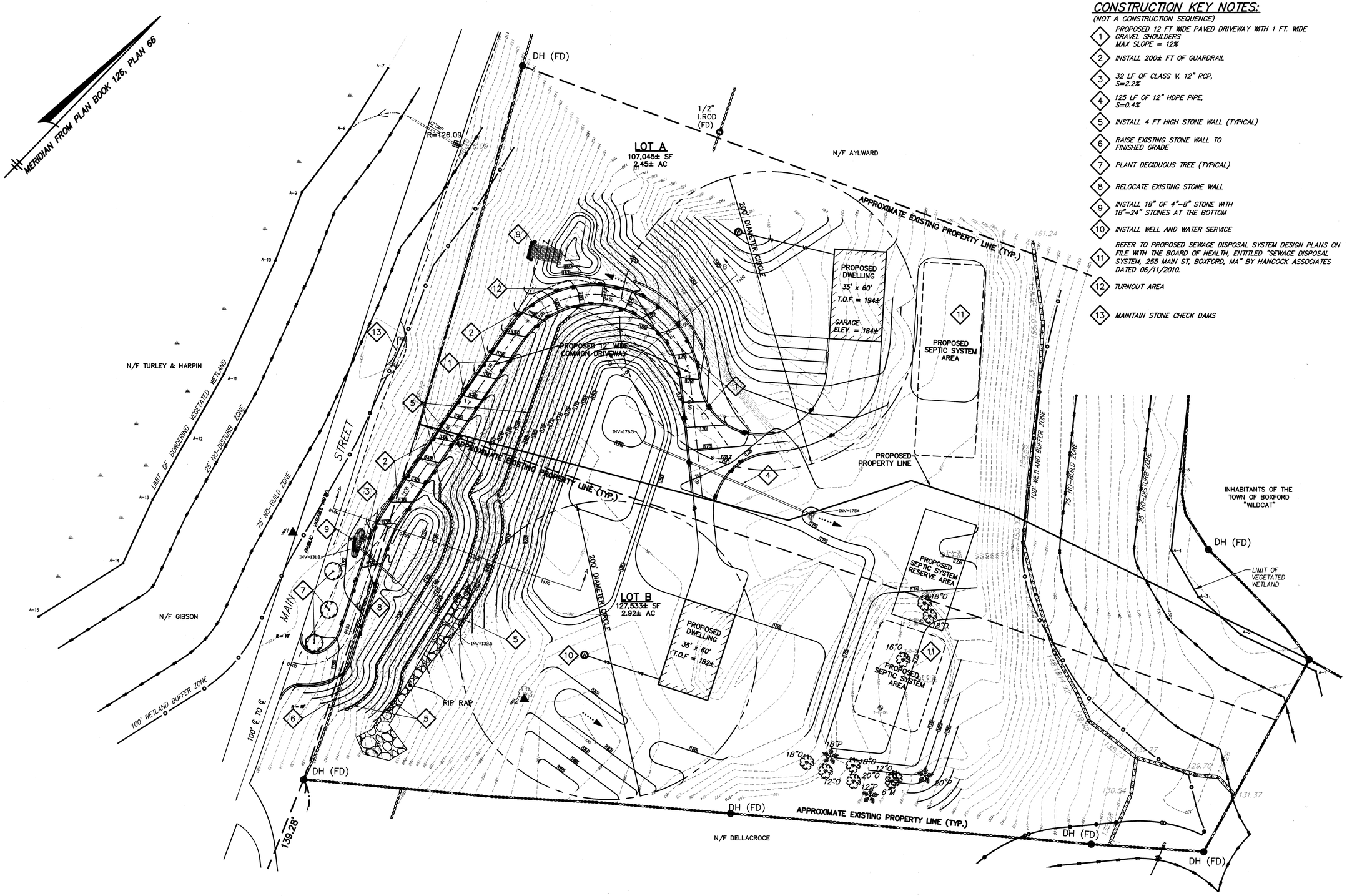


CONSTRUCTION KEY NOTES:

(NOT A CONSTRUCTION SEQUENCE)

1. PROPOSED 12 FT WIDE PAVED DRIVEWAY WITH 1 FT. WIDE GRAVEL SHOULDERS MAX SLOPE = 12%
2. INSTALL 200± FT OF GUARDRAIL
3. 32 LF OF CLASS V, 12" RCP, S=2.2%
4. 125 LF OF 12" HDPE PIPE, S=0.4%
5. INSTALL 4 FT HIGH STONE WALL (TYPICAL)
6. RAISE EXISTING STONE WALL TO FINISHED GRADE
7. PLANT DECIDUOUS TREE (TYPICAL)
8. RELOCATE EXISTING STONE WALL
9. INSTALL 18" OF 4"-8" STONE WITH 18"-24" STONES AT THE BOTTOM
10. INSTALL WELL AND WATER SERVICE
11. REFER TO PROPOSED SEWAGE DISPOSAL SYSTEM DESIGN PLANS ON FILE WITH THE BOARD OF HEALTH, ENTITLED "SEWAGE DISPOSAL SYSTEM, 255 MAIN ST, BOXFORD, MA" BY HANCOCK ASSOCIATES DATED 06/11/2010.
12. TURNOUT AREA
13. MAINTAIN STONE CHECK DAMS

▲	ELEVATION BENCH MARKS DATUM: N.G.V.D. 1929	
NO.	DESCRIPTION	ELEV.
1.	UTILITY POLE 328/146 NAIL SET 1.8 A.G.	128.41
2.	20" OAK SPIKE SET 1.0' A.G.	183.72
3.		

SITE PLAN

GRAPHIC SCALE: 1 INCH = 30 FEET

0 15 30 60 120

SEE SHEET 3 FOR LEGEND

PERMIT SITE PLAN

255 Main Street
Boxford, Massachusetts 01921

ASSESSORS

MAP	BLOCK	LOTS
23	1	12.1 & 12.2

PREPARED FOR:

Joseph Bocelli

222 Central Street
Saugus, Massachusetts 01906

HANCOCK ASSOCIATES

Civil Engineers

Land Surveyors

Wetland Scientists

185 CENTRE STREET, DANVERS, MA 01923
VOICE (978) 777-3050, FAX (978) 774-7816
WWW.HANCOCKASSOCIATES.COM

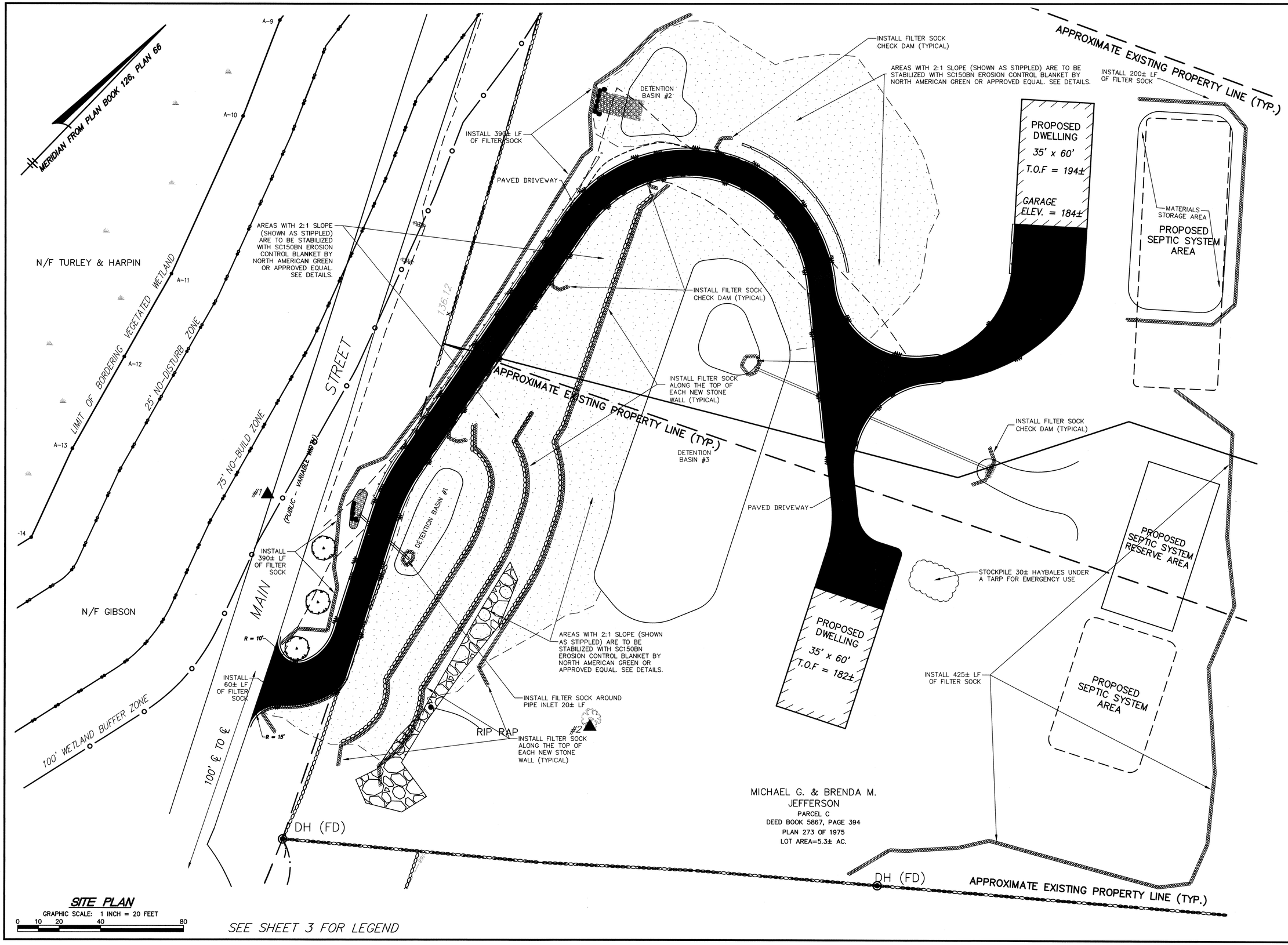
NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
2	JPC	VVT	08/19/15	PER FIRE CHIEF
1	JPC	DID	05/29/15	TOWN ENGINEER COMMENTS

DATE:	04/21/2015	DESIGN BY:	VVT/KMR
SCALE:	1" = 30'	DRAWN BY:	KMR/JPC
APPRVD BY:	DID	CHECK BY:	VVT

SITE GRADING AND DRAINAGE PLAN

PLOT DATE: Aug 19, 2015 10:27 am
PATH: P:\Land Projects R2\18939\dwg\Drg\

DWG: 18939-PS C3D.dwg	1
LAYOUT: EX1	
SHEET: 1 OF 1	
PROJECT NO.:	18939



SITE PLAN

GRAPHIC SCALE: 1 INCH = 20 FEET

0 10 20 40 80

SEE SHEET 3 FOR LEGEND

PERMIT SITE PLAN

255 Main Street
Boxford, Massachusetts 01921

ASSESSORS

MAP	BLOCK	LOTS
23	1	12.1 & 12.2

PREPARED FOR:

Joseph Bocelli

222 Central Street
Saugus, Massachusetts 01906

HANCOCK ASSOCIATES

Civil Engineers

Land Surveyors

Wetland Scientists

185 CENTRE STREET, DANVERS, MA 01923
VOICE (978) 777-3050, FAX (978) 774-7816
WWW.HANCOCKASSOCIATES.COM

COMMONWEALTH OF MASSACHUSETTS — MARK A. RICHARDSON — No. 34028 — REGISTERED PROFESSIONAL ENGINEER

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
2	JPC	VVT	08/19/15	PER FIRE CHIEF
1	JPC	DID	05/29/15	TOWN ENGINEER COMMENTS

DATE:	04/21/2015	DESIGN BY:	VVT/KMR
SCALE:	1" = 20'	DRAWN BY:	KMR/JPC
APPRVD BY:	DID	CHECK BY:	VVT

EROSION CONTROL PLAN

PLOT DATE: Aug 19, 2015 10:28 am
PATH: F:\Land Projects RZ\18840\dwg\Drg\

DWG: 18939-PS C3D.dwg	2
LAYOUT: PS2	
SHEET: 2 OF 5	
PROJECT NO.:	18939

GENERAL

IN ADDITION TO THE STORMWATER MANAGEMENT AND EROSION CONTROL METHODS DISCUSSED ABOVE, THE FOLLOWING CONSTRUCTION SITE MANAGEMENT PRACTICES SHALL BE REQUIRED TO MINIMIZE THE TRANSPORT OF SEDIMENT AND NON-SEDIMENT RELATED POLLUTANTS INTO STORMWATER RUNOFF.

EQUIPMENT AND VEHICLE MAINTENANCE

1. MAINTENANCE.
SPECIFIC AREAS SHALL BE DESIGNATED FOR EQUIPMENT AND VEHICLE MAINTENANCE AND REPAIR. MAINTENANCE AREAS SHALL INCLUDE APPROPRIATE WASTE RECEPTACLES FOR SPENT FUEL, OIL, GREASE, AND SOLVENTS.

2. WASHDOWN.
SPECIFIC AREAS SHALL BE DESIGNATED FOR EQUIPMENT AND VEHICLE WASHDOWN. WASHDOWN AREAS SHALL BE LOCATED ON SECTIONS OF THE SITE THAT DRAIN TO REGULARLY MAINTAINED SEDIMENT AND NON-SEDIMENT POLLUTION CONTROL DEVICES DESIGNED TO ACCOMMODATE SUCH DISCHARGES.

3. DUST AND MUD CONTROL.
THE CONTRACTOR SHALL PROVIDE POSITIVE CONTROLS TO MINIMIZE RAISING DUST FROM CONSTRUCTION ACTIVITIES ON THIS SITE. ALL DUST AND MUD CONTROL MEASURES SHALL BE APPROVED BY THE TOWN OF BOXFORD PLANNING BOARD. AT A MINIMUM, THE CONTRACTOR SHALL INSTALL A 75'-LONG CRUSHED-STONE PAD (20' WIDE BY 4" DEEP, MINIMUM) AS DIRECTED BY THE TOWN INSPECTOR. SWEEP EXCESS MUD FROM CONSTRUCTION ACTIVITIES OFF MAIN STREET AS NEEDED.

4. MONITORING
DURING ALL PHASES OF THE CONSTRUCTION, AND UNTIL THE SITE IS STABILIZED, AN EROSION CONTROL MONITOR WILL BE MONITORING THE SITE IN ACCORDANCE WITH THE REQUIRED FREQUENCIES IN THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES), CONSTRUCTION GENERAL PERMINT.

MATERIAL STORAGE AND USE.

1. PESTICIDES.
PESTICIDES SHALL BE STORED IN A DRY AREA THAT IS PROTECTED FROM PRECIPITATION. PESTICIDES SHALL BE HANDLED AS INFREQUENCY AS POSSIBLE. THE MANUFACTURER'S RECOMMENDATIONS, AS WELL AS ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS, SHALL BE STRICTLY FOLLOWED WHEN PESTICIDES ARE HANDLED.

2. FERTILIZERS
APPLICATION OF FERTILIZER SHALL BE LIMITED TO MINIMUM REQUIRED AREA AND AMOUNT. MORE FREQUENT, LOW-APPLICATION RATES ARE PREFERABLE TO INFREQUENT, HIGH-APPLICATION RATES. AFTER APPLICATION, FERTILIZER SHALL BE WORKED INTO THE SOIL WHERE FEASIBLE.

3. PETROLEUM PRODUCTS.
FUELING VEHICLES AND PETROLEUM PRODUCTS, INCLUDING OIL, GASOLINE, LUBRICANTS, AND ASPHALTIC MATERIALS, SHALL BE STORED IN COVERED AREAS WHERE FEASIBLE. ROUTINELY MAINTAIN ON-SITE EQUIPMENT AND VEHICLES TO PREVENT LEAKAGE OF GAS, OIL, OR LUBRICANTS.

4. HAZARDOUS MATERIALS.
HAZARDOUS MATERIALS INCLUDE, BUT ARE NOT LIMITED TO, PAINTS, ACIDS, SOLVENTS, SOIL STABILIZATION CHEMICALS, CONCRETE ADMIXTURES, AND OTHER MATERIALS THAT HAVE BEEN MIXED WITH HAZARDOUS SUBSTANCES. ALL HAZARDOUS MATERIALS SHALL BE STORED IN A DRY AREA, PROTECTED FROM PRECIPITATION. THE MANUFACTURERS' RECOMMENDATIONS, AS WELL AS ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS, SHALL BE STRICTLY FOLLOWED WHEN HAZARDOUS MATERIALS ARE HANDLED, TRANSPORTED, APPLIED, OR DISPOSED OF.

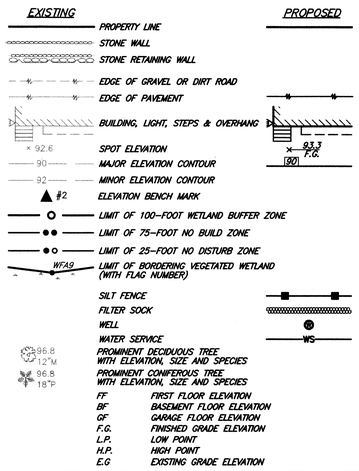
5. RAW MATERIALS.
STORAGE AREAS FOR RAW MATERIALS USED IN CONSTRUCTION THAT CAN BE CARRIED BY STORMWATER RUNOFF SHALL BE LOCATED ONLY IN AREAS WHICH DRAIN TO RETENTION-TYPE SEDIMENTATION CONTROL DEVICES.

WASTE DISPOSAL

1. CONSTRUCTION WASTE.
CONSTRUCTION WASTE MAY INCLUDE, BUT IS NOT LIMITED TO, TREES, STUMPS, SHRUBS, SCRAP OR SURPLUS BUILDING MATERIALS, DEMOLITION MATERIAL AND PACKAGING MATERIAL. DESIGNATED WASTE COLLECTION AREAS SHALL BE ESTABLISHED AT LOCATIONS CONVENIENT TO SITE WORKERS. RECEPTACLES SHALL BE OF ADEQUATE CAPACITY TO HOLD WASTE ACCUMULATED BETWEEN COLLECTION TIMES AND SHALL BE COVERED OR OTHERWISE PROTECTED FROM PRECIPITATION.

2. SANITARY FACILITIES.
TEMPORARY SANITARY FACILITIES SHALL BE PROVIDED ON-SITE IN CONVENIENT LOCATIONS TO SITE WORKERS. SANITARY FACILITIES SHALL BE ADEQUATELY MAINTAINED TO PREVENT CONTACT BETWEEN ASSOCIATED WASTES AND STORMWATER RUNOFF.

LEGEND



CONSTRUCTION SEQUENCE

GENERAL

THIS CONSTRUCTION SEQUENCE PROVIDES THE CONTRACTOR WITH AN ORDER OF CONSTRUCTION THAT WILL MINIMIZE EROSION AND TRANSPORT OF SEDIMENTS. THE OBJECTIVE OF THE CONSTRUCTION PROCESS DESCRIBED HEREIN SHALL BE CONSIDERED AN INTEGRAL COMPONENT OF THE DESIGN INTENT OF EACH PHASE OF THE PROJECT.

THIS CONSTRUCTION SEQUENCE IS NOT INTENDED TO PRESCRIBE DEFINITIVE CONSTRUCTION METHODS.

THE CONTRACTOR SHALL USE THE CONSTRUCTION SEQUENCE AND TECHNIQUES AS A GENERAL GUIDE AND SHALL MODIFY THE SUGGESTED METHODS AND PROCEDURES AS REQUIRED TO BEST SUIT SEASONAL, ATMOSPHERIC, AND SITE-SPECIFIC PHYSICAL CONSTRAINTS FOR THE PURPOSE OF MINIMIZING THE ENVIRONMENTAL IMPACT OF CONSTRUCTION.

SITE ACCESS

CONSTRUCTION SITE ACCESS SHALL BE CONFINED TO THE EXISTING DRIVEWAY UNTIL THE PROPOSED DRIVEWAY BETWEEN STA 0+00 AND STA 1+25 IS COMPLETE.

WORK SEQUENCE

PHASE I
1. INSTALL ALL TEC (TEMPORARY EROSION CONTROL) DEVICES AT THE BOTTOM OF THE SLOPE ALONG MAIN STREET, IN THE REAR OF THE SITE BEHIND THE PROPOSED HOUSE AND AT THE TOE OF THE SLOPE IN THE REAR NORTHEAST CORNER OF THE SITE AS SHOWN ON THE PLANS.

2. INSTALL SILT SACK IN THE CATCH BASIN IN MAIN STREET (NORTH OF THE SITE). INSTALL SILT SOCK AT THE OUTLET ON THE WEST SIDE OF MAIN STREET AND AROUND DETENTION BASIN #2.

3. CONSTRUCT DETENTION BASIN #2 AND DETENTION BASIN #3. ROUGH GRADE THE PROPOSED DRIVEWAY BETWEEN STA 3+50 AND STA 5+00 AND TURNAROUND, INCLUDING SIDE SLOPES AND PORTIONS OF THE BOULDER RETAINING WALLS AS NEEDED.

4. INSTALL THE CULVERT UNDER THE PROPOSED DRIVEWAY AT STA 4+80 AND ALL ASSOCIATED TEC DEVICES.

5. LOAM AND SEED NEWLY GRADED AND SEEDED AREAS AND COVER WITH EROSION CONTROL BLANKET AS REQUIRED.

PHASE II
1. INSPECT AND REPAIR, IF NEEDED, ALL EXISTING TEC DEVICES.

2. REPAIR AND STABILIZE ANY EROSION, UNSTABLE AREAS, OR VEGETATION.

3. CONSTRUCT DETENTION BASIN #1. INSTALL ELECTRIC PUMP IN DETENTION BASIN #1 TO DISCHARGE TO DETENTION POND #3 IF NEEDED.

4. CONSTRUCT BOULDER RETAINING WALLS. GRADE, LOAM AND SEED SLOPE EAST OF THE PROPOSED DRIVEWAY.

5. COVER ALL NEWLY GRADED AND SEEDED AREAS WITH EROSION CONTROL BLANKET AS REQUIRED.

6. INSTALL SILT SOCK ALONG THE TOP OF THE NEWLY CONSTRUCTED BOULDER RETAINING WALLS.

7. ROUGH GRADE THE PROPOSED DRIVEWAY AND SWALE BETWEEN STA 1+50 AND STA 3+50.

8. INSTALL CHECK DAMS IN THE SWALE ALONG THE DRIVEWAY, AS SHOWN ON THE PLANS.

PHASE III
1. INSPECT AND REPAIR, IF NEEDED, ALL EXISTING TEC DEVICES.

2. REPAIR AND STABILIZE ANY EROSION, UNSTABLE AREAS, OR VEGETATION.

3. CLEAN OUT DETENTION BASIN #1, #2 AND #3 AND BEHIND THE CHECK DAMS IN THE SWALE.

4. ROUGH GRADE THE PROPOSED DRIVEWAY BETWEEN STA 0+00 AND STA 1+50.

5. INSTALL CONSTRUCTION ENTRANCE AT THE BOTTOM OF THE NEW DRIVEWAY.

6. INSTALL WATER BARS ON THE NEWLY GRADED DRIVEWAY USING SILT SOCK BEYOND STA 2+00.

7. COMPLETE THE GRADING, THE CONSTRUCTION OF THE REMAINING BOULDER RETAINING WALLS AND SIDE SLOPES.

8. LOAM AND SEED ALL NEWLY GRADED AREAS AND COVER WITH EROSION CONTROL BLANKET AS REQUIRED.

9. INSTALL SILT SOCK ALONG THE TOP OF THE NEWLY CONSTRUCTED BOULDER RETAINING WALLS.

PHASE IV
1. INSPECT AND REPAIR, IF NEEDED, ALL EXISTING TEC DEVICES.

2. REPAIR AND STABILIZE ANY EROSION, UNSTABLE AREAS, OR VEGETATION.

3. CLEAN OUT DETENTION BASIN #1, #2 AND #3 AND BEHIND THE CHECK DAMS IN THE SWALE.

4. INSTALL DRAIN OUTLET STRUCTURE FROM DETENTION POND #1.

5. FINE GRADE THE DRIVEWAY WITH BASE GRAVEL AND INSTALL 2" BINDER COURSE.

6. INSTALL GUARD RAILS AS SHOWN ON THE PLANS.

7. INSTALL AREA DRAIN IN THE TURNAROUND AREA AND CONNECT TO 12" HDPE.

8. LOAM AND SEED DETENTION BASINS #1, #2 AND #3 AS NEEDED.

9. LOAM AND SEED OLD DRIVEWAY SOUTH OF THE COMPLETED NEW DRIVEWAY.

PHASE V
1. ONCE ALL OF THE CONSTRUCTION HAS BEEN COMPLETED, CONTINUE TO INSPECT AND REPAIR, IF NEEDED, ALL EXISTING TEC DEVICES.

2. SECURE AND SUPPLEMENT TEC DEVICES IN AREAS WHERE PERMANENT VEGETATION AND EROSION CONTROLS HAVE YET TO BE ESTABLISHED.

3. REPAIR AND STABILIZE ANY EROSION, UNSTABLE AREAS, OR VEGETATION.

4. ALL TEC DEVICES SHALL REMAIN IN PLACE AND BE KEPT IN GOOD CONDITION FOR 2 FULL GROWING SEASONS OR UNTIL PERMANENT VEGETATION HAS BEEN ESTABLISHED OR AS DIRECTED BY THE ENGINEER.

PHASE VI
1. INSTALL 1 1/2" TOP COURSE ONCE MOST HEAVY CONSTRUCTION FOR THE PROPOSED DWELLINGS IS COMPLETED.

BEST MANAGEMENT PRACTICES (BMP) FOR EROSION AND SEDIMENT CONTROL

GENERAL

THE BMPS TO BE USED DURING PROJECT CONSTRUCTION ARE TO PREVENT THE GENERATION OF EROSION PRODUCTS AND THEIR TRANSPORT TO OFF-SITE AND/OR ENVIRONMENTALLY SENSITIVE AREAS. OFF-SITE AND ENVIRONMENTALLY SENSITIVE AREAS INCLUDE THOSE AREAS OF THE SITE THAT DO NOT NEED TO BE ALTERED FOR DEVELOPMENT PURPOSES, AND ALL OFF-SITE ABUTTING PROPERTIES AND ROADWAYS.

THE PRIMARY BMP IS TO MAINTAIN AN ORGANIZED, SMOOTH FLOWING, AND RAPID CONSTRUCTION SEQUENCE AS OUTLINED. COUPLED WITH THE CONTINUOUS MONITORING OF TEC DEVICES AND THEIR INTEGRITY, THIS RAPID CONSTRUCTION PROCESS SHOULD RESULT IN PROMPT STABILIZATION OF SURFACES, THEREBY REDUCING EROSION POTENTIAL. CONTRACTOR IS RESPONSIBLE TO MAINTAIN THE CONSTRUCTION SEQUENCE SUBJECT TO SEASONAL, ATMOSPHERIC, AND SITE SPECIFIC PHYSICAL CONSTRAINTS.

A SECOND IMPORTANT BMP IS THE PREVENTION OF CONCENTRATED WATER FLOW. CONTRACTOR IS THEREFORE ENCOURAGED TO APPLY CONSTRUCTION METHODS WHICH WILL PROMOTE SHEET FLOW WITH CONCENTRATED SHALLOW CHANNEL FLOW PATHS ONLY AS NECESSARY.

CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR EROSION AND SEDIMENTATION CONTROL ON SITE. THE CONTRACTOR SHALL USE METHODS OF OPERATION AND CONSTRUCTION AND ALL NECESSARY EROSION AND SEDIMENTATION CONTROL MEASURES EVEN IF NOT SPECIFIED HEREIN OR ON THE PLANS, TO MINIMIZE EROSION DAMAGE ON AND OFF SITE. THE BMP TO FOLLOW SHOULD BE USED AS A GUIDE FOR EROSION AND SEDIMENTATION CONTROL. DO NOT REPLACE THE PRACTICE OF GOOD JUDGMENT, COMMON SENSE AND THOUGHTFUL ENVIRONMENTALLY SENSITIVE CONSTRUCTION PRACTICES.

BMP'S DURING CONSTRUCTION

2. GRUBBING, STRIPPING, AND GRADING.
EROSION CONTROL DEVICES SHALL BE IN PLACE AS SHOWN ON THE DESIGN PLANS BEFORE GRADING COMMENCES. AS MUCH TOPSOIL AS POSSIBLE SHALL BE RECLAIMED FOR ON-SITE USE. NO TOPSOIL SHALL BE REMOVED FROM THE SITE. STRIPPING SHALL BE DONE IN A MANNER WHICH WILL NOT CONCENTRATE RUNOFF. IF PRECIPITATION IS EXPECTED, EARTHEN BERMS SHALL BE CONSTRUCTED AROUND THE AREA BEING STRIPPED.

IF INTENSE PRECIPITATION IS ANTICIPATED, HAY BALES, DIKES AND/OR SILT FENCES SHALL BE USED AS REQUIRED TO PREVENT EROSION AND SEDIMENT TRANSPORT. THE REQUIRED MATERIALS SHALL BE STORED ON SITE AT ALL TIMES. DUST SHOULD BE HELD AT A MINIMUM BY SPRINKLING EXPOSED SOIL WITH AN APPROPRIATE AMOUNT OF WATER.

3. MAINTENANCE OF DISTURBED SURFACES.
RUNOFF SHALL BE DIVERTED FROM DISTURBED SIDE SLOPES IN BOTH CUT AND FILL AREAS.

MULCH MAY BE USED FOR TEMPORARY STABILIZATION.

HAY BALE DIKES OR SILT FENCES SHALL BE INSTALLED WHERE REQUIRED TO TRAP PRODUCTS OF EROSION AND SHALL BE MAINTAINED ON A CONTINUOUS BASIS DURING THE CONSTRUCTION PROCESS.

AN EMERGENCY SUPPLY OF HAY BALES AND SILT FENCE SHALL BE STOCKPILED ON SITE UNDER A TARP.

4 LOAMING.
IF IMPORTED LOAM IS USED IT SHALL CONSIST OF A FERTILE, FRIABLE NATURAL TOPSOIL TYPICAL OF THE LOCALITY, WITHOUT ADMIXTURE OF SUBSOIL, REFUSE, OR OTHER FOREIGN MATERIALS. IT SHALL BE SUCH A MIXTURE OF SAND, SILT, AND CLAY PARTICLES AS TO EXHIBIT SANDY AND CLAYEY PROPERTIES IN ABOUT EQUAL PROPORTIONS. IT SHALL BE REASONABLY FREE OF STUMPS, ROOTS, HEAVY OR STILL CLAY, STONES LARGER THAN 2 INCHES IN DIAMETER, LUMPS, COARSE SAND, NOXIOUS WEEDS, STICKS, BRUSH, OR OTHER LITTER.

LOAMING, STABILIZING AND SEEDING OF SLOPES SHALL BE AN ONGOING CONSTRUCTION PROCESS AND IS NOT LIMITED TO ANY ONE PHASE OF CONSTRUCTION. LOAM SHALL NOT BE PLACED UNLESS IT IS TO BE SEEDED AND COVERED WITH EROSION CONTROL BLANKETS DIRECTLY THEREAFTER.

ALL DISTURBED AREAS SHALL HAVE A MINIMUM OF 4" COMPACTED DEPTH OF LOAM PLACED BEFORE BEING SEEDED AND MULCHED. CONSIDERATION SHOULD BE GIVEN TO HYDRO-SEEDING, ESPECIALLY ON SLOPES IN EXCESS OF 2 TO 1. LOAMED AND SEEDED SLOPES SHALL BE PROTECTED FROM WASHOUT BY INSTALLING EROSION CONTROL BLANKETS UNTIL VEGETATION BEGINS TO GROW.

5. STORMWATER COLLECTION SYSTEM INSTALLATION.
DETENTION BASIN #3 IS TO BE USED TEMPORARILY AS AN EMERGENCY SEDIMENTATION BASIN AND SHALL BE CLEANED THOROUGHLY PRIOR TO PERMANENT STABILIZATION AND SEEDING OF ALL INTERIOR SLOPES.

THE STORMWATER DRAINAGE SYSTEM SHALL BE INSTALLED AS SHOWN ON THE PLANS AND ON THE CONSTRUCTION SEQUENCE.

OUTLET RIP-RAP SHALL BE PLACED IMMEDIATELY UPON THE INSTALLATION OF ASSOCIATED PIPES AND OVERFLOW STRUCTURES. AREAS IN THE VICINITY OF THE OUTFALLS SHALL BE STABILIZED WITH VEGETATION OR EROSION CONTROL BLANKETS.

6. STABILIZATION OF SURFACES.
STABILIZATION OF SURFACES SHALL BE AN ONGOING PROCESS AND INCLUDES THE PLACEMENT OF EROSION CONTROL BLANKETS, PAVEMENT, RIP-RAP, WOOD CHIP MULCH, HYDROSEEDING AND THE ESTABLISHMENT OF VEGETATED SURFACES. UPON THE COMPLETION OF CONSTRUCTION, ALL SURFACES SHALL BE STABILIZED EVEN IF IT IS APPARENT THAT FUTURE CONSTRUCTION EFFORTS WILL CAUSE THEIR DISTURBANCE. VEGETATED COVER SHALL BE ESTABLISHED DURING THE PROPER GROWING SEASON AND SHOULD BE ENHANCED BY SOIL ADJUSTMENT FOR PROPER PH, NUTRIENTS, AND MOISTURE CONTENT. SURFACES THAT ARE DISTURBED BY EROSION PROCESSES, VANDALISM, OR BY CONSTRUCTION SHALL BE STABILIZED AS SOON AS POSSIBLE. HYDRO-SEEDING OF GRASS SURFACES IS RECOMMENDED, ESPECIALLY IF SEEDING OF THE SURFACES IS REQUIRED OUTSIDE THE NORMAL GROWING SEASON.

7. SUGGESTED SEEDING MIXTURE AND APPLICATION RATE.
SEED BED SHOULD BE PREPARED BY CONDUCTING A SOIL TEST AND FERTILIZING AND/OR TREATING AS REQUIRED. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:

LIMESTONE	2 TONS PER ACRE
NITROGEN (N)	40 LBS. PER ACRE, OR 1 LB. PER 1,000 SQUARE FEET
PHOSPHATE (P205)	80 LBS. PER ACRE OR 2 LBS. PER 1,000 SQUARE FEET
POTASH (K20)	80 LBS. PER ACRE OR 2 LBS. PER 1,000 SQUARE FEET

THE FOLLOWING SEED MIX (STATE SLOPE MIX) SHALL BE APPLIED AT THE RATE OF 200 LBS. PER ACRE:

50%	CREEPING RED FESCUE
30%	KENTUCKY TALL FESCUE
10%	ANNUAL RYE
5%	RED TOP
5%	LINDINO CLOVER

CONTRACTOR SHALL CONFIRM SEED MIX VIABILITY WITH THE ESSEX CONSERVATION DISTRICT (ECD) AND SUBMIT MIX TO ENGINEER ALONG WITH ECD APPROVAL.

SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING AND HYDRO-SEEDING. HYDRO-SEEDING IS THE PREFERRED METHOD OF SEEDING. THE SOIL SHOULD BE ROLLED OR PACKED AFTER SEEDING. ALL LEGUMES (CROWN VETCH, BIRDSFOOT TREFOIL, AND CLOVERS) MUST BE INOCULATED. ONCE SEEDED AREAS HAVE BEEN MULCHED, PLANTINGS MAY BE PLACED FROM EARLY SPRING TO LATE OCTOBER. IF SEEDED AREAS ARE NOT MULCHED, PLANTING SHOULD BE MADE FROM EARLY SPRING TO JUNE 20TH, OR BETWEEN AUGUST 1ST AND SEPTEMBER 15TH. IF REQUIRED, HAY, STRAW, OR ANOTHER MULCH SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.

FOR HYDRO-SEEDING, A TACKIFIER HEAVY MULCH SHALL BE APPLIED AT A RATE OF 1,500 LBS. PER ACRE. PLANTED AREAS SHOULD BE PROTECTED FROM DAMAGE. FERTILIZATION REQUIREMENTS DURING THE ESTABLISHMENT PERIOD MAY BE DETERMINED BY ON-SITE INSPECTIONS.

SITE NOTES

1. LOCATIONS OF EXISTING UNDERGROUND UTILITIES/OBSTRUCTIONS/SYSTEMS SHOWN HEREON ARE APPROXIMATE ONLY. ALL UNDERGROUND UTILITIES/OBSTRUCTIONS/SYSTEMS MAY NOT BE SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL UNDERGROUND UTILITIES/OBSTRUCTIONS/SYSTEMS, WHETHER OR NOT SHOWN HEREON.

2. UNLESS OTHERWISE SHOWN, ALL NEW UTILITIES SHALL BE UNDERGROUND.

3. CONTRACTOR SHALL FURNISH CONSTRUCTION LAYOUT OF BUILDING AND SITE IMPROVEMENTS. THIS WORK SHALL BE PERFORMED BY A PROFESSIONAL LAND SURVEYOR.

4. SAFETY MEASURES, CONSTRUCTION METHODS AND CONTROL OF WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

5. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR AND/OR REPLACEMENT OF ANY EXISTING IMPROVEMENTS DAMAGED DURING CONSTRUCTION THAT ARE NOT DESIGNATED FOR DEMOLITION AND/OR REMOVAL HEREON. DAMAGED IMPROVEMENTS SHALL BE REPAIRED TO THE SATISFACTION OF THEIR RESPECTIVE OWNERS.

6. THIS PLAN IS NOT INTENDED TO SHOW AN ENGINEERED BUILDING FOUNDATION DESIGN, WHICH WOULD INCLUDE DETAILS AND FINAL ELEVATIONS OF FOOTINGS, WALLS AND SUBSURFACE DRAINAGE TO PREVENT INTERIOR FLOODING. SEE ARCHITECTURAL DRAWINGS.

7. THE PROPOSED BUILDING FOUNDATION CONFIGURATION AND LOCATION ON THE LOT AS SHOWN ARE CONCEPTUAL AND SHALL BE VERIFIED AS TO CONFORMANCE WITH THE FINAL ARCHITECTURAL PLANS AND ZONING ORDINANCES PRIOR TO CONSTRUCTION.

8. ANY INTENDED REVISION TO THE HORIZONTAL AND/OR VERTICAL LOCATION OF IMPROVEMENTS TO BE CONSTRUCTED AS SHOWN HEREON SHALL BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION.

9. RIM ELEVATIONS SHOWN FOR NEW STRUCTURES ARE APPROXIMATE AND ARE PROVIDED TO ASSIST THE CONTRACTOR WITH MATERIAL TAKEOFFS. FINISH RIM ELEVATIONS SHOULD MATCH PAVEMENT, GRADING AND/OR LANDSCAPING, UNLESS SPECIFICALLY INDICATED OTHERWISE.

10. WHERE EXISTING UTILITY LINES/STRUCTURES ARE TO BE CUT/BROKEN DOWN/ABANDONED, LINES/STRUCTURES SHALL BE PLUGGED/CAPPED/FILLED IN ACCORDANCE WITH OWNER REQUIREMENTS.

11. THE CONTRACTOR SHALL VERIFY THE LOCATION AND RELATIVE ELEVATION OF BENCH MARKS PRIOR TO COMMENCEMENT OF CONSTRUCTION. ANY DISCREPANCY SHALL BE REPORTED TO THE ENGINEER.

REGULATORY NOTES

1. CONTRACTOR SHALL CONTACT DIG-SAFE AT 811 FOR UNDERGROUND UTILITY MARKING AT LEAST 72 HOURS PRIOR TO COMMENCEMENT OF ANY WORK.

2. CONTRACTOR SHALL MAKE HIMSELF AWARE OF ALL CONSTRUCTION REQUIREMENTS, CONDITIONS AND LIMITATIONS IMPOSED BY PERMITS AND APPROVALS ISSUED BY REGULATORY AUTHORITIES PRIOR TO COMMENCEMENT OF ANY WORK. CONTRACTOR SHALL COORDINATE AND OBTAIN ALL CONSTRUCTION PERMITS REQUIRED BY REGULATORY AUTHORITIES.

3. ALL WORK OUTSIDE OF THE BUILDING THAT IS LESS THAN 10 FEET FROM THE INSIDE FACE OF THE BUILDING FOUNDATION SHALL CONFORM WITH THE UNIFORM STATE PLUMBING CODE OF MASSACHUSETTS, 248 CMR 2.00.

PLAN INTENT

THE INTENT OF THESE DRAWINGS ARE TO SHOW THE CONSTRUCTION REQUIREMENTS FOR A PROPOSED COMMON DRIVEWAY.

PERMIT
SITE
PLAN

255 Main Street
Boxford, Massachusetts 01921

ASSESSORS:

MAP	BLOCK	LOTS
23	1	12.1 & 12.2

PREPARED FOR:

Joseph
Bocelli

222 Central Street
Saugus, Massachusetts 01906

HANCOCK
ASSOCIATES

Civil Engineers

Land Surveyors

Wetland Scientists

185 CENTRE STREET, DANVERS, MA 01923
VOICE (978) 777-3050, FAX (978) 774-7816
WWW.HANCOCKASSOCIATES.COM

COMMONWEALTH OF MASSACHUSETTS
WILLIAM V. HANCOCK
No. 34029
REGISTERED PROFESSIONAL ENGINEER

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
2	JPC	VVT	08/19/15	PER FIRE CHIEF
1	JPC	DID	05/29/15	TOWN ENGINEER COMMENTS

DATE: 04/21/2015 DESIGN BY: VVT/KMR
SCALE: AS NOTED DRAWN BY: KMR/JPC
APPRVD BY: DID CHECK BY: VVT

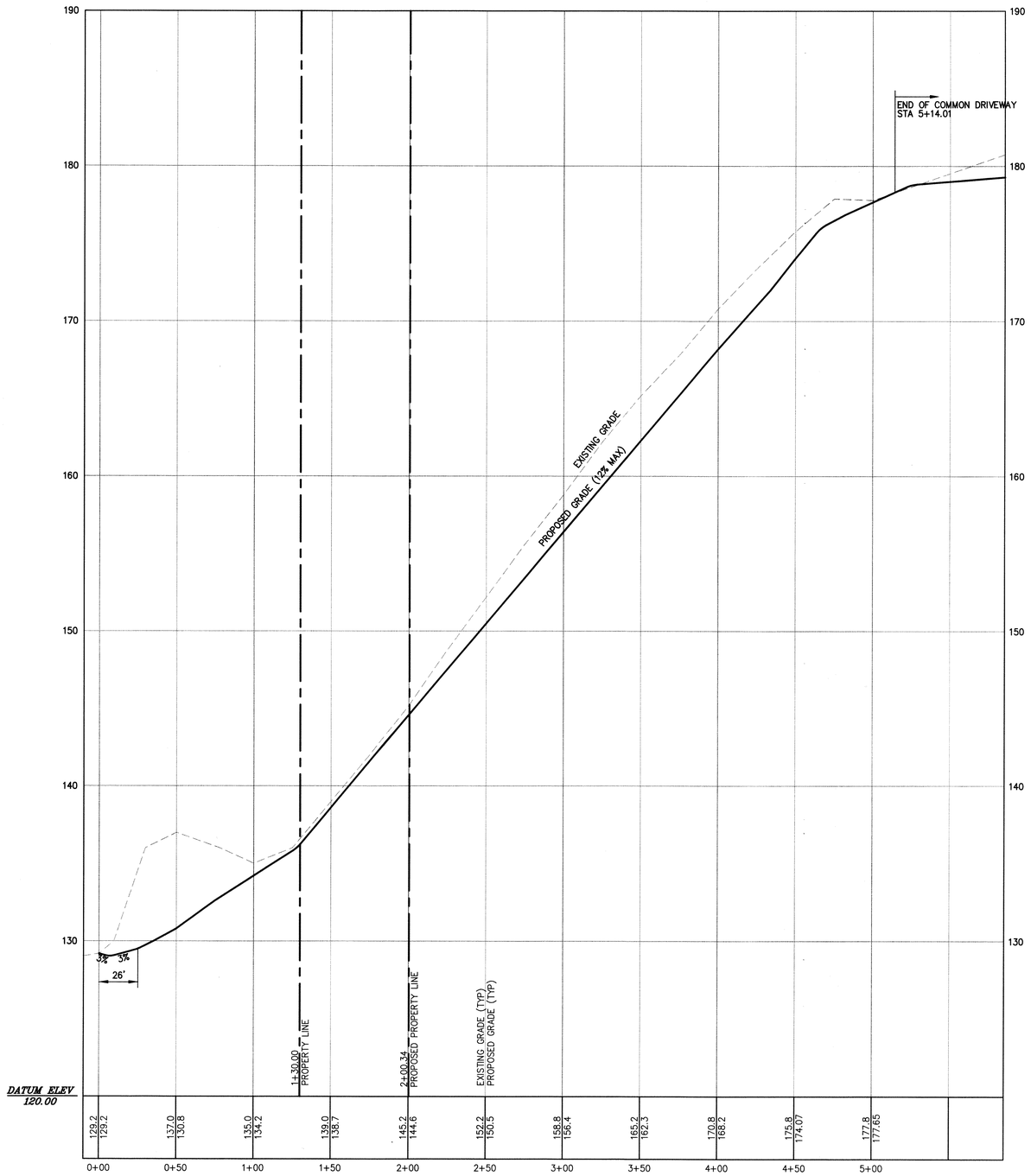
EROSION
CONTROL
NOTES

PLOT DATE: Aug 19, 2015 10:29 am
PATH: F:\Land Projects 82\18940\dwg\Eng\

DWG: 18939-PS C3D.dwg
LAYOUT: PS3
SHEET: 3 OF 5

3

PROJECT NO.: 18939



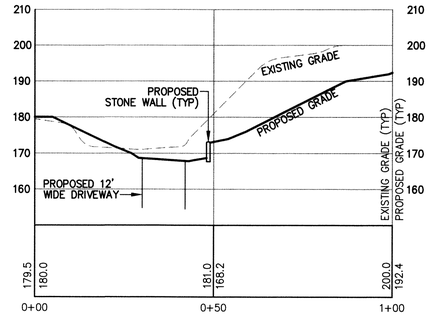
DRIVEWAY CENTERLINE PROFILE

HORIZONTAL SCALE: 1" = 40'

0 20 40 80 160

VERTICAL SCALE: 1" = 4'

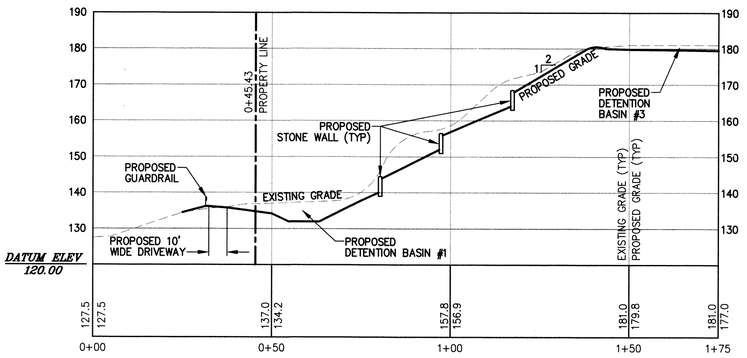
0 2 4 8 16



SECTION B-B PROFILE

VERTICAL & HORIZONTAL SCALE: 1" = 20'

0 10 20 40 80



SECTION A-A PROFILE

VERTICAL & HORIZONTAL SCALE: 1" = 20'

0 10 20 40 80

PERMIT SITE PLAN

255 Main Street
Boxford, Massachusetts 01921

ASSESSORS:

MAP	BLOCK	LOTS
23	1	12.1 & 12.2

PREPARED FOR:

Joseph Bocelli

222 Central Street
Saugus, Massachusetts 01906

HANCOCK ASSOCIATES

Civil Engineers

Land Surveyors

Wetland Scientists

185 CENTRE STREET, DANVERS, MA 01923
VOICE (978) 777-3050, FAX (978) 774-7816
WWW.HANCOCKASSOCIATES.COM

COMMONWEALTH OF MASSACHUSETTS
VACLAV V. TALMOR
CIVIL
No. 34026
REGISTERED PROFESSIONAL ENGINEER

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
2	JPC	VVT	08/19/15	PER FIRE CHIEF
1	JPC	DID	05/29/15	TOWN ENGINEER COMMENTS

DATE: 04/21/2015 DESIGN BY: VVT/KMR
SCALE: AS NOTED DRAWN BY: KMR/JPC
APPRVD BY: DID CHECK BY: VVT

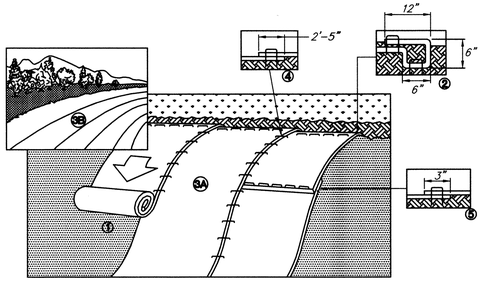
PROFILES

PLOT DATE: Aug 19, 2015 10:30 am
PATH: P:\Land Projects R2\18648\dwg\Dwg\

DWG: 18939-PS C3D.dwg
LAYOUT: PS4
SHEET: 4 OF 5

4

PROJECT NO.: 18939



INSTALLATION NOTES:

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER AND SEED.

2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP'S BACK OVER THE SEED AND COMPACTED SOIL. SECURE THE RECP'S OVER THE COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE ENTIRE WIDTH OF THE RECP'S.

3. ROLL THE RECP'S (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO THE SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.

4. THE EDGES OF PARALLES RECP'S MUST BE STAPLED WITH APPROXIMATELY 2"-5" OF OVERLAP DEPENDING ON THE RECP'S TYPE.

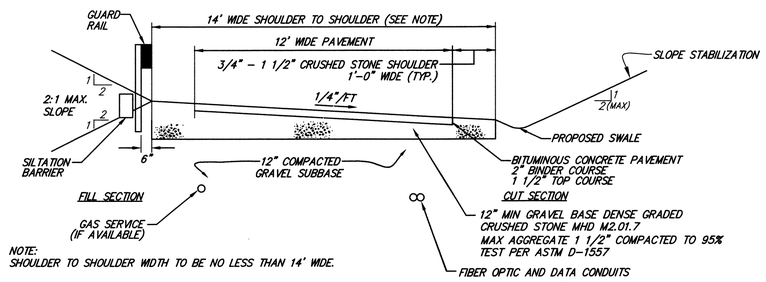
5. CONSECUTIVE RECP'S SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS THE ENTIRE RECP'S WIDTH. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.

GENERAL NOTES:

1. THE ABOVE DETAIL AND INSTALLATION NOTES ARE PROVIDED BY NORTH AMERICAN GREEN. ALL SLOPE STABILIZATION PRODUCTS SHALL CONFORM TO THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDELINES.

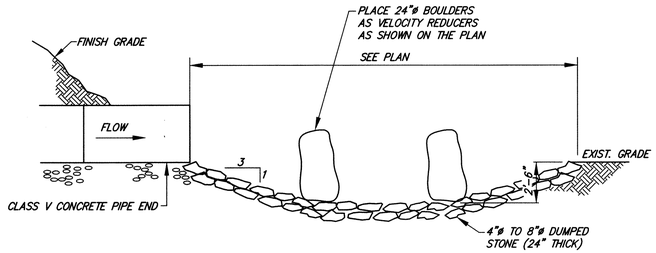
2. ROLLED EROSION CONTROL PRODUCT TO BE SC150BN EROSION CONTROL BLANKET BY NORTH AMERICAN GREEN OR APPROVED EQUAL.

SLOPE STABILIZATION
ISOMETRIC VIEW
NOT TO SCALE

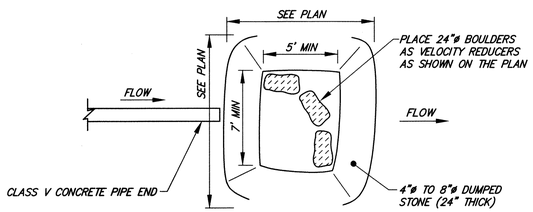


NOTE:
SHOULDER TO SHOULDER WIDTH TO BE NO LESS THAN 14' WIDE.

FINISHED DRIVEWAY
CROSS SECTION
NOT TO SCALE

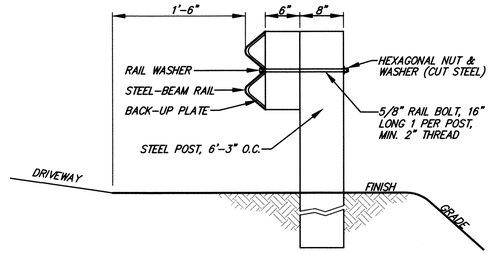


CROSS SECTION



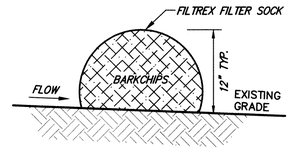
TYPICAL PLAN OF SCOUR HOLE

DRAIN OUTLET (F.E.S.) AND SCOUR HOLE WITH VELOCITY REDUCER
NOT TO SCALE

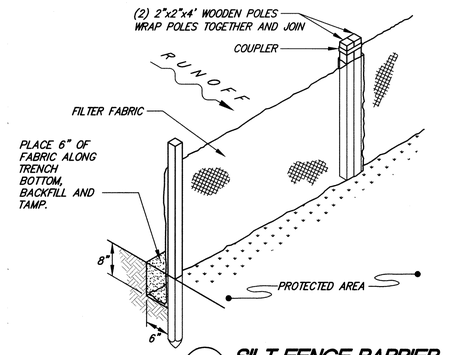


NOTES: 1. FOR LOCATION, SEE SHEET 1.
2. ALL HARDWARE TO BE GALVANIZED.

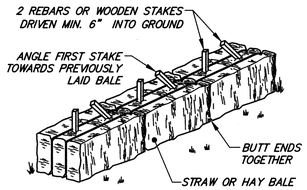
STEEL-BEAM GUARDRAIL
TYPICAL CROSS SECTION
NOT TO SCALE



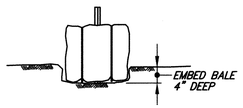
SILTATION BARRIER
CROSS SECTION
NOT TO SCALE



SILT FENCE BARRIER
ISOMETRIC VIEW
NOT TO SCALE



ISOMETRIC VIEW



CROSS SECTION

HAY BALE BARRIER
NOT TO SCALE

PERMIT SITE PLAN

255 Main Street
Boxford, Massachusetts 01921

ASSESSORS

MAP	BLOCK	LOTS
23	1	12.1 & 12.2

PREPARED FOR:

Joseph Bocelli

222 Central Street
Saugus, Massachusetts 01906

HANCOCK ASSOCIATES

Civil Engineers

Land Surveyors

Wetland Scientists

185 CENTRE STREET, DANVERS, MA 01923
VOICE (978) 777-3050, FAX (978) 774-7816
WWW.HANCOCKASSOCIATES.COM

COMMONWEALTH OF MASSACHUSETTS
VACLAV V. TALACKO
JR. PWS
NO. 34028
REGISTERED
PROFESSIONAL SCIENTIST

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
2	JPC	VVT	08/19/15	PER FIRE CHIEF
1	JPC	DID	05/29/15	TOWN ENGINEER COMMENTS

DATE: 04/21/2015 DESIGN BY: VVT/KMR
SCALE: AS NOTED DRAWN BY: KMR/JPC
APPRVD BY: DID CHECK BY: VVT

DETAILS

PLOT DATE: Aug 19, 2015 10:30 am
PATH: P:\Land Projects R2\18940\dwg\Dwg\

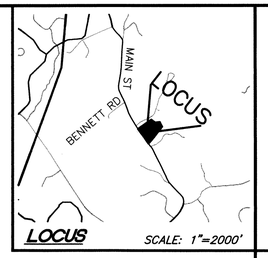
DWG: 18939-PS C3D.dwg
LAYOUT: PS5
SHEET: 5 OF 5

5

PROJECT NO.: 18939

SEE SHEET 3 FOR LEGEND

GRAPHIC SCALE: 1 INCH = 40 FEET
0 20 40 80 160



PERMIT SITE PLAN

255 Main Street
Boxford, Massachusetts 01921

ASSESSORS

MAP	BLOCK	LOTS
23	1	12.1 & 12.2

PREPARED FOR

Joseph Bocelli

222 Central Street
Saugus, Massachusetts 01906

HANCOCK ASSOCIATES

Civil Engineers

Land Surveyors

Wetland Scientists

185 CENTRE STREET, DANVERS, MA 01923
VOICE (978) 777-3050, FAX (978) 774-7816
WWW.HANCOCKASSOCIATES.COM

COMMONWEALTH OF MASSACHUSETTS
WOJCIECH TYLACKI
07/31/15

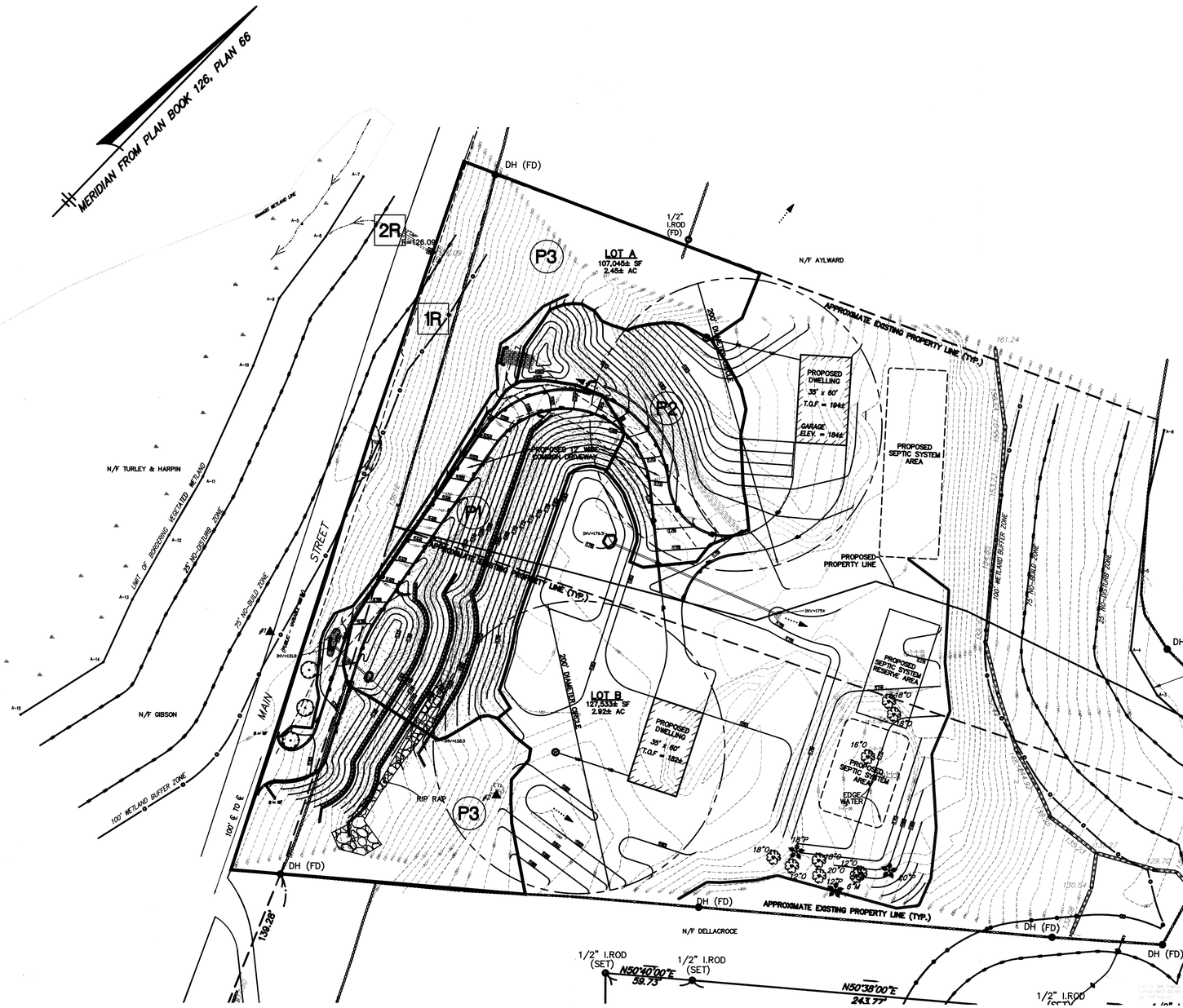
NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
2	JPC	VVT	08/19/15	PER FIRE CHIEF
1	JPC	DID	05/29/15	TOWN ENGINEER COMMENTS

DATE:	04/21/2015	DESIGN BY:	VVT/KMR
SCALE:	AS SHOWN	DRAWN BY:	KMR/JPC
APPRVD BY:	DID	CHECK BY:	VVT

EXISTING CONDITIONS WATERSHED MAP

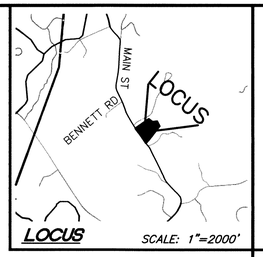
PLOT DATE: Aug 19, 2015 10:31 am
PATH: F:\Land Projects R2\18845\dwg\Dng\

DWG: 18939-PS C3D.dwg	
LAYOUT: WS-EX	WS-EX
SHEET: 1 OF 1	
PROJECT NO.:	18939



SEE SHEET 3 FOR LEGEND

GRAPHIC SCALE: 1 INCH = 40 FEET
0 20 40 80 160



PERMIT SITE PLAN

255 Main Street
Boxford, Massachusetts 01921

ASSESSORS

MAP	BLOCK	LOTS
23	1	12.1 & 12.2

PREPARED FOR:

Joseph Bocelli

222 Central Street
Saugus, Massachusetts 01906

HANCOCK ASSOCIATES

Civil Engineers

Land Surveyors

Wetland Scientists

185 CENTRE STREET, DANVERS, MA 01923
VOICE (978) 777-3050, FAX (978) 774-7816
WWW.HANCOCKASSOCIATES.COM

COMMONWEALTH OF MASSACHUSETTS
KEVIN M. RUDD
CIVIL
No. 34026
REGISTERED PROFESSIONAL ENGINEER

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
2	JPC	VVT	08/19/15	PER FIRE CHIEF
1	JPC	DID	05/29/15	TOWN ENGINEER COMMENTS

DATE:	04/21/2015	DESIGN BY:	VVT/KMR
SCALE:	1" = 40'	DRAWN BY:	KMR/JPC
APPRVD BY:	DID	CHECK BY:	VVT

PROPOSED CONDITIONS WATERSHED MAP

PLOT DATE: Aug 19, 2015 10:32 am
PATH: F:\Land Projects RZ\18845\dwg\Dng\

DWG: 18939-PS C3D.dwg	
LAYOUT: WS-PR	WS-PR
SHEET: 1 OF 1	
PROJECT NO.:	18939