ASB design group LLC

STANDARD LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
EASEMENT LINE		
WETLAND DELINEATION & BUFFERS		
TOPOGRAPHY		
RETAINING WALL		
DRAIN LINE		D
ELECTRIC LINE (UNDERGROUND)	E	
FIRE (WATER) LINE		FIRE
FLOOR DRAIN LINE		
GAS LINE		
OVERHEAD WIRES		
ROOF DRAIN LINE		
SEWER LINE		S
TELEPHONE, ELECTRIC & CABLE LINE (UNDERGROUND)		
WATER LINE		W
CATCH BASIN		
DRAIN MANHOLE		
ELECTRIC MANHOLE		
GAS VALVE/GATE		
HYDRANT		
LIGHT		
PULL BOX		
MONUMENTATION		
ELECTRIC LIGHT POLE		
SEWER MANHOLE		
SIGNAGE		
WATER SHUT-OFF		
WATER VALVE/GATE		
UTILITY POLE		
UTILITY GUY		
VEGETATION		
LOAM & SEED		
WETLAND SEED MIX		

STANDARD ABBREVIATIONS

BIT.	BITUMINOUS
C	CALCULATED
CAT.	CABLE
CI OR C.I.	CAST IRON
CONC.	CONCRETE
CONC. CURB OR CC	CONCRETE CURB
C.S.	COMBINED SEWER
DH	DRILL HOLE
DMH	DRAIN MANHOLE
EL. OR ELEV.	ELEVATION
E OR ELEC.	ELECTRIC
FA	FIRE ALARM
F.F.	FINISH FLOOR
G	GAS
GRAN. CURB OR GC	GRANITE CURB
GV	GAS VALVE/GATE
HYD.	HYDRANT
I OR INV.	INVERT
IP	IRON PIN
IR	IRON ROD
LP	LIGHT POLE
MH	MANHOLE
N/F	NOW OR FORMERLY
OHW	OVERHEAD WIRES
PB	PULL BOX
PVC	POLYVINYL CHLORIDE
R OR R.	RECORD OR RIM
REC.	RECORD
S	SEWER
SB	STONE BOUND
SMH	SEWER MANHOLE
SW	SIDEWALK
SWPPP	STORMWATER POLLUTION PROTECTION PLAN
T OR TEL.	TELEPHONE
TEC	TELEPHONE, ELECTRIC, CABLE
UGE	UNDERGROUND ELECTRIC
UON	UNLESS OTHERWISE NOTED
UP OR U-POLE	UTILITY POLE
UTILITY GUY	UTILITY GUY
VC	VITRIOUS CLAY
W	WATER
WCR	WHEELCHAIR RAMP
WSO	WATER SHUT-OFF
WV	WATER VALVE/GATE

DEFINITIVE SUBDIVISION

LYLE ESTATES

JAMIESON PROPERTIES, LLC
627 MAIN STREET, SUITE 1
WOBURN, MA 01801

I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

Thad D Berry

DATE: _____

FOR REGISTRY USE ONLY

APPROVAL UNDER SUBDIVISION CONTROL LAW READING PLANNING BOARD

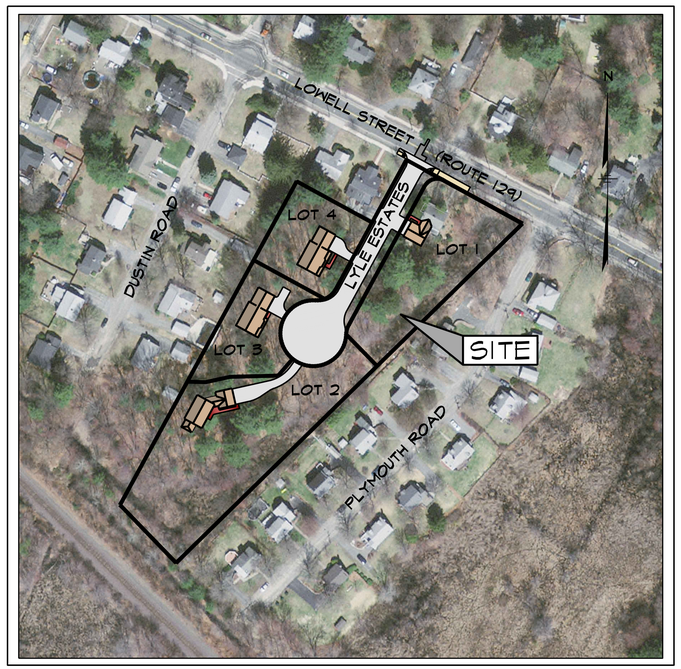
DATE: _____

CONSULTANTS DESIGN TEAM:

CIVIL ENGINEER:
ASB DESIGN GROUP, LLC
363 BOSTON STREET
TOPSFIELD MA 01983
978.887.6161

SURVEYOR:
DONOHOE SURVEY, INC.
363 BOSTON STREET
TOPSFIELD MA 01983
978.887.6161

WETLANDS
WETLANDS & LAND MANAGEMENT, INC.
100 CONIFER HILL DRIVE
SUITE #516
DANVERS, MA. 01923
978.777.0004



LOCATION PLAN

SCALE: 1" = 100' ±
SOURCE: MA GIS DIGITAL RASTER GRAPHIC (DRG)

WAVIERS:

SUBDIVISION / ZONING:

SECTION REFERENCE	TOWN OF READING (STANDARD)	LYLE ESTATES (WAIVER)	COMMENT JUSTIFICATION
SECTION 7.1.1 a	RIGHT-OF-WAY 60'	RIGHT-OF-WAY 40'	SEE COMMENT #1
SECTION 7.1.3 a	PAVEMENT WIDTH 30'	PAVEMENT WIDTH 24'	SEE COMMENT #2
SECTION 7.1.3 b	SIDEWALKS BOTH SIDES	NO SIDEWALKS	SEE COMMENT #3
SECTION 7.1.3 b	TREE PLANTING	TREE PLANTING EASEMENT	SEE COMMENT #3
SECTION 7.1.3 b	PAVEMENT LAYOUT	OFFSET FROM CENTER LINE	SEE COMMENT #3
SECTION 7.1.4 b	CURB RADII 30'	CURB RADII 20'	SEE COMMENT #4
SECTION 7.2 a	SIDEWALKS BOTH SIDES	NO SIDEWALKS	SEE COMMENT #6
ZONING 2.2.13	FRONT SET BACK 20'	11.7' LYLE ESTATES 39.1' LOWELL STREET	SEE COMMENT #7

CONSERVATION COMMISSION:

SECTION REFERENCE	TOWN OF READING (STANDARD)	LYLE ESTATES (WAIVER)	COMMENT JUSTIFICATION
SECTION 3.D.2	25' NATURAL VEGETATION ZONE	CLOSEST ACTIVITIY 14.0'±	SEE COMMENT #1
SECTION 3.D.4	35' NO STRUCTURE ZONE	CLOSEST ACTIVITY 23.7'±	SEE COMMENT #2

*SEE WAVIER REQUEST DATED JANUARY 3, 2016 FOR COMMENT/JUSTIFICATION

ZONING DISTRICT

SINGLE FAMILY 15 DISTRICT (S-15):
AQUIFER PROTECTION DISTRICT

LOT SIZE = 15,000 S.F.
FRONTAGE = 100'MINIMUM
LOT WIDTH (CIRCLE DIAMETER FEET) = 60
PERCENT COVERAGE = 25%
MAXIMUM BUILDING HEIGHT = 35
MINIMUM SET BACKS:
FRONT = 20'
SIDE = 15'
REAR = 20'

CURRENT OWNERS:

JAMIESON PROPERTIES LLC
627 MAIN STREET, SUITE 1
WOBURN, MA. 01801

REFERENCES

TAX MAP 26 LOT 157 - TOTAL LAND AREA = 2.754 ACRES
FOR DEEDS/PLANS SEE SHEET C4

HORIZONTAL DATUM:

BENCHMARK TOWN OF READING SEWER BASE ELEVATION 198.93 NORTH CAP NUT ON HYDRANT

PROJECT GENERAL NOTES

1. EXISTING BOUNDARY LINE, TOPOGRAPHIC, AND SITE UTILITY INFORMATION IS BASED UPON SURVEY PERFORMED BY DONOHOE SURVEY.
2. PRIOR TO WORK, CONTRACTOR SHALL HAVE THE PROPOSED SITE LAID OUT VERTICALLY AND HORIZONTALLY BY A PROFESSIONAL LAND SURVEYOR.
3. IN ACCORDANCE WITH CHAPTER 82 SECTION 40 INCLUDING AMENDMENTS, THE CONTRACTOR SHALL NOTIFY IN WRITING ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES PRIOR TO EXCAVATION WORK AND CALL DIG-SAFE AT 1-800-DIG-SAFE PRIOR TO COMMENCING WORK.
4. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVES. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
5. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATIONS, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
6. CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL EXISTING UTILITIES AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCING WORK.
7. CONTRACTOR SHALL PROVIDE ADEQUATE BRACING AND SHORING OF ALL EXCAVATIONS IN ACCORDANCE WITH THE REQUIREMENTS OF ALL GOVERNING CODES AND REGULATIONS.
8. CONTRACTOR SHALL COORDINATE WITH THE STATE POLICE AND/OR THE LOCAL POLICE DEPARTMENT FOR TRAFFIC RELATED ISSUES PRIOR TO COMMENCING WORK. CONTRACTOR SHALL PROVIDE ALL NECESSARY TRAFFIC COORDINATION AND POLICE DETAILS AS REQUIRED BY THE CITY, TOWN OR STATE.
9. CONTRACTOR SHALL SAW-CUT PAVEMENT WHERE PAVEMENT TO BE REMOVED ABUTS PAVEMENT WHICH IS TO REMAIN AND WHERE NEW PAVEMENT ABUTS EXISTING PAVEMENT.
10. CONTRACTOR SHALL MAINTAIN ALL NEW AND EXISTING UTILITIES IN GOOD WORKING ORDER AND SHALL PROTECT THEM FROM DAMAGE AT ALL TIMES THROUGHOUT CONSTRUCTION UNTIL WORK IS COMPLETED AND ACCEPTED.

INDEX OF SHEETS

C1	SHEET	1 OF 11	COVER SHEET
C2	SHEET	2 OF 11	EXISTING CONDITIONS PLAN
C3	SHEET	3 OF 11	TREE INVENTORY PLAN
C4	SHEET	4 OF 11	LOTTING PLAN
C5	SHEET	5 OF 11	SITE LAYOUT, UTILITES, AND PAVEMENT MARKING/SIGNAGE PLAN
C6	SHEET	6 OF 11	SITE GRADING & DRAINAGE PLAN
C7	SHEET	7 OF 11	WETLAND AND BUFFER ZONE MITIGATION PLAN
C8	SHEET	8 OF 11	SWPPP AND EROSION CONTROL DETAILS
C9	SHEET	9 OF 11	SITE DETAILS
C10	SHEET	10 OF 11	UTILITIES DETAILS
C11	SHEET	11 OF 11	HEADWALL #1 AND BMP #1 DETAILS

DIG SAFE NOTES

1. IN ACCORDANCE WITH CHAPTER 82 SECTION 40 INCLUDING AMENDMENTS, THE CONTRACTOR SHALL NOTIFY IN WRITING ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES PRIOR TO EXCAVATION WORK AND CALL DIG-SAFE AT 1-800-DIG-SAFE PRIOR TO COMMENCING WORK.
2. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVES. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
3. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATIONS, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
4. CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL EXISTING UTILITIES AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCING WORK.

BEFORE CONSTRUCTION CALL (72 HOURS IN ADVANCE):
- "DIG SAFE" AT 1-800-DIG SAFE
- 1-888-344-7233

DIG SAFE

ASB
design group, LLC
civil engineering
traffic engineering
architecture
landscape design & construction
363 boston street, route 1
topsfield, ma 01983

project title:
LYLE ESTATES

prepared for:
JAMIESON PROPERTIES LLC
627 MAIN STREET, SUITE 1
WOBURN, MA 01801

parcel identification:
map: 26
block: NA
parcel: NA
lot: 157

revisions

no.	date	description
0	10.25.16	NOI SUBMITTAL
0	01.03.17	PLANNING BOARD SUBMITTAL

plan submission
DEFINITIVE SUBDIVISION

date: 01.03.2017
scale: AS NOTED
job no: 2012-30
DEP no: 270-0675

COMMONWEALTH OF MASSACHUSETTS
Thad D Berry
No. 41258
CIVIL
REGISTERED PROFESSIONAL ENGINEER

Thad D Berry

drawing name
COVER SHEET

drawing number
C1

I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

Thad D Berry

DATE: _____

FOR REGISTRY USE ONLY

APPROVAL UNDER SUBDIVISION CONTROL LAW
READING PLANNING BOARD

_____

DATE: _____

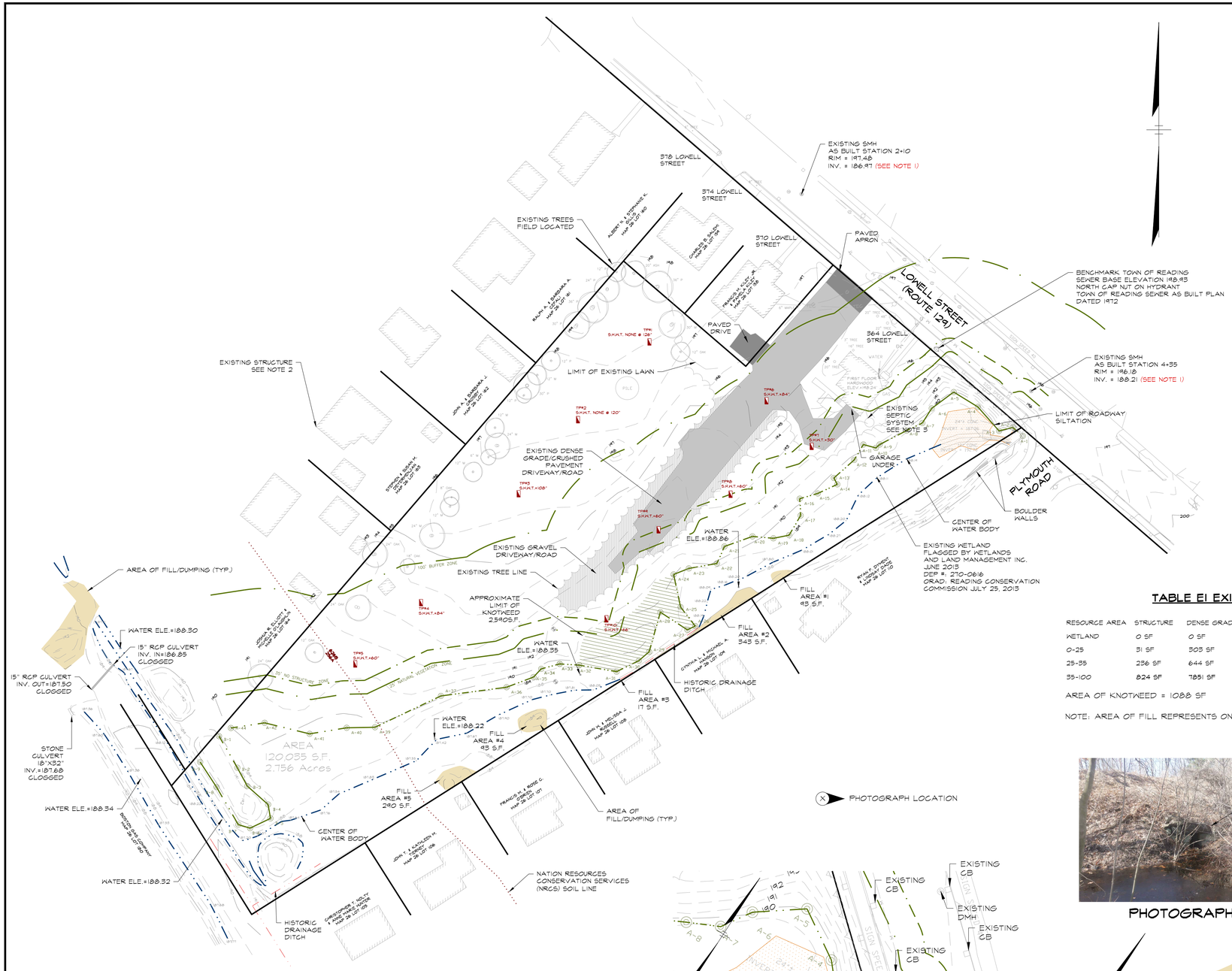


TABLE E1 EXISTING WETLAND RESOURCE AREA IMPACTS:

RESOURCE AREA	STRUCTURE	DENSE GRADE DRIVE/ROAD	LAWN	GRAVEL SURFACE	CONCRETE	PAVEMENT	FILL/DUMPING	ROADWAY SILTATION
WETLAND	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	2319 SF	1,088 SF
0-25	31 SF	303 SF	822 SF	197 SF	0 SF	0 SF	0 SF	0 SF
25-35	236 SF	644 SF	170 SF	371 SF	0 SF	0 SF	0 SF	0 SF
35-100	824 SF	7851 SF	3315 SF	3558 SF	189 SF	121 SF	0 SF	0 SF

AREA OF KNOTWEED = 1088 SF

NOTE: AREA OF FILL REPRESENTS ONLY THAT FILL WITHIN THE LIMIT OF 370 LOWELL STREET.

PHOTOGRAPH 1

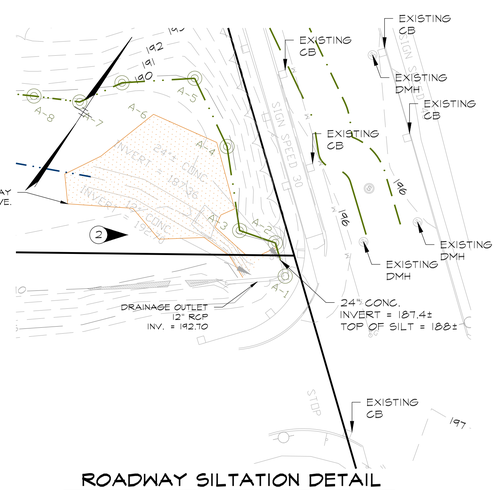
NOTES:

1. SEWER INVERTS TAKEN FOR TOWN OF READING SEWER AS-BUILT PLAN - MAIN SEWER CONSTRUCTION LOWELL STREET (PLYMOUTH TO BARRONS) 000-L-425 SHEET 10 DATED 1921. CONTRACTOR SHALL CONFIRM INVERTS PRIOR TO CONSTRUCTION AND PURCHASE OF ANY SEWER STRUCTURES AND SEWER PIPE.
2. ABUTTING STRUCTURES SHOWN AS TAKEN FROM TOWN OF READING GIS MAP.
3. EXISTING SEPTIC SYSTEM TO BE ABANDONED IN ACCORDANCE ALL APPLICABLE STATE AND LOCAL BOARD OF HEALTH REGULATIONS.

NRCS SOILS:

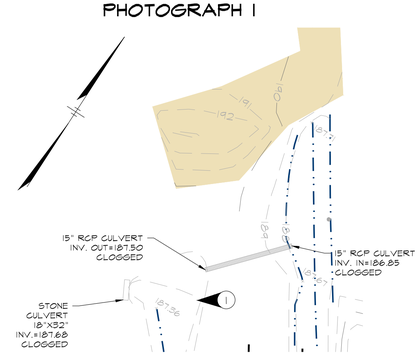
256A	DEERFEILD LOAMY SAND 0-3% SLOPES	HSG A
626B	MERRIMAC-URBAN LAND COMPLEX 0-8% SLOPES	HSG A

PHOTOGRAPH 2



ROADWAY SILTATION DETAIL

SCALE: 1"=20'



CULVERT DETAIL

SCALE: 1"=20'

SCALE BAR 0 40' 80' 120'

SCALE: 1"=40'

ASB

design group, LLC

civil engineering
traffic engineering
architecture
landscape design & construction

363 boston street, route 1
topsfield, ma 01983

project title:

LYLE ESTATES

prepared for:

JAMIESON PROPERTIES LLC
627 MAIN STREET, SUITE 1
WOBURN, MA 01801

parcel identification:

map: 26
block: NA
parcel: NA
lot: 157

revisions

no.	date	description
0	10.25.16	NOI SUBMITTAL
0	01.03.17	PLANNING BOARD SUBMITTAL

plan submission

DEFINITIVE SUBDIVISION

date: 01.03.2017
scale: 1"=40'
job no: 2012-30
DEP no: 270-0675

COMMONWEALTH OF MASSACHUSETTS
Thad D Berry
No. 41258
CIVIL
REGISTERED PROFESSIONAL ENGINEER

Thad D Berry

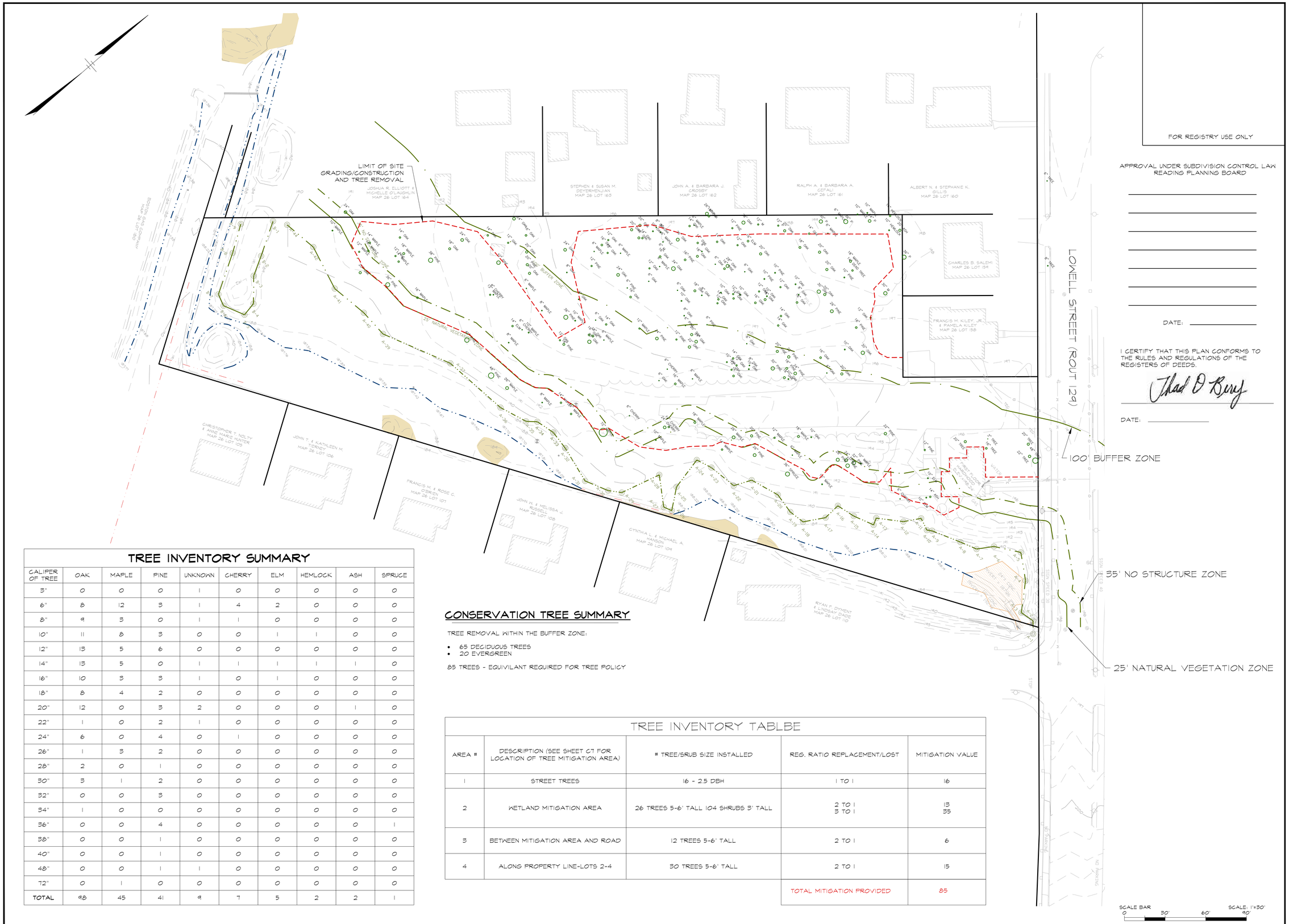
drawing name

EXISTING CONDITIONS

drawing number

C2

sheet 2 of 11



TREE INVENTORY SUMMARY

CALIPER OF TREE	OAK	MAPLE	PINE	UNKNOWN	CHERRY	ELM	HEMLOCK	ASH	SPRUCE
3"	0	0	0	1	0	0	0	0	0
6"	8	12	3	1	4	2	0	0	0
8"	9	3	0	1	1	0	0	0	0
10"	11	8	3	0	0	1	1	0	0
12"	13	5	6	0	0	0	0	0	0
14"	13	5	0	1	1	1	1	1	0
16"	10	3	3	1	0	1	0	0	0
18"	8	4	2	0	0	0	0	0	0
20"	12	0	3	2	0	0	0	1	0
22"	1	0	2	1	0	0	0	0	0
24"	6	0	4	0	1	0	0	0	0
26"	1	3	2	0	0	0	0	0	0
28"	2	0	1	0	0	0	0	0	0
30"	3	1	2	0	0	0	0	0	0
32"	0	0	3	0	0	0	0	0	0
34"	1	0	0	0	0	0	0	0	0
36"	0	0	4	0	0	0	0	0	1
38"	0	0	1	0	0	0	0	0	0
40"	0	0	1	0	0	0	0	0	0
48"	0	0	1	1	0	0	0	0	0
72"	0	1	0	0	0	0	0	0	0
TOTAL	98	45	41	9	7	5	2	2	1

CONSERVATION TREE SUMMARY

TREE REMOVAL WITHIN THE BUFFER ZONE:

- 65 DECIDUOUS TREES
- 20 EVERGREEN

85 TREES - EQUIVILANT REQUIRED FOR TREE POLICY

TREE INVENTORY TABLBE

AREA #	DESCRIPTION (SEE SHEET C7 FOR LOCATION OF TREE MITIGATION AREA)	# TREE/SRUB SIZE INSTALLED	REG. RATIO REPLACEMENT/LOST	MITIGATION VALUE
1	STREET TREES	16 - 2.5 DBH	1 TO 1	16
2	WETLAND MITIGATION AREA	26 TREES 5-6' TALL 104 SHRUBS 3' TALL	2 TO 1 3 TO 1	13 35
3	BETWEEN MITIGATION AREA AND ROAD	12 TREES 5-6' TALL	2 TO 1	6
4	ALONG PROPERTY LINE-LOTS 2-4	30 TREES 5-6' TALL	2 TO 1	15
			TOTAL MITIGATION PROVIDED	85

FOR REGISTRY USE ONLY

APPROVAL UNDER SUBDIVISION CONTROL LAW
READING PLANNING BOARD

DATE:

I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

DATE:

ASB
design group, LLC
civil engineering
traffic engineering
architecture
landscape design & construction
363 boston street, route 1
topsfield, ma 01983

project title:
LYLE ESTATES

prepared for:
JAMIESON PROPERTIES LLC
627 MAIN STREET, SUITE 1
WOBURN, MA 01801

parcel identification:
map: 26
block: NA
parcel: NA
lot: 157

revisions

no.	date	description
0	10.25.16	NOI SUBMITTAL
0	01.03.17	PLANNING BOARD SUBMITTAL

plan submission
DEFINITIVE SUBDIVISION

date: 01.03.2017
scale: 1"=30'
job no: 2012-30
DEP no: 270-0675

COMMONWEALTH OF MASSACHUSETTS
Thad D Berry
No. 41258
CIVIL
REGISTERED PROFESSIONAL ENGINEER

drawing name
TREE INVENTORY PLAN

drawing number
C3

sheet 3 of 11

FOR REGISTRY USE ONLY

I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

1/3/17 Paul J. Donohoe
DATE

1915 TOWN LAYOUT LOWELL ST.

TOTAL AREA: 2.754 Acres

ZONING DISTRICTS: SINGLE FAMILY 15 DISTRICT (S-15)
AQUIFER PROTECTION DISTRICT

ASSESSORS: MAP 26 LOT 157

REFERENCES:

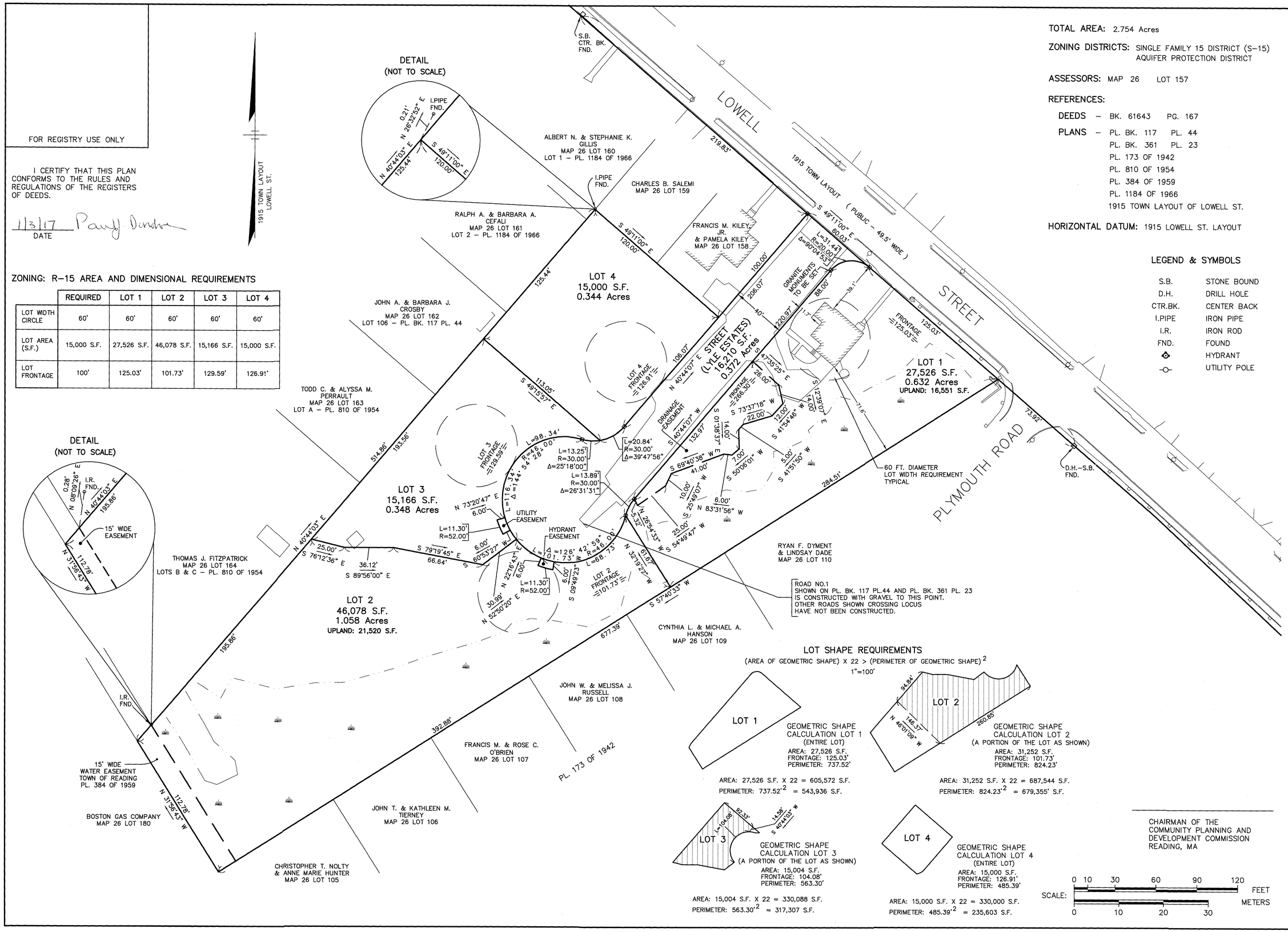
DEEDS – BK. 61643 PG. 167

PLANS – PL. BK. 117 PL. 44
PL. BK. 361 PL. 23
PL. 173 OF 1942
PL. 810 OF 1954
PL. 384 OF 1959
PL. 1184 OF 1966
1915 TOWN LAYOUT OF LOWELL ST.

HORIZONTAL DATUM: 1915 LOWELL ST. LAYOUT

ZONING: R-15 AREA AND DIMENSIONAL REQUIREMENTS

	REQUIRED	LOT 1	LOT 2	LOT 3	LOT 4
LOT WIDTH CIRCLE	60'	60'	60'	60'	60'
LOT AREA (S.F.)	15,000 S.F.	27,526 S.F.	46,078 S.F.	15,166 S.F.	15,000 S.F.
LOT FRONTAGE	100'	125.03'	101.73'	129.59'	126.91'



LEGEND & SYMBOLS

S.B.	STONE BOUND
D.H.	DRILL HOLE
CTR.BK.	CENTER BACK
I.PIPE	IRON PIPE
I.R.	IRON ROD
FND.	FOUND
	HYDRANT
	UTILITY POLE

LOT SHAPE REQUIREMENTS

(AREA OF GEOMETRIC SHAPE) X 22 > (PERIMETER OF GEOMETRIC SHAPE)^2

1"=100'

GEOMETRIC SHAPE CALCULATION LOT 1
(ENTIRE LOT)
AREA: 27,526 S.F.
FRONTAGE: 125.03'
PERIMETER: 737.52'

AREA: 27,526 S.F. X 22 = 605,572 S.F.
PERIMETER: 737.52'^{2} = 543,936 S.F.

GEOMETRIC SHAPE CALCULATION LOT 2
(A PORTION OF THE LOT AS SHOWN)
AREA: 31,252 S.F.
FRONTAGE: 101.73'
PERIMETER: 824.23'

AREA: 31,252 S.F. X 22 = 687,544 S.F.
PERIMETER: 824.23'^{2} = 679,355' S.F.

GEOMETRIC SHAPE CALCULATION LOT 3
(A PORTION OF THE LOT AS SHOWN)
AREA: 15,004 S.F.
FRONTAGE: 104.08'
PERIMETER: 563.30'

AREA: 15,004 S.F. X 22 = 330,088 S.F.
PERIMETER: 563.30'^{2} = 317,307 S.F.

GEOMETRIC SHAPE CALCULATION LOT 4
(ENTIRE LOT)
AREA: 15,000 S.F.
FRONTAGE: 126.91'
PERIMETER: 485.39'

AREA: 15,000 S.F. X 22 = 330,000 S.F.
PERIMETER: 485.39'^{2} = 235,603 S.F.

CHAIRMAN OF THE
COMMUNITY PLANNING AND
DEVELOPMENT COMMISSION
READING, MA

SCALE: 0 10 30 60 90 120 FEET
0 10 20 30 METERS

ASB
design group, LLC

civil engineering
traffic engineering
architecture
landscape design & construction

363 boston street, route 1
topsfield, ma 01983

land surveyor:

DONOHOE SURVEY, INC.
363 BOSTON ST. TOPSFIELD, MA
(978) 887-6161 PROJ. 2833

project title:

LYLE ESTATES
READING, MA

prepared for:

JAMIESON PROPERTIES LLC
627 MAIN STREET, SUITE 1
WOBURN, MA 01801

revisions

no.	date	description

plan submission

DEFINITIVE SUBDIVISION & NOTICE OF INTENT PLANS

date: January 3, 2017
scale: 1"=30'
job no: 2012-30 / 2833
DEP no: TBD

COMMONWEALTH OF MASSACHUSETTS
PAUL J. DONOHOE
No. 30746
REGISTERED PROFESSIONAL LAND SURVEYOR

Paul J. Donohoe
1/3/17

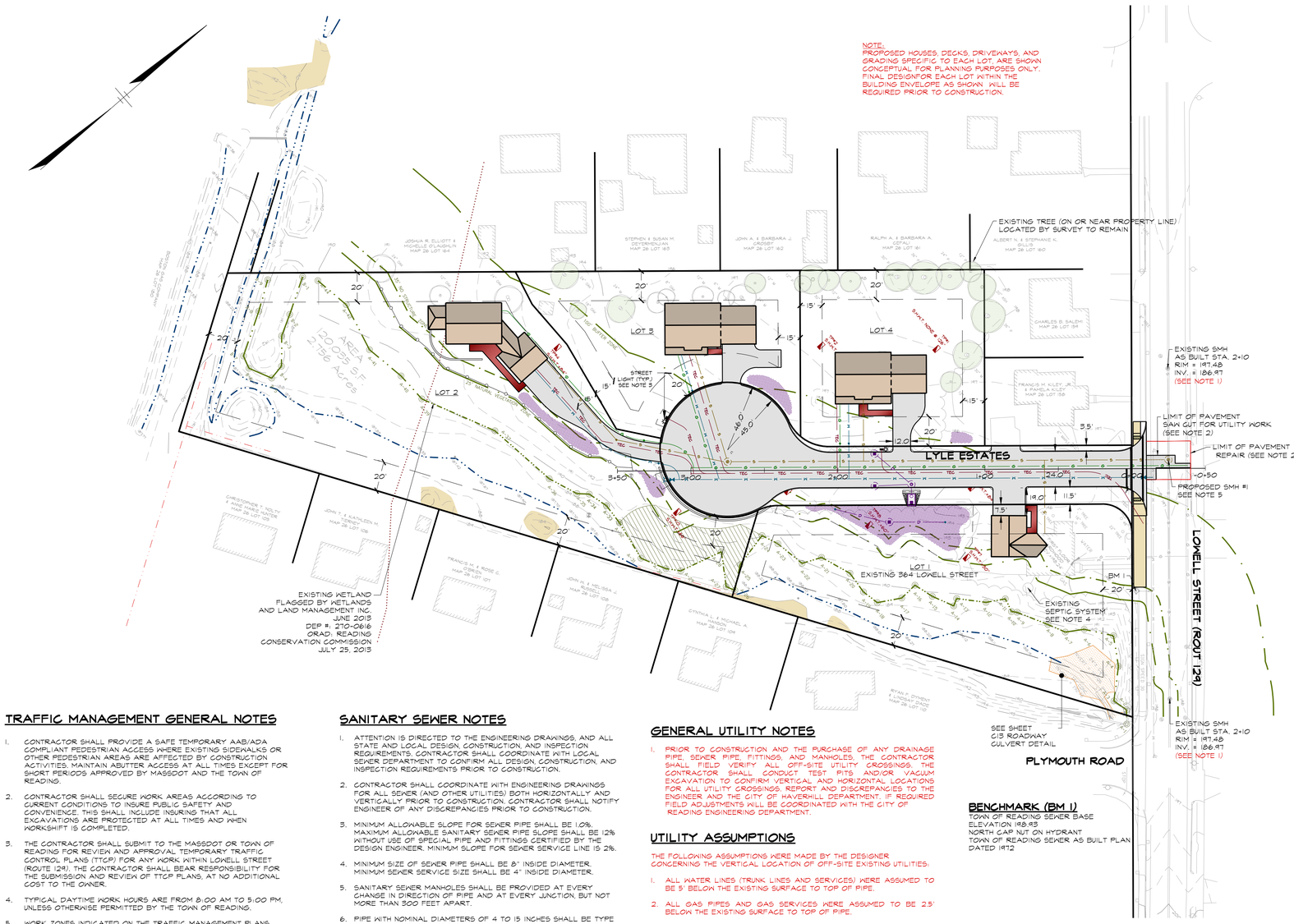
drawing name

LOTTING PLAN

drawing number

C4

sheet 4 of 11



APPROVAL UNDER SUBDIVISION CONTROL LAW
READING PLANNING BOARD

DATE:

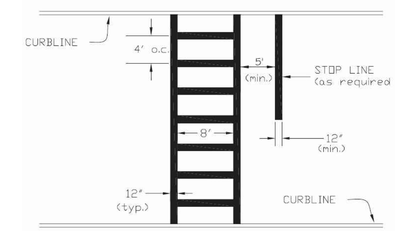
FOR REGISTRY USE ONLY

I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

DATE:

NOTES:

1. SEWER INVERTS TAKEN FOR TOWN OF READING SEWER AS-BUILT PLAN - MAIN SEWER CONSTRUCTION LOWELL STREET (PLYMOUTH TO BARROWS) 000-L-425 SHEET 10 DATED 1927. CONTRACTOR SHALL CONFIRM INVERTS PRIOR TO CONSTRUCTION AND PURCHASE OF ANY SEWER STRUCTURES AND SEWER PIPE.
2. CONTRACTOR SHALL COORDINATE WITH READING POLICE DEPARTMENT FOR TRAFFIC MANAGEMENT AT TIME OF UTILITY CONNECTIONS AND REPAVEMENT WITHIN THE LOWELL STREET RIGHT-OF-WAY.
3. TWO STREET LIGHTS ARE SHOWN ON LYLE ESTATES. FINAL LOCATION, NUMBER OF LIGHTS, AND TYPE TO BE COORDINATED WITH THE READING MUNICIPAL LIGHT DEPARTMENT (RMLD).
4. EXISTING SEPTIC SYSTEM TO BE ABANDONED IN ACCORDANCE ALL APPLICABLE STATE AND LOCAL BOARD OF HEALTH REGULATIONS.
5. SEE SHEET C6 FOR PROPOSED SEWER MANHOLES RIMS AND INVERTS.
6. FOR DRAINAGE RIMS AND INVERTS SEE SHEET C6.
7. STREET SIGN TO CONFORM TO SPECIFICATIONS OF THE TOWN OF READING. FINAL LOCATION TO BE DETERMINED BY THE READING DEPARTMENT OF PUBLIC WORKS.



TYPICAL CROSSWALK AND STOP LINE - OPEN SPACE PATH

NOT TO SCALE

SIGN	SIGN DESIGNATION	SIGN SIZES
STOP	R1-1	30" X 30"

TRAFFIC MANAGEMENT GENERAL NOTES

1. CONTRACTOR SHALL PROVIDE A SAFE TEMPORARY AAB/ADA COMPLIANT PEDESTRIAN ACCESS WHERE EXISTING SIDEWALKS OR OTHER PEDESTRIAN AREAS ARE AFFECTED BY CONSTRUCTION ACTIVITIES. MAINTAIN ABUTTER ACCESS AT ALL TIMES EXCEPT FOR SHORT PERIODS APPROVED BY MASSDOT AND THE TOWN OF READING.
2. CONTRACTOR SHALL SECURE WORK AREAS ACCORDING TO CURRENT CONDITIONS TO INSURE PUBLIC SAFETY AND CONVENIENCE. THIS SHALL INCLUDE INSURING THAT ALL EXCAVATIONS ARE PROTECTED AT ALL TIMES AND WHEN WORKSHIFT IS COMPLETED.
3. THE CONTRACTOR SHALL SUBMIT TO THE MASSDOT OR TOWN OF READING FOR REVIEW AND APPROVAL TEMPORARY TRAFFIC CONTROL PLANS (TTCP) FOR ANY WORK WITHIN LOWELL STREET (ROUTE 129). THE CONTRACTOR SHALL BEAR RESPONSIBILITY FOR THE SUBMISSION AND REVIEW OF TTCP PLANS, AT NO ADDITIONAL COST TO THE OWNER.
4. TYPICAL DAYTIME WORK HOURS ARE FROM 8:00 AM TO 5:00 PM, UNLESS OTHERWISE PERMITTED BY THE TOWN OF READING.
5. WORK ZONES INDICATED ON THE TRAFFIC MANAGEMENT PLANS ARE INTENDED FOR THE DURATION OF THE WORK WITHIN THE ZONES ONLY AND SHALL BE RESTORED TO CONDITIONS ACCEPTABLE TO MASSDOT AND THE TOWN OF READING AT COMPLETION OF THE WORK INDICATED.
6. CONTRACTOR SHALL COORDINATE WITH MASSDOT AND THE TOWN OF READING CONCERNING ALL SCHEDULED SPECIAL EVENTS WITHIN THE LIMIT OF WORK.

CONSTRUCTION SIGNING:

1. LOCATION OF SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD. THE CONTRACTOR SHALL ENSURE THAT SIGNS ARE PLACED IN ACCORDANCE WITH THE M.U.T.C.D..
2. EXISTING SIGNING WHICH CONFLICTS WITH PROPOSED CONSTRUCTION TRAFFIC MANAGEMENT SIGNING SHALL BE REMOVED AND STACKED OR COVERED AND RESTORED AT THE END OF THE WORK.
3. ALL SIGNS SHALL BE COVERED OR REMOVED WHEN CONDITION IS NOT IN EFFECT.

CHANNELIZATION:

1. CHANNELIZATION SHALL BE ACCOMPLISHED THROUGH THE USE OF REFLECTORIZED PLASTIC DRUMS WITH LIGHTS IN ACCORDANCE WITH THE M.U.T.C.D.. ALL LANE TAPERS SHALL ALSO BE IN ACCORDANCE WITH THE M.U.T.C.D..
2. ALL DRUMS SHALL BE PLACED AND MOVED AS NECESSARY TO MAINTAIN ADEQUATE ABUTTER ACCESS AT ALL TIMES. WORK MAY REQUIRE ADDITIONAL SIGNS, DRUMS, AND OTHER TRAFFIC CONTROL DEVICES.
3. THE MAXIMUM SPACING BETWEEN CHANNELIZATION DEVICES (DRUMS OR CONES) SHALL BE APPROXIMATELY EQUAL IN FEET TO THE POSTED SPEED LIMIT.
4. METAL DRUMS ARE PROHIBITED AS CHANNELIZATION DEVICES.

SANITARY SEWER NOTES

1. ATTENTION IS DIRECTED TO THE ENGINEERING DRAWINGS, AND ALL STATE AND LOCAL DESIGN, CONSTRUCTION, AND INSPECTION REQUIREMENTS. CONTRACTOR SHALL COORDINATE WITH LOCAL SEWER DEPARTMENT TO CONFIRM ALL DESIGN, CONSTRUCTION, AND INSPECTION REQUIREMENTS PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL COORDINATE WITH ENGINEERING DRAWINGS FOR ALL SEWER (AND OTHER UTILITIES) BOTH HORIZONTALLY AND VERTICALLY PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
3. MINIMUM ALLOWABLE SLOPE FOR SEWER PIPE SHALL BE 1.0%. MAXIMUM ALLOWABLE SANITARY SEWER PIPE SLOPE SHALL BE 12% WITHOUT USE OF SPECIAL PIPE AND FITTINGS CERTIFIED BY THE DESIGN ENGINEER. MINIMUM SLOPE FOR SEWER SERVICE LINE IS 2%.
4. MINIMUM SIZE OF SEWER PIPE SHALL BE 8" INSIDE DIAMETER. MINIMUM SEWER SERVICE SIZE SHALL BE 4" INSIDE DIAMETER.
5. SANITARY SEWER MANHOLES SHALL BE PROVIDED AT EVERY CHANGE IN DIRECTION OF PIPE AND AT EVERY JUNCTION, BUT NOT MORE THAN 300 FEET APART.
6. PIPE WITH NOMINAL DIAMETERS OF 4 TO 15 INCHES SHALL BE TYPE PSM, SDR-35 PVC SEWER PIPE CONFIRMING TO THE REQUIREMENTS OF ASTM SPECIFICATION D-3034, CURRENT EDITION. MANUFACTURER'S CERTIFICATES OF COMPLIANCE SHALL BE FURNISHED FOR ALL PIPE PRIOR TO INSTALLATION AND PIPE SHALL BE FURNISHED AS REQUIRED FOR LABORATORY TESTING.
7. JOINTS SHALL BE ELASTOMERIC, OIL RESISTANT GASKET JOINTS CONFORMING TO THE REQUIREMENTS OF ASTM SPECIFICATION D-3212 CURRENT EDITION, PUSH ON TYPE. MANUFACTURER'S DETAILS AND RECOMMENDATIONS FOR INSTALLATION SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL BEFORE DELIVERY, AND SHALL BE FURNISHED AS REQUIRED.
8. TEE BRANCHES, WYES AND FITTINGS SHALL BE TYPE PSM SDR-35 PVC PIPE, CONFORMING TO ASTM SPECIFICATION D-3034, CURRENT EDITION. INSTALL PER ASTM D-2321, CLASS I BEDDING.
9. PIPE SHALL BE LAID WITH THE SPIGOT ENDS POINTING IN THE DIRECTION OF FLOW.
10. JOINTS SHALL BE MADE-UP IN ACCORDANCE WITH THE APPROVED FACTORY RECOMMENDATIONS.
11. COMPLETED PIPELINES SHALL BE FREE FROM OFFSETS OR DEVIATIONS FROM GRADE WHEN EXAMINED WITH LIGHTS OR MIRRORS. VISIBLE LEAKS, BROKEN PIPES, ETC., SHALL BE REPAIRED.
12. PIPE SHALL BE LAID IN THE DRY AND PROVISIONS SHALL BE MADE FOR PLUGGING WITH A WATERTIGHT PLUG AT NIGHT OR WHEN WORK IS SUSPENDED. SEWERS SHALL NOT BE USED TO CARRY GROUNDWATER FROM THE TRENCH. THE CONTRACTOR SHALL CLEAN SOIL DEPOSITS FROM SEWERS AT THE COMPLETION OF THE WORK.
13. BEFORE ACCEPTANCE OF THE COMPLETED SEWERS, THE PIPES WILL BE INSPECTED BY SHINING LIGHT BETWEEN MANHOLES, AND ANY IMPERFECTIONS SUCH AS CRACKS, DISPLACED JOINTS, OBJECTIONABLE VARIATIONS FROM LINE OR GRADE, OR LEAKS SHALL BE REPAIRED.
14. SEWERS SHALL PASS INFILTRATION (OR EXFILTRATION) TESTS PRIOR TO ACCEPTANCE. THE MAXIMUM MEASURED LEAKAGE SHALL BE LESS THAN 200 GALLONS PER DAY PER INCH OF INSIDE DIAMETER PER MILE OF PIPE FOR ANY SECTION TESTED.
15. WHEN THE GROUNDWATER LEVEL IS AT OR ABOVE THE CROWN OF THE PIPE, THE INFILTRATION TEST SHALL BE USED.
16. WHERE GROUNDWATER IS BELOW THE CROWN OF THE PIPE, THE EXFILTRATION TEST SHALL BE USED.
17. ALL WORK SHALL ALSO CONFORM TO THE "TOWN OF READING" SEWER RULES AND REGULATIONS.

GENERAL UTILITY NOTES

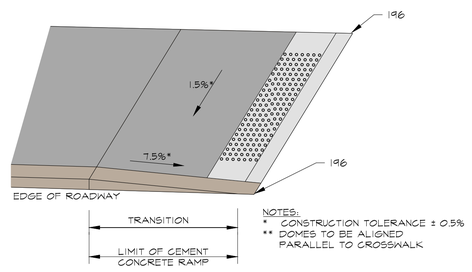
1. PRIOR TO CONSTRUCTION AND THE PURCHASE OF ANY DRAINAGE PIPE, SEWER PIPE, FITTINGS, AND MANHOLES, THE CONTRACTOR SHALL FIELD VERIFY ALL OFF-SITE UTILITY CROSSINGS. THE CONTRACTOR SHALL CONDUCT TEST PITS AND/OR VACUUM EXCAVATION TO CONFIRM VERTICAL AND HORIZONTAL LOCATIONS FOR ALL UTILITY CROSSINGS. REPORT AND DISCREPANCIES TO THE ENGINEER AND THE CITY OF HAVERHILL DEPARTMENT. IF REQUIRED FIELD ADJUSTMENTS WILL BE COORDINATED WITH THE CITY OF READING ENGINEERING DEPARTMENT.

UTILITY ASSUMPTIONS

THE FOLLOWING ASSUMPTIONS WERE MADE BY THE DESIGNER CONCERNING THE VERTICAL LOCATION OF OFF-SITE EXISTING UTILITIES:

1. ALL WATER LINES (TRUNK LINES AND SERVICES) WERE ASSUMED TO BE 5' BELOW THE EXISTING SURFACE TO TOP OF PIPE.
2. ALL GAS PIPES AND GAS SERVICES WERE ASSUMED TO BE 2.5' BELOW THE EXISTING SURFACE TO TOP OF PIPE.

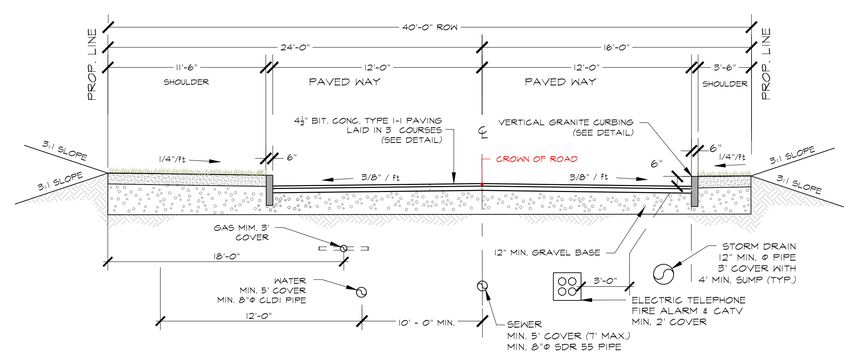
BENCHMARK (BM 1)
TOWN OF READING SEWER BASE
ELEVATION 198.93
NORTH CAP NUT ON HYDRANT
TOWN OF READING SEWER AS BUILT PLAN DATED 1972



NOTES:
* CONSTRUCTION TOLERANCE ± 0.5%
** DOMES TO BE ALIGNED PARALLEL TO CROSSWALK

WHEELCHAIR RAMP - SIDEWALK TERMINATION

NOT TO SCALE



PROPOSED CROSS SECTION (40' RIGHT-OF-WAY)

SCALE BAR 0 20' 40' 60'
SCALE: 1"=20'

ASB
design group, LLC
civil engineering
traffic engineering
architecture
landscape design & construction
363 boston street, route 1
topsfield, ma 01983

project title:
LYLE ESTATES

prepared for:
JAMIESON PROPERTIES LLC
627 MAIN STREET, SUITE 1
WOBURN, MA 01801

parcel identification:
map: 26
block: NA
parcel: NA
lot: 157

revisions

no.	date	description
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0	01.03.17	PLANNING BOARD SUBMITTAL

plan submission
DEFINITIVE SUBDIVISION

date: 01.03.2017
scale: 1"=40'
job no: 2012-30
DEP no: 270-0675

COMMONWEALTH OF MASSACHUSETTS
Thad D Berry
No. 41258
CIVIL
REGISTERED PROFESSIONAL ENGINEER

drawing name
LAYOUT, UTILITIES & PAVEMENT MARKING/SIGNAGE PLAN

drawing number
C5

NOTE:
PROPOSED HOUSES, DECKS, DRIVEWAYS AND GRADING SPECIFIC TO EACH LOT, ARE SHOWN CONCEPTUAL FOR PLANNING PURPOSES ONLY. FINAL DESIGNFOR EACH LOT WITHIN THE BUILDING ENVELOPE AS SHOWN WILL BE REQUIRED PRIOR TO CONSTRUCTION.

PROPOSED WALL

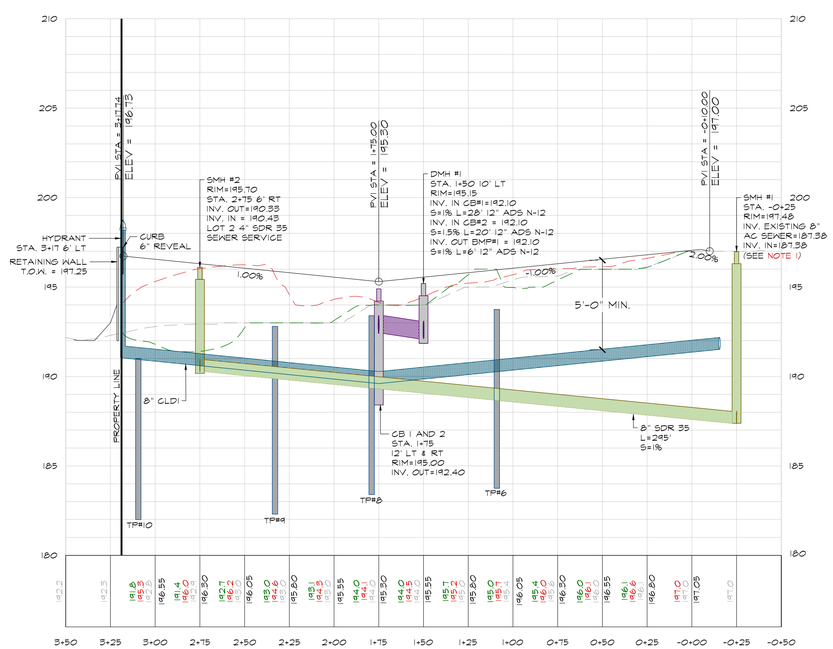
1. SEE SHEET C8 FOR RETAINING WALL DETIAL/OPTION. RETIANING WALL SHALL BE EITHER DRY LAID MASONARY ROCK OR SHEA BLOCK RETIANING WALL (OR EQUAL).

PROFILE NOTES:

1. SEWER INVERTS TAKEN FOR TOWN OF READING SEWER AS-BUILT PLAN - MAIN SEWER CONSTRUCTION LOWELL STREET (PLYMOUTH TO BARROWS) 000-L-425 SHEET 10 DATED 1927. CONTRACTOR SHALL CONFIRM INVERTS PRIOR TO CONSTRUCTION AND PURCHASE ANY SEWER STRUCTURES AND SEWER PIPE.

PLAN - LYLE ESTATES

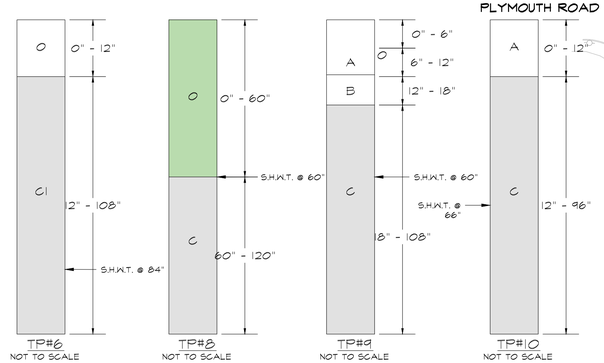
SCALE: 1"=40'



PROFILE - LYLE ESTATES

SCALE: 1"=4' (VERT.) & 1"=40' (HORIZ.)

SCALE BAR
HORIZ: 0 40' 80' 120'
VERT: 0 4' 8' 12'



AQUIFER PROTECTION DISTRICT RECHARGE CALCULATIONS

LOT 1 EXISTING HOUSE

AREA = 25,778 S.F.
UPLAND AREA = 16,999 S.F.

IMPERVIOUS SURFACE:

HOUSE AND ADDITION = 1,705 S.F.
DRIVEWAY = 433 S.F.
WALKWAY = 234 S.F. TOTAL = 2,372 S.F.

RECHARGE AREA REQUIRED = .15(16,999) = 2,550 S.F.
= 2,372 S.F. - 2,550 S.F.
= 178 S.F.

LOT 2

AREA = 46,080 S.F.
UPLAND AREA = 22,515 S.F.

IMPERVIOUS SURFACE:

HOUSE = 1,667 S.F.
DRIVEWAY = 272 S.F.
WALKWAY = 1,965 S.F. TOTAL = 3,904 S.F.

RECHARGE AREA REQUIRED = .15(24,585) = 3,687 S.F.
= 3,904 S.F. - 3,687 S.F.
= 217 S.F.

LOT 3

AREA = 25,778 S.F.
UPLAND AREA = 15,233 S.F.

IMPERVIOUS SURFACE:

HOUSE = 1,910 S.F.
DRIVEWAY = 727 S.F.
WALKWAY = 40 S.F. TOTAL = 2,677 S.F.

RECHARGE AREA REQUIRED = .15(15,233) = 2,550 S.F.
= 2,677 S.F. - 2,550 S.F.
= 177 S.F.

LOT 4

AREA = 25,778 S.F.
UPLAND AREA = 15,000 S.F.

IMPERVIOUS SURFACE:

HOUSE = 1,954 S.F.
DRIVEWAY = 671 S.F.
WALKWAY = 118 S.F. TOTAL = 2,743 S.F.

RECHARGE AREA REQUIRED = .15(15,000) = 2,250 S.F.
= 2,743 S.F. - 2,250 S.F.
= 493 S.F.

NOTE:
ALL STORM WATER RUNOFF GENERATED FROM THE SITE UNDER PROPOSED CONDITIONS IS BEING INFILTRATED FOR THE 100 YEAR 24 HOUR RAIN FALL EVENT (7.1").

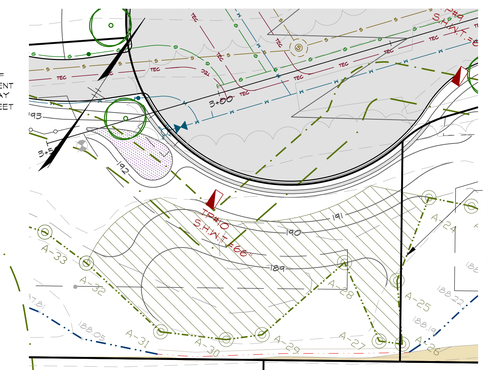
APPROVAL UNDER SUBDIVISION CONTROL LAW
READING PLANNING BOARD

DATE:

FOR REGISTRY USE ONLY

I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

DATE:

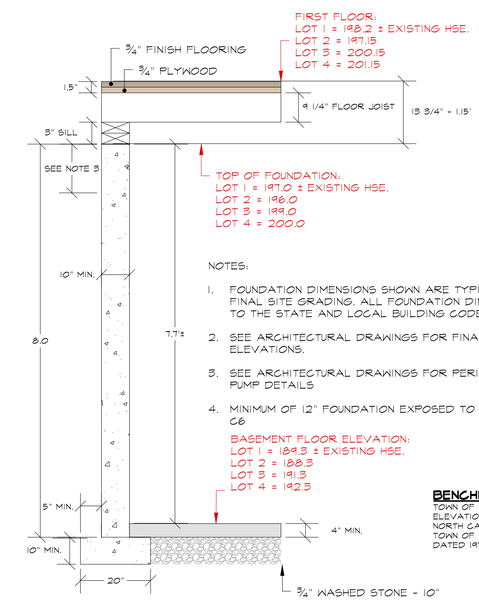


WETLAND RESTORATION DETAIL (KNOTWEED REMOVAL = 2,590 S.F.)

SCALE: 1"=10'

NOTES:

1. REMOVE AND DISPOSE NOT WEED (AREA = 2,590 S.F.).
2. EXCAVATE AND REMOVE/DISPOSE FILL (AREA = 2,590 S.F.).
3. ESTABLISH CENTER FLOW LINE (ELEV. = 188.0)
4. RE-VEGATATE AS DESCRIBE ON NOTICE OF INTENT BY WETLAND AND LAND MANAGEMENT INC.



NOTES:

1. FOUNDATION DIMENSIONS SHOWN ARE TYPICAL AND FOR PLANNING OF FINAL SITE GRADING. ALL FOUNDATION DIMENSIONS SHALL CONFORM TO THE STATE AND LOCAL BUILDING CODE REQUIREMENTS.
2. SEE ARCHITECTURAL DRAWINGS FOR FINAL FOUNDATION DETAIL AND ELEVATIONS.
3. SEE ARCHITECTURAL DRAWINGS FOR PERIMETER DRAIN AND OR SUMP PUMP DETAILS
4. MINIMUM OF 12" FOUNDATION EXPOSED TO FINISH GRADE - SEE SHEET C6

BENCHMARK (BM 1)
TOWN OF READING SEWER BASE
ELEVATION 198.93
NORTH CAP NUT ON HYDRANT
TOWN OF READING SEWER AS BUILT PLAN
DATED 1972

TYPICAL FOUNDATION DETAIL

NOT TO SCALE

SCALE BAR 0 20' 40' 60'
SCALE: 1"=20'

ASB
design group, LLC
civil engineering
traffic engineering
architecture
landscape design & construction
363 boston street, route 1
topsfield, ma 01983

project title:
LYLE ESTATES

prepared for:
JAMIESON PROPERTIES LLC
627 MAIN STREET, SUITE 1
WOBURN, MA 01801

parcel identification:
map: 26
block: NA
parcel: NA
lot: 157

revisions

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0	01.03.17	PLANNING BOARD SUBMITTAL

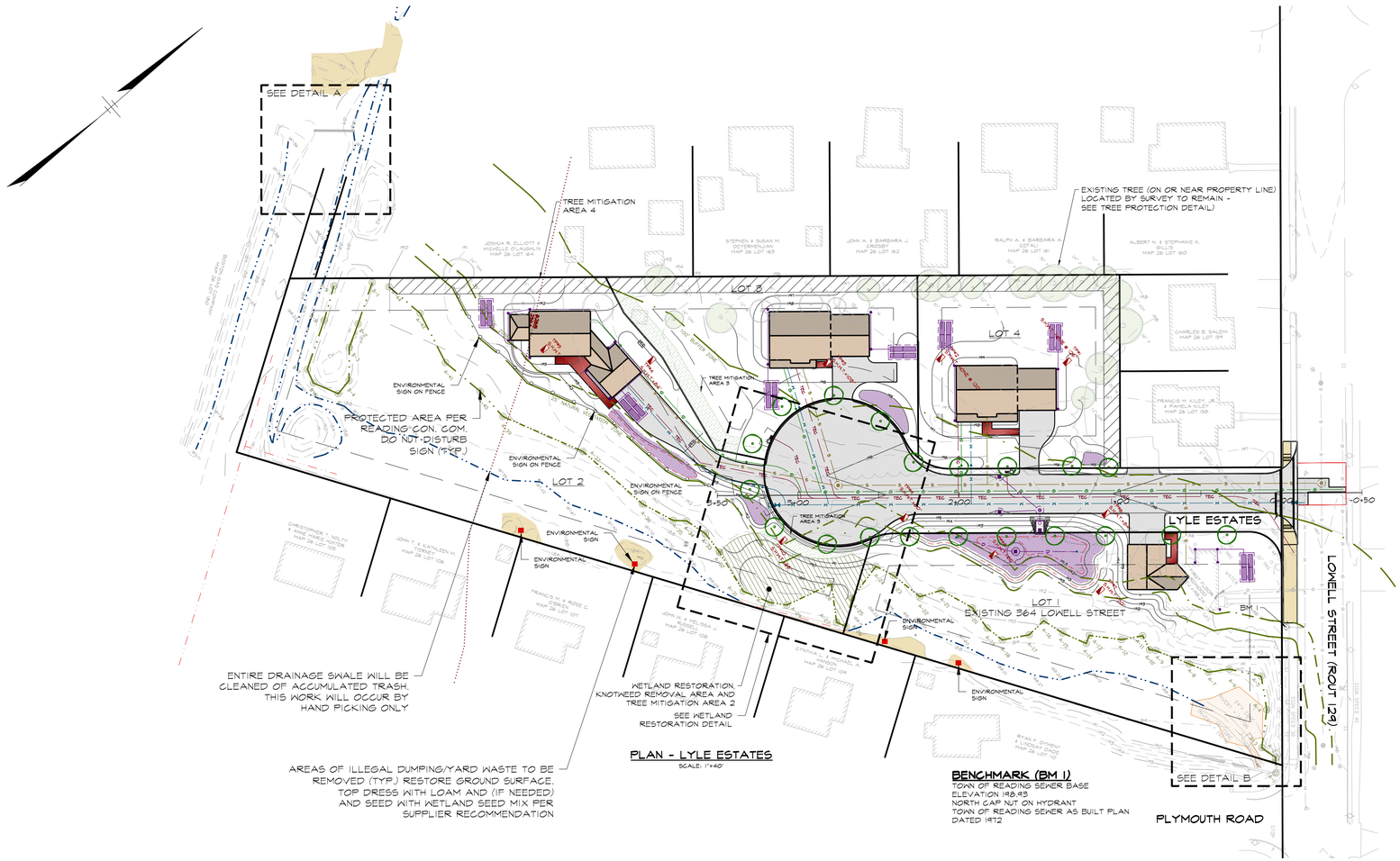
plan submission
DEFINITIVE SUBDIVISION

date: 01.03.2017
scale: AS NOTED
job no: 2012-30
DEP no: 270-0675

COMMONWEALTH OF MASSACHUSETTS
Thad D Berry
No. 43259
CIVIL
REGISTERED PROFESSIONAL ENGINEER

drawing name
SITE GRADING & DRAINAGE PLAN

drawing number
C6



PLAN - LYLE ESTATES

SCALE: 1"=40'

BENCHMARK (BM 1)
TOWN OF READING SEWER BASE
ELEVATION 198.93
NORTH CAP NUT ON HYDRANT
TOWN OF READING SEWER AS BUILT PLAN
DATED 1972

APPROVAL UNDER SUBDIVISION CONTROL LAW
READING PLANNING BOARD

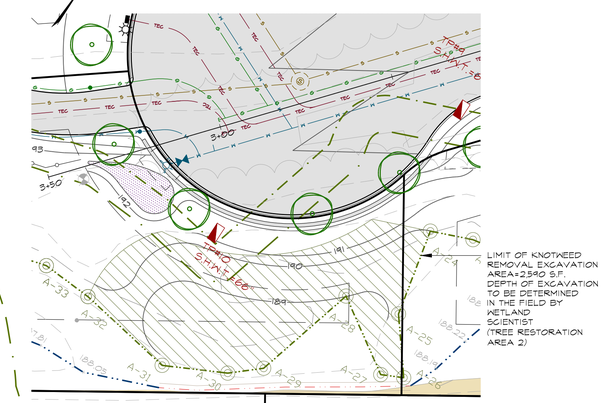
DATE:

FOR REGISTRY USE ONLY

I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

Thad D Berry

DATE:



WETLAND RESTORATION DETAIL (KNOTWEED REMOVAL = 2,590 S.F.)

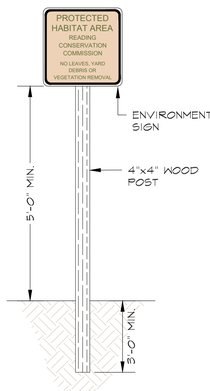
SCALE: 1"=20'

NOTES:

1. REMOVE AND DISPOSE KNOTWEED (AREA = 2,590 S.F.).
2. EXCAVATE AND REMOVE/DISPOSE FILL (AREA = 2,590 S.F.).
3. ESTABLISH CENTER FLOW LINE (ELEV. = 188.0)
4. RE-VEGATATE AS DESCRIBE ON NOTICE OF INTENT BY WETLANDS MANAGEMENT INC.
5. LOCATION OF TREE RESTORATION AREA 2.

■ ENVIRONMENTAL SIGN LOCATION ON POST (4)

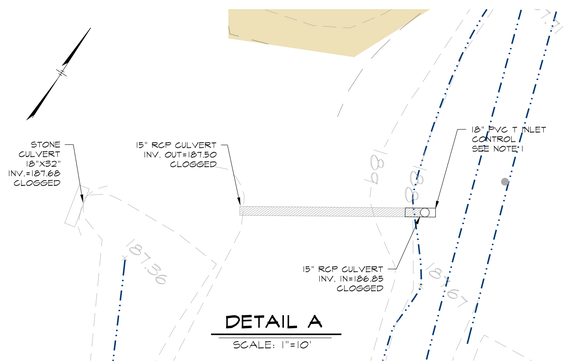
3 ENVIRONMENTAL SIGNS TO BE PLACED ON SPLIT RAIL FENCE - LOT 2 (SEE ABOVE FOR LOCATIONS)/POST



WOODEN SIGN POST DETAIL

NOT TO SCALE

SIGN	SIGN DESIGNATION	SIGN SIZES
PROTECTED HABITAT AREA READING CONSERVATION COMMISSION NO LEAVES, YARD DEBRIS OR VEGETATION REMOVAL	EI-1	12" X 12"



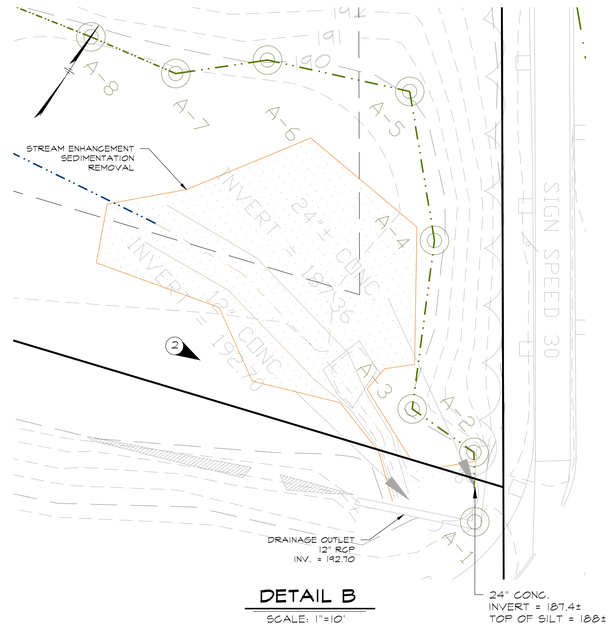
DETAIL A

SCALE: 1"=10'

NOTE 1:

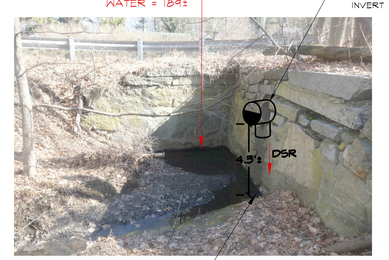
- HAND EXCAVATE AND UNCLOG INLET AND OUTLET.
- INSTALL 18" PVC T INLET CONTROL.
- AT TIME OF INSTALLATION DETERMINE OVERFLOW ELEVATION. (MIN.=188.50) ABOVE TOP OF RCP PIPE.

18" PVC T INLET CONTROL



DETAIL B

SCALE: 1"=10'

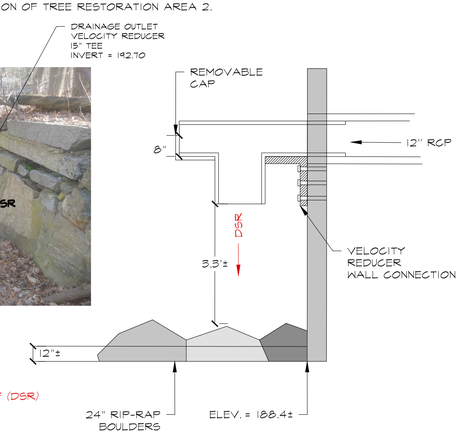


PHOTOGRAPH 2

DIRECTION OF STORMWATER RUNOFF (DSR)
DSR

NOTE 1:

- HAND RAKE AND REMOVE SILTATION.
- INSTALL 24" RIP-RAP BOULDERS (12" BELOW EXISTING GRADE).
- INSTALLATION VELOCITY REDUCER AT OUTLET.



15" PVC T VELOCITY REDUCER

SCALE BAR 0 10' 20' SCALE: 1"=10' 30'
SCALE BAR 0 20' 40' SCALE: 1"=20' 60'
SCALE BAR 0 40' 80' SCALE: 1"=40' 120'

ASB
design group, LLC
civil engineering
traffic engineering
architecture
landscape design & construction
363 boston street, route 1
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project title:
LYLE ESTATES

prepared for:
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plan submission
DEFINITIVE SUBDIVISION

date: 01.03.2017
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job no: 2012-30
DEP no: 270-0675

COMMONWEALTH OF MASSACHUSETTS
Thad D Berry
No. 41258
CIVIL
REGISTERED PROFESSIONAL ENGINEER

drawing name
WETLAND AND BUFFER ZONE MITIGATION PLAN

drawing number
C7

APPROVAL UNDER SUBDIVISION CONTROL LAW
READING PLANNING BOARD

DATE:

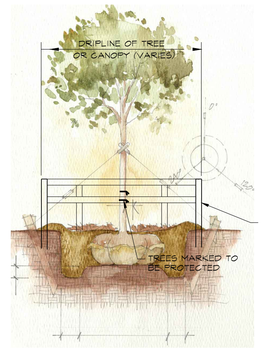
FOR REGISTRY USE ONLY

I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

DATE:

NOTE:

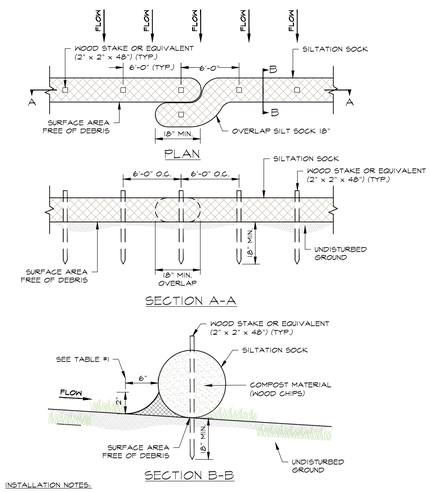
1. EROSION CONTROL BARRIER TO BE STAKED IN THE FIELD BY SURVEYOR PRIOR TO CONSTRUCTION.
2. MATERIAL STOCKPILE AREA WILL BE SURROUNDED BY AN EROSION CONTROL BARRIER. (HAY BALES, SILTATION FENCE, AND/OR SILTATION SOCK). LOT 4 WILL ACT AS MATERIAL STOCKPILE AREA DURING CONSTRUCTION. MATERIAL STOCKPILE AREA SHALL BE PLACED WITHIN AREA TO BE CLEAR FOR LOT 4 HOUSE CONSTRUCTION AND OUTSIDE THE 100' BUFFER ZONE.
3. ALL LOAM IS TO REMAIN ON SITE UNTIL ALL AREAS ARE LOAMED AND SEEDED. EXCESS LOAM SHALL BE REMOVED FROM THE SITE AT THE COMPLETION FOR ROADWAY AND LOT CONSRUCTION.
4. FOR INDIVIDUAL LOT CONSTRUCTION CONTRACTOR SHALL PLACE ALL MATERIALS WITHIN THE ZONE OF CONSTRUCTIONS SURROUNDED BY EROSION CONTROL BARRIER (HAY BALES, SILTATION FENCE, AND/OR SILTATION SOCK). CONTRACTOR IS RESPONSIBLE FOR MOVEMENT OF ALL MATERIALS ON THE LOTS IN ORDER TO COMPLETE CONSTRUCTION IN CONFORMANCE WITH THE PLANS, DETAILS, SPECIFICATIONS AND READING CONSERVATION COMMISSION ORDER OF CONDITIONS.
5. CONSTRUCTION ENTRANCE WILL BE INSTALLED FOR VEHICLE ACCESS TO CONSTRUCTION STAGING AREA.
6. CONCRETE WASHOUT AREA WILL BE A MINIMUM OF 6'X6' AND BE SURROUNDED BY A SINGLE ROW OF STACKED HAY BALES. ALL HARDENED CONCRETE WILL BE REMOVED AND DISPOSED OF OFF SITE IN ACCORDANCE WITH THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION'S (MADEP)RULES AND REGULATIONS.
7. ALL CATCH BASINS WILL BE PROTECTED BY A "SILT BAG INLET PROTECTION".
8. BMPS WILL ACT AS TEMPORARY SEDIMENTATION POND DURING CONSTRUCTION. THEREFOR THE INITIAL BASIN EXCAVATION SHOULD BE TAKEN TO NO MORE THAN 1 FT OF THE FINISH BASIN FLOOR ELEVATION EXCEPT TO ACCOMMODATE THE BASIN OUTLET. ACCUMULATED SEDIMENTS SHALL BE REMOVED DURING FINAL BMP CONSTRUCTION AND STABILIZATION. REMOVE SEDIMENTS WHEN DEPTH REACHES 12".
9. DURING BUILDING CONSTRUCTION A VEHICLE WASH AREA WILL BE LOCATED WITHIN THE GENERAL BUILDING AREA CONSTRUCTION LIMITS.



PROVIDE SIMPLE WOOD FENCING OR ORANGE CONSTRUCTION FENCE AROUND ALL TREES MARKED TO BE PROTECTED (STAKED IN FIELD BY SURVEYOR PRIOR TO TREE/SITE CLEARING LIMITS OF FENCE MUST EXTEND BEYOND DRIPLINE

TYPICAL TREE PROTECTION FENCE

NOTE:
DO NOT STORE ANY MACHINERY OR MATERIALS WITHIN THE AREA OF THE TREE PROTECTION FENCING



INSTALLATION NOTES:

1. INSTALL SILT SOCK ON A SURFACE CLEAR OF DEBRIS.
2. OVERLAP ENDS BY A MINIMUM OF 18-INCHES.
3. END OF SILT SOCK TO BE DIRECTED UP SLOPE.
4. PLACE STAKES THROUGH SILT SOCK OR ON DOWNSTREAM SIDE.
5. ON SLOPES GREATER THAN 2:1 (12:1) SEED COMPOST SOCK IS REGOMMENDED.

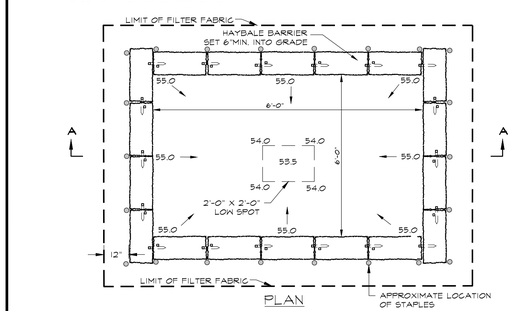
TABLE #1

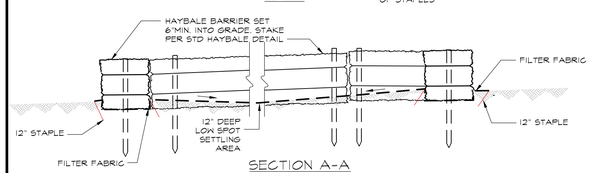
SLOPE	SOCK DIAMETER (MIN.)	STAKING	2" COMPOST BARRIER (WOOD CHIPS)
< 50:1	9"	6' O.C.	---
50:1 TO 10:1	9"	6' O.C.	---
10:1 TO 5:1	12"	6' O.C.	---
5:1 TO 2:1	12"	4' O.C.	---
> 2:1	18"	4' O.C.	RECOMMENDED

USE 9" SOCK

SILTATION SOCK DETAIL

NOT TO SCALE

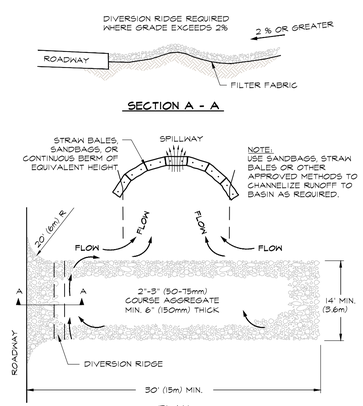




CONCRETE WASH OUT BASIN

NOT TO SCALE

ALL CONCRETE WASTE TO BE REMOVED AND DISPOSED OF OFF SITE IN ACCORDANCE WILL ALL FEDERAL, STATE AND LOCAL RULES AND REGULATIONS

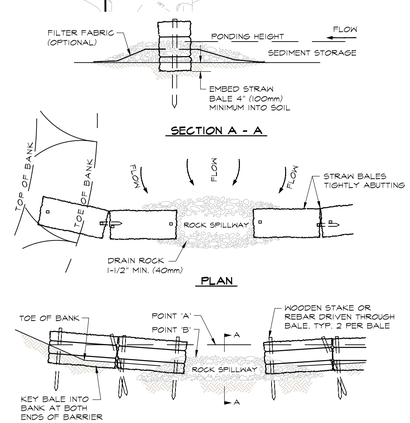


NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. ADJACENT STREETS SHALL BE SWEPT.

TEMPORARY CONSTRUCTION ENTRANCE

NOT TO SCALE

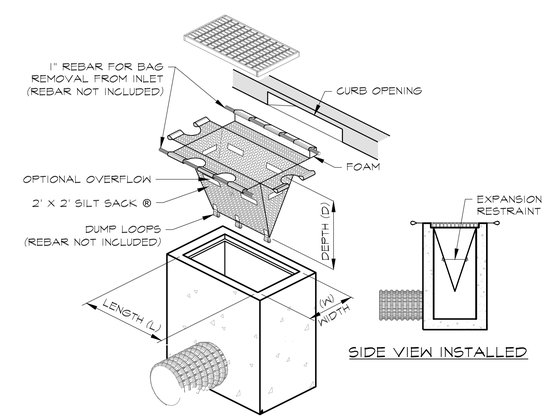


NOTES:

1. PLACE BALES PERPENDICULAR TO FLOW.
2. EMBED THE BALE 4" (100mm) INTO THE SOIL AND "KEY" THE END BALES INTO THE CHANNEL BANKS TO PREVENT FLOW AROUND THE BALES.
3. BALES PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING.
4. POINT "A" SHALL BE HIGHER THAN POINT "B".
5. SPILLWAY HEIGHT SHALL NOT EXCEED 24" (0.6m).

SEMI-PERVIOUS STRAW BALE SEDIMENT BARRIER

NOT TO SCALE



SILT BAG INLET PROTECTECTION

NOT TO SCALE

ASB

design group, LLC

civil engineering
traffic engineering
architecture
landscape design & construction

363 boston street, route 1
topsfield, ma 01983

project title:

LYLE ESTATES

prepared for:

JAMIESON PROPERTIES LLC
627 MAIN STREET, SUITE 1
WOBURN, MA 01801

parcel identification:

map: 26
block: NA
parcel: NA
lot: 157

revisions

no.	date	description
0	10.25.16	NOI SUBMITTAL
0	01.03.17	PLANNING BOARD SUBMITTAL

plan submission

DEFINITIVE SUBDIVISION

date: 01.03.2017
scale: 1"=40'
job no: 2012-30
DEP no: 270-0675

COMMONWEALTH OF MASSACHUSETTS
Thad D Berry
No. 43258
CIVIL
REGISTERED PROFESSIONAL ENGINEER

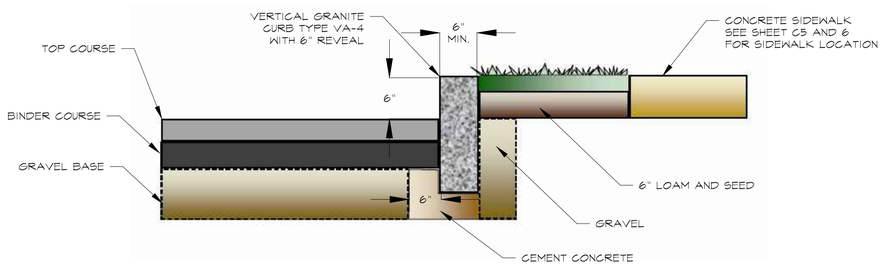
drawing name

SWPPP & EROSION CONTROL DETAILS

drawing number

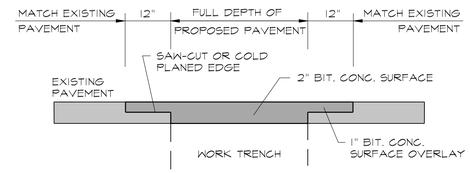
C8

sheet 8 of 11



VERTICAL GRANITE CURB

NOT TO SCALE

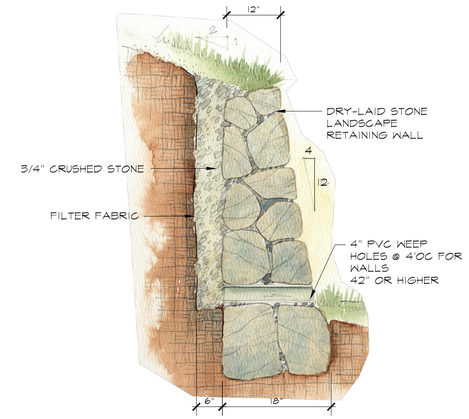


NOTES:

1. CLEAN AREA OF ANY LOOSE DEBRIS. AREA SHOULD BE FREE OF DUST OR DIRT, AND THOROUGHLY DRIED.
2. A TACK COAT OF EMULSIFIED ASPHALT SHALL BE APPLIED TO THE SAW CUT AREA PRIOR TO PAVING.

PAVEMENT SAW-CUT

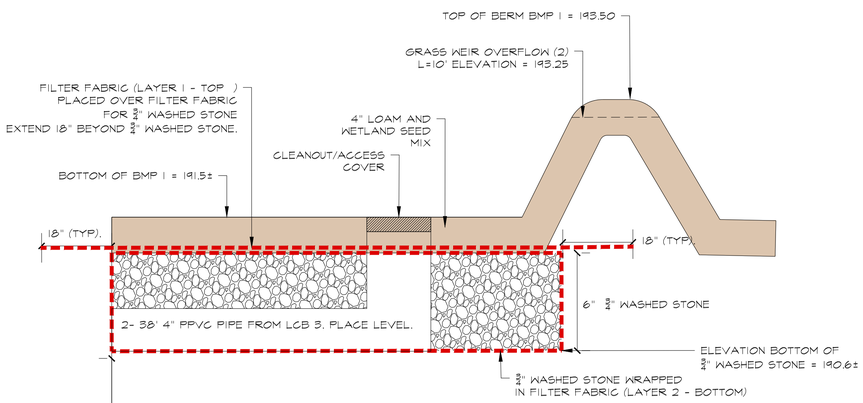
NOT TO SCALE



SECTION

DRY-LAID MASONRY STONE RETAINING WALL

NOT TO SCALE

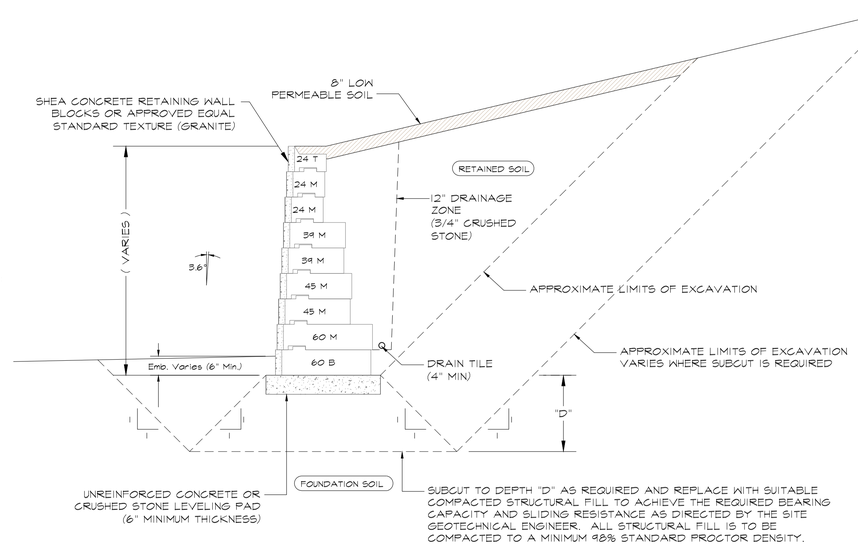


TOTAL INFILTRATION AREA:

INFILTRATION AREA BMP 1= 1863 S.F.

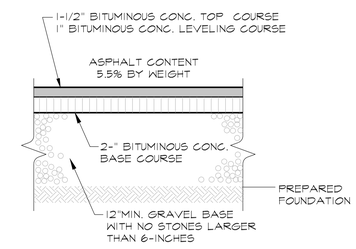
- INFILTRATION RATE: 8.27 IN/HR
- Q = (K) x (BOTTOM AREA OF ALL INFILTRATION SYSTEMS)
- Q = (8.27 IN/HR) x (1863) S.F. SYSTEM) x $\frac{(1' \times 1 HR)}{(12" \times 3600 sec)}$
- Q = 0.357 cfs SAY 0.36 cfs

BMP # DETAIL



TYPICAL BLOCK RETAINING WALL CROSS-SECTION (SHEA CONCRETE)

NOT TO SCALE



TYPICAL PAVEMENT SECTION

NOT TO SCALE

INFILTRATION CALCULATIONS:

TEXTURE CLASS	NRCS HYDROLOGIC SOIL GROUP (HSG)	INFILTRATION RATE (INCHES/HOUR)
SAND	A	8.27
LOAMY SAND	A	2.41
SANDY LOAM	B	1.02
LOAM	B	0.52
SILT LOAM	C	0.27
SANDY CLAY LOAM	C	0.17
CLAY LOAM	D	0.09
SILTY CLAY LOAM	D	0.06
SANDY CLAY	D	0.05
SILTY CLAY	D	0.04
CLAY	D	0.02

INFILTRATION FOR ROOF ("STATIC" METHOD)

- INFILTRATION RATE: 8.27 IN/HR
- Q = (K) x (BOTTOM AREA OF ALL INFILTRATION SYSTEMS)
- Q = (8.27 IN/HR) x (342 S.F. SYSTEM) x $\frac{(1' \times 1 HR)}{(12" \times 3600 sec)}$
- Q = 0.065 cfs SAY 0.06 cfs

IF DOWN SPOUTS ARE NOT USED THE CONTRACTOR SHALL INSTALL A STONE DRIP EDGE (12" WIDE MINIMUM) AT ALL ROOF DRIP EDGES THAT DISCHARGES STORMWATER ROOF RUNOFF.

INFILTRATION:

INFILTRATION SYSTEM INFILTRATES 100 YEAR STORM EVENT (7.1" OF RAIN IN 24 HOURS). SEE PROJECT DATA REPORT - POST HYDROLOGY ROOF RUNOFF.

TOTAL INFILTRATION AREA:

2X5'X18' + 18'X9' = INFILTRATION AREA

180 S.F.' + 162 S.F.' = INFILTRATION AREA

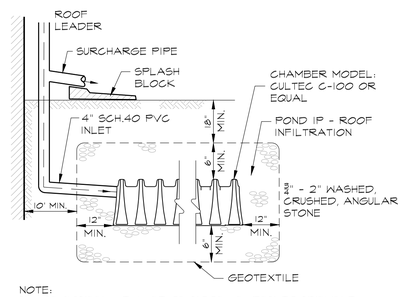
342 S.F.' = INFILTRATION AREA

TOTAL ROOF AREA:

LARGEST ROOF AREA LOT 2 = 2012 S.F.

ROOF AREA LOT 3 = 1888 S.F.

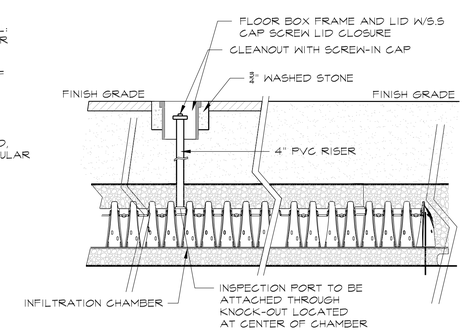
ROOF AREA LOT 4 = 1756 S.F.



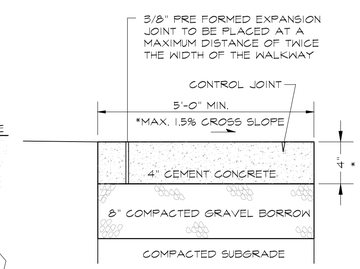
NOTE:
PLACE SCREEN AT INLET OF ROOF LEADER TO PREVENT LEAVES AND OTHER DEBRIS FROM DISCHARGING INTO THE ROOF LEADER.

ROOF DRAIN INFILTRATION SYSTEM & OVERFLOW

NOT TO SCALE



INSPECTION PORT DETAIL

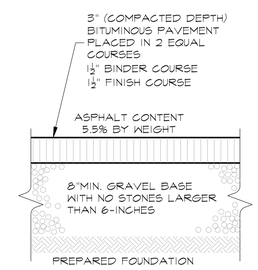


NOTE: CEMENT CONCRETE STRENGTH 4000 PSI W/ 5% TO 7% AIR ENTRAINMENT

CONCRETE SIDEWALK DETAIL

NOT TO SCALE

* CONCRETE TO BE 5" @ THE ATTACHED RAMPS



SIDEWALK & DRIVE APRON PAVEMENT SECTION

NOT TO SCALE

NOTE:
ALL DRIVEWAY APRONS TO CONSTRUCTED UP TO AND WITHIN THE (PROPOSED) ROW

FOR REGISTRY USE ONLY

I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

Thad D Berry

DATE: _____

APPROVAL UNDER SUBDIVISION CONTROL LAW READING PLANNING BOARD

_____

_____

_____

_____

_____

_____

_____

DATE: _____

ASB
design group, LLC
civil engineering
traffic engineering
architecture
landscape design & construction
363 boston street, route 1
topsfield, ma 01983

project title:
LYLE ESTATES

prepared for:
JAMIESON PROPERTIES LLC
627 MAIN STREET, SUITE 1
WOBURN, MA 01801

parcel identification:
map: 26
block: NA
parcel: NA
lot: 157

revisions

no.	date	description
0	10.25.16	NOI SUBMITTAL
0	01.03.17	PLANNING BOARD SUBMITTAL

plan submission
DEFINITIVE SUBDIVISION

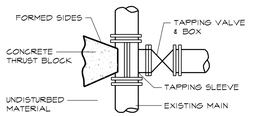
date: 01.03.2017
scale: NOT TO SCALE
job no: 2012-30
DEP no: 270-0675

COMMONWEALTH OF MASSACHUSETTS
Thad D Berry
No. 41258
CIVIL
REGISTERED PROFESSIONAL ENGINEER

Thad D Berry

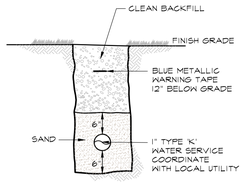
drawing name
SITE DETAILS

drawing number
C9



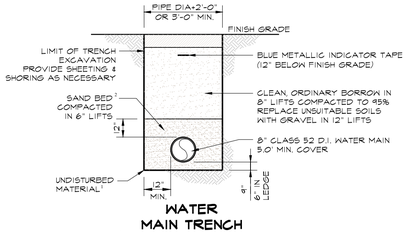
TAPPING SLEEVE & VALVE DETAIL

NOT TO SCALE



WATER SERVICE TRENCH

NOT TO SCALE



WATER MAIN TRENCH

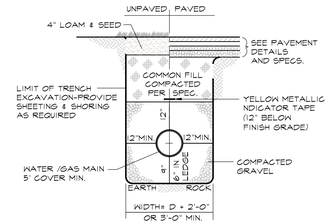
NOT TO SCALE

TRENCH NOTES:

1) FIRM FOUNDATION SOILS (2000 PSI MIN.) REQUIRED. REPLACE UNSUITABLE SOILS WITH GRAVEL AS DIRECTED.

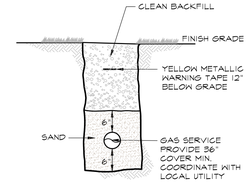
2) MHD M1.04.0 SAND SPEC. FOR WATER PIPE.

3) TRENCH TO CONFORM TO TOWN STANDARDS - CONTRACTOR TO CONFIRM.



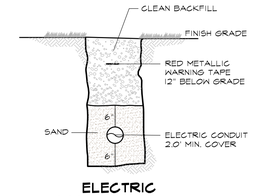
GAS MAIN TRENCH

NOT TO SCALE



GAS SERVICE TRENCH

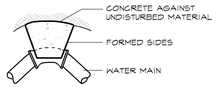
NOT TO SCALE



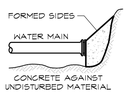
ELECTRIC SERVICE TRENCH

NOT TO SCALE

NOTE: COORDINATE DEPTH OF CONDUIT WITH UTILITY COMPANY REQUIREMENTS



BEND-PLAN

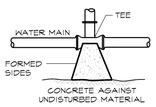


PLUG ELEVATION

NOTE:

1) CONCRETE FOR THRUST BLOCKS SHALL HAVE A MINIMUM COMPREHENSIVE STRENGTH OF 2000 PSI AT 28 DAYS

2) THRUST BLOCK BEARING AREAS TO BE IN ACCORDANCE WITH TABLE BELOW UNLESS DETERMINED OTHERWISE BY THE ENGINEER BECAUSE OF SOIL CONDITIONS



TEE-PLAN

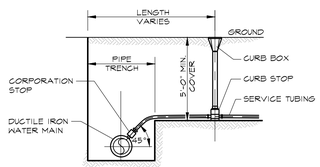
TABLE OF BEARING AREAS (S.F.)

SIZE OF MAIN (IN.)	90°* BEND	TEES & PLUGS	45° BEND
8±	6	4	3
12	12	9	6

* RESTRAINED JOINTS ARE ALSO REQUIRED

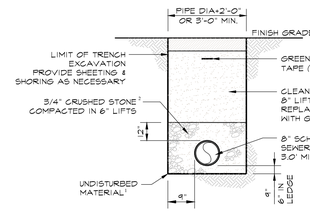
THRUST BLOCK DETAILS

NOT TO SCALE



TYPICAL WATER SERVICE

NOT TO SCALE



SEWER MAIN TRENCH

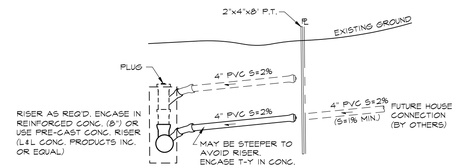
NOT TO SCALE

TRENCH NOTES:

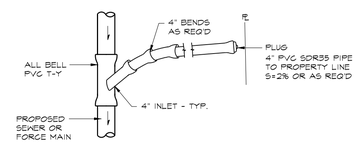
1) FIRM FOUNDATION SOILS (2000 PSI MIN.) REQUIRED. REPLACE UNSUITABLE SOILS WITH GRAVEL AS DIRECTED.

2) MHD M2.01.7 CRUSHED STONE SPEC. FOR SEWER PIPE.

3) SEWER TRENCH TO CONFORM TO TOWN STANDARDS - CONTRACTOR TO CONFIRM.



PROFILE



PLAN

LATERAL SEWER CONNECTION

NOT TO SCALE

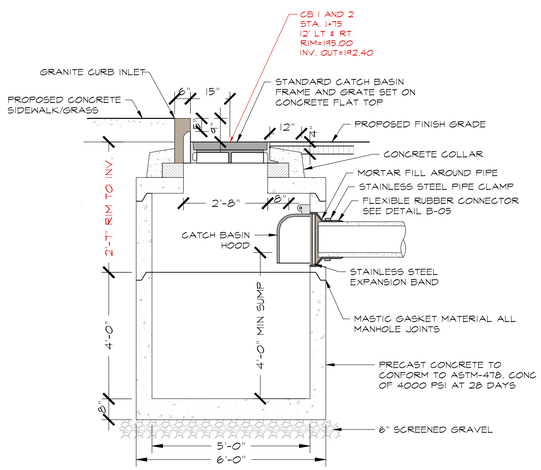
FOR REGISTRY USE ONLY

APPROVAL UNDER SUBDIVISION CONTROL LAW
READING PLANNING BOARD

DATE:

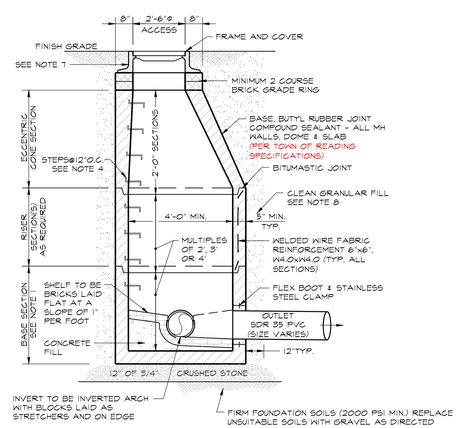
I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

DATE:



SHALLOW CATCH BASIN

NOT TO SCALE



PRE-CAST CONCRETE SEWER MANHOLE

NOT TO SCALE

(ALSO SEE THE TOWN OF READING SEWER STANDARDS)

SEWER MANHOLE NOTES:

1) BASE SECTION SHALL BE MONOLITHIC WITH 48-INCH INSIDE DIAMETER.

2) ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.

3) CONCRETE SHALL BE COMPRESSIVE STRENGTH 4000psi TYPE II CEMENT. PRE-CAST REINFORCED CONCRETE SHALL BE ASTM C-478.

4) MANHOLE STEPS SHALL BE REINFORCED COPOLYMER POLYPROPYLENE M.H. STEPS INSTALLED @12"OC WITH A 6" PROJECTION (NA INDUSTRIES INC. STEP MODEL NO.PS-1-PF PR EQUAL) FOR THE FULL DEPTH OF THE STRUCTURE.

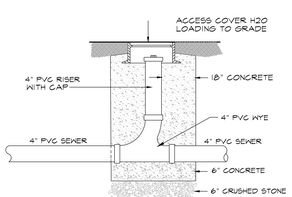
5) STANDARD SEWER MANHOLE FRAME SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 COURSE MAXIMUM).

6) FRAME AND COVER SHALL BE LABARON LA 326-1 CAST IRON OR ENGINEER APPROVED EQUAL. THE WORD "SEWER" SHALL BE CAST INTO THE COVER WITH 3-INCH LETTERS.

7) CLEAN GRANULAR FILL SHALL BE FREE FROM FROM ORGANIC MATTER, LARGE STONES, STUMPS, MASONRY, FROZEN EARTH, WOOD, TREE BRANCHES & WASTE CONSTRUCTION MATERIAL. PLACE AND MECHANICALLY COMPACT IN 12" LIFTS TO 95% OF MAX. STANDARD PROCTOR COMPACTION.

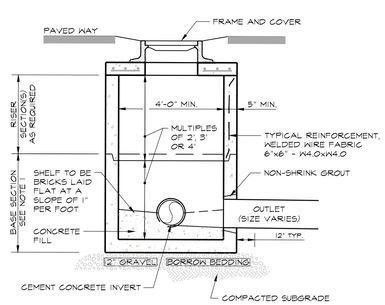
8) FOLLOWING ALL INSTALLATIONS VACUUM TEST MANHOLES AND PRESSURE TEST SEWERS .

9) TRENCH SHEETING & BRACING TO BE SUPPLIED AS REQUIRED.



SEWER CLEANOUT - LOT 2

NOT TO SCALE



FLAT TOP DRAIN MANHOLE

NOT TO SCALE

UTILITY NOTES

1) ALL WORK ASSOCIATED WITH MAKING, REMOVING, OR REPAIRING A CONNECTION TO AN EXISTING STUB, OR THE CONSTRUCTION OF ANY NEW LINE, EXTENSION, OR CONNECTION MUST BE PERFORMED BY A DRAIN LAYER LICENSED BY THE TOWN.

2) AT THE TIME A CONNECTION IS MADE AND INSPECTED, IT IS THE RESPONSIBILITY OF THE DRAIN LAYER TO PROVIDE THE INSPECTOR WITH AN AS-BUILT DRAWING OF THE INSTALLATION, CLEARLY SHOWING THE COURSE OF THE LINE, ANY CLEAN OUTS, AND ANY OTHER PERTINENT DETAILS. NO FURTHER CONNECTION PERMIT APPLICATIONS WILL BE ACCEPTED FROM A DRAIN LAYER UNTIL THIS REQUIREMENT IS FULFILLED.

3) ALL MANHOLES MUST BE APPROVED BY THE TOWN OF READING ENGINEERING/D.P.W.

4) TYPE AND SIZE OF WATER MAIN EXTENSION: 8" D.I. CLASS 52. ALL MATERIALS TO CONFORM TO THE TOWN WATER DEPARTMENT STANDARDS.

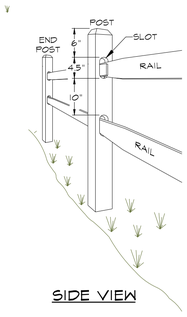
5) TYPE AND SIZE OF WATER SERVICE PIPE: 1" NOMINAL (MINIMUM) FROM PROPERTY LINE TO FOUNDATION. ALL MATERIALS TO CONFORM TO THE TOWN WATER DEPARTMENT STANDARDS.

6) JOINTS MUST BE WATERTIGHT. COMPRESSION GASKETS TO BE WIPED CLEAN AND LUBRICATED IMMEDIATELY PRIOR TO CONNECTION.

7) LINES SHALL BE LAID AS STRAIGHT AS POSSIBLE, WITH MINIMUM BENDS.

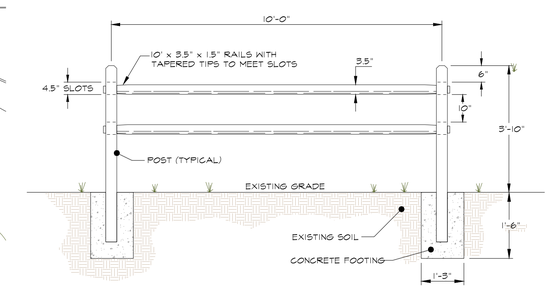
8) BEDDING SHALL BE ADEQUATE TO ASSURE NO DEFORMATION OF THE PIPE AFTER BACKFILLING. MATERIAL MUST BE PROCESSED SAND OR CRUSHED STONE, NO LARGER THAN 3/4-INCH, COMPACTED TO A MINIMUM DEPTH OF 6" BELOW PIPE, AND USED AS COVER TO A MINIMUM OF 6 INCHES OVER THE PIPE.

9) THE ENTIRE LENGTH OF THE WORK INCLUDING JOINTS MUST BE INSPECTED PRIOR TO BACK FILLING.



SIDE VIEW

NOTES:
1) ALL WOOD FOR SPLIT RAIL FENCE TO BE PRESSURE TREATED.
2) END POST SHALL BE TERMINAL POST.



FRONT VIEW

SPLIT-RAIL FENCE DETAIL - LOT 2

NOT TO SCALE

ASB
design group, LLC
civil engineering
traffic engineering
architecture
landscape design & construction
363 boston street, route 1
topsfield, ma 01983

project title:
LYLE ESTATES

prepared for:
JAMIESON PROPERTIES LLC
627 MAIN STREET, SUITE 1
WOBURN, MA 01801

parcel identification:
map: 26
block: NA
parcel: NA
lot: 157

revisions

no.	date	description
0	10.25.16	NOI SUBMITTAL
0	01.03.17	PLANNING BOARD SUBMITTAL

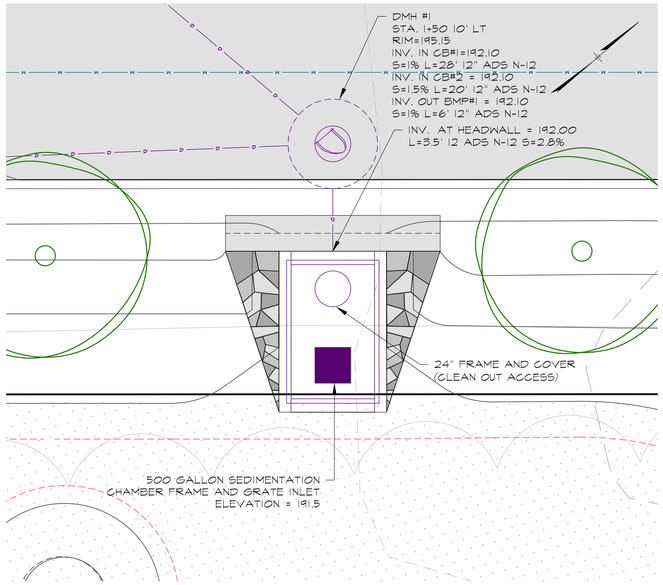
plan submission
DEFINITIVE SUBDIVISION

date: 01.03.2017
scale: NOT TO SCALE
job no: 2012-30
DEP no: 270-0675

COMMONWEALTH OF MASSACHUSETTS
Thad D Berry
No. 41258
CIVIL
REGISTERED PROFESSIONAL ENGINEER

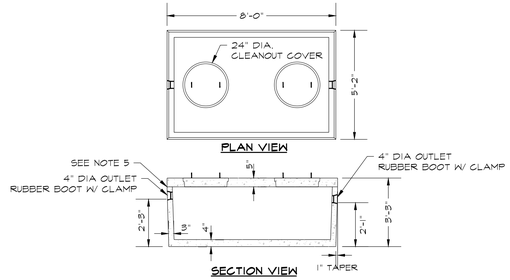
drawing name
UTILITY DETAILS

drawing number
C10



HEADWALL #1 PLAN VIEW

SCALE: 1"=4'



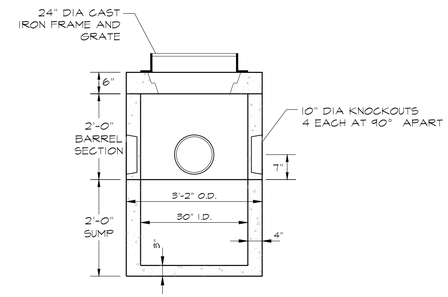
NOTES:

1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGN CONFORMS WITH 310 CMR 15.000, DEP TITLE 5 REGS, FOR PUMP CHAMBERS.
3. ALL REINFORCEMENT PER ASTM C1227.
4. JOINT SEALED WITH BUTYL RESIN.
5. SHEA CONCRETE 500 GALLON LOW PROFILE TANK OR APPROVED EQUAL.

500 GALLON LOW PROFILE TANK

NOT TO SCALE

SECTIONS	ITEM NO	WEIGHT
1'-0" RISER	MC-MCB12RH	440#
2'-0" RISER	MC-MCB24RH	880#
3'-0" RISER	MC-MCB36RH	1320#
2'-0" BASE	MC-MCB24SH	1175#
2'-0" BARREL	MC-MCB24BSH	880#
38" COVER	MC-MCB38CH	585#



NOTES:

1) CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
2) DESIGNED FOR H-20 LOADING.
3) SHEA CONCRETE MINI CATCH BASIN OR APPROVED EQUAL.

30" LANDSCAPE CATCH BASIN

NOT TO SCALE

I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

Thad D Berry

DATE: _____

FOR REGISTRY USE ONLY

APPROVAL UNDER SUBDIVISION CONTROL LAW
READING PLANNING BOARD

_____

_____

_____

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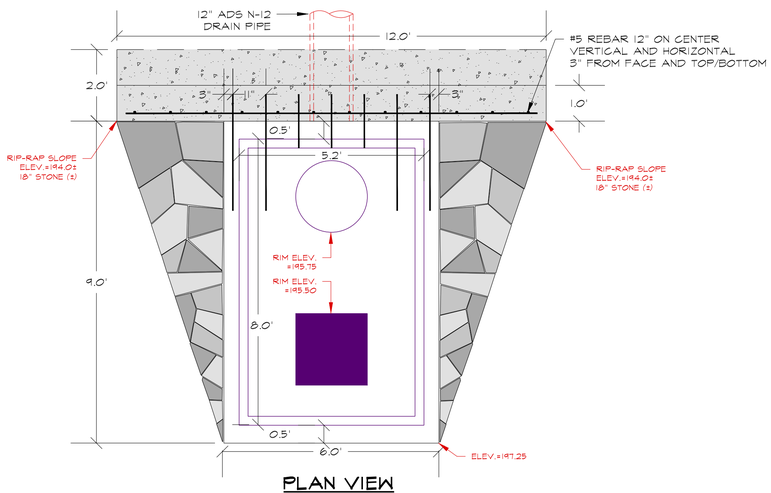
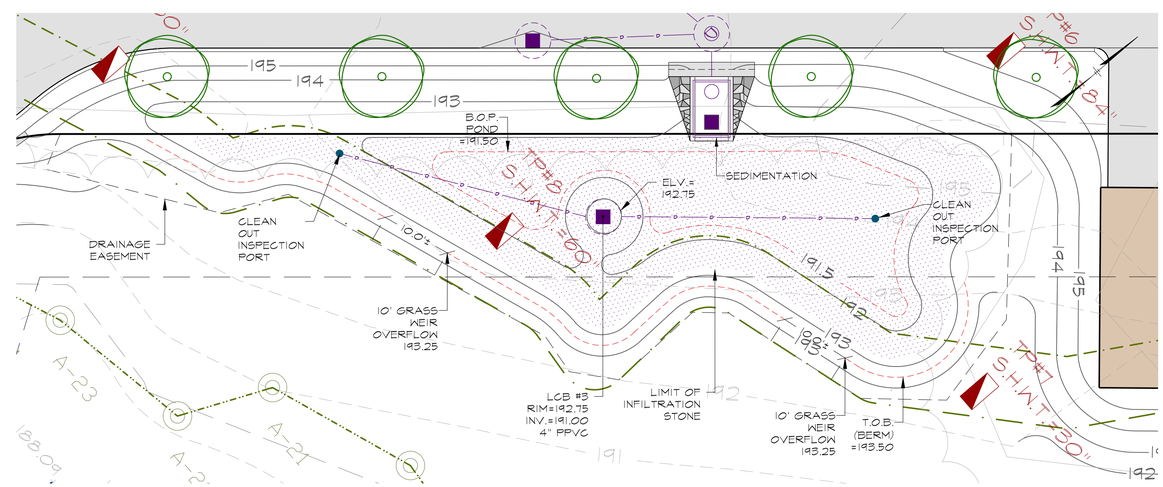
DATE: _____



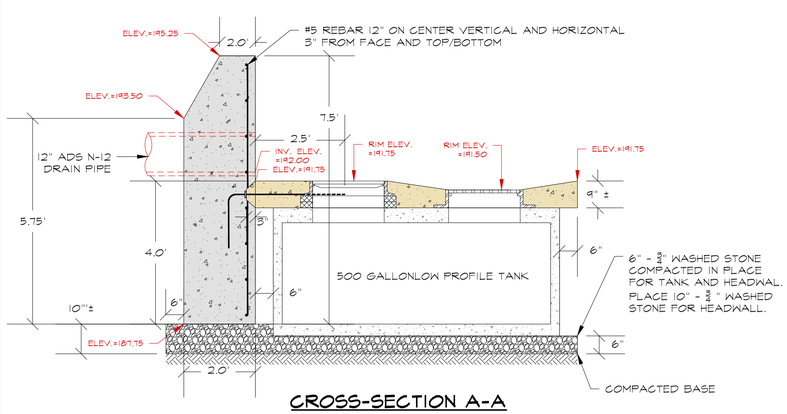
PLAN VIEW

SCALE: 1"=2'



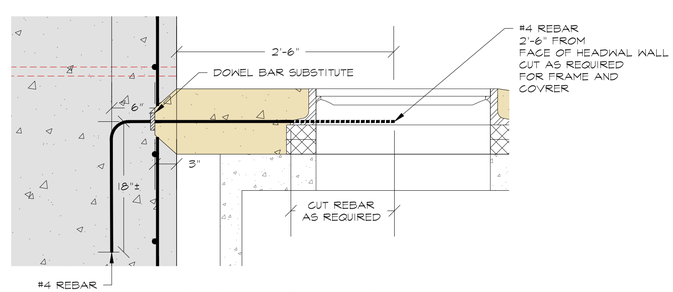
BMP PLAN VIEW

SCALE: 1"=10'



CROSS-SECTION A-A

SCALE: 1"=2'



DOWEL BAR SUBSTITUTE DETIAL

NTS SCALE

SCALE BAR
0 4' 8' 12'
SCALE: 1"=4'

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civil engineering
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drawing name

HEADWALL #1
AND BMP #1
DETAILS

drawing number

C11

sheet 11 of 11