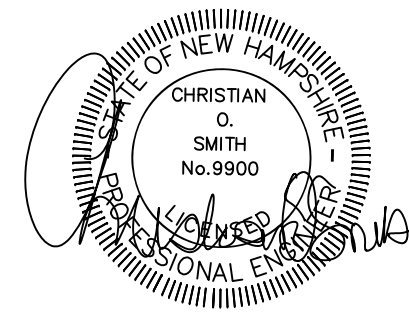


# PROPOSED SITE PLAN 9 BOWLEY ROAD EAST KINGSTON, N.H. TAX MAP 11, BLK 2, LOT 11

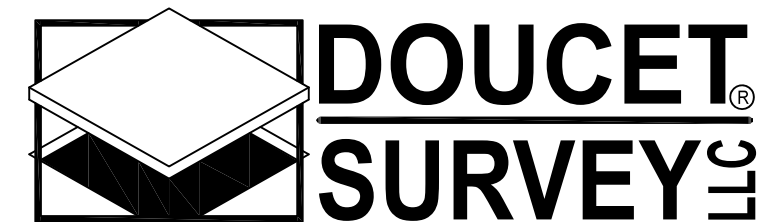
CIVIL ENGINEERS:



70 PORTSMOUTH AVE,  
THIRD FLOOR, SUITE 2  
STRATHAM, N.H. 03885  
PHONE: 603-583-4860,  
FAX: 603-583-4863



LAND SURVEYOR:



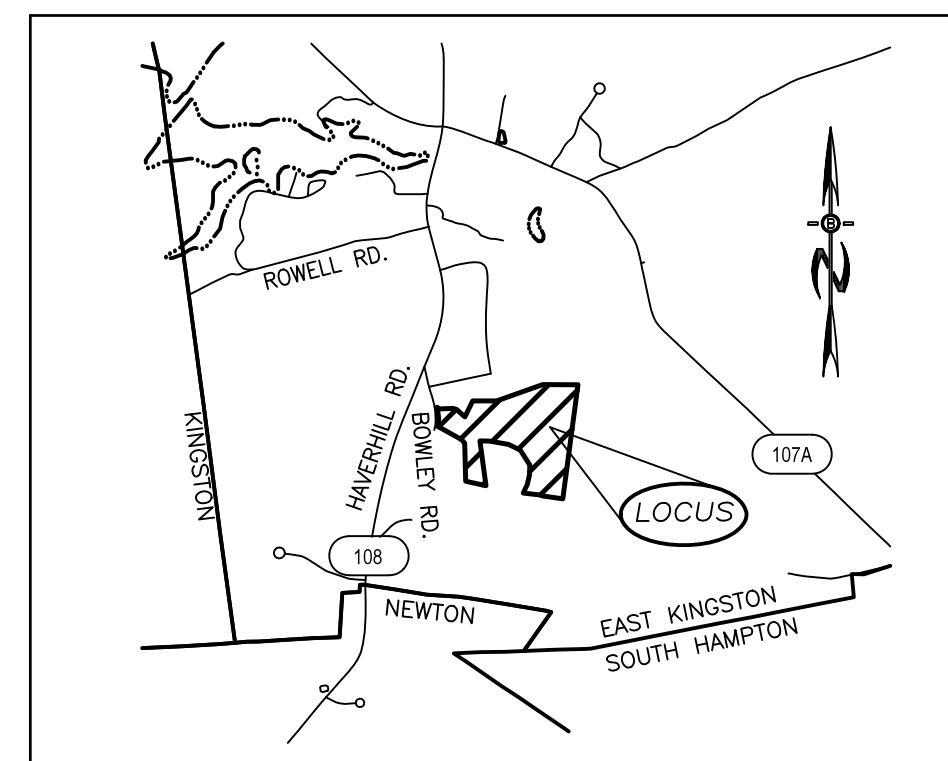
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WETLAND CONSULTANT:

SEEKAMP ENVIRONMENTAL CONSULTING, INC.  
129 ROUTE 125  
KINGSTON, NH 03848  
TEL. 603-642-8300

SOIL CONSULTANT:

MARC JACOBS  
609 PORTSMOUTH AVENUE  
GREENLAND, NH 03840  
TEL. 603-686-5097



LOCATION MAP

PLAN INDEX	SHEET #
TITLE SHEET	
RECORDED BOUNDARY PLAN BY OTHERS	
EXISTING CONDITIONS PLAN (DOUCET SURVEY)	1
OVERALL SITE PLAN	2
SITE, GRADING & DRAINAGE PLANS	3-4
CONSTRUCTION DETAILS	5
EROSION & SEDIMENTATION CONTROL DETAILS	6

PLAN SET LEGEND

5/8" REBAR	●
DRILL HOLE	○
CONC. BOUND	□
UTILITY POLE	⊕
PINES, ETC.	☼
MAPLES, ETC.	☼
SINGLE POST SIGN	⊥
TEST PIT W/NO.	⊕
OVERHEAD ELEC. LINE	— OHE —
DRAINAGE LINE	— ○ —
STONE WALL	— ○ —
TREE LINE	— · —
ABUT. PROPERTY LINES	— · —
EXIST. PROPERTY LINES	— · —
BUILDING SETBACK LINES	— · —
EXIST. CONTOUR	— · —
PROP. CONTOUR	— · —
SOIL LINES	— · —
SILT FENCING	— · —

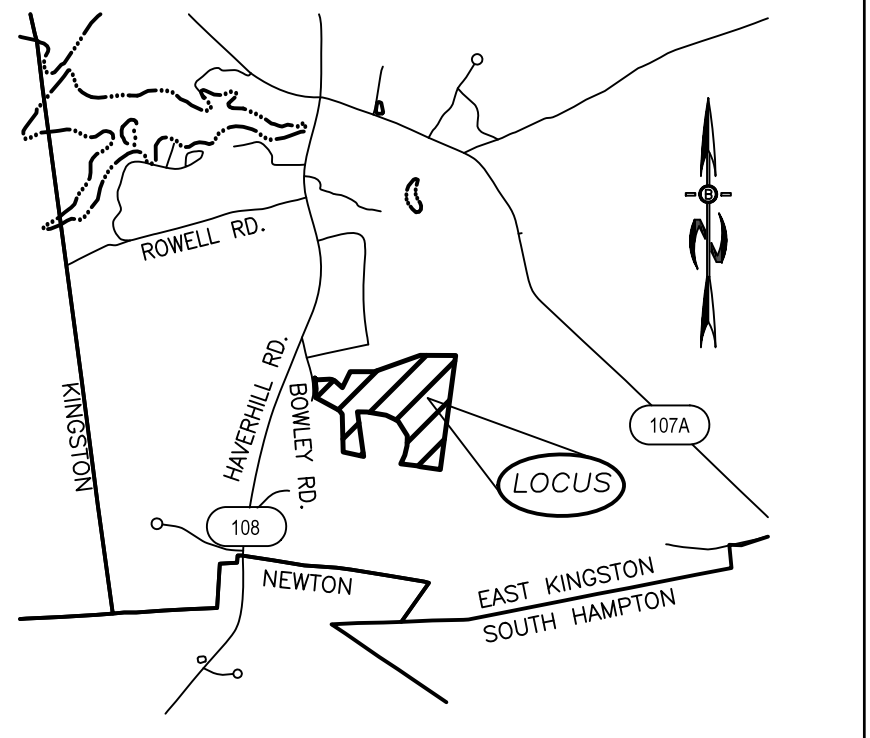
OWNER/APPLICANT:

PETER BROWN  
MIDNIGHT LEASING, LLC  
1 JUPITER LANE  
NEWTON, NH 03858

PLANNING BOARD APPROVAL BLOCK

PER REVIEW COMMENTS	10-9-2023
PER REVIEW ENGINEER COMMENTS	9-11-2023
REVISIONS:	DATE:





LOCATION MAP

**ZONING REQUIREMENTS**

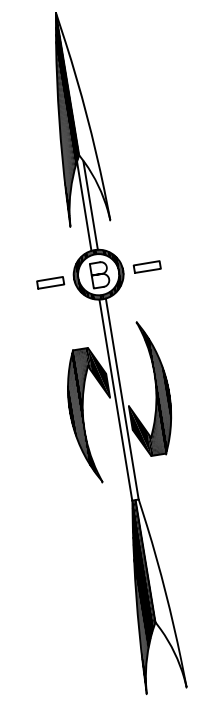
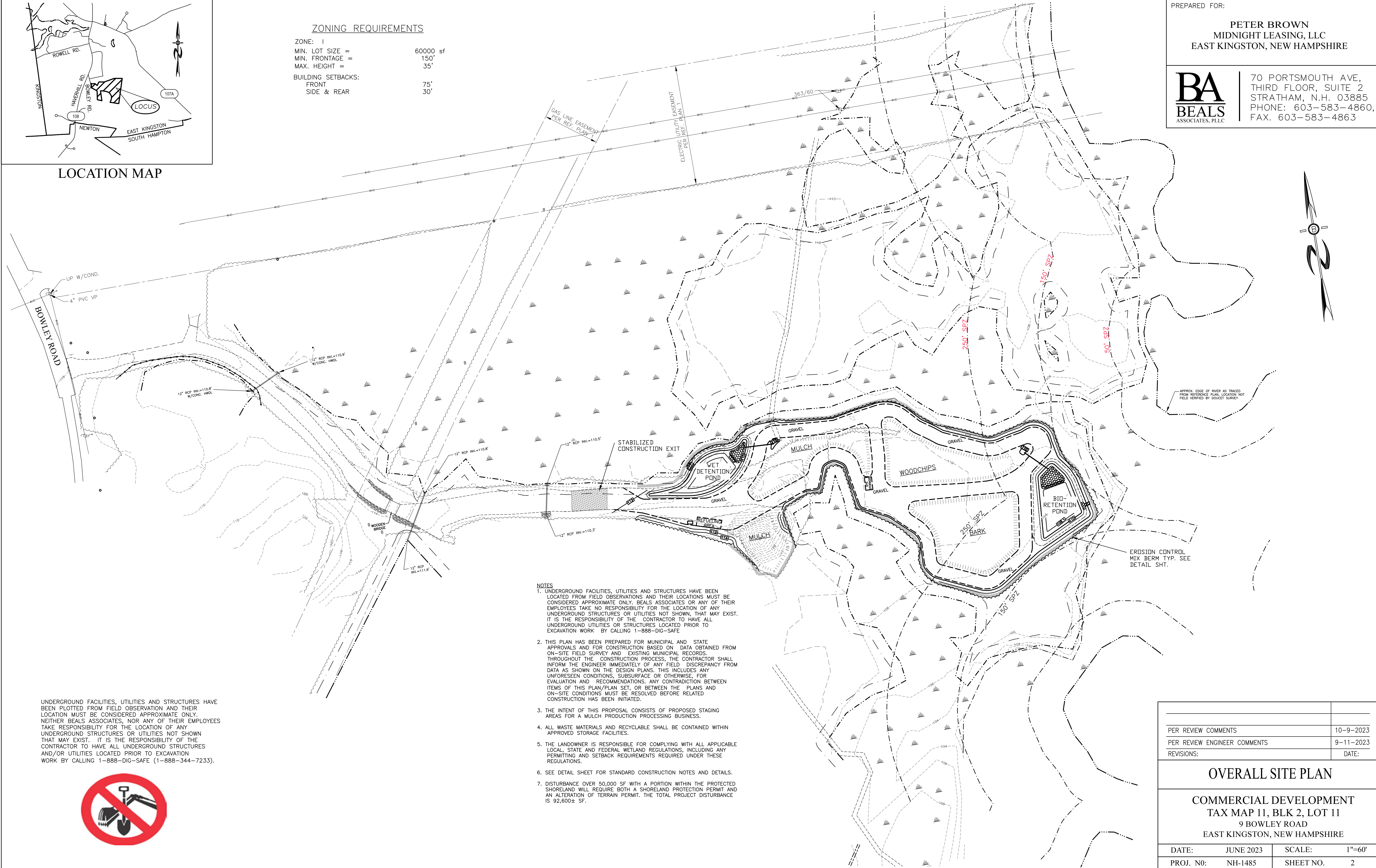
ZONE: I  
 MIN. LOT SIZE = 60000 sf  
 MIN. FRONTAGE = 150'  
 MAX. HEIGHT = 35'  
 BUILDING SETBACKS:  
 FRONT 75'  
 SIDE & REAR 30'

PREPARED FOR:

**PETER BROWN**  
 MIDNIGHT LEASING, LLC  
 EAST KINGSTON, NEW HAMPSHIRE



70 PORTSMOUTH AVE,  
 THIRD FLOOR, SUITE 2  
 STRATHAM, N.H. 03885  
 PHONE: 603-583-4860,  
 FAX: 603-583-4863



UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN PLOTTED FROM FIELD OBSERVATION AND THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. NEITHER BEALS ASSOCIATES, NOR ANY OF THEIR EMPLOYEES TAKE RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES OR UTILITIES NOT SHOWN THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND STRUCTURES AND/OR UTILITIES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 1-888-DIG-SAFE (1-888-344-7233).



**NOTES**

1. UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN LOCATED FROM FIELD OBSERVATIONS AND THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. BEALS ASSOCIATES OR ANY OF THEIR EMPLOYEES TAKE NO RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES OR UTILITIES NOT SHOWN, THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND UTILITIES OR STRUCTURES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 1-888-DIG-SAFE.
2. THIS PLAN HAS BEEN PREPARED FOR MUNICIPAL AND STATE APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON-SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCY FROM DATA AS SHOWN ON THE DESIGN PLANS. THIS INCLUDES ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE, FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS OF THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED.
3. THE INTENT OF THIS PROPOSAL CONSISTS OF PROPOSED STAGING AREAS FOR A MULCH PRODUCTION PROCESSING BUSINESS.
4. ALL WASTE MATERIALS AND RECYCLABLE SHALL BE CONTAINED WITHIN APPROVED STORAGE FACILITIES.
5. THE LANDOWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL WETLAND REGULATIONS, INCLUDING ANY PERMITTING AND SETBACK REQUIREMENTS REQUIRED UNDER THESE REGULATIONS.
6. SEE DETAIL SHEET FOR STANDARD CONSTRUCTION NOTES AND DETAILS.
7. DISTURBANCE OVER 50,000 SF WITH A PORTION WITHIN THE PROTECTED SHORELAND WILL REQUIRE BOTH A SHORELAND PROTECTION PERMIT AND AN ALTERATION OF TERRAIN PERMIT. THE TOTAL PROJECT DISTURBANCE IS 92,600± SF.

PER REVIEW COMMENTS	10-9-2023
PER REVIEW ENGINEER COMMENTS	9-11-2023
REVISIONS:	DATE:

**OVERALL SITE PLAN**

**COMMERCIAL DEVELOPMENT**  
 TAX MAP 11, BLK 2, LOT 11  
 9 BOWLEY ROAD  
 EAST KINGSTON, NEW HAMPSHIRE

DATE:	JUNE 2023	SCALE:	1"=60'
PROJ. NO:	NH-1485	SHEET NO.	2





**ZONING REQUIREMENTS**

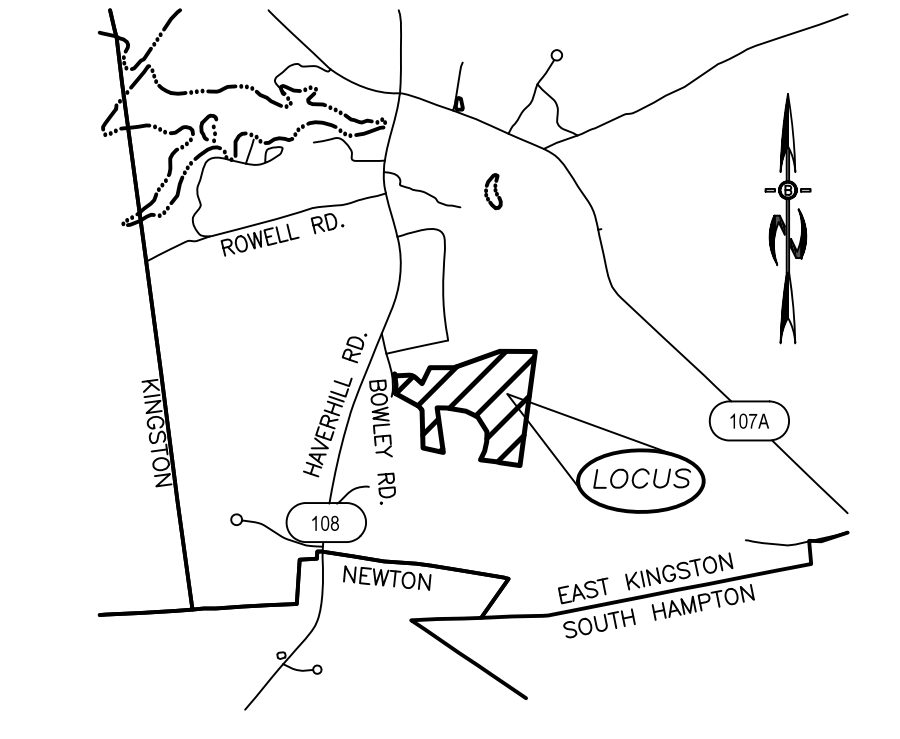
ZONE: I  
MIN. LOT SIZE = 60000 sf  
MIN. FRONTAGE = 150'  
MAX. HEIGHT = 35'  
BUILDING SETBACKS:  
FRONT 75'  
SIDE & REAR 30'

PREPARED FOR:

**PETER BROWN  
MIDNIGHT LEASING, LLC  
EAST KINGSTON, NEW HAMPSHIRE**



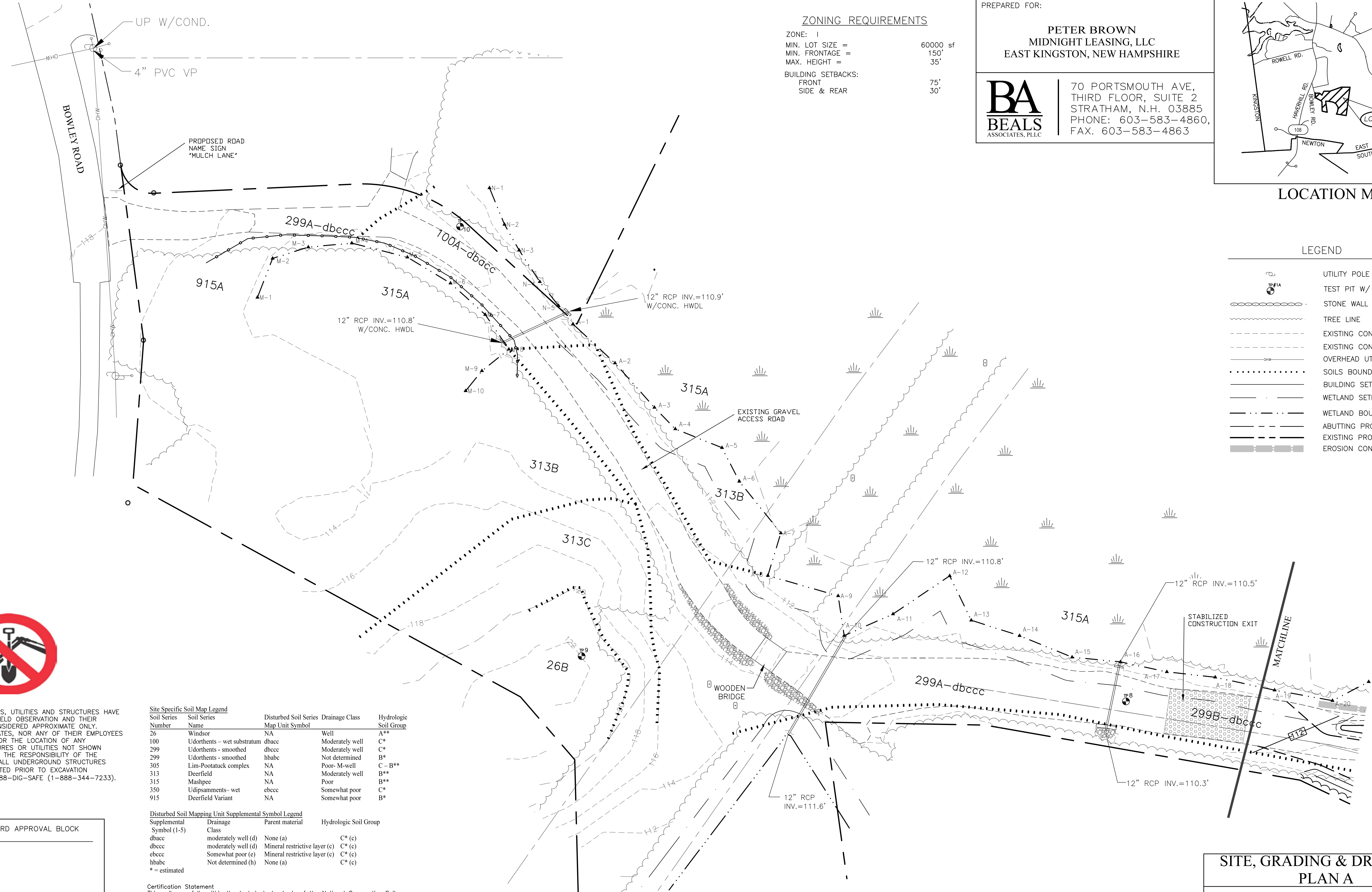
70 PORTSMOUTH AVE,  
THIRD FLOOR, SUITE 2  
STRATHAM, N.H. 03885  
PHONE: 603-583-4860,  
FAX: 603-583-4863



**LOCATION MAP**

**LEGEND**

- UTILITY POLE
- TEST PIT W/ NO.
- STONE WALL
- TREE LINE
- EXISTING CONTOUR - 10'
- EXISTING CONTOUR - 2'
- OVERHEAD UTILITIES
- SOILS BOUNDARY LINE
- BUILDING SETBACK LINE
- WETLAND SETBACK LINE
- WETLAND BOUNDARY
- ABUTTING PROPERTY LINE
- EXISTING PROPERTY LINE
- EROSION CONTROL MIX BERM



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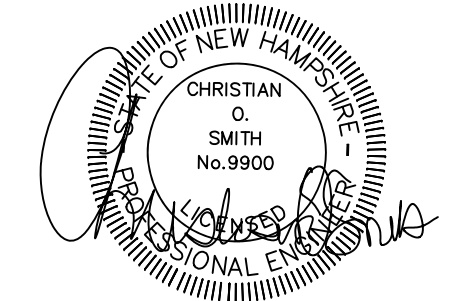
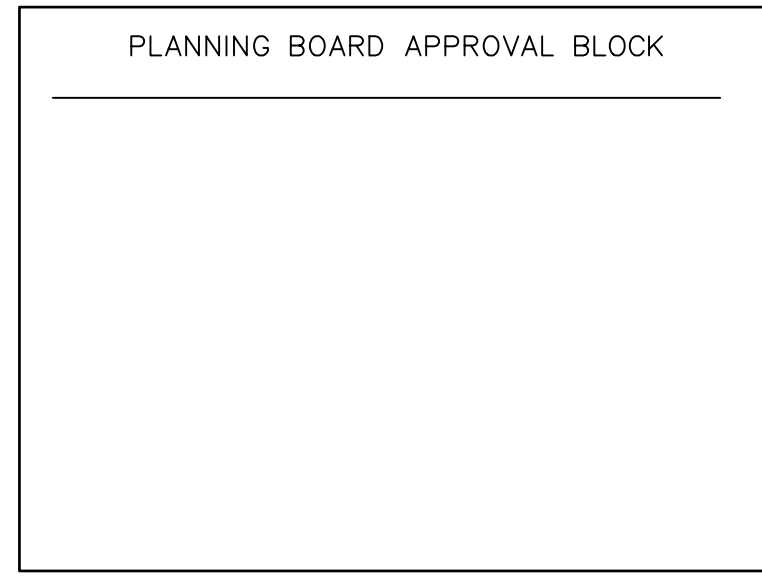
**Site Specific Soil Map Legend**

Soil Series Number	Soil Series Name	Disturbed Soil Series Map Unit Symbol	Drainage Class	Hydrologic Soil Group
26	Windsor	NA	Well	A**
100	Udothents - wet substratum	dbacc	Moderately well	C*
299	Udothents - smoothed	dbccc	Moderately well	C*
299	Udothents - smoothed	hbabc	Not determined	B*
305	Lim-Pootatuck complex	NA	Poor- M-well	C - B**
313	Deerfield	NA	Moderately well	B**
315	Mashpee	NA	Poor	B**
350	Udipsammets - wet	ebccc	Somewhat poor	C*
915	Deerfield Variant	NA	Somewhat poor	B*

**Disturbed Soil Mapping Unit Supplemental Symbol Legend**

Supplemental Symbol (1-5)	Drainage Class	Parent material	Hydrologic Soil Group
dbacc	moderately well (d)	None (a)	C* (c)
dbccc	moderately well (d)	Mineral restrictive layer (c)	C* (c)
ebccc	Somewhat poor (e)	Mineral restrictive layer (c)	C* (c)
hbabc	Not determined (h)	None (a)	C* (c)

**Certification Statement**  
This soil map falls within the technical standards of the National Cooperative Soil Survey. It is a special purpose product intended for use in complying with the NH Alteration of Terrain (AOT) Regulations (Env-Wq 1500). It was produced by Marc Jacobs, Certified Soil Scientist #038, based upon field investigations conducted in March and April 2023 and is not a product of the USDA Natural Resources Conservation Service. The site-specific soil survey was conducted according to Site-Specific Soil Mapping Standards for New Hampshire and Vermont, Special Publication No. 3, Version 7.0, dated July 2021 as published, maintained and amended by the Society of Soil Scientists of Northern New England (SSSNE). Copies of the soil survey map that have been reviewed by the scientist(s) are individually stamped, signed and dated. There is a report that accompanies this map.



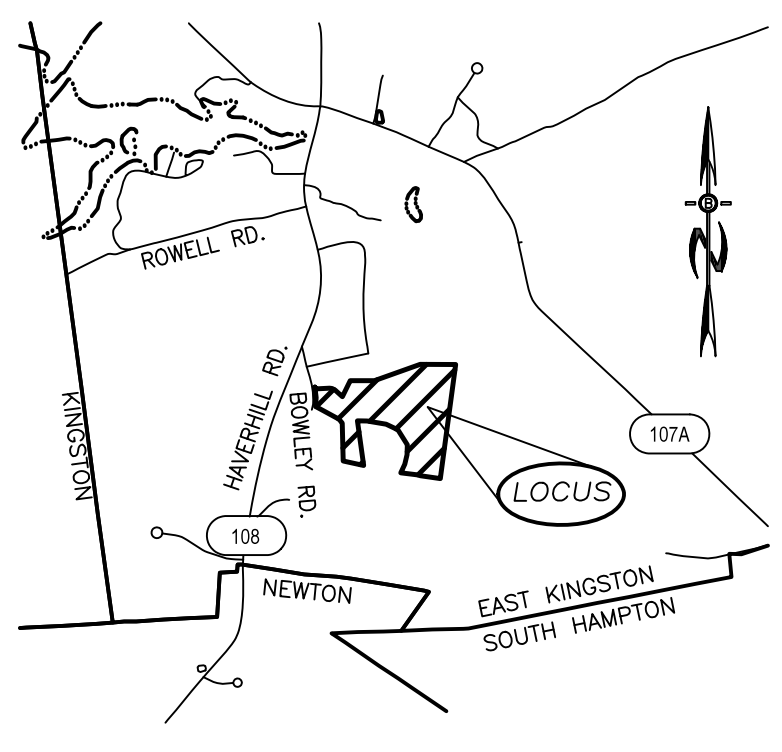
PER REVIEW COMMENTS	10-9-2023
PER REVIEW ENGINEER COMMENTS	9-11-2023
REVISIONS:	DATE:

**SITE, GRADING & DRAINAGE  
PLAN A**

**COMMERCIAL DEVELOPMENT  
TAX MAP 11, BLK 2, LOT 11  
9 BOWLEY ROAD  
EAST KINGSTON, NEW HAMPSHIRE**

DATE:	JUNE 2023	SCALE:	1"=30'
PROJ. NO.:	NH-1485	SHEET NO.:	3

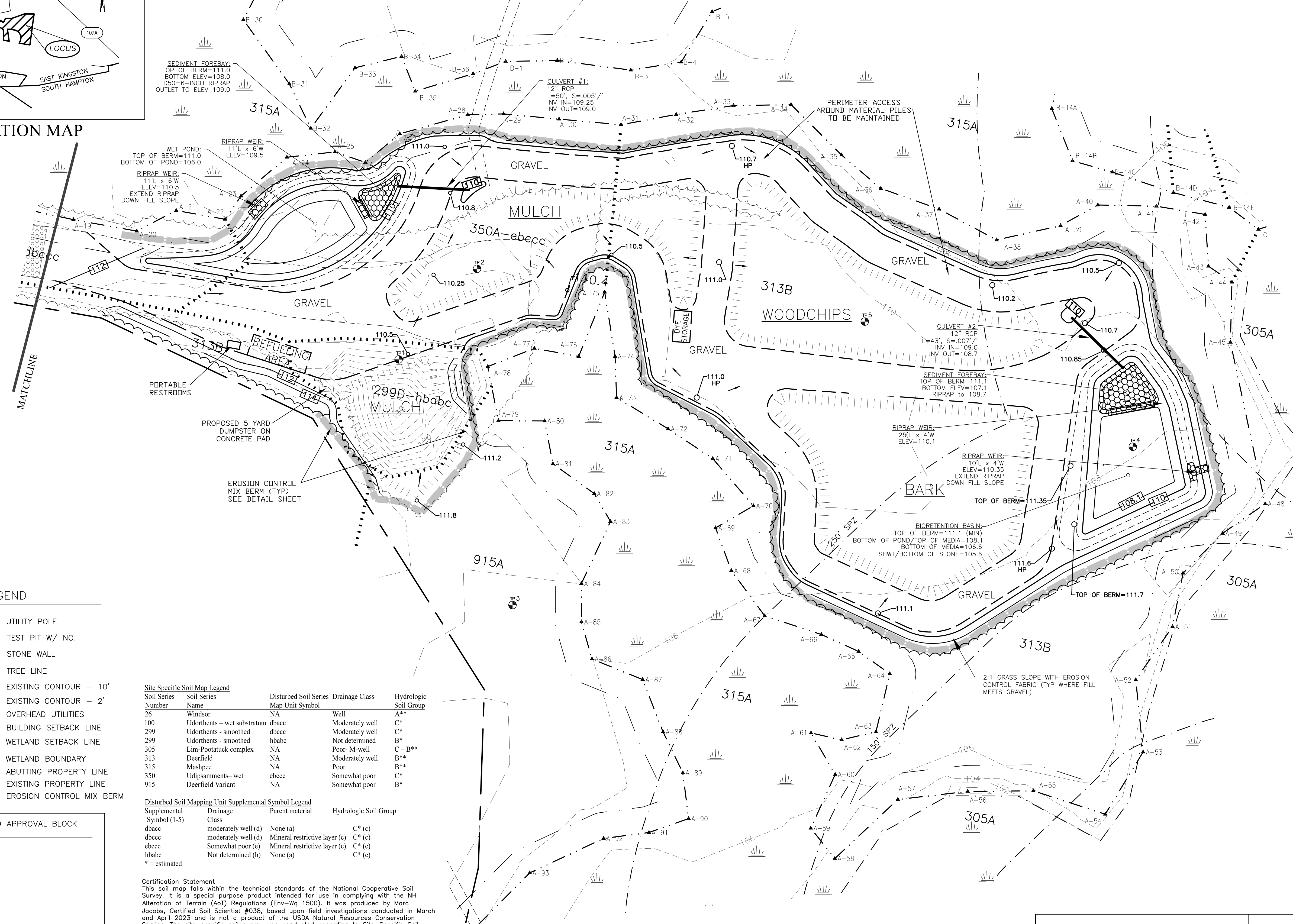
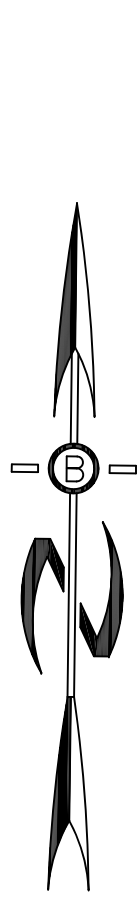




LOCATION MAP

PREPARED FOR:  
**PETER BROWN**  
 MIDNIGHT LEASING, LLC  
 EAST KINGSTON, NEW HAMPSHIRE

**BA BEALS**  
 ASSOCIATES, PLLC  
 70 PORTSMOUTH AVE,  
 THIRD FLOOR, SUITE 2  
 STRATHAM, N.H. 03885  
 PHONE: 603-583-4860,  
 FAX: 603-583-4863



- NOTES**
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  - THIS PLAN HAS BEEN PREPARED FOR MUNICIPAL AND STATE APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON-SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCY FROM DATA AS SHOWN ON THE DESIGN PLANS. THIS INCLUDES ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE, FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS OF THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED.
  - ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.
  - ALL ROAD AND DRAINAGE WORK TO CONFORM TO TOWN STANDARD SPECIFICATIONS FOR CONSTRUCTION.
  - ALL PROPOSED SIGNS SHALL CONFORM TO THE TOWN ZONING REGULATIONS.
  - IF, DURING CONSTRUCTION, IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DESIGN DRAWINGS, THE CONTRACTOR SHALL BE REQUIRED TO CORRECT THE DEFICIENCIES TO MEET THE REQUIREMENTS OF THE REGULATIONS AT NO EXPENSE TO THE TOWN.
  - THE LANDOWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL WETLAND REGULATIONS, INCLUDING ANY PERMITTING AND SETBACK REQUIREMENTS REQUIRED UNDER THESE REGULATIONS.
  - SEE DETAIL SHEET FOR STANDARD CONSTRUCTION NOTES AND DETAILS.
  - ALTERATION OF TERRAIN PERMIT RSA 485:A-17 IS NOT REQUIRED.
  - THIS SITE IS PARTIALLY LOCATED IN THE 100 YEAR FLOOD ZONE.
  - REQUIRED EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY DISTURBANCE OF THE SITE AND SHALL BE MAINTAINED THROUGH THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES. IF, DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE DUE TO ACTUAL SITE CONDITIONS, THE OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE TOWN.
  - ALL SEDIMENT CONTROL AND STORMWATER FEATURES SHALL BE INSTALLED AND INSPECTED PRIOR TO ANY MATERIAL PROCESSING ON THE SITE.
  - IF LIGHTING IS REQUIRED, TEMPORARY BATTERY POWERED UNITS WILL BE PROVIDED.

**LEGEND**

	UTILITY POLE
	TEST PIT W/ NO.
	STONE WALL
	TREE LINE
	EXISTING CONTOUR - 10'
	EXISTING CONTOUR - 2'
	OVERHEAD UTILITIES
	BUILDING SETBACK LINE
	WETLAND SETBACK LINE
	WETLAND BOUNDARY
	ABUTTING PROPERTY LINE
	EXISTING PROPERTY LINE
	EROSION CONTROL MIX BERM

**Site Specific Soil Map Legend**

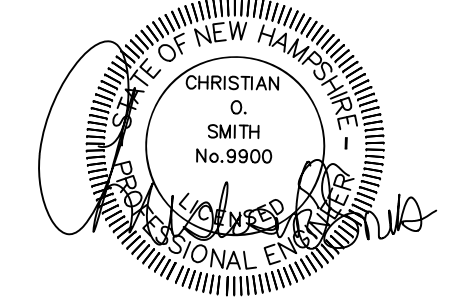
Soil Series Number	Soil Series Name	Disturbed Soil Series Map Unit Symbol	Drainage Class	Hydrologic Soil Group
26	Windbor	NA	Well	A**
100	Udorhents - wet substratum	dbacc	Moderately well	C*
299	Udorhents - smoothed	dbccc	Moderately well	C*
299	Udorhents - smoothed	hbabc	Not determined	B*
305	Lim-Pootatuck complex	NA	Poor-M-well	C - B**
313	Deerfield	NA	Moderately well	B**
315	Mashpee	NA	Poor	B**
350	Udipsammets-wet	ebccc	Somewhat poor	C*
915	Deerfield Variant	NA	Somewhat poor	B*

**Disturbed Soil Mapping Unit Supplemental Symbol Legend**

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ebccc	Somewhat poor (e)	Mineral restrictive layer (c)	C* (c)
hbabc	Not determined (h)	None (a)	C* (c)

\* = estimated

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<b>SITE, GRADING &amp; DRAINAGE PLAN B</b>			
<b>COMMERCIAL DEVELOPMENT</b>			
TAX MAP 11, BLK 2, LOT 11			
9 BOWLEY ROAD			
EAST KINGSTON, NEW HAMPSHIRE			
PER REVIEW COMMENTS	10-9-2023	DATE:	JUNE 2023
PER REVIEW ENGINEER COMMENTS	9-11-2023	SCALE:	1"=30'
REVISIONS:	DATE:	PROJ. NO:	NH-1485
		SHEET NO.:	4



### SEEDING GUIDE

USE	SEEDING MIXTURE 1/	DROUGHTY	WELL DRAINED	MODERATELY WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	FAIR	FAIR
	C	POOR	GOOD	EXCELLENT	GOOD
	E	FAIR	FAIR	EXCELLENT	EXCELLENT
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	EXCELLENT	EXCELLENT	FAIR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
	D	GOOD	EXCELLENT	EXCELLENT	FAIR
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	FAIR	POOR
	C	GOOD	EXCELLENT	EXCELLENT	EXCELLENT
	D	FAIR	GOOD	GOOD	EXCELLENT
PLAY AREAS AND ATHLETIC FIELDS (TOPSOIL IS ESSENTIAL FOR GOOD TURF)	F	FAIR	EXCELLENT	EXCELLENT	2/
	G	FAIR	EXCELLENT	EXCELLENT	2/

GRAVEL PIT, SEE NH-PM-24 IN APPENDIX FOR RECOMMENDATION REGARDING RECLAMATION OF SAND AND GRAVEL PITS.

1/ REFER TO SEEDING MIXTURES AND RATES IN TABLE 7-36. (PREFERRED MIX INDICATED WITH AN ASTERISK)

2/ POORLY DRAINED SOILS ARE NOT DESIRABLE FOR USE AS PLAYING AREA AND ATHLETIC FIELDS.

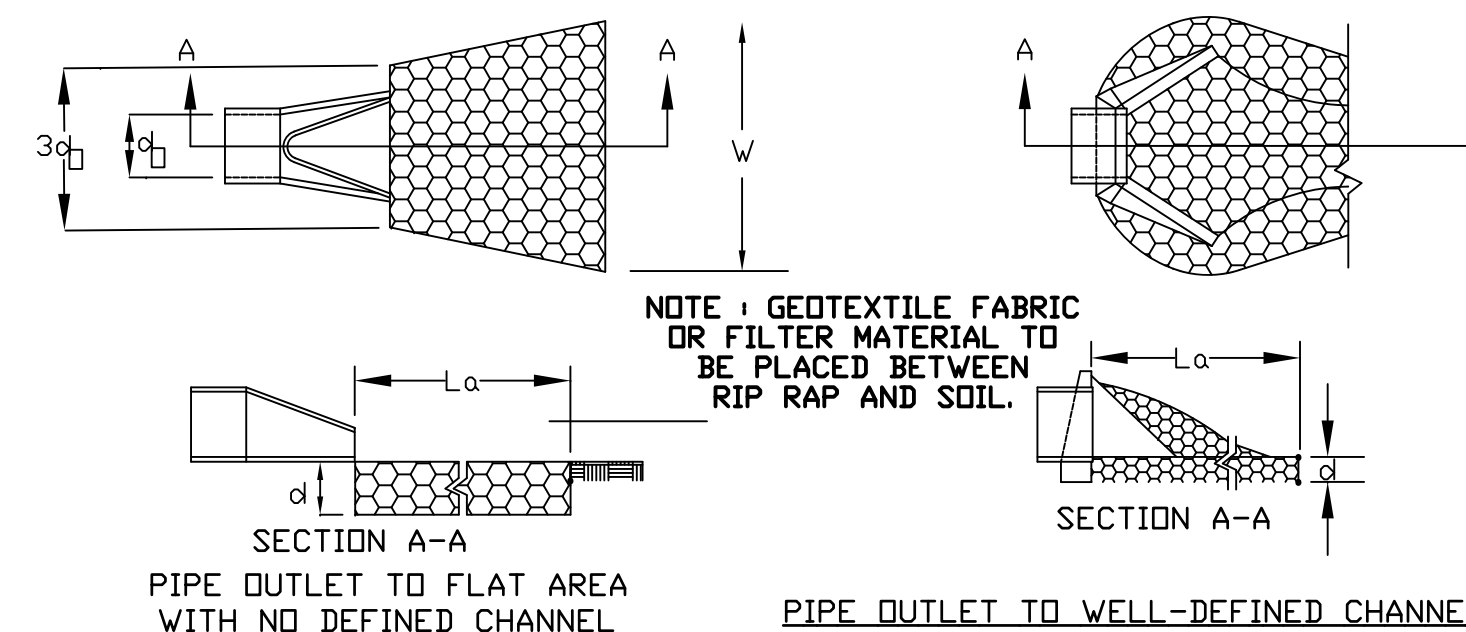
NOTE: TEMPORARY SEED MIX FOR STABILIZATION OF TURF SHALL BE WINTER RYE OR DATS AT A RATE OF 2.5 LBS. PER 1000 S.F. AND SHALL BE PLACED PRIOR TO OCT. 15, IF PERMANENT SEEDING NOT YET COMPLETE.

### SEEDING RATES

MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 SQ. FT.
A. TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
RED TOP	2	0.05
TOTAL	42	0.95
B. TALL FESCUE	15	0.35
CREEPING RED FESCUE	10	0.25
CROWN VETCH	15	0.35
OR		
FLAT PEA	30	0.75
TOTAL	40 OR 55	0.95 OR 1.35
C. TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
BIRDS FOOT TREFLOIL	8	0.20
TOTAL	48	1.10
D. TALL FESCUE	20	0.45
FLAT PEA	30	0.75
TOTAL	50	1.20
E. CREEPING RED FESCUE	50	1.15
KENTUCKY BLUEGRASS	50	1.15
TOTAL	100	2.30
F. TALL FESCUE 1	150	3.60

1/ FOR HEAVY USE ATHLETIC FIELDS CONSULT THE UNIVERSITY OF NEW HAMPSHIRE COOPERATIVE EXTENSION TURF SPECIALIST FOR CURRENT VARIETIES AND SEEDING RATES.

TABLE 7-36



PIPE OUTLET TO FLAT AREA WITH NO DEFINED CHANNEL      PIPE OUTLET TO WELL-DEFINED CHANNEL

### CONSTRUCTION SPECIFICATIONS

1. THE SUB GRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIP RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
  2. THE ROCK OR GRAVEL USED FOR FILTER OF RIP RAP SHALL CONFORM TO THE SPECIFIED GRADATION. 3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP RAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
  4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.
  5. STONE FOR RIPRAP SHALL BE ANGULAR OR SUBANGULAR. THE STONES SHOULD BE SHAPED SO THAT THE LEAST DIMENSION OF THE STONE FRAGMENT SHALL BE NOT LESS THAN ONE-THIRD OF THE GREATEST DIMENSION OF THE FRAGMENT.
  6. FLAT ROCKS SHALL NOT BE USED FOR RIP RAP. VOIDS IN THE ROCK RIPRAP SHOULD BE FILLED WITH SPALLS AND SMALLER ROCKS.
- MAINTENANCE**
1. THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIP RAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO OUTLET PROTECTION.

PREPARED FOR:  
**PETER BROWN**  
MIDNIGHT LEASING, LLC  
EAST KINGSTON, NEW HAMPSHIRE

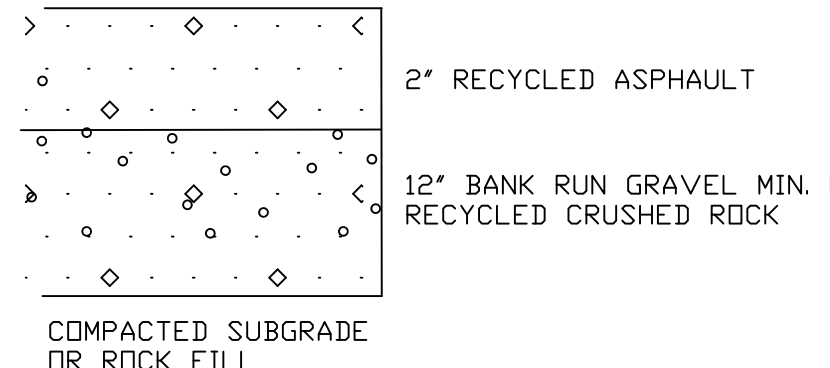
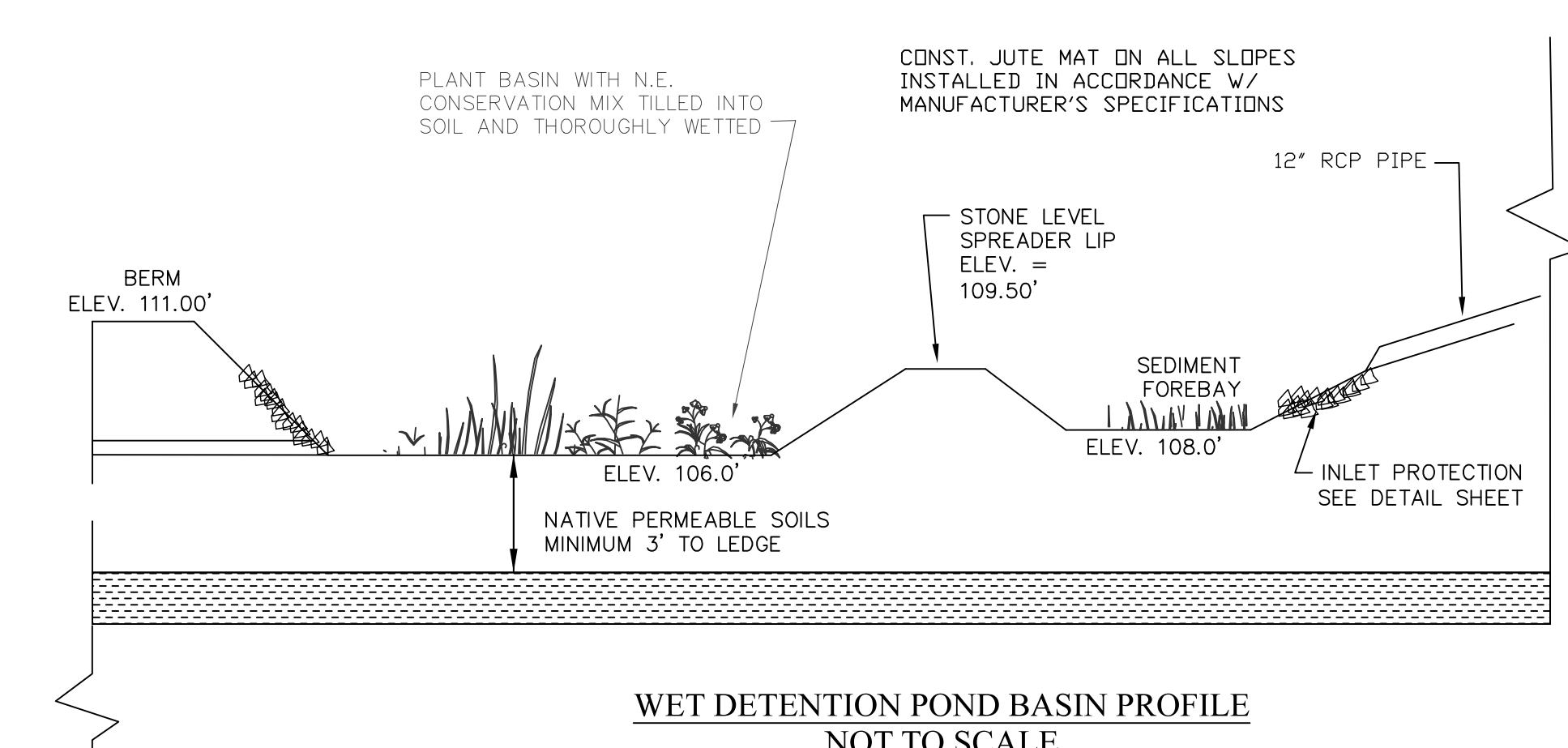
**BA BEALS**  
ASSOCIATES, PLLC  
70 PORTSMOUTH AVE,  
THIRD FLOOR, SUITE 2  
STRATHAM, N.H. 03885  
PHONE: 603-583-4860  
FAX: 603-583-4863

### PIPE OUTLET PROTECTION

TABLE 7-24-RECOMMENDED RIP RAP GRADATION RANGES

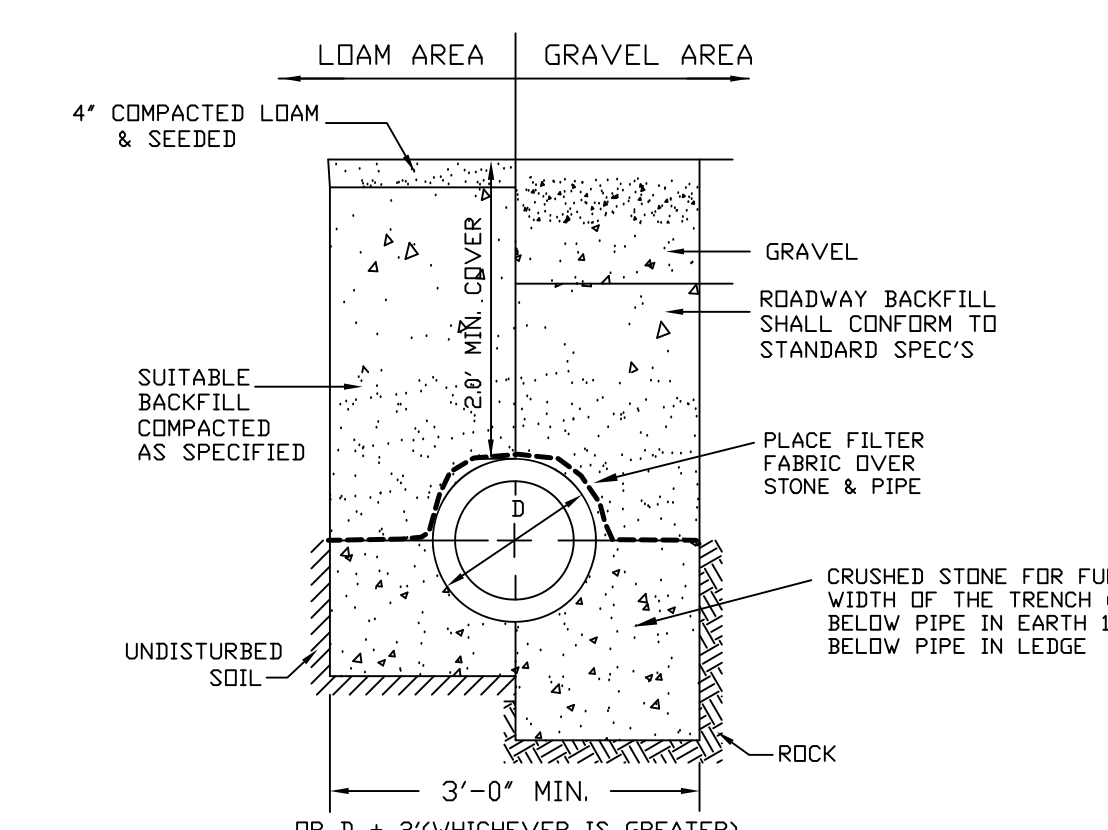
ø50 SIZE=	0.25 FEET	3 INCHES
% OF WEIGHT SMALLER THAN THE GIVEN ø50 SIZE FROM	SIZE OF STONE(INCHES)	TO
100%	5	6
85%	4	5
50%	3	5
15%	1	2

### PIPE OUTLET PROTECTION



NOTE: IN AREAS OF ROCK EXCAVATION, MINIMUM 9" BANK RUN GRAVEL SHALL BE PLACED

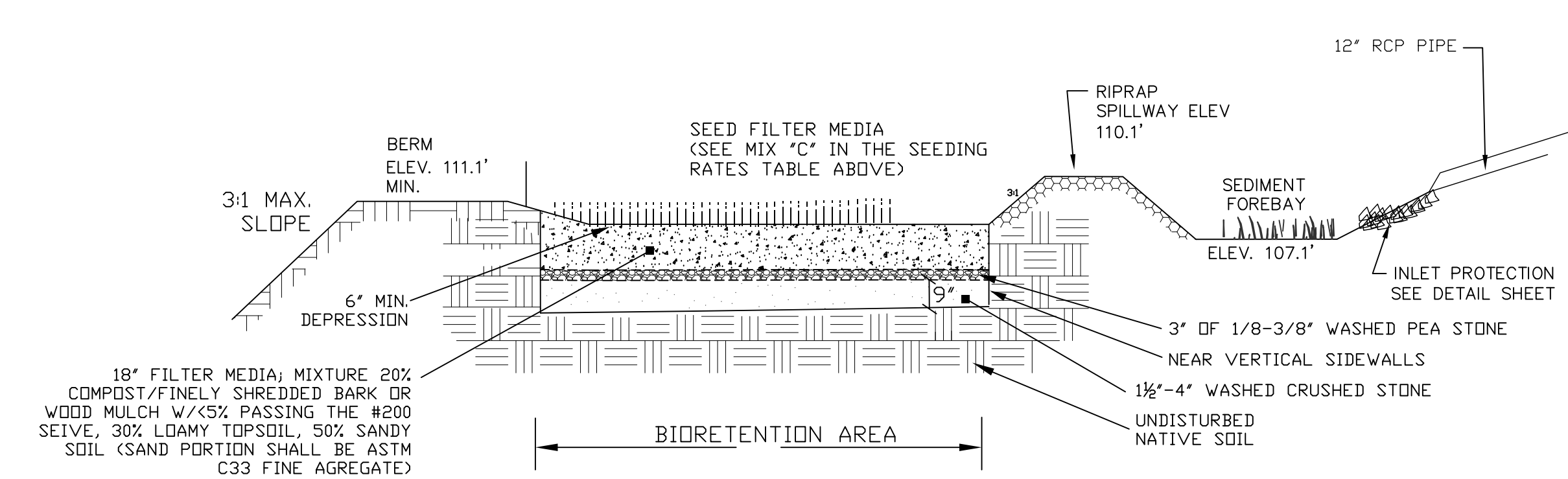
### TYPICAL GRAVEL SECTION NEW ASPHALT - NTS



- NOTE:
1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
  2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO SUBDIVISION SPEC'S.
  3. BACKFILL MATERIALS SHALL BE SCREENED GRAVEL WITH NO STONES LARGER THAN 6".

### TYPICAL DRAINAGE TRENCH DETAIL

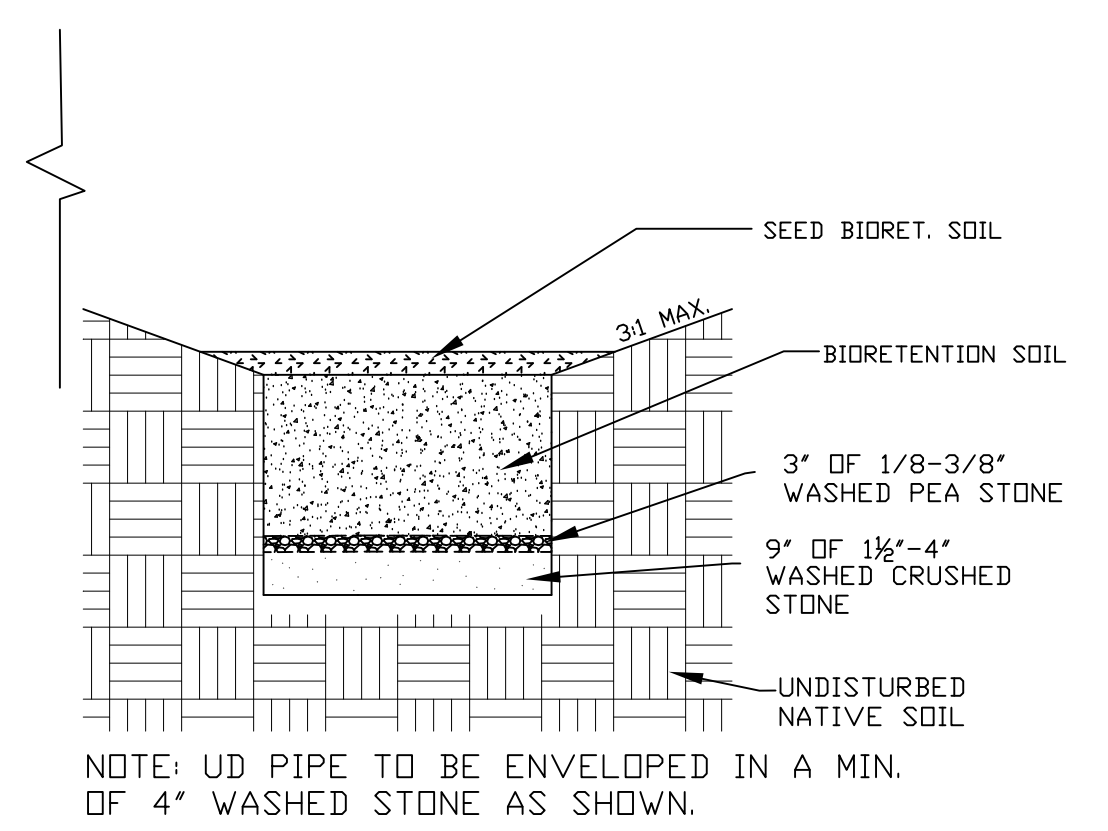
- GENERAL NOTES:
1. INSTALL ALL TEMPORARY EROSION CONTROL MEASURES (IN ACCORDANCE WITH Env-Wq 1500) PRIOR TO THE START OF ANY CONSTRUCTION OPERATION THAT MAY CAUSE ANY SEDIMENTATION OR SILTATION AT THE SITE.
  2. INSTALL STORM DRAIN INLET PROTECTION TO PREVENT CLOGGING OF THE STORM SEWER AND SEDIMENT LOADS TO DOWNSTREAM STORM WATER FACILITIES OR WATERBODIES.
  3. IF THE STORMWATER BMP IS BEING DESIGNED TO SERVE AS A TEMPORARY SEDIMENT BASIN, GRADE THE BMP TO WITHIN THREE (3) FEET OF FINAL GRADE TO PROTECT THE UNDERLYING MATERIAL FROM CLOGGING. ONCE CONSTRUCTION IN THE CONTRIBUTING DRAINAGE AREA HAS BEEN COMPLETED AND THE SITE IS STABILIZED, EXCAVATE THE BASIN TO FINAL GRADE AND COMPLETE CONSTRUCTION OF THE BMP.
  4. GRADING OF THE BASIN SHALL BE ACCOMPLISHED USING LOW-IMPACT EARTH-MOVING EQUIPMENT TO PREVENT COMPACTION OF THE UNDERLYING SOILS. SMALL TRACKED DOZERS AND BOBCATS WITH RUNNER TRACKS ARE RECOMMENDED.
  5. EXCAVATE THE BASIN TO THE SPECIFIED DEPTH (ELEVATION). IT IS RECOMMENDED THAT ALL SUB MATERIAL BELOW THE SPECIFIED ELEVATION SHALL BE LEFT UNDISTURBED, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
  6. GRADE TO THE DEPTH (ELEVATION) SPECIFIED IN THE CONSTRUCTION DOCUMENTS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
  7. IN THE EVENT THAT SEDIMENT IS INTRODUCED INTO THE BMP DURING OR IMMEDIATELY FOLLOWING EXCAVATION, THIS MATERIAL WILL NEED TO BE REMOVED FROM THE BASIN PRIOR TO INITIATING THE NEXT STEP IN THE CONSTRUCTION PROCESS. SEDIMENT THAT HAS BEEN WASHED INTO THE BASIN DURING THE EXCAVATION PROCESS CAN SEAL THE PERMEABLE MATERIAL, SIGNIFICANTLY REDUCING THE INFILTRATION CAPACITY OF THE SOILS.
  8. SEEDING AND INSTALLATION OF EROSION CONTROL BLANKET IF REQUIRED SHALL BE COMPLETED WITHIN 48 HOURS OF FINAL GRADING.
  9. AREA SHALL BE STAKED OFF DURING CONSTRUCTION TO RESTRICT HEAVY EQUIPMENT TRAFFIC FROM COMPACTION NATIVE SOILS.



- NOTE:
1. SCARIFY SIDES AND BOTTOM OF BIORETENTION AREA TO FACILITATE NATURAL INFILTRATION RATES.
  2. POND SURFACE TO BE FINISHED WITH 3" BARK MULCH OR 4" LOAM & SEED

### BIORETENTION POND PROFILE DETAIL

NOT TO SCALE

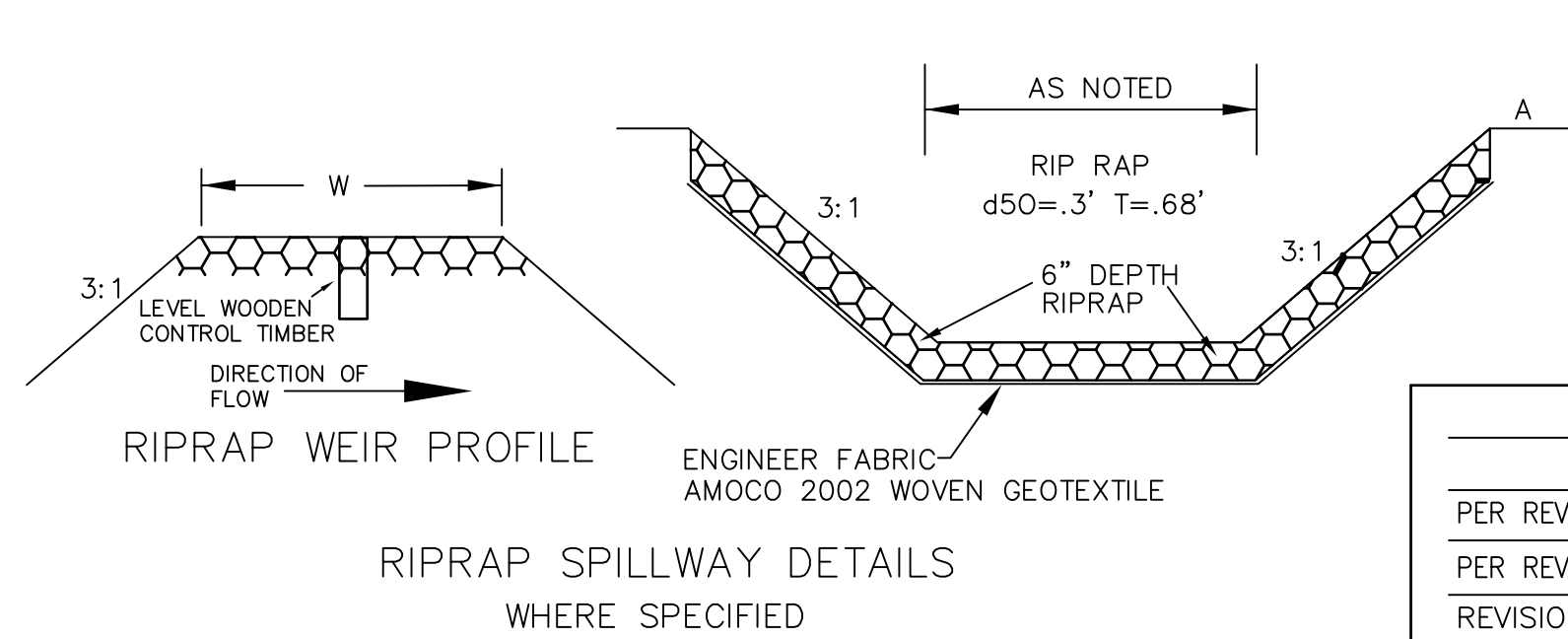


NOTE: UD PIPE TO BE ENVELOPED IN A MIN. OF 4" WASHED STONE AS SHOWN.

### BIORETENTION SECTION

NOT TO SCALE

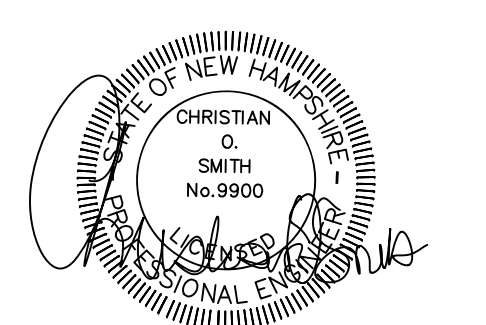
- NOTES:
1. DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT, IF FEASIBLE. PERFORM EXCAVATION WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION COMPONENTS OF THE SYSTEM.
  2. DO NOT PLACE SYSTEM INTO SERVICE UNTIL THE BMP HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
  3. DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF WATER FROM EXCAVATIONS) TO THE BIO-RETENTION AREA DURING ANY STAGE OF CONSTRUCTION.



### RIPRAP SPILLWAY DETAILS WHERE SPECIFIED

Table 4-13. Gradation of Stone for Level Spreader Berm

Sieve Designation	Percent by Weight Passing Square Mesh Sieve
12-inch	100%
6-inch	84% - 100%
3-inch	68% - 83%
1-inch	42% - 55%
No. 4	8% - 12%



PER REVIEW COMMENTS	DATE
	10-9-2023
	9-11-2023
REVISIONS:	DATE:

### CONSTRUCTION DETAILS

COMMERCIAL DEVELOPMENT  
TAX MAP 11, BLK 2, LOT 11  
9 BOWLEY ROAD  
EAST KINGSTON, NEW HAMPSHIRE

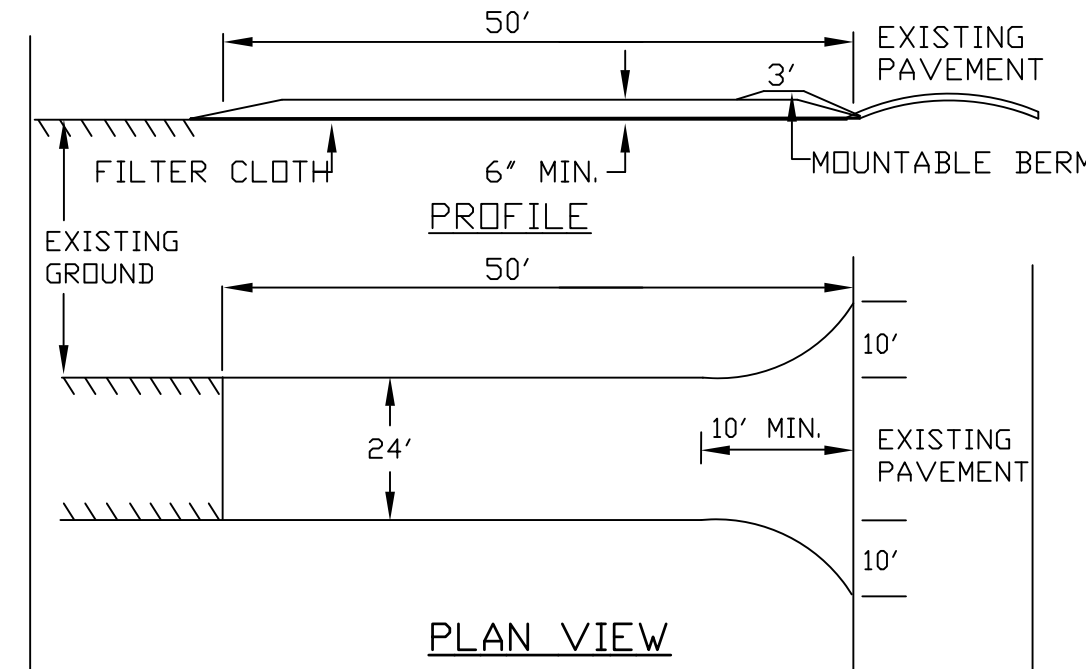
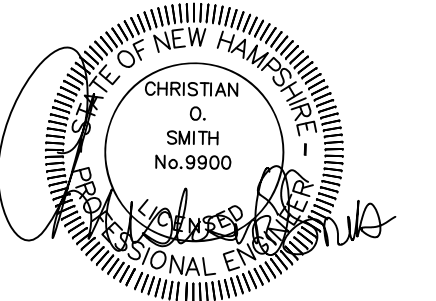
DATE:	JULY 2023	SCALE:	NTS
PROJ. NO:	NH-1485	SHEET NO.	5



PREPARED FOR:  
**PETER BROWN**  
**MIDNIGHT LEASING, LLC**  
**EAST KINGSTON, NEW HAMPSHIRE**

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 THIRD FLOOR, SUITE 2  
 STRATHAM, N.H. 03885  
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 FAX: 603-583-4863



1. STONE FOR A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 3 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50 FEET, EXCEPT FOR A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
3. THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
4. THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICH EVER IS GREATER.
5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. FILTER CLOTH IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENCE LOT.
6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.

**STABILIZED CONSTRUCTION ENTRANCE**

**TEMPORARY EROSION CONTROL MEASURES**

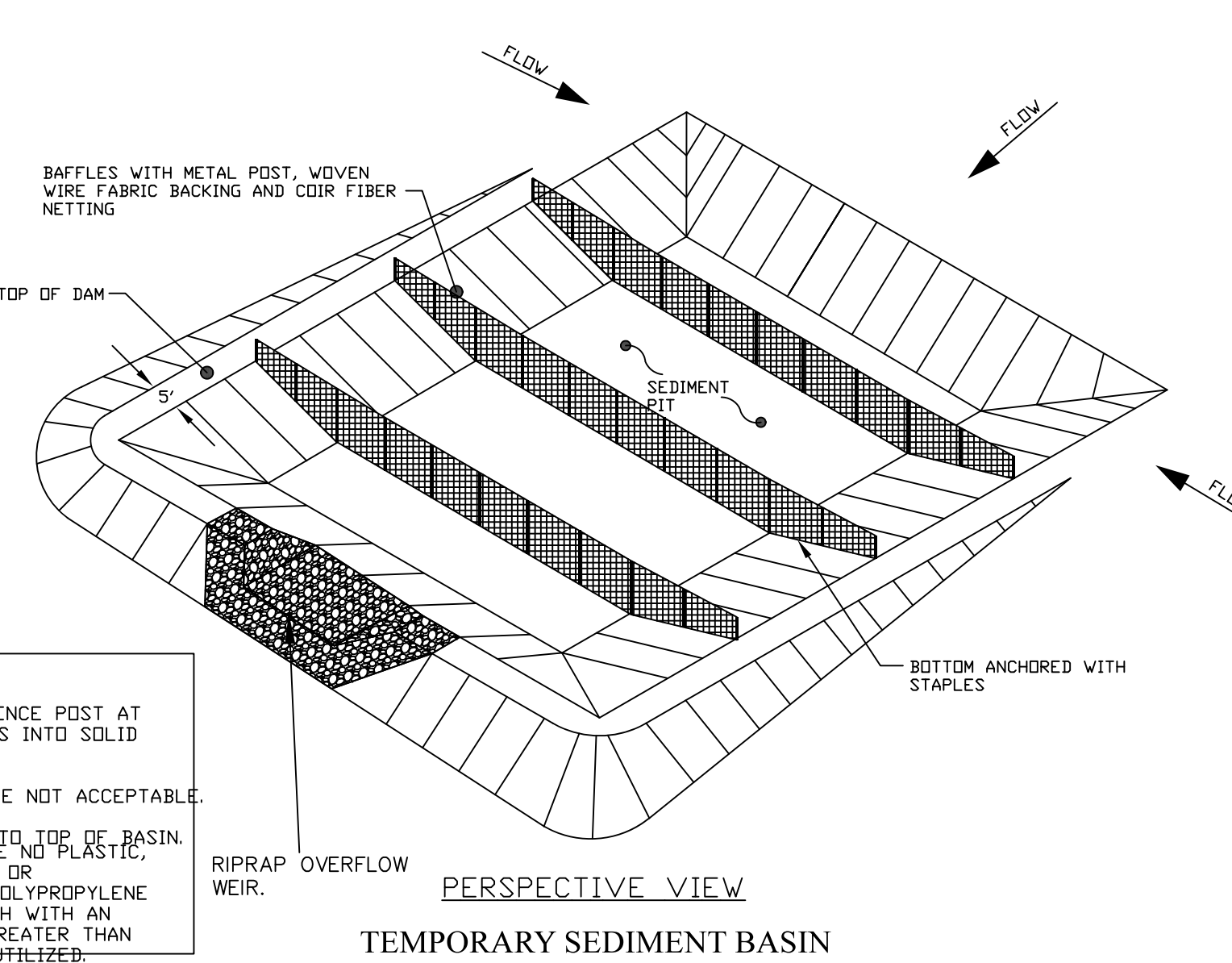
1. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT NO MORE THAN 5 ACRES OF LAND SHALL BE EXPOSED BEFORE DISTURBED AREAS ARE STABILIZED\*. LIMIT EXPOSURE OF UNSTABILIZED SOIL TO 45-DAYS OR LESS.
  - PERIMETER CONTROLS MUST BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS.
  - STORMWATER PONDS, INFILTRATION BASINS AND SWALES MUST BE INSTALLED BEFORE ROUGH GRADING THE SITE.
  - RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL STORMWATER BMPs ARE STABILIZED.
  - STORMWATER PONDS, INFILTRATION BASINS AND SWALES MUST BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
  - EROSION CONTROL PRACTICES ARE TO BE INSPECTED WEEKLY AND AFTER O.S. OF RAINFALL.
  - CUT AND FILL SLOPES MUST BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
  - ROADWAYS AND PARKING AREAS MUST BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
2. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AT LOCATIONS AS REQUIRED OR DIRECTED BY THE ENGINEER ALL DISTURBED AREAS SHALL BE RETURNED TO ORIGINAL GRADES AND ELEVATIONS.
3. DISTURBED AREAS SHALL BE LOAMED WITH A MINIMUM OF 4" OF LOAM AND SEEDED WITH NOT LESS THAN 1.10 POUNDS OF SEED PER 1000 SQUARE FEET OF AREA. (48 POUNDS PER ACRE) SEE SEED SPECIFICATIONS THIS SHEET.
4. SILT FENCES AND OTHER EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY RAIN EVENT GREATER THAN 0.5" DURING THE LIFE OF THE PROJECT. ALL DAMAGED AREAS SHALL BE REPAIRED, SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED OF.
5. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION CONTROL MEASURES ARE TO BE REMOVED AND THE AREA DISTURBED BY THE REMOVAL SMOOTHED AND RE-VEGETATED.
6. AREAS MUST BE SEEDED AND MULCHED WITHIN 3 DAYS OF FINAL GRADING, PERMANENTLY STABILIZED WITHIN 15 DAYS OF FINAL GRADING, OR TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE OF SOIL.
- \* AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
  - IN AREAS TO BE PAVED, BASE COURSE GRAVELS MEETING THE REQUIREMENTS OF NHDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM 304.2 HAVE BEEN INSTALLED.
  - A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED.
  - A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS RIPRAP HAS BEEN INSTALLED.
  - EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

**CONSTRUCTION SPECIFICATIONS**

1. STRUCTURES SHALL BE INSTALLED ACCORDING TO THE DIMENSIONS SHOWN ON THE PLANS AT THE APPROPRIATE SPACING.
2. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER SO THAT EROSION AND AIR AND WATER POLLUTION WILL BE MINIMIZED.
3. WHEN TIMBER STRUCTURES ARE USED, THE TIMBER SHALL EXTEND AT LEAST 18" INTO THE SOIL.
4. STRAW BALES SHALL BE ANCHORED INTO THE SOIL USING 2" X 2" STAKES DRIVEN THROUGH THE BALES AND AT LEAST 18 INCHES IN TO THE SOIL.
5. SEEDING, FERTILIZING, AND MULCHING SHALL CONFORM TO THE RECOMMENDATIONS IN THE APPROPRIATED VEGETATIVE BMP.
6. STRUCTURES SHALL BE REMOVED FROM THE CHANNEL WHEN THEIR USEFUL LIFE HAS BEEN COMPLETED.
7. THROUGHOUT THE DURATION OF CONSTRUCTION ACTIVITIES THE CONTRACTOR SHALL TAKE PRECAUTIONS AND INSTRUCTIONS FROM THE PLANNING DEPARTMENT IN ORDER TO PREVENT, ABATE AND CONTROL THE EMISSION OF FUGITIVE DUST INCLUDING BUT NOT LIMITED TO WETTING, COVERING, SHIELDING, OR VACUUMING.
8. THE NH COMMISSIONER OF AGRICULTURE PROHIBITS THE COLLECTION, POSSESSION, IMPORTATION, TRANSPORTATION, SALE, PROPAGATION, TRANSPLANTATION, OR CULTIVATION OF PLANTS BANNED BY NH LAW RSA 430:53 AND NH CODE ADMINISTRATIVE RULES AGR 3800. THE PROJECT SHALL MEET ALL REQUIREMENTS AND THE INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.
9. IN THE EVENT THAT GREATER THAN ONE ACRE OF CONTIGUOUS DISTURBANCE OCCURS, THE CONSTRUCTION SITE OPERATOR AND OWNER SHALL SUBMIT A NOTICE OF INTENT (NOI) TO USEPA, WASHINGTON, DC, STORMWATER NOTICE PROCESSING CENTER AT LEAST FOURTEEN DAYS PRIOR TO COMMENCEMENT OF WORK ON SITE. EPA WILL POST THE NOI AT <https://cfpub.epa.gov/nhdes/stormwater/noi/noisearch.cfm>. AUTHORIZATION IS GRANTED UNDER THE PERMIT ONCE THE NOI IS SHOWN IN 'ACTIVE STATUS'.

**CONSTRUCTION SEQUENCE**

1. CUT AND REMOVE TREES IN CONSTRUCTION AREAS AS REQUIRED OR DIRECTED.
2. CONSTRUCT AND/OR INSTALL TEMPORARY AND PERMANENT SEDIMENT EROSION AND DETENTION CONTROL FACILITIES AS REQUIRED. EROSION, SEDIMENT AND DETENTION CONTROL FACILITIES SHALL BE INSTALLED AND STABILIZED PRIOR TO ANY EARTH MOVING OPERATION AND PRIOR TO DIRECTING RUNOFF TO THEM.
3. CLEAR, CUT, GRUB AND DISPOSE OF DEBRIS IN APPROVED FACILITIES. STUMPS AND DEBRIS ARE TO BE REMOVED FROM SITE AND DISPOSED OF PER STATE AND LOCAL REGULATIONS.
4. EXCAVATE AND STOCKPILE TOPSOIL /LOAM. ALL AREAS SHALL BE STABILIZED IMMEDIATELY AFTER GRADING.
5. CONSTRUCT TEMPORARY CULVERTS AS REQUIRED OR DIRECTED.
6. CONSTRUCT THE ROADWAY AND ITS ASSOCIATED DRAINAGE STRUCTURES. ALL ROADWAYS, AND CUT/FILL SLOPES SHALL BE STABILIZED AND/OR LOAMED AND SEEDED WITHIN 72-HOURS OF ACHIEVING FINISH GRADE AS APPLICABLE.
7. INSTALL PIPE AND CONSTRUCTION ASSOCIATED APPURTENANCES AS REQUIRED OR DIRECTED. ALL DISTURBED AREAS SHALL BE STABILIZED IMMEDIATELY AFTER GRADING.
8. BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES AND DISTURBED AREAS SHALL BE SEEDED OR MULCHED AS REQUIRED, OR DIRECTED.
9. DAILY OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINAGE CHECK DAMS, DITCHES, SEDIMENT TRAPS, ETC. TO PREVENT EROSION ON THE SITE AND PREVENT ANY SILTATION OF ABUTTING WATERS OR PROPERTY.
10. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION
11. COMPLETE PERMANENT SEEDING AND LANDSCAPING
12. REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDING AREAS HAVE ESTABLISHED THEMSELVES AND SITE IMPROVEMENTS ARE COMPLETE. SMOOTH AND REVEGETATE ALL DISTURBED AREAS.
13. ALL SWALES AND DRAINAGE STRUCTURES WILL BE CONSTRUCTED AND STABILIZED PRIOR TO HAVING RUNOFF DIRECTED TO THEM.
14. FINISH PAVING ALL ROADWAYS.
15. LOT DISTURBANCE OTHER THAN THAT SHOWN ON THE APPROVED PLANS SHALL NOT COMMENCE UNTIL THE ROADWAY HAS THE CRUSHED STONE COURSE TO DESIGN ELEVATION/REQUIRED COMPACTION AND THE ASSOCIATED DRAINAGE IS COMPLETE AND STABLE.



- NOTES:**
1. DRIVE STEEL FENCE POST AT LEAST 18 INCHES INTO SOLID GROUND.
  2. WOOD POSTS ARE NOT ACCEPTABLE.
  3. DIRECT WATER TO TOP OF BASIN.
  4. THERE SHALL BE NO PLASTIC MULTI-FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH WITH AN OPENING SIZE GREATER THAN 1/8" MATERIAL UTILIZED.

**WINTER MAINTENANCE**

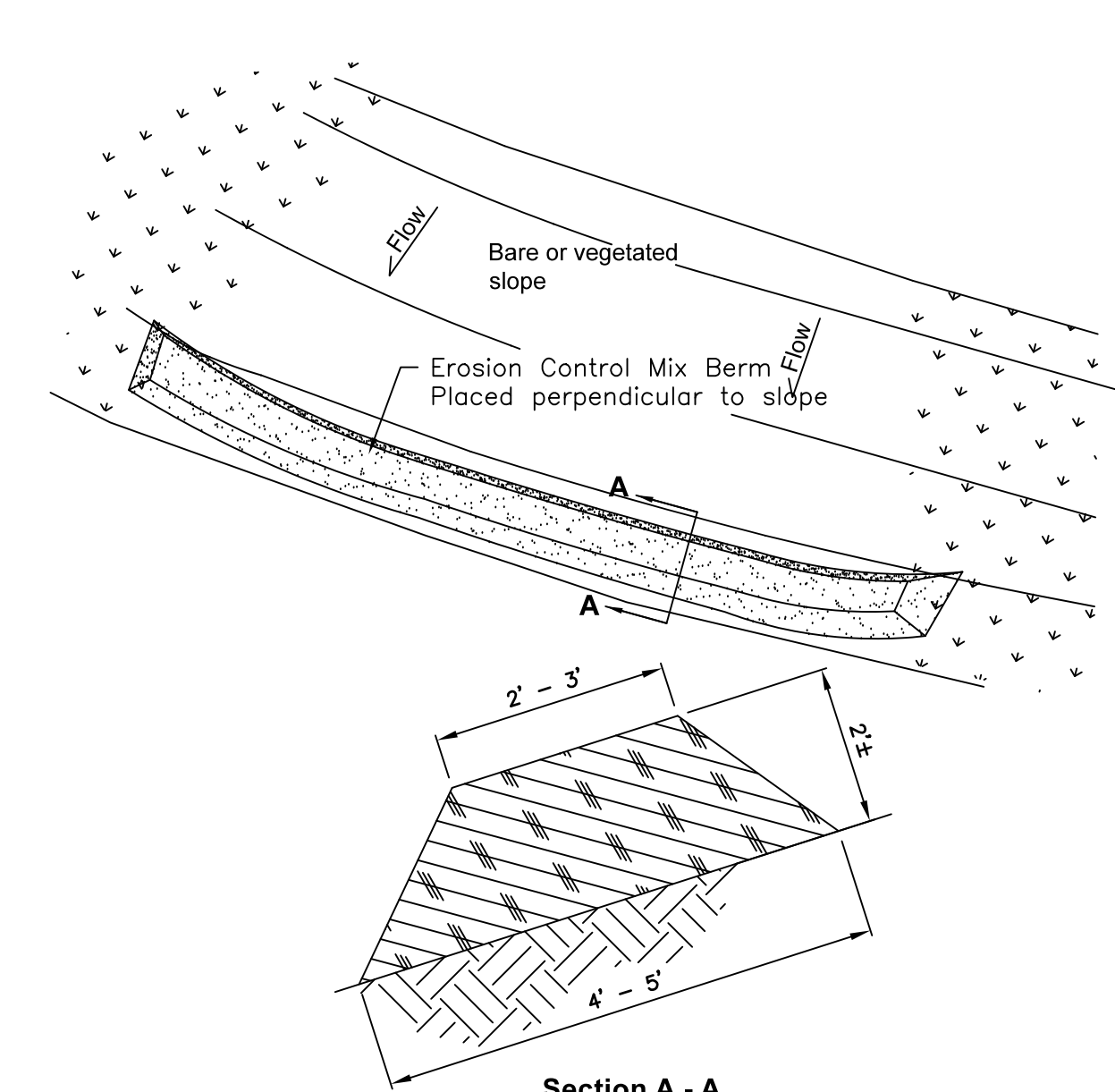
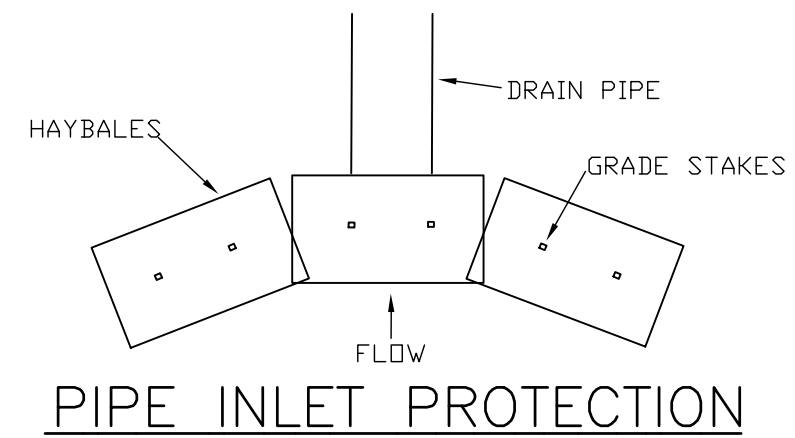
1. ALL DISTURBED AREAS THAT DO NOT HAVE AT LEAST 85% VEGETATIVE COVERAGE PRIOR TO OCTOBER 15TH, SHALL BE STABILIZED BY APPLYING MULCH AT A RATE OF 3-4 TONS PER ACRE. ALL SIDE SLOPES, STEEPER THAN 4:1, THAT ARE NOT DIRECTED TO SWALES OR DETENTION BASINS, SHALL BE LINED WITH BIODEGRADABLE/PHOTODEGRADABLE "JUTE MATTING" EXCELSIOR'S CURLEX II OR EQUAL. ALL OTHER SLOPES SHALL BE MULCHED AND TACKED AT A RATE OF 3-4 TONS PER ACRE. THE APPLICATION OF MULCH AND/OR JUTE MATTING SHALL NOT OCCUR OVER EXISTING SNOW COVER. IF THE SITE IS ACTIVE AFTER NOVEMBER 15TH, ANY SNOW THAT ACCUMULATES ON DISTURBED AREAS SHALL BE REMOVED. PRIOR TO SPRING THAW ALL AREAS WILL BE STABILIZED, AS DIRECTED ABOVE.
2. ALL SWALES THAT DO NOT HAVE FULLY ESTABLISHED VEGETATION SHALL BE EITHER LINED WITH TEMPORARY JUTE MATTING OR TEMPORARY STONE CHECK DAMS (APPROPRIATELY SPACED). STONE CHECK DAMS WILL BE MAINTAINED THROUGHOUT THE WINTER MONTHS. IF THE SWALES ARE TO BE MATTED WITH PERMANENT LINERS OR RIPRAP WITH ENGINEERING FABRIC, THIS SHALL BE COMPLETED PRIOR TO WINTER SHUTDOWN OR AS SOON AS THEY ARE PROPERLY GRADED AND SHAPED.
3. PRIOR TO OCT. 15TH ALL ROADWAY AND PARKING AREAS SHALL BE BROUGHT UP TO AND THROUGH THE BANK RUN GRAVEL APPLICATION. IF THESE AREAS' ELEVATIONS ARE PROPOSED TO REMAIN BELOW THE PROPOSED SUBGRADE ELEVATION, THE SUBGRADE MATERIAL SHALL BE ROUGHLY CROWNED AND A 3" LAYER OF CRUSHED GRAVEL SHALL BE PLACED AND COMPACTED. THIS WILL ALLOW THE SUBGRADE TO SHED RUNOFF AND WILL REDUCE ROADWAY EROSION. THIS CRUSHED GRAVEL DOES NOT HAVE TO CONFORM TO NH DOT 304.3, BUT SHALL HAVE BETWEEN 15-25% PASSING THE #200 SIEVE AND THE LARGEST STONE SIZE SHALL BE 2". IF THE SITE IS ACTIVE AFTER NOVEMBER 15TH, ANY ACCUMULATED SNOW SHALL BE REMOVED FROM ALL ROADWAY AND PARKING AREAS.
4. AFTER OCTOBER 15TH, THE END OF NEW HAMPSHIRE'S AVERAGE GROWING SEASON, NO ADDITIONAL LOAM SHALL BE SPREAD ON SIDE SLOPES AND SWALES. THE STOCKPILES THAT WILL BE LEFT UNDISTURBED UNTIL SPRING SHALL BE SEED BY THIS DATE. AFTER OCTOBER 15TH, ANY NEW OR DISTURBED PILES SHALL BE MULCHED AT A RATE OF 3-4 TONS PER ACRE. ALL STOCKPILES THAT WILL REMAIN THROUGHOUT THE WINTER SHALL BE SURROUNDED WITH SILT FENCING.

**SEEDING SPECIFICATIONS**

1. GRADING AND SHAPING
  - A. SLOPES SHALL NOT BE STEEPER THAN 2:1:3:1 SLOPES OR FLATTER ARE PREFERRED. WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.
2. SEEDBED PREPARATION
  - A. SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
  - B. STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND MIX FERTILIZER AND LIME INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.
3. ESTABLISHING A STAND
  - A. LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL. KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:
    - AGRICULTURAL LIMESTONE, 2 TONS PER ACRE OR 100 LBS PER 1,000 SQ. FT.
    - NITROGEN(N), 50 LBS PER ACRE OR 1.1 LBS PER 1,000 SQ.FT.
    - PHOSPHATE(P2O5), 100 LBS PER ACRE OR 2.2 LBS PER 1,000 SQ.FT.
    - POTASH(K2O), 100 LBS PER ACRE OR 2.2 LBS PER 1,000 SQ.FT.
 (NOTE: THIS IS THE EQUIVALENT OF 500 LBS PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS PER ACRE OF 5-10-10.)
  - B. 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 .25 INCH OF SOIL OR LESS, BY CULTIPACKING OR RAKING.
  - C. REFER TO TABLE C-E1 THIS SHEET FOR APPROPRIATE SEED MIXTURES AND TABLE C-E1 THIS SHEET FOR RATES OF SEEDING. ALL LEGUMES (CROWN VETCH, BIRDS FOOT TREFLOIL, AND FLAT PEA) MUST BE INOCULATED WITH THEIR SPECIFIC INOCULANT.
  - D. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 10 TO SEPTEMBER 1.
4. MULCH
  - A. HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
  - B. MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE BEST MANAGEMENT PRACTICE FOR MULCHING. HAY OR STRAW MULCH SHALL BE PLACED AT A RATE OF 90 LBS PER 1000 SQ. FT.
5. MAINTENANCE TO ESTABLISH A STAND
  - A. PLANTED AREA SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
  - B. FERTILIZATION NEEDS SHOULD BE DETERMINED BY ONSITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIAL TAKE 2 TO 3 YEARS TO BECOME ESTABLISHED.
  - C. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, OCCASIONAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.

**SPECIFICATIONS**

SEDIMENT BARRIERS SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM. BALES SHOULD BE PLACED IN A SINGLE ROW, LENGTHWISE ON THE CONTOUR, WITH ENDS OF ADJACENT BALES TIGHTLY ABUTTING ONE ANOTHER. THE ENDS OF THE BARRIER SHOULD BE FLARED UP SLOPE. BARRIERS SHOULD NOT BE CONSTRUCTED MORE THAN ONE BALE HIGH. ALL BALES SHOULD BE EITHER WIRE-BOUND OR STRONG-TIED. BALES SHOULD BE INSTALLED SO THAT BINDINGS ARE ORIENTED AROUND THE SIDES, PARALLEL TO THE GROUND SURFACE TO PREVENT DETERIORATION OF THE BINDINGS. THE BARRIER SHOULD BE ENTRENCHED AND BACKFILLED. A TRENCH SHOULD BE EXCAVATED THE WIDTH OF A BALE AND THE LENGTH OF THE PROPOSED BARRIER TO A MINIMUM DEPTH OF 4 INCHES. AFTER THE BALES ARE STAKED AND CHINKED, THE EXCAVATED SOIL SHOULD BE BACKFILLED AGAINST THE BARRIER. BACKFILL SOIL SHOULD CONFORM TO THE GROUND LEVEL ON THE DOWNHILL SIDE AND SHOULD BE BUILT UP 4 INCHES AGAINST THE UPHILL SIDE OF THE BARRIER. IDEALLY, BALES SHOULD BE PLACED 10 FEET AWAY FROM THE TOP OF SLOPE. AT LEAST TWO STAKES DRIVEN THROUGH THE BALE AND PENETRATING AT LEAST 18 INCHES INTO THE GROUND, SHOULD SECURELY ANCHOR EACH BALE. THE FIRST STAKE IN EACH BALE SHOULD BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER. STAKES SHOULD BE DRIVEN DEEP ENOUGH INTO THE GROUND TO SECURELY ANCHOR THE BALES. THE GAPS BETWEEN BALES SHOULD BE CHINKED (FILLED BY WEDGING) WITH HAY TO PREVENT WATER FROM ESCAPING BETWEEN THE BALES. INSPECTION SHOULD BE FREQUENT AND REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED. BALE BARRIERS SHOULD BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS, BUT NOT BEFORE THE UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED.



Mix material should consist of 30-50% large (1-3") particles. The organic matter content should be 25%-65%, dry weight basis. The organic matter may originate from a variety of vegetative sources, but needs to be fibrous and elongated. The mix shall be free of silt, clay, fine sand, refuse and contaminants or any material toxic to plant growth.

Erosion Control Mix berms are effective filters for overland flow conditions and should not be used to filter concentrated flow such as that found in drainage ditches, streams, etc.

**Erosion Control Mix Berm**

**SEEDING GUIDE**

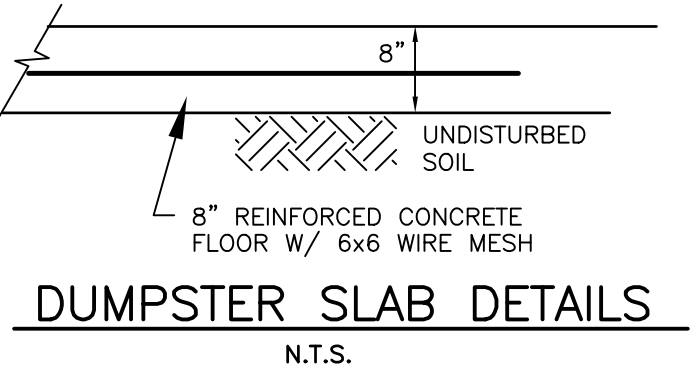
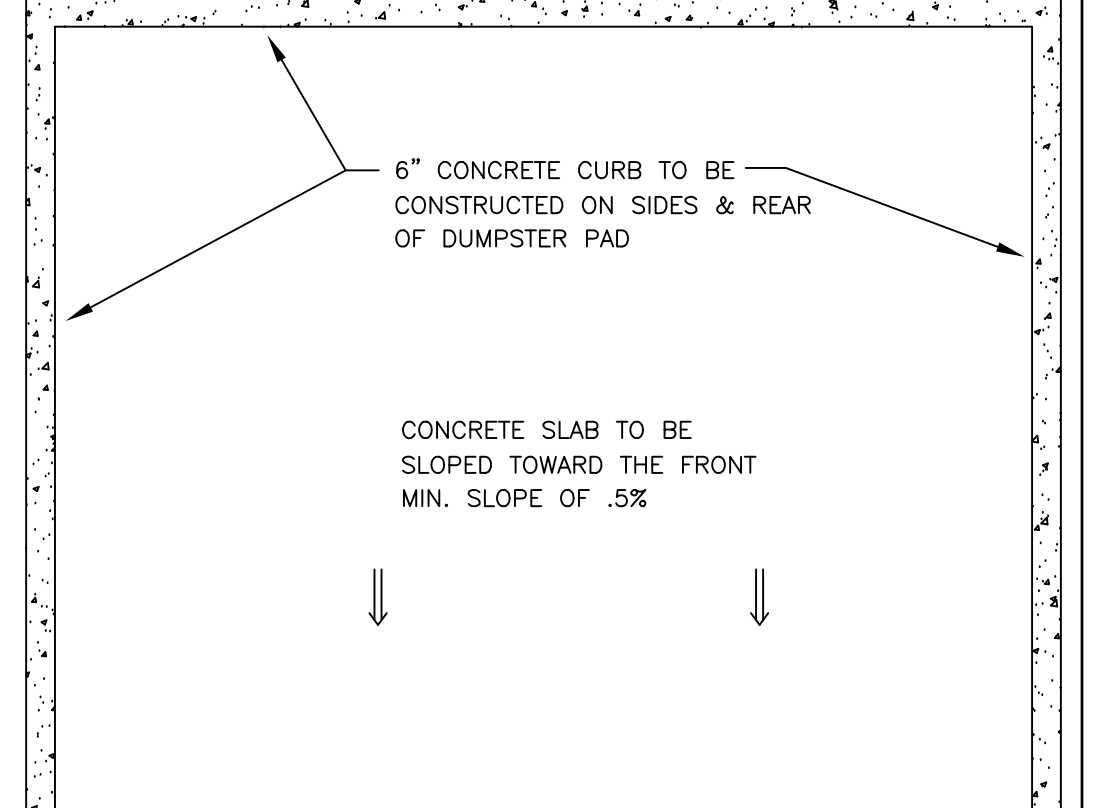
USE	SEEDING MIXTURE 1/	DROUGHTY	WELL DRAINED	MODERATELY WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	GOOD	GOOD
	C	POOR	GOOD	EXCELLENT	GOOD
	D	FAIR	FAIR	GOOD	EXCELLENT
WATERWAYS, EMERGENCY SEILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER.	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	EXCELLENT	EXCELLENT
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES.	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	EXCELLENT	EXCELLENT
PLAY AREAS AND ATHLETIC FIELDS. (TOPSOIL IS ESSENTIAL FOR GOOD TURF.)	F	FAIR	EXCELLENT	EXCELLENT	B/
	G	FAIR	EXCELLENT	EXCELLENT	B/

(GRAVEL PIT, SEE NH-PM-24 IN APPENDIX FOR RECOMMENDATION REGARDING RECLAMATION OF SAND AND GRAVEL PITS.)

1/ REFER TO SEEDING MIXTURES AND RATES IN TABLE 7-36.

2/ POORLY DRAINED SOILS ARE NOT DESIRABLE FOR USE AS PLAYING AREA AND ATHLETIC FIELDS.

NOTE: TEMPORARY SEED MIX FOR STABILIZATION OF TURF SHALL BE WINTER RYE OR DATS AT A RATE OF 2.5 LBS. PER 1000 S.F. AND SHALL BE PLACED PRIOR TO OCT. 15, IF PERMANENT SEEDING NOT YET COMPLETE.



**SEEDING RATES**

MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 Sq. Ft.
A. TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
RED TOP	2	0.05
TOTAL	42	0.95
B. TALL FESCUE	15	0.35
CREEPING RED FESCUE	10	0.25
CROWN VETCH	15	0.35
OR		
FLAT PEA	30	0.75
TOTAL	40 OR 55	0.95 OR 1.35
C. TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
BIRDS FOOT TREFLOIL	8	0.20
TOTAL	48	1.10
D. TALL FESCUE	20	0.45
FLAT PEA	30	0.75
TOTAL	50	1.20
E. CREEPING RED FESCUE	50	1.15
KENTUCKY BLUEGRASS	30	1.15
TOTAL	100	2.30
F. TALL FESCUE 1	150	3.60

PER REVIEW COMMENTS	10-9-2023
PER REVIEW ENGINEER COMMENTS	9-11-2023
REVISIONS:	DATE:

**EROSION & SEDIMENTATION CONTROL DETAILS**

**COMMERCIAL DEVELOPMENT**  
**TAX MAP 11, BLK 2, LOT 11**  
**9 BOWLEY ROAD**  
**EAST KINGSTON, NEW HAMPSHIRE**

DATE:	JULY, 2023	SCALE:	NTS
PROJ. NO:	NH-1485	SHEET NO.	6