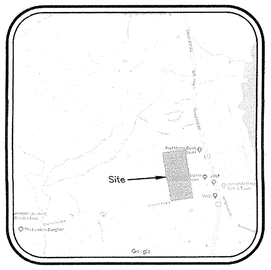


LOCUS MAP
NOT TO SCALE

BEING A.P. 18-3, LOT 38
TOTAL AREA OF LOT = 31.32 AC

LEGEND

- IRON ROD FOUND
- STONEWALL FOUND
- PROPERTY LINE
- LIMIT OF DISTURBANCE
- 0 EROSION CONTROL
- Mountain Laurel (Kalmia Latifolia) 4 feet tall, 8' on center
- AREA OF CRUSHED STONE DRIVEWAY TO BE REMOVED

FEMA DETERMINATION
ZONE "X" - AREA OF MINIMAL FLOODING
PANEL NO. - 44009C0202 J
EFFECTIVE - OCTOBER 16, 2013

NOTES:

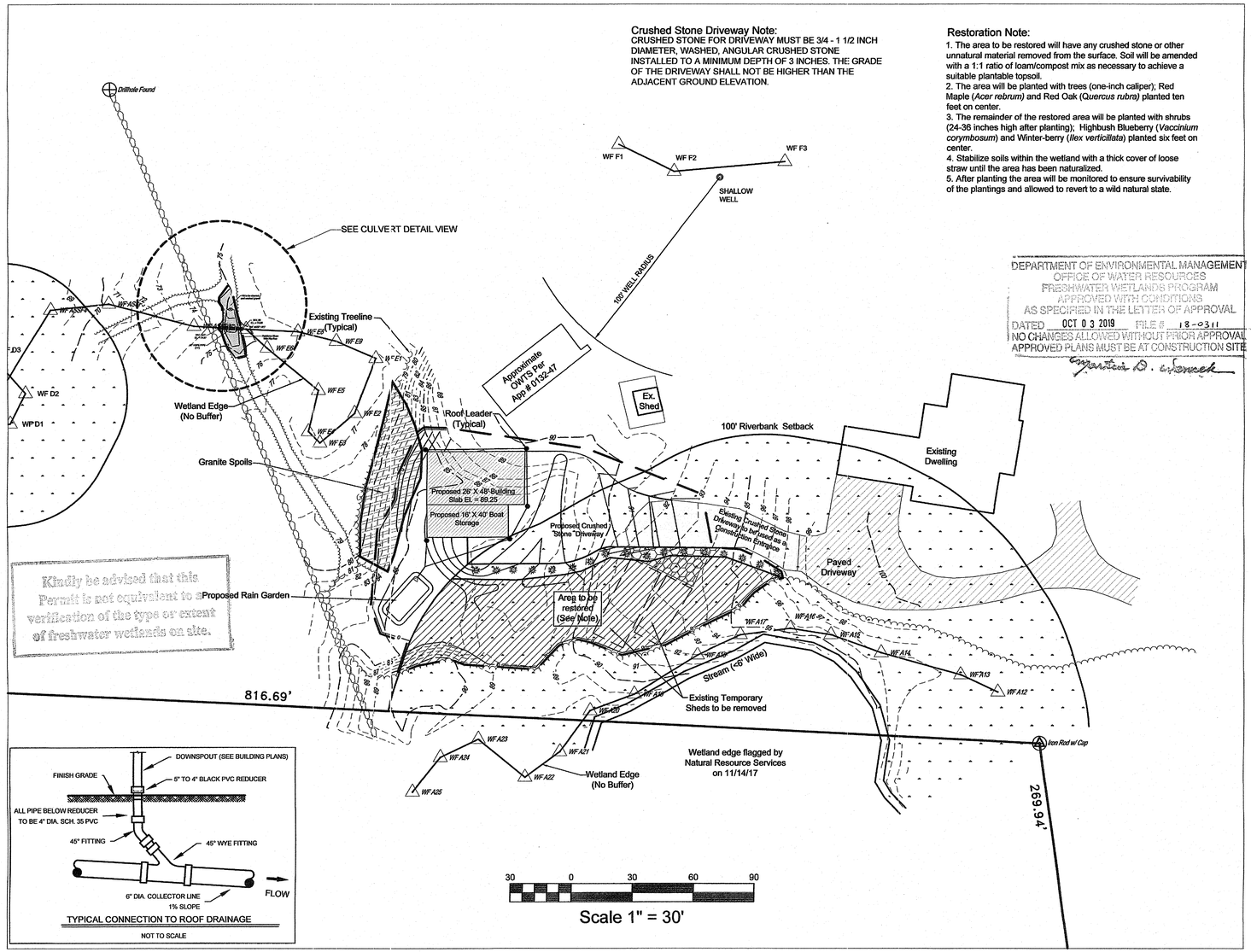
1. *THE WETLAND EDGE WAS FLAGGED BY NATURAL RESOUCE SERVICES, INC. ON 11/14/17.*
2. *WETLAND FLAGS WERE LOCATED WITH A POSITIONAL ACCURACY OF +/- 1'.*
3. *BASEMAP AND PHYSICAL DATA TAKEN FROM FIELD SURVEY WITH A HORIZONTAL ACCURACY OF +/- 1' AND A VERTICAL ACCURACY OF +/- 1'.OF +/- 1'*

Rain Garden Notes:

1. The bottom of the rain gardens should be level to encourage the even distribution of stormwater and increase infiltration capacity.
2. The rain gardens should have a 2-4 inch amended soil layer and a 2-3 inch layer of non-dyed aged shredded hardwood mulch.
3. The amended soil layer should be a 50/50 mixture of the excavated native soil and mature organic compost.
4. A crushed stone entrance should be installed at the inflow to prevent channeling.
5. A berm to detain stormwater should be constructed along the downhill side perpendicular to the slope.
6. Be sure that the soil within the rain gardens does not become compacted by construction activity. If soil becomes severely compacted it may need to be tilled and amended to maintain proper drainage.
7. Rain gardens should be inspected following at least the first two precipitation events of at least 1.0 inch to ensure that the system is functioning properly. Thereafter, the rain garden shall be monitored and maintained to assure proper functioning, plant growth and survival. Plants shall be replaced on an as-needed basis during the growing season.
8. Silt/sediment shall be removed from the rain garden when the accumulation exceeds one inch, or when water ponds on the surface for more than 48 hours. The top few inches of material shall be removed and shall be replaced with fresh soil mixture and mulch.
9. Pruning or replacement of woody vegetation shall occur when dead or dying vegetation is observed.
10. Soil erosion gullies shall be repaired when they occur.
11. Fertilizer or pesticides shall not be applied to plants within the rain garden.
12. Perennial plants and ground cover shall be replaced as necessary to maintain an adequate vegetated ground cover.
13. All roof leaders are to be diverted into the proposed rain gardens

TYPICAL CONNECTION TO ROOF DRAINAGE
NOT TO SCALE

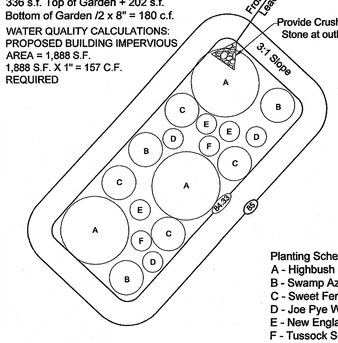
RAIN GARDEN DETAIL
NOT TO SCALE



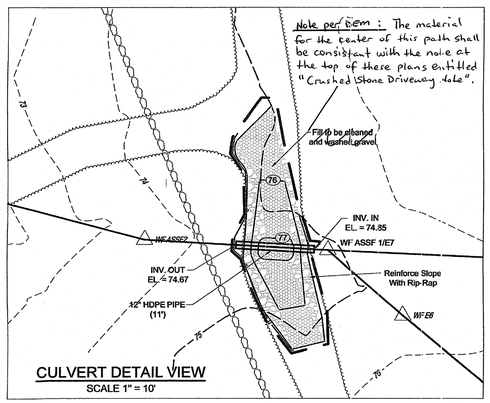
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED OCT 0 3 2019 FILE # 18-0311
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

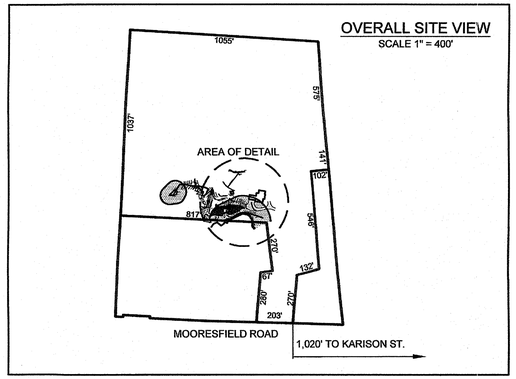
Rain Garden:
Top of Garden Elev. 85.00
Bottom of Garden Elev. 84.33
Storage Volume Provided
336 s.f. Top of Garden + 202 s.f. Bottom of Garden /2 x 8" = 180 c.f.
WATER QUALITY CALCULATIONS:
PROPOSED BUILDING IMPERVIOUS AREA = 1,888 S.F.
1,888 S.F. X 1" = 157 C.F. REQUIRED

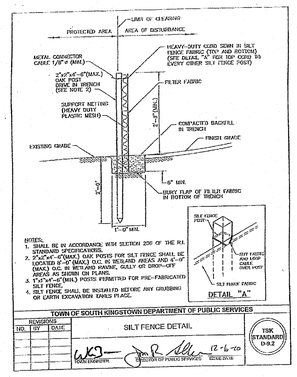


Planting Schedule:
A - Highbush Blueberry
B - Swamp Azalea
C - Sweet Fern
D - Joe Pye Weed
E - New England Aster
F - Tussock Sedge



CULVERT DETAIL VIEW
SCALE 1" = 10'





EROSION CONTROL & SOIL STABILIZATION PROGRAM

1. DENUDED SLOPES SHALL NOT BE UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON.
2. ALL DISTURBED SLOPES EITHER NEWLY CREATED OR EXPOSED PRIOR TO OCTOBER 15, SHALL BE SEEDED OR PROTECTED BY THAT DATE FOR ANY WORK COMPLETED DURING EACH CONSTRUCTION PERIOD.
3. THE TOPSOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS, AND SHALL CONFORM WITH R. I. STANDARD SPECIFICATION M. 20.
4. THE SEED MIX SHALL BE INOCULATED WITHIN 24 HOURS, BEFORE MIXING AND PLANTING, WITH APPROPRIATE INOCULUM FOR EACH VARIETY.
5. THE DESIGN MIX SHALL BE COMPRISED OF THE FOLLOWING: PERMANENT SEEDING MIXTURES: A - MOWED AREA: ALL FLAT OR SLOPES LESS THAN 3:1

MIXTURE	% BY WT.	SEEDING DATES
RED FESCUE	75	APRIL 1 - JUNE 15
KENTUCKY BLUEGRASS	15	AUG. 15 - OCT. 15
COLONIAL BENTGRASS	5	
PERENNIAL RYEGRASS	5	
TOTAL 100#/ACRE		

PERMANENT SEEDING MIXTURES:

B - UNMOWED AREA OR INFREQUENTLY MOWED: FLAT OR SLOPES GREATER THAN 3:1

MIXTURE	% BY WT.	SEEDING DATES
RED FESCUE	75	APRIL 1 - JUNE 15
PERENNIAL RYEGRASS	5	AUG. 15 - OCT. 15
COLONIAL BENTGRASS	5	
BIRDSFOOT TREFOIL	15	
TOTAL 100#/ACRE		

6. TEMPORARY TREATMENTS SHALL CONSIST OF A HAY, STRAW OR FIBER MULCH OR PROTECTIVE COVERS SUCH AS A MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING, EXCELSIOR BLANKETS). THEY SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER.
7. HAY OR STRAW APPLICATIONS SHOULD BE IN THE AMOUNT OF 3000-4000 LBS/AC.
8. ALL HAYBALES OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED. IF NEEDED, TEMPORARY SEEDING CAN BE USED TO HELP MINIMIZE EROSION. A TEMPORARY SEEDING GUIDE MUST BE INCLUDED AS A REFERENCE. THE FOLLOWING SPECIES ARE RECOMMENDED:

SPECIES	LBS/ACRE	LBS/1,000 SQ. FT.	SEEDING DATES
ANNUAL			
RYEGRASS	60	1.5	MAR. 15 - JUNE 15
PERENNIAL			
SUDAN GRASS	40	1.0	MAY 15 - AUGUST 15
MILLET	40	1.0	MAY 15 - AUGUST 15
WINTER RYE	120	3.0	AUGUST 15 - JUNE 15
OATS	120	3.0	MAR. 15 - JUNE 15
WEEPING LOVEGRASS	20	0.5	MAY 1 - JUNE 30

9. THE CONTRACTOR MUST REPAIR AND OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR AND HE SHALL DO SO AT NO ADDITIONAL EXPENSE.
10. THE NORMAL ACCEPTABLE SEASONAL SEEDING DATES ARE APRIL 1ST THRU OCT. 15TH.
11. ALL FILL SHALL BE THOROUGHLY COMPACTED UPON PLACEMENT IN STRICT CONFORMANCE WITH THE R.I.D.P.W. STANDARD SPECIFICATIONS SECTION 202.
12. STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN 15 DAYS OF FINAL GRADING.
13. STOCKPILES OF TOPSOILS SHALL NOT BE LOCATED NEAR WATERWAYS OR WETLANDS. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 30% AND STOCKPILES SHALL ALSO BE SEEDED AND/OR STABILIZED.
14. ON BOTH STEEP AND LONG SLOPES CONSIDERATION SHOULD BE GIVEN TO "CRIMPING" OR "TRACKING" TO TACK DOWN MULCH APPLICATIONS.
15. REFERENCE THE SEDIMENTATION CONTROL PROGRAM AND ORDER OF PROCEDURE FOR PROPER COORDINATION.

SEDIMENTATION CONTROL PROGRAM

1. ALL DISTURBED AREAS SUBJECT TO EROSIVE TENDENCIES WHETHER THEY ARE NEWLY FILLED OR EXCAVATED SHALL RECEIVE SUITABLE SLOPE PROTECTION.
2. DURING CONSTRUCTION, THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING STORMS AND PERIODS OF RAINFALL.
3. CARE SHALL BE TAKEN SO AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING EITHER EXISTING OR PROPOSED DRAINAGE OR SEWER STRUCTURES.
4. SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED PERIODICALLY AND AFTER PERIODS OF RAINFALL. SUCH DEVICES SHALL BE REPAIRED OR REPLACED AS NEEDED.
5. CARE SHALL BE TAKEN SO AS NOT TO PLACE "REMOVED SEDIMENTS" WITHIN THE PATH OF EXISTING, NEWLY CREATED (BOTH TEMPORARY AND PERMANENT) OR PROPOSED WATERCOURSES OR THOSE AREAS SUBJECT TO STORM WATER FLOW.
6. ADDITIONAL HAYBALES, SILT FENCE OR SANDBAGS SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY THE ENGINEER.
7. REFERENCE THE "RHODE ISLAND EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE U.S. DEPT. OF AGRICULTURE, SOIL CONSERVATION SERVICE, 1989, WITH ANY AMENDMENTS, AS A GUIDE.

ORDER OF PROCEDURE

1. IMMEDIATELY UPON COMPLETION OF THE CLEARING AND GRUBBING OPERATION AND PRIOR TO ANY GRADING, TEMPORARY HAYBALES, SILTFENCE OR SANDBAGS SHALL BE PLACED OUTSIDE THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS. (I.E. ALONG NEW ROADWAYS, STREAMBANKS, CRITICAL AREAS, ETC.)
2. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE PERIODICALLY CLEANED AND MAINTAINED AS PER THE RESPECTIVE PROGRAMS DURING THE CONSTRUCTION.
3. IF WORK PROGRESS IS TO BE INTERRUPTED AT ANY TIME, REFERENCE EROSION AND SEDIMENTATION CONTROL PROGRAMS FOR TEMPORARY CONTROL.

MAINTENANCE AND RESPONSIBILITY

1. THE CONSTRUCTION SUPERINTENDENT SHALL HAVE THE SOLE RESPONSIBILITY FOR THE DESIGN IMPLEMENTATION. HE SHALL ALSO BE RESPONSIBLE FOR ENSURING THAT ALL CONSTRUCTION WORKERS AND SUB-CONTRACTORS ARE AWARE OF THE PROVISIONS OF THE PLAN AND THE ENGINEER'S REPORT.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ASPECTS OF THE DESIGN PRIOR TO FINAL APPROVAL BY THE TOWN. DURING THAT TIME, ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHOULD BE CHECKED ON A WEEKLY BASIS AS WELL AS AFTER EACH SIGNIFICANT RAINFALL. ALL SUCH MEASURES SHOULD BE CLEANED OR REPLACED AS NECESSARY.
3. REPLANTING, REGRADING OR OTHER REPAIRS NEEDED AS A RESULT OF EROSION AND SEDIMENTATION SHOULD BE DONE PROMPTLY.

NOTES:

1. ALL EROSION CONTROL MEASURES TO REMAIN FOR 3 CONSECUTIVE MOWINGS.
2. CONTRACTOR TO CALL PUBLIC WORKS PRIOR TO CONSTRUCTION AND AGAIN FOR FINAL INSPECTION.
3. THIS SITE AS DESIGNED WILL HAVE NO ADVERSE EFFECT ON ABUTTING PROPERTIES ASSUMING EROSION CONTROL PLAN IS IMPLEMENTED.
4. FOR DRIVEWAYS SLOPING DOWN TOWARD THE ROAD HAYBALES TO BE SET ACROSS DRIVEWAY AT THE END OF DAY.
5. CONSTRUCTION TO COMMENCE IMMEDIATELY FOLLOWING APPROVAL AND WILL TAKE APPROXIMATELY 6 MONTHS TO COMPLETE.

GENERAL NOTES

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ANY AND ALL PERMITS REQUIRED BY THE STATE OF RHODE ISLAND AND THE MUNICIPALITY PRIOR TO COMMENCING ANY WORK.
2. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE INTEGRITY OF ALL EXISTING UTILITIES, STRUCTURES, AND ABUTTING PROPERTIES. THE COST OF ANY REPAIR OR REPLACEMENT OF DAMAGED ITEMS SHALL BE BORNE BY THE CONTRACTOR.
3. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE MUNICIPAL ENGINEERING DEPARTMENT AND ALL UTILITY INSTALLATIONS AND INSPECTIONS WITH THE APPROPRIATE UTILITY CO., A 48 HOUR ADVANCE NOTICE IS REQUIRED BEFORE WORK COMMENCEMENT.
4. ALL WORK WITHIN THE STATES ROW WILL CONFORM TO RIDOT's STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2013 AMENDED AUGUST 2013 AND STANDARD DETAILS, JUNE 15, 1998 AS AMENDED BY REVISION. 5. ALL TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVISES 2009, INCLUDING ALL REVISIONS."
6. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR QUANTITY TAKE OFF IN COMPUTING ANY ESTIMATES.
7. EMBANKMENT SLOPES AND ALL DISTURBED AREAS ARE TO RECEIVE 4" OF TOPSOIL AND SEED. SEE EROSION CONTROL PROGRAM DETAILS.
8. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION INDICATED ON THESE PLANS. THAT INCLUDES ANY CONSTRUCTION TO BRING UTILITIES TO THE SITE, ANY REPAIRS, ANY TRENCHING REQUIRED.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL TEMPORARY SEDIMENTATION AND SOIL EROSION CONTROL MEASURES.
10. THE LOCATION OF EXISTING UTILITIES AS SHOWN ARE APPROXIMATE AND SHOULD BE VERIFIED BY THE CONTRACTOR WITH THE APPROPRIATE UTILITY COMPANIES. CALL DIG-SAFE 1(888)344-7233.
11. IN ALL EXCAVATION AND PLACEMENT OF FILL THE CONTRACTOR SHALL PERFORM THE WORK IN FULL COMPLIANCE WITH THE R.I. STANDARD SPECIFICATION SECTION 202.
12. ALL CONSTRUCTION AND UTILITY WORK SHALL CONFORM TO THE LATEST MUNICIPAL STANDARDS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN, COMPREHEND AND IMPLEMENT THESE REQUIREMENTS PROPERLY.

WETLAND SUBMISSION
FOR
William Place
LOCATED AT
BEING A.P. 18-3, LOT 38
141C MOORESFIELD ROAD
SOUTH KINGSTOWN, RI

Environmental Management
AUG 15 2019
Office of Water Resources

Drawn By: PJF | Checked By: DrC | Date: 10/12/2018 | Scale: AS SHOWN

REVISIONS

NO.	REVISION	BY	DATE
1.	PER RIDEM COMMENTS	PJF	5/31/19
1.	PER RIDEM COMMENTS	PJF	7/30/19

DANIEL R. COTTA NO. 5147 REGISTERED PROFESSIONAL ENGINEER
11/8/18

AMERICAN ENGINEERING, INC.
DANIEL R. COTTA Professional Engineer / Professional Land Surveyor
400 South County Trail - Suite A 201
Exeter, Rhode Island 02822
DCotta@AmericanEngineeringRI.com
Phone (401) 294-4090 / Fax (401) 294-3625

Sheet 1 of 1 sheets

Drawing No. 112141