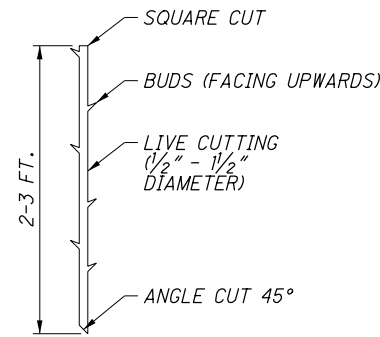


DEAD STAKE (NTS)



LIVE STAKE

Slope Stabilization Seed Mix		
Botanical Name	Common Name	PLS Ounces/Acre
Permanent Grasses:		
<i>Andropogon gerardii</i>	Big Bluestem	48.00
<i>Bouteloua curtipendula</i>	Side-Oats Grama	16.00
<i>Carex spp.</i>	Prairie Sedge Species	4.00
<i>Elymus canadensis</i>	Canada Wild Rye	32.00
<i>Elymus virginicus</i>	Virginia Wild Rye	24.00
<i>Panicum virgatum</i>	Switch Grass	12.00
<i>Schizachyrium scoparium</i>	Little Bluestem	32.00
<i>Sorghastrum nutans</i>	Indian Grass	32.00
	Total	200.00
Temporary Cover:		
<i>Avena sativa</i>	Common Oat	512.00
<i>Lolium multiflorum</i>	Annual Rye	240.00
	Total	752.00

ITEM 661, PLANTING MISC.: LIVE STAKES

LIVE STAKING MUST BE PERFORMED DURING THE DORMANT PERIOD. THAT IS, NOVEMBER 31ST TO MARCH 31ST.

LIVE STAKES SHALL BE CUT FROM AN APPROVED SOURCE WITH A SHARP TOOL. STAKES SHALL BE FREE FROM DISEASE OR EXCESS DEAD TWIGS, 2 TO 3 FEET IN LENGTH WITH A BASAL END 0.5 TO 1.5 INCH IN DIAMETER.

STAKES SHALL BE OBTAINED FROM NURSERIES OR AN APPROVED SOURCE. STAKES MUST HAVE SIDE BRANCHES CLEANLY REMOVED AND BARK INTACT. AT THE TIME OF HARVESTING, THE BASAL (LOWER) ENDS SHOULD BE CUT AT AN ANGLE OR POINT FOR EASY INSERTION INTO THE SOIL. THE TOP SHOULD BE CUT SQUARE. THIS CUTTING PATTERN WILL ALSO INDICATE WHICH END MUST BE INSERTED.

THE LOWER THIRD OF THE STAKES MUST BE KEPT WET FROM THE TIME OF HARVESTING UNTIL THEY ARE INSTALLED. STAKES THAT HAVE NOT BEEN KEPT WET DURING HARVESTING, TRANSPORT, OR STORAGE WILL BE REJECTED. MATERIALS SHALL BE INSTALLED WITHIN TWO DAYS OF HARVESTING. STAKES MAY BE STORED LONGER WITH PERMISSION FROM THE ENGINEER, PROVIDED THEY ARE CONTINUOUSLY STORED IN WATER AT A TEMPERATURE BETWEEN 25 TO 40 DEGREES FAHRENHEIT.

INSTALL THE STAKES PERPENDICULAR TO THE GROUND SURFACE BY TAMPING THEM INTO THE GROUND WITH A DEAD BLOW Mallet. AT LEAST 2/3 OF EACH STAKE MUST EXTEND INTO THE SOIL. A STEEL ROD OR HYDRAULIC PROBE MAY BE USED TO MAKE A PILOT HOLE IN FIRM SOIL, PROVIDED THE ROD OR PROBE HAS A SMALLER DIAMETER THAN THE STAKES, SO THAT THE STAKES MAKE FIRM CONTACT WITH THE SOIL.

THE BARK ON THE STAKES MUST REMAIN INTACT DURING HARVESTING AND INSTALLATION. STAKES WITH BARK DAMAGED DURING INSTALLATION MUST BE REMOVED AND REPLACED. ANY STAKE THAT SPLITS MORE THAN 4 INCHES MUST BE REMOVED AND REPLACED.

SHREDDED TOPS OF THE STAKES MUST BE REMOVED AFTER INSTALLATION, LEAVING A CLEAN CUT END. UPON COMPLETION, ONLY 1/3 OF LIVE STAKE SHALL PROTRUDE FROM THE SOIL SURFACE.

661, PLANTING, MISC.: LIVE STAKES				
BOTANICAL NAME	COMMON NAME	SPACING (FT)	QUANTITY	
<i>SALIX INTERIOR/EXIGUA</i>	SANDBAR WILLOW	3'x3'	1200	
<i>CORNUS AMOMUM</i>	SILKY DOGWOOD		1200	
<i>SALIX DISCOLOR</i>	PUSSYWILLOW		1200	
<i>SALIX NIGRA</i>	BLACK WILLOW		1200	
<i>VIBURNUM DENTATUM</i>	ARROWWOOD VIBURNUM		1200	
<i>SAMBUCUS CANADENSIS</i>	ELDERBERRY		1200	
<i>CORNUS STOLONIFERA</i>	RED OSIER DOGWOOD		1200	
TOTALS CARRIED TO GENERAL SUMMARY			8400	

SEEDING AND MULCHING, AS PER PLAN

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SOIL ANALYSIS TEST	2 EACH
659, TOPSOIL	801 CY
659, SEEDING AND MULCHING, AS PER PLAN	7213 SY
659, REPAIR SEEDING AND MULCHING	361 SY
659, COMMERCIAL FERTILIZER	0.97 TON
659, LIME	1.49 ACRE
659, WATER	39 M GAL

SEEDING AND MULCHING, AS PER PLAN SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING, AS PER PLAN ARE BASED ON THESE LIMITS. PAYMENT FOR COIR MATTING MATERIAL AND INSTALLATION SHALL BE INCLUDED WITH SEEDING AND MULCHING, AS PER PLAN

SEQUENCE OF CONSTRUCTION FOR ALL AREAS OF EXPOSED SOIL WITHIN THE CONSTRUCTION LIMITS SHALL CONSIST OF THE FOLLOWING:

- 1) PREPARE AREA USING TOPSOIL, COMMERCIAL FERTILIZER AND LIME PER CMS 659.
- 2) APPLY SLOPE STABILIZATION SEED MIX FROM TABLE ON THIS SHEET.
- 3) APPLY STRAW MULCH AT RATE OF 2 TONS/ACRE (80 BALES/ACRE).
- 4) INSTALL COIR MATTING (400-700 G/M2) SEE DETAIL THIS SHEET.

THE CONTRACTOR SHALL PROVIDE COIR MATTING FROM THE FOLLOWING LIST OF PRODUCTS/MANUFACTURERS OR AN APPROVED EQUIVALENT:

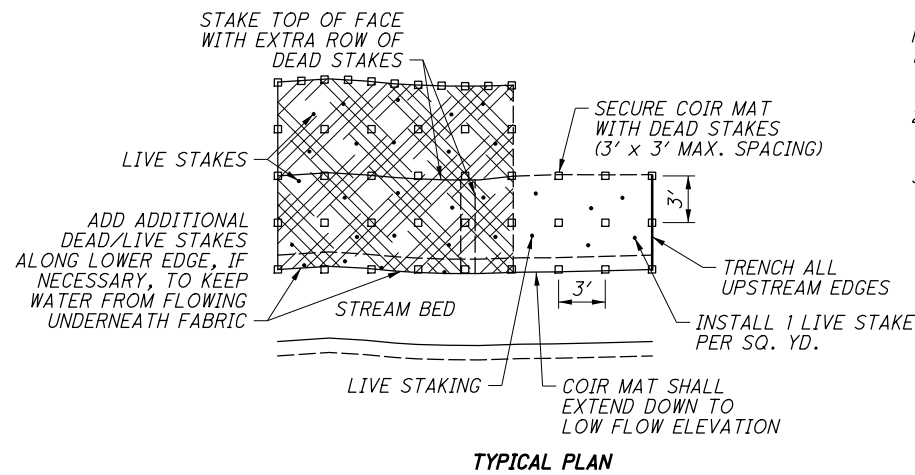
NEDIA KoirMat 700
 NEDIA ENTERPRISES, INC.
 TEL: (888) 725-6999
 FAX: (571) 223-0202
 WWW.NEDIA.COM

BioD-Mat 70
 ROLANKA INTERNATIONAL, INC.
 155 ANDREW DRIVE
 STOCKBRIDGE, GA 30281
 TEL: (800) 760-3215
 FAX: (770) 506-0391
 WWW.ROLANKA.COM

EC-7Y COIR MAT (700g-m2)
 EAST COAST EROSION CONTROL
 443 BRICKER ROAD
 BERNVILLE, PA 19506
 TEL: (800) 582-4005
 FAX: (610) 488-8494
 WWW.EASTCOASTEROSION.COM

BioNet C700BN
 WESTERN GREEN
 4609 E. BOONVILLE-NEW HARMONY ROAD
 EVANSVILLE, IN 47725
 TEL: (800) 772-2040
 WWW.NAGREEN.COM

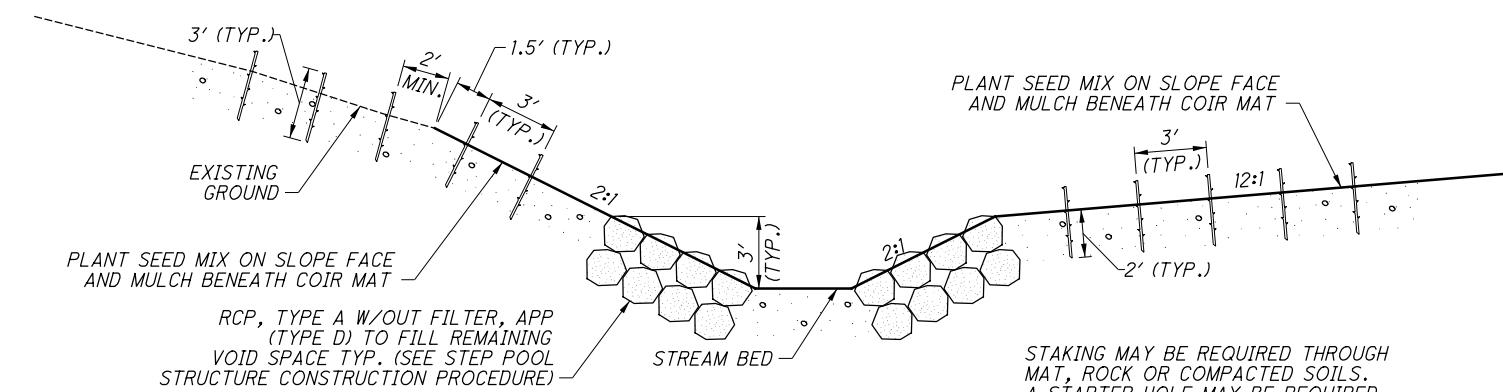
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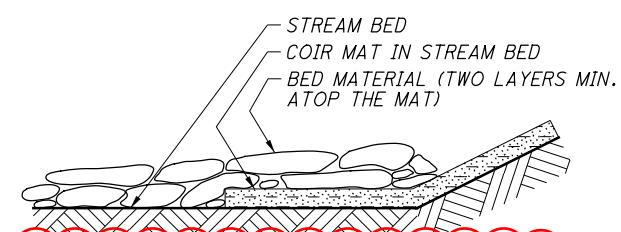
TYPICAL PLAN

COIR MAT WITH LIVE STAKES (NTS)

- NOTES:
1. PREPARE THE SEEDBED AND PLACE SEED AND STRAW PRIOR TO INSTALLING COIR MAT.
 2. INSTALL COIR MAT ALONG DISTURBED/EACAVATED STREAM REACHES (BANK WORK).
 3. ADDITIONAL STAKING SHALL BE APPLIED IF THE COIR MAT SEPARATES FROM THE SOIL.



LIVE STAKE (IN EARTH) DETAIL



COIR MAT AT STREAM CHANNEL DETAIL

CALCULATED
 RCB
 CHECKED
 TJP

MISCELLANEOUS RESTORATION DETAILS

STA-77-1.27