

REV. 6	
REV. 5	
REV. 4	
REV. 3	
REV. 2	
REV. 1	BY:

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 Meisner Brem Corp.

EXISTING CONDITIONS PLAN
"The Birches"
 100 LONG RIDGE ROAD
 CARLISLE, MASSACHUSETTS

PREPARED FOR:
 LIFETIME GREEN HOMES, LLC
 142 LITTLETON ROAD
 WESTFORD, MA 01886

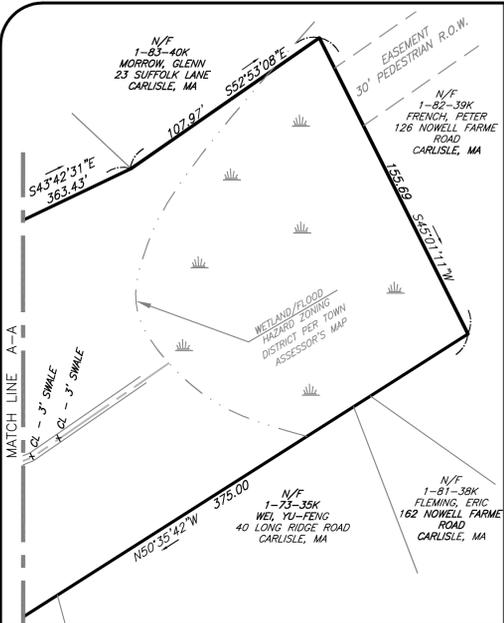
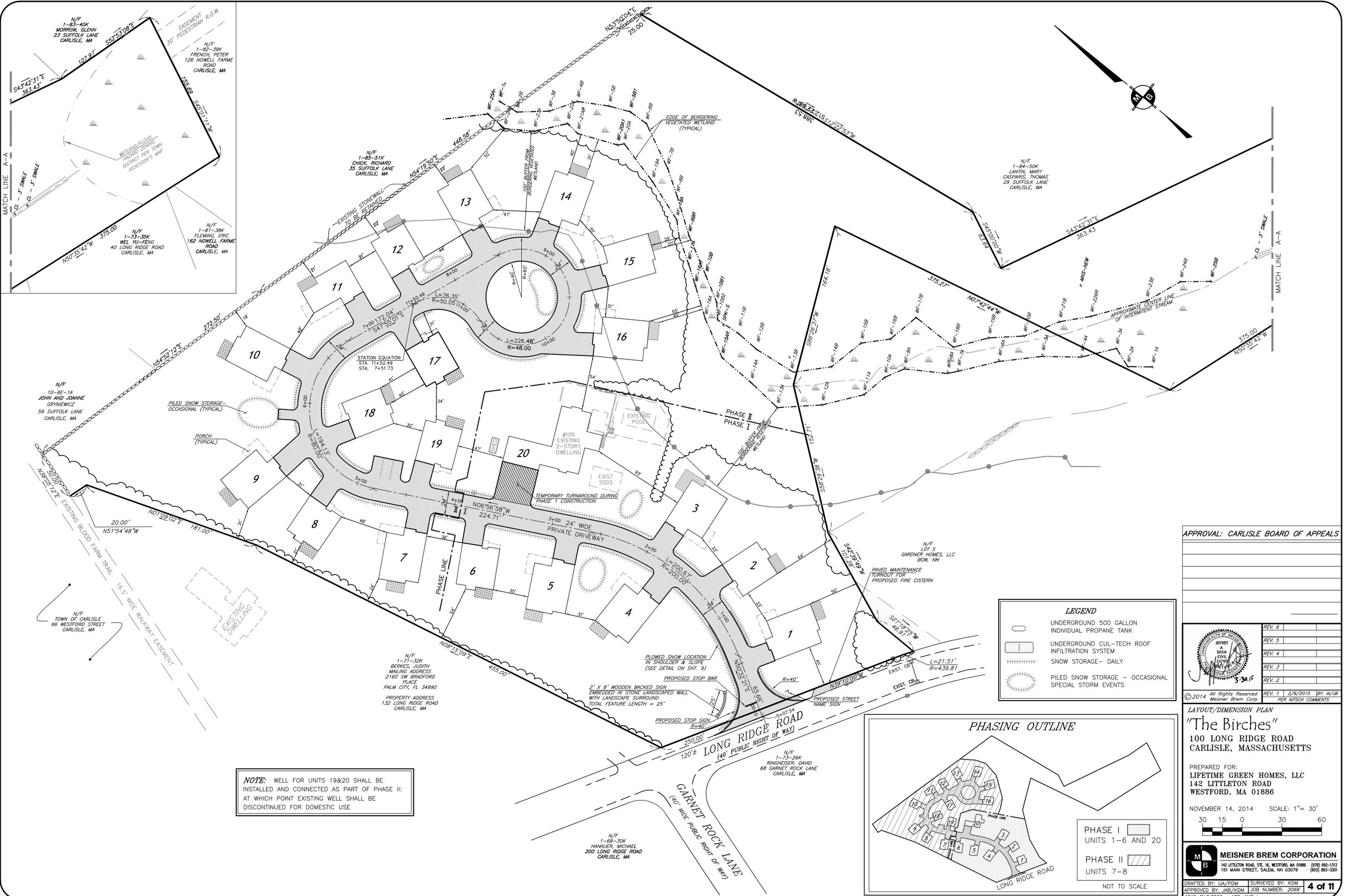
NOVEMBER 15, 2014 SCALE: 1" = 40'

MEISNER BREM CORPORATION
 142 LITTLETON ROAD, STE. 16, WESTFORD, MA 01886 (978) 692-1313
 151 MAIN STREET, SALEM, NH 03079 (603) 893-3301

DRAFTED BY: UA/PDM SURVEYED BY: KDM
 APPROVED BY: JAB/KDM JOB NUMBER: 2066
 ACAD FILE: 2066m-40B-ANR.dwg

3 OF 11

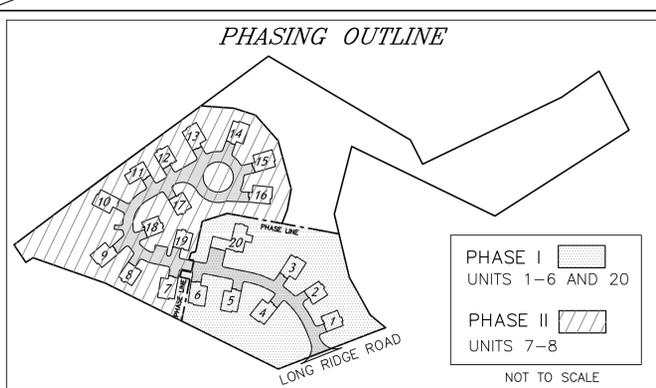
APPROVAL: CARLISLE BOARD OF APPEALS



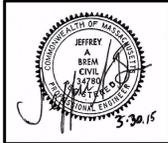
LEGEND

- UNDERGROUND 500 GALLON INDIVIDUAL PROPANE TANK
- UNDERGROUND CUL-TECH ROOF INFILTRATION SYSTEM
- SNOW STORAGE - DAILY
- PILED SNOW STORAGE - OCCASIONAL SPECIAL STORM EVENTS

NOTE: WELL FOR UNITS 19&20 SHALL BE INSTALLED AND CONNECTED AS PART OF PHASE II: AT WHICH POINT EXISTING WELL SHALL BE DISCONTINUED FOR DOMESTIC USE



APPROVAL: CARLISLE BOARD OF APPEALS



REV. 6	
REV. 5	
REV. 4	
REV. 3	
REV. 2	

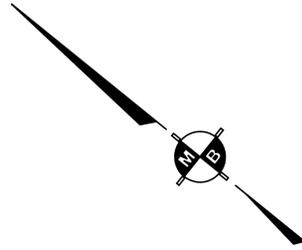
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Messner Brem Corp.
REV. 1 | 2/6/2015 | 19: 14/18
PER NITSCH COMMENTS

LAYOUT/DIMENSION PLAN
"The Birches"
100 LONG RIDGE ROAD
CARLISLE, MASSACHUSETTS

PREPARED FOR:
LIFETIME GREEN HOMES, LLC
142 LITTLETON ROAD
WESTFORD, MA 01886

NOVEMBER 14, 2014 SCALE: 1" = 30'
30 15 0 30 60

MEISNER BREM CORPORATION
142 LITTLETON ROAD, STE. 14, WESTFORD, MA 01886 (978) 892-1313
151 MAIN STREET, SALEM, NH 03079 (603) 883-3301



CENTERLINE OF VEGETATED SWALE. SEE DETAIL ON SHT. 9 UNDERDRAIN DIRECTLY UNDER SWALE AND RAIN GARDENS PER PROFILE ON SHT. 7

BIO-RETENTION STORMWATER FACILITY (SEE DETAIL ON SHEET 10)

SEPTIC SYSTEM #2 (UNITS 7-10, 18 & 19)

SEPTIC SYSTEM #3 (UNITS 11-17)

N/F 10-6E-1A JOHN AND JOANNE GRYNIEWICZ 59 SUFFOLK LANE CARLISLE, MA

EXISTING BLOOD FARM TRAIL 16.5' WIDE WALKWAY EASEMENT

N/F TOWN OF CARLISLE 66 WESTFORD STREET CARLISLE, MA

EXIST. WELL

SAVE ALL TREES TO PROVIDE A NATURAL BUFFER (AS MUCH AS POSSIBLE ON PROPERTY)

EXISTING DWELLING

LEGEND	
	UNDERGROUND 500 GALLON INDIVIDUAL PROPANE TANK
	UNDERGROUND CUL-TECH ROOF INFILTRATION SYSTEM
	PATIO - 10x18'
	DECK - 10x18'
	WELL / WATER SUPPLY
	DRIVEWAY CULVERT
	RAIN GARDEN

N/F 1-71-32K BERKES, JUDITH MAILING ADDRESS 2160 SW BRADFORD PLACE PALM CITY, FL 34990

PROPERTY ADDRESS 132 LONG RIDGE ROAD CARLISLE, MA

CENTERLINE OF VEGETATED SWALE. SEE DETAIL ON SHT. 9 UNDERDRAIN DIRECTLY UNDER SWALE AND RAIN GARDENS PER PROFILE ON SHT. 7

SEPTIC SYSTEM #1 (UNITS 1-6)

2' x 8' WOODEN BACKED SIGN EMBEDDED IN STONE LANDSCAPED WALL WITH LANDSCAPE SURROUND TOTAL FEATURE LENGTH = 25'

LONG RIDGE ROAD (40' PUBLIC RIGHT OF WAY)

N/F 1-73-26K RINGHEISER, DAVID 68 GARNET ROCK LANE CARLISLE, MA

PROPOSED 30,000 GALLON FIBERGLASS FIRE CISTERN WITH PAVED MAINTENANCE ACCESS TURNOUT
SLOPED GRANITE CURB FROM LONG RIDGE ROAD TO STATION 1+00

NOTES

- CATCH BASIN 20, 22, 54, AND 56 TO CONTAIN STORMWATER BUFFER ZONE BY STORMWATER BUFFER ZONE. SEE DETAIL ON SHT. 9
- SEE SHTS. 6&7 FOR UNDERDRAIN LOCATION

APPROVAL: CARLISLE BOARD OF APPEALS



REV.	DATE	BY	DESCRIPTION
REV. 6			
REV. 5			
REV. 4	3/27/2015	JAB/IAJ	PER NITSCI COMMENTS
REV. 3	3/24/2015	JAB/IAJ	PER NITSCI COMMENTS
REV. 2	2/25/2015	JAB/IAJ	PER NITSCI COMMENTS
REV. 1	2/18/2015	JAB/IAJ	PER NITSCI COMMENTS

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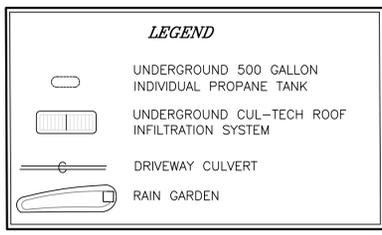
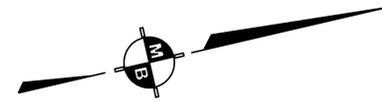
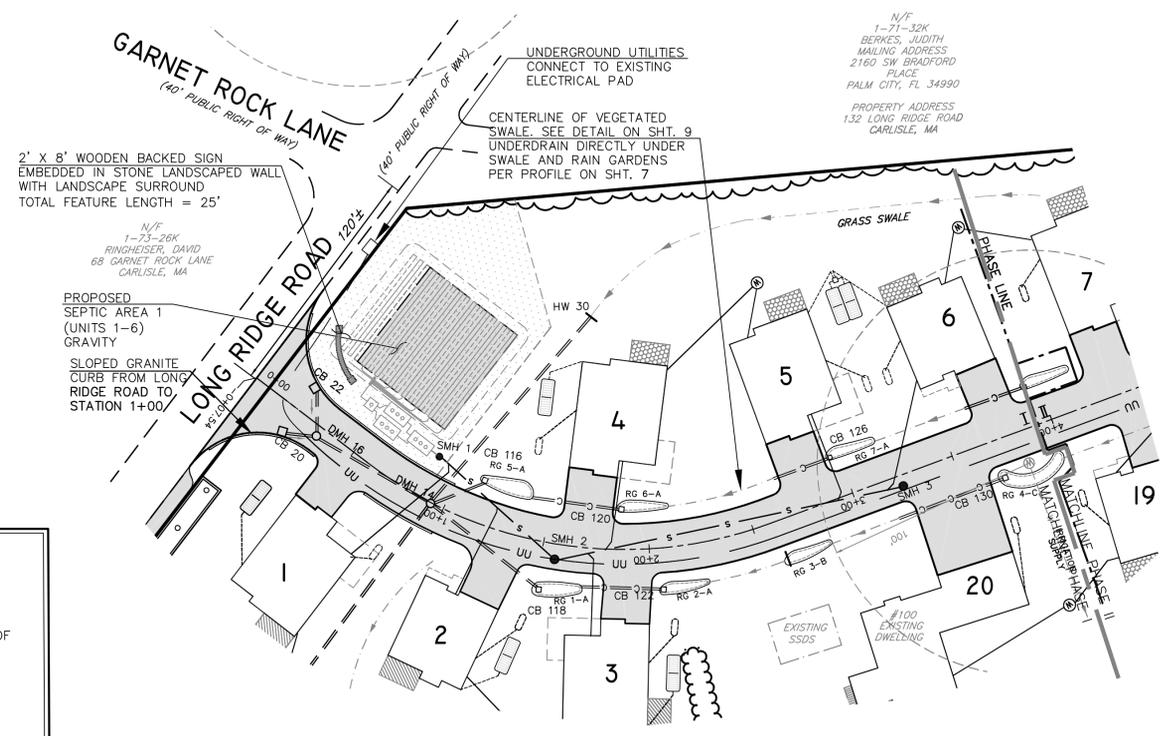
DETAILED GRADING & UTILITY PLAN
"The Birches"
100 LONG RIDGE ROAD
CARLISLE, MASSACHUSETTS

PREPARED FOR:
LIFETIME GREEN HOMES, LLC
142 LITTLETON ROAD
WESTFORD, MA 01886

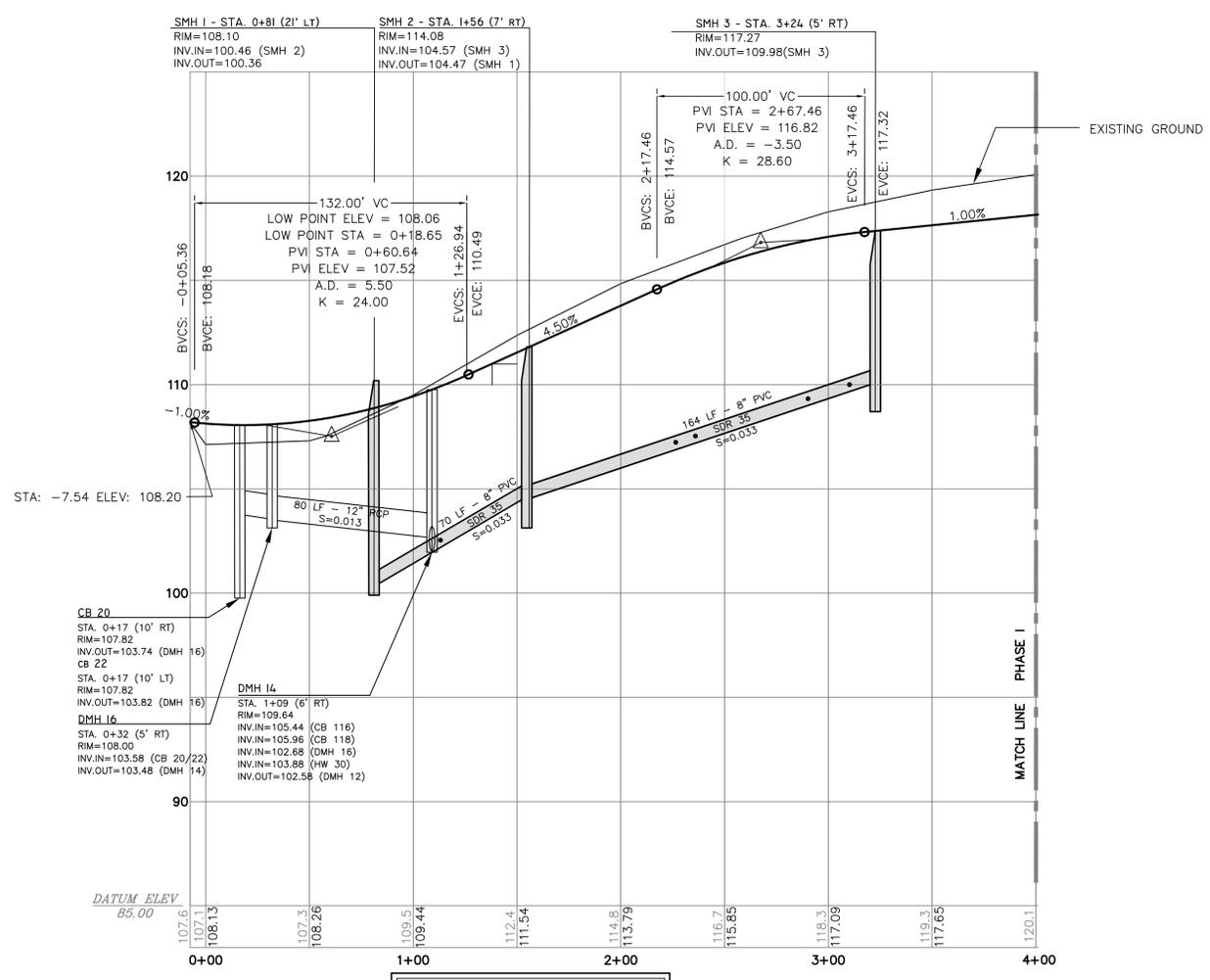
NOVEMBER 14, 2014 SCALE: 1" = 30'



MEISNER BREM CORPORATION
142 LITTLETON ROAD, STE. 16, WESTFORD, MA 01886 (978) 892-1313
151 MAIN STREET, SALEM, NH 03079 (603) 883-3301



PLAN SCALE: HORIZ. = 1" = 40'



PROFILE SCALE: HORIZ. = 1" = 40' VERT. = 1" = 4'

STRUCTURE ELEVATION TABLE

STRUCTURE	RIM	INV. IN	INV. IN	INV. IN	INV. OUT
CB 126	116.45				115.57 (LOT 3 DRIVEWAY)
CB 120	112.18				111.30 (LOT 2 DRIVEWAY)
CB 116	108.00				107.12 (DMH 14)
CB 20	107.82				103.74 (DMH 16)
CB 22	107.82				103.80 (DMH 16)
DMH 16	108.00	103.58 (CB 20)	103.58 (CB 22)		103.48 (DMH 14)
DMH 14	109.64	105.44 (CB 116)	102.68 (CB 16)	105.96 (CB 118)	102.58 (DMH 12)
DMH 12	102.00	101.16 (DMH 14)			101.06 (HW 10)
CB 130	116.85				115.97 (LOT 20 DRIVEWAY)
CB 122	113.17				112.30 (LOT 6 DRIVEWAY)
CB 118	110.74				109.86 (DMH 14)
CB 60	116.61				111.02 (DMH 64)
CB 62	116.25				111.14 (DMH 64)
DMH 64	116.10	110.90 (CB 60)	110.90 (CB 62)		110.80 (HW 48)
CB 66	112.00	106.35 (BIORET)			106.00 (CB 65)
CB 65	112.00	101.32 (CB 66)			101.22 (DMH 50)
DMH 50	104.90	100.62 (CB 65)	101.62 (DMH 52)		101.52 (CISTERN)
CB 54	105.37				102.80 (DMH 52)
CB 56	105.37				102.72 (DMH 52)
CB 216	106.85				103.69 (DMH 52)
CB 214	108.85				105.97 (LOT 12 DRIVEWAY)
DMH 52	105.64	102.58 (CB 54)	102.58 (CB 56)	102.93 (CB 216)	101.48 (DMH 50)
CB 23	106.00	103.22 (CB 54)			103.22 (HW 40)

DRAINAGE PIPE SCHEDULE (ALL PIPES HDPE)

FROM	TO	INV. IN	INV. OUT	LENGTH (FT)	SLOPE (FT/FT)	DIAM (IN)
CB 116	DMH 14	107.12	105.44	28	0.0600	8
HW 30	DMH 14	113.00	103.88	114	0.0800	12
DMH 16	DMH 14	103.48	102.68	60	0.0133	12
CB 20	DMH 16	103.74	103.58	16	0.0100	12
CB 22	DMH 16	103.80	103.58	22	0.0100	12
DMH 14	DMH 12	102.58	101.16	95	0.0150	18
DMH 12	HW 10	101.06	100.23	55	0.0150	18
CB 118	DMH 14	109.86	105.96	65	0.0600	8
CB 60	DMH 64	111.02	110.90	12	0.0100	12
CB 62	DMH 64	111.14	110.90	24	0.0100	12
DMH 64	HW 46	110.80	110.62	12	0.0150	12
BIORET.	CB 66	107.25	106.35	15	0.0600	8
CB 66	CB 65	106.00	102.36	52	0.0700	2X2
CB 65	DMH 50	102.22	101.62	30	0.0200	12
CB 216	DMH 52	103.69	102.93	38	0.0200	8
CB 54	DMH 52	102.80	102.58	22	0.0100	12
CB 56	DMH 52	102.72	102.58	14	0.0100	12
DMH 52	DMH 50	102.48	101.62	32	0.0270	12
DMH 50	CISTERN	101.52	101.42	5	0.0200	15
CISTERN	SMF	101.32	101.22	5	0.0200	12
CB 23	HW 40	103.22	102.09	75	0.0150	18

CULVERT SCHEDULE

LOCATION	INV. IN	INV. OUT	LENGTH (FT)	SLOPE (FT/FT)	DIAM (IN)
LOT 6 DRIVEWAY	116.00	115.65	35	0.0100	8
LOT 5 DRIVEWAY	114.35	114.00	35	0.0100	8
LOT 4 DRIVEWAY	110.12	108.92	40	0.0300	8
LOT 20 DRIVEWAY	115.85	115.37	48	0.0100	8
LOT 3 DRIVEWAY	112.00	110.00	40	0.0500	8
LOT 12 DRIVEWAY	106.58	105.23	35	0.0100	8
LOT 11 DRIVEWAY	109.32	108.97	35	0.0100	8
LOT 10 DRIVEWAY	113.27	112.92	35	0.0100	8

- NOTES**
- FOR DRAIN PIPE & STRUCTURE INFORMATION USE TABLES HEREON
 - FOR CONSTRUCTION DETAILS, TYPICAL PRIVATE DRIVEWAY CONSTRUCTION, AND ALL OTHER DETAILS USE SHEETS 2,9,10,&11
 - FOR TEMPORARY EROSION CONTROLS USE SHEETS 2 & 12
 - FOR LEGEND & ABBREVIATIONS SEE SHEET 2
 - CATCH BASIN 20, 22, 54, AND 56 TO UTILIZE INSERT BY STORMWATER BUFFER ZONE. SEE DETAIL ON SHT. 9

APPROVAL: CARLISLE BOARD OF APPEALS

REV. 6

REV. 5

REV. 4 3/27/2015 BY: W/JB PER NITSCH COMMENTS

REV. 3 3/24/2015 BY: W/JB PER NITSCH COMMENTS

REV. 2 2/25/2015 BY: W/JB PER NITSCH COMMENTS

REV. 1 2/6/2015 BY: W/JB PER NITSCH COMMENTS

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PLAN & PROFILE AND UTILITY PLAN

"The Birches" PHASE I

100 LONG RIDGE ROAD
CARLISLE, MASSACHUSETTS

PREPARED FOR:
LIFETIME GREEN HOMES, LLC
142 LITTLETON ROAD
WESTFORD, MA 01886

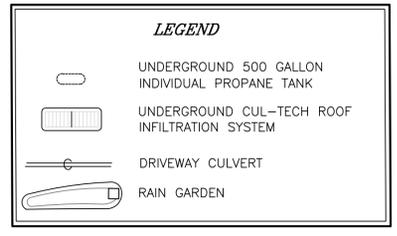
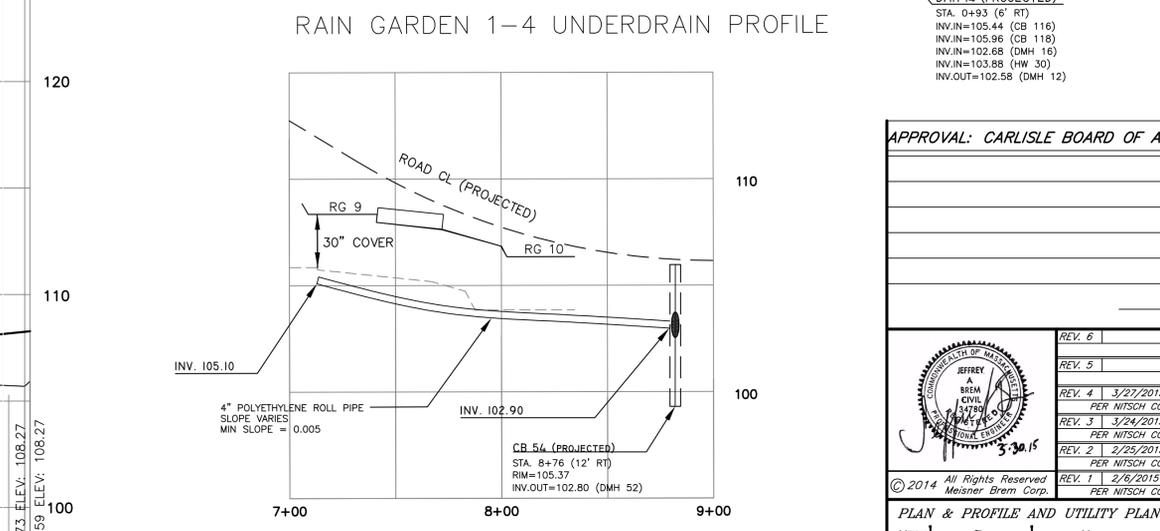
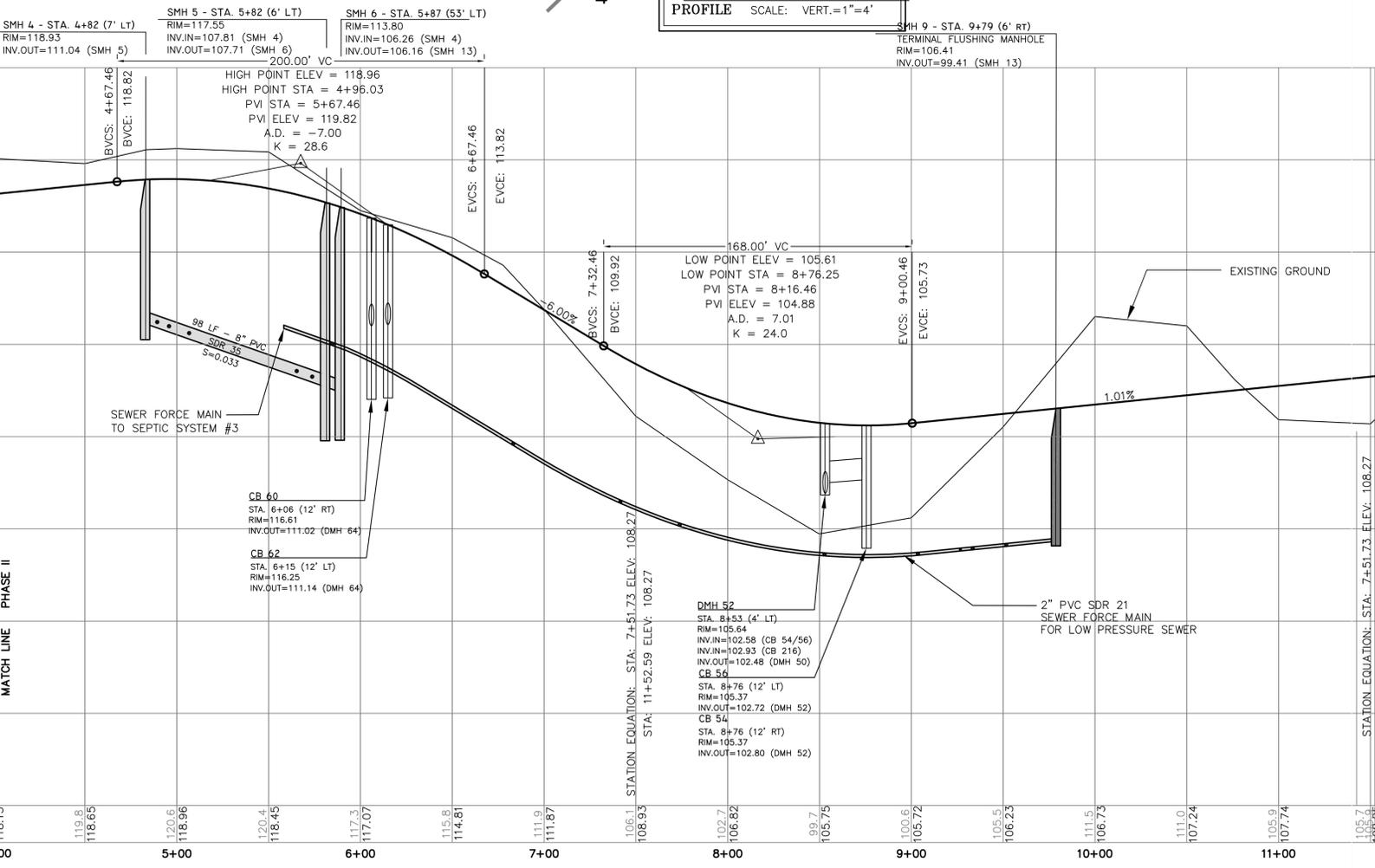
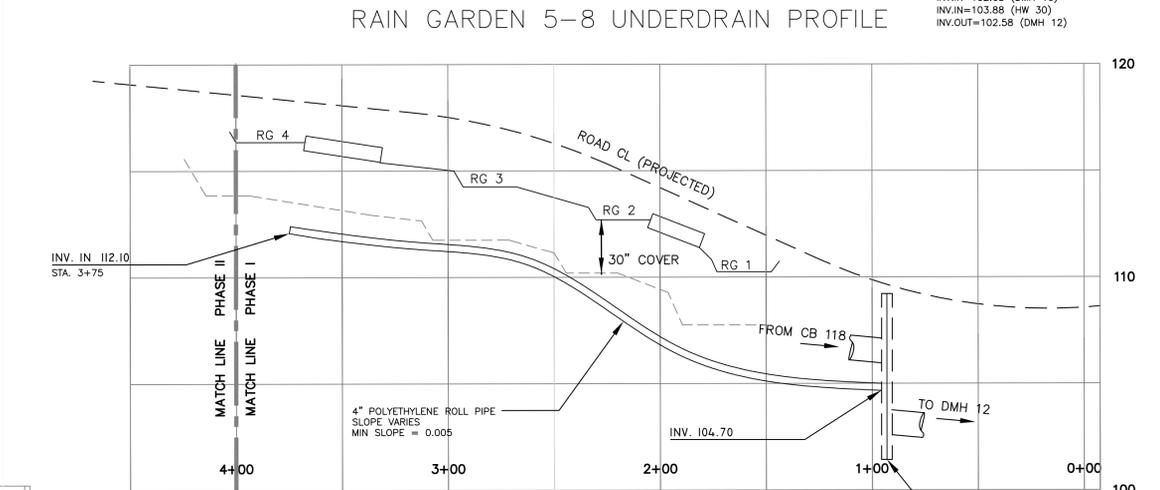
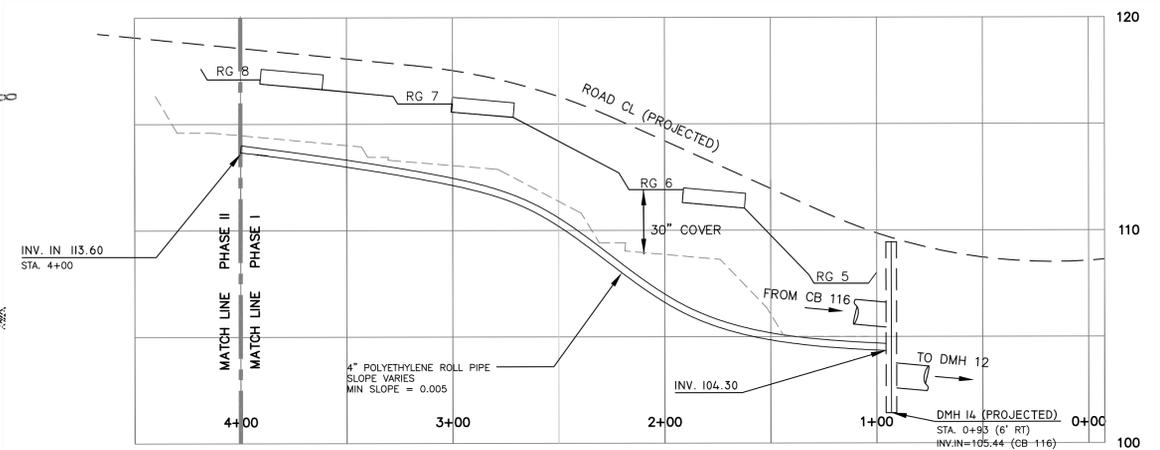
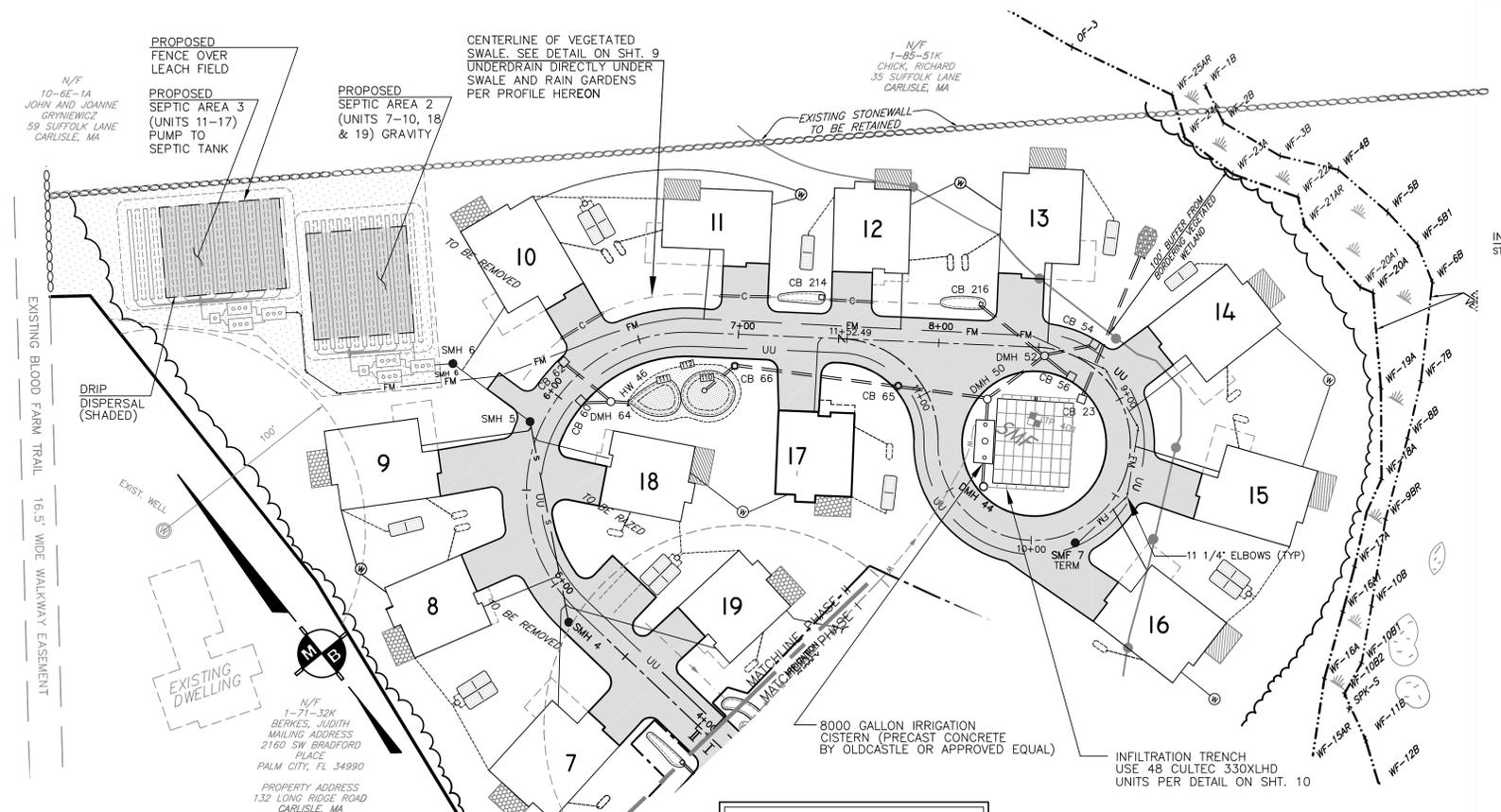
NOVEMBER 4, 2014 SCALE: 1" = 40'

MEISNER BREM CORPORATION
142 LITTLETON ROAD, STE. 16, WESTFORD, MA 01886 (978) 662-1313
151 MAIN STREET, SALEM, NH 03079 (603) 883-3300

DRAFTED BY: JRR/PDM SURVEYED BY: KDM
APPROVED BY: JAB/KDM JOB NUMBER: 2066

6 of 12

ACAD FILE: 2066m-40B-ANR.dwg



- NOTES**
- FOR DRAIN PIPE & STRUCTURE INFORMATION USE TABLES ON SHEET 6
 - FOR CONSTRUCTION DETAILS, TYPICAL PRIVATE DRIVEWAY CONSTRUCTION, AND ALL OTHER DETAILS USE SHEETS 2,9,10,&11
 - FOR TEMPORARY EROSION CONTROLS USE SHEETS 2 & 12
 - FOR LEGEND & ABBREVIATIONS SEE SHEET 2
 - CATCH BASIN 20, 22, 54, AND 56 TO UTILIZE INSERT BY STORMWATER BUFFER ZONE. SEE DETAIL ON SHT. 9

APPROVAL: CARLISLE BOARD OF APPEALS

REV.	DATE	BY	CHKD.	COMMENTS
REV. 6				
REV. 5				
REV. 4	3/27/2015	JAB/WJB		PER NITSCH COMMENTS
REV. 3	3/24/2015	JAB/WJB		PER NITSCH COMMENTS
REV. 2	2/25/2015	JAB/WJB		PER NITSCH COMMENTS
REV. 1	2/16/2015	JAB/WJB		PER NITSCH COMMENTS

PLAN & PROFILE AND UTILITY PLAN
"The Birches"
100 LONG RIDGE ROAD
CARLISLE, MASSACHUSETTS

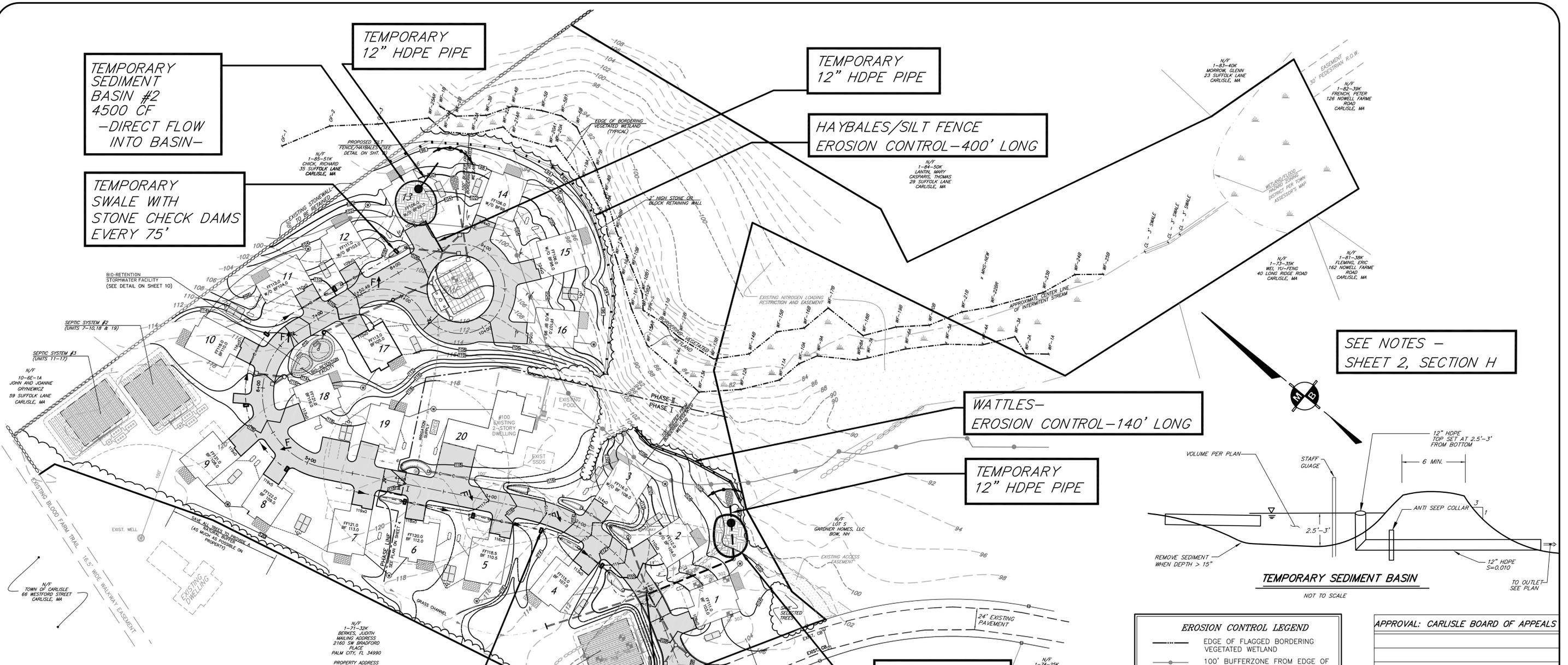
PREPARED FOR:
LIFETIME GREEN HOMES, LLC
142 LITTLETON ROAD
WESTFORD, MA 01886

NOVEMBER 4, 2014 SCALE: 1"=40'
0 20 0 40 80

MEISNER BREM CORPORATION
142 LITTLETON ROAD, STE. 16, WESTFORD, MA 01886 (978) 692-1313
151 MAIN STREET, SALEM, NH 03079 (603) 893-3301

DRAFTED BY: JRR/PDM SURVEYED BY: KDM
APPROVED BY: JAB/KDM JOB NUMBER: 2066
2014 FILE: 2066m-40B-ANR.dwg

7 of 11



TEMPORARY SEDIMENT BASIN #2
4500 CF
-DIRECT FLOW INTO BASIN-

TEMPORARY 12" HDPE PIPE

TEMPORARY 12" HDPE PIPE

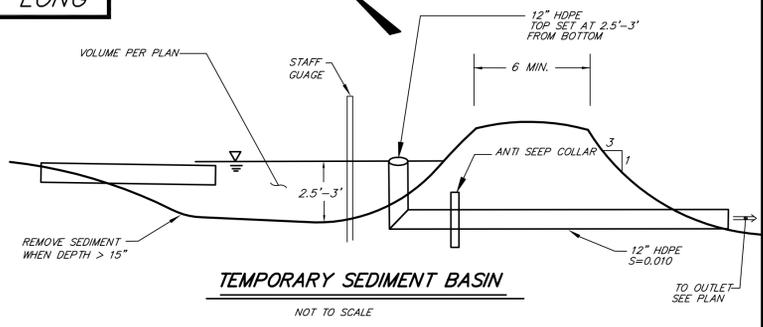
HAYBALES/SILT FENCE
EROSION CONTROL-400' LONG

TEMPORARY SWALE WITH STONE CHECK DAMS EVERY 75'

WATTLES-
EROSION CONTROL-140' LONG

TEMPORARY 12" HDPE PIPE

SEE NOTES - SHEET 2, SECTION H



TEMPORARY SEDIMENT BASIN
NOT TO SCALE

EROSION CONTROL LEGEND

- EDGE OF FLAGGED BORDERING VEGETATED WETLAND
- 100' BUFFERZONE FROM EDGE OF BORDERING VEGETATED WETLAND
- WATTLES
- HAYBALE/SILTFENCE

APPROVAL: CARLISLE BOARD OF APPEALS

REV. 6	
REV. 5	
REV. 4	
REV. 3	
REV. 2	
REV. 1	2/8/2015 BY: JAB/KDM PER NITSCH COMMENTS

EROSION CONTROL PLAN
"The Birches"
100 LONG RIDGE ROAD
CARLISLE, MASSACHUSETTS

PREPARED FOR:
LIFETIME GREEN HOMES, LLC
142 LITTLETON ROAD
WESTFORD, MA 01886

NOVEMBER 14, 2014 SCALE: 1" = 50'
50 25 0 50 100

MEISNER BREM CORPORATION
142 LITTLETON ROAD, STE. 10, WESTFORD, MA 01886 (978) 892-1313
151 MAIN STREET, SALEM, NH 03079 (603) 893-3300

DRAFTED BY: JAB/PDM SURVEYED BY: KDM
APPROVED BY: JAB/KDM JOB NUMBER: 2066
ACAD FILE: 2066m-40B-ANR.dwg **8 of 11**

INSTALL INLET EROSION CONTROL DEVICE ON ALL CATCH BASINS

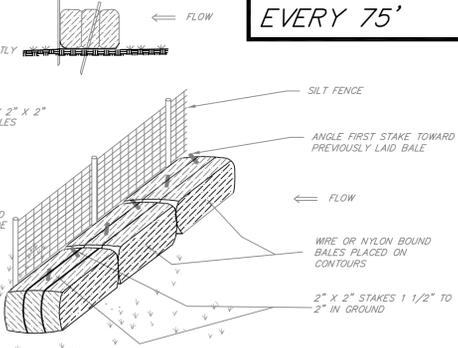
TEMPORARY SWALE WITH STONE CHECK DAMS EVERY 75'

TEMPORARY SEDIMENT BASIN #1
1800 CF
-DIRECT FLOW INTO BASIN-

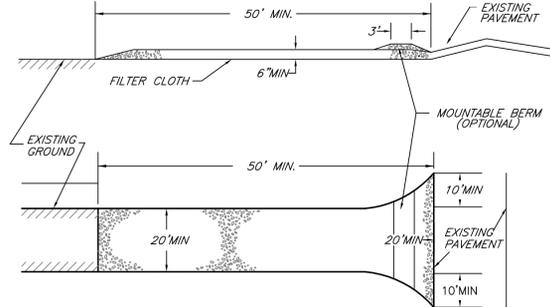
TEMPORARY 12" DRAIN CULVERT

CONSTRUCTION SPECIFICATIONS

- BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
- EACH BALE SHALL BE PLACED ON ORIGINAL GROUND AND STAKED.
- BALES SHALL BE SECURELY ANCHORED IN PLACE BY 2" X 2" WOOD STAKES OR REBARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
- INSPECTION SHALL BE FREQUENT, AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS, SO AS NOT TO BLOCK OR IMPED STORM FLOW OR DRAINAGE.

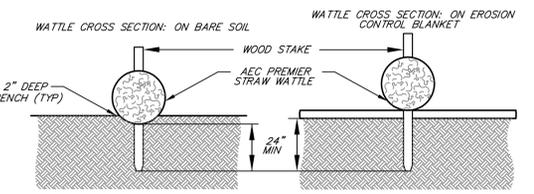
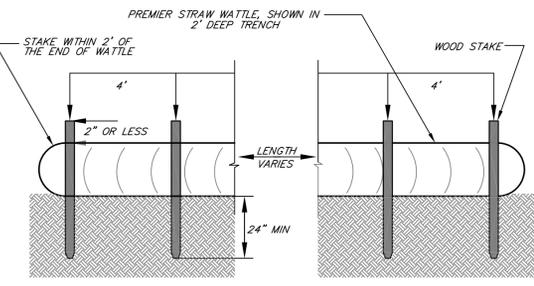


EROSION CONTROL DETAIL - SILT FENCE & HAY BALE
NOT TO SCALE

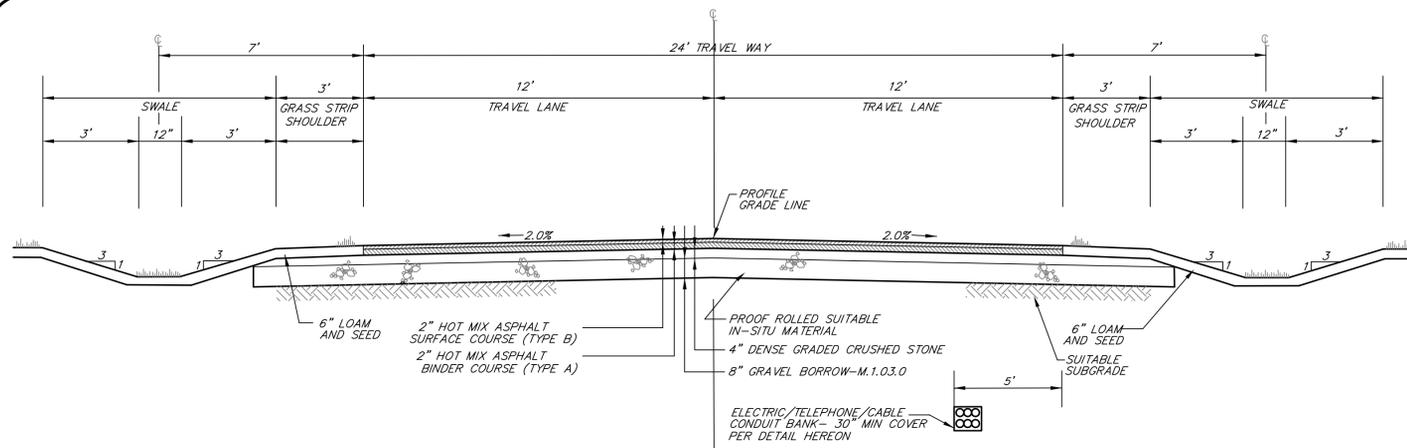


CONSTRUCTION ENTRANCE
NOT TO SCALE

- STONE FOR STABILIZED ENTRANCE SHALL BE 1 TO 2 INCH STONE OR RECLAIMED STONE.
- 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.
- THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
- THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS AND EGRESS OCCURS OR 10 FEET, WHICH EVER IS GREATER.
- 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.
- 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.
- 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 TOPDRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.

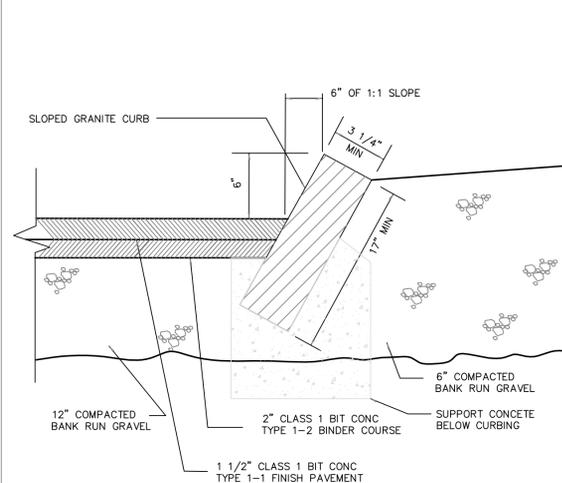


WATTLE DETAIL
NOT TO SCALE



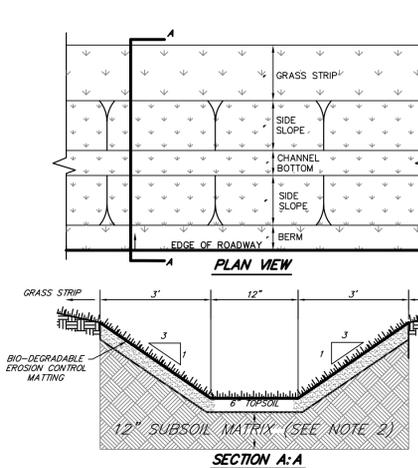
TYPICAL PRIVATE DRIVEWAY CROSS SECTION

NOT TO SCALE
 NOTE: ALL MATERIALS SHALL MEET THE MINIMUM REQUIREMENTS OF THE LATEST MASSDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES AS AMENDED.



NOTE: SLOPED GRANITE CURB SHALL BE INSTALLED FROM INTERSECTION WITH LONG RIDGE ROAD TO STATION 1+00 ON BOTH SIDES OF DRIVEWAY.

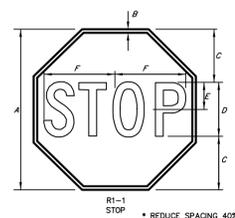
SLOPED GRANITE CURB DETAIL



VEGETATED SWALE DETAIL

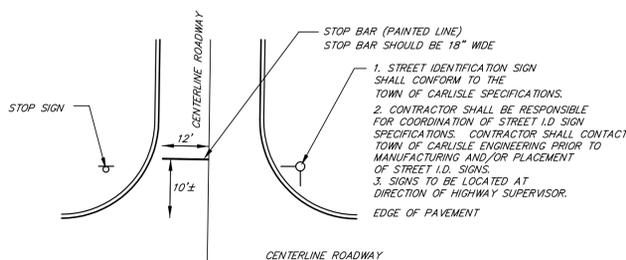
NOT TO SCALE
 1. VEGETATED SWALE TO BE CONSTRUCTED ON BOTH SIDES OF PROPOSED ROADWAY
 2. MIN DEPTH = 8"
 3. SWALE SHALL BE MAINTAINED/CLEANED AT LEAST ONCE PER YEAR, NO SHORTER THAN 4 INCHES.

NOTES:
 1. GRASSSED DRAINAGE SWALE TO BE SEEDED WITH A WETLAND SEED MIX. SPECIES SHALL INCLUDE THE FOLLOWING:
 Red-top Panic Grass *Panicum rigidulum* (50% OF TOTAL APPLICATION)
 Cow Meadow Grass *Cynodon dactylon* (10% OF TOTAL APPLICATION)
 Big Bluestem *Andropogon gerardii* (25% OF TOTAL APPLICATION)
 Soft Rush *Juncus effusus* (10% OF TOTAL APPLICATION)
 Blue Vervain *Verbena hastata* (25% OF TOTAL APPLICATION)
 THE APPLICATION RATE IS: 1lb/2500sq.ft.
 2. SWALE SUBSOIL SHALL BE AUGMENTED (IF NECESSARY) TO ENSURE SANDY LOAM MATERIAL WITH 10-20% ORGANICS & NO MORE THAN 1% CLAY.
 3. SWALE SHALL BE MAINTAINED/CLEANED AT LEAST ONCE PER YEAR, NO SHORTER THAN 4 INCHES.



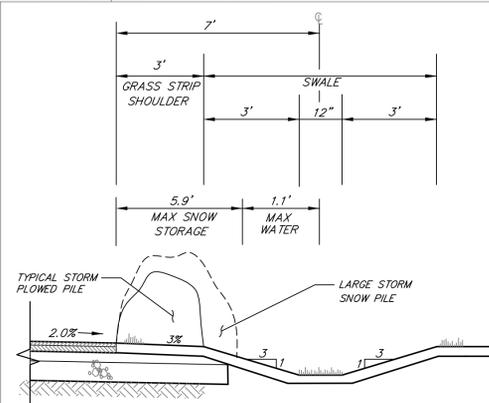
STOP SIGN DETAIL

A	B	C	D	E	F
30	37.5	6	6	3	7.75
24	30	6	6	3	6.25
36	45	6	6	3	11.25
48	60	6	6	3	15



STOP BAR/STREET SIGN DETAIL

NOT TO SCALE
 1. STOP SIGN SHALL BE PLACED NOT LESS THAN 6 FEET FROM EDGE OF TRAVELED WAY.
 2. STOP SIGN SHALL BE PLACED NOT LESS THAN 7 FEET IN HEIGHT FROM FINISHED GRADE.
 3. STOP SIGN SHALL UTILIZE A GREEN ENAMEL U-CHANNEL.

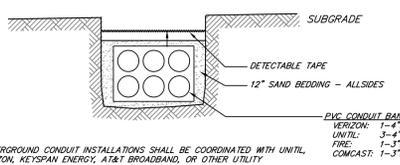


TYPICAL DRIVEWAY SNOW PLOWING CROSS SECTION

NOT TO SCALE

NOTE

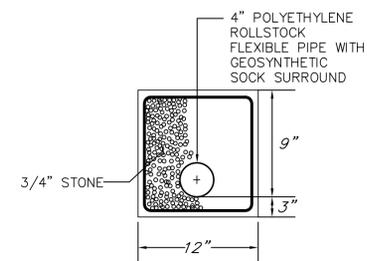
RESTRAINTS: USE EBAA IRON INC. SERIES 7500 OR EQUIVALENT.
 RESTRAINTS TO BE APPLIED IN LINE AT JOINTS OR IN MANHOLES BY THE DIRECTION OF THE TOWN ENGINEER AT THE TIME OF CONSTRUCTION.



UNDERGROUND CONDUIT INSTALLATIONS SHALL BE COORDINATED WITH UTILITIES, VERIZON, KEYSPAN ENERGY, AT&T BROADBAND, OR OTHER UTILITY.

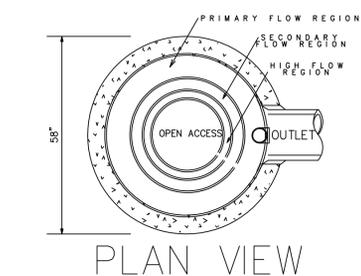
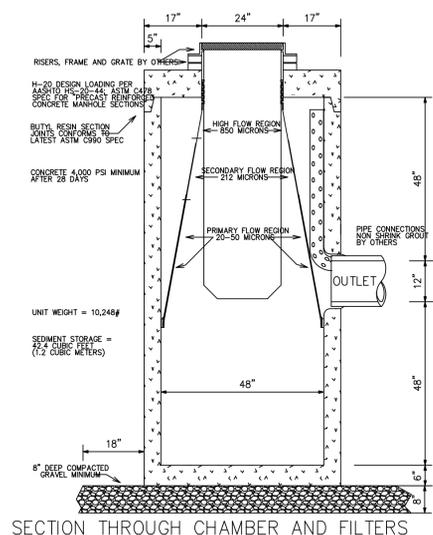
UNDERGROUND POWER CONDUIT DETAIL

NOT TO SCALE
 SEE SHEETS 6&7 FOR LOCATION



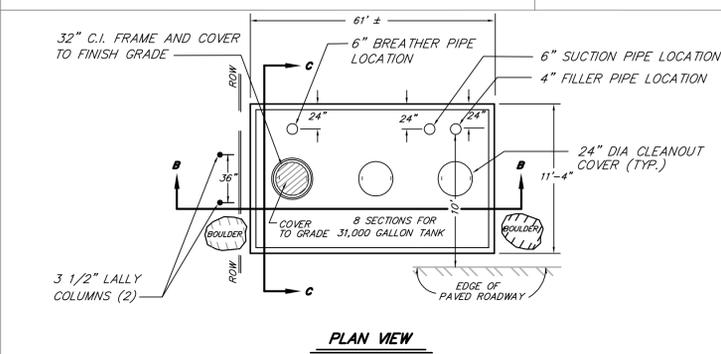
UNDERDRAIN DETAIL

NOT TO SCALE



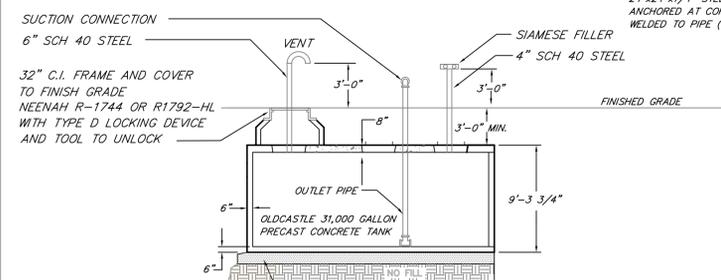
NOTES:

- MANHOLES TO BE SET BY DRAINAGE CONTRACTOR IN CONJUNCTION WITH OTHER DRAINAGE MANHOLES AND PIPING, SET IN ACCORDANCE WITH CITY OR STATE SPECIFICATION WITH REGARD TO BASE AND BACKFILL MATERIALS, COMPACTION AND OTHER TOLERANCES.
- STORMWATER QUALITY INTERNAL PARTS TO BE ADJUSTED BY STORMWATER BUFFER ZONE AFTER INLET GRATE IS INSTALLED
- STORMWATER BUFFER ZONE IS COVERED BY U.S. PATENT #7,658,857 AND 7,981,300.
- CONTACT STORMWATER BUFFER ZONE FOR DETAILS NOT SHOWN ON THIS DRAWING AT 978-801-1729 OR info@stormwaterbufferzone.com
- UNITS ARE THIRD PARTY VERIFIED TO REMOVE 62.5% OF 1-1000 MICRON TSS @ 122 GPM SEE www.MoSTEP.net FOR DETAILS
- UNITS HAVE BEEN APPROVED FOR USE BY MassDEP



PLAN VIEW

NOT TO SCALE



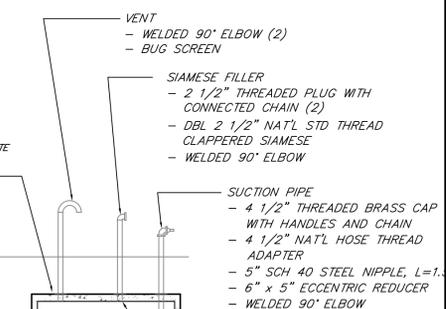
SECTION VIEW B-B

31,000 GALLON FIRE CISTERN DETAIL

NOT TO SCALE

NOTES:

- ONE CUBIC YARD BOULDERS SHALL BE PROVIDED AT 8' O.C. AND 5' OFF TANK AFTER FINAL GRADING.
- BACKFILL SHALL BE CLEAN EARTHEN FILL WITH NO STONES LARGER THAN 3" AND COMPACTED IN PLACE.
- CONTRACTOR IS RESPONSIBLE FOR ARRANGING THE REQUIRED INSPECTIONS WITH THE CARLISLE FIRE DEPARTMENT.
- ALL STEEL SHALL BE PAINTED.



SECTION VIEW C-C

APPROVAL: CARLISLE BOARD OF APPEALS

REV.	DATE	BY	DESCRIPTION
REV. 6			
REV. 5			
REV. 4			
REV. 3			
REV. 2	3/24/2015	JAB	PER NITSCH COMMENTS
REV. 1	2/8/2015	JAB	PER NITSCH COMMENTS

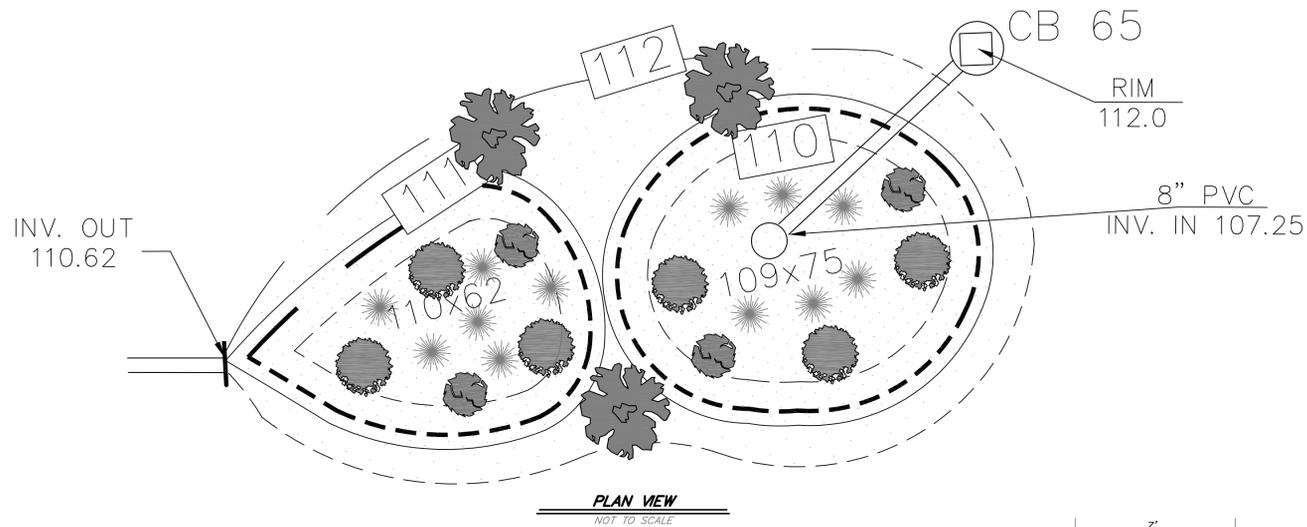
DETAIL SHEET
"The Birches"
 100 LONG RIDGE ROAD
 CARLISLE, MASSACHUSETTS
 PREPARED FOR:
 LIFETIME GREEN HOMES, LLC
 142 LITTLETON ROAD
 WESTFORD, MA 01886

NOVEMBER 4, 2014 AS SHOWN

MEISNER BREM CORPORATION
 142 LITTLETON ROAD, STE. 10, WESTFORD, MA 01886 - (978) 892-1313
 151 MAIN STREET, SALEM, NH 03079 - (603) 883-3301

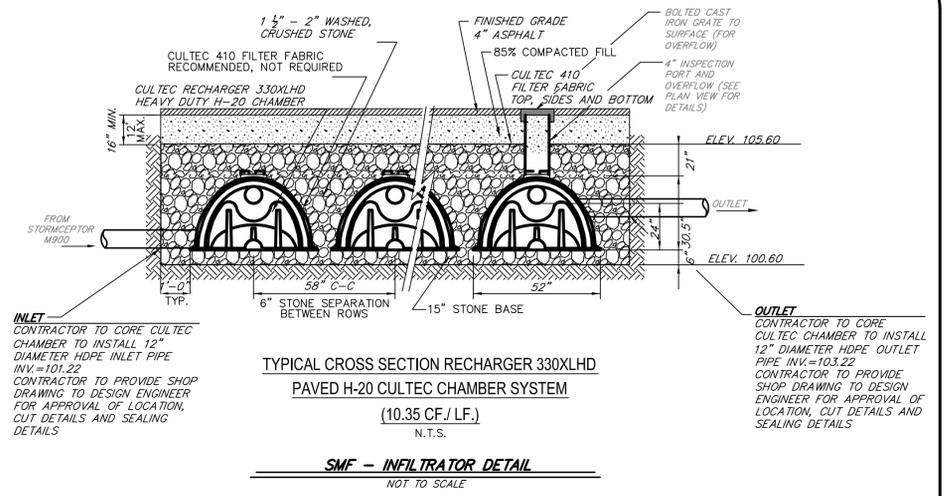
DRAFTED BY: LJA/PDM SURVEYED BY: KDM
 APPROVED BY: JAB/KDM JOB NUMBER: 2066
 4CAD FILE: 2066m-40B-ANR.dwg

SBZ 160D STORMWATER TREATMENT SYSTEM
 FOR CB 54, 56, 20, AND 22
 BY STORMWATER BUFFER ZONE



GENERAL NOTES
 Recharger 330 by CULTEC, INC. of Brookfield, CT.
 All Recharger-330 Chambers must be installed in accordance with all applicable local, state and federal regulations. Refer to manufacturer, CULTEC, INC.'s recommended installation guidelines.
 All Recharger 330HD H2O Heavy Duty units are marked with a 4" stripe along the length of the chamber.

CALCULATIONS BASED ON 40% STONE VOID
 TOTAL VOLUME OF CRUSHED STONE TO BE 42' WIDE BY 48' LONG BY 5' HIGH = 10,080 CF

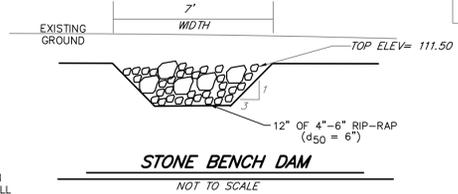


INLET
 CONTRACTOR TO CORE CULTEC CHAMBER TO INSTALL 12" DIAMETER HDPE INLET PIPE INV.=101.22
 CONTRACTOR TO PROVIDE SHOP DRAWING TO DESIGN ENGINEER FOR APPROVAL OF LOCATION, CUT DETAILS AND SEALING DETAILS

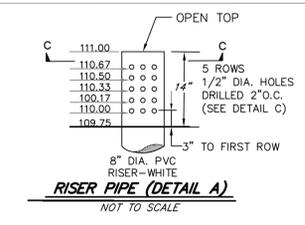
TYPICAL CROSS SECTION RECHARGER 330XLHD PAVED H-20 CULTEC CHAMBER SYSTEM (10.35 CF / LF.) N.T.S.

SMF - INFILTRATOR DETAIL NOT TO SCALE

OUTLET
 CONTRACTOR TO CORE CULTEC CHAMBER TO INSTALL 12" DIAMETER HDPE OUTLET PIPE INV.=103.22
 CONTRACTOR TO PROVIDE SHOP DRAWING TO DESIGN ENGINEER FOR APPROVAL OF LOCATION, CUT DETAILS AND SEALING DETAILS



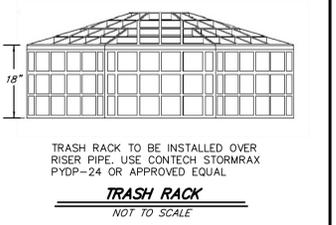
STONE BENCH DAM NOT TO SCALE



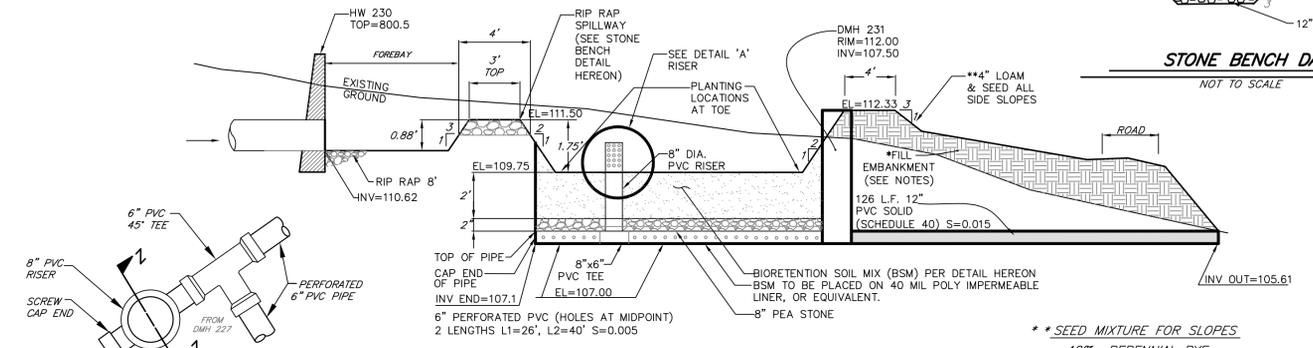
RISER PIPE (DETAIL A) NOT TO SCALE



SECTION C-C NOT TO SCALE



TRASH RACK NOT TO SCALE



BIORETENTION FACILITY NOT TO SCALE

BIORETENTION SOIL MIX & RAIN GARDEN SOIL MIX
 40% PERENNIAL RYE
 30% CREEPING RED FESCUE
 15% BIGHORN FESCUE
 15% ANNUAL RYE
 RATE: 3lbs / 1000 SF

SOIL	SIEVE	% PASSING
40% SAND	20	100
	40	70-100
	60	15-35
	100	2-15
200	0	
20-30% TOPSOIL		
30-40% STABLE COMPOST		

BIORETENTION PLANTING SCHEDULE				
SYMBOL	COMMON NAME	SCIENTIFIC NAME	DELIVERED AS	NUMBER OF PLANTS
☘	RIVER BIRCH	BETULA NEGRA	2" CALIPER	3
🌳	NORTHERN ARROWWOOD VIBURNUM	VIBURNUM RECOGNITUM	18" CONTAINER	6
🌳	NINEBARK	PHYSCARPUS OPULIFOLIUS	12" CONTAINER	4
🌿	BIRDSFOOT-TREFOIL	LOTUS-CORNICALATAS	12" CONTAINER	12
🌳	FINE-SHREDDED HARDWOOD MULCH		6 CUBIC YARDS	2-3" DEEP

RAIN GARDEN #	TYPE	VOLUME (± C.F.)	AREA (± S.F.)	TOP OF BERM	SPILLWAY	BOTTOM	DROP INLET RIM	INFLOW ELEV.
1	A	98	126	111.00	110.90	109.51	a:110.00	
2	A	98	126	113.50	113.40	112.51	b:113.20	
3	B	98	126	114.75	114.65	114.25	c:114.92	
4	C	279	360	117.35	117.25	116.35	d:116.85	
5	A	98	126	110.00	109.90	108.50	e:109.07	
6	A	98	126	113.12	113.02	111.62	f:113.00	
7	A	98	126	115.85	115.75	114.85	g:115.35	
9	A	279	360	108.08	107.98	107.08	h:108.97	
10	A	279	360	105.15	105.05	104.15	i:104.88	

RAIN GARDEN SCHEDULE OF ELEVATIONS

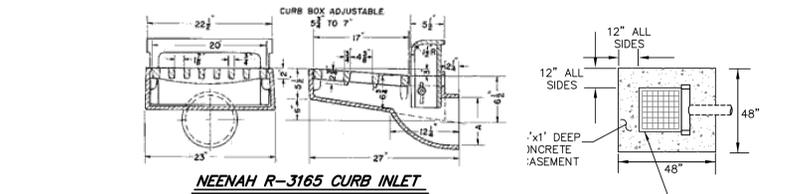
INFLOW ELEVATIONS PER LETTER ON SHEET 5

SYMBOL	SPECIES *	COMMON NAME	QUANTITY	HEIGHT	SPACING MINIMUM		
						TYPE "A"	TYPE "B"
A	CLETHRA ALNIFOLIA	SWEET PEPPERBUSH	6	6	10	1'-2'	2'
B	HYPENICUM DENSIFLORUM	COMMON ST. JOHNSWORT	3	3	5	1'-2'	2'
C	IRIS VERSICOLOR	BLUE FLAG IRIS	7	7	14	1'-2'	1'
D	JUNIPERUS HORIZONTALIS	CREEPING JUNIPER	12	12	24	0'-3'	1'
E	HEDERA HELIX	ENGLISH IVY	36	36	64	1'-2'	6"
F	PHYSCARPUS OPULIFOLIUS	NINEBARK	4	4	8	2'-4'	1'
G	LINDERA BENZOIN	SPICEBUSH	10	10	20	2'-4'	1'
H	ILEX VERTICILLATA	WINTERBERRY	2	2	6	2'-5'	1'
J	FRAXINUS PENNSYLVANICA	GREEN ASH	1	1	2	8'-12'	8'
K	VIBURNUM DENTATUM	ARROW-WOOD	9	9	20	2'-4'	4'
L	ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER	8	8	16	3'-6'	1'
M	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	15	15	30	1'-2'	4'

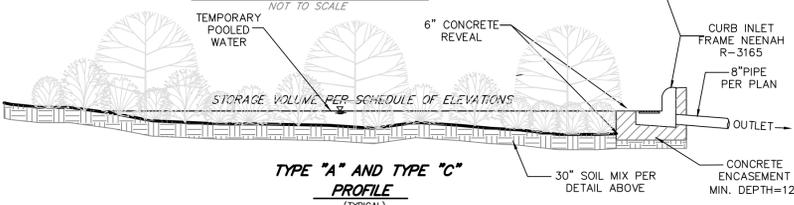
RAIN GARDEN DETAIL

RAIN GARDEN PLANT LIST TAKEN FROM MASSACHUSETTS STORMWATER MANAGEMENT GUIDELINES, VOLUME 2, CHAPTER 2.

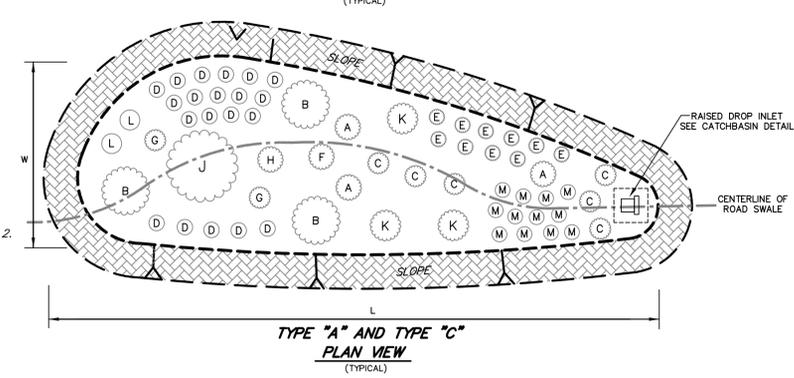
NOTE:
 1. RAIN GARDEN SUBSOIL SHALL BE EXCAVATED THREE FEET BELOW PROPOSED FINISH ELEVATION. BACKFILL MATERIAL SHALL BE 50% NATIVE SOIL AND 50% COMPOST WITH NO MORE THAN 1% CLAY.
 2. COMPOSTED BLACK BARK MULCH TO BE USED IN RAIN GARDEN PLANTING AREAS.



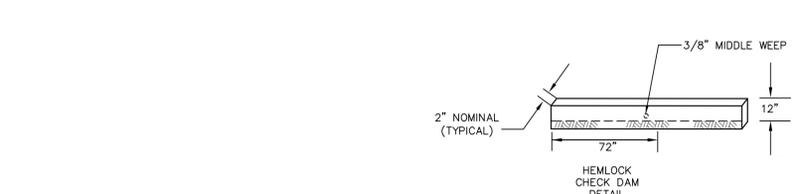
NEENAH R-3165 CURB INLET NOT TO SCALE



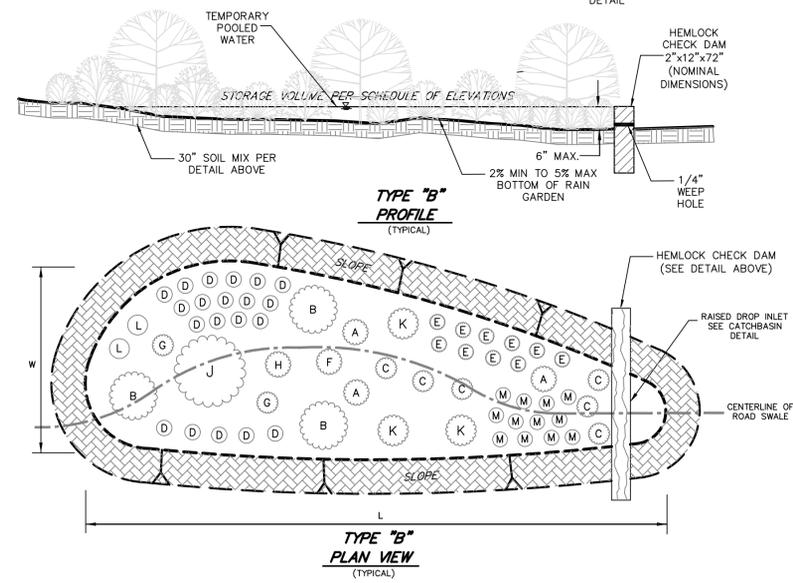
TYPE "A" AND TYPE "C" PROFILE (TYPICAL)



TYPE "A" AND TYPE "C" PLAN VIEW (TYPICAL)



TYPE "B" PROFILE (TYPICAL)



TYPE "B" PLAN VIEW (TYPICAL)

APPROVAL: CARLISLE BOARD OF APPEALS

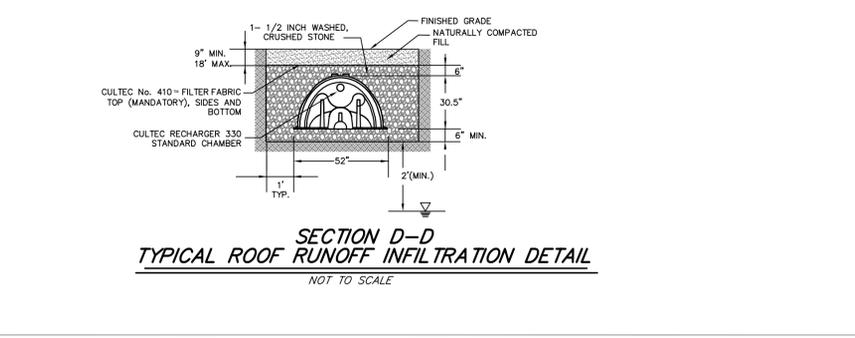
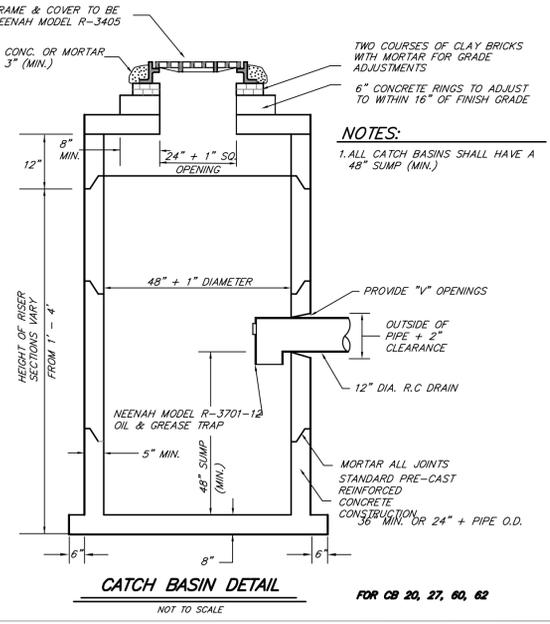
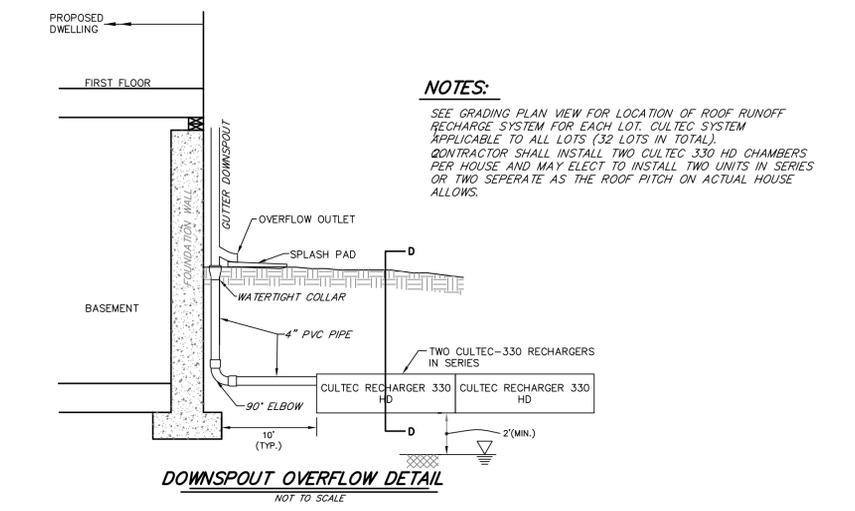
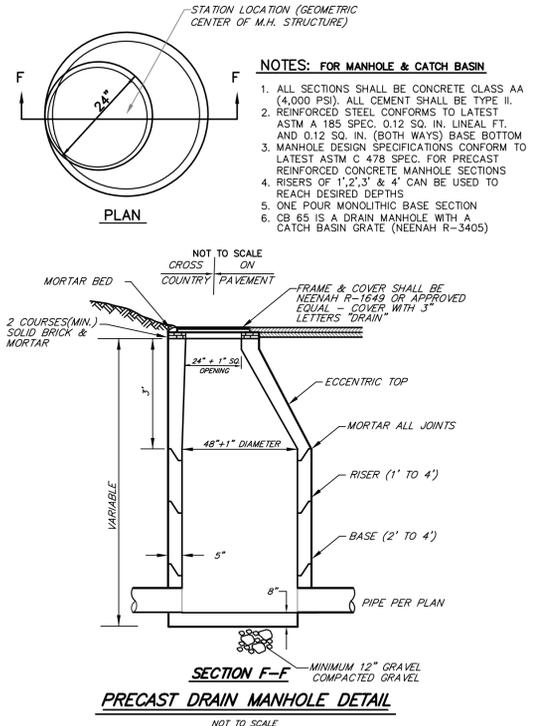
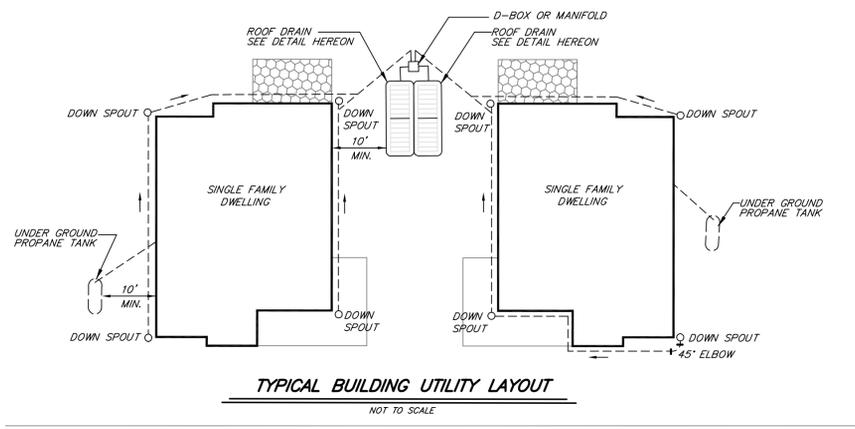
REV. 6	
REV. 5	
REV. 4	
REV. 3	3/24/2015 BY: JAB/KB PER NITSCH COMMENTS
REV. 2	2/23/2015 BY: JAB/KB PER NITSCH COMMENTS
REV. 1	2/6/2015 BY: JAB/KB PER NITSCH COMMENTS

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 Jeffrey A. Brem
 CIVIL ENGINEER
 3-30-15
 MEISNER BREM CORPORATION

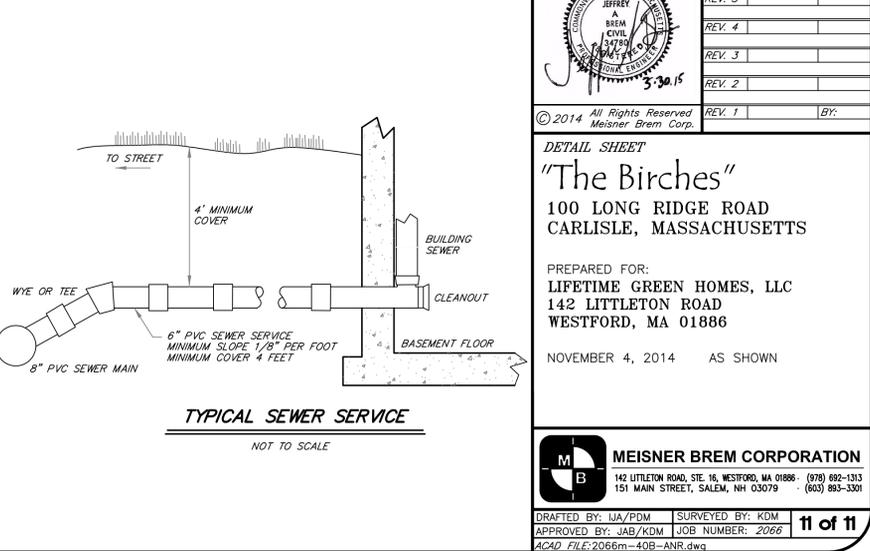
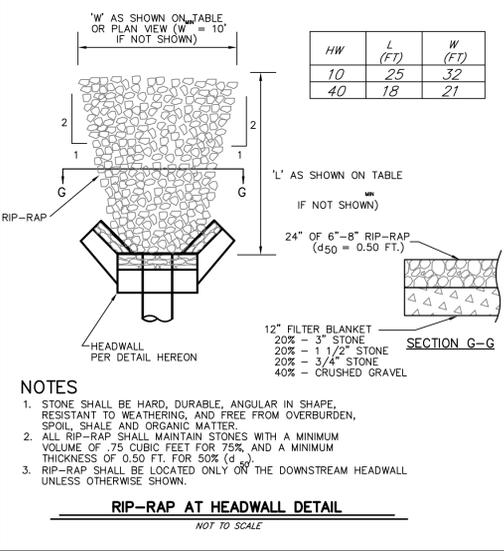
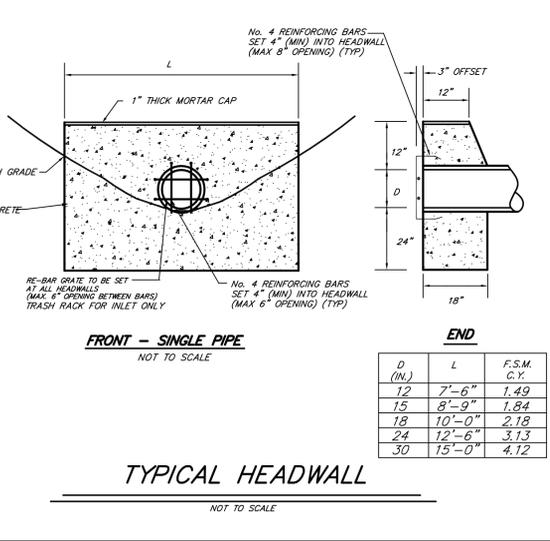
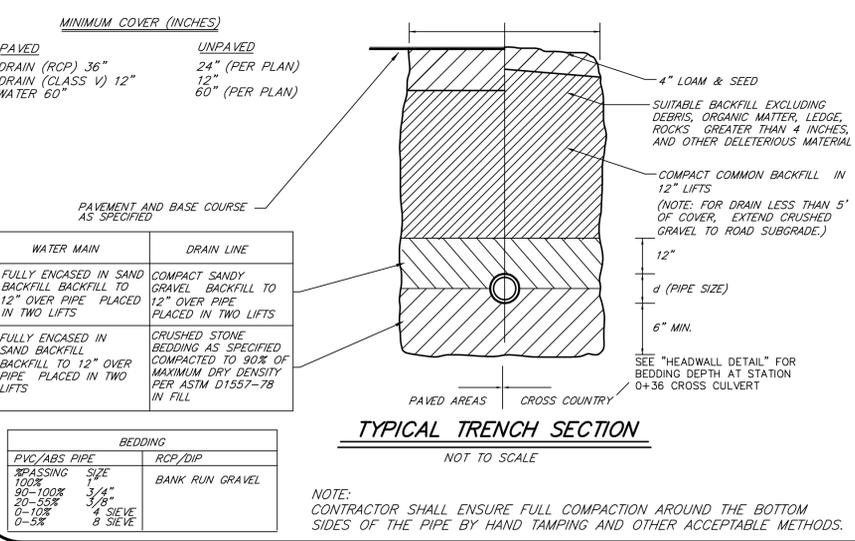
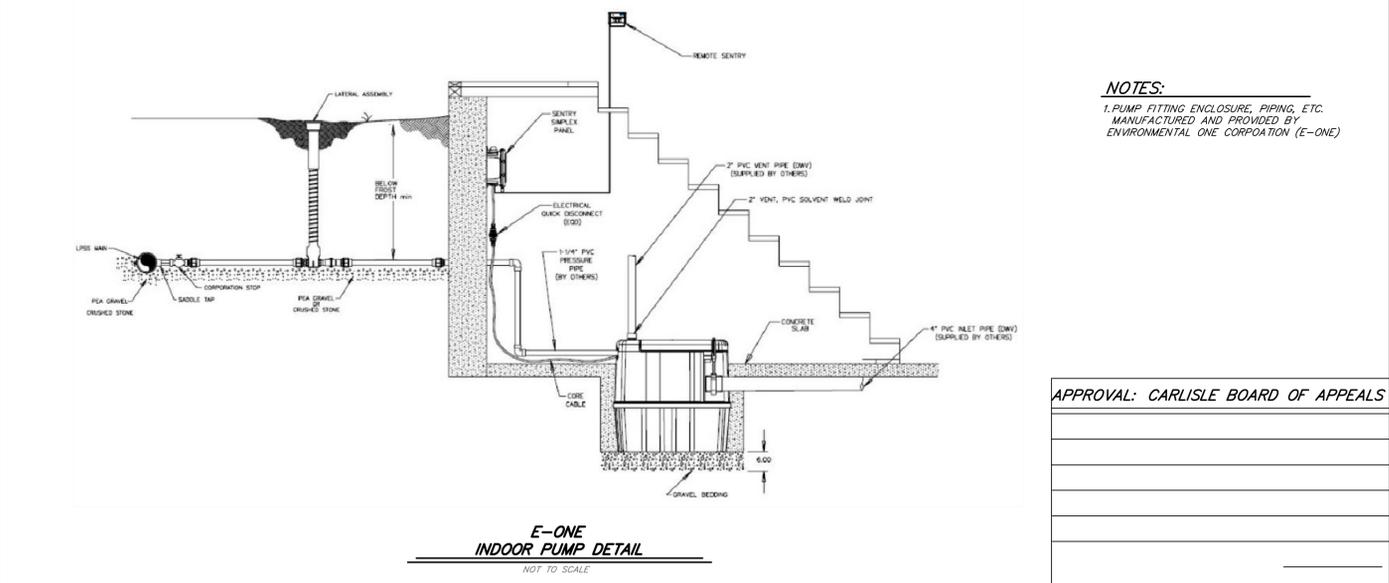
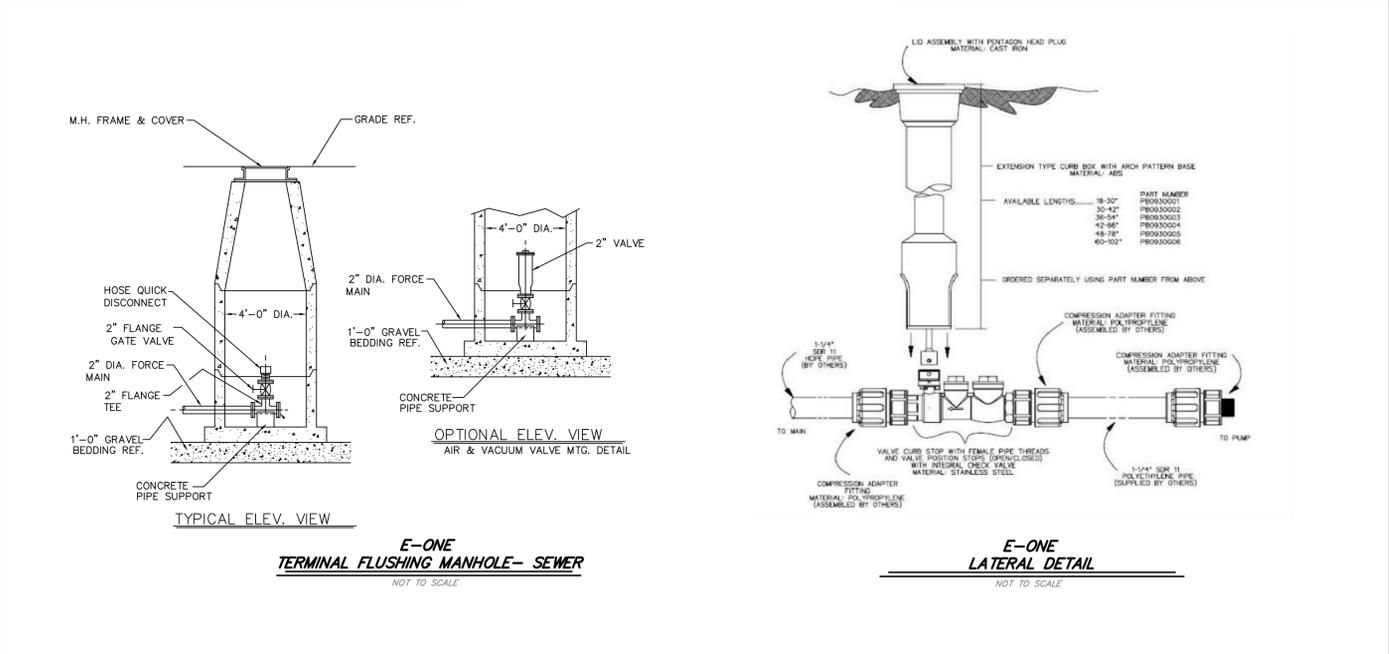
DETAIL SHEET--LOW IMPACT DEVELOPMENT
"The Birches"
 100 LONG RIDGE ROAD
 CARLISLE, MASSACHUSETTS

PREPARED FOR:
 LIFETIME GREEN HOMES, LLC
 142 LITTLETON ROAD
 WESTFORD, MA 01886

NOVEMBER 4, 2014 AS SHOWN



E-ONE LOW PRESSURE SEWER DETAILS



NOTES:

1. PUMP FITTING ENCLOSURE, PIPING, ETC. MANUFACTURED AND PROVIDED BY ENVIRONMENTAL ONE CORPORATION (E-ONE)

APPROVAL: CARLISLE BOARD OF APPEALS

JEFFREY A. BREM
CIVIL ENGINEER
33015
3/30/15

REV. 6
REV. 5
REV. 4
REV. 3
REV. 2
REV. 1

DETAIL SHEET
"The Birches"
100 LONG RIDGE ROAD
CARLISLE, MASSACHUSETTS

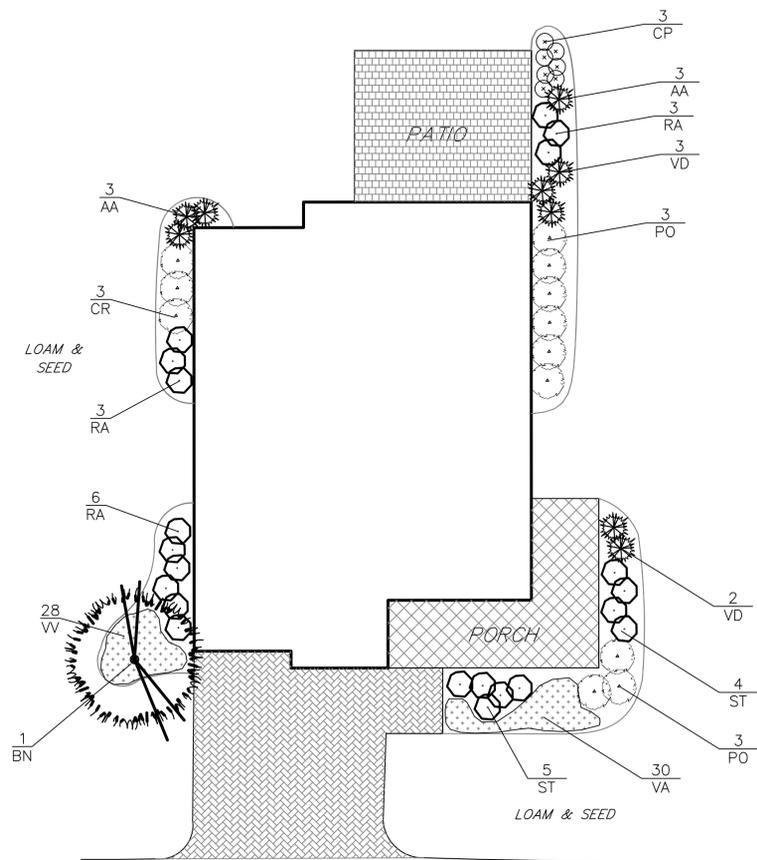
PREPARED FOR:
LIFETIME GREEN HOMES, LLC
142 LITTLETON ROAD
WESTFORD, MA 01886

NOVEMBER 4, 2014 AS SHOWN

MEISNER BREM CORPORATION
142 LITTLETON ROAD, STE. 16, WESTFORD, MA 01886 (978) 892-1333
151 MAIN STREET, SALEM, NH 03079 (603) 883-3300

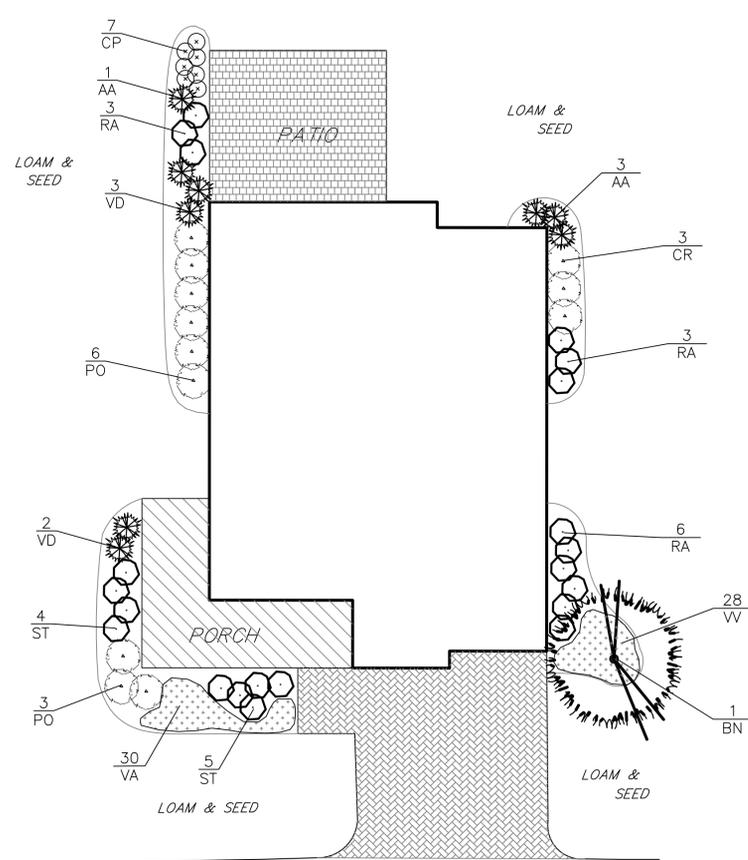
DRAFTED BY: JJA/PDM SURVEYED BY: KDM
APPROVED BY: JAB/KDM JOB NUMBER: 2066
4240 FILE:2066m-40B-ANR.dwg

11 of 11



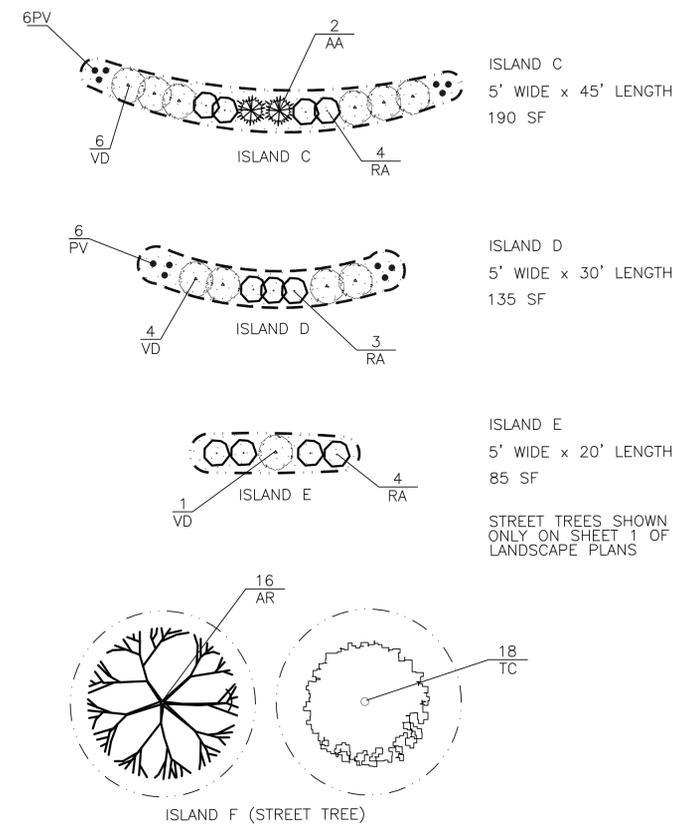
FOUNDATION PLANTINGS A

SCALE 1"=10'±



FOUNDATION PLANTINGS B

SCALE 1"=10'±

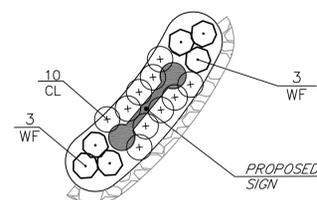


ROADWAY ISLAND PLANTINGS

SCALE 1"=10'±

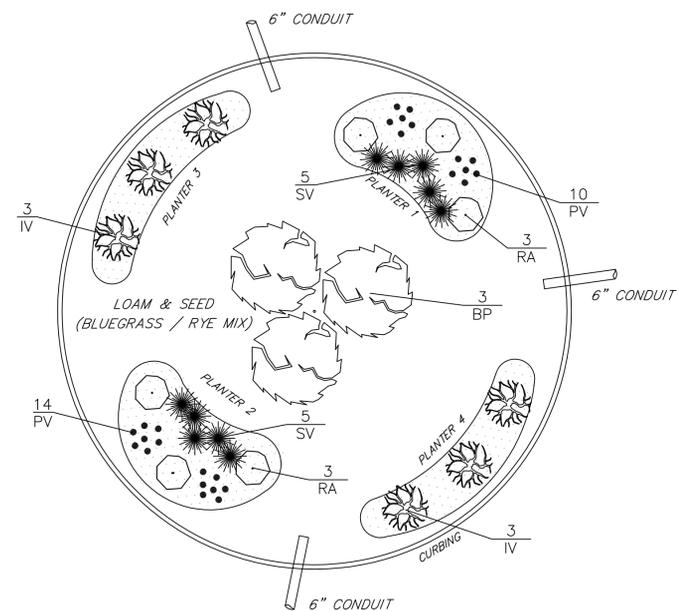
GENERAL PLANTING NOTES

- ALL NEW PLANT MATERIALS SHALL CONFORM TO THE MINIMUM GUIDELINES ESTABLISHED FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. IN ADDITION, ALL NEW PLANT MATERIAL FOR THE PROJECT SHALL BE OF SPECIMEN QUALITY.
- ALL NEW PLANTS TO BE BALLED AND BURLAPPED OR CONTAINER GROWN, UNLESS OTHERWISE NOTED ON THE PLANT LIST.
- THE CONTRACTOR SHALL SUPPLY ALL NEW PLANT MATERIAL IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING SHOWN ON THE DRAWINGS.
- ANY PROPOSED SUBSTITUTIONS OF PLANT SPECIES SHALL BE MADE WITH PLANTS OF EQUIVALENT OVERALL FORM, HEIGHT, BRANCHING HABIT, FLOWER, LEAF, COLOR, FRUIT AND CULTURE, AND ONLY AFTER WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT.
- ALL NEW PLANTS SHALL BE TAGGED AND APPROVED BY THE LANDSCAPE ARCHITECT AT THE NURSERY PRIOR TO DIGGING OR DELIVERY TO THE SITE.
- THE CONTRACTOR SHALL SEND A REPRESENTATIVE SAMPLE OF THE TOPSOIL TO A TESTING LABORATORY FOR STANDARD SOIL ANALYSIS AS DESCRIBED IN THE SPECIFICATIONS. TEST RESULTS WITH RECOMMENDED SOIL TREATMENTS TO PROMOTE PLANT AND TURF GROWTH SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT. DEFICIENCIES IN LOAM AND STOCKPILED TOPSOIL SHALL BE CORRECTED BY THE CONTRACTOR AS DIRECTED BY THE TESTING AGENCY.
- CONTRACTOR SHALL LOCATE AND VERIFY ALL EXISTING UTILITY LINES PRIOR TO PLANTING AND SHALL REPORT ANY CONFLICTS TO THE LANDSCAPE ARCHITECT.
- STAKE LOCATIONS OF ALL PROPOSED PLANTING FOR APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO THE COMMENCEMENT OF PLANTING. INDIVIDUAL STAKES SHALL BE PLACED FOR TREES AND SHRUBS. EDGE OF PLANTING BEDS SHALL BE PAINTED. NOTIFY LANDSCAPE ARCHITECT 24 HOURS PRIOR TO DESIRED APPROVAL.
- ALL NEW PLANTS SHALL BE SUPPLIED AND INSTALLED DURING THE PERIODS OF APRIL 1 - JUNE 15 AND/OR SEPTEMBER 1 - NOVEMBER 15.
- PREPARE ALL INDIVIDUAL TREE PITS AND SHRUB PLANTING BEDS TO A MINIMUM DEPTH OF EIGHTEEN INCHES (18") WITH SPECIFIED PLANTING MIX: 50% SCREENED TOPSOIL, 40% EXISTING SOIL AND 10% COMPOST. BLEND COMPOST INTO TOP 4" OF SOIL. PLANTING MIX SHALL BE FREE OF LUMPS, STONES, PLANTS, ROOTS, AND OTHER FOREIGN MATTER.
- ALL SHRUB BEDS AND INDIVIDUAL TREE PITS SHALL RECEIVE THREE INCHES (3") OF BARK MULCH PER SPECIFICATIONS. PERENNIAL AND GROUND COVER BEDS SHALL RECEIVE TWO INCHES (2"), PROVIDE LANDSCAPE ARCHITECT WITH SAMPLE FOR APPROVAL.
- ALL BURLAP, TWINE AND WIRE SHALL BE COMPLETELY REMOVED OR CUT AWAY AT TIME OF INSTALLATION.
- PLANT WARRANTY SHALL BE FOR 1 FULL GROWING SEASON FROM THE TIME OF INSTALL.
- LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL DAMAGED, STOLEN, DEAD, DECLINING OR LOST MATERIAL UNTIL COMPLETION OF MAINTENANCE PERIODS OR WARRANTY PERIODS.
- ALL AREAS TO BE SEEDED OR SODDED SHALL RECEIVE SIX INCHES (6") OF LOAM, MEASURED AFTER INSTALLATION, PRIOR TO SEEDING.
- PRUNE TREES IN ACCORDANCE WITH THE SPECIFICATIONS.
- ALL EXISTING LAWN AREAS DESIGNED TO REMAIN SHALL BE AERATED, FERTILIZED AND OVERSEED, AS DIRECTED BY THE LANDSCAPE ARCHITECT.
- IN ADDITION TO LOCATIONS DEFINED FOR SEED ON THE PLANTING PLAN, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEDING ANY DISTURBED AREAS.
- ALL VEGETATION AND DEBRIS SHALL BE REMOVED FROM PROPOSED PLANTING AREAS PRIOR TO PLANTING AND BACKFILLING. CONTRACTOR SHALL REMOVE ALL WEEDS AND DEBRIS FROM SITE AS WORK PROGRESSES AND UNTIL COMPLETION OF PLANT MAINTENANCE PERIODS OR WARRANTY PERIODS.
- A DETAILED PLANT MAINTENANCE MANUAL SHALL BE ESTABLISHED BY THE LANDSCAPE CONTRACTOR FOR ALL PLANT MATERIAL BASED UPON PLANT SPECIES REQUIREMENTS AND PROVIDED IN WRITING TO THE LANDSCAPE ARCHITECT AND OWNER FOR REVIEW AND APPROVAL. INFORMATION THEREIN SHALL INCLUDE REQUIRED PRUNING SCHEDULE, FERTILIZING AND PROPOSED INTEGRATED PEST MANAGEMENT (IPM) AS NECESSARY. THE APPROVED MAINTENANCE SHOULD BE FOLLOWED UNTIL COMPLETION OF PLANT MAINTENANCE PERIODS OR WARRANTY PERIODS.
- LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING CLOSE COORDINATION WITH OWNER, GENERAL CONTRACTOR, RELATED SUBCONTRACTORS, LANDSCAPE ARCHITECT, AND ALL SITE WORK RELATED ITEMS.



LANDSCAPED FEATURE FOR SIGN

SCALE 1"=10'±



LANDSCAPED CUL-DE-SAC ISLAND

NOT TO SCALE

Plant Schedule							
QTY.	SYM.	BOTANICAL NAME	COMMON NAME	CALIPER	HEIGHT	SPREAD	
DECIDUOUS TREES							
16	AR	Acer rubrum	Sunset Red Maple	2 1/2" - 3"			
3	BN	Betula Nigra	Heritage River Birch	2" - 2 1/2"			
10	TC	Tilia cordata	Little Leaf Linden	2 1/2" - 3"			
EVERGREEN SHRUBS							
	IV	Ilex verticillata 'Red Sprite'	Winterberry			#3 pot	
DECIDUOUS SHRUBS							
	AA	Aronia arbutifolia 'Brilliantissima'	Brilliantissima Red Chokeberry			#3 pot	
	CP	Comptonia peregrina	Sweat Fern			#4 pot	
	CR	Cornus racemosa	Gray Dogwood			#3 pot	
	PO	Physocarpus opulifolius	Ninebark			#3 pot	
	RA	Rhus aromatica 'Gro-Low'	Gro-Low Fragrant sumac			#3 pot	
	ST	Spiraea tomentosa	Steeplebush			#2 pot	
	SV	Syringa vulgaris	Common Purple Lilac		4' - 5' B&B		
	VA	Vaccinium angustifolium	Low Bush Blueberry			#3 pot	
	VV	Vaccinium vitis-idaea	Mountain Cranberry			#2 pot	
	VD	Viburnum dentatum 'Pathfinder'	Pathfinder Arrowwood Viburnum			#5 pot	
	WF	Weigela florida 'Midnight Wine'	Midnight Wine Weigela			#3 pot	
GRASSES/PERENNIALS							
	CL	Chasmanthium latifolium	Indian Woodoats			#1 pot	
	PV	Panicum virgatum 'Northwind'	Northwind Switch Grass			#2 pot	

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RESIDENTIAL SITE PLAN
LANDSCAPE PLAN

BREM PROPERTY
100 LONG RIDGE ROAD
CARLISLE, MASSACHUSETTS

PREPARED FOR:
LIFETIME GREEN HOMES, LLC
142 LITTLETON ROAD
WESTFORD, MA 01886

OCTOBER 30, 2014 SCALE: 1"= 20'
DECEMBER 10, 2014

