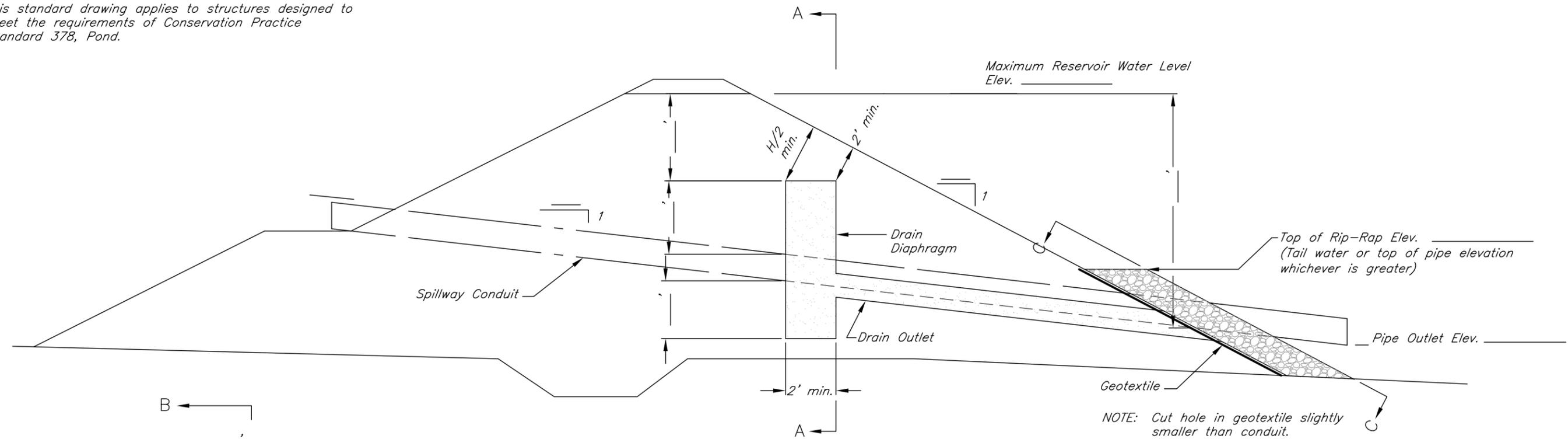
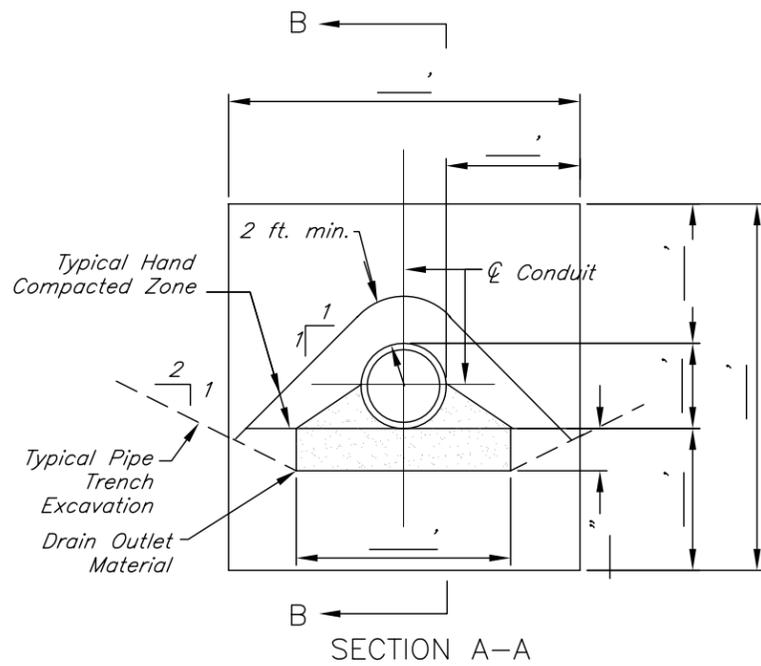


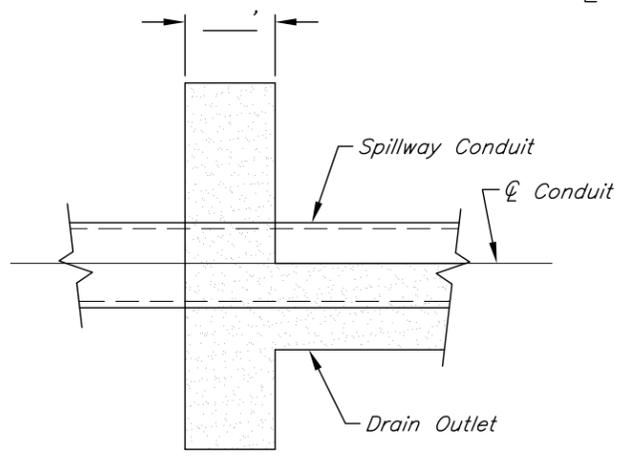
This standard drawing applies to structures designed to meet the requirements of Conservation Practice Standard 378, Pond.



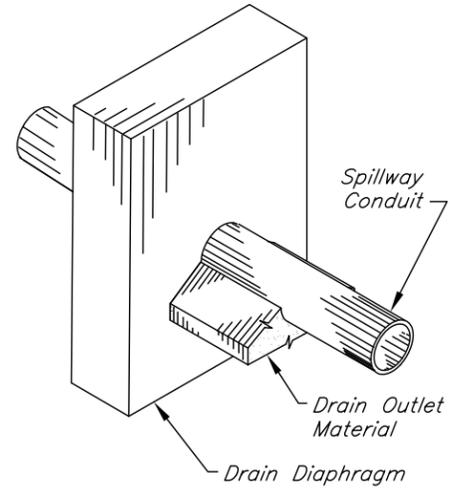
PROFILE ALONG  $\phi$  OF CONDUIT



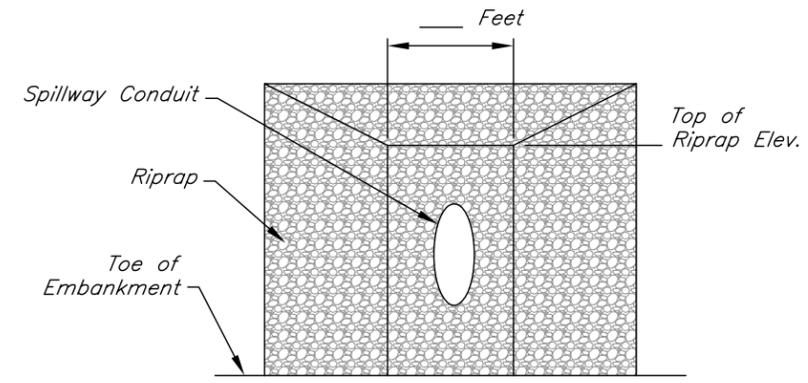
SECTION A-A



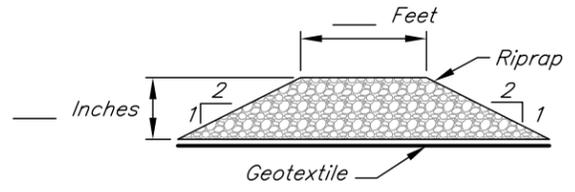
SECTION B-B



PARTIAL ISOMETRIC  
Showing conduit, drain diaphragm, & drain outlet material



SECTION C-C



SECTION OF RIPRAP  
Perpendicular to Slope

CONSTRUCTION NOTES:

- Placement of the drain filter material shall be by one of the following methods:
  - The drain filter material shall be placed in 12 inch lifts. Each lift shall be saturated uniformly with approximately 1.2 gallons of water per cubic foot of loose drain material.
  - Drain filter material shall be moist sand and shall be compacted using 6-inch lifts with at least 2 passes over the entire surface with a portable plate vibrator exerting a vertical vibrating force of not less than 700 pounds per square foot at least 4,000 times per minute.
- Rock riprap shall be placed without damaging underlying geotextile.
- When the drain outlet material is placed on bedrock, additional geotextile may be placed under the drain outlet to prevent migration of the drain outlet material into fractures in the bedrock.

MATERIAL NOTE

The geotextile shall conform to the Class I requirements in Table 1 (woven) or Table 2 (nonwoven) material specification 592, except the percent open area of the woven shall be greater than 6%, and the porosity of the nonwoven shall be greater than 30%.

DRAIN FILTER GRADATION

SIEVE SIZE	PERCENT PASSING
3/8	100
4	95-100
16	50-85
50	5-30
100	0-10

ASTM, C-33 fine agg  
MNDOT 3126 fine agg  
MNDOT 3127 FA-1

RIPRAP GRADATION

PERCENT SMALLER	WEIGHT RANGE (LBS.)	SIZE RANGE (IN.)

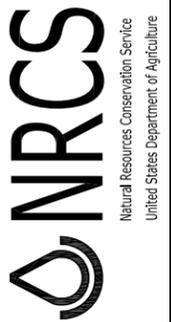
Min. gradation  
MNDOT Class II

ESTIMATED QUANTITIES

Drain Filter Material \_\_\_\_\_ Cubic Yards  
Geotextile \_\_\_\_\_ Square Feet  
Rip-Rap \_\_\_\_\_ Cubic Yards

Date \_\_\_\_\_  
Designed: \_\_\_\_\_  
Drawn: \_\_\_\_\_  
Checked: \_\_\_\_\_  
Approved: \_\_\_\_\_

DRAIN DIAPHRAGM AND OUTLET  
Layout for Hood-Inlet & Drain Filter  
County, Minnesota



Drawing Name  
MN-ENG-301C  
Eng. Job Class