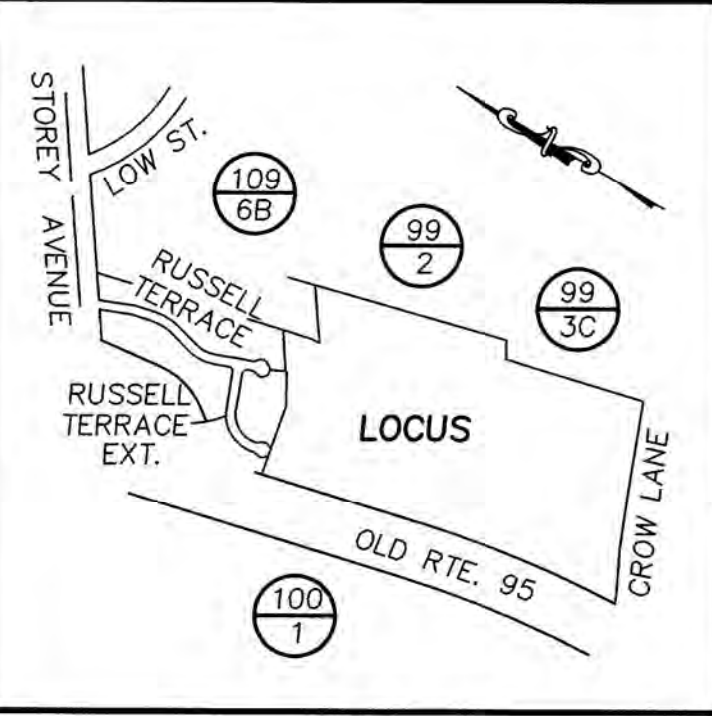


OLEO WOODS OSRD DEFINITIVE SUBDIVISION NEWBURYPORT, MA



LOCUS MAP
SCALE: 1"=1000'

FOR REGISTRY USE ONLY

AUGUST 2011

NEWBURYPORT PLANNING BOARD APPROVAL

[Handwritten signatures]

[Signature]
DATE

CITY/TOWN CLERK:
I HEREBY CERTIFY THAT NO
APPEAL HAS BEEN FILED WITHIN
THE 21 DAYS AS PRESCRIBED
BY MASS. GENERAL LAWS CHAPTER
41 SECTION 81-88.

[Signature] *[Signature]*
CITY/TOWN CLERK DATE

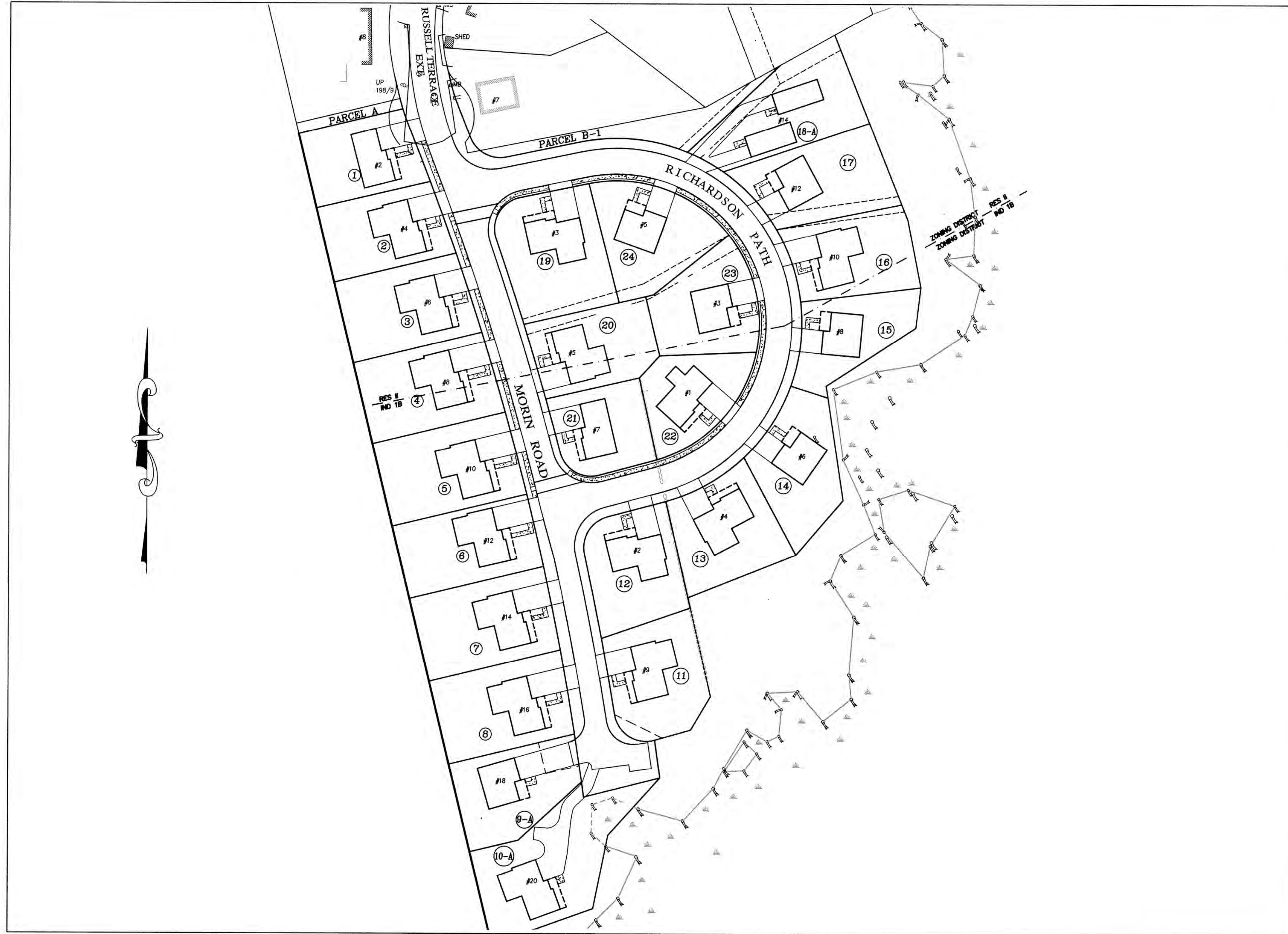
THE CERTIFICATIONS SHOWN HEREON ARE INTENDED
TO MEET REGISTRY OF DEEDS REQUIREMENTS AND
ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP
OF PROPERTY SHOWN. OWNERS OF ADJOINING
PROPERTIES ARE ACCORDING TO CURRENT TOWN/CITY
ASSESSORS RECORDS.

I CERTIFY:
THAT THIS ACTUAL SURVEY WAS MADE ON
THE GROUND BETWEEN 1996 & JUNE 2006

THAT THIS PLAN CONFORMS TO THE RULES AND
REGULATIONS OF THE REGISTER OF DEEDS.



[Signature] 8-1-11
REGISTERED PROFESSIONAL LAND SURVEYOR DATE



COVENANT NOTE:

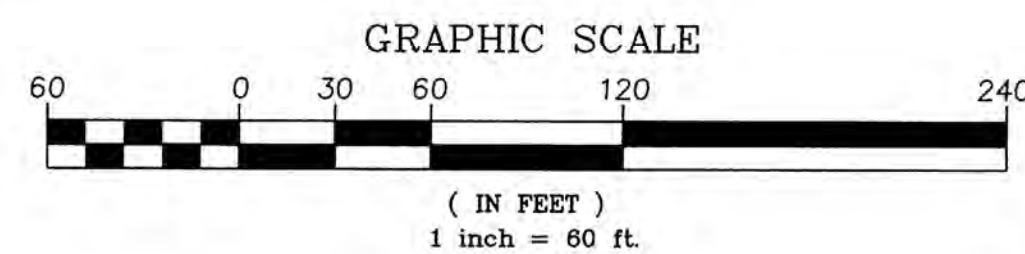
SEE COVENANT DATED AUGUST 17, 2011 BETWEEN SPRINGWELL INVESTMENTS, LLC, HUNTSMAN HOLDINGS, LLC AND THE NEWBURYPORT PLANNING BOARD, TO BE RECORDED.

DEFINITIVE PLAN INDEX

SHEET NO.	TITLE
1	COVER SHEET
2	TYPICAL SECTIONS/LEGEND/GENERAL NOTES
3-4	PROPOSED SUBDIVISION
5	PROPOSED SUBDIVISION EASEMENT DETAILS
6	EXISTING CONDITIONS
7	SITE PLAN
8	UTILITY PLAN
9	ROADWAY & TRAFFIC PLAN
10	LIGHTING PLAN
11	TREE PLANTING PLAN
12	TREE REPLACEMENT AND WETLAND RESTORATION PLAN
13	TREE PLANTING NOTES
14	EROSION & SEDIMENTATION CONTROL PLAN
15-17	PROFILES
18-20	DRAINAGE DETAILS
21	WATER MAIN DETAILS
22	WATER & SEWER DETAILS
23	SEWER PUMP STATION DETAILS
24	EROSION CONTROL DETAILS
25	BUILDING FOOTPRINTS

NOTES:

- THE PROPERTY DOES NOT LIE WITHIN THE 100-YEAR FLOOD PLAN ACCORDING TO F.I.R.M. COMMUNITY PANEL NUMBER 250097 0001C.
- ELEVATIONS ARE REFERENCED TO 1929 N.G.V.D. DATUM.
- THIS PROJECT IS SUBJECT TO COVENANT CONDITIONS ASSOCIATED WITH AN OSRD SPECIAL PERMIT.



PREPARED FOR
SPRINGWELL INVESTMENTS, LLC
11 LAFAYETTE ROAD P.O. BOX 1297
N. HAMPTON, NH 03862

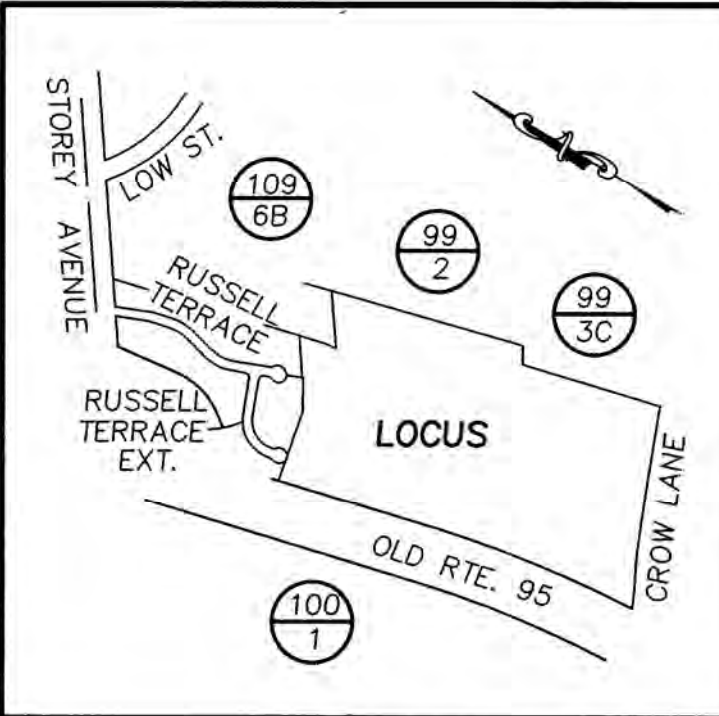
NO.	DATE	DESCRIPTION	BY
3	8/1/11	FINAL SUBMITTAL	C.M.Y.
2	5/26/11	ADDRESS REVIEWERS' COMMENTS	C.M.Y.
1	5/03/11	ADDRESS REVIEWERS' COMMENTS	C.M.Y.

MEI MILLENNIUM ENGINEERING, INC.
ENGINEERING AND LAND SURVEYING
62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528

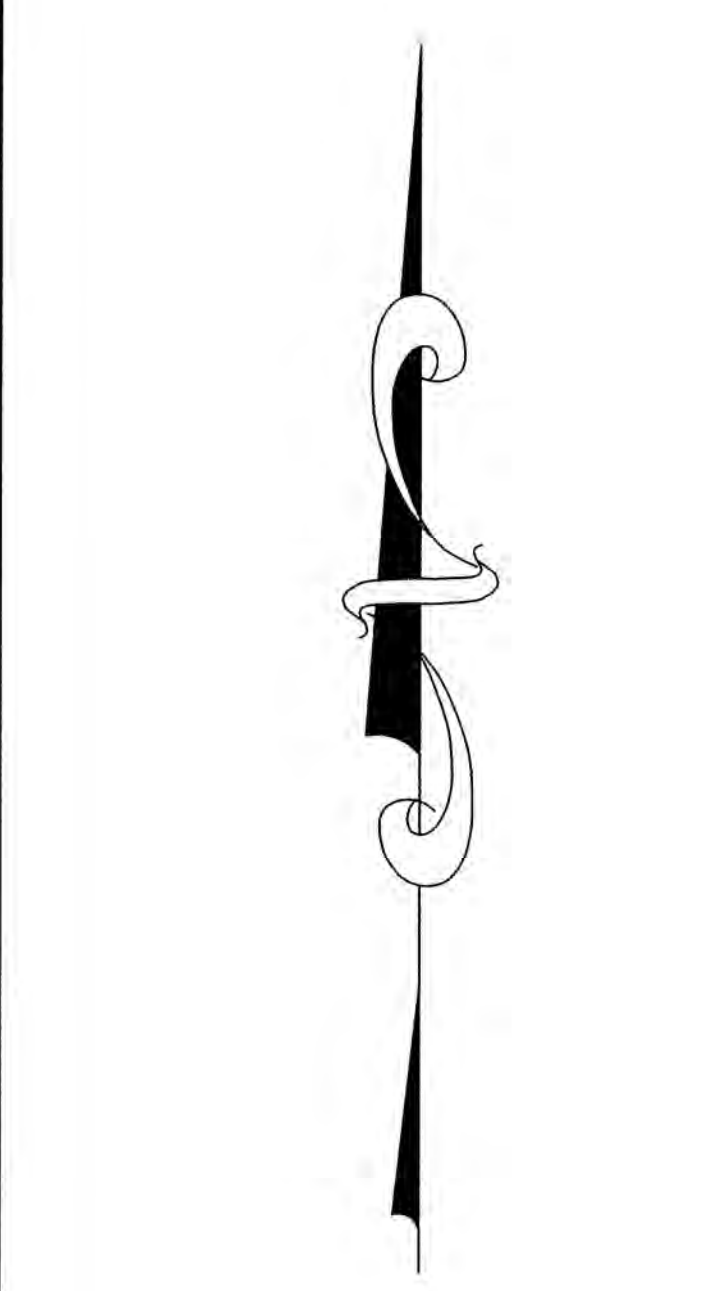
SCALE: AS NOTED
DATE: MAR. 9, 2011
DES. BY: C.M.Y.
CHKD. BY: E.W.B.
PROJECT: M112327
SHEET: 1 OF 25

OSRD DEFINITIVE PLAN
FOR LAND IN
NEWBURYPORT, MA
SHOWING
PROPOSED SUBDIVISION MODIFICATION
AT
RUSSELL TERRACE EXTENSION

COVER SHEET



LOCUS MAP
SCALE: 1"=1000'



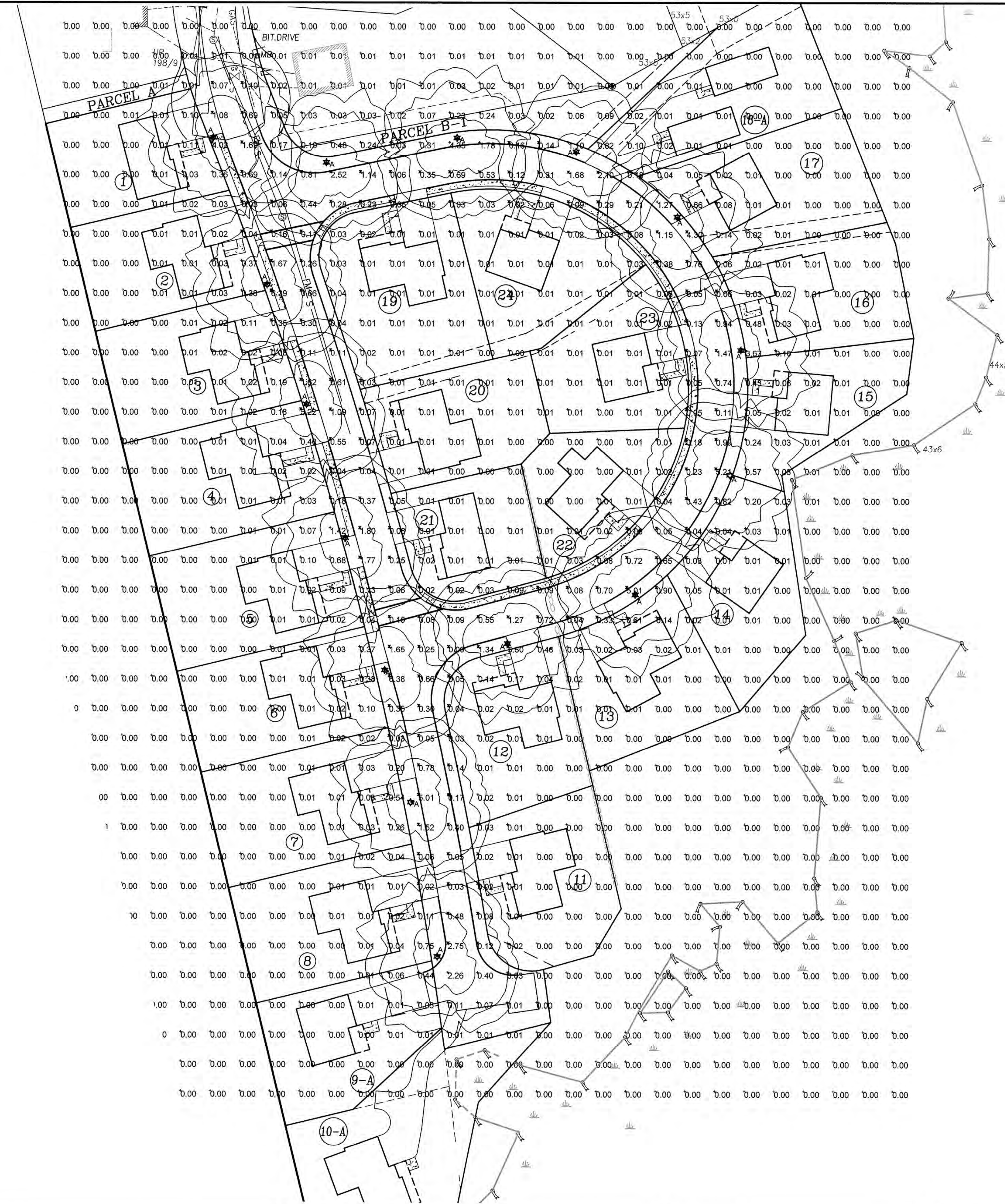
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REGISTERED PROFESSIONAL LAND SURVEYOR DATE



FOR REGISTRY USE ONLY
NEWBURYPORT PLANNING BOARD APPROVAL

[Signatures]

8/17/11
DATE

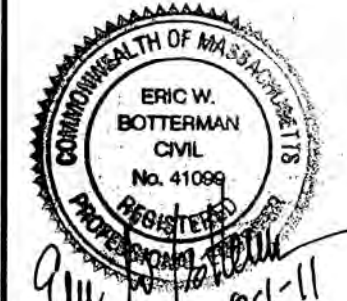
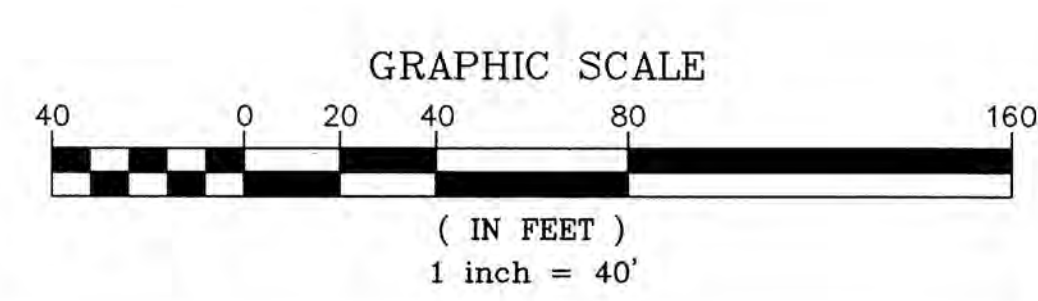
CITY/TOWN CLERK:
I HEREBY CERTIFY THAT NO APPEAL HAS BEEN FILED WITHIN THE 21 DAYS AS PRESCRIBED BY MASS. GENERAL LAWS CHAPTER 41 SECTION 81-88.

[Signature] 8/18/11
CITY/TOWN CLERK DATE

Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
⊕	A	15	Sternberg Lighting #2143 100MH ROR FHC with 3500 - 10 T4 pole	Period Style Lantern with 10 ft. pole. Roof Top Cut 1 - M100/ MED m805ro3m.ies off Optic with 100 watt metal halide lamp			8500	0.72	100

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calculation Grid	+	0.08 fc	6.39 fc	0.00 fc	N / A	N / A
Roadway & Sidewalk	X	0.75 fc	6.39 fc	0.02 fc	319.5:1	37.5:1

SITE LIGHTING DESIGNED BY VISIBLE LIGHT, INC.
603-926-6049



PREPARED FOR
SPRINGWELL INVESTMENTS, LLC
11 LAFAYETTE ROAD P.O. BOX 1297
N. HAMPTON, NH 03862

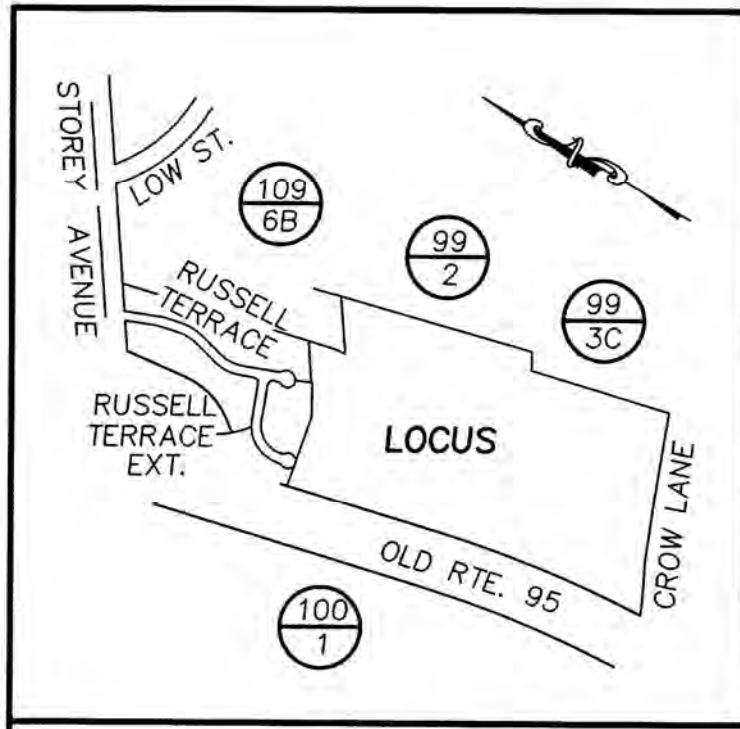
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ENGINEERING AND LAND SURVEYING
62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528

SCALE: 1"=40'
DATE: MAR. 9, 2011
DES. BY: C.M.Y.
CHKD. BY: E.W.B.
PROJECT: M112327
SHEET: 10 OF 25

OSRD DEFINITIVE PLAN
FOR LAND IN
NEWBURYPORT, MA
SHOWING
PROPOSED SUBDIVISION MODIFICATION
AT
RUSSELL TERRACE EXTENSION

LIGHTING PLAN



LOCUS MAP
SCALE: 1"=1000'

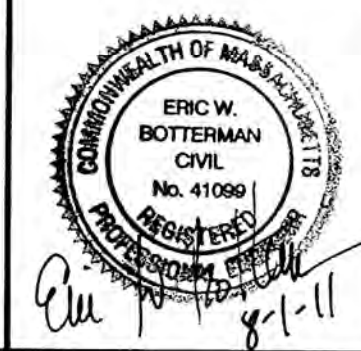
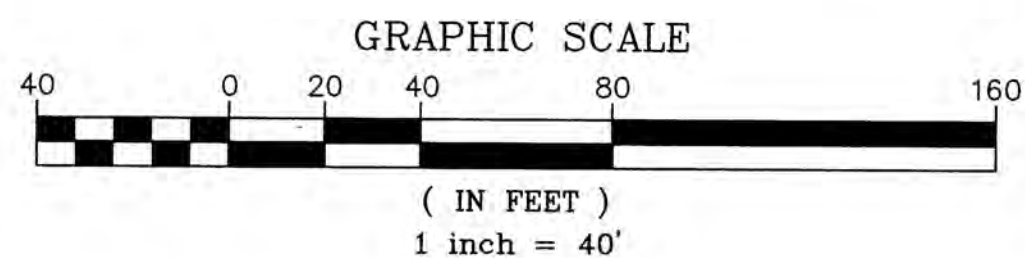


PROPOSED TREE PLANTINGS -
ALL TREES TO BE THE SAME VARIETY BASED ON AVAILABILITY:

- ACER SACCHARUM (SUGAR MAPLE)
- ACER RUBRUM (RED MAPLE)

FOUNDATION & FRONT YARD PLANTING:

- ILEX GLABRA - INKBERRY
- VIBURNUM - ALL SPECIES
- AMELANCHIER - SERVICEBERRY
- BUXUS - BOXWOOD
- CLETHRA - SUMMER SWEET
- JUNIPER - ALL SPECIES
- CHAMAECYPARIS - CYPRESS
- RHODODENDRON
- KALMIA - MOUNT LAUREL
- TAXUS - YEWS
- PRUNUS CISTENA - SAND CHERRY
- PINUS MUGHO - MUGHO PINE



PREPARED FOR
SPRINGWELL INVESTMENTS, LLC
11 LAFAYETTE ROAD P.O. BOX 1297
N. HAMPTON, NH 03862

NO.	DATE	DESCRIPTION	BY
3	8/1/11	FINAL SUBMITTAL	C.M.Y.
2	5/26/11	ADDRESS REVIEWERS' COMMENTS	C.M.Y.
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MEI
MILLENNIUM ENGINEERING, INC.
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62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528

SCALE: 1"=40'
DATE: MAR. 9, 2011
DESIG. BY: C.M.Y.
CHKD. BY: E.W.B.
PROJECT: M112327
SHEET: 11 OF 25

NEWBURYPORT PLANNING BOARD APPROVAL

[Handwritten signatures]

5/17/11
DATE

FOR REGISTRY USE ONLY

CITY/TOWN CLERK:
I HEREBY CERTIFY THAT NO
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41 SECTION 81-88.

[Handwritten signature]
CITY/TOWN CLERK
[Handwritten signature]
DATE

NOTE:

1.) STREET TREES SHALL BE PLANTED AS PER FIGURE 6 IN THE
NEWBURYPORT SUBDIVISION REGULATIONS.

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED
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REGISTERED PROFESSIONAL LAND SURVEYOR DATE

OSRD DEFINITIVE PLAN
FOR LAND IN
NEWBURYPORT, MA
SHOWING
PROPOSED SUBDIVISION MODIFICATION
AT
RUSSELL TERRACE EXTENSION

**STREET TREE
PLANTING
PLAN**

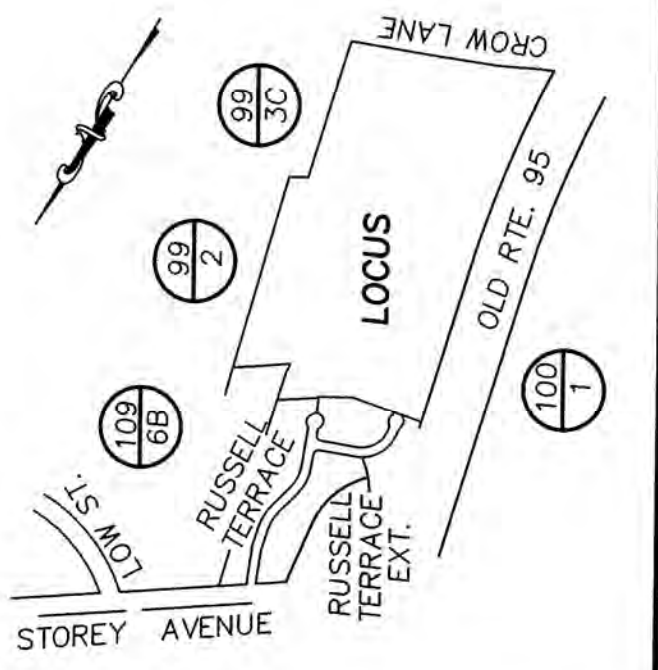
NEWBURYPORT PLANNING BOARD APPROVAL

CITY/TOWN CLERK:
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DATE: 8/17/11

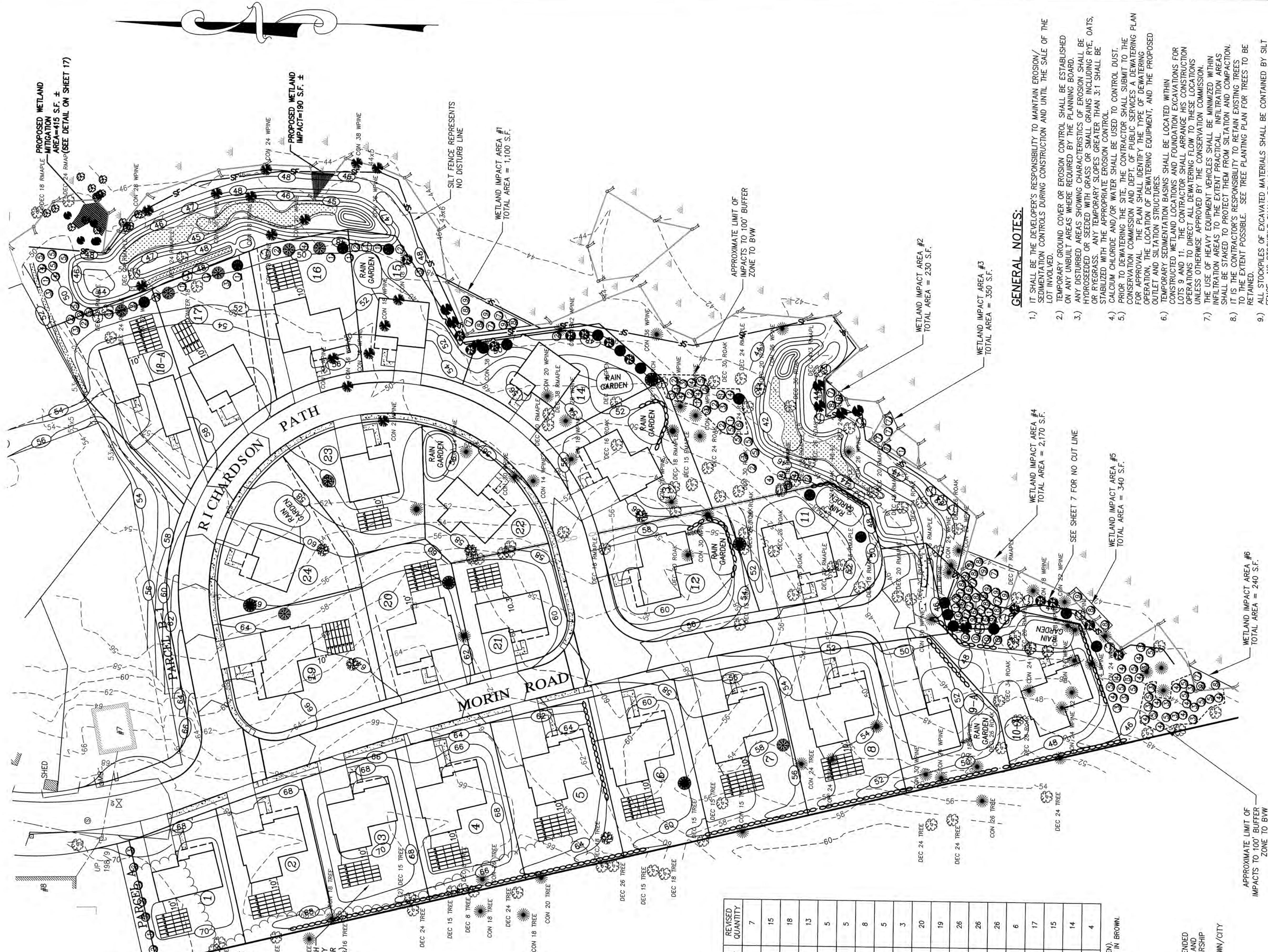
FOR REGISTRY USE ONLY

WETLAND, BUFFER ZONE, AND TREE REPLACEMENT DESIGN SHOWN HERE IN ACCORDANCE WITH:

- "FOURTH REVISED ADDENDUM TO WETLAND RESTORATION PLAN" PREPARED BY SEEKAMP ENV. CONSULT. INC., DATED JUNE 6, 2007.
- "BUFFER ZONE RESTORATION PLAN" PREPARED BY SEEKAMP ENV. CONSULT. INC., AS REVISED ON AUGUST 2, 2007.
- "COMPREHENSIVE TREE PLANTING SCHEDULE FOR OLEO WOODS SUBDIVISION" PREPARED BY OLEO REALTY TRUST, DATED AUGUST 2, 2007.

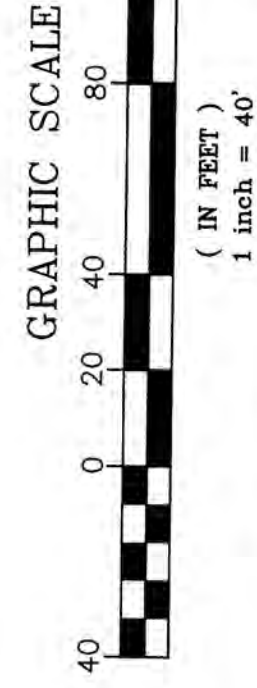


LOCUS MAP SCALE: 1"=1000'



GENERAL NOTES:

- IT SHALL BE THE DEVELOPER'S RESPONSIBILITY TO MAINTAIN EROSION/SEDIMENTATION CONTROLS DURING CONSTRUCTION AND UNTIL THE SALE OF THE LOT INVOLVED.
- TEMPORARY GROUND COVER OR EROSION CONTROL SHALL BE ESTABLISHED ON ANY UNBUILT AREAS SHOWING CHARACTERISTICS OF EROSION SHALL BE HYDROSEED OR SEEDED WITH GRASS OR SMALL GRAINS INCLUDING RYE, OATS, STABILIZED STRAW, AND TEMPORARY SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITH EROSION CONTROL.
- PRIOR TO DEWATERING THE SITE, THE CONTRACTOR SHALL SUBMIT TO THE CONSERVATION COMMISSION AND DEPT. OF PUBLIC SERVICES A DEWATERING PLAN FOR APPROVAL. THE PLAN SHALL IDENTIFY THE TYPE OF DEWATERING OUTLET AND SILTATION STRUCTURES.
- TEMPORARY SEDIMENTATION BASINS SHALL BE LOCATED WITHIN CONSTRUCTED WETLAND LOCATIONS AND FOUNDATION EXCAVATIONS FOR OPERATIONS TO DIRECT FLOW TO THESE LOCATIONS UNLESS OTHERWISE APPROVED BY THE CONSERVATION COMMISSION.
- THE USE OF HEAVY EQUIPMENT VEHICLES SHALL BE LIMITED TO INFILTRATION AREAS TO THE EXTENT PRACTICAL. INFILTRATION AREAS SHALL BE STAKED TO PROTECT THEM FROM SILTATION AND COMPACTON. IT IS THE CONTRACTOR'S RESPONSIBILITY TO RETAIN EXISTING TREES, TO THE EXTENT POSSIBLE. SEE TREE PLANTING PLAN FOR TREES TO BE RETAINED.
- ALL STOCKPILES OF EXCAVATED MATERIALS SHALL BE CONTAINED BY SILT FENCE. NO STOCKPILE SHALL BE LOCATED WITHIN INFILTRATION AREAS.
- SEE SHEET 24 FOR EROSION CONTROL DETAILS AND CONSTRUCTION SEQUENCING.



SYMBOL	TREE	SIZE	ORIGINAL QUANTITY	REVISED QUANTITY
1	R. MAPLE	15 GAL 8'-10"	7	7
2	R. MAPLE	2-1/2"	11	15
3	R. OAK	2-1/2"	14	18
4	W. PINE	8"	11	13
5	SPRUCE	24" R.B.	5	5
6	OHIO BUCKEYE	2-1/2"	5	5
7	SHAGBARK HICKORY	2-1/2"	5	8
8	AMERICAN BASSWOOD	2-1/2"	5	5
9	RIVER BIRCH	8'-10"	0	3
10	WHITE PINE	5'-6"	20	20
11	RED OAK	5'-6"	19	19
12	WHITE BIRCH	5'-6"	26	26
13	BLACK CHERRY	5'-6"	26	26
14	SHEEP LAUREL	1'-2"	26	26
15	RED MAPLE	5'-6"	6	6
16	HIGHBUSH BLUEBERRY	2'-4"	17	17
17	WINTER BERRY	2'-4"	15	15
18	ARROWWOOD	2'-4"	14	14
19	WITCH HAZEL	2'-4"	0	4

NOTES: THIS PLAN INCLUDES 20 NEW TREES (GREEN). TREES TO BE REMOVED ON LOT TO SHOWN IN BROWN.

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO BE FILED WITH THE REGISTRY OF DEEDS REQUIREMENTS AND TO BE A CONDITION OF TITLE OR OWNERSHIP OF PROPERTY. THE SIGNATURES OF OWNING PROPERTIES ARE ACCORDING TO CURRENT TOWN/CITY ASSESSORS RECORDS.

I CERTIFY: THAT THIS ACTUAL SURVEY WAS MADE ON THE GROUND BETWEEN 1996 & JUNE 2006

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REGISTERED PROFESSIONAL LAND SURVEYOR DATE

PREPARED FOR

SPRINGWELL INVESTMENTS, LLC
11 LAFAYETTE ROAD P.O. BOX 1297
N. HAMPTON, NH 03862

MILLENNIUM ENGINEERING, INC.
ENGINEERING AND LAND SURVEYING
62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528

OSRD DEFINITIVE PLAN FOR LAND IN NEWBURYPORT, MA SHOWING PROPOSED SUBDIVISION MODIFICATION AT RUSSELL TERRACE EXTENSION

TREE REPLACEMENT AND WETLAND RESTORATION PLAN

DESIGN BY: C.M.Y. DATE: MAR. 9, 2011

CHKD. BY: E.W.B. PROJECT: M112327

NO. DATE DESCRIPTION BY

NO.	DATE	DESCRIPTION	BY
4	8/1/11	FINAL SUBMITTAL	C.M.Y.
3	6/14/11	ADDRESS CURT YOUNG'S COMMENTS	C.M.Y.
2	5/26/11	ADDRESS REVIEWERS' COMMENTS	C.M.Y.
1	5/03/11	ADDRESS REVIEWERS' COMMENTS	C.M.Y.

SCALE: 1"=40'

DATE: MAR. 9, 2011

SHEET: 12 OF 25

TREE PROTECTION/PRESERVATION GUIDELINES:

- WHEREVER ROOTS OF TREES ARE DISTURBED OR NEED TO BE CUT FOR THE CONSTRUCTION OF DETENTION PONDS, SWALES, OR HOUSE FOUNDATIONS, THESE ROOTS NEED TO BE CLEAN CUT WITH A PROPER TOOL AND NOT LEFT SHATTERED AS THEY WOULD BE BY EXCAVATION EQUIPMENT.
- WHEREVER THE UNDERSTORY AND NATURAL GROUND COVER HAS BEEN REMOVED AROUND TREES TO BE PRESERVED, THESE ROOT ZONES SHOULD BE COVERED WITH TWO TO THREE INCHES OF WOOD CHIPS OR COMPOSTED MULCH.
- DISTURBED ROOT ZONES SHOULD ALSO BE TREATED UNDER THE SUPERVISION OF A CERTIFIED ARBORIST TO APPLY PROPER AMOUNTS OF VERY SLOW RELEASE FERTILIZER ALONG WITH HIGHLY CONCENTRATED ORGANIC MATTER AND SPORES OF BENEFICIAL SOIL MICRO-ORGANISMS. (NOTE THAT THE SPECIFIED MATERIALS ARE NON-HAZARDOUS AND NON-LEACHING AND WOULD HAVE NO DETRIMENTAL EFFECT ON ADJACENT WETLANDS OR GROUND WATER.)
- TREES IN CLOSE PROXIMITY TO AREAS WHERE HEAVY EQUIPMENT WILL BE OPERATING SHOULD ALSO BE PROTECTED WITH A COMBINATION OF SNOW FENCING AND HAY BALES. IN LISTING INDIVIDUAL TREES, THERE WILL BE A FEW ADDITIONAL RECOMMENDATIONS SPECIFIC TO THOSE TREES.
- 12" WHITE BIRCH ON THE PROPERTY LINE BETWEEN LOTS 13 AND 14 IS CURRENTLY IN FAIR TO GOOD CONDITION AND IS A SPECIMEN WHICH SHALL HAVE A 15 FOOT RADIUS PROTECTED BY SNOW FENCE WHICH SHOULD RECEIVE A LAYER OF WOOD CHIPS OR MULCH.
- A 26" WHITE PINE AND A 22" BLACK OAK GROWING TOGETHER ON LOT 13 SHALL HAVE A 20' SNOW FENCE PROTECTIVE RADIUS AND, DUE TO STORM DAMAGE, SHALL BE SUBJECT TO PROPER PRUNING SUPERVISED BY A CERTIFIED ARBORIST.
- EXTRA CARE SHALL BE TAKEN WHEN WORKING AROUND A 30" WHITE OAK LOCATED BETWEEN LOT 13 AND THE NEARBY WETLAND, A 24" RED MAPLE LOCATED ABOUT 20' FROM THE 30" MAPLE, AND A 36" MULTI-STEMMED WHITE PINE LOCATED ABOUT 30 FEET FROM WETLAND FLAG A23. ROOTS SHALL BE CLEAN CUT USING A PROPER TOOL AND DEADWOOD SHALL BE SUBJECT TO PROPER PRUNING SUPERVISED BY A CERTIFIED ARBORIST.
- A GROUP OF TREES IN THE AREA OF WETLAND FLAG A12 CONSISTING OF A 26" WHITE OAK, A 16" RED MAPLE, AND 3 WHITE PINES RANGING IN SIZE FROM 20" TO 24" MAYBE EFFECTED BY THE CONSTRUCTION OF A OF THE DETENTION POND AND SHALL BE CLOSELY MONITORED DURING AND AFTER CONSTRUCTION.
- A 28" MULTI-STEMMED SCOTS PINE ADJACENT TO WETLAND FLAG A42 SHALL HAVE SIGNIFICANT ROOT DAMAGE DUE TO CONSTRUCTION OF DETENTION POND. 3 ADDITIONAL TREES BEHIND THE DETENTION POND INCLUDING A 24" WHITE PINE BY WETLAND FLAG A40, A 38" WHITE PINE BY WETLAND FLAG 38A AND 36" WHITE PINE SHALL ALSO HAVE SIGNIFICANT ROOT DAMAGE. ROOTS SHALL BE CLEAN CUT AND NOT SHATTERED.
- A GROUP OF TREES CONSISTING OF 3 RED MAPLES RANGING IN SIZE FROM 16" TO 18" LOCATED AT THE REAR OF LOT 11 SHALL BE PROTECTED WITH SNOW FENCE TO PREVENT VEHICLES FROM DIVING BETWEEN THEM.
- APPROXIMATELY 10 LARGE WHITE PINES LOCATED ON LOT 10 AND SOUTH OF LOT 10 SHALL BE IMPACTED BY CHANGES IN DRAINAGE PATTERNS AND SHOULD BE MONITORED DURING CONSTRUCTION.
- LOCATED AT THE REAR OF LOT 5 IS A GROUP OF 3 RED OAK STEMS. THE EXPOSED ROOTS SHALL BE CLEAN CUT AND WOOD CHIPS OR MULCH SHALL BE APPLIED AROUND THE TRUNK AND ROOT ZONES.
- LOCATED AT THE REAR OF LOT 1 IS A NICE SPREADING WHITE ASH WHICH WAS IMPACTED BY ACTIVITIES IN THE AREA AND SHOULD HAVE PRESERVATION MEASURES TAKEN UNDER THE SUPERVISION OF A CERTIFIED ARBORIST.
- LOCATED BEHIND LOT 13 IS A GROUP OF TREES IN A ROW. THE 36" WHITE PINE ADJACENT TO WETLAND FLAG A26 WAS DISTURBED BY THE INITIAL LOT CLEARING AND SHOULD BE PRESERVED. THE DOUBLE STEMMED BLACK BIRCH SHALL HAVE A PERMANENT CABLE INSTALLED TO BRACE THE 2 STEMS.
- LOCATED AT THE CORNER OF LOTS 9 AND 10 IS A NUMBER OF TREES THAT WILL BE IMPACTED BY THE CONSTRUCTION OF THE SWALE. THESE TREES SHALL BE PRESERVED AND PROTECTED DURING CONSTRUCTION. SPECIFICALLY THERE IS A 26" BLACK OAK WHICH SHALL LOSE ABOUT 50% OF ITS ROOT SYSTEM AND SHALL BE CUT RIGHT AT TRUNK. DUE TO THE EXTENSIVE ROOT REMOVAL AND ASSOCIATED TRUNK DECAY IT IS RECOMMENDED THAT THIS TREE BE REMOVED.
- CONSTRUCTION CORRIDOR SHALL BE PROVIDED ON LOT 10 TO PROTECT TREES LISTED IN ITEMS 11 AND 15 AND TO PREVENT COMPACTION OF SOILS. CORRIDOR SHALL BE IDENTIFIED WITH SNOW FENCE.
- GUIDELINES PROVIDED BY NORTHEAST SHADE TREE AS REFERENCED IN LETTERS DATED JUNE 6, 2007 AND JULY 10, 2007.

SEASONAL PLANTING GUIDELINES:

- PINES OR CONIFERS ARE BEST PLANTED IN SPRINGTIME WHICH WILL ALLOW THE TREE TO BE ESTABLISHED OVER THE GROWING SEASON. CONIFERS COULD ALSO BE PLANTED IN LATE SUMMER
- PLANTING OF DECIDUOUS TREES SUCH AS RED MAPLES WOULD BE BEST DONE IN LATE SUMMER OR FALL. DECIDUOUS TREES CAN ALSO BE PLANTED IN EARLY TO MID SPRING TO ALLOW THE TREE TO BECOME SOMEWHAT ESTABLISHED PRIOR TO THE HOT SUMMER MONTHS.

TREE PLANTING PREPARATION GUIDELINES:

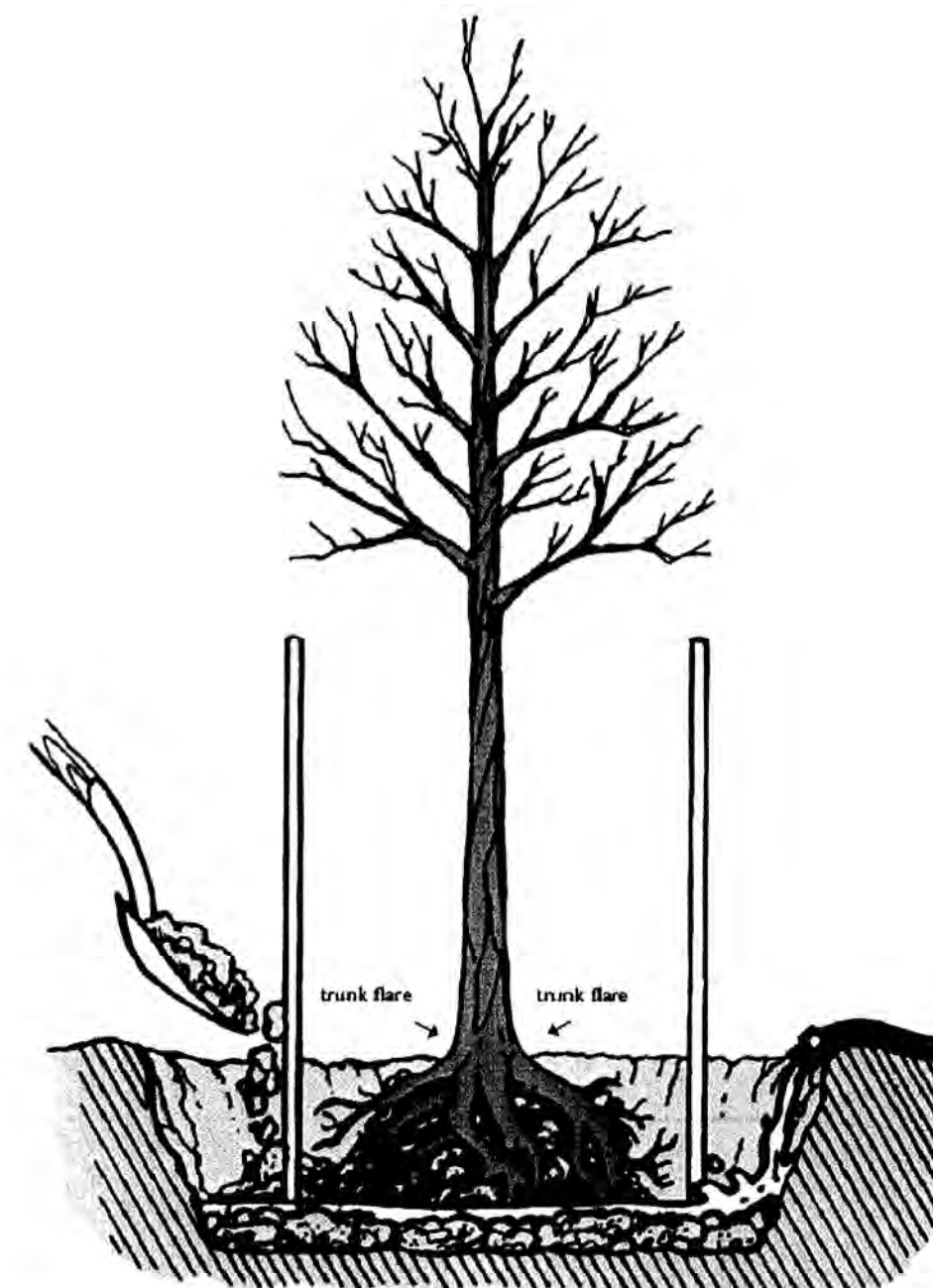
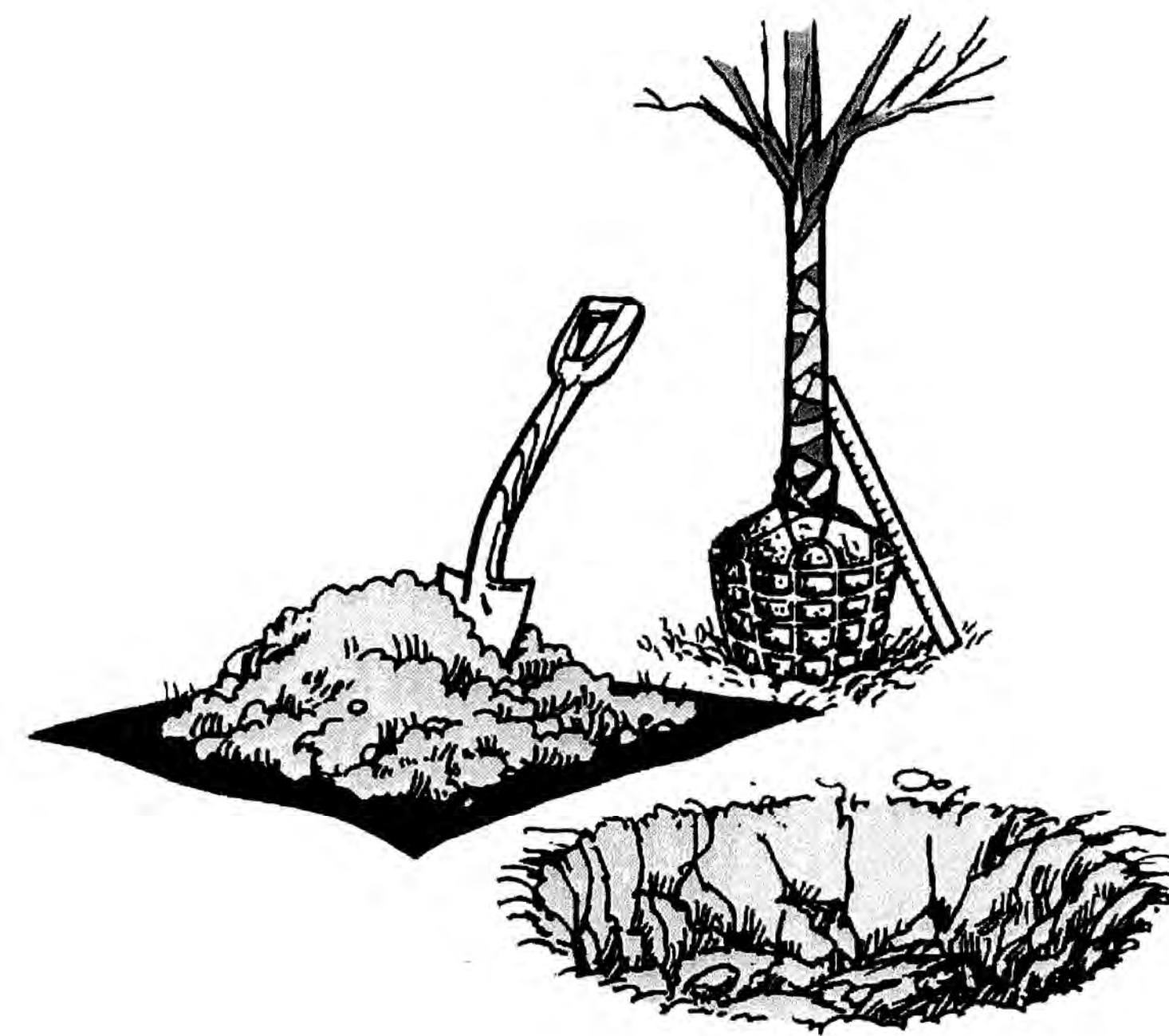
- KEEP ROOT BALL WATERED AND KEEP TREE IN SHADED PLACE UNTIL READY TO PLANT.
- IT IS IMPERATIVE TO EXPOSE THE TRUNK FLARE ON EACH BALLED AND BURLAPPED TREE BEFORE PLANTING SITE IS DUG SO THAT THE DEPTH OF THE PLANTING SITE CAN BE PROPERLY MEASURED. MEASURE THE HEIGHT FROM BASE OF TRUNK FLARE TO THE BOTTOM OF ROOT BALL AND DIG TO THAT DEPTH. TRUNK FLARE AND TOP OF ROOT BALL SHOULD BE AT GRADE.
- EXCAVATED HOLE SHOULD BE 3 TIMES THE DIAMETER OF THE ROOT BALL.
- BREAK UP COMPACTED SOIL. SIDES OF PLANTING SPACE SHOULD NOT BE PACKED BUT LEAVE THE BOTTOM OF PLANTING SPACE FIRM.
- DO NOT AMEND SOILS UNLESS PLANTING IN BUILDING RUBBLE, POOR, OR SEVERELY DISTURBED SOILS.

TREE PLANTING GUIDELINES:

- LIFT TREE INTO PLANTING SPACE BY THE ROOT BALL AND NOT BY THE TRUNK.
- BALANCE TREE UPRIGHT IN CENTER OF PLANTING SPACE AND CUT AWAY AND REMOVE ANY STRINGS, BURLAP OR PLASTIC, AND WIRE BASKETS LEAVING SOIL AROUND THE ROOT BALL.
- PRUNE ANY DEAD OR CRUSHED ROOTS AND STRAIGHTEN OR CUT CIRCLING ROOTS.
- BEGIN REFILLING PLANTING SPACE WITH SOIL, WATERING AND TAMPING GENTLY AS YOU GO TO FIRMLY SET THE TREE.
- PRUNE DEAD OR INJURED BRANCHES ONLY, AND REMOVE ANY PROTECTIVE TAPE, WIRE, OR STRING ON THE TRUNK.
- USE A WIDE BELT-LIKE STRAPPING WITH STAKES TO BRACE AND SUPPORT TREE BUT LEAVE ENOUGH ROOM TO ALLOW THE TREE TO MOVE OR SWAY. DO NOT USE ROPE OR WIRE THROUGH A HOSE.
- CAREFULLY AND LIGHTLY MULCH EVENLY WITH 2" OF COMPOST MATERIAL AT LEAST TO THE DIAMETER OF THE CROWN OF TREE LEAVING A 3" CIRCLE OF BARE SOIL AROUND THE TRUNK. DEEP LAYERS OF MULCH CAN BE HARMFUL TO THE TREE.
- DO NOT FERTILIZE OR PLANT FLOWERS UNDER THE TREE AT THE TIME OF PLANTING.

TREE CARE AFTER PLANTING GUIDELINES:

- DEEP WATER THE PERIMETER OF THE PLANTING SITE ONCE OR TWICE A WEEK THROUGHOUT THE FIRST GROWING SEASON ALLOWING THE WATER TO RUN SLOWLY AND SOAKING THE SOIL.
- KEEP LAWNMOWERS AND STRING TRIMMERS AWAY FROM THE TREE TO AVOID DAMAGING THE TRUNK. REDUCE HERBICIDE USE NEAR TREE AND SURROUNDING LAWN.
- FERTILIZER IS NOT TREE FOOD AND SHOULD NOT BE USED, IF AT ALL, UNTIL AFTER THE FIRST GROWING SEASON. IF FERTILIZED, AFTER FIRST GROWING SEASON, ONLY APPLY AT OUTER EDGE OF PLANTING SITE. DO NOT APPLY DIRECTLY TO ROOTS.
- REPLACE MULCH AS NEEDED AND KEEP GRASS AND OTHER PLANTS OUT OF THE PLANTING AREA AS THEY COMPETE FOR THE SAME WATER AND ELEMENTS AS THE TREE.
- STAKES AND STRAPPING SHOULD BE REMOVED AFTER ONE YEAR UNLESS SITE IS EXTREMELY WINDY. REMOVAL OF STAKES SHOULD OCCUR NO LATER THAN TWO YEARS AFTER PLANTING.
- DO NOT TOP TREES TO REDUCE HEIGHT. PRUNING SHOULD START AFTER SECOND YEAR AND ALL DEAD OR INJURED BRANCHES SHOULD BE PROPERLY PRUNED IMMEDIATELY.
- DEEP WATERING SHOULD CONTINUE FOR THE FIRST FIVE YEARS TO ENSURE SURVIVAL.



NEWBURYPORT PLANNING-BOARD APPROVAL

[Handwritten signatures]
 DATE: 5/12/11

FOR REGISTRY USE ONLY
 CITY/TOWN CLERK:
 I HEREBY CERTIFY THAT NO APPEAL HAS BEEN FILED WITHIN THE 21 DAYS AS PRESCRIBED BY MASS. GENERAL LAWS CHAPTER 41 SECTION 81-88.
[Handwritten signature] DATE: 5/12/11

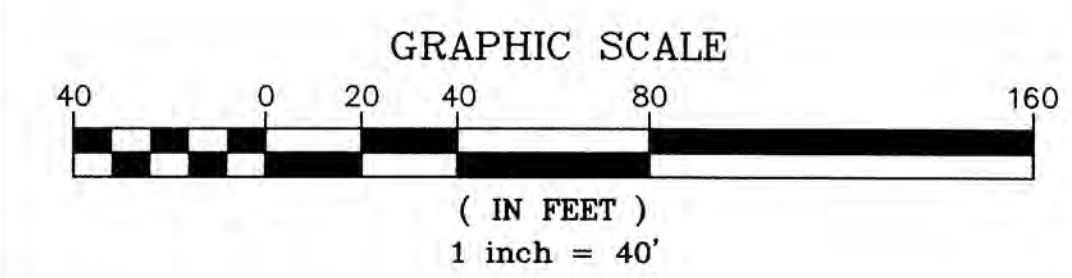
THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEEDS REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT TOWN/CITY ASSESSORS RECORDS.

I CERTIFY: THAT THIS ACTUAL SURVEY WAS MADE ON THE GROUND BETWEEN 1996 & JUNE 2006

THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTER OF DEEDS.



REGISTERED PROFESSIONAL LAND SURVEYOR DATE: 5-1-11



PREPARED FOR
SPRINGWELL INVESTMENTS, LLC
 11 LAFAYETTE ROAD P.O. BOX 1297
 N. HAMPTON, NH 03862

NO.	DATE	DESCRIPTION	BY
3	8/1/11	FINAL SUBMITTAL	C.M.Y.
2	5/26/11	ADDRESS REVIEWERS' COMMENTS	C.M.Y.
1	5/03/11	ADDRESS REVIEWERS' COMMENTS	C.M.Y.

MEI MILLENNIUM ENGINEERING, INC.
 ENGINEERING AND LAND SURVEYING
 62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
 13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528

SCALE: 1"=40' DESG. BY: C.M.Y. PROJECT: M112327
 DATE: MAR. 9, 2011 CHKD. BY: E.W.B. SHEET: 13 OF 25

OSRD DEFINITIVE PLAN
 FOR LAND IN
NEWBURYPORT, MA
 SHOWING
PROPOSED SUBDIVISION MODIFICATION
 AT
RUSSELL TERRACE EXTENSION

TREE PLANTING NOTES

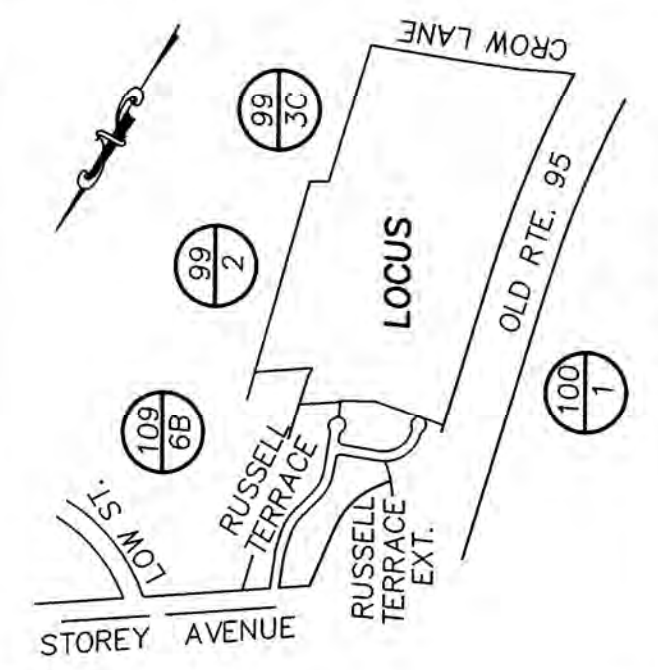
NEWBURYPORT PLANNING BOARD APPROVAL

[Signatures]
DATE: 8/17/11

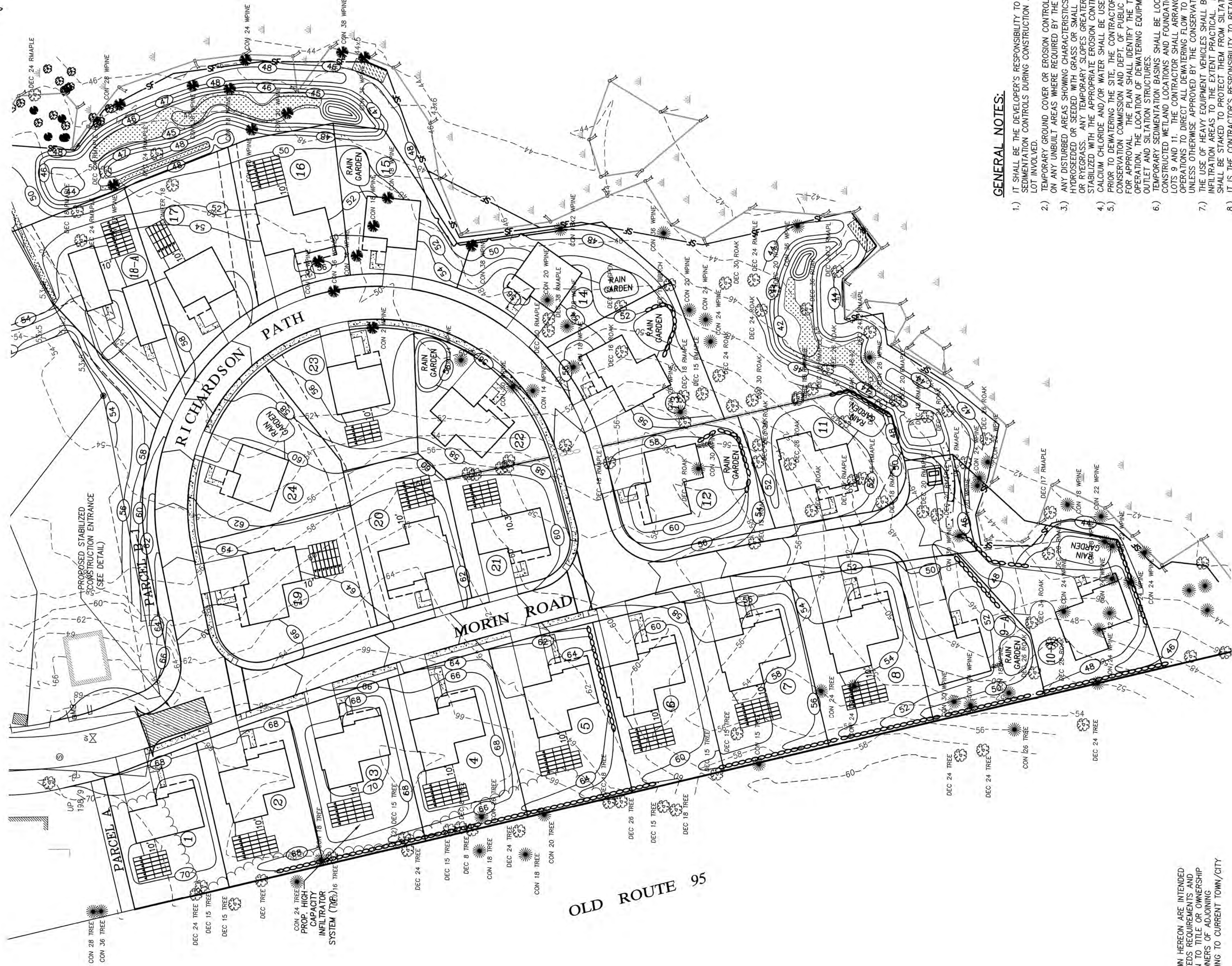
FOR REGISTRY USE ONLY

CITY/TOWN CLERK: I HEREBY CERTIFY THAT NO APPEAL HAS BEEN FILED WITHIN THE 21 DAYS AS PRESCRIBED BY MASS. GENERAL LAWS CHAPTER 41A SECTION 81-88.

[Signature]
CITY/TOWN CLERK DATE: 8/18/11



LOCUS MAP
SCALE: 1"=1000'



GENERAL NOTES:

- 1.) IT SHALL BE THE DEVELOPER'S RESPONSIBILITY TO MAINTAIN EROSION/SEDIMENTATION CONTROLS DURING CONSTRUCTION AND UNTIL THE SALE OF THE LOT INVOLVED.
- 2.) TEMPORARY GROUND COVER OR EROSION CONTROL SHALL BE ESTABLISHED ON ANY UNBUILT AREAS WHERE REQUIRED BY THE PLANNING BOARD.
- 3.) ANY DISTURBED AREAS SHOWING CHARACTERISTICS OF EROSION SHALL BE HYDROSEEDED OR SEEDED WITH GRASS OR SMALL GRAINS INCLUDING RYE, OATS, OR RYEGRASS. ANY TEMPORARY SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITH THE APPROPRIATE EROSION CONTROL.
- 4.) CALCIUM CHLORIDE AND/OR WATER SHALL BE USED TO CONTROL DUST.
- 5.) PRIOR TO DEWATERING THE SITE, THE CONTRACTOR SHALL SUBMIT TO THE CONSERVATION COMMISSION AND DEPT. OF PUBLIC SERVICES A DEWATERING PLAN AND THE LOCATION OF DEWATERING OPERATIONS, THE LOCATION OF DEWATERING EQUIPMENT, AND THE PROPOSED OUTLET AND SILTATION STRUCTURES.
- 6.) TEMPORARY SEDIMENTATION BASINS SHALL BE LOCATED WITHIN CONSTRUCTED METLAND LOCATIONS AND FOUNDATION EXCAVATIONS FOR LOTS 9 AND 11. THE CONTRACTOR SHALL ARRANGE HIS CONSTRUCTION OPERATIONS TO DIRECT ALL DEWATERING FLOW TO THESE LOCATIONS UNLESS OTHERWISE APPROVED BY THE CONSERVATION COMMISSION.
- 7.) THE USE OF HEAVY EQUIPMENT VEHICLES SHALL BE MINIMIZED WITHIN SHALLOWS AREAS TO PREVENT PRACTICAL INFILTRATION AREAS. SHALL BE STAKE OUT FROM SETBACK AND COMPACTION.
- 8.) IT IS THE CONTRACTOR'S RESPONSIBILITY TO SETBACK TREES, IF ANY, TO BE RETAINED. SEE TREE PLANTING PLAN FOR TREES TO BE RETAINED.
- 9.) ALL STOCKPILES OF EXCAVATED MATERIALS SHALL BE CONTAINED BY SILT FENCE. NO STOCKPILE SHALL BE LOCATED WITHIN INFILTRATION AREAS.
- 10.) SEE SHEET 24 FOR EROSION CONTROL DETAILS AND CONSTRUCTION SEQUENCING.



I CERTIFY: THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEEDS REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT TOWN/CITY ASSESSORS RECORDS.

REGISTERED PROFESSIONAL LAND SURVEYOR DATE: 8-1-11

PREPARED FOR
SPRINGWELL INVESTMENTS, LLC
11 LAFAYETTE ROAD P.O. BOX 1297
N. HAMPTON, NH 03862

MEI
MILLENNIUM ENGINEERING, INC.
ENGINEERING AND LAND SURVEYING
62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528

SCALE: 1"=40'
DATE: MAR. 9, 2011
DESIGNER: C.M.Y.
CHECKER: E.W.B.PROJECT: M112327
SHEET: 14 OF 25

OSRD DEFINITIVE PLAN
FOR LAND IN
NEWBURYPORT, MA
SHOWING
PROPOSED SUBDIVISION MODIFICATION
AT
RUSSELL TERRACE EXTENSION

EROSION CONTROL PLAN



CITY/TOWN CLERK:
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THE 21 DAYS AS PRESCRIBED
BY MASS. GENERAL LAWS CHAPTER
41 SECTION 81-88.

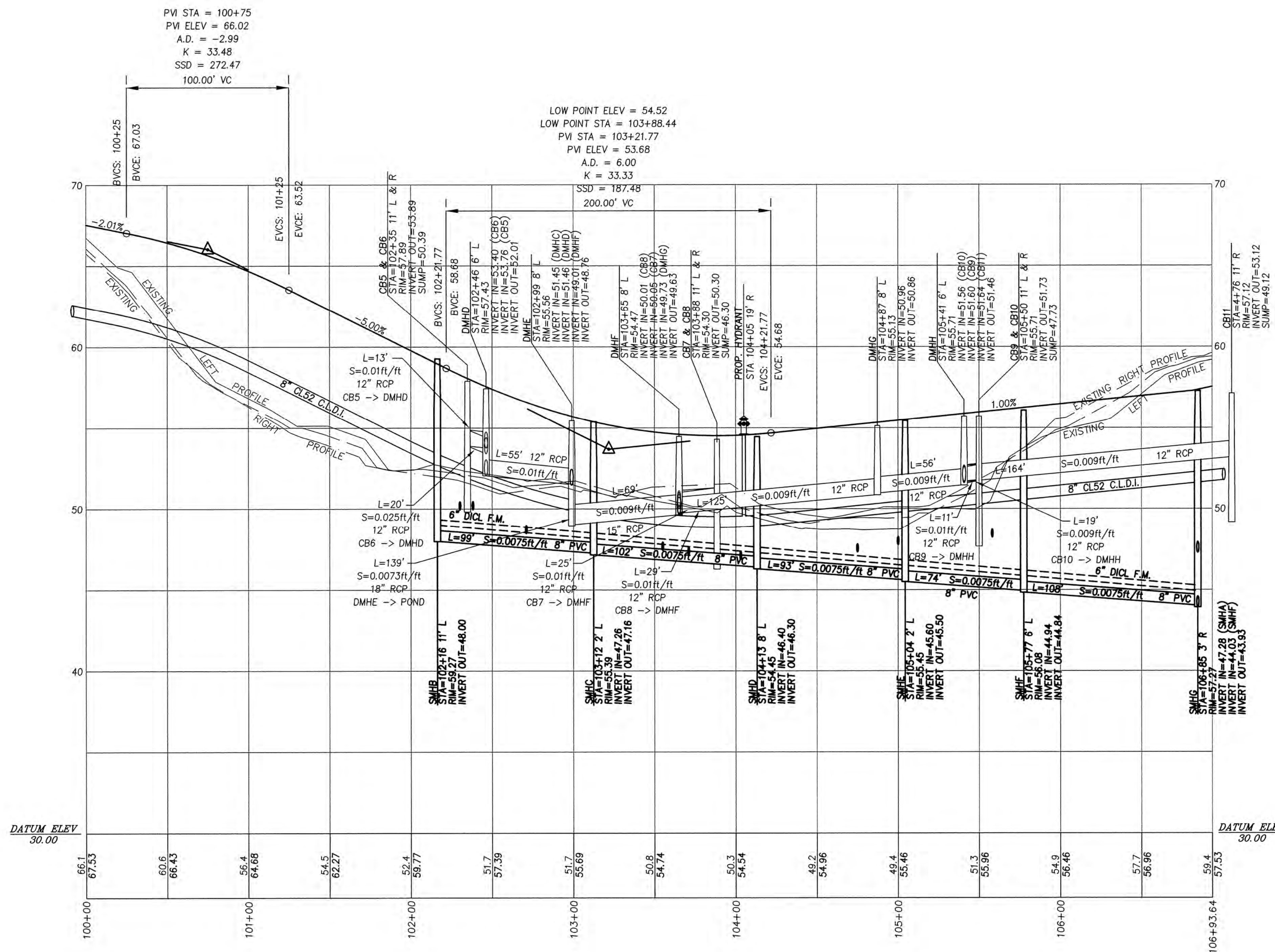
[Signature]
CITY/TOWN CLERK DATE

NEWBURYPORT PLANNING BOARD APPROVAL

[Signature]
[Signature]
[Signature]

8/17/11
DATE

FOR REGISTRY USE ONLY



RICHARDSON PATH

NOTES:

- 1.) CATCH BASIN OFFSETS ARE TO CENTERLINE OF CASTING.
- 2.) SIGHT DISTANCE CALCULATIONS ARE BASED ON AASHTO "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS".

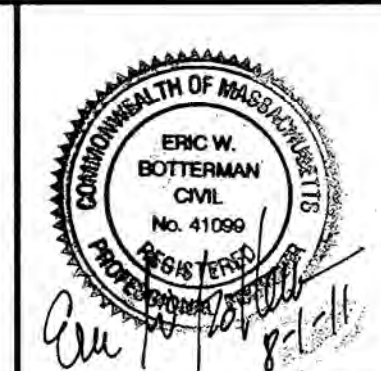
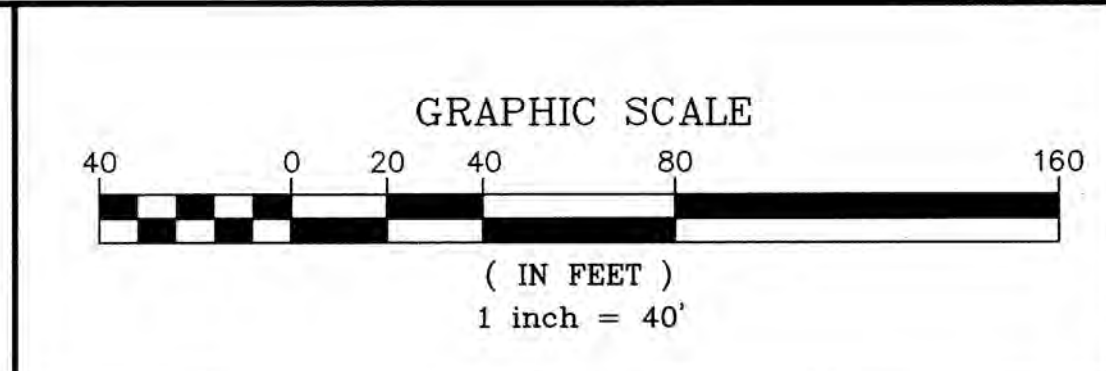
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REGISTERED PROFESSIONAL LAND SURVEYOR DATE



PREPARED FOR

SPRINGWELL INVESTMENTS, LLC
11 LAFAYETTE ROAD P.O. BOX 1297
N. HAMPTON, NH 03862

NO.	DATE	DESCRIPTION	BY
4	8/1/11	FINAL SUBMITTAL	C.M.Y.
3	6/14/11	ADDRESS DPS COMMENTS	C.M.Y.
2	5/26/11	ADDRESS REVIEWERS' COMMENTS	C.M.Y.
1	5/03/11	ADDRESS REVIEWERS' COMMENTS	C.M.Y.

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ENGINEERING AND LAND SURVEYING
62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528

SCALE: 1"=40'
DATE: MAR. 9, 2011
DESG. BY: C.M.Y.
CHKD. BY: E.W.B.
PROJECT: M112327
SHEET: 16 OF 25

OSRD DEFINITIVE PLAN
FOR LAND IN
NEWBURYPORT, MA
SHOWING
PROPOSED SUBDIVISION MODIFICATION
AT
RUSSELL TERRACE EXTENSION

PROFILE
(STA. 100+00
TO STA.
106+93.64)

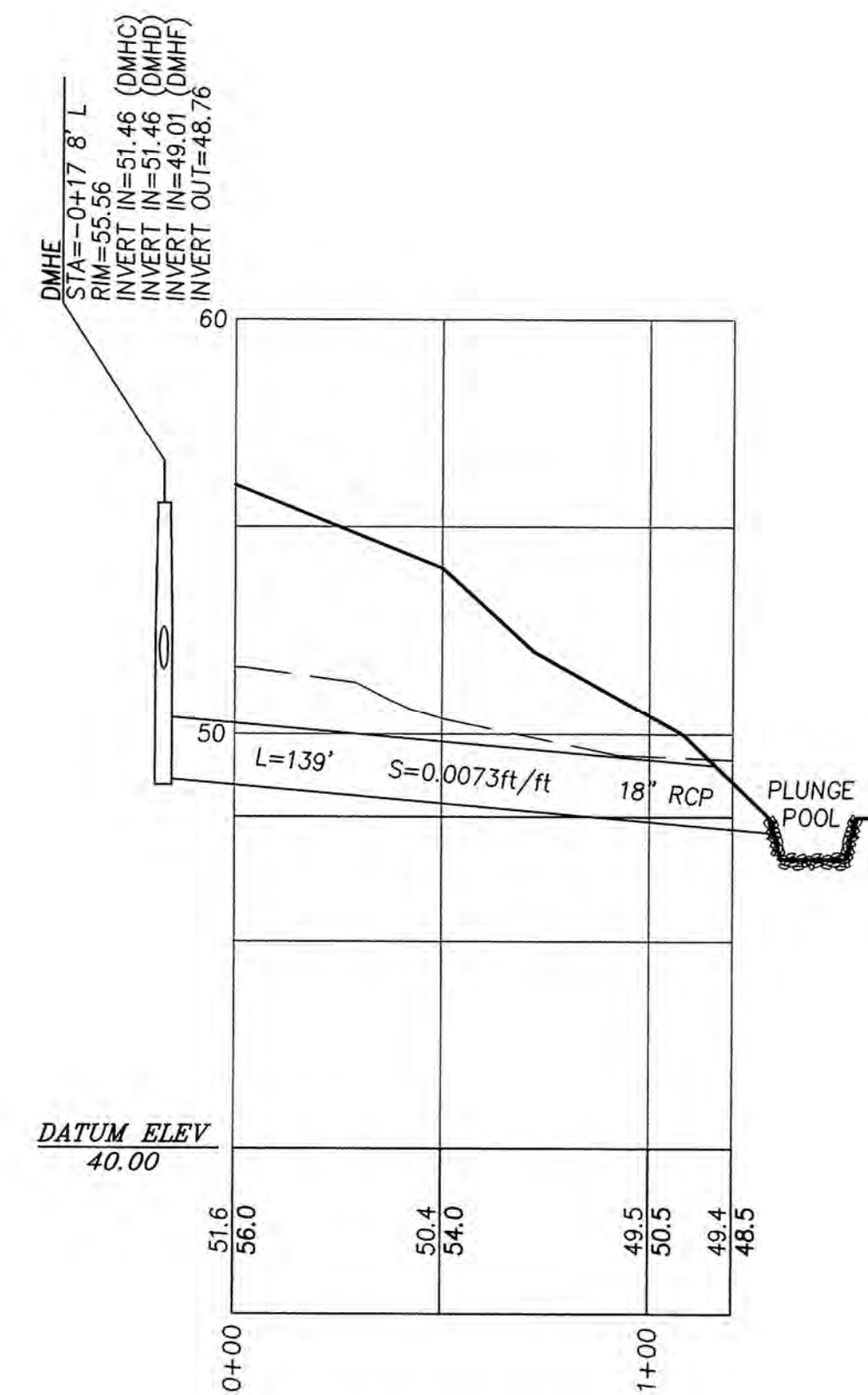
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BY MASS. GENERAL LAWS CHAPTER
41 SECTION 81-88.

[Signature] *[Signature]*
CITY/TOWN CLERK DATE

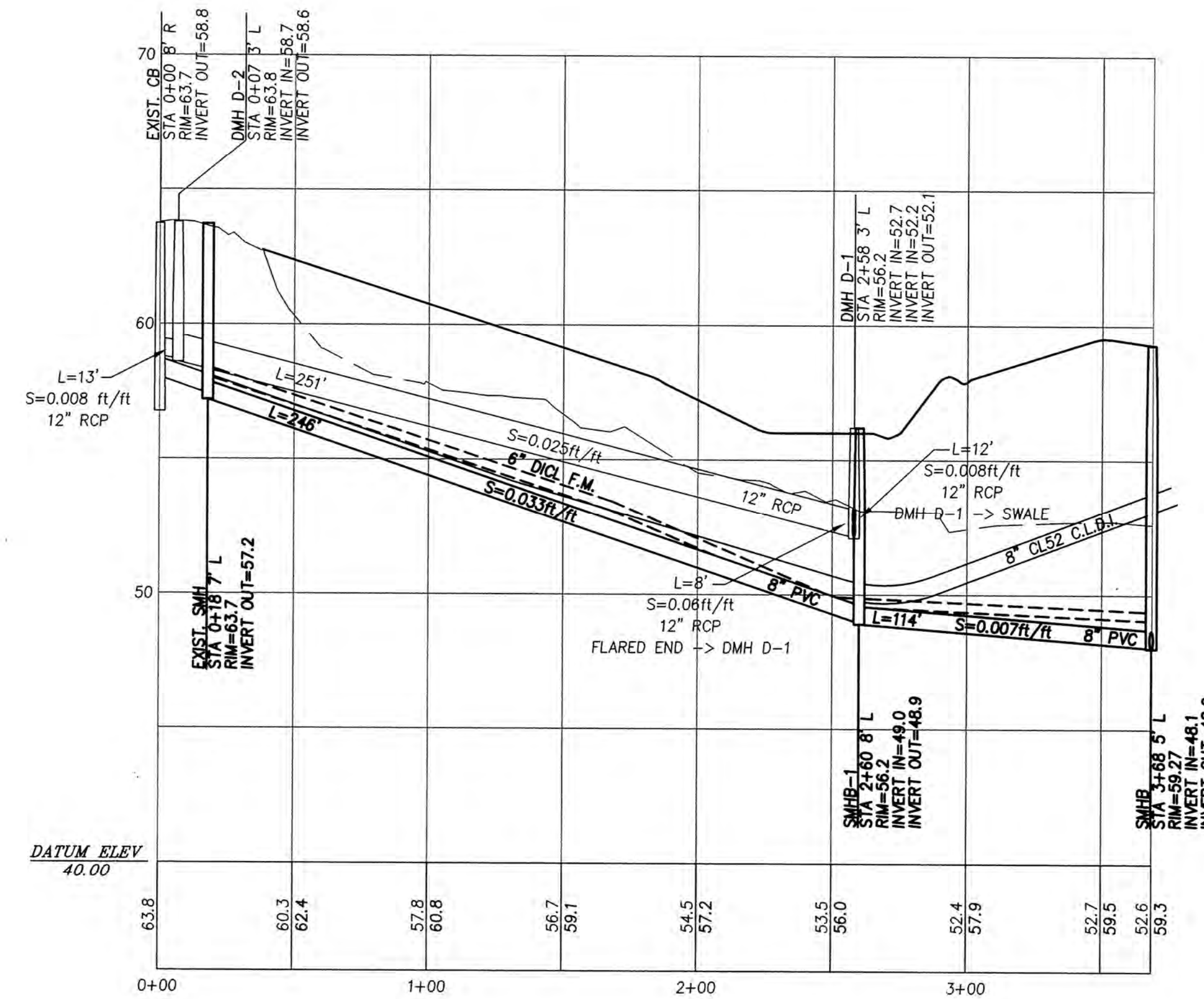
FOR REGISTRY USE ONLY

NEWBURYPORT PLANNING BOARD APPROVAL

[Signature]
[Signature]
[Signature]
[Signature]
DATE



LOT 16/17



UTILITY EASEMENT/LOT 18

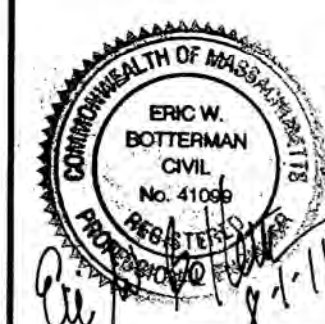
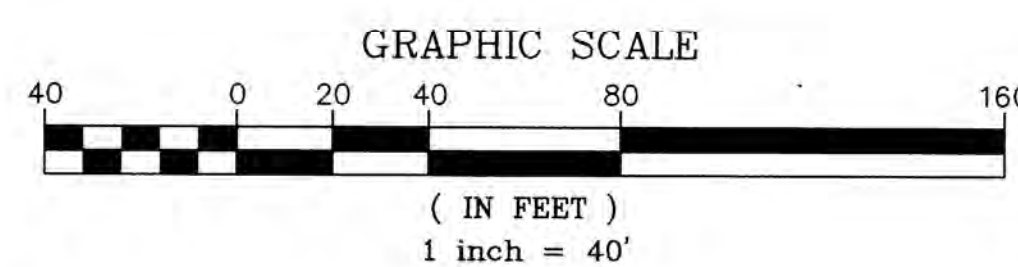
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[Signature] REGISTERED PROFESSIONAL LAND SURVEYOR DATE



PREPARED FOR
SPRINGWELL INVESTMENTS, LLC
11 LAFAYETTE ROAD P.O. BOX 1297
N. HAMPTON, NH 03862

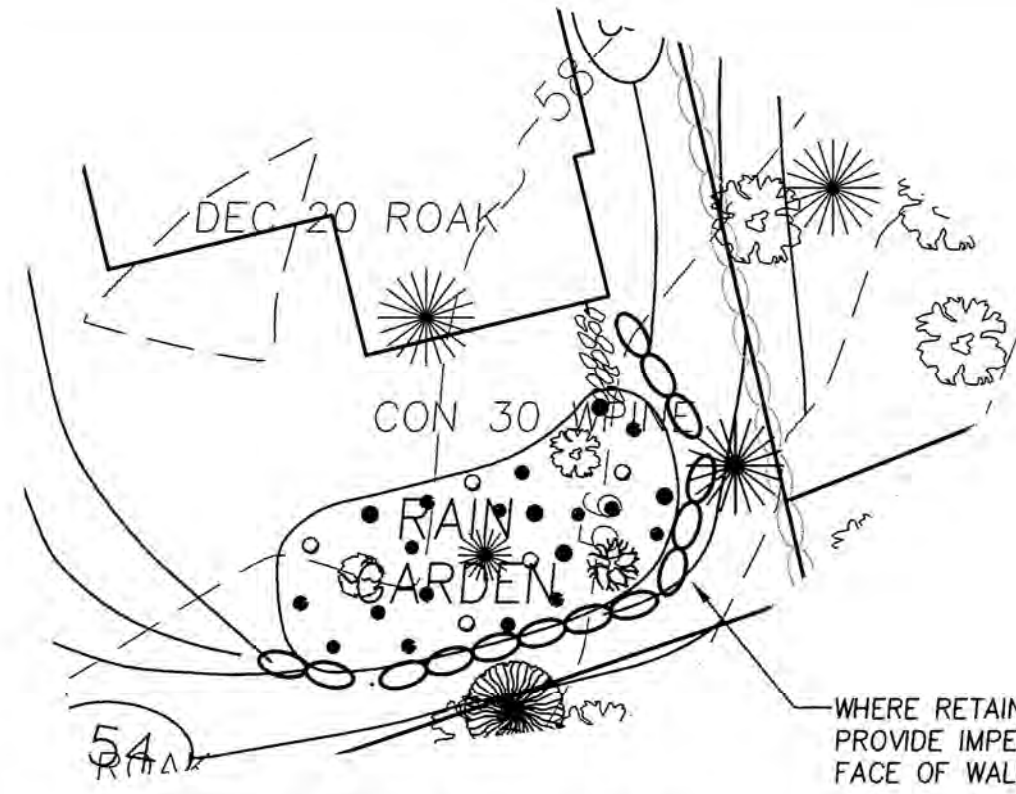
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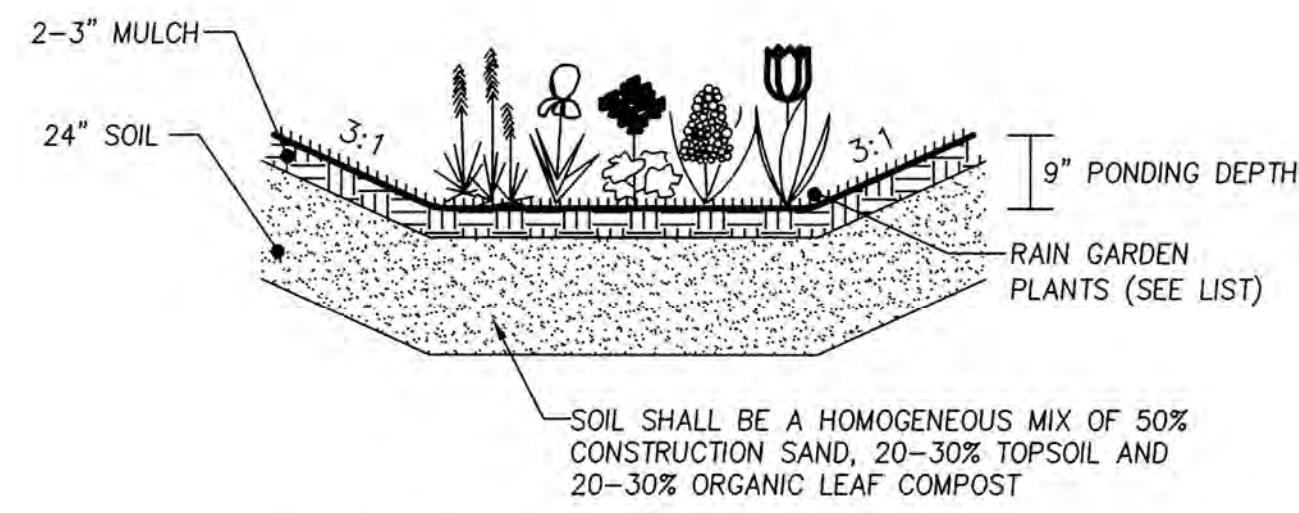
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OSRD DEFINITIVE PLAN
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RUSSELL TERRACE EXTENSION

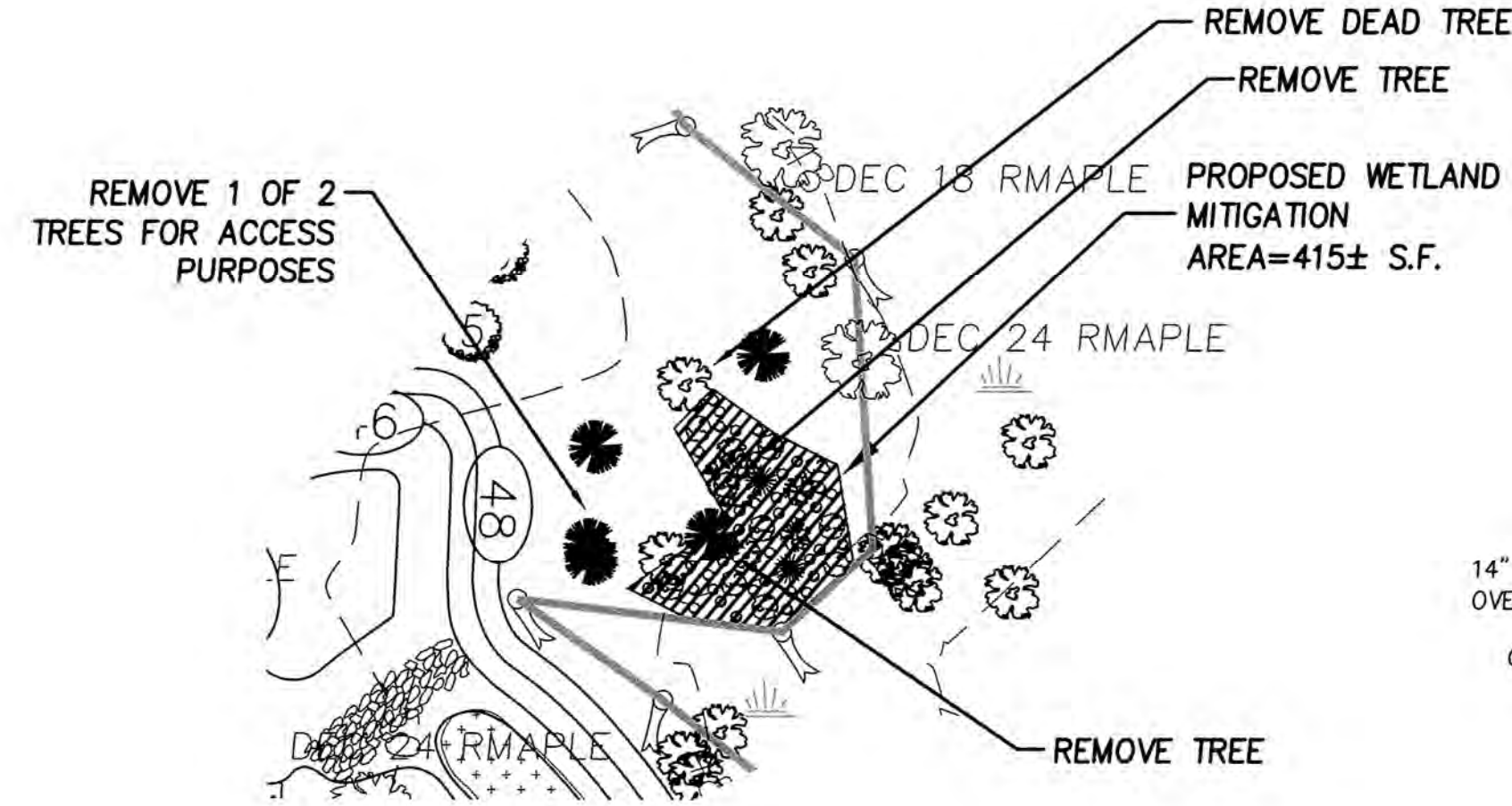
PROFILE
(LOT 16/17 & UTILITY EASEMENT)



TYPICAL RAIN GARDEN PLANTING SCHEME
HORIZ. SCALE: 1"=20'



RAIN GARDEN DETAIL
N.T.S.

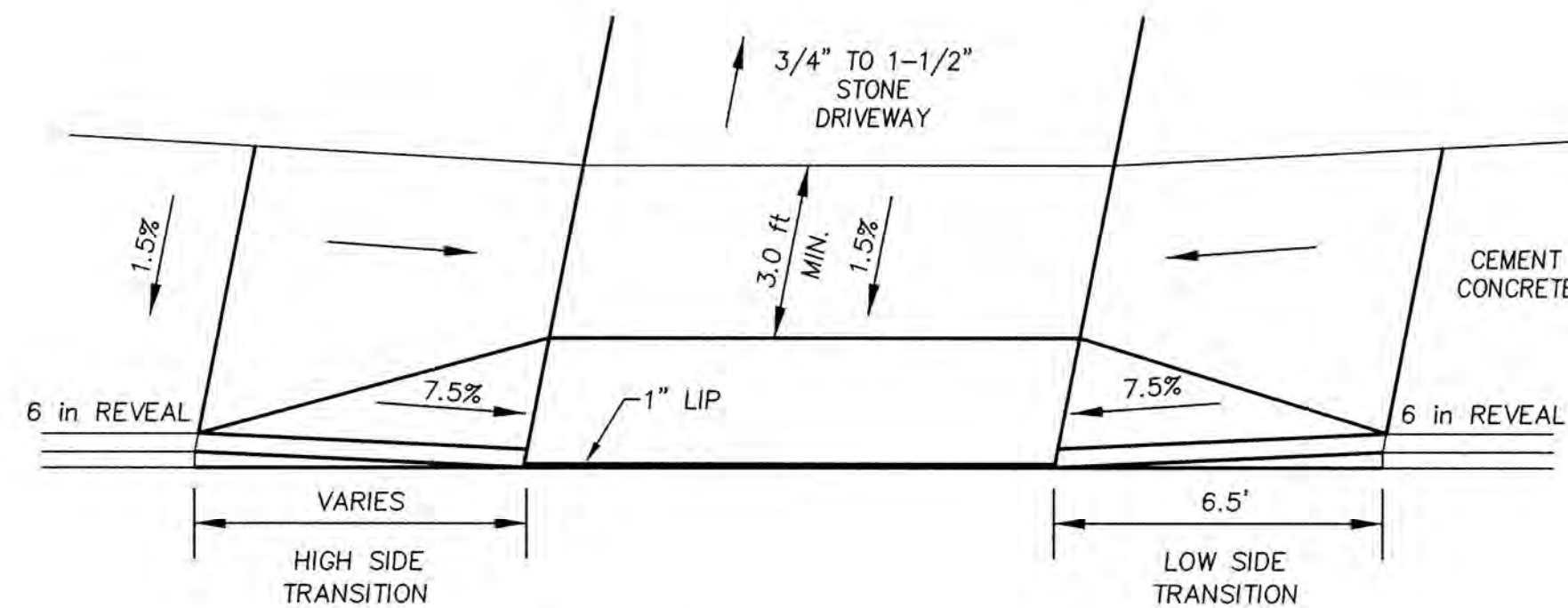


WETLAND MITIGATION PLANTING SCHEME
HORIZ. SCALE: 1"=20'

RAIN GARDEN PLANT LIST (TYPICAL)

SYMBOL	COMMON NAME	NUMBER
	RIVER BIRCH	1
	SWEET PEPPERBUSH	1
	GRAY DOGWOOD	1
	WITCHHAZEL	1
	BLACK-EYED SUSAN	VARIES
	PURPLE CONEFLOWER	VARIES
	LITTLE BLUESTEM	VARIES
	SPIDERWORT	VARIES
	VIOLETS	VARIES

NOTE: SEE "PLANTING PLAN FOR CONSTRUCTED WETLANDS, GRASSED SWALE, AND RAIN GARDENS", PREPARED BY SEEKAMP ENV. CONSULTING, INC. AS REVISED ON AUGUST 27, 2007, FOR ADDITIONAL INFORMATION.

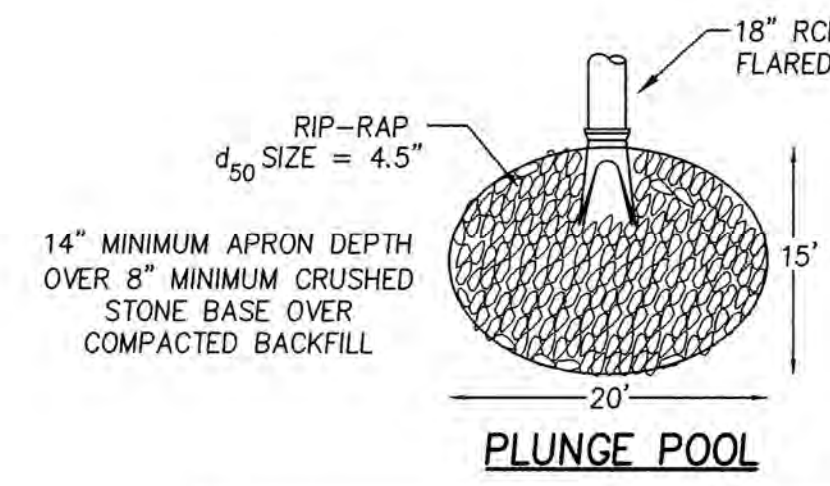


CEM. CONC. DRIVEWAY RAMP DETAIL
N.T.S.

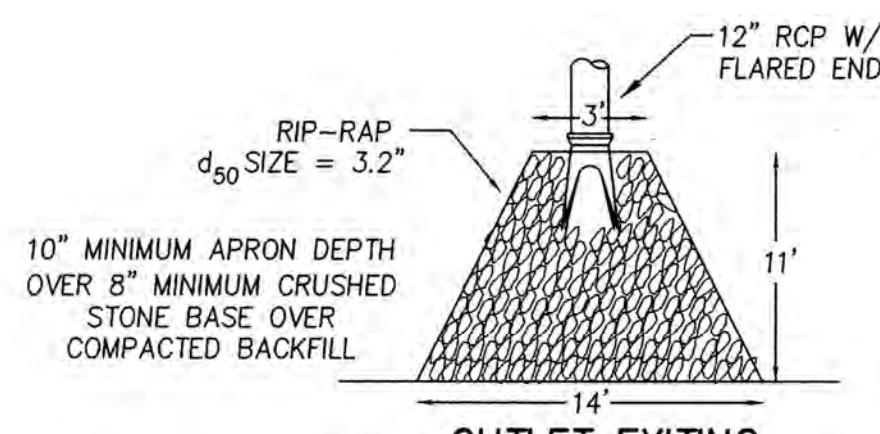
WETLAND MITIGATION PLANT LIST

SYMBOL	COMMON NAME	NUMBER
	RED MAPLE	2
	HIGHBUSH BLUEBERRY	2
	WINTERBERRY	2
	CINNAMON FERN	10
	WETLAND SEED MIX	VARIES

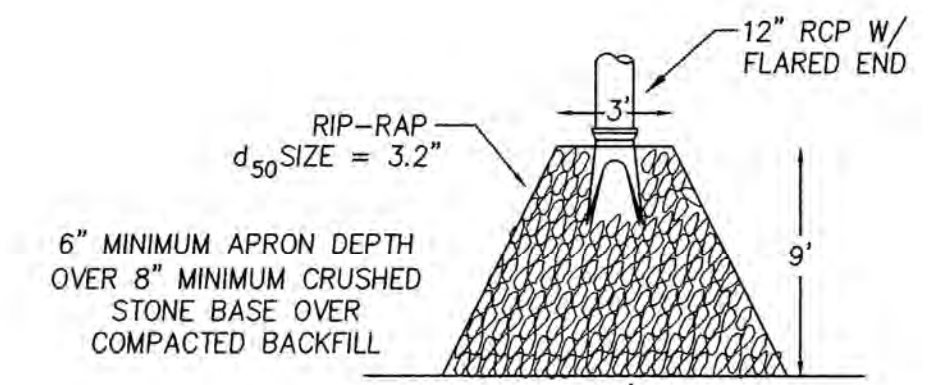
NOTE: SEE "WETLAND MITIGATION/REPLICATION PLAN", PREPARED BY SEEKAMP ENV. CONSULTING, INC. DATED AUGUST 30, 2006, FOR A LIST OF TYPICAL WETLAND PLANT SPECIES.



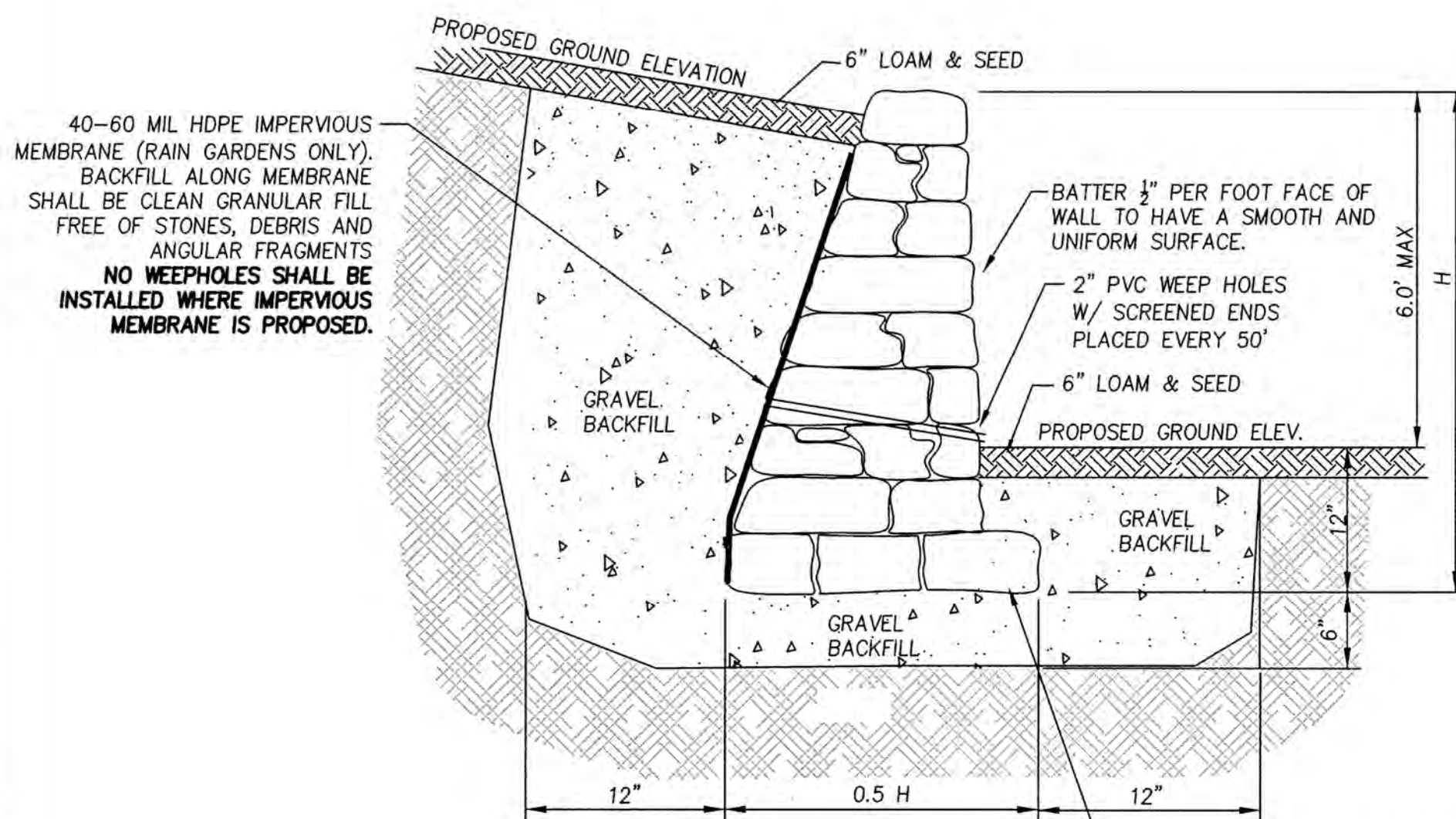
% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE
100	6.8 TO 9.1 INCHES
85	5.9 TO 8.2 INCHES
50	4.5 TO 6.8 INCHES
15	1.4 TO 2.3 INCHES



% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE
100	4.7 TO 6.3 INCHES
85	4.1 TO 5.7 INCHES
50	3.2 TO 4.7 INCHES
15	0.9 TO 1.6 INCHES

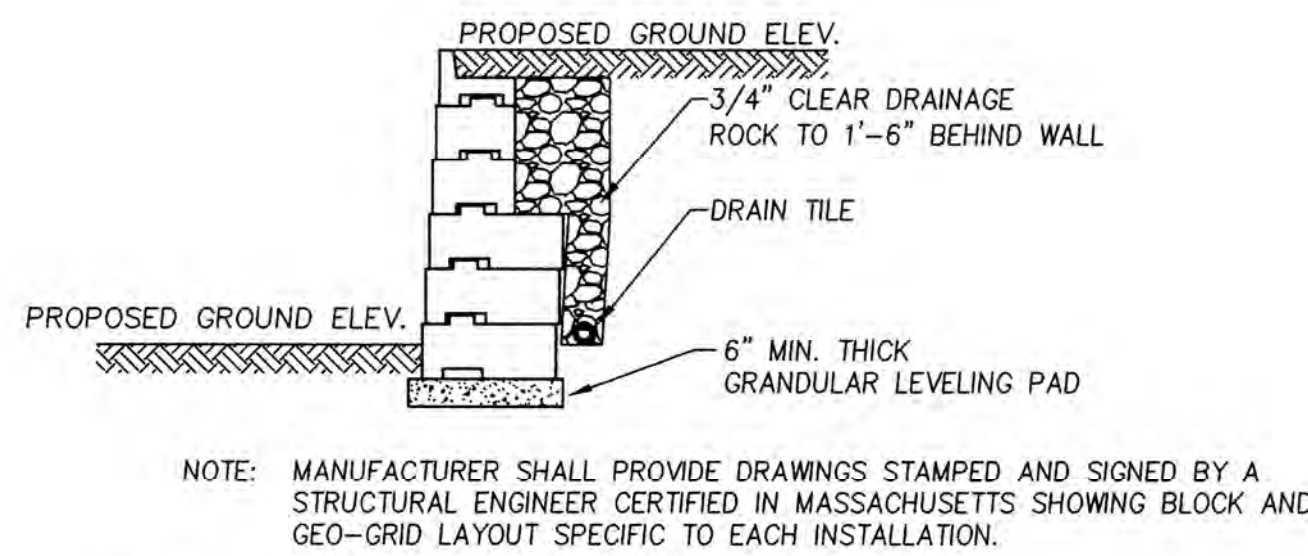


% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE
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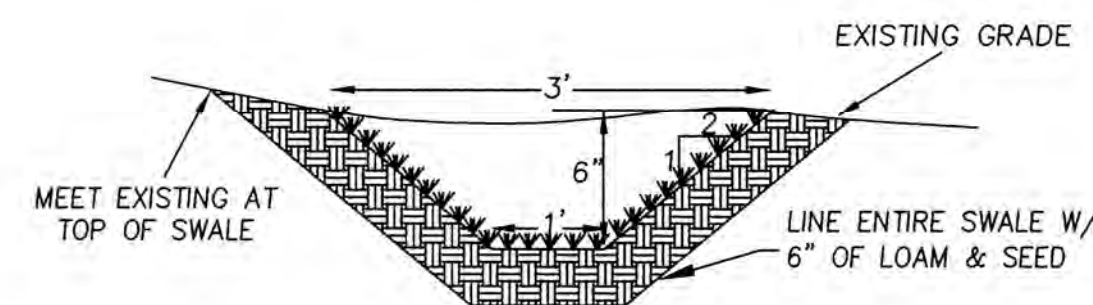
NOTE: PRIOR TO INSTALLATION CONTRACTOR SHALL PROVIDE A STRUCTURAL DESIGN OF THE WALL WHEN GREATER THAN 4' IN HEIGHT. DESIGN SHALL BE STAMPED AND SIGNED BY A STRUCTURAL ENGINEER CERTIFIED IN MASSACHUSETTS.

FIELD STONE RETAINING WALL
N.T.S.

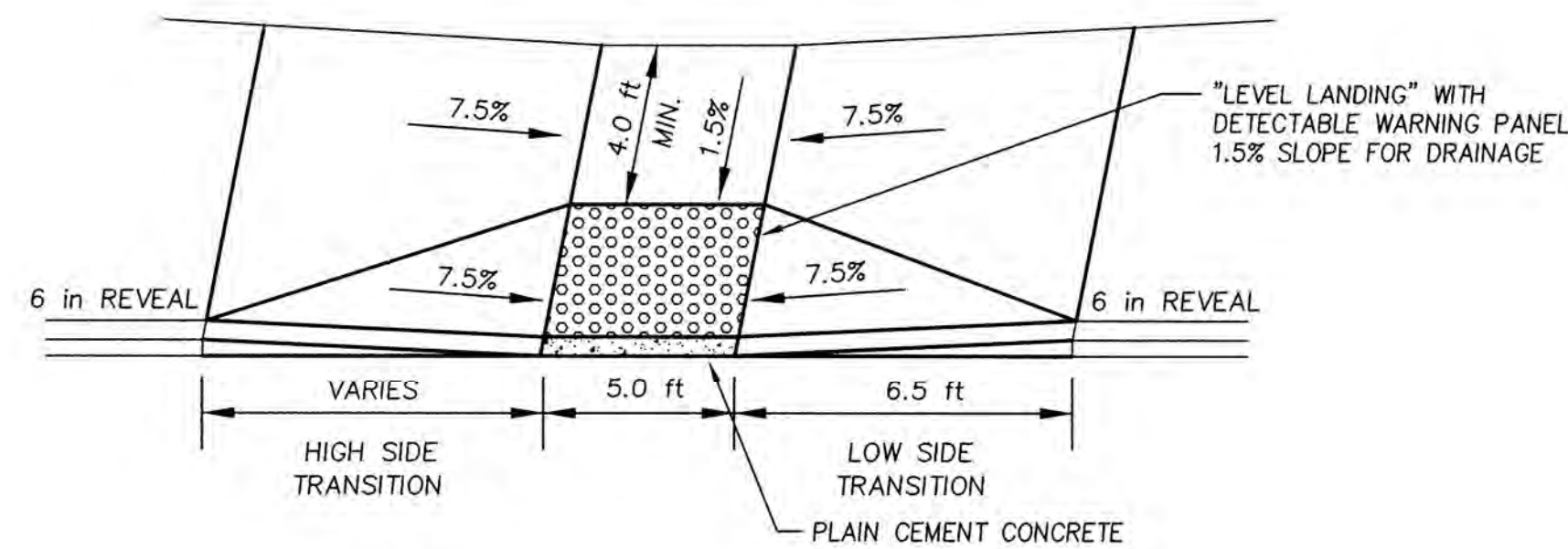


NOTE: MANUFACTURER SHALL PROVIDE DRAWINGS STAMPED AND SIGNED BY A STRUCTURAL ENGINEER CERTIFIED IN MASSACHUSETTS SHOWING BLOCK AND GEO-GRID LAYOUT SPECIFIC TO EACH INSTALLATION.

SEGMENTAL BLOCK RETAINING WALL
N.T.S.



END MORIN ROAD DRAINAGE CHANNEL DETAIL
N.T.S.



ROADWAY PROFILE GRADE	HIGH SIDE TRANSITION LENGTH
%	ENGLISH UNITS
0	6'-6"
1	7'-8"
2	9'-0"
3	11'-0"
4	14'-0"
>4	15'-0" MAX

NOTES:

- RAMP CROSS SECTION TO BE SAME AS SIDEWALK; I.E. DEPTH OF SURFACE AND FOUNDATION.
- PORTLAND CEMENT CONCRETE RAMPS ARE TO BE TEXTURED BY BROOMING IN A DIRECTION PARALLEL TO THE LENGTH OF THE RAMP.
- BASE OF RAMP SHALL MEET PAVEMENT GUTTER SUCH THAT THERE IS NO DIFFERENCE IN ELEVATION. RAMP SHALL BE CONSTRUCTED SUCH THAT WATER DOES NOT "PUDDLE" AT THE BASE OF THE RAMP.
- THE PAVEMENT AT THE BASE OF THE RAMP SHALL BE PART OF THE CONTINUOUS TOP COURSE. THE USE OF A "PAVEMENT PATCH" TO COMPLY WITH THE CONDITIONS IN NOTE 3, ABOVE IS PROHIBITED.
- RAMPS SHALL CONFORM TO MASS HIGHWAY WHEELCHAIR RAMP STANDARDS - LATEST REVISION.

A.D.A. ACCESS RAMP DETAIL
N.T.S.

CITY/TOWN CLERK:
I HEREBY CERTIFY THAT NO APPEAL HAS BEEN FILED WITHIN THE 21 DAYS AS PRESCRIBED BY MASS. GENERAL LAWS CHAPTER 41 SECTION 81-88.

R. Russo
CITY/TOWN CLERK DATE

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NEWBURYPORT PLANNING BOARD APPROVAL

[Signatures]
DATE

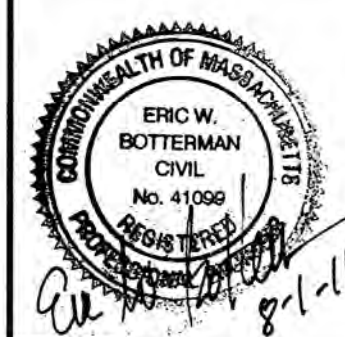
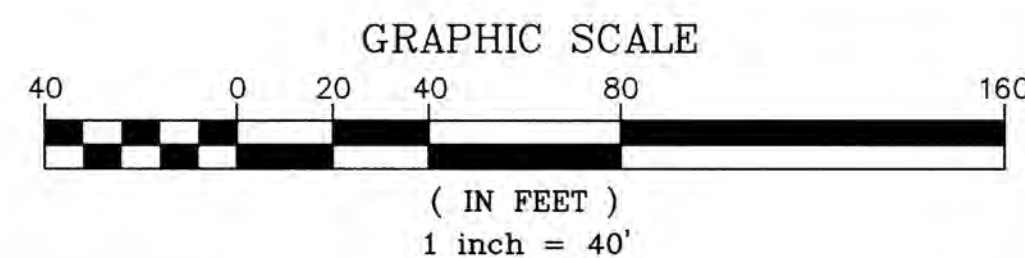
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REGISTERED PROFESSIONAL LAND SURVEYOR DATE



PREPARED FOR

SPRINGWELL INVESTMENTS, LLC
11 LAFAYETTE ROAD P.O. BOX 1297
N. HAMPTON, NH 03862

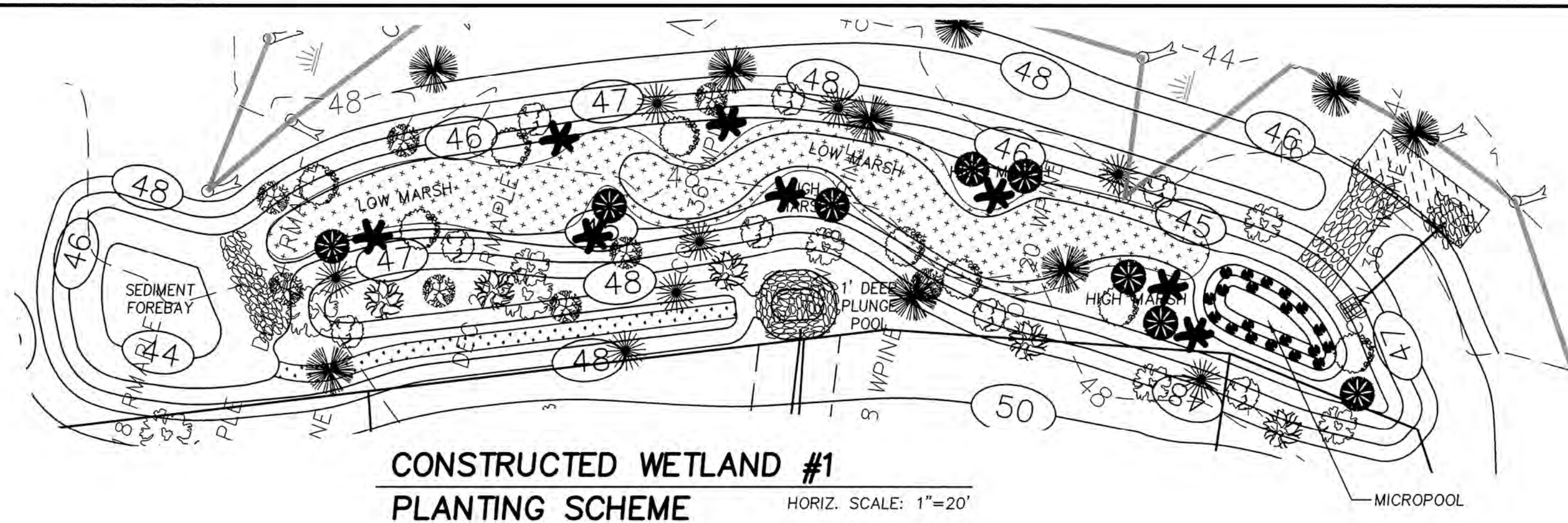
NO.	DATE	DESCRIPTION	BY
3	8/1/11	FINAL SUBMITTAL	C.M.Y.
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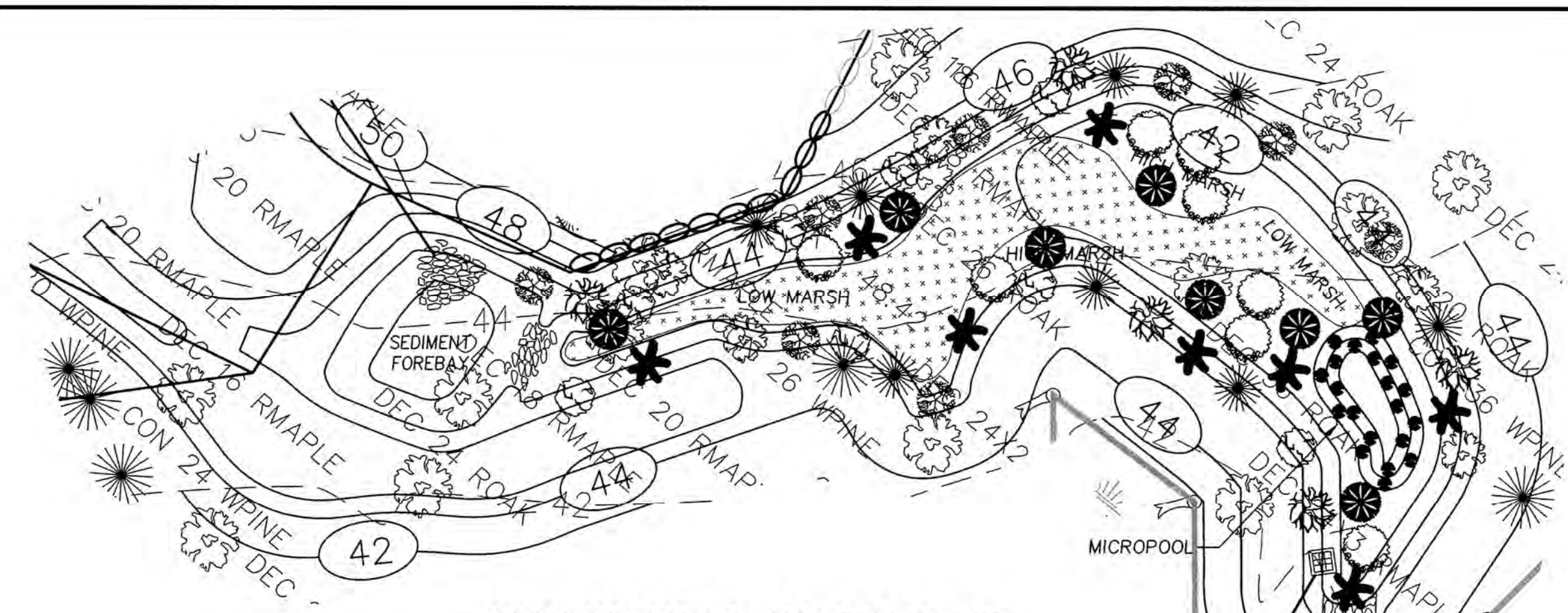
SCALE: 1"=40'
DATE: MAR. 9, 2011
CHKD. BY: E.W.B.
PROJECT: M112327
SHEET: 18 OF 25

OSRD DEFINITIVE PLAN
FOR LAND IN
NEWBURYPORT, MA
SHOWING
PROPOSED SUBDIVISION MODIFICATION
AT
RUSSELL TERRACE EXTENSION

SITE & DRAINAGE DETAILS



**CONSTRUCTED WETLAND #1
PLANTING SCHEME**
HORIZ. SCALE: 1"=20'



**CONSTRUCTED WETLAND #2
PLANTING SCHEME**
HORIZ. SCALE: 1"=20'

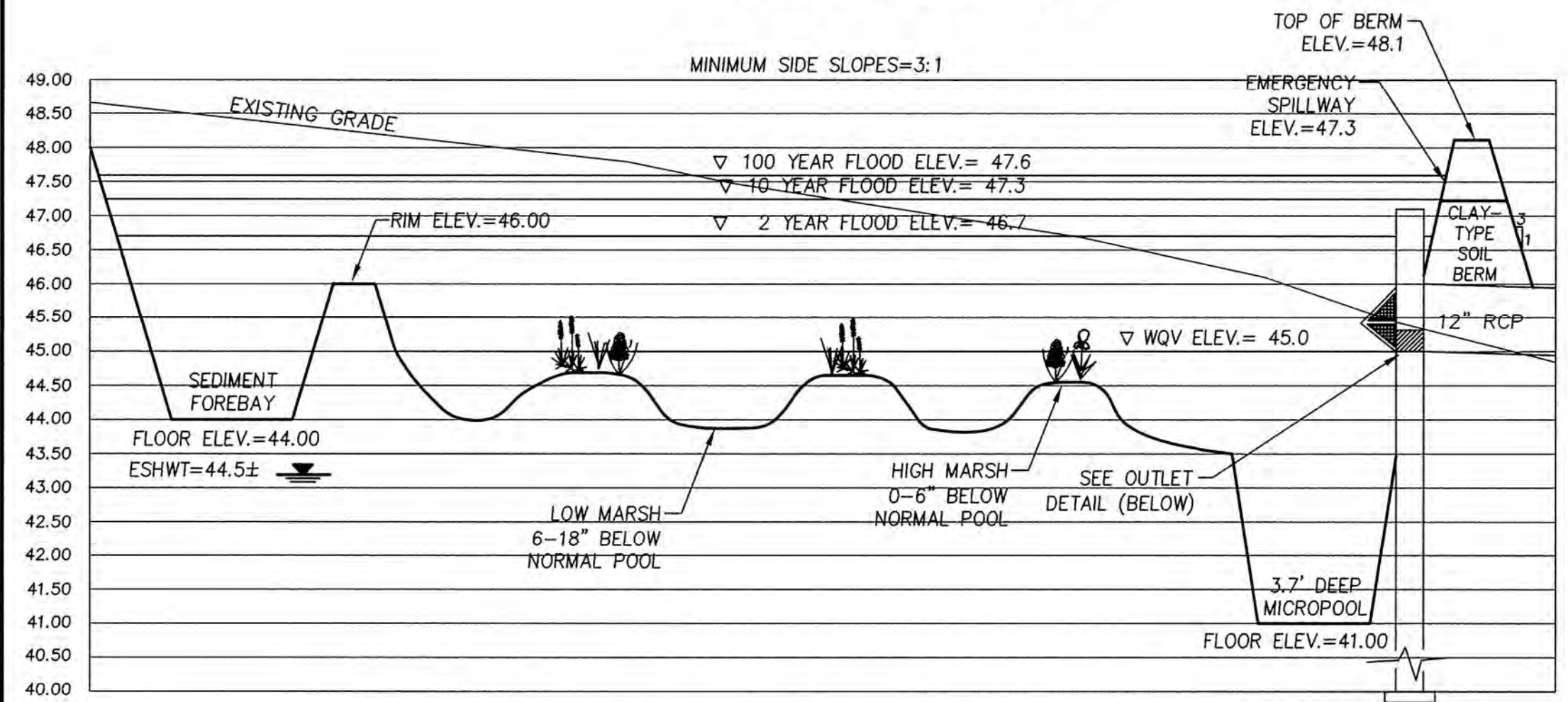
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41 SECTION 81-88.

John *John*
CITY/TOWN CLERK DATE

NEWBURYPORT PLANNING BOARD APPROVAL

Paul D.
John
John
John
DATE

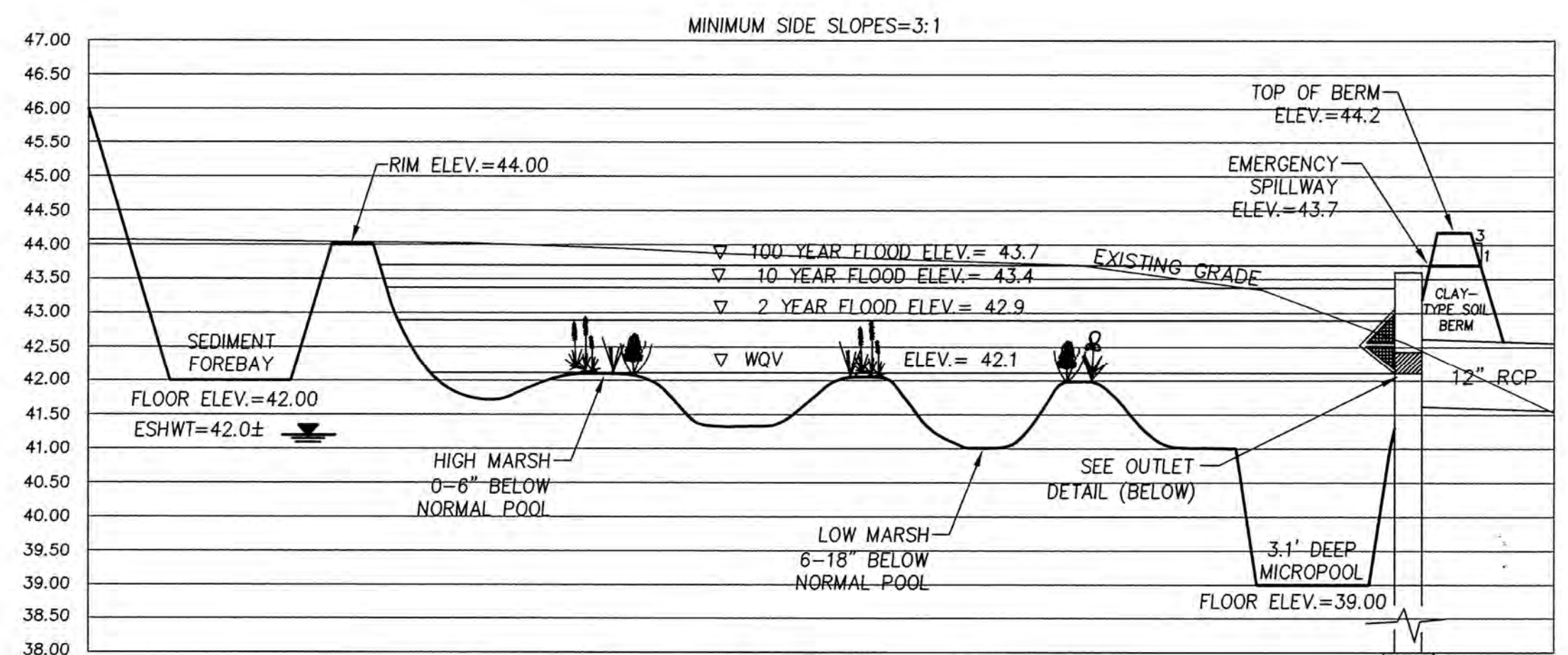


**CONSTRUCTED WETLAND #1
PROFILE VIEW**
HORIZ. SCALE: N.T.S.
VERT. SCALE: 1"=2'

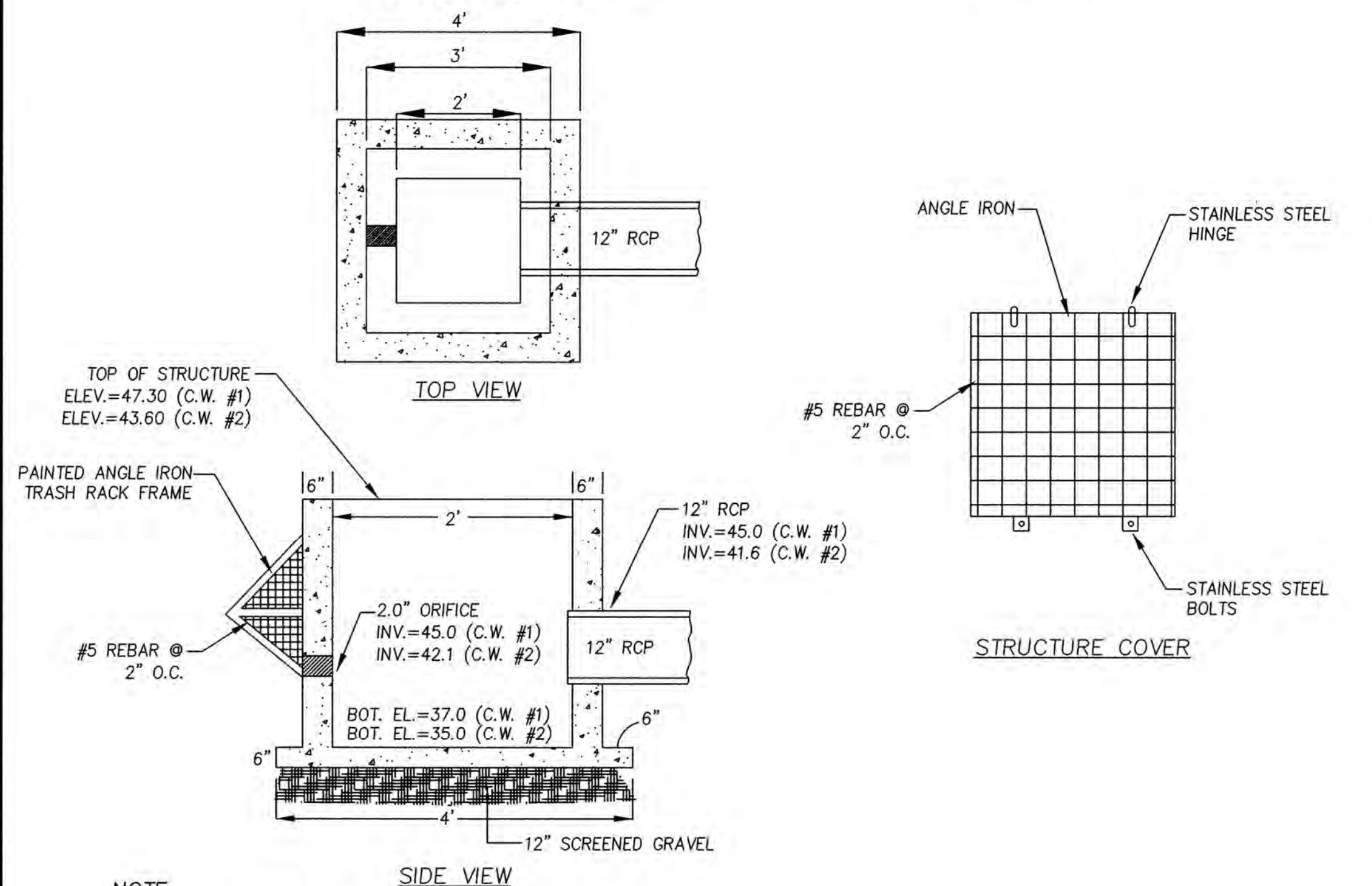
CONSTRUCTED WETLAND PLANT LIST

SYMBOL	COMMON NAME	HEIGHT	NUMBER	ZONE
☐	GRAY BIRCH	4-6'	5	SEMI-WET
☐	ARBORVITAE	4-6'	5	SEMI-WET
☐	MAPLE-LEAF VIBURNUM	2-4'	8	SEMI-WET
☐	WITCHHAZEL	2-4'	8	SEMI-WET
☐	HIGHBUSH CRANBERRY	2-4'	8	SEMI-WET
☐	HIGHBUSH BLUEBERRY	2-4'	8	HIGH MARSH
☐	SILKY DOGWOOD	2-4'	8	HIGH MARSH
☐	WINTERBERRY	2-4'	8	HIGH MARSH
☐	BROADLEAF CATTAIL	PLUGS	20	MICROPOOL

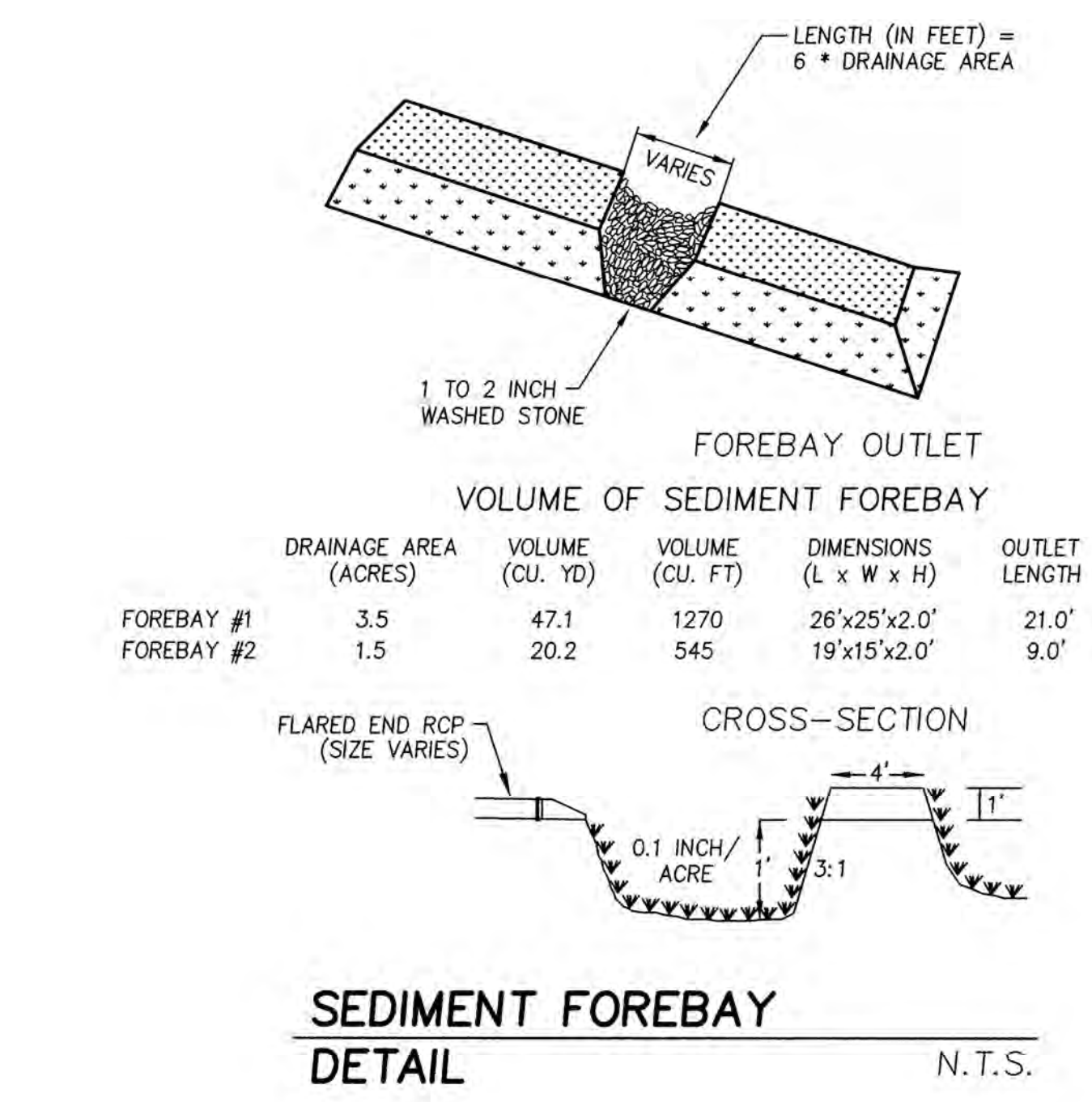
WETLAND SEED MIX BELOW CONTOUR 46 IN C.W. #1
CONTOUR 44 IN C.W. #2
CONSERVATION SEED MIX ABOVE CONTOUR 46 IN C.W. #1
CONTOUR 44 IN C.W. #2



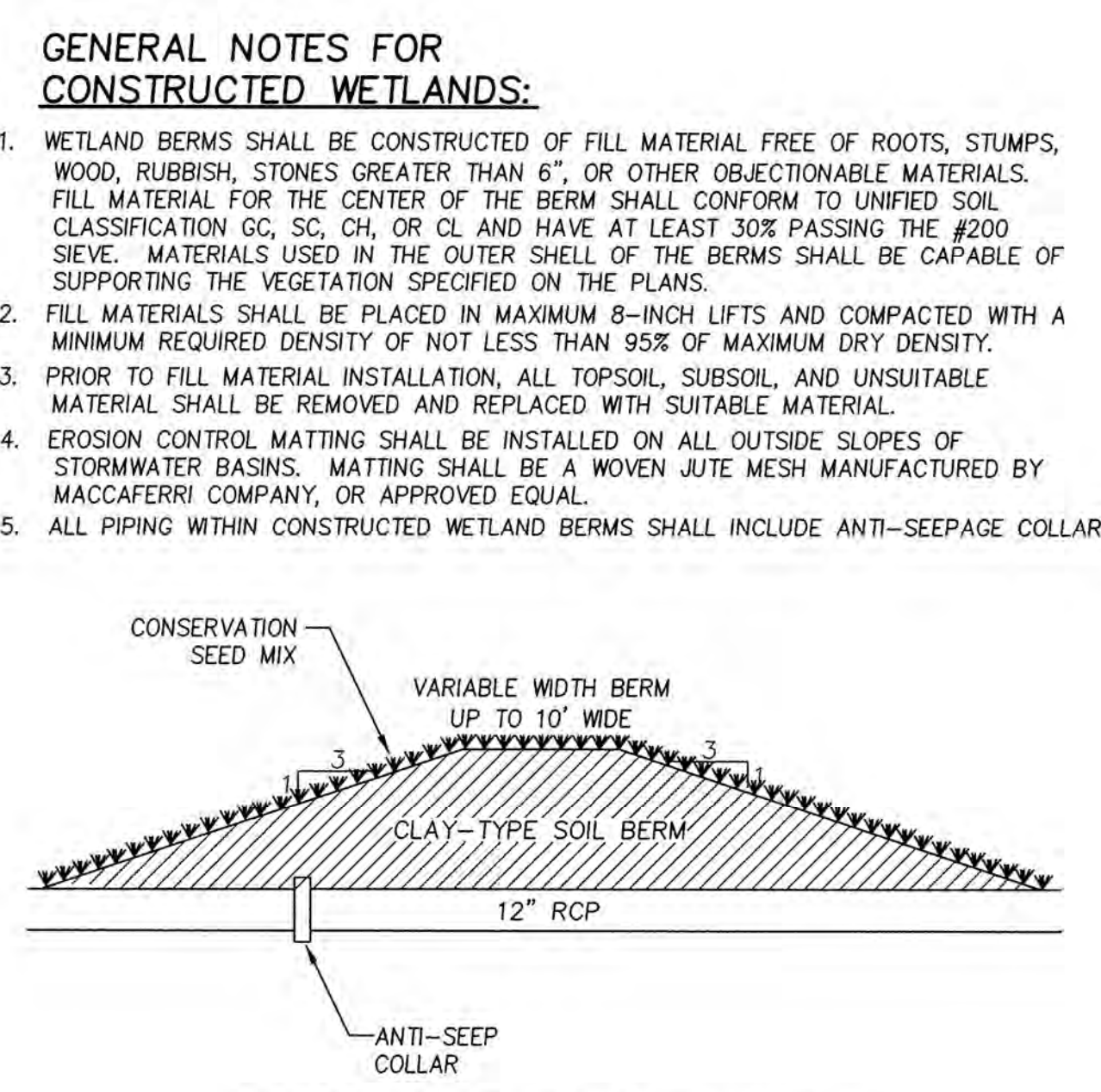
**CONSTRUCTED WETLAND #2
PROFILE VIEW**
HORIZ. SCALE: N.T.S.
VERT. SCALE: 1"=2'



**OUTLET STRUCTURE
DETAIL**
N.T.S.



**SEDIMENT FOREBAY
DETAIL**
N.T.S.



**CONSTRUCTED WETLAND
BERM DETAIL**
N.T.S.

- GENERAL NOTES FOR
CONSTRUCTED WETLANDS:**
1. WETLAND BERMS SHALL BE CONSTRUCTED OF FILL MATERIAL FREE OF ROOTS, STUMPS, WOOD, RUBBISH, STONES GREATER THAN 6", OR OTHER OBJECTIONABLE MATERIALS. FILL MATERIAL FOR THE CENTER OF THE BERM SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL AND HAVE AT LEAST 30% PASSING THE #200 SIEVE. MATERIALS USED IN THE OUTER SHELL OF THE BERMS SHALL BE CAPABLE OF SUPPORTING THE VEGETATION SPECIFIED ON THE PLANS.
 2. FILL MATERIALS SHALL BE PLACED IN MAXIMUM 8-INCH LIFTS AND COMPACTED WITH A MINIMUM REQUIRED DENSITY OF NOT LESS THAN 95% OF MAXIMUM DRY DENSITY.
 3. PRIOR TO FILL MATERIAL INSTALLATION, ALL TOPSOIL, SUBSOIL, AND UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL.
 4. EROSION CONTROL MATTING SHALL BE INSTALLED ON ALL OUTSIDE SLOPES OF STORMWATER BASINS. MATTING SHALL BE A WOVEN JUTE MESH MANUFACTURED BY MACCAFERRI COMPANY, OR APPROVED EQUAL.
 5. ALL PIPING WITHIN CONSTRUCTED WETLAND BERMS SHALL INCLUDE ANTI-SEEPAGE COLLARS.

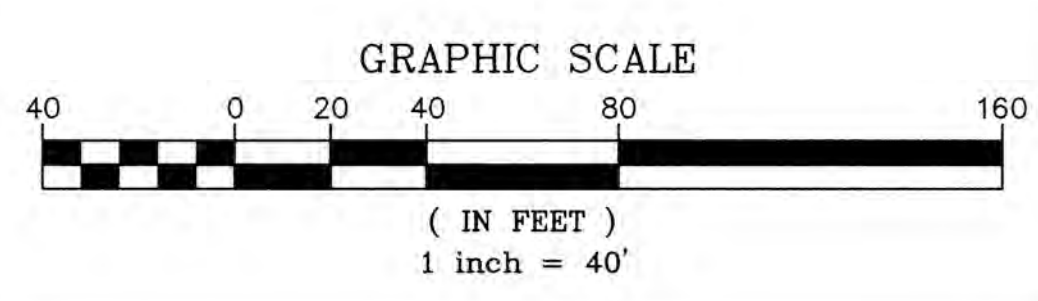
DESCRIPTION	AREA	%
CONSTRUCTED WETLAND 1		
SURFACE AREA	6,210 S.F.	
MICRO POOL AREA	436 S.F.	7
HIGH MARSH AREA	2,324 S.F.	37
LOW MARSH AREA	2,470 S.F.	40
SEDIMENT FOREBAY AREA	980 S.F.	16
CONSTRUCTED WETLAND 2		
SURFACE AREA	3,490 S.F.	
MICRO POOL AREA	298 S.F.	8
HIGH MARSH AREA	1,118 S.F.	32
LOW MARSH AREA	1,390 S.F.	40
SEDIMENT FOREBAY AREA	684 S.F.	20

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I CERTIFY:
THAT THIS ACTUAL SURVEY WAS MADE ON
THE GROUND BETWEEN 1996 & JUNE 2006
THAT THIS PLAN CONFORMS TO THE RULES AND
REGULATIONS OF THE REGISTER OF DEEDS.



REGISTERED PROFESSIONAL LAND SURVEYOR DATE



PREPARED FOR
SPRINGWELL INVESTMENTS, LLC
11 LAFAYETTE ROAD P.O. BOX 1297
N. HAMPTON, NH 03862

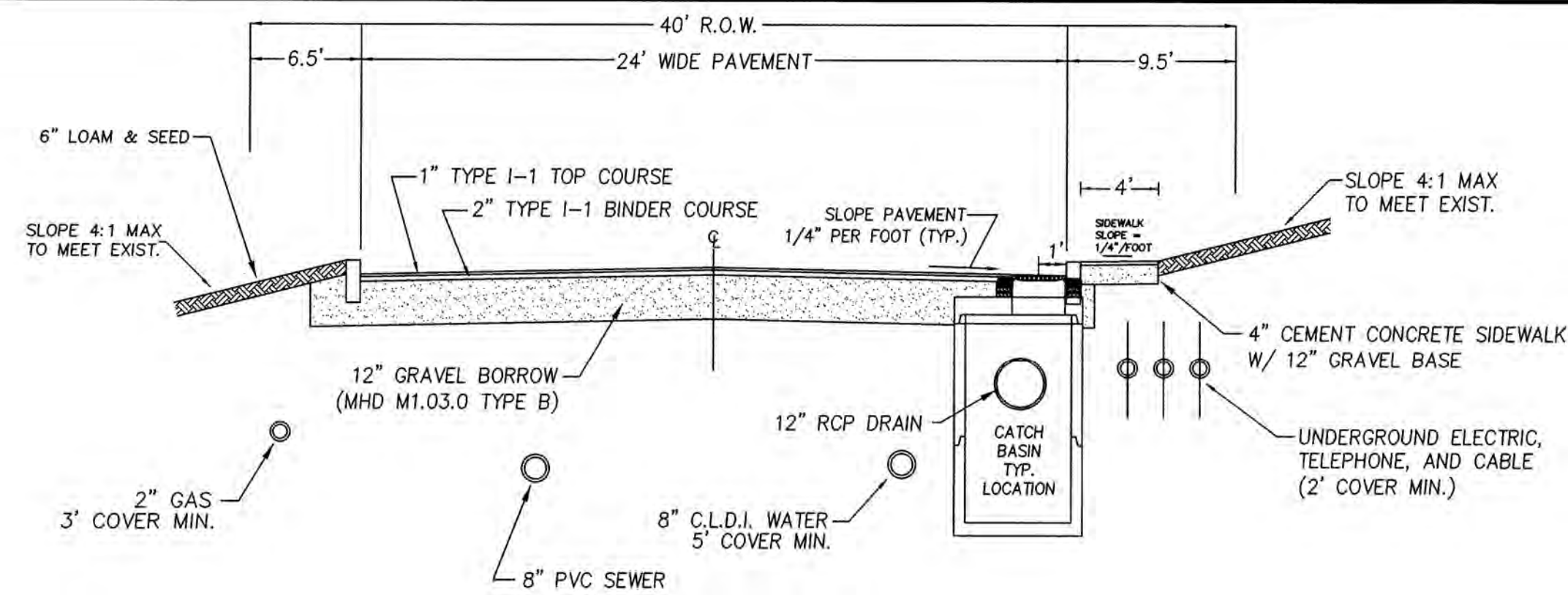
NO.	DATE	DESCRIPTION	BY
3	8/1/11	FINAL SUBMITTAL	C.M.Y.
2	5/26/11	ADDRESS REVIEWERS' COMMENTS	C.M.Y.
1	5/03/11	ADDRESS REVIEWERS' COMMENTS	C.M.Y.

MEI MILLENNIUM ENGINEERING, INC.
ENGINEERING AND LAND SURVEYING
62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528

SCALE: 1"=40'
DATE: MAR. 9, 2011
DES. BY: C.M.Y.
CHKD. BY: E.W.B.
PROJECT: M112327
SHEET: 19 OF 25

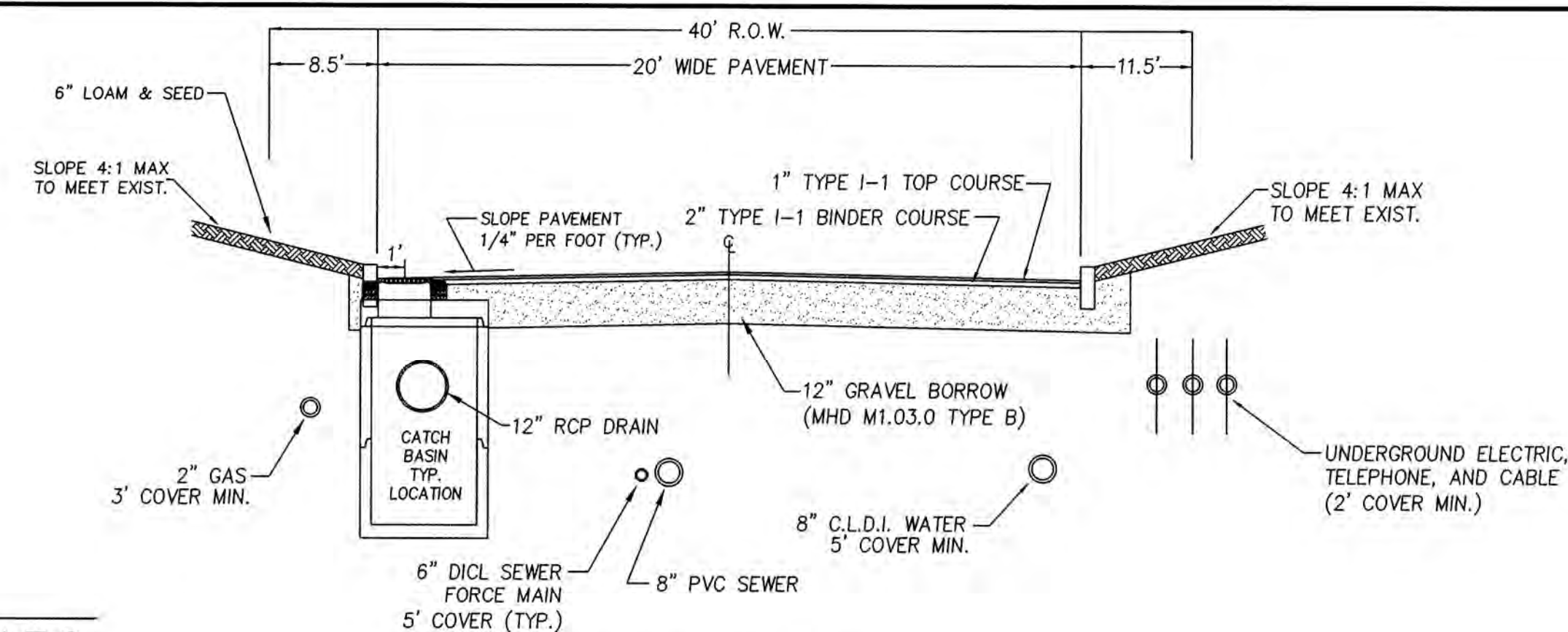
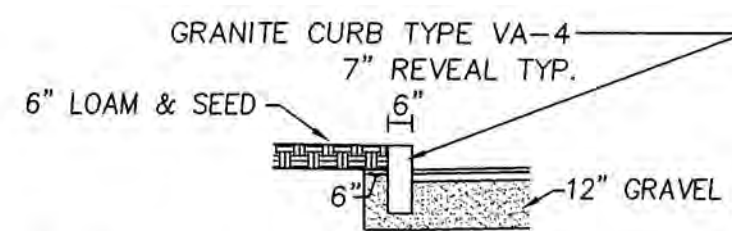
OSRD DEFINITIVE PLAN
FOR LAND IN
NEWBURYPORT, MA
SHOWING
PROPOSED SUBDIVISION MODIFICATION
AT
RUSSELL TERRACE EXTENSION

**DRAINAGE
DETAILS**



ROADWAY CROSS-SECTION
STA 0+75± TO STA 4+70±
MORIN ROAD N.T.S.

TYPICAL GRANITE CURBING
INSTALLATION DETAIL N.T.S.



ROADWAY CROSS-SECTION
STA 5+20± TO STA 7+21.66
MORIN ROAD N.T.S.

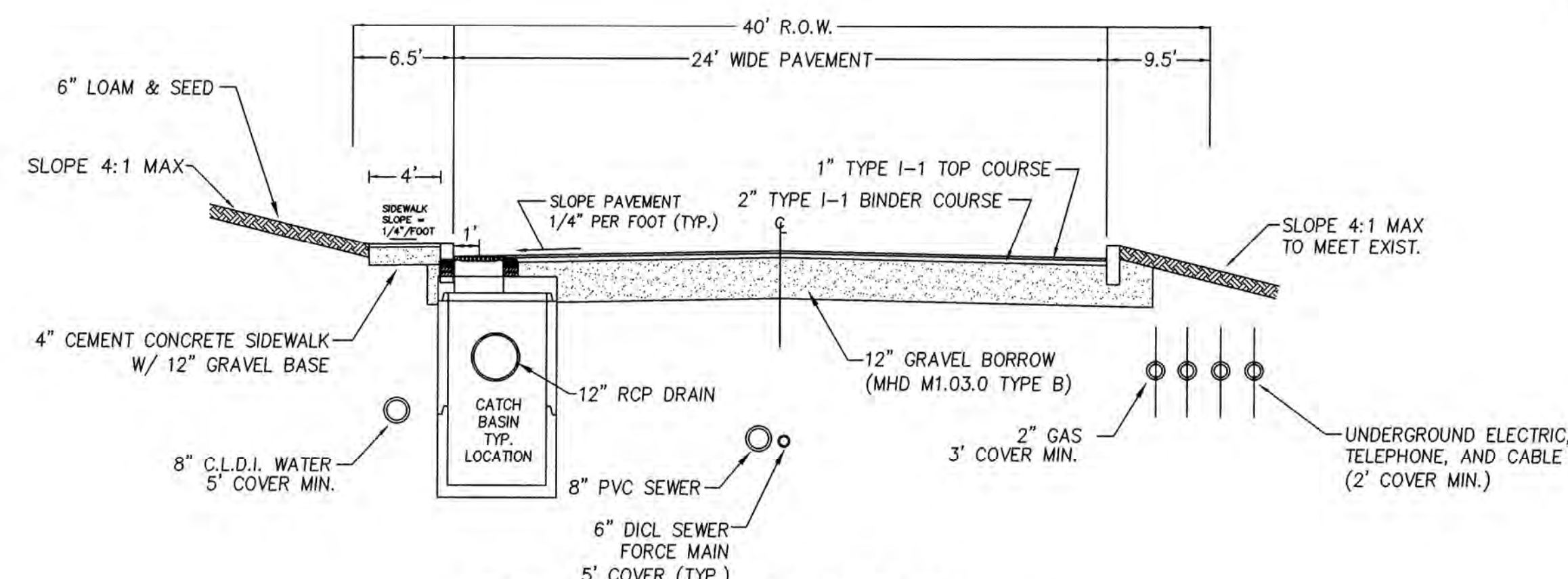
LEGEND

EXISTING PROPOSED

- CB CATCH BASIN (OR GUTTER INLET, OR LEACHING BASIN)
- ▣ CBCI (OR GICI) CATCH BASIN (OR GUTTER INLET) WITH CURB INLET
- EDGE OF ROAD
- 60 CONTOUR
- SEWER MANHOLE
- DRAINAGE MANHOLE
- ⊗ GAS GATE
- ⊗ WATER GATE
- ⊗ SEPTIC TANK
- ⊗ HYDRANT
- ⊗ FA FIRE ALARM BOX
- ⊗ POST MOUNTED PEDESTRIAN LIGHT
- UTILITY POLE
- D DRAIN PIPE
- S SEWER MAIN
- S SEWER FORCE MAIN
- E ELECTRIC DUCT
- W WATER MAIN
- T TELEPHONE DUCT
- MB MAIL BOX
- HIGHWAY GUARD (TYPE NOTED)
- FENCE (SIZE AND TYPE NOTED)
- EASEMENT LINE
- PROPERTY LINE
- 100 FT BUFFER ZONE
- 8 NOD00'00"E BASE OR SURVEY LINE
- +12.34 PC 8 NOD00'00"E CONSTRUCTION BASELINE
- WHEELCHAIR RAMP (WCR)
- CONCRETE SIDEWALK
- HAND CORE
- SF SILT FENCE
- WETLAND
- CULTREC RECHARGER
- FIELDSTONE RET. WALL
- SEGMENTAL BLOCK WALL

SURVEY

- 120 WETLAND DELINEATION FLAG
- C.B. CONCRETE BOUND
- S.B. STONE BOUND
- D.H. DRILL HOLE
- PK MASONRY NAIL
- I.P. IRON PIPE
- I ROD IRON ROD
- FND FOUND
- N/FND NOT FOUND
- ASSESSORS MAP AND PARCEL



ROADWAY CROSS-SECTION
STA 100+00 TO STA 106+93.64
RICHARDSON PATH N.T.S.

GENERAL NOTES

1. THE CONTRACTOR SHALL REPORT TO THE OWNER AND ENGINEER ANY SIGNIFICANT VARIATIONS IN EXISTING SITE CONDITIONS. ANY PROPOSED REVISIONS TO THE WORK SHALL NOT BE UNDERTAKEN UNTIL REVIEWED AND APPROVED BY THE OWNER AND REGULATING CITY AND/OR STATE AGENCIES.
2. THE CONTRACTOR SHALL INSTALL ALL SYSTEM COMPONENTS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND ALL APPLICABLE ELECTRICAL, PLUMBING, AND SANITARY CODES.
3. ALL WORK SHALL CONFORM TO: THE NEWBURYPORT PLANNING BOARD RULES AND REGULATIONS GOVERNING THE SUBDIVISION OF LAND, THE WETLANDS PROTECTION ACT (310 CMR 10.00), THE ORDER OF CONDITIONS ISSUED BY THE NEWBURYPORT CONSERVATION COMMISSION, DATED MAY 26, 2011; NPDES CONSTRUCTION GENERAL PERMIT NO. MAR100000; AND THESE PLANS. COPIES OF ALL PERMITS SHALL BE TRANSMITTED TO THE NEWBURYPORT DPS.
4. THE LOCATION OF ALL UTILITIES, AS SHOWN ON THESE PLANS, ARE BASED UPON PLANS AND RECORD INFORMATION PROVIDED BY MUNICIPAL AND PRIVATE UTILITY COMPANIES AND ARE CONSIDERED APPROXIMATE BOTH AS TO SIZE AND LOCATION. NO WARRANTY IS MADE AS TO THE ACCURACY OF THESE LOCATIONS OR THAT ALL UTILITIES ARE SHOWN. THE CONTRACTOR SHALL NOT RELY ON THESE PLANS FOR SUCH INFORMATION AND WILL MAKE EXAMINATIONS IN THE FIELD BY VARIOUS AVAILABLE RECORDS, UTILITY COMPANIES AND INDIVIDUALS, AS TO THE LOCATION OF ALL SUBSURFACE STRUCTURES.
5. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES BY CONTACTING "DIG-SAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION. DIG-SAFE TELEPHONE NUMBER: 1-888-344-7233.
6. THE CONTRACTOR SHALL FIELD CHECK ALL DIMENSIONS AND ELEVATIONS BEFORE PROCEEDING WITH THE NEW WORK. HE/SHE SHALL EXCAVATE TO VERIFY PERTINENT DRAINAGE INVERTS AND POTENTIAL UTILITY CONFLICTS. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER IMMEDIATELY.
7. ALL EXISTING STRUCTURES AND SURFACES, UNLESS OTHERWISE SHOWN, SHALL BE COMPLETELY REMOVED FROM THE AREAS OF WORK. ALL TREES SCHEDULED FOR REMOVAL SHALL BE FIELD MARKED AND APPROVED FOR REMOVAL BY THE OWNER PRIOR TO CUTTING OPERATIONS.
8. THE CONTRACTOR IS RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE SAFETY OF THE PUBLIC, EMPLOYEES, AND ALL OTHER PERSONS ASSOCIATED WITH THE PROJECT. HE/SHE SHALL COORDINATE AND BE RESPONSIBLE FOR ALL SAFETY SIGNING, BARRIERS AND TEMPORARY PAVEMENT MARKINGS NECESSARY TO PROVIDE A SMOOTH AND PROPER TRANSITION FOR TRAFFIC FLOW.
9. IF REQUIRED BY THE CONTRACTOR, OVERHEAD LINES SHALL BE RELOCATED BY THE UTILITY COMPANY AT THE CONTRACTORS EXPENSE.
10. AREAS OUTSIDE THE LIMITS OF WORK DISTURBED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT THE EXPENSE OF THE CONTRACTOR.
11. BUILDING ELEVATIONS: EACH BUILDING SHALL BE SUBSTANTIALLY IN CONFORMANCE WITH THE PROPOSED BUILDING ELEVATION APPROVED BY THE NEWBURYPORT PLANNING BOARD. THE OWNER RESERVES THE RIGHT TO MODIFY THOSE ELEVATIONS WITH VARIATIONS IN DORMER SELECTIONS, WINDOW PLACEMENTS AND OTHER MINOR MODIFICATIONS AS LONG AS THEY ARE IN SUBSTANTIAL COMPLIANCE WITH THE OVERALL ARCHITECTURAL DESIGN OF THE PROJECT.
12. ALL SEWER MAINS AND SERVICES SHALL BE INSTALLED AT LEAST 10 FEET HORIZONTALLY OR 18 INCHES VERTICALLY FROM PROPOSED WATER MAINS AND SERVICES AND SHALL MAINTAIN 5 FEET OF COVER OVER THE TOP OF THE PIPING, UNLESS OTHERWISE SHOWN OR APPROVED. PIPES SHALL BE ENCASED IN CONCRETE WHERE THIS SEPARATION CANNOT BE OBTAINED.
13. ALL WATER MAINS SHALL BE INSTALLED WITH A MINIMUM OF 5 FEET OF COVER OVER THE TOP OF THE PIPE, UNLESS OTHERWISE SHOWN OR APPROVED.
14. WHENEVER SEWER MAINS MUST CROSS WATER MAINS, THE SEWER SHALL BE CONSTRUCTED AS FOLLOWS: A) JOINTS SHALL BE MECHANICAL TYPE WATER PRESSURE RATED WITH ZERO LEAKAGE WHEN TESTED AT 25 PSI FOR GRAVITY SEWERS AND 1.5 TIMES WORKING PRESSURE FOR FORCE MAINS AND JOINTS NOT TO BE LOCATED WITHIN 9 FEET OF THE CROSSING; B) SEWER SERVICES SHOULD BE INSTALLED A MINIMUM OF 18 INCHES BELOW WATER MAINS. IF SEPARATION IS LESS THAN 18 INCHES, SEWER SERVICE SHALL BE CONCRETE ENCASED OR CONSTRUCTED WITH PRESSURE CLASS PVC FOR A DISTANCE OF 10 FEET EACH SIDE OF THE WATER MAIN. 10-FOOT MINIMUM HORIZONTAL SEPARATION DISTANCE SHALL BE MAINTAINED.
15. INDIVIDUAL BUILDING OWNERS ARE RESPONSIBLE FOR MAINTENANCE OF THEIR SEWER SERVICE FROM THE BUILDING TO THE CONNECTION TO THE SEWER MAIN.
16. THE CONTRACTOR SHALL IDENTIFY TO THE CITY HIS/HER TOPSOIL STOCKPILING OPERATIONS AND LOCATIONS. NO TOPSOIL SHALL LEAVE THE SITE IN ACCORDANCE WITH THE NEWBURYPORT EARTH REMOVAL BYLAW, UNLESS APPROVED BY CITY OFFICIALS.
17. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING EROSION AND/OR SEDIMENT CONTROLS DURING CONSTRUCTION. HE/SHE SHALL INSPECT CONTROLS WEEKLY AND AFTER ALL STORM EVENTS. REPAIRS, IF REQUIRED, SHALL BE MADE IMMEDIATELY.
18. TEMPORARY GROUND COVER SHALL BE ESTABLISHED IN AREAS OF CONSTRUCTION WHERE REQUIRED BY THE NEWBURYPORT PLANNING BOARD AND CONSERVATION COMMISSION.
19. ALL STREET, WARNING, AND REGULATORY SIGNS SHALL BE IN CONFORMANCE WITH THE MASSACHUSETTS HIGHWAY DEPARTMENT MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND STANDARD SPECIFICATIONS AND LATEST ADDENDA.
20. NO CONSTRUCTION SHALL TAKE PLACE UNTIL THE OWNER/DEVELOPER HAS RECEIVED WRITTEN APPROVAL OF THIS PLAN FROM THE DIRECTOR AND DEPUTY DIRECTOR OF PUBLIC SERVICES.
21. 14 DAYS PRIOR TO COMMENCING CONSTRUCTION, THE OWNER/DEVELOPER SHALL PRESENT A CONSTRUCTION SCHEDULE TO THE DEPUTY DIRECTOR.
22. TWO HARD COPIES OF AS-BUILT DRAWINGS SHALL BE SUBMITTED TO THE DEPARTMENT OF PUBLIC SERVICES UPON COMPLETION OF THE PROJECT. ONE SOFT COPY OF THE AS-BUILT DRAWINGS SHALL BE PROVIDED TO THE DPS WITHIN 30 CALENDAR DAYS OF RECEIVING ANY OCCUPANCY PERMIT FROM THE CITY. SOFT COPIES SHALL BE PROVIDED ON A 3 1/2" FLOPPY DISK OR CD IN THE LATEST VERSION OF AUTOCAD. AS-BUILTS SHALL INCLUDE ALL LANDBASE AND UTILITIES INFORMATION. ANY AND ALL CHANGES FROM THE PREVIOUSLY APPROVED PLANS AND SPECIFICATIONS SHOULD BE HIGHLIGHTED FOR EASE OF REVIEW.
23. COMPETENT SUPERVISION SHALL BE PROVIDED BY THE CONTRACTOR DURING CONSTRUCTION ACTIVITIES.
24. ONSITE BURIAL OF STUMPS OR ANY OTHER DEBRIS IS PROHIBITED.
25. THE APPLICANT IS RESPONSIBLE FOR THE REVIEW OF THIS DEVELOPMENT'S FIRE SUPPRESSION REQUIREMENTS AND, IF REQUIRED, THE DESIGN OF THE NECESSARY FIRE SUPPRESSION COMPONENTS. THE WATER SUPPLY SYSTEM INCLUDED IN THESE PLANS IS BASED ON PROVIDING THE REQUIRED DOMESTIC USE FOR 4-BEDROOM SINGLE FAMILY HOMES AND THE NEWBURYPORT WATER WORKS INSTALLATION GUIDELINES.
26. ALL ELEVATIONS ARE BASED ON N.G.V.D. 1929.

ROADWAY NOTES

- 1.) ALL STUMPS, ROCKS AND LEDGE WITHIN THE LIMITS OF THE PROPOSED PAVED WAY SHALL BE REMOVED. ALL LEDGE SHALL BE REMOVED TO A MINIMUM DEPTH OF 2' BELOW FINISHED PAVEMENT GRADE.
- 2.) ROADWAY SHALL NOT BE CONSTRUCTED DURING FREEZING WEATHER OR ON WET OR FROZEN SUBGRADE.
- 3.) GRADING AND ROLLING SHALL BE REQUIRED TO PROVIDE A SMOOTH, EVEN, AND UNIFORM COMPACTED BASE WHICH IS COMPACTED TO A MINIMUM DRY DENSITY OF 95 PERCENT.
- 4.) THE MINIMUM SLOPE FROM THE CROWN OF FINISHED BASE COURSE SHALL BE 1/4" PER FOOT UNLESS OTHERWISE SHOWN.
- 5.) ALL UNSUITABLE MATERIAL SHALL BE EXCAVATED AND REPLACED WITH SATISFACTORY MATERIAL AND BROUGHT UP TO GRADE WITH GRAVEL BORROW CONTAINING NO STONES GREATER THAN 6" DIAMETER.
- 6.) AT ALL TIMES DURING CONSTRUCTION, THE SUB-GRADE AND ALL DITCHES SHALL BE CONSTRUCTED AND MAINTAINED SO THAT THE ROADWAY WILL EFFECTIVELY BE DRAINED.
- 7.) THE CONTRACTOR SHALL REFER TO THE NEWBURYPORT RULES AND REGULATIONS GOVERNING THE SUBDIVISION OF LAND SECTION 6 AND APPENDIX I.

MATERIAL NOTES

ALL MATERIALS OF THE ELEMENTS IN THE SITE PLAN MUST CONFORM TO THE FOLLOWING STANDARDS:
 SPECIFICATIONS BY THE CITY OF NEWBURYPORT AS SET FORTH BY SECTION 6 AND APPENDICES I-IX IN THE RULES AND REGULATIONS GOVERNING THE SUBDIVISION OF LAND
 NEWBURYPORT DPS SEWER SPECIFICATIONS
 COMMONWEALTH OF MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES
 AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
 AMERICAN WATER WORKS ASSOCIATION (AWWA)
 521 CMR RULES AND REGULATIONS OF THE ARCHITECTURAL ACCESS BOARD (AAB) AND THE AMERICANS WITH DISABILITIES ACT (ADA)

SIDEWALK NOTES

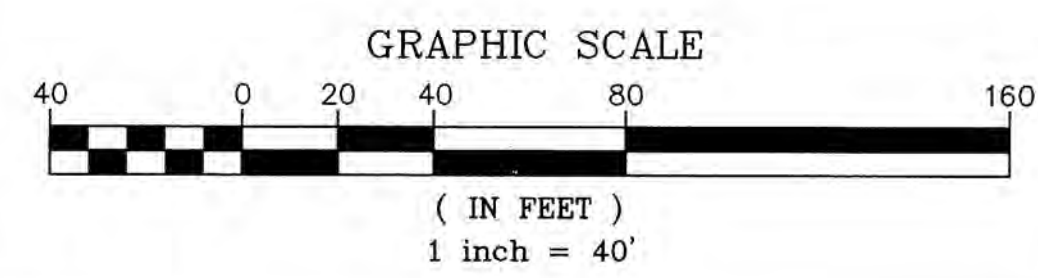
SIDEWALKS SHALL BE FOUR FEET IN WIDTH FOR THEIR ENTIRE LENGTH, WITH A 1% CROSS SLOPE (1.5% MAX).
 WHERE SIDEWALKS CROSS A DRIVEWAY OR PARKING AREA, A 1% CROSS SLOPE SHALL BE MAINTAINED.
 SIDEWALKS SHALL BE CONSTRUCTED WITH 4" CONCRETE, REINFORCED WITH NO. 10, 6" x 6" MESH AND BROOM FINISHED.

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I CERTIFY:
 THAT THIS ACTUAL SURVEY WAS MADE ON THE GROUND BETWEEN 1996 & JUNE 2006
 THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTER OF DEEDS.



REGISTERED PROFESSIONAL LAND SURVEYOR DATE 8-11



PREPARED FOR
SPRINGWELL INVESTMENTS, LLC
 11 LAFAYETTE ROAD P.O. BOX 1297
 N. HAMPTON, NH 03862

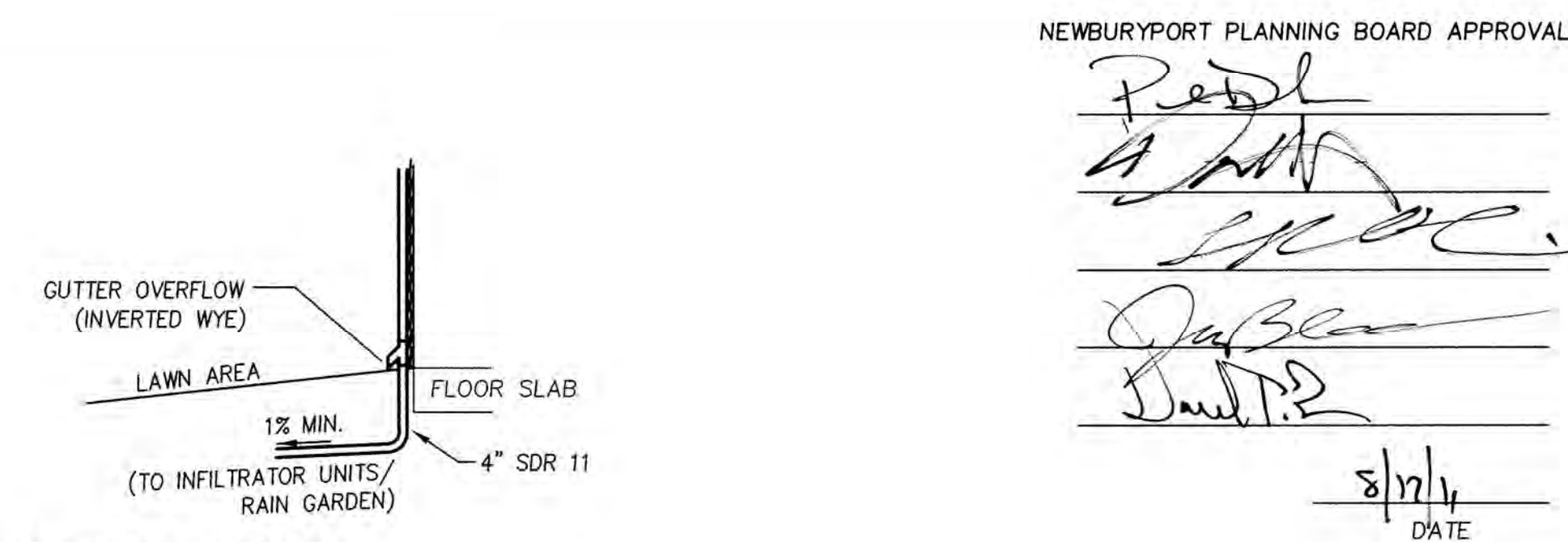
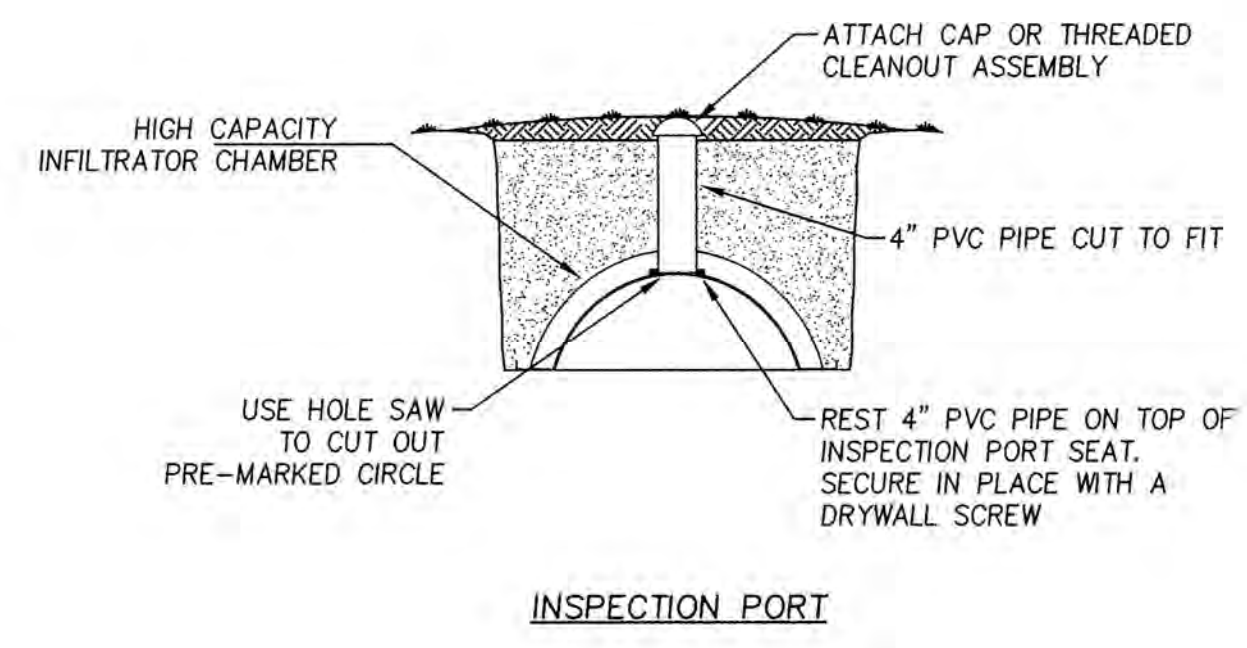
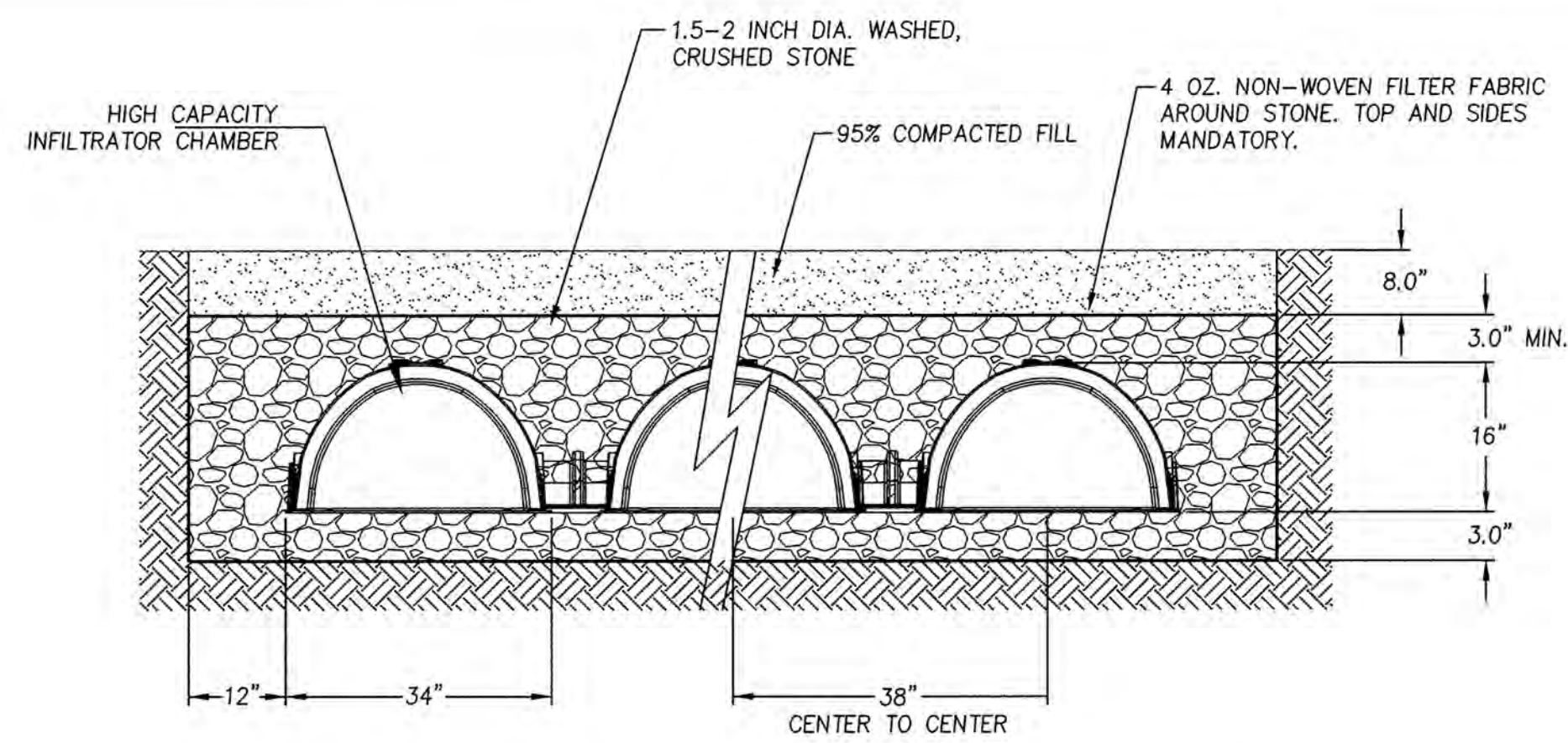
NO.	DATE	DESCRIPTION	BY
4	8/1/11	FINAL SUBMITTAL	C.M.Y.
3	6/14/11	ADDRESS DPS COMMENTS	C.M.Y.
2	5/26/11	ADDRESS REVIEWERS' COMMENTS	C.M.Y.
1	5/03/11	ADDRESS REVIEWERS' COMMENTS	C.M.Y.

MEI **MILLENNIUM ENGINEERING, INC.**
 ENGINEERING AND LAND SURVEYING
 62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
 13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528

SCALE: 1"=40'
 DESG. BY: C.M.Y. PROJECT: M112327
 DATE: MAR. 9, 2011 CHKD. BY: E.W.B. SHEET: 2 OF 25

OSRD DEFINITIVE PLAN
 FOR LAND IN
NEWBURYPORT, MA
 SHOWING
PROPOSED SUBDIVISION MODIFICATION
 AT
RUSSELL TERRACE EXTENSION

TYPICAL SECTIONS/ LEGEND/ GENERAL NOTES



NEWBURYPORT PLANNING BOARD APPROVAL

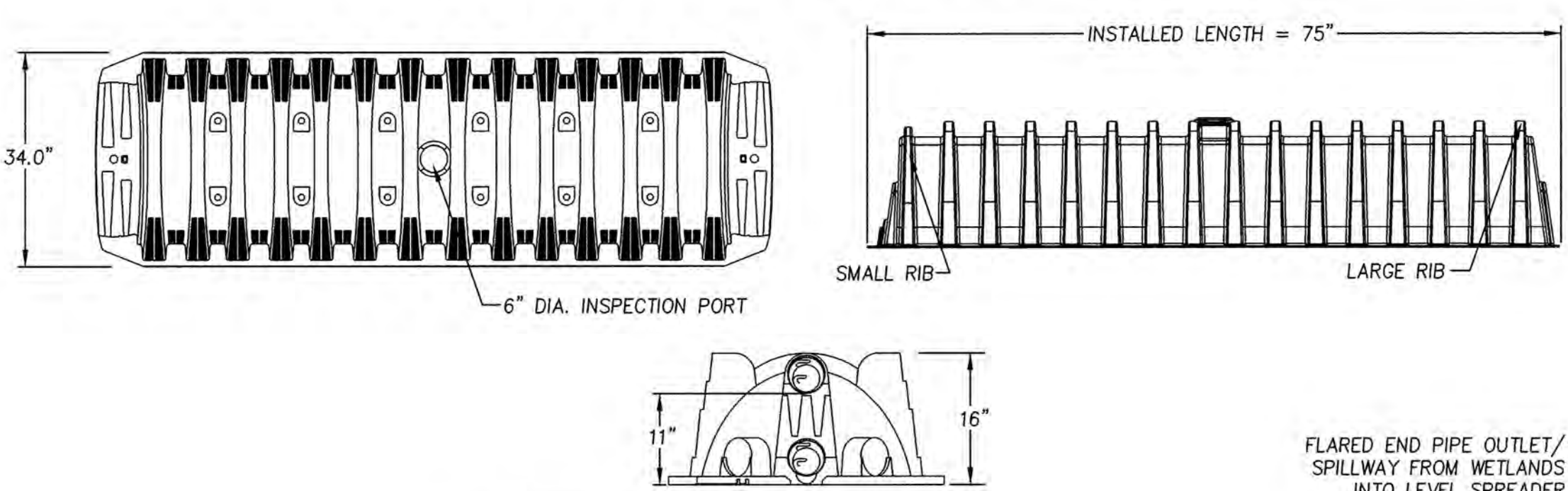
[Signatures]

DATE: 8/11/11

FOR REGISTRY USE ONLY

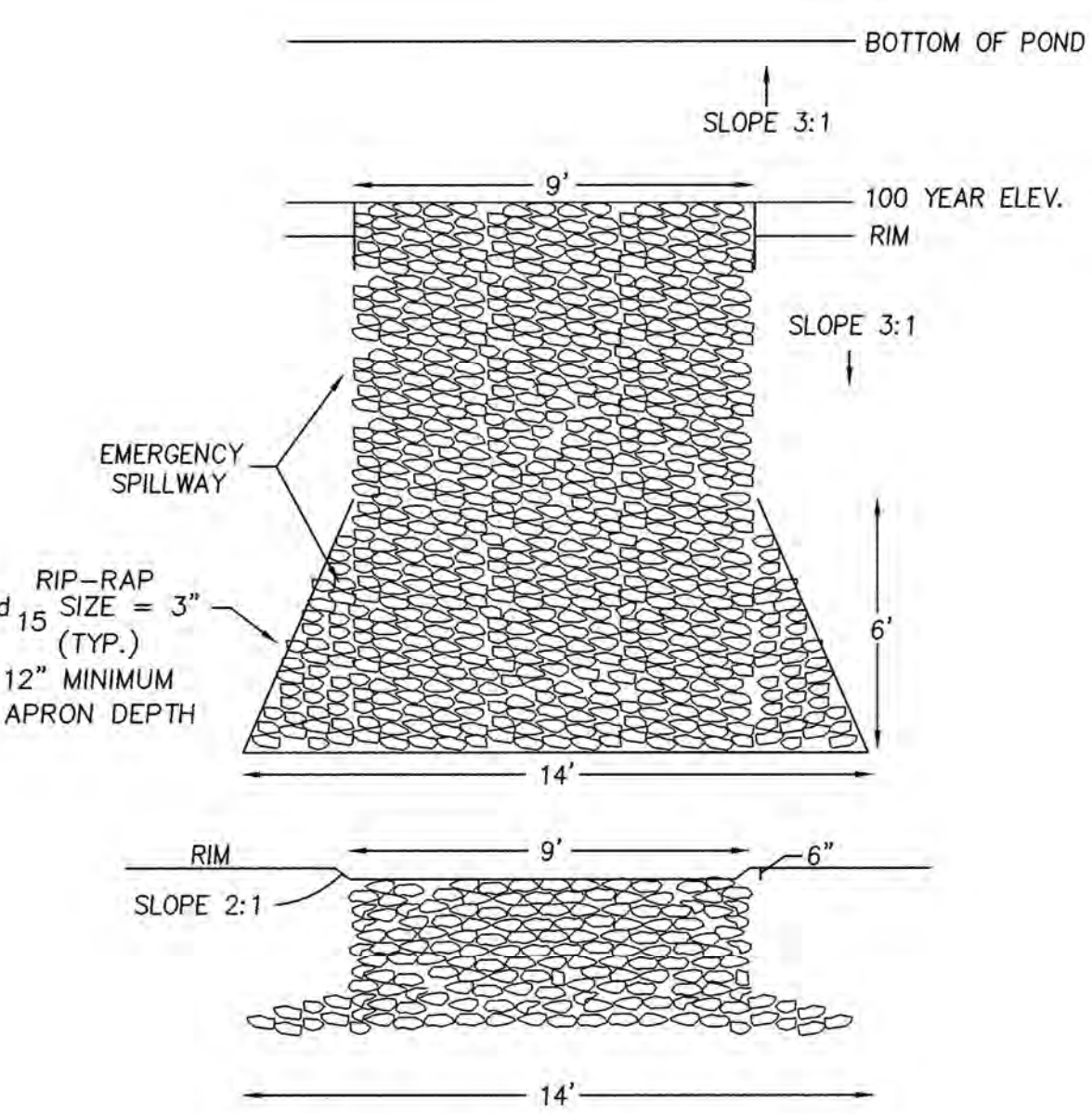
CITY/TOWN CLERK: I HEREBY CERTIFY THAT NO APPEAL HAS BEEN FILED WITHIN THE 21 DAYS AS PRESCRIBED BY MASS. GENERAL LAWS CHAPTER 41 SECTION 81-88.

[Signature] DATE: 8/11/11

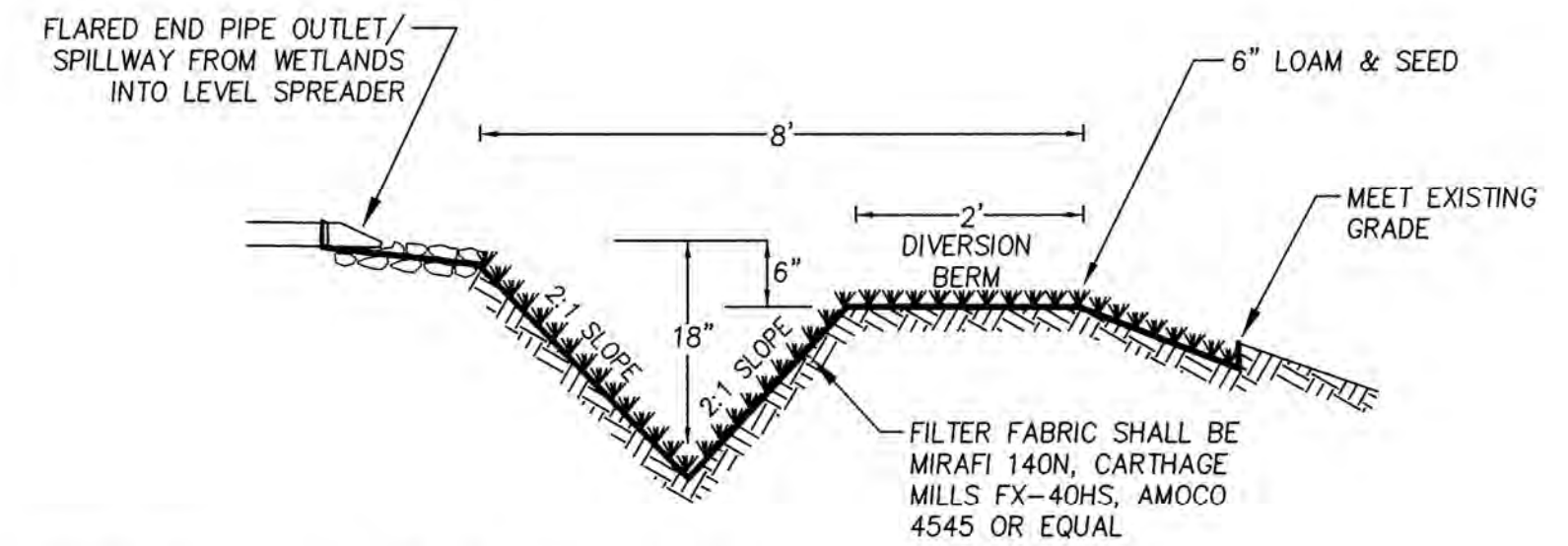


- GENERAL NOTES:**
- HIGH CAPACITY INFILTRATION CHAMBER BY INFILTRATOR SYSTEMS, INC. OF OLD SAYBROOK, CT. HIGH CAPACITY INFILTRATION CHAMBERS MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. REFER TO INFILTRATOR SYSTEMS, INC.'S CURRENT RECOMMENDED INSTALLATION.
 - HIGH CAPACITY INFILTRATION CHAMBER STORAGE = 2.29 CF/LF.

HIGH CAPACITY INFILTRATION CHAMBER N.T.S.

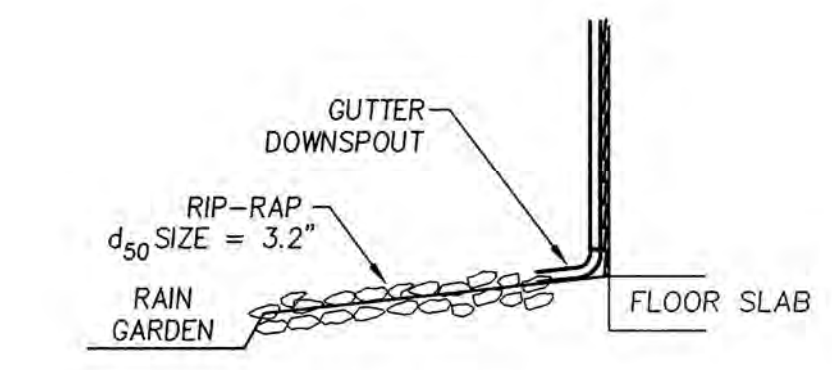


TYPICAL SPILLWAY PLAN VIEW N.T.S.



LEVEL SPREADER DETAIL N.T.S.

- NOTES:**
- CONSTRUCT BOTTOM AT 0% GRADE TO ENSURE UNIFORM SHEET FLOW. SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL.
 - PLACE 6" LAYER OF LOAM AND SEED. RAKE TO FORM SMOOTH UNIFORM SURFACE.
 - PERIODIC INSPECTION AND REQUIRED MAINTENANCE SHALL BE PROVIDED.



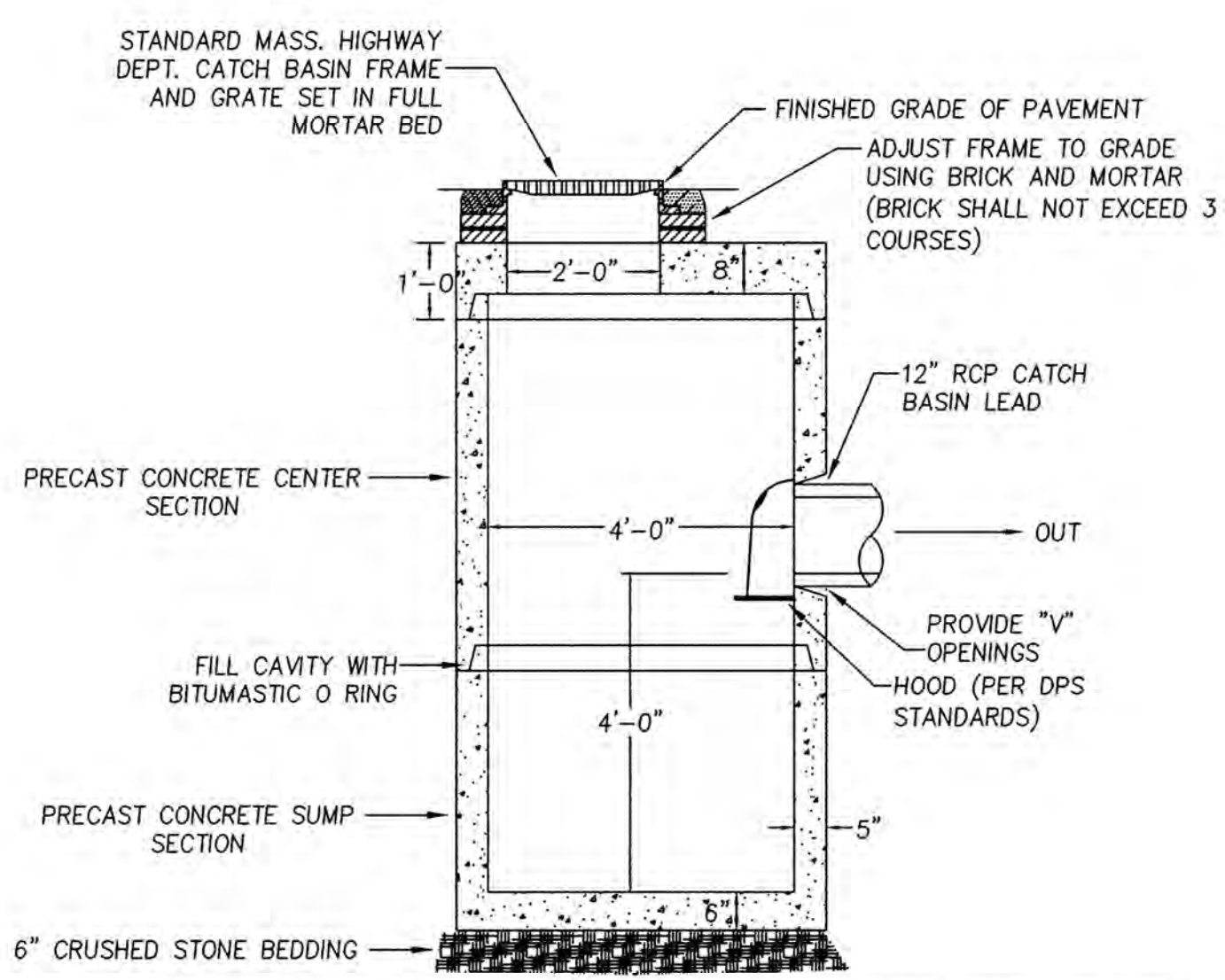
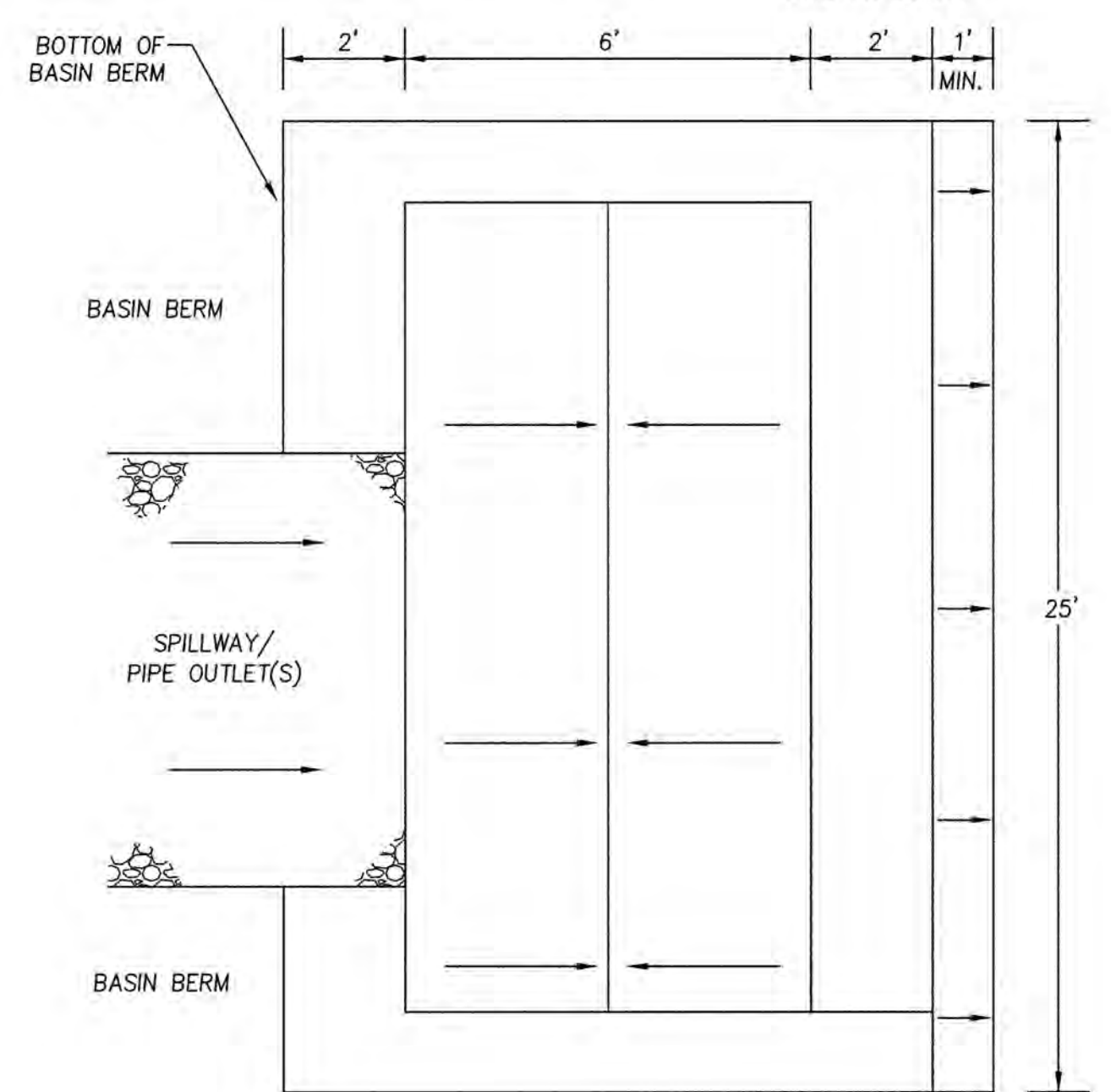
LOT 9/12 GUTTER DOWNSPOUT DETAIL N.T.S.

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I CERTIFY THAT THIS ACTUAL SURVEY WAS MADE ON THE GROUND BETWEEN 1996 & JUNE 2006 THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTER OF DEEDS.

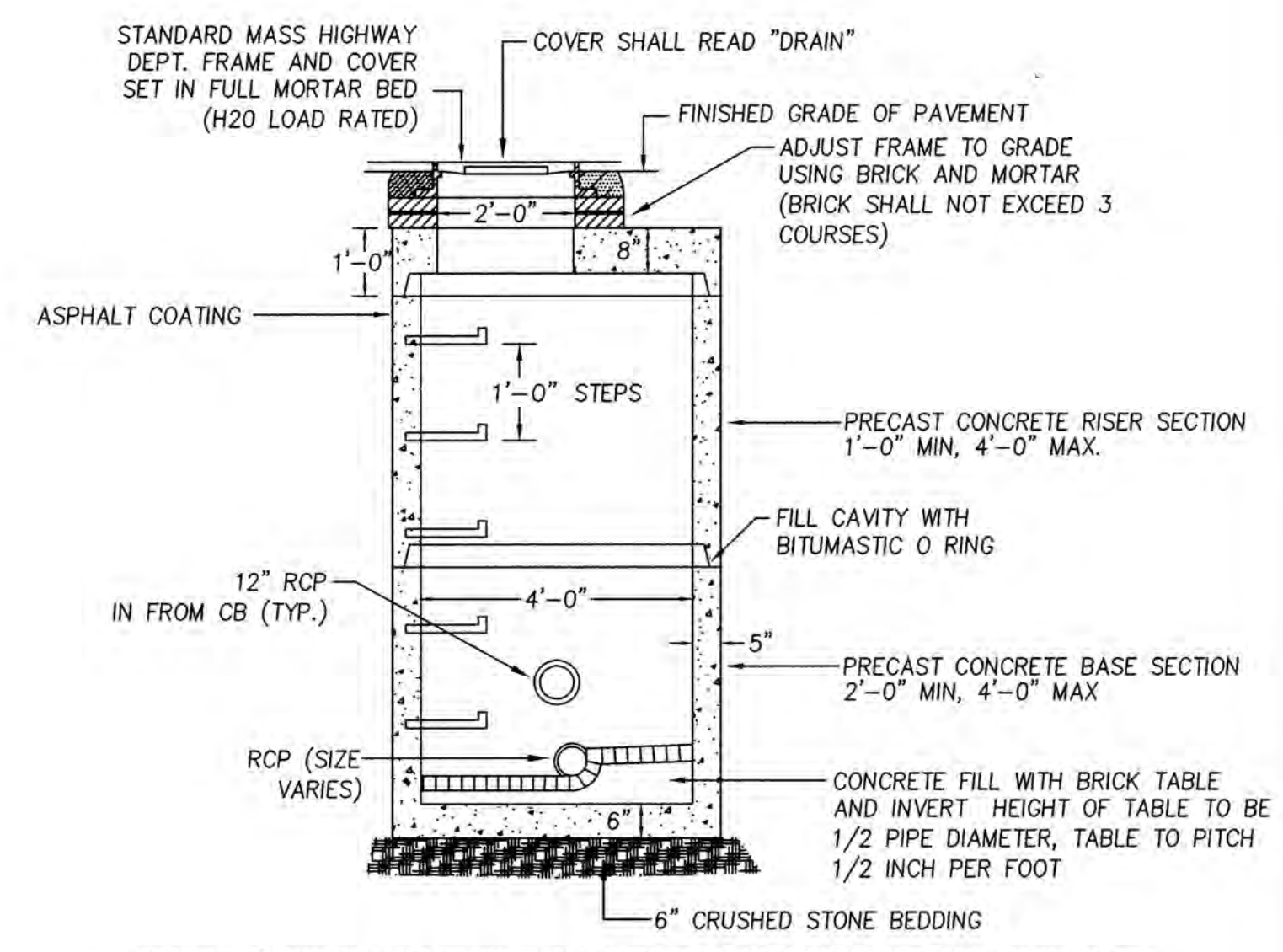
STEPHEN J. RUSSO No. 35414 REGISTERED PROFESSIONAL LAND SURVEYOR

DATE: 8-11-11



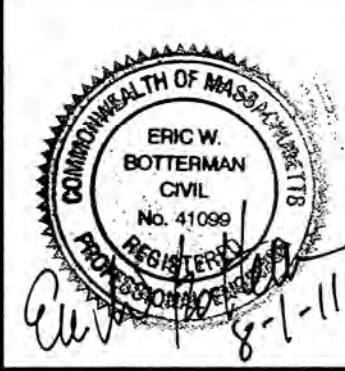
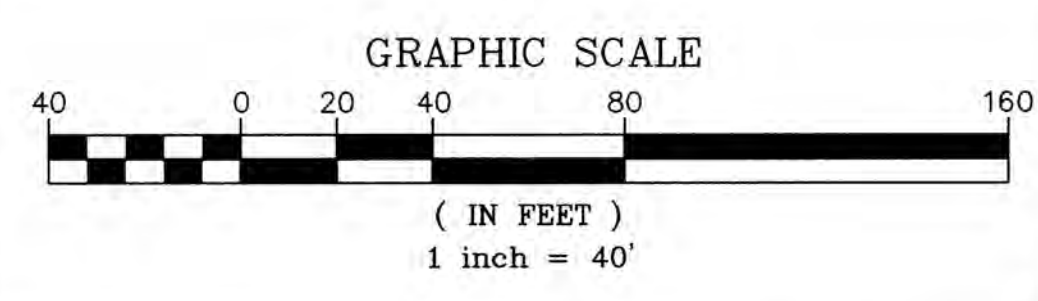
PRECAST DEEP SUMP CATCH BASIN DETAIL N.T.S.

- NOTES:**
- CATCH BASINS SHALL CONFORM TO ASTM C478 AND ASTM C185
 - FLAT TOP STRUCTURES SHALL BE PRECAST SECTIONS AND HAVE A 28 DAY COMPRESSIVE STRENGTH OF 5000 PSI REINFORCED FOR AASHTO H-20 LOADING.
 - CONICAL SECTIONS MAY BE SUBSTITUTED FOR FLAT-TOP STRUCTURES IN AREAS WHERE MORE THAN 4 FEET OF COVER IS PROVIDED FOR DRAIN PIPE.



PRECAST DRAIN MANHOLE DETAIL N.T.S.

- NOTES:**
- DRAIN MANHOLES SHALL CONFORM TO ASTM C478 AND ASTM C185
 - FLAT TOP STRUCTURES SHALL BE PRECAST SECTIONS AND HAVE A 28 DAY COMPRESSIVE STRENGTH OF 5000 PSI REINFORCED FOR AASHTO H-20 LOADING.
 - CONICAL SECTIONS MAY BE SUBSTITUTED FOR FLAT-TOP STRUCTURES IN AREAS WHERE MORE THAN 4 FEET OF COVER IS PROVIDED FOR DRAIN PIPE.



PREPARED FOR

SPRINGWELL INVESTMENTS, LLC
11 LAFAYETTE ROAD P.O. BOX 1297
N. HAMPTON, NH 03862

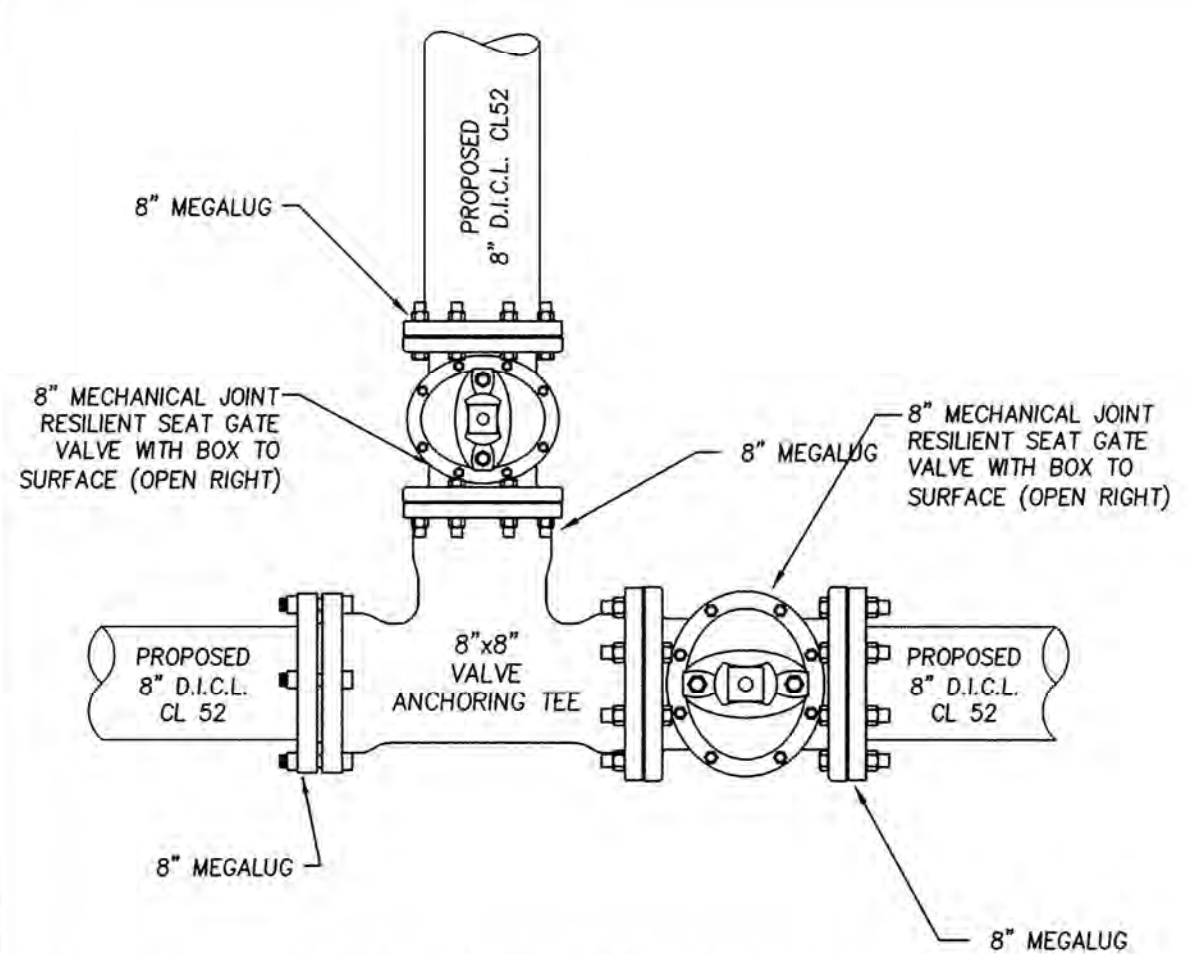
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MEI MILLENNIUM ENGINEERING, INC.
ENGINEERING AND LAND SURVEYING
62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528

SCALE: 1"=40'
DATE: MAR. 9, 2011
CHKD. BY: E.W.B.
PROJECT: M112327
SHEET: 20 OF 25

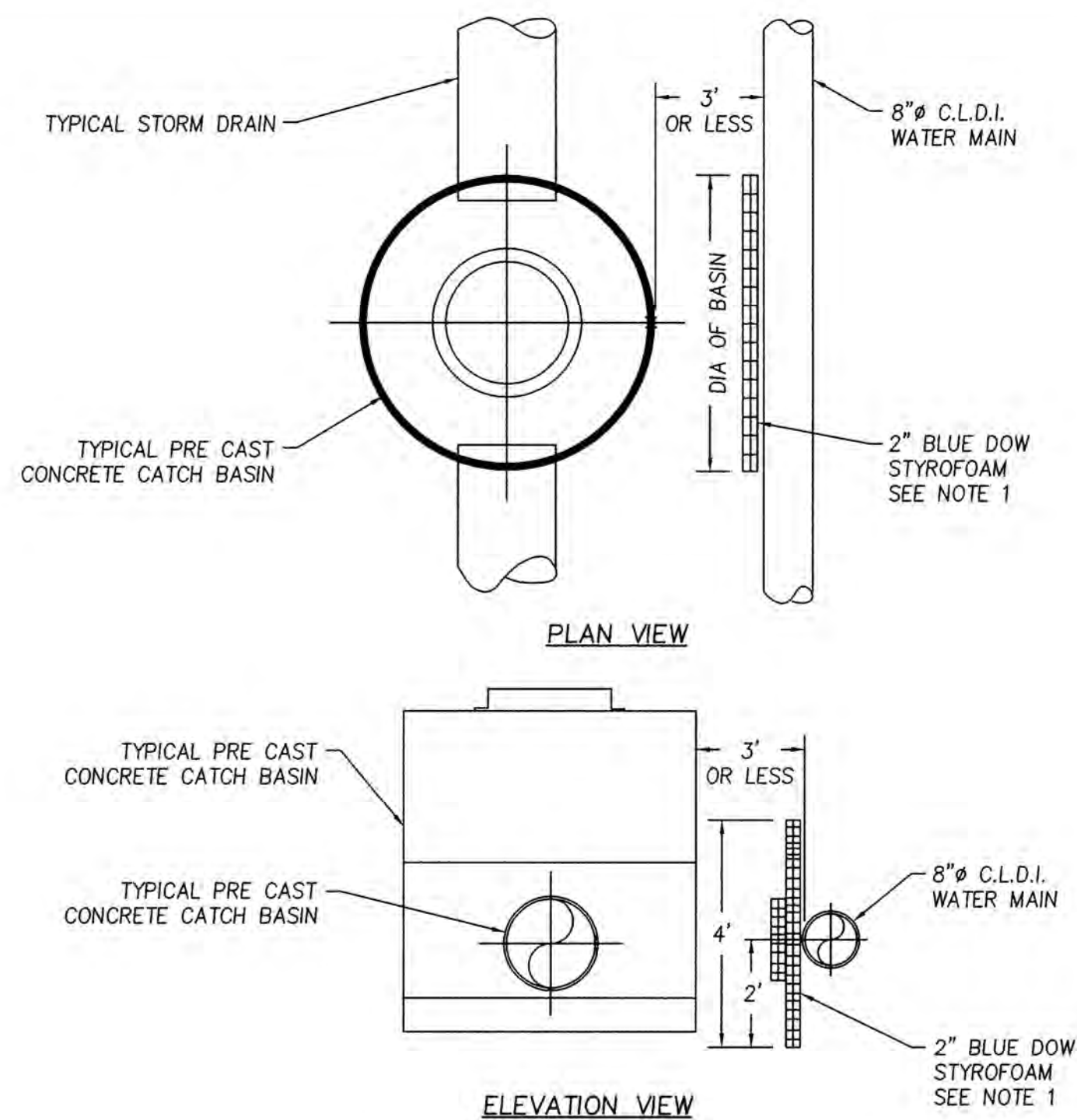
OSRD DEFINITIVE PLAN
FOR LAND IN
NEWBURYPORT, MA
SHOWING
PROPOSED SUBDIVISION MODIFICATION
AT
RUSSELL TERRACE EXTENSION

DRAINAGE DETAILS



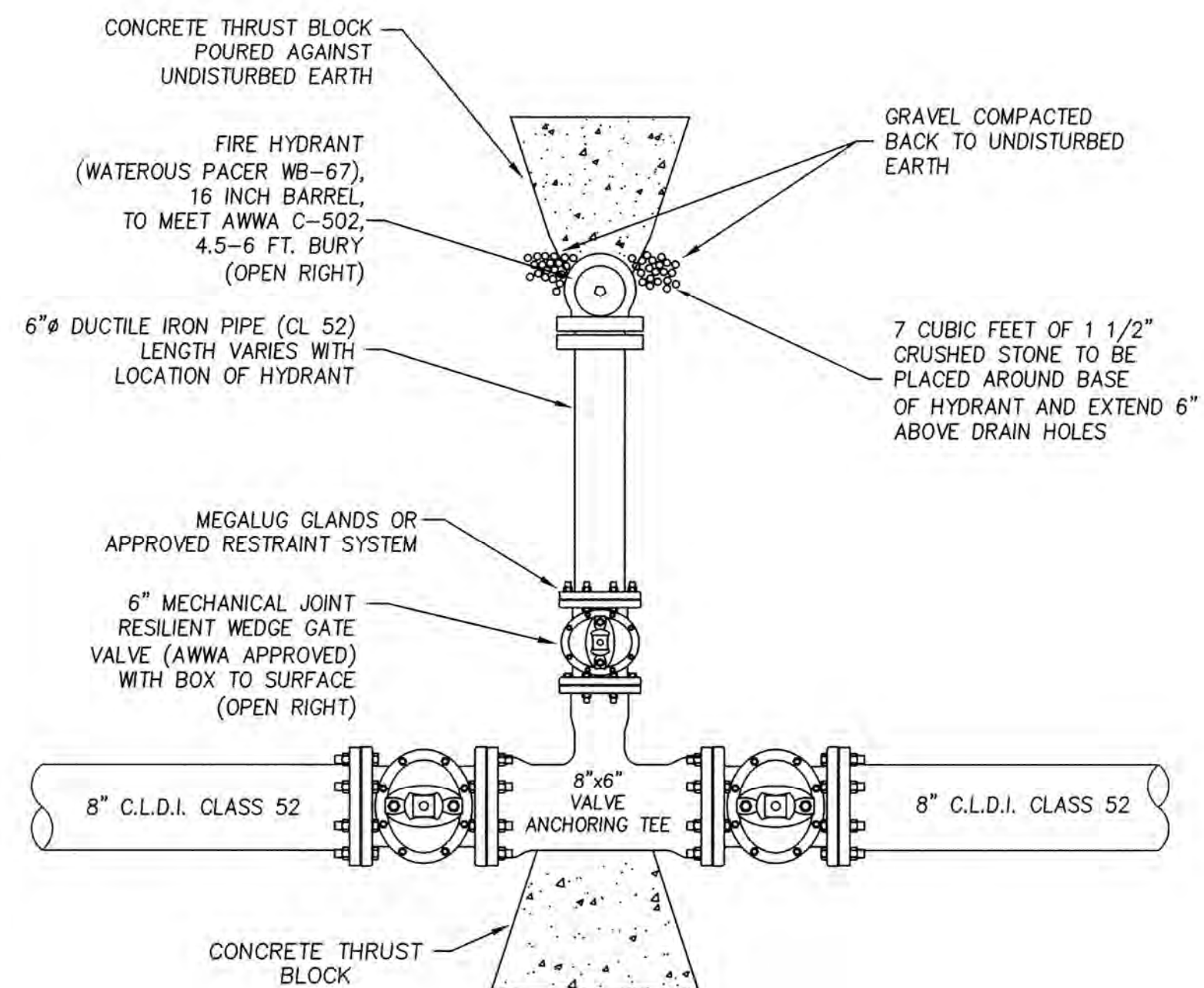
MORIN ROAD/RICHARDSON PATH CONNECTION DETAIL

N.T.S.



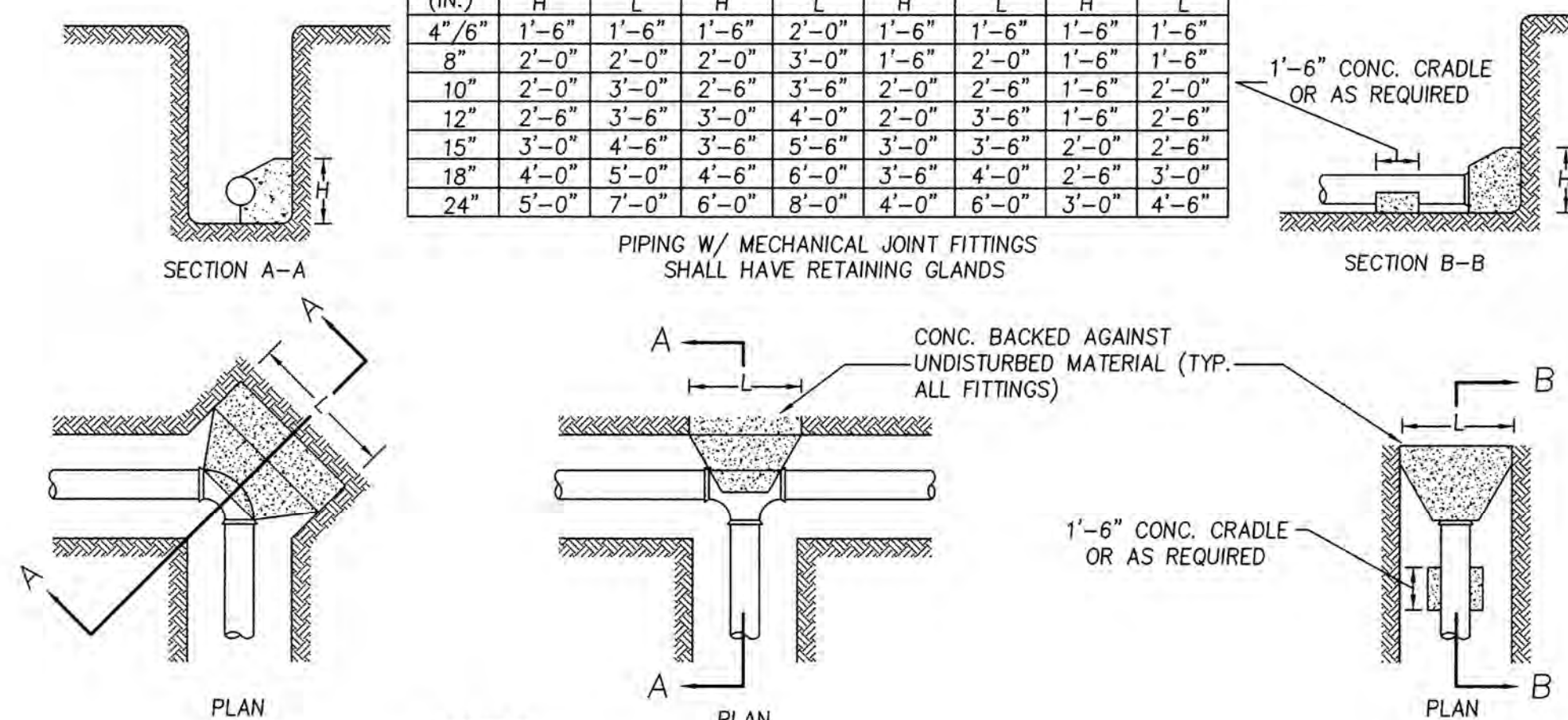
1. ALL BUTT JOINT SEAMS TO BE OVERLAPPED WITH 1' PIECE OF INSULATION CENTERED OVER SEAM.
2. INSULATION TO BE RUN HORIZONTALLY AS LONG AS CONDITIONS I, II, OR III ABOVE EXIST. ALL BUTT JOINT SEAMS TO BE OVERLAPPED WITH 1' PIECE OF INSULATION CENTERED OVER SEAM.
3. [Symbol] - 1.5" (MIN) BLUE DOW STYROFOAM

TYPICAL CATCH BASIN INSULATION DETAIL (IF REQ'D) N.T.S.



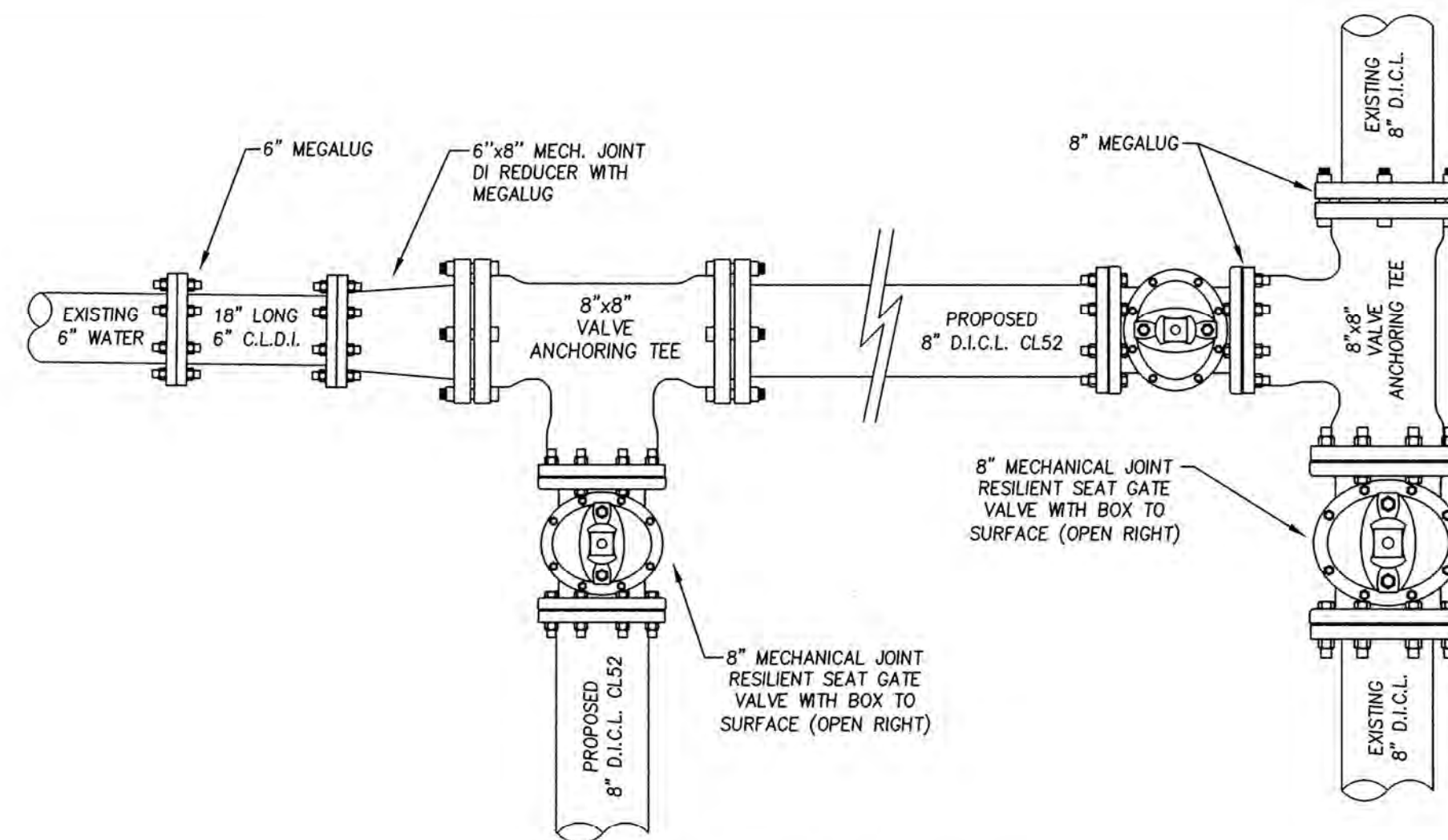
1. HYDRANTS SHALL BE INSTALLED USING MECHANICAL RESTRAINT AND THRUST BLOCKS.
2. HYDRANTS THAT ARE NON-DRAINING SHALL BE PAINTED SAFETY RED WITH ONLY THE STEAMER NOZZLE CAP PAINTED SAFETY YELLOW. OBSERVATIONS DURING CONSTRUCTION SHALL BE MADE TO DETERMINE IF THE WATER TABLE IS ABOVE OR BELOW THE ESWT.

TYPICAL FIRE HYDRANT INSTALLATION N.T.S.

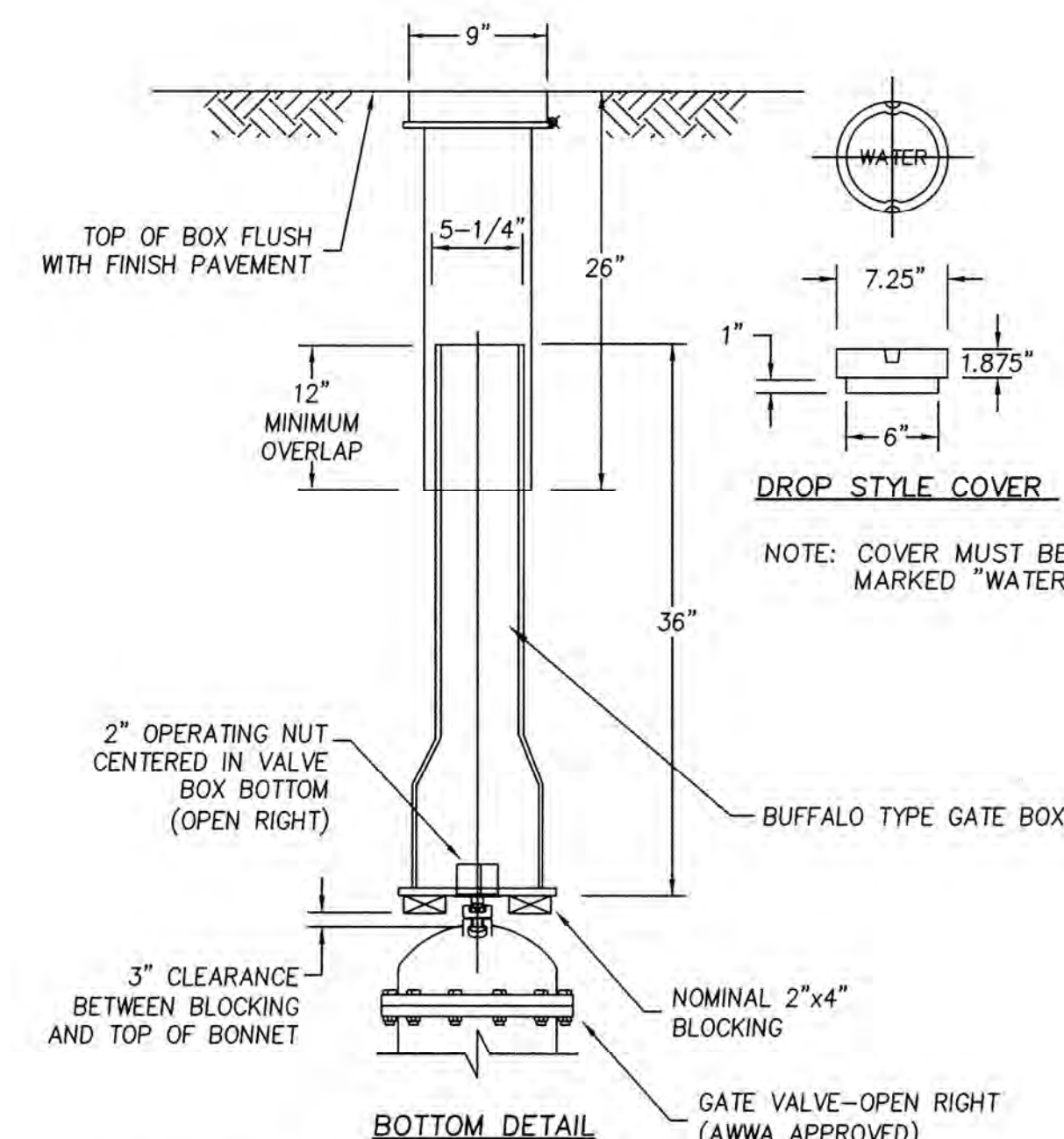


- NOTES**
1. VALUES SHOWN ARE FOR TEST PRESSURE OF 150 PSI WITH A 100 PSI SURGE ALLOWANCE.
 2. THRUST BLOCKS SHALL NOT BE PLACED AGAINST THE FOLLOWING SOILS: PEAT, ORGANIC SILT AND ORGANIC SOILS, SOFT CLAY, RUBBISH FILL AND OTHER UNSUITABLE ARTIFICIAL FILL, SHATTERED SHALE, INORGANIC SILT AND VERY FINE SANDS.
 3. Poured concrete thrust blocks shall not cover any joints, clamps, nuts, bolts, etc.
 4. THRUST BLOCKS SHALL BE INSTALLED AT ALL BENDS.
 5. MECHANICAL RESTRAINT PIPE/FITTINGS MAY BE USED IN PLACE OF THRUST BLOCKS PER DPS APPROVAL.

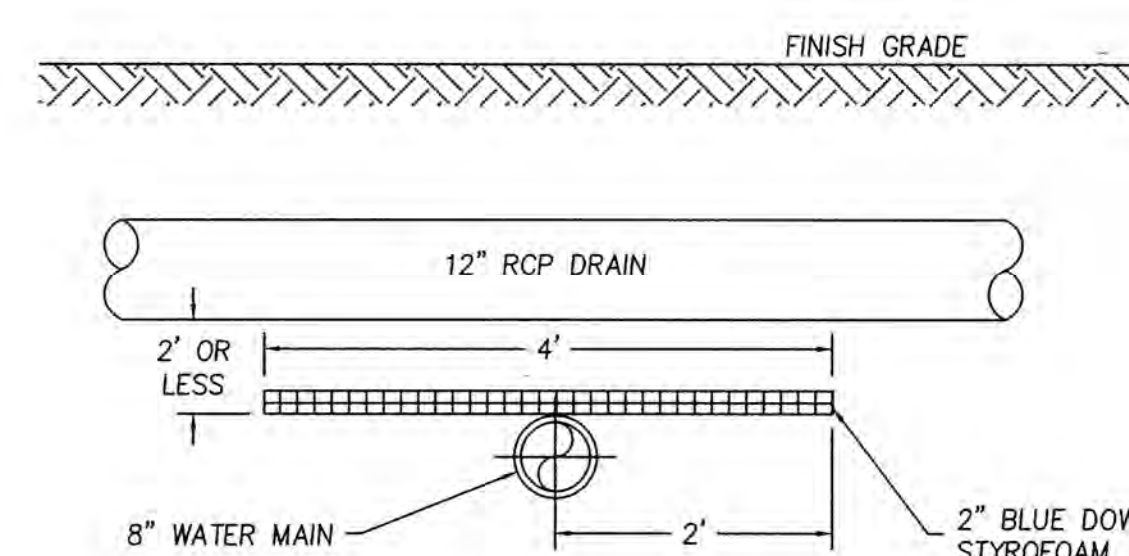
THRUST BLOCK DETAILS N.T.S.



RUSSELL TERRACE/RUSSELL TERRACE EXT. CONNECTION DETAIL N.T.S.



TYPICAL GATE VALVE BOX DETAIL N.T.S.



WATER/DRAIN CROSSING DETAIL N.T.S.

NEWBURYPORT PLANNING BOARD APPROVAL

[Signatures]
DATE 8/17/11

FOR REGISTRY USE ONLY

CITY/TOWN CLERK: I HEREBY CERTIFY THAT NO APPEAL HAS BEEN FILED WITHIN THE 21 DAYS AS PRESCRIBED BY MASS. GENERAL LAWS CHAPTER 41 SECTION 81-88.

[Signature] CITY/TOWN CLERK
[Signature] DATE

GENERAL NOTES:

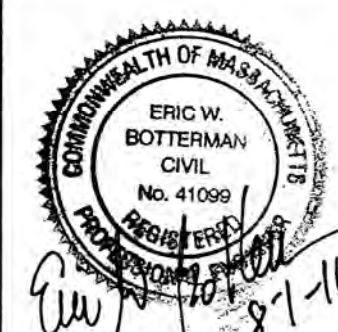
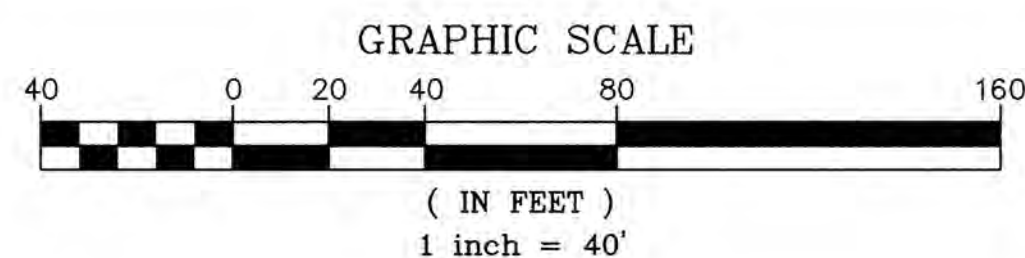
1. ALL WATER MAIN AND SERVICE COMPONENTS SHALL MEET AWWA STANDARDS.
2. ALL MECHANICAL JOINT COMPONENTS SHALL BE INSTALLED USING APPROVED RETAINING GLANDS (GRIP RING, MEGA LUG, STAR GRIP).
3. METAL WEDGES SHALL BE USED AT ALL BELL JOINTS TO ENSURE CONTINUITY FOR TRACING.
4. GATE VALVES SHALL BE DUCTILE IRON EPOXY COATED (AWWA C550), WITH O-RING SEALS, URETHANE COATED WEDGE, STAINLESS STEEL NUTS AND BOLTS, AND ANTIROTATION SEATS TO PREVENT T-BOLTS FROM TURNING. VALVES SHALL OPEN RIGHT USING 2-INCH OPERATING NUT WITH ARROW CAST IN THE METAL.
5. WATER MAINS SHALL BE PRESSURE TESTED TO 150 PSI AND WITNESSED BY THE NEWBURYPORT WATER WORKS CONSTRUCTION FOREMAN OR HIS DESIGNEE. ALL INSTALLATIONS MUST BE INSPECTED BY THE CONSTRUCTION FOREMAN OR HIS DESIGNEE.
6. CHLORINATION SHALL MEET AWWA STANDARDS (ANSI/AWWA C651-05). BACTERIA SAMPLES SHALL BE TESTED BY AN APPROVED LAB WITH RESULTS SENT DIRECTLY TO NEWBURYPORT WATER WORKS THROUGH CERTIFIED MAIL, AND RECEIVED WITHIN 5 WORKING DAYS OR RESAMPLING MUST BE DONE. IF BACTERIA TEST IS POSITIVE THE WATER MAIN SHALL BE FLUSHED AND RECHLORINATED PRIOR TO RESAMPLING.
7. NEWBURYPORT WATER WORKS PERSONNEL SHALL OPERATE ALL GATE VALVES AND HYDRANTS AND SHALL WITNESS AND INSPECT THE WATER MAIN AND APPURTENANCES PRIOR TO BURIAL. THEY SHALL ALSO PERFORM ALL TAPS UNLESS OTHERWISE APPROVED BY THE CONSTRUCTION FOREMAN. IF CONSENT IS GIVEN, AN APPROVED CONTRACTOR MUST DO THE TAPPING, AND THE CITY'S CONSTRUCTION FOREMAN OR HIS DESIGNEE MUST BE PRESENT DURING THE TAP.
8. WATER MAINS AND SERVICES SHALL HAVE A MINIMUM 6" CLEARANCE FROM UNDERGROUND ROCK/LEDGE.
9. NO WATER SHALL BE SUPPLIED TO THE CONTRACTOR OR BUILDER THROUGH A WATER SERVICE THAT HAS NOT BEEN PLACED "IN-SERVICE" BY THE NEWBURYPORT WATER WORKS.

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEEDS REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT TOWN/CITY ASSESSORS RECORDS.

I CERTIFY: THAT THIS ACTUAL SURVEY WAS MADE ON THE GROUND BETWEEN 1996 & JUNE 2006

THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTER OF DEEDS.

[Signature]
STEPHEN RUSSO No. 36414
REGISTERED PROFESSIONAL LAND SURVEYOR
DATE 8-1-11



PREPARED FOR
SPRINGWELL INVESTMENTS, LLC
11 LAFAYETTE ROAD P.O. BOX 1297
N. HAMPTON, NH 03862

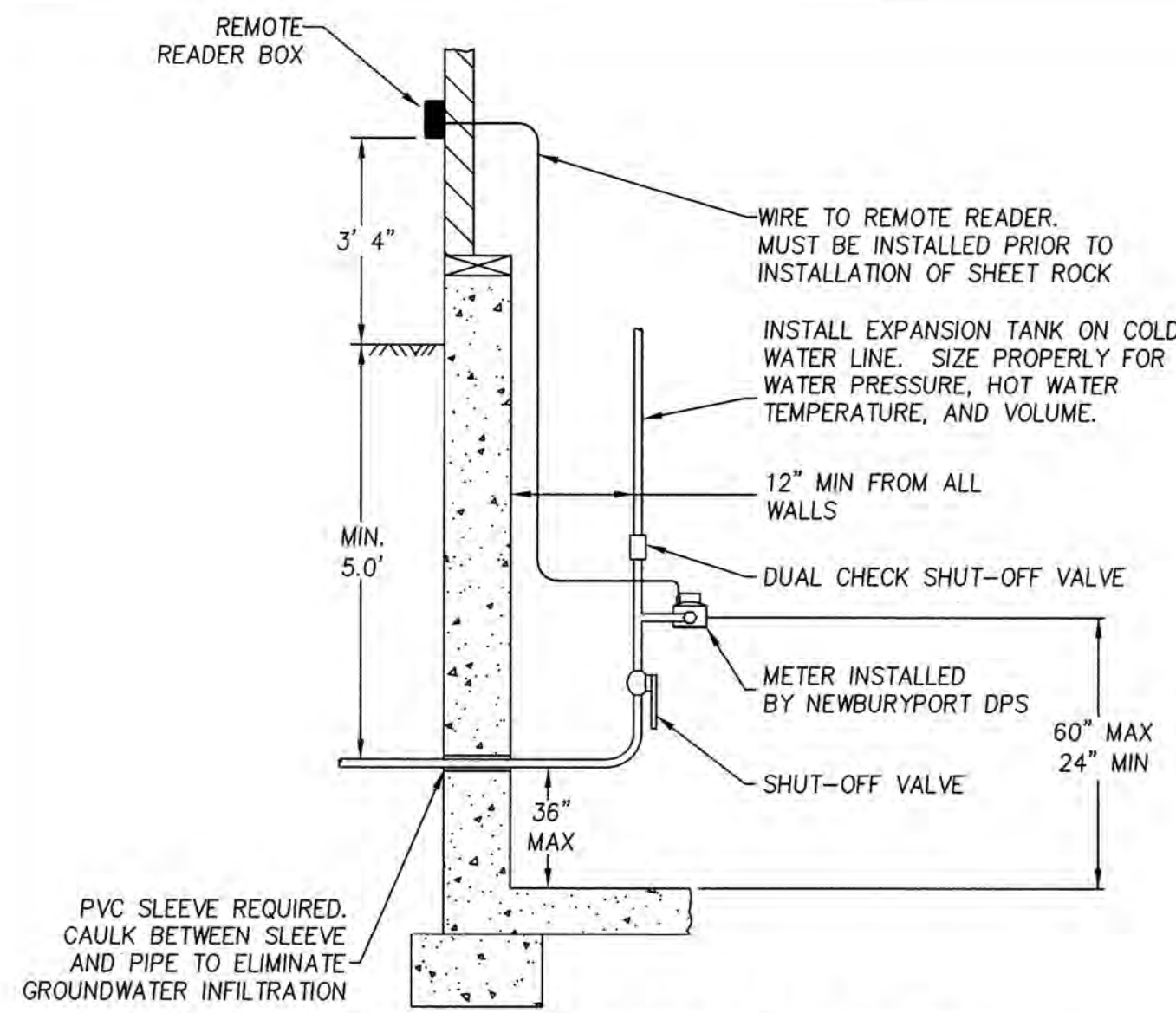
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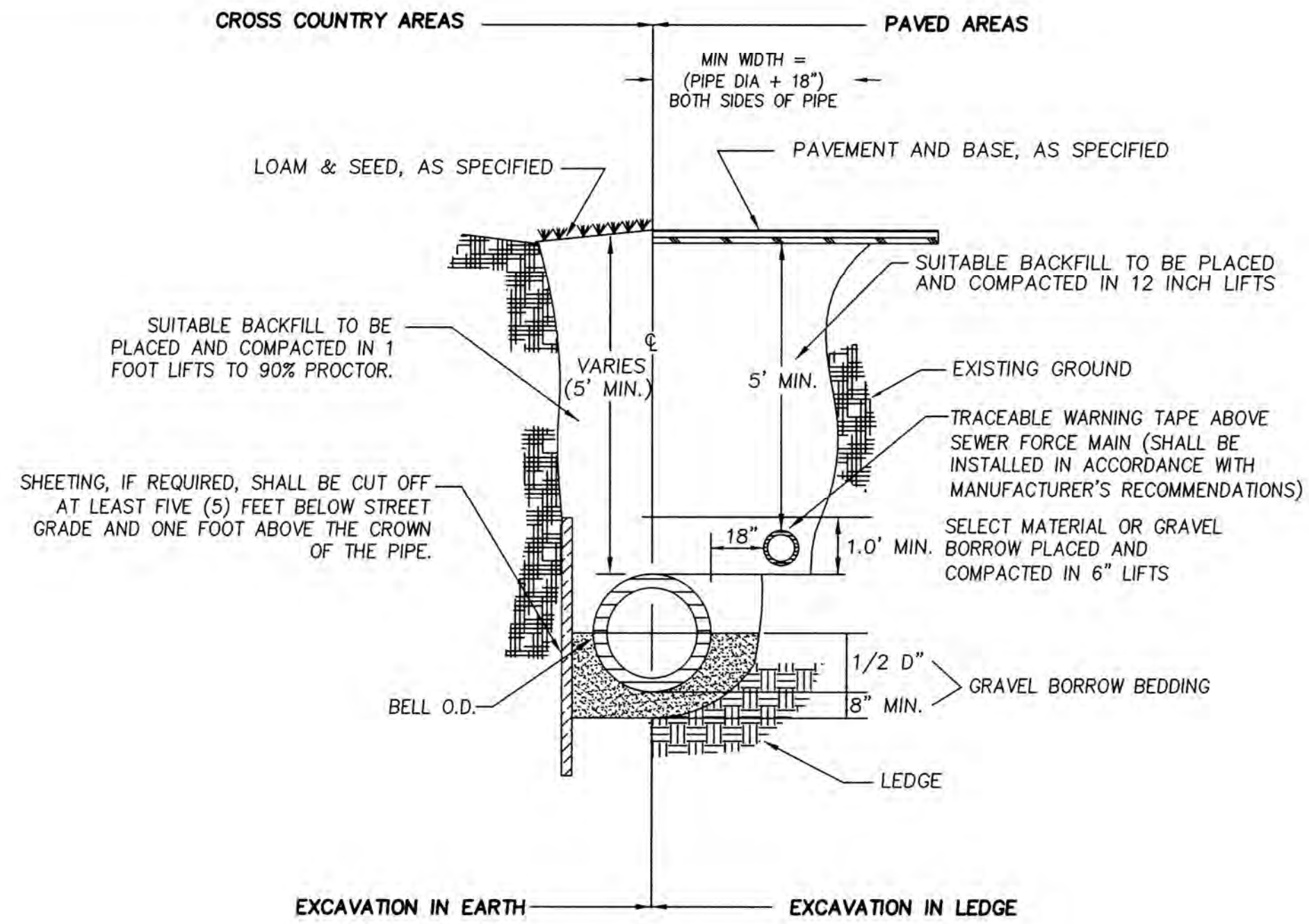
OSRD DEFINITIVE PLAN
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WATER MAIN DETAILS



1. ALL WATER METERS MUST BE PURCHASED FROM THE CITY AND INSTALLED BY AN EMPLOYEE OF THE NEWBURYPORT DPS-WATER DIVISION.

WATER METER
DETAIL N.T.S.



TYPICAL TRENCH
DETAIL N.T.S.

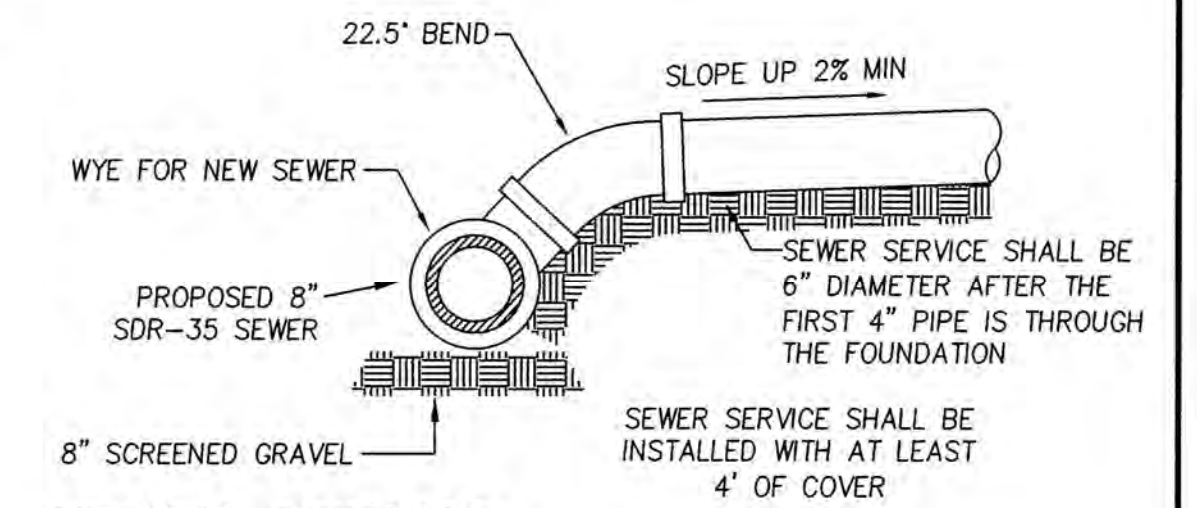
NEWBURYPORT PLANNING BOARD APPROVAL

[Signatures]
DATE 8/27/11

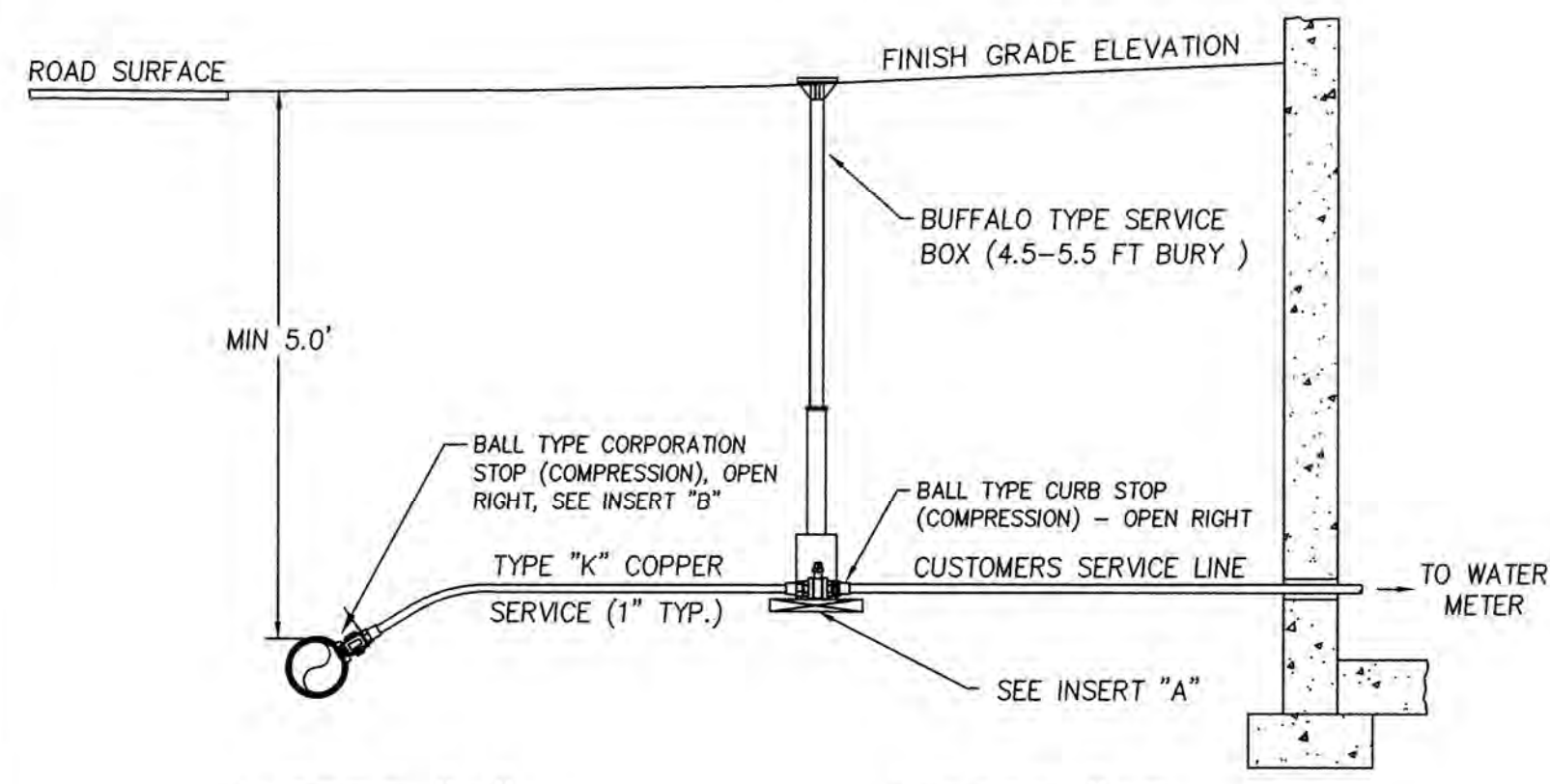
FOR REGISTRY USE ONLY

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[Signature]
CITY/TOWN CLERK DATE

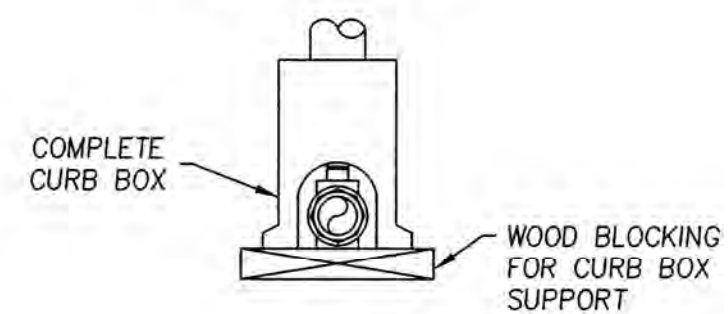


SEWER SERVICE
DETAIL N.T.S.



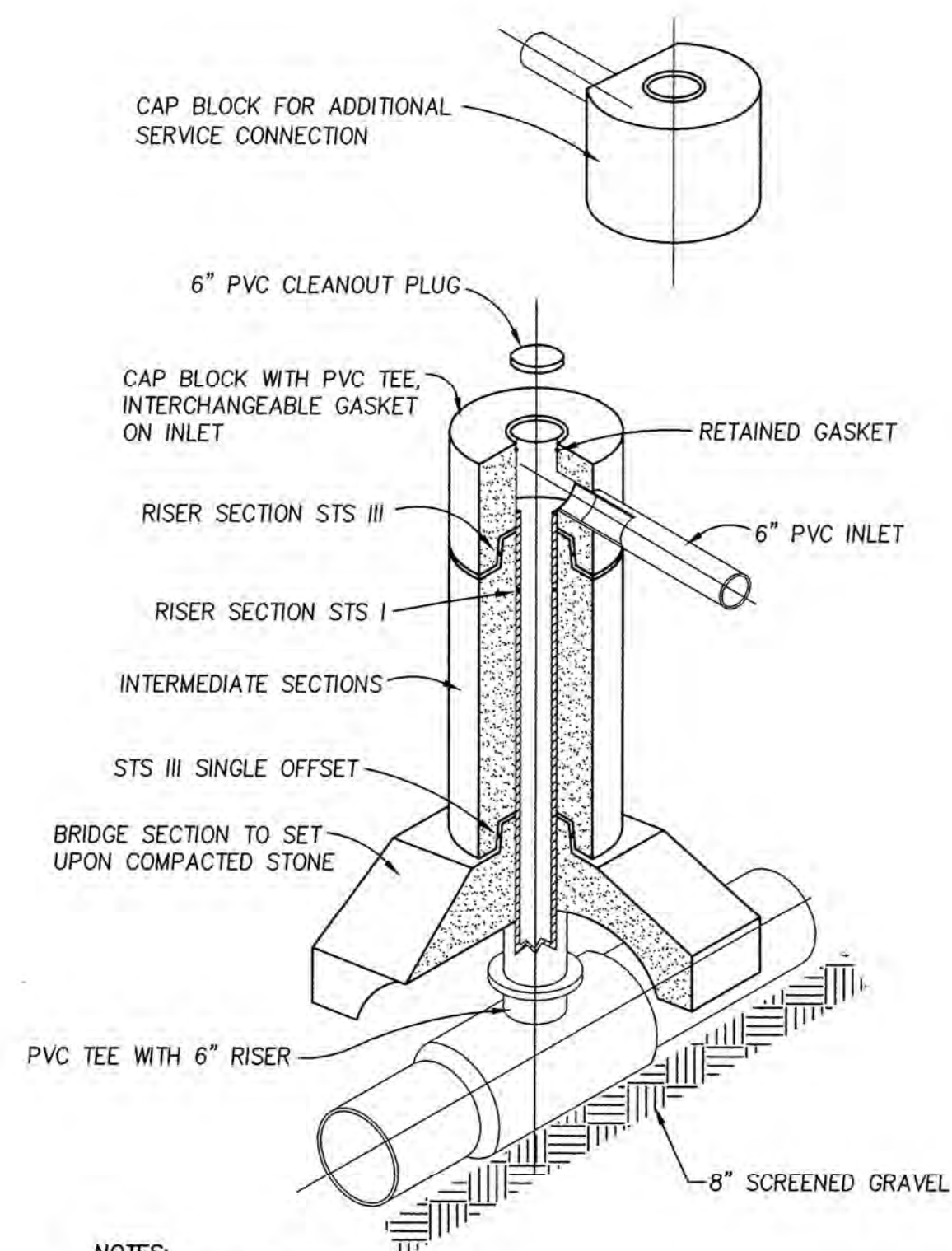
INSERT "A"

INSERT "B"



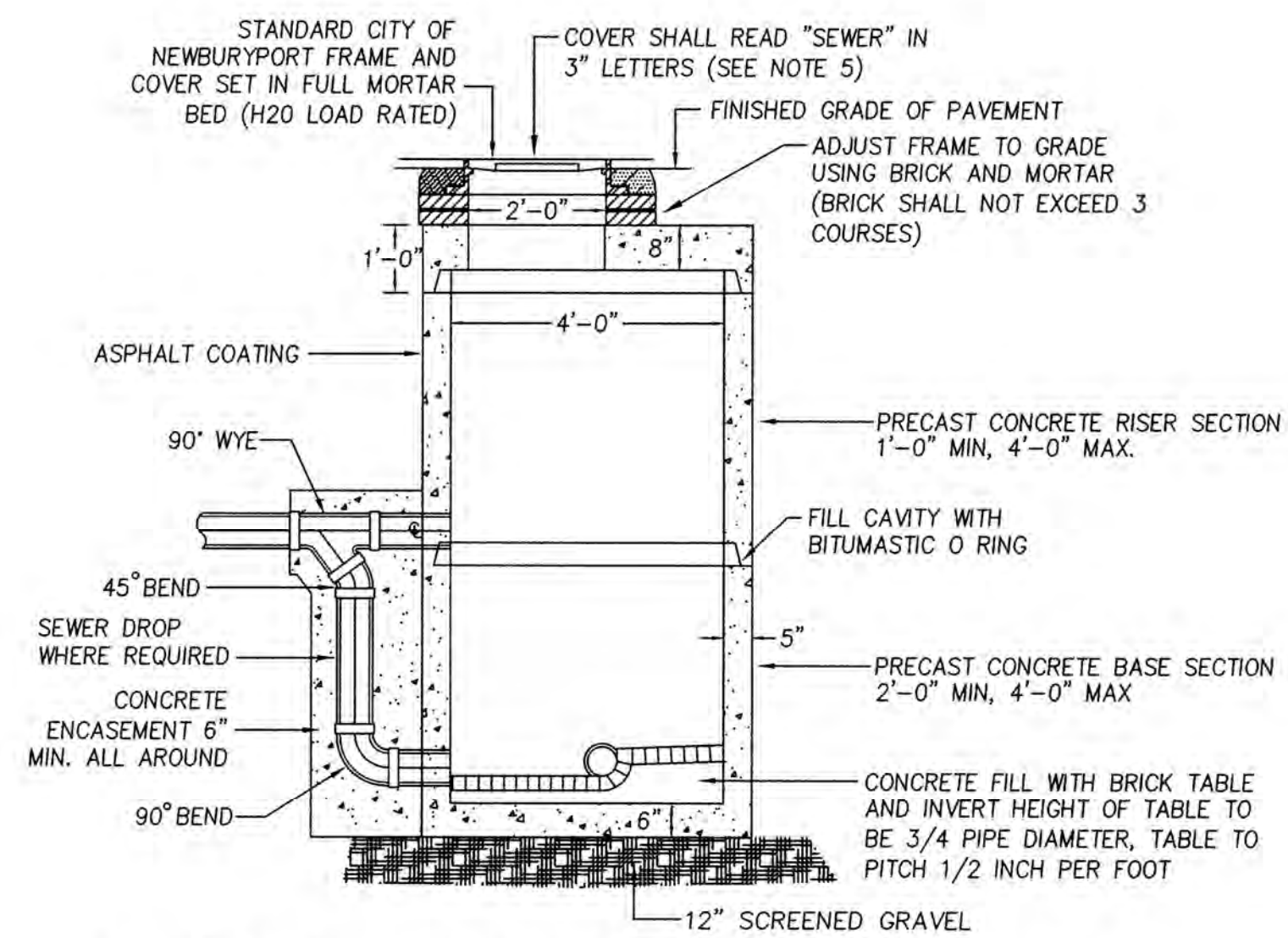
1. CORPORATION AND CURB STOPS SHALL BE BRASS & MEET ALL APPLICABLE DEP STANDARDS.

TYPICAL COPPER
SERVICE CONNECTION N.T.S.



NOTES:
1. ALL CHIMNEYS TO BE PRECAST.
2. CONCRETE STRENGTH TO BE 5000 PSI.
3. RUBBERMAN STS I AND STS III TO BE PER ASTM 443.
4. SHALL BE DESIGNED FOR H-20 LOADING.
5. CHIMNEYS ONLY ALLOWED IF INVERTS ARE GREATER THAN 12 FEET.

PRECAST CONCRETE
CHIMNEY DETAIL N.T.S.



NOTES: 1) SEWER MANHOLES SHALL CONFORM TO ASTM C478 AND ASTM C185
2) FLAT TOP STRUCTURES SHALL BE PRECAST SECTIONS AND HAVE A 28 DAY COMPRESSIVE STRENGTH OF 5,000 PSI REINFORCED FOR AASHTO H-20 LOADING.
3) CONICAL SECTIONS SHALL BE SUBSTITUTED FOR FLAT TOP STRUCTURES IN AREAS WHERE MORE THAN 4 FEET OF COVER IS PROVIDED FOR SEWER PIPE.
4) STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC STEPS SHALL CONFORM TO LATEST ASTM C478 SPEC.
5) COVER SHALL BE LEBARON FOUNDRY (MODEL NO. LA246), MECHANICS IRON FOUNDRY, NEEHAN FOUNDRY, OR EQUAL.

PRECAST SEWER
MANHOLE DETAIL N.T.S.

MANHOLE NOTES:

- ALL PRECAST CONCRETE MANHOLES SHALL CONFORM TO THE LATEST A.S.T.M. SPECIFICATIONS FOR PRECAST REINFORCED CONCRETE SECTIONS (A.S.T.M. C478). CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5,000 P.S.I. REINFORCING STEEL SHALL CONFORM TO THE LATEST A.S.T.M. A185 SPECIFICATIONS.
- ALL PRECAST CONCRETE MANHOLES SHALL BE FURNISHED IN ACCORDANCE WITH THE FOLLOWING CRITERIA:
MANHOLE DIAMETER 4'-0"
PIPE DIAMETER 24" MAX. (SEE DETAIL, THIS SHEET)
- JOINTS OF PRECAST MANHOLE SECTIONS SHALL BE SEALED WITH EITHER A ROUND RUBBER "O"-RING GASKET OR A PREFORMED FLEXIBLE JOINT SEALANT. THE "O" RING SHALL CONFORM TO A.S.T.M. C443. THE PREFORMED FLEXIBLE JOINT SEALANT SHALL BE NPC FLEXIBRIB OR EQUAL.
- ALL MANHOLE BASE SECTIONS SHALL BE MONOLITHIC TO A POINT 6" ABOVE THE CROWN OF THE HIGHEST PIPE.
- ALL MANHOLES SHALL BE PLACED ON A BEDDING OF 12" OF SCREENED GRAVEL.
- REINFORCED CONCRETE MANHOLE SLAB COVER SHALL BE CAPABLE OF SUPPORTING H-20 LOADING.
- MANHOLE CASTINGS SHALL BE STANDARD FRAME AND COVERS IN ACCORDANCE WITH THE CITY OF NEWBURYPORT STANDARD SPECIFICATIONS.
- MANHOLE FRAME AND COVERS TO EXTEND 3" ABOVE GROUND IN CROSS COUNTRY LOCATIONS.
- CONCRETE COLLARS SHALL BE CLASS 5,000 P.S.I. CEMENT CONCRETE MASONRY.
- ALL MANHOLES SHALL BE DAMP PROOFED WITH BITUMASTIC COATING.
- PREFORMED ELASTOMERIC SEALED JOINTS SHALL BE USED AT JOINTS BETWEEN THE PIPE AND SEWER MANHOLE SECTIONS.

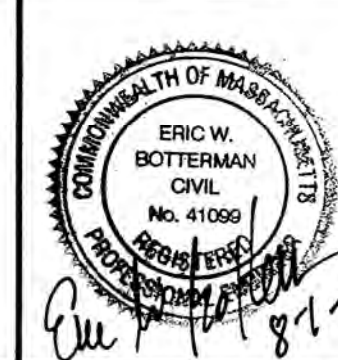
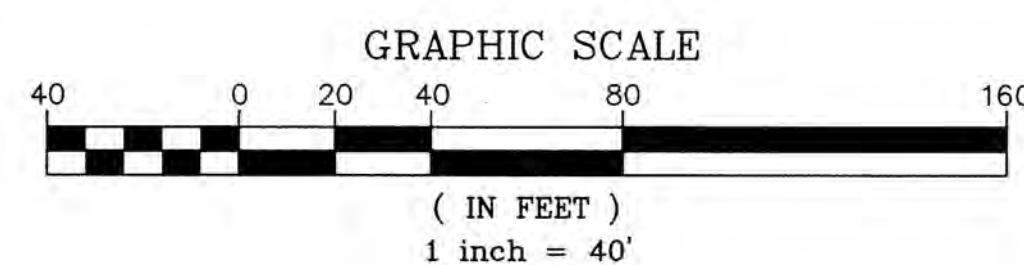
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STEPHEN J. RUSSO
No. 35414
REGISTERED PROFESSIONAL LAND SURVEYOR

REGISTERED PROFESSIONAL LAND SURVEYOR DATE



PREPARED FOR
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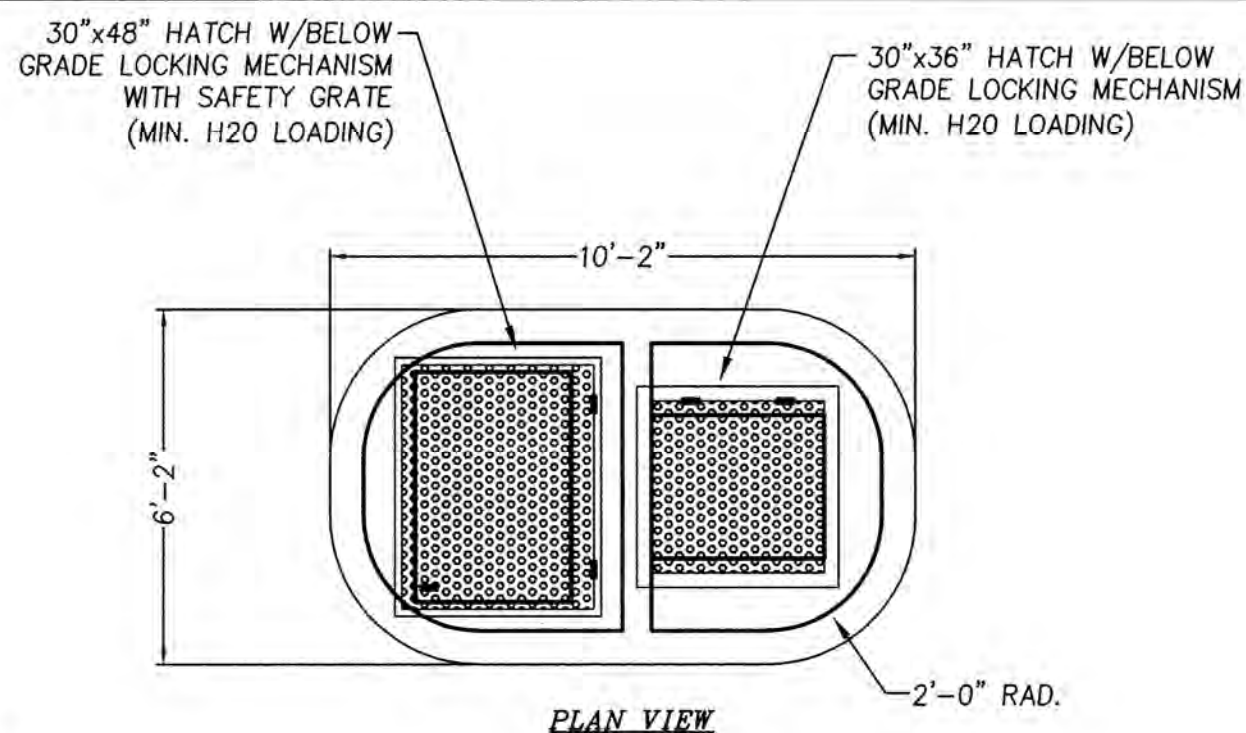
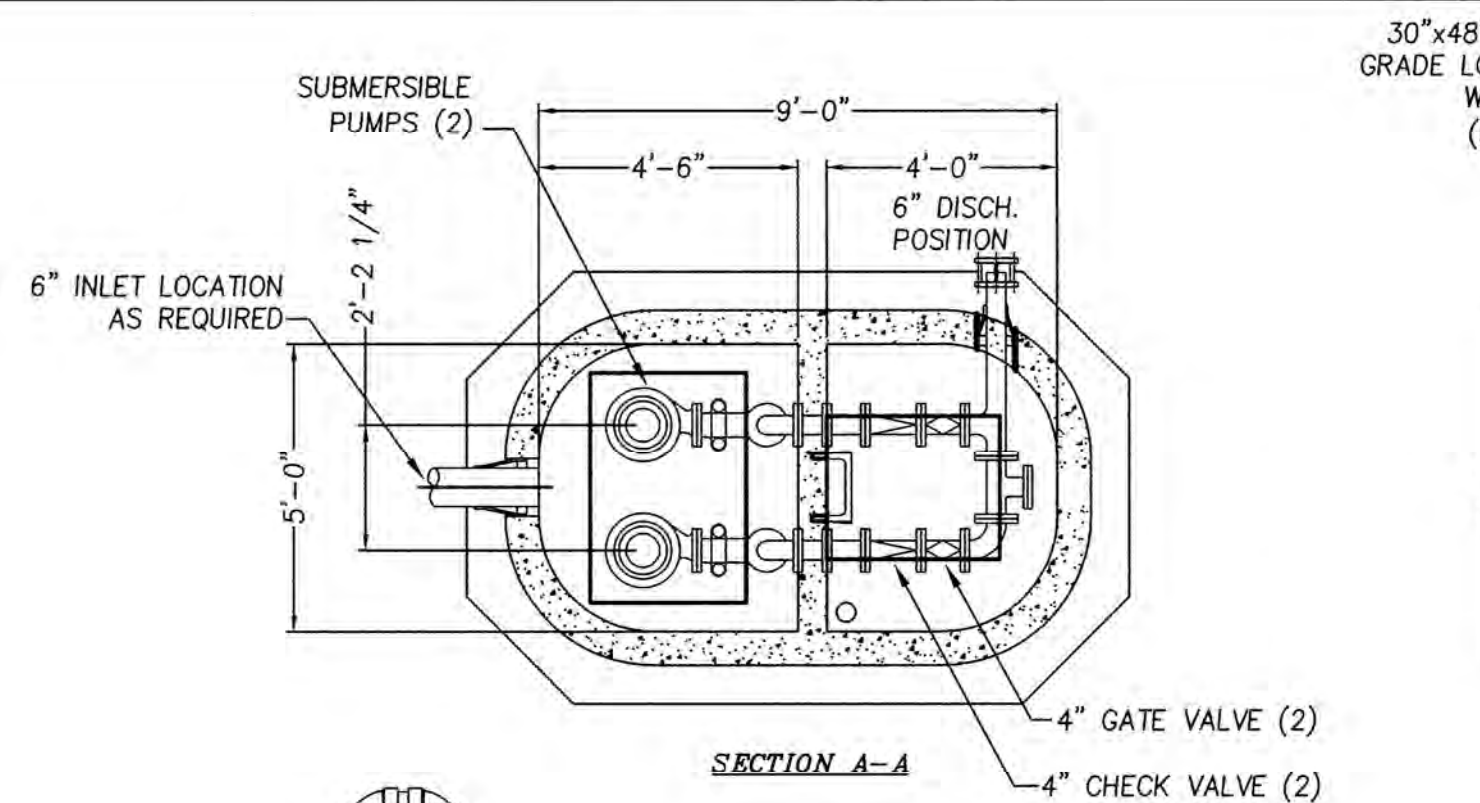
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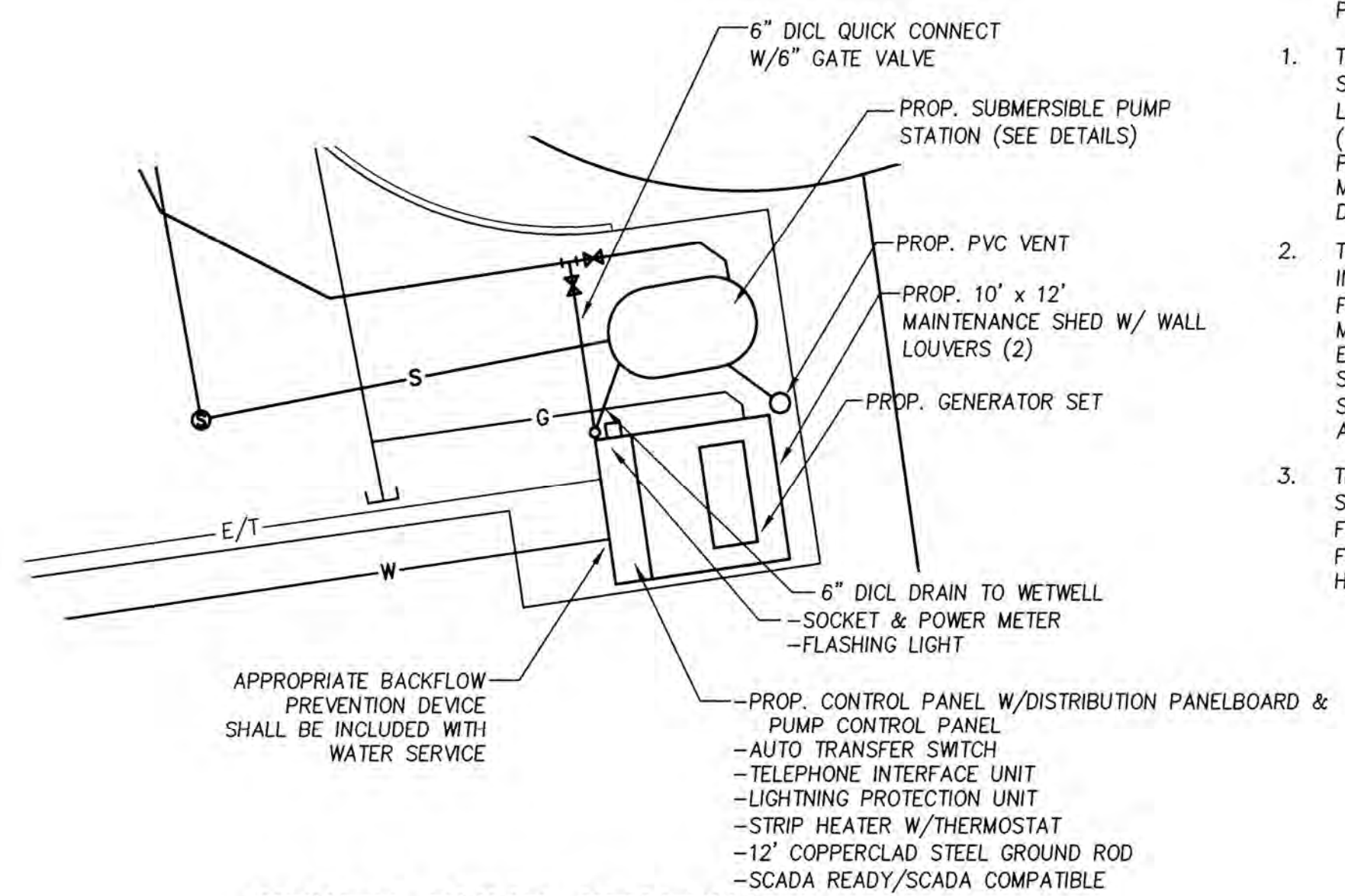
WATER & SEWER
DETAILS



PUMP STATION PLAN VIEW

DISCHARGE PIPE SIZE	= 6"
GROUND ELEV.	= 48.35
INVERT IN ELEV.	= 41.03
INVERT OUT ELEV.	= 42.85
HIGH WATER ALARM ELEV.	= 38.53
LAG PUMP ON ELEV.	= 38.03
LEAD PUMP ON ELEV.	= 37.53
PUMP OFF ELEV.	= 36.53
LOW WATER ALARM ELEV.	= 36.03
PUMP FLOOR ELEV.	= 33.03 (31.53)*
TOTAL DYNAMIC HEAD	= 65 FT
REQUIRED FLOW	= 220 GPM

- * 1.5' CONC. FILL FOR BUOYANCY PURPOSES
- DESIGN NOTES:**
1. CONCRETE MINIMUM DESIGN STRENGTH - 5,000 PSI @ 28 DAYS
 2. STEEL REINFORCEMENT - ASTM A-615, GRADE 60 REBAR
ASTM A-185, GRADE 65 WELDED WIRE FABRIC
1" MINIMUM COVER
 3. DESIGN LOADING - AASHTO HS20-44
 4. DESIGN SPECIFICATIONS - ACI 318-99



SEWER PUMP STATION LAYOUT DETAIL

HORIZ. SCALE: 1"=10'

SEWER TESTING SPECIFICATIONS

THE SEWER DEPARTMENT SHALL BE NOTIFIED 48 HOURS BEFORE ALL TESTING TAKES PLACE IN ORDER THAT A REPRESENTATIVE OF THE DEPARTMENT OF PUBLIC SERVICES CAN BE PRESENT.

1. TESTING PROCEDURES FOR SEWER MAINS AND INDIVIDUAL SEWER SERVICES SHALL BE AS SPECIFIED IN ASTM C828-01, C924-02, AND F1417-92 (OR LATEST REVISIONS)-STANDARD TEST METHOD FOR LOW PRESSURE AIR TEST (VCP, CP, PVC) SEWER LINES. FURTHER AS MODIFIED BY THE ALLOWABLE PRESSURE LOSS SHALL NOT EXCEED 0.5 PSI WITHIN THE TIME REQUIREMENTS. MAINS SHALL BE MANDREL TESTED PRIOR TO ACCEPTANCE BY THE SEWER DEPARTMENT.
2. TESTING PROCEDURES FOR SEWER FORCE MAINS SHALL BE AS SPECIFIED IN ASTM C828-01, C924-02, AND F1417-92 (OR LATEST REVISIONS), FURTHER AS MODIFIED BY THE "STARTING TEST PRESSURE" SHALL BE A MINIMUM OF 10.0 PSI, THE ALLOWABLE PRESSURE LOSS SHALL NOT EXCEED 0.5 PSI WITHIN THE TEST TIME REQUIRED AND THE TEST TIME SHALL BE AN INITIAL 15 MINUTES FOR ALL PIPE DIAMETERS. TEST TIME SHALL BE $T = (0.05)D(L-500) + 15$ WHERE D=DIAMETER OF PIPE IN INCHES AND L=LENGTH OF PIPE TO BE TESTED IN FEET.
3. TESTING PROCEDURES FOR SEWER MANHOLES AND PUMP STATION SHALL BE AS SPECIFIED IN ASTM C1244-02 (OR LATEST REVISION)-STANDARD TEST METHOD FOR CONCRETE SEWER MANHOLES BY NEGATIVE AIR PRESSURE (VACUUM) TEST, FURTHER AS MODIFIED BY THE ALLOWABLE VACUUM LOSS SHALL NOT EXCEED 1" HG WITH ONE MINUTE FOR ALL MANHOLE SIZES.

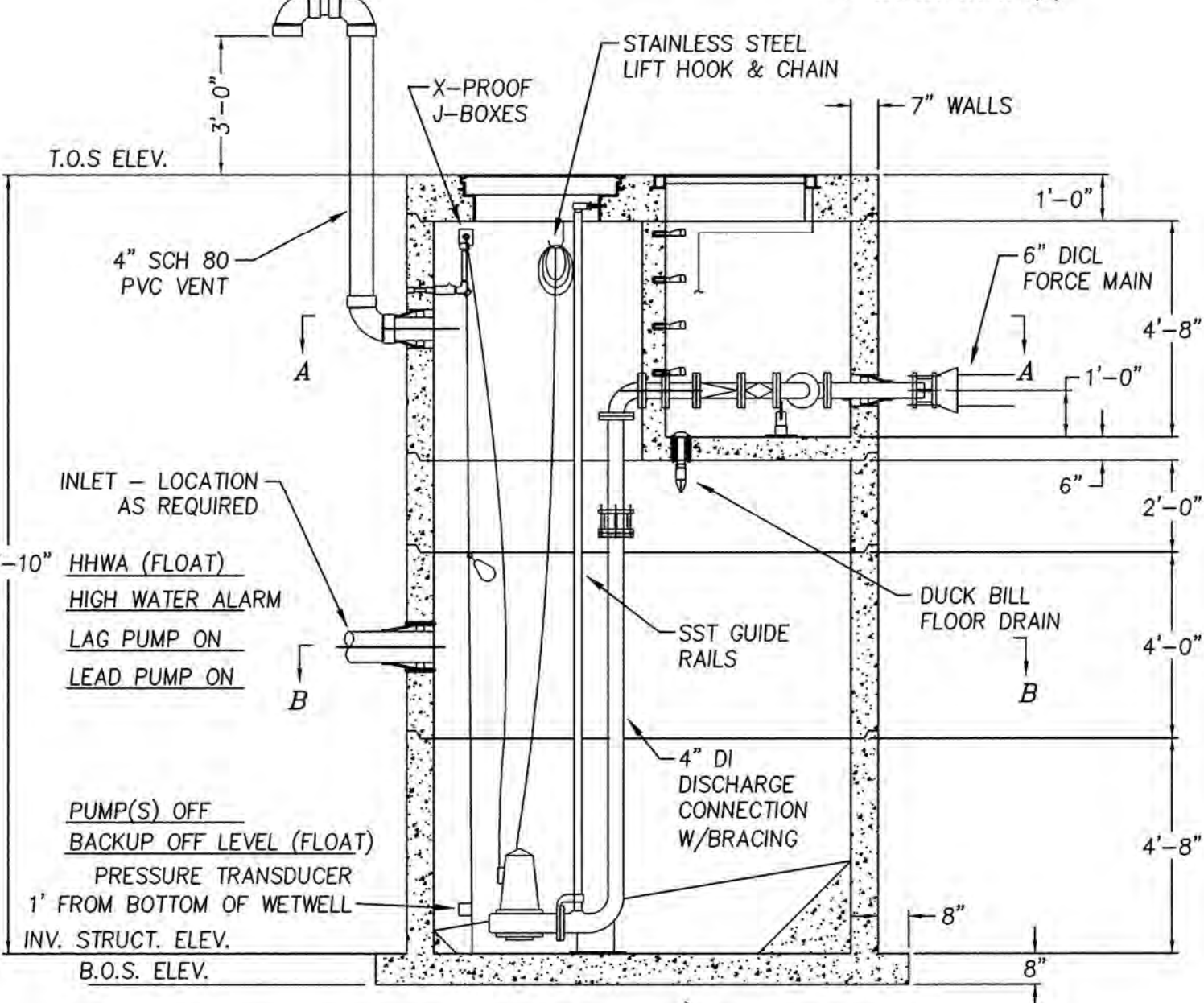
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[Signatures]

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[Signature]
CITY/TOWN CLERK DATE

8/1/11
DATE



INTERIOR ELEVATION VIEW

RC609 ± 10'-10" to 22'-10"

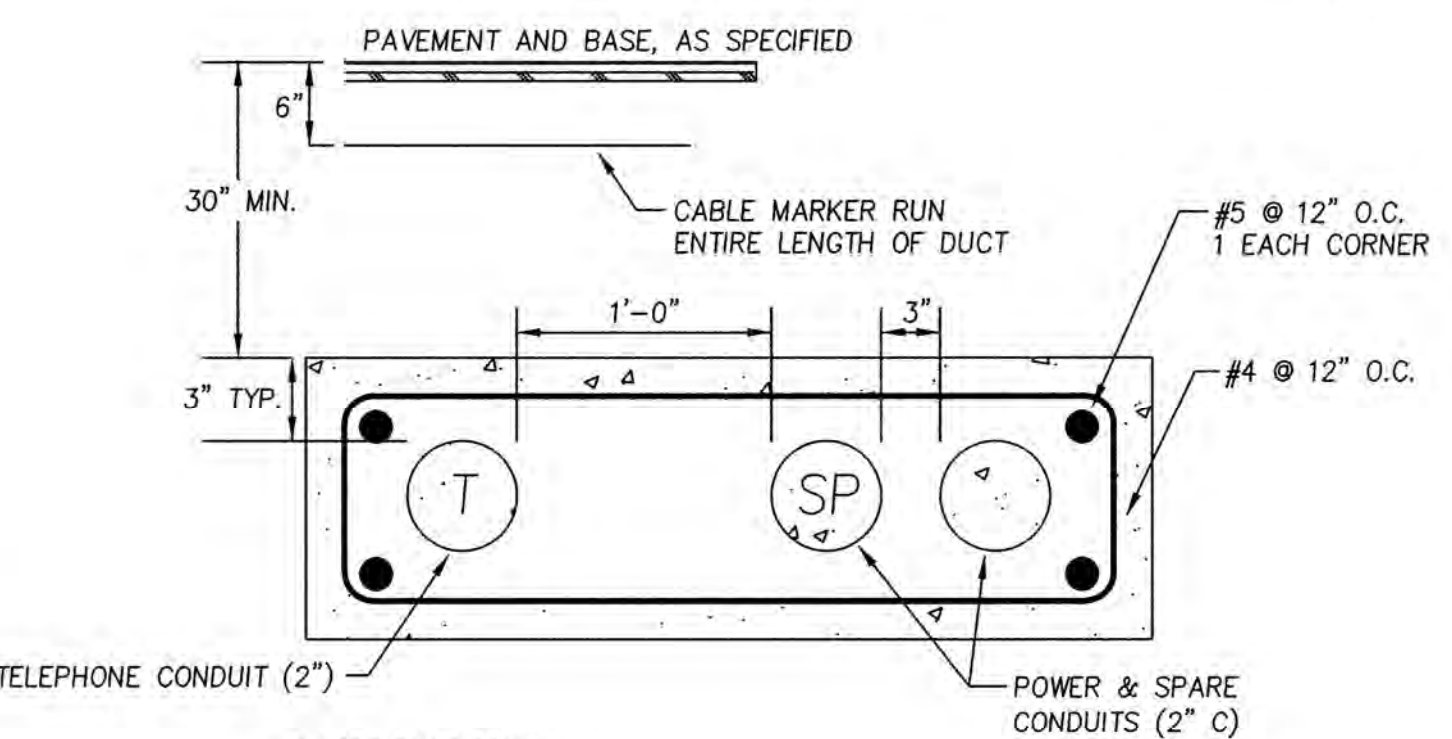
GENERAL NOTES:

1. CONCRETE TO BE 5,000 P.S.I. AFTER 28 DAYS.
2. REINFORCING: WALLS 4X4/4X4 W.W.M.; FLOOR & SLAB TOP #5'S @ 8" O.C.
3. JOINTS TO BE SEALED WITH BUTYL RUBBER SEALANT.
4. PUMP STATION PROVIDED BY OLDCASTLE, INC.
5. PUMP STATIONS SHALL BE INSTALLED AT GRADE.
6. BACKUP POWER SHALL BE PROVIDED FOR PUMP STATION. GENERATOR SHALL BE CUMMINS SPARK-IGNITED SET MODEL GCMA 60 HZ, 20 KW. AUTOMATIC TRANSFER SWITCH SHALL BE CUMMINS MODEL OTEC 125.
7. SHOP DRAWING SUBMITTAL(S) ARE REQUIRED FOR ALL PUMP STATION COMPONENTS.
8. PUMPS SHALL BE NON-CLOG PUMPS WITH CUTTER AND THE FOLLOWING SPECIFICATIONS:

	FLYGT MODEL #	IMPELLER SIZE (DIA.)	HP/RPM	PHASE
PUMP STATION	NP 3102-090	5.31"	6.5/3490	3

SEWER PUMP STATION DETAIL

N.T.S.

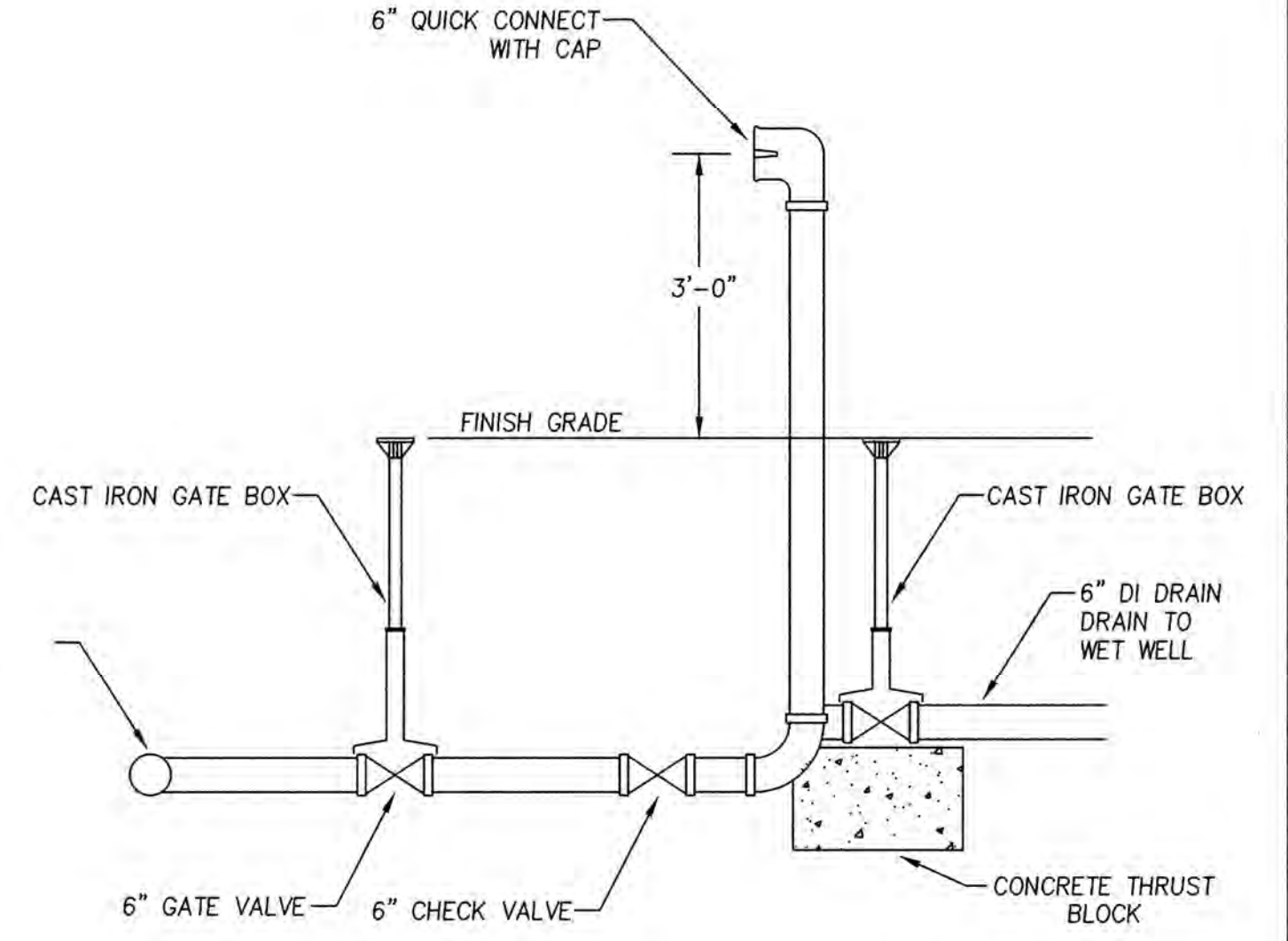


CONDUIT DETAIL

N.T.S.

GENERAL NOTES:

- 1.) THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO FURNISH AND INSTALL THE SUBMERSIBLE PUMP STATION AS SHOWN ON THE DRAWINGS. THESE DRAWINGS ARE INTENDED TO PROVIDE THE CONTRACTOR WITH A REPRESENTATION OF PROPOSED WORK REQUIRED. ADDITIONAL MATERIALS MAY BE REQUIRED TO COMPLETE THE PUMP STATION AND WILL BE IDENTIFIED DURING THE SHOP DRAWING PHASE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A COMPLETE PUMP STATION ACCEPTABLE TO THE NEWBURYPORT PUBLIC WORKS DEPARTMENT.
- 2.) SHOP DRAWINGS AND CATALOG CUTS SHALL BE SUBMITTED TO THE NEWBURYPORT DEPARTMENT OF PUBLIC SERVICES AND THEIR WASTEWATER ENGINEERING CONSULTANT 2 WEEKS PRIOR TO ORDERING MATERIALS AND ANY WORK BEING PERFORMED ON THE PUMP STATION. SUBMITTALS REQUIRED, BUT ARE NOT NECESSARILY LIMITED TO THE FOLLOWING:
 - SHOP DRAWINGS, INCLUDING ALL EQUIPMENT AND COMPONENTS FOR PUMP STATION AND ALL SEWER SYSTEM COMPONENTS
 - BROCHURES AND/OR CATALOG CUTS FOR ALL PIPING, FITTINGS, VALVES AND MISC. EQUIPMENT
 - PERFORMANCE CURVES
 - COMPLETE MASTER WIRING DIAGRAMS AND ELEMENTARY OR CONTROL SCHEMATICS, INCLUDING REQUIRED COORDINATION WITH OTHER ELECTRICAL CONTROL DEVICES OPERATING IN CONJUNCTION WITH THE PUMP STATION. STANDARD PREPRINTED SHEETS OR DRAWINGS SIMPLY MARKED TO INDICATE APPLICABILITY TO THIS CONTRACT WILL NOT BE ALLOWED.
- 3.) ALL EQUIPMENT LOCATED WITHIN THE PUMP CHAMBER SHALL BE EXPLOSION PROOF AND DESIGNED FOR USE IN HAZARDOUS LOCATIONS. PUMP, MOTOR COMBINATION, SLIDE RAIL AND QUICK-DISCONNECT SYSTEM SHALL BE NON-SPARKING WHILE OPERATING IN HAZARDOUS LOCATIONS.
- 4.) PRECAST REINFORCED CONCRETE PUMP CHAMBER SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF ASTM C478. WIRE FABRIC FOR REINFORCEMENT SHALL CONFORM TO ASTM A185. STEEL REINFORCEMENT SHALL CONFORM TO ASTM A615 GRADE 40. THE PRECAST STRUCTURE SHALL BE DESIGNED FOR HYDROSTATIC HEAD EQUAL TO THE DEPTH OF THE STRUCTURE AND WITHSTAND H-20 TRUCK LOADING.
- 5.) THE ACCESS HATCH SHALL BE OF ALUMINUM CONSTRUCTION, H-20 LOADED, AND WATERTIGHT SELF-DRAINING TYPE. DOOR LEAF SHALL BE A MINIMUM 1/2" THICK AND EQUIPPED WITH A MINIMUM OF TWO STAINLESS STEEL (S.S.) HINGES WITH S.S. PINS, SPRING OPERATORS, AND RECESSED AUTOMATIC HOLD-OPEN ARM WITH RELEASE HANDLE. A RECESSED SNAP LOCK WITH REMOVABLE HANDLE AND S.S. SAFETY CHAINS SHALL BE PROVIDED.
- 6.) A GUIDE RAIL SHALL BE PROVIDED WITH SUFFICIENT LENGTH WHICH WILL REACH FROM THE TOP OF THE DISCHARGE ELBOW TO THE UPPER GUIDE RAIL HOLDER ON THE ACCESS FRAME.
- 7.) PREMOLDED ELASTOMERIC SEALED JOINTS SHALL BE USED AT ALL JOINTS BETWEEN THE PIPE(S) AND MANHOLE SECTIONS.
- 8.) THE CONTRACTOR/PUMP MANUFACTURER SHALL PROVIDE A COMPLETE DUPLEX MOTOR CONTROL PANEL PROVIDING SHORT CIRCUIT AND OVERLOAD PROTECTION FOR EACH PUMP. THE CONTROL PANEL SHALL CONFORM TO NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA) AND NATIONAL ELECTRICAL CODE (NEC) SPECIFICATIONS, AND SHALL BE UNDERWRITERS LABORATORIES (UL) LISTED. THE PANEL SHALL BE FACTORY WIRED AND TESTED. A MOISTURE SENSING CIRCUIT SHALL BE PROVIDED TO DETECT WATER LEAKAGE INTO THE CAVITY OF THE PUMP. A MOTOR OVER-TEMPERATURE SENSOR SHALL BE PROVIDED TO DETECT ABNORMAL MOTOR TEMPERATURE.
- 9.) EACH PUMP MOTOR SHALL BE PROVIDED WITH A NEMA RATED COMBINATION CIRCUIT PROTECTOR AND SOLID STATE REDUCED VOLTAGE MOTOR STARTER IN COMBINATION WITH CIRCUIT BREAKER. STARTERS SHALL BE FURNISHED WITH A THERMAL OVERLOAD PROTECTOR.
- 10.) AN ELECTRO-MECHANICAL ALTERNATOR SHALL BE PROVIDED TO ALTERNATE THE LEAD PUMP BETWEEN TWO PUMPS ON SUCCESSIVE CYCLES. EACH PUMP SHALL BE PROVIDED WITH A HORIZONTAL SELF-CONTAINED, STRAIGHT-THRU DESIGN SWING CHECK VALVE CONSTRUCTED OF THERMOPLASTIC MATERIALS.
- 11.) THE CONTROL PANEL SHALL BE FURNISHED WITH AN ALARM SYSTEM ENERGIZED BY ANY ONE OF THE FOLLOWING ALARM CONDITIONS:
 - HIGH WETWELL LEVEL
 - LOW WETWELL LEVEL
 - LEAD PUMP FAILURE
 - LAG PUMP FAILURE
 - NORMAL POWER FAILURE
- 12.) CONTROL PANELS AND NATURAL GAS POWERED GENERATOR SET SHALL BE LOCATED WITHIN A MINIMUM 10 FT X 12 FT MAINTENANCE SHED EQUIPPED WITH 48" X 48" WALLED LOUVERS. THE MAINTENANCE SHED SHALL BE APPROVED BY THE NEWBURYPORT PLANNING BOARD AND PUBLIC WORKS DEPARTMENT.
- 13.) PUMP STATION SHALL BE SCADA-READY AND SCADA COMPATIBLE AND SHALL INCLUDE:
 - VHF RADIO MODEM WITH REMOTE DIAGNOSTICS. TYPE N CONNECTORS
 - VHF 3DBB GAIN FIBERGLASS OMNI-DIRECTIONAL ANTENNAS
 - TYPE N COAXIAL CONNECTORS, AS APPLICABLE
 - LIGHTING ARRESTORS TYPE N, AS APPLICABLE
 - PLC (PROGRAMMABLE LOGIC CONTROLLER) PANEL
 - SERIAL DATA CABLE RADIO MODEM TO PLC
 - RADIO SYSTEM INTEGRATOR
- 14.) NAMEPLATES SHALL BE INSTALLED FOR ALL SWITCHES, CONTROL STATIONS, MOTOR STARTERS, TERMINAL CABINETS, AND INDICATING LIGHTS TO DESIGNATE EQUIPMENT CONTROLLED AND FUNCTION.
- 15.) PRESSURE TRANSDUCERS ARE REQUIRED FOR WETWELL LIQUID LEVELS AND ONE NON-MERCURY FLOAT SET TO THE HIGHWATER ALARM ELEVATION.
- 16.) DISCHARGE PIPING AND FITTINGS FOR GRAVITY SEWERS SHALL BE TYPE FPM, PVC SDR 35 WITH FULL DIAMETER DIMENSIONS AND SHALL CONFORM TO ASTM D3034, OR TYPE PS-48 PVC CONFORMING TO ASTM F789. WYES SHALL BE FURNISHED IN LENGTHS OF NO LONGER THAN 3 FEET. SADDLE WYES WILL NOT BE PERMITTED. PIPE SHALL HAVE BELL AND SPIGOT PUSH ON JOINTS. BELL SHALL CONSIST OF AN INTEGRAL WALL SECTION WITH A SOLID CROSS SECTION ELASTOMERIC GASKET (CONFORMING TO ASTM F477) SECURELY LOCKED IN PLACE.
- 17.) DISCHARGE PIPING AND FITTINGS FOR SEWER FORCE MAINS SHALL BE CLASS 52 DUCTILE IRON CEMENT LINED (DCL) PIPE AND FITTINGS. EXTERNAL PIPE COATING SHALL BE A DUAL COATING SYSTEM COMPRISED OF POLYETHYLENE OR PVC OUTER LAYER OVER AN INNER LAYER OF SYNTHETIC ELASTOMER. BITUMINOUS SEAL COAT SHALL ALSO BE APPLIED TO THE INTERNAL CEMENT LINING. COMPACT FITTINGS SHALL BE PROVIDED FOR DISCHARGE PIPING.
- 18.) THRUST RESTRAINT SHALL BE PROVIDED AT ALL FORCE MAIN BENDS.
- 19.) FORCE MAINS SHALL BE INSTALLED WITH A CONTINUOUS SLOPE BETWEEN THE HIGH AND LOW POINTS.
- 20.) VALVES SHALL BE DESIGNED FOR WASTEWATER APPLICATION. GATE VALVES SHALL BE IN CONFORMANCE WITH AWWA C500 AND OPEN RIGHT.
- 21.) MANUFACTURER'S FIELD SERVICES AND TRAINING FOR THE VARIOUS COMPONENTS SHALL BE PROVIDED. INSTALLATION AND START-UP SHALL BE PROVIDED FOR 2 WORKING DAYS AND OWNER'S TRAINING FOR 1 DAY.
- 22.) ALL SYSTEMS, CONTROLS, AND SEQUENCES SHALL BE OPERATED AND DEMONSTRATED AS OPERATING AS APPROVED. THE CONTRACTOR SHALL PERFORM ALL TESTS AND SHALL BE RESPONSIBLE FOR ALL TEMPORARY CONNECTIONS, TESTING EQUIPMENT AND UTILITIES AND SHALL PROVIDE AND LEGALLY DISPOSE OF ALL WATER USED. THE CITY'S REPRESENTATIVE(S) AND FACTORY TRAINED REPRESENTATIVE SHALL BE PRESENT FOR ALL TESTING.
- 23.) THE CONTRACTOR SHALL PREPARE "AS-BUILT" PLANS OF THE COMPLETED PUMP STATION.



FORCEMAIN BYPASS CONNECTION DETAIL

N.T.S.

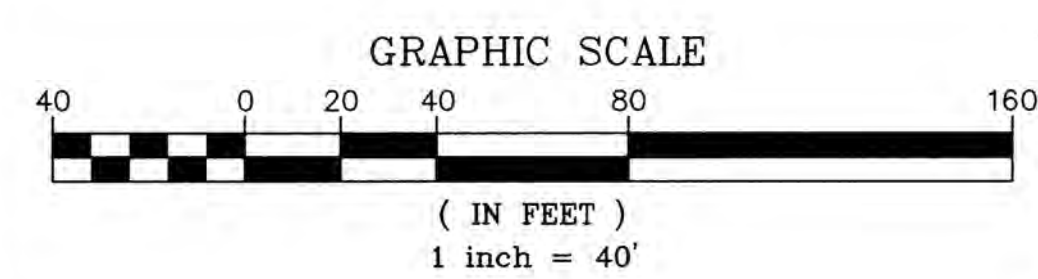
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I CERTIFY THAT THIS ACTUAL SURVEY WAS MADE ON THE GROUND BETWEEN 1996 & JUNE 2006

THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTER OF DEEDS.

[Signature]
STEPHEN J. RUSSO
No. 36414
REGISTERED PROFESSIONAL LAND SURVEYOR

REGISTERED PROFESSIONAL LAND SURVEYOR DATE



PREPARED FOR
SPRINGWELL INVESTMENTS, LLC
11 LAFAYETTE ROAD P.O. BOX 1297
N. HAMPTON, NH 03862

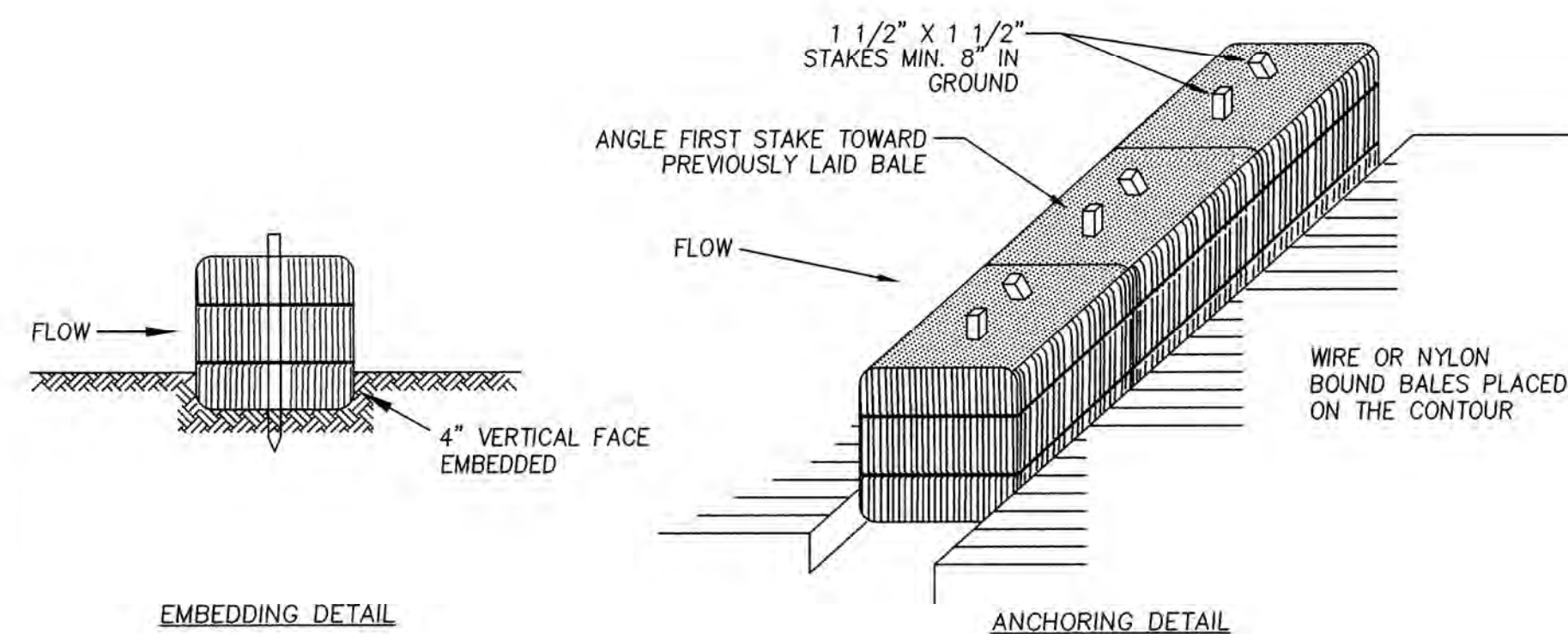
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ENGINEERING AND LAND SURVEYING
62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528

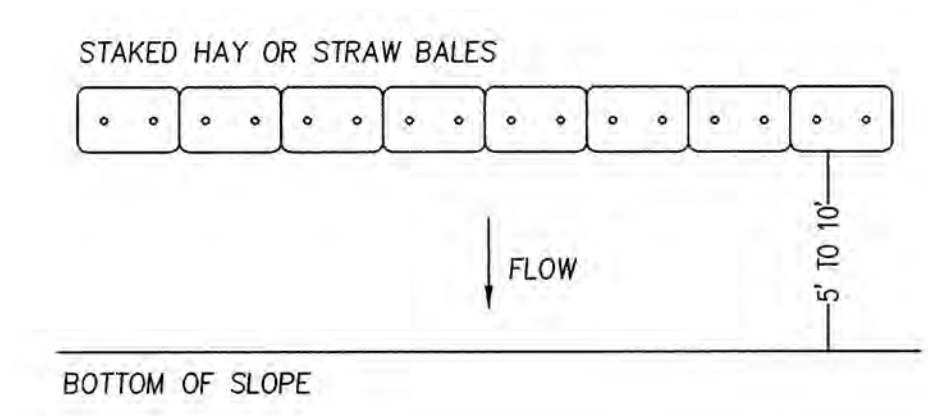
SCALE: 1"=40'
DATE: MAR. 9, 2011
CHKD. BY: E.W.B.
PROJECT: M112327
SHEET: 23 OF 25

OSRD DEFINITIVE PLAN
FOR LAND IN
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AT
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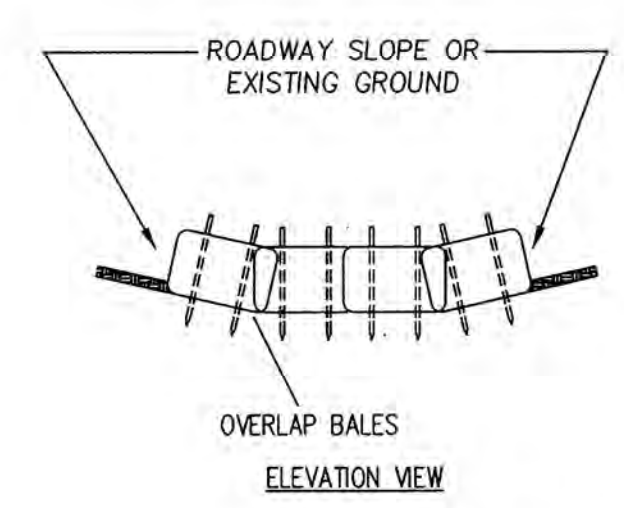
SEWER PUMP STATION DETAILS



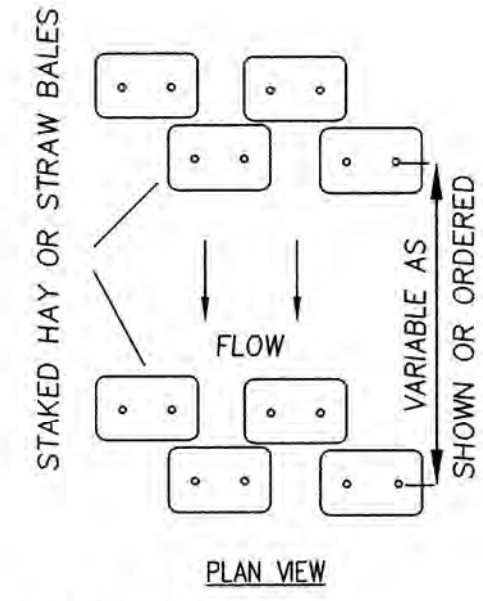
STRAW OR HAY BALE BARRIER
N.T.S.



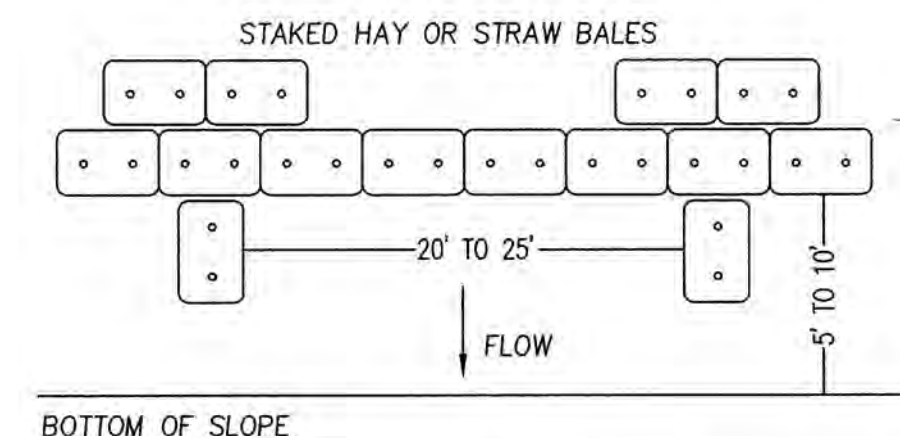
EROSION PROTECTION - TYPE "A"
N.T.S.
NORMAL USE AT BOTTOM OF FILL SLOPES



EROSION PROTECTION - TYPE "C"
N.T.S.
NORMAL USE IN WIDE DITCH SECTION



EROSION CONTROL AT CATCH BASINS
N.T.S.

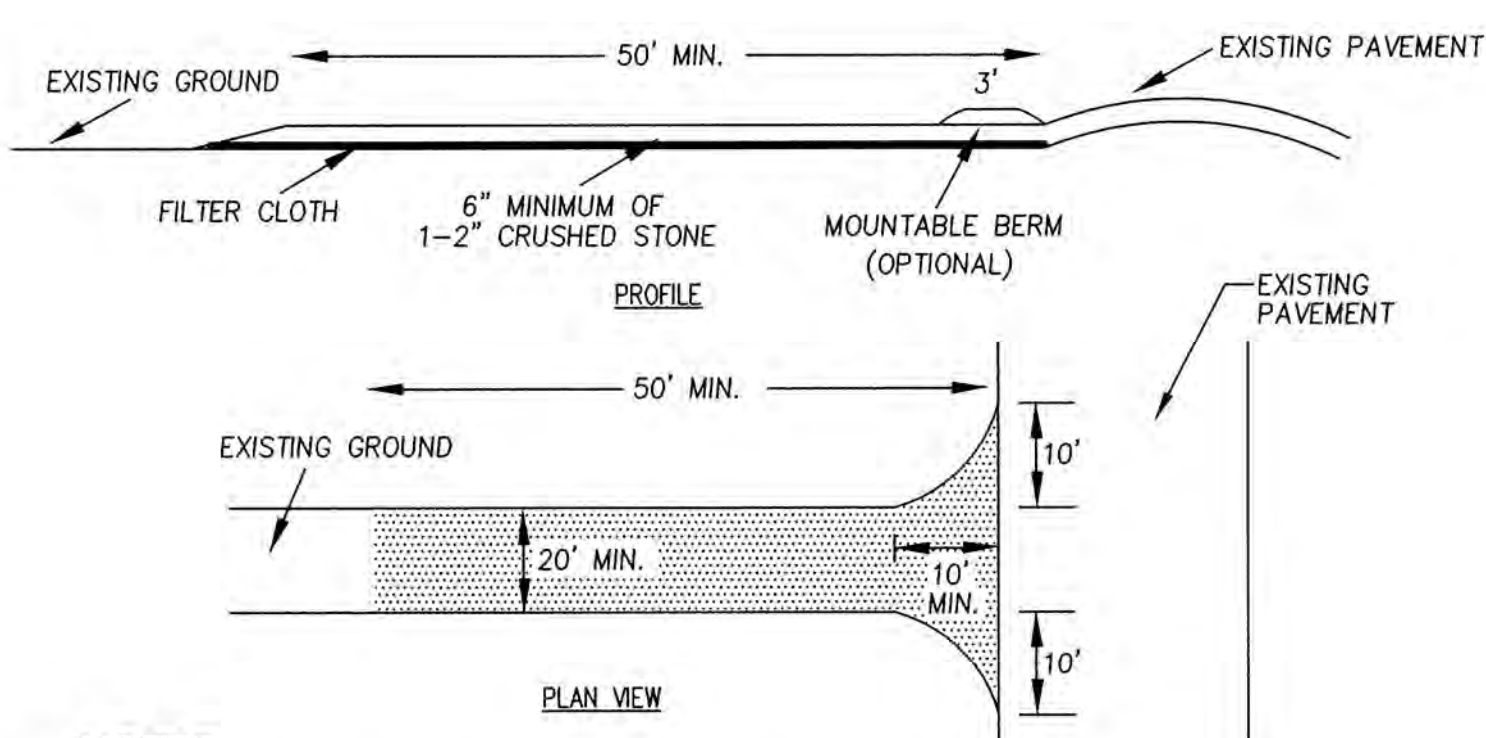


EROSION PROTECTION - TYPE "B"
N.T.S.

NOTES

- BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING ADJACENT BALES.
- BALED HAY AND STRAW SHALL BE TYPICALLY EMBEDDED 4" TO 6" BELOW EXISTING GRADE OR FINISHED GRADE. ADDITIONALLY, PLACE 4" TO 6" OF LOOSE HAY BELOW ALL BALES.
- BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARDS THE PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
- INSPECTIONS 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 IMPEDE STORM FLOW OR DRAINAGE.

HAYBALE INSTALLATION
N.T.S.



NOTES

- STONE SHALL BE 1-2" STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
- THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50'.
- THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6".
- GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.
- 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 TOP-DRESSING 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 RIGHTS-OF-WAY MUST BE REMOVED PROMPTLY.
- WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

STABILIZED CONSTRUCTION ENTRANCE
N.T.S.

GENERAL EROSION CONTROL NOTES

- ALL SILT FENCE SHALL BE INSTALLED BEFORE THE START OF CONSTRUCTION. SILT FENCE SHALL BE REMOVED UPON COMPLETION OF THE PROJECT AND STABILIZATION OF ALL SOIL.
- ALL FILL SHALL BE FREE OF STUMPS AND LARGE STONES.
- ANY STANDING BODIES OF WATER CREATED DURING EXCAVATION SHALL BE ELIMINATED.
- EROSION CONTROL BARRIERS SHALL BE INSPECTED WEEKLY AND AFTER EVERY 0.5" OF RAINFALL AND PROMPTLY REPAIRED OR REPLACED AS NECESSARY.
- ACCUMULATED SEDIMENT DEPOSITS UPSTREAM OF BARRIERS SHALL BE PROPERLY DISPOSED OF ON A REGULAR BASIS.
- PROVIDE GRAVEL AND WIRE MESH SEDIMENT FILTER AT ALL CATCH BASINS.
- A MINIMUM OF 6" OF LOAM SHALL BE INSTALLED ON ALL DISTURBED UNPAVED SURFACES.
- SEED MIX SHALL BE 20 LBS./ACRE OF TALL FESCUE, 20 LBS./ACRE OF CREEPING RED FESCUE AND 10 LBS./ACRE OF BIRDSFOOT TREFLOIL. LIME SHALL BE APPLIED AT A RATE OF 2 TONS/ACRE.
- NO MORE THAN 3 ACRES SHALL BE DISTURBED AT ONE TIME. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
- WHERE PLACEMENT OF FILL IS REQUIRED FOR STORM WATER CONTROL, FILL SHALL BE PLACED IN AN UNFROZEN STATE UPON UNFROZEN GROUND. UNDER NO CIRCUMSTANCES SHALL FILL BE PLACED FROM NOVEMBER THROUGH JANUARY.

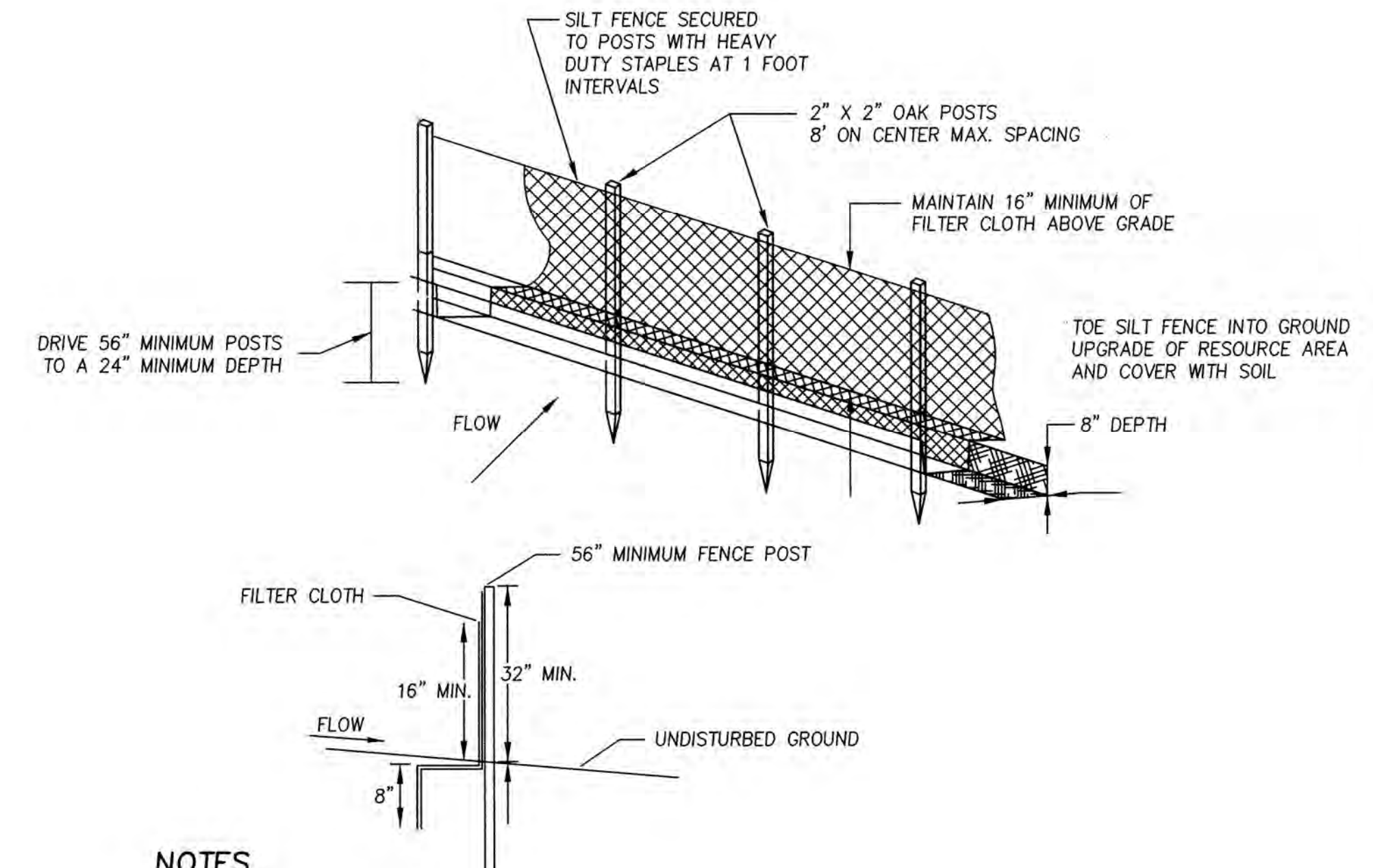
CONSTRUCTION SEQUENCE

- CUT TREES.
- INSTALL SILT FENCE AT LIMIT OF WORK & STAKE OUT INFILTRATION AREAS.
- CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE AS DEPICTED.
- CLEAR AND GRUB DEBRIS AND DISPOSE OF PROPERLY.
- STRIP, SCREEN AND STOCKPILE TOPSOIL. TOPSOIL CAN BE TEMPORARILY STOCKPILED ON SITE PROVIDING THAT THE PERIMETER OF THE STOCKPILES ARE PROPERLY STAKED WITH SILT FENCE AT THE TOE OF SLOPE.
- GRADE ROADWAY TO TOP OF SUBGRADE ELEVATIONS. ALL ROADWAYS MUST BE STABILIZED IMMEDIATELY AFTER GRADING.
- INSTALL UTILITIES/DRAINAGE STRUCTURES.
- CONSTRUCT ROADWAY SWALES. PLACE RIPRAP WHERE SHOWN ON PLANS. LOAM AND HYDROSEED DRAINAGE SWALES, SIDESLOPES, AND ALL DISTURBED AREAS WITHIN 72 HOURS.
- CONSTRUCT REMAINING UTILITIES.
- SPREAD, SHAPE, AND COMPACT PAVEMENT SUBBASE AS PER TYPICAL ROADWAY SECTION TO ATTAIN FINAL DESIGN ELEVATIONS.
- COMPLETE PAVING.
- LOAM AND HYDROSEED ANY DISTURBED SURFACES ALONG EDGES OF PAVEMENT AS REQUIRED.
- CONSTRUCT INDIVIDUAL DRIVEWAYS.
- REMOVE EROSION CONTROL.

CITY/TOWN CLERK:
I HEREBY CERTIFY THAT NO APPEAL HAS BEEN FILED WITHIN THE 21 DAYS AS PRESCRIBED BY MASS. GENERAL LAWS CHAPTER 41 SECTION 81-88.
[Signature]
CITY/TOWN CLERK DATE

NEWBURYPORT PLANNING BOARD APPROVAL
[Signatures]
DATE

FOR REGISTRY USE ONLY



NOTES

- POSTS SHALL BE DOUBLED AND COUPLED AT FILTER CLOTH SEAMS.
- FILTER CLOTH TO BE FASTENED SECURELY TO SUPPORT NETTING WITH TIES SPACED EVERY 24" AT TOP, MID SECTION, AND BOTTOM.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED.

MAINTENANCE

- SILT FENCE SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
- IF THE FABRIC ON THE SILT FENCE SHALL DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
- SEDIMENT DEPOSITS SHALL BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHALL BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
- 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.

SILT FENCE INSTALLATION
N.T.S.

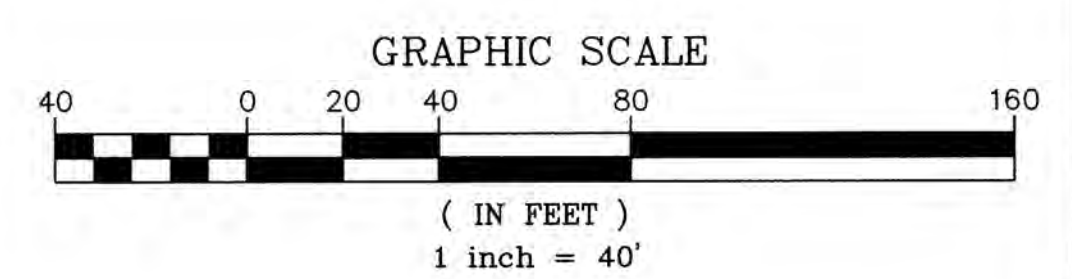
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I CERTIFY THAT THIS ACTUAL SURVEY WAS MADE ON THE GROUND BETWEEN 1996 & JUNE 2006

THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTER OF DEEDS.



REGISTERED PROFESSIONAL LAND SURVEYOR DATE



PREPARED FOR
SPRINGWELL INVESTMENTS, LLC
11 LAFAYETTE ROAD P.O. BOX 1297
N. HAMPTON, NH 03862

NO.	DATE	DESCRIPTION	BY
3	8/1/11	FINAL SUBMITTAL	C.M.Y.
2	5/26/11	ADDRESS REVIEWERS' COMMENTS	C.M.Y.
1	5/03/11	ADDRESS REVIEWERS' COMMENTS	C.M.Y.

MEI MILLENNIUM ENGINEERING, INC.
ENGINEERING AND LAND SURVEYING
62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528

SCALE: 1"=40'
DATE: MAR. 9, 2011
CHKD. BY: E.W.B.
PROJECT: M112327
SHEET: 24 OF 25

OSRD DEFINITIVE PLAN
FOR LAND IN
NEWBURYPORT, MA
SHOWING
PROPOSED SUBDIVISION MODIFICATION
AT
RUSSELL TERRACE EXTENSION

EROSION CONTROL DETAILS

NEWBURYPORT PLANNING BOARD APPROVAL

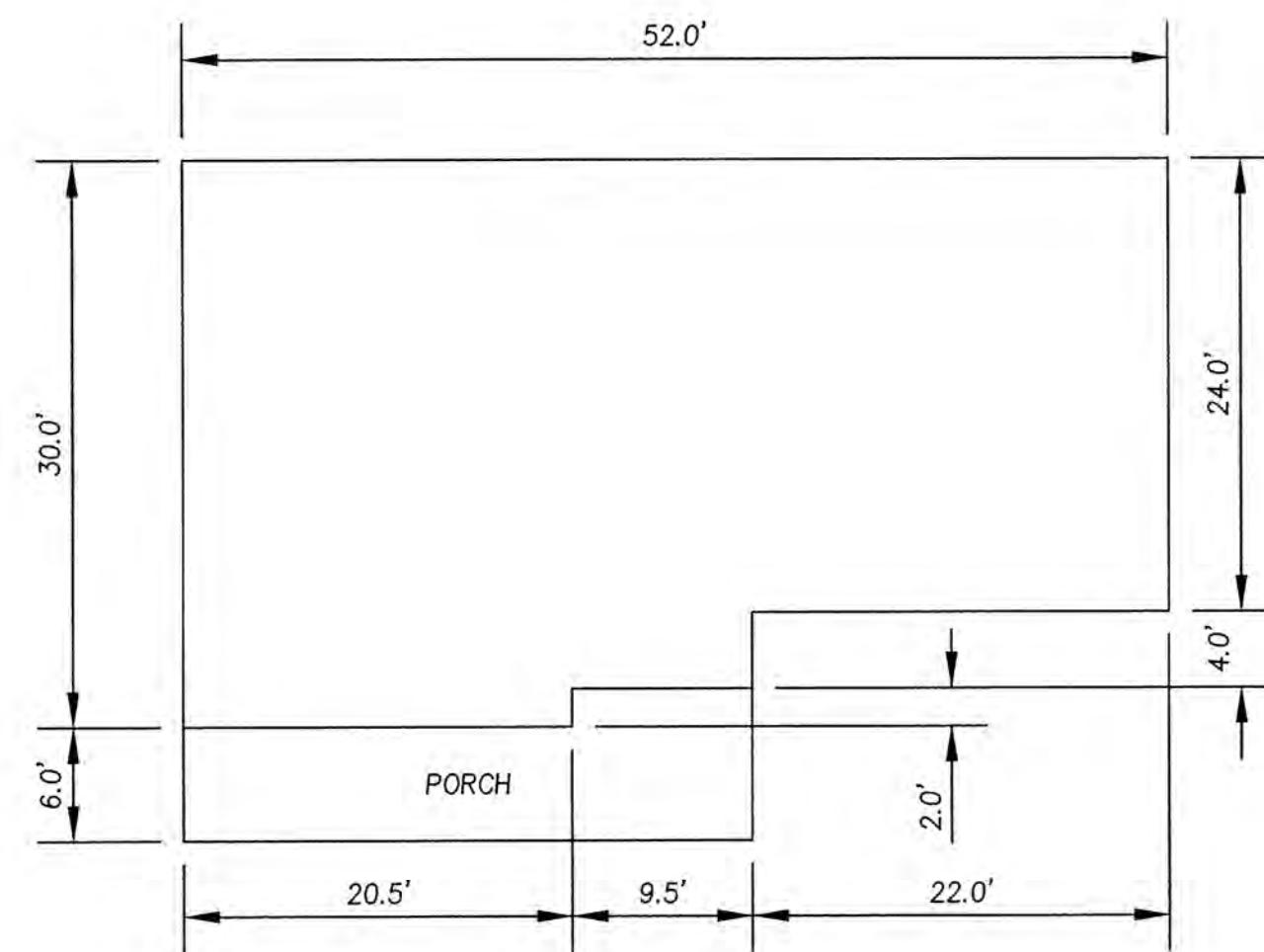
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8/12/11
DATE

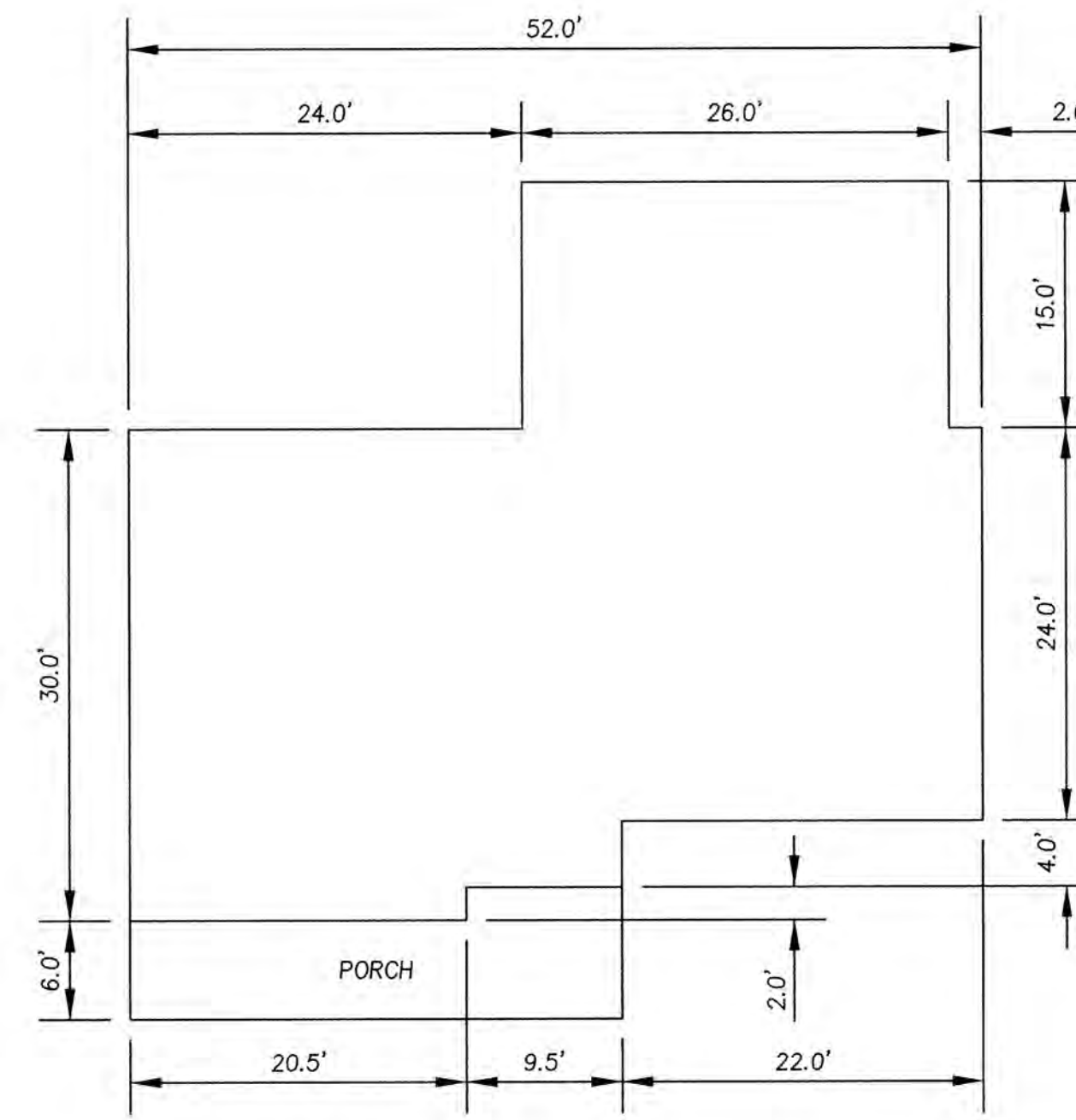
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BY MASS. GENERAL LAWS CHAPTER
41 SECTION 81-88.

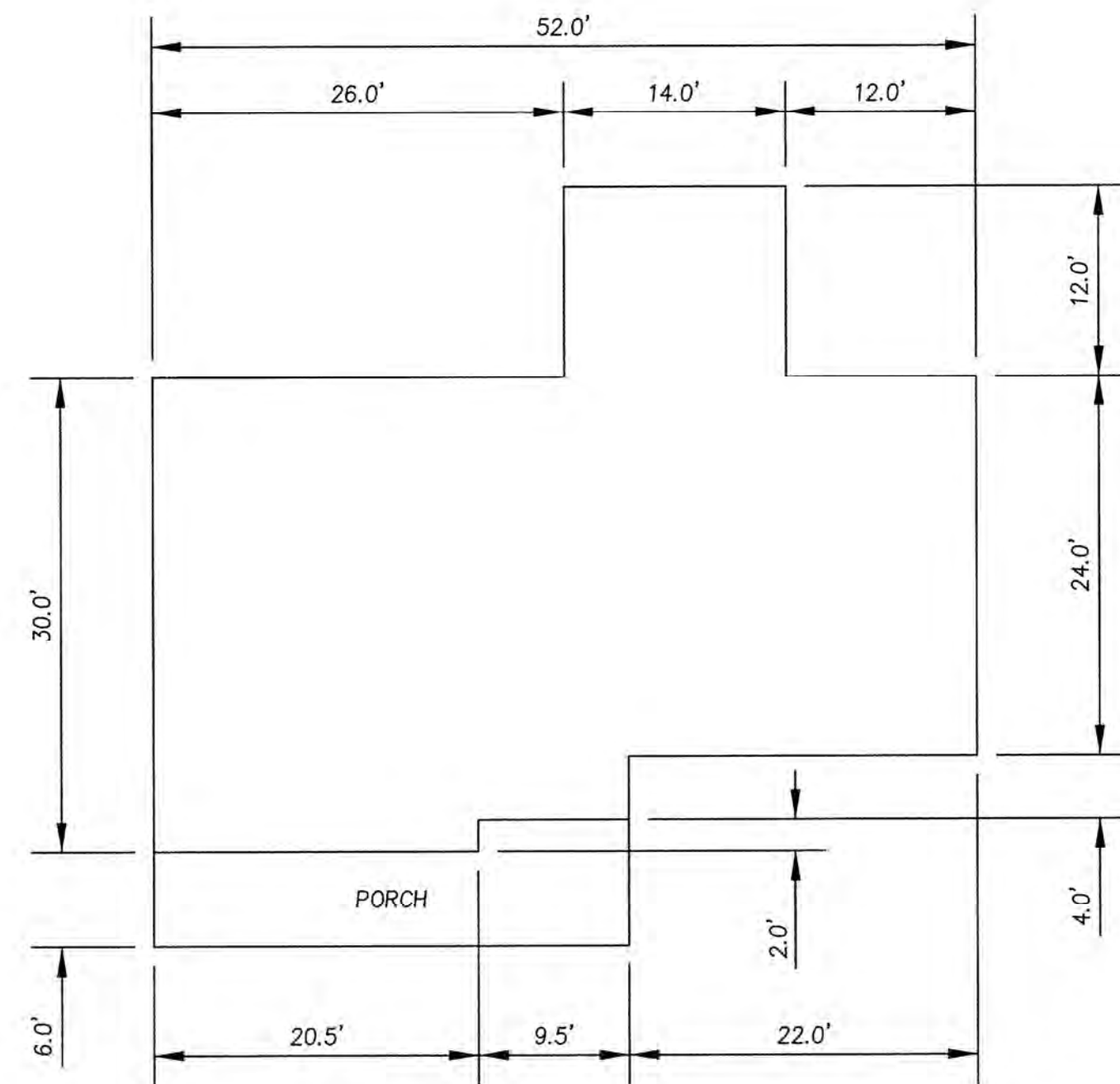
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CITY/TOWN CLERK DATE



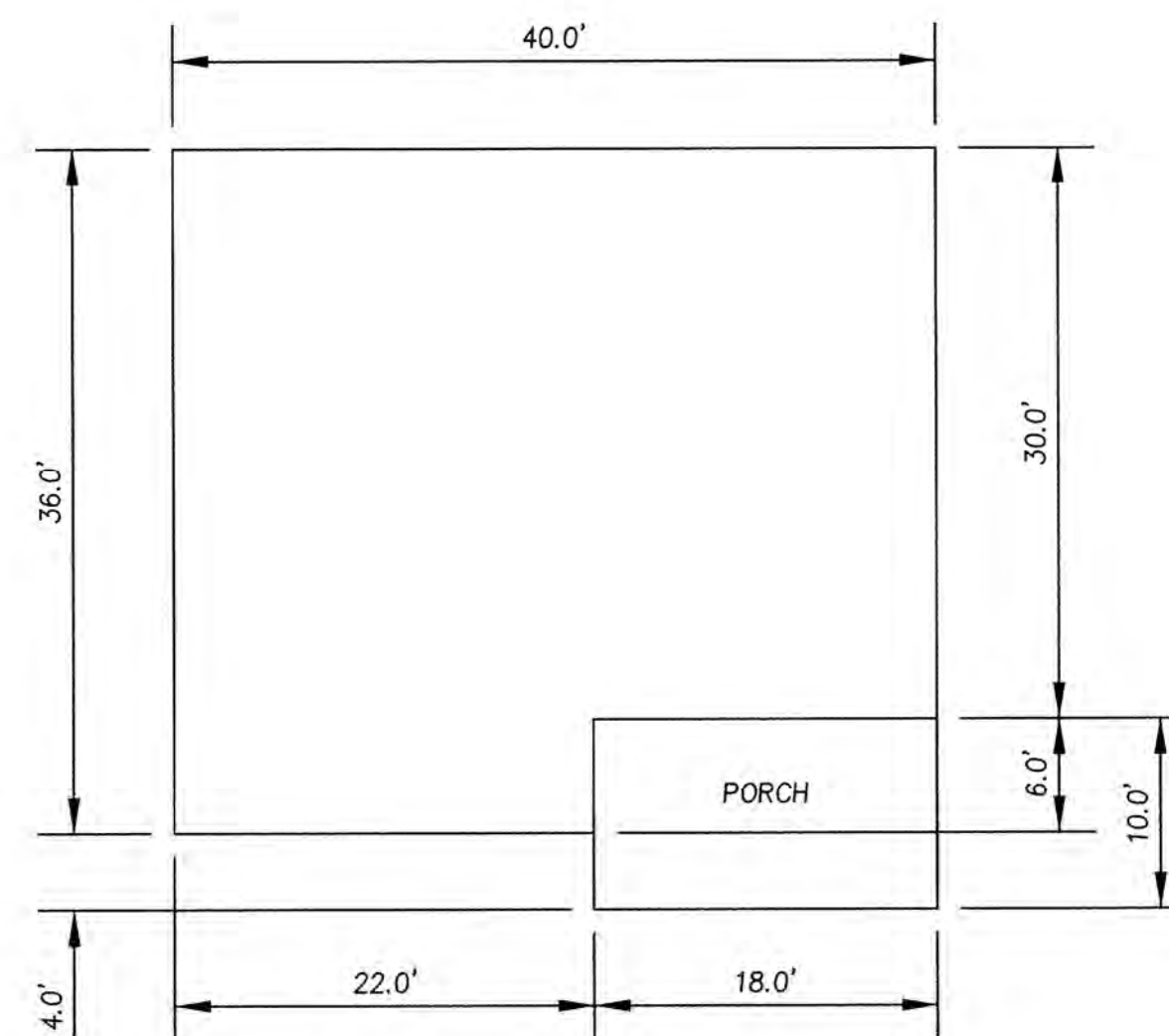
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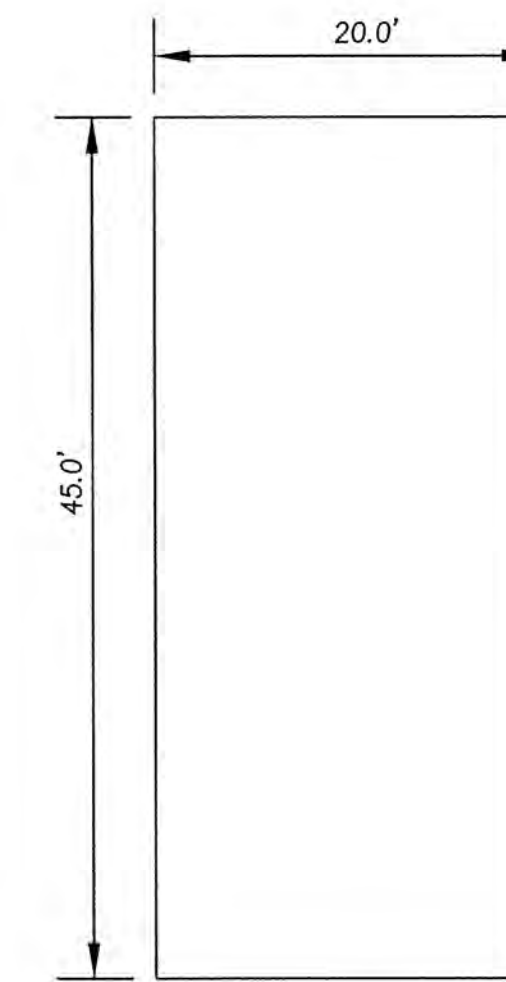
FOUNDATION C1 - C4



FOUNDATION B1 - B4



FOUNDATION D



LOT 18

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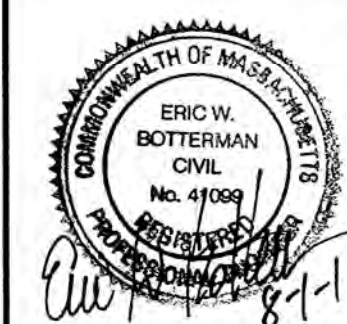
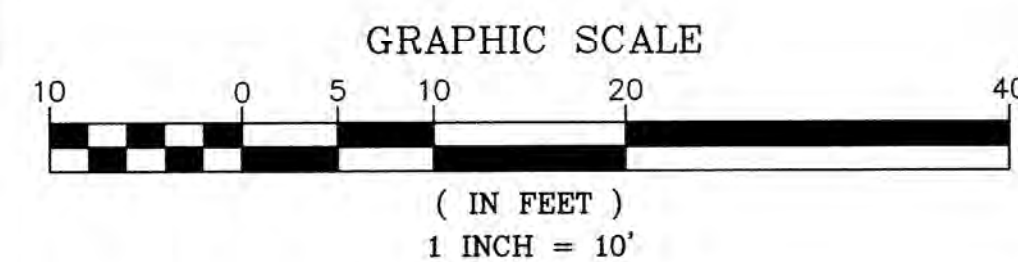
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REGISTERED PROFESSIONAL LAND SURVEYOR DATE 8-1-11

NOTES:
1) FOUNDATION A, B, AND C AS SHOWN HEREON EACH HAVE 4 OPTIONAL FACADES.



PREPARED FOR
SPRINGWELL INVESTMENTS, LLC
11 LAFAYETTE ROAD P.O. BOX 1297
N. HAMPTON, NH 03862

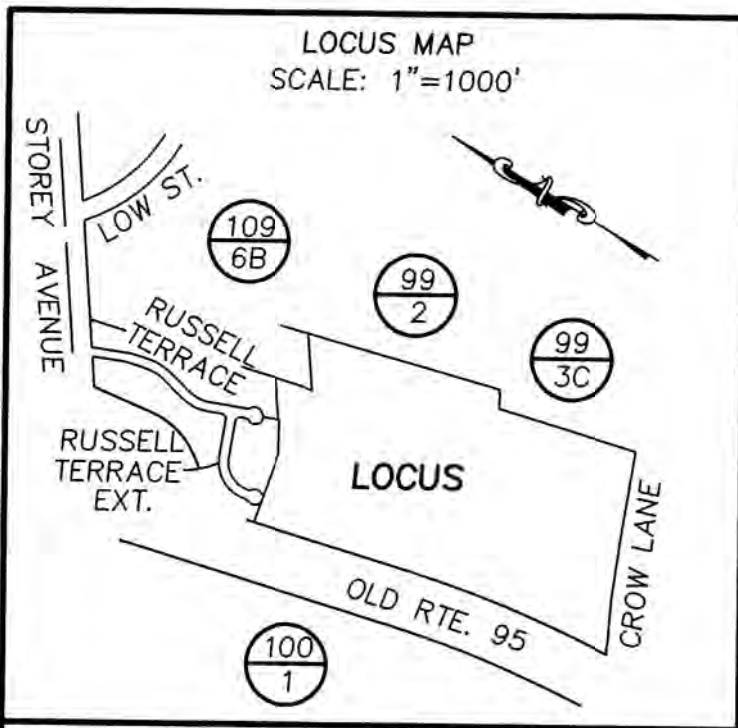
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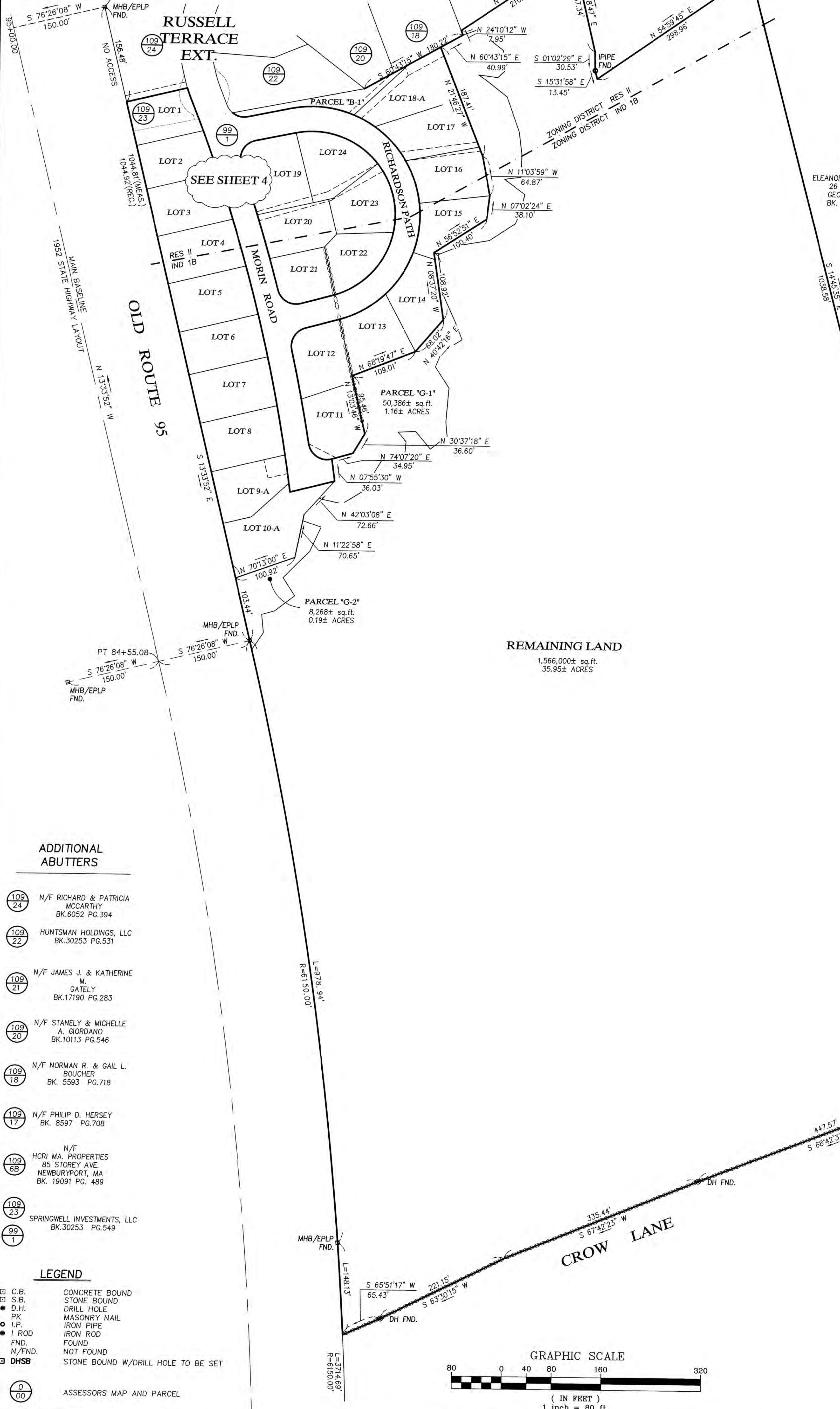
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CHECKED BY: E.W.B.
PROJECT: M112327
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OSRD DEFINITIVE PLAN
FOR LAND IN
NEWBURYPORT, MA
SHOWING
PROPOSED SUBDIVISION MODIFICATION
AT
RUSSELL TERRACE EXTENSION

BUILDING FOOTPRINTS



NOTES:
 1. THIS PLAN DOES NOT SHOW ANY UNRECORDED OR UNWRITTEN EASEMENTS WHICH MAY EXIST. A REASONABLE AND DILIGENT ATTEMPT HAS BEEN MADE TO OBSERVE ANY APPARENT, VISIBLE USES OF THE LAND; HOWEVER, THIS DOES NOT CONSTITUTE A GUARANTEE THAT NO SUCH EASEMENTS EXIST.



1952 STATE HIGHWAY L.O.
 N/F ELEANOR J. WOODMAN TR. 26 JACKMAN ST. GEORGETOWN, MA BK. 19275 PG. 361

FOR REGISTRY USE
 NEWBURYPORT PLANNING BOARD APPROVAL

[Signatures]
 DATE 8/17/11

CITY/TOWN CLERK:
 I HEREBY CERTIFY THAT NO APPEAL HAS BEEN FILED WITHIN THE 21 DAYS AS PRESCRIBED BY MASS. GENERAL LAWS CHAPTER 41 SECTION 81-88.

[Signatures]
 CITY/TOWN CLERK DATE

BASIS OF BEARINGS
 PLAN ENTITLED "OSRD DEFINITIVE PLAN FOR LAND IN NEWBURYPORT, MASSACHUSETTS" SHOWING A PROPOSED SUBDIVISION DATED: JUNE 14, 2006 REV: 9-25-08 REV: MILLENNIUM ENGINEERING, INC. RECORDED IN ESSEX SOUTH REGISTRY OF DEEDS AS PLAN BK. 427 PLAN 86

OWNER OF RECORD
 SPRINGWELL INVESTMENTS, LLC BK.30253 PG.549

PLAN REFERENCE
 PLAN BOOK 411 PLAN 32
 PLAN BOOK 427 PLAN 86

ZONING DISTRICT(S)
 R2 - RESIDENTIAL 2
 IND 1B(ROD) INDUSTRIAL 1B (RESIDENTIAL OVERLAY DISTRICT)

99/3C
 N/F GERALDINE COLBY CROW LANE REALTY TR. 185 LOW ST. NEWBURYPORT, MA BK. 10443 PG. 356

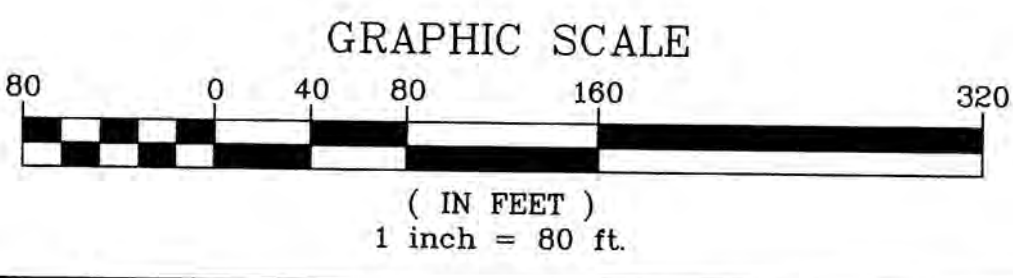
REMAINING LAND
 1,566,000± sq.ft.
 35.95± ACRES

ADDITIONAL ABUTTERS

- 109/24 N/F RICHARD & PATRICIA MCCARTHY BK.6052 PG.394
- 109/22 HUNTSMAN HOLDINGS, LLC BK.30253 PG.531
- 109/21 N/F JAMES J. & KATHERINE M. GATELY BK.17190 PG.283
- 109/20 N/F STANELY & MICHELLE A. GIORDANO BK.10113 PG.546
- 109/18 N/F NORMAN R. & GAIL L. BOUCHER BK. 5593 PG.718
- 109/17 N/F PHILIP D. HERSEY BK. 8597 PG.708
- 109/6B N/F HCR/ MA. PROPERTIES 85 STOREY AVE. NEWBURYPORT, MA BK. 19091 PG. 489
- 109/23 SPRINGWELL INVESTMENTS, LLC BK.30253 PG.549
- 99/1

LEGEND

- C.B. CONCRETE BOUND
- S.B. STONE BOUND
- D.H. DRILL HOLE
- PK. MASONRY NAIL
- I.P. IRON PIPE
- I.R.O.D. IRON ROD
- FND. FOUND
- N/FND. NOT FOUND
- DHSB. STONE BOUND W/DRILL HOLE TO BE SET
- 0/00 ASSESSORS MAP AND PARCEL



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REGISTERED PROFESSIONAL LAND SURVEYOR DATE 8-1-11

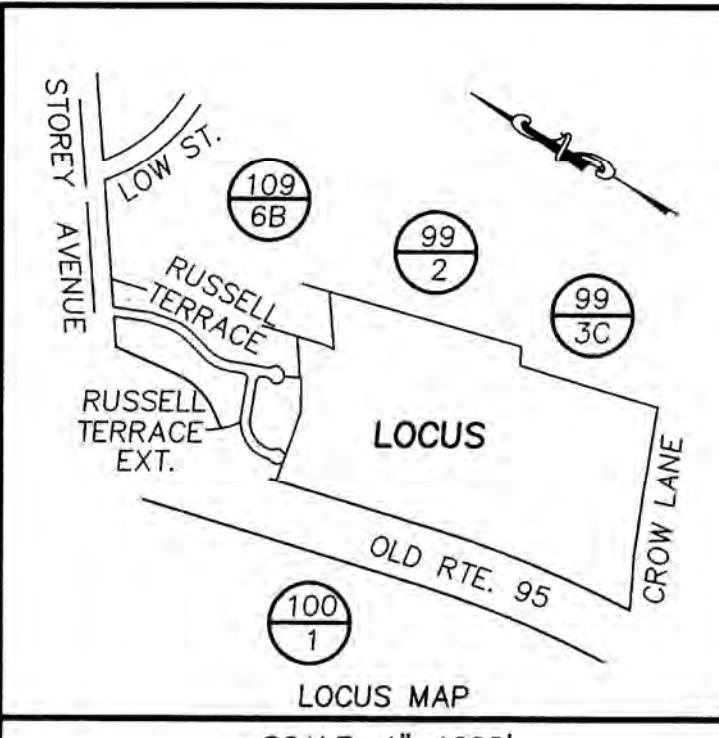
PREPARED FOR
SPRINGWELL INVESTMENTS, LLC
 11 LAFAYETTE ROAD P.O. BOX 1297
 N. HAMPTON, NH 03862

NO.	DATE	DESCRIPTION	BY
4	8/1/11	FINAL SUBMITTAL	C.M.Y.
3	6/16/11	ADDRESS REVIEWERS' COMMENTS	S.J.R.
2	5/26/11	ADDRESS REVIEWERS' COMMENTS	S.J.R.
1	5/03/11	ADDRESS REVIEWERS' COMMENTS	S.J.R.

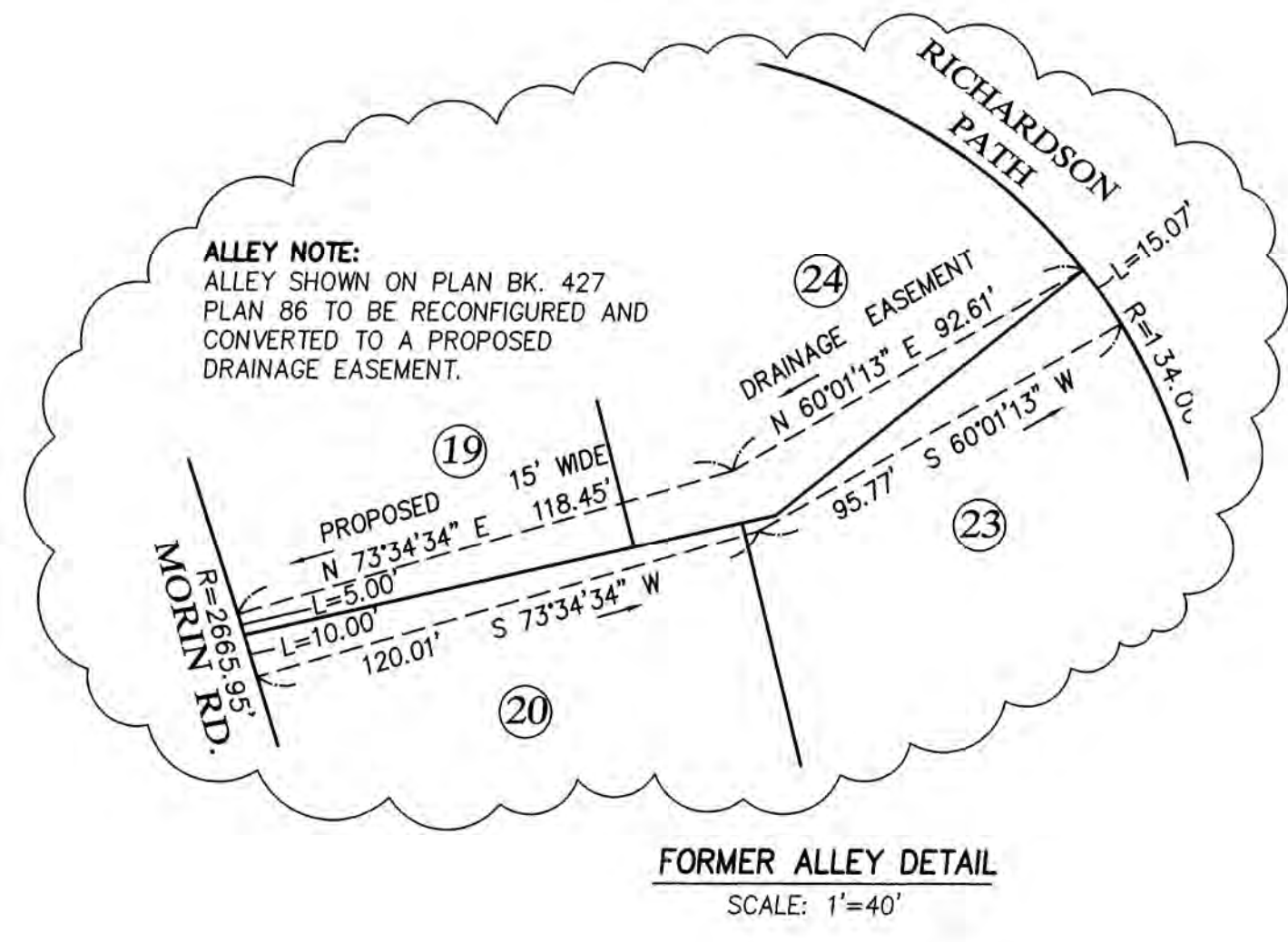
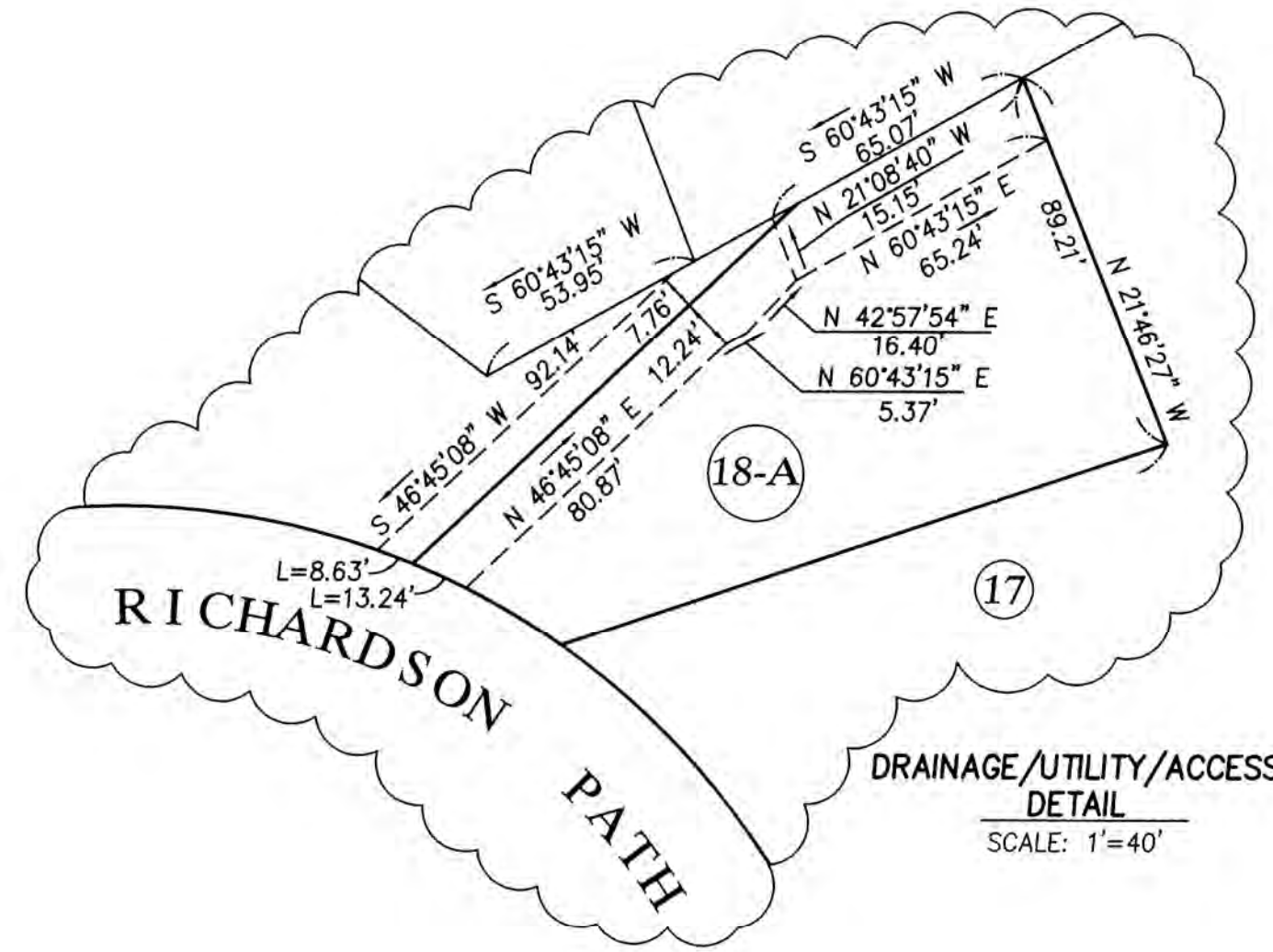
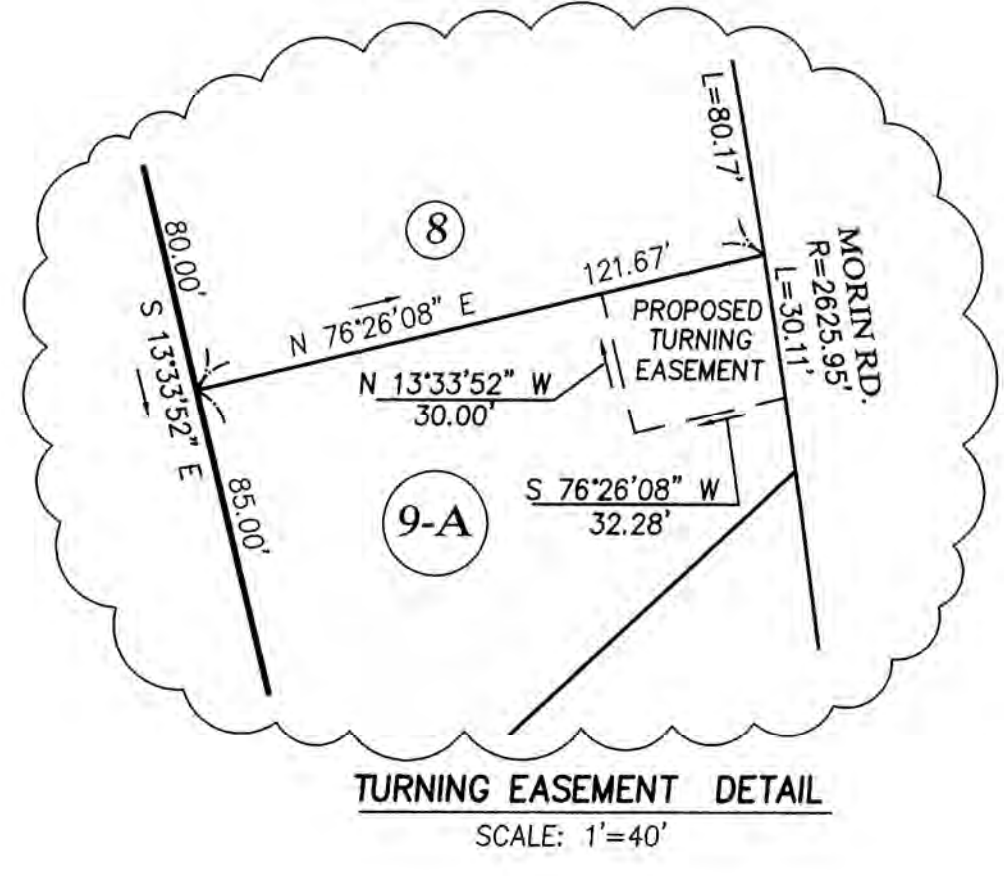
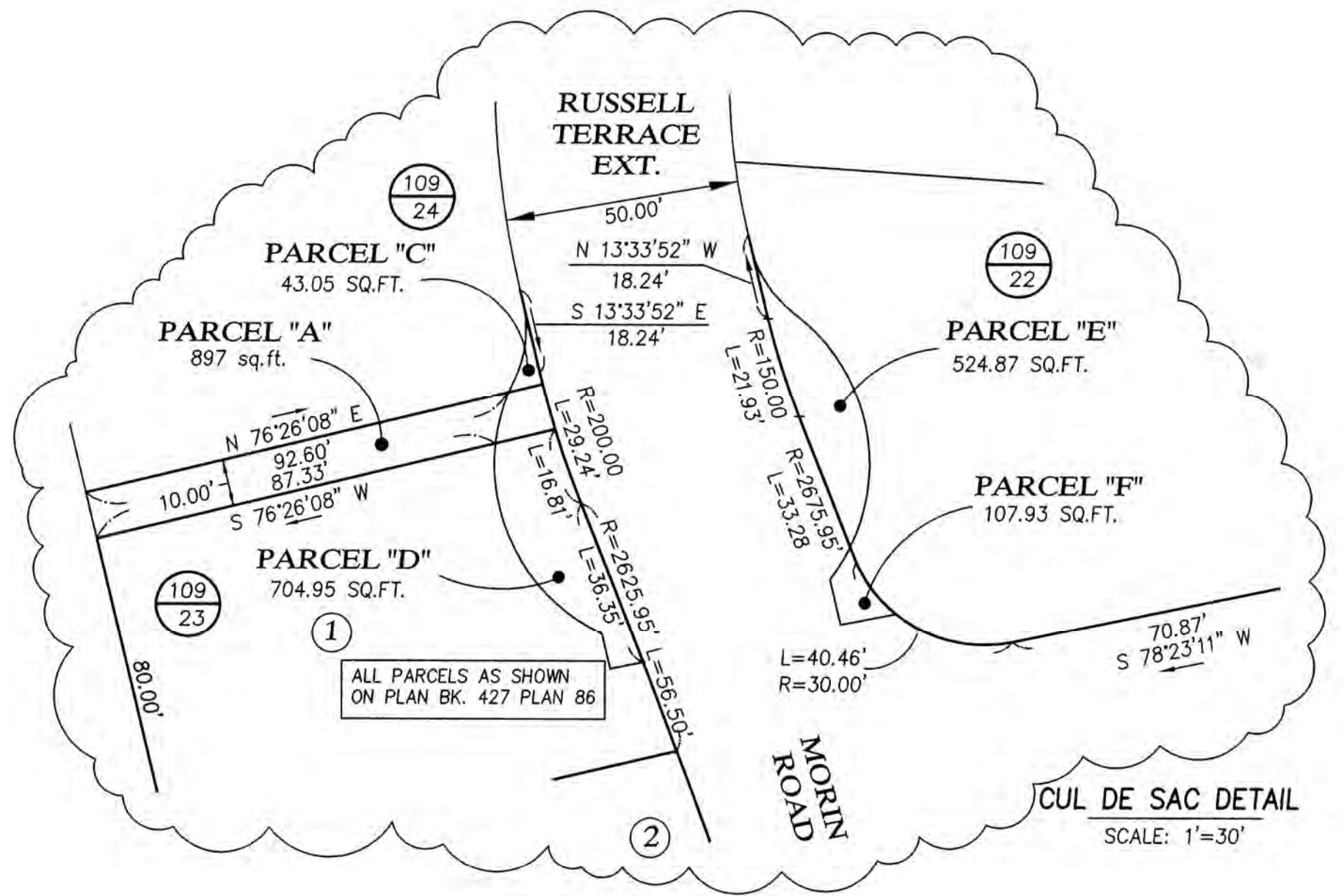
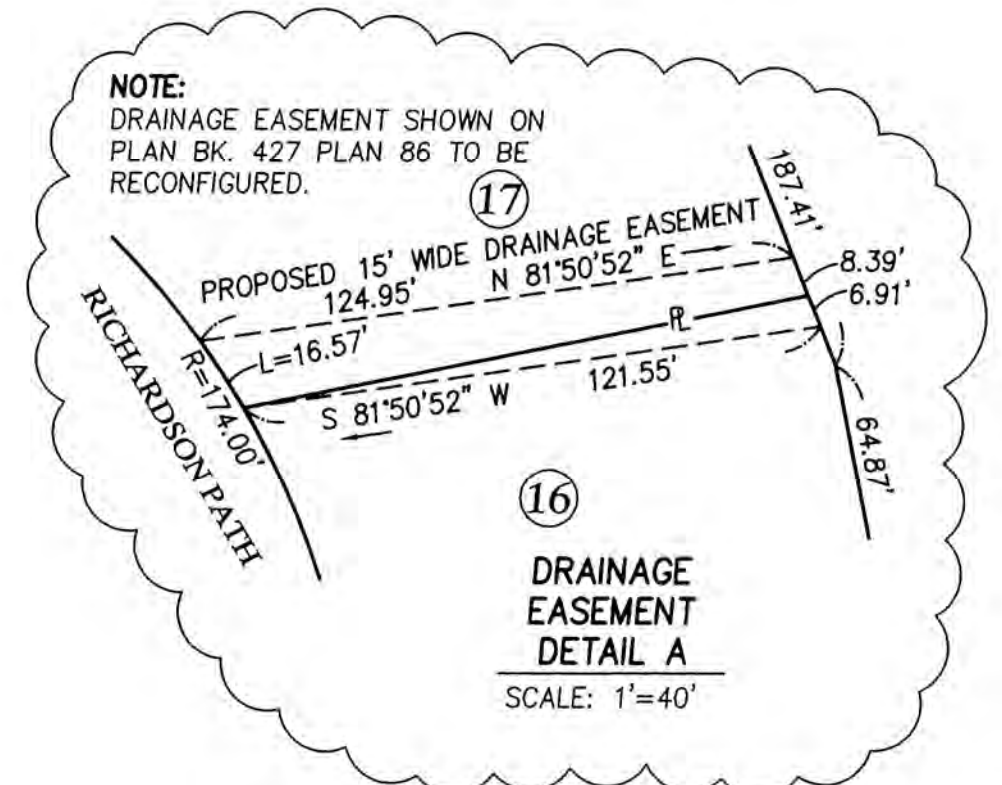
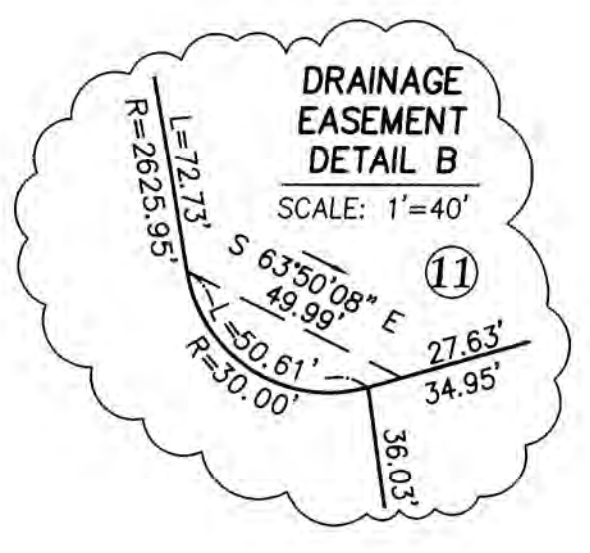
MILLENNIUM ENGINEERING, INC.
 ENGINEERING AND LAND SURVEYING
 62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
 13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528
 SCALE: 1"=80'
 DATE: MAR. 9, 2011
 PROJECT: M112327
 SHEET: 3 OF 25

OSRD DEFINITIVE PLAN
 FOR LAND IN
NEWBURYPORT, MA
 SHOWING
PROPOSED SUBDIVISION MODIFICATION
 AT
RUSSELL TERRACE EXTENSION

SUBDIVISION MODIFICATION



LOCUS MAP
SCALE: 1"=1000'



- NOTES:
- THIS PLAN DOES NOT SHOW ANY UNRECORDED OR UNWRITTEN EASEMENTS WHICH MAY EXIST. A REASONABLE AND DILIGENT ATTEMPT HAS BEEN MADE TO OBSERVE ANY APPARENT, VISIBLE USES OF THE LAND; HOWEVER, THIS DOES NOT CONSTITUTE A GUARANTEE THAT NO SUCH EASEMENTS EXIST.
 - WETLANDS FLAGGED BY SEEKAMP ENVIRONMENTAL CONSULTING, INC. 6/3/04, UPDATED 12/13/04, LINE AS SHOWN HEREON VERIFIED BY SEEKAMP ENVIRONMENTAL 1/05.
 - PARCEL B-1 AS SHOWN ON THIS PLAN SHALL BE COMBINED WITH 7 RUSSELL TERRACE WHICH SHALL IN TURN BE SUBDIVIDED INTO TWO 10,000 S.F. LOTS BY ANR AT A LATER DATE. LOT B-1 IS COMPRISED OF LOT B (PLAN BK.427 PLAN 86) AND 383 S.F. FROM RECONFIGURED LOT 18.
 - PRIOR TO ANY OF THE FOLLOWING PARCEL CONVEYANCES THE DISCONTINUANCE OF THAT PORTION OF RUSSELL TERRACE BEING SUBDIVIDED SHALL BE APPROVED BY THE CITY OF NEWBURYPORT.
 - PARCEL "A" IS NOT A BUILDABLE LOT AND SHALL BE CONVEYED TO THE CITY OF NEWBURYPORT FOR THE PURPOSE OF PUBLIC ACCESS.
 - PARCEL "C" TO BE CONVEYED AND COMBINED WITH THE OWNER(S) OF ASSESSORS MAP 109, LOT 24
 - PARCEL "D" TO BE CONVEYED AND COMBINED WITH LOT 1.
 - PARCEL "E" TO BE CONVEYED AND COMBINED WITH THE OWNER(S) OF ASSESSORS MAP 109, LOT 22
 - PARCEL "F" TO BE CONVEYED TO THE CITY OF NEWBURYPORT AND BECOME PART OF THE NEW RIGHT OF WAY.
 - PARCEL "G-1" AND "G-2" TO BE CONVEYED TO THE HOME OWNERS ASSOCIATION, HOME OWNERS ASSOCIATION TO MAINTAIN PARCEL.
 - LOT 9 LOT 10 AND LOT 18 HAVE BEEN RECONFIGURED.
 - EXISTING 15' WIDE DRAINAGE EASEMENT ABUTTING OLD RTE. 95, TO BE ELIMINATED.

TOTAL PROJECT PARCEL AREA= 43.5± ACRES
 LOT & R.O.W. PARCEL AREA= 6.3± ACRES
 OPEN SPACE & PARCEL "G-1" AND "G-2" AREA= 37.3± ACRES
 86% OF TOTAL PROJECT PARCEL INCL. HOME OWNERS PARCEL

- LEGEND**
- C.B. CONCRETE BOUND
 - S.B. STONE BOUND
 - D.H. DRILL HOLE
 - PK MASONRY NAIL
 - I.P. IRON PIPE
 - I. ROD IRON ROD
 - FND. FOUND
 - N/FND. NOT FOUND
 - DHSB STONE BOUND W/DRILL HOLE TO BE SET
- 0/00 ASSESSORS MAP AND PARCEL

1952 STATE HIGHWAY L.O.

BASIS OF BEARINGS
 PLAN ENTITLED "OSRD DEFINITIVE PLAN FOR LAND IN NEWBURYPORT, MASSACHUSETTS" SHOWING A PROPOSED SUBDIVISION DATED: JUNE 14, 2006 REV: 9-25-08 BY: MILLENNIUM ENGINEERING, INC. RECORDED IN ESSEX SOUTH REGISTRY OF DEEDS AS PLAN BK. 427 PLAN 86

OWNER OF RECORD
 SPRINGWELL INVESTMENTS, LLC
 BK.30253 PG.549

PLAN REFERENCE
 PLAN BOOK 411 PLAN 32
 PLAN BOOK 427 PLAN 86

ZONING DISTRICT(S)
 R2 - RESIDENTIAL 2
 IND 1B(ROD) INDUSTRIAL 1B
 (RESIDENTIAL OVERLAY DISTRICT)

FOR REGISTRY USE
 NEWBURYPORT PLANNING BOARD APPROVAL

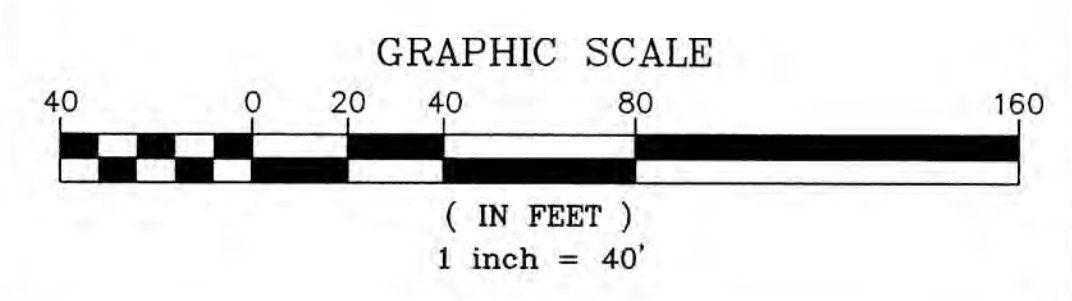
[Signatures]
 DATE: 8/10/11

CITY/TOWN CLERK:
 I HEREBY CERTIFY THAT NO APPEAL HAS BEEN FILED WITHIN THE 21 DAYS AS PRESCRIBED BY MASS. GENERAL LAWS CHAPTER 41 SECTION 81-88.
[Signature]
 CITY/TOWN CLERK DATE

DATUM
 BM ID: 15930 (N.G.V.D. 1929)
 STATION: 4867
 MAGS DISK, ON THE NORTHWEST END OF THE STOREY AVENUE, (ROUTE 135) BRIDGE OVER I-95.
 ELE.= 92.193' (PUBLISHED)
 TBM #1
 SPK SET #1 UP IN UPOLE # 198/9
 ELE.= 70.28'

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEEDS REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT TOWN/CITY ASSESSORS RECORDS.
 I CERTIFY THAT THIS ACTUAL SURVEY WAS MADE ON THE GROUND BETWEEN 1996 & JUNE 2006
 THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTER OF DEEDS.

[Signature]
 STEPHEN RUSSO
 No. 35414
 PROFESSIONAL SURVEYOR
 REGISTERED PROFESSIONAL LAND SURVEYOR DATE: 8-1-11



PREPARED FOR
 SPRINGWELL INVESTMENTS, LLC
 11 LAFAYETTE ROAD P.O. BOX 1297
 N. HAMPTON, NH 03862

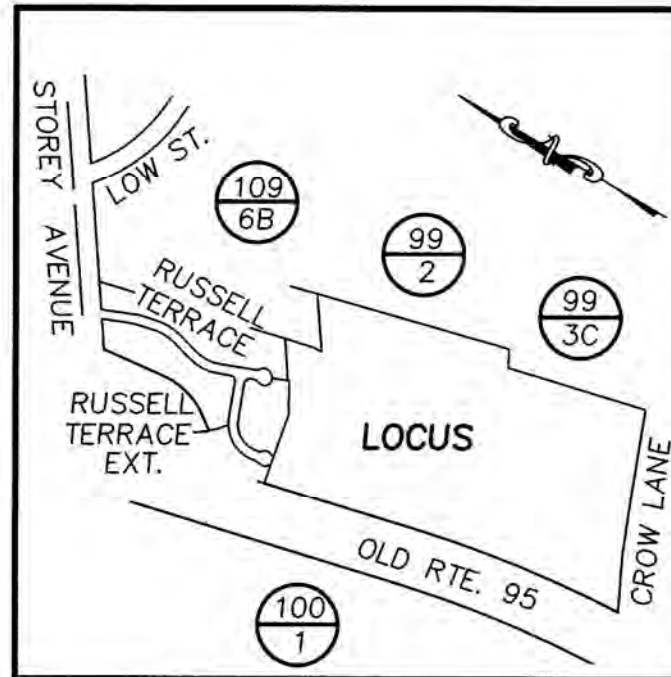
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1	5/03/11	ADDRESS REVIEWERS' COMMENTS	S.J.R.

MILLENNIUM ENGINEERING, INC.
 ENGINEERING AND LAND SURVEYING
 62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
 13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528
 SCALE: 1"=40'
 DATE: MAR. 9, 2011

OSRD DEFINITIVE PLAN
 FOR LAND IN
 NEWBURYPORT, MA
 SHOWING
 PROPOSED SUBDIVISION MODIFICATION
 AT
 RUSSELL TERRACE EXTENSION

SUBDIVISION EASEMENT DETAILS

PROJECT: M112327
 SHEET: 5 OF 25



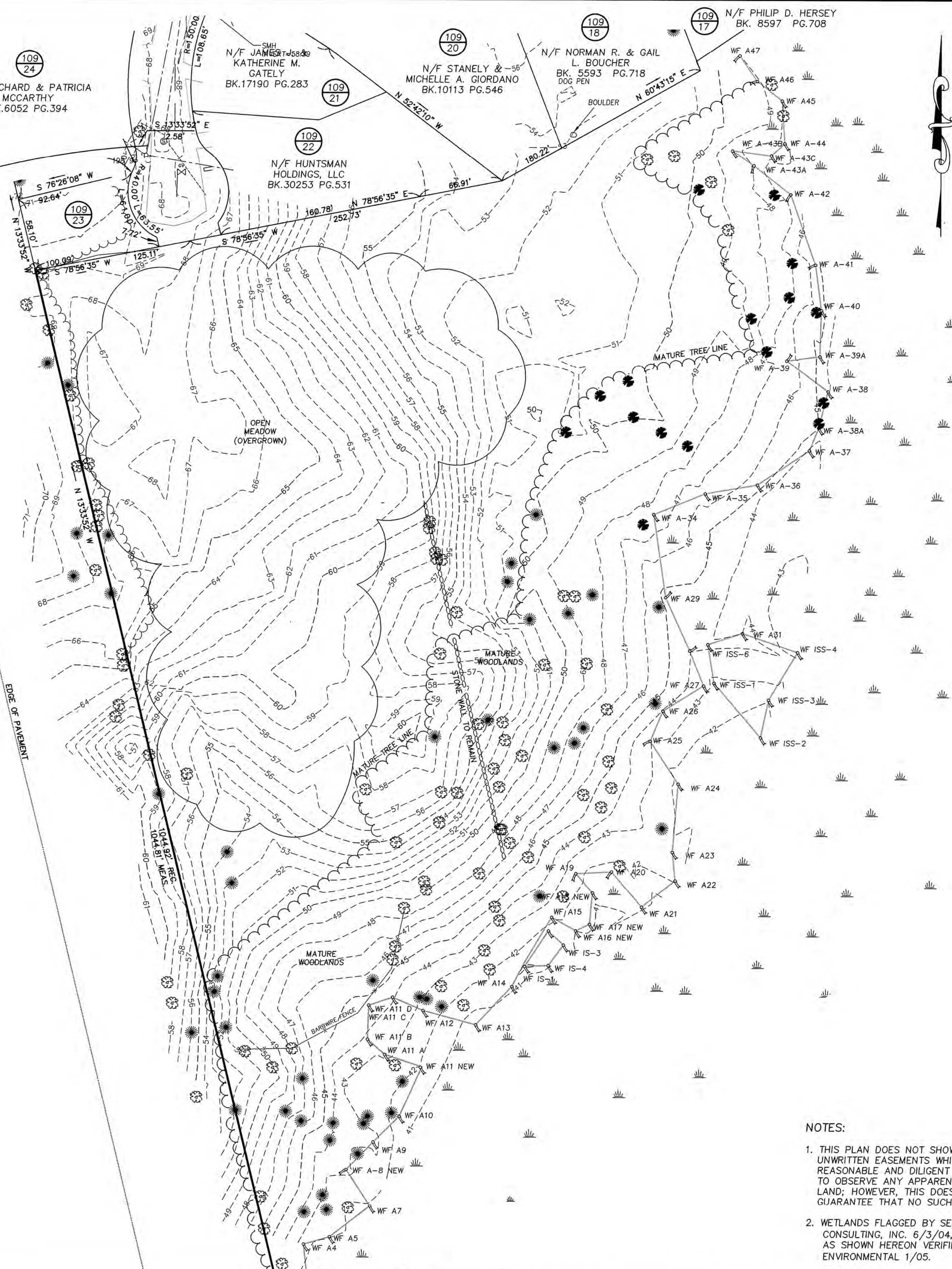
LOCUS MAP
SCALE: 1"=1000'

ADDITIONAL ABUTTERS

- N/F HCR MA. PROPERTIES
85 STOREY AVE.
NEWBURYPORT, MA
BK. 13091 PG. 489
- SPRINGWELL INVESTMENTS, LLC
BK. 30253 PG. 549

TBM#1
ELEV.=70.28
SPK SET IN
UPOLE #198/9

ROUTE 95



DATUM
BM ID: 15930 (N.G.V.D. 1929)
STATION: 4867
MAGS DISK, ON THE NORTHWEST END OF THE
STOREY AVENUE (ROUTE 135) BRIDGE OVER
I-95.
ELE.= 92.193' (PUBLISHED)
TBM #1
SPK SET 1' UP IN UPOLE # 198/9
ELE.=70.28'

NEWBURYPORT PLANNING BOARD APPROVAL
[Signatures]
DATE

FOR REGISTRY USE

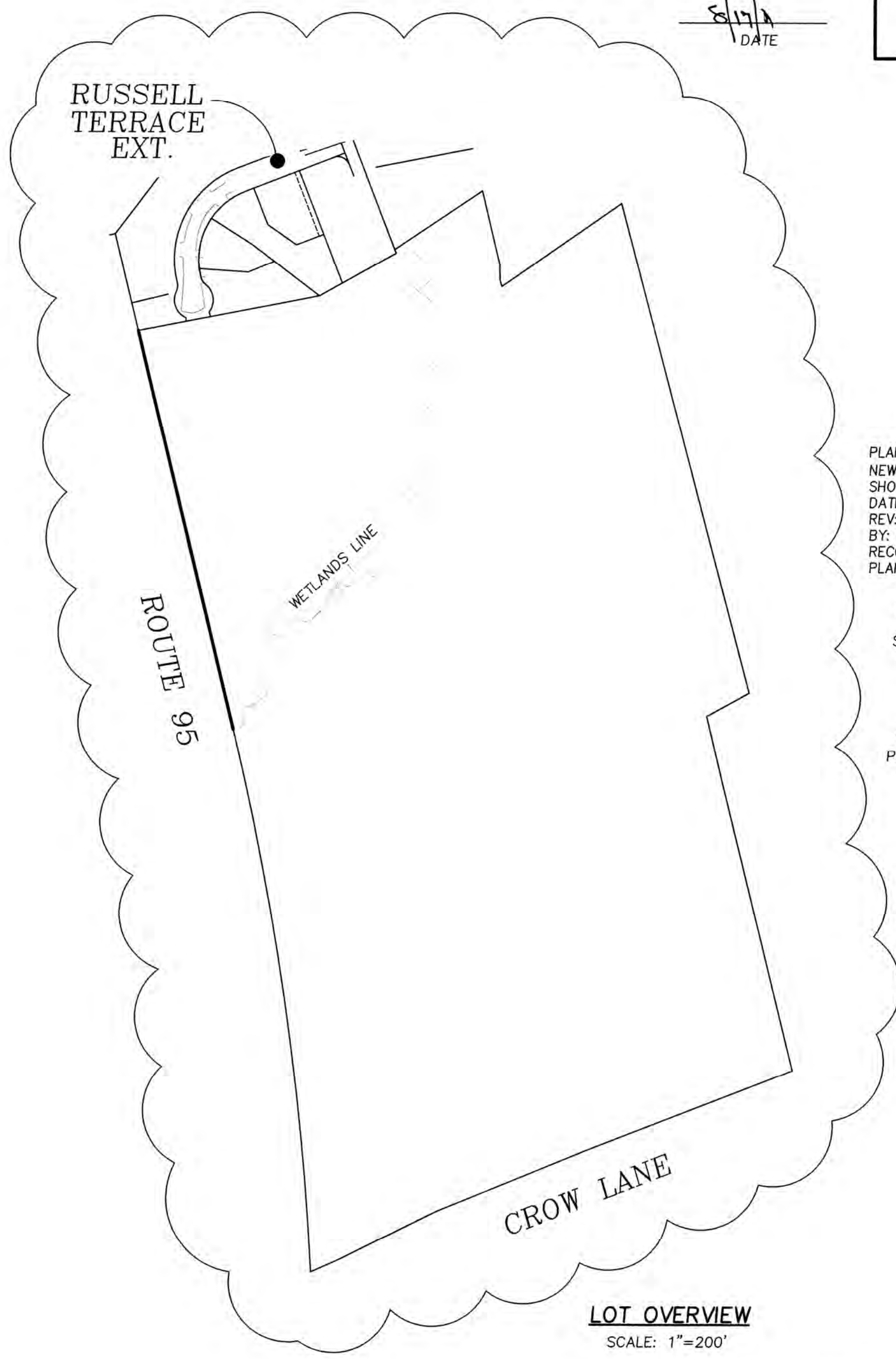
CITY/TOWN CLERK:
I HEREBY CERTIFY THAT NO
APPEAL HAS BEEN FILED WITHIN
THE 21 DAYS AS PRESCRIBED
BY MASS. GENERAL LAWS CHAPTER
41 SECTION 81-88.
[Signature] DATE

BASIS OF BEARINGS
PLAN ENTITLED "OSRD DEFINITIVE PLAN FOR LAND IN
NEWBURYPORT, MASSACHUSETTS"
SHOWING A PROPOSED SUBDIVISION
DATED: JUNE 14, 2006
REV: 9-25-08
BY: MILLENNIUM ENGINEERING, INC.
RECORDED IN ESSEX SOUTH REGISTRY OF DEEDS AS
PLAN BK. 427 PLAN 86

OWNER OF RECORD
SPRINGWELL INVESTMENTS,
LLC
BK. 30253 PG. 549

PLAN REFERENCE
PLAN BK. 427 PLAN 86

ZONING DISTRICT(S)
R2 - RESIDENTIAL 2
IND 1B(ROD) INDUSTRIAL 1B
(RESIDENTIAL OVERLAY DISTRICT)



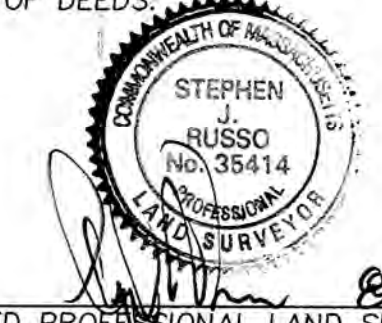
LOT OVERVIEW
SCALE: 1"=200'

LEGEND

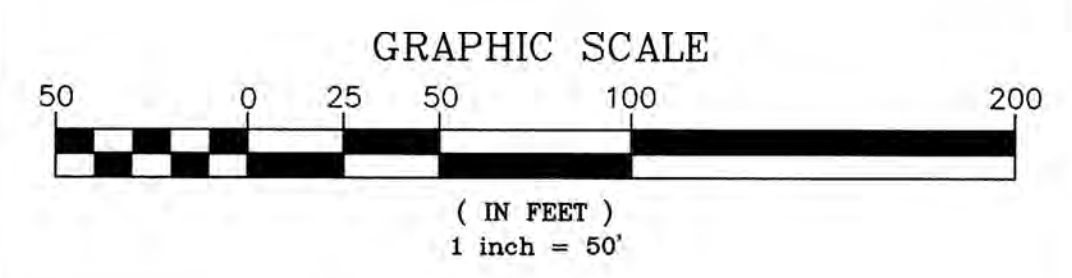
- CONCRETE BOUND
- STONE BOUND
- DRILL HOLE
- MASONRY NAIL
- IRON PIPE
- IRON ROD
- FOUND
- NOT FOUND
- ASSESSORS MAP AND PARCEL

- NOTES:**
- THIS PLAN DOES NOT SHOW ANY UNRECORDED OR UNWRITTEN EASEMENTS WHICH MAY EXIST. A REASONABLE AND DILIGENT ATTEMPT HAS BEEN MADE TO OBSERVE ANY APPARENT, VISIBLE USES OF THE LAND; HOWEVER, THIS DOES NOT CONSTITUTE A GUARANTEE THAT NO SUCH EASEMENTS EXIST.
 - WETLANDS FLAGGED BY SEEKAMP ENVIRONMENTAL CONSULTING, INC. 6/3/04, UPDATED 12/13/04. LINE AS SHOWN HEREON VERIFIED BY SEEKAMP ENVIRONMENTAL 1/05.

I CERTIFY:
THAT THIS ACTUAL SURVEY WAS MADE ON THE
GROUND ON BETWEEN 2004 AND 2006 AND
THAT THE STRUCTURES ARE LOCATED AS SHOWN.
THAT THIS PLAN CONFORMS TO THE
RULES AND REGULATIONS OF THE
REGISTER OF DEEDS.



REGISTERED PROFESSIONAL LAND SURVEYOR DATE



PREPARED FOR
SPRINGWELL INVESTMENTS, LLC
11 LAFAYETTE ROAD P.O. BOX 1297
N. HAMPTON, NH 03862

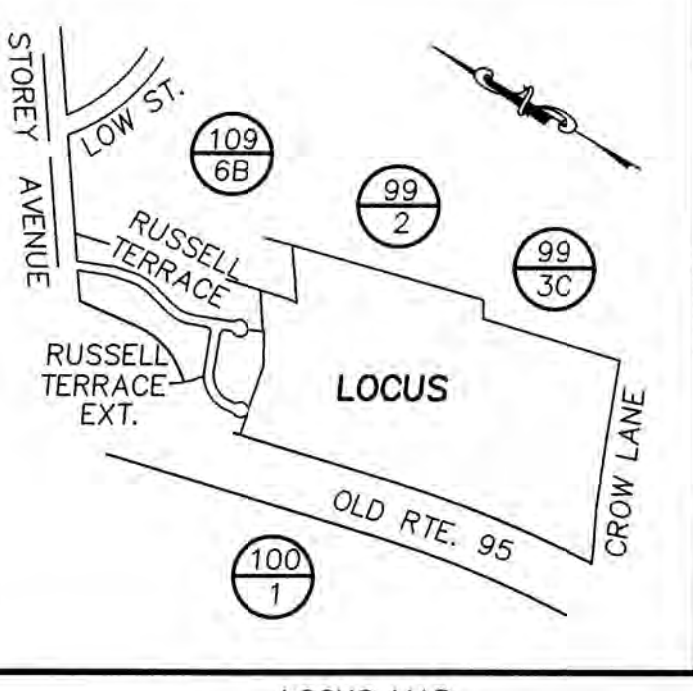
NO.	DATE	DESCRIPTION	BY
4	8/1/11	FINAL SUBMITTAL	C.M.Y.
3	6/16/11	ADDRESS REVIEWERS' COMMENTS	C.M.Y.
2	5/26/11	ADDRESS REVIEWERS' COMMENTS	C.M.Y.
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MILLENNIUM ENGINEERING, INC.
ENGINEERING AND LAND SURVEYING
62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528

SCALE: 1"=50' DATE: MAR. 9, 2011
CALC. BY: P.J.M. CHKD. BY: S.J.R.
PROJECT: M112327 SHEET: 6 OF 25

OSRD DEFINITIVE PLAN
FOR LAND IN
NEWBURYPORT, MA
SHOWING
PROPOSED SUBDIVISION MODIFICATION
AT
RUSSELL TERRACE EXTENSION

EXISTING CONDITIONS

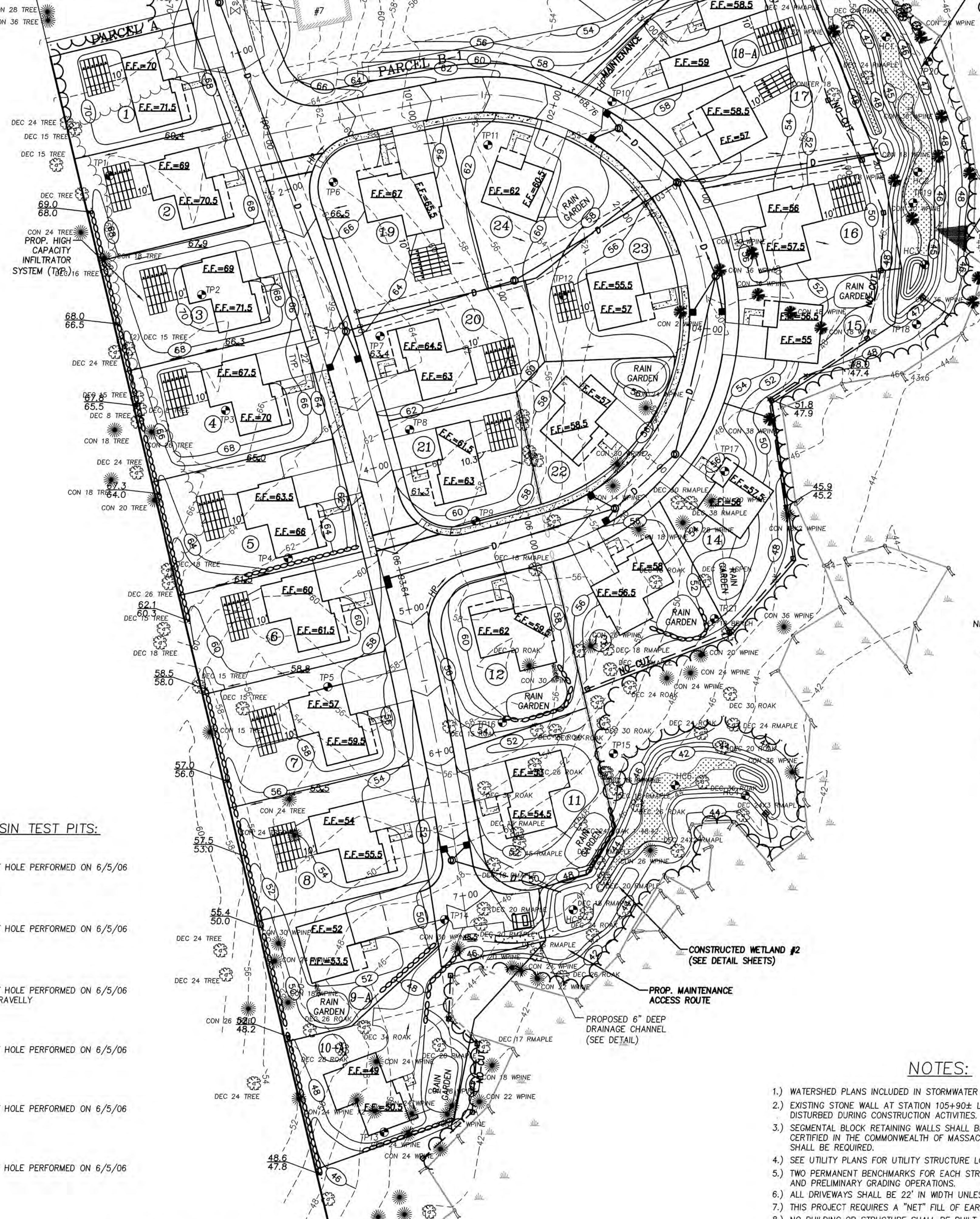


100' BUFFER ZONE IMPACT

ROADWAY = 6,145 S.F.±
 BUILDINGS = 7,850 S.F.±
 DRIVEWAYS = 1,545 S.F.±
 LOTS = 48,860 S.F.±
 STORMWATER = 23,600 S.F.±
 TOTAL = 93,000 S.F.±

LOCUS MAP
 SCALE: 1"=1000'

TBM#1
 ELEV.=70.28
 SPK SET IN
 UPOLE #198/9



FOR REGISTRY USE ONLY

PROPOSED WETLAND MITIGATION AREA=415 S.F. ±

CONSTRUCTED WETLAND #1 (SEE DETAIL SHEETS)

PROPOSED WETLAND IMPACT=190 S.F. ±

NEWBURYPORT PLANNING BOARD APPROVAL

[Signature]
[Signature]
 8/12/11
 DATE

CITY/TOWN CLERK:
 I HEREBY CERTIFY THAT NO APPEAL HAS BEEN FILED WITHIN THE 21 DAYS AS PRESCRIBED BY MASS. GENERAL LAWS CHAPTER 41 SECTION 81-88.

[Signature] *[Signature]*
 CITY/TOWN CLERK DATE

- DETENTION BASIN TEST PITS:**
- HC1 TEST PIT NOTES:
 -HAND AUGURED TEST HOLE PERFORMED ON 6/5/06
 -FINE LOOSE SAND
 -WEEPING AT 20"
 -ESHWT AT 24"
 - HC2 TEST PIT NOTES:
 -HAND AUGURED TEST HOLE PERFORMED ON 6/5/06
 -FINE LOOSE SAND
 -WEEPING AT 26"
 -ESHWT AT 34"
 - HC3 TEST PIT NOTES:
 -HAND AUGURED TEST HOLE PERFORMED ON 6/5/06
 -FINE LOOSE SAND, GRAVELLY
 -WEEPING AT 22"
 -ESHWT AT 34"
 - HC4 TEST PIT NOTES:
 -HAND AUGURED TEST HOLE PERFORMED ON 6/5/06
 -FINE LOOSE SAND
 -WEEPING AT 12"
 -ESHWT AT 12"
 - HC5 TEST PIT NOTES:
 -HAND AUGURED TEST HOLE PERFORMED ON 6/5/06
 -SILT LOAM, FIRM
 -WEEPING AT 16"
 -ESHWT AT 33"
 - HC6 TEST PIT NOTES:
 -HAND AUGURED TEST HOLE PERFORMED ON 6/5/06
 -SILT LOAM, FIRM
 -WEEPING AT 22"
 -ESHWT AT 28"

INFILTRATION TABLE

LOT	UNIT	SIZE	EXIST. ELEV.	ESHWT ELEV.	BOTTOM ELEV.	FINISH GRADE	INV. AT HOUSE	INV. AT UNIT
1	INFILTRATOR	456 SF	68.8	38"/65.6	67.6	70.1	68.6	68.5
2	INFILTRATOR	533 SF	67.0	38"/63.8	65.8	68.3	66.8	66.7
3	INFILTRATOR	533 SF	67.3	29"/64.9	66.9	69.4	67.9	67.8
4	INFILTRATOR	533 SF	66.3	33"/63.6	65.6	68.1	66.6	66.5
5	INFILTRATOR	533 SF	63.0	38"/59.8	61.8	64.3	62.8	62.7
6	INFILTRATOR	533 SF	56.8	39"/54.6	56.6	59.1	57.6	57.5
7	INFILTRATOR	533 SF	55.8	40"/52.5	54.5	57.0	55.5	55.4
8	INFILTRATOR	533 SF	52.0	36"/49.0	51.0	53.5	52.0	51.9
9	RAINGARDEN	513 SF	49.0	35"/46.1	48.1	51.1	N/A	N/A
10	RAINGARDEN	684 SF	43.0	16"/41.7	43.7	46.7	46.8	46.7
11	RAINGARDEN	684 SF	47.0	28"/44.7	46.7	49.7	49.8	49.7
12	RAINGARDEN	684 SF	57.0	30"/55.5	57.5	60.5	N/A	N/A
13	RAINGARDEN	684 SF	49.0	22"/47.2	49.2	52.2	52.3	52.2
14	RAINGARDEN	513 SF	47.0	22"/45.2	47.2	50.2	50.4	50.2
15	RAINGARDEN	513 SF	48.5	34"/45.7	47.7	50.7	50.8	50.7
16	INFILTRATOR	456 SF	49.0	36"/46.0	48.0	50.5	49.0	48.9
17	INFILTRATOR	379 SF	50.1	25"/48.0	50.0	52.5	51.0	50.9
18	INFILTRATOR	679 SF	50.5	16"/49.2	51.2	52.2	52.1	52.1
19	INFILTRATOR	533 SF	62.0	42"/58.5	60.5	63.0	61.4	61.5
20	INFILTRATOR	533 SF	60.5	42"/57.0	59.0	61.5	60.0	59.9
21	INFILTRATOR	456 SF	60.0	41"/56.6	58.6	61.1	59.6	59.5
22	RAINGARDEN	620 SF	50.5	34"/47.7	52.0	55.0	55.1	55.0
23	INFILTRATOR	379 SF	54.0	36"/51.0	53.0	55.5	54.0	53.9
24	RAINGARDEN	513 SF	51.5	36"/48.5	55.0	58.0	58.1	58.0

THE REGISTERS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEEDS REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT TOWN/CITY ASSESSORS RECORDS.

I CERTIFY:
 THAT THIS ACTUAL SURVEY WAS MADE ON THE GROUND BETWEEN 1996 & JUNE 2006

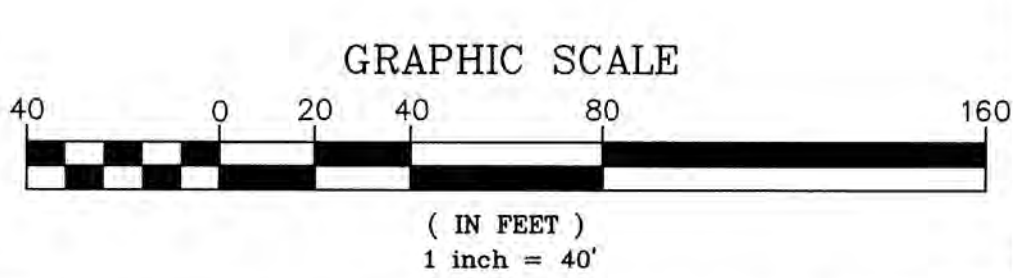
THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTER OF DEEDS.



REGISTERED PROFESSIONAL LAND SURVEYOR DATE

NOTES:

1. WATERSHED PLANS INCLUDED IN STORMWATER MANAGEMENT REPORT.
2. EXISTING STONE WALL AT STATION 105+90.4 LT & RT (RICHARDSON PATH) SHALL NOT BE DISTURBED DURING CONSTRUCTION ACTIVITIES.
3. SEGMENTAL BLOCK RETAINING WALLS SHALL BE DESIGNED BY A STRUCTURAL ENGINEER CERTIFIED IN THE COMMONWEALTH OF MASSACHUSETTS AND SHOP DRAWING SUBMITTALS SHALL BE REQUIRED.
4. SEE UTILITY PLANS FOR UTILITY STRUCTURE LOCATIONS.
5. TWO PERMANENT BENCHMARKS FOR EACH STREET SHALL BE SET FOLLOWING SITE CLEARING AND PRELIMINARY GRADING OPERATIONS.
6. ALL DRIVEWAYS SHALL BE 22' IN WIDTH UNLESS OTHERWISE INDICATED ON THIS PLAN.
7. THIS PROJECT REQUIRES A "NET" FILL OF EARTH MATERIALS.
8. NO BUILDING OR STRUCTURE SHALL BE BUILT OR PLACED ON ANY LOT WITHOUT A PERMIT FROM THE HEALTH DEPARTMENT, IF SUCH A PERMIT IS REQUIRED.
9. FOUNDATION & RELATED DRIVEWAY LOCATIONS SHOWN ON THESE PLANS MAY REQUIRE ADJUSTMENT DURING CONSTRUCTION ACTIVITIES. FINAL LOCATIONS WILL BE IN CONFORMANCE WITH OSRD REGULATIONS FOR SETBACKS (50% OF EACH REQUIRED SETBACK FOR THE APPLICABLE ZONING DISTRICT SHALL BE MAINTAINED) AND/OR THE SETBACKS SHOWN ON THE APPROVED OSRD SUBDIVISION PLANS DATED SEPTEMBER 25, 2008 ON FILE AT THE ESSEX COUNTY REGISTRY OF DEEDS, WHICHEVER IS LESS.
10. INFILTRATION SYSTEM AND RAINGARDEN LOCATIONS FOR THE VARIOUS LOTS SHOWN ON THESE PLANS MAY REQUIRE RELOCATION WITHIN THE LOT TO ADDRESS UNDERLYING SOIL CONDITIONS AND FINAL BUILDING LOCATION. FINAL INFILTRATION SYSTEM AND RAINGARDEN LOCATIONS FOR THE LOTS WILL MEET THE SIZE, NUMBER AND MATERIAL REQUIREMENTS SHOWN IN THE INFILTRATION TABLE BELOW AND DETAIL SHEETS INCLUDED IN THESE PLANS.
11. PROPOSED GRADING ON THE PROJECT LOTS MAY VARY TO ADDRESS FINAL BUILDING, DRIVEWAY AND INFILTRATION SYSTEM/RAINGARDEN LOCATIONS BUT WILL BE IN SUBSTANTIAL CONFORMANCE TO THE OVERALL GRADING SHOWN ON THESE PLANS AND WILL DIRECT RUNOFF TO ITS INTENDED LOCATIONS.
12. THE CONTRACTOR SHALL ENSURE THAT GRADING AROUND THE PROPOSED DWELLINGS ALLOWS FOR POSITIVE PITCH AWAY FROM THE STRUCTURE.



PREPARED FOR
SPRINGWELL INVESTMENTS, LLC
 11 LAFAYETTE ROAD P.O. BOX 1297
 N. HAMPTON, NH 03862

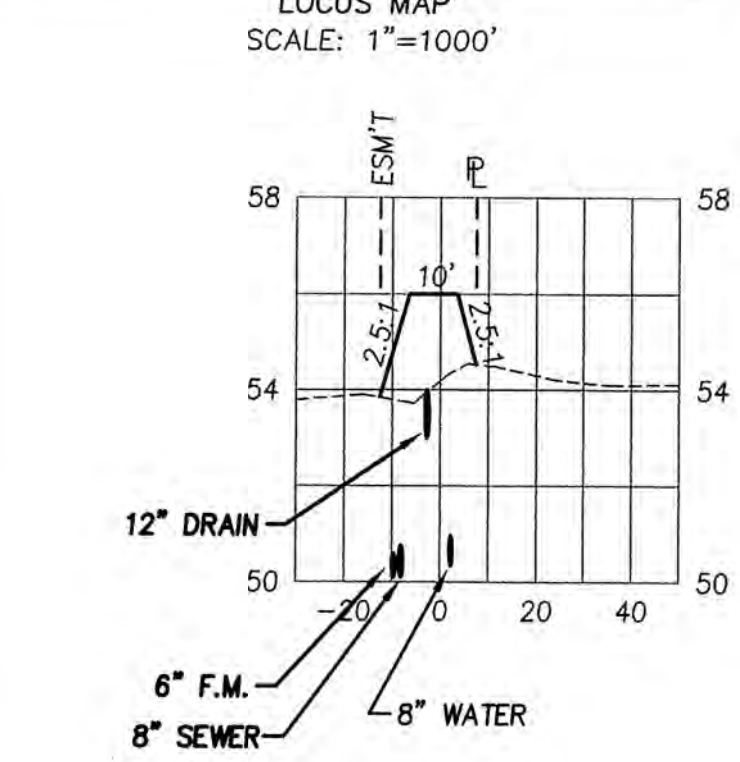
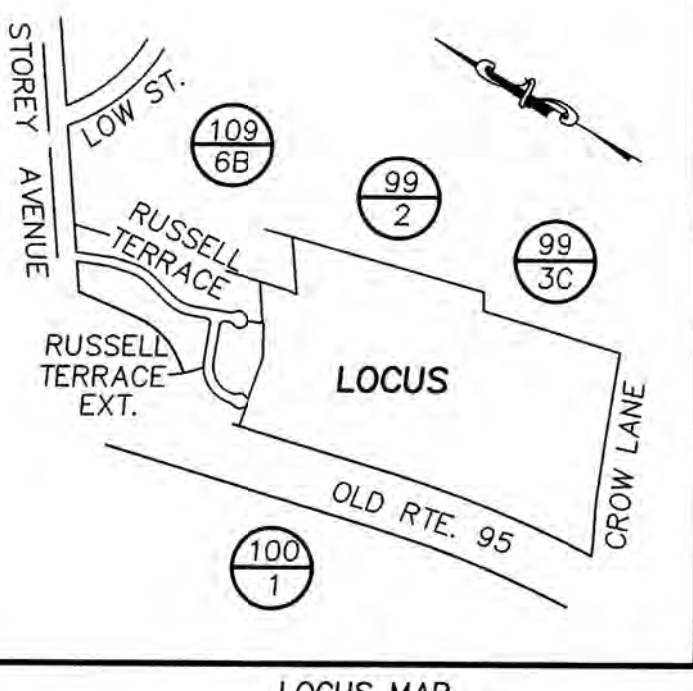
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1	5/03/11	ADDRESS REVIEWERS' COMMENTS	C.M.Y.

MEI **MILLENNIUM ENGINEERING, INC.**
 ENGINEERING AND LAND SURVEYING
 62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
 13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528

SCALE: 1"=40'
 DATE: MAR. 9, 2011
 DESG. BY: C.M.Y.
 CHKD. BY: E.W.B.
 PROJECT: M112327
 SHEET: 7 OF 25

OSRD DEFINITIVE PLAN
 FOR LAND IN
NEWBURYPORT, MA
 SHOWING
PROPOSED SUBDIVISION MODIFICATION
 AT
RUSSELL TERRACE EXTENSION

SITE PLAN



NEWBURYPORT PLANNING BOARD APPROVAL

[Signature]
[Signature]
[Signature]

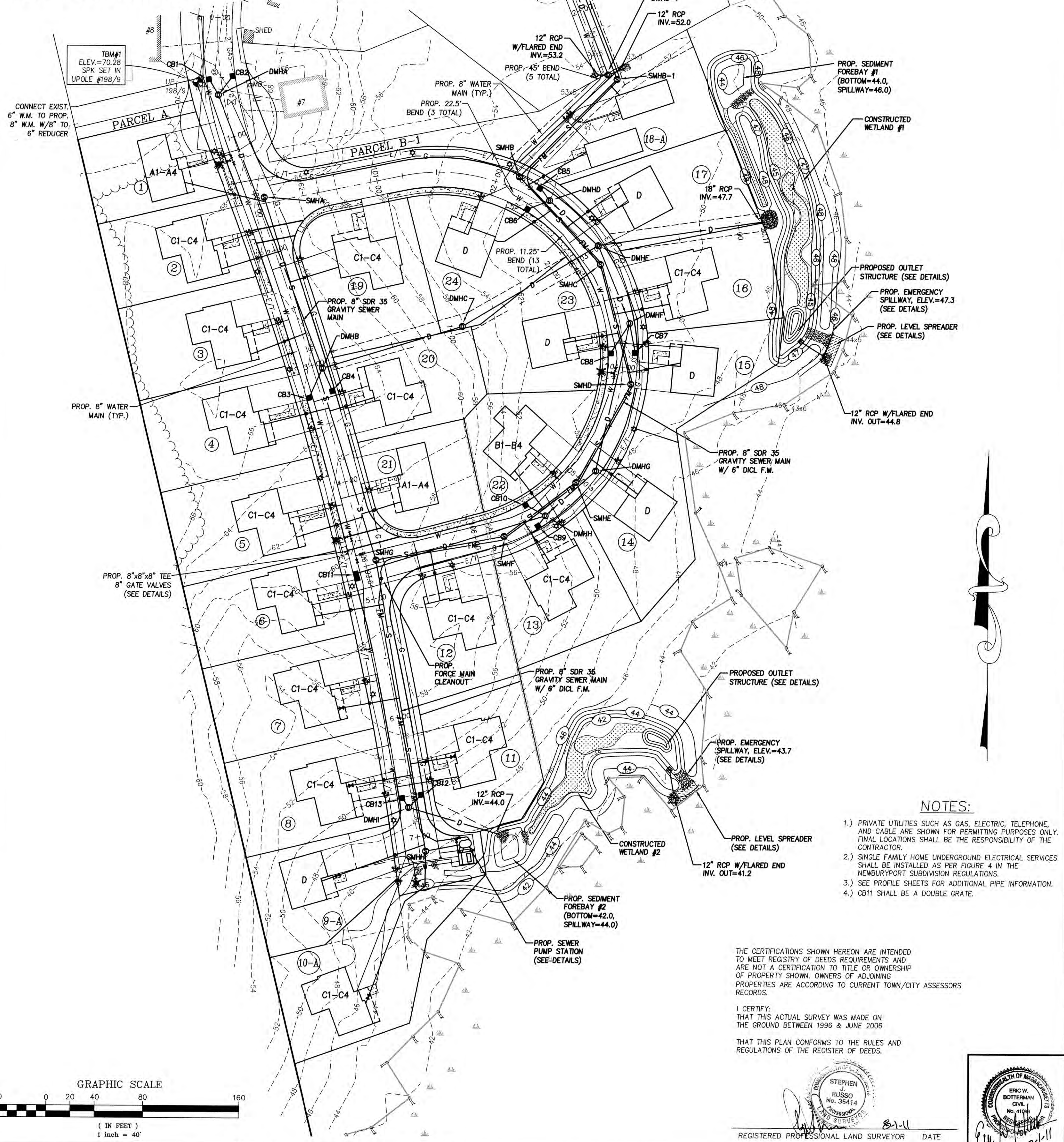
DATE: 8/11/11

FOR REGISTRY USE ONLY

CITY/TOWN CLERK:
 I HEREBY CERTIFY THAT NO APPEAL HAS BEEN FILED WITHIN THE 21 DAYS AS PRESCRIBED BY MASS. GENERAL LAWS CHAPTER 41 SECTION 81-88.

[Signature] DATE: 8/11/11
 CITY/TOWN CLERK

**UTILITY EASEMENT
 CROSS-SECTION STA 2+25**

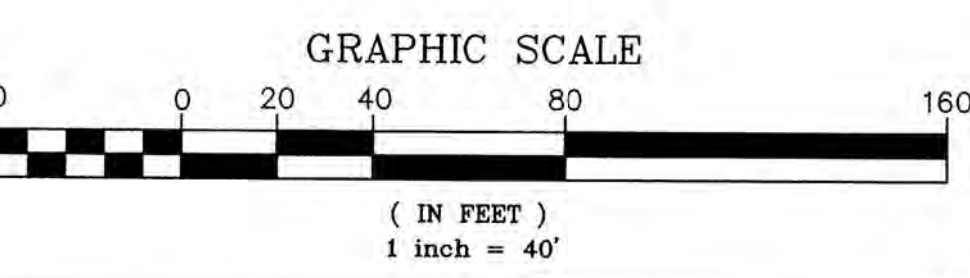


- NOTES:**
- 1.) PRIVATE UTILITIES SUCH AS GAS, ELECTRIC, TELEPHONE, AND CABLE ARE SHOWN FOR PERMITTING PURPOSES ONLY. FINAL LOCATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
 - 2.) SINGLE FAMILY HOME UNDERGROUND ELECTRICAL SERVICES SHALL BE INSTALLED AS PER FIGURE 4 IN THE NEWBURYPORT SUBDIVISION REGULATIONS.
 - 3.) SEE PROFILE SHEETS FOR ADDITIONAL PIPE INFORMATION.
 - 4.) CB11 SHALL BE A DOUBLE GRATE.

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEEDS REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT TOWN/CITY ASSESSORS RECORDS.

I CERTIFY:
 THAT THIS ACTUAL SURVEY WAS MADE ON THE GROUND BETWEEN 1996 & JUNE 2006

THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTER OF DEEDS.



STEPHEN J. RUSSO
 No. 35414
 REGISTERED PROFESSIONAL LAND SURVEYOR

COMMONWEALTH OF MASSACHUSETTS
 ERIC W. BOTTERMAN
 CIVIL
 No. 41065
 REGISTERED PROFESSIONAL ENGINEER

PREPARED FOR
SPRINGWELL INVESTMENTS, LLC
 11 LAFAYETTE ROAD P.O. BOX 1297
 N. HAMPTON, NH 03862

NO.	DATE	DESCRIPTION	BY
4	8/1/11	FINAL SUBMITTAL	C.M.Y.
3	6/14/11	ADDRESS DPS COMMENTS	C.M.Y.
2	5/26/11	ADDRESS REVIEWERS' COMMENTS	C.M.Y.
1	5/03/11	ADDRESS REVIEWERS' COMMENTS	C.M.Y.

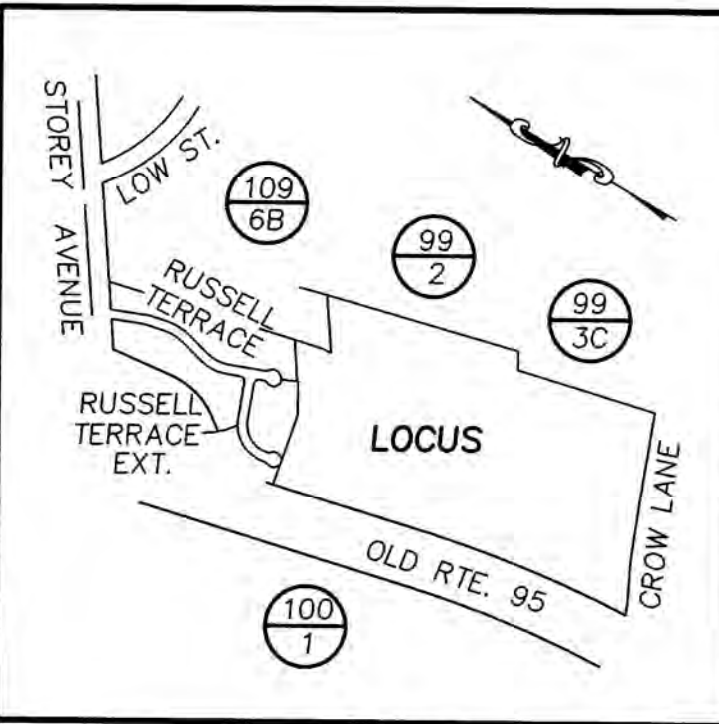
MEI MILLENNIUM ENGINEERING, INC.
 ENGINEERING AND LAND SURVEYING
 62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
 13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528

SCALE: 1"=40'
 DATE: MAR. 9, 2011

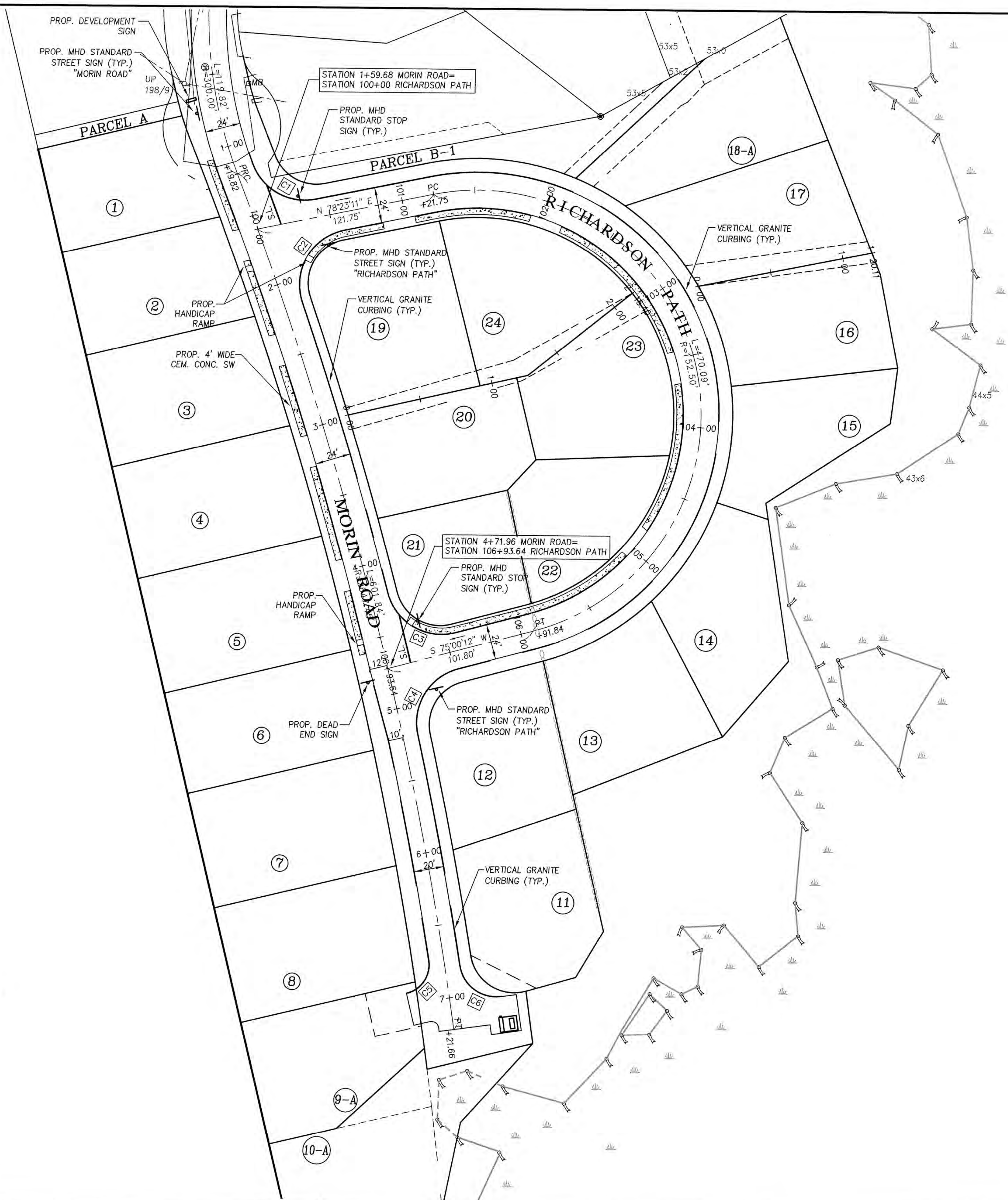
OSRD DEFINITIVE PLAN
 FOR LAND IN
NEWBURYPORT, MA
 SHOWING
PROPOSED SUBDIVISION MODIFICATION
 AT
RUSSELL TERRACE EXTENSION

DESIGNED BY: C.M.Y. PROJECT: M112327
 CHECKED BY: E.W.B. SHEET: 8 OF 25

UTILITY PLAN



LOCUS MAP
SCALE: 1"=1000'



CITY/TOWN CLERK:
I HEREBY CERTIFY THAT NO
APPEAL HAS BEEN FILED WITHIN
THE 21 DAYS AS PRESCRIBED
BY MASS. GENERAL LAWS CHAPTER
41 SECTION 81-88.

[Signature] *[Signature]*
CITY/TOWN CLERK DATE

NEWBURYPORT PLANNING BOARD APPROVAL

[Signature]
[Signature]
[Signature]
[Signature]

8/11/11
DATE

FOR REGISTRY USE ONLY

RADIUS DATA TABLE				
CURVE #	RADIUS	LENGTH	PC	PT
C1	38.00	53.68	1+17.00	100+42.57
C2	38.00	64.66	100+57.63	2+16.78
C3	38.00	59.90	4+21.68	106+42.89
C4	38.00	58.07	106+47.30	5+19.94
C5	20.00	29.93	6+72.74	6+92.90
C6	25.00	38.76	6+79.38	7+04.05

COORDINATES OF CONSTRUCTION CENTERLINE				
POINT	STA.	RADIUS/LENGTH OR LENGTH/BEARING	NORTHING	EASTING
MORIN ROAD				
BEGIN	0+00		3993.8856	4926.1318
		RADIUS: 300.00 LENGTH: 119.82'	DELTA: 22° 53' 06"	
PRC	1+19.82		3876.5813	4946.3275
		RADIUS: 2647.45 LENGTH: 601.84'	DELTA: 13° 01' 30"	
END	7+21.66		3295.6924	5098.7051

COORDINATES OF CONSTRUCTION CENTERLINE				
POINT	STA.	RADIUS/LENGTH OR LENGTH/BEARING	NORTHING	EASTING
RICHARDSON PATH				
BEGIN	100+00		3839.3203	4960.4665
		BEARING: S 78° 23' 11" W LENGTH: 121.75'		
PC	101+21.75		3863.8304	5079.7279
		RADIUS: 152.50 LENGTH: 470.09'	DELTA: 176° 37' 01"	
PT	105+91.84		3567.1464	5149.8884
		BEARING: N 75° 00' 12" E LENGTH: 101.80'		
END	106+93.64		3540.8048	5051.5568

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEEDS REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT TOWN/CITY ASSESSORS RECORDS.

I CERTIFY THAT THIS ACTUAL SURVEY WAS MADE ON THE GROUND BETWEEN 1996 & JUNE 2006

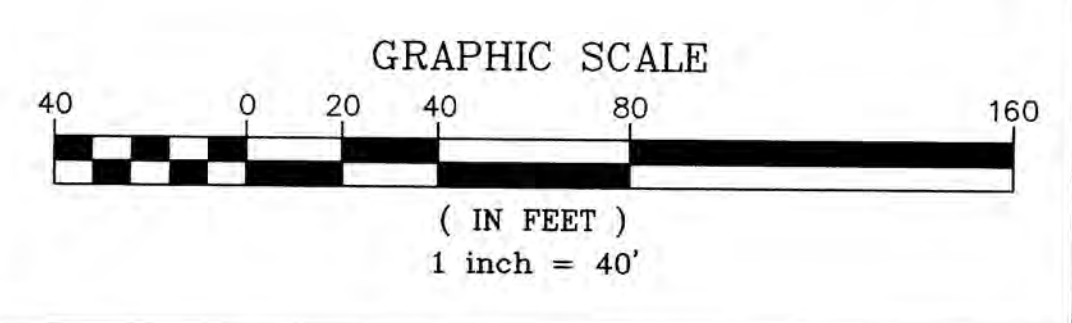
THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTER OF DEEDS.



8-1-11
REGISTERED PROFESSIONAL LAND SURVEYOR DATE

NOTE:

1.) PAVEMENT TRANSITION (15:1 TAPER) AT STA 4+69.87 TO STA 5+19.94.



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