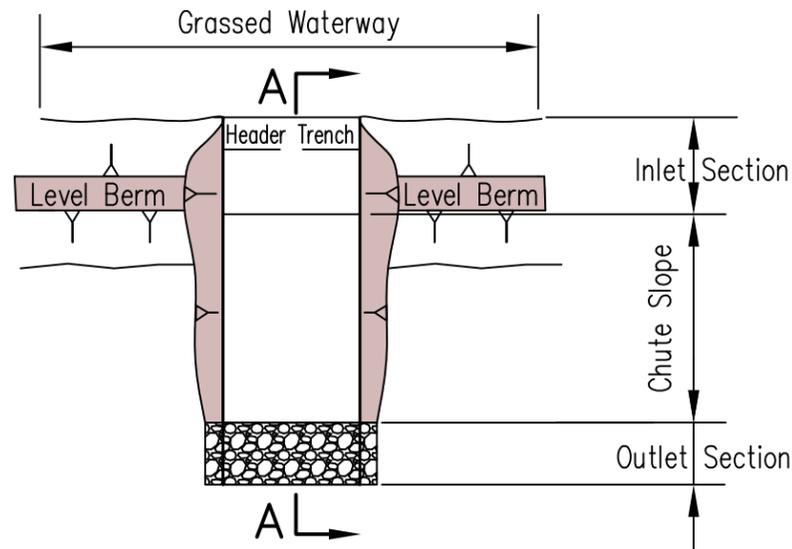
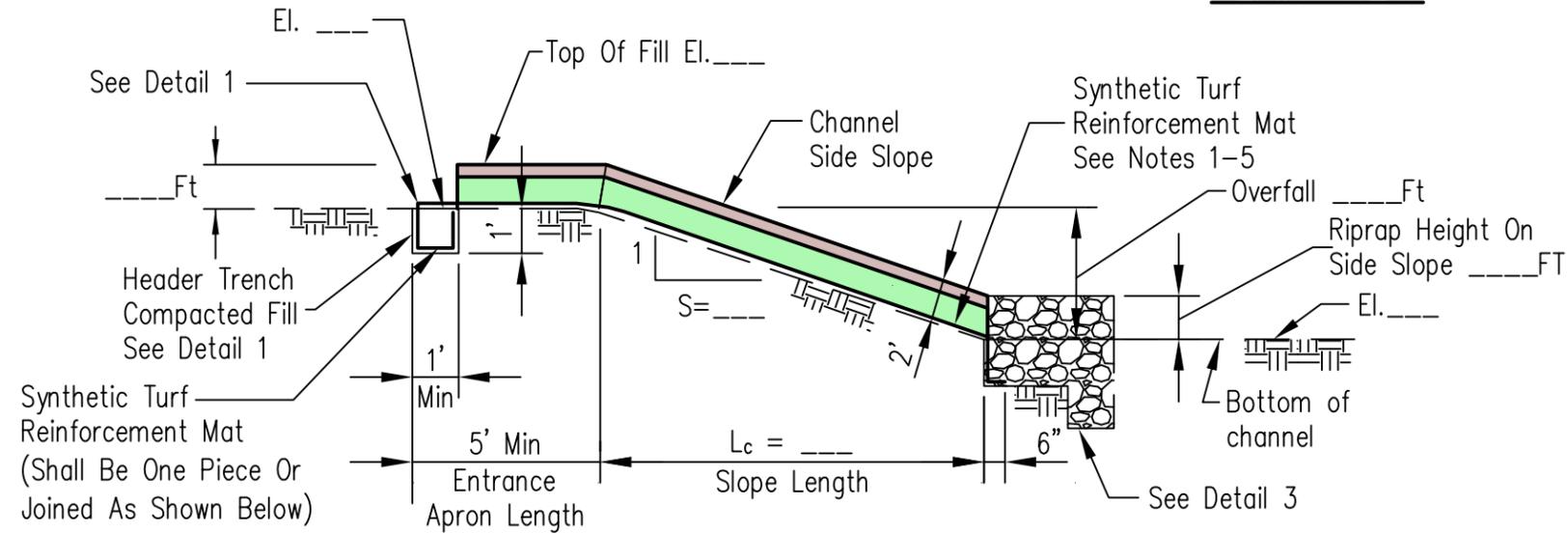


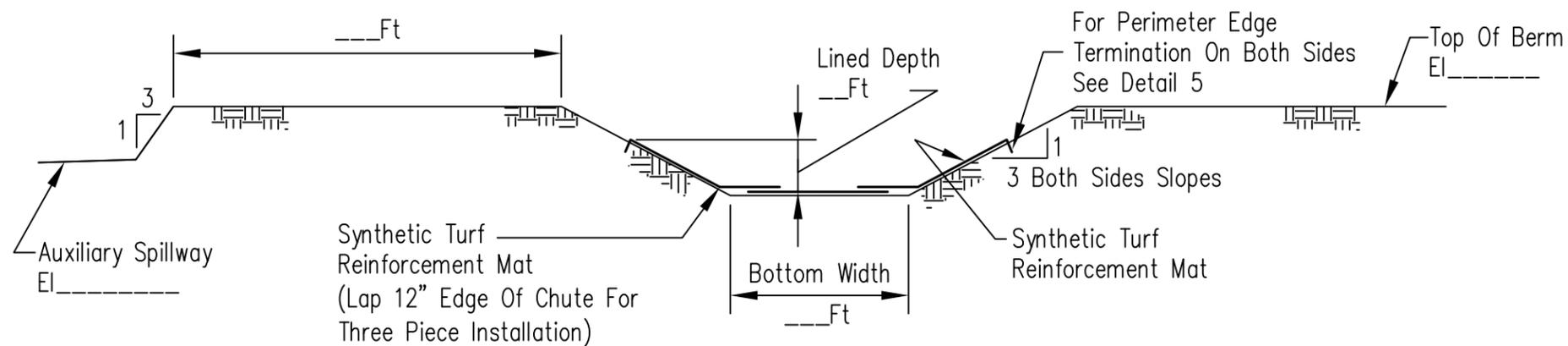
ISOMETRIC VIEW



PLAN VIEW



SECTION A-A



**TYPICAL CROSS SECTION
AT ENTRANCE APRON**

TABLE OF QUANTITIES		
Item	Quantity	Unit
Earthfill		Cu Yd
Excavation		Cu Yd
Synthetic Turf Reinforcing Mat		Sq Yd
Geotxtile		Sq Yd
Riprap		Tons
Seeding & Fertilizer		Acres

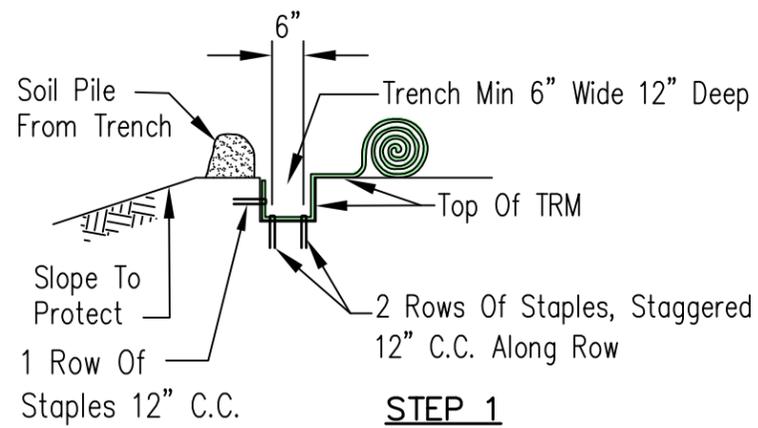
Date _____
 5/1/14
 Designed _____
 Drawn M. QUINONES
 Checked _____
 Approved _____

**SYNTHETIC TURF REINFORCEMENT
MAT VEGETATED CHUTE**

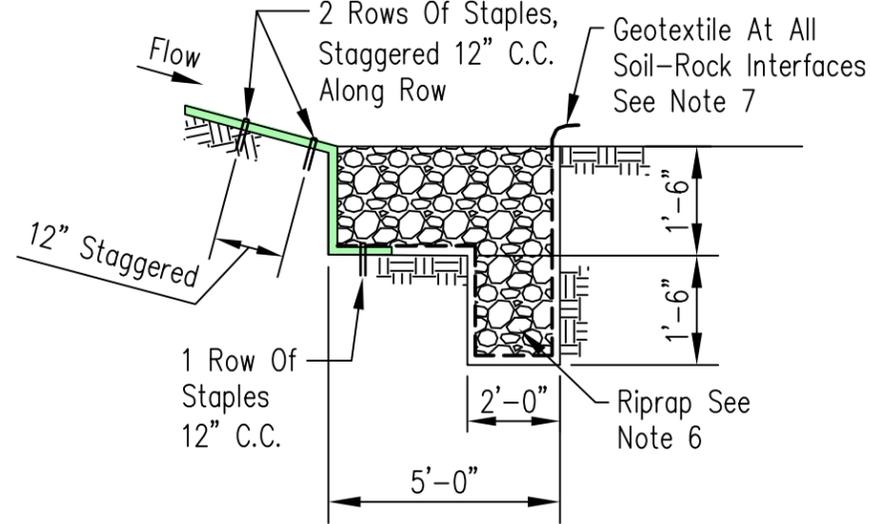


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 Drawing No.
 Page 1 of 2
 Sheet _____ of _____

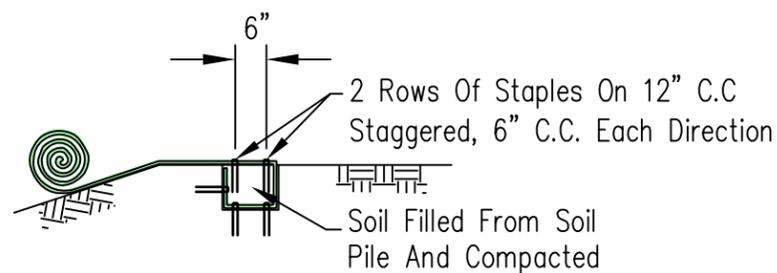
Not To Scale



STEP 1

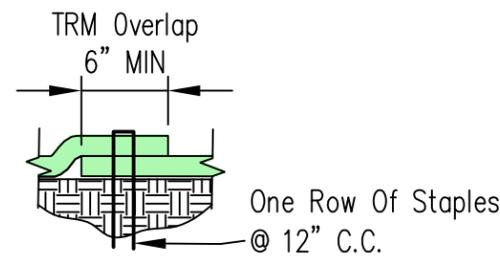


**OUTLET APRON
DETAIL 3**



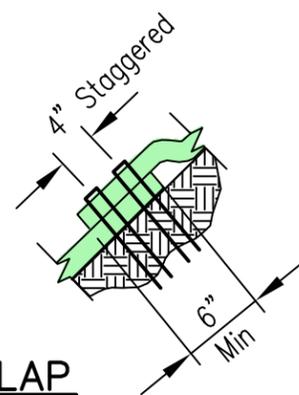
STEP 2

**TOP OF SLOPE HEADER
TRENCH - DETAIL 1**

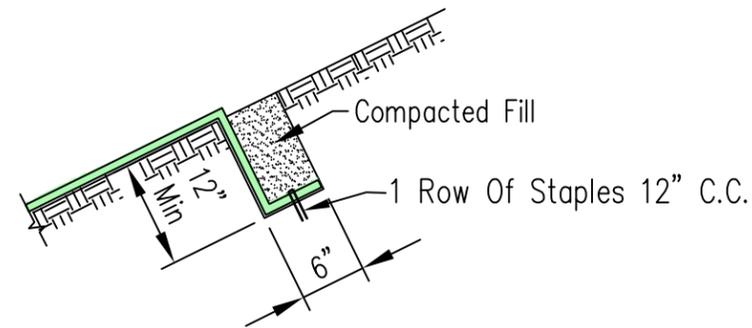


**SIDE SEAM OVERLAP
STAPLE - DETAIL 4**

End Seam Or TRMs Overlap Minimum 6". Place 2 Rows, 4" Apart, Of Staples 12" C.C. Staggered, Through Both TRMs. Upslope TRM Laps Over Downslope TRM In A Shingle Effect.



**END ROLL OVERLAP
DETAIL 2**

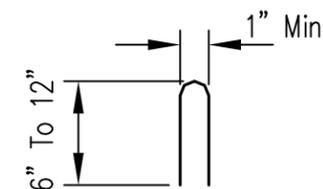


**PERIMETER EDGE TERMINATION
ANCHOR TRENCH- DETAIL 5**

NOTES:

- The turf reinforcement mat (TRM) shall consist of a machine produced, permanent matting structure, shall be new and unused, shall be furnished in rolls, and shall be able to withstand velocity of _____fps.
- Prepare soil and seed TRM area according to manufacturer's instructions.
- The TRM shall be placed in firm contact with the soil and not be allowed to bridge over surface irregularities. The TRM shall not be stretched.
- Start laying the TRMs by rolling center TRM in the direction of flow, centered on the centerline of chute. Do not place overlap at the center of the chute.
- The TRM shall be anchored, overlapped, and stapled according to manufacturer's instructions. If no manufacturer's instructions are available, install the blanket as follows:
 - Staples shall be "U" shaped, 0.12 in diameter wire or greater (#11gauge). See Staple Detail for dimensions.
 - Bury upstream end of TRM in a trench minimum 6 inch wide by 12 inch deep and stapled in staggered rows across the width as shown in Detail 1.
 - For joining ends of rolls, overlap end of upslope TRM a minimum of 4 inches over downslope TRM (shingle style). Use a double row of staggered staples 4 inches apart, 12 inch C.C. as shown in Detail 2.
 - TRMs on side slopes shall overlap a minimum 6 inches over the TRM below (shingle style). Staple overlap at 12 inch intervals. See Detail 4.
 - The outer edge along sides of the TRM shall be buried in a perpendicular edge termination trench as shown in Detail 5. Bottom of trench shall be stapled 12 inch C.C.
 - Staples are to be placed alternately in columns (in the direction of the chute) 2 feet apart and in rows (across the chute) 3 feet apart, throughout the area covered by the TRM.
 - Downstream (terminal) end of the TRM shall be stapled with a double row of staggered staples 12 inches apart and have a footer trench as shown in Detail 3. Stable Trench as shown in Detail 3.
- Rock size shall be IDOT Quality Designation A Gradation No.4.
- Geotextile (non-woven, needle punched) minimum criteria:

Grab tensile strength (lb) ASTM D 4632	_____	202
Elongation at failure (%) ASTM D 4632	_____	≥ 50
Trapezoidal tear strength (lb) ASTM D 4533	_____	79
Puncture strength (lb) ASTM D 6241	_____	433
Ultraviolet light (% retained strength)ASTM D 4355	_____	min 50
Apparent opening size (AOS) ASTM D 4751	_____	max 0.22 mm (US sieve Size 70)
Permittivity sec ⁻¹ ASTM D 4491	_____	min 0.70



STAPLE DETAIL

Not To Scale

Date	5/1/14
Designed	M. QUINONES
Drawn	
Checked	
Approved	

**SYNTHETIC TURF REINFORCEMENT
MAT VEGETATED CHUTE**



File No.	IL-ENG-127
Drawing No.	
Page	2 of 2
Sheet	of