

REVISIONS:

SITE PLAN
FOR
BALD EAGLE COMPANY &
SUR CONSTRUCTION
CHESTNUT HILL ROAD
ROCHESTER, NH

CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITH IN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.

STATE OF NEW HAMPSHIRE PERMIT NUMBERS:
NHDES SITE SPECIFIC: (REQUIRED)
NHDES SHORELAND PERMIT: NOT REQUIRED
NHDES WETLANDS PERMIT: NOT REQUIRED
NHDES DAM PERMIT: NOT REQUIRED
NHDES SUBDIVISION PERMIT: NOT REQUIRED
NHDES SUBSURFACE SYSTEMS PERMIT: NOT REQUIRED
NHDES SEWER CONNECTION PERMIT: NOT REQUIRED
NHDOT DRIVEWAY/ENTRANCE PERMIT: NOT REQUIRED

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES):
NPDES PERMITS ARE ONLY REQUIRED FOR PROJECTS MEETING THE DISTURBED AREA CRITERIA BELOW AND HAVING A POINT SOURCE STORMWATER DISCHARGE FROM THE SITE TO AN ADJACENT WETLAND OR WATER BODY (I.E. CULVERT, SWALE, ETC. OUTLETING TO A WETLAND, CREEK, STREAM OR RIVER).

NPDES PERMIT: REQUIRED

NPDES PERMITS CONSIST OF A NOTICE OF INTENT (NOI) FILED WITH THE ENVIRONMENTAL PROTECTION AGENCY AT LEAST 48 HOURS PRIOR TO CONSTRUCTION COMMENCING AND A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) BEING PREPARED, KEPT ON SITE AND FOLLOWED BY THE CONTRACTOR.

FOR STATUS OF THIS PERMIT CONTACT THE PROJECT GENERAL CONTRACTOR.

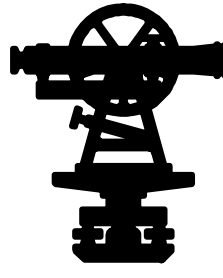
CIVIL ENGINEERS
NORWAY PLAINS ASSOCIATES, INC.
2 CONTINENTAL BOULEVARD
P.O. BOX 249
ROCHESTER, NH 03866-0249
(603) 335-3948

LAND OWNER/DEVELOPER
BALD EAGLE COMPANY
233 CHESTNUT HILL ROAD
P.O. BOX 720
ROCHESTER, NH 03867
(603) 332-4554

SHEET INDEX

	COVER SHEET	AS SHOWN
C-1	EXISTING FEATURES PLAN	1" = 100'
C-2	SITE SPECIFIC SOILS MAP	1" = 100'
C-3	MITIGATION PLAN	1" = 40'
C-4	STORAGE YARD WETLAND IMPACT PLAN	1" = 40'
C-5	STORAGE YARD GRADING & EROSION CONTROL PLAN	1" = 40'
C-6 TO C-7	EROSION CONTROL DETAILS	AS SHOWN
C-8	GRAVEL WETLAND DETAILS	AS SHOWN
C-9	CONSTRUCTION DETAILS	AS SHOWN

FILE NO. 154 DRAWN BY: RRL
PLAN NO. C-#### CHK'D BY: RRL
F.B. NO. ### SCRD NO: D-###
DWG. NO. 11057/SP-1



206 / 1-3

FRANKLIN G. & ANN M. TORR REV. TRUST
1 OLD LITTLEWORTH ROAD
DOVER, NH 03820-4311

209 / 23

DANIEL T. & JARLENE K. HATFIELD
239 CHESTNUT HILL ROAD
ROCHESTER, NH 03867-5105

209 / 17

CECILIA H. TORR REV. LIVING TRUST
64 WAKEFIELD STREET
ROCHESTER, NH 03867-1921

PF01/4E

PEM1Ex

OHW
OHW
OHW
OHWOHW
OHW
OHW
OHW

INSET

INSET
INSET
INSET

LEGEND

- EXISTING GRANITE OR CONCRETE BOUND
EXISTING IRON PIN, PIPE OR STAKE
WETLAND
EXISTING SIGN
EXISTING UTILITY POLE
EXISTING PROPERTY LINE
EXISTING EASEMENT LINE
SETBACK LINE
EDGE OF WETLAND
EXISTING TREE LINE
EXISTING DRAIN LINE
OHW
EXISTING OVERHEAD WIRES
EXISTING CONTOURS

GENERAL NOTES:

- THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING FEATURES OF TAX MAP 209 LOT 24.
- TOTAL PARCEL AREA: MAP 209, LOT 24, 39.83 ACRES
- PARCEL IS ZONED: AGRICULTURAL - A
- THE PROPOSED LOT IS NOT LOCATED WITHIN THE 100 YEAR FLOOD ZONE AS SHOWN ON THE FLOOD INSURANCE RATE MAP DATED 05/17/05 COMMUNITY PANEL 33017C0201D, PANEL 201 OF 405.
- THE LOT AND THE STRUCTURES LOCATED ON IT ARE SERVICED BY WELL(S) AND SEPTIC SYSTEM(S).

NP-1-0PUS
ROCH GIS

REVISIONS:

209 / 21

RALPH W. & P. TORR REV. TRUST OF 2000
283 CHESTNUT HILL ROAD
ROCHESTER, NH 03867-5107

PF01E

PUBx

PF01E

206 / 41

RALPH W. & P. TORR REV. TRUST OF 2000
283 CHESTNUT HILL ROAD
ROCHESTER, NH 03867-5107

EXISTING FUEL

EXISTING SHED

206 / 40

FRANKLIN G. & ANN M. TORR REV. TRUST
1 OLD LITTLEWORTH ROAD
DOVER, NH 03820-4311

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209 / 26

PUBLIC SERVICE COMPANY OF NH
TAX ACCOUNTING
P.O. BOX 3430
MANCHESTER, NH 03105-3430

WETLANDS AND DEEPWATER HABITATS CLASSIFICATION

SYSTEM SUBSYSTEM 1-TIDAL 2-LOWER PERENNIAL 3-UPPER PERENNIAL 4-INTERMITTENT 5-UNKNOWN PERENNIAL

CLASS	RB-ROCK BOTTOM	UB-UNCONSOLIDATED BOTTOM	*SB-STREAMBED	AB-AQUATIC BED	RS-ROCKY SHORE	US-UNCONSOLIDATED SHORE	**EM-EMERGENT	OW-OPEN WATER/ UNKNOWN BOTTOM
SUBCLASS	1. BEDROCK 2. RUBBLE	1. COBBLE-GRAVEL 2. SAND 3. MUD 4. ORGANIC	1. BEDROCK 2. RUBBLE 3. COBBLE GRAVEL 4. SAND 5. MUD 6. ORGANIC 7. VEGETATED	1. ALGAL 2. AQUATIC MOSS 3. ROOTED VASCULAR 4. FLOATING VASCULAR 5. UNKNOWN SUBMERGENT 6. UNKNOWN SURFACE	1. BEDROCK 2. RUBBLE	1. COBBLE-GRAVEL 2. SAND 3. MUD 4. ORGANIC 5. VEGETATED	1. NONPERSISTENT 2. NONPERSISTENT	

* STREAMBED IS LIMITED TO TIDAL AND INTERMITTENT SUBSYSTEMS, AND COMPRISES THE ONLY CLASS IN THE INTERMITTENT SUBSYSTEM.

** EMERGENT IS LIMITED TO TIDAL AND LOWER PERENNIAL SUBSYSTEMS.

SYSTEM SUBSYSTEM 1-TIDAL 2-LOWER PERENNIAL 3-UPPER PERENNIAL 4-INTERMITTENT 5-UNKNOWN PERENNIAL

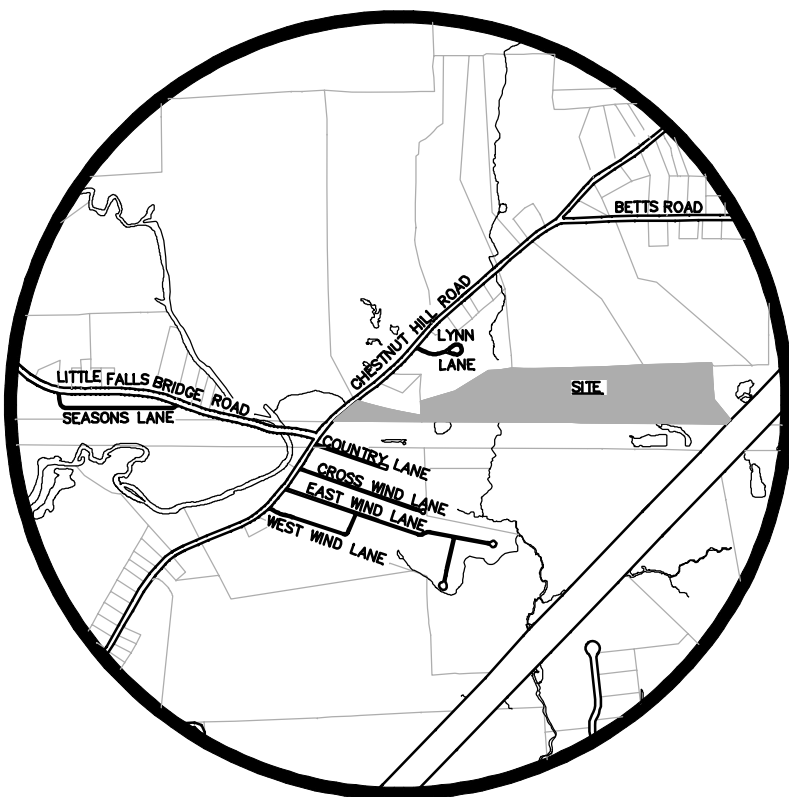
CLASS	RB-ROCK BOTTOM	UB-UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	US-UNCONSOLIDATED SHORE	ML-MOSS-LICHEN	EM-EMERGENT	SS-SCRUB - SHRUB	FO-FORESTED	OW-OPEN WATER/ UNKNOWN BOTTOM
SUBCLASS	1. BEDROCK 2. RUBBLE	1. COBBLE-GRAVEL 2. SAND 3. MUD 4. ORGANIC	1. ALGAL 2. AQUATIC MOSS 3. ROOTED VASCULAR 4. FLOATING VASCULAR 5. UNKNOWN SUBMERGENT 6. UNKNOWN SURFACE	1. COBBLE-GRAVEL 2. SAND 3. MUD 4. ORGANIC 5. VEGETATED	1. MOSS 2. LICHEN	1. PERSISTENT 2. NONPERSISTENT	1. BROAD-LEAVED DECIDUOUS 2. NEEDLE-LEAVED DECIDUOUS 3. BROAD-LEAVED EVERGREEN 4. NEEDLE-LEAVED EVERGREEN 5. DEAD 6. DECIDUOUS 7. EVERGREEN	1. BROAD-LEAVED DECIDUOUS 2. NEEDLE-LEAVED DECIDUOUS 3. BROAD-LEAVED EVERGREEN 4. NEEDLE-LEAVED EVERGREEN 5. DEAD 6. DECIDUOUS 7. EVERGREEN	

MODIFIERS

IN ORDER TO MORE ADEQUATELY DESCRIBE THE WETLAND AND DEEPWATER HABITATS ONE OR MORE OF THE WATER REGIME, WATER CHEMISTRY, SOIL, OR SPECIAL MODIFIERS MAY BE APPLIED AT THE CLASS OR LOWER LEVEL IN THE HIERARCHY. THE FARMED MODIFIERS MAY ALSO BE APPLIED TO THE ECOLOGICAL SYSTEM.

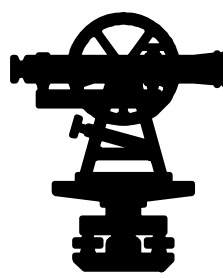
WATER REGIME		WATER CHEMISTRY		SOIL/SPECIAL MODIFIERS	
NON-TIDAL		COASTAL SALINITY		INLAND SALINITY	
A. TEMPORARILY FLOODED	K. ARTIFICIALLY FLOODED	1. HYPERSALINE	1. ACID	1. ORGANIC	b. BEAVER
B. SATURATED	L. SUBTIDAL	2. EUTHALINE	2. EUSALINE	2. MINERAL	d. PARTIALLY
C. SEASONALLY FLOODED	M. IRREGULARLY EXPOSED	3. MYSALINE (BRACKISH)	3. MESOSALINE	3. DRAINED/DITCHED	f. ARTIFICIAL SUBSTRATE
D. SEASONALLY FLOODED/ WELL DRAINED	N. REGULARLY EXPOSED	4. POLYHALINE	4. POLYHALINE	4. FARMED	g. EXCAVATED
E. SEASONALLY FLOODED/ SATURATED	O. TEMPORARILY FLOODED	5. MESOHALINE	5. MESOHALINE		
F. SEMIPERMANENTLY FLOODED	P. IRREGULARLY FLOODED	6. OLIGOHALINE	6. OLIGOHALINE		
G. INTERMITTENTLY EXPOSED	Q. SEMIPERMANENT-TIDAL	7. FRESH	7. FRESH		
H. PERMANENTLY FLOODED	R. PERMANENT-TIDAL				
I. INTERMITTENTLY FLOODED	S. UNKNOWN				
J. ARTIFICIALLY FLOODED					
K. INTERMITTENTLY FLOODED/ TEMPORARY					
L. SATURATED/ SEMIPERMANENT/SEASONAL					
M. INTERMITTENTLY FLOODED/ PERMANENT					
N. UNKNOWN					

* THESE WATER REGIMES ARE ONLY USED IN TIDALLY INFLUENCED FRESHWATER SYSTEMS.

LOCUS
SCALE: 1"=2000'FILE NO. 154
PLAN NO. C-####
F.B. NO. ###
DWG. NO. 11057/SP-1
DRAWN BY: RRL
CHK'D BY: RRL
SCR'D NO: D-###OVERALL
EXISTING FEATURES
PLAN
CHESTNUT HILL ROAD
ROCHESTER, NH
STRAFFORD COUNTY
FOR
BALD EAGLE
COMPANY
MARCH 2012GRAPHIC SCALE
(IN FEET)
1 INCH = 100 FT.

REVISION DATE

SHEET C-1



206 / 1-3

FRANKLIN G. & ANN M. TORR REV. TRUST
1 OLD LITTLEWORTH ROAD
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209 / 23

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283 CHESTNUT HILL ROAD
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206 / 41

RALPH W. & P. TORR REV. TRUST OF 2000
283 CHESTNUT HILL ROAD
ROCHESTER, NH 03867-5107

206 / 40

FRANKLIN G. & ANN M. TORR REV. TRUST
1 OLD LITTLEWORTH ROAD
DOVER, NH 03820-4311

206 / 35

THOMAS & PATRICE NICKERSON
43 BETTS ROAD
ROCHESTER, NH 03867

209 / 26

PUBLIC SERVICE COMPANY OF NH
TAX ACCOUNTING
P.O. BOX 3430
MANCHESTER, NH 03105-3430

SITE-SPECIFIC SOIL MAP UNIT KEY

SYMBOL	MAP UNIT	SLOPE CLASS	DRAINAGE CLASS	HSG/GROUP
12A	HINKLEY LOAMY SAND	0-3% SLOPES	EXCESSIVELY WELL DRAINED	A/1
12C	HINKLEY LOAMY SAND	8-15% SLOPES	EXCESSIVELY WELL DRAINED	A/1
12D	HINKLEY LOAMY SAND	15-25% SLOPES	EXCESSIVELY WELL DRAINED	A/1
12E	HINKLEY LOAMY SAND	25-50% SLOPES	EXCESSIVELY WELL DRAINED	A/1
199A/haade	DUMP/FILL - SANDY FILL, BOULDERS, LOGS AND CONCRETE PIECES	0-3% SLOPES	UNDETERMINABLE	
199D/haade	DUMP/FILL - SANDY FILL, BOULDERS, LOGS AND CONCRETE PIECES	15-25% SLOPES	UNDETERMINABLE	
199E/haade	DUMP/FILL - SANDY FILL, BOULDERS, LOGS AND CONCRETE PIECES	25-50% SLOPES	UNDETERMINABLE	
26E	WINDSOR LOAMY SAND	25-50% SLOPES	EXCESSIVELY WELL DRAINED	A/1
313A	DEERFIELD LOAMY SAND	0-3% SLOPES	MODERATELY WELL DRAINED	B/3
313B	DEERFIELD LOAMY SAND	3-8% SLOPES	MODERATELY WELL DRAINED	B/3
313C	DEERFIELD LOAMY SAND	8-15% SLOPES	MODERATELY WELL DRAINED	B/3
313D	DEERFIELD LOAMY SAND	15-25% SLOPES	MODERATELY WELL DRAINED	B/3
118C	SUDBURY SANDY LOAM	8-15% SLOPES	MODERATELY WELL DRAINED	B/3
118D	SUDBURY SANDY LOAM	15-25% SLOPES	MODERATELY WELL DRAINED	B/3
546A/PD	WALPOLE GRAVELLY, LOAMY SAND	0-3% SLOPES	POORLY DRAINED	C/5
546C/PD	WALPOLE GRAVELLY, LOAMY SAND	8-15% SLOPES	POORLY DRAINED	C/5
915A	DEERFIELD VARIANT	0-3% SLOPES	SOMEWHAT POORLY DRAINED	D/6
400A/dbhab	UDORTHENTS, SANDY (PAVEMENT OVER DEERFIELD)	0-3% SLOPES	MODERATELY WELL DRAINED	B/3
400A/ebhbd	UDORTHENTS, SANDY (PAVEMENT OVER DEERFIELD VARIANT)	3-8% SLOPES	SOMEWHAT POORLY DRAINED	D/6

NOTE:

THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, PRODUCED BY A CERTIFIED SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCES CONSERVATION SERVICE. THERE IS A NARRATIVE REPORT THAT ACCOMPANIES THIS MAP AND MAP KEY.

This Site-Specific Soil Map was completed by Cynthia M. Balcius, New Hampshire Certified Soil Scientist #82 of Stoney Ridge Environmental LLC. Field work was completed on the following date(s): **September & October of 2011**. The following standards were used to complete this soil map and accompanying soil report:

- 1) *Field Indicators of Hydric Soils in the United States*, Version 7.0, 2010. L.M. Vasilas, G.W. Hurt, and C.V. Noble (eds.). United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with the National Technical Committee for Hydric Soils.
- 2) *Field Indicators for Identifying Hydric Soils in New England*, Version 3, April 2004. NEIWPCC Wetlands Workgroup. Wilmington, MA 01887.
- 3) *The Site-Specific Soil Mapping Standards For New Hampshire And Vermont*. SSSNNE Special Publication No.3, Version 3, December 2006.
- 4) *Soil Survey Manual*. United States Department of Agriculture Handbook No.18. Issued October 1993. US Government Printing Office. Soil Survey Staff. Washington D.C. 20402.
- 5) *New Hampshire State-Wide Numerical Soils Legend*. USDA Natural Resources Conservation Service, Durham, New Hampshire. Issue #10, January 2011.
- 6) *Field Book for Describing and Sampling Soils*. Version 2.0 National Soil Survey Center, Natural Resources Conservation Service. U. S. Department of Agriculture, Lincoln, Nebraska. September 2002.
- 7) *Keys to Soil Taxonomy*. Eleventh Edition. 2010. United States Department of Agriculture. Natural Resources Conservation Service.

Additional Note: "This map product is within the technical standards of the National Cooperative Soil Survey. It is a special purpose product, produced by a certified soil scientist, and is not a product of the USDA Natural Resources Conservation Service. There is a narrative report that accompanies this map and key."



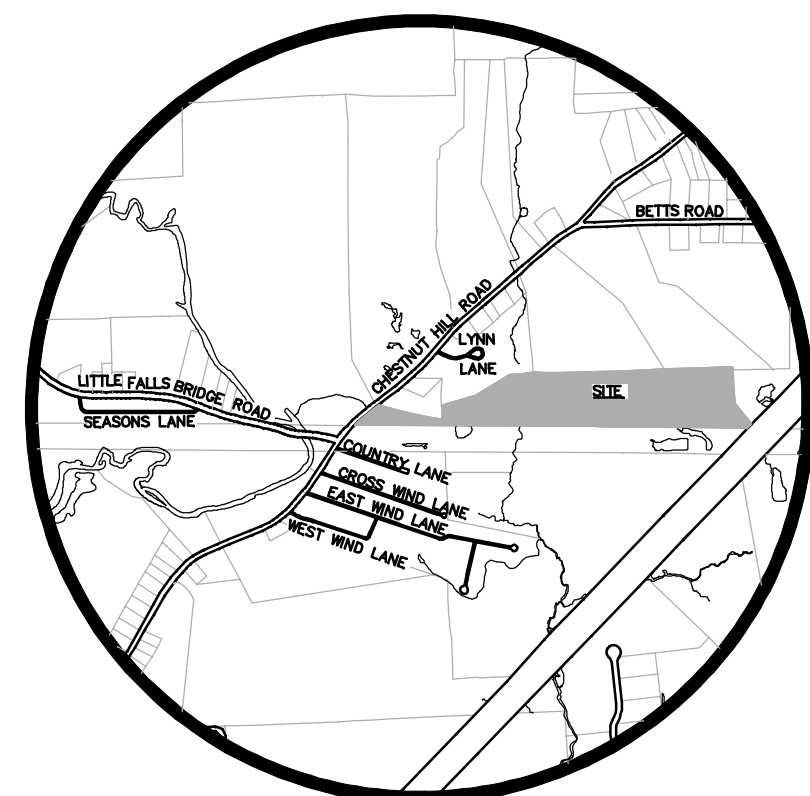
Stoney Ridge Environmental LLC, 229 Prospect Mountain Road, Alton, NH 03809
(p) 603-776-5825, (f) 603-776-5826, info@stoneyridgeenv.com

**SITE SPECIFIC SOILS
MAP
CHESTNUT HILL ROAD
ROCHESTER, NH
STRAFFORD COUNTY
FOR
BALD EAGLE
COMPANY
MARCH 2012**

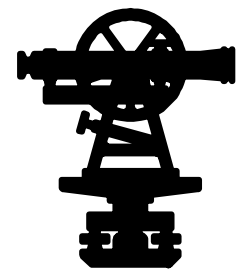


REVISION DATE

SHEET C-2

LOCUS
SCALE: 1"=2000'

FILE NO. 154 DRAWN BY: RRL
PLAN NO. C-#### CHK'D BY: RRL
F.B. NO. ### SCRD NO: D-###
DWG. NO. 11057/SP-1



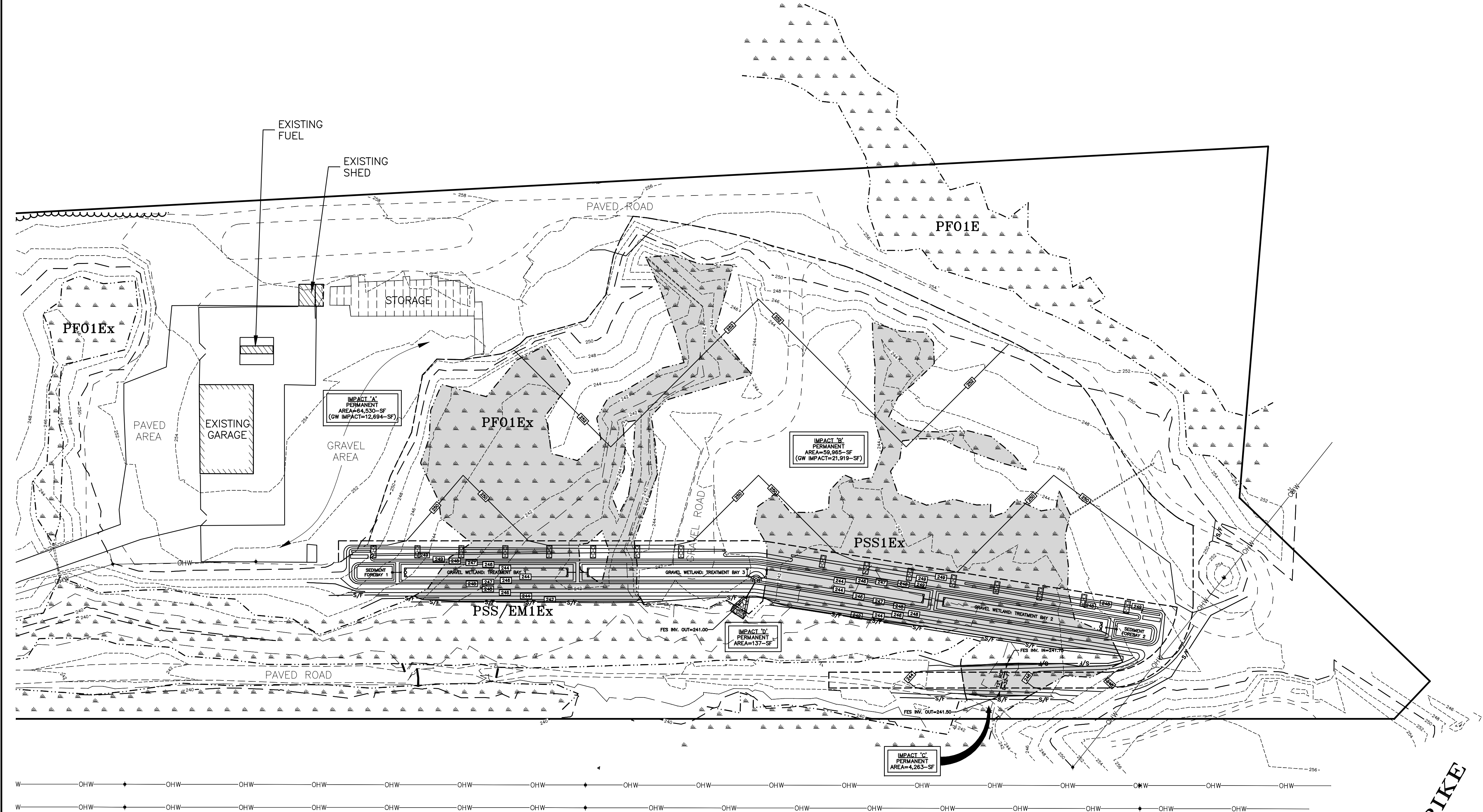
REVISIONS:

- GENERAL NOTES:
- THE PURPOSE OF THIS PLAN IS TO DEPICT THE PROPOSED STORAGE YARD AND GRAVEL WETLAND CONSTRUCTION ON TAX MAP 209 LOT 24.
 - TOTAL PARCEL AREA: MAP 209, LOT 24, 39.83 ACRES
 - PARCEL IS ZONED: AGRICULTURAL - A
 - THE PROPOSED LOT IS NOT LOCATED WITHIN THE 100 YEAR FLOOD ZONE AS SHOWN ON THE FLOOD INSURANCE RATE MAP DATED 05/17/05 COMMUNITY PANEL 33017002010, PANEL 201 OF 405.
 - THE LOT AND THE STRUCTURES LOCATED ON IT ARE SERVICED BY WELL(S) AND SEPTIC SYSTEM(S).

- LEGEND
- EXISTING GRANITE OR CONCRETE BOUND
 - EXISTING IRON PIN, PIPE OR STAKE
 - WETLAND
 - EXISTING SIGN
 - EXISTING UTILITY POLE
 - EXISTING PROPERTY LINE
 - EXISTING EASEMENT LINE
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 - EXISTING DRAIN LINE
 - OHW
 - EXISTING OVERHEAD WIRES
 - EXISTING CONTOURS
 - PROPOSED CONTOURS
 - PROPOSED STONE CHECK DAM
 - PROPOSED INLET PROTECTION
 - PROPOSED SILT FENCE
 - WETLAND IMPACT

WETLAND IMPACT SUMMARY:

	WETLAND CLASSIFICATION:	IMPACT AREA:	IMPACT TYPE:
IMPACT A	PF01Ex	64,530-SF	PERMANENT
IMPACT B	PSS1Ex	59,965-SF	PERMANENT
IMPACT C	PSS1Ex	4,263-SF	PERMANENT
IMPACT D	PSS1Ex	137-SF	PERMANENT
TOTAL ON-SITE PERMANENT WETLAND IMPACT		128,895-SF	



SPAULDING TURNPIKE

STORAGE YARD
WETLAND IMPACT
PLAN
CHESTNUT HILL ROAD
ROCHESTER, NH
STRAFFORD COUNTY
FOR
BALD EAGLE
COMPANY
MARCH 2012



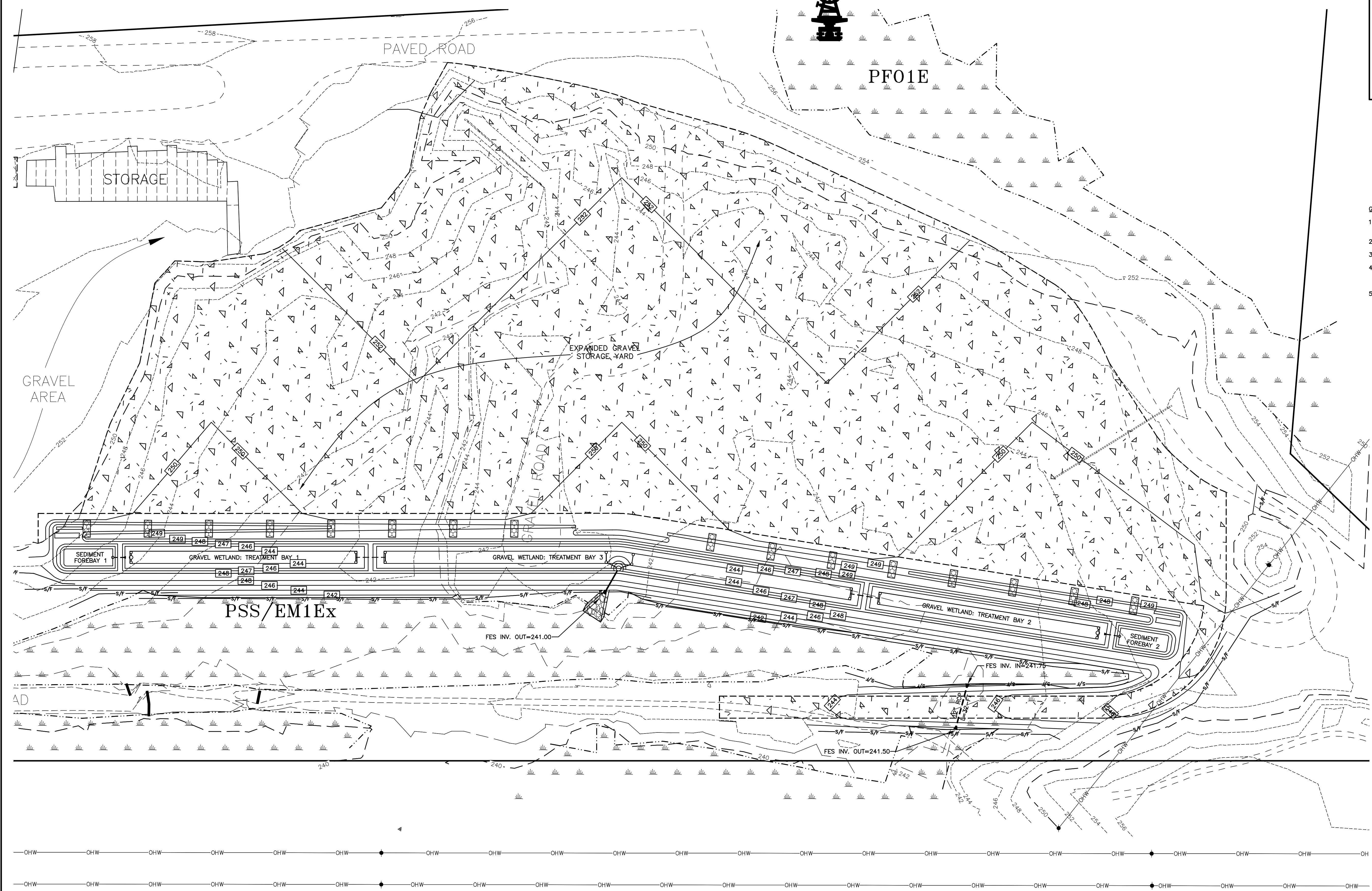
1 INCH = 40 FT.

REVISION DATE

SHEET C-4

FILE NO. 154
PLAN NO. C-####
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DRAWN BY: RRL
CHK'D BY: RRL
SCRD NO: D-###



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 - PROPOSED SILT FENCE
 - WETLAND IMPACT

STORAGE YARD
GRADING & EROSION
CONTROL PLAN
CHESTNUT HILL ROAD
ROCHESTER, NH
STRAFFORD COUNTY
FOR
BALD EAGLE
COMPANY
MARCH 2012

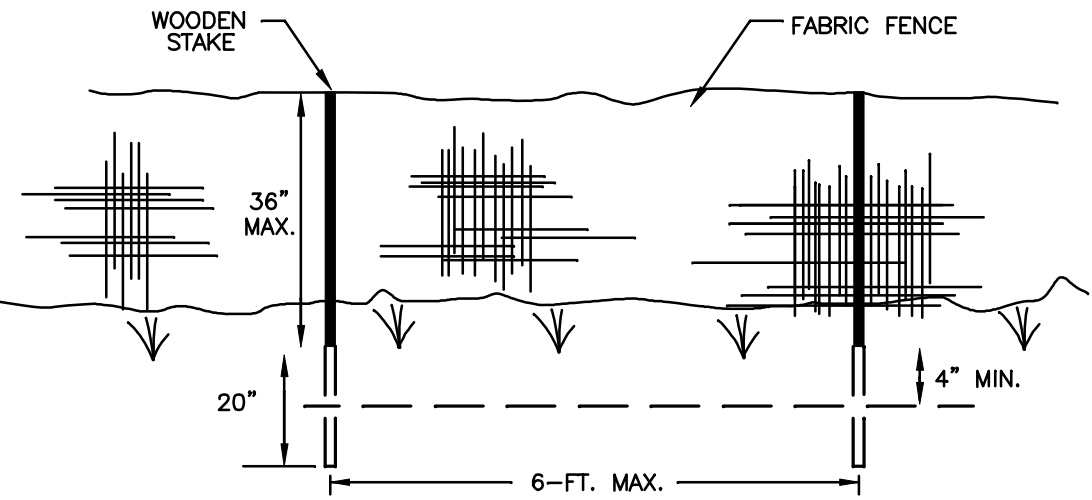
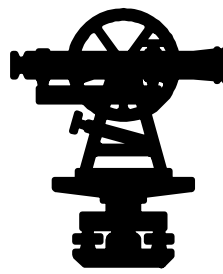


REVISION DATE

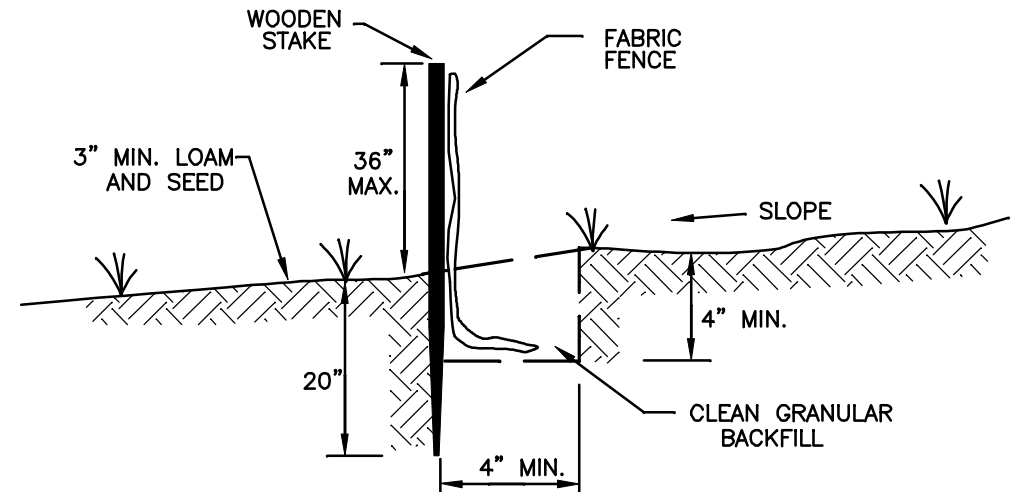
SHEET C-5

FILE NO. 154
PLAN NO. C-####
F.B. NO. ###
DWG. NO. 11057/SP-1

DRAWN BY: RRL
CHK'D BY: RRL
SCRD NO: D-####



PROFILE



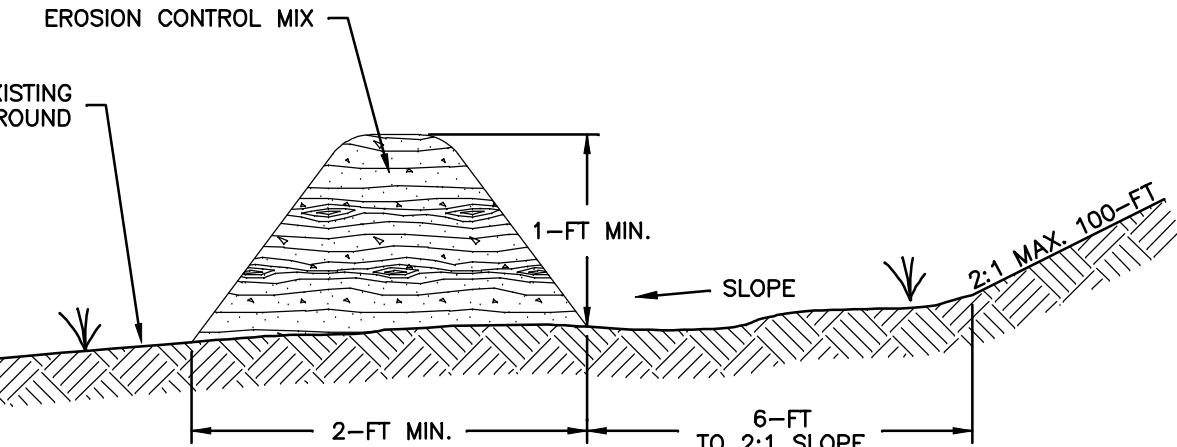
CROSS-SECTION

- MAINTENANCE REQUIREMENTS:**
- FENCES SHOULD BE INSPECTED AND MAINTAINED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALLS.
 - SEDIMENT DEPOSITION SHOULD BE REMOVED, AT A MINIMUM, WHEN DEPOSITION ACCUMULATES TO ONE-HALF THE HEIGHT OF THE FENCE, AND MOVED TO AN APPROPRIATE LOCATION SO THE SEDIMENT IS NOT READILY TRANSPORTED BACK TOWARD THE SILT FENCE.
 - SILT FENCES SHOULD BE REPAIRED IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES OF THE BARRIER, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, SEDIMENT BARRIERS SHOULD BE REPLACED WITH A TEMPORARY CHECK DAM.
 - SHOULD THE FABRIC ON A SILT FENCE DECOMPOSE, OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL IS NECESSARY, THE FABRIC SHOULD BE REPLACED PROMPTLY.
 - ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHOULD BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.
 - IF THERE IS EVIDENCE OF END FLOW ON PROPERLY INSTALLED BARRIERS, EXTEND BARRIERS UPHILL OR CONSIDER REPLACING THEM WITH OTHER MEASURES, SUCH AS TEMPORARY DIVERSIONS AND SEDIMENT TRAPS.
 - SILT FENCES HAVE A USEFUL LIFE OF ONE SEASON. ON LONGER CONSTRUCTION PROJECTS, SILT FENCE SHOULD BE REPAIRED PERIODICALLY AS REQUIRED TO MAINTAIN EFFECTIVENESS.

- CONSTRUCTION SPECIFICATIONS:**
- FENCES SHOULD BE USED IN AREAS WHERE EROSION WILL OCCUR ONLY IN THE FORM OF SHEET EROSION AND THERE IS NO CONCENTRATION OF WATER IN A CHANNEL OR DRAINAGE WAY ABOVE THE FENCE. SEDIMENT BARRIERS SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM.
 - THE MAXIMUM CONTRIBUTING DRAINAGE AREA ABOVE THE FENCE SHOULD BE LESS THAN 1A ACRE PER 100 LINEAR FEET OF FENCE;
 - THE MAXIMUM LENGTH OF SLOPE ABOVE THE FENCE SHOULD BE 100 FEET;
 - THE MAXIMUM SLOPE ABOVE THE FENCE SHOULD BE 2:1;
 - FENCES SHOULD BE INSTALLED FOLLOWING THE CONTOUR OF THE LAND AS CLOSELY AS POSSIBLE, AND:
 - THE ENDS OF THE FENCE SHOULD BE FLARED UPSLOPE;
 - THE FABRIC SHOULD BE EMBEDDED A MINIMUM OF 4 INCHES IN DEPTH AND INCHES IN WIDTH IN A TRENCH EXCAVATED INTO THE GROUND, OR IF SITE CONDITIONS INCLUDE FROZEN GROUND, LEDGE, OR THE PRESENCE OF HEAVY ROOTS, THE BASE OF THE FABRIC SHOULD BE EMBEDDED WITH A MINIMUM THICKNESS OF 8 INCHES OF 3/4-INCH STONE;
 - THE SOIL SHOULD BE COMPACTED OVER THE EMBEDDED FABRIC;
 - SUPPORT POSTS SHOULD BE SIZED AND ANCHORED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS WITH MAXIMUM POST SPACING OF 6 FEET;
 - ADJOINING SECTIONS OF THE FENCE SHOULD BE OVERLAPPED BY A MINIMUM OF 6 INCHES (24 INCHES IS PREFERRED), FOLDED AND STAPLED TO A SUPPORT POST. IF METAL POSTS ARE USED, FABRIC SHOULD BE WIRE-TIED DIRECTLY TO THE POSTS WITH THREE DIAGONAL TIES.
 - SILT FENCING SHOULD NOT BE STAPLED OR WAILED TO TREES.
 - THE FILTER FABRIC SHOULD BE A PERVIOUS SHEET OF PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN AND SHOULD BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER.
 - THE FILTER FABRIC SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 DEGREES FAHRENHEIT TO 120 DEGREES FAHRENHEIT.
 - POSTS FOR SILT FENCES SHOULD BE EITHER 4-INCH DIAMETER WOOD OR 1.33 POUNDS PER LINEAR FOOT STEEL WITH A MINIMUM LENGTH OF 5 FEET. STEEL POSTS SHOULD HAVE PROJECTIONS FOR FASTENING WIRE TO THEM. POSTS SHOULD BE PLACED ON THE DOWN SLOPE SIDE OF THE FABRIC.
 - THE HEIGHT OF A SILT FENCE SHOULD NOT EXCEED 36 INCHES AS HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.
 - THE FILTER FABRIC SHOULD BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHOULD BE SPLICED TOGETHER ONLY AT SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND SECURELY SEALED.
 - A MANUFACTURED SILT FENCE SYSTEM WITH INTEGRAL POSTS MAY BE USED.
 - POST SPACING SHOULD NOT EXCEED 6 FEET.
 - A TRENCH SHOULD BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 4 INCHES DEEP ALONG THE LINE OF POSTS AND UP GRADIENT FROM THE BARRIER.
 - THE STANDARD STRENGTH OF FILTER FABRIC SHOULD BE STAPLED OR WIRED TO THE POST, AND 8 INCHES OF THE FABRIC SHOULD BE EXTENDED INTO THE TRENCH. THE FABRIC SHOULD NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
 - THE TRENCH SHOULD BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.
 - SILT FENCE MAY BE INSTALLED BY "SLICING" USING MECHANICAL EQUIPMENT SPECIFICALLY DESIGNED FOR THIS PROCEDURE. THE SLICING METHOD USES AN IMPLEMENT TOWED BEHIND A TRACTOR TO "PLOW" OR SLICE THE SILT FENCE MATERIAL INTO THE SOIL. THE SLICING METHOD MINIMALLY DISRUPTS THE SOIL UPWARD AND SLIGHTLY DISPLACES THE SOIL, MAINTAINING THE SOIL'S PROFILE AND CREATING AN OPTIMAL CONDITION FOR SUBSEQUENT MECHANICAL COMPACTION.
 - SILT FENCES SHOULD BE INSTALLED WITH "SMILES" OR "J-HOOKS" TO REDUCE THE DRAINAGE AREA THAT ANY SEGMENT WILL IMPOUND.
 - THE ENDS OF THE FENCE SHOULD BE TURNED UPHILL.
 - SILT FENCES PLACED AT THE TOE OF A SLOPE SHOULD BE SET AT LEAST 6 FEET FROM THE TOE M ALLOW SPACE FOR SHALLOW FLOWING AND TO ALLOW FOR MAINTENANCE ACCESS WITHOUT DISTURBING THE SLOPE.
 - SILT FENCES SHOULD BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED.

SILTATION CONTROL FENCE DETAIL

NOT TO SCALE



EROSION CONTROL MIX BERM CROSS-SECTION

- MAINTENANCE REQUIREMENTS:**
- EROSION CONTROL MIX BERMS SHOULD BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
 - EROSION CONTROL MIX BERMS SHOULD BE REPAIRED IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM.
 - IF THERE ARE SIGNS OF BREACHING OF THE BARRIER, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, THE EROSION CONTROL MIX BERMS SHOULD BE REPLACED WITH OTHER MEASURES TO INTERCEPT AND TRAP SEDIMENT (SUCH AS A DIVERSION BERM DIRECTING RUNOFF TO A SEDIMENT TRAP OR BASIN).
 - SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT.
 - SEDIMENT DEPOSITS MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE THIRD (1/3) OF THE HEIGHT OF THE BARRIER.
 - EROSION CONTROL MIX BERMS SHOULD BE RESHAPED OR REAPPLIED AS NEEDED.
 - ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE BARRIER IS NO LONGER REQUIRED SHOULD BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

- CONSTRUCTION SPECIFICATIONS:**
- EROSION CONTROL MIX CAN BE MANUFACTURED ON OR OFF OF THE PROJECT SITE.
 - EROSION CONTROL MIX MUST CONSIST PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR ACCEPTABLE MANUFACTURED PRODUCTS.
 - WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.
 - COMPOSITION OF THE EROSION CONTROL MIX SHOULD BE AS FOLLOWS:**
 - EROSION CONTROL MIX SHALL BE A WELL GRADED MIXTURE OF PARTICLE SIZES FREE OF REFUSE, PHYSICAL CONTAMINANTS, MATERIAL TOXIC TO PLANT GROWTH AND MAY NOT CONTAIN ROCKS LESS THAN 4-INCHES IN DIAMETER;
 - ORGANIC MATTER= 25-65% DRY WEIGHT BASIS
 - PARTICLES PASSING BY WEIGHT:**

SCREEN	PASSING BY WEIGHT
3-INCH	100%
1-INCH	90-100%
3/4-INCH	70-100%
1/4-INCH	50-75%
 - THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
 - THE MIX SHOULD CONTAIN NO SILTS, CLAYS OR FINE SANDS.
 - SOLUBLE SALTS CONTENT < 4.0 mmhos/cm
 - pH OF THE MIX SHOULD BE BETWEEN 5.0 AND 8.0
 - THE BARRIER MUST BE PLACED ALONG A RELATIVELY LEVEL CONTOUR.
 - IT MAY BE NECESSARY TO CUT TALL GRASSES AND WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES IN THE BARRIER THAT WOULD ENABLE FINES TO WASH UNDER THE BARRIER THROUGH THE GRASS BLADES OR PLANT STEMS.
 - THE BARRIER MUST BE A MINIMUM OF 12-INCHES TALL AS MEASURED ON THE UPHILL SIDE OF THE BARRIER.
 - THE BARRIER MUST BE A MINIMUM OF 2-FT WIDE.

- CONTINUOUS CONTAINED BERM (ALTERNATIVE):**
- AN ALTERNATIVE PRODUCT, THE CONTINUOUS CONTAINED BERM (OR "FILTER SOCK") CAN BE AN EFFECTIVE SEDIMENT BARRIER AS IT ADDS CONTAMINANT AND STABILITY TO A BERM OF EROSION CONTROL MIX.
 - IN THE EVENT THAT USE OF CONTINUOUS CONTAINED BERM IS DESIRED, THE PRODUCT SELECTED SHOULD BE REVIEWED AND APPROVED BY THE DESIGN ENGINEER.
 - INSTALLATION OF CONTINUOUS CONTAINED BERMS SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE MANUFACTURER.

EROSION CONTROL MIX BERM DETAIL

NOT TO SCALE

FILE NO. 154
PLAN NO. C-####
F.B. NO. ###
DWG. NO. 11057/SP-1

DRAWN BY: RRL
CHK'D BY: RRL
SCRD NO: D-###

SOIL STOCKPILE PRACTICES:

- LOCATE STOCKPILES A MINIMUM OF 50-FT. AWAY FROM CONCENTRATED FLOWS OF STORMWATER, DRAINAGE COURSES OR INLETS.
- PROTECT ALL STOCKPILES FROM STORMWATER RUN-ON USING TEMPORARY PERIMETER MEASURES SUCH AS DIVERSIONS, BERMS, SANDBAGS OR OTHER APPROVED PRACTICES.
- STOCKPILES SHOULD BE SURROUNDED BY SEDIMENT BARRIERS AS DESCRIBED ON THE PLANS AND IN NHSM VOL. 3, TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILE.
- IMPLEMENT WIND EROSION CONTROL PRACTICES AS APPROPRIATE ON ALL STOCKPILED MATERIAL.
- PLACE BAGGED MATERIALS ON PALLETS OR UNDERCOVER.

PROTECTION OF INACTIVE STOCKPILES:

- INACTIVE SOIL STOCKPILES SHOULD BE COVERED WITH ANCHORED TARPS OR PROTECTED WITH SOIL STABILIZATION MEASURES (TEMPORARY SEED AND MULCH OR OTHER TEMPORARY STABILIZATION PRACTICE) AND TEMPORARY PERIMETER SEDIMENT BARRIERS (I.E. SILT FENCE, ETC.) AT ALL TIMES.

- INACTIVE STOCKPILES OF CONCRETE RUBBLE, ASPHALT CONCRETE RUBBLE, AGGREGATE MATERIALS, AND SIMILAR MATERIALS SHOULD BE PROTECTED WITH TEMPORARY SEDIMENT PERIMETER BARRIERS (I.E. SILT FENCE, ETC.) AT ALL TIMES. IF THE MATERIALS ARE A SOURCE OF DUST, THEY SHOULD ALSO BE COVERED.

PROTECTION OF ACTIVE STOCKPILES:

- ALL STOCKPILES SHOULD BE SURROUNDED WITH TEMPORARY LINEAR SEDIMENT BARRIERS (I.E. SILT FENCE, ETC.) PRIOR TO THE ONSET OF PRECIPITATION. PERIMETER BARRIERS SHOULD BE MAINTAINED AT ALL TIMES, AND ADJUSTED AS NEEDED TO ACCOMMODATE THE DELIVERY AND REMOVAL OF MATERIAL FROM THE STOCKPILE. THE INTEGRITY OF THE BARRIER SHOULD BE INSPECTED AT THE END OF EACH WORKING DAY.
- WHEN A STORM IS PREDICTED, STOCKPILES SHOULD BE PROTECTED WITH AN ANCHORED PROTECTIVE COVERING.

WINTER STABILIZATION & CONSTRUCTION PRACTICES:

MAINTENANCE REQUIREMENTS:

- MAINTENANCE MEASURES SHOULD BE PERFORMED THROUGHOUT CONSTRUCTION, INCLUDING OVER THE WINTER PERIOD. AFTER EACH RAINFALL, SNOWSTORM, OR PERIOD OF THAWING AND RUNOFF, THE SITE CONTRACTOR SHOULD CONDUCT INSPECTION OF ALL INSTALLED EROSION CONTROL PRACTICES AND PERFORM REPAIRS AS NEEDED TO INSURE THEIR CONTINUED FUNCTION.

- FOR ANY AREA STABILIZED BY TEMPORARY OR PERMANENT SEEDING PRIOR TO THE ONSET OF THE WINTER SEASON, THE CONTRACTOR SHOULD CONDUCT AN INSPECTION IN THE SPRING TO ASCERTAIN THE CONDITION OF THE VEGETATION AND REPAIR ANY DAMAGED AREAS OR BARE SPOTS AND RESEED AS REQUIRED TO ACHIEVE AN ESTABLISHED VEGETATIVE COVER (AT LEAST 85% OF AREA VEGETATED WITH HEALTHY, VIGOROUS GROWTH).

SPECIFICATIONS:

THE FOLLOWING STABILIZATION TECHNIQUES SHOULD BE EMPLOYED DURING THE PERIOD FROM OCTOBER 15 THROUGH MAY 15.

THE AREA OF EXPOSED, UNSTABILIZED SOIL SHOULD BE LIMITED TO **1-ACRE** AND SHOULD BE PROTECTED AGAINST EROSION BY THE METHODS DISCUSSED IN NHSM, VOL. 3 AND ELSEWHERE IN THIS PLAN SET, PRIOR TO ANY THAW OR SPRING MELT EVENT.

STABILIZATION AS FOLLOWS SHOULD BE COMPLETED WITHIN A DAY OF ESTABLISHING THE GRADE THAT IS FINAL OR THAT OTHERWISE WILL EXIST FOR MORE THAN 5 DAYS:

- ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF LESS THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, SHOULD BE SEEDING AND COVERED WITH 3 TO 4 TONS OF HAY OR STRAW MULCH PER ACRE SECURED WITH ANCHORED NETTING, OR 2 INCHES OF EROSION CONTROL MIX (REFER TO NHSM, VOL. 3 FOR SPECIFICATION).
- ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF GREATER THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, SHOULD BE SEEDING AND COVERED WITH 3 TO 4 TONS OF HAY OR STRAW MULCH PER ACRE SECURED WITH ANCHORED NETTING, OR 2 INCHES OF EROSION CONTROL MIX (REFER TO NHSM, VOL. 3 FOR SPECIFICATION).
- ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF GREATER THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, SHOULD BE SEEDING AND COVERED WITH 3 TO 4 TONS OF HAY OR STRAW MULCH PER ACRE SECURED WITH ANCHORED NETTING, OR 2 INCHES OF EROSION CONTROL MIX (REFER TO NHSM, VOL. 3 FOR SPECIFICATION).
- ALL STONE COVERED SLOPES MUST BE CONSTRUCTED AND STABILIZED BY OCTOBER 15.
- INSTALLATION OF ANCHORED HAY MULCH OR EROSION CONTROL MIX SHOULD NOT OCCUR OVER SNOW OF GREATER THAN 1 INCH IN DEPTH.
- ALL MULCH APPLIED DURING WINTER SHOULD BE ANCHORED (I.E. BY NETTING, TRACKING, WOOD CELLULOSE FIBER).
- WITHIN 24 HOURS OF STOCKPILING SOIL MATERIALS SHOULD BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR WITH A 4 INCH LAYER OF EROSION CONTROL MIX. MULCH SHOULD BE RE-ESTABLISHED PRIOR TO ANY RAIN OR SNOWFALL. NO SOIL STOCKPILE SHOULD BE PLACED (EVEN COVERED WITH MULCH) WITHIN 100-FT OF ANY WETLAND OR OTHER WATER RESOURCE AREA.
- FROZEN MATERIAL (I.E. FROST LAYER REMOVED DURING WINTER CONSTRUCTION) SHOULD BE STOCKPILED SEPARATELY AND IN A LOCATION AWAY FROM ANY AREA NEEDING PROTECTION. FROZEN MATERIAL STOCKPILES CAN MELT IN SPRING AND BECOME UNWORKABLE AND DIFFICULT TO TRANSPORT DUE TO HIGH SOIL MOISTURE CONTENT.
- INSTALLATION OF EROSION CONTROL BLANKETS SHOULD NOT OCCUR OVER SNOW OF GREATER THAN 1 INCH IN DEPTH OR ON FROZEN GROUND.
- ALL GRASS-LINED DITCHES AND CHANNELS SHOULD BE CONSTRUCTED BY SEPTEMBER 1. ALL DITCHES AND SWALES WHICH DO NOT EXHIBIT 85% VEGETATIVE GROWTH BY OR ARE DISTURBED AFTER OCTOBER 15, SHOULD BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS AS DETERMINED BY A PROFESSIONAL ENGINEER. IF STONE LINING IS NECESSARY, THE CONTRACTOR MAY NEED TO RE-GRADE THE DITCH AS REQUIRED TO PROVIDE ADEQUATE CROSS-SECTION AFTER ALLOWING FOR PLACEMENT OF THE STONE.
- ALL STONE LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY OCTOBER 15.
- AFTER NOVEMBER 15, INCOMPLETE ROAD OR PARKING AREAS WHERE ACTIVE CONSTRUCTION HAS STOPPED FOR THE WINTER SHOULD BE PROTECTED WITH A MINIMUM 3 INCH LAYER OF SAND AND GRAVEL WITH A GRADATION THAT IS LESS THAN 12% OF THE SAND PORTION, OR MATERIAL PASSING THE NUMBER 4 SIEVE, BY WEIGHT, PASSES THE NUMBER 200 SIEVE.
- SEDIMENT BARRIERS THAT ARE INSTALLED DURING FROZEN CONDITIONS SHOULD CONSIST OF EROSION CONTROL MIX BERMS, OR CONTINUOUS CONTAINED BERMS. SILT FENCES AND HAY BALES SHOULD NOT BE INSTALLED WHEN FROZEN CONDITIONS PREVENT PROPER EMBEDMENT OF THESE BARRIERS.

DUST CONTROL PRACTICES:

- APPLY DUST CONTROL MEASURES AS NECESSARY TO MAINTAIN CONTROL OF DUST ON SITE.
 - WATER APPLICATION:
 - MOISTEN EXPOSED SOIL SURFACES PERIODICALLY WITH ADEQUATE WATER TO CONTROL DUST.
 - AVOID EXCESSIVE APPLICATION OF WATER THAT WOULD RESULT IN MOBILIZING SEDIMENT AND SUBSEQUENT DEPOSITION IN NATURAL WATERBODIES.
 - STONE APPLICATION:
 - COVER SURFACE WITH CRUSHED OR COARSE GRAVEL.
 - IN AREAS NEAR WATERWAYS USE ONLY CHEMICALLY STABILIZED OR WASHED AGGREGATE.
- REFER TO "NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3 CONSTRUCTION PHASE EROSION AND SEDIMENT CONTROLS, DECEMBER 2008" FOR OTHER ALLOWABLE DUST CONTROL PRACTICES (I.E. COMMERCIAL TACKIFIERS OR CHEMICAL TREATMENTS SUCH AS CALCIUM CHLORIDE, ETC.)

GENERAL CONSTRUCTION PHASING:

- STABILIZATION:**
 - A SITE IS DEEMED STABILIZED WHEN IT IS IN A CONDITION IN WHICH THE SOIL ON SITE WILL NOT EXPERIENCE ACCELERATED OR UNNATURAL EROSION UNDER THE CONDITIONS OF A 10-YEAR STORM EVENT, SUCH AS BUT NOT LIMITED TO:
 - IN AREAS THAT WILL NOT BE PAVED:
 - A MINIMUM OF 85% VEGETATIVE COVER HAS BEEN ESTABLISHED;
 - A MINIMUM OF 3-INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR A CERTIFIED COMPOST BLANKET HAS BEEN INSTALLED, OR;
 - EROSION CONTROL BLANKETS HAVE BEEN INSTALLED.
 - IN AREAS TO BE PAVED:
 - BASE COURSE GRAVELS HAVE BEEN INSTALLED.
 - TEMPORARY STABILIZATION:
 - ALL AREAS OF EXPOSED OR DISTURBED SOIL SHOULD BE TEMPORARILY STABILIZED AS SOON AS PRACTICABLE BUT **NO LATER THAN 45 DAYS FROM THE TIME OF INITIAL DISTURBANCE**, UNLESS A SHORTER TIME IS SPECIFIED BY LOCAL AUTHORITIES, THE CONSTRUCTION SEQUENCE APPROVED AS PART OF THE ISSUED PERMIT OR AN INDEPENDENT MONITOR.
 - PERMANENT STABILIZATION:
 - ALL AREAS OF EXPOSED OR DISTURBED SOIL SHOULD BE PERMANENTLY STABILIZED AS SOON AS PRACTICABLE BUT **NO LATER THAN 3 DAYS FOLLOWING FINAL GRADING**.
 - MAXIMUM AREA OF DISTURBANCE:
 - THE AREA OF UNSTABILIZED SOIL SHOULD NOT EXCEED **5 ACRES** AT ANY TIME.
 - ONLY DISTURB, CLEAR, OR GRADE AREAS NECESSARY FOR CONSTRUCTION.
 - FLAG OR OTHERWISE DELINEATE AREAS **NOT** TO BE DISTURBED.
 - EXCLUDE VEHICLES AND CONSTRUCTION EQUIPMENT FROM THESE AREAS TO PREVENT NATURAL VEGETATION TO BE DESTROYED.
 - ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHOULD BE PROTECTED DURING CLEARING AND CONSTRUCTION IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN DEPICTED ON **SHEETS C2-C4**.
 - ALL EROSION AND SEDIMENT CONTROL PRACTICES AND MEASURES SHOULD BE CONSTRUCTED, APPLIED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN DEPICTED ON **SHEETS C2-C4**.
 - TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHOULD BE STOCKPILED IN AN AREA INTENDED TO COMPLETE FINISHED GRADING AND BE PROTECTED FROM EROSION.
 - STOCKPILES, BORROW AREAS AND SPOILS SHALL BE STABILIZED AS DESCRIBED UNDER **"SOIL STOCKPILE PRACTICES"**.
 - SLOPES SHOULD NOT BE CREATED SO CLOSE TO PROPERTY LINES AS TO ENHANCE ADJOINING PROPERTIES WITHOUT ADEQUATE PROTECTION AGAINST SEDIMENTATION, EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED DAMAGE.
 - AREAS TO BE FILLED SHOULD BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND/OR OTHER OBJECTIONABLE MATERIALS.
 - AREAS SHOULD BE SCARIFIED TO A MINIMUM DEPTH OF 3-INCHES PRIOR TO PLACEMENT OF TOPSOIL. TOPSOIL SHOULD BE PLACED WITHOUT SIGNIFICANT COMPACTION TO PROVIDE A LOOSE BEDDING FOR PLACEMENT OF SED.
 - ALL FILLS SHOULD BE COMPACTED IN ACCORDANCE WITH PROJECT SPECIFICATIONS TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR POTENTIAL ACCELERATED EROSION. WORK IN AREAS OF THESE MATERIALS SHOULD BE PERFORMED UNDER THE DIRECTION OF A **PROFESSIONAL ENGINEER**.
 - THE OUTER FACE OF THE FILL SLOPE SHOULD BE ALLOWED TO STAY LOOSE, NOT ROLLED OR COMPACTED, OR BLADE SMOOTHED. A BULLDOZER MAY RUN UP AND DOWN THE FILL SLOPE SO THE DOZER TREADS (CLEAT TRACKS) CREATE GROOVES PERPENDICULAR TO THE SLOPE. IF THE SOIL IS NOT TOO MOIST, EXCESSIVE COMPACTION WILL NOT OCCUR. SEE **"SURFACE ROUGHENING"** IN THE NHSM, VOL.3.
 - ROUGHEN THE SURFACE OF ALL SLOPES DURING THE CONSTRUCTION OPERATION TO RETAIN WATER, INCREASE INFILTRATION AND FACILITATE VEGETATION ESTABLISHMENT.
 - USE SLOPE BREAKS, SUCH AS DIVERSIONS, BENCHES, OR CONTOUR FURROWS AS APPROPRIATE TO REDUCE THE LENGTH OF CUT-FILL SLOPES TO LIMIT SHEET AND RILL EROSION AND PREVENT GULLY EROSION. ALL BENCHES SHOULD BE KEPT FREE OF SEDIMENT DURING ALL PHASES OF CONSTRUCTION.
 - SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHOULD BE EVALUATED BY A **PROFESSIONAL ENGINEER** (PREFERABLY THE DESIGN ENGINEER) TO DETERMINE IF THE PROPOSED DESIGN SHOULD BE REVISED TO PROPERLY MANAGE THE CONDITION.
 - STABILIZE ALL GRADED AREAS (AS ABOVE) WITH VEGETATION, CRUSHED STONE, COMPOST BLANKET, OR OTHER GROUND COVER AS SOON AS GRADING IS COMPLETE OR IF WORK IS INTERRUPTED FOR 21 WORKING DAYS OR MORE. USE MULCH OR OTHER APPROVED METHODS TO STABILIZE AREAS TEMPORARILY WHERE FINAL GRADING MUST BE DELAYED.
 - ALL GRADED AREAS SHOULD BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.

- ALL AREAS OF EXPOSED OR DISTURBED SOIL SHOULD BE TEMPORARILY STABILIZED AS SOON AS PRACTICABLE BUT **NO LATER THAN 45 DAYS FROM THE TIME OF INITIAL DISTURBANCE**, UNLESS A SHORTER TIME IS SPECIFIED BY LOCAL AUTHORITIES, THE CONSTRUCTION SEQUENCE APPROVED AS PART OF THE ISSUED PERMIT OR AN INDEPENDENT MONITOR.

- ALL AREAS OF EXPOSED OR DISTURBED SOIL SHOULD BE PERMANENTLY STABILIZED AS SOON AS PRACTICABLE BUT **NO LATER THAN 3 DAYS FOLLOWING FINAL GRADING**.

- THE AREA OF UNSTABILIZED SOIL SHOULD NOT EXCEED **5 ACRES** AT ANY TIME.

- ONLY DISTURB, CLEAR, OR GRADE AREAS NECESSARY FOR CONSTRUCTION.

- FLAG OR OTHERWISE DELINEATE AREAS **NOT** TO BE DISTURBED.

- EXCLUDE VEHICLES AND CONSTRUCTION EQUIPMENT FROM THESE AREAS TO PREVENT NATURAL VEGETATION TO BE DESTROYED.

- ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHOULD BE PROTECTED DURING CLEARING AND CONSTRUCTION IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN DEPICTED ON **SHEETS C2-C4**.

- ALL EROSION AND SEDIMENT CONTROL PRACTICES AND MEASURES SHOULD BE CONSTRUCTED, APPLIED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN DEPICTED ON **SHEETS C2-C4**.

- TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHOULD BE STOCKPILED IN AN AREA INTENDED TO COMPLETE FINISHED GRADING AND BE PROTECTED FROM EROSION.

- STOCKPILES, BORROW AREAS AND SPOILS SHALL BE STABILIZED AS DESCRIBED UNDER **"SOIL STOCKPILE PRACTICES"**.

- SLOPES SHOULD NOT BE CREATED SO CLOSE TO PROPERTY LINES AS TO ENHANCE ADJOINING PROPERTIES WITHOUT ADEQUATE PROTECTION AGAINST SEDIMENTATION, EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED DAMAGE.

- AREAS TO BE FILLED SHOULD BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND/OR OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY LIFTS.

- AREAS SHOULD BE SCARIFIED TO A MINIMUM DEPTH OF 3-INCHES PRIOR TO PLACEMENT OF TOPSOIL. TOPSOIL SHOULD BE PLACED WITHOUT SIGNIFICANT COMPACTION TO PROVIDE A LOOSE BEDDING FOR PLACEMENT OF SED.

- ALL FILLS SHOULD BE COMPACTED IN ACCORDANCE WITH PROJECT SPECIFICATIONS TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR POTENTIAL ACCELERATED EROSION. WORK IN AREAS OF THESE MATERIALS SHOULD BE PERFORMED UNDER THE DIRECTION OF A **PROFESSIONAL ENGINEER**.

- THE OUTER FACE OF THE FILL SLOPE SHOULD BE ALLOWED TO STAY LOOSE, NOT ROLLED OR COMPACTED, OR BLADE SMOOTHED. A BULLDOZER MAY RUN UP AND DOWN THE FILL SLOPE SO THE DOZER TREADS (CLEAT TRACKS) CREATE GROOVES PERPENDICULAR TO THE SLOPE. IF THE SOIL IS NOT TOO MOIST, EXCESSIVE COMPACTION WILL NOT OCCUR. SEE **"SURFACE ROUGHENING"** IN THE NHSM, VOL.3.

- ROUGHEN THE SURFACE OF ALL SLOPES DURING THE CONSTRUCTION OPERATION TO RETAIN WATER, INCREASE INFILTRATION AND FACILITATE VEGETATION ESTABLISHMENT.

- USE SLOPE BREAKS, SUCH AS DIVERSIONS, BENCHES, OR CONTOUR FURROWS AS APPROPRIATE TO REDUCE THE LENGTH OF CUT-FILL SLOPES TO LIMIT SHEET AND RILL EROSION AND PREVENT GULLY EROSION. ALL BENCHES SHOULD BE KEPT FREE OF SEDIMENT DURING ALL PHASES OF CONSTRUCTION.

- SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHOULD BE EVALUATED BY A **PROFESSIONAL ENGINEER** (PREFERABLY THE DESIGN ENGINEER) TO DETERMINE IF THE PROPOSED DESIGN SHOULD BE REVISED TO PROPERLY MANAGE THE CONDITION.

- STABILIZE ALL GRADED AREAS (AS ABOVE) WITH VEGETATION, CRUSHED STONE, COMPOST BLANKET, OR OTHER GROUND COVER AS SOON AS GRADING IS COMPLETE OR IF WORK IS INTERRUPTED FOR 21 WORKING DAYS OR MORE. USE MULCH OR OTHER APPROVED METHODS TO STABILIZE AREAS TEMPORARILY WHERE FINAL GRADING MUST BE DELAYED.

- ALL GRADED AREAS SHOULD BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.

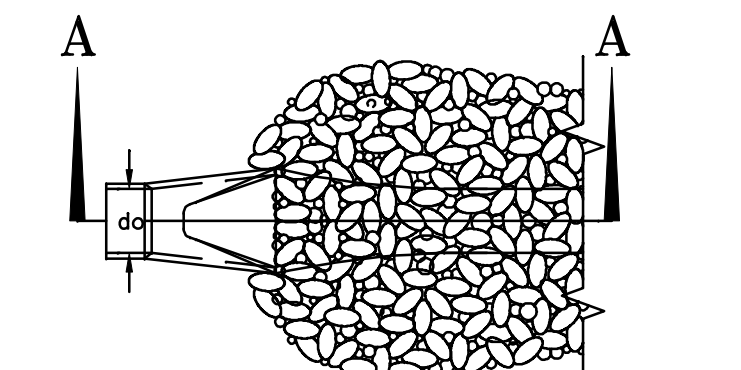
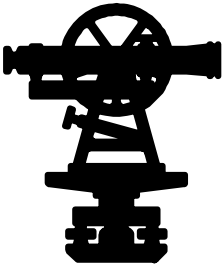
ABOVE NOTES EXCERPTED, ADAPTED AND REFERENCED FROM "NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3 CONSTRUCTION PHASE EROSION AND SEDIMENT CONTROLS, DECEMBER 2008" (NHSM, VOL. 3).

REVISIONS:

EROSION CONTROL
DETAILS
CHESTNUT HILL ROAD
ROCHESTER, NH
STRAFFORD COUNTY
FOR
BALD EAGLE
COMPANY
MARCH 2012

SCALE: AS SHOWN
REVISION DATE

SHEET C-6



d50=3" RIP-RAP GRADATION

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

APRON DIMENSION TABLE

PIPE OUTLET 12" OPP. OUTLET FROM GRAVEL WETLAND	W ₀	W	L ₀	T	d50
	3'	16'	13'	9"	3"

NOTES:

- ALL PIPE CULVERTS SHALL HAVE END SECTIONS OR HEADWALLS. END SECTION MATERIAL AND MANUFACTURER SHALL MATCH THAT OF THE PIPE CULVERT.
- THE LARGEST RIP-RAP SIZE DETERMINED DURING HYDROLOGIC ANALYSIS HAS BEEN USED FOR ALL OUTLETS FOR ECONOMY AND SIMPLICITY.
- APRON LENGTHS, WIDTHS AND THICKNESSES HAVE BEEN ROUNDED UP TO WHOLE NUMBERS FOR EASE OF CONSTRUCTION.

CONSTRUCTION SPECIFICATIONS:

- PREPARE THE SUB-GRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIP-RAP TO THE GRADES SHOWN ON THE PLANS.
- MINIMUM 6" SAND/GRAVEL BEDDING OR GEOTEXTILE FABRIC REQUIRED UNDER ALL ROCK RIP-RAP.
- THE ROCK OR GRAVEL USED FOR FILTER OR RIP-RAP SHALL CONFORM TO THE SPECIFIED GRADATION.
- GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF 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 (2) PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
- 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.
- RIP-RAP SIZE CHOSEN FOR THE WORST CASE OF ALL OUTLETS. ALL RIP-RAP USED FOR PIPE OUTLET PROTECTION WILL HAVE THE SAME GRADATION AND THICKNESS.

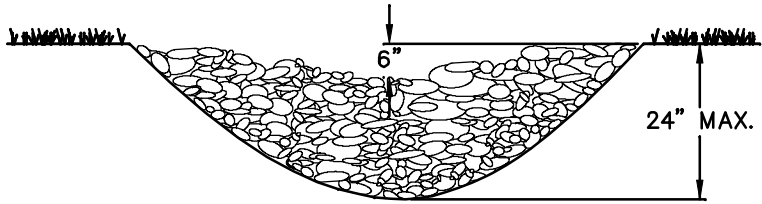
MAINTENANCE NOTES:

- OUTLETS SHALL BE INSPECTED AND CLEANED ANNUALLY AND AFTER ANY MAJOR STORM EVENT. ANY EROSION OR DAMAGE TO THE RIP-RAP SHALL BE REPAIRED IMMEDIATELY.
- THE CHANNEL IMMEDIATELY DOWNSTREAM FROM THE OUTLET SHOULD BE CHECKED TO SEE THAT NO EROSION IS 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 THE OUTLET PROTECTION APRON.

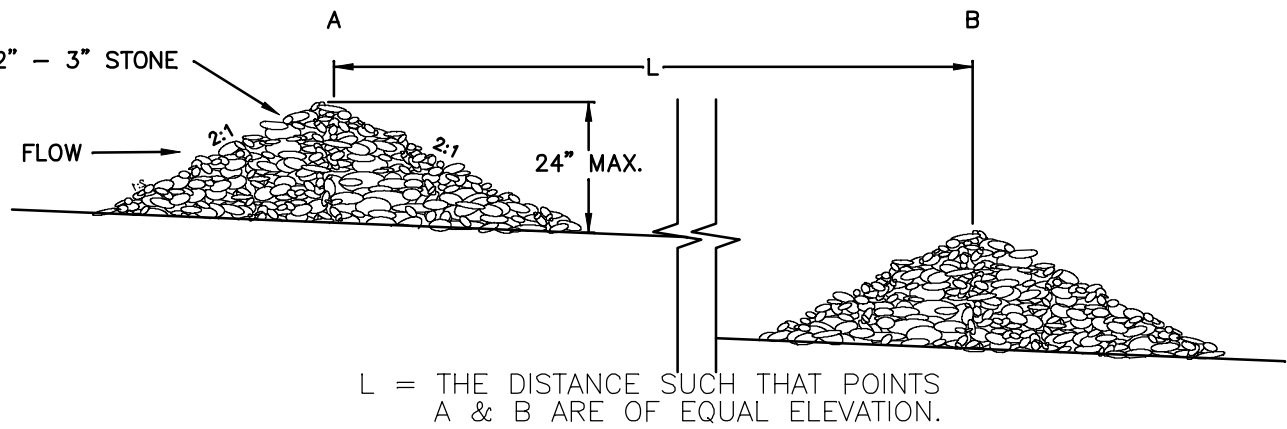
PIPE OUTLET PROTECTION DETAIL

NOT TO SCALE

SPACING BETWEEN CHECK DAMS	
SLOPE (FT/FT)	LENGTH (FT)
0.020	75
0.030	50
0.040	37
0.050	30
0.060	19
0.100	15
0.120	13
0.150	10



DRAINAGEWAY CROSS-SECTION



SPACING BETWEEN STONE CHECK DAMS

CONSTRUCTION SPECIFICATIONS:

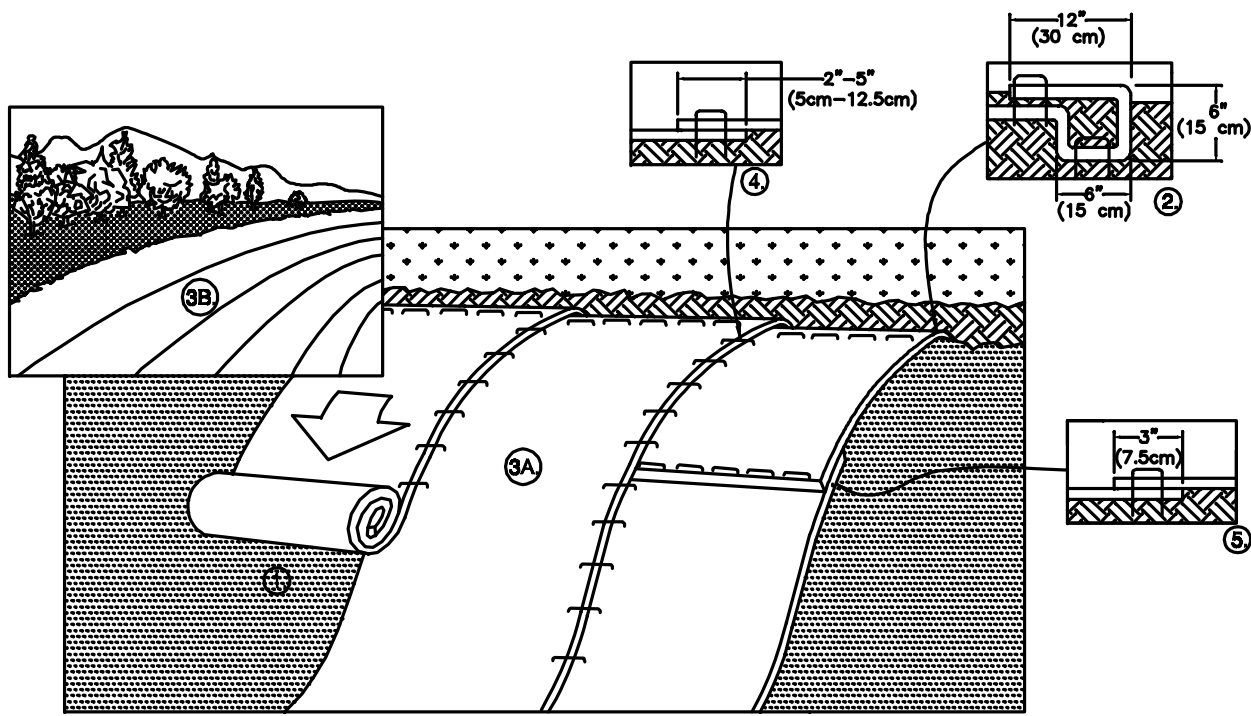
- STRUCTURES SHALL BE INSTALLED ACCORDING TO THE DIMENSIONS SHOWN ON THE PLANS AT THE APPROPRIATE SPACING.
- CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER SO THAT EROSION, AIR AND WATER POLLUTION WILL BE MINIMIZED.
- STRUCTURES SHALL BE REMOVED FROM THE CHANNEL WHEN THEIR USEFUL LIFE HAS BEEN COMPLETED.

MAINTENANCE NOTES:

- TEMPORARY GRADE STABILIZATION STRUCTURES SHOULD BE INSPECTED AFTER EACH STORM AND DAILY DURING PROLONGED STORM EVENTS. ANY DAMAGE TO THE STRUCTURES SHALL BE REPAIRED IMMEDIATELY.
- PARTICULAR ATTENTION SHOULD BE GIVEN TO END RUN AND EROSION AT THE DOWNSTREAM TOE OF THE STRUCTURE.
- WHEN REMOVING THE STRUCTURES, THE DISTURBED AREAS SHALL BE BROUGHT UP TO EXISTING CHANNEL GRADE AND THE AREAS PREPARED, SEEDED AND MULCHED.
- SEDIMENT SHALL BE REMOVED FROM BEHIND THE STRUCTURES WHEN IT REACHES 1/2 THE ORIGINAL HEIGHT OF THE STRUCTURE.

STONE CHECK DAM INSTALLATION DETAIL

NOT TO SCALE



SLOPE INSTALLATION

MAINTENANCE REQUIREMENTS:

- ALL BLANKET AND MATS SHOULD BE INSPECTED WEEKLY DURING THE CONSTRUCTION PERIOD, AND AFTER ANY RAINFALL EVENT EXCEEDING 1/2 INCH IN A 24-HOUR PERIOD.
- ANY FAILURE SHOULD BE REPAIRED IMMEDIATELY. IF WASHOUT OF THE SLOPE, DISPLACEMENT OF THE MAT, OR DAMAGE TO THE MAT OCCURS, THE AFFECTED SLOPE SHALL BE REPAIRED AND RESEDED, AND THE AFFECTED AREA OF MAT SHALL BE RE-INSTALLED.

CONSTRUCTION SPECIFICATIONS:

- MANUFACTURE'S INSTALLATION INSTRUCTIONS:
 - PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
 - BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
 - ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
 - THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) OVERLAP DEPENDING ON RECP's TYPE.
 - CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP's WIDTH. NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.
- SITE PREPARATION:
 - PROPER SITE PREPARATION IS ESSENTIAL TO ENSURE COMPLETE CONTACT OF THE PROTECTION MATTING WITH THE SOIL.
 - GRADE AND SHAPE AREA IF INSTALLATION.
 - REMOVE ALL ROCKS, CLODS, TRASH, VEGETATIVE OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED BLANKETS WILL HAVE DIRECT CONTACT WITH THE SOIL.
 - PREPARE SEEDED BY LOOSENING 2-3 INCHES OF TOPSOIL ABOVE FINAL GRADE.
 - INCORPORATE AMENDMENTS, SUCH AS LIME AND FERTILIZER, INTO SOIL ACCORDING TO SOIL TEST AND THE SEEDING PLAN.
- SEEDING:
 - SEED AREA BEFORE BLANKET INSTALLATION FOR EROSION CONTROL AND REVEGETATION. SEEDING AFTER MAT INSTALLATION IS OFTEN SPECIFIED FOR TURF REINFORCEMENT APPLICATIONS. WHEN SEEDING PRIOR TO BLANKET INSTALLATION, ALL CHECK SLOTS AND OTHER AREAS DISTURBED DURING INSTALLATION MUST BE RESEDED.
 - WHEN SOIL FILLING IS SPECIFIED, SEED THE MATTING AND THE ENTIRE DISTURBED AREA AFTER INSTALLATION AND PRIOR TO FILLING THE MAT WITH SOIL.

TEMPORARY EROSION CONTROL BLANKET DETAIL

NOT TO SCALE

TEMPORARY VEGETATION:

SPECIFICATIONS:

SITE PREPARATION:

- INSTALL NEEDED EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILTATION BARRIERS, DIVERSIONS, AND SEDIMENT TRAPS.
- GRADE AS NEEDED FOR THE ACCESS OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING.
- RUNOFF SHOULD BE DIVERTED FROM THE SEEDBED AREA.
- ON SLOPES 4:1 OR STEEPER, THE FINAL PREPARATION SHOULD INCLUDE CREATING HORIZONTAL GROOVES PERPENDICULAR TO THE DIRECTION OF THE SLOPE TO CATCH SEED AND REDUCE RUNOFF.

SEEDBED PREPARATION:

- STONES AND TRASH SHOULD BE REMOVED SO AS NOT TO INTERFERE WITH THE SEEDING AREA.
- WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
- IF APPLICABLE, FERTILIZER AND ORGANIC SOIL AMENDMENTS SHOULD BE APPLIED DURING THE GROWING SEASON.
- APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL FERTILIZER AND LIMESTONE MAY BE APPLIED AT THE FOLLOWING RATES:

LIMESTONE APPLICATION RATE = 3 TONS/ACRE (138 LB./1,000-SF)*

*EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE

FERTILIZER APPLICATION RATE = 600 LB./ACRE (13.8 LB./1,000-SF)*

*LOW PHOSPHATE FERTILIZER (N-P205-K20) OR EQUIVALENT

- FERTILIZER SHOULD BE RESTRICTED TO LOW PHOSPHATE, SLOW RELEASE NITROGEN FERTILIZER WHEN APPLIED TO AREAS BETWEEN 25 AND 250-FT FROM A SURFACE WATER BODY. NO FERTILIZER EXCEPT LIMESTONE SHOULD BE APPLIED WITHIN 25-FT OF A SURFACE WATER BODY. THESE ARE THE REQUIREMENTS FOR ANY WATER BODY PROTECTED BY THE COMPREHENSIVE SHORELAND PROTECTION ACT.

SEEDING:

- APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL CULTIPACKER TYPE SEEDER OR HYDRO SEEDER (SLURRY INCLUDING SEED AND FERTILIZER). NORMAL SEEDING DEPTH IS FROM 1/4 TO 1/2 INCH. HYDROSEEDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.
- TEMPORARY SEED SHOULD BE INSPECTED JUST PRIOR TO SEPTEMBER 15.
- AREAS SEEDED BETWEEN MAY 15 AND AUGUST 15 SHOULD BE COVERED WITH HAY OR STRAW MULCH, ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE DESCRIBED IN THE NHSSM, VOL. 3.
- VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED AREA SHOULD BE ACHIEVED PRIOR TO OCTOBER 15. IF THIS CONDITION IS NOT ACHIEVED, IMPLEMENT OTHER TEMPORARY STABILIZATION MEASURES FOR OVERWINTER PROTECTION.

MAINTENANCE REQUIREMENTS:

- TEMPORARY SEEDING SHOULD BE INSPECTED WEEKLY AFTER ANY RAINFALL EXCEEDING 1/2 INCH IN 24 HOURS ON ACTIVE CONSTRUCTION SITES. TEMPORARY SEEDING SHOULD BE INSPECTED JUST PRIOR TO SEPTEMBER 15, TO ASCERTAIN WHETHER ADDITIONAL SEEDING IS REQUIRED TO PROVIDE STABILIZATION OVER THE WINTER PERIOD.
- BASED ON INSPECTION, AREAS SHOULD BE RESEDED TO ACHIEVE FULL STABILIZATION OF EXPOSED SOILS. IF IT IS TOO LATE IN THE PLANTING SEASON TO APPLY ADDITIONAL SEED, THEN OTHER TEMPORARY STABILIZATION MEASURES SHOULD BE IMPLEMENTED.
- IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHOULD BE MADE AND AREAS SHOULD BE RESEDED, WITH OTHER TEMPORARY MEASURES (I.E. MULCH, ETC.) USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.

TEMPORARY VEGETATION SEEDING RECOMMENDATIONS

SPECIES	PER ACRE BUSHELS (BU) OR POUNDS (LBS.)	PER 1,000-SF	REMARKS
WINTER RYE	2.5 BU OR 112 LBS.	2.5 LBS.	BEST FOR FALL SEEDING. SEED FROM AUGUST 15 TO SEPTEMBER 15 FOR BEST COVER. SEED TO A DEPTH OF 1 INCH.
OATS	2.5 BU OR 80 LBS.	2.0 LBS.	BEST FOR SPRING SEEDING. SEED NO LATER THAN MAY 15 FOR SUMMER PROTECTION. SEED TO A DEPTH OF 1 INCH.
ANNUAL RYEGRASS	40 LBS.	1.0 LB.	GROWS QUICKLY, BUT IS OF SHORT DURATION. USE WHERE APPEARANCES ARE IMPORTANT. SEED EARLY SPRING AND/OR BETWEEN AUGUST 15 AND SEPTEMBER 15, COVER THE SEED WITH NO MORE THAN 0.25 INCH OF SOIL.
PERENNIAL RYEGRASS	30 LBS.	0.7 LBS.	BEST FOR FALL SEEDING. SEED FROM AUGUST 15 TO SEPTEMBER 15 FOR BEST COVER. SEED TO A DEPTH OF 1 INCH.

SOURCES:

- NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3, TABLE 4-1
- MINNICK, E.L. AND H.T. MARSHALL, (AUGUST 1992)

PERMANENT VEGETATION:

SPECIFICATIONS:

SITE PREPARATION:

- INSTALL NEEDED EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILTATION BARRIERS, DIVERSIONS, AND SEDIMENT TRAPS.
- GRADE AS NEEDED FOR THE ACCESS OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING.
- RUNOFF SHOULD BE DIVERTED FROM THE SEEDBED AREA.

- ON SLOPES 4:1 OR STEEPER, THE FINAL PREPARATION SHOULD INCLUDE CREATING HORIZONTAL GROOVES PERPENDICULAR TO THE DIRECTION OF THE SLOPE TO CATCH SEED AND REDUCE RUNOFF.

SEEDBED PREPARATION:

- WORK LIME AND FERTILIZER 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 OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM, FINE SEEDBED IS PREPARED. ALL BUT CLAY AND SILT SOILS SHOULD BE ROLLED TO FIRM THE SEEDBED WHEREVER FEASIBLE.

- REMOVE FROM THE SURFACE ALL STONES ZINCHES OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, CONCRETE CLODS, LUMPS, TRASH OR OTHER UNSUITABLE MATERIAL.
- INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE TILLED AND FIRMED AS ABOVE.

- WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.

- IF APPLICABLE, FERTILIZER AND ORGANIC SOIL AMENDMENTS SHOULD BE APPLIED DURING THE GROWING SEASON.

- APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL FERTILIZER AND LIMESTONE MAY BE APPLIED AT THE FOLLOWING RATES:

LIMESTONE APPLICATION RATE = 3 TONS/ACRE (138 LB./1,000-SF)*

*EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE

FERTILIZER APPLICATION RATE = 600 LB./ACRE (13.8 LB./1,000-SF)*

*LOW PHOSPHATE FERTILIZER (N-P205-K20) OR EQUIVALENT

- FERTILIZER SHOULD BE RESTRICTED TO LOW PHOSPHATE, SLOW RELEASE NITROGEN FERTILIZER WHEN APPLIED TO AREAS BETWEEN 25 AND 250-FT FROM A SURFACE WATER BODY. NO FERTILIZER EXCEPT LIMESTONE SHOULD BE APPLIED WITHIN 25-FT OF A SURFACE WATER BODY. THESE ARE THE REQUIREMENTS FOR ANY WATER BODY PROTECTED BY THE COMPREHENSIVE SHORELAND PROTECTION ACT.

SEEDING:

- INOCULATE ALL LEGUME SEED WITH THE CORRECT TYPE 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. HYDROSEEDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE.
- WHERE FEASIBLE EXCEPT WHERE EITHER CULTIPACKER TYPE SEEDER OR HYDROSEEDER IS USED, THE SEEDBED SHOULD BE FIRMED FOLLOWING SEEDING OPERATIONS WITH A ROLLER, OR LIGHT DRAG.
- SPRING SEEDING USUALLY GIVES THE BEST RESULTS FOR ALL SEED MIXES OR WITH LEGUMES. PERMANENT SEEDING SHOULD BE COMPLETED 45 DAYS PRIOR TO FIRST KILLING FROST. WHEN CROWN VETCH IS SEEDING IN LATE SUMMER AT LEAST 35% OF THE SEED SHOULD BE HARD SEED (UNSCARRIED). IF SEEDING CANNOT BE DONE WITHIN THE SPECIFIED SEEDING DATES, MULCH ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE DESCRIBED IN THE NHSSM, VOL. 3, AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
- AREAS SEEDED BETWEEN MAY 15 AND AUGUST 15 SHOULD BE COVERED WITH HAY OR STRAW MULCH, ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE DESCRIBED IN THE NHSSM, VOL. 3.
- VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED AREA SHOULD BE ACHIEVED PRIOR TO OCTOBER 15. IF THIS CONDITION IS NOT ACHIEVED, IMPLEMENT OTHER TEMPORARY STABILIZATION MEASURES FOR OVERWINTER PROTECTION.

HYDROSEEDING:

- WHEN HYDROSEEDING (HYDRAULIC APPLICATION), PREPARE THE SEEDBED AS SPECIFIED ABOVE OR BY HAND RAKING TO LOOSEN AND SMOOTH THE SOIL AND REMOVE SURFACE STONES LARGER THAN 2 INCHES IN DIAMETER.
- SLOPES MUST BE NO STEEPER THAN 2:1 (2 FEET HORIZONTALLY BY 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). 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 BY 10% WHEN HYDROSEEDING.

MAINTENANCE REQUIREMENTS:

- PERMANENT SEEDED AREAS SHOULD BE INSPECTED AT LEAST MONTHLY DURING THE COURSE OF CONSTRUCTION. INSPECTION, MAINTENANCE, AND CORRECTIVE ACTIONS SHOULD CONTINUE UNTIL THE OWNER ASSUMES PERMANENT OPERATION OF THE SITE.
- SEEDED AREAS SHOULD BE MOWED AS REQUIRED TO MAINTAIN A HEALTHY STAND OF VEGETATION. MOWING HEIGHT AND FREQUENCY DEPEND OF TYPE OF GRASS COVER.
- BASED ON INSPECTION, AREAS SHOULD BE RESEDED TO ACHIEVE FULL STABILIZATION OF EXPOSED SOILS.
- AT A MINIMUM 85% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION.
- IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHOULD BE MADE AND AREAS SHOULD BE RESEDED, WITH OTHER TEMPORARY MEASURES (I.E. MULCH, ETC.) USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.

PERMANENT VEGETATION SEEDING RECOMMENDATIONS

USE	MIXTURE	SPECIES	LBS./ACRE	LBS./1,000-SF
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	TALL FESCUE CREEPING RED FESCUE REDDTOP TOTAL	20 20 2 42	0.45 0.45 0.05 0.95
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER	A	TALL FESCUE CREEPING RED FESCUE REDDTOP TOTAL	20 20 2 42	0.45 0.45 0.05 0.95
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY RECREATION SITES	A	TALL FESCUE CREEPING RED FESCUE REDDTOP TOTAL	20 20 2 42	0.45 0.45 0.05 0.95
PLAY AREAS AND ATHLETIC FIELDS (TOPSOIL ESSENTIAL FOR GOOD TURF)	F	CREEPING RED FESCUE KENTUCKY BLUEGRASS TOTAL	50 50 100	1.15 1.15 2.30

SOURCES:

- NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3, TABLES 4-2 AND 4-3
- MINNICK, E.L. AND H.T. MARSHALL, (AUGUST 1992)

REVISIONS:

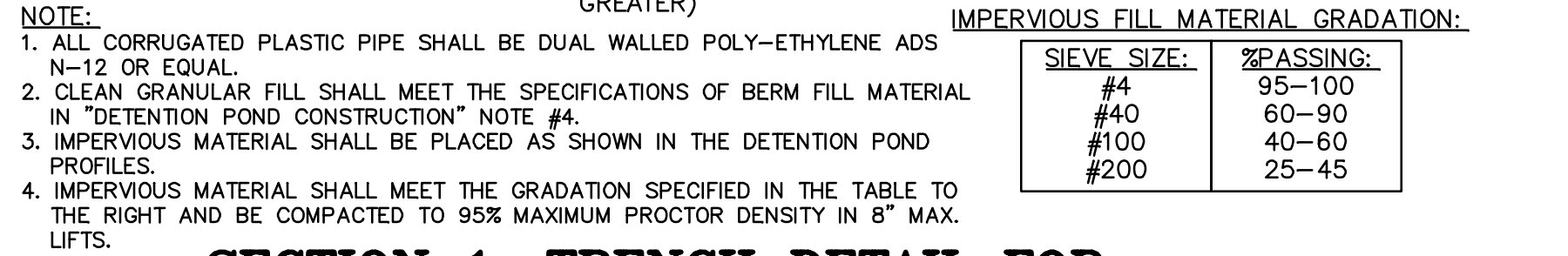
FILE NO. 154
PLAN NO. C-####
F.B. NO. ###
DWG. NO. 11057/SP-1

DRAWN BY: RRL
CHK'D BY: RRL
SCRD NO: D-###

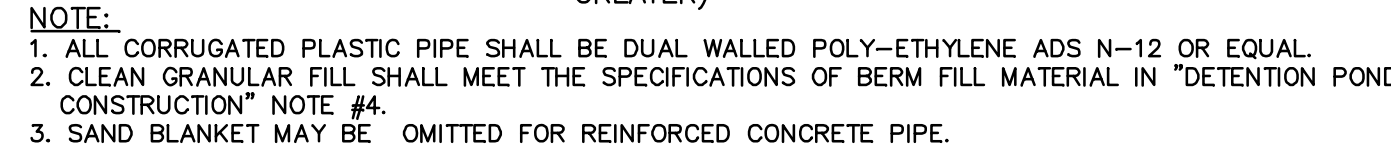
EROSION CONTROL DETAILS
CHESTNUT HILL ROAD
ROCHESTER, NH
STRAFFORD COUNTY
FOR
BALD EAGLE
COMPANY
MARCH 2012

SCALE: AS SHOWN
REVISION DATE

SHEET C-7



**SECTION 1: TRENCH DETAIL FOR
PRINCIPLE SPILLWAY PIPE**
NOT TO SCALE



**SECTION 2: TRENCH DETAIL FOR
PRINCIPLE SPILLWAY PIPE**
NOT TO SCALE

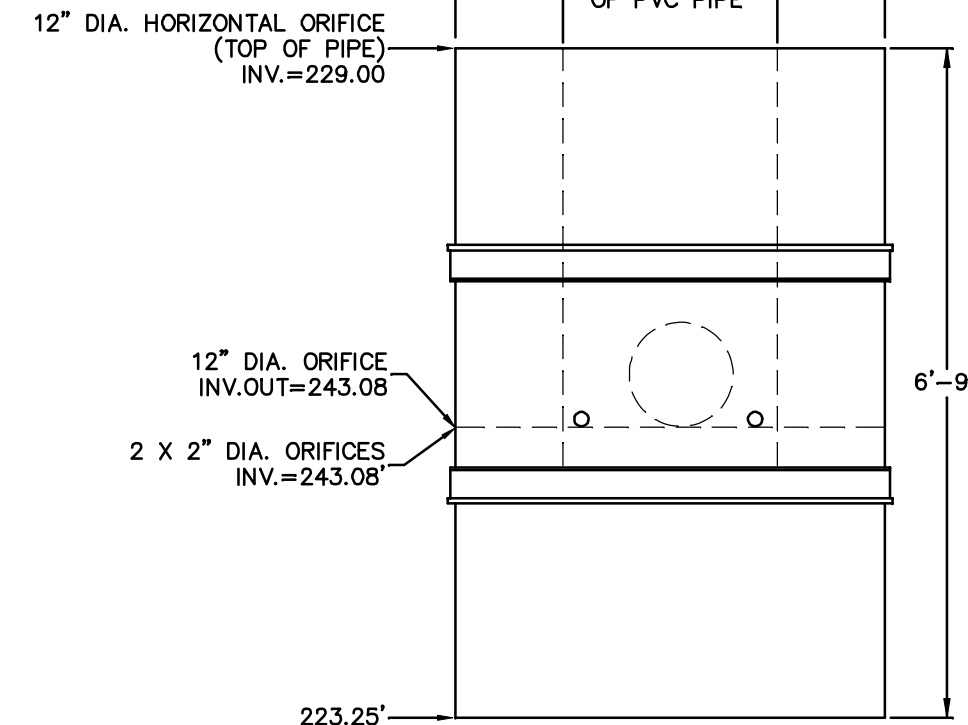


SEDIMENT STAFF GAUGE DETAIL



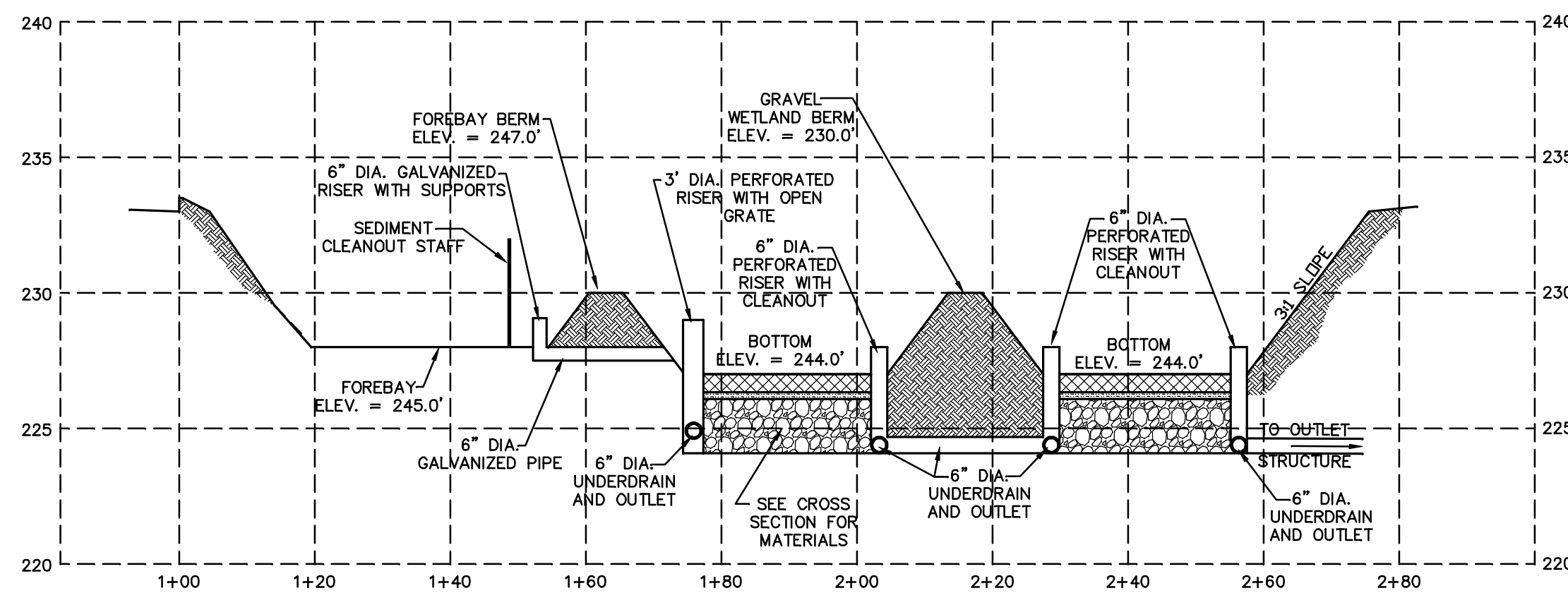
GRAVEL WETLAND MATERIALS CROSS-SECTION

SCALE: 1"= 2'



ORIFICE SCHEMATIC

SCALE: NOT TO SCALE



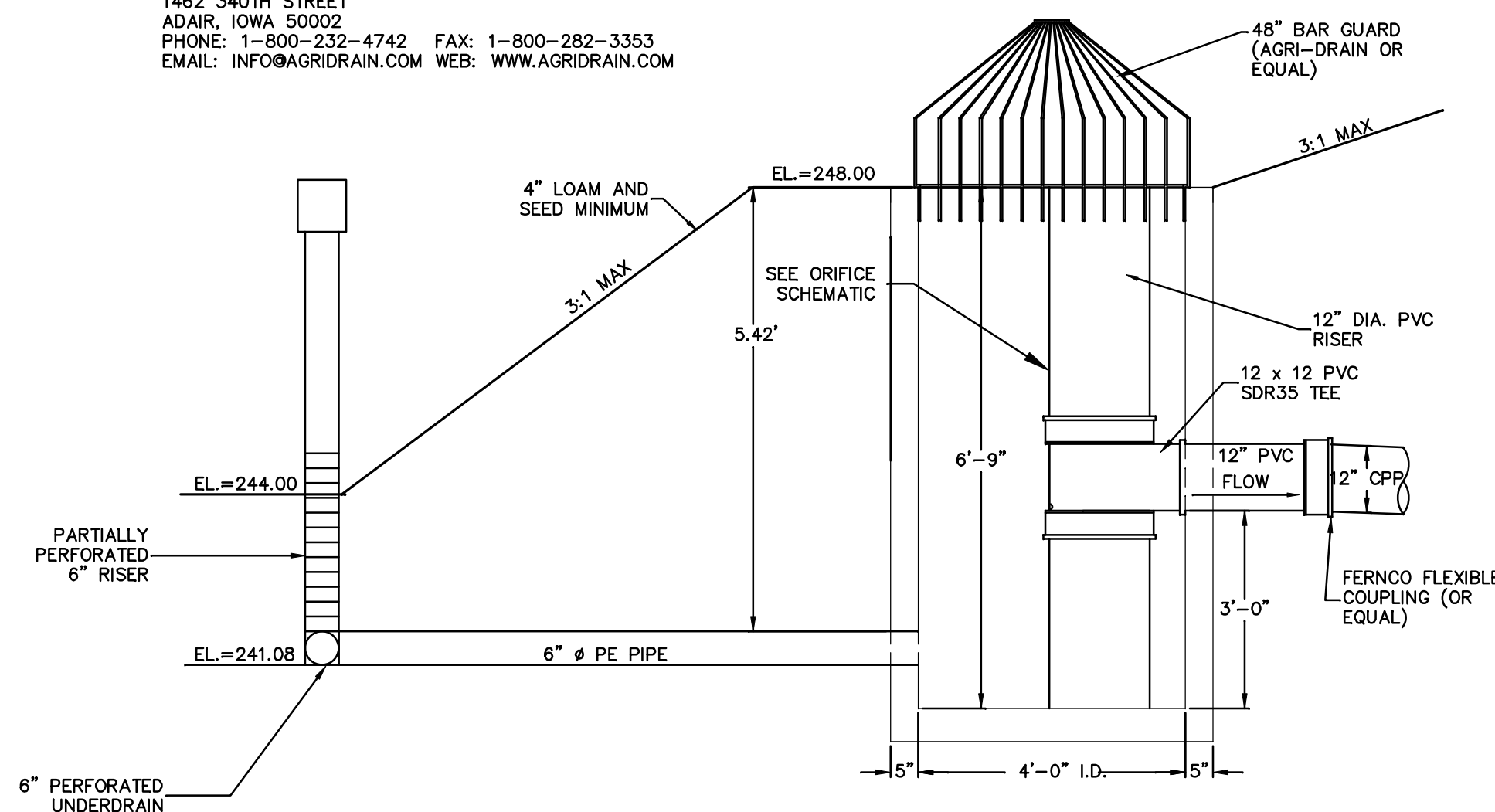
TYPICAL GRAVEL WETLAND PROFILE

SCALE: HORIZ: 1" = 20', VERT: 1" = 5'

CONTACT INFORMATION FOR AGRI-DRAIN CORPORATION:

1. BOTH THE BAR GUARD SCREEN ON TOP OF THE INLET CONTROL STRUCTURE AND THE RAT GUARD IN THE END OF THE 12-INCH INLET PIPE ARE AGRI-DRAIN CORPORATION PRODUCTS (OR EQUAL).
2. AGRI-DRAIN CORPORATION CAN BE CONTACTED AT THE FOLLOWING ADDRESS, TELEPHONE NUMBER, FAX NUMBER AND EMAIL ACCOUNT:

AGRI-DRAIN CORPORATION
P.O. BOX 458
1462 340TH STREET
ADAIR, IOWA 50002
PHONE: 1-800-232-4742 FAX: 1-800-282-3353
EMAIL: INFO@AGRIDRAIN.COM WEB: WWW.AGRIDRAIN.COM



GRAVEL WETLANDS OUTLET STRUCTURE DETAIL

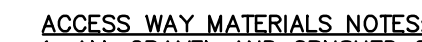
SCALE: NOT TO SCALE

**GRAVEL WETLAND
DETAILS
CHESTNUT HILL ROAD
ROCHESTER, NH
STRAFFORD COUNTY
FOR
BALD EAGLE
COMPANY
MARCH 2012**

SCALE: AS SHOWN
REVISION DATE

SHEET C-8

REVISIONS:



1. ALL GRAVEL AND CRUSHED GRAVEL MATERIAL TO BE INSTALLED SHALL MEET NHDOT SPECIFICATIONS AND BE FREE OF UNSUITABLE MATERIALS SUCH AS SILT, CLAY, ORGANIC MATERIAL, ROCKS LARGER THAN THE AGGREGATE SPECIFIED IN THE GRAVEL OR CRUSHED GRAVEL GRADATIONS, ETC.

2. INSTALL THE GRAVEL BASE AND CRUSHED GRAVELS IN ALL PAVED AREAS IN MAXIMUM 6 INCH LIFTS AND COMPACT TO 95% MAXIMUM PROCTOR DENSITY TO THE DEPTHS SPECIFIED IN THE TYPICAL CROSS SECTIONS.

NHDOT ITEM 304.2 (GRAVEL) GRADING REQUIREMENTS:

<u>SIEVE DESIGNATION:</u>	<u>PERCENTAGE BY WEIGHT</u>
6 INCH	<u>SQUARE MESH SIEVE:</u> 100%
NO. 4	25-70%
NO. 200	0-12%

GRAVEL SHALL CONTAIN NO PARTICLES OF ROCK EXCEEDING SIX INCHES IN ANY DIMENSION.

NHDOT ITEM 304.3 (CRUSHED GRAVEL) GRADING REQUIREMENTS:

<u>SIEVE DESIGNATION:</u>	<u>PERCENTAGE BY WEIGHT</u> <u>SQUARE MESH SIEVE:</u>
3 INCH	100%
2 INCH	95-100%
1 INCH	55-85%

NO. 4	27-52%
NO. 200	0-12%

CRUSHED GRAVEL SHALL CONTAIN NO PARTICLES OF ROCK EXCEEDING THREE INCHES IN ANY DIMENSION.

NOT TO SCALE

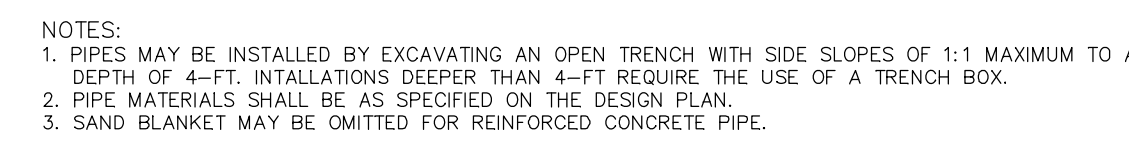


LOCATION	B	d	Z	T	LENG
WHERE SHOWN	2-FT	2-FT	3-FT	14-FT	AS SHOW

MAINTENANCE NOTES:

1. THE SWALE(S) SHALL BE MOWED WITH THE REST OF THE SITES LAWN AREAS TO PROMOTE HEALTHY GROWTH AND PREVENT THE ENCROACHMENT OF WEEDS AND WOOD VEGETATION. DO NOT MOW GRASS IN SWALE(S) TOO SHORT. THIS WILL REDUCE THE RISK OF EROSION AND TERRESTRIAL HABITAT DESTRUCTION.
2. THE SWALE(S) SHOULD BE FERTILIZED ON AN AS NECESSARY BASIS, TO KEEP THE GRASS HEALTHY. OVER FERTILIZATION COULD RESULT IN THE SWALE(S) BECOMING A SOURCE OF POLLUTION TO THE SURROUNDING WETLAND AREAS.
3. SWALE(S) SHOULD BE MAINTAINED REGULARLY AND AFTER EVERY MAJOR STORM. RILLS, AND DAMAGED AREAS SHOULD BE PROMPTLY REPAIRED AND RE-VEGETATED AS NECESSARY TO PREVENT FURTHER DETERIORATION.

NOT TO SCALE



NOT TO SCALE

FILE NO.	154	DRAWN BY:	RRL
PLAN NO.	C-####	CHK'D BY:	RRL
F.B. NO.	###	SCRD NO:	D-###
DWG. NO.	11057/SP-1		

NORWAY PLAINS ASSOCIATES, INC.

**CONSTRUCTION
DETAILS
CHESTNUT HILL ROAD
ROCHESTER, NH
STRAFFORD COUNTY
FOR
BALD EAGLE
COMPANY
MARCH 2012**

REVISION DATE

SHEET C-9