Henniker Planning Board *November 10, 1768*

PB CASE # 2024-02

SITE PLAN REVIEW APPLICATION

Property Address: ~~1778~~ Old Concord Road

Parcel Lot # : Map 9 / Lot 615 **Zoning District:** Heavy Commercial

Parcel Lot Size: 31.99 Acres **Road Frontage:** 590'

Type of Application: (Circle Type)
Change of Use
Home Business Retail/Service
Multi-Family Residential
Commercial/Industrial Development
Telecommunication

PROPERTY OWNER(s)

Name:	David G. Foster	**Name:**	
Address:	1778 Old Concord Road Henniker, N.H. 03242	**Address:**	
Tel #:	[redacted]	**Tel #:**	
Fax #:		**Fax #:**	
Email:	[redacted]	**Email:**	
Signature:		**Signature:**	

APPLICANT(s)

Name:	Foster Materials Inc.	**Name:**	
Address:	1778 Old Concord Road Henniker, N.H. 03242	**Address:**	
Tel #:	[redacted]	**Tel #:**	
Fax #:		**Fax #:**	
Email:	[redacted]	**Email:**	
Signature:		**Signature:**	

If the property owner is not the applicant and/or wishes the applicant to act on their behalf, the property owner MUST provide a notarized letter (original) authorizing the applicant to file an application.

APPLICATION INSTRUCTIONS

DATA TO BE PROVIDED WITH SITE PLAN REVIEW APPLICATION

- Narrative description of proposed development
- Planning Board meeting minutes from Conceptual Consultation, which is optional (Copies may be researched and obtained at Town Hall)
- Copy of the property tax map showing subject parcel and abutting properties (Copies may be researched and obtained at Town Hall)
- Copy of Property assessment card (Copies may be researched and obtained at Town Hall)
- Copies of any ZBA Notices of Decision (Variance or Special Exception) for project
- Planning Board Application Fees
- Abutter Notification List
- Plan Sets
    - Initial Application:
        - Seven 22"x34" copies of the plans for review by Planning, Conservation, Assessing, Highway, Fire, Town Sewer (if applicable) and Town Water (if applicable)
    - Revised Application Deadline:
        - Seven 22"x34" copies of the plans for Planning Board meeting
        - Eleven 11" x 17" copies of the plans for the Planning Board packets
- Copies of any State or Federal permits
- Copies of any deeds or easements
- Copies of Condominium declaration, bylaws, and floor plan (condo conversion)
- All required material as outlined in 203-12 and 203-13, as applicable, in the Town of Henniker Site Plan Review Regulations
- Waiver requests for any of the required material under 203-12 or 203-13 of the Town of Henniker Site Plan Review Regulations. Request must be in writing and explain why conformity to the requirements would pose an unnecessary hardship and how granting the waiver would not be contrary to the spirit and intent of the Regulation.

FEES

Fees MUST be paid at the time the application is submitted or the application will not be accepted. Fees can be paid in cash or by check made out to the "Town of Henniker".

Site Plan Application	$375 application fee; $500 escrow
Residential	$100 per dwelling unit
Affordable Residential	$30 per dwelling unit (as defined by US HUD)
Change of Use	$190 application fee; $250 escrow
Telecommunications	$625 application fee; $500 escrow
Telecommunications co-location	$315 application fee; $500 escrow
Newspaper Notice Fee:	$125
Abutter Notification Fee:	$10 per abutter notification address
Recording Fee:	$30 per plan sheet, $25 per document, $25 LCHIP fee per plan set/document

Amount enclosed with application:

Application Fee	$ 375
Initial Escrow	$ 300
Newspaper Notice	$ 125
Abutters	$ 70
Recording Fee	$ NA
Total	$ 470

Security features are included. Details on back.

002093

Aspen Environmental Consultants, LLC
893 Valley Rd
Washington, NH 03280

Citizens Bank
4 Western Ave
Henniker, NH 03242
54-153/114

3/22/2024

PAY TO THE ORDER OF Town of Henniker $ **870.00

Eight Hundred Seventy and 00/100********** DOLLARS

Town of Henniker

[redacted]

MP

MEMO Site Plan - Foster Materials, Inc

ABUTTER NOTIFICATION LIST

Three (3) sets of 1" x 2 5/8" mailing labels containing names and addresses of those on the mailing notification list, including abutters, property owners, agents, prospective Applicants, easement (conservation, preservation, agricultural) holders, and any professional whose seal appears on the plan **202-9.A.**

An abutter is defined as any person whose property is located in New Hampshire and adjoins or is directly across the street or stream from the land under consideration by the Planning Board. The term abutter includes all holders of conservation, preservation, or agricultural easements; the officers of a condominium or other collective form of ownership; the manufactured housing park owner and the tenants who own manufactured housing which adjoins or is directly across the street or stream from the land under consideration by the Planning Board; and any professionals hired by the applicant/property owner (surveyors, engineers, etc.). See NH RSA 672:3.

Information for the property abutters can be obtained at the Town Hall during regular business hours. Abutter information must be obtained no more than 1 month prior to application submittal.

APPLICATION SUBMISSION

Submissions must be made in accordance with the adopted Planning Board submission deadline, which is posted at the Town Hall. All applicants are encouraged to meet with the Planning Board Clerk prior to submitting an application to avoid delays due to incomplete information.

Please be advised that it is the applicant's responsibility to submit a complete and accurate application package. The Planning Board will not take jurisdiction over incomplete applications.

Review the Henniker Site Plan Review Regulations, Chapter 203 of the Town Code, to ensure full compliance with the Regulations. Regulations are available online at www.henniker.org

SITE PLAN REVIEW REGULATIONS

203-12. Minimum Requirements

Every application must include the following (see RSA 676:4, I(b)):

A. A completed Site Plan Review Application showing the name and address of the applicant and/or designated agent.

B. The names and addresses of all abutters to the property, as indicated in the town records as of a date not more than five days before the filing of the application, and of all holders of conservation, preservation or agricultural preservation restrictions (as defined in RSA 477:45).

C. A narrative description of the proposed project explaining its purpose, its hours of operation, parking needs, lighting, employment figures, land use compatibility, aesthetics, school population projections, noise, and traffic impacts with respect to both the immediate area and the town in general.

D. The name and business address of every licensed professional whose seal appears on any Plan submitted to the Board.

E. A dated Site Plan, drawn to a scale not smaller than 100 feet to an inch, showing the following:

(1) Boundary dimensions and road frontages.

(2) Bar scale and north arrow.

(3) Distances of existing and proposed structures from boundaries and setbacks.

(4) Existing and proposed structures with dimensions.

(5) Names, width, and class of abutting roads.

(6) Approximate location of structures on abutting properties if within 100 feet of the property line.

(7) Location, dimensions, materials, and condition of existing and proposed parking areas, driveways, curbs, sidewalks, and fire lanes.

(8) Location of natural features (such as wetlands, ledge, boulders, wooded areas) and one-hundred-year flood levels, if applicable.

(9) Location of existing and proposed utilities (water, sewer, electric, gas, telephone, cable, etc.), wells, septic systems, and leach fields.

(10) Type, size, and location of existing and proposed solid waste storage facilities and snow storage areas.

(11) Location of all easements and rights-of-way.

(12) Location, size, and nature of existing and proposed signs and outdoor illumination.

(13) Location, size, and type of existing or proposed fencing, trees, ledges or other screening.

(14) A locus map showing boundaries for the site, all parcels within 1,000 feet, the zoning district(s), and one-hundred-year flood levels (if applicable).

(15) Plans of all existing and proposed buildings with their type, dimensions, location, setbacks, and first floor elevation(s) indicated.

(16) The size and location of proposed water supply and sewage disposal facilities (e.g., private wells and septic systems) showing provisions for future expansion, if applicable, and also showing distances from existing water and sewage facilities on abutting properties if the proposed facilities are within 200 feet of abutting properties.

(17) The location, layout and elevation of catch basins and other surface drainage features.

(18) The type, extent, and location of existing and proposed landscaping and open space areas indicating what existing landscaping and open space areas will be retained.

(19) The rights-of-way and names of all proposed streets, lanes, ways, or easements.

(20) A topographic plan with spot elevations where the land slope is greater than 5% and contour lines at two-foot vertical intervals on site, and off-site contours shown 100 feet beyond the site to be interpolated from United States Geological Survey (USGS) data.

203-13. Additional Requirements

If, based on information contained in the application or otherwise received by the Board, the Board determines that the proposed project is sufficiently large or complex, or the impacts of the proposed project

are of such significance that additional information is required, the Board may require the applicant to include any one or more of the following items in the application:

A. A community facilities impact analysis for the following, where applicable:
   (1) The wastewater treatment system, including flow estimates and assessments of existing capacity.
   (2) The water system, including flow estimates and the capacity and assessment of existing potential water pressure.
   (3) The traffic systems, including the impact of projected trips on flow characteristics and the impact of traffic on the immediate existing road structures and bridges. The traffic impact analysis will address internal and external traffic circulation and access, including adequacy of adjacent streets and intersections, entrances and exits, traffic flow, sight distances, curb cuts, turning lanes, existing or recommended traffic signals, pedestrian safety and access, off-street parking and loading, emergency vehicle access and necessary off-site improvements.
   (4) The school system
   (5) The public safety providers, including Police, Fire, and Rescue Squad.
   (6) Solid waste disposal
   (7) Stormwater management systems, including flow and water quality.
   (8) The recreational resources and the provisions of methods to meet proposed needs.

B. Provisions for snow removal and disposal.

C. A plan showing the most recent soils information, as published by the Merrimack County Soil Conservation Service

D. Wetlands delineated by a licensed professional using the current Army Corps of Engineers Manual

E. An erosion and sediment control plan

F. A fiscal impact study addressing the effects of the proposed project on the town's economy and finances, including, but not necessarily limited to, town expenses, tax revenue, property values, employment and impacts on existing businesses.

G. A noise study.

H. A lighting study

I. Copies of any existing or proposed easements, deed restrictions, or other similar documents pertaining to the Site Plan.

J. Such other documents, plans, studies or information as the Board may require to determine the impact of the project.

K. Copies of all applicable state and federal applications and/or permits.

ASPEN
ENVIRONMENTAL CONSULTANTS LLC

Project Narrative

Foster Materials Gravel Pit Access Drive

This site plan application is being submitted for a new driveway, needed to access a proposed gravel pit for Foster Materials, Inc. on Hopkinton Map 211 Lot 7. While separate applications will be filed with the NH Alteration of Terrain Bureau and the Hopkinton Planning Board for the new pit, we are requesting Henniker approve the portion of the drive which will cross the town. The Hopkinton Police Chief & Superintendent of Highways both requested we place the drive entrance in Henniker to stay as far away from the Route 202/9 intersection as possible, and everyone involved in the project agrees this is the best course of action.

In addition to making sure the driveway will meet state Alteration of Terrain regulations, we have also incorporated design considerations based on a pre-application meeting with Mark Fougere and Leo Aucoin. Such as:

- The driveway will slope away from Old Concord Road, ensuring runoff will not enter the road
- Pavement has been extended approximately 275' from Old Concord Road to provide additional time for loose material in truck tires to fall out before reaching the road
- The drive entrance is proposed as far from the Route 202/9 intersection as we can get without extending grading down the slope and into the wetland on the west side of the drive

Please let me know if you have any questions or need additional information.

Sincerely,

[redacted]

Aaron Wechsler
Aspen Environmental
Consultants, LLC

Foster Property

Town of Henniker, NH

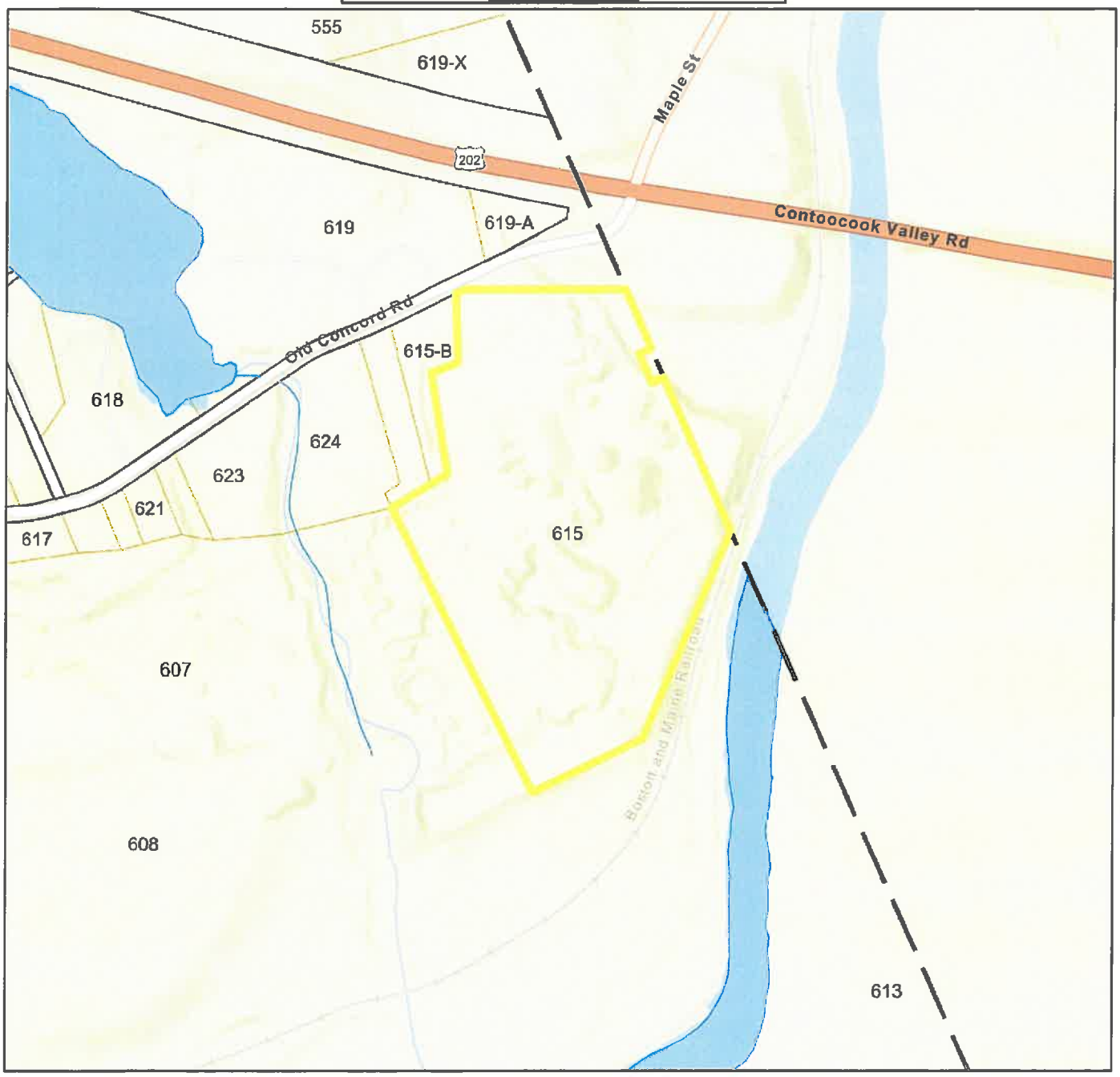
1 inch = 550 Feet

0 550 1100 1650

March 21, 2024

CAI Technologies

www.cai-tech.com



Large Scale	PL	ROW
CAI Town Line	PL_SHORE	ROW_PVT
STREAM	PL_SURVEY	Water-poly - No Ortho

Map: 000009 Lot: 000615 Sub: 000000 Card: 1 of 1 OLD CONCORD RD HENNIKER Printed: 12/08/2023

OWNER INFORMATION

FOSTER DAVID G

1778 OLD CONCORD ROAD

HENNIKER, NH 03242

SALES HISTORY

Date	Book	Page	Type	Price	Grantor
04/17/2012	3309	0899	U I 38	1	FOSTER MATERIALS INC

PICTURE

LISTING HISTORY

07/31/20	VS14	FIELD REVIEW
05/14/10	RK00	MEASUR+LISTED
03/22/05	PP07	MEASUR/ INFO TAKEN AT DOO
04/25/96	RM01	MEASUR+1VISIT
04/25/96	RM02	MEASUR+2VISIT

NOTES

GRAY FOSTER MATERIALS SHD'S @400%=MASONRY BLDGS 2002
INCLUDES 7 AC EXCAVATION AREA PER 155-E:1, II, VI

EXTRA FEATURES VALUATION

Feature Type	Units	Lngth x Width	Size Adj	Rate	Cond	Market Value	Notes
POLE BARN	1,888	1888 x 1	68	8.00	75	7,703	Year: 1996
GARAGE-1 STY	720		82	30.00	75	13,284	Year: 1996
						21,000	

MUNICIPAL SOFTWARE BY AVITAR

HENNIKER ASSESSING OFFICE

PARCEL TOTAL TAXABLE VALUE

Year	Building	Features	Land
2022	$ 67,200	$ 21,000	$ 637,500
		Parcel Total:	$ 725,700
2023	**$ 67,200**	**$ 21,000**	**$ 637,500**
		Parcel Total:	**$ 725,700**

LAND VALUATION

Zone: HEAVY COMMERCIAL **Minimum Acreage:** 2.00 **Minimum Frontage:** 125

LAST REVALUATION: 2022

Site: AVERAGE **Driveway:** GRAVEL/DIRT **Road:** PAVED

Land Type	Units	Base Rate	NC	Adj	Site	Road	DWay	Topography	Cond	Ad Valorem	SPI	R	Tax Value	Notes
COM/IND	2.000 ac	127,000	E	100	100	100	95	95 -- MILD	150	171,900	0	N	171,900	USE/COMM ZONE
COM/IND	1.000 ac	x 2,500	X	89				90 -- ROLLING	150	3,000	0	N	3,000	SITE
COM/IND	25.000 ac	x 2,500	X	89				90 -- ROLLING	900	450,600	0	N	450,600	EXCAVATION AREA
COM/IND	3.990 ac	x 2,500	X	89				90 -- ROLLING	150	12,000	0	N	12,000	EXCESS
	31.990 ac									637,500			**637,500**	

Map: 000009 Lot: 000615 Sub: 000000 Card: 1 of 1 OLD CONCORD RD HENNIKER Printed: 12/08/2023

PICTURE

OWNER

FOSTER DAVID G

1778 OLD CONCORD ROAD

HENNIKER, NH 03242

TAXABLE DISTRICTS

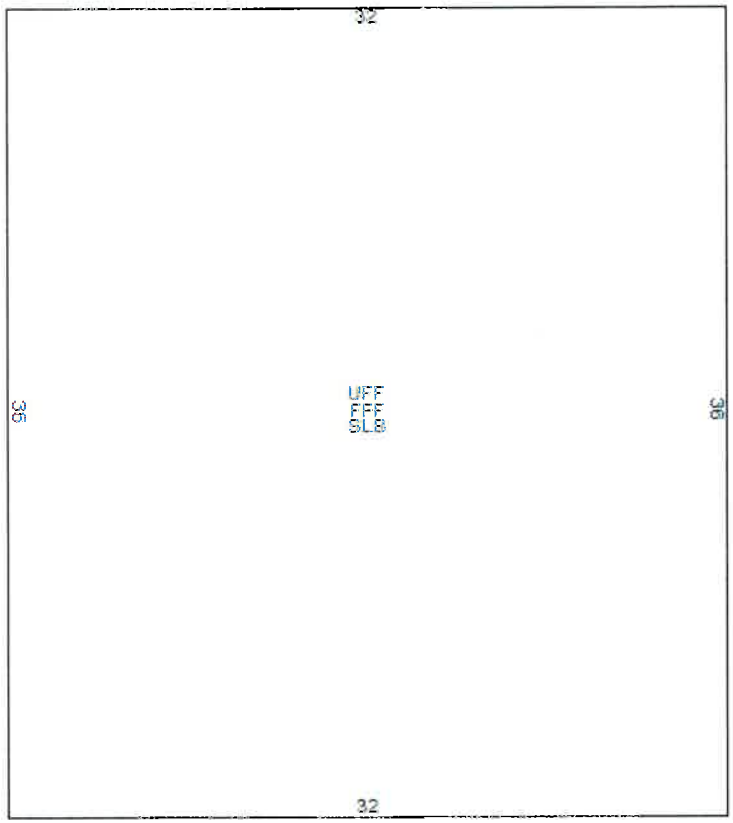
District	Percentage

PERMITS

Date	Project Type	Notes

BUILDING DETAILS

Model:	**2.00 STORY LIGHT INDU**		
Roof:	**GABLE OR HIP/ASPHALT**		
Ext:	**CNCRT OR BLK**		
Int:	**AVERAGE 4 USE**		
Floor:	**CONCRETE**		
Heat:	**OIL/FA NO DUCTS**		
Bedrooms:	Baths:	Fixtures:	
	Extra Kitchens:	Fireplaces:	
A/C:	**No**	Generators:	
Quality:	**B1 AVG-10**		
Com. Wall:	**MASONRY, 12 FT.**		**1.1000**
Size Adj:	**1.3734**	Base Rate:	**IWH 40.00**
		Bldg. Rate:	**0.7793**
		Sq. Foot Cost:	**$ 34.29**



BUILDING SUB AREA DETAILS

ID	Description	Area	Adj.	Effect.
UFF	UPPER FLR FIN	1152	1.00	1152
FFF	FST FLR FIN	1152	1.00	1152
SLB	SLB	1152	0.00	0
GLA:	**2,304**	**3,456**		**2,304**

2022 BASE YEAR BUILDING VALUATION

Market Cost New:		**$ 79,004**
Year Built:		**1985**
Condition For Age:	GOOD	**15 %**
Physical:		
Functional:		
Economic:		
Temporary:		
Total Depreciation:		**15 %**
Building Value:		**$ 67,200**

HENNIKER ABUTTERS

Tax Map	Parcel Number	Property Address	Owner Name	Owner Address	Owner City	Owner State	Owner Zip
9	607	1648 OLD CONCORD RD	PIKE INDUSTRIES INC	3 EASTGATE PARK ROAD	BELMONT	NH	03220
9	615-B	1778 OLD CONCORD RD Unit B	DAVID G FOSTER TRUST DTD 5/16/	1778 OLD CONCORD ROAD	HENNIKER	NH	03242
9	615-C	OFF OLD CONCORD RD Unit C	FOSTER MATERIALS INC	1778 OLD CONCORD ROAD	HENNIKER	NH	03242
9	619	1739 OLD CONCORD RD	LEONARD-5 INC	1739 OLD CONCORD ROAD	HENNIKER	NH	03242
9	619-A	1805 OLD CONCORD RD Unit A	GOLDEN DONUTS LLC	9 WHITTIER DRIVE	BOW	NH	03304
9	624	1718 OLD CONCORD RD	LEMIRE ADRIEN & MARION	1718 OLD CONCORD ROAD	HENNIKER	NH	03242
9	624-A	1740 OLD CONCORD RD Unit A	FOSTER DAVID G	1778 OLD CONCORD ROAD	HENNIKER	NH	03242

HOPKINTON ABUTTERS

Tax Map	Parcel Number	Property Address	Owner Name	Owner Address	Owner City	Owner State	Owner Zip
211	6	ROUTE 202 & 9	UNITED STATES OF AMERICA	2097 MAPLE ST	HOPKINTON	NH	03229
211	7	OLD CONCORD RD	DAVID G FOSTER	1778 OLD CONCORD ROAD	HENNIKER	NH	03242

PROFESSIONALS

Profession	Name	Address	City	State	Zip
Wetland Scientist	Aspen Environmental Services	893 Valley Road	Washington	NH	3280
Engineer	A.C. Engineering & Consulting	43 Bear Hill Road	Washington	NH	3280

FMI, Inc. / FOSTER MATERIALS
OLD CONCORD Rd.
HENNIKER, NH 03242

Doc#: 809279
Book: 3309 Pages:0899 - 0900
04/17/2012 1:57PM

MCRD Book 3309 Page 899

1445
2.00
25.00

NH DRA DP-4-L
C/H
L-CHIP
F-06570

QUITCLAIM DEED

THIS QUITCLAIM DEED, executed this .....day of February, 2012, by Foster Materials, Inc., a State of New Hampshire corporation, Grantor, with Grantor's tax/mailing address being 1778 Old Concord Road, Henniker, NH 03242, to David G. Foster, Grantee, with Grantee's tax/mailing address, being the same as Grantor; 1778 Old Concord Road, Henniker NH 03242.

The designation Grantor and Grantee as used herein shall include said parties, their heirs, successors, and assigns, and shall include singular, plural, masculine, feminine or neuter as required by context.

WITNESSETH, That the Grantor, for good consideration and for the sum of ten Dollars ($10.00) in hand paid, by Grantee, the receipt of which is hereby acknowledged, does hereby release, grant and quitclaim, with quitclaim covenants, unto the Grantee, together with all improvements and appurtenances thereto, and the estate, right, title interest, lien equity and claim, either in law or in equity, which the Grantor has in and to the following described parcels of land that are situated in the Town of Henniker, County of Merrimack, State of New Hampshire, subject to all easements, rights-of-way, and protective covenants, if any, to wit:

Previously referenced: Henniker Tax Map 1 – Lot 615, as described within Merrimack County Registry of Deed Book 1777, Page 1083 recorded on March 14, 1989.

As Described:
A certain tract of land with building thereon situated in Henniker, County of New Hampshire and as Lot 615 a plan of land titled: "Subdivision of Bernard G. and Daisy A. Foster", dated February 27, 1986 and recorded in the Merrimack Count Registry of Deeds as Plan #8820.
See: MERRIMACK COUNT REGISTRY OF DEED, PLAN #8820

NON CONTRACTUAL TRANSFER

LT1-2-809279-1

LT2-3309-899-2

IN WITNESS WHEREOF, The said Grantor has signed and sealed these presents the day and year first above written.

[redacted]
David G. Foster
Authorized Representative

[redacted] February 22, 2012
Signature of Witness

SEAN T. SHEA
Print

State of New Hampshire, County of Merrimack
On the 22 day of February, 2012, before me, personally appeared,

David G. Foster, personally known to me to be the person whose name is subscribed to this document and acknowledges that he executed the certification and swore that the statement made by him in the certification is true, complete and correct.

[redacted]
, Notary Public

NICOLE M. REA, Notary Public
My Commission Expires February 18, 2014

MERRIMACK COUNTY RECORDS
Kathi L. Guay, CPO, Register

NOTICE OF AGENCY

I, David Foster as owner and having signing authority for Foster Materials, Inc., 1778 Old Concord Rd, Henniker, NH 03242, nominate and appoint Aaron Wechsler of Aspen Environmental Consultants, LLC, as our true and lawful agent to represent our interests in the following project: Environmental & Land Use Permitting related to the existing and proposed gravel pits on Map 9 Lots 615 & 615-C in Henniker & Map 211 Lot 7 in Hopkinton, including representation before the New Hampshire Department of Environmental Services, and Henniker & Hopkinton Boards.

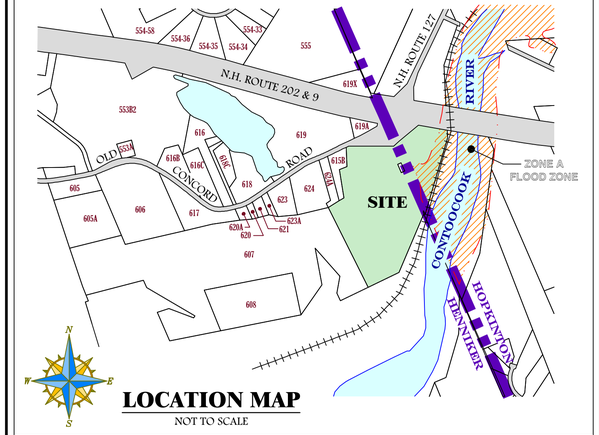
This *Notice of Agency* also confirms that Aaron Wechsler of Aspen Environmental Consultants, LLC, is lawfully and duly authorized to sign on our behalf any and all applications, permits, or other documents related to permitting for the above project.

This *Notice of Agency* may be revoked at any time, orally or in writing, with notice to any interested party.

Respectfully submitted,

Signature (David Foster)

Date: 3/21/24

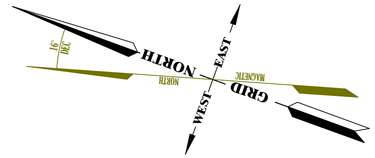


LOCATION MAP

NOT TO SCALE

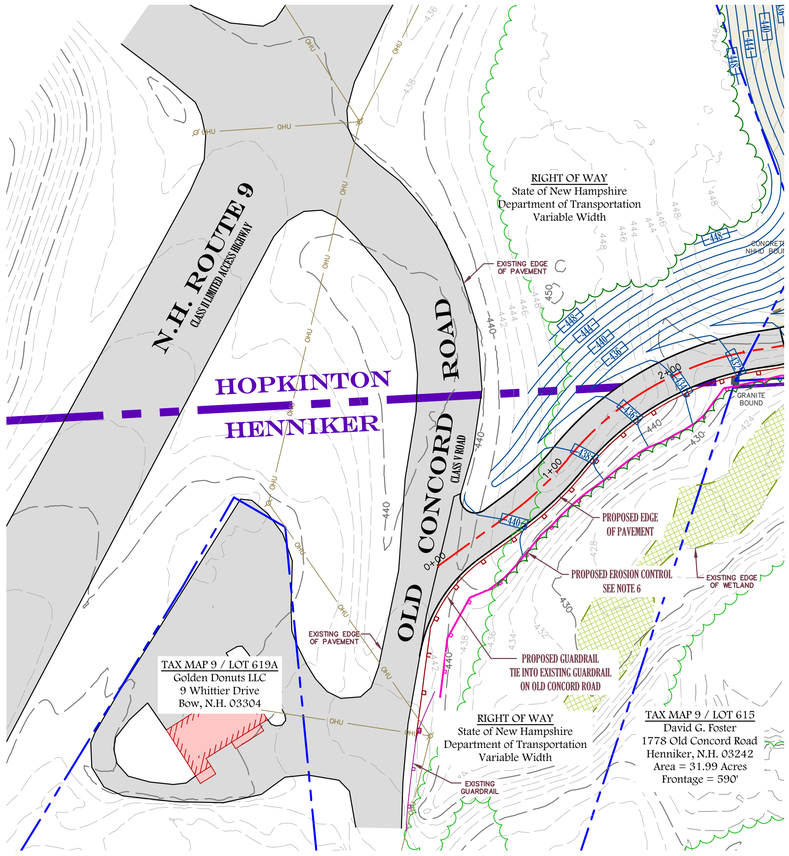
WETLAND NOTE

WETLAND BOUNDARIES WERE DETERMINED USING STANDARDS AND METHODOLOGY APPROVED BY THE ARMY CORPS OF ENGINEERS AND THE NH DEPARTMENT OF ENVIRONMENTAL SERVICES WETLANDS BUREAU (METHODS & MATERIALS USED PER ENV-WT 406.01 (A), (B), & (C)). WETLANDS WERE DELINEATED IN AUGUST 2023 BY AARON WECHSLER, CWS FROM ASPEN ENVIRONMENTAL CONSULTANTS, LLC.



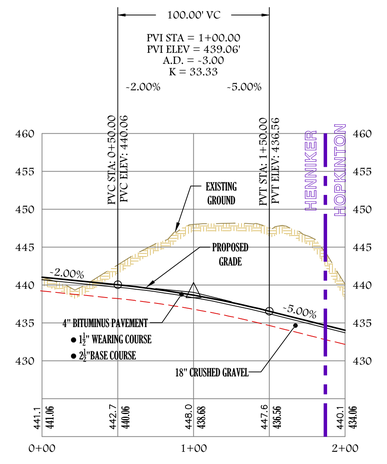
LEGEND

EXISTING		PROPOSED
	PROPERTY LINE	
	TOWN LINE	
	EDGE OF WETLAND	
	EDGE OF PAVEMENT	
	2' CONTOUR LINE	
	10' CONTOUR LINE	
	TREE LINE	
	GUARDRAIL	
	CONSTRUCTION CL	
	EROSION CONTROL DEVICE	
	WETLAND	



PLAN

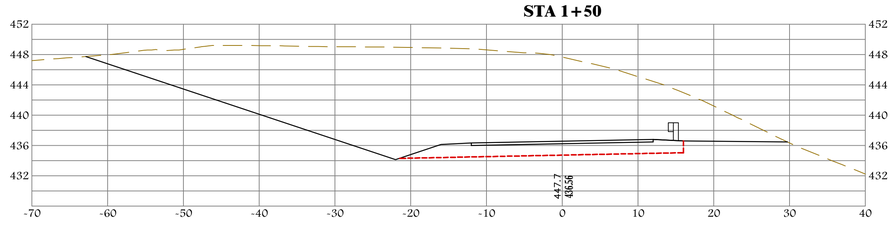
SCALE: 1" = 50'



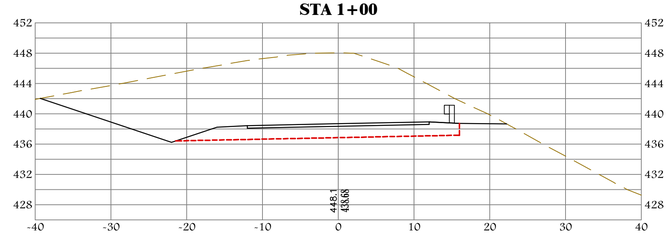
PROFILE

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 10'

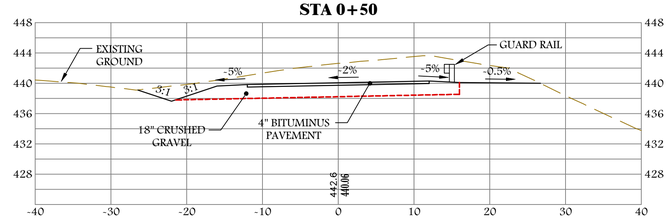
STA 1+50



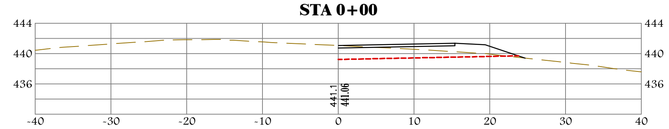
STA 1+00



STA 0+50



STA 0+00



CROSS SECTIONS

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 10'

NOTES

1. THE PURPOSE OF THIS PLAN IS TO SHOW A PROPOSED DRIVEWAY THROUGH A STATE ROW IN HENNIKER N.H. TO ACCESS TAX MAP 211 / LOT 7 IN HOPKINTON, N.H.
2. OWNER OF RECORD: DAVID G. FOSTER, 1778 OLD CONCORD ROAD, HENNIKER, N.H. 03242.
3. SURVEY OF EXISTING CONDITIONS PROVIDED BY J.E. BELANGER LAND SURVEYING, PLLC, 61 OLD HOPKINTON ROAD, DUNBARTON, N.H. 03046.
4. THE PROPOSED DRIVEWAY LOCATION IS REQUESTED TO PROVIDE THE LEAST AMOUNT OF IMPACT TO THE EXISTING INTERSECTION BETWEEN OLD CONCORD ROAD AND N.H. ROUTES 202 & 9. THIS DETERMINATION IS THE RESULT FROM DISCUSSIONS WITH THE N.H.D.O.T. AND OFFICIALS FOR THE TOWN OF HOPKINTON.
5. PROPERTY IS LOCATED IN THE HEAVY COMMERCIAL ZONE (CH).
6. BOUNDARIES SHOWN ARE APPROXIMATE.
7. ACCEPTABLE EROSION CONTROL DEVICES: SILT FENCING, STRAW/HAY BALE BARRIERS, EROSION CONTROL MIX BERMS, EROSION CONTROL MIX SOCK.
8. STUMP GRINDING / EROSION CONTROL MIX BERMS TO BE A MINIMUM 12" HIGH.
9. JUTE MATTING TO BE NORTH AMERICAN GREEN SC150BN OR EQUIVALENT.
10. ALL DISTURBED AREAS TO BE LOAMED AND SEEDED.
11. SILT FENCING TO BE REMOVED FOLLOWING PROJECT COMPLETION AND ESTABLISHMENT OF VEGETATION.

ASPEN
ENVIRONMENTAL CONSULTANTS LLC
893 Valley Road
Washington, NH 03280
603.848.5606
www.aec-nh.com

NO.	DATE	DESCRIPTION	BY

STATE OF NEW HAMPSHIRE
AARON J. WECHSLER
No. 250
CERTIFIED WETLAND SCIENTIST

STATE OF NEW HAMPSHIRE
ANTHONY T. COSTELLO
No. 10020
LICENSED PROFESSIONAL ENGINEER

50 0 25 50
SCALE: 1" = 50 ft.

FOSTER MATERIALS
DRIVEWAY ENTRANCE

ENTRANCE PLAN

OWNER
David Foster
1778 Old Concord Rd
Henniker, NH 03242

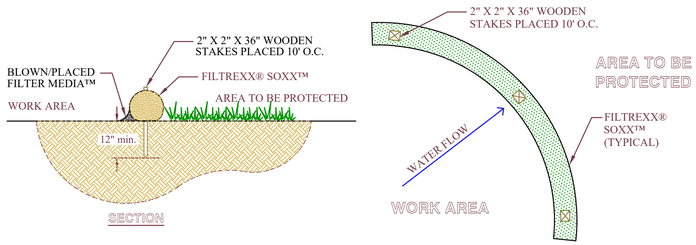
PROJECT LOCATION
1778 Old Concord Rd
Henniker / Hopkinton, NH

LOT INFO
Henniker Map 9 Lot 615

 Plan Date 03/20/2024

FILTREXX SILT-SOXX

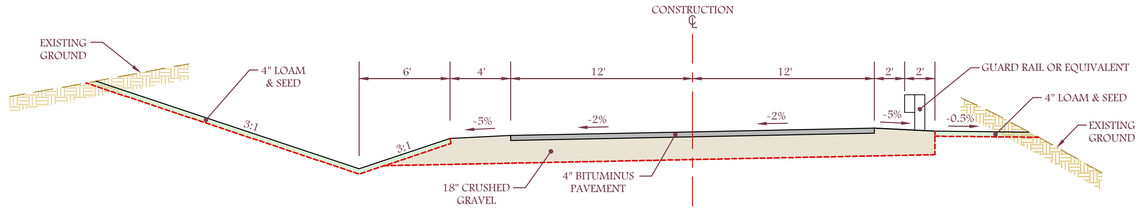
NOT TO SCALE



NOTES:
1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
2. FILTER MEDIA™ FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

TYPICAL ACCESS ROAD SECTION

NOT TO SCALE

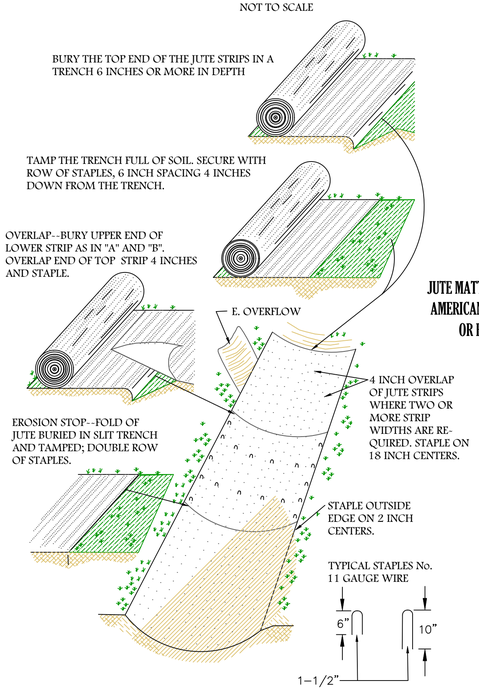


SECTION NOTES

A. SURFACE TREATMENT - 4" MIN. HOT BITUMINOUS CONCRETE PAVEMENT ~ N.H. STANDARDS FOR ROAD & BRIDGE CONSTRUCTION
   1. BASE COURSE - 2 1/2" (AFTER COMPACTION) TYPE "B"
   2. WEARING COURSE - 1 1/2" (AFTER COMPACTION) TYPE "E"
B. IN FILL AREAS:
   ORIGINAL GROUND TO BE "STRIPPED & GRUBBED" AND PROPERLY SHAPED. NON-ACCEPTABLE MATERIALS, i.e.: STUMPS, BRANCHES, LEAVES, ROOTS, MUCK, CLAY, ETC. SHALL BE REMOVED PRIOR TO PLACING FILL.
C. IN CUT AREAS:
   SUB-GRADE SHALL BE SHAPED & GRADED PRIOR TO THE PLACING OF GRAVEL.

DETAIL FOR STABLIZING WITH JUTE MATTING

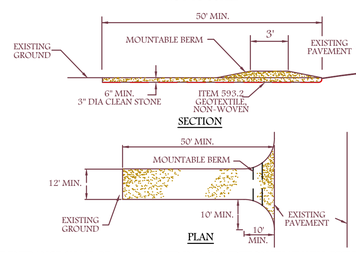
NOT TO SCALE



JUTE MATTING TO BE NORTH AMERICAN GREEN SC150BN OR EQUIVALENT

STABILIZED CONSTRUCTION ENTRANCE

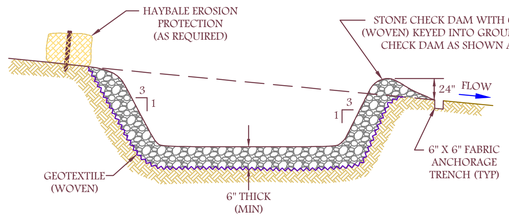
NOT TO SCALE



THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC ROADS . THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE, INCREASING THE LENGTH, AND TIRE WASHDOWN INTO WASHOUT PITS OR APPROVED SEDIMENT TRAPS BEFORE EXITING THE STONE .

SECTION THROUGH TEMPORARY SEDIMENTATION BASINS

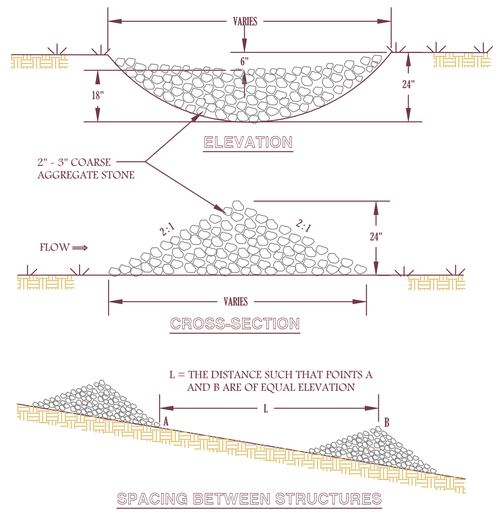
NOT TO SCALE



1. LOCATIONS AND SIZES TO BE DETERMINED AS NEEDED.
2. CHECK DAM & BASIN SHALL BE CONSTRUCTED OF 2" TO 3" STONE WITH COMPLETE COVERAGE OF BASIN, DITCH OR SWALE TO INSURE THAT THE CENTER OF THE STRUCTURE IS LOWER THAN THE EDGES.

STONE CHECK DAM DETAIL

NOT TO SCALE



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NO.	DATE	DESCRIPTION	BY

STATE OF NEW HAMPSHIRE — ANTHONY T. COSTELLO No. 10020 — LICENSED PROFESSIONAL ENGINEER

FOSTER MATERIALS
DRIVEWAY ENTRANCE

CONSTRUCTION DETAILS

OWNER
David Foster
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PROJECT LOCATION
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LOT INFO
Henniker Map 9 Lot 615

 Plan Date 03/11/2024

SEEDING PROCEDURES

1. SPECIES AND VARIETY SELECTION

SELECT ONE OF THE GRASS/LEGUME MIXES BASED ON THE PERCENT WEIGHT PASSING A NO. 200 SIEVE AS OUTLINED ABOVE. MIX 2 IS RECOMMENDED IF SUPPRESSION OF WOODY GROWTH IS DESIRED AND THERE ARE MORE THAN 15 PERCENT FINES. THE STANDARD CONSERVATION MIXES AVAILABLE FROM LOCAL SEED SUPPLIERS ARE NOT RECOMMENDED ON DROUGHTY SITES. THESE MIXES USUALLY PROVIDE A GREEN COVER VERY QUICKLY, BUT THE PLANT SPECIES BEGIN TO DIE IN 2-4 YEARS ON STERILE AND DROUGHTY SITES.

WHERE PERCENT BY WEIGHT PASSING A NO. 200 SIEVE IS LESS THAN 15, SELECT FROM MIX 1.

MIX 1 (WARM SEASON GRASSES)

		MIX OPTIONS FOR VARIOUS SITUATIONS (b)		
SPECIES	VARIETIES (SELECT ONE)	LBS PER ACRE (PLS)		
		(1)	(2)	(3)
SWITCHGRASS	TRAILBLAZER, PATHFINDER	6	2	6
COASTAL PANICGRASS	ATLANTIC	~	5	~
BIG BLUESTEM	NIAGARA, KAW	4	2	4
LITTLE BLUESTEM	ALDOUS, CAMPER, BLAZE	2	~	~
SAND LOVEGRASS	BEND, NE-27	4	6	5
		15	15	15

OPTIONS IN MIX 1

1. THIS COMBINATION MOST CLOSELY REPRESENTS THE NATURALLY OCCURRING VEGETATION WHERE WARM SEASON GRASSES ARE NATIVE IN THE NORTHEAST.
2. THIS COMBINATION HAS THE FASTEST ESTABLISHMENT AND COVER.
3. THIS COMBINATION IS THE SIMPLEST AND MAY BE EASIER TO OBTAIN. OPTIONS 2 OR 1 ARE PREFERRED BY THE AUTHORS.

WHERE PERCENT BY WEIGHT PASSING A NO. 200 SIEVE IS BETWEEN 15 AND 20, USE MIX 1 OR 2.

MIX 2 (LEGUMES AND COOL SEASON GRASS)

SPECIES	VARIETIES (SELECT ONE) (a)	LBS PER ACRE (c)
FLATPEA (c)	LATHCO	0.0
PERENNIAL PEA (c)	LANCER	2.0
CROWN VETCH (c)	PENGIFT, CHEMUNG	10.0
TALL FESCUE	KY=31, REBEL, KEN-HI	10.0

WHERE PERCENT BY WEIGHT PASSING A NO. 200 SIEVE IS ABOVE 20, USE MIX 1, 2, OR 3.

MIX 3 (COOL SEASON GRASSES AND LEGUMES)

SPECIES	VARIETIES (SELECT ONE) (a)	LBS PER ACRE (d)
TALL FESCUE	KY-31	20.0
REDTOP	STREEKER, COMMON	2.0
BIRDSFOOT TREFOIL (c)	VIKING, EMPIRE	8.0

a. VARIETIES ARE LISTED IN PREFERENTIAL ORDER.
b. WARM SEASON GRASS SEED IS SOLD AND PLANTED ON THE BASIS OF PURE LIVE SEEDS (PLS). AN ADJUSTMENT IS MADE TO THE BULK FOUNDS OF SEED TO COMPENSATE FOR INERT MATERIAL AND DEAD SEED.
c. THESE LEGUMES MUST BE INOCULATED AT TIME OF SEEDING. IF SEEDING BY HAND, USE A STICKING AGENT, SUCH AS COLA OR MILK TO STICK INOCULANT TO SEED. IF SEEDING WITH HYDROSEEDER, USE 4 TIMES THE RECOMMENDED RATE OF INOCULANT.
d. LEGUME AND COOL SEASON GRASS SEED IS SOLD AND PLANTED ON A BULK BASIS, THE WEIGHT IS NOT COMPENSATED FOR DEAD SEED AND INERT MATERIAL.

2. LIME AND FERTILIZER DETERMINATION

(a) MIX 1 – IN LIEU OF A SOIL TEST, LIME AT THE RATE OF 1 TON/ACRE (50 LBS/1,000 SQ FT). FERTILIZE WITH 500 LBS/ACRE (11 LBS/1,000 SQ FT) OF 10-0-10 OR EQUIVALENT. INCORPORATE LIME, FERTILIZER, AND SEED USING RAKES IF SEEDING IS DONE BY HAND. IT IS STRONGLY RECOMMENDED TO USE A BULLDOZER TO "TRACK" THE SITE AFTER SEEDING. TRACKING WILL INCORPORATE THE LIME, FERTILIZER, AND SEED TO PROMOTE SEED GERMINATION.

(b) MIXES 2 AND 3 – IN LIEU OF A SOIL TEST, LIME AT THE RATE OF 2 TONS/ACRE (90 LBS/1,000 SQ FT). FERTILIZE WITH 500 LBS/ACRE (11 LBS/1,000 SQ FT) OF 10-0-10 OR EQUIVALENT.

THE SEED NEEDS TO BE INCORPORATED TO ENSURE SUCCESS AND TO SHORTEN ESTABLISHMENT TIME. THIS IS ESPECIALLY TRUE OF MIXES 1 AND 2, AND IS MOST CRITICAL FOR THE LARGE SEEDED LEGUMES IN MIX 2. ON THE FLATTER SLOPES, USE A BULLDOZER TO "TRACK IN" THE SEED.

3. MULCH DETERMINATION (FOR HYDRO AND HAND SEEDING)

(a) MULCHING FOR MIX 1 - WEED FREE MULCH. CLEAN STRAW IS RECOMMENDED. MULCH AT THE MAXIMUM RATE OF 500-700 LBS/ACRE. HIGHER MULCHING RATES AND MULCH WITH WEED SEED CONTENT WILL INHIBIT SEEDING SUCCESS SIGNIFICANTLY. IF THE EROSION HAZARD IS LOW AND THE SEED IS INCORPORATED, MULCHING IS NOT NECESSARY FOR SEEDING SUCCESS. DO NOT APPLY MULCH PRIOR TO TRACKING WITH A BULLDOZER.

(b) MULCHING FOR MIXES 2 AND 3 - MULCH WITH WEED FREE HAY OR STRAW AND MULCH AT THE RATE OF 2-3 TONS/ACRE FOR MIX 2 AND 1-2 TONS/ACRE FOR MIX 3. THE HIGHER MULCHING RATE IS RECOMMENDED WHERE SEED INCORPORATION IS DIFFICULT. THIS IS ESPECIALLY CRITICAL FOR MIX 2.

4. SEEDING METHODS

ALTERNATIVE 1 - LARGE AREAS AND/OR STEEP SLOPES.
APPLY LIME, SEED, AND FERTILIZER WITH A HYDROSEEDER AND, DEPENDING ON THE CONSISTENCY OF THE SOIL MATERIAL, STEEPNESS OF SLOPE, AND SEED MIXTURE USED:

(a) PRESS THE SEED INTO THE SOIL BY TRACKING WITH A BULLDOZER, OR
(b) COVER THE SEED BY WALKING BACK AND FORTH OVER STEEP LOOSE SANDY SLOPES, OR
(c) APPLY MULCH AND A TACKIFIER TO HOLD THE MULCH IN PLACE.

ALTERNATIVE 2 - FLAT TO GENTLY SLOPING AREAS (2:1 SLOPES MAXIMUM)
APPLY LIME, SEED, AND FERTILIZER USING FARM TYPE SPREADERS, AND TRACK THE SITE WITH A BULLDOZER OR APPLY MULCH.

5. SEEDING DATES

PRIMARY SEEDING DATES BEGIN AS SOON AS THE SNOW MELTS IN THE SPRING AND ENDS MAY 15. THE IMPORTANCE OF EARLY SEEDING CANNOT BE OVEREMPHASIZED. THIS IS ESPECIALLY TRUE FOR MIX 1. DEPENDING ON WEATHER CONDITIONS, SUBSTANTIAL FAILURE CAN BE EXPECTED IF SEEDING IS DONE LATER.
LATE SUMMER AND EARLY FALL SEEDINGS ARE NOT RECOMMENDED FOR MIXES 1 AND 2. IF LATE SEASON SEEDINGS OF MIXES 1 AND 2 ARE NECESSARY, THEY SHOULD BE DONE AFTER OCTOBER 20 TO PREVENT FALL GERMINATION AND SUBSEQUENT WINTERKILL.
MIX 3 CAN ALSO BE SEEDED FROM AUGUST 15 TO SEPTEMBER 1 WITH CONVENTIONAL SEEDING.

6. RESPONSE OF SEEDING

THE PLANT SPECIES IN MIXES 1 AND 2 GERMINATE AND GROW SLOWLY. COMPLETE COVER MAY NOT OCCUR FOR 2-4 YEARS. HOWEVER, A WELL-ESTABLISHED STAND WILL ENDURE FOR YEARS.
FOLLOW-UP SEEDING MAY BE NEEDED TO ESTABLISH VEGETATION ON THE MORE DIFFICULT PARTS OF SOME SITES. THE NEED TO DO FOLLOW-UP SEEDING CAN BE DETERMINED THE YEAR AFTER THE INITIAL PLANTING.

SOURCE CONTROL PLAN

1. THERE WILL BE NO FUEL STORED ON SITE.
2. FUELING OF EARTHMOVING AND EXCAVATION EQUIPMENT SHALL BE PROVIDED OFF SITE OR BY A FUEL TRUCK (PICKUP WITH BED FUEL TANK).
3. PORTABLE RIGID OR FLEXIBLE "POP UP" POOL OR BERM SHALL BE USED FOR SECONDARY CONTAINMENT DURING FUEL TRANSFERS.
4. PORTABLE CONTAINMENT EQUIPMENT SHOULD BE POSITIONED TO CATCH ANY FUEL SPILLS DUE TO OVERTOPPING THE EQUIPMENT AND ANY OTHER SPILLS THAT MAY OCCUR AT OR NEAR THE FUEL FILLER PORT TO THAT EQUIPMENT.
5. THE SELECTION OF CONTAINMENT EQUIPMENT AND ITS POSITIONING AND USE SHOULD TAKE INTO ACCOUNT ALL OF THE DRIP POINTS ASSOCIATED WITH THE FUEL FILLING PORT AND THE HOSE FROM THE FUEL DELIVERY TRUCK.
6. DRIP POINTS INCLUDE ANY POINTS FROM WHICH FUEL MAY DRIP TO THE GROUND IF LEAKED FROM OR SPILLED NEAR THE FUEL TANK FILLER PORT OR THE FUEL NOZZLE ON THE HOSE.
7. PERSONNEL MUST ATTEND TO THE FUELING PROCESS TO ENSURE THAT ANY SPILLS WILL BE OF LIMITED VOLUME. ALL EMPLOYEES SHALL BE TRAINED TO PREVENT, CONTAIN, AND CLEAN UP SPILLS.
8. IMMEDIATELY CLEAN UP SPILLS AND CONTAMINATED SOIL. ABSORBENTS TO PICK UP SPILLS AND LEAKS MUST BE LOCATED IN THE IMMEDIATE AREA WHERE FUELS ARE TRANSFERRED OR USED.
9. SMALL SPILLS THAT ARE QUICKLY CLEANED UP DO NOT NEED TO BE REPORTED. HOWEVER, IF ANY OF THE FOLLOWING OCCURS, THE SPILL MUST BE IMMEDIATELY REPORTED TO THE NHDES AT (603) 271-3899 OR STATE POLICE AT (603) 223-4381 AFTER 4 PM ON WEEKDAYS OR ON WEEKENDS:
   - THE SPILL IS 25 GALLONS OR MORE.
   - THE SPILL IS NOT CONTAINED IMMEDIATELY.
   - THE SPILL AND CONTAMINATION ARE NOT COMPLETELY REMOVED WITHIN 24 HOURS.
   - THERE IS IMPACT OR POTENTIAL IMPACT TO GROUNDWATER OR SURFACE WATER.
10. STORE SMALL QUANTITIES OF CONTAMINATED SOIL, LEAKING DRUMS/CANS OR USED ABSORBENT MATERIALS IN COVERED, WATER- TIGHT CONTAINERS. IF YOU ARE GOING TO TRANSPORT CONTAMINATED ABSORBENTS OR LEAKING DRUMS/CANS, THEY MUST BE SHIPPED IN A DOT OR UN SALVAGE DRUM THAT COMPLIES WITH DOT 49 CFR 173.3 (C). DO NOT MIX ABSORBENTS CONTAMINATED WITH DIFFERENT PETROLEUM PRODUCTS OR OTHER REGULATED SUBSTANCES. THIS CAN CREATE A HAZARDOUS WASTE THAT REQUIRES DISPOSAL BY A LICENSED HAULER. IF WASTES WITH PETROLEUM OR OTHER REGULATED SUBSTANCES ARE MIXED, CONTACT NHDES TO DETERMINE WHETHER IT IS NECESSARY TO MANAGE THE WASTE AS A HAZARDOUS OR SOLID WASTE. DETERMINING WHETHER THE WASTE IS HAZARDOUS MAY REQUIRE LAB TESTING. CONTACT THE HAZARDOUS WASTE MANAGEMENT BUREAU'S COMPLIANCE SECTION AT (603) 271-2942 FOR MORE INFORMATION. INFORMATION CONCERNING PROPER DISPOSAL OF PETROLEUM CONTAMINATED SOLID WASTES (E.G., ABSORBENTS) IS AVAILABLE FROM THE SOLID WASTE BUREAU'S COMPLIANCE SECTION AT (603) 271-2925.
11. PORTABLE CONTAINMENT PRODUCTS MUST BE USED ACCORDING TO MANUFACTURER'S SPECIFICATIONS INCLUDING THOSE RELATED TO ENVIRONMENTAL, CHEMICAL RESISTANCE LIMITS INCLUDING EXPOSURE TIME, BODED SEAM STRENGTH, AND PUNCTURE AND TEAR STRENGTH. AN ASTM PUNCTURE RATING (D4833) OF 200 LBS OR GREATER AND TEAR STRENGTH (4533) TO EQUAL 30/30 LB SHOULD BE MINIMUM REQUIREMENT FOR ALL LINERS.
12. FUEL TRUCKS ARE SUBJECT TO THE FEDERAL SPILL PREVENTION CONTROL AND COUNTERMEASURE (SPCC) RULES INVOLVING SECONDARY CONTAINMENT DURING FUEL TRANSFERS. FOR MORE INFORMATION CONCERNING THE SPCC RULE, CONTACT THE EPA REGION 1 SPCC ENFORCEMENT COORDINATOR (JOSEPH CANZANO) AT (617) 918-1763 OR CANZANO.JOSEPH@EPA.GOV.
13. FUEL TRUCKS MAY ALSO HAVE TO COMPLY WITH NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS NFPA 30 AND/OR NFPA 30A.
14. OWNER IS REQUIRED TO:
   - UPDATE THE SOURCE CONTROL PLAN AS NECESSARY TO REFLECT CHANGES IN THE STORAGE OF REGULATED SUBSTANCES;
   - SUBMIT THE UPDATED SOURCE CONTROL PLAN TO THE DEPARTMENT WHENEVER IT IS UPDATED; AND
   - CERTIFY ONCE EVERY THREE YEARS THAT THE SITE IS IN COMPLIANCE WITH ITS PERMIT WITH RESPECT TO THE IMPLEMENTATION OF ITS SOURCE CONTROL PLAN, BY SUBMITTING TO THE DEPARTMENT A COMPLETED AND SIGNED SOURCE CONTROL PLAN CERTIFICATION FORM DATED 2017.

SITE PREPARATION

- CUT AND FILL SLOPES SHOULD NOT EXCEED 3:1 (3 HORIZONTAL FEET FOR 1 VERTICAL FOOT) TO PROVIDE STABILITY.
- AVOID LONG SLOPES TO HELP PREVENT EROSION AND TO ALLOW ACCESS FOR SEEDING, MULCHING, AND MAINTENANCE. CONTROL SLOPE LENGTH BY INSTALLING ONE TERRACE (10 FEET WIDE AND SLOPED INTO THE CUT SLOPE) FOR EVERY 30 VERTICAL FEET.
- CONSTRUCT DIVERSIONS AT TOPS OF SLOPES TO DIVERT RUNOFF WATER AWAY FROM THE SLOPE BANKS TO A STABLE OUTLET.
- CONSTRUCT ROCK LINED CHUTES OR EQUIVALENT TO CONDUCT CONCENTRATED FLOW OF WATER TO STABLE OUTLETS.
- REMOVE LARGE STONES, BOULDERS, AND OTHER DEBRIS THAT WILL HINDER THE SEEDING PROCESS AND THE ESTABLISHMENT OF VEGETATION.
- SPREAD A MINIMUM DEPTH OF 4 INCHES OF TOPSOIL OVER THE SITE, IF AVAILABLE.
- OBTAIN SOIL SAMPLES BY COLLECTING 6 TO 8 SMALL SAMPLES (1 OR 2 HANDFULS) OF SOIL MATERIAL FROM THE UPPER 4 INCHES OF THE AREA TO BE SEEDED. MIX THE SMALL SAMPLES TO OBTAIN ONE COMPOSITE SAMPLE.
- USE PART OF THE SAMPLE FOR A SOIL TEST TO DETERMINE LIME AND FERTILIZER NEEDS. RUN THE BALANCE OF THE SAMPLE(S) THROUGH A SIEVE ANALYSIS TO DETERMINE THE PERCENT BY WEIGHT PASSING A NO. 22 SIEVE. " THOSE PASSING ARE CALLED "FINES."

MAINTENANCE

SUBSTANTIAL STAND VIGOR CAN BE ACHIEVED IF THE SITE IS TOPDRESSED WITH FERTILIZER ONE YEAR AFTER PLANTING. IF TOPDRESSING MIX 1, FERTILIZE BETWEEN JUNE 15 AND JULY 15. THE TIMING OF THIS TOPDRESSING IS IMPORTANT. MIXES 2 AND 3 SHOULD BE TOPDRESSED IN THE EARLY SPRING. TOPDRESS MIXES 1 AND 3 SHOULD BE TOPDRESSED IN THE EARLY SPRING. TOPDRESS MIXES 1 AND 3 WITH A BALANCED FERTILIZER, APPLYING 50 LBS OF NITROGEN/ACRE. FOR EXAMPLE, APPLY 250 LBS OF 20-0-20/ACRE. TOPDRESS MIX 2 WITH 500 LBS OF 0-0-20/ACRE IN APRIL, MAY, OR JUNE.

IF MOWING IS DESIRED TO SUPPRESS WOODY GROWTH, MOW MIX 1 ABOUT MID-JULY LEAVING A STUBBLE HEIGHT OF 6-8 INCHES. IT IS NOT NECESSARY TO MOW MIX 2. A GOOD COVER OF FLATPEA WILL PREVENT INVASION OF WOODY SPECIES. MIX 3 CAN BE MOWED AT ANY TIME."

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STATE OF NEW HAMPSHIRE — ANTHONY T. COSTELLO No. 10020 — LICENSED PROFESSIONAL ENGINEER

FOSTER MATERIALS
DRIVEWAY ENTRANCE

EROSION CONTROL SPECIFICATIONS 1

OWNER
David Foster
1778 Old Concord Rd
Henniker, NH 03242

PROJECT LOCATION
1778 Old Concord Rd
Henniker / Hopkinton, NH

LOT INFO
Henniker Map 9 Lot 615

SOIL STOCKPILING

CONSIDERATIONS

- SOIL STOCKPILES SHOULD BE SITED ON THE SITE IN COMPLIANCE WITH ALL PERMIT CONDITIONS GOVERNING SETBACKS FROM ADJACENT PROPERTY LINES AND WATER RESOURCES (INCLUDING WETLANDS).
- SOIL AND EROSION CONTROL PRACTICES AT STOCKPILES SHOULD BE REGULARLY INSPECTED AND SHOULD BE ADJUSTED IMMEDIATELY TO RESPOND TO ONGOING CONSTRUCTION OPERATIONS, AS THE DELIVERY OF NEW MATERIALS OR THE REMOVAL OF MATERIALS FOR INCORPORATION INTO THE WORK MAY REQUIRE MODIFICATION AND UPDATING OF THE PROTECTIVE MEASURES TO KEEP THEM EFFECTIVE.

MAINTENANCE REQUIREMENTS

- INSPECT ALL SOIL STOCKPILES IMMEDIATELY AFTER STORM EVENTS AND AT THE FREQUENCIES SPECIFIED IN THE PROJECT EROSION AND SEDIMENT CONTROL PLAN AND IN APPLICABLE PERMITS. AT A MINIMUM, INSPECT WEEKLY DURING WET WEATHER PERIODS TO VERIFY THAT EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE AND FUNCTIONING PROPERLY.
- REPAIR AND/OR REPLACE PERIMETER CONTROLS AND STOCKPILE COVERINGS AS NEEDED TO KEEP THEM FUNCTIONING PROPERLY.

SPECIFICATIONS

GENERAL:

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

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 AT ALL TIMES.
- INACTIVE STOCKPILES OF CONCRETE RUBBLE, ASPHALT CONCRETE RUBBLE AGGREGATE MATERIALS, AND OTHER SIMILAR MATERIALS SHOULD BE PROTECTED WITH TEMPORARY SEDIMENT PERIMETER BARRIERS 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 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 MATERIALS FROM THE STOCKPILE. THE INTEGRITY OF THE BARRIER SHOULD BE INSPECTED AT THE END OF EACH WORKING DAY.
- WHEN A STORM EVENT IS PREDICTED, STOCKPILES SHOULD BE PROTECTED WITH AN ANCHORED PROTECTIVE COVERING.

SURFACE ROUGHENING

CONSIDERATIONS

- GRADED AREAS WITH SMOOTH, HARD SURFACES MAY BE INITIALLY ATTRACTIVE, BUT SUCH SURFACES INCREASE THE POTENTIAL FOR EROSION. A ROUGH, LOOSE SOIL SURFACE GIVES A MULCHING EFFECT THAT PROVIDES MORE FAVORABLE MOISTURE CONDITIONS THAN HARD, SMOOTH SURFACES; THIS AIDS SEED GERMINATION.
- METHODS FOR ACHIEVING A ROUGHENED SOIL SURFACE ON A SLOPE INCLUDE TRACKING, FURROWING, AND SERRATING (OR GROOVING). SELECTION OF THE METHOD IS BASED ON SLOPE STEEPNESS, MOWING REQUIREMENTS, AND WHETHER THE SLOPE IS FORMED BY CUTTING OR FILLING.

MAINTENANCE REQUIREMENTS

- ANY SIGN OF RILL OR GULLY EROSION SHOULD BE IMMEDIATELY INVESTIGATED AND REPAIRED AS NEEDED.
- PERIODICALLY INSPECT SEEDED SLOPES FOR RILLS OR OTHER SIGNS OF EROSION. FILL THESE AREAS SLIGHTLY ABOVE THE ORIGINAL GRADE, RESEED, AND MULCH AS SOON AS POSSIBLE, BUT NO MORE THAN 3 DAYS FOLLOWING INSPECTION.

SPECIFICATIONS

CUT SLOPE ROUGHENING:

- GROOVE THE SLOPE USING MACHINERY TO CREATE A SERIES OF RIDGES AND DEPRESSIONS THAT RUN ACROSS THE SLOPE, ON THE CONTOUR.

FILL SLOPE ROUGHENING:

- IN GENERAL, FILL SLOPES WITH A GRADIENT STEEPER THAN 3:1 SHOULD BE CONSTRUCTED IN LIFTS NOT TO EXCEED 12 INCHES, COMPACTING EACH LIFT. THE CONTRACTOR SHOULD REFER TO THE PROJECT GEOTECHNICAL REPORT FOR SPECIFIC GUIDANCE.
- THE FACE OF THE SLOPE SHOULD CONSIST OF LOOSE, UNCOMPACTED FILL 4-6 INCHES DEEP.
- USE GROOVING OR TRACKING TO ROUGHEN THE FACE OF THE SLOPES, IF NECESSARY.
- APPLY SEED, FERTILIZER AND STRAW MULCH, AND THEN TRACK OR PUNCH IN THE MULCH WITH THE BULLDOZER.
- DO NOT BLADE OR SCRAPE THE FINAL SLOPE FACE.

CUTS, FILLS, AND GRADED AREAS:

- MAKE MOWED SLOPES NO STEEPER THAN 3:1.
- ROUGHEN THESE AREAS TO SHALLOW GROOVES BY NORMAL TILLING, DISKING, OR HARROWING. THE FINAL PASS OF ANY SUCH TILLAGE SHOULD BE ON THE CONTOUR.
- MAKE GROOVES FORMED BY SUCH IMPLEMENTS CLOSE TOGETHER (LESS THAN 10 INCHES), AND NOT LESS THAN 1 INCH DEEP.
- EXCESSIVE ROUGHNESS IS UNDESIRABLE WHERE MOWING IS PLANNED.

ROUGHENING WITH TRACKED MACHINERY:

- LIMIT ROUGHENING WITH TRACKED MACHINERY TO SOILS WITH A SANDY TEXTURAL COMPONENT TO AVOID UNDUE COMPACTION OF THE SOIL SURFACE.
- OPERATE TRACKED MACHINERY UP AND DOWN THE SLOPE TO LEAVE HORIZONTAL DEPRESSIONS IN THE SOIL. DO NOT BACK-BLADE DURING THE FINAL GRADING OPERATION.
- IMMEDIATELY SEED AND MULCH ROUGHENED AREAS TO OBTAIN OPTIMUM SEED GERMINATION AND GROWTH.

DUST CONTROL

CONSIDERATIONS

- PHASE CONSTRUCTION AND SEQUENCE EARTH DISTURBANCE ACTIVITIES TO REDUCE THE AREA OF LAND DISTURBED AT ANY ONE TIME.
- MAINTAIN AS MUCH NATURAL VEGETATION AS IS PRACTICABLE.
- USE TRAFFIC CONTROL TO RESTRICT TRAFFIC TO PREDETERMINED ROUTES.
- USE TEMPORARY MULCHING, PERMANENT MULCHING, TEMPORARY VEGETATIVE COVER, PERMANENT VEGETATIVE COVER, OR SODDING TO REDUCE THE NEED FOR DUST CONTROL.
- USE MECHANICAL SWEEPERS ON PAVED SURFACES WHERE NECESSARY TO PREVENT DUST BUILDUP. STATIONARY SOURCES OF DUST (I.E., ROCK CRUSHERS) SHOULD UTILIZE FINE WATER SPRAYS TO CONTROL DUST.
- APPLY WATER, OR OTHER DUST INHIBITING AGENTS OR TACKIFIERS, AS APPROVED BY THE NHDES.

MAINTENANCE REQUIREMENTS

- WHEN TEMPORARY DUST CONTROL MEASURES ARE USED, REPETITIVE TREATMENT SHOULD BE APPLIED AS NEEDED TO ACCOMPLISH CONTROL.

SPECIFICATIONS

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 STONE OR COARSE GRAVEL.
- IN AREAS ADJACENT TO WATERWAYS, USE ONLY CHEMICALLY STABLE OR WASHED AGGREGATE.

OTHER COMMERCIAL PRODUCTS:

- THE USE OF OTHER COMMERCIAL PRODUCTS (I.E., TACKIFIERS) TO STABILIZE EXPOSED SURFACES FOR DUST CONTROL WILL BE SUBJECT TO ACCEPTANCE BY NHDES ON A PROJECT-SPECIFIC BASIS.

OTHER PRACTICES:

- APPLY OTHER TEMPORARY AND PERMANENT STABILIZATION PRACTICES AS SPECIFIED IN THE NEW HAMPSHIRE STORMWATER MANUAL.
- CALCIUM CHLORIDE CANNOT BE APPLIED IN WATERSHEDS WITH CHLORIDE-IMPAIRED WATERBODIES. ELSEWHERE, IT SHOULD ONLY BE USED WHEN OTHER METHODS ARE NOT PRACTICAL, AND FOLLOWING THESE GUIDELINES:
  - FOR DRY APPLICATION, USE A COMMERCIAL CHEMICAL PRODUCT THAT IS EITHER LOOSE DRY GRANULES OR FLAKES, FINE ENOUGH TO FEED THROUGH A SPREADER AT A RATE THAT WILL KEEP THE SURFACE MOIST BUT NOT CAUSE POLLUTION OR PLANT DAMAGE.
  - FOR LIQUID APPLICATIONS, THE APPLICATION RATE WILL VARY DEPENDING ON THE RELATIVE QUALITY OF MATERIALS IN A GIVEN ROAD SURFACE. SOME CALCIUM CHLORIDE SUPPLIERS MAY REQUIRE A ROAD SAMPLE BEFORE RECOMMENDING AN APPLICATION RATE. TYPICALLY, 30% CALCIUM CHLORIDE IS RECOMMENDED FOR MOST GRAVEL ROADS.

TEMPORARY EROSION CONTROL BLANKET

CONSIDERATIONS

EROSION CONTROL BLANKETS CAN BE APPLIED TO STEEP SLOPES, VEGETATED WATERWAYS, AND OTHER AREAS SENSITIVE TO EROSION, TO SUPPLEMENT VEGETATION DURING INITIAL ESTABLISHMENT AND HELP PROVIDE FOR SAFE CONVEYANCE OF RUNOFF OVER THE PROTECTED SURFACE.

- DURING THE GROWING SEASON (APRIL 15 - SEPTEMBER 15) USE MATS (OR MULCH AND NETTING) ON:
  - THE BASE OF GRASSED WATERWAYS
  - STEEP SLOPES (15% OR GREATER)
  - ANY DISTURBED SOIL WITHIN 100 FEET OF LAKES, STREAMS AND WETLANDS
- DURING THE LATE FALL AND WINTER (SEPTEMBER 15 - APRIL 15) USE HEAVY GRADE MATS ON ALL AREAS NOTED ABOVE PLUS USE LIGHTER GRADE MATS (OR MULCH AND NETTING) ON:
  - SIDE SLOPES OF GRASSED WATERWAYS
  - MODERATE SLOPES (GREATER THAN 8%) THERE MAY BE CASES WHERE MATS WILL BE NEEDED ON SLOPES FLATTER THAN 8%, DEPENDING ON SITE CONDITIONS AND THE LENGTH OF THE SLOPE.
- THE MOST CRITICAL ASPECT OF INSTALLING MATS IS OBTAINING FIRM CONTINUOUS CONTACT BETWEEN THE MAT AND THE SOIL. WITHOUT SUCH CONTACT, THE MAT IS USELESS AND EROSION OCCURS.
- INSTALL MATS AND STAPLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- THE DESIGNER MUST EXERCISE CARE TO CHOOSE THE TYPE OF BLANKET OR MATTING WHICH IS APPROPRIATE FOR THE SPECIFIC OBJECTIVES AND SITE CONDITIONS OF THE PROJECT. THERE ARE MANY SOIL STABILIZATION PRODUCTS AVAILABLE, AND A THOROUGH REVIEW BY AN ENGINEER OR EROSION CONTROL PROFESSIONAL IS NECESSARY TO EVALUATE THE ADVANTAGES, DISADVANTAGES, AND CONSTRUCTION REQUIREMENTS OF THE MANUFACTURED PRODUCTS, AND TO SELECT AND SPECIFY A PRODUCT FOR A PARTICULAR APPLICATION.

MAINTENANCE REQUIREMENTS

- ALL BLANKETS AND MATS SHOULD BE INSPECTED WEEKLY DURING THE CONSTRUCTION PERIOD, AND AFTER ANY RAINFALL EVENT EXCEEDING ½ 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 RESEEDED, AND THE AFFECTED AREA OF MAT SHALL BE RE-INSTALLED OR REPLACED.

SPECIFICATIONS

SITE PREPARATION:

- PROPER SITE PREPARATION IS ESSENTIAL TO ENSURE COMPLETE CONTACT OF THE PROTECTION MATTING WITH THE SOIL.
- GRADE AND SHAPE AREA OF INSTALLATION.•
- REMOVE ALL ROCKS, CLODS, TRASH, VEGETATIVE OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED BLANKETS WILL HAVE DIRECT CONTACT WITH THE SOIL.
- PREPARE SEEDBED 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 APPLICATION. WHEN SEEDING PRIOR TO BLANKET INSTALLATION, ALL CHECK SLOTS AND OTHER AREAS DISTURBED DURING INSTALLATION MUST BE RESEEDED.

WHERE SOIL FILLING IS SPECIFIED, SEED THE MATTING AND THE ENTIRE DISTURBED AREA AFTER INSTALLATION AND PRIOR TO FILLING THE MAT WITH SOIL.

INSTALLING AND ANCHORING BLANKETS:

- **BLANKETS SHALL BE INSTALLED AND ANCHORED PER THE MANUFACTURER'S SPECIFICATIONS. IF THE MANUFACTURER'S INSTRUCTIONS DIFFER FROM THOSE LISTED BELOW, THE MANUFACTURER'S INSTRUCTIONS SHOULD BE FOLLOWED.**
- BLANKETS SHALL BE PLACED WITHIN 24 HOURS AFTER SOWING SEED IN THAT AREA.
- U-SHAPED WIRE STAPLES, METAL GEOTEXTILE STAKE PINS, OR TRIANGULAR WOODEN STAKES CAN BE USED TO ANCHOR MATS TO THE GROUND SURFACE.
  - WIRE STAPLES SHOULD BE A MINIMUM GAUGE AS SPECIFIED BY THE MANUFACTURER.
  - METAL STAKE PINS SHOULD BE 3/16-INCH DIAMETER STEEL WITH A 1 1/2 INCH STEEL WASHER AT THE HEAD OF THE PIN, OR AS SPECIFIED BY THE MANUFACTURER.
- WIRE STAPLES AND METAL STAKES SHOULD BE DRIVEN FLUSH TO THE SOIL SURFACE. ALL ANCHORS SHOULD HAVE SUFFICIENT GROUND PENETRATION TO RESIST PULLOUT. LONGER ANCHORS MAY BE REQUIRED FOR LOOSE SOILS.

INSTALLATION ON SLOPES:

- **BLANKETS SHALL BE INSTALLED ON SLOPES PER THE MANUFACTURER'S SPECIFICATIONS. IF THE MANUFACTURER'S INSTRUCTIONS DIFFER FROM THOSE LISTED BELOW, THE MANUFACTURER'S INSTRUCTIONS SHOULD BE FOLLOWED.**
- BLANKETS SHALL BE LAID LOOSELY OVER THE SOILS, MAINTAINING CONTACT WITH THE SOIL, AND NOT STRETCHED.
- BLANKETS SHALL BE ANCHORED AT THE TOP OF THE SLOPE IN A TRENCH TO PREVENT RUNOFF FROM UNDERMINING THE MAT. SUBSEQUENT MATS SHOULD BE OVERLAPPED BY THE UPSLOPE MAT. BACKFILL TRENCH AND TAMP EARTH FIRMLY.
- BLANKETS SHALL BE UNROLLED IN THE DIRECTION OF THE WATER FLOW, OVERLAPPING THE EDGES BY A MINIMUM OF 4 INCHES AND STAPLING THE EDGES, AS DIRECTED BY THE MANUFACTURER.
- WHEN BLANKETS MUST BE SPLICED, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH 6-INCH MINIMUM OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12 INCHES APART, OR AS SPECIFIED BY MANUFACTURER.
- LAY BLANKETS LOOSELY AND MAINTAIN DIRECT CONTACT WITH THE SOIL - DO NOT STRETCH.
- BLANKETS SHALL BE STAPLED SUFFICIENTLY TO ANCHOR BLANKET AND MAINTAIN CONTACT WITH THE SOIL. STAPLES SHALL BE PLACED DOWN THE CENTER AND STAGGERED WITH THE STAPLES PLACED ALONG THE EDGES. STAPLING PATTERN AND NUMBER OF STAPLES WILL DEPEND ON STEEPNESS OF SLOPE AND MANUFACTURER'S ANCHORING METHODS; FOLLOW MANUFACTURER'S INSTRUCTIONS.

INSTALLATION IN CHANNELS:

- **BLANKETS SHALL BE INSTALLED IN CHANNELS PER THE MANUFACTURER'S SPECIFICATIONS. IF THE MANUFACTURER'S INSTRUCTIONS DIFFER FROM THOSE LISTED BELOW, THE MANUFACTURER'S INSTRUCTIONS SHOULD BE FOLLOWED.**
- DIG INITIAL ANCHOR TRENCH ACROSS THE CHANNEL AT THE LOWER END OF THE PROJECT AREA.
- EXCAVATE INTERMITTENT CHECK SLOTS, ACROSS THE CHANNEL AT 25-30 FOOT INTERVALS ALONG THE CHANNEL, OR AS SPECIFIED BY MANUFACTURER.
- CUT LONGITUDINAL CHANNEL ANCHOR SLOTS ALONG EACH SIDE OF THE INSTALLATION TO BURY EDGES OF MATTING. WHENEVER POSSIBLE EXTEND MATTING 2-3 INCHES ABOVE THE CREST OF CHANNEL SIDE SLOPES.
- BEGINNING AT THE DOWNSTREAM END AND IN THE CENTER OF THE CHANNEL, PLACE THE INITIAL END OF THE FIRST ROLL IN THE ANCHOR TRENCH AND SECURE WITH FASTENING DEVICES, AS DIRECTED BY THE MANUFACTURER. NOTE: MATTING WILL INITIALLY BE UPSIDE DOWN IN ANCHOR TRENCH.
- IN THE SAME MANNER, POSITION ADJACENT ROLLS IN ANCHOR TRENCH, OVERLAPPING THE PRECEDING ROLL A MINIMUM OF 3 INCHES.
- SECURE THESE INITIAL ENDS OF MATS WITH ANCHORS AT MANUFACTURER'S SPECIFIED INTERVALS, BACKFILL AND COMPACT SOIL.
- UNROLL CENTER STRIP OF MATTING UPSTREAM. STOP AT NEXT CHECK SLOT OR TERMINAL ANCHOR TRENCH.
- UNROLL ADJACENT MATS UPSTREAM IN SIMILAR FASHION, MAINTAINING A 3-INCH MINIMUM OVERLAP.
- FOLD AND SECURE ALL ROLLS OF MATTING SNUGLY INTO ALL TRANSVERSE CHECK SLOTS. LAY MAT IN THE BOTTOM OF THE SLOT THEN FOLD BACK AGAINST ITSELF. ANCHOR THROUGH BOTH LAYERS OF MAT AT MANUFACTURER'S SPECIFIED INTERVALS, THEN BACKFILL AND COMPACT SOIL. CONTINUE ROLLING ALL MAT WIDTHS UPSTREAM TO THE NEXT CHECK SLOT OR TERMINAL ANCHOR TRENCH.
- ALTERNATE METHOD FOR NONCRITICAL INSTALLATIONS: PLACE TWO ROWS OF ANCHORS ON 6-INCH CENTERS AT 25-30 FEET INTERVALS IN LIEU OF EXCAVATED CHECK SLOTS.
- SHINGLE-LAP SPLICED ENDS BY A MINIMUM OF 1 FOOT WITH UPSTREAM MAT ON TOP TO PREVENT UPLIFTING BY WATER OR BEGIN NEW ROLLS IN A CHECK SLOT. ANCHOR OVERLAPPED AREA BY PLACING TWO ROWS OF ANCHORS, 1 FOOT APART ON 1-FOOT INTERVALS.
- PLACE EDGES OF OUTSIDE MATS IN PREVIOUSLY EXCAVATED LONGITUDINAL SLOTS, ANCHOR USING PRESCRIBED STAPLE PATTERN, BACKFILL AND COMPACT SOIL.
- ANCHOR, FILL AND COMPACT UPSTREAM END OF MAT IN A TERMINAL TRENCH, AS DIRECTED BY MANUFACTURER.
- SECURE MAT TO GROUND SURFACE USING U-SHAPED WIRE STAPLES, GEOTEXTILE PINS, WOODEN STAKES, OR OTHER ANCHORS AS RECOMMENDED BY THE MANUFACTURER.

DIVERSION CHANNEL

CONSIDERATIONS

- TEMPORARY DIVERSIONS MUST BE STABILIZED IMMEDIATELY FOLLOWING INSTALLATION TO PREVENT EROSION OF THE DIVERSION ITSELF.
- THE GRADIENT ALONG THE FLOW PATH MUST HAVE A POSITIVE GRADE TO ASSURE DRAINAGE, BUT SHOULD NOT BE SO STEEP AS TO RESULT IN EROSION DUE TO HIGH VELOCITY CHANNEL FLOW. IF SUCH EROSION OCCURS DURING CONSTRUCTION, CORRECTIVE ACTION SHOULD BE TAKEN TO STABILIZE THE CHANNEL AND BERM, FLATTEN THE GRADIENT OF THE CHANNEL, OR OTHERWISE ELIMINATE THE CAUSE OF EROSION.
- DIVERSIONS ARE TYPICALLY INSTALLED USING MATERIAL AVAILABLE ON THE SITE AND CAN USUALLY BE CONSTRUCTED WITH EQUIPMENT NEEDED FOR SITE GRADING. THE USEFUL LIFE OF THE PRACTICE CAN BE EXTENDED BY STABILIZING THE DIKE WITH VEGETATION.
- TEMPORARY DIVERSION DIKES ARE OFTEN USED AS A PERIMETER CONTROL IN ASSOCIATION WITH A SEDIMENT TRAP OR A SEDIMENT BASIN, OR A SERIES OF SEDIMENT-TRAPPING FACILITIES, ON MODERATE TO LARGE CONSTRUCTION SITES. IF INSTALLED PROPERLY AND IN THE FIRST PHASE OF GRADING, MAINTENANCE COSTS ARE VERY LOW.
- DIVERSIONS THAT ARE LOCATED UPSLOPE OF A CONSTRUCTION AREA SHOULD NOT THEMSELVES BE LOCATED BELOW HIGH SEDIMENT-PRODUCING AREAS UNLESS LAND TREATMENT PRACTICES OR STRUCTURAL MEASURES, DESIGNED TO PREVENT DAMAGING ACCUMULATIONS OF SEDIMENT IN THE CHANNELS, ARE INSTALLED WITH OR BEFORE THE DIVERSIONS. (THE EXCEPTION IS WHERE THE DIVERSION IS USED TO DIVERT SEDIMENT-LADEN WATER TO A SEDIMENTATION FACILITY.)
- WHERE DIVERSIONS CARRY CONCENTRATED FLOWS, THEIR OUTLETS MAY REQUIRE TREATMENT OR STRUCTURES TO DISSIPATE ENERGY AND RE-DISPERSE THE FLOW OR RE-CREATE SHEET FLOW INTO UNDISTURBED UPLAND AREAS, WHERE THE RUNOFF CAN BE ABSORBED. UNTREATED, SEDIMENT-LADEN RUNOFF SHOULD NOT BE DISCHARGED TO SUCH UNDISTURBED AREAS.
- CONSTRUCTION AND EXCAVATION SHALL PROCEED TO ENSURE THERE WILL BE NO RUNOFF FROM THE SITE.

MAINTENANCE REQUIREMENTS

- THE MEASURE SHOULD BE INSPECTED WEEKLY AND AFTER EVERY STORM OF ½ INCH OR MORE IN A 24-HOUR PERIOD. REPAIRS SHOULD BE MADE TO THE BERM (DIKE), FLOW CHANNEL, OUTLET OR SEDIMENT TRAPPING FACILITY, AS NECESSARY.
- DIVERSION DIKES USED TO TRAP SEDIMENT SHOULD BE INSPECTED AND CLEANED OUT AFTER EVERY SIGNIFICANT STORM.
- DAMAGES CAUSED BY CONSTRUCTION TRAFFIC OR OTHER ACTIVITY MUST BE REPAIRED BEFORE THE END OF EACH WORKING DAY.
- IF INSPECTION INDICATES VEGETATION HAS NOT BEEN ESTABLISHED OR HAS BEEN DAMAGED, THE AFFECTED AREAS MUST BE RESEEDED IMMEDIATELY.
- ONCE DIVERSIONS HAVE BEEN STABILIZED, THEY SHOULD BE MOWED PERIODICALLY TO MAINTAIN A HEALTHY VEGETATIVE COVER, BUT THE GRASS SHOULD NOT BE CUT SHORTER THAN 4 INCHES. DIVERSION RIDGES CAN BE HAZARDOUS TO MOW, AND EQUIPMENT OPERATORS SHOULD BE MADE AWARE OF THIS POTENTIAL HAZARD.

SPECIFICATIONS

DESIGN SPECIFICATIONS:

- DIVERSIONS SHOULD BE DESIGNED TO MEET THE CRITERIA IN THE FOLLOWING TABLE:

CONSTRUCTION SPECIFICATIONS:

- TEMPORARY DIVERSION DIKES SHOULD BE INSTALLED AS AN INITIAL STEP IN THE LAND-DISTURBING ACTIVITY. THEY MUST BE FUNCTIONAL PRIOR TO EXPOSURE OF SOILS IN THE AREA BEING SERVED BY THE DIVERSION.
- ALL DITCHES OR GULLIES WITHIN THE LIMITS OF THE DIVERSION SHOULD BE FILLED, AND TREES AND OTHER OBSTRUCTIONS SHOULD BE REMOVED BEFORE OR AS PART OF THE CONSTRUCTION.
- THE DIKE SHOULD BE LOCATED TO MINIMIZE DAMAGES BY CONSTRUCTION OPERATIONS AND TRAFFIC.
- WHERE THE DIVERSION CROSSES AN UNDERGROUND UTILITY OR OTHER STRUCTURE, MEASURES SHOULD BE EMPLOYED TO PREVENT DAMAGE TO THE UTILITY, AND TO PREVENT SETTLEMENT OR DISPLACEMENT OF TRENCH BACKFILL AS A RESULT OF THE PLACEMENT OF THE DIVERSION.
- ONCE SOIL IS EXPOSED FOR A DIVERSION CHANNEL, IT SHOULD BE IMMEDIATELY SHAPED, GRADED AND STABILIZED. THE DIKE SHOULD BE ADEQUATELY COMPACTED TO PREVENT FAILURE.
- TEMPORARY OR PERMANENT SEEDING AND MULCH SHOULD BE APPLIED TO THE DIKE IMMEDIATELY FOLLOWING ITS CONSTRUCTION.
- DIVERSIONS MUST BE COMPLETELY STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- WHERE VEGETATION IS USED FOR STABILIZATION, DISTURBED AREAS SHOULD BE ESTABLISHED TO GRASS IMMEDIATELY AFTER CONSTRUCTION. SEEDBED PREPARATION, SEEDING, FERTILIZING, AND MULCHING SHOULD COMPLY WITH TEMPORARY VEGETATION AND PERMANENT VEGETATION PRACTICES DESCRIBED IN THE NEW HAMPSHIRE STORMWATER MANUAL.
- IF THE SOILS OR WINTER CONDITIONS PRECLUDE THE USE OF VEGETATION AND PROTECTION IS NEEDED, NONVEGETATIVE MEANS, SUCH AS EROSION CONTROL MATS OR A GRADED STONE LINING MAY BE USED.
- EACH DIVERSION MUST HAVE AN ADEQUATE OUTLET. THE OUTLET MUST CONVEY RUNOFF TO A POINT WHERE OUTFLOW WILL NOT CAUSE DAMAGE. THE OUTLET SHOULD BE INSTALLED AND STABILIZED BEFORE THE CONSTRUCTION OF THE DIVERSION.

DIVERSION CHANNEL SPECIFICATIONS

DESIGN PARAMETER	CRITERIA
LOCATION	THE CONDITION OF THE OUTLET AREA, SITE TOPOGRAPHY, GROUND COVER, SOIL TYPE, AND LENGTH OF SLOPE SHOULD DETERMINE THE LOCATION OF THE DIVERSION.
DRAINAGE AREA	< 5 ACRES
CAPACITY	2-YEAR, 24 HOUR DESIGN STORM CONVEYANCE CAPACITY
DESIGN VELOCITY	2.5 TO 4.5 FEET/SEC, DEPENDING ON CHANNEL LINING
BERM/CHANNEL SIDE SLOPE	2:1 OR FLATTER
BERM TOP WIDTH	2 FEET, MINIMUM
TOTAL DEPTH TOP OF BERM TO BOTTOM OF CHANNEL	1.5 FEET MAXIMUM, EXCEPT FOR BERM OVERFILL OF APPROXIMATELY 10% OF BERM HEIGHT TO ALLOW FOR SETTLEMENT.
FREEBOARD	0.5 FEET MINIMUM
CHANNEL SHAPE	PARABOLIC OR TRAPEZOIDAL
STABILIZATION	VEGETATION OR RIPRAP
GRADIENT (ALONG FLOW PATH)	POSITIVE GRADE TO OUTLET. CHANNELS < 2% DO NOT REQUIRE STABILIZATION UNLESS EXCESSIVE EROSION IS OBSERVED DURING ROUTINE INSPECTION. CHANNELS > 2% SHOULD BE STABILIZED.
OUTLET	SEDIMENT LADEN WATER MUST BE DIVERTED INTO SEDIMENT TRAP OR SEDIMENT BASIN. RUNOFF FROM UNDISTURBED AREAS MUST DISCHARGE AT EITHER A NATURALLY STABLE OUTLET, OR A STABILIZED LEVEL SPREADER, APRON OR OTHER SUITABLE STRUCTURE.

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NO.	DATE	DESCRIPTION	BY

ANTHONY T. COSTELLO No. 10020 LICENSED PROFESSIONAL ENGINEER — STATE OF NEW HAMPSHIRE

FOSTER MATERIALS
DRIVEWAY ENTRANCE

EROSION CONTROL
SPECIFICATIONS 2

OWNER
David Foster
1778 Old Concord Rd
Henniker, NH 03242

PROJECT LOCATION
1778 Old Concord Rd
Henniker / Hopkinton, NH

LOT INFO
Henniker Map 9 Lot 615

 Plan Date 03/20/2024

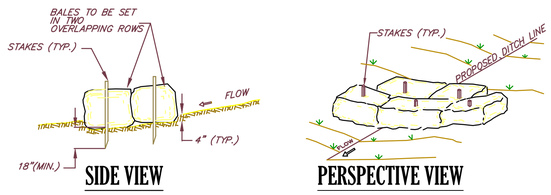
BALE INSTALLATION

SHEET FLOW APPLICATIONS

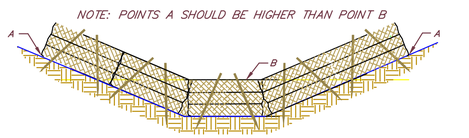
1. EXCAVATE A 4 INCH DEEP TRENCH THE WIDTH OF A BALE AND THE LENGTH OF THE PROPOSED BARRIER. THE BARRIER SHOULD FOLLOW THE SLOPE CONTOUR. IF THE BARRIER IS AT THE TOE OF A SLOPE, PLACE IT 5 TO 6 FEET AWAY FROM THE SLOPE, IF POSSIBLE. THIS PLACEMENT WILL PROVIDE ACCESS FOR MAINTENANCE AND ALLOW COARSE SEDIMENT TO DROP OUT OF SUSPENSION BEFORE IT REACHES THE BARRIER.
2. PLACE BALES IN THE TRENCH WITH THEIR ENDS TIGHTLY ABUTTING. CORNER ABUTMENT IS NOT ACCEPTABLE. A TIGHT FIT IS IMPORTANT TO PREVENT SEDIMENT FROM ESCAPING THROUGH THE SPACES BETWEEN THE BALES.
3. ALL BALES MUST BE EITHER WIRE-BOUND OR STRING-TIED. INSTALL BALES SO THAT BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. IF THE BINDING IS PLACED IN CONTACT WITH THE SOIL, IT WILL SOON DISINTEGRATE AND CAUSE THE BALE TO FALL APART. NOTE: STRAW BALES SHOULD BE USED, NOT HAY BALES.
4. SECURELY ANCHOR EACH BALE BY DRIVING AT LEAST TWO STAKES THROUGH THE BALE. DRIVE THE FIRST STAKE IN EACH BALE TOWARD THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER. DRIVE THE STAKES AT LEAST 1 1/2 FEET INTO THE GROUND. WOOD STAKES, 2 BY 2 INCHES BY 4 FEET ARE BEST. REBAR CAN ALSO BE USED AS STAKES, BUT ARE NOT RECOMMENDED BECAUSE THEY CAN POSE HAZARD TO EQUIPMENT WHEN THE BALES DISINTEGRATE.
5. FILL ANY GAPS BETWEEN BALES BY WEDGING LOOSE STRAW BETWEEN THE BALES. LOOSE STRAW SCATTERED OVER THE AREA IMMEDIATELY UPHILL FROM A STRAW BALE BARRIER TENDS TO INCREASE BARRIER EFFICIENCY, AS IT IS PICKED UP BY RUNOFF AND TRANSPORTED TO HOLES IN THE BARRIER, WHICH IT TENDS TO SEAL.
6. BACKFILL THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT IT. THE BACKFILL SOIL SHOULD CONFORM TO THE GROUND LEVEL ON THE DOWNHILL SIDE OF THE BARRIER AND SHOULD BE BUILT UP TO 4 INCHES ABOVE THE GROUND ON THE UPHILL SIDE OF THE BALES.
7. INSPECT AND REPAIR OR REPLACE DAMAGED BALES PROMPTLY. STRAW BALES TYPICALLY DETERIORATE WITHIN THREE MONTHS WHEN WET. REMOVE THE STRAW BALES WHEN THE UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED.

CHANNEL FLOW APPLICATIONS

1. EXCAVATE A 4 INCH DEEP TRENCH THE WIDTH OF A BALE AND THE LENGTH OF THE PROPOSED BARRIER. PLACE BALES IN A SINGLE ROW, LENGTHWISE, ORIENTED PERPENDICULAR TO THE FLOW, AND WITH ENDS OF ADJACENT BALES TIGHTLY ABUTTING ONE ANOTHER.
2. PLACE BALES IN THE TRENCH WITH THEIR ENDS TIGHTLY ABUTTING. CORNER ABUTMENT IS NOT ACCEPTABLE. A TIGHT FIT IS IMPORTANT TO PREVENT SEDIMENT FROM ESCAPING THROUGH THE SPACES BETWEEN THE BALES. EXTEND THE BARRIER TO SUCH A LENGTH THAT THE BOTTOM OF THE END BALES ARE AT A HIGHER ELEVATION THAN THE TOP OF THE LOWEST MIDDLE BALE TO ASSURE THAT SEDIMENT-LADEN RUN-OFF WILL FLOW EITHER THROUGH OR OVER THE BARRIER BUT NOT AROUND IT. ROCK PLACED BELOW THE MIDDLE BALE WILL DISSIPATE THE ENERGY OF THE FALLING WATER AND REDUCE DOWNSTREAM EROSION.
3. ALL BALES MUST BE EITHER WIRE-BOUND OR STRING-TIED. INSTALL BALES SO THAT BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. IF THE BINDING IS PLACED IN CONTACT WITH THE SOIL, IT WILL SOON DISINTEGRATE AND CAUSE THE BALE TO FALL APART.
   NOTE: STRAW BALES SHOULD BE USED, NOT HAY BALES.
4. SECURELY ANCHOR EACH BALE BY DRIVING AT LEAST TWO STAKES THROUGH THE BALE. DRIVE THE FIRST STAKE IN EACH BALE TOWARD THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER. DRIVE THE STAKES AT LEAST 1 1/2 FEET INTO THE GROUND. WOOD STAKES, 2 BY 2 INCHES BY 4 FEET ARE BEST. REBAR CAN ALSO BE USED AS STAKES, BUT ARE NOT RECOMMENDED BECAUSE THEY CAN POSE HAZARD TO EQUIPMENT WHEN THE BALES DISINTIGRATE.
5. FILL ANY GAPS BETWEEN BALES BY WEDGING LOOSE STRAW BETWEEN THE BALES. LOOSE STRAW SCATTERED OVER THE AREA IMMEDIATELY UPHILL FROM A STRAW BALE BARRIER TENDS TO INCREASE BARRIER EFFICIENCY, IT IS PICKED UP BY RUNOFF AND TRANSPORTED TO HOLES IN THE BARRIER, WHICH IT TENDS TO SEAL.
6. BACKFILL THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT IT. THE BACKFILL SOIL SHOULD CONFORM TO THE GROUND LEVEL ON THE DOWNHILL SIDE OF THE BARRIER AND SHOULD BE BUILT UP TO 4 INCHES ABOVE THE GROUND ON THE UPHILL SIDE OF THE BALES. ROCK PLACED BELOW THE MIDDLE BALE WILL DISSIPATE THE ENERGY OF THE FALLING WATER AND REDUCE DOWNSTREAM EROSION.
7. INSPECT AND REPAIR OR REPLACE DAMAGED BALES PROMPTLY. STRAW BALES TYPICALLY DETERIORATE WITHIN THREE MONTHS WHEN WET. REMOVE THE STRAW BALES WHEN THE UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED.



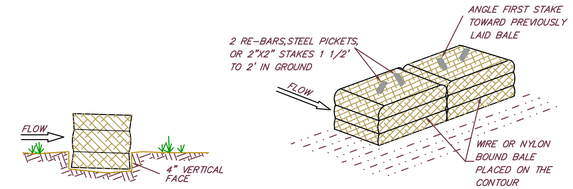
SIDE VIEW — PERSPECTIVE VIEW



PLACE HAYBALES EVERY 150' IN ROADSIDE DITCHES AND EVERY 100' IN DRAINAGE OUTLET DITCHES

DETAIL OF BALE CHANNEL BARRIER

NOT TO SCALE



EMBEDDING DETAIL — HAY BALE BARRIER ANCHORING DETAIL

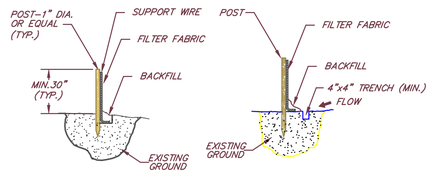
NOT TO SCALE

SILT FENCE CONSTRUCTION SPECIFICATIONS

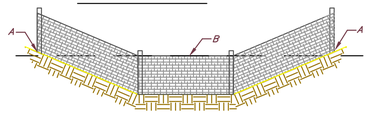
1. THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR SILT FENCES.
2. THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 8 INCHES INTO THE GROUND AND THE SOIL COMPACTED OVER THE EMBEDDED FABRIC.
3. WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES OR STAPLES.
4. FILTER CLOTH SHALL BE FASTENED SECURELY TO THE WOVEN WIRE FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP, MID SECTION AND BOTTOM.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED.
6. FENCE POSTS SHALL BE A MINIMUM OF 36 INCHES LONG AND DRIVEN A MINIMUM OF 16 INCHES INTO THE GROUND. WOOD POSTS SHALL BE OF SOUND QUALITY HARDWOOD AND SHALL HAVE A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQUARE INCHES.
7. MAINTENANCE SHALL BE PERFORMED AS NEEDED TO PREVENT BULGES IN THE SILT FENCE DUE TO DEPOSITION OF SEDIMENT.

MAINTENANCE

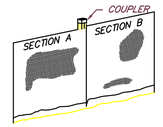
1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
2. IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
4. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.



TOE-IN METHODS



NOTE: POINTS A SHOULD BE HIGHER THAN POINT B SILT FENCE THROUGH SMALL SWALE



JOINING SECTIONS

TOP VIEW

SILT FENCE DETAILS

NOT TO SCALE

STONE FILL SPECIFICATIONS

1. THIS WORK SHALL CONSIST OF FURNISHING AND PLACING A DENSE STONE FILL AT THE LOCATIONS SHOWN THE PLANS OR ORDERED.
2. STONE FOR STONE FILL SHALL BE APPROVED QUARRY STONE, OR BROKEN OF A HARD, SOUND & DURABLE QUALITY. THE STONES & SPALLS SHALL BE SO GRADED AS TO PRODUCE A DENSE FILL WITH A MINIMUM OF VOIDS.
3. CLASS A STONE SHALL BE IRREGULAR IN SHAPE WITH APPROXIMATELY 50% OF THE MASS HAVING A MINIMUM VOLUME OF 12 CF, APPROXIMATELY 30% OF THE MASS RANGING BETWEEN 3 & 12 CF, APPROXIMATELY 10% OF THE MASS RANGING BETWEEN 1 & 3 CF, AND THE REMAINDER OF THE MASS COMPOSED OF SPALLS.
4. CLASS B STONE SHALL BE IRREGULAR IN SHAPE WITH APPROXIMATELY 50% OF THE MASS HAVING A MINIMUM VOLUME OF 3 CF, APPROXIMATELY 40% OF THE MASS RANGING BETWEEN 1 & 3 CF, AND THE REMAINDER OF THE MASS COMPOSED OF SPALLS.
5. CLASS C STONE SHALL CONSIST OF CLEAN, DURABLE FRAGMENTS OF LEDGE ROCK OF UNIFORM QUALITY, REASONABLY FREE FROM THIN OR ELONGATED PIECES. THE STONE SHALL BE MADE FROM ROCK WHICH IS FREE FROM TOPSOIL AND OTHER ORGANIC MATERIAL. THE STONES SHALL BE GRADED AS FOLLOWS:

SIEVE SIZE	% PASSING BY WEIGHT
12 INCH	100
4 INCH	50-90
1-1/2 INCH	0-30
3/4 INCH	0-10

6. CLASS D STONE SHALL CONFORM TO SECTION 520.2.2.3 OF THE 2016 NHDOT STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION, TABLE 3 - COARSE AGGREGATE, STANDARD STONE SIZE NO. 467.
7. SPALLS FOR FILLING VOIDS SHALL BE STONES OR BROKEN ROCK RANGING FROM A MAXIMUM SIZE OF 1 CF.
8. GRAVEL BLANKET MATERIAL SHALL CONFORM TO SECTION 209.2.1.2 OF THE 2016 NHDOT STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION.
9. GEOTEXTILE SHALL CONFORM TO SECTION 593 OF THE 2016 NHDOT STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION.
10. STONES AND SPALLS FOR STONE FILL SHALL BE DEPOSITED AND GRADED TO ELIMINATE VOIDS AND OBTAIN A DENSE MASS THROUGHOUT THE COURSE. THE SPALLS SHALL BE TAMPED INTO PLACE USING AN EQUIPMENT BUCKET OR OTHER APPROVED METHOD.
11. WHEN STONE FILL IS PLACED ON A SLOPE, THE STONES SHALL BE DEPOSITED IN SUCH A MANNER AS TO NOT UNNECESSARILY DISLODGE THE UNDERLYING MATERIAL.
12. WHEN GRAVEL BLANKET IS SHOWN, THE GRAVEL SHALL BE PLACED IN LAYERS NOT EXCEEDING 12" IN DEPTH UNLESS OTHERWISE ORDERED.
13. THE COMPLETED SURFACE SHALL APPROXIMATE THE LINES AND GRADES SHOWN OR ORDERED. WHEN ORDERED, STONE PLACED OVER 1 FT OUTSIDE OR ABOVE SUCH LINES AND GRADES SHALL BE REMOVED.

WINTER CONSTRUCTION NOTES

1. ALL PROPOSED POST DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
3. AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGHOUT THE WINTER SEASON, SHALL BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.

CONSTRUCTION PHASING

CONSIDERATIONS

- CONSTRUCTION PHASING OF LAND GRADING ACTIVITIES MUST BE CAREFULLY PLANNED AND CARRIED OUT TO PREVENT EROSION AND SEDIMENTATION.
- PLAN EARTH DISTURBANCE AND GRADING ACTIVITIES TO MINIMIZE THE AREA OF SOIL EXPOSED AT ONE TIME, AS WELL AS THE LENGTH OF TIME BETWEEN INITIAL SOIL EXPOSURE AND FINAL GRADING.
- PROTECT EXISTING VEGETATION AND NATURAL FOREST COVER, DESIGNATED TO REMAIN ON THE SITE.
- PRESERVE AND MAINTAIN BUFFER STRIPS OF UNDISTURBED VEGETATION BETWEEN CONSTRUCTION AREAS AND ENVIRONMENTALLY VULNERABLE AREAS SUCH AS WATERCOURSES, PONDS, AND WETLANDS.
- DIVERT CLEAN WATER AWAY FROM THE IMMEDIATE CONSTRUCTION AREA TO REDUCE THE THREAT OF EROSION
- DISPERSE CLEAN STORMWATER TO UNDISTURBED, VEGETATED, FLAT OR MODERATE-SLOPED, SURFACES WHEREVER POSSIBLE, RATHER THAN CONCENTRATE IT INTO CHANNELS.
- FALL AND WINTER EROSION CONTROL MEASURES MUST BE UPGRADED AND REFINED TO PROTECT THE SITE FROM SPRING RUNOFF AND SNOWMELT

MAINTENANCE REQUIREMENTS

- ANY SIGN OF RILL OR GULLY EROSION SHOULD BE IMMEDIATELY INVESTIGATED AND REPAIRED AS NEEDED.
- TEMPORARY STABILIZATION MEASURES SHOULD BE INSPECTED AT LEAST ONCE PER WEEK DURING THE CONSTRUCTION PERIOD, OR AS STIPULATED BY THE APPLICABLE PERMITS, UNTIL ALL EXPOSED SOILS HAVE BEEN PERMANENTLY STABILIZED.
- IN ADDITION TO REGULAR INSPECTIONS, THE PROJECT SITE SHOULD BE INSPECTED DURING OR WITHIN 24 HOURS OF ANY RAIN EVENT IN WHICH ½ INCH OF PRECIPITATION OR MORE FALLS WITHIN A 24-HOUR PERIOD.
- INSPECTIONS SHOULD BE DOCUMENTED IN A REPORT.

SPECIFICATIONS

- *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 UNLESS PROJECT PERMITS SPECIFICALLY PROVIDE FOR A GREATER AREA OF DISTURBANCE. ANY SUCH GREATER AREA OF DISTURBANCE REQUIRES, AS PART OF THE PERMITTING PROCESS:
  - DOCUMENTATION THAT THE REQUIRED AREAS OF EARTH CUTS AND FILLS ARE SUCH THAT AN AREA OF DISTURBANCE OF 5 ACRES OR LESS WOULD UNREASONABLY LIMIT THE CONSTRUCTION SCHEDULE;
  - AN APPROVED CONSTRUCTION SEQUENCE PLAN, DEVELOPED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF NEW HAMPSHIRE OR A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL AS CERTIFIED BY THE CPESC COUNCIL OF ENVIROCERT INTERNATIONAL, INC.; AND
  - EMPLOYMENT OR RETAINMENT OF A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF NEW HAMPSHIRE OR A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL AS CERTIFIED BY THE CPESC COUNCIL OF ENVIROCERT INTERNATIONAL, INC. TO SERVE AS AN ENVIRONMENTAL MONITOR DURING CONSTRUCTION.
- 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 PRESERVE NATURAL VEGETATION.
- ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHOULD BE PROTECTED DURING CLEARING AND CONSTRUCTION IN ACCORDANCE WITH AN APPROVED EROSION AND SEDIMENT CONTROL PLAN UNTIL THEY ARE PERMANENTLY STABILIZED.
- ALL EROSION AND SEDIMENT CONTROL PRACTICES AND MEASURES SHOULD BE CONSTRUCTED, APPLIED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
- TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHOULD BE STOCKPILED IN THE AMOUNT NECESSARY TO COMPLETE FINISHED GRADING AND PROTECTED FROM EROSION.
- STOCKPILES, BORROW AREAS AND SPOILS SHOULD BE STABILIZED AS DESCRIBED UNDER "SOIL STOCKPILE PRACTICES."
- SLOPES SHOULD NOT BE CREATED SO CLOSE TO PROPERTY LINES AS TO ENDANGER ADJOINING PROPERTIES WITHOUT ADEQUATE PROTECTION AGAINST SEDIMENTATION, EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED DAMAGES.
- AREAS TO BE FILLED SHOULD BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS 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 SEED.
- ALL FILLS SHOULD BE COMPACTED IN ACCORDANCE WITH PROJECT SPECIFICATIONS TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES, SITE UTILITIES, CONDUITS, AND OTHER FACILITIES, SHOULD BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
- IN GENERAL, FILLS SHOULD BE PLACED AND COMPACTED IN LAYERS RANGING FROM 6 TO 24 INCHES IN THICKNESS. THE CONTRACTOR SHOULD REVIEW THE PROJECT GEOTECHNICAL REPORT FOR SPECIFIC GUIDANCE. FILL MATERIAL SHOULD BE FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS, FROZEN MATERIAL AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY LIFTS.
- FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIALS ARE SUSCEPTIBLE TO ACCELERATED SETTLEMENT AND POTENTIAL ACCELERATED EROSION. WORK IN 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, COMPACTED, OR BLADED SMOOTH. 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."
- 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-AND-FILL SLOPES TO LIMIT SHEET AND RILL EROSION AND PREVENT GULLY EROSION. ALL BENCHES SHOULD BE KEPT FREE OF SEDIMENT DURING ALL PHASES OF DEVELOPMENT.
- SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHOULD BE EVALUATED BY A PROFESSIONAL ENGINEER TO DETERMINE IF THE PROPOSED DESIGN SHOULD BE REVISED TO PROPERLY MANAGE THE CONDITION.
- STABILIZE ALL GRADED AREAS WITH VEGETATION, CRUSHED STONE, COMPOST BLANKET, OR OTHER GROUND COVER AS SOON AS GRADING IS COMPLETED 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.

CONSTRUCTION SEQUENCE

1. CUT AND CLEAR TREES ONLY TO LIMITS OF CUT/FILL SLOPES.
2. CONSTRUCT TEMPORARY SEDIMENT AND EROSION CONTROL FACILITIES. PERIMETER SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATIONS. REMOVE AND STOCKPILE LOAM ON-SITE FOR RE-USE ON-SITE. SEED AND MULCH STOCKPILE. SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUN OFF INTO THEM.
3. CLEAR, CUT AND DISPOSE OF DEBRIS, DISPOSAL OF DEBRIS SHALL MEET LOCAL, STATE AND FEDERAL REQUIREMENTS.
4. CONSTRUCT PONDS, SWALES AND DRAINAGE SYSTEMS. DIRECT RUNOFF TO TEMPORARY PRACTICES UNTIL STORMWATER BMPS ARE STABILIZED.
5. REMOVE MATERIAL AND GRADE AREA TO PROPOSED GRADES. AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINAL GRADE.
6. BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE LOAMED, SEEDED AND MULCHED WITHIN 72 HOURS OF ACHIEVING FINAL GRADE.
7. CONSTRUCT TEMPORARY DIVERSION CHANNELS, AS REQUIRED.
8. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DITCHES, SILT FENCES SEDIMENT TRAPS, ETC. MULCH AND SEED AS REQUIRED.
9. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENTATION MEASURES WEEKLY AND WITHIN 24 HOURS OF 0.5" OF RAINFALL.
10. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
11. REMOVE TEMPORARY EROSION CONTROL MEASURES.

* ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF REACHING FINISHED GRADE
* THE MAXIMUM AREA THAT MAY BE DISTURBED AND UNSTABILIZED IS 5 ACRES
* AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
  A) BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
  B) A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
  C) A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED; OR
  D) EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

- CONSTRUCTION SHOULD PROCEED SO THAT THERE IS NO RUNOFF FROM THE SITE AT ANY TIME DURING THE EXCAVATION.
- ALL EXCAVATION SHALL BE IN COMPLIANCE WITH RSA 155-E.
- FUGITIVE DUST SHALL BE CONTROLLED IN ACCORDANCE WITH ENV-A 1000.
- THERE WILL BE NO FUELING OF VEHICLES ON SITE UNLESS A SOURCE CONTROL PLAN IS SUBMITTED.

ASPEN
ENVIRONMENTAL CONSULTANTS LLC
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603.848.5606
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NO.	DATE	DESCRIPTION	BY

STATE OF NEW HAMPSHIRE — ANTHONY T. COSTELLO No. 10020 — LICENSED PROFESSIONAL ENGINEER

FOSTER MATERIALS
DRIVEWAY ENTRANCE

EROSION CONTROL SPECIFICATIONS 3

OWNER
David Foster
1778 Old Concord Rd
Henniker, NH 03242

PROJECT LOCATION
1778 Old Concord Rd
Henniker / Hopkinton, NH

LOT INFO
Henniker Map 9 Lot 615