



# Hydrologic Soil Group—Essex County, Massachusetts, Northern Part (2019-45 Soils Map)

Area of Interest (AOI)  Area of Interest (AOI)	C/D	The soil surveys that comprise your AOI were mapped at 1:15,800.
Soils Botton Botton		Warning: Soil Map may not be valid at this scale.
> 9	■ Not rated or not available	Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of sci
AVD	Water Features	line placement. The maps do not show the small areas of
<b>.</b> [	Streams and Canals	contrasting soils that could have been shown at a more detailed
] j	Transportation	scale.
) [	+++ Rails	Please rely on the bar scale on each map sheet for map
	Interstate Highways	measurements.
C/D	US Routes	Source of Map: Natural Resources Conservation Service
D	Major Roads	Coordinate System: Web Mercator (EPSG:3857)
Not rated or not available	Local Roads	Maps from the Web Soil Survey are based on the Web Mercator
Soil Rating Lines	Background	projection, which preserves direction and shape but distorts
>	Aerial Photography	Albers equal-area conic projection, should be used if more
N AV		accurate calculations of distance or area are required.
8		
B/D		<u>``</u>
0		Soil Survey Area: Essex County, Massachusetts, Northern Part Survey Area Data: Version 15, Sep 12, 2019
C/D		~
₹ D		1:50,000 or larger.
Not rated or not available		Date(s) aerial images were photographed: Mar 30, 2011—Apr 8,
Soil Rating Points		2011
>		The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background
■ A/D		imagery displayed on these maps. As a result, some minor
В		shifting of map unit boundaries may be evident.
■ B/D		

Hydrologic Soil Group—Essex County, Massachusetts, Northern Part

### 2019-45 Soils Map

# **Hydrologic Soil Group**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
6A	Scarboro mucky fine sandy loam, 0 to 3 percent slopes	A/D	5.7	2.9%
32B	Wareham loamy sand, 3 to 8 percent slopes	A/D	A/D 8.3	
40A	Swanton fine sandy loam, 0 to 3 percent slopes	C/D 15.5		8.1%
51A	Swansea muck, 0 to 1 percent slopes	B/D	B/D 2.0	
253B	Hinckley loamy sand, 3 to 8 percent slopes	А	A 24.9	
253C	Hinckley loamy sand, 8 to 15 percent slopes	А	11.9	6.2%
255B	Windsor loamy sand, 3 to 8 percent slopes	A 2.5		1.3%
257E	Hinckley and Windsor soils, 25 to 35 percent slopes	A 3.6		1.9%
260B	Sudbury fine sandy loam, 3 to 8 percent slopes	В 34.2		17.8%
310B	Woodbridge fine sandy loam, 3 to 8 percent slopes	C/D	14.2	7.4%
310C	Woodbridge fine sandy loam, 8 to 15 percent slopes	C/D	3.5	1.8%
311C	Woodbridge fine sandy loam, 8 to 15 percent slopes, very stony	C/D	1.1	0.6%
600	Pits, gravel		30.0	15.6%
711B	Charlton-Rock outcrop- Hollis complex, 3 to 8 percent slopes	A 32.9		17.2%
715B	Ridgebury and Leicester fine sandy loams, 3 to 8 percent slopes, extremely stony	D	1.5	0.8%
Totals for Area of Interest			191.8	100.0%



Web Soil Survey National Cooperative Soil Survey 1/4/2020 Page 3 of 4

## Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

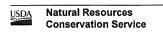
Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

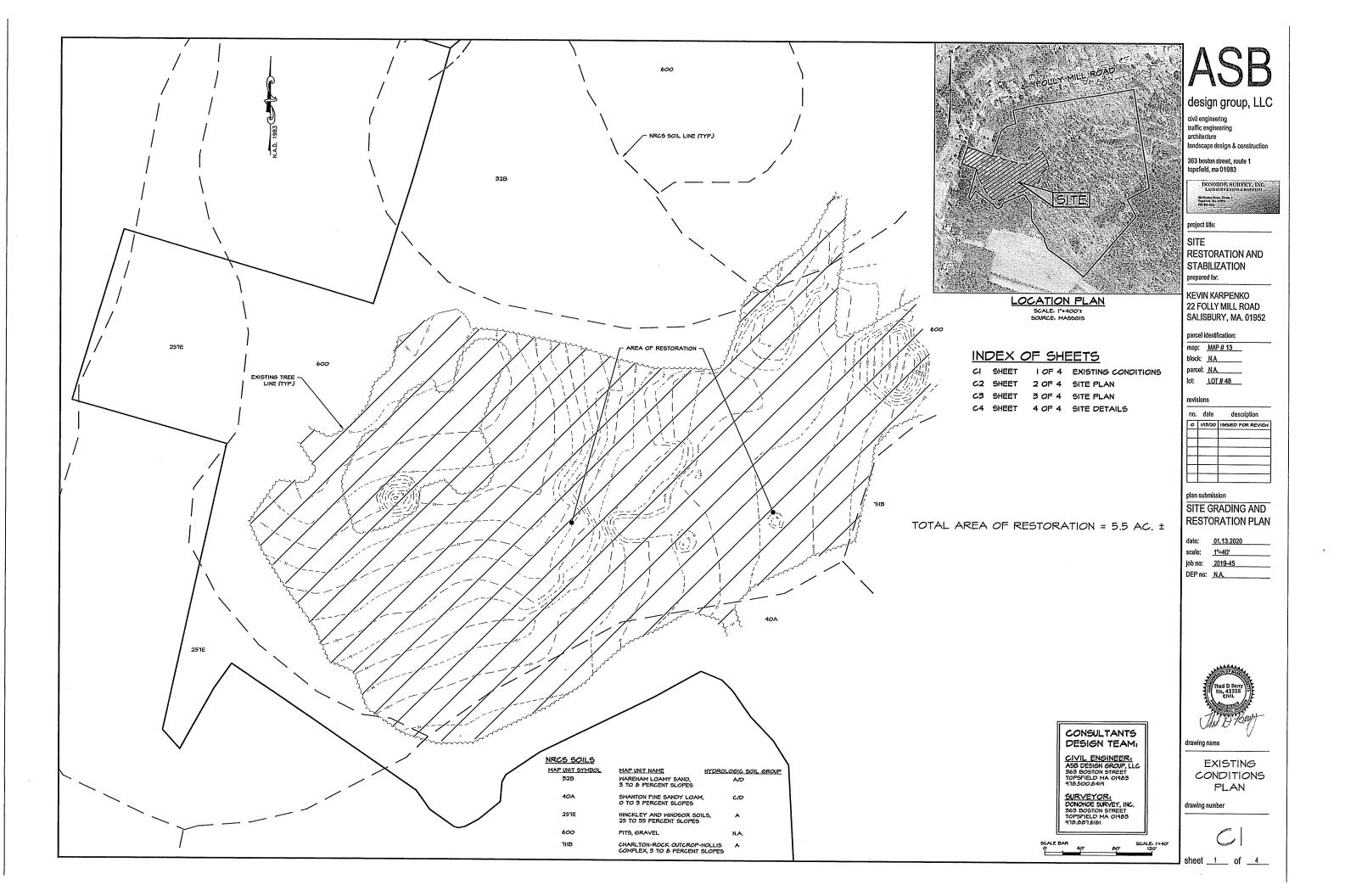
# **Rating Options**

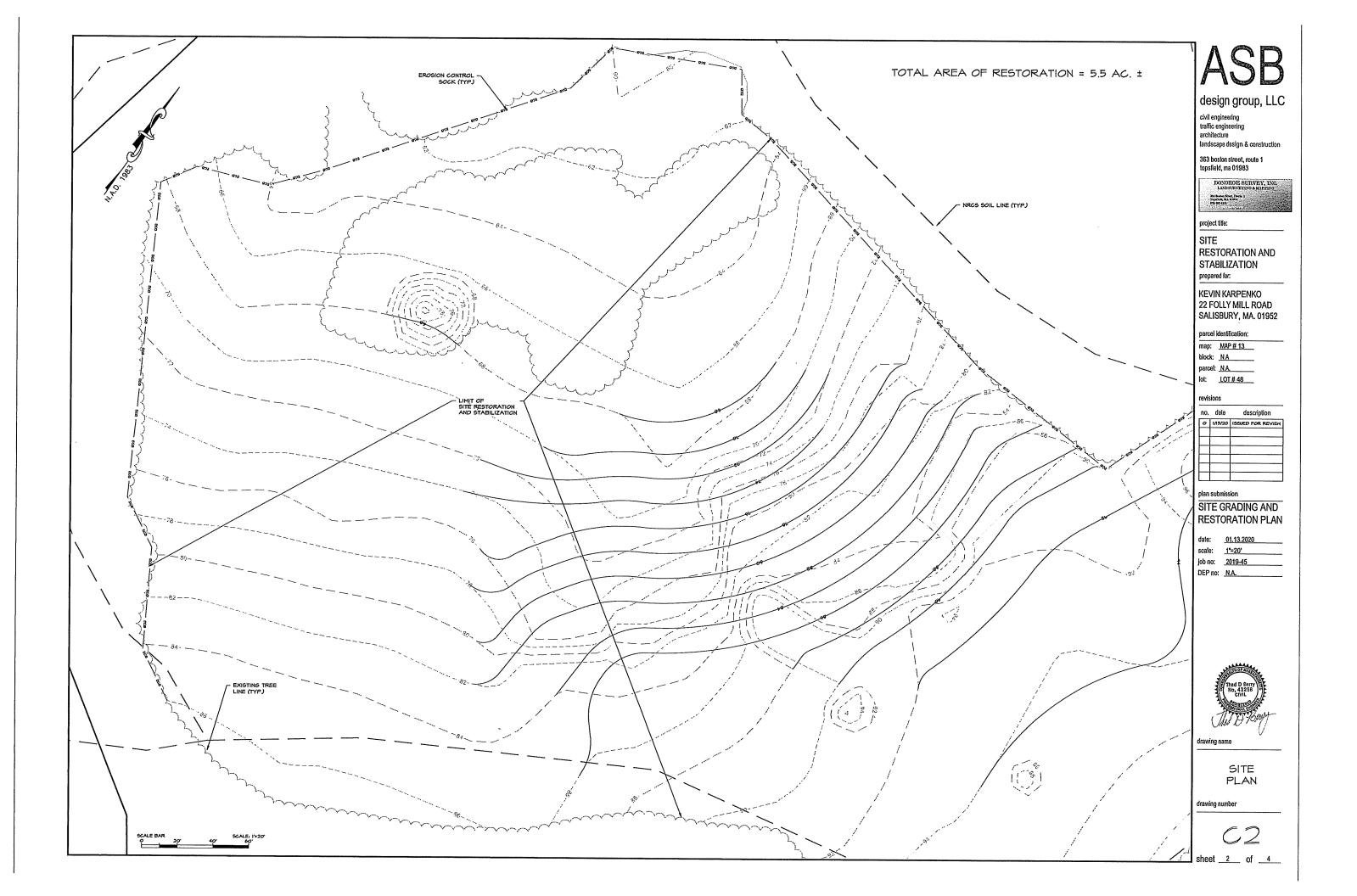
Aggregation Method: Dominant Condition Component Percent Cutoff: None Specified

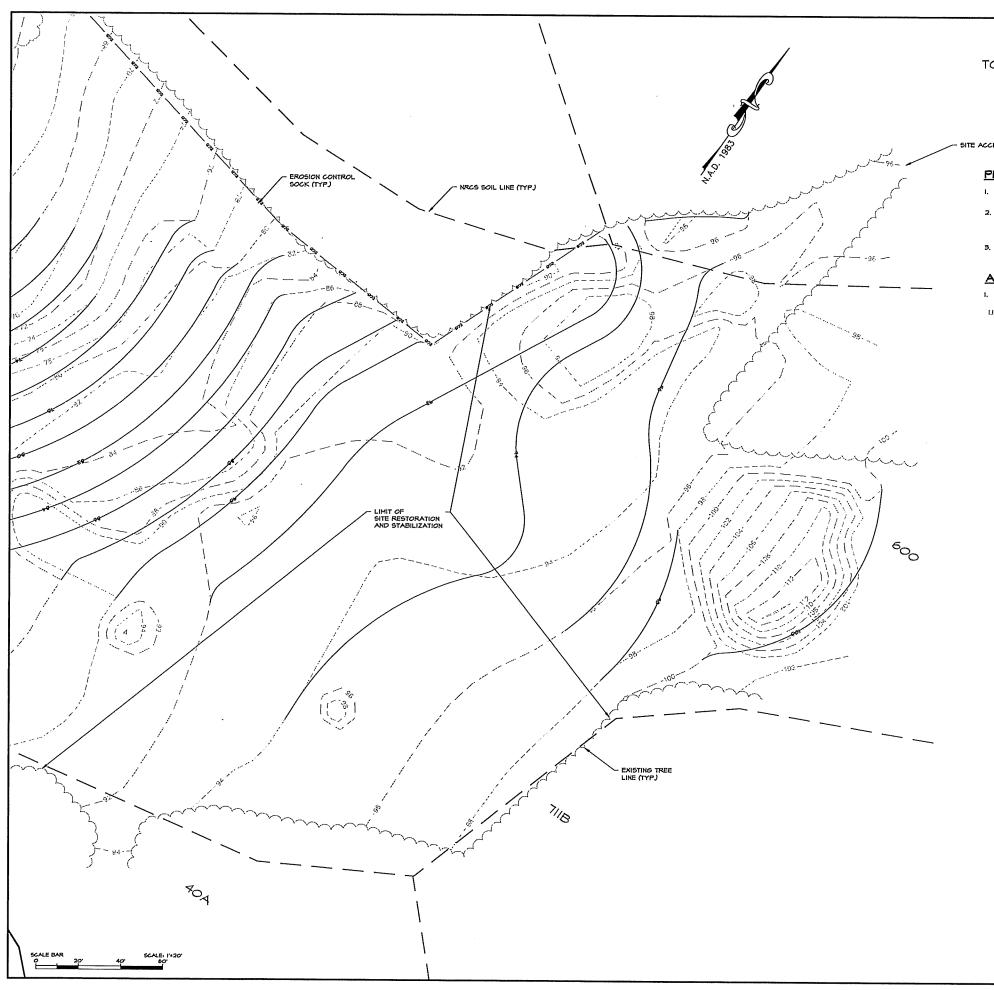
Tie-break Rule: Higher



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TOTAL AREA OF RESTORATION = 5.5 AC. ±

### PROJECT GENERAL NOTES

- EXISTING BOUNDARY LINE, TOPOGRAPHIC, AND SITE INFORMATION IS BASED UPON SURVEY PERFORMED BY DONOHOE SURVEY INC.
- PRIOR TO WORK, CONTRACTOR SHALL HAVE THE PROPOSED SITE LAID OUT VERTICALLY AND HORIZONTALLY BY A PROFESSIONAL LAND SURVEYOR. CONTRACTOR SHALL COORDINATE WITH PROFESSIONAL LAND SURVEYOR FOR CONSTRUCTION BENCHMARK.
- 3. DISTURBED AREA TO BE RE-GRADED AS SHOWN ON SHEETS C2-3, AFTER SITE IS RE-GRADED THE AREA WILL BE HYDRO SEEDED.

### ADDITIONAL APPROVALS

- I. CONTRACTOR SHALL ALSO REFER TO AND REVIEW THE FOLLOWING ADDITIONAL PLANS AND APPROVALS PRIOR TO CONSTRUCTION.

  II. NDEPS NOTICE OF INTENT NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT (DISTURBANCE GREATER THAN I ACRE).

design group, LLC

civil engineering traffic engineering architecture landscape design & construction

363 boston street, route 1 topsfield, ma 01983



project title:

SITE RESTORATION AND STABILIZATION

prepared for:

KEVIN KARPENKO 22 FOLLY MILL ROAD SALISBURY, MA. 01952

parcel identification:

map: <u>MAP # 13</u> block: N.A parcel: N.A. lot: LOT # 48

		date	description
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-			

plan submission

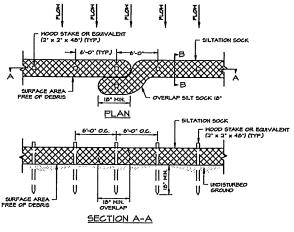
SITE GRADING AND RESTORATION PLAN

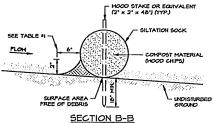
date: 01.13.2020 scale: 1"=20' job no: <u>2019-45</u> DEP no: N.A.



SITE PLAN

drawing number



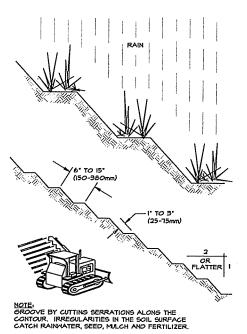


# SILTATION SOCK DETAIL

### INSTALLATION NOTES

- I. INSTALL SILT SOCK ON A SURFACE CLEAR OF DEBRIS.
- 2. OVERLAP ENDS BY A MINIMUM OF IS-INCHES.
- 5. END OF SILT SOCK TO BE DIRECTED UP SLOPE.
- 4. PLACE STAKES THROUGH SILT SOCK OR ON DOWNSTREAM SIDE.
- 5. ON SLOPES GREATER THAN 2.1 (12.1) SEED COMPOST SOCK IS RECOMMENDED.

	TABL	E #I	
SLOPE	SOCK DIAMETER (MIN.)	STAKING	2" COMPOST BARRIER (HOOD CHIPS)
( 50:t	d,	6' O.C.	
50:1 TO 10:1	d.	6' O.C.	*
10:1 TO 5:1	13.	6° O.C.	
5:1 TO 2:1	13,	4' O.C.	
> 24	18.	4º O.C.	



GROOVED OR SERRATED SLOPE

NOT TO SCALE

### NEW ENGLAND WETLAND PLANTS, INC 820 WEST STREET, AMHERST, MA 01002 PHONE: 413-548-8000 FAX 413-549-4000

PHONE: 413-548-8000 FAX 413-549-4000
EMAIL: INFO@NEWP.COM WEB ADDRESS: WWW.NEWP.COM
New England Conservation/Wildlife Mix

Botanical Name	Common Name	Indicator
Elymus virginicus	Virginia Wild Rye	FACIV-
Schizachyrium scoparium	Little Bluestern	FACU
Andropogon gerardii	Big Bluestern	FAC
Festuro robni	Red Fescue	FACU
Sorghastrum nutans	Indian Grass	UPL
Panicum virgatum	Switch Grass	FAC
Chamacerista fasciculuta	Partridge Pea	FACU
Desmodium canadense	Showy Tick Trefoil	FAC
Asclepias tuberosa	Butterfly Milkweed	M
Bidens frondasa	Beggar Ticks	FACW
Eupatorium purpurcum (Eutrochium maculatum)	Purple Joe Pye Weed	FAC
Rudbeckia kirta	Black Eyed Susan	FACU-
Aster pilasas (Symphyotrichum pilasam)	Heath (or Hairy) Aster	UPL
Solidago juncea	Early Goldenrod	
RICE PER LB. \$39.50 MIN. QUANITY 2 LBS.	TOTAL: \$79.00	APPLY: 25 LBS/ACRE :1750 sc

The Hew England Conservation/Widlife Mix provides a permanent cover of grases, widdlowers, and legumes for both good erosion control and widlife habitat value. The mix is designed to be a no maintenance seeding, and is appropriate for cut and fill slopes, detention basin side slopes, and disturbed areas adjacent to commercial and residential projects.

Hew England Wickland Plants, Inc. may modify seed mixes at any time depending upon seed availability. The design criteria and ecological function of the mix will remain unchanged, Price is 5/s/the poom, FDB waterboars, Plast Stand adpossible taxes.

### EROSION CONTROL NOTES

### EROSION CONTROL PRINCIPLES

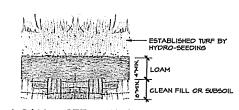
- A. THE FOLLOWING EROSION CONTROL PRINCIPLES SHALL APPLY TO THE LAND GRADING AND CONSTRUCTION PHASES:
  - 1) STRIPPING OF VEGETATION, GRADING, OR OTHER SOIL DISTURBANCE SHALL BE DONE IN A MANNER WHICH WILL MINIMIZE SOIL EROSION.
  - 2) WHENEVER FEASIBLE, NATURAL VEGETATION SHALL BE RETAINED AND
- EXTENT OF AREA WHICH IS EXPOSED AND FREE OF VEGETATION AND DURATION OF ITS EXPOSURE SHALL BE KEPT WITHIN PRACTICAL I MITS
- 4) TEMPORARY SEEDING, MUCHING, OR OTHER SUITABLE STABILIZATION MEASURES SHALL BE USED TO PROTECT EXPOSED CRITICAL AREAS DURING PROLONGED CONSTRUCTION OR OTHER LAND DISTURBANCE.
- 5) DRAINAGE PROVISIONS SHALL ACCOMMODATE INCREASED RINOFF REGULTING FROM MODIFICATIONS OF SOIL AND SURFACE CONDITIONS DURING AND AFTER DEVELOPMENT OR DISTURBANCE, SUCH PROVISIONS SHALL BE IN ADDITION TO EXISTING REGUIREMENTS.
- 6) SEDIMENT SHALL BE RETAINED ON-SITE.
- EROSION CONTROL DEVICES SHALL BE INSTALLED AS EARLY AS POSSIBLE IN THE CONSTRUCTION SEQUENCE PRIOR TO START OF CLEARING AND GRUBBING OPERATIONS AND EXCAVATION WORK.
- B. CUT AND FILL SLOPES AND STOCKPILED MATERIALS SHALL BE PROTECTED TO PREVENT EROSION, SLOPES SHALL BE PROTECTED HITH PERMANENT EROSION PROTECTION WHEN EROSION EXPOSURE PERIOD IS GREATER THAN OR EQUAL TO SIX MONTHS, AND TEMPORARY EROSION PROTECTION WHEN EROSION EXPOSURE PERIOD IS EXPECTED TO BE LESS THAN SIX MONTHS (SEE NOTE IS).
- PERMANENT EROSION PROTECTION SHALL BE ACCOMPLISHED BY SEEDING WITH GRASS AND COVERING WITH AN EROSION PROTECTION MATERIAL, AS APPOPRIATE FOR PREVAILING CONDITIONS.
- 2) EXCEPT WHERE SPECIFIED SLOPE IS INDICATED ON DRAWINGS, FILL SLOPES SHALL BE LIMITED TO A GRADE OF 3:1 (HORIZONTALIVERTICAL) AND OUT SLOPES SHALL BE LIMITED TO A GRADE OF 3:1.

### SILTATION SOCK

INSTALL SILTATION SOCK IN ACCORDANCE WITH THE PLAN DETAIL.

### MAINTENANCE AND REMOVAL OF CONTROL DEVICES

- A. WETLAND AREAS, WATER COURSES, AND DRAINAGE SWALES ADJACENT TO CONSTRUCTION ACTIVITIES SHALL BE MONITORED THICE EACH MONTH FOR EVIDENCE OF SILT INTRUSION AND OTHER ADVERSE ENVIRONMENTAL IMPACTS, WHICH SHALL BE CORRECTED IMMEDIATELY UPON DISCOVERY.
- B. CULVERTS AND DRAINAGE DITCHES SHALL BE KEPT CLEAN AND CLEAR OF OBSTRUCTIONS DURING CONSTRUCTION PERIOD.
- C. EROSION CONTROL DEVICES:
- SEDIMENT BEHIND THE EROSION CONTROL DEVICE SHALL BE CHECKED THICE EACH MONTH AND AFTER EACH HEAVY RAIN, SILT SHALL BE REMOVED IF SREATER THAN 6-INCHES DEEP.
- 2) CONDITION OF EROSION CONTROL DEVICE SHALL BE CHECKED THICE EACH MONTH OR MORE FREQUENTLY AS REQUIRED, DAMAGED AND/OR DETERIORATED ITEMS SHALL BE REPLACED. EROSION CONTROL DEVICES SHALL BE MAINTAINED IN-PLACE AND IN EFFECTIVE CONDITION
- 3) HAY BALES SHALL BE INSPECTED FREQUENTLY AND MAINTAINED OR REPLACED AS REQUIRED TO MAINTAIN BOTH EFFECTIVENESS AND INSTALLED CONDITION, UNDERSIDE OF BALES SHALL BE KEPT IN CLOSE CONTACT WITH THE FARTH BELOW AT ALL TIMES, AS REQUIRED TO PREVENT WATER FROM WASHING BENEATH BALES.
- 4) SEDIMENT SHALL BE REMOVED FROM THE RETENTION PONDS AT THE COMPLETION OF THE PROJECT AND PERIODICALLY DURING CONSTRUCTION, SEDIMENT DEPOSITS SHALL BE REMOVED WHEN SEDIMENT HAS ACCUMULATED TO A DEPTH OF 6 INCHES, OR AS
- 5) SEDIMENT DEPOSITS SHALL BE DISPOSED OF OFF-SITE, IN A LOCATION AND MANNER WHICH WILL NOT CAUSE SEDIMENT NUISANCE ELSEWHERE.
- D. REMOVAL OF EROSION CONTROL DEVICES:
- THE CONSERVATION COMMISSION AGENT MUST INSPECT THE SITE AND APPROVE REMOVAL OF ANY EROSION CONTROL DEVICE.
- 2) EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL ALL DISTURBED EARTH HAS BEEN PAYED OR VEGETATED, AT WHICH TIME THEY SHALL BE REMOYED. AFTER REMOYAL, AREAS DISTURBED BY THESE DEVICES SHALL BE RE-GRADED AND SEEDED.
- EROSION CONTROL NETTING SHALL BE KEPT SECURELY ANCHORED UNTIL START OF PERMANENT TURF CONSTRUCTION.
- 4) EROSION PROTECTION MATERIAL SHALL BE KEPT SECURELY ANCHORED UNTIL ACCEPTANCE OF COMPLETED SLOPE OR ENTIRE PROJECT, WHICHEVER IS LATER.



LOAM & SEED DETAIL

### LOAM AND SEED NOTES

- 1. IF REQUIRED THE CONTRACTOR SHALL FURNISH ALL TOPSOIL OR ADDITIONAL TOPSOIL NEEDED TO COMPLETE THE JOB. IF THE EXISTING TOPSOIL IS SUFFICIENT TO COMPLETE THE JOB, ANY EXCESS TOPSOIL WILL REMAIN ON SITE, AN AREA MILL BE PROVIDED ON SITE FOR FINAL STORAGE.
- 2. THE TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED ON THE DESIGNATED AREAS AND IT SHALL BE A MINIMUM DEPTH OF SIX INCHES AFTER FIRMING, SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR NATER POCKETS. TOPSOIL SHALL NOT BE PLACED WHILE IN A FROZEM OR MUDDY CONDITION, WHEN THE SUBGRADE IS EXCESSIVLY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIBURTAL TO PROPER GRADING OR PROPOSED SEIDING.
- AFTER LOAM HAS BEEN PLACED, LIME AND FERTILIZER SHALL BE WIFORMLY MIXED INTO THE TOP FOUR INCHES OF SOIL BY DISCING HARROWING OR USING OTHER APPROVED METHODS.
- ANY UNDULATIONS OR IRREGULARITIES IN THE SURFACE RESULTING FROM FERTILIZING, LIMING, SURFACE ROUGHINING OR OTHER CAUSES SHALL BE LEVELED PRIOR TO SEEDING, FLOODED, WASHED-OUT OR OTHERWISE DAMAGED AREAS SHALL BE RECONSTRUCTED AND ALL GRADES RE-ESTABLISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE DRAMINGS AND/OR OTHER APPLICABLE SPECIFICATIONS.
- 5. PRIOR TO SEEDING THE SURFACE SHALL BE CLEARED OF ALL TRASH, DEBRIS AND STONES LARGER THAN ONE AND ONE-HALF INCHES IN DIAMETER, AND OF ALL ROOTS, BRUSH, MIRE, GRADE STAKES AND OTHER OBJECTS THAT WOULD INTERFERE WITH PLANTING OR MAINTENANCE OPERATIONS.
- 6. BROADCAST SEED AND MILCH, PLACE STRAM AND ANCHOR IT TO TOPSOIL. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDLINGS WITH ADEQUATE WATER FOR PLANT GROWTH. (1/2"-I" EVERY 3-4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED.

### REPAIRS AND MAINTENANCE

INSPECT ALL SEEDED AREAS FOR FAILURES AND MAKE NECESSARY REPAIRS, REPLACEMENTS AND RESEEDINGS WITHIN THE PLANTING SEASON.

- I. ONCE THE VEGETATION IS ESTABLISHED, THE SITE SHALL HAVE 95% GROUNDCOVER TO BE CONSIDERED ADEQUATELY STABILIZED.
- IF THE STAND PROVIDES LESS THAN 40% GROUND COVERAGE, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER, SEEDBED PREPARATION AND SEEDING RECOMMENDATIONS.
- IF THE STAND PROVIDES BETWEEN 40% AND 44% GROUND COVER AGE, OVERSEEDING AND FERTILIZING USING HALF OF THE RATES ORIGINALLY APPLIED MAY BE NECESSARY.

### SURFACE PREPARATION

- STRIP AND STOCKPILE ALL EXISTING LOAM FROM PROPOSED WORK AREAS, PROTECT LOAM FROM EROSION, ALL LOAM WILL REMAIN ON SITE WILESS THE OWNER APPROVES OF OFF SITE REMOVAL.
- 2. SET FIELD GRADES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, PROVIDE PROPER SURVEY CONTROL AND MAINTAIN THROUGHOUT CONSTRUCTION, PROVIDE ENGINEER WITH COPIES OF ALL SURVEY NOTES AND LOCATIONS OF BOTH VERTICAL AND HORIZONTAL CONTROL.
- 5. BRING BASE MATERIAL TO FINISH GRADE, PROVIDE ENGINEER HITH AS-BUILT DRAVINGS SHOUNG FINISH ELEVATIONS AND CONTOURS PRIOR TO PLACEMENT OF LOAM.
- 4. SOIL TESTS SHALL BE MADE TO DETERMINE THE EXACT REQUIREMENTS FOR BOTH LIME AND FERTILIZER, SOIL TESTS SHALL BE CONDUCTED BY A STATE LABORATORY OR RECOGNIZED COMMERCIAL LABORATORY, PROVIDE ENGINEER WITH COPY OF TEST RESULTS AND RECOMENDATIONS FOR LIMING AND FERTILIZING.
- 5. AFTER THE AREAS TO BE TOPSOILED HAVE BEEN APPROVED BY THE OWNER OR ENGINEER, AND IMMEDIATLY PRIOR TO DUMPING AND SPREDDING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSENED BY ROUGHENING TO THE DEPTH OF AT LEAST THO INCHES TO PERMIT BOXIDING OF THE TOPSOIL TO THE SUBSOIL AND TO INCORPORATE THE LIME.
- ACCEPTANCE SHALL BE GIVEN BY THE OWNER OR ENGINEER UPON SATISFACTORY COMPLETION OF EACH SECTION OR AREA AS INDICATED ON THE DRAWINGS OR AS OTHERWISE SPECIFIED BEFORE PLACEMENT OF TOPSOIL.

# ASB

design group, LLC

civil engineering
traffic engineering
architecture
landscape design & construction

363 boston street, route 1 topsfield, ma 01983

DONOHOE SURVE	Y. TNO
LAND FURVEYING A M	LAPPING
Mi Brain Street, Dangle 1 Treefold, M. 1994	
122 22 60	1.0
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project title:

SITE
RESTORATION AND
STABILIZATION
prepared for:

KEVIN KARPENKO 22 FOLLY MILL ROAD SALISBURY, MA. 01952

### parcel identification:

map: MAP # 13

block: N.A

parcel: N.A.

lot: LOT # 48

### revision

ı	TEATPIOLIZ		
	no. date		description
	0	1/19/20	1550ED FOR REVIEW
i.			
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### olan submission

SITE GRADING AND RESTORATION PLAN

	date:	01.13.2020
ı	scale:	NOT TO SCALE
	job no:	2019-45
	DEP no:	N.A.



drawing name

SITE DETAILS

drawing number

. C4
sheet 4 of 4