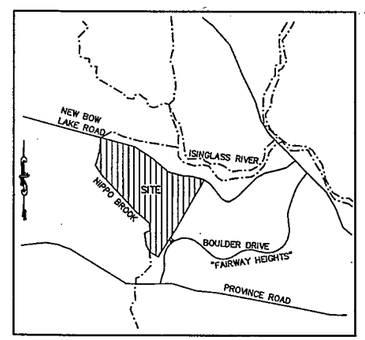
TAX MAP 215 LOT 1
RIVER'S PEAK RESIDENTIAL DEVELOPMENT

NOT-FOR-CONSTRUCTION

OWNER/APPLICANT:

CABERNET BUILDERS
P.O. BOX 291
STRATHAM, N.H. 03885



LOCATION MAP
1"=1500'

INDEX

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DRAINAGE DETAILS	10
CONSTRUCTION DETAILS	11
CISTERN DETAILS	12
EROSION & SEDIMENT CONTROL DETAILS	13

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PRIOR STATE APPROVALS:

NHDES STATE SUBDIVISION APPROVAL #: SA2005006120-A DATED 9/26/2005
NHDES SITE SPECIFIC PERMIT #: WPS 7162A DATED 2/6/2006

WETLAND/SOIL CONSULTANT:

GOVE ENVIRONMENTAL SERVICES INC.
8 CONTINENTAL DRIVE,
BLDG 2 UNIT H
EXETER, NH 03833
1-603-778-0644

CIVIL ENGINEERS:

BEALS · ASSOCIATES PLLC
70 PORTSMOUTH AVE,
STRATHAM, NEW HAMPSHIRE
PHN. 603-583-4860, FAX. 603-583-4863

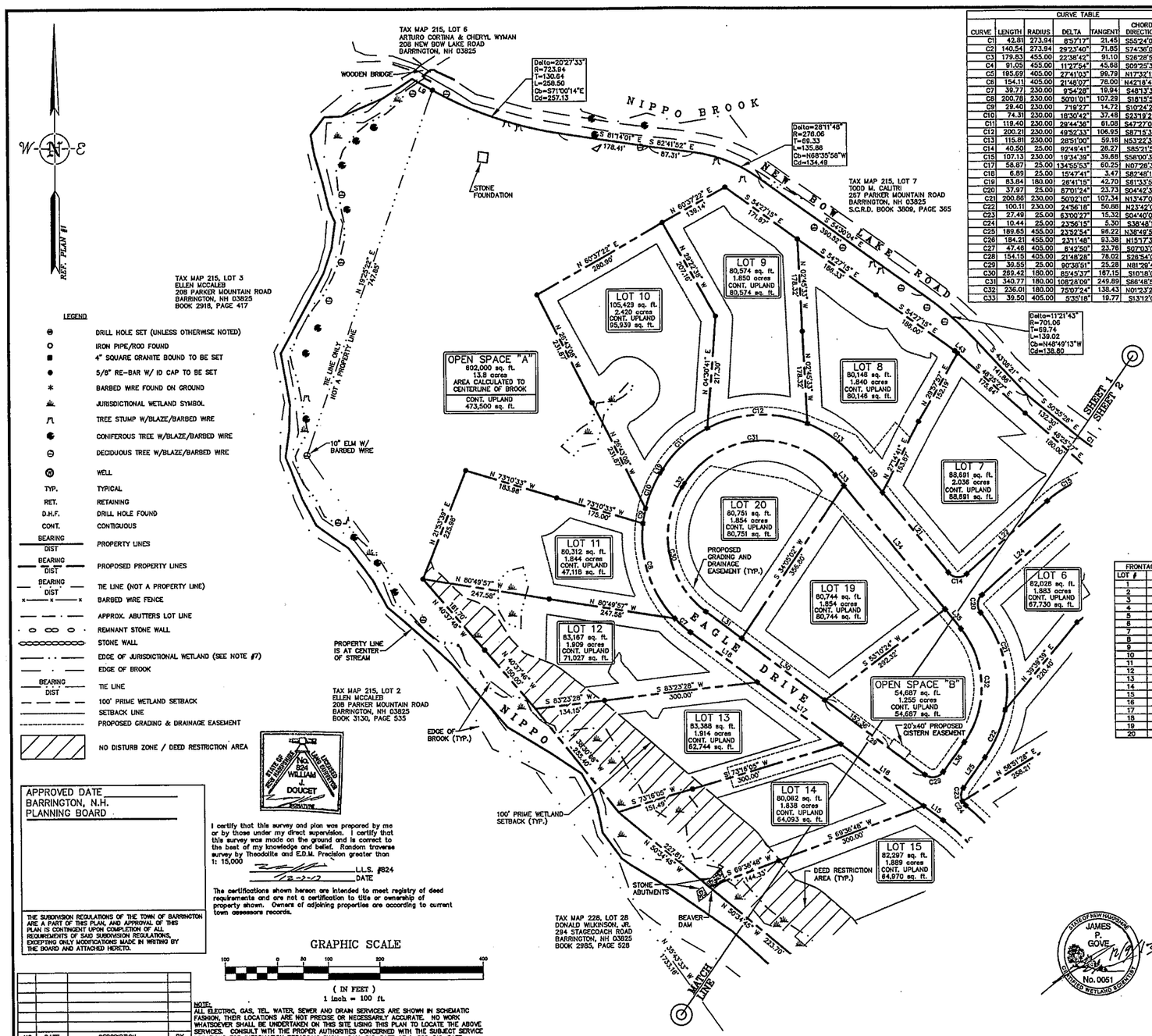
LAND SURVEYORS:

DOUCET SURVEY INC
Serving Your Professional Surveying & Mapping Needs
102 Kent Place, Newmarket, NH 03857-0163
Voice (603) 659-6560, Data (603) 659-4118

PLAN SET LEGEND

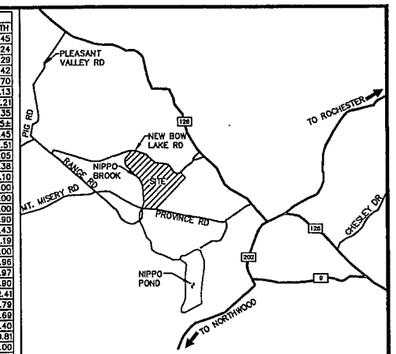
UTILITY POLE		FENCING	—x—
EXISTING LIGHT POLE		DRAINAGE LINE	—D—
EXISTING CATCH BASIN		STONE WALL	
EXISTING HYDRANT		TREE LINE	
SINGLE POST SIGN		ABUT. PROPERTY LINES	
PINES, ETC.		EXIST. PROPERTY LINES	
MAPLES, ETC.		BUILDING SETBACK LINES	
EXIST. SPOT GRADE	96.59	EXIST. CONTOUR	100
PROP. SPOT GRADE	96.59	PROP. CONTOUR	100
TEST PIT	TP 1A	SOIL LINES	

NH-193-BOULDER DRIVE-BARRINGTON-NH-NOV.2013



CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD DIRECTION	CHORD
C1	42.81	273.94	8°57'17"	21.45	S55°24'04"E	42.77
C2	140.54	273.94	29°23'40"	71.65	S74°36'00"E	139.00
C3	179.83	455.00	22°38'42"	91.10	S26°28'50"E	178.66
C4	91.05	455.00	11°27'54"	45.68	S09°25'37"E	90.89
C5	195.69	405.00	27°41'03"	99.79	N17°32'12"W	193.79
C6	154.11	405.00	21°46'07"	78.00	N42°18'47"W	153.18
C7	39.77	230.00	9°54'28"	19.94	S48°13'37"E	39.72
C8	200.78	230.00	50°01'01"	107.29	S18°15'52"E	194.47
C9	29.40	230.00	7°19'27"	14.72	S10°24'21"W	29.38
C10	74.31	230.00	18°30'42"	37.48	S23°19'28"W	73.99
C11	119.40	230.00	29°44'36"	61.08	S47°27'04"W	118.06
C12	200.21	230.00	49°52'33"	106.95	S87°15'39"W	193.95
C13	115.81	230.00	28°51'00"	59.16	N53°22'35"W	114.59
C14	40.50	25.00	92°46'41"	26.27	S85°21'55"E	36.22
C15	107.13	230.00	19°34'39"	39.68	S59°00'34"W	78.31
C16	58.67	25.00	134°55'53"	60.25	N07°28'32"E	46.18
C18	6.89	25.00	15°47'41"	3.47	S82°48'19"W	6.87
C19	83.84	180.00	26°41'15"	42.70	S81°33'52"W	83.09
C20	37.97	25.00	87°01'24"	23.73	S04°42'32"W	34.43
C21	200.86	230.00	50°02'10"	107.34	N13°47'05"W	194.54
C22	100.11	230.00	24°56'18"	50.86	N23°42'09"E	99.32
C23	27.49	25.00	63°00'27"	15.32	S04°40'05"W	26.13
C24	10.44	25.00	23°56'15"	5.30	S38°48'16"E	10.37
C25	189.65	455.00	23°52'34"	96.22	N36°49'55"W	188.28
C26	184.21	455.00	23°11'48"	93.38	N15°17'34"W	182.95
C27	47.46	405.00	6°42'50"	23.76	S07°03'05"E	47.43
C28	154.15	405.00	21°48'28"	78.02	S26°54'02"E	153.22
C29	39.55	25.00	90°36'01"	25.28	N81°28'44"E	35.55
C30	269.42	180.00	85°45'37"	167.15	S10°18'02"E	244.97
C31	340.77	180.00	108°28'09"	249.89	S86°48'51"W	292.11
C32	236.01	180.00	75°07'24"	138.43	N01°23'23"W	219.46
C33	39.50	405.00	5°35'18"	19.77	S13°12'09"E	39.49

LINE TABLE		
LINE	BEARING	LENGTH
L1	S34°44'35"W	65.45
L2	S34°13'54"W	68.24
L3	S30°47'27"W	28.29
L4	S33°48'20"W	15.42
L5	S33°48'20"W	52.70
L6	S33°48'20"W	7.13
L7	S33°01'25"W	47.21
L8	S32°37'03"W	12.35
L9	S60°46'28"E	45.6
L10	S89°17'50"E	84.45
L11	S89°17'50"E	104.51
L12	N37°48'18"W	23.05
L13	N03°41'40"W	109.38
L14	N03°41'40"W	112.10
L15	N53°10'50"W	46.00
L16	N53°10'50"W	200.00
L17	N53°10'50"W	200.00
L18	N53°10'50"E	160.90
L19	S32°34'46"W	8.43
L20	S38°57'05"E	84.19
L21	S38°57'05"E	200.00
L22	S40°13'14"W	210.95
L23	S74°54'29"W	213.97
L24	S46°13'14"W	215.80
L25	S36°10'19"W	72.41
L26	N03°41'40"W	15.79
L27	N03°41'40"W	205.69
L28	N37°48'18"W	6.40
L29	N53°10'50"W	240.81
L30	N53°10'50"W	200.00
L31	N53°10'50"W	86.24
L32	N32°34'46"E	8.43
L33	S38°57'05"E	26.40
L34	S38°57'05"E	308.81
L35	S38°57'05"E	48.44
L36	S36°10'19"W	70.86
L37	S47°12'20"E	76.90
L38	N33°08'14"E	67.09
L39	S77°11'50"W	37.40
L40	N57°22'57"W	33.06
L41	S28°27'04"W	117.52
L42	N74°54'29"E	1.96
L43	S48°25'27"E	7.46



Location Map (n.t.s.)

NOTES:

1. REFERENCE: TAX MAP 215, LOT 1

2. TOTAL PARCEL AREA: 2,803,900 SQ. FT. OR 64.4 AC. (AREA CALCULATED TO CENTERLINE BROOK WHERE APPLICABLE)

3. OWNER OF RECORD: CABERNET BUILDERS OF STRATHAM
P.O. BOX 291
STRATHAM, NH 03885
S.C.R.D. BOOK 4168 PAGE 768

4. ZONE: GENERAL RESIDENTIAL
DIMENSIONAL REQUIREMENTS:

MIN. LOT AREA	80,000 sq.ft.
MIN. FRONTAGE	200 ft.
MIN. FRONT SETBACK	40 ft.
MIN. SIDE/REAR SETBACK	30 ft.
WETLANDS BUFFER	50 ft.
PRIME WETLAND BUFFER	100 ft.

IN ADDITION, THE PARCEL MAY BE SUBJECT TO REGULATIONS RELATIVE TO THE VARIOUS TOWN OVERLAY ZONING DISTRICTS (WETLANDS, STRATIFIED DRIFT AQUIFER, ETC.) AND THE STATE OF NH SHORELAND PROTECTION DISTRICT.

5. FIELD SURVEY PERFORMED BY J.G.C. & P.K.W. ON 5/03 USING A LEICA 1105 TCRA TOTAL STATION WITH A RANGER TDS DATA COLLECTOR AND A SOKKIA B20 AUTO LEVEL. TRAVERSE ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS. ADDITIONAL FIELD SURVEY PERFORMED ON 10/13.

6. FLOOD HAZARD ZONE: ZONE X (AREAS TO BE OUTSIDE THE 0.2% ANNUAL FLOODPLAIN) PER F.I.R.M. #33017C0280D, DATED 5/17/05.

7. JURISDICTIONAL WETLANDS ORIGINALLY DELINEATED BY N.H. SOILS CONSULTANTS, INC. DURING JULY 2004 IN ACCORDANCE WITH 1987 CORPS OF ENGINEERS WETLANDS DELINEATIONS MANUAL. TECHNICAL REPORT Y-87-1. WETLANDS WITHIN AREAS OF PROPOSED DEVELOPMENT WERE RE-DELINEATED BY GOVE ENVIRONMENTAL SERVICES, INC. DURING OCTOBER 2013.

8. HORIZONTAL DATUM BASED ON REFERENCE PLAN #1.

9. VERTICAL DATUM BASED ON REFERENCE PLAN #1.

10. THE INTENT OF THIS PLAN IS TO SHOW THE LOCATION OF BOUNDARIES IN ACCORDANCE WITH AND IN RELATION TO THE CURRENT LEGAL DESCRIPTION, AND IS NOT AN ATTEMPT TO DEFINE UNWRITTEN RIGHTS, DETERMINE THE EXTENT OF OWNERSHIP, OR DEFINE THE LIMITS OF TITLE.

11. THE PARCEL MAY BE SUBJECT TO, AND/OR IN BENEFIT OF
A) RESERVING A RIGHT THE PASS & REPASS TO HAYES MILL, SEE S.C.R.D. BOOK 269, PAGE 259.
B) RESERVING A RIGHT TO PASS TO RIDGE ROAD, SEE S.C.R.D. BOOK 249, PAGE 349.
C) WITH A RIGHT OF WAY TO RIDGE ROAD, S.C.R.D. BOOK 239, PAGE 270.

12. NHDES SITE SPECIFIC PERMIT #WPS-716 2A, DATED 2/8/06.

13. NHDES SUBDIVISION APPROVAL #SA2005006120-A, DATED 9/26/05. 14. THERE IS A PROPOSED 25' EASEMENT OFF THE PROPOSED RIGHT OF WAY FOR THE PURPOSE OF GRADING, DRAINAGE AND UTILITIES. 15. THE DEED RESTRICTION SHALL BE MARKED PRIOR TO THE START OF CONSTRUCTION. SEE SHEET 2 FOR REFERENCE PLANS.

16. DUE TO THE COMPLEXITY OF RESEARCHING ROAD RECORDS AS A RESULT OF INCOMPLETE, UNORGANIZED, INCONCLUSIVE, OBLITERATED, OR LOST DOCUMENTS, THERE IS AN INHERENT UNCERTAINTY INVOLVED WHEN ATTEMPTING TO DETERMINE THE LOCATION AND WIDTH OF A ROADWAY RIGHT OF WAY. THE EXTENT OF (THE ROAD(S)) AS DEPICTED HEREON IS/ARE BASED ON RESEARCH CONDUCTED AT THE STRAFFORD COUNTY REGISTRY OF DEEDS.

FRONTAGE TABLE	
LOT #	FRONTAGE
1	200.05'
2	253.15'
3	200.00'
4	200.09'
5	200.01'
6	759.43'
7	558.59'
8	200.00'
9	200.21'
10	202.14'
11	200.78'
12	200.67'
13	200.00'
14	200.00'
15	200.11'
16	307.79'
17	200.43'
18	202.80'
19	308.81'
20	731.28'

LEGEND

- DRILL HOLE SET (UNLESS OTHERWISE NOTED)
- IRON PIPE/ROD FOUND
- 4" SQUARE GRANITE BOUND TO BE SET
- 5/8" RE-BAR W/ ID CAP TO BE SET
- BARBED WIRE FOUND ON GROUND
- JURISDICTIONAL WETLAND SYMBOL
- TREE STUMP W/BLAZE/BARBED WIRE
- CONIFEROUS TREE W/BLAZE/BARBED WIRE
- DECIDUOUS TREE W/BLAZE/BARBED WIRE
- WELL
- TYP. TYPICAL
- RET. RETAINING
- D.H.F. DRILL HOLE FOUND
- CONT. CONTIGUOUS
- BEARING / DIST — PROPERTY LINES
- BEARING / DIST — PROPOSED PROPERTY LINES
- BEARING / DIST — TIE LINE (NOT A PROPERTY LINE)
- BARBED WIRE FENCE
- APPROX. ABUTTERS LOT LINE
- REMNANT STONE WALL
- STONE WALL
- EDGE OF JURISDICTIONAL WETLAND (SEE NOTE #7)
- EDGE OF BROOK
- BEARING / DIST — TIE LINE
- 100' PRIME WETLAND SETBACK
- SETBACK LINE
- PROPOSED GRADING & DRAINAGE EASEMENT
- NO DISTURB ZONE / DEED RESTRICTION AREA

APPROVED DATE _____
BARRINGTON, N.H.
PLANNING BOARD

THE SUBDIVISION REGULATIONS OF THE TOWN OF BARRINGTON ARE A PART OF THIS PLAN, AND APPROVAL OF THIS PLAN IS CONTINGENT UPON COMPLETION OF ALL REQUIREMENTS OF SAID SUBDIVISION REGULATIONS, EXCEPTING ONLY MODIFICATIONS MADE IN WRITING BY THE BOARD AND ATTACHED HERETO.

STATE OF NEW HAMPSHIRE No. 824 WILLIAM J. DOUCET LICENSED LAND SURVEYOR

I certify that this survey and plan was prepared by me or by those under my direct supervision. I certify that this survey was made on the ground and is correct to the best of my knowledge and belief. Random traverse survey by Theodolite and E.D.M. Precision greater than 1: 15,000

L.L.S. #824
12-2-13 DATE

The certifications shown hereon are intended to meet registry of deed requirements and are not a certification to title or ownership of property shown. Owners of adjoining properties are according to current town assessors records.

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

NO.	DATE	DESCRIPTION	BY

NOTE:
ALL ELECTRIC, GAS, TEL, WATER, SEWER AND DRAIN SERVICES ARE SHOWN IN SCHEMATIC FASHION, THEIR LOCATIONS ARE NOT PRECISE OR NECESSARILY ACCURATE. NO WORK WHATSOEVER SHALL BE UNDERTAKEN ON THIS SITE USING THIS PLAN TO LOCATE THE ABOVE SERVICES. CONSULT WITH THE PROPER AUTHORITIES CONCERNED WITH THE SUBJECT SERVICE LOCATIONS FOR INFORMATION REGARDING SUCH. CALL DIG-SAFE AT 1-888-DIG-SAFE.

SUBDIVISION PLAN
FOR
CABERNET BUILDERS OF STRATHAM
TAX MAP 215, LOT 1
NEW BOW LAKE ROAD
BARRINGTON, NEW HAMPSHIRE

DRAWN BY:	SVM	DATE:	DEC. 4, 2013
CHECKED BY:	WJD	DRAWING NO.:	3673
JOB NO.:	3673	SHEET	1 OF 4

SHEETS 3 & 4 NOT FOR RECORDING

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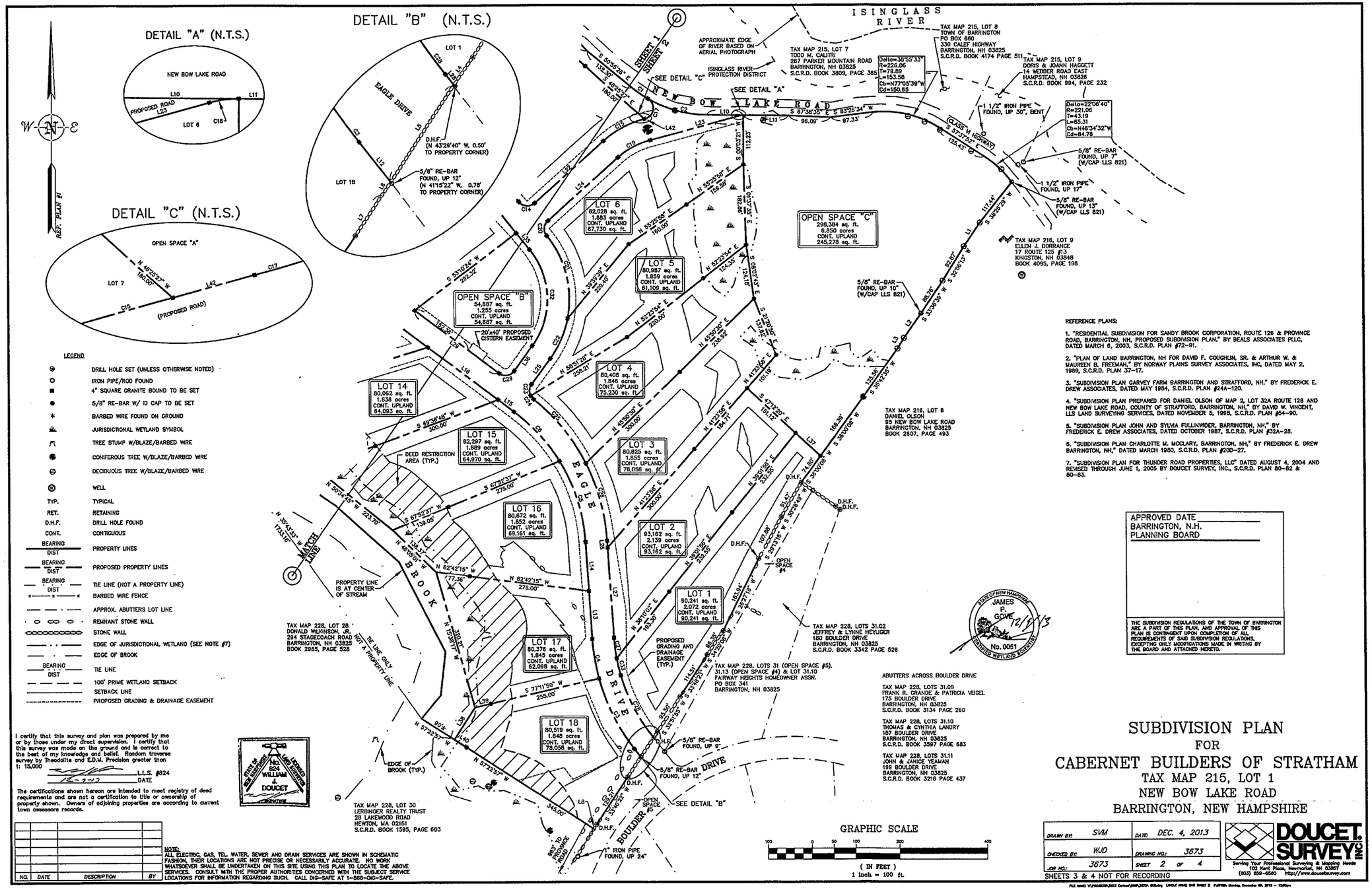

LEGEND

- DRILL HOLE SET (UNLESS OTHERWISE NOTED)
- IRON PIPE/ROD FOUND
- 4" SQUARE GRANITE BOUND TO BE SET
- 5/8" RE-BAR W/ ID CAP TO BE SET
- BARBED WIRE FOUND ON GROUND
- JURISDICTIONAL WETLAND SYMBOL
- TREE STUMP W/BLAZE/BARBED WIRE
- CONIFEROUS TREE W/BLAZE/BARBED WIRE
- DECIDUOUS TREE W/BLAZE/BARBED WIRE
- WELL
- TYP. — TYPICAL
- RET. — RETAINING
- D.H.F. — DRILL HOLE FOUND
- CONT. — CONTIGUOUS
- BEARING / DIST — PROPERTY LINES
- BEARING / DIST — PROPOSED PROPERTY LINES
- BEARING / DIST — TIE LINE (NOT A PROPERTY LINE)
- BARBED WIRE FENCE
- APPROX. ABUTTERS LOT LINE
- REMNANT STONE WALL
- STONE WALL
- EDGE OF JURISDICTIONAL WETLAND (SEE NOTE #7)
- EDGE OF BROOK
- BEARING / DIST — TIE LINE
- 100' PRIME WETLAND SETBACK
- SETBACK LINE
- PROPOSED GRADING & DRAINAGE EASEMENT

I certify that this survey and plan was prepared by me or by those under my direct supervision. I certify that this survey was made on the ground and is correct to the best of my knowledge and belief. Random traverse survey by Theodolite and E.D.M. Precision greater than 1: 15,000

L.L.S. #824

DATE

The certifications shown hereon are intended to meet registry of deed requirements and are not a certification to title or ownership of property shown. Owners of adjoining properties are according to current town assessors records.

STATE OF NEW HAMPSHIRE — No. 824 — WILLIAM J. DOUCET — LICENSED LAND SURVEYOR — SIGNATURE

NO.	DATE	DESCRIPTION	BY

NOTE:
ALL ELECTRIC, GAS, TEL, WATER, SEWER AND DRAIN SERVICES ARE SHOWN IN SCHEMATIC FASHION. THEIR LOCATIONS ARE NOT PRECISE OR NECESSARILY ACCURATE. NO WORK WHATSOEVER SHALL BE UNDERTAKEN ON THIS SITE USING THIS PLAN TO LOCATE THE ABOVE SERVICES. CONSULT WITH THE PROPER AUTHORITIES CONCERNED WITH THE SUBJECT SERVICE LOCATIONS FOR INFORMATION REGARDING SUCH. CALL DIG-SAFE AT 1-888-DIG-SAFE.

REFERENCE PLANS:

1. "RESIDENTIAL SUBDIVISION FOR SANDY BROOK CORPORATION, ROUTE 126 & PROVINCE ROAD, BARRINGTON, NH, PROPOSED SUBDIVISION PLAN," BY BEALS ASSOCIATES PLLC, DATED MARCH 6, 2003, S.C.R.D. PLAN #72-91.
2. "PLAN OF LAND BARRINGTON, NH FOR DAVID F. COUGHLIN, SR. & ARTHUR W. & MAUREEN B. FREEMAN," BY NORWAY PLAINS SURVEY ASSOCIATES, INC, DATED MAY 2, 1989, S.C.R.D. PLAN 37-17.
3. "SUBDIVISION PLAN GARVEY FARM BARRINGTON AND STRAFFORD, NH," BY FREDERICK E. DREW ASSOCIATES, DATED MAY 1984, S.C.R.D. PLAN #24A-120.
4. "SUBDIVISION PLAN PREPARED FOR DANIEL OLSON OF MAP 2, LOT 32A ROUTE 126 AND NEW BOW LAKE ROAD, COUNTY OF STRAFFORD, BARRINGTON, NH," BY DAVID W. VINCENT, LLS LAND SURVEYING SERVICES, DATED NOVEMBER 5, 1998, S.C.R.D. PLAN #54-90.
5. "SUBDIVISION PLAN JOHN AND SYLVIA FULLINWIDER, BARRINGTON, NH," BY FREDERICK E. DREW ASSOCIATES, DATED OCTOBER 1987, S.C.R.D. PLAN #32A-28.
6. "SUBDIVISION PLAN CHARLOTTE M. MCCLARY, BARRINGTON, NH," BY FREDERICK E. DREW BARRINGTON, NH," DATED MARCH 1980, S.C.R.D. PLAN #200-27.
7. "SUBDIVISION PLAN FOR THUNDER ROAD PROPERTIES, LLC" DATED AUGUST 4, 2004 AND REVISED THROUGH JUNE 1, 2005 BY DOUCET SURVEY, INC., S.C.R.D. PLAN 80-82 & 80-83.

APPROVED DATE _____
BARRINGTON, N.H.
PLANNING BOARD

THE SUBDIVISION REGULATIONS OF THE TOWN OF BARRINGTON ARE A PART OF THIS PLAN, AND APPROVAL OF THIS PLAN IS CONTINGENT UPON COMPLETION OF ALL REQUIREMENTS OF SAID SUBDIVISION REGULATIONS, EXCEPTING ONLY MODIFICATIONS MADE IN WRITING BY THE BOARD AND ATTACHED HERETO.

ABUTTERS ACROSS BOULDER DRIVE

TAX MAP 228, LOTS 31.09
FRANK R. GRANDE & PATRICIA VEIGEL
175 BOULDER DRIVE
BARRINGTON, NH 03825
S.C.R.D. BOOK 3134 PAGE 260

TAX MAP 228, LOTS 31.10
THOMAS & CYNTHIA LANDRY
187 BOULDER DRIVE
BARRINGTON, NH 03825
S.C.R.D. BOOK 3597 PAGE 683

TAX MAP 228, LOTS 31.11
JOHN & JANICE YEAMAN
199 BOULDER DRIVE
BARRINGTON, NH 03825
S.C.R.D. BOOK 3216 PAGE 437

SUBDIVISION PLAN
FOR
CABERNET BUILDERS OF STRATHAM
TAX MAP 215, LOT 1
NEW BOW LAKE ROAD
BARRINGTON, NEW HAMPSHIRE

DRAWN BY:	SVM	DATE:	DEC. 4, 2013
CHECKED BY:	WJD	DRAWING NO.:	3673
JOB NO.:	3673	SHEET	2 OF 4

SHEETS 3 & 4 NOT FOR RECORDING

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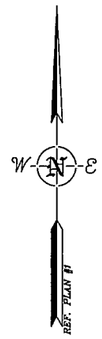

LEGEND

	DRILL HOLE SET (UNLESS OTHERWISE NOTED)
	IRON PIPE/ROD FOUND
	DRY MARK SET IN STONE WALL
	BARBED WIRE FOUND ON GROUND
	JURISDICTIONAL WETLAND SYMBOL
	TREE STUMP W/BLAZE/BARBED WIRE
	CONIFEROUS TREE W/BLAZE/BARBED WIRE
	DECIDUOUS TREE W/BLAZE/BARBED WIRE
	SURFACE LEDGE/BOULDERS
	WELL
	TEST PIT
TYP.	TYPICAL
RET.	RETAINING
	PROPERTY LINES
x——x——x	BARBED WIRE FENCE
	APPROX. ABUTTERS LOT LINE
	TREE LINE
	REMNANT STONE WALL
	STONE WALL
------100------	CONTOUR LINE
	EDGE OF JURISDICTIONAL WETLAND (SEE NOTE #7)
	EDGE OF BROOK
	SOIL BOUNDARY
323BH	SOIL CLASSIFICATION

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR NO. 524 WILLIAM J. DOUCET SIGNATURE

I certify that this survey and plan was prepared by me or by those under my direct supervision. I certify that this survey was made on the ground and is correct to the best of my knowledge and belief. Random traverse survey by theodolite and E.D.M. Precision greater than 1: 15,000

L.L.S. #524

DATE

The certifications shown hereon are intended to meet registry of deed requirements and are not a certification to title or ownership of property shown. Owners of adjoining properties are according to current town assessors records.

NO.	DATE	DESCRIPTION	BY

NOTE:
ALL ELECTRIC, GAS, TEL, WATER, SEWER AND DRAIN SERVICES ARE SHOWN IN SCHEMATIC FASHION, THEIR LOCATIONS ARE NOT PRECISE OR NECESSARILY ACCURATE. NO WORK WHATSOEVER SHALL BE UNDERTAKEN ON THIS SITE USING THIS PLAN TO LOCATE THE ABOVE SERVICES. CONSULT WITH THE PROPER AUTHORITIES CONCERNED WITH THE SUBJECT SERVICE LOCATIONS FOR INFORMATION REGARDING SUCH. CALL DIG-SAFE AT 1-888-DIG-SAFE.

JAMES P. GOVE #. 004 STATE OF NEW HAMPSHIRE

JAMES P. GOVE No. 0051 CERTIFIED WETLAND SCIENTIST

GRAPHIC SCALE

100 0 50 100 200 300 400

(IN FEET)
1 inch = 100 ft.

LAND USE OFFICE
DEC 10 2013
RECEIVED

TOPOGRAPHIC PLAN
FOR
CABERNET BUILDERS OF STRATHAM
TAX MAP 215, LOT 1
NEW BOW LAKE ROAD
BARRINGTON, NEW HAMPSHIRE

DRAWN BY:	SVM	DATE:	DEC. 4, 2013
CHECKED BY:	WJD	DRAWING NO.:	3673
JOB NO.:	3673	SHEET	4 OF 4

SHEETS 3 & 4 NOT FOR RECORDING

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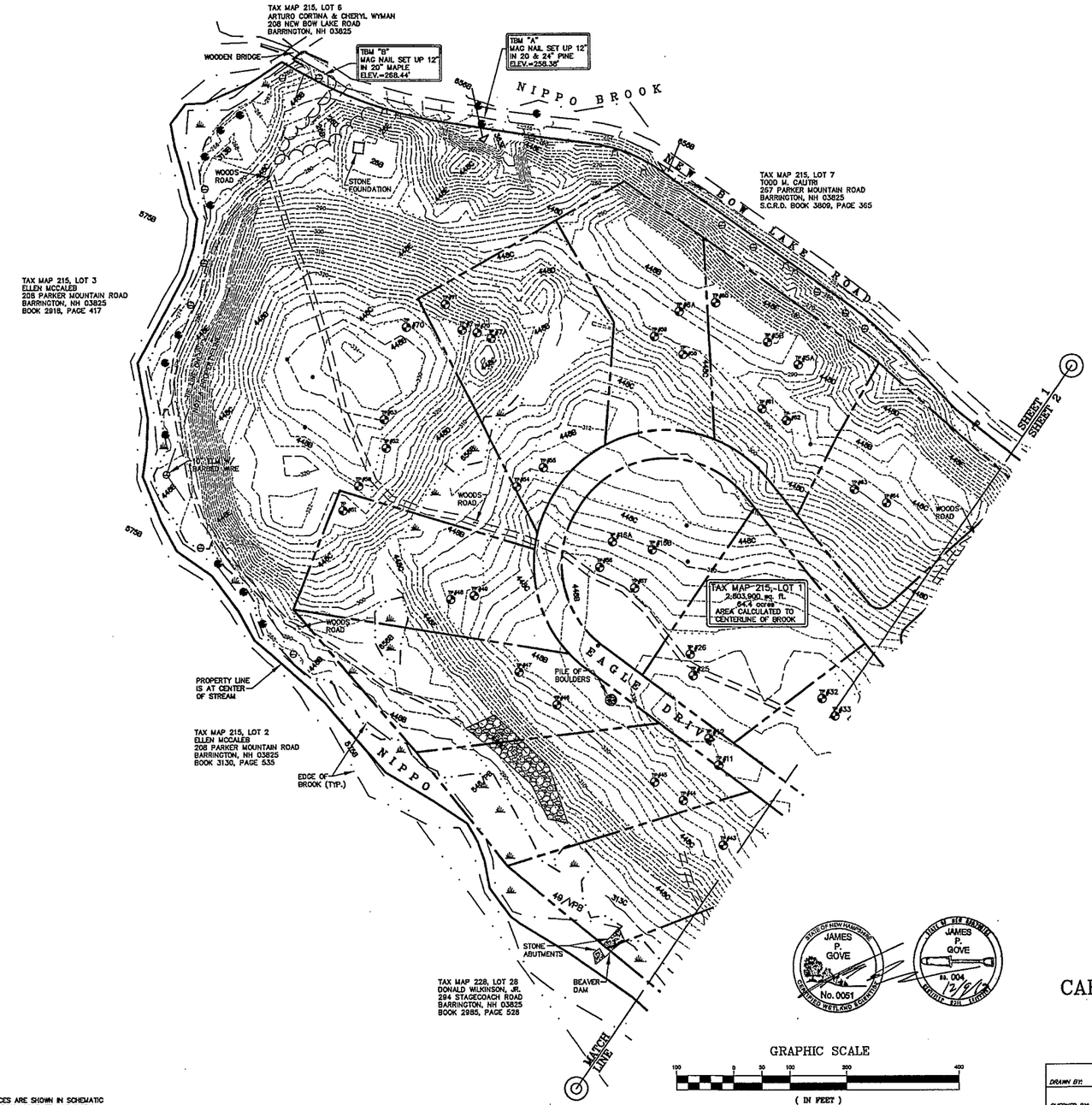
(603) 659-6560 http://www.doucetsurvey.com



REF. PLAN #1

LEGEND

- DRILL HOLE SET (UNLESS OTHERWISE NOTED)
- IRON PIPE/ROD FOUND
- DRY MARK SET IN STONE WALL
- BARBED WIRE FOUND ON GROUND
- JURISDICTIONAL WETLAND SYMBOL
- TREE STUMP W/BLAZE/BARBED WIRE
- CONIFEROUS TREE W/BLAZE/BARBED WIRE
- DECIDUOUS TREE W/BLAZE/BARBED WIRE
- SURFACE LEDGE/BOULDERS
- WELL
- TEST PIT
- TYP. — TYPICAL
- RET. — RETAINING
- PROPERTY LINES
- BARBED WIRE FENCE
- APPROX. ABUTTERS LOT LINE
- TREE LINE
- REMNANT STONE WALL
- STONE WALL
- 100 — CONTOUR LINE
- EDGE OF JURISDICTIONAL WETLAND (SEE NOTE #7)
- EDGE OF BROOK
- SOIL BOUNDARY
- 323BH — SOIL CLASSIFICATION

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 824 WILLIAM J. DOUCET

I certify that this survey and plan was prepared by me or by those under my direct supervision. I certify that this survey was made on the ground and is correct to the best of my knowledge and belief. Random traverse survey by Theodolite and E.D.M. Precision greater than 1: 15,000

L.L.S. #824

DATE

The certifications shown hereon are intended to meet registry of deed requirements and are not a certification to title or ownership of property shown. Owners of adjoining properties are according to current town assessors records.

NO.	DATE	DESCRIPTION	BY

NOTE:
ALL ELECTRIC, GAS, TEL, WATER, SEWER AND DRAIN SERVICES ARE SHOWN IN SCHEMATIC FASHION, THEIR LOCATIONS ARE NOT PRECISE OR NECESSARILY ACCURATE. NO WORK WHATSOEVER SHALL BE UNDERTAKEN ON THIS SITE USING THIS PLAN TO LOCATE THE ABOVE SERVICES. CONSULT WITH THE PROPER AUTHORITIES CONCERNED WITH THE SUBJECT SERVICE LOCATIONS FOR INFORMATION REGARDING SUCH. CALL DIG-SAFE AT 1-888-DIG-SAFE.

STATE OF NEW HAMPSHIRE JAMES P. GOVE No. 0051 CERTIFIED WETLAND SCIENTIST

JAMES P. GOVE No. 004 12/9/13 WETLAND SCIENTIST

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

LAND USE OFFICE
DEC 10 2013
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TOPOGRAPHIC PLAN
FOR
CABERNET BUILDERS OF STRATHAM
TAX MAP 215, LOT 1
NEW BOW LAKE ROAD
BARRINGTON, NEW HAMPSHIRE

DRAWN BY:	SVM	DATE:	DEC. 4, 2013
CHECKED BY:	WJD	DRAWING NO.:	3673
JOB NO.:	3673	SHEET	4 OF 4

SHEETS 3 & 4 NOT FOR RECORDING

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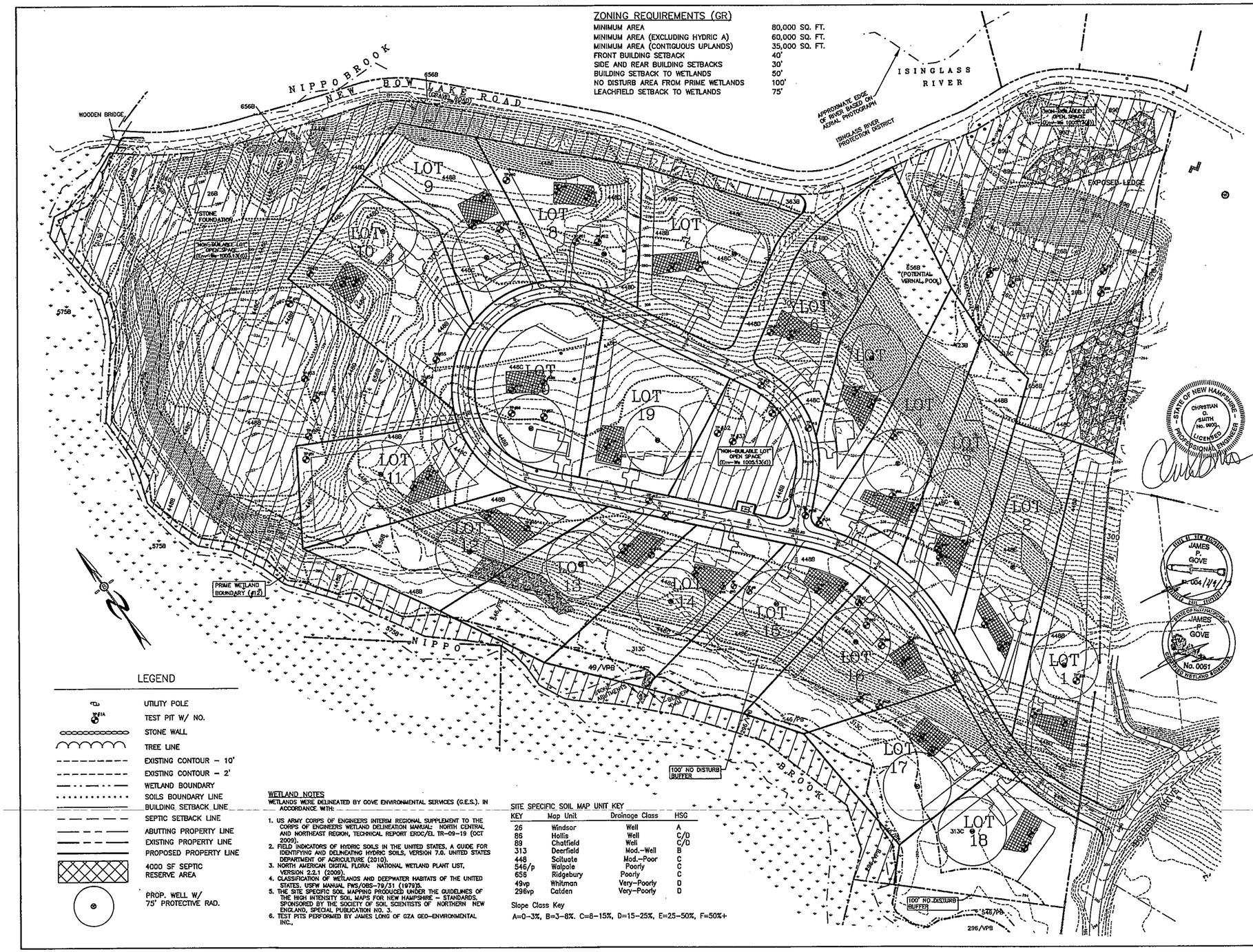
(603) 659-5560 http://www.doucetsurvey.com

ZONING REQUIREMENTS (GR)

MINIMUM AREA	80,000 SQ. FT.
MINIMUM AREA (EXCLUDING HYDRIC A)	60,000 SQ. FT.
MINIMUM AREA (CONTIGUOUS UPLANDS)	35,000 SQ. FT.
FRONT BUILDING SETBACK	40'
SIDE AND REAR BUILDING SETBACKS	30'
BUILDING SETBACK TO WETLANDS	50'
NO DISTURB AREA FROM PRIME WETLANDS	100'
LEACHFIELD SETBACK TO WETLANDS	75'



LEGEND

- UTILITY POLE
- TEST PIT W/ NO.
- STONE WALL
- TREE LINE
- EXISTING CONTOUR – 10'
- EXISTING CONTOUR – 2'
- WETLAND BOUNDARY
- SOILS BOUNDARY LINE
- BUILDING SETBACK LINE
- SEPTIC SETBACK LINE
- ABUTTING PROPERTY LINE
- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- 4000 SF SEPTIC RESERVE AREA
- PROP. WELL W/ 75' PROTECTIVE RAD.

WETLAND NOTES

WETLANDS WERE DELINEATED BY GOVE ENVIRONMENTAL SERVICES (G.E.S.). IN ACCORDANCE WITH:

1. US ARMY CORPS OF ENGINEERS INTERIM REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH CENTRAL AND NORTHEAST REGION, TECHNICAL REPORT ERDC/EL TR-09-19 (OCT 2009).
2. FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 7.0. UNITED STATES DEPARTMENT OF AGRICULTURE (2010).
3. NORTH AMERICAN DIGITAL FLORA: NATIONAL WETLAND PLANT LIST, VERSION 2.2.1 (2009).
4. CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES. USFW MANUAL FWS/OBS-79/31 (1979)5.
5. THE SITE SPECIFIC SOIL MAPPING PRODUCED UNDER THE GUIDELINES OF THE HIGH INTENSITY SOIL MAPS FOR NEW HAMPSHIRE – STANDARDS, SPONSORED BY THE SOCIETY OF SOIL SCIENTISTS OF NORTHERN NEW ENGLAND, SPECIAL PUBLICATION NO. 3.
6. TEST PITS PERFORMED BY JAMES LONG OF GZA GEO-ENVIRONMENTAL INC.,

SITE SPECIFIC SOIL MAP UNIT KEY

KEY	Map Unit	Drainage Class	HSG
26	Windsor	Well	A
86	Hollis	Well	C/D
89	Chatfield	Well	C/D
313	Deerfield	Mod.-Well	B
448	Scituate	Mod.-Poor	C
546/p	Walpole	Poorly	C
656	Ridgebury	Poorly	C
49vp	Whitman	Very-Poorly	D
296vp	Catden	Very-Poorly	D

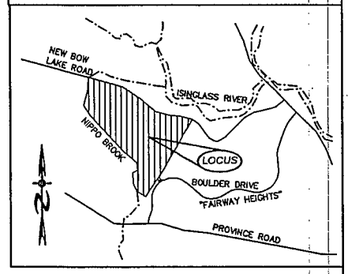
Slope Class Key

A=0-3%, B=3-8%. C=8-15%, D=15-25%, E=25-50%, F=50%+

PREPARED FOR:

CABERNET BUILDERS
P.O. BOX 929
STRATHAM, N.H. 03885

BEALS · ASSOCIATES PLLC
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX. 603-583-4863



LOCATION MAP
1"=1500'

NOTES

1. UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN LOCATED FROM FIELD OBSERVATIONS AND THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. BEALS ASSOCIATES OR ANY OF THEIR EMPLOYEES TAKE NO RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES OR UTILITIES NOT SHOWN, THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND UTILITIES OR STRUCTURES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 1-888-DIG-SAFE.
2. THIS PLAN HAS BEEN PREPARED FOR MUNICIPAL AND STATE APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON-SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCY FROM DATA AS SHOWN ON THE DESIGN PLANS. THIS INCLUDES ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE, FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS OF THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED.
3. ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.
4. ALL ROAD AND DRAINAGE WORK TO CONFORM TO TOWN STANDARD SPECIFICATIONS FOR CONSTRUCTION.
5. ALL PROPOSED SIGNS SHALL CONFORM TO TOWN ZONING REGULATIONS.
6. PARCEL IS NOT IN SPECIAL FLOOD HAZARD ZONE PER TOWN OF BARRINGTON FIA FLOOD HAZARD BOUNDARY MAP NO. 5.
7. THERE ARE NO STREET LIGHTS PROPOSED IN THIS PROJECT.
8. THE LANDOWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL WETLAND REGULATIONS, INCLUDING ANY PERMITTING AND SETBACK REQUIREMENTS REQUIRED UNDER THESE REGULATIONS.
9. SEE DETAIL SHEET FOR STANDARD CONSTRUCTION NOTES AND DETAILS.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

REVISIONS:	DATE:

SUBDIVISION SITE PLAN

PLAN FOR:
RESIDENTIAL DEVELOPMENT
BOULDER DRIVE
BARRINGTON, NH

DATE: DEC. 2013	SCALE: 1"=100'
PROJ. NO: NH-193	SHEET NO. 5 OF 13

LAND USE OFFICE
DEC 10 2013
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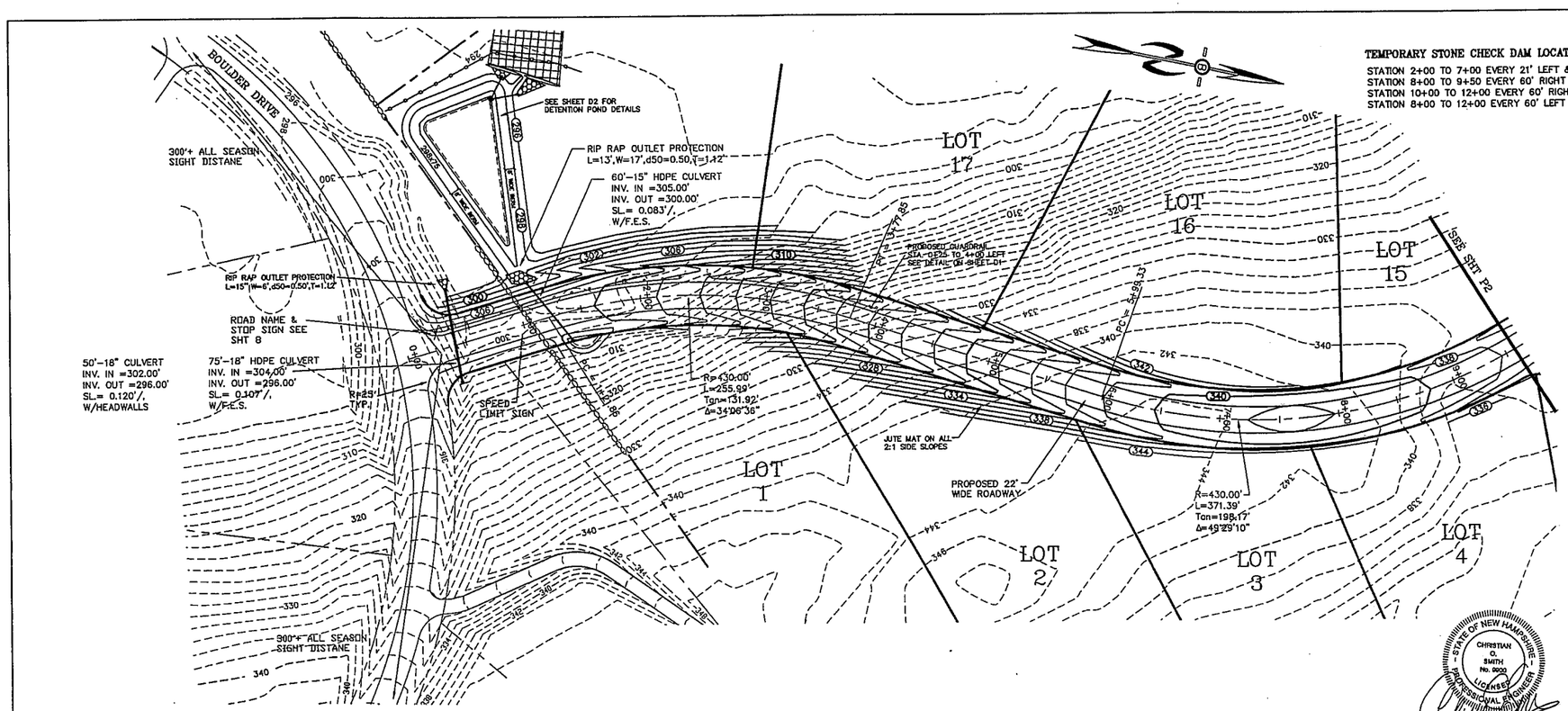


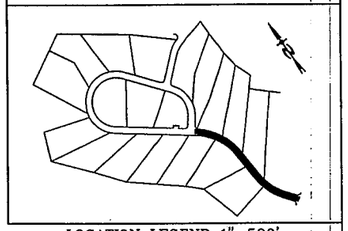
TEMPORARY STONE CHECK DAM LOCATIONS

STATION 2+00 TO 7+00 EVERY 21' LEFT & RIGHT
STATION 8+00 TO 9+50 EVERY 60' RIGHT
STATION 10+00 TO 12+00 EVERY 60' RIGHT
STATION 8+00 TO 12+00 EVERY 60' LEFT

PREPARED FOR:

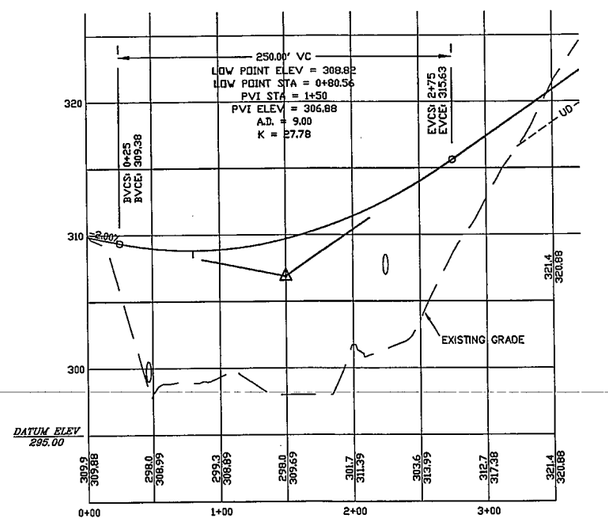
CABERNET BUILDERS
P.O. BOX 929
STRATHAM, N.H. 03885

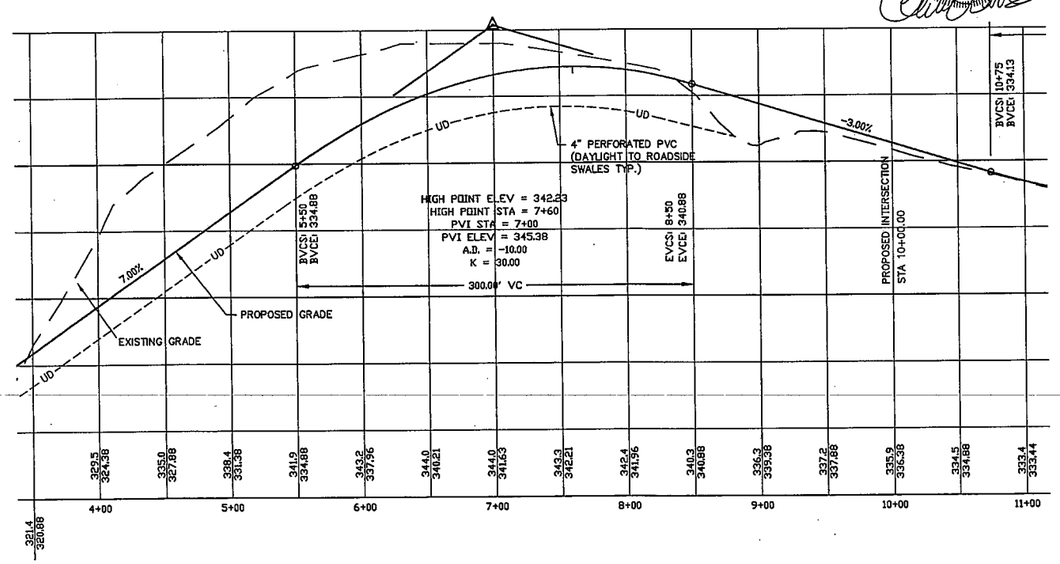
BEALS · ASSOCIATES PLLC
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX. 603-583-4863



LOCATION LEGEND 1"=500'

PROFILE SCALES:
HORIZONTAL: 1"=40' VERTICAL: 1"=4'





CONSTRUCTION NOTES

1. SILTATION/ EROSION CONTROLS SHALL BE INSTALLED PRIOR TO CONSTRUCTION, SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL REMAIN UNTIL SITE HAS BEEN STABILIZED WITH PERMANENT VEGETATION. SEE DETAIL SHEET FOR ADDITIONAL NOTES ON EROSION CONTROL.

2. ALL DISTURBED AREAS NOT TO FINAL GRADE BY MID-NOVEMBER SHALL BE SEEDED WITH WINTER RYE OR ACCEPTABLE SUBSTITUTE AND MULCHED TO PROVIDE VEGETATION COVER.

3. FINAL DRAINAGE, GRADING AND EROSION PROTECTION MEASURES SHALL CONFORM TO REGULATIONS OF THE GREENLAND SUBDIVISION REGULATIONS.

4. ALL ROAD AND DRAINAGE WORK TO BE DONE IN CONFORMANCE WITH GREENLAND REGULATIONS AND NHDOT SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.

5. CONTRACTOR TO VERIFY EXISTING UTILITIES AND TO NOTIFY ENGINEER OF ANY DISCREPANCY IMMEDIATELY.

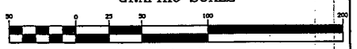
6. ALL UTILITIES SHALL BE INSTALLED UNDERGROUND IN ACCORDANCE WITH REGULATIONS AND SPECIFICATIONS AS APPROVED BY THE APPROPRIATE UTILITY COMPANY. LOW PROFILE STRUCTURES SHALL BE USED TO THE GREATEST EXTENT POSSIBLE.

7. ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR. ENGINEER TO BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY.

8. ALL PROPOSED DRIVEWAYS WILL REQUIRE A 12" ADS DRIVEWAY CULVERT WITH 1' OF MIN. COVER

STATE OF NEW HAMPSHIRE — CHRISTIAN O. SMITH No. 9663 — LICENSED PROFESSIONAL ENGINEER

GRAPHIC SCALE



(IN FEET)
1 inch = 50 ft.

REVISIONS:	DATE:

PLAN AND PROFILE

PLAN FOR:
RESIDENTIAL DEVELOPMENT
BOULDER DRIVE
BARRINGTON, NH

DATE: DEC. 2013	SCALE: 1"=100'
PROJ. NO: NH-193	SHEET NO. 6 OF 13

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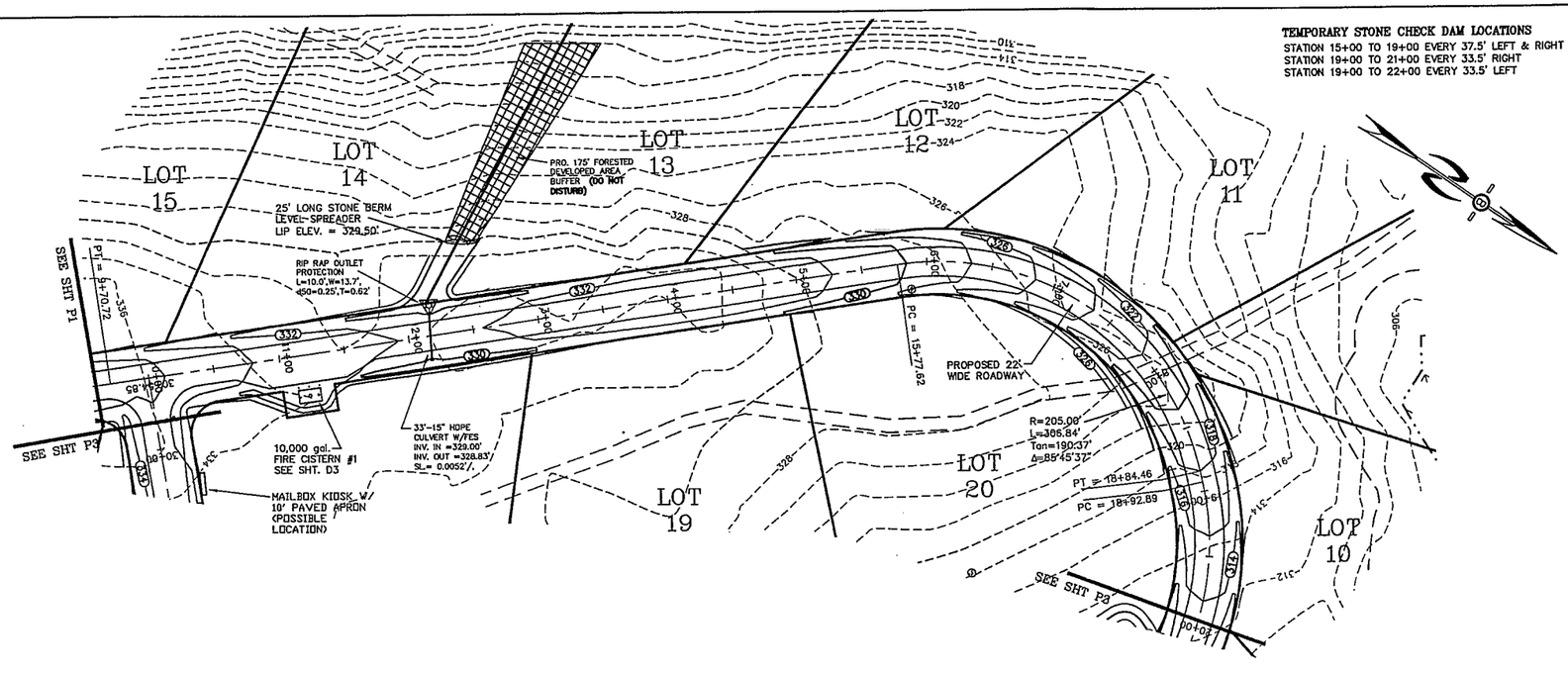

TEMPORARY STONE CHECK DAM LOCATIONS
STATION 15+00 TO 19+00 EVERY 37.5' LEFT & RIGHT
STATION 19+00 TO 21+00 EVERY 33.5' RIGHT
STATION 19+00 TO 22+00 EVERY 33.5' LEFT

PREPARED FOR:

CABERNET BUILDERS
P.O. BOX 929
STRATHAM, N.H. 03885

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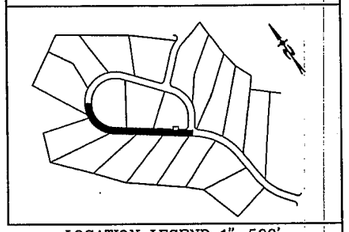
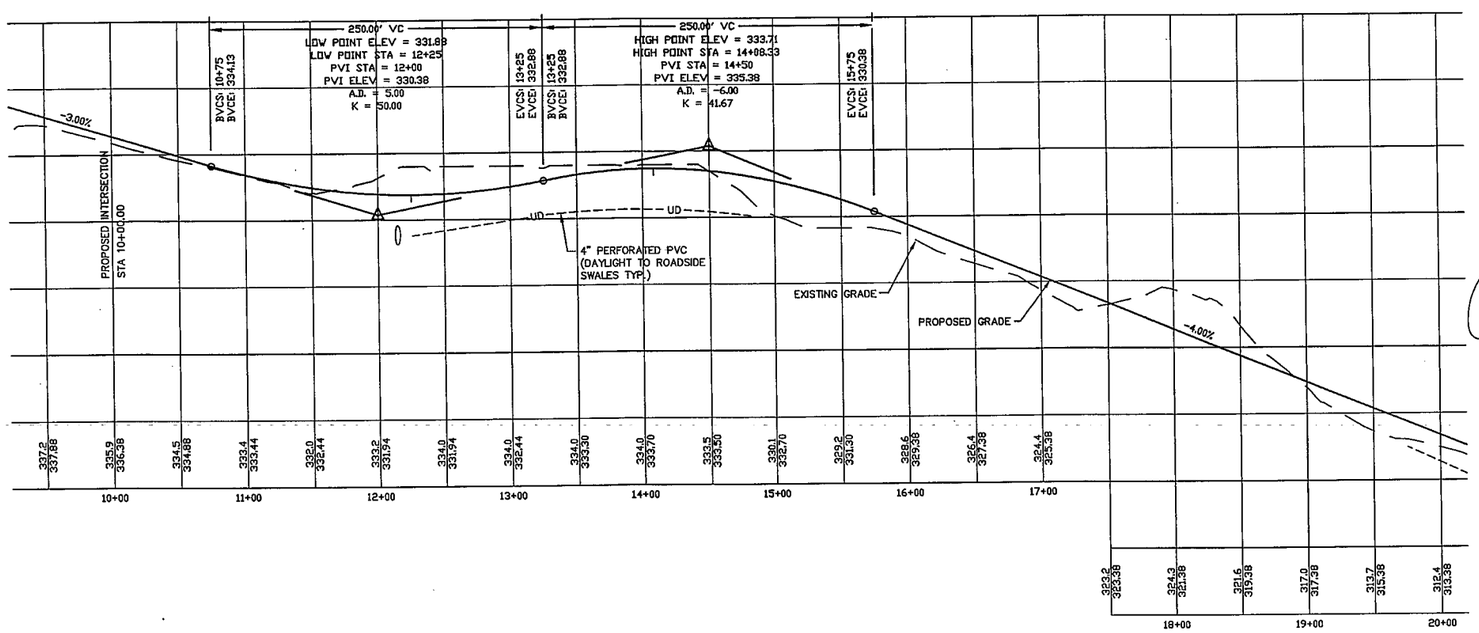


LOCATION LEGEND 1"=500'

PROFILE SCALES:
HORIZONTAL: 1"=40' VERTICAL: 1"=4'



STATE OF NEW HAMPSHIRE
CHRISTIAN O. SMITH
No. 9900
LICENSED PROFESSIONAL ENGINEER

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 inch = 50 ft.

REVISIONS: DATE:

PLAN AND PROFILE

PLAN FOR:
RESIDENTIAL DEVELOPMENT
BOULDER DRIVE
BARRINGTON, NH

DATE: DEC. 2013	SCALE: 1"=100'
PROJ. NO: NH-193	SHEET NO. 7 OF 13

LAND USE OFFICE
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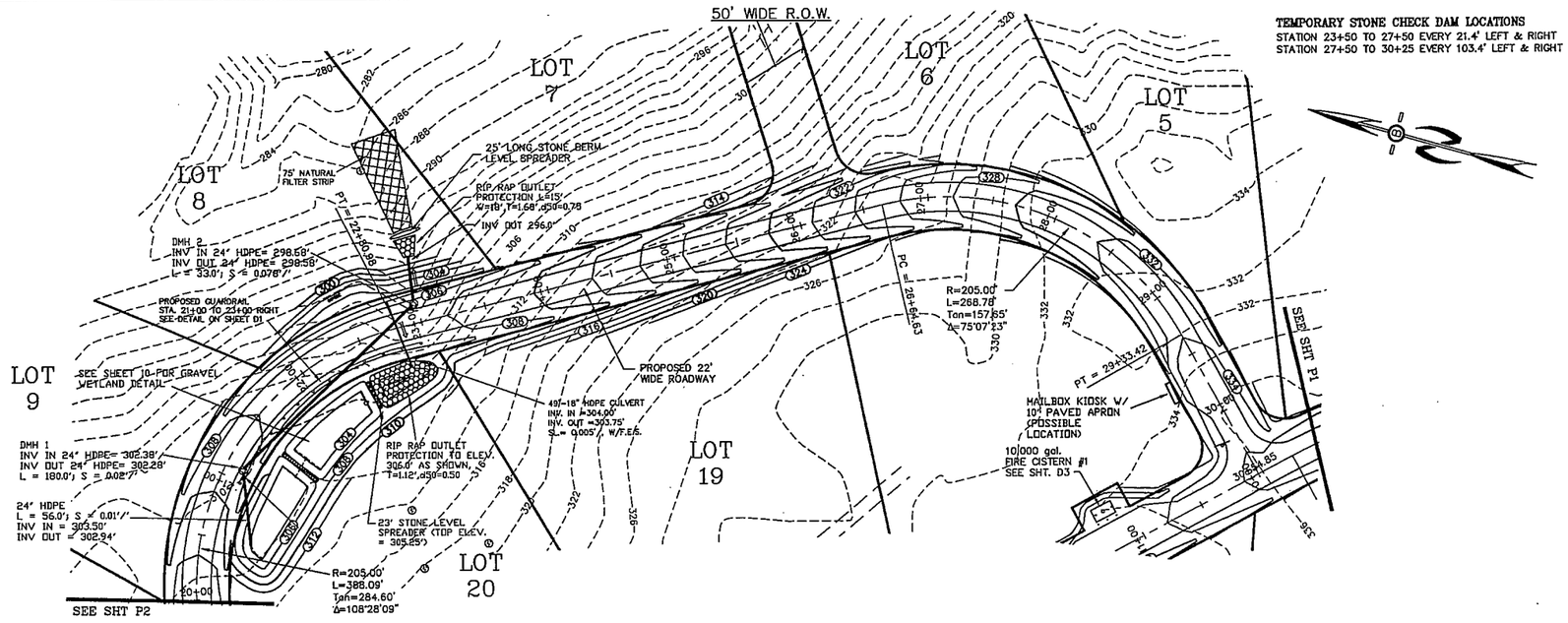
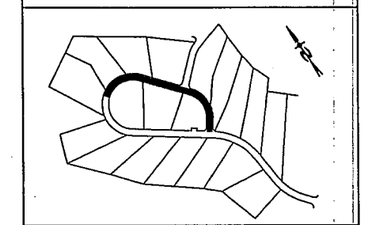


TEMPORARY STONE CHECK DAM LOCATIONS
STATION 23+50 TO 27+50 EVERY 21.4' LEFT & RIGHT
STATION 27+50 TO 30+25 EVERY 103.4' LEFT & RIGHT

PREPARED FOR:

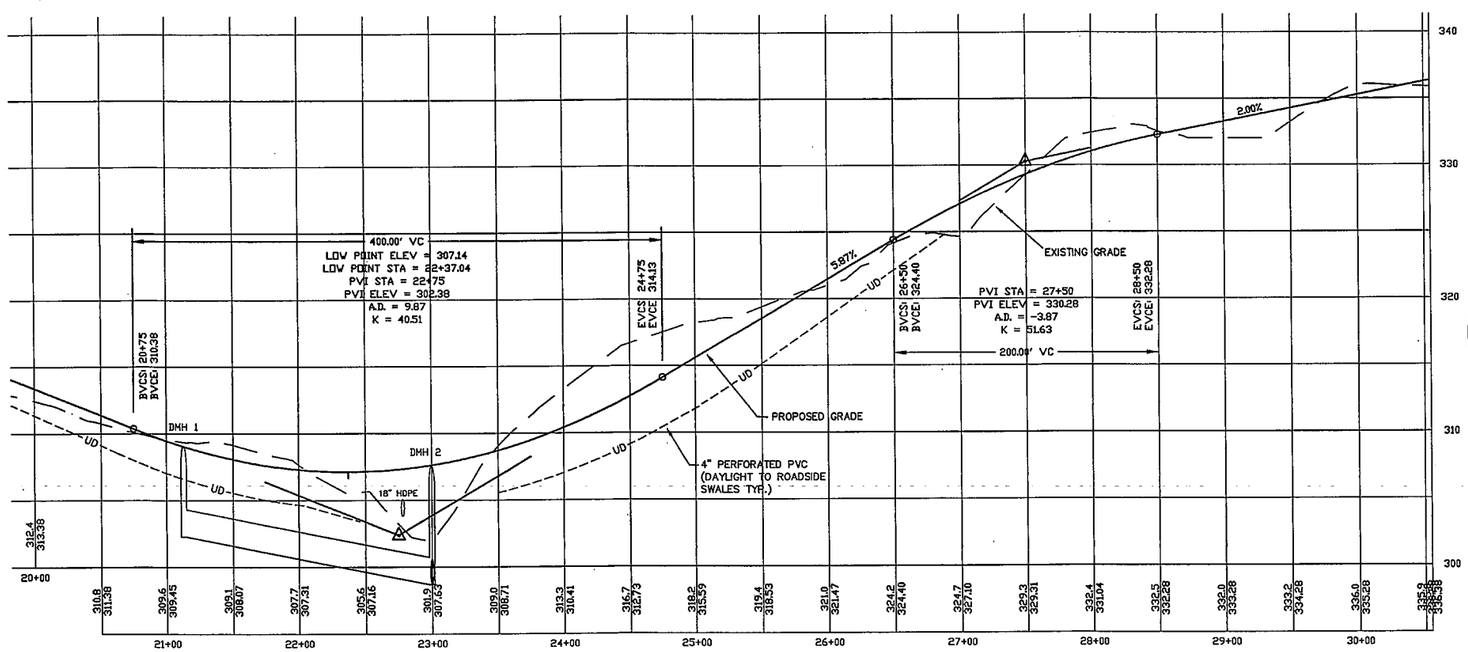
CABERNET BUILDERS
P.O. BOX 929
STRATHAM, N.H. 03885

BEALS · ASSOCIATES PLLC
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX. 603-583-4863



LOCATION LEGEND 1"=500'

PROFILE SCALES:
HORIZONTAL: 1"=40' VERTICAL: 1"=4'



GRAPHIC SCALE
(IN FEET)
1 inch = 50 ft.

REVISIONS:	DATE:

PLAN AND PROFILE

PLAN FOR:
RESIDENTIAL DEVELOPMENT
BOULDER DRIVE
BARRINGTON, NH

DATE: DEC. 2013	SCALE: 1"=100'
PROJ. NO: NH-193	SHEET NO. 8 OF 13

LAND USE OFFICE
DEC 10 2013
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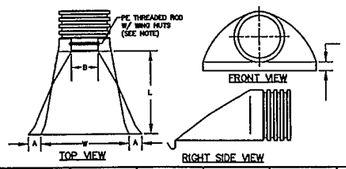
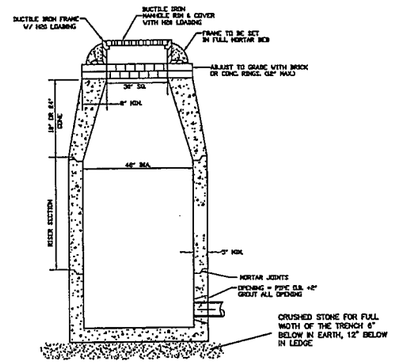


PART No.	PIPE SIZE	A	B(MAX)	H	L	W
1510-NP	15" 375 mm	6.5" 165 mm	10" 254 mm	6.5" 165 mm	25" 635 mm	29" 735 mm
1810-NP	18" 450 mm	7.5" 190 mm	15" 380 mm	6.5" 165 mm	32" 812 mm	35" 890 mm
2410-NP	24" 600 mm	7.5" 190 mm	18" 450 mm	6.5" 165 mm	36" 900 mm	45" 1140 mm
3010-NP	30" 750 mm	10.5" 266 mm	N/A	7.0" 178 mm	53" 1345 mm	68" 1725 mm
3610-NP	36" 900 mm	10.5" 266 mm	N/A	7.0" 178 mm	53" 1345 mm	68" 1725 mm

NOTE: PE THREADED ROD W/ WING NUTS PROVIDED FOR END SECTIONS 15"-24". 30" & 36" END SECTIONS TO BE WELDED PER MANUFACTURER'S RECOMMENDATIONS.

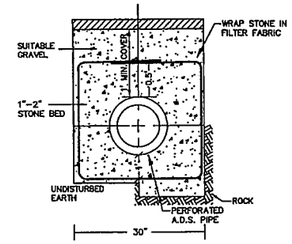
ADS N-12 FLARED END SECTIONS

NOT TO SCALE (ALL DIMENSIONS ARE NOMINAL)



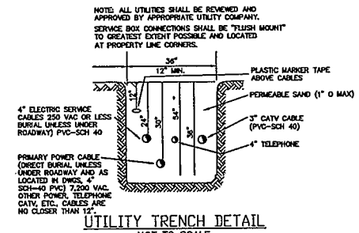
PRECAST DRAIN MANHOLE

NOT TO SCALE



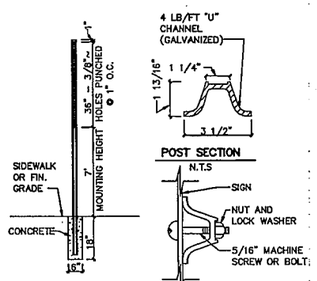
UNDERDRAIN TRENCH DETAIL

NOT TO SCALE



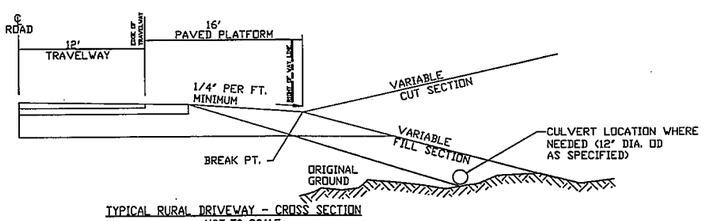
UTILITY TRENCH DETAIL

NOT TO SCALE



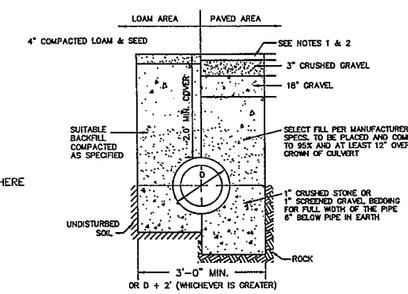
STREET SIGN DETAIL

STOP SIGN (R1-1) 30" x 30"
SPEED LIMIT SIGN (R2-1) 24" x 30"



TYPICAL RURAL DRIVEWAY - CROSS SECTION

NOT TO SCALE

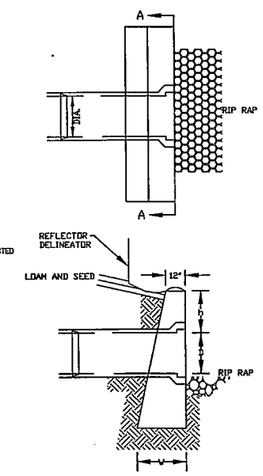


NOTES:

1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO SUBDIVISION SPECIFICATIONS.

TYPICAL DRAINAGE TRENCH

NOT TO SCALE



LONGITUDINAL SECTION

SECTION A-A

CONCRETE HEADWALL DETAIL

NOT TO SCALE

DIA.	HEADWALL LENGTH	HEADWALL HEIGHT	FILL HEIGHT	PIPE COVER	HEADWALL BOTTOM WIDTH
D	L	H	FH	h	V
12"	4-3	3-9	1-1	1-3	2-0
15"	6-0	4-3	1-7	1-6	2-1
18"	7-0	4-6	1-10	1-6	2-2
24"	9-0	5-0	2-4	1-6	2-3
30"	11-0	5-6	2-10	1-6	2-5
36"	13-0	6-0	3-4	1-6	2-6
42"	15-9	6-9	4-1	1-9	2-9
48"	17-9	7-3	4-7	1-9	2-10

NOTE
1. ALL DIMENSIONS GIVEN IN FEET AND INCHES EXCEPT PIPE DIAMETER.
2. PROVIDE BELL END AT INLET HEADWALL, AND SPIGOT END AT OUTLET END HEADWALL.
3. RIP-RAP SHALL BE SIZED TO RESIST THE TRACTIVE VELOCITY FORCES.

RISER-TRASH RACK DETAIL

NOT TO SCALE

CONSTRUCTION CRITERIA

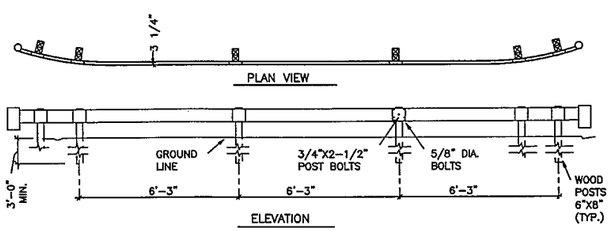
SUB GRADE PREPARATION: AREA SHALL BE CLEARED OF TREES, LOGS, STUMPS, ROOTS, BRUSH, BOULDERS, SOD AND RUBBISH. SUB GRADE SURFACE TO BE ROLLED BEFORE PLACEMENT OF FILL MATERIAL. THE SURFACE SHALL HAVE MOISTURE ADDED OR IT SHALL BE COMPACTED IF NECESSARY SO THAT THE FIRST LAYER OF FILL MATERIAL CAN BE COMPACTED AND BONDED TO THE SUBBASE MATERIAL.

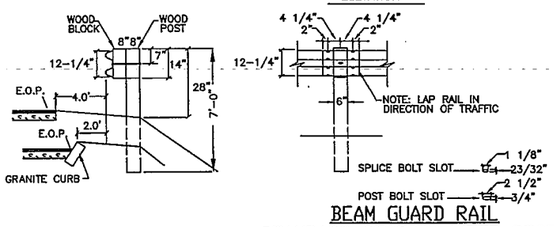
FILL PLACEMENT: FILL SHALL BE FREE OF SOD, ROOTS, FROZEN SOIL, STONES MORE THAN 6 INCHES IN DIA., AND OTHER OBJECTIONABLE MATERIAL.
-FILL TO PLACED EQUALLY AROUND SUBSURFACE STRUCTURES & PIPES TO PREVENT DAMAGE FROM UNEQUAL LOADING.
-PLACING AND SPREADING OF FILL MATERIAL SHALL BE STARTED AT SUBGRADE ELEVATION AND BROUGHT UP IN HORIZONTAL LAYERS OF THICKNESS ALLOWING ADEQUATE COMPACTION.
-DISTRIBUTION AND GRADATION OF MATERIALS SHALL BE SUCH THAT NO LENSES, POCKETS, STREAKS, OR LAYERS OF MATERIAL DIFFER SUBSTANTIALLY IN TEXTURE OF GRADATION FROM SURROUNDING MATERIAL.
-MAXIMUM THICKNESS OF GRAVEL LIFTS TO 1 FOOT (12 INCHES).

MOISTURE CONTROL: MOISTURE CONTENT OF THE FILL SHALL BE ADEQUATE FOR OBTAINING THE REQUIRED COMPACTION. IF THE MATERIAL IS TOO WET IT SHALL BE DRIED TO MEET THIS REQUIREMENT, IF THE MATERIAL IS TOO DRY IT SHALL HAVE WATER ADDED AND MIXED UNTIL REQUIREMENT IS MET.

COMPACTION: CONSTRUCTION EQUIPMENT SHALL BE OPERATED OVER THE AREAS OF EACH LAYER OF FILL TO INSURE THAT THE REQUIRED COMPACTION IS OBTAINED.
-EACH LAYER SHALL BE COMPACTED TO OBTAIN 95% OF THE PROCTOR VALUE (ASTM 1557 OR AASHTO T180).
-FILL ADJACENT TO STRUCTURES, PIPES, ETC. SHALL BE COMPACTED TO A DENSITY EQUIVALENT TO THAT OF THE SURROUNDING FILL BY THE MEANS OF HAND TAMPERING OR MANUALLY DIRECTED POWER TAMPER OR PLATE VIBRATORS.

EROSION PROTECTION: A PROTECTIVE COVER OF VEGETATION SHALL BE ESTABLISHED ON ALL EXPOSED SURFACES OF THE EMBANKMENT (CUT/FILL)SLOPE, SPILLWAY, AND BORROW AREA. IF SOIL AND CLIMATIC CONDITIONS PERMIT. IF CONDITIONS PRECLUDE THE USE OF VEGETATION AND PROTECTION IS NEEDED, NON-VEGETATION MEANS, SUCH AS EROSION BLANKETS OR RIP RAP SLOPE PROTECTION, MAY BE USED.
-SEEDING, FERTILIZING, AND MULCHING SHALL COMPLY WITH THE APPROPRIATE VEGETATIVE BMP'S.



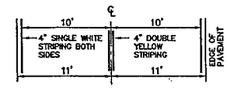


NOTES:

1. USE IN HEAVY TRAFFIC AREAS.
2. STEEL BRACKET TO BE 10 OR 12 GAGE STEEL.
3. USE 6'-0" POSTS WHEN FILL SLOPE IS 4:1 OR FLATTER
4. ALL TIMBER POSTS TO BE TREATED WITH PRESERVATIVE MATERIAL CONFORMING TO AASHTO M133
5. POST BOLTS TO BE 18" W/MIN. 2 1/2" THREAD LENGTH.
5. RAIL SHEET THICKNESS TO BE 12 GA.

BEAM GUARD RAIL STANDARD SECTION-WOOD POSTS

NOT TO SCALE



STRIPING DETAIL

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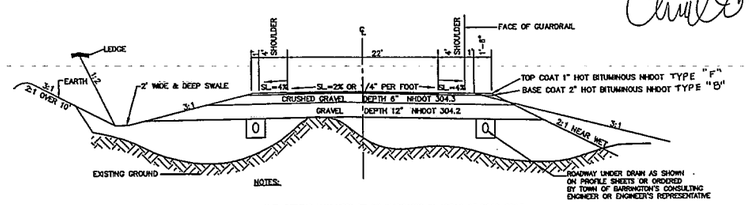

NOTES:

GRAVEL DEPTHS MAY NEED TO BE INCREASED IN AREAS OF POOR SOILS.
ALL DITCHES TO BE 24" IN DEPTH. (BELOW EDGE OF SHOULDER ELEVATION)
GRAVEL MAY BE PLACED AT 12" LIFTS, DENSITY TESTING IS REQUIRED

TYPICAL CROSS SECTION

NOT TO SCALE

STATE OF NEW HAMPSHIRE
CHRISTIAN O. SMITH
No. 9200
LICENSED
PROFESSIONAL ENGINEER

PREPARED FOR:

CABERNET BUILDERS
P.O. BOX 929
STRATHAM, N.H. 03885

BEALS · ASSOCIATES PLLC
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX. 603-583-4863

REVISIONS:	DATE:

CONSTRUCTION DETAILS D1

PLAN FOR:
RESIDENTIAL DEVELOPMENT
BOULDER DRIVE
BARRINGTON, NH

DATE: DEC. 2013	SCALE: NTS
PROJ. NO: NH-193	SHEET NO. 9 OF 12

LAND USE OFFICE
DEC 10 2013
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70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
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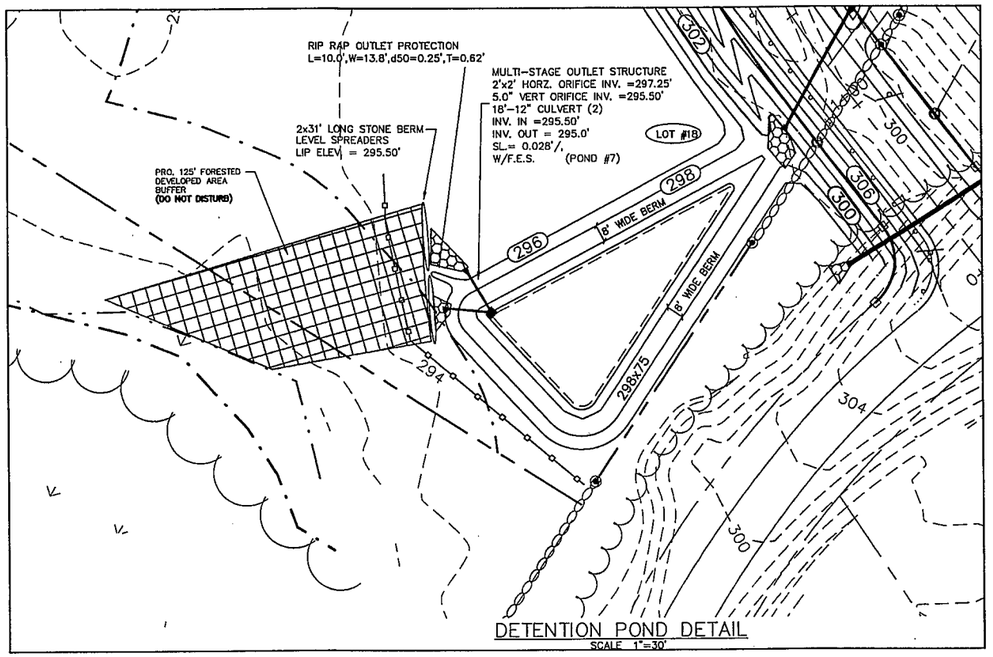
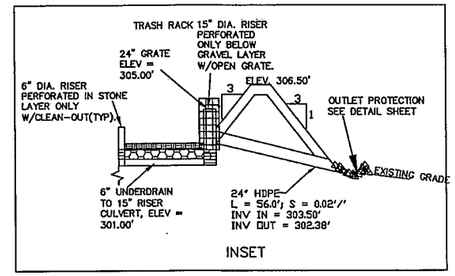
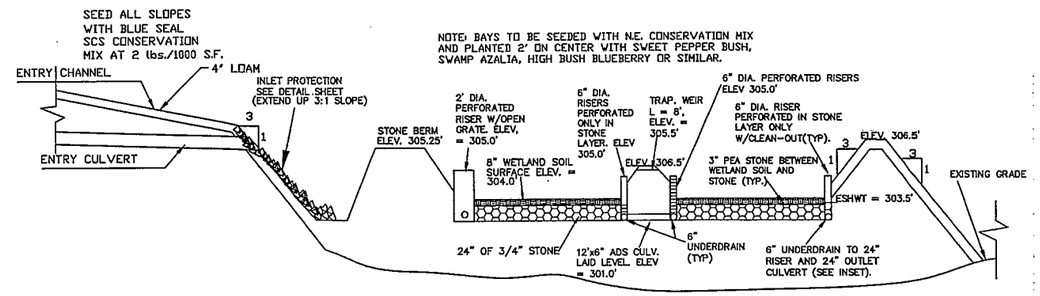


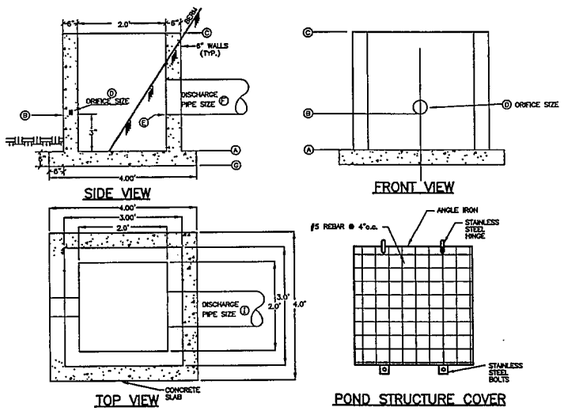
DETENTION POND DETAIL
SCALE 1"=30'



INSET



SECTION OF GRAVEL WETLAND
NOT TO SCALE



STAGE DISCHARGE OUTLET STRUCTURE
NOT TO SCALE

	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓖ
POND #7	295.25'	295.50'	297.25'	5"	295.50'	12"	294.75'

NOTE:

1- FINE GRADE, FERTILIZE, AND SEED BEFORE INSTALLING BLANKET
2- LOCATE BEGINNING OF POOL USING START SHEET

PERFORMANCE CAPABILITIES

ENFORCER CAN STABILIZE A SOIL VENEER LAYER ON STEEP SLOPES.

CHANNELS (VEGETATION)
SHORT DURATION: 8 FPS
LONG DURATION: 6 FPS

SLOPES
STEEPNESS: 1H:1V+

PRODUCT DESCRIPTION:

ENFORCER COMBINES THE DURABILITY OF TWO LAYERS OF SPECIAL HEAVY-DUTY SYNTHETIC NETTING WITH OUR UNIQUE CURLEX ASPEN EXCELSIOR FIBER. THIS STITCHED COMPOSITE PROVIDES THE BENEFITS OF LONG-TERM ROOT REINFORCEMENT FOR INCREASED EROSION PROTECTION AND THE IDEAL MICRO-CLIMATE FOR SEED GERMINATION AND ESTABLISHED OF VEGETATION.

ENFORCER IS MADE OF ASPEN EXCELSIOR WITH TWO LAYERS OF HEAVY POLYPROPYLENE NETTING STITCHED TO FORM A THREE-DIMENSIONAL MATRIX. SHALL BE FREE OF WEED SEED AND BE OF CONSISTENT THICKNESS.

ENFORCER SHALL BE UNROLLED PARALLEL TO THE DIRECTION OF WATER FLOW. THE FIRST ROLL SHALL BE CENTERED LONGITUDINALLY IN THE CHANNEL, ANCHORED WITH STAPLES. SUBSEQUENT ROLLS OUTWARD TO THE EDGES OF THE CHANNEL AND BE OVERLAPPED TO ALLOW INSTALLATION OF A COMMON ROW OF STAPLES AND THE ENDS SHALL OVERLAP SUFFICIENTLY FOR A COMMON ROW OF STAPLES WITH THE UPSTREAM/UPHILL END AT THE TOP ("SHINGLED"). STAPLE THE OVERLAP ACROSS THE END OF EACH OF THE OVERLAPPING LENGTHS. A TRENCH SHALL BE CONSTRUCTED AT THE UPSTREAM TERMINATION, MIN. 6" DEEP AND SHALL BE STAPLED TO THE BOTTOM OF THE TRENCH, BACKFILL AND COMPACT THE TRENCH.

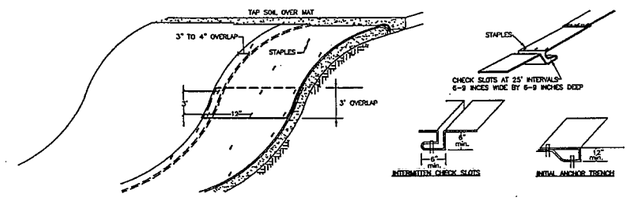
B CHANNELS

- USE 12" STAPLE SPACING ON STARTER ROW.
- UPSTREAM BLANKET SHOULD OVERLAP DOWNSTREAM BLANKET A DISTANCE OF 12" IN A "SHINGLE" FASHION AND BURY THE FINISHED TOE AT LEAST 6".

COHESIVE SOILS:

- USE 2" SIDE SEAM OVERLAP
- USE 6" STAPLE LENGTH
- OPTION: SOME INSTALLATIONS MAY NOT REQUIRE OVER LAPPING ON SIDE SEAMS.

EROSION CONTROL BLANKET (ENFORCER) INSTALLATION
*USED FOR SWALES AS NOTED
NOT TO SCALE



EROSION CONTROL BLANKET (ENKAMAT OR EQUAL) INSTALLATION
NOT TO SCALE
* TO BE USED ON ALL 2:1 SIDES SLOPES AND ROADSIDE SWALES AT STATIONING SHOWN BELOW.

1. SITE PREPARATION: WHETHER SLOPE OR CHANNEL, THE SITE MUST BE SHAPED TO THE DESIGN SPECIFICATIONS (GRADE, GEOMETRY, DENSITY OF SOIL, ETC.) AND THEN DRESSED TO BE FREE OF SOIL CLODS, CLUMPS, ROCKS, OR VEHICLE IMPRINTS OF ANY SIGNIFICANT SIZE THAT WOULD PREVENT THE ENKAMAT (OR EQUAL) FROM LYING FLUSH TO SURFACE CONTOURS.

2. ANCHOR TRENCH: ANCHOR TRENCHES ARE REQUIRED TO SECURELY FASTEN THE ENKAMAT (OR EQUAL) TO THE GROUND SURFACE. IN CHANNEL APPLICATIONS, THE INITIAL ANCHOR TRENCH IS INSTALLED AT THE BEGINNING OF THE CHANNEL, AND INTERMEDIATE CHECK SLOTS ARE SPACED AT APPROXIMATELY 25 FEET* INTERVALS DOWNSTREAM DEPENDING ON FLOW CONDITIONS AND WHETHER YOU SOIL FILL OR NOT. THE ENKAMAT (OR EQUAL) IS INSTALLED INTO THE BOTTOM OF THE TRENCH AND FASTENED WITH STAPLES SPACED 3 FEET APART. THE ANCHOR TRENCH/INTERMEDIATE CHECK SLOTS ARE THEN BACKFILLED AND COMPACTED IN A MANNER AS TO NOT DAMAGE THE ENKAMAT (OR EQUAL).

3. ENKAMAT (OR EQUAL) INSTALLATION: ROLL THE ENKAMAT (OR EQUAL) DOWN THE SLOPE OR CHANNEL. THE OVERLAP BETWEEN ROLLS IS 3 TO 4 INCHES. THE SPLICE BETWEEN ROLLS IS BETWEEN 3 AND 3 FEET. SHINGLE THE ROLL IN THE DIRECTION OF WATER FLOW. INSTALL STAPLES DOWN THE CENTER OF EACH MAT OVAT IS 3.55 FEET WIDE) STAGGERING THEM BETWEEN THE OUTSIDE STAPLES WITH A SPACING INTERVAL OF 3 TO 3 FEET. STAPLE PATTERNS WILL VARY DEPENDING UPON APPLICATION, SOIL TYPE, SLOPE, GEOMETRY, ETC. A RULE OF THUMB FOR ESTIMATING THE AMOUNT OF STAPLES REQUIRED FOR A PROJECT IS:

1:1 TO 2:1 SLOPES	2-4 STAPLES PER SQ. YD.
3:1 AND LESSER SLOPES	2-3 STAPLES PER SQ. YD.
HIGH FLOW CHANNEL	3-4 STAPLES PER SQ. YD.
LOW FLOW CHANNEL	2-3 STAPLES PER SQ. YD.

*ALWAYS INSTALL TWO ROWS OF STAPLES SPACED 1.5 X 1.5 FEET APART AT ALL ROLL SPLICE LOCATIONS.

4. ANCHORING DEVICES: TYPICALLY 11-8 GAUGE OF A 6" x 1" x 6" METAL STAPLES USED. WHEN SURFACE SOIL CONDITIONS ARE LOOSE, USE 8" x 1" x 8" OR 12" x 1.5" x 12" METAL STAPLES, 18" PINS WITH 1.5" DIAMETER WASHER, OR 12-20" J-SHAPED (RIGHT REBAR) HAVING A 1/4" DIAMETER. DRIVE STAPLES OR PINS FLUSH WITH THE GROUND SURFACE.

5. SOIL FILLING: THERE ARE TWO OPTIONS WHEN INSTALLING ENKAMAT (OR EQUAL) -SOIL FILLING OR NON-SOIL FILLING. SOIL FILLING ENKAMAT (OR EQUAL) ACCELERATES PERFORMANCE BECAUSE THE MAT, SOIL, AND THE NEW VEGETATION INTERACT TOGETHER TO RESIST SHEAR FORCES WHEN WATER IS FLOWING THROUGH THE CHANNEL OF ON TOP OF A SLOPE. IF SOIL FILLING IS UTILIZED, SPREAD 1/2 TO 3/4 INCHES OF FINE SOIL INTO THE MAT TO COMPLETELY FILL IT. A TYPICAL CONDITION WHERE NON SOIL FILLING IS USED WOULD BE TO COLLECT SEDIMENT WHEN WATER IS FLOWING THROUGH THE CHANNEL FROM AN UP-GRADIENT SOURCE. SOIL FILLING IS NOT RECOMMENDED WHEN INSTALLING ENKAMAT (OR EQUAL) COMPOSITES.

6. SEEDING: FOR NON SOIL FILLING APPLICATIONS, BROADCAST SEED OR HYDROSEED OVER INSTALLED MAT. MAKE SURE HYDROMULCH OCCURS AFTER SEEDING TO ENSURE THE SEED REACHES THE TOPSOIL. IF SOIL FILLING, SEED AFTER FILLING IS COMPLETED. YOU MAY ALSO SEED BEFORE AND AFTER SOIL FILLING TO CREATE A BETTER ESTABLISHED ROOT STRUCTURE AND INCREASE VEGETATION STRENGTH. IF MAT COMPOSITES ARE BEING INSTALLED, ALWAYS SEED PRIOR TO INSTALLATION. CHECK WITH YOUR LOCAL SEEDING CONSULTANT TO VERIFY APPROPRIATE SEED AND FERTILIZER MIXTURE.

7. SOD INSTALLATION: IF COVERING THE MAT WITH SOD, SOIL FILLING IS REQUIRED. PLACE SOD IN THE DIRECTION OF WATER FLOW. PERIODICALLY INSTALL A ROW OR TWO PERPENDICULAR TO THE FLOW TO REDUCE THE POSSIBILITY OF WATER FLOWING ALONG THE SEAMS OF THE SOD. IN MOST CASES, YOU SHOULD STAPLE THE SOD DOWN TO PREVENT MOVEMENT.

CONSTRUCTION GUIDELINES FOR ALL WORK WITHIN WETLANDS

1. ALL DISTURBED SOILS WILL BE FINAL GRADED, LOAMED, AND SEEDED IMMEDIATELY AFTER CULVERTS AND HEADWALLS ARE PLACED AND BACKFILLED.

2. ALL OF THE SIDE SLOPES WILL BE LINED WITH JUTE MATTING TO AID IN THE STABILIZATION OF THE SOIL AND SEED.

3. ALL OF THESE CROSSINGS WILL BE PROTECTED WITH SILT FENCING, HAY BALES AND ORANGE CONSTRUCTION FENCING.

4. DURING CONSTRUCTION OF ALL WETLAND CROSSINGS AND AT THE ENTRANCE OFF TO ROUTE 16, THE OWNER AND/OR THE TOWN OF BARRINGTON WILL HAVE A QUALIFIED REPRESENTATIVE ON-SITE TO INSPECT THE PROCESS AND VERIFY THAT ALL THE PROPER EFFORTS HAVE BEEN MADE TO MINIMIZE OR ELIMINATE FURTHER IMPACT TO THE ADJACENT WETLANDS.

5. THE VEGETATED TREATMENT SWALE ADJACENT TO ROUTE 126 WILL BE LINED WITH SOD, RATHER THAN SEEDED, TO PROVIDE INSTANT STABILIZATION.

STATE OF NEW HAMPSHIRE
CHRISTIAN O. SMITH
No. 10000
LICENSED
PROFESSIONAL ENGINEER

REVISIONS:	DATE:

CONSTRUCTION DETAILS D2

PLAN FOR:
RESIDENTIAL DEVELOPMENT
BOULDER DRIVE
BARRINGTON, NH

DATE: DEC. 2013	SCALE: NTS
PROJ. NO: NH-193	SHEET NO. 10 OF 12

LAND USE OFFICE
DEC 10 2013
RECEIVED

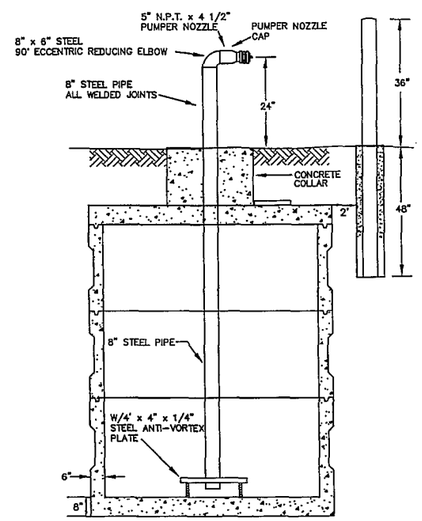
PREPARED FOR:

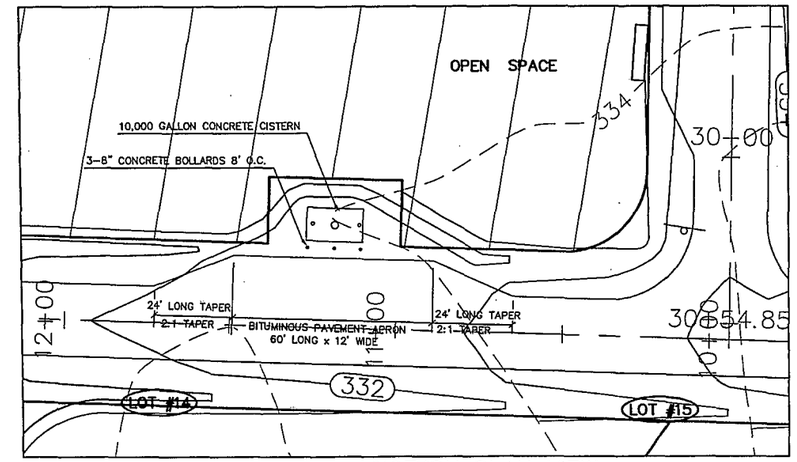
CABERNET BUILDERS
P.O. BOX 929
STRATHAM, N.H. 03885

BEALS · ASSOCIATES PLLC
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX. 603-583-4863

CISTERN SPECIFICATIONS

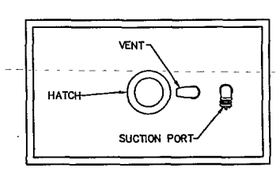
1. THE CISTERN SHALL BE DESIGNED TO BE TROUBLE FREE, AND IT SHALL BE DESIGNED TO LAST 50 YEARS.
2. THE MINIMUM CAPACITY SHALL BE 10,000 GALLONS. DEPENDING ON THE DEVELOPMENT LAYOUT/CONFIGURATION, ADDITIONAL GALLON REQUIREMENTS MAY BE IMPOSED AT THE DISCRETION OF THE FIRE CHIEF. ALL EXCEPTIONS, ADDITIONS, OR DELETIONS WILL BE IN WRITING.
3. THE SUCTION CAPACITY SHALL BE CAPABLE OF DELIVERING 1,000 GALLONS PER MINUTE (GPM) FOR THREE-QUATERS OF THE CISTERN CAPACITY.
4. THE ENTIRE CISTERN AND APPURTENANCES SHALL BE RATED FOR HS-20 HIGHWAY LOADING.
5. DRAWINGS OF THE DESIGN ARE FOR ESTIMATING GENERAL REQUIREMENT AND DESIGN PURPOSES ONLY AND ARE NOT INTENDED FOR USE AS DESIGN.
6. EACH CISTERN SHALL BE DESIGNED, SITED TO THE PARTICULAR LOCATION, STAMPED BY A REGISTERED ENGINEER, AND APPROVED BY THE FIRE CHIEF.
7. ALL SUCTION AND FILL PIPING SHALL BE AMERICAN SOCIETY FOR TESTING MATERIALS (ASTM) SCHEDULE 40 STEEL. ALL VENT PIPING SHALL BE ASTM SCHEDULE 40 STEEL WITH WELDED JOINTS. ALL PIPING LOCATED WITHIN THE TANK SHALL BE ASTM SCHEDULE 40 STEEL WITH WELDED JOINTS. ALL PIPING LEADING FROM THE TANK TO THE HYDRANT SHALL BE ASTM SCHEDULE 40 STEEL.
8. THE FINAL SUCTION CONNECTION SHALL BE FIVE INCH PUMPER NOZZLE WITH A CAP. THE SUCTION PIPE SHALL BE BRACED TO ENSURE DURABILITY DURING PUMPING OPERATIONS. THE FIRE CHIEF SHALL APPROVE BRACE CONFIGURATION AND INSTALLATION. THE SUCTION PIPE CONNECTION SHALL BE TWENTY-FOUR INCHES ABOVE THE LEVEL OF THE VEHICLE PAD WHERE VEHICLE WHEELS WILL BE LOCATED WHEN THE CISTERN IS IN USE.
9. THE FILLER CONNECTION SHALL BE INTALLED INTO THE EIGHT INCH VENT WITH 4" MALE STEEL STORZ FITTING. THIS FITTING SHALL BE 24" ABOVE FINISH GRADE AND FACE THE ROAD. A THIRTY-TWO INCH DIAMETER MANHOLE WITH COVER WILL BE LOCATED ON TOP OF THE CISTERN. THE CONFIGURATION OF THIS MANHOLE SHALL ALLOW THE UNIT TO BE SECURED WITH TWO PADLOCKS AND SHALL BE APPROVED BY THE FIRE CHIEF. THE PADLOCKS WILL BE SUPPLIED BY THE FIRE DEPARTMENT.
10. THE DISTANCE FROM THE BOTTOM OF THE SUCTION PIPE TO THE PUMPER CONNECTION SHALL NOT EXCEED FOURTEEN FEET VERTICAL.
11. ALL HORIZONTAL SUCTION PIPING SHALL SLOPE SLIGHTLY UPHILL TOWARD THE PUMPER CONNECTION.
12. BEDDING FOR THE CISTERN SHALL CONSIST OF A MINIMUM OF TWELVE INCHES OF 3/4" TO 1 1/2" WASHED PEA STONE, COMPACTED. NO FILL SHALL BE USED UNDER THE STONE. OVER EXCAVATION SHALL BE FILLED WITH THE SAME STONE BEDDING MATERIAL.
13. ALL BACKFILL MATERIALS SHALL BE SCREENED GRAVEL WITH NO STONES LARGER THAN SIX INCHES AND SHALL BE COMPACTED TO 95 PERCENT OF ITS ORIGINAL VOLUME IN ACCORDANCE WITH ASTM D 1557. 16. THE TOP OF CISTERN SHALL BE INSULATED WITH VERMIN RESISTANT FOAM INSULATION AND TWO FEET OF BACKFILL WITH A MINIMUM WEIGHT OF 120 PCF, COMPACTED. FOAM USED FOR THIS INSTALLATION SHALL BE CLOSED CELL POLYURETHANE FOAM WITH AN INSULATION FACTOR OF R=5 PER INCH. ALL BACKFILL SHALL EXTEND TEN FEET BEYOND THE EDGE OF THE VEHICLE PAD AND THEN HAVE A MAXIMUM OF 3:1 SLOPE, LOAM AND SEEDED.
14. BEFORE ANY BACKFILLING IS DONE THE ENTIRE CISTERN SHALL BE COMPLETED AND INSPECTED BY THE FIRE CHIEF.
15. AFTER BACKFILLING, BOLLARDS OR LARGE STONES SHALL BE PLACED TO PROTECT THE TANK AND APPURTENANCES.
16. THE PITCH OF THE SHOULDER AND VEHICLE PAD FROM THE EDGE OF THE PAVEMENT TO THE PUMPER SUCTION CONNECTION SHALL BE ONE PERCENT TO THREE PERCENT DOWNGRADE.
17. THE SHOULDER AND VEHICLE PAD SHALL BE OF A SUFFICIENT LENGTH TO ALLOW CONVENIENT ACCESS TO THE SUCTION CONNECTION WHEN THE PUMPER IS SET AT 45 DEGREES TO THE ROAD. THE SHOULDER AND VEHICLE PAD SECTION SHALL CONSIST OF 3" BITUMINOUS PAVING, REFER TO SITE PLAN FOR REQUIREMENTS.
18. THE SUCTION FITTING SHALL BE LOCATED BETWEEN 22 AND 24 FEET FROM THE NEAREST RUNNING EDGE OF ROAD PAVEMENT. TWO CONCRETE FILLED STEEL BOLLARDS SHALL BE PLACED IN A MANNER TO PROTECT THE HYDRANT. THE BASE OF THESE BOLLARDS SHALL EXTEND BELOW THE FROST LINE. THE UPPER PORTION OF THE BOLLARDS SHALL EXTEND THIRTY SIX INCHES ABOVE THE LEVEL OF THE VEHICLE PAD WHERE VEHICLE WHEELS WILL BE LOCATED WHEN THE CISTERN IS IN USE.
19. ALL CONSTRUCTION, BACKFILL, AND GRADING MATERIALS SHALL BE IN ACCORDANCE WITH PROPER CONSTRUCTION PRACTICES AND SHALL BE ACCEPTABLE TO THE FIRE CHIEF.
20. THE FIRE CHIEF (OR REPRESENTATIVE) AND THE ENGINEER'S INSPECTOR WILL BE NOTIFIED BY THE CONTRACTOR TO OBSERVE THE FOLLOWING POINTS OF INSTALLATION:
    - A. EXCAVATION COMPLETE.
    - B. CRUSHED STONE INSTALLED AND COMPACTED
    - C. BACKFILLING COMPLETE PRIOR TO PLACEMENT OF INSULATION.
    - D. PLACEMENT OF INSULATION.
    - E. START AND FINISH OF LEAKAGE TEST.
    - F. PIPING MANWAYS AND BOLLARDS IN PLACE AND PAINTED.
    - G. ALL BACKFILLING LOAM, SEED, ETC. COMPLETE WITH TURNOUT GRAVEL IN PLACE AND GRADED.
    - H. PAVEMENT COMPLETE, AND ALL OTHER WORK 100% COMPLETE.
21. THE FIRE CHIEF SHALL BE NOTIFIED OF THE DATE THAT SITE WORK IS TO BEGIN.
22. ANY EXCEPTION, ADDITIONS, OR DELETIONS ARE DATED AND NOTED BELOW:
23. CONCRETE MUST HAVE A MINIMUM OF 150 PCF.
24. STONE AND GRAVEL BACKFILL MUST HAVE A MINIMUM OF 120 PCF.



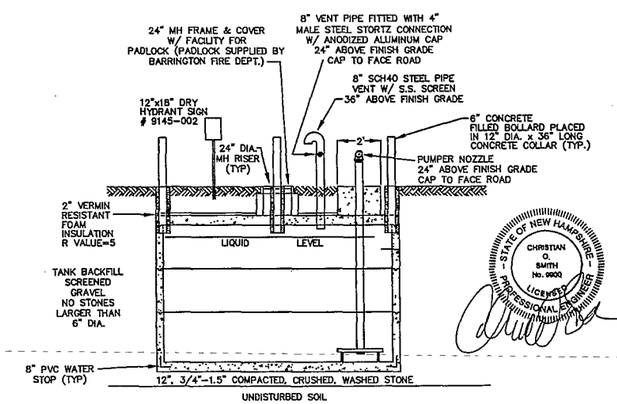


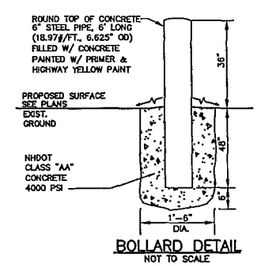
CISTERN PLAN VIEW
SCALE: 1"=20'

CISTERN #3



CISTERN DETAILS
NOT TO SCALE





BOLLARD DETAIL
NOT TO SCALE

STATE OF NEW HAMPSHIRE
CHRISTIAN O. SMITH No. 9900
LICENSED PROFESSIONAL ENGINEER

NOTES :

1.) 10,000 GAL. CONCRETE TANK AVAILABLE AT E.F.SHEA, NEW ENGLAND CONCRETE PRODUCTS, INC. OR EQUIV.
2.) HYDRANT STRUCTURE AVAILABLE FROM GOULD SUPPLY OR EQUIV.
3.) THE INSTALLER IS RESPONSIBLE FOR FILLING THE TANKS AFTER INSTALLATION.
4.) TANK CAPACITY : 9' x 16' x 9.5' = 1,368 CU.FT. x 7.48052 = 10,233 GALS.
5.) SEE TOWN OF BARRINGTON FIRE PROTECTION CISTERN SPECIFICATIONS (40 PARAGRAPH LISTING)

REVISIONS:	DATE:

CISTERN DETAIL SHEET – D3

PLAN FOR:
RESIDENTIAL DEVELOPMENT
BOULDER DRIVE
BARRINGTON, NH

DATE: DEC. 2013	SCALE: NTS
PROJ. NO: NH-193	SHEET NO. 11 OF 12

LAND USE OFFICE
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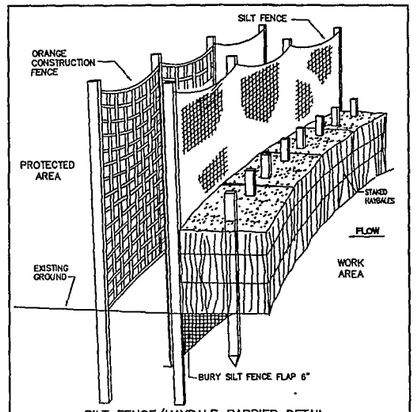
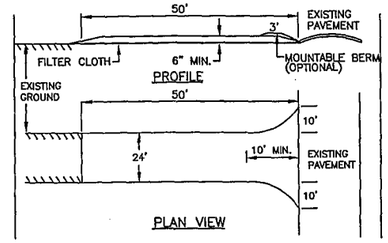


SILT FENCE/HAYBALE BARRIER DETAIL

THIS METHOD TO BE USED AT ALL LOCATIONS WHERE CONSTRUCTION IS WITHIN 25' OF WETLAND AREAS.

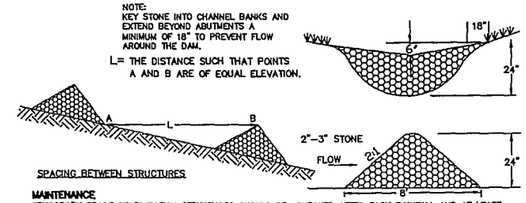


1. STONE FOR A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 1 TO 2 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50 FEET, EXCEPT FOR A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
3. THE THICKNESS OF THE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

STABILIZED CONSTRUCTION ENTRANCE

NOTE:
KEY STONE INTO CHANNEL BANKS AND EXTEND BEYOND ABUTMENTS A MINIMUM OF 18" TO PREVENT FLOW AROUND THE DAM.

L= THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION.



SPACING BETWEEN STRUCTURES

MAINTENANCE
TEMPORARY GRADE STABILIZATION STRUCTURES SHOULD BE CHECKED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED STORMS. ANY NECESSARY REPAIRS SHOULD BE MADE IMMEDIATELY. PARTICULAR ATTENTION SHOULD BE GIVEN TO END RUN AND EROSION AT THE DOWNSTREAM TOE OF THE STRUCTURE. WHEN THE STRUCTURES ARE REMOVED, THE DISTURBED PORTION SHOULD BE BROUGHT TO THE EXISTING CHANNEL GRADE AND THE AREAS PREPARED, SEEDED AND MULCHED. WHILE THIS PRACTICE IS NOT INTENDED TO BE USED PRIMARILY FOR SEDIMENT TRAPPING, SOME SEDIMENT WILL ACCUMULATE BEHIND THE STRUCTURES. SEDIMENT SHALL BE REMOVED FROM BEHIND THE STRUCTURES WHEN IT HAS ACCUMULATED TO ONE HALF OF THE ORIGINAL HEIGHT OF THE STRUCTURE.
REMOVAL
AFTER VEGETATION HAS STABILIZED, THESE TEMPORARY STRUCTURES SHALL BE REMOVED WITH SPECIAL CARE AS TO AVOID DISTURBING ANY UNDERLYING EROSION CONTROL FABRIC AND/OR EXISTING VEGETATION

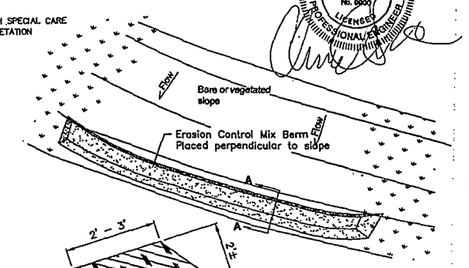
TEMPORARY STONE CHECK DAM

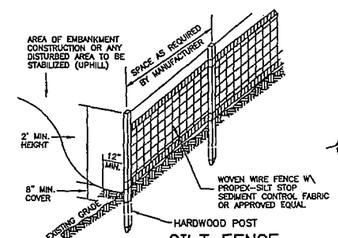
PREPARED FOR:

CABERNET BUILDERS
P.O. BOX 929
STRATHAM, N.H. 03885

BEALS · ASSOCIATES PLLC
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX. 603-583-4863

STATE OF NEW HAMPSHIRE
CHRISTIAN O. SMITH
No. 9900
LICENSED
PROFESSIONAL ENGINEER

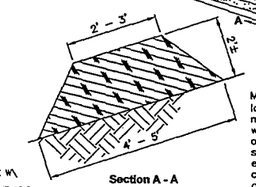




SILT FENCE

CONSTRUCTION SPECIFICATIONS
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES AND FILTER CLOTH SHALL BE FASTENED TO WOVEN WIRE EVERY 24" AT TOP MID AND BOTTOM SECTIONS AND BE EMBEDDED INTO GROUND A MINIMUM OF 8". 2. THE FENCE POSTS SHALL BE A MINIMUM 48" LONG, SPACED A MAXIMUM 10' APART, AND DRIVEN A MINIMUM OF 16" INTO THE GROUND.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THE ENDS OF THE FABRIC SHALL BE OVERLAPPED BY SIX INCHES, FOLDED AND STAPLED TO PREVENT SEDIMENT FROM BY-PASSING.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE AND PROPERLY DISPOSED OF.
5. PLACE THE ENDS OF THE SILT FENCE UP CONTOUR TO PROVIDE FOR SEDIMENT STORAGE.
6. SILT FENCES SHALL BE REMOVED WHEN NO LONGER NEEDED AND THE SEDIMENT COLLECTED SHALL BE DISPOSED AS DIRECTED BY THE ENGINEER. THE AREA DISTURBED BY THE REMOVAL SHALL BE SMOOTHED AND RE-VEGETATED

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.



Section A - A

Mix material should consist of 30-50% large (1-3") particles. The organic matter content should be 25%-65%, dry weight basis. The organic matter may originate from a variety of vegetative sources, but needs to be fibrous and elongated. The mix shall be free of silt, clay, fine sand, refuse and contaminants or any material toxic to plant growth. Erosion Control Mix berms are effective filters for overland flow conditions and should not be used to filter concentrated flow such as that found in drainage ditchs, streams, etc.

Erosion Control Mix Berm

TEMPORARY EROSION CONTROL MEASURES

1. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT NO MORE THAN 5 ACRES OF LAND SHALL BE EXPOSED BEFORE DISTURBED AREAS ARE STABILIZED*.
2. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AT LOCATIONS AS REQUIRED OR DIRECTED BY THE ENGINEER ALL DISTURBED AREAS SHALL BE RETURNED TO ORIGINAL GRADES AND ELEVATIONS.
3. DISTURBED AREAS SHALL BE LOAMED WITH A MINIMUM OF 4" OF LOAM AND SEEDED WITH NOT LESS THAN 1.10 POUNDS OF SEED PER 1000 SQUARE FEET OF AREA. (48 POUNDS PER ACRE) SEE SEED SPECIFICATIONS THIS SHEET.
4. SILT FENCES AND OTHER EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY RAIN EVENT GREATER THAN 0.5" DURING THE LIFE OF THE PROJECT. ALL DAMAGED AREAS SHALL BE REPAIRED, SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED OF.
5. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION CONTROL MEASURES ARE TO BE REMOVED AND THE AREA DISTURBED BY THE REMOVAL SMOOTHED AND RE-VEGETATED.
6. AREAS MUST BE SEEDED AND MULCHED WITHIN 3 DAYS OF FINAL GRADING, PERMANENTLY STABILIZED WITHIN 15 DAYS OF FINAL GRADING, OR TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE OF SOIL.

* AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
- BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
- A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED.
- A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS RIPRAP HAS BEEN INSTALLED.
- EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

CONSTRUCTION SPECIFICATIONS

1. STRUCTURES SHALL BE INSTALLED ACCORDING TO THE DIMENSIONS SHOWN ON THE PLANS AT THE APPROPRIATE SPACING.
2. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER SO THAT EROSION AND AIR AND WATER POLLUTION WILL BE MINIMIZED.
3. WHEN HAY BALES ARE USED, THE BALES SHALL BE EMBEDDED AT LEAST 4 INCHES INTO THE SOIL. WHEN TIMBER STRUCTURES ARE USED, THE TIMBER SHALL EXTEND AT LEAST 18" INTO THE SOIL.
4. HAY OR STRAW BALES SHALL BE ANCHORED INTO THE SOIL USING 2" X 2" STAKES DRIVEN THROUGH THE BALES AND AT LEAST 18 INCHES IN TO THE SOIL.
5. SEEDING, FERTILIZING, AND MULCHING SHALL CONFORM TO THE RECOMMENDATIONS IN THE APPROPRIATED VEGETATIVE BMP.
6. STRUCTURES SHALL BE REMOVED FROM THE CHANNEL WHEN THEIR USEFUL LIFE HAS BEEN COMPLETED.7. THROUGHOUT THE DURATION OF CONSTRUCTION ACTIVITIES THE CONTRACTOR SHALL TAKE PRECAUTIONS IN ORDER TO PREVENT, ABATE AND CONTROL THE EMISSION OF FUGITIVE DUST INCLUDING BUT NOT LIMITED TO WETTING, COVERING, SHIELDING, OR VACUUMING.
7. THROUGHOUT THE DURATION OF CONSTRUCTION ACTIVITIES THE CONTRACTOR SHALL TAKE PRECAUTIONS IN ORDER TO PREVENT, ABATE AND CONTROL THE EMISSION OF FUGITIVE DUST INCLUDING BUT NOT LIMITED TO WETTING, COVERING, SHIELDING, OR VACUUMING.
8. THE NH COMMISSIONER OF AGRICULTURE PROHIBITS THE COLLECTION, POSSESSION, IMPORTATION, TRANSPORTATION, SALE, PROPAGATION, TRANSPLANTATION, OR CULTIVATION OF PLANTS BANNED BY NH LAW RSA 430:53 AND NH CODE ADMINISTRATIVE RULES AGR 3800. THE PROJECT SHALL MEET ALL REQUIREMENTS AND THE INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES

CONSTRUCTION SEQUENCE

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

WINTER MAINTENANCE

1. ALL DISTURBED AREAS THAT DO NOT HAVE AT LEAST 85% VEGETATIVE COVERAGE PRIOR TO OCTOBER 15TH, SHALL BE STABILIZED BY APPLYING MULCH AT A RATE OF 3-4 TONS PER ACRE. ALL SIDE SLOPES, STEEPER THAN 4:1, THAT ARE NOT DIRECTED TO SWALES OR DETENTION BASINS, SHALL BE LINED WITH BIODEGRADABLE/PHOTODEGRADABLE "JUTE MATTING" (EXCELSIOR'S CURLEX II OR EQUAL). ALL OTHER SLOPES SHALL BE MULCHED AND TACKED AT A RATE OF 3-4 TONS PER ACRE. THE APPLICATION OF MULCH AND/OR JUTE MATTING SHALL NOT OCCUR OVER EXISTING SNOW COVER. IF THE SITE IS ACTIVE AFTER NOVEMBER 15TH, ANY SNOW THAT ACCUMULATES ON DISTURBED AREAS SHALL BE REMOVED. PRIOR TO SPRING THAW ALL AREAS WILL BE STABILIZED, AS DIRECTED ABOVE.

2. ALL SWALES THAT DO NOT HAVE FULLY ESTABLISHED VEGETATION SHALL BE EITHER LINED WITH TEMPORARY JUTE MATTING OR TEMPORARY STONE CHECK DAMS (APPROPRIATELY SPACED). STONE CHECK DAMS WILL BE MAINTAINED THROUGHOUT THE WINTER MONTHS. IF THE SWALES ARE TO BE MATTED WITH PERMANENT LINERS OR RIPRAP WITH ENGINEERING FABRIC, THIS SHALL BE COMPLETED PRIOR TO WINTER SHUTDOWN OR AS SOON AS THEY ARE PROPERLY GRADED AND SHAPED.

3. PRIOR TO NOV. 15TH ALL ROADWAY AND PARKING AREAS SHALL BE BROUGHT UP TO AND THROUGH THE BANK RUN GRAVEL APPLICATION. IF THESE AREAS' ELEVATIONS ARE PROPOSED TO REMAIN BELOW THE PROPOSED SUBGRADE ELEVATION, THE SUBGRADE MATERIAL SHALL BE ROUGHLY CROWNED AND A 3" LAYER OF CRUSHED GRAVEL SHALL BE PLACED AND COMPACTED. THIS WILL ALLOW THE SUBGRADE TO SHED RUNOFF AND WILL REDUCE ROADWAY EROSION. THIS CRUSHED GRAVEL DOES NOT HAVE TO CONFORM TO NH DOT 304.3, BUT SHALL HAVE BETWEEN 15-25% PASSING THE #200 SIEVE AND THE LARGEST STONE SIZE SHALL BE 2". IF THE SITE IS ACTIVE AFTER NOVEMBER 15TH, ANY ACCUMULATED SNOW SHALL BE REMOVED FROM ALL ROADWAY AND PARKING AREAS.

4. AFTER OCTOBER 15TH, THE END OF NEW HAMPSHIRE'S AVERAGE GROWING SEASON, NO ADDITIONAL LOAM SHALL BE SPREAD ON SIDE SLOPES AND SWALES. THE STOCKPILES THAT WILL BE LEFT UNDISTURBED UNTIL SPRING SHALL BE SEEDED BY THIS DATE. AFTER OCTOBER 15TH, ANY NEW OR DISTURBED PILES SHALL BE MULCHED AT A RATE OF 3-4 TONS PER ACRE. ALL STOCKPILES THAT WILL REMAIN THROUGHOUT THE WINTER SHALL BE SURROUNDED WITH SILT FENCING.

SEEDING SPECIFICATIONS

1. GRADING AND SHAPING
   - A. SLOPES SHALL NOT BE STEEPER THAN 2:1;3:1 SLOPES OR FLATTER ARE PREFERRED. WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.
2. SEEDBED PREPARATION
   - A. SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
   - B. STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND MIX FERTILIZER AND LIME INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.
3. ESTABLISHING A STAND
   - A. LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL. KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:

     AGRICULTURAL LIMESTONE, 2 TONS PER ACRE OR 100 LBS PER 1,000 SQ. FT..

     NITROGEN(N), 50 LBS PER ACRE OR 1. 1 LBS PER 1,000 SQ.FT.

     PHOSPHATE(P2O5), 100 LBS PER ACRE OR 2. 2 LBS PER 1,000 SQ.FT.

     POTASH(K2O), 100 LBS PER ACRE OR 2. 2 LBS PER 1,000 SQ.FT.

     (NOTE: THIS IS THE EQUIVALENT OF 500 LBS PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS PER ACRE OF 5-10-10.)
   - B. SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH .25 INCH OF SOIL OR LESS, BY CULTIPACKING OR RAKING.
   - C. REFER TO TABLE(G-E1 THIS SHEET) FOR APPROPRIATE SEED MIXTURES AND TABLE(H-E1 THIS SHEET) FOR RATES OF SEEDING. ALL LEGUMES (CROWN VETCH, BIRDS FOOT TREFOIL, AND FLAT PEA) MUST BE INOCULATED WITH THEIR SPECIFIC INOCULANT.
   - D. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 10 TO SEPTEMBER 1.
4. MULCH
   - A. HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
   - B. MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE BEST MANAGEMENT PRACTICE FOR MULCHING. HAY OR STRAW MULCH SHALL BE PLACED AT A RATE OF 90 LBS PER 1000 SQ. FT.
5. MAINTENANCE TO ESTABLISH A STAND
   - A. PLANTED AREA SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
   - B. FERTILIZATION NEEDS SHOULD BE DETERMINED BY ONSITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIAL STAKE 2 TO 3 YEARS TO BECOME ESTABLISHED.
   - C. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, OCCASIONAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.

SEEDING GUIDE

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

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

1/ REFER TO SEEDING MIXTURES AND RATES IN TABLE 7-36.
2/ POORLY DRAINED SOILS ARE NOT DESIRABLE FOR USE AS PLAYING AREA AND ATHLETIC FIELDS.

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

SEEDING RATES

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

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

REVISIONS:	DATE:

EROSION & SEDIMENTATION

PLAN FOR:
RESIDENTIAL DEVELOPMENT
BOULDER DRIVE
BARRINGTON, NH

DATE: DEC. 2013	SCALE: NTS
PROJ. NO: NH-193	SHEET NO. 12 OF 12

LAND USE OFFICE
DEC 10 2013
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