NOTE:
- WETLANDS FLAGGED BY ConnSoil. CYNTHIA M. RABINOWITZ R.S.S
- WETFLAGS, 2' CONTOURS AND EXISTING FEATURES FROM FIELD SURVEY BY SAMUEL P. BERTACCINI Jr.

SOIL EROSION AND SEDIMENT CONTROL MEASURES

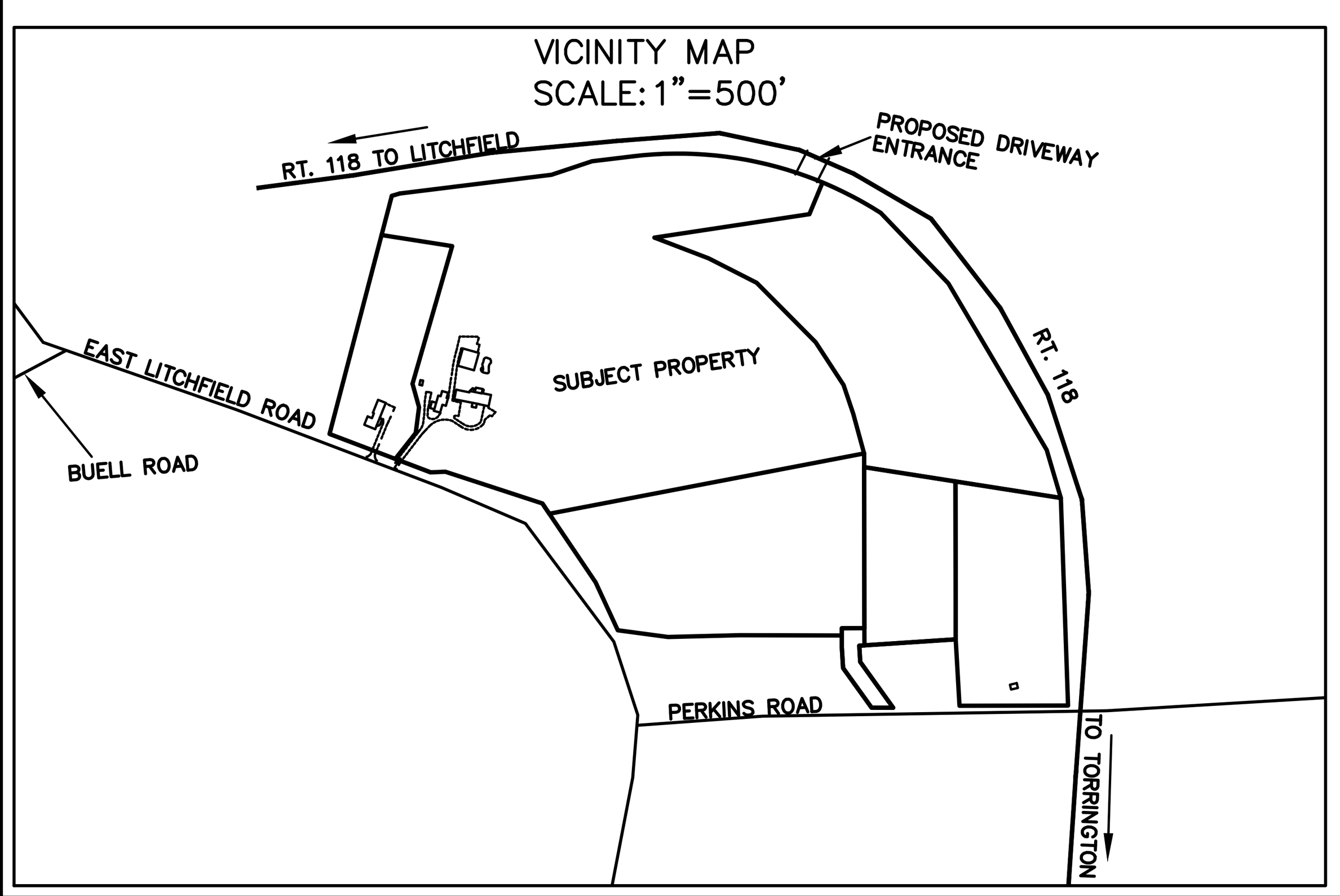
(GSF)	GEOSYNTHETIC SILT FENCE
(TO)	TOP SOILING
(TS)	TEMPORARY SEEDING
(PS)	PERMANENT SEEDING
(MS)	MULCH FOR SEED
(CE)	CONSTRUCTION ENTRANCE
(RR)	RIPRAP

REFER TO: 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL DEP BULLETIN 34 FOR PROPER USAGE, INSALLATION AND MAINTENANCE GUIDELINES.

LEGEND

PROPERTY LINE	
EXISTING MONUMENT	⊞
EXISTING IRON PIN OR PIPE	◎
PROPOSED IRON PIN OR PIPE	●
PROPOSED MONUMENT	■
DRILL HOLE	
STONE BOUND	
EASEMENT LINE	
STONE WALL	
BLDG. SETBACK LINE	
WATERCOURSE	
EXISTING CONTOUR	310
PROPOSED CONTOUR	310
PROPOSED SPOT ELEVATION	311+5
DEEP HOLE	◪ 2
PERCOLATION TEST	A
SEDIMENT FENCE	GSF
FLAGGED WETLANDS	346 wl 5

VICINITY MAP
SCALE: 1"=500'



DATE	REVISION
04/05/21	NEW OWNER
08/16/13	DUAL DRIVEWAY APRONS

DRIVEWAY DESIGN

PREPARED FOR

SAYLES BRAGA

199 EAST LITCHFIELD Rd.

LITCHFIELD, CONNECTICUT

1 0 1 2
INCHES

Hrica Associates LLC

Engineers *Surveyors*

Kenneth S. Hrica, PE,RLS
44 Maple View Trail
P.O. Box 1861
Litchfield, Connecticut 06759

860-567-2112 (business)
860-567-0491 (facsimile)
e-mail:
hricaassociates@optonline.net

DATE:	02/07/2007	MAP #:	0095
SCALE:	1"=40 ft.	SHEET #:	1 OF 1
DRAWING:	210829	DRAWN BY:	MSH
PROJECT #:	21-0829	CHECKED BY:	KSH

EROSION & SEDIMENTATION CONTROL PLAN AND CONSTRUCTION SEQUENCE

A. VALIDITY AND PROJECT DESCRIPTION:

VALIDITY:

THIS DOCUMENT IS TO BE CONSIDERED AN INTEGRAL PART OF THE PLANS PREPARED FOR THE PROJECT BY HRICA ASSOCIATES, LLC. THE PROCEDURES OUTLINED HEREIN ARE TO BE STRICTLY FOLLOWED DURING THE CONSTRUCTION OPERATIONS.

PROJECT DESCRIPTION:

THE PROJECT CONSISTS OF THE CONSTRUCTION OF A DRIVEWAY TO AN EXISTING SINGLE-FAMILY RESIDENTIAL DWELLING. REFER TO THE SITE PLAN FOR ADDITIONAL INFORMATION.

B. START AND COMPLETION DATES:

APPROXIMATE START DATE: Summer 2007
ESTIMATED TIME TO COMPLETE:
COMPLETION DATE: Fall 2007

THE ABOVE DATES ARE SUBJECT TO RECEIPT OF ALL REQUIRED PERMITS, FINANCING, AND CONTRACTOR SCHEDULING. THE EROSION AND SEDIMENT CONTROL OFFICER SHALL BE PROVIDED WITH UPDATED SCHEDULES AS THEY BECOME AVAILABLE.

RESPONSIBLE PERSON IN CHARGE: DAVID KLEEMAN
TELEPHONE: (860)567-5454

C. GENERAL CONSTRUCTION SEQUENCE:

1. -OBTAIN ALL PERMITS.
   -NOTIFY "CALL BEFORE YOU DIG" FOR UTILITY MARKOUT AS NECESSARY.
   -NOTIFY ALL APPLICABLE TOWN OFFICIALS OF CONSTRUCTION AS REQUIRED.
   -OBTAIN "START CARD" FROM LITCHFIELD INLAND WETLAND AGENCY.
2. -INSTALL SEDIMENT FENCE AND HAY BALES AT THE TOE OF PROPOSED SLOPES AND OTHER CONTROLS AS SHOWN ON THE PLANS. TAKE PARTICULAR CARE TO INSURE INSTALLATION OF SEDIMENT FENCE ADJACENT TO WETLANDS AND WATERCOURSES.
   -INSTALL ANTI-TRACKING PAD.
   -CONSTUCTION SILTATION CONTROLS AT PROPOSED DRAINAGE AS IT IS INSTALLED.
   -MAINTENANCE OF EROSION CONTROLS TO OCCUR AT ALL TIMES DURING CONSTRUCTION.
3. -REMOVE EXISTING BRUSH AND TREES WITHIN THE PROPOSED AREAS TO BE DEVELOPED, INCLUDING SLOPE AREAS.
   -REMOVAL AND STOCKPILE OF TOPSOIL FROM DISTURBED AREAS.
   -TOPSOIL TO BE STOCKPILED AND SEEDED WITH ANNUAL RYE GRASS SEED. EROSION CONTROLS TO BE PLACES AROUND STOCKPILE AS INDICATED ON THE PLANS.
   -INSTALLATION OF ANY ADDITIONAL EROSION CONTROLS AND PROCEEDURES THAT ARE REQUIRED.
   -EXCAVATION TO SUBGRADE AND/OR PLACEMENT OF FILL IN ACCORDANCE WITH THE SITE PLANS.
   -CONSTRUCT PROPOSED IMPROVEMENTS. INSTALL FINAL STABILIZATION (GRASS, LANDSCAPING, ETC.) AS SOON AS POSSIBLE. DRAINAGE STRUCTURES.
   -INSTALL FINAL STABILIZATION (GRASS, LANDSCAPING, PAVEMENT, ETC.) AS SOON AS POSSIBLE.
   -TEMPORARY STABILIZATION MEASURES TO OCCUR AT ALL TIMES.
4. FINAL SITE STABILIZATION:
   -FINE GRADE SLOPES AND DISTURBED AREAS.
   -PLACE TOPSOIL ON ALL DISTURBED AREAS AND FERTILIZE SEED AND MULCH.
   -REMOVAL OF THE SEDIMENTATION CONTROLS.
   -ANY REMAINING DISTURBED AREAS TO BE RESEEDED AND MULCHED.
   -OBTAIN "STOP CARD" FROM LITCHFIELD INLAND WETLAND AGENCY.

D. GENERAL REQUIREMENTS:

1. ALL DISTURBED AREAS TO BE STABILIZED BY TOPSOILING, SEEDING, AND MULCHING AS SOON AS PRACTICAL. CARE TO BE TAKEN TO PROTECT AREAS NOT INDICATED ON THE PLANS TO BE DISTURBED.
2. EROSION CONTROLS SHALL BE PLACED AT LOCATIONS SPECIFIED AND MAINTAINED UNTIL ALL SLOPED AND OTHER DISTURBED AREAS ARE STABILIZED.
3. ADDITIONAL CONTROL MEASURES SHALL BE INSTALLED DURING CONSTRUCTION, IF NECESSARY, TO MINIMIZE SEDIMENT TRANSPORT.
4. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION AND MAINTENANCE OF ALL CONTROLS AND PROPER DISPOSAL OF SEDIMENT REMOVED FROM THEM.
5. EROSION AND SEDIMENTATION CONTROLS TO BE CONSTRUCTED IN ACCORDANCE WITH 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION & SEDIMENTATION CONTROL, ("ESC").
6. IF AT ANY TIME, OWNERSHIP OF THE PROJECT IS TRANSFERRED TO OTHERS, THE NEW OWNERS SHALL NOTIFY ALL APPROPRIATE OFFICIALS. THE NEW OWNER SHALL DESIGNATE A RESPONSIBLE PERSON IN CHARGE.

E. CONTROL MEASURE SELECTION PROCESS:

EROSION IS CAUSED SOIL MOVEMENT, WATER MOVEMENT AND SEDIMENT MOVEMENT. THE OBJECTIVE OF THE EROSION AND SEDIMENT CONTROL PLAN IS TO PREVENT OFF-SITE SEDIMENTATION DAMAGE. THE STEPS INVOLVED IN THE EROSION CONTROL SELECTION PROCESS ARE AS FOLLOWS:

A. IDENTIFY CONTROL PROBLEM
B. IDENTIFY PROBLEM AREA
C. IDENTIFY REQUIRED STRATEGY
D. IDENTIFY CONTROL MEASURE GROUP
E. SELECT SPECIFIC CONTROL MEASURE

THE THREE BASIC METHODS USED TO CONTROL EROSION ARE SOIL STABILIZATION, RUNOFF CONTROL AND SEDIMENT CONTROL. A COMBINATION OF THESE THREE METHODS ARE PROPOSED IN ORDER TO MINIMIZE OFF-SITE SEDIMENTATION DAMAGE.

A. SOIL MOVEMENT: SOIL MOVEMENT IS CREATED BY SHEET EROSION, RILL EROSION AND WIND EROSION.
   1. PROBLEM AREAS: SOIL MOVEMENT OCCURS ON SLOPES, EXPOSED AREAS AND TRAVEL AREAS. SHEET AND RILL EROSION ON STEEP, EXPOSED, UNVEGETATED SLOPES CAN PRODUCE SIGNIFICANT EROSION ESPECIALLY DURING MAJOR RAIN STORMS. WIND EROSION ON ROADS UNDER CONSTRUCTION CAN PRESENT PROBLEMS DURING DRY PERIODS.
   2. REQUIRED STRATEGY: PROTECTION OF THE SURFACE IS THE MOST EFFECTIVE METHOD OF CONTROLLING SOIL MOVEMENT.
   3. CONTROL MEASURE GROUP: CONTROL MEASURE GROUPS CONSIST OF VEGETATIVE SOIL COVERS, NONVEGETATIVE SOIL COVERS AND ENVIRONMENTAL ENHANCEMENT.
   4. SPECIFIC CONTROL MEASURE:
      A. PERMANENT VEGETATIVE COVER (PV) IS SPECIFIED AS SOON AS FINAL GRADE OF ANY SLOPE IS REACHED ABOVE THE PROPOSED PERMANENT WATER ELEVATIONS. HYDROSEEDING IS RECOMMENDED.
      B. TOPSOILING (TO) OF THE SAME SLOPES IS ALSO SPECIFIED.
      C. TEMPORARY VEGETATIVE COVER (TV) IS RECOMMENDED ON TOPSOIL STOCKPILES AND SECTIONS OF THE PROJECT THAT ARE DISTURBED FOR PERIODS OF ONE YEAR OR MORE.
      D. THE USE OF TEMPORARY AND PERMANENT MULCHING IS NOT RECOMMENDED ON THE STEEP SLOPES.

B. WATER MOVEMENT: WATER MOVEMENT CAN CREATE GULLY EROSION, CHANNEL AND STREAM EROSION. CONTROLLING WATER MOVEMENT CAN PROTECT ON SITE AND OFF SITE AREAS.
   1. PROBLEM AREAS: PROBLEM AREAS CONSIST OF DRAINAGE WAYS, WATER COURSES, AND STEEP, LONG SLOPES.
   2. REQUIRED STRATEGY: THE STRATEGIES FOR CONTROL OF WATER MOVEMENT INCLUDE DIRECTING RUNOFF, CONVEYING RUNOFF, STABILIZING OUTLETS, INTERCEPTING GROUNDWATER STABILIZING STEEP SLOPES AND WATERCOURSES.
   3. CONTROL MEASURE GROUP: CONTROL MEASURE GROUP CONSISTS OF DIVERSIONS, WATERWAYS, OUTLETS, ENCLOSED DRAINAGE SYSTEMS. AND STABILIZATION STRUCTURES.
   4. SPECIFIC CONTROL MEASURE:
      A. OUTLET PROTECTION (OP) IS REQUIRED AT THE POINT OF DISCHARGE FOR ALL CULVERTS.
      B. RIPRAP (RR) IS PROPOSED FOR THE FINAL STABILIZATION ON THE INLET AND OUTLET OF ALL STORM DRAINAGE PIPES AND CULVERTS.
      C. SEDIMENT MOVEMENT: SEDIMENT MOVEMENT IS CREATED BY WATER OR WIND FORCES CAUSING SOIL PARTICLES TO MOVE WHICH IN TURN CAN EFFECT OFF SITE AREAS IF NOT PROPERLY CONTAINED.
   1. PROBLEM AREAS: PROBLEM AREAS ARE BOTH SMALL AND LARGE WATERBODIES, TRAVEL AREAS AND BORROW AND STOCKPILE AREAS.
   2. REQUIRED STRATEGY: THE STRATEGIES FOR CONTROLLING SEDIMENT MOVEMENT CONSIST OF TRAPPING SEDIMENT, DETAINING RUNOFF, CONTROLLING SEDIMENT AND FILTERING SEDIMENT.
   3. CONTROL MEASURE GROUP: THE CONTROL MEASURE GROUPS ARE SEDIMENT CONTROL, MUD AND DUST CONTROL AND SEDIMENT FILTERS.
   4. SPECIFIC CONTROL MEASURES:
      A. CONSTRUCTION ENTRANCE (CE): THE CONSTRUCTION ENTRANCE LOCATION IS THE PROPOSED DRIVEWAYS UNLESS OTHERWISE INDICATED ON THE PLANS. THE ENTRANCE SHOULD BE CONSTRUCTED AS SPECIFIED AS ON THE PLANS.
      B. SEDIMENT BARRIERS (GSF): THE USE OF SEDIMENT BARRIERS IS SPECIFIED ON THE PLANS AT THE BOTTOM OF ALL PROPOSED SLOPES. THE USE OF EARTH BERMS APPROXIMATELY 2' HIGH CAN BE UTILIZED IN LIEU OF HAYBALES AND SEDIMENT FENCE PROVIDED BARRIERS ARE PROVIDED WHERE THE RUNOFF ENTERS A BROOK.

F. MAINTENANCE OF EROSION SEDIMENTATION CONTROLS:

1. ALL EROSION AND SEDIMENTATION CONTROLS TO BE CHECKED WEEKLY AND REPAIRS MADE, IF NECESSARY.
2. PRIOR TO THE TIME OF ANY FORECASTED RAINFALL, ALL EROSION AND SEDIMENTATION CONTROLS TO BE CHECKED AND NECESSARY REPAIRS MADE.
3. ALL SILT TO BE REMOVED FROM EROSION AND SEDIMENTATION CONTROLS AS NECESSARY AND/OR PRIOR TO ANY FORECASTED RAINFALL.
4. CONSTRUCTION ENTRANCE TO BE CLEANED AND OR RECONSTRUCTED AS REQUIRED.
5. ALL REMOVED SILT TO BE PROPERLY DISPOSED OF OUTSIDE OF ROADWAY AREAS. ANY DISPOSED SILT TO BE IMMEDIATELY SEEDED WITH ANNUAL RYE GRASS AND MULCHED.
6. AFTER ALL DISTURBED AREAS ARE STABILIZED AND APPROVAL TO REMOVE EROSION AND SEDIMENTATION CONTROLS HAVE BEEN OBTAINED FROM THE MUNICIPALITY, THE EROSION AND SEDIMENTATION CONTROLS CAN BE REMOVED. ALL DISTURBED AREAS TO BE SEEDED AND MULCHED.
7. IT IS SUGGESTED THAT A FORMAL LOG BE KEPT OF ALL EROSION AND SEDIMENTATION CONTROL INSPECTION INCLUDING THE REMOVAL OF ANY TRAPPED SILT.
8. TEMPORARY CONTROLS TO CONSIST OF SEEDING WITH ANNUAL RYE GRASS. HAY MULCH OR OTHER APPROVED METHODS SHALL BE USED IF SEASON WILL NOT PERMIT GRASS TO GERMINATE.

G. PLANTING SCHEDULE:

1. TYPE OF GRASS SEED TO BE USED SHALL CONFORM TO CHAPTER 5 OF THE 2002 "ESC" FOR EACH TYPE OF CONDITION ENCOUNTERED. TEMPORARY SEEDING SHOULD BE DONE WITHIN TWO (2) DAYS OF GROUND DISTURBANCE.
2. QUANTITY, FERTILIZATION AND METHOD OF INSTALLATION FOR ALL PLANTINGS SHOULD CONFORM TO THE "ESC".
3. PLANTING DATES SHOULD CONFORM TO "ESC" FOR TEMPORARY AND PERMANENT GRASS SEEDS AND ALL OTHER PLANTINGS.
4. MAINTENANCE OF ALL SEEDED AND PLANTED AREAS IS TO CONFORM WITH THE REQUIREMENTS OF THE "ESC".
5. ALL SEEDED AREAS ARE TO BE MAINTAINED AND AREAS WHICH ARE DETERMINED TO NEED ADDITIONAL WORK ARE TO BE REPAIRED AS SOON AS POSSIBLE.
6. DURING THOSE TIMES OF THE YEAR WHEN SEED CANNOT BE PLANTED, ALL DISTURBED AREAS TO BE MULCHED IN ACCORDANCE WITH CHAPTER 5 OF THE "ESC" AND BE SEEDED AS SOON AS THE SEEDING DATES PERMIT.
7. EVERY EFFORT SHALL BE MADE TO SEED DISTURBED AREAS DURING THE EARLIEST PLANTING PERIOD.

H. CONSTRUCTION DETAILS:

SEE PLANS, NOTES AND DETAILS SHEET FOR THE FOLLOWING SEDIMENT AND EROSION CONTROL DETAILS:

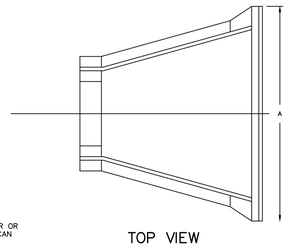
ANTI-TRACKING
SEDIMENT FENCE
HAY BALES - IF APPLICABLE

I. SITE PLANS:

SEE SITE PLANS FOR LOCATION OF PROPOSED EROSION AND SEDIMENTATION CONTROL MEASURES.

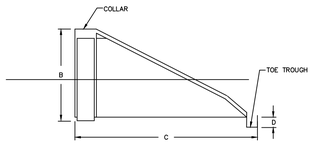
GENERAL NOTES

- BOUNDARY DETERMINATION CATEGORY:
  ORIGINAL PARCEL: DEPENDENT RESURVEY
  PROPOSED LOTS: ORIGINAL SURVEY
- OWNERS / APPLICANTS: DAVID KLEEMAN AND PALMER MARRIN
  199 EAST LITCHFIELD Rd.
  LITCHFIELD, CT 06759
- WETLANDS DELINEATED BY ConnSoil. CYNTHIA M. RABINOWITZ R.S.S
- REFER TO SITE DEVELOPMENT PLANS FOR SPECIFICS OF GRADING AND DRAINAGE.
- PRIOR TO ANY DEVELOPMENT ACTIVITY FOR ANY LOT, ALL EROSION AND SEDIMENTATION CONTROLS SHALL BE PUT IN PLACE PRIOR TO ANY EARTH DISTURBING ACTIVITY AND APPROVED BY THE CONSERVATION COMMISSION OR AGENT.
- THE OWNER SHALL BE RESPONSIBLE TO SECURE ALL PERMITS PRIOR TO THE START OF CONSTRUCTION.
- CONTRACTOR SHALL NOTIFY "CALL BEFORE YOU DIG" PRIOR TO CONSTRUCTION.
- GRADING TO BE IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS AND NORMAL STANDARDS OF GOOD PRACTICE.
- SEDIMENT FENCE TO BE CONSTRUCTION LIMIT LINE UNLESS SHOWN OTHERWISE.
- DISCREPANCIES IN THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY FOR RESOLUTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL ON-SITE AND OFF-SITE FIELD CONDITIONS AND TO VERIFY THAT NO CHANGES HAVE OCCURED SINCE THE ISSUANCE OF THIS PLAN. THE DESIGN ENGINEER IS TO BE NOTIFIED OF ANY CHANGES WHICH CONFLICT WITH THIS PLAN.

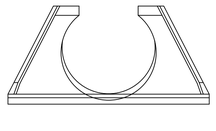


DIMENSION	PIPE DIAMETER, in. 10/12	15	18	24	30	36
A	42	41	49	59 1/2	88	88
B	14 1/2	19	22	28	36	43
C	33	34	43	48	63 1/2	66 1/2
D	6	6	6	6	6	6

TOP VIEW



SIDE VIEW



FRONT VIEW

HI-Q FLARED END SECTION
N.T.S.

(GSF) GEOSYNTHETIC SILT FENCE

SEDIMENT BARRIERS
SPECIFICATIONS

GEOTEXTILE SILT FENCING MINIMUM REQUIREMENTS

PHYSICAL PROPERTY	TEST METHOD	MINIMUM REQUIREMENT
FILTERING EFFICIENCY	ASTM 5141	75% (MIN)
GRAB TENSILE STRENGTH (LBS.)	ASTM D4632	100 LBS.
ELONGATION @ FAILURE	ASTM D4632	15%
MULLEN BURST STRENGTH	ASTM D3786	250 PSI
PUNCTURE STRENGTH	ASTM 4833	50 LBS.
APPARENT OPENING SIZE	ASTM D4751	NO LESS THAN 0.90MM AND NO GREATER THAN 0.60 MM
FLOW RATE	ASTM D4491	0.2 GAL/FT2/MIN
PERMATIVITY	ASTM D4491	0.05 SEC. -1 (MIN)
ULTRAVOLET RADIATION STABILITY %	ASTM-D4355	70% AFTER 500 HOURS OF EXPOSURE (MIN)

GEOTEXTILE SILT FENCE SLOPE/ LENGTH LIMITATIONS

SLOPE STEEPNESS |	SLOPE LENGTH AND WING SPACING
5:1 OR FLATTER	100 FEET
3:1 TO 5:1	75 FEET
2:1 TO 3:1	50 FEET

MATERIALS

GEOTEXTILE FABRIC: SHALL BE A PERVIOUS SHEET OF POLYPROPYLENE, NYLON, POLYESTER, ETHYLENE OR SIMILAR FILAMENTS AND SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS SHOWN. THE GEOTEXTILE SHALL BE NON-ROTTING, ACID AND ALKALI RESISTANT AND HAVE SUFFICIENT STRENGTH AND PERMEABILITY FOR THE PURPOSE INTENDED, INCLUDING HANDLING AND BACKFILLING OPERATIONS. FILAMENTS IN THE GEOTEXTILE SHALL BE RESISTANT TO ABSORPTION. THE FILAMENT NETWORK MUST BE DIMENSIONALLY STABLE AND RESISTANT TO DE-LAMINATION. THE GEOTEXTILE SHALL BE FREE OF ANY CHEMICAL TREATMENT OR COATING THAT WILL REDUCE ITS PERMEABILITY. THE GEOTEXTILE SHALL ALSO BE FREE OF ANY FLAWS OR DEFECTS WHICH WILL ALTER ITS PHYSICAL PROPERTIES. TORN OR PUNCTURED GEOTEXTILES SHALL NOT BE USED.

SUPPORTING POSTS: SHALL BE AT LEAST 42 INCHES LONG MADE OF EITHER 1.5 INCH SQUARE HARDWOOD STAKES OR STEEL POSTS WITH PROJECTIONS FOR FASTENING THE GEOTEXTILE POSSESSING A MINIMUM STRENGTH OF 0.5 POUND PER LINEAR FOOT.

PLACEMENT ON THE LANDSCAPE

LOCATE 5-10 FEET DOWN GRADIENT FROM THE TOE OF THE SLOPE, GENERALLY ON THE CONTOUR WITH MAINTENANCE AND SEDIMENT REMOVAL REQUIREMENTS IN MIND. WHEN THE CONTOUR CANNOT BE FOLLOWED INSTALL THE FENCE SUCH THAT PERPENDICULAR WINGS ARE CREATED TO BREAK THE VELOCITY OF WATER FLOWING ALONG THE FENCE.

SWALES: LOCATE "U" SHAPE ACROSS SWALE SUCH THAT THE BOTTOM OF BOTH ENDS OF THE FENCE ARE HIGHER THAN THE TOP OF THE LOWEST SECTION OF THE FENCE.

CATCH BASINS IN SWALE ON SLOPES: LOCATE 2 "U" SHAPES ACROSS SWALE AS ABOVE: ONE IMMEDIATELY UP SLOPE FROM THE CATCH BASIN AND THE OTHER IMMEDIATELY DOWN SLOPE FROM THE CATCH BASIN.

CATCH BASINS IN DEPRESSIONS: ENCIRCLE ENTIRE CATCH BASIN.

CULVERT INLETS: LOCATE IN "U" SHAPES APPROXIMATELY 6 FEET FROM THE CULVERT IN THE DIRECTION OF THE INCOMING FLOW.

CULVERT OUTLETS: LOCATE ACROSS THE SWALE AT LEAST 6 FEET FROM THE CULVERT OUTLET.

INSTALLATION

TRENCH EXCAVATION: EXCAVATE A TRENCH A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE ON THE UP SLOPE SIDE OF THE FENCE LOCATION. FOR SLOPE AND SWALE INSTALLATIONS, EXTEND THE ENDS OF THE TRENCH SUFFICIENTLY UP SLOPE SUCH THAT BOTTOM END OF THE FENCE WILL BE HIGHER THAN THE TOP OF THE LOWEST PORTION OF THE FENCE. WHEN THE FENCE IS NOT TO BE INSTALLED ON THE CONTOUR, EXCAVATE WING TRENCHES SPACED AT THE INTERVALS GIVEN IN TABLE ABOVE.

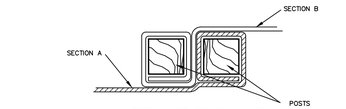
SUPPORT POSTS: DRIVE SUPPORT POSTS ON THE DOWN SLOPE OF THE TRENCH TO A DEPTH OF AT LEAST 12 INCHES INTO ORIGINAL GROUND. INSTALL SUPPORT POSTS CLOSER THAN 10 FEET APART WHEN CONCENTRATED FLOWS ARE ANTICIPATED OR WHEN STEEP CONTRIBUTING SLOPES AND SOIL CONDITIONS ARE EXPECTED TO GENERATE LARGER VOLUMES OF SEDIMENT. FOR CATCH BASINS IN HOLLOWS, DRIVE POSTS AT EACH CORNER OF THE CATCH BASIN.

GEOTEXTILE FILTER FABRIC: STAPLE OR SECURE THE GEOTEXTILE TO THE SUPPORT POSTS PER MANUFACTURER 'S INSTRUCTION SUCH THAT AT LEAST 6 INCHES OF GEOTEXTILE LIES WITHIN THE TRENCH. THE HEIGHT OF THE FENCE DOES NOT EXCEED 30 INCHES AND THE GEOTEXTILE IS TAUT BETWEEN THE POSTS. WHEN THE TRENCH IS OBSTRUCTED BY STONES, TREE ROOTS, ETC. ALLOW THE GEOTEXTILE TO LAY OVER THE OBSTRUCTION SUCH THAT THE BOTTOM OF THE GEOTEXTILE POINTS UP SLOPE.
IN THE ABSENCE OF MANUFACTURER'S INSTRUCTIONS, SPACE WIRE STAPLES ON WOODEN STAKES AT A MAXIMUM OF 4 INCHES APART AND ALTERNATE THEIR POSITION FROM PARALLEL TO THE AXIS OF THE STAKE TO PERPENDICULAR. DO NOT STAPLE THE GEOTEXTILE TO LIVING TREES.
PROVIDE REINFORCEMENT FOR THE FENCE WHEN IT CAN BE EXPOSED TO HIGH WINDS. WHEN JOINTS IN THE GEOTEXTILE FABRIC ARE NECESSARY, SPLICE TOGETHER ONLY AT A SUPPORT POSTS, AND SECURELY SEAL (SEE MANUFACTURER'S RECOMMENDATIONS).

BACKFILL & COMPACTION: BACKFILL THE TRENCH WITH TAMPED SOIL OR AGGREGATE OVER THE GEOTEXTILE. WHEN THE TRENCH IS OBSTRUCTED BY A STONE, TREE ROOT, ETC. MAKE SURE THE BOTTOM OF THE GEOTEXTILE LIES HORIZONTAL ON THE GROUND WITH THE RESULTING FLAP ON THE UP SLOPE SIDE OF THE GEOTEXTILE AND BURY THE FLAP 6 INCHES OF TAMPED SOIL, OR AGGREGATE.

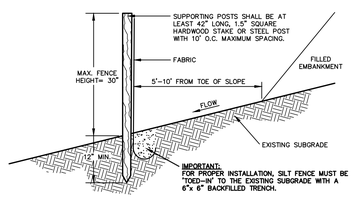
MAINTENANCE
INSPECT THE SILT FENCE AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCH OR GREATER TO DETERMINE MAINTENANCE NEEDS. WHEN USED FOR DEWATERING OPERATIONS, INSPECT FREQUENTLY BEFORE, DURING AND AFTER PUMPING OPERATIONS.
REMOVE THE SEDIMENT DEPOSITS OR, IF ROOM ALLOWS, INSTALL A SECONDARY SILT FENCE UP SLOPE OF THE EXISTING FENCE WHEN SEDIMENT DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE EXISTING FENCE. REPLACE OR REPAIR THE FENCE WITHIN 24 HOURS OF OBSERVED FAILURE. FAILURE OF THE FENCE HAS OCCURRED WHEN SEDIMENT FAILS TO BE RETAINED BY THE FENCE BECAUSE: (A) THE BARRIER HAS BEEN OVER TOPPED, UNDERCUT OR BYPASSED BY RUNOFF WATER,
(B) THE BARRIER HAS BEEN MOVED OUT OF POSITION, OR

WHEN REPETITIVE FAILURES OCCUR AT THE SAME LOCATION, REVIEW CONDITIONS AND LIMITATIONS FOR USE AND DETERMINE IF ADDITIONAL CONTROLS (E.G. TEMPORARY STABILIZATION OF CONTRIBUTING AREA, DIVERSIONS, STONE BARRIERS OR HAY BALE BACKING) ARE NEEDED TO REDUCE FAILURE RATE.MAINTAIN THE SILT FENCE UNTIL THE CONTRIBUTING AREA IS STABILIZED.AFTER THE UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED, REMOVE THE SILT FENCE.

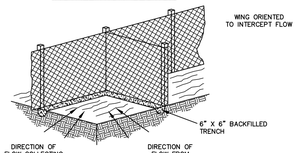


DETAIL OF FENCE JOINT
(TOP VIEW)

- POSITION POSTS TO OVERLAP AS SHOWN MAKING CERTAIN THAT THE FABRIC FOLDS AROUND EACH POST ONE FULL TURN
- DRIVE POSTS TIGHTLY TOGETHER AND SECURE TOPS OF POSTS BY TYING OFF WITH CORD OR WIRE TO PREVENT FLOW-THROUGH OF BUILT-UP SEDIMENT AT JOINT.

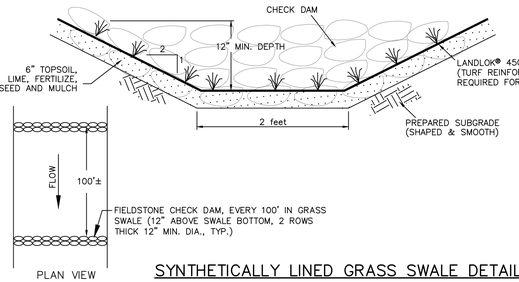


INSTALLATION SECTION



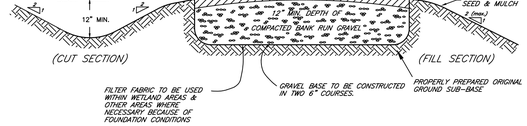
WING DETAIL
(IF REQUIRED BY ENGINEER)

GEOSYNTHETIC SILT FENCE DETAIL



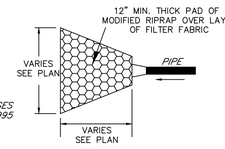
PLAN VIEW

SYNTHETICALLY LINED GRASS SWALE DETAIL
N.T.S.

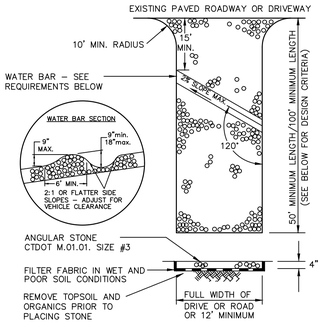


TYPICAL RESIDENTIAL DRIVEWAY CROSS SECTION
NOT TO SCALE

PAD NOTES:
- *SIDE SLOPES SHALL BE 2:1 OR FLATTER.*
- *THERE SHALL BE NO OVERFALL AT THE END OF THE APRON OR AT THE END OF THE PIPE.*
- *NO BENDS OR CURVES AT THE INTERSECTION OF THE PIPE AND APRON WILL BE PERMITTED.*
- *RIPRAP MUST MEET THE GRADATION SPECIFIED BY IN SECTION M.02.06 OF THE STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS & BRIDGES AND INCIDENTAL CONSTRUCTION, FORM 815, 1995 AS AMENDED.*



TYPICAL RIPRAP APRON
NOT TO SCALE

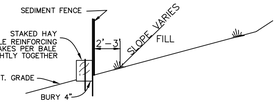


DESIGN CRITERIA:
- CONSTRUCT AS SOON AS ROUGH ENTRANCE GRADES ARE ESTABLISHED.
- STONE MATERIAL SHALL BE ANGULAR STONE SIZED ACCORDING TO THE STANDARDS SET BY ASTM C-33, SIZE NO. 2 OR 3, OR DOT STANDARD SPECIFICATIONS SECTION M.01.01, SIZE #3.
- AT POORLY DRAINED LOCATIONS SUBSURFACE DRAINAGE SHOULD BE INSTALLED BEFORE INSTALLING THE STABILIZED CONSTRUCTION ENTRANCE.
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY OR PAVED AREAS. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.
- MINIMUM LENGTH OF ENTRANCE: A 50 FOOT MINIMUM LENGTH EXCEPT WHERE THE TRACKED SEDIMENTS CONTAIN LESS THAN 80% SAND, A 100 FOOT MINIMUM IS REQUIRED. SEE SITE DEVELOPMENT PLAN FOR LENGTH AND/OR ADDITIONAL INFORMATION.
- IF GRADE OF CONSTRUCTION ENTRANCE DRAINS TO THE PAVED SURFACE AND EXCEEDS 2%, CONSTRUCT A 'WATER BAR' WITHIN THE CONSTRUCTION ENTRANCE AT LEAST 15 FEET FROM ITS ENTRANCE ON THE PAVED SURFACE DIVERTING RUNOFF TO A FILTERING AREA OF STAKED SILTATION FENCE.

(CE) ANTI-TRACKING PAD CONSTRUCTION ENTRANCE

N.T.S.

REFERENCE: 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL HANDBOOK.



TO BE USED FOR FILLS GREATER THAN 3'

TYPICAL DETAIL HAYBALE - SEDIMENT FENCE
N.T.S.

DATE	REVISION
04/05/21	NEW OWNER

NOTES AND DETAILS

PREPARED FOR
SAYLES BRAGA
199 EAST LITCHFIELD Rd.
LITCHFIELD, CONNECTICUT

1 0 1 2
INCHES

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DATE:	02/08/2007	MAP #:	0095
SCALE:	AS NOTED	SHEET #:	D1
DRAWING:	210829	DRAWN BY:	MSH
PROJECT #:	21-0829	CHECKED BY:	KSH

(TO) TOPSOILING

- **MATERIALS**

  SITE INVESTIGATIONS SHALL BE MADE TO DETERMINE IF THERE IS SUFFICIENT TOPSOIL OF GOOD QUALITY TO JUSTIFY STRIPPING. HIGH QUALITY TOPSOIL SHALL BE FRIABLE AND LOAMY (LOAM, SANDY LOAM, SILT LOAM, SANDY CLAY LOAM, CLAY LOAM). OTHER SOIL TYPES WITH HIGH ORGANIC CONTENT MAY BE FOUND SUITABLE AFTER TESTING. IT SHALL BE FREE OF DEBRIS, TRASH, STUMPS, ROCKS, ROOTS, AND NOXIOUS WEEDS. IT SHALL GIVE EVIDENCE OF BEING ABLE TO SUPPORT HEALTHY VEGETATION. IT SHALL CONTAIN NO SUBSTANCE THAT IS POTENTIALLY TOXIC TO PLANT GROWTH.

  ALL TOPSOIL SHALL BE TESTED BY A RECOGNIZED LABORATORY FOR THE FOLLOWING AND SHALL MEET THE REQUIREMENTS GIVEN:

  CONTAINING NOT LESS THAN 6% AND NOT MORE THAN 20% ORGANIC MATTER AS DETERMINED BY LOSS-ON-IGNITION OF OVEN DRIED SAMPLES DRIED AT 105 DEGREES CENTIGRADE.
  pH RANGE SHALL BE 6.0-7.5. IF pH IS LESS THAN 6.0, LIME SHALL BE ADDED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE VEGETATIVE ESTABLISHMENT PRACTICE BEING USED.
  SOLUBLE SALTS SHALL NOT EXCEED 500 PPM.

  IF ADDITIONAL OFF-SITE TOPSOIL IS NEEDED, IT MUST MEET THE STANDARDS STATED ABOVE.
- **STRIPPING**

  STRIPPING SHALL BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA. A 4 TO 6 INCH STRIPPING DEPTH IS COMMON, BUT DEPTH MAY VARY DEPENDING ON THE PARTICULAR SOIL. ALL PERIMETER DIKES, BASINS, AND OTHER SEDIMENT CONTROLS SHALL BE IN PLACE PRIOR TO STRIPPING.
- **STOCKPILING**

  -TOPSOIL SHALL BE STOCKPILED IN SUCH A MANNER THAT NATURAL DRAINAGE IS NOT OBSTRUCTED AND NO OFF-SITE SEDIMENT DAMAGE SHALL RESULT.
  -TOPSOIL STOCKPILES NEED TO BE LOCATED AWAY FROM ALL CONSTRUCTION ACTIVITIES.
- **SIDE SLOPES**

  THE SIDE SLOPES OF ALL STOCKPILES SHALL NOT EXCEED 2 TO 1
- **SEDIMENT BARRIER**

  A SEDIMENT BARRIER OF GEOSYNTHETIC SILT FENCE SHALL SURROUND ALL TOPSOIL STOCKPILES.
- **TEMPORARY SEEDING**

  TEMPORARY SEEDING OF STOCKPILES SHALL BE COMPLETED WITHIN 30 DAYS OF THE FORMATION OF THE STOCKPILE, IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE COVER MEASURE.
- **SITE PREPARATION**

  BEFORE TOPSOILING, ESTABLISH NEEDED EROSION AND SEDIMENT CONTROL MEASURES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, WATERWAYS, SILT FENCE AND SEDIMENT BASINS. THESE MEASURES MUST BE MAINTAINED DURING TOPSOILING.
- **GRADING**

  PREVIOUSLY ESTABLISHED GRADES ON THE AREAS TO BE TOPSOILED SHALL BE MAINTAINED ACCORDING TO THE APPROVED PLAN.
- **LIMING**

  WHERE THE pH OF THE SUBSOIL IS 6.0 OR LESS, GROUND AGRICULTURAL LIMESTONE SHALL BE SPREAD IN ACCORDANCE WITH THE SOIL TEST OR THE VEGETATIVE ESTABLISHMENT PRACTICE BEING USED.
- **BONDING**

  AFTER THE AREA TO BE TOPSOILED HAVE BEEN BROUGHT TO GRADE, AND IMMEDIATELY PRIOR TO SPREADING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSENED BY DISCING SCARIFYING OR TRACKING TO A DEPTH OF AT LEAST 4 INCHES TO ENSURE BONDING OF THE TOPSOIL AND SUBSOIL.
- **APPLYING TOPSOIL**

  TOPSOIL SHALL NOT BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBGRADE IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING OR PROPOSED SODDING OR SEEDING. THE TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED TO A MINIMUM COMPACTED DEPTH OF 4 INCHES. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS. IT IS NECESSARY TO COMPACT THE TOPSOIL ENOUGH TO ENSURE GOOD CONTACT WITH THE UNDERLYING SOIL AND TO OBTAIN A UNIFORM FIRM SEEDBED FOR THE ESTABLISHMENT OF A HIGH MAINTENANCE TURF. HOWEVER, UNDUE COMPACTION IS TO BE AVOIDED AS IT INCREASES RUNOFF VELOCITY AND VOLUME, AND PREVENTS SEED GERMINATION.
- **TOPSOIL AND HERBICIDES**

  PERMANENT SEEDINGS OR SOD WILL NOT BE ESTABLISHED IN TOPSOIL THAT HAS BEEN TREATED WITH HERBICIDES WHICH WOULD INHIBIT GRASS GROWTH. TOPSOIL SO TREATED WILL BE STOCKPILED FOR ONE YEAR TO ALLOW BREAKDOWN OF HERBICIDE RESIDUES OR TOPSOIL WILL BE COVERED WITH 6 INCHES OF UNTREATED TOPSOIL TO SERVE AS A SEEDBED.

(MS) MULCH

Specifications

Materials

Mulch for seed, including tackifiers and nettings used to anchor much, shall be: Biodegradable or photo-degradable within 2 years but without substantial degradation over a period of 6 weeks, free of contaminants that pollute the air or waters of the State when properly applied, free of foreign material, coarse stems and any substance toxic to plant growth or which interferes with seed germination, and capable of being applied evenly such that it provides 80%-95% soil coverage and still adheres to the soil surface, does not slip on slopes when it rains or is watered, does not blow off site, dissipates raindrop splash, holds soil moisture, moderates soil temperatures and does not interfere with seed growth.

Types of mulches within this specification include, but are not limited to.
Hay: The dried stems and leafy parts of plants cut and harvested, such as alfalfa, clovers, other forage legumes and the finer stemmed, leafy grasses. Stem length should not average less than 4 inches. Hay that can be windblown must be anchored. Preferred mulch when seeding occurs outside of the recommended seeding dates.
Straw: Cut and dried stems of herbaceous plants, such as wheat barley, cereal rye, or broom. The average stem length should not be less than 4 inches. Straw that can be windblown should be anchored to hold it in place.
Cellulose Fiber: Fiber origin is either virgin wood, post-industrial/pre-consumer wood or post consumer wood complying with materials specification (collectively referred to as "wood fiber"), newspaper, kraft paper, cardboard (collectively referred to as "paper fiber") or a combination of wood and paper fiber. Paper fiber, in particular, shall not contain boron, which inhibits seed germination.

Tackifiers within this specification include, but are not limited to:
Water soluble materials that cause mulch particles to adhere to one another. Emulsified asphalt is specifically prohibited for use as tackifiers due to its potential for causing water pollution following its application.

Nettings with this specification include, but are not limited to:
Prefabricated openwork fabrics made of cellulose cords, ropes, threads, or biodegradable synthetic material that is woven, knotted or molded in such a manner that it holds mulch in place until vegetation growth is sufficient to stabilize the soil. Generally used in areas where no mowing is planned. Examples of netting are tobacco netting (used where flows are not concentrated) and jute netting (typically used in drainage ways).

Where mulch anchoring is required a Temporary Erosion Control Blanket may be used.

Application

Timing: Applied immediately following seeding. Some cellulose fiber may be applied with seed to assist in marking where seed has been sprayed, but expect to apply a second application of cellulose fiber to meet the requirements of Mulch for Seed.
Spreading: Mulch material shall be spread uniformly by hand or machine resulting in 80%-95% coverage of the disturbed soil when seeding within the recommended seeding dates. Applications that are uneven can result in excessive mulch smothering the germinating seeds. For hay or straw anticipate an application rate of 2 tons per acre. For cellulose fiber follow manufacturer's recommended application rates to provide 80%-95% coverage. When seeding outside the recommended seeding dates, increase mulch application rate to provide between 95%-100% coverage of the disturbed soil. For hay or straw anticipate an application rate of 2.5 to 3 tons per acre. When spreading hay mulch by hand, divide the area to be mulched into approximately 1,000 square feet and place 1.5-2 bales of hay in each section to facilitate uniform distribution. For cellulose fiber mulch, expect several spray passes to attain adequate coverage, to eliminate shadowing, and to avoid slippage (similar to spraying with paint).
Anchoring: When needed, mulch anchoring is applied either with the mulch as with cellulose fiber or applied immediately following mulch application. Except the need for mulch anchoring along the shoulders of actively traveled roads, hill tops and long open slopes not protected by wind breaks. When using netting, the most critical aspect is to ensure that the netting maintains substantial contact with the underlying mulch and the mulch, in turn, maintains continuous contact with the soil surface.

Maintenance

Inspect mulched areas at least once a week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater until the grass has germinated to determine maintenance needs where mulch has been moved or where soil erosion has occurred, determine the cause of the failure. If it was the result of wind, then repair erosion damage (if any), re-apply mulch (and seed as needed) and consider applying a netting or tackifiers. If mulch failure was caused by concentrating water, install additional measures to control water and sediment movement, repair erosion damage, re-apply mulch and consider applying a netting or tackifiers or use the Temporary Erosion Control Blanket measure. Once grass has germinated, inspections should continue as required by Temporary Seeding and Permanent Seeding.

(PS) PERMANENT SEEDING

TIMING

SEED WITH A PERMANENT SEED MIXTURE WITHIN 7 DAYS AFTER ESTABLISHING FINAL GRADES OR WHEN GRADING WORK WITHIN A DISTURBED ARE IS TO BE SUSPENDED FOR A PERIOD OF MORE THAN 1 YEAR. SEEDING IS RECOMMENDED FROM APRIL 1 THROUGH JUNE 15 AND AUGUST 15 THROUGH OCTOBER 1.

FOR THE COASTAL TOWNS AND IN THE CONNECTICUT RIVER VALLEY FINAL FALL SEEDING DATES CAN BE EXTENDED AN ADDITIONAL 15 DAYS, AND
DORMANT OR FROST CRACK SEEDING IS DONE AFTER THE GROUND IS FROZEN.

A. SITE PREPARATION

GRADE IN ACCORDANCE WITH THE SITE GRADING PLAN. INSTALL ALL SURFACE WATER CONTROLS. FOR AREAS TO BE MOWED REMOVE ALL STONES 2 INCHES OR LARGER. REMOVE ALL OTHER DEBRIS SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS OR OTHER UNSUTIABLE MATERIAL.

NOTE: ON AREAS WHERE WOOD CHIPS AND/OR BARK MULCH WAS PREVIOUSLY APPLIED, EITHER REMOVE THE MULCH OR INCORPORATE IT INTO THE SOIL WITH A NITROGEN FERTILIZER ADDED. NITROGEN APPLICATION RATE IS DETERMINED BY SOIL TEST AT TIME OF SEEDING; ANTICIPATE 12lbs NITROGEN PER TON OF WOOD CHIPS AND/OR BARK MULCH.

DO NOT USE PERMANENT SEEDING ON SLOPES STEEPER THAN 2 TO 1.

B. SEEDBED PREPARATION

APPLY TOPSOIL IF NECESSARY.
APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TESTS SUCH AS THOSE OFFERED BY THE UNIVERSITY OF CONNECTICUT SOIL TESTING LABORATORY. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL COOPERATIVE EXTENSION SERVICE OFFICE. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIOUS SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 300 POUNDS PER ACRE OR 7.5 POUNDS PER 1,000 SQUARE FEET USING 10-10-10 OR EQUIVALENT. IN ADDITION, 300 POUNDS OF 38-0-0 PER ACRE OR EQUIVALENT OF SLOW RELEASE NITROGEN MAY BE USED FOR TOPDRESSING. APPLY GROUND LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AS FOLLOWS:

SOIL TEXTURE	TONS/AC.	LBS./1000 SQ.FT.
CLAY, CLAY LOAM AND HIGH ORGANIC SOIL	3	135
SANDY LOAM, LOAM, SILT LOAM	2	90
LOAMY SAND, SAND	1	45

REFER TO COUNTY SOIL SURVEY REPORT FOR SOIL TEXTURES AT THE SITE.

WORK LIME AND FERTILIZE INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING TOOTH HARROW OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM, FINE SEEDBED IS PREPARED. ALL BUT CLAY OR SILTY SOILS AND COURSE SANDS SHOULD BE ROLLED TO FIRM THE SEEDBED WHEREVER FEASIBLE.

REMOVE FROM THE SURFACE ALL STONES TWO INCHES OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS OR OTHER UNSUITABLE MATERIAL.

INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AND FIRMED AS ABOVE.

D. SEEDING

SELECT A MIXTURE FROM BELOW OR USE MIXTURE RECOMMENDED BY THE SOIL CONSERVATION SERVICE. INOCULATE ALL LEGUME SEED WITH THE CORRECT TYPE AND AMOUNT OF INOCULANT.

APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). NORMAL SEEDING DEPTH IS FROM 1/4 TO 1/2 INCH. HYDROSEEDINGS WHICH ARE MULCHED MAY BE LEFT ON SOIL SURFACE.

WHERE FEASIBLE, EXCEPT WHERE EITHER A CULTIPACKER TYPE SEEDER OR HYDROSEEDER IS USED, THE SEEDBED SHOULD BE FIRMED FOLLOWING SEEDING OPERATIONS WITH A ROLLER, OR LIGHT DRAG. SEEDING OPERATIONS SHOULD BE ON THE CONTOUR.

HYDRAULIC APPLICATION (HYDROSEEDING), IS A SUITABLE METHOD FOR USE IN CRITICAL ARES. WHEN HYDROSEEDING, A SEEDBED IS PREPARED IN THE CONVENTIONAL WY OR BY HAND RAKING TO LOOSEN AND SMOOTH THE SOIL AND TO REMOVE SURFACE STONES LARGER THAN SIX INCHES IN DIAMETER. SLOPES MUST BE NO STEEPER THAN 2 TO 1 (2 FEET HORIZONTALLY TO 1 FOOT VERTICALLY). LIME AND FERTILIZER MAY BE APPLIED SIMULTANEOUSLY WITH THE SEED. THE USE OF FIBER MULCH ON CRITICAL AREAS IS NOT RECOMMENDED (UNLESS IT IS USED TO HOLD STRAW OR HAY). FIBER MULCH DOES NOT PROVIDE ADEQUATE SEEDBED PROTECTION. BETTER PROTECTION IS GAINED BY USING STRAW MULCH AND HOLDING IT WITH ADHESIVE MATERIALS OR 500 POUNDS PER ACRE OF WOOD FIBER MULCH. SEEDING RATES MUST BE INCREASED 10 PERCENT WHEN HYDROSEEDING.
SEED WARM SEASON GRASSES DURING THE SPRING PERIOD ONLY.

APPLY MULCH ACCORDING TO THE TEMPORARY MULCHING MEASURE OF THE GUIDELINES.

IF SEEDING CANNOT BE DONE WITHIN THE SEEDING DATES, USE THE TEMPORARY MULCHING MEASURE IN THE GUIDELINES TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.

MAINTENANCE

INITIAL ESTABLISHMENT

INSPECT SEEDED AREA AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCH OR GREATER DURING THE GROWING SEASON.

WHERE SEED HAS BEEN REMOVED OR WHERE SOIL EROSION HAS OCCURRED DETERMINE THE CAUSE OF THE FAILURE. BIRD DAMAGE MAY BE PROBLEM IF MULCH WAS APPLIED TO THINLY TO PROTECT SEED. RE-SEED AND RE-MULCH. IF MOVEMENT WAS THE RESULT OF WIND, REPAIR EROSION DAMAGE ANY), RE-APPLY SEED AND MULCH, AND APPLY MULCH ANCHORING FAILURE WAS CAUSED BY CONCENTRATED WATER, (1) INSTALL ADDITIONAL MEASURES TO CONTROL WATER AND SEDIMENT MOVEMENT, (2) REPAIR EROSION DAMAGE, (3) RE-SEED AND (4) RE-APPLY MULCH WITH ANCHORING OR USE "TEMPORARY EROSION CONTROL BLANKET AND/OR "PERMANENT TURF REINFORCEMENT MAT MEASURE.

CONTINUE INSPECTION UNTIL AT LEAST 100 PLANTS PER SQUARE FOOT HAVE GROWN AL LEAST 6 INCHES TALL OR UNTIL THE FIRST MOWING.

FIRST MOWING

ALLOW THE MAJORITY OF PLANTS TO ACHIEVE A HEIGHT OF AT LEAST 6 INCHES BEFORE MOWING THE FIRST TIME. DO NOT MOW WHILE THE SURFACE IS WET. MOWING WHILE THE SURFACE IS WET MAY PULL MANY SEEDLING FROM THE SOIL AND OFTEN LEAVES A SERIES OF UNNECESSARY RUTS. THE FIRST MOWING SHOULD REMOVE APPROXIMATELY ONE THIRD OF THE GROWTH, DEPENDING ON THE TYPE OF GRASS AND WHERE IT IS BEING USED. DO NOT MOW GRASS BELOW 3 INCHES.

IF THE SEEDING WAS MULCHED, DO NOT ATTEMPTED TO RAKE OUT THE MULCHING MATERIAL. NORMAL MOWING WILL GRADUALLY REMOVE ALL UNWANTED DEBRIS.
ONE THIRD OF THE GROWTH, DEPENDING ON THE TYPE OF GRASS

LONG TERM MAINTENANCE

MOW AND FERTILIZE AT A RATE THAT SUSTAINS AN AREA CONDITION THAT SUPPORTS THE INTENDED USE. IF APPROPRIATE THE HEIGHT OF THE CUT MAY BE ADJUSTED DOWNWARD, BY DEGREES, AS NEW PLANTS BECOME ESTABLISHED. CARRY OUT ANY FERTILIZATION PROGRAM ACCORDANCE WITH APPROVED SOIL TEST THAT DETERMINE THE PROPER AMOUNT OF LIME AND FERTILIZER NEED TO MAINTAIN A VIGOROUS SOD YET PREVENT EXCESSIVE LEACHING OF NUTRIENTS TO THE GROUND-WATER OR RUNOFF TO SURFACE WATER.

ALTHOUGH WEEDS MAY APPEAR TO BE A PROBLEM, THEY SHADE THE NEW SEEDLINGS AND HELP CONSERVE SURFACE MOISTURE. DO NOT APPLY WEED CONTROL UNTIL THE NEW SEEDLING HAVE BEEN MOWED AT LEAST FOUR TIMES.

SELECTING SEED MIX TO MATCH NEED

AREA TO BE SEEDED	MIXTURE NUMBER1 MOWING DESIRED	MOWING NOT REQUIRED
BORROW AREAS, ROADSIDES, DIKES, LEVEES, POND BANKS AND OTHER SLOPES AND BANKS		
A) WELL OR EXCESSIVELY DRAINED SOILS2	1,2,3,4,5, OR 8	5,6,7,8,9,10,11,12,16,22
B) SOMEWHAT POORLY DRAINED SOILS2	2	5,6
C) VARIABLE DRAINAGE SOILS2	2	5,6,11
DRAINAGE DITCH AND CHANNEL BANKS		
A) WELL OR EXCESSIVELY DRAINED SOILS2	1,2,3, OR 4	
B) SOMEWHAT POORLY DRAINED SOILS2	2	9,10,11,12
C) VARIABLE DRAINAGE SOILS2	2	
DIVERSIONS		
A) WELL OR EXCESSIVELY DRAINED SOILS	2,3, OR 4	9,10,11
B) SOMEWHAT POORLY DRAINED SOILS	2	
C) VARIABLE DRAINAGE SOILS	2	
EFFLUENT DISPOSAL		5 OR 6
GRAVEL PITS3		26,27,28
GULLIED AND ERODED AREAS		3,4,5,8,10,11,12
MINESPOIL & WASTE AND OTHER SPOIL BANKS (IF TOXIC SUBSTANCES AND PHYSICAL PROPERTIES NOT LIMITING)3		15,16,17,18,26,27,28
SHORELINES (FLUCTUATING WATER LEVELS)		5 OR 6
SKI SLOPES		4,10
SOD WATERWAYS AND SPILLWAYS	1,2,3,4,6,7, OR 8	1,2,3,4,6,7, OR 8
SUNNY RECREATION AREAS (PICNIC AREAS AND PLAYGROUNDS OR DRIVING AND ARCHERY RANGES, NATURE TRAILS)	1,2, OR 23	
CAMPING AND PARKING, NATURE TRAILS (SHADED)	19,21, OR 23	
SAND DUNES (BLOWING SAND)	25	
WOODLAND ACCESS ROADS, SKID TRAILS AND LOG YARDING AREAS		9,10,16,22,26
LAWNS AND HIGH MAINTENANCE	1,19,21,OR 29	

FOOTNOTES:
1 THE NUMBERS FOLLOWING IN THESE COLUMNS REFER TO SEED MIXTURES IN FOLLOWING TABLE. MIXES FOR SHADY AREAS ARE IN BOLD ITALICS PRINT (INCLUDING MIXES 20 THROUGH 24).
2 SEE COUNTY SOIL SURVEY FOR DRAINAGE CLASS. SOIL SURVEYS ARE AVAILABLE FROM THE COUNTY SOIL AND WATER CONSERVATION DISTRICT OFFICE.
3 USE MIX 26 WHEN SOIL PASSING A 200 MESH SIEVE IS LESS THAN 15% OF TOTAL WEIGHT. USE MIX 26 & 27 WHEN SOIL PASSING A 200 MESH SIEVE IS BETWEEN 15 AND 20 % OF TOTAL WEIGHT . USE MIX 26,27 & 28 WHEN SOIL PASSING A 200 MESH SIEVE IS ABOVE 20% OF TOTAL WEIGHT.

SEED MIXTURES FOR PERMANENT SEEDING

No.	SEED MIXTURE (VARIETY)4	LBS/ACRE	LBS/1,000 SF
15	KENTUCKY BLUEGRASS	20	.45
	CREEPING RED FESCUE (PENNLAWN, WINTERGREEN)	20	.45
	PERENNIAL RYEGRASS (NORLEA, MANHATTEN)	5	.10
		TOTAL 45	1.00
25	CREEPING RED FESCUE (PENNLAWN, WINTERGREEN)	20	.45
	REDTOP (STREEKER, COMMON)	2	.05
	TALL FESCUE (KENTUCKY 31) OR SMOOTH BROMEGRASS (SARATOGA, LINCOLN)	20	.45
		TOTAL 42	.95
35	CREEPING RED FESCUE (PENNLAWN, WINTERGREEN)	20	.45
	BIRDS FOOT TREFOIL (EMPIRE, VIKING) WITH INOCULANT1	8	.20
	TALL FESCUE (KENTUCKY 31) OR SMOOTH BROMEGRASS (SARATOGA, LINCOLN)	20	.45
		TOTAL 48	1.10
45	CREEPING RED FESCUE (PENNLAWN, WINTERGREEN)	20	.45
	OR TALL FESCUE (KENTUCKY 31)	2	.05
	REDTOP (STEEKER, COMMON)	8	.20
	BIRDS FOOT TREFOIL (EMPIRE, VIKING) W/INOCULANT1	TOTAL 30	.70
55	WHITE CLOVER	10	.25
	PERENNIAL RYE GRASS	2	.05
		TOTAL 12	.30
65	CREEPING RED FESCUE	20	.50
	REDTOP (STREEKER, COMMON)	2	.05
	PERENNIAL RYE GRASS	20	.50
		TOTAL 42	1.05
75	SMOOTH BROMEGRASS (SARATOGA, LINCOLN)	15	.35
	PERENNIAL RYEGRASS (NORLEA, MANHATTEN)	5	.10
	BIRDS FOOT TREFOIL (EMPIRE, VIKING) W/INOCULANT1	10	.25
		TOTAL 30	.79
85	SWITCHGRASS (BLACKWELL, SHELTER, CAVE-IN-ROCK)	101	.25
	WEEPING LOVEGRASS	3	.07
	LITTLE BLUESTEM (BLAZE, ALDOUS, CAMPER)	101	.25
		TOTAL 23	.57
95	CREEPING RED FESCUE (PENNLAWN, WINTERGREEN)	10	.25
	CROWN VETCH (CHEMUING, PENNGIFT) WITH INNOCULANT1	15	.35
	OR (FLATPEA (LATHCO) WITH INOCULANT1)	(30)	(.75)
	TALL FESCUE (KENTUCKY 31) OR SMOOTH BROMEGRASS	15	.35
	(SARATOGA, LINCOLN) REDTOP (STREEKER, COMMON)	2	.05
		TOTAL 42 (OR 57)	1.00 (OR 1.25)
105	CREEPING RED FESCUE (PENNLAWN, WINTERGREEN)	20	.45
	REDTOP (STREEKER, COMMON)	2	.05
	CROWN VETCH (CHEMUING, PENNGIFT) WITH INNOCULANT1	15	.35
	OR (FLATPEA (LATHCO) WITH INOCULANT1)	(30)	(.75)
		TOTAL 37 (OR 52)	.85 (OR 1.25)
115	BIRDS FOOT TREFOIL (EMPIRE, VIKING) WITH INOCULANT1	8	.20
	CROWN VETCH (CHEMUING, PENNGIFT) WITH INNOCULANT1	15	.35
	CREEPING RED FESCUE (PENNLAWN, WINTERGREEN)		
126	SWITCHGRASS (BLACKWELL, SHELTER, CAVE-IN-ROCK)	101	.25
	PERENNIAL RYEGRASS (NORLEA, MANHATTEN)	5	.10
	CROWN VETCH (CHEMUING, PENNGIFT) WITH INNOCULANT1	15	.35
		TOTAL 45	1.05
136	CROWN VETCH (CHEMUING, PENNGIFT) WITH INNOCULANT1	10	.25
	OR (FLATPEA (LATHCO) WITH INOCULANT1)	(30)	(.75)
	SWITCHGRASS (BLACKWELL, SHELTER, CAVE-IN-ROCK)	51	.10
	PERENNIAL RYEGRASS (NORLEA, MANHATTEN)	5	.10
		TOTAL 20 (OR40)	.45 (OR .95)
146	CROWN VETCH (CHEMUING, PENNGIFT) WITH INNOCULANT1	15	.35
	OR (FLATPEA (LATHCO) WITH INOCULANT1)	(30)	(.75)
	PERENNIAL RYEGRASS (NORLEA, MANHATTEN)	10	.25
		TOTAL 25 (OR40)	.60 (OR 1.00)
156	SWITCHGRASS (BLACKWELL, SHELTER, CAVE-IN-ROCK)	5	.10
	BIG BLUESTEM (NIAGRA, KAW) OR LITTLE BLUESTEM (BLAZE, ALSOUS,CAMPER)	5	.10
	PERENNIAL RYEGRASS (NORLEA, MANHATTEN)	5	.10
	BIRDS FOOT TREFOIL (EMPIRE, VIKING) WITH INOCULANT1	5	.10
		TOTAL 20	.40
166	TALL FESCUE (KENTUCKY 31)	20	.45
	FLATPEA (LATHCO) WITH INOCULANT1	30	.75
		TOTAL 50	1.20
176	DEER TONGUE (TIOGA) WITH INOCULANT1	10	.25
	BIRDS FOOT TREFOIL (EMPIRE, VIKING) WITH INOCULANT1	8	.20
	PERENNIAL RYEGRASS (NORLEA, MANHATTEN)	3	.07
		TOTAL 21	.52
186	DEER TONGUE (TIOGA) WITH INOCULANT1	10	.25
	CROWN VETCH (CHEMUING, PENNGIFT) WITH INNOCULANT1	15	.35
	PERENNIAL RYEGRASS (NORLEA, MANHATTAN)	3	.07
		TOTAL 28	.67
195	CHEWINGS FESCUE	35	.80
	HARD FESCUE	30	.70
	COLONIAL BENTGRASS	5	.10
	BIRDS FOOT TREFOIL (EMPIRE, VIKING) WITH INOCULANT1	10	.20
	PERENNIAL RYEGRASS	20	.50
		TOTAL 100	2.30
205	DELETED DUE TO INVASIVE SPECIES		
215	CREEPING RED FESCUE (PENNLAWN, WINTERGREEN)	TOTAL 60	1.35
225	CREEPING RED FESCUE (PENNLAWN, WINTERGREEN)	40	.90
	TALL FESCUE (KENTUCKY 31)	20	.45
		TOTAL 60	3.60
235	CREEPING RED FESCUE (PENNLAWN, WINTERGREEN)	15	.35
	FLATPEA (LATHCO) WITH INOCULANT1	30	.75
		TOTAL 45	3.60
245	TALL FESCUE (KENTUCKY 31)	TOTAL 150	3.60
255	AMERICAN BEACHGRASS (CAPE)	58,500 CULMS/ACRE	1,345 CULMS/100 SF
266	SWITCHGRASS (BLACKWELL, SHELTER, CAVE-IN-ROCK)	4.0	.10
	BIG BLUESTEM (NIAGRA, KAW)	4.0	.10
	LITTLE BLUESTEM (BLAZE, ALDOUS, CAMPER)	2.0	.05
	SAND LOVEGRASS (NE-27, BEND)	1.5	.03
	BIRD'S-FOOT TREFOIL (EMPIRE VIKING)	2.0	.05
		TOTAL 13.5	.33
275	FLATPEA (LATHCO)	10	.20
	PERENNIAL PEA (LANCER)	2	.05
	CROWN VETCH (CHEMUNG, PENNGIFT)	10	.20
	TALL FESCUE (KENTUCKY 31)	2	.20
		TOTAL 24	.65
285	ORCHARDGRASS (PENNLATE, KAY,POTOMAC)	5	.10
	TALL FESCUE (KENTUCKY 31)	10	.20
	REDTOP (STREEKER, COMMON)	2	.05
	BIRD'S-FOOT TREFOIL (EMPIRE VIKING)	5	.10
		TOTAL 22	.45
29	TURF TYPE TALL FESCUE (BONANZA, MUSTANG, REBEL II, SPARTAN, JAGUAR) OR PERENNIAL RYE ("FUTURE 200" MIX: FIESTA II, BLAZER II, AND DASHER II)	175 - 250	6 TO 8

FOOTNOTES:
1 USE PROPER INOCULANT FOR LEGUME SEEDS, USE FOUR TIMES RECOMMENDED RATE WHEN HYDROSEEDING.
2 USE PURE LIVE SEED (PLS) = $\frac{(\%\ GERMINATION \times \%\ PURITY)}{100}$
EXAMPLE: COMMON BERMUDA SEED WITH 70% GERMINATION AND 80% PURITY= $\frac{70 \times 80}{100}$ OR $\frac{56}{100}$ OR 56%
10LBS PLS/ACRE/56% = 17.9 LBS/ACRE OF BAGGED SEED
3 D.O.T. ALL PURPOSE MIX
4 WILD FLOWER MIX CONTAINING NEW ENGLAND ASTER, BABYS BREATH, BLACK EYE SUSAN, CATCHFLY, DWARF COLUMBINE, PURPLE CONEFLOWER, LANCED-LEAVED COREOPSIS, CORNFLOWER, OX-EYE DAISY, SCARLET FLAX, FOXGLOVE, GAYFEATHER, ROCKY LARKSPUR, SPANISH LARKSPUR, CORN POPPY, SPURRED SNAPDRAGON, WALLFLOWER AND/OR YARROW MAY BE ADDED TO ANY SEED MIX GIVEN. MOST SEED SUPPLIERS CARRY A WILD FLOWER MIXTURE THAT IS SUITABLE FOR THE NORTHEAST AND CONTAINS A VARIETY OF BOTH ANNUAL AND PERENNIAL FLOWERS. SEEDING RATES FOR THE SPECIFIC MIXTURES SHOULD BE FOLLOWED.
5 CONSIDERED TO BE A COOL SEASON MIX.
6 CONSIDERED TO BE A WARM SEASON MIX.

(TS) TEMPORARY SEEDING

- **SITE PREPARATION**

  GRADE AS ACORDING TO PLAN TO ALLOW FOR THE USE OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH THE MEASURE FOR LAND GRADING PER THE GUIDELINES.
  INSTALL NEEDED EROSION CONTROL MEASURES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, SEDIMENT BASINS AND GRASSED WATERWAYS.
- **SEEDBED PREPARATION**

  LOOSEN THE TOPSOIL TO A DEPTH OF 3-4 INCHES WITH A SLIGHTLY ROUGHENED SURFACE. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS (SUCH AS THOSE OFFERED BY THE UNIVERSITY OF CONNECTICUT SOIL TESTING LABORATORY.) SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL COOPERATVIE EXTENSION SERVICE OFFICE. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 300 POUNDS PER ACRE OR 7.5 POUNDS PER 1,000 SQUARE FEET OF 10-10-10 OR EQUIVALENT. APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AS FOLLOWS:

SOIL TEXTURE	TONS/AC.	LBS./1000SQ.FT.
CLAY, CLAY LOAM AND HIGH ORGANIC SOIL	3	135
SANDY LOAM, LOAM, SILT LOAM	2	90
LOAMY SAND, SAND	1	45

REFER TO COUNTY SOIL SURVEY REPORT FOR SOIL TEXTURES AT THE SITE.

-SEEDING

SELECT SEED FROM RECOMMENDATIONS BELOW:

SPECIES	SEEDING RATES (LBS.) PER 1,000 SQ. FT.	OPTIMUM SEEDING DATE (1)	OPTIMUM SEED DEPTH (2)
ANNUAL RYEGRASS	1.0	3/1 - 6/15 8/1 - 10/1	0.5"
PERENNIAL RYEGRASS	1.0	3/15 - 6/15 8/1 - 10/1	0.5"
WINTER RYE	1.0	4/15 - 6/15 8/15 - 10/1	1.0"

SEE GUIDELINES FOR ADDITIONAL SPECIES.

(1) MAY BE PLANTED THROUGHOUT SUMMER IF SOIL MOISTURE IS ADEQUATE OR CAN BE IRRIGATED.
(2) SEED AT TWICE THE INDICATED DEPTH FOR SANDY SOILS.

-APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). HYDROSEEDINGS, WHICH INCLUDE MULCH, MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10 PERCENT WHEN HYDROSEEDING.
-MULCHING
TEMPORARY SEEDING MADE FROM OPTIMUM SEEDING DATES SHALL BE MULCHED ACCORDING TO THE "MULCH FOR SEED" MEARSURE. NOTE WHEN SEEDING OUTSIDE OF THE OPTIMUM SEEDING DATES, INCREASE THE APPLICATION OF MULCH TO PROVIDE 95%-100% COVERAGE.

(RR) RIP RAP

STANDARD RIPRAP: THIS MATERIAL SHALL CONFORM TO THE CONN DOT SPECIFICATIONS FOR RIPRAP AND THE FOLLOWING REQUIREMENTS:

NOT MORE THAN 15 PERCENT OF THE RIPRAP SHALL BE SCATTERED SPALLS AND STONES LESS THAN 6 INCHES IN SIZE.

NO STONE SHALL BE LARGER THAN 30 INCHES IN SIZE, AND AT LEAST 75 PERCENT OF THE MASS SHALL BE STONES AT LEAST 15 INCHES IN SIZE.

d50 = 1.25 FEET or 15 INCHES

INTERMEDIATE RIPRAP: THIS MATERIAL SHALL CONFORM TO THE FOLLOWING GRADATION:

STONE SIZE	PERCENT OF THE MASS
18" OR OVER	0
10" TO 18"	30-50
6" TO 10"	30-50
4" TO 6"	20-30
2" TO 4"	10-20
LESS THAN 2"	0-10

d50 = 0.67 FEET or 8 INCHES

MODIFIED RIPRAP: THIS MATERIAL SHALL CONFORM TO THE FOLLOWING GRADATION:

STONE SIZE	PERCENT OF THE MASS
10" OR OVER	0
6" TO 10"	20-50
4" TO 6"	30-60
2" TO 4"	30-40
1" TO 2"	10-20
LESS THAN 1"	0-10

d50 = 0.42 FEET or 5 INCHES

DESIGN CRITERIA
- **GRADATION**

  THE RIPRAP SHALL BE COMPOSED OF A WELL-GRADED MIXTURE DOWN TO THE ONE-INCH SIZE PARTICLE SUCH THAT 50 PERCENT OF THE MIXTURE BY WEIGHT SHALL BE LARGER THAN THE D-50 SIZE AS DETERMINED FROM THE DESIGN PROCEDURE. A WELL-GRADED MIXTURE AS USED HEREIN IS DEFINED AS A MIXTURE COMPOSED PRIMARILY OF THE LARGER STONE SIZES BUT WITH A SUFFICIENT MIXTURE OF OTHER SIZES TO FILL THE PROGRESSIVELY SMALLER VOIDS BETWEEN THE STONES. THE DIAMETER OF THE LARGEST STONE SIZE IN SUCH A MIXTURE SHALL BE 1.5 TIMES THE D-50 SIZE.
- **THICKNESS**

  THE MINIMUM THICKNESS OF THE RIPRAP LAYER SHALL BE 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 12 INCHES.
- **QUALITY OF STONE**

  INDIVIDUAL ROCK FRAGMENTS SHALL BE DENSE, SOUND AND FREE FROM CRACKS, SEAMS AND OTHER DEFECTS CONDUCIVE TO ACCELERATED WEATHERING. THE ROCK FRAGMENTS SHALL BE ANGULAR IN SHAPE. THE LEAST DIMENSION OF A INDIVIDUAL ROCK FRAGMENT SHALL BE NOT LESS THAN ONE-THIRD THE GREATEST DIMENSION OF FRAGMENT. THE STONE SHALL BE OF SUCH QUALITY THAT IT WILL NOT DISINTEGRATE ON EXPOSURE TO WATER OR WEATHERING, BE CHEMICALLY STABLE, AND SHALL BE SUITABLE IN ALL OTHER RESPECTS FOR THE PURPOSE INTENDED. THE BULK SPECIFIC GRAVITY (SATURATED SURFACE-DRY BASIS) OF THE INDIVIDUAL STONES SHALL BE AT LEAST 2.65.

  NOTE: D.O.T. STANDARD SPECIFICATIONS DO NOT ACCEPT ROUNDED STONE OR BROKEN CONCRETE FOR RIPRAP.
- **RIPRAP FOR CHANNEL STABILIZATION**

  RIPRAP SHALL EXTEND UP THE BANKS OF THE CHANNEL TO A HEIGHT EQUAL TO THE MAXIMUM DEPTH OF FLOW OR TO A POINT WHERE VEGETATION CAN BE ESTABLISHED TO ADEQUATELY PROTECT THE CHANNEL.
  THE RIPRAP SIZE TO BE USED IN A CHANNEL BEND SHALL EXTEND UPSTREAM FROM THE POINT OF CURVATURE AND DOWNSTREAM FROM THE POINT OF TANGENCY A DISTANCE OF AT LEAST 5 TIMES THE CHANNEL BOTTOM WIDTH. THE RIPRAP SHALL EXTEND ACROSS THE BOTTOM AND UP BOTH SIDES OF THE CHANNEL.
  WHERE RIPRAP IS USED ONLY FOR BANK PROTECTION AND DOES NOT EXTEND ACROSS THE BOTTOM OF THE CHANNEL, RIPRAP SHALL BE KEYED INTO THE BOTTOM OF THE CHANNEL TO A MINIMUM DEPTH EQUAL TO 1.5 TIMES MAXIMUM SIZE STONE AND SHALL EXTEND ACROSS THE BOTTOM OF THE CHANNEL THE SAME DISTANCE.
- **RIPRAP FOR SLOPE STABILIZATION**

  RIPRAP FOR SLOPE STABILIZATION SHALL BE DESIGNED SO THAT THE NATURAL ANGLE OF REPOSE OF THE STONE MIXTURE IS GREATER THAN THE GRADIENT OF THE SLOPE BEING STABILIZED.
- **FILTER BLANKETS**

  A FILTER BLANKET IS A LAYER OF MATERIAL PLACED BETWEEN THE RIPRAP AND THE UNDERLYING SOIL SURFACE TO PREVENT SOIL MOVEMENT INTO OR THROUGH THE RIPRAP.
  A FILTER BLANKET CAN BE EITHER A GRANULAR STONE LAYER OR A GEOTEXTILE FILTER FABRIC. FILTER BLANKETS OR BEDDING SHOULD ALWAYS BE PROVIDED WHERE SEEPAGE FROM UNDERGROUND SOURCES THEATENS THE STABILITY OF THE RIPRAP.

INSTALLATION REQUIREMENTS
- **SUBGRADE PREPARATION**

  THE SUBGRADE FOR THE RIPRAP OR FILTER SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY APPROXIMATING THAT OF THE SURROUNDING UNDISTURBED MATERIAL. BRUSH, TREES, STUMPS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED.
- **FILTER BLANKET**

  PLACEMENT OF THE FILTER BLANKET SHOULD BE DONE IMMEDIATELY AFTER SLOPE PREPARATION. FOR GRANULAR FILTERS THE STONE SHOULD BE SPREAD IN A UNIFORM LAYER TO THE SPECIFIED DEPTH. WHERE MORE THAN ONE LAYER OF FILTER MATERIAL IS USED, THE LAYERS SHOULD BE SPREAD SO THAT THERE IS MINIMAL MIXING OF THE LAYERS.
  FOR FABRIC FILTERS, THE MATERIAL SHOULD BE PLACED DIRECTLY ON THE PREPARED SLOPE. THE EDGES OF THE SHEETS SHOULD OVERLAP BY AT LEAST 12 INCHES. EITHER ANCHOR PINS OR WIRE STAPLES CAN BE USED. ANCHOR PINS, 15 INCHES LONG, SHOULD BE SPACED EVERY 3 FEET ALONG THE OVERLAP. ELEVEN GAUGE WIRE STAPLES, 6 TO 10 INCHES LONG WITH A 2 TO 6 INCH SPREAD CAN ALSO BE USED AT 3 FOOT SPACING. THE UPPER END OF THE FABRIC SHOULD BE BURIED A MINIMUM OF 12 INCHES DEEP. THE LOWER END SHOULD BE TOED IN. CARE SHOULD BE TAKEN NOT TO DAMAGE THE FABRIC WHEN PLACING THE RIPRAP. IF DAMAGE OCCURS, THAT SHEET SHOULD BE REMOVED AND REPLACED. FOR LARGE STONE, 12 INCHES OR GREATER, A 4-INCH LAYER OF GRAVEL SHALL BE USED TO PREVENT DAMAGE TO THE MATERIAL, PROTECTION FROM ULTRAVIOLET RAYS AND TO PROVIDE INTERFACIAL CONTACT.
- **STONE PLACEMENT**

  PLACEMENT OF RIPRAP SHOULD FOLLOW IMMEDIATELY AFTER PLACEMENT OF THE FILTER. THE RIPRAP SHOULD BE PLACED TO ITS FULL SO THAT IT COURSE THICKNESSPRODUCES A DENSE WELL-GRADED MASS OF STONE WITH A MINIMUM OF VOIDS.THE DESIRED DISTRIBUTION OF STONES THROUGHOUT THE MASS MAY BE OBTAINED BY SELECTIVE LOADING AT THE QUARRY, CONTROLLED DUMPING OF SUCCESSIVE LOADS DURING FINAL PLACING, OR BY A COMBINATION OF THESE METHODS. THE RIPRAP SHOULD NOT BE PLACED BY DUMPING INTO CHUTES OR SIMILAR METHODS WHICH ARE LIKELY TO CAUSE SEGREGATION OF THE VARIOUS STONE SIZES. CARE SHOULD BE TAKEN NOT TO DISLODGE THE UNDERLYING MATERIAL WHEN PLACING THE STONES.
  THE FINISHED SLOPE SHOULD BE FREE OF POCKETS OF SMALL STONE OR CLUSTERS OF LARGE STONES. HAND PLACING MAY BE NECESSARY TO ACHIEVE THE REQUIRED GRADES AND A GOOD DISTRIBUTION OF STONE SIZES. FINAL THICKNESS OF THE RIPRAP BLANKET SHOULD BE WITHIN PLUS OR MINUS 1/4 OF THE SPECIFIED THICKNESS.
  TAKE CARE NOT TO DISLODGE THE UNDERLYING MATERIAL WHEN PLACING THE STONES. WHEN PLACING RIPRAP ON A GEOTEXTILE TAKE CARE NOT TO DAMAGE THE FABRIC. IF DAMAGED OCCURS, REMOVE AND REPLACE THE DAMAGED SHEET. FOR LARGE STONE, 12 INCHES OR GREATER, USE A 6 INCH LAYER OF FILTER OR BEDDING MATERIAL TO PREVENT DAMAGE TO THE MATERIAL OF THE PUNCTURE.
- **MAINTENANCE**

  ONCE A RIPRAP INSTALLATION HAS BEEN COMPLETED, IT SHOULD REQUIRE VERY LITTLE MAINTENANCE. IT SHOULD, HOWEVER, BE INSPECTED PERIODICALLY TO DETERMINE IF HIGH FLOWS HAVE CAUSED SCOUR BENEATH THE RIPRAP OR DISLODGED ANY OF THE STONE. PERIODIC REMOVAL OF LARGE TREES MAY BE REQUIRED TO INSURE THE INTEGRITY OF THE RIPRAP PROTECTION. REPAIR IMMEDIATELY UPON OBSERVED FAILURE.

SOIL EROSION AND SEDIMENT CONTROL MEASURES

(GSF)	GEOSYNTHETIC SILT FENCE
(TO)	TOP SOILING
(TS)	TEMPORARY SEEDING
(PS)	PERMANENT SEEDING
(MS)	MULCH FOR SEED
(CE)	CONSTRUCTION ENTRANCE
(RR)	RIPRAP

REFER TO: 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL DEP BULLETIN 34
FOR PROPER USAGE, INSALLATION AND MAINTENANCE GUIDELINES.

REFER TO 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL INFORMATION ON THE SEDIMENT AND EROSION CONTROL MEASURES SHOWN

DATE	REVISION
04/05/21	NEW OWNER

SEDIMENTATION & EROSION CONTROL PLAN

PREPARED FOR

SAYLES BRAGA

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LITCHFIELD, CONNECTICUT

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DATE:	02/08/2007	MAP #:	0095
SCALE:	AS NOTED	SHEET #:	E1
DRAWING:	210829	DRAWN BY:	MSH
PROJECT #:	21-0829	CHECKED BY:	KSH