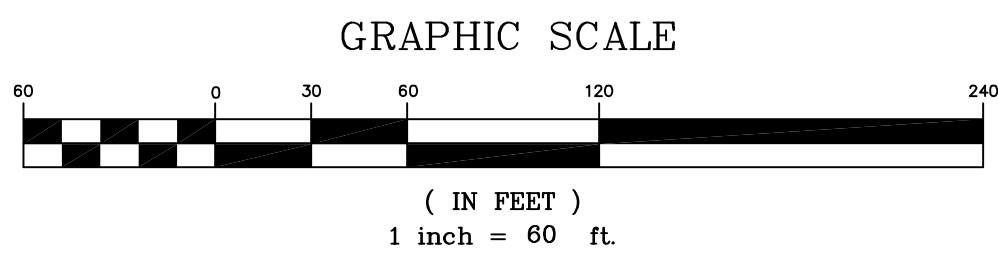


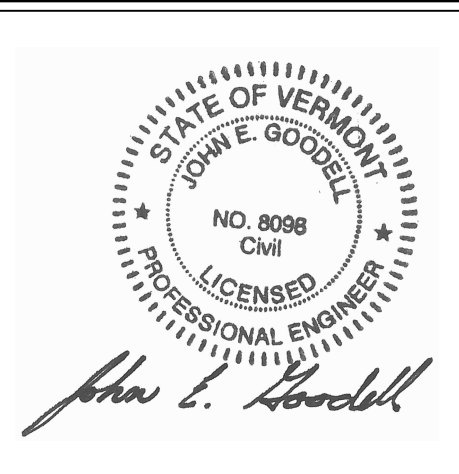
LEGEND

- LIMIT OF DISTURBANCE
- x - x - x - x - x - x - SILT FENCE
- STONE CHECK DAM, SEE DETAIL
- [ ] TEMPORARY INLET PROTECTION, SEE DETAIL
- STORMWATER SUBCATCHMENT BOUNDARY



Drawing name: P:\Project\B4000-24 Entergy - Dry Fuel Storage Pad\Drawg\Design\B4000-24-04 SW & Erosion.dwg Jun 25, 2014 - 12:08pm

REVISION	DESCRIPTION	BY & DATE	CHK. & DATE



EROSION CONTROL SITE PLAN  
FOR  
DRY FUEL STORAGE PROJECT  
ENTERGY NUCLEAR, VERMONT YANKEE, LLC.  
VERNON, VERMONT

**SVE Associates** © 2014  
Engineering Surveying Landscape Architecture Planning  
P.O.Box 1818, Brattleboro, VT 05302-1818 Phone (802) 257-0561 Fax (802) 257-0721  
website: www.sveassoc.com

DATE PLAN: 5/28/14	PROJ. NO.: B4000-24
DATE SURVEY: N/A	CAD NO.: B4000-24-04
DESIGNED BY: JEG	SHEET E1
DRAWN BY: TJS	OF 2
CHECKED BY: JEG	
SCALE: 1"=60'	



## EROSION PREVENTION AND SEDIMENT CONTROL PLAN

### GENERAL NOTES

- Erosion control measures shall be conducted in accordance with the "Vermont Handbook for Soil Erosion and Sediment Control on construction Sites."
- These specifications are intended to ensure that construction is achieved with a minimum of disturbance to the environment. These are guidelines and should any protective measures prove deficient, then immediately provide additional materials or employ different techniques to correct the situation and prevent subsequent erosion.
- Erosion control measures shall be inspected regularly when work is continuing and after every storm. Documented inspections shall be completed at least once every 7 days. Any damaged devices shall be repaired immediately. To insure the effectiveness of the erosion control measures, all potential snow and ice blockages shall be cleared.

### CONSTRUCTION SEQUENCE

- The contractor shall be responsible for establishing all erosion control measures delineated on the Plans and any additional measures that are necessary to minimize erosion. The Contractor shall have erosion control materials and installation equipment on site at all times.
- Prior to the work, silt fences and construction fencing shall be installed as shown on plans. These shall remain in place and be maintained until the project site has been stabilized.
- All erosion and stormwater control systems shall be inspected at least once every 7 calendar days and as soon as possible after rainfall events (within 24 hours). Needed repairs shall be made immediately. Sediment deposits shall be removed as they accumulate and placed in areas where further erosion is unlikely.
- Rough grade site and stockpile topsoils. Surround stockpiles with silt fence per detail.
- Proceed with construction once erosion control measures are in place.
- All excavated areas which will remain open shall be seeded and mulched when no more soil disturbance is expected to occur within three (3) calendar days of being stripped or exposed.
- Stabilize exposed slopes and soils as soon as graded, and maintain until adequately vegetated.
- Slopes less than or equal to 3:1 shall be stabilized with seed and mulch. Slopes greater than 3:1 or in areas of concentrated flow, shall be stabilized using seed and erosion matting.
- Provide additional erosion control as necessary to prevent erosion.
- Complete final grading of site, place topsoil and permanently vegetate, landscape and mulch.
- Seed and mulch permanent vegetation upon completion of final grading in a given area.
- Continue temporary erosion control measures until the permanent measures have been sufficiently established and are capable of controlling erosion.

## TEMPORARY EROSION AND SEDIMENT CONTROL

- The smallest practical area of land shall be disturbed at any one time during development. When land is disturbed, the disturbance shall be kept to the shortest practical duration.
- Dust shall be controlled with water distributed by a truck-mounted spray bar. Calcium Chloride (AASHTO M 144 or Sodium Chloride (AASHTO M 143) may be used with approval of site chemistry department.
- Silt Fence Shall be installed as shown on the erosion control plan. Silt fence shall be Mirafi 100X or equal and shall be keyed into the soil a minimum of 4 inches.
- Excavated material from earth excavation and ditch digging shall be disposed of offsite or used for project fill material if determined suitable by the Owner's Representative.
- Stockpiled material (Topsoil, Borrow, etc.) shall have a silt fence constructed around the perimeter. The stockpile material shall be seeded and mulched as soon as possible to prevent soil erosion and sedimentation off site. Locate stockpiles on the uphill side of disturbed areas, if possible. During windy conditions, stockpiled material shall be covered or watered appropriately to prevent wind erosion.
- Slopes greater than 3:1 shall have erosion control netting installed to stabilize the slope and reduce the erosion potential. Netting shall be biodegradable with a 12 month longevity, S150BN as manufactured by North American Green Mulch. Pin setting with wire staples 3 feet O.C. to ensure full bonding with soil surface. The slope surfaces should be left slightly roughened and not smooth. If large amounts of offsite water will drain over these slopes, temporary diversion swales shall be installed up slope until the slope vegetation stabilizes.
- Temporary Vegetation:** When it is impractical to establish permanent protective vegetation on exposed areas, including topsoil stockpiles, temporary vegetation shall be planted as follows:
  - All grading and all temporary structures needed to prevent erosion should be completed prior to seeding.
  - Remove stones and trash that will interfere with seeding the area.
  - Apply a minimum of 300 lbs/acre (7 lbs/1000 sq.ft.) of 10-10-10 fertilizer uniformly over the area to be seeded.
  - Prepare the seedbed by tilling the soil to a depth of 3 to 4 inches by disking or other suitable means in order to incorporate the fertilizer into the soil. The last tillage operation should be performed across the slope whenever practical.
  - Seed and seeding rates may be selected from the table below. The selection will be based on the time of year the seeding is to be made and the length of time the vegetation is to afford protection. The seed should be spread uniformly over the area. After seeding, the soil should be firmed by rolling or packing. Where rolling or packing is not feasible, the seed should be covered lightly by raking, disking or dragging.
  - All disturbed areas of the site, following fertilizing and seeding, shall be mulched with straw or hay at a rate of 1.5 tons/acre.
  - Plant Selection and Seeding Rates for temporary erosion and sediment control:**

Species	Seeding Rate Per Acre	Per 1000 sq. ft.	Remarks
Winter Rye	2 bu. or 112 lbs.	2.5 lbs.	Best for fall seeding. Seed August 15 to September 5 for best cover. Seed to a depth of 1 inch.
Oats	2-1/2 bu.	2 lbs.	Best for spring seedings. Seed no or 80 lbs. later than May 15 for summer protection. Seed to a depth of 1 inch.
Annual Ryegrass	40 lbs.	1 lb.	Grows quickly but is of short duration. Use where appearances are important. Seed early spring or between August 15 and September 15. With mulch, seeding may be done throughout the growing season. Cover seed with no more than 1/4 inch of soil.
h. All disturbed areas of the site shall be seeded and mulched by October 15, regardless of whether final grading has been completed. On any exposed earth covered with snow, the snow shall be removed before fertilizing, seeding and mulching. Winter Rye seeds shall be mulched with 6 inches of hay or straw. After October 15, Slopes over 5% shall be seeded and covered with biodegradable erosion matting.			
8. Continue temporary erosion control measures until the permanent measures are sufficiently established and capable of controlling erosion.			
9. <b>Stone Check Dam</b>			
a. Type 1 Stone Varies from 1-inch to 12-inches with 50% of the volume at least 4-inches.			
b. Crushed Gravel or Stone The crushed gravel shall be uniformly graded from coarse to fine and shall meet the following requirements:			
Grading Coarse	Sieve Designation 4 inch No. 4 No. 100 No. 200	Percentage by Mass (Weight) Passing Square Mesh Sieves 95 to 100 25 to 50 0 to 12 0 to 6	

## PERMANENT EROSION CONTROL

- Grass lined swales shall be loamed, seeded, fertilized and covered with biodegradable erosion matting. Areas which exhibit signs of erosion shall be repaired and re-seeded immediately and maintained until permanent vegetation has stabilized.
- When construction is completed in an area, it shall be immediately loamed, seeded, fertilized and mulched.
- The Contractor shall be responsible for the continued maintenance of all disturbed areas, including watering, until the area is inspected by the Owner or Engineer and found to be stabilized.
- After the site is stabilized, remove all temporary measures and install permanent vegetation on the disturbed areas.
- Re-seeding shall be done until all areas are completely covered with a mature strand of grass. An area shall be considered covered when the entire surface contains a fresh growth of grass. Areas that, in the opinion of the Engineer, are predominantly weeds shall be plowed up, fine graded, fertilized and re-seeded in the manner specified previously, exercising caution not to damage new or existing plant material.
- Cut and fill slopes shall be maximum grades of 2 horizontal to 1 vertical except in areas of rock excavation or areas designated on the plans for special construction. Rock may be excavated to a maximum of 1 horizontal to 4 vertical. All permanent slopes shall be loamed, fertilized, seeded and mulched after the area is graded and within three (3) days of being stripped or exposed.
- Surface and seepage water shall be drained or diverted from the site. Stones larger than 4 inches and trash that will interfere with seeding and future maintenance of the area shall be removed.
- A minimum of 2 tons of lime per acre and 1,000 pounds of 5-10-10 fertilizer per acre shall be worked into the top 3 to 4 inches of soil in order to prepare a reasonably firm and smooth seedbed. The last tillage operation should be performed across the slope whenever practical.
- Seed should be spread uniformly by the method most appropriate for the site. Methods include broadcasting, drilling and hydroseeding. Where broadcasting is used, cover seed with 1/4 inch of soil or less by cultipacking or raking.
- Refer to Table 1 for appropriate seed mixtures and Table 2 for rates of seeding. All legumes (crownvetch, bird's foot trefoil and flatpea) must be inoculated with their specific inoculant.

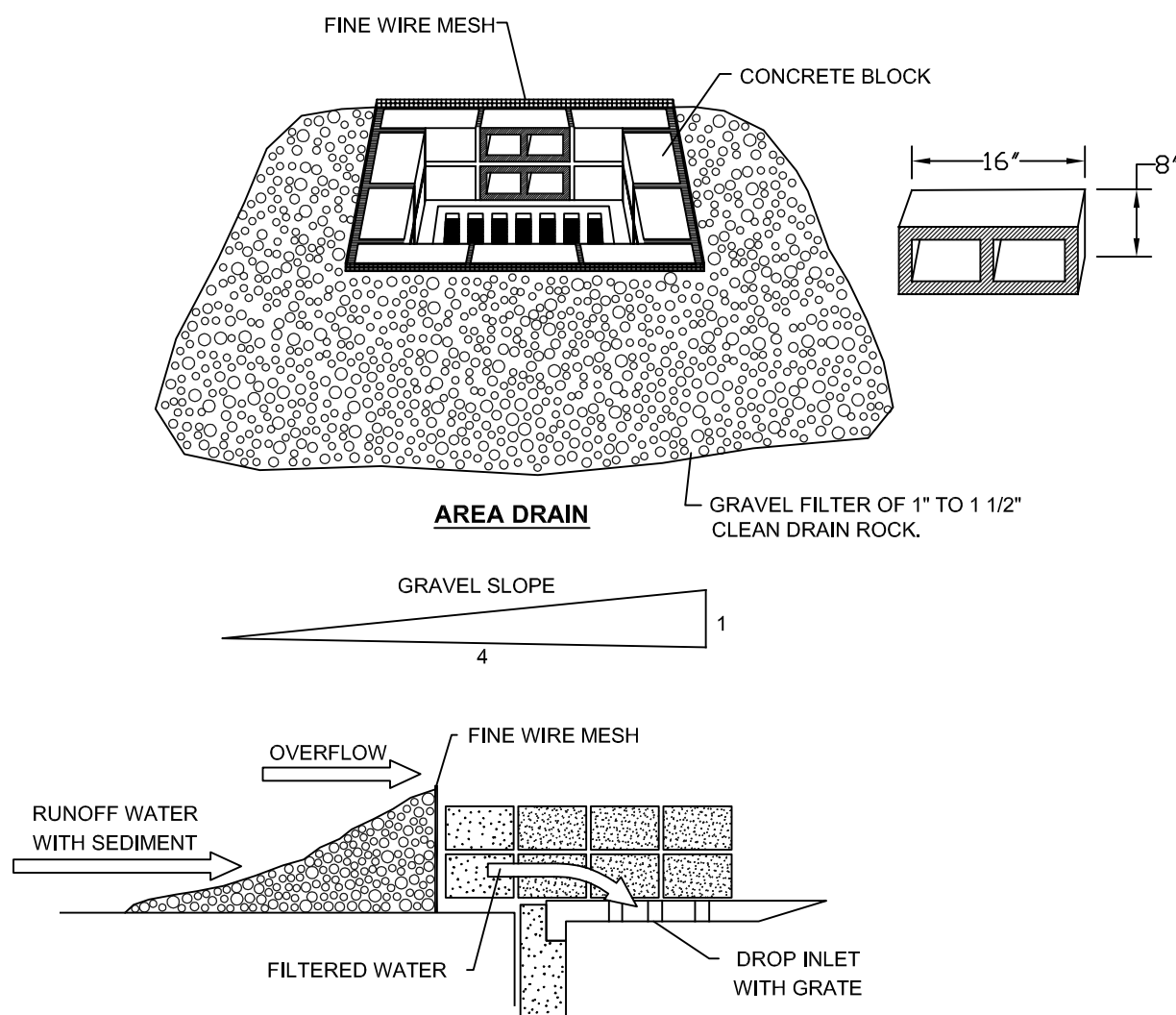
TABLE 1: SEEDING GUIDE

Use	Seeding Mixture	SOIL DRAINAGE			
		Droughty	Well Drained	Moderately Well Drained	Poorly Drained
Steep cuts and fills, Gravel pits, borrow, and disposal areas	A B C D E	Fair Excellent Good Fair Good	Good Excellent Fair Fair Excellent	Good Fair Excellent Good Excellent	Fair Fair Good Excellent Poor
Waterways, emergency spillways and other channels with flowing water	A C D	Good Good Good	Good Excellent Excellent	Good Excellent Excellent	Fair Fair Fair
Lightly used parking lots, odd areas, unused land and low intensity use recreation sites	A B C	Good Good Good	Good Good Good	Good Fair Excellent Good	Fair Poor Fair Excellent

- 1/ Refer to seeding mixtures and rates in Table 2.  
2/ Poorly-drained soils are not desirable for use as playing areas and athletic fields.

## SPECIAL REQUIREMENTS FOR LATE SEASON/WINTER EROSION CONTROL (OCTOBER 15 TO MAY 1)

- Winter construction shall be avoided wherever possible. When necessary the contractor should follow the winter construction procedures outlined in the "Vermont Handbook For Soil Erosion and Sediment Control on Construction Sites." Area and amount of disturbance shall be minimized.
- Establish vegetation in all non winter construction areas prior to October 15.
- These additional measures shall be taken for earthwork performed between October 15 and May 1:
  - All disturbed areas where finish grading is completed shall be fertilized, seeded with winter rye and mulched with 6 inches of hay or straw. All disturbed areas on slopes greater than 5% or in areas of concentrated flow shall have biodegradable erosion matting installed instead of mulch.
  - All disturbed areas that are not at finished grade shall be covered with 6 inches of hay or straw mulch at the end of EACH DAY.
  - During wintertime construction, there shall be daily documented inspections.
  - If exposed earth is covered with snow prior to seeding and mulching, then snow shall be removed before fertilizing, seeding and mulching.



NOTE:  
BLOCKS SHALL BE STACKED WITH THE OPENINGS ON THE TOP AND BOTTOM EXCEPT FOR THE CENTER BLOCKS. CENTER BLOCKS WILL HAVE OPENINGS PERPENDICULAR TO FLOW.

## TEMPORARY STONE & BLOCK INLET PROTECTION

NOT TO SCALE

TABLE 2: SEEDING RATES		
Mixture	Lbs. per Acre	Lbs. per 1,000 sq. ft.
A. tall fescue creeping red fescue red top	20	.45
	20	.45
	2	.05
	42	.95
B. tall fescue creeping red fescue crownvetch or flatpea	15	.35
	10	.25
	15	.35
	30	.35
C. tall fescue creeping red fescue bird's foot trefoil	20	.45
	20	.45
	5	.10
	48	.40
D. bird's foot trefoil red top red canarygrass	10	.25
	5	.10
	15	.35
	30	.70
E. tall fescue flatpea	20	.45
	30	.75
	50	1.20
	50	1.20

- Where possible, construction shall be scheduled so that seeding can take place between early spring May 1 and September 1 so that all seeded areas have a visible growth of grass by October 1.
- All seeded areas shall be mulched immediately following the seeding operation. From the following, mulch material shall be selected by the engineer and applied to best meet the needs of the site.

### Mulch Materials and Rates

Hay or Straw, 1 to 1-1/2 tons per acre, 70 to 90 lbs. per 1,000 sq. ft.

Wood Chips or Ground Bark, 2 to 6 inches deep, 10 to 20 Tons per acre, 460 to 920 lbs. per 1,000 sq. ft.

Jute and Fibrous Mats

Crushed Stone, 1/4 to 1-1/2 inches in diameter, spread more than 1/2-inch thick.

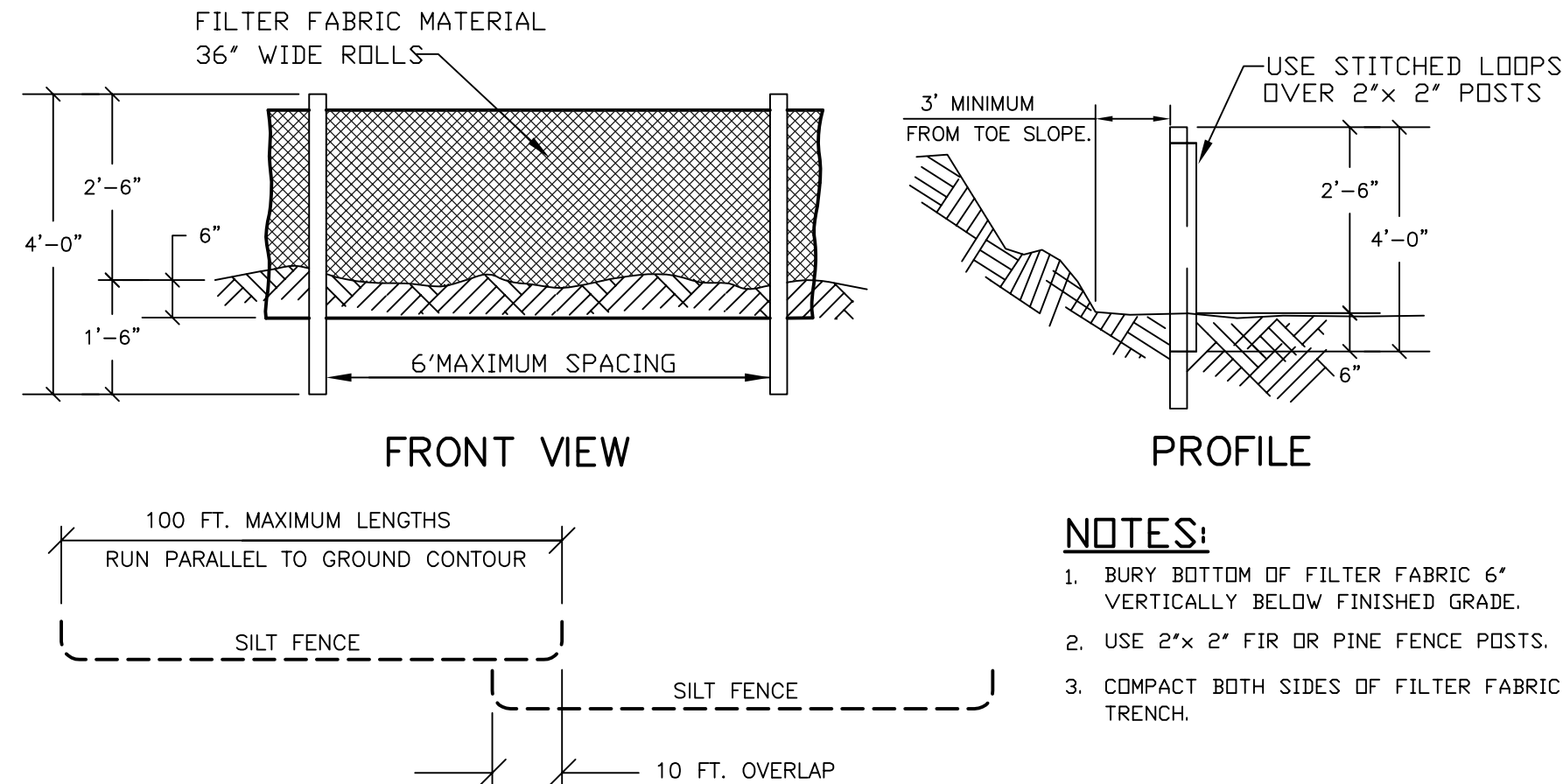
### Remarks

Can be spread by hand or by machine. Must be dry and free of mold. May be used with plantings or for erosion control alone. Subject to blowing and slipping on steep slopes unless anchored.

Resists wind erosion but will wash away in a concentrated flow of water. Decomposes slowly. Used only with trees and shrub plantings. Add 11 pounds of available nitrogen per ton to avoid nitrogen deficiency.

Used as a mulch especially in areas of concentrated flow. Must be carefully installed and anchored. Durable. Can be used for erosion control without other mulching materials. The waterway, channel, or area to be protected is to be shaped to required shape and grade and thoroughly compacted before seedbed preparation. Rocks or clods over 1-1/2 inches in diameter and sticks or other material that will prevent contact of the fiber matting with the soil surface should be removed. After seeding is completed, matting should be laid in the direction of flow and applied in accordance with instructions in each roll of material. After matting is installed, a cultipacker or other suitable implement should be rolled at right angles over the entire area so as to thoroughly fuse the matting with the soil surface.

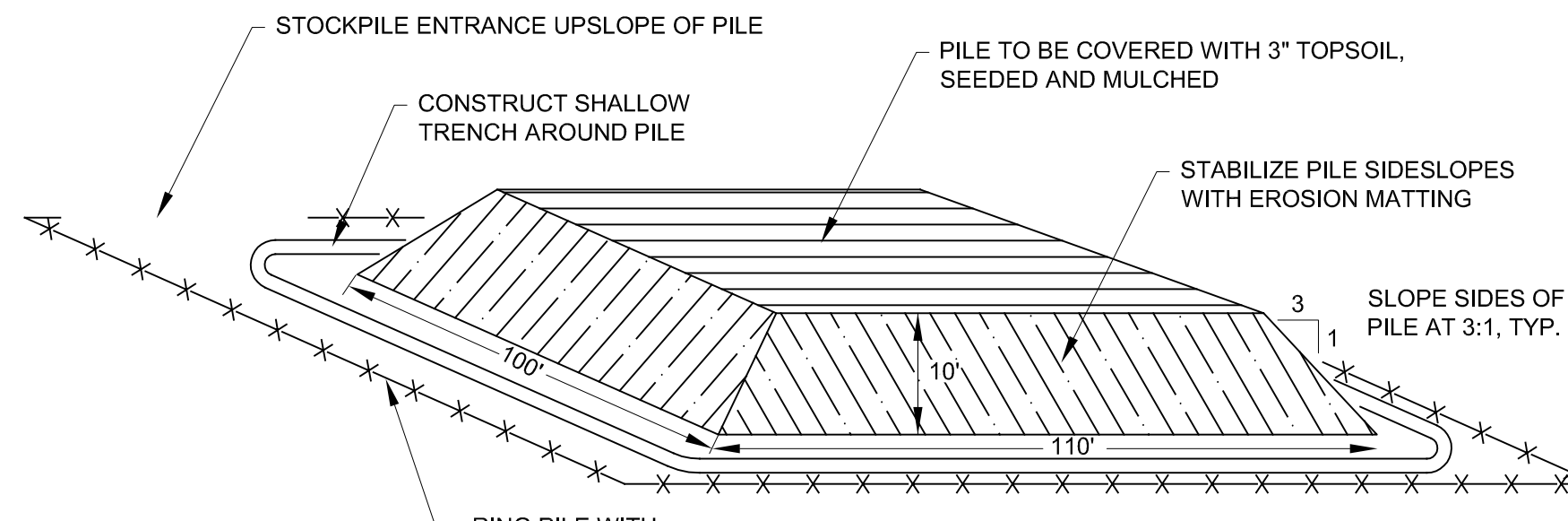
Effective in controlling wind and water erosion.



## TYPICAL INSTALLATION PLAN

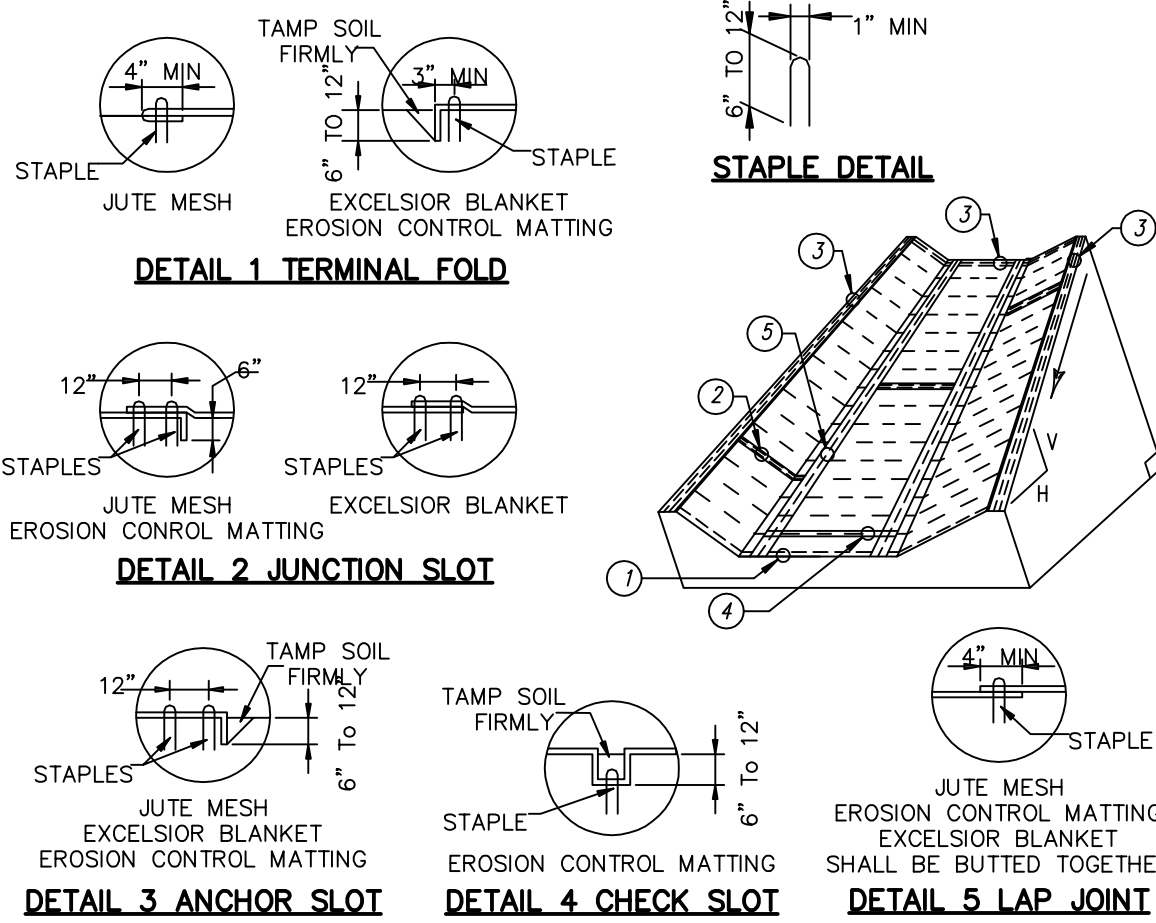
## SILT FENCE DETAIL

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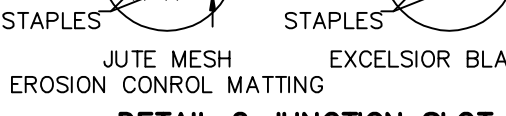
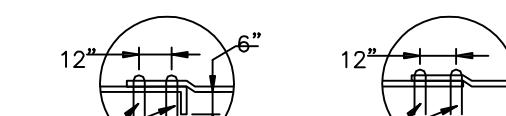


## EXCAVATED SOIL STOCKPILE DETAIL

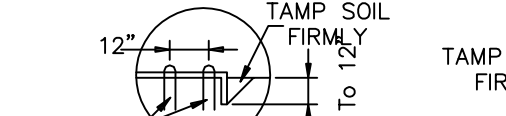
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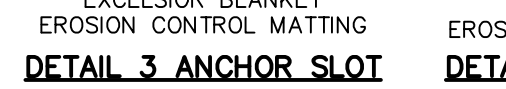
### DETAIL 1 TERMINAL FOLD



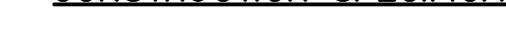
### DETAIL 2 JUNCTION SLOT



### DETAIL 3 ANCHOR SLOT



### DETAIL 4 CHECK SLOT



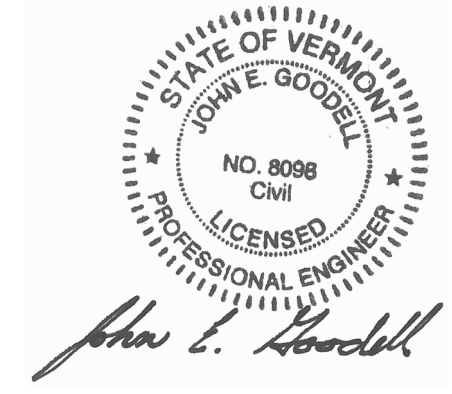
### DETAIL 5 LAP JOINT

## CONSTRUCTION SPECIFICATIONS

- SPACING: INSTALL RECP EVERY 50 FT. ON SLOPES MORE THAN 4% AND LESS THAN 6%. ON SLOPES OF 6% OR MORE, THEY SHALL BE SPACED SO THAT ONE OCCURS WITHIN EACH 25 FEET.
- STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2 FEET APART AND IN ROWS APPROXIMATELY 3 FEET APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4 FT. X 225 FT. ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4 FT. X 150 FT. ROLL OF MATERIAL.
- DISTURBED AREA SHALL BE SMOOTHLY GRADED TO ENSURE CLOSE CONTACT BETWEEN RECP AND GROUND.
- EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
- ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12 FOOT INTERVALS.
- INSTALLATION MUST COMPLY WITH MANUFACTURER'S RECOMMENDATIONS.

## EROSION CONTROL MATTING

NOT TO SCALE



EROSION CONTROL NOTES AND DETAILS			
FOR DRY FUEL STORAGE PROJECT ENTERGY NUCLEAR, VERMONT YANKEE, LLC. VERNON, VERMONT			
DATE PLAN: 5/28/14 DATE SURVEY: N/A DESIGNED BY: JEG DRAWN BY: TJS CHECKED BY: JEG SCALE: AS SHOWN			
PROJ. NO.: B4000-24 CAD NO.: B4000-24-03 SHEET E2 OF 2			