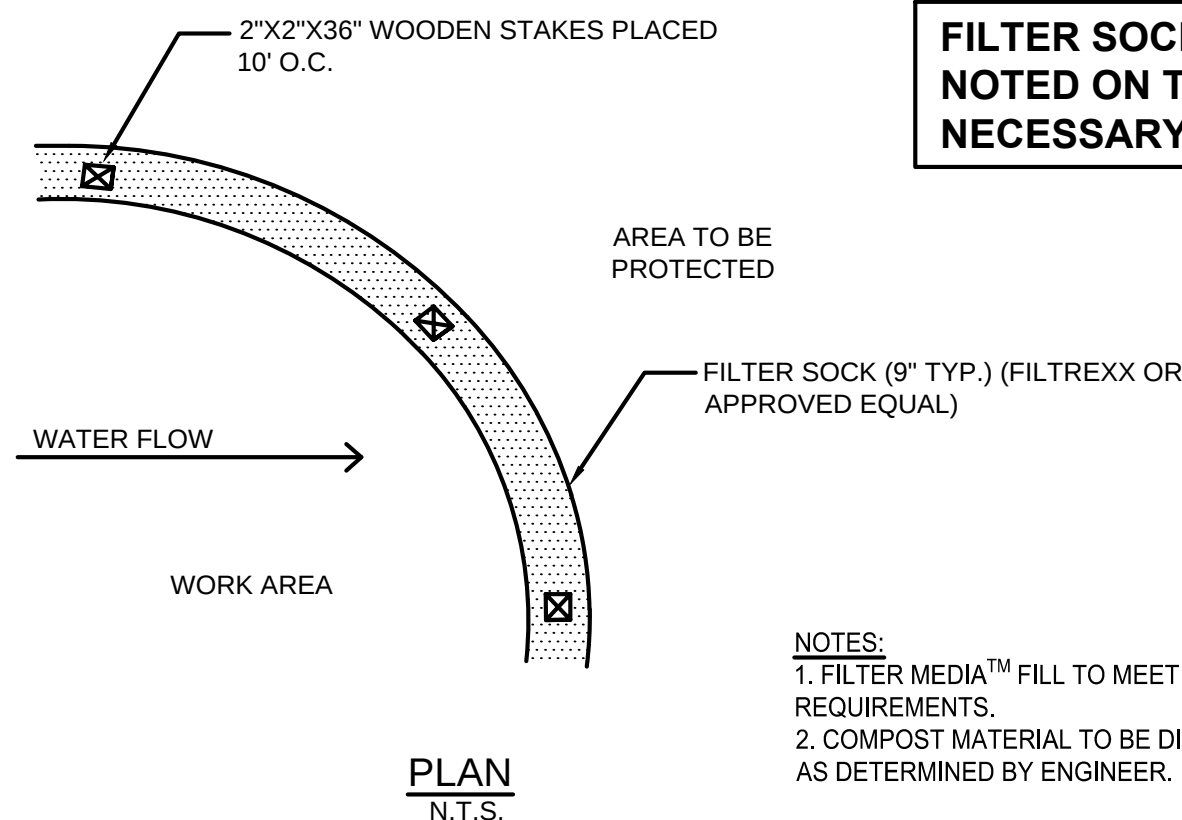
OHIO

WASHINGTON TOWNSHIP

NOT FOR
CONSTRUCTION



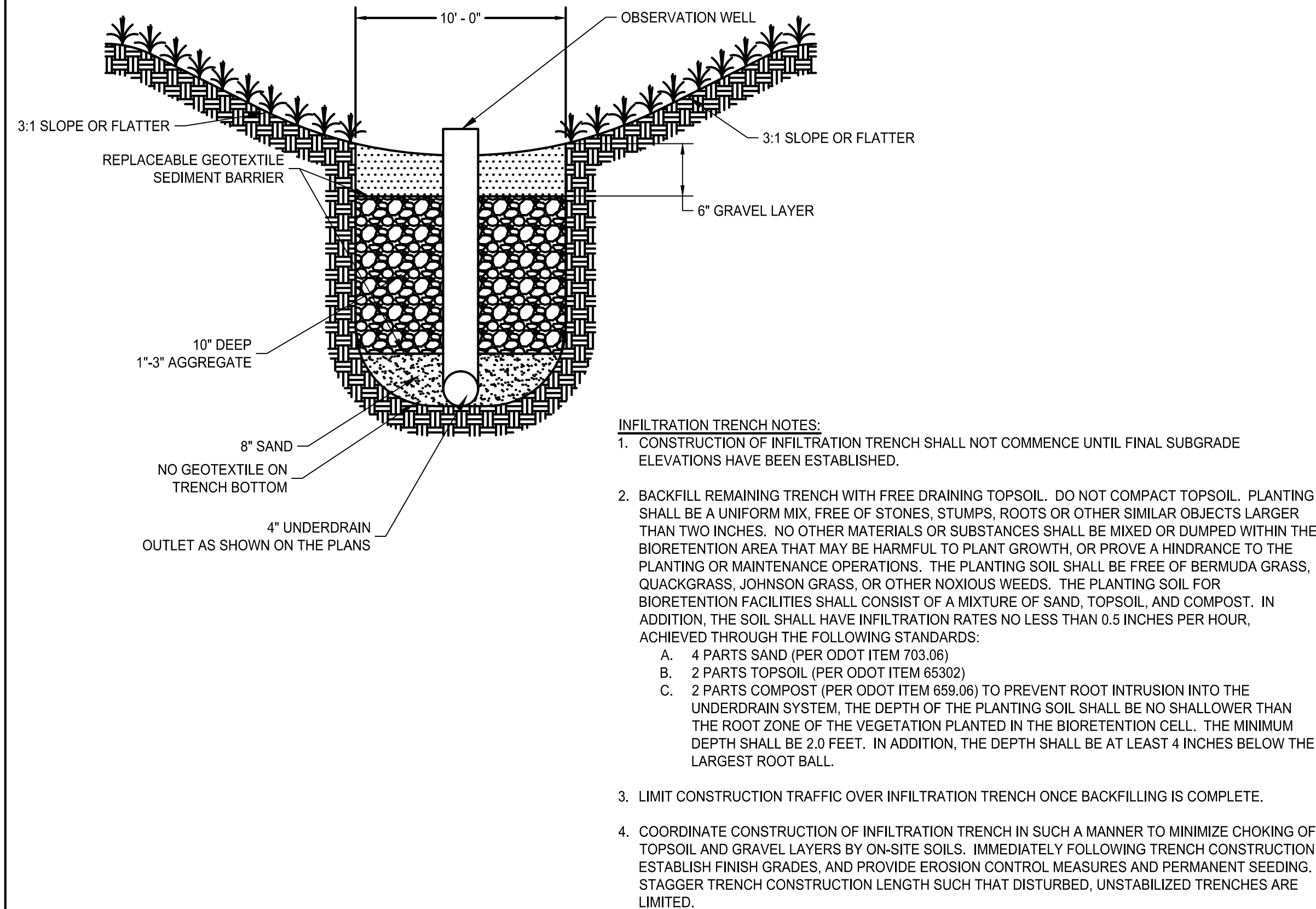
ISSUE: PRELIM	
DATE: 10/27/14	
JOB NO.:	5188
DESIGN:	CBW
DRAWN:	CBW
CHECKED:	DMK
SHEET NO. SW-8	



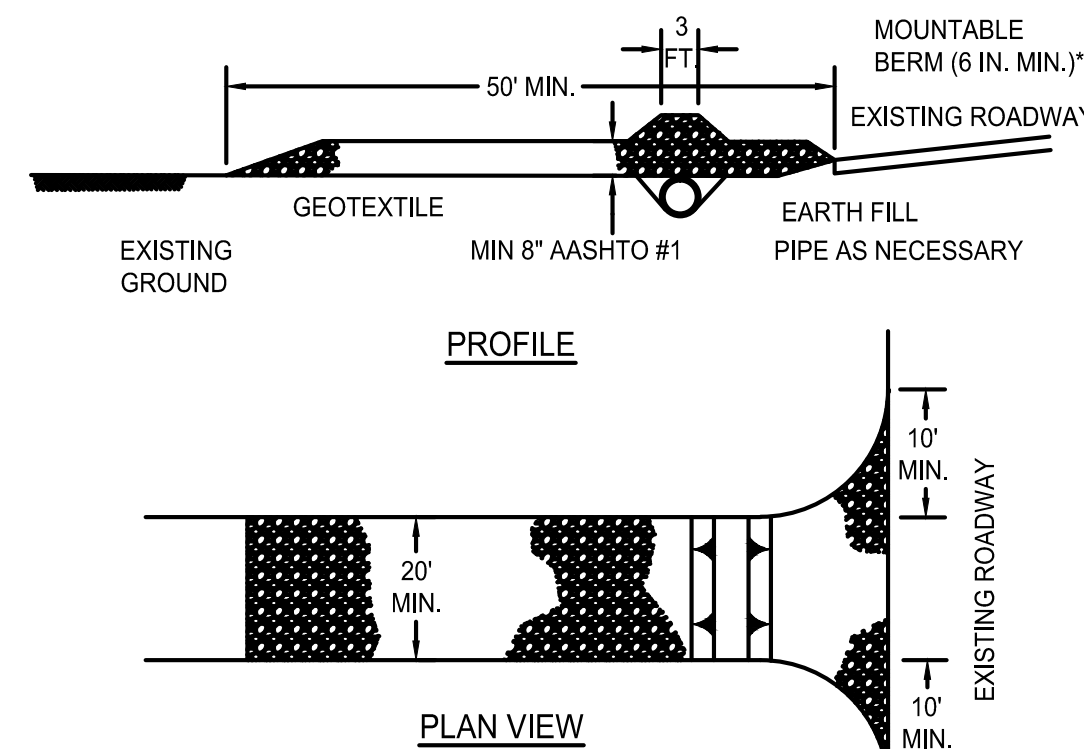
FILTER SOCK TO BE USED WHEN NOTED ON THE PLANS OR WHEN NECESSARY IN THE FIELD.

NOTES:
1. FILTER MEDIA™ FILL TO MEET APPLICATION REQUIREMENTS.
2. COMPOST MATERIAL TO BE DISPERSED ON SITE AS DETERMINED BY ENGINEER.

NOT TO SCALE



NT:



* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

NOTES

REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.

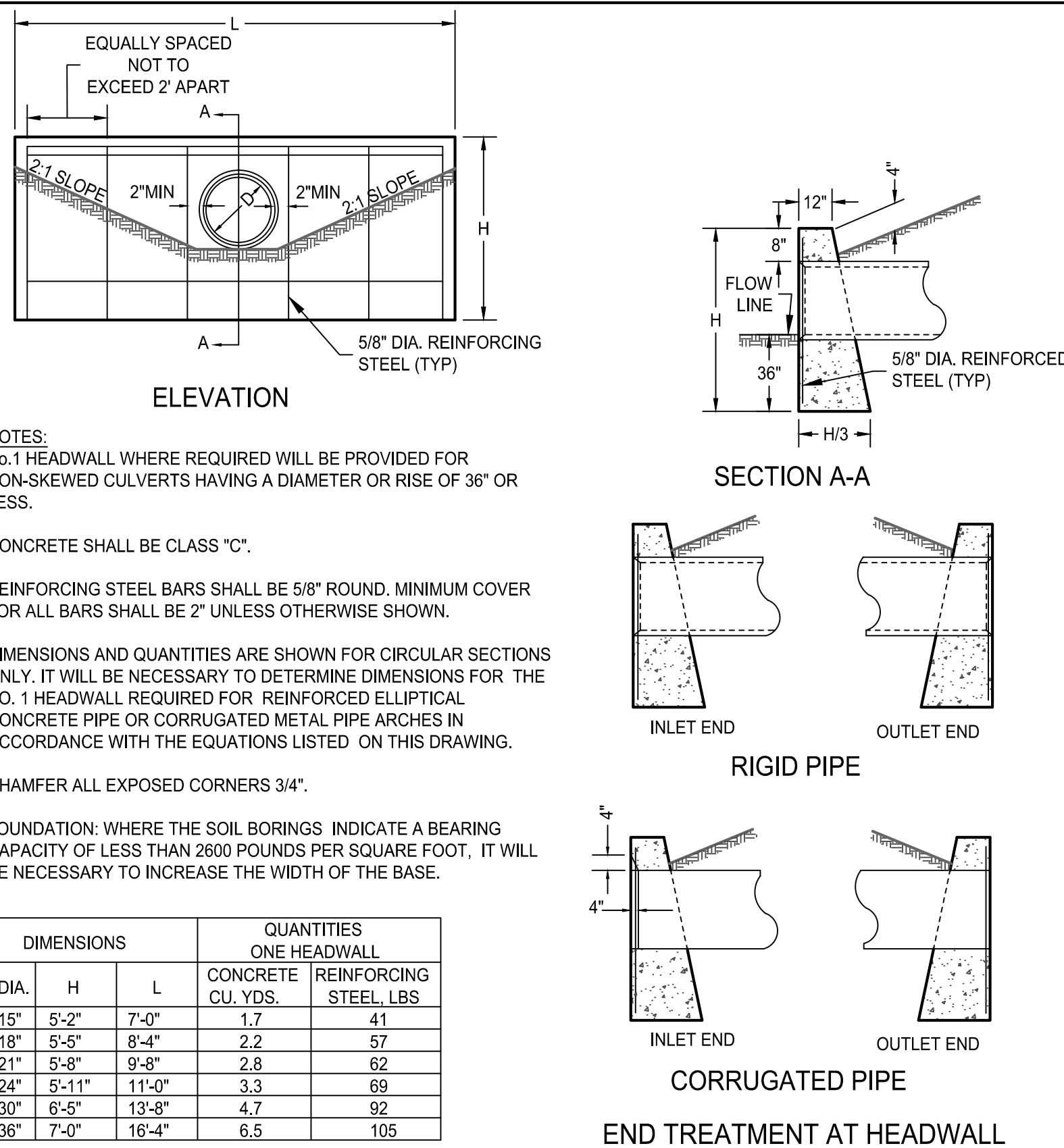
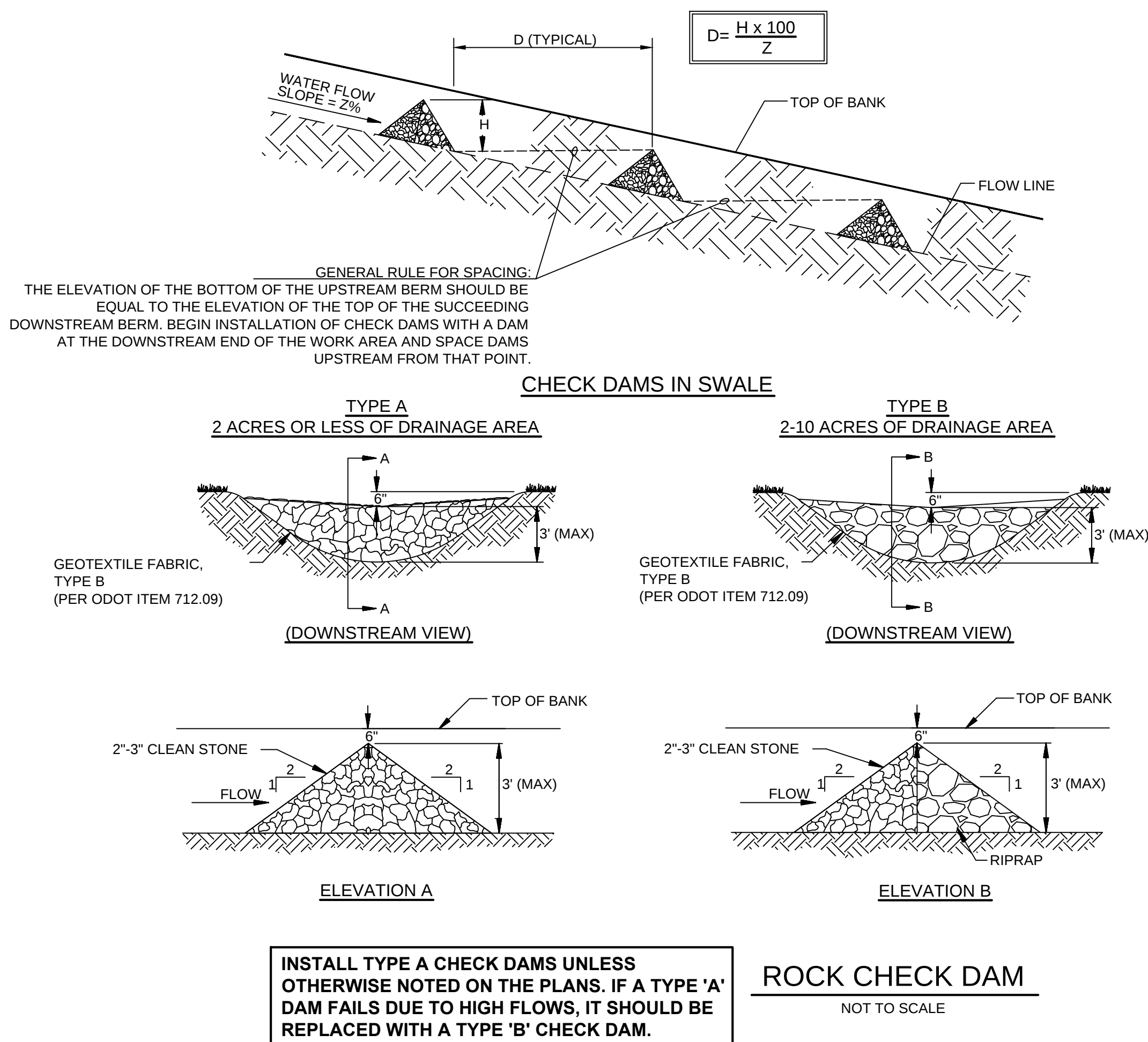
RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING
ROCK CONSTRUCTION ENTRANCE

MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.

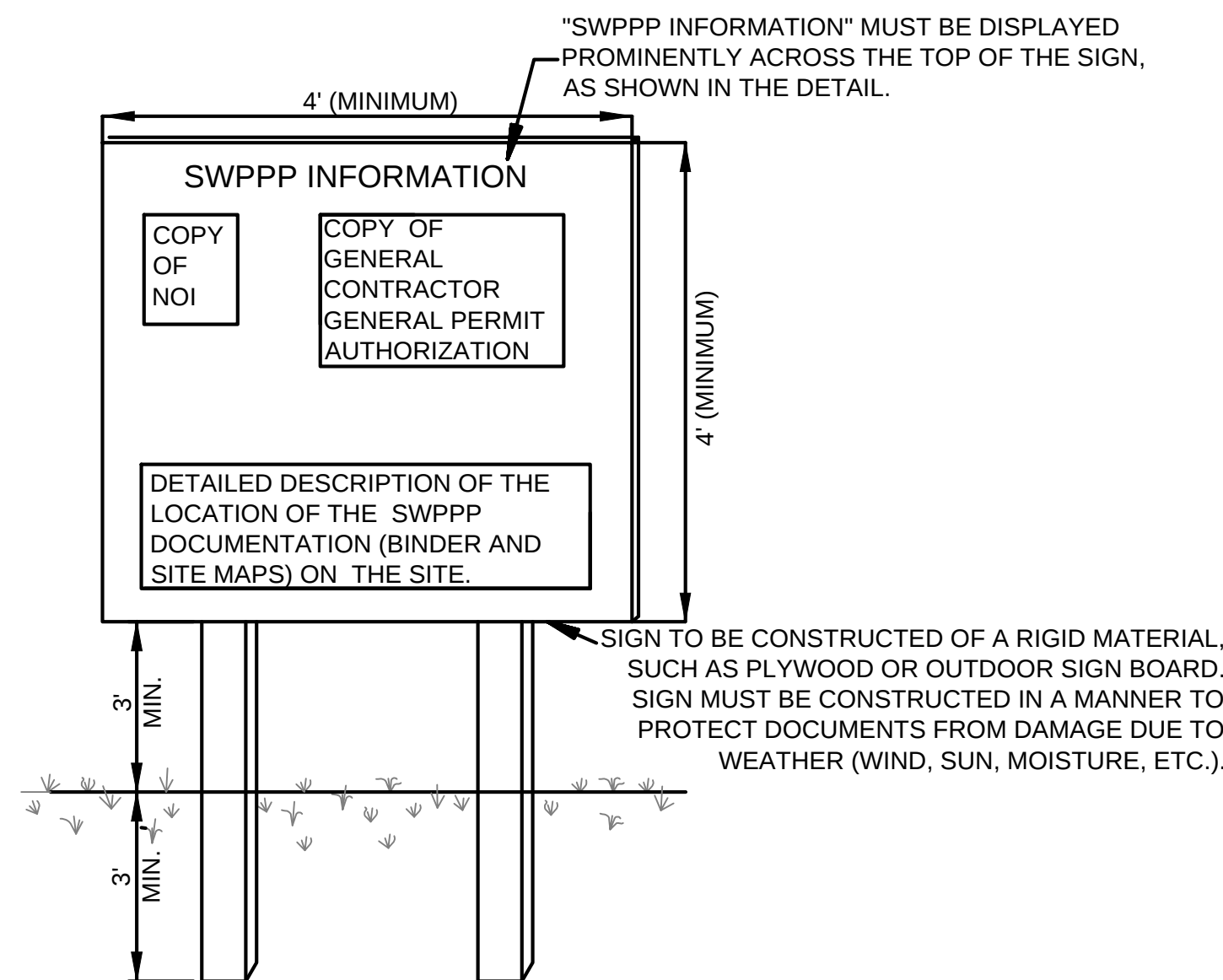
MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

STANDARD CONSTRUCTION DETAIL #3-1 ROCK CONSTRUCTION ENTRANCE

NOT TO SCALE



END TREATMENT AT HEADWALL



SWPPP INFORMATION SIGN

NOT TO SCALE

[illegible]

Carroll County
ENERGY

SWPPP DETAILS

CARROLL COUNTY ENERGY

WASHINGTON TOWNSHIP

01H0

NOT FOR
CONSTRUCTION



ceso
www.cesoinc.com

ISSUE:

PRELIM

DATE:
10/27/14

JOB NO : 5188

DESIGN:	CBW
---------	-----

DRAWN:	CBW
--------	-----

CHECKED: DMK

SHEET NO.

SHEET NO.
C/M 0

APPENDIX B

WATER QUALITY CALCULATIONS

Water Quality Calculations

Infiltration trenches need to be sized accordingly and achieve the appropriate Water Quality Volume (WQv) to ensure compliance with Ohio's NPDES Water Quality Standards. The WQv shall be equivalent to the volume of runoff from a 0.75 inch rainfall and shall be determined according to the following equation:

$$WQv = C * P * \frac{A}{12}$$

Where:

WQv = Water Quality volume in acre-feet

C = runoff coefficient (Assumed to be 0.80)

P = 0.75 inch precipitation depth

A = Area draining into the basins in acres

$$WQv = (.80) * (.75) * \frac{20}{12} = \mathbf{1.00 \text{ acre} - \text{feet}}$$

Note: the Ohio EPA NPDES stormwater general permit for construction activities requires that the water quality volume be increased by 20% for capacity lost over time due to sediment accumulation.

$$WQv = 1.00 \text{ acre-feet} + 20\%$$

$$WQv = 1.20 \text{ acre-feet} = 52,272 \text{ cu. ft.}$$

$$WQv = 52,300 \text{ cu. ft.}$$

APPENDIX C

INFILTRATION TRENCH DESIGN CALCULATIONS

Infiltration Trench Design Calculations

The area of the infiltration trench bottom shall be determined using the following equation:

$$A_{min} = \frac{WQv}{Porosity \times (E \times T)}$$

Where:

A_{min} = Minimum area of the bottom of the trench (sf)

WQv = Water Quality volume (cu.ft.)

E = Exfiltration Rate (ft/hr)

T = Drain Time (hr) (must be 24-48 hrs per Ohio EPA requirements)

Using the water quality volume calculated previously, a drain time of 48 hours, an exfiltration rate of 0.11 ft/hr (based on the Kstat rating of the site soils of 1.3 in/hr), and an assumed porosity of 0.40, the minimum area of the trench bottom was calculated to be:

$$A_{min} = \frac{52,300}{0.40 \times (0.11 \times 48)}$$
$$= 24,763 \text{ sq. ft.}$$

Using this calculation, an infiltration trench with the dimension of 2,098'x10' with an assumed depth of 2' was designed for the site. This will result in a drain time of:

$$T = \frac{WQv}{Porosity \times (E \times A_{min})}$$
$$T = \frac{52,300}{0.40 \times (0.11 \times (2,200 \times 12))}$$
$$T = 45 \text{ hours}$$

This drain time falls within the 24-48 hour draw down time requirement as outlined in the Ohio Rainwater and Land Development Manual.

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

11/26/2014 3:35:19 PM

in

Case No(s). 14-2085-EL-BGA

Summary: Application - Appendix D (Part 2/2) electronically filed by Mr. Michael J. Settineri on behalf of Carroll County Energy LLC