

**SITE IMPROVEMENT PLANS  
FOR A PROPOSED**

# 4,120± SQ. FT. OFFICE BUILDING

**690 DOUGLAS PIKE  
SMITHFIELD, RHODE ISLAND  
AP 46, LOT 82B**

**ZONING DISTRICT: RESIDENTIAL (R-20)**

**APPROVALS:**

**TOWN OF SMITHFIELD ZONING BOARD OF REVIEW - USE VARIANCE (JANUARY 31, 2018)**

**FILINGS:**

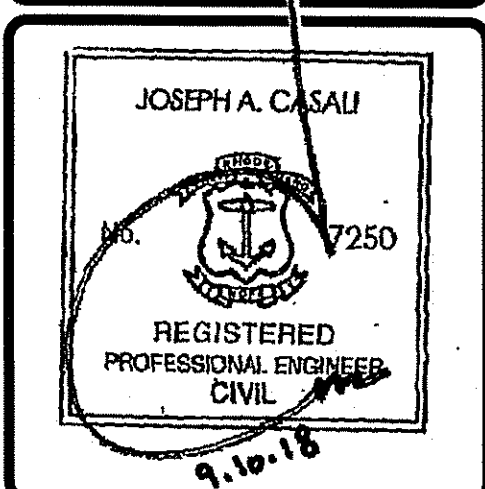
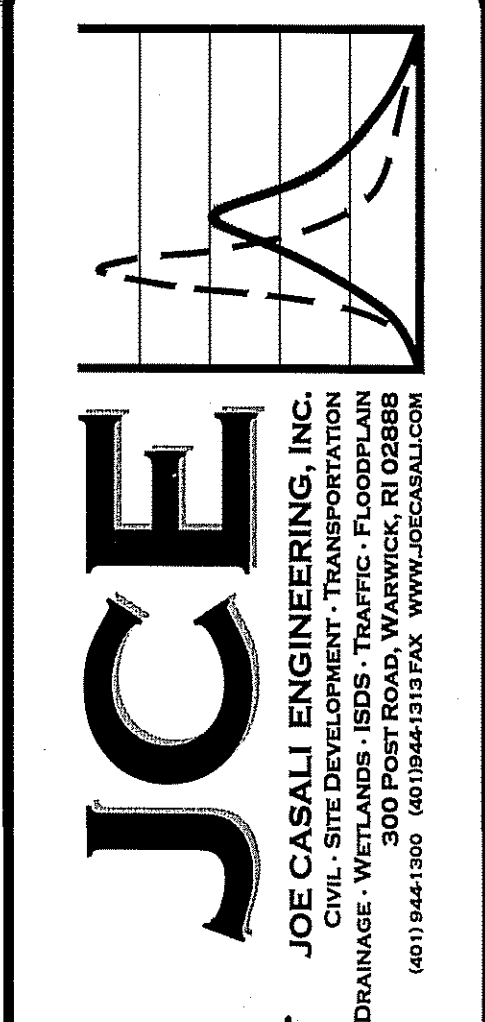
**RHODE ISLAND DEPARTMENT OF TRANSPORTATION - PHYSICAL ALTERATION PERMIT**

**RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT - PRELIMINARY DETERMINATION APPLICATION**

**RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT - OWTS PROGRAM**

**TOWN OF SMITHFIELD ENGINEER'S OFFICE - SOIL EROSION PERMIT**

*Charles M. [Signature]*  
 DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED OCT 26 2018 FILE # B-D-170  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

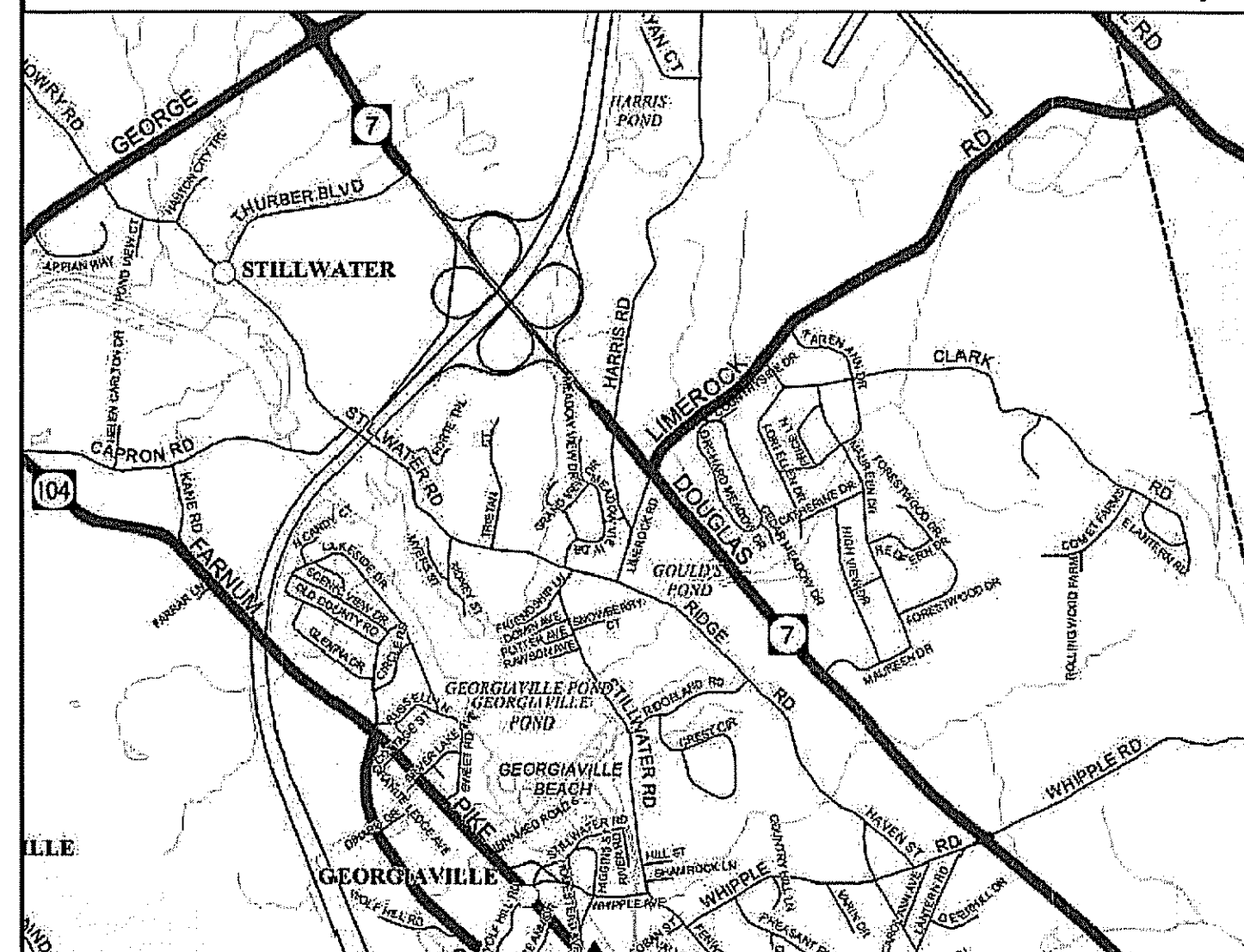


**690 DOUGLAS PIKE  
SMITHFIELD, RHODE ISLAND  
AP 46, LOT 82B**

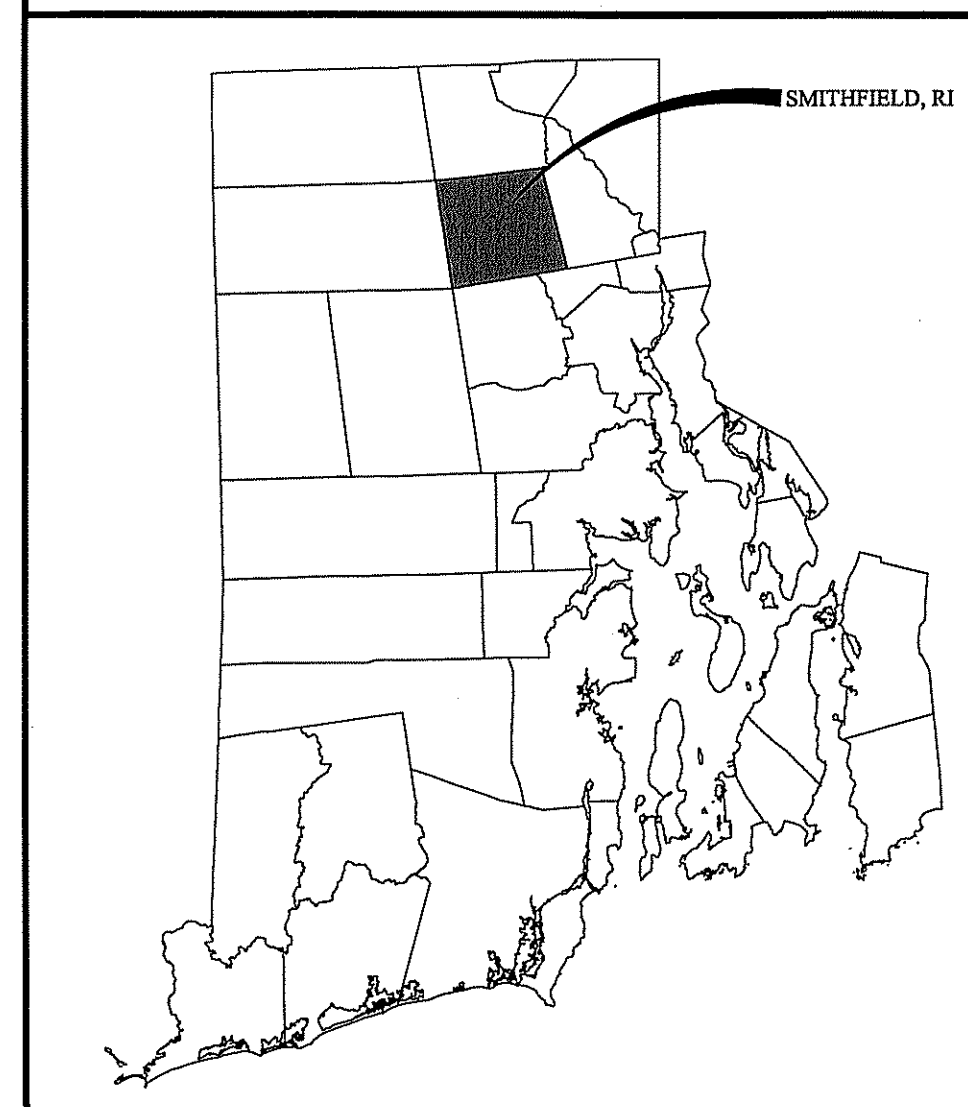
**PROJECT TEAM**

<b>OWNER:</b>	DOOVEAU ENTERPRISES, LLC. 107 POMONA STREET NORTH SMITHFIELD, RI 02896 PHONE: 401-349-5333 FAX: 401-349-5566	<b>ARCHITECT:</b>	ENERGY GEEKS, INC. 191 SOCIAL STREET #530 WOONSOCKET, RI 02895 PHONE: 401-766-1540
<b>APPLICANT:</b>	BRIAN N. CORRIVEAU, LLC. 9 THURBER BLVD SMITHFIELD, RI 02917 PHONE: 401-349-5333	<b>LAND SURVEYOR:</b>	INTERNATIONAL MAPPING & SURVEYING CORP. 19 INDUSTRIAL DRIVE SMITHFIELD, RI 02917 PHONE: 401-232-2620
<b>CIVIL ENGINEER:</b>	JOE CASALI ENGINEERING, INC. 300 POST ROAD WARWICK, RI 02888 PHONE: 401-944-1300 FAX: 401-944-1313 JOECASALI.COM	<b>LANDSCAPE ARCHITECT:</b>	DIANE C. SOULE & ASSOCIATES, ASLA 422 FARNUM PIKE SMITHFIELD, RI 02917 PHONE: 401-231-0736

**LOCUS MAP (NOT TO SCALE)**



**STATE WIDE MAP**



**INDEX OF DRAWINGS**

SHEET NO.	PLAN
1	COVER SHEET
2	EXISTING CONDITIONS & SITE PREPARATION PLAN
3	SITE PLAN
4	GRADING & DRAINAGE PLAN
5	RIDOT PAP PLAN
6	RI STANDARD DETAILS
7	DETAILS I
8	DETAILS II

SEP 11 2018

**REVISIONS:**

NO.	DATE	DESCRIPTION
1	9.10.2018	RIDEM

DESIGNED BY:	WMLJR
DRAWN BY:	WMLJR
CHECKED BY:	JAC
DATE:	JUNE 2018
PROJECT NO.:	17-57

NOT FOR CONSTRUCTION, UNLESS APPROVED BY RIDEM

**COVER SHEET**

**SHEET 1 OF 8**

**GENERAL NOTES:**

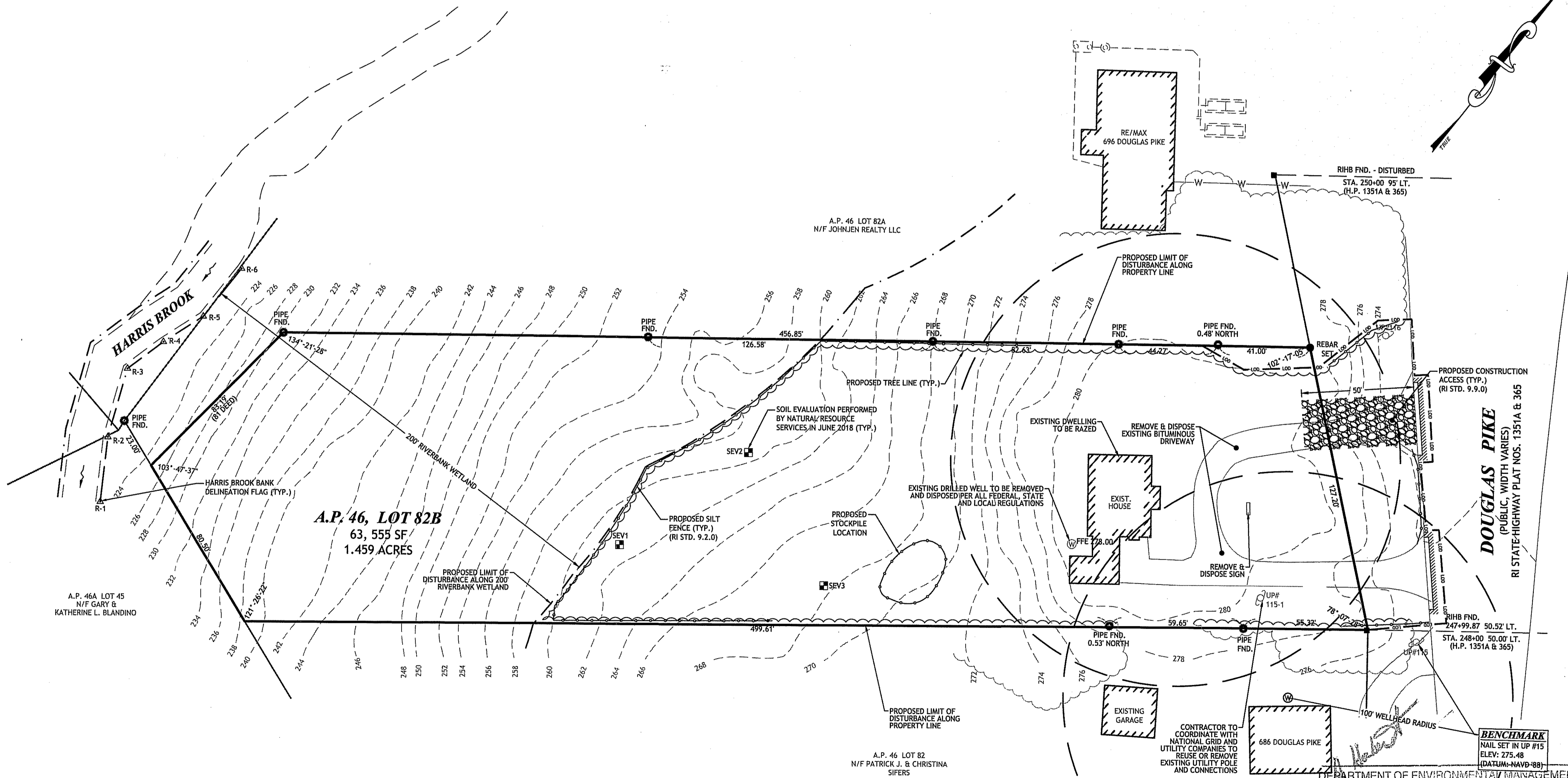
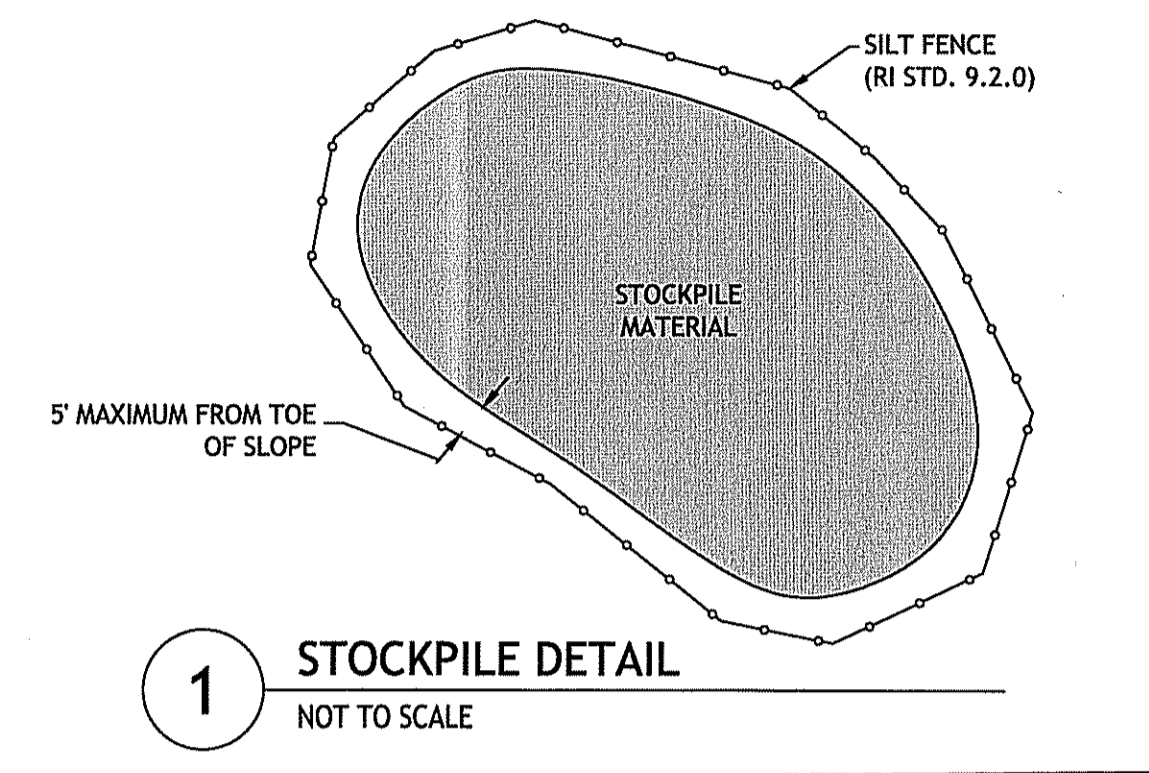
- CLASS I PROPERTY LINE AND CLASS III TOPOGRAPHIC SURVEY COMPLETED BY INTERNATIONAL MAPPING & SURVEYING CORP., 19 INDUSTRIAL DRIVE, SMITHFIELD, RI IN MARCH 2018.
- THERE ARE NO EXISTING WATER FEATURES ON THE SITE.
- THIS SITE LIES IN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), AS SHOWN ON THE FEMA FIRM MAP FOR THE TOWN OF SMITHFIELD, RI, COMMUNITY PANEL NO. 44007C0169H, MAP EFFECTIVE OCTOBER 2, 2015.
- THE LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE LATEST AVAILABLE INFORMATION. THE UTILITY LOCATIONS ARE APPROXIMATE AND MAY NOT BE ACCURATE. THE CONTRACTOR SHALL CHECK AND VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, BOTH OVERHEAD AND UNDERGROUND, AND "DIG-SAFE" MUST BE NOTIFIED PRIOR TO COMMENCING ANY CONSTRUCTION OPERATIONS. RESTORATION AND REPAIR OF DAMAGE TO EXISTING UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL COST TO THE OWNER. NO EXCAVATION SHALL COMMENCE UNTIL ALL INVOLVED UTILITY COMPANIES AND/OR CITY WHOSE FACILITIES MIGHT BE AFFECTED BY ANY WORK TO BE PERFORMED BY THE CONTRACTOR ARE NOTIFIED AT LEAST 72 HOURS IN ADVANCE.
- EXISTING SOILS ON THE SITE CONSISTS MOSTLY OF CANTON AND CHARLTON FINE SANDY LOAMS, 8 TO 15 PERCENT SLOPES, VERY STONY (CHC) AND A SMALL AREA OF URBANTHENTS-URBAN LAND COMPLEX (UD) ALONG THE FRONTAGE OF THE SUBJECT PARCEL.
- THERE ARE NO KNOWN EASEMENTS ON THE SUBJECT PROPERTY. THERE ARE NO KNOWN EXISTING PUBLIC RECREATIONAL OR CULTURAL RESOURCES LOCATED WITHIN THE SUBJECT SITE.

**SOIL EROSION AND SEDIMENTATION CONTROL NOTES**

- THE SILT FENCE LINE (RI STD 9.2.0) ILLUSTRATED ON THESE PLANS SHALL SERVE AS THE STRICT LIMIT OF DISTURBANCE FOR THE PROJECT WITHIN OR ADJACENT TO REGULATED FRESHWATER WETLAND AREAS.
- THE LIMITS OF CLEARING, GRADING, AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THESE LIMITS, AS DEPICTED ON THE PLAN SHALL BE TOTALLY UNDISTURBED, TO REMAIN IN NATURAL CONDITION.
- ALL CATCH BASINS OR INLETS THAT WILL RECEIVE RUNOFF FROM CONSTRUCTION SHALL BE PROTECTED WITH SILTSACK SEDIMENT CONTROL DEVICE, OR APPROVED EQUAL INLET PROTECTION. ALL INLET PROTECTION DEVICES SHALL BE MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION, PER MANUFACTURER RECOMMENDATIONS, UNTIL FINAL SITE STABILIZATION HAS BEEN ACHIEVED.
- PRIOR TO THE START OF CONSTRUCTION, THE SITE CONTRACTOR SHALL STAKE OUT AND PROTECT ALL SURFICIAL STORMWATER INFILTRATION AREAS, INCLUDING THE SAND FILTER BASIN. CONSTRUCTION TRAFFIC IS NOT ALLOWED WITHIN THE INFILTRATION AREAS. CONSTRUCTION FENCING SHALL BE USED TO PROTECT AREA FROM CONSTRUCTION TRAFFIC. STORMWATER INFILTRATION AREAS SHALL BE PROTECTED FROM RUNOFF DURING CONSTRUCTION AND MAY NOT BE USED AS TEMPORARY SEDIMENTATION AREAS DURING CONSTRUCTION. SILT FENCE SHALL BE USED TO PROTECT THESE AREAS FROM RUNOFF.
- THE SILT FENCE SHALL BE CHECKED BY THE CONTRACTOR ON A WEEKLY BASIS AND AFTER EACH STORM FOR UNDERMINING OR DETERIORATION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY SILT FENCE AS NEEDED. THE CONTRACTOR SHALL CLEAN THE ACCUMULATED SEDIMENT IF HALF OF THE ORIGINAL HEIGHT OF THE SILT FENCE BECOMES FILLED WITH SEDIMENT.
- ALL DISTURBED SLOPES EITHER NEWLY CREATED OR CURRENTLY EXPOSED SHALL BE SEEDED, PROTECTED AND MAINTAINED BY THE CONTRACTOR. THE CONTRACTOR SHALL REGULARLY CHECK ALL SEEDED AREAS TO ENSURE THAT A GOOD STAND IS MAINTAINED.
- ALL SILT FENCE, TEMPORARY TREATMENT (HAY, STRAW, ETC.) AND TEMPORARY EROSION PROTECTION SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE DURATION OF CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL SITE HAS BEEN COMPLETELY AND FULLY STABILIZED.
- STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAYS. THEY SHALL HAVE SIDE SLOPES OF NO GREATER THAN 2:1 AND SHALL BE TEMPORARILY SEEDED AND/OR STABILIZED PER CONTRACT SPECIFICATIONS.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL SOIL EROSION AND SEDIMENT CONTROLS ON THE PROJECT SITE FOR THE ENTIRE DURATION OF THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL FOLLOW THE DIRECTION OF THE ENGINEER WITH REGARD TO INSTALLATION, MAINTENANCE, AND REPAIR OF ALL SOIL EROSION AND SEDIMENTATION CONTROLS ON THE PROJECT SITE. TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROLS SHALL BE MAINTAINED UNTIL ALL EXPOSED SOILS ARE SATISFACTORILY STABILIZED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND/OR RE-SEEDING ALL AREAS THAT DO NOT DEVELOP WITHIN ONE YEAR FROM THE COMPLETION OF CONSTRUCTION.
- ALL REFERENCED SOIL EROSION AND SEDIMENTATION CONTROLS INCLUDING MATERIALS USED, APPLICATION RATES AND THE INSTALLATION PROCEDURES SHALL BE PERFORMED PER THE "RHODE ISLAND EROSION AND SEDIMENTATION HANDBOOK", DATED 1993 AMENDED 2014.

ZONING CRITERIA	REQUIRED
ZONING DISTRICT	R-20
MINIMUM LOT AREA	20,000 SF
MINIMUM FRONTAGE	125 FT
MINIMUM FRONT YARD DEPTH	30 FT
MINIMUM SIDE YARD DEPTH	15 FT
MINIMUM REAR YARD DEPTH	30 FT
MAXIMUM STRUCTURE HEIGHT	39 FT
MAXIMUM BUILDING COVERAGE	25%

**NOTE TO CONTRACTOR:**  
CONTRACTOR TO COORDINATE WITH OWNER ON LOCATION OF CONSTRUCTION TRAILER AND STAGING AREAS



**INTERNATIONAL MAPPING & SURVEYING CORP.**  
LAND SURVEYING CIVIL ENGINEERING PHOTOGRAMMETRIC MAPPING  
19 INDUSTRIAL DRIVE, SMITHFIELD, R.I. 02917 (401) 232-2620

**CERTIFICATION:**  
THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO SECTION 9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS ON NOVEMBER 25, 2015, AS FOLLOWS:

TYPE OF BOUNDARY SURVEY: LIMITED CONTENT BOUNDARY SURVEY  
MEASUREMENT SPECIFICATION: CLASS 1  
VERTICAL CONTROL STANDARD: V-4  
TOPOGRAPHIC SURVEY ACCURACY: T-3

THE PURPOSE FOR THE CONDUCT OF THE SURVEY AND FOR THE PREPARATION OF THE PLAN IS AS FOLLOWS:  
THIS PLAN WAS PREPARED TO ACCOMPANY AND APPLICATION FOR A DEPARTMENT OF TRANSPORTATION HIGHWAY DEPARTMENT INGRESS EGRESS APPLICATION.

BY: *Anthony E. Muscatelli* 03/05/2018 DATE  
ANTHONY E. MUSCATELLI, PLS #1718 CDA #4368

ANTHONY E. MUSCATELLI  
No. 1718  
PROFESSIONAL LAND SURVEYOR



**JOE CASALI ENGINEERING, INC.**  
CIVIL - SITE DEVELOPMENT - TRANSPORTATION  
DRAINAGE - WETLANDS - ISDS - TRAFFIC - FLOODPLAIN  
300 POST ROAD, WARWICK, RI 02888  
(401) 844-1300 (401) 844-1313 FAX WWW.JOEENGINEERING.COM

JOSEPH A. CASALI  
No. 7250  
REGISTERED PROFESSIONAL ENGINEER  
CIVIL  
9.10.18

**690 DOUGLAS PIKE  
SMITHFIELD, RHODE ISLAND  
AP 46, LOT 82B**

**REVISIONS:**

NO.	DATE	DESCRIPTION
1	9.10.2018	RIDEM

DESIGNED BY: WMLJR  
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DATE: JUNE 2018  
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**EXISTING  
CONDITIONS  
& SITE  
PREPARATION**

SHEET  
2 OF 8

LOCATION OF EXISTING UTILITIES SHOWN, ARE FROM GATE LOCATION AND EXISTING DOCUMENTATION AND MAY NOT BE ACCURATE. EXACT LOCATION TO BE DONE BY THE APPROPRIATE UTILITY COMPANY OR MUNICIPALITY PRIOR TO ANY EXCAVATION CALL DIGSAFE AT:

1-888-DIG-SAFE  
PROTECT YOURSELF, GIVE THREE WORKING DAYS NOTICE

1-888-DIG-SAFE  
1-888-344-7233

Q:\17-57 Donna Contreras\17-57b 690 Douglas Pike\ACD\690 Douglas Pike [Preliminary Plan] - RZ.dwg, Sep. 10, 2018 3:34pm

**SITE NOTES:**

- CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND LEGALLY DISPOSING (R&D) OF ALL MATERIALS INDICATED ON THE PLANS.
- ACCESSIBLE ROUTES, PARKING SPACES, RAMPS, SIDEWALKS, AND WALKWAYS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE FEDERAL AMERICAN WITH DISABILITIES ACT AND WITH ALL APPLICABLE STATE AND LOCAL LAWS AND REGULATIONS, WHICHEVER IS MORE STRINGENT.
- STOCKPILES OF EARTH MATERIALS SHALL NOT BE LOCATED ADJACENT TO DRAINAGE STRUCTURES.
- ALL DISTURBED AREAS OUTSIDE OF THE PAVED AREAS WILL RECEIVE A MINIMUM OF 6" OF LOAM AND SEED.
- THE LAYOUT SHOWN REPRESENTS A GRAPHICAL DESIGN, AND PRIOR TO THE CONSTRUCTION, THE CONTRACTOR SHALL ENGAGE A PROFESSIONAL LAND SURVEYOR (PLS) REGISTERED IN THE STATE OF RHODE ISLAND TO SET AND VERIFY ALL LINES AND GRADES. ALL EXISTING UTILITY LOCATIONS AND ELEVATIONS ARE TO BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY ITEMS FOUND WHICH DO NOT MATCH THE PLANS MUST BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO CONSTRUCTION FOR REVIEW. NO WORK SHALL PROCEED UNTIL AUTHORIZED BY THE ENGINEER.
- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SURVEY LAYOUT SERVICES FOR THE WORK AND SHALL SUBMIT "AS-BUILT" DRAWINGS OF ALL WORK, WHICH SHALL BE STAMPED AND CERTIFIED BY A RHODE ISLAND REGISTERED PROFESSIONAL LAND SURVEYOR.
- ANY ITEM OF WORK NOT SPECIFICALLY INDICATED ON THE PLANS BUT IS REQUIRED FOR THE COMPLETE CONSTRUCTION OF THE PROJECT WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND INCLUDED IN THE CONTRACT BID PRICE. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING SITE CONDITIONS.
- WHERE NECESSARY TO REMOVE CURBS, CATCH BASINS OR DRAINS TO COMPLETE WORK, THE CONTRACTOR SHALL REPLACE SUCH ITEMS TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST TO THE OWNER.
- ANY EXISTING PIPE OR UTILITY DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR AT NO COST TO THE OWNER OR THE TOWN OF SMITHFIELD.
- THE CONTRACTOR SHALL RESTORE TO ITS ORIGINAL CONDITION OR REPLACE TREES, SHRUBS, FENCES, SIGNS, GUARDRAILS, DRIVEWAYS, SIDEWALKS AND ANY OTHER OBJECT AFFECTED BY THIS OPERATION, UNLESS OTHERWISE NOTED ON THE SITE PLANS.
- THE TOPS OF ALL VALVE BOXES AND CURB BOXES SHALL BE FLUSH WITH GROUND OR PAVEMENT SURFACE LEVEL AND PLUMB, UNLESS OTHERWISE DIRECTED.
- ROADWAYS SHALL BE LEFT PASSABLE AT ALL TIMES. CLOSURE OF ROADWAY IS NOT PERMITTED.
- WATER SERVICE SHALL BE MAINTAINED AT ALL TIMES.
- ALL LEDGE TO BE REMOVED BY MECHANICAL MEANS.
- ALL CONSTRUCTION WORK SHALL BE PERFORMED IN THE DRY. THE CONTRACTOR SHALL PROVIDE, OPERATE AND MAINTAIN ALL PUMPS, DRAINS, WET POINTS, SCREENS, OR OTHER FACILITIES NECESSARY TO CONTROL, COLLECT AND DISPOSE OF ALL SURFACE AND SUBSURFACE WATER ENCOUNTERED IN THE PERFORMANCE OF THE WORK.
- ALL SITE WORK, INCLUDING BUT NOT LIMITED TO, BITUMINOUS PAVEMENT, ROADWAY CONSTRUCTION, AGGREGATE MATERIALS, DRAINAGE STRUCTURES, CURBING, SIDEWALK, LANDSCAPING, SAW CUTTING, ETC. SHALL CONFORM TO THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION, AMENDED DECEMBER 2010 (WITH LATEST ADDENDA) AND THE RIDOT STANDARD DETAILS, 1998 EDITION (WITH LATEST ADDENDA).

**MAINTENANCE AND PROTECTION OF TRAFFIC NOTES:**

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND PROTECTION OF PEDESTRIAN AND VEHICULAR TRAFFIC INCLUDING POLICE PROTECTION. ALL TEMPORARY AND VEHICULAR SIGNS, BARRICADES AND LANE CLOSURES SHALL BE IN CONFORMANCE WITH THE LATEST REVISIONS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 2009 EDITION.
- TEMPORARY CONSTRUCTION SIGNS AND ALL APPLICABLE TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF WORK IN ANY AREA OPEN TO TRAFFIC.
- THE PRIVATE VEHICLES OF CONSTRUCTION WORKERS SHALL NOT BE PARKED IN THE STATE OR TOWN RIGHT-OF-WAY.
- ALL MAINTENANCE AND PROTECTION OF TRAFFIC CONTROL SETUPS, SIGNS CHANNELING DEVICES, ETC. SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 2009 EDITION.
- SIGN MOUNTINGS SHALL BE IN ACCORDANCE WITH THE RIDOT SPECIFICATIONS FOR TEMPORARY CONSTRUCTION SIGNS.

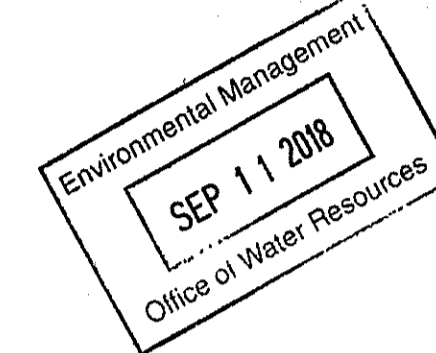
**OWTS NOTES:**

- THIS DESIGN IS SUBMITTED TO RIDEM TO BE REVIEWED IN CONFORMANCE WITH ALL APPLICABLE REGULATIONS. CONSTRUCTION OF THIS SYSTEM WILL REQUIRE THE DESIGNER'S CERTIFICATE OF CONSTRUCTION FOR OWTS.
- ALL PIPES, EXCEPT IN THE LEACHING FIELD, SHALL BE SOLID 4 INCH DIAMETER SDR 35 WITH WATERTIGHT JOINTS OR EQUIVALENT, UNLESS OTHERWISE NOTED.
- ALL PIPES EXCEPT IN LEACHING FIELD SHALL HAVE A SLOPE NOT LESS THAN 1/8 INCH PER FOOT BUT NO GREATER THAN 3%, UNLESS OTHERWISE NOTED.
- SEPTIC TANK AND DISTRIBUTION BOX SHALL BE SET ON A LEVEL STABLE BASE THAT WILL NOT SETTLE.
- DISTRIBUTION PIPES FOR A MINIMUM OF 2 FEET FROM DISTRIBUTION BOX TO THE FIRST SECTION IN THE FIELD SHALL BE SET LEVEL.
- NO KNOWN SUBSURFACE DRAINS WITHIN 25 FEET UPGRADIENT OF OR 50 FEET DOWNGRADIENT OF PROPOSED SYSTEM, INCLUDING FOUNDATION DRAINS.
- NO IN-GROUND SWIMMING POOLS WITH 25 FEET OF PROPOSED OWTS, NO SWIMMING POOLS WITH 10 FEET OF ANY OWTS COMPONENT.
- DISTRIBUTION LINES IN LEACH FIELD SHALL BE 4 INCH SDR 35 PERFORATED PVC PIPE OR EQUIVALENT AND HAVE A SLOPE OF 2-4 INCHES PER 100 FEET.
- ALL TREES, BRUSH AND STUMPS WITHIN THE AREA OF THE LEACHFIELD AND WITHIN TEN (10) FEET OF THE LEACHFIELD SHALL BE REMOVED. CARE MUST BE TAKEN TO ASSURE THAT THE SOIL AT THE BOTTOM AND SIDES OF THE EXCAVATION FOR THE LEACHFIELD IS NOT COMPACTED OR SMEARED. THE BOTTOM OF THE EXCAVATION SHALL BE LEVEL AND THE BOTTOM AND SIDES OF THE EXCAVATION SHALL BE SCARIFIED. IN NO CASE SHALL EXPOSED BouldERS IN THE WALLS OR BOTTOM OF THE EXCAVATION BE LEFT IN PLACE. VOIDS CREATED BY THE REMOVAL OF BouldERS SHALL BE FILLED WITH GRAVEL MEETING THE REQUIREMENTS IN RULE 32.12. EXPOSED ROOTS WITHIN THE EXCAVATION SHALL BE CUT BACK TO THE WALLS OF THE EXCAVATION. NO PART OF THE EXCAVATION FOR THE LEACHFIELD SHALL BE INTO GROUNDWATER. ALL STORM DEPOSITED SAND IN THE BACKDUNE ENVIRONMENT AND HUMAN TRANSPORTED MATERIAL EXISTING IN THE PROPOSED LEACHFIELD AND FIVE (5) FEET AROUND AND BELOW SHALL BE REMOVED PRIOR TO OWTS INSTALLATION.
- THE GRAVEL BASE MATERIAL AND, WHERE APPLICABLE, THE GRAVEL BETWEEN THE TRENCHES SHALL CONSIST OF CLEAN SAND AND GRAVEL FREE OF ORGANIC MATTER AND FOREIGN SUBSTANCES. THE GRAVEL SHALL NOT CONTAIN ANY MATERIAL LARGER THAN THREE (3) INCHES AND UP TO TEN PERCENT (10%) MAY BE SIZED BETWEEN THREE-QUARTERS (3/4) AND THREE (3) INCHES. GRAVEL SHALL MEET THE FOLLOWING CRITERIA: SIEVE SIZE PERCENT PASSING 3/4" 100% #4 55% - 100% #10 40% - 100% #40 10% - 50% #100 0% - 20% #200 0% - 5% . THE GRAVEL SHALL BE PLACED IN SHALLOW LIFTS AND PROPERLY COMPACTED. THE SURFACE OF THE GRAVEL UPON WHICH THE STONE WILL BE LAID SHALL BE LEVEL AND SCARIFIED.
- THE STONE USED IN THE LEACHFIELD SHALL CONSIST OF DOUBLE WASHED STONE RANGING FROM NOT LESS THAN THREE QUARTER (3/4) INCH TO NOT MORE THAN TWO (2) INCHES IN SIZE AND FREE OF FINES, SOILS, STONE DUST OR DEBRIS.
- PRECAST REINFORCED CONCRETE SEPTIC TANKS SHALL CONFORM TO THE AMERICAN SOCIETY FOR TESTING AND MATERIALS "STANDARD SPECIFICATION FOR PRECAST CONCRETE SEPTIC TANKS C-1227-02" AND ANY UPDATES THERETO. ANY WEEP HOLES IN THE PRECAST REINFORCED CONCRETE SEPTIC TANK SHALL BE PLACED ON THE SIDE OF THE TANK BOTTOM TO ALLOW FOR SAFE INSPECTION AND ASSURANCE THAT THE WEEP HOLE HAS BEEN PLUGGED. EACH SEPTIC TANK SHALL BE CLEARLY AND PERMANENTLY MARKED AT THE INLET END OF THE TANK WITH: DATE OF MANUFACTURE; NAME OR TRADEMARK OF THE MANUFACTURER; SEPTIC TANK CAPACITY; AND INDICATION OF EXTERNAL LOADS FOR WHICH THE SEPTIC TANK IS DESIGNED TO RESIST.
- THE ACCESS OPENING OVER THE OUTLET TEE SHALL BE BROUGHT TO FINISHED GRADE. OTHER ACCESS OPENINGS SHALL EITHER BE BROUGHT TO FINISHED GRADE OR WITHIN TWELVE (12) INCHES OF THE FINISHED GRADE. WHERE A RISER IS REQUIRED, IT SHALL BE WATERTIGHT.

- 26.7.2 LIDS ON THE TOP OF THE SEPTIC TANK SHOULD REMAIN IN PLACE WHERE PRACTICAL. LIDS FOR THE OPENINGS AT FINISHED GRADE SHALL PREVENT UNAUTHORIZED ENTRY BY MEETING EITHER OF THE FOLLOWING: LID SHALL WEIGH A MINIMUM OF FIFTY-NINE (59) POUNDS AND FIT TIGHTLY ONTO THE RISER; OR LID SHALL BE TAMPER RESISTANT AND MECHANICALLY FASTENED.
- NO PROPOSED OR EXISTING KNOWN PUBLIC WELLS WITHIN 500 FEET OF PROPOSED SYSTEM EXCEPT AS SHOWN.
- NO DRIVING, PARKING OR PAVING OVER LEACH FIELD.
- GRAVEL BACKFILL MUST BE BROUGHT UP AROUND THE TRENCH TO AT LEAST 2 INCHES ABOVE THE TOP OF THE DISTRIBUTION LINES IN THE LEACH FIELD.
- BACKFILL PLACED OVER A LEACHING SYSTEM SHALL BE FREE OF LARGE STONES, FROZEN CLUMPS OF EARTH, RUBBISH, STUMPS OR WASTE CONSTRUCTION MATERIALS.
- THE SURFACE AREA OVER THE LEACH FIELD SHALL BE GRASSED.
- A MINIMUM TEN (10) FOOT HORIZONTAL SEPARATION DISTANCE SHALL BE PROVIDED BETWEEN THE OUTER EDGE OF THE STONE IN THE OUTER DISPERSAL TRENCH AND ANY GROUND SURFACE ELEVATION LESS THAN THE ELEVATION OF THE INVERT OF THE DISTRIBUTION LINE. THE ADJACENT SIDE SLOPE SHALL NOT BE STEEPER THAN 3:1 (HORIZONTAL:VERTICAL) FOR A TWENTY-FIVE (25) FOOT MINIMUM DISTANCE FROM THE EDGE OF THE STONE IN THE DISPERSAL TRENCH OR UNTIL THE TOE OF THE SLOPE RETURNS TO THE ELEVATION OF THE ORIGINAL GRADE. THE TOE OF THE 3:1 SLOPE SHALL BE A MINIMUM OF FIVE (5) FEET FROM ANY PROPERTY LINE.
- UNLESS OTHERWISE SPECIFIED, THE SYSTEM HAS NOT BEEN DESIGNED WITH THE PROVISIONS FOR GARBAGE GRINDERS.
- THIS SEWERAGE DISPOSAL SYSTEM SHALL CONFORM TO ALL THE REGULATIONS UNDER SECTIONS 42-17.1-2(1), (M) (R) AND (S) AND SECTION 23-19.5-4 AND CHAPTER 42-35 OF THE GENERAL LAWS OF RHODE ISLAND.
- NO PROPOSED OR EXISTING KNOWN PRIVATE WELLS WITHIN 200 FEET OF THE PROPOSED SYSTEM EXCEPT AS SHOWN.
- INSPECTIONS OR AS-BUILT PLANS ARE REQUIRED, JCE, INC MUST BE NOTIFIED 48 HOURS IN ADVANCE AND COMPONENTS OF SYSTEM MUST BE LEFT EXPOSED.

ZONING CRITERIA	REQUIRED	PROPOSED
ZONING DISTRICT	R-20	R-20
MINIMUM LOT AREA	20,000 SF	>65,300 SF
MINIMUM FRONTAGE	125 FT	>125 FT
MINIMUM FRONT YARD DEPTH	30 FT	>30 FT
MINIMUM SIDE YARD DEPTH	15 FT	>15 FT
MINIMUM REAR YARD DEPTH	30 FT	>30 FT
MAXIMUM STRUCTURE HEIGHT	39 FT	<39 FT
MAXIMUM BUILDING COVERAGE	25%	<25%

PARKING CALCULATION	
PROFESSIONAL OFFICE:	1 SPACE PER 200 SF GFA
	4,000 SF OFFICE / 200 SF
	20 SPACES REQUIRED
	20 SPACES PROVIDED



**JCE**  
 JOE CASALI ENGINEERING, INC.  
 CIVIL, SITE DEVELOPMENT, TRANSPORTATION  
 DRAINAGE, WETLANDS, ISDS, TRAFFIC, FLOODPLAIN  
 300 POST ROAD, WARWICK, RI 02888  
 (401) 944-1500 (401) 944-1515 FAX WWW.JCEONLINE.COM

JOSEPH A. CASALI  
 No. 1250  
 REGISTERED PROFESSIONAL ENGINEER  
 CIVIL  
 9.10.18

**690 DOUGLAS PIKE  
 SMITHFIELD, RHODE ISLAND  
 AP 46, LOT 82B**

**SOIL EVALUATION DATA**

per site evaluation form, application no. 1831-0559, performed by Edward Avizinis of Natural Resource Services, Inc.

DATE OF TEST	6/5/2018	
TEST HOLE	GROUND ELEV.	SHGWT ELEV.
SEV-1	261.00	256.00
SEV-2	259.00	251.00
SEV-3	267.75	259.75

LIMITING LAYER  
 SEV-1 253.00 (LEDGE)  
 SEV-2 NONE  
 SEV-3 259.25 (BOULDER)

**DESIGN FLOW**

per table 21.1 Wastewater Design Flows, Office

20 EMPLOYEES @ 15 GPD/PERSON = 300 GPD  
 TOTAL DESIGN FLOW = 300 GALLONS PER DAY

**LEACHFIELD DESIGN**

ELJEN IN-DRAIN (TYPE B): 7 SF/LF  
 ELJEN IN-DRAIN UNIT LENGTH: 4 FT  
 28 SF PER CHAMBER OF EFFECTIVE LEACHING AREA

LOADING RATE = .61 GAL/SF/DAY  
 PER LIMITING SOIL LAYER CATEGORY 1 WITH MODIFIER

TOTAL LEACHFIELD AREA REQUIRED:  
 300 GPD / 0.61 GAL/SF/DAY = 491.80 SF

18 ELJEN IN-DRAIN UNITS PROPOSED  
 18 UNITS X 28 SF/UNIT = 504 SF

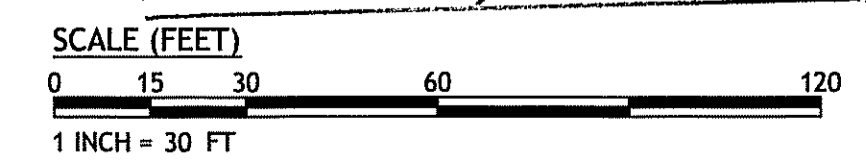
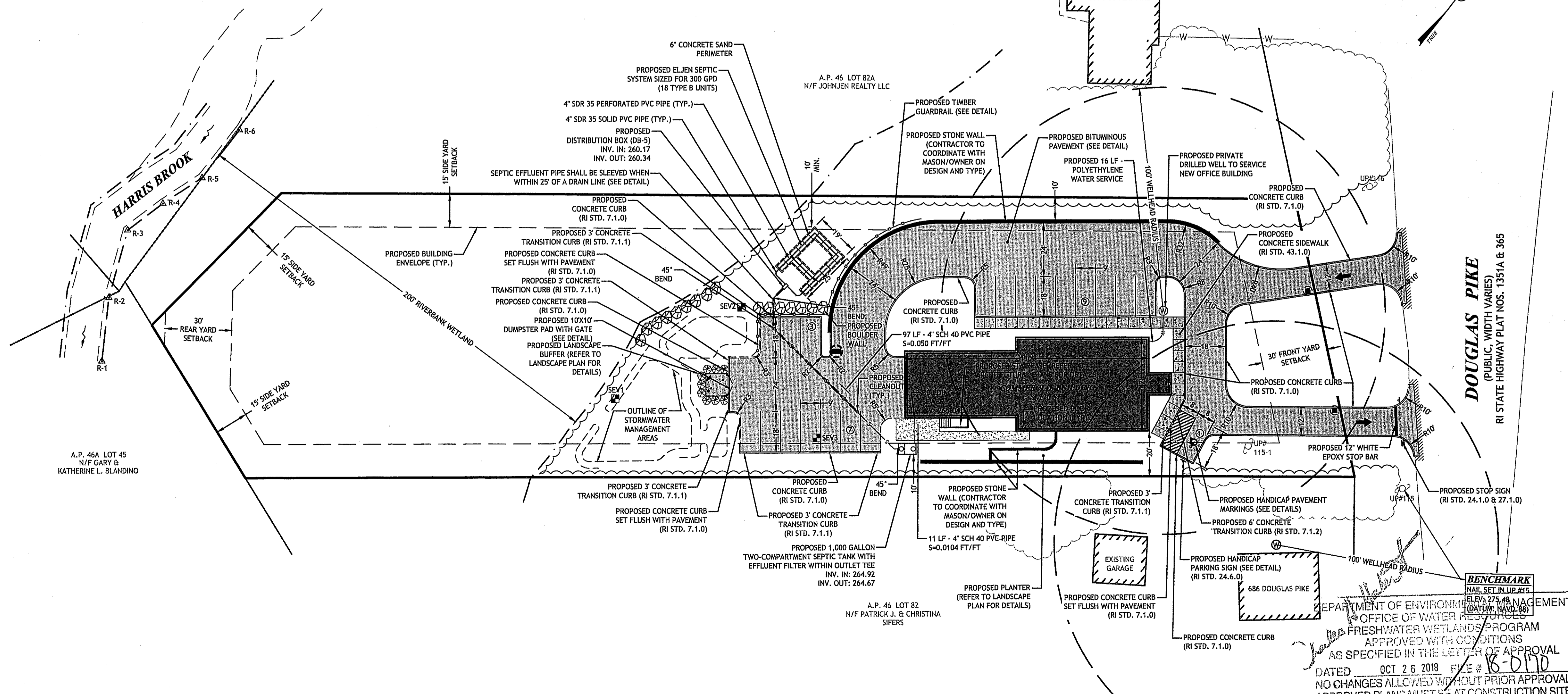
504 SF > 491.80 SF ∴ OK

**SEPTIC TANK DESIGN**

per 26.1.2 Non-Residential Buildings: The required minimum liquid capacity of the septic tank shall be one thousand (1000) gallons or two (2) times the design flow as determined from Table 21.1, whichever is greater.

DESIGN FLOW = 150 GPD X 2 = 300 GALLONS

PROPOSED: 1,000 GALLON TWO-COMPARTMENT TANK



**REVISIONS:**

NO.	DATE	DESCRIPTION
1	9.10.2018	RIDEM

DESIGNED BY: WMLJR  
 DRAWN BY: WMLJR  
 CHECKED BY: JAC  
 DATE: JUNE 2018  
 PROJECT NO: 17-57

NOT FOR CONSTRUCTION, UNLESS APPROVED BY RIDEM

**SITE PLAN**

Q:\17-57 Donna Corribeau\17-57a 690 Douglas Pike\ACAD\690 Douglas Pike [Preliminary Plan] - R2.dwg, Sep. 10, 2018 3:24pm

**MISCELLANEOUS UTILITY NOTES:**

- PRIOR TO CONSTRUCTION ALL POTENTIAL UTILITY/DRAINAGE CONFLICTS MUST BE IDENTIFIED BY THE CONTRACTOR. ANY MODIFICATIONS TO THE PROPOSED UTILITIES TO AVOID CONFLICTS MUST BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
- OVERHEAD AND/OR UNDERGROUND ELECTRIC, GAS AND COMMUNICATIONS SERVICES ARE TO BE COORDINATED BY THE CONTRACTOR WITH THE APPROPRIATE UTILITY COMPANY.
- THE CONTRACTOR SHALL AT ALL TIMES PROVIDE A SUFFICIENT NUMBER OF WORKMEN AND GUARDS AS MAY BE NECESSARY TO PROPERLY SAFEGUARD THE PUBLIC FROM THEIR OPERATIONS.
- THE CONTRACTOR SHALL TAKE PRECAUTIONS AGAINST DAMAGING OF PAVING, SIDEWALKS, UTILITIES, OR PRIVATE PROPERTIES AND SHALL PROMPTLY REPAIR AT HIS OWN EXPENSE ANY DAMAGE TO SUCH PAVING, SIDEWALKS, UTILITIES, OR PRIVATE PROPERTIES TO THE SATISFACTION OF THE OWNER AND/OR THE TOWN OF SMITHFIELD.
- EXISTING UTILITY FRAMES AND COVERS FOR SANITARY SEWER, WATER, GAS, STORM DRAINAGE AND OTHER UTILITIES SHALL BE ADJUSTED TO GRADE AS REQUIRED IN NEW PAVING AND PAVEMENT OVERLAY AREAS.
- ALL NEW SEWER PIPES AND MANHOLES SHALL BE CLEANED AND TESTED PRIOR TO ACCEPTANCE. GRAVITY SEWER PIPES SHALL BE REQUIRED TO PASS BOTH LOW PRESSURE AIR AND DEFLECTION (IE., MANDREL) TESTING. LOW PRESSURE SEWER PIPING SHALL BE REQUIRED TO PASS A LOW PRESSURE (IE., HYDROSTATIC) TEST.
- A BACKFLOW PREVENTION DEVICE MUST BE INSTALLED AT EACH SEWER SERVICE BUILDING CONNECTION THAT IS BELOW THE RIM ELEVATION OF THE NEAREST SEWER MANHOLE, AS REQUIRED BY THE INTERNATIONAL PLUMBING CODE.
- APPLICANT IS REQUIRED TO PROVIDE TWO SETS OF FINAL AS-BUILT PLANS UPON COMPLETION OF CONSTRUCTION, PRIOR TO FINAL ACCEPTANCE. AS-BUILT PLANS SHALL INCLUDE FIELD MEASUREMENTS OF ALL INSTALLED PIPE AND APPURTENANCES, INCLUDING LENGTH, SLOPE, MANHOLE RIMS AND INVERTS, AS WELL AS SWING TIES/MEASUREMENTS TO ALL MANHOLES, SEWER STUBS, AND/OR LATERAL SERVICE CONNECTIONS.
- APPLICANT IS RESPONSIBLE FOR SECURING ALL REQUIRED PERMITS FROM LOCAL, STATE, AND/OR FEDERAL AGENCIES WITH REGULATORY JURISDICTION OVER THE PROPOSED WORK. ALL SEWER CONSTRUCTION SHALL BE PERFORMED BY A DRAIN LAYER LICENSED IN THE STATE OF RHODE ISLAND AND THE TOWN OF SMITHFIELD.
- NO FLOW WILL BE ACCEPTED UNTIL A COMPLETION CERTIFICATE IS ISSUED.
- THE CONTRACTOR SHALL CONFINE HIS CONSTRUCTION OPERATIONS AND ACTIVITIES TO WITHIN THE STREET LINES, EASEMENT AND/OR RIGHT-OF-WAY, AS SHOWN ON THE DRAWINGS.
- ALL CONSTRUCTION MATERIALS, AS WELL AS ALL MATERIAL SHOP DRAWINGS AND MANUFACTURERS DATA SHEETS SHALL BE REVIEWED AND APPROVED BY THE DESIGN ENGINEER, OR HIS/HER REPRESENTATIVE PRIOR TO FABRICATION AND INSTALLATION.

**DRAINAGE SYSTEM NOTES:**

- THE PROPOSED DRAINAGE LINES SHALL BE ADS N-12 HDPE PIPE OR AN APPROVED EQUAL UNLESS OTHERWISE NOTED ON THE SITE PLANS.
- ALL RIM ELEVATIONS SHOWN ARE APPROXIMATE AND ARE TO BE SET FLUSH WITH FINAL GRADES.

**BMP MAINTENANCE SCHEDULE:**

- PRIOR TO THE START OF CONSTRUCTION, THE SITE CONTRACTOR SHALL STAKE OUT AND PROTECT ALL SURFICIAL STORMWATER INFILTRATION AREAS, INCLUDING THE SAND FILTER BASIN. CONSTRUCTION TRAFFIC IS NOT ALLOWED WITHIN THE INFILTRATION AREAS. CONSTRUCTION FENCING SHALL BE USED TO PROTECT AREA FROM CONSTRUCTION TRAFFIC. STORMWATER INFILTRATION AREAS SHALL BE PROTECTED FROM RUNOFF DURING CONSTRUCTION AND MAY NOT BE USED AS TEMPORARY SEDIMENTATION AREAS DURING CONSTRUCTION. SILT FENCE SHALL BE USED TO PROTECT THESE AREAS FROM RUNOFF.

- ALL MAINTENANCE (INCLUDING CLEANING) REQUIRED DURING THE CONSTRUCTION PHASE OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL INCLUDE:
  - MEASURES NEEDED TO ENSURE THE PROPER OPERATION OF THE STORMWATER RUNOFF (DRAINAGE) AND WATER QUALITY CONTROL SYSTEMS TO INCLUDE INSPECTION, CLEANING AND REPAIRS ALL PIPES, INTAKE AND DISCHARGE STRUCTURES, CATCH BASIN SUMPS, AND MANHOLES.
  - INSPECTION OF ALL SLOPES, BERMS, AND OTHER CONTROL STRUCTURES FOR STRUCTURAL INTEGRITY/STABILITY AND EVIDENCE OF SOIL EROSION PROCESSES, AND MAINTENANCE OF THESE STRUCTURES IF NECESSARY. INSPECTIONS SHALL BE PERFORMED FOLLOWING ALL RAIN EVENTS OF 1/2 INCH RAINFALL OR MORE IN A 24-HOUR PERIOD, OR BI-MONTHLY IF NO RAINFALL EVENT OCCURS.

- UPON COMPLETION OF THE PROJECT CONSTRUCTION, AND PRIOR TO VACATING THE SITE, THE CONTRACTOR SHALL CONDUCT A FINAL INSPECTION AND CLEANING OF THE DRAINAGE SYSTEM AND ALL ASSOCIATED STRUCTURES.
- ALL INSTALLATION, CLEANING, AND MAINTENANCE OF THE STORMWATER DRAINAGE SYSTEM SHALL FOLLOW AT LEAST THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION MINIMUM STANDARDS, SECTION 212 AND SECTION 708. WHERE APPROPRIATE, PROCEDURES REGARDING THE DRAINAGE INSTALLATION, CLEANING, INSPECTION, AND MAINTENANCE OF THE STORMWATER DRAINAGE SYSTEM SHALL BE FOLLOWED AS OUTLINED IN THE "RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL" (RIDEM/RCRMC, 2010).
- AFTER CONSTRUCTION, STORMWATER BMPs SHALL BE INSPECTED AND MAINTAINED BY THE OWNER AS FOLLOWS:
  - ROOF DRAIN LEADERS
    - PERFORM ROUTINE ROOF INSPECTIONS QUARTERLY.
    - KEEP ROOFS CLEAN AND FREE OF DEBRIS.
    - KEEP ROOF DRAINAGE SYSTEMS CLEAR.
  - GRASS SWALES
    - GRASS SWALES ARE TO BE INSPECT ON AN ANNUAL BASIS AND SEDIMENT REMOVED WHEN SEDIMENT TO A DEPTH OF 1/4 OF THE ORIGINAL DEPTH AND DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL STANDARDS.
    - SWALES SHOULD BE MOWED AT LEAST 2 TIMES A YEAR
    - ALL TRASH AND DEBRIS SHALL BE REMOVED FROM THE SWALE AND PROPERTY DISPOSED.
  - PEA GRAVEL DIAPHRAGMS
    - PEA GRAVEL DIAPHRAGMS SHALL BE INSPECTED BI-ANNUALLY FOR SEDIMENT BUILDUP AND SEDIMENT SHOULD BE REMOVED WHEN IT REACHES 25% OF TOTAL STORAGE VOLUME.
    - PEA GRAVEL DIAPHRAGMS SHALL BE KEEP FREE FROM FLOATING DEBRIS.
    - SNOW STORAGE IS PROHIBITED WITH IN PEA GRAVEL DIAPHRAGMS

- PRE-TREATMENT SEDIMENT FOREBAY
  - AFTER CONSTRUCTION, THE SEDIMENT FOREBAY SHALL BE INSPECTED AND CLEANED WHEN SEDIMENT BUILD UP IS IN EXCESS OF 6" OR 25% OF THE SEDIMENT STORAGE VOLUME.

- SAND FILTER SYSTEM
  - DURING THE SIX MONTHS IMMEDIATELY AFTER CONSTRUCTION, THE SAND FILTER SHALL BE INSPECTED AFTER THE FIRST TWO RAINFALL EVENTS OF AT LEAST 1.0 INCH TO ENSURE THE SYSTEM IS FUNCTIONING PROPERLY. THEREAFTER INSPECTIONS SHALL BE CONDUCTED ON AN ANNUAL BASIS AND AFTER STORM EVENTS OF GREATER THAN OR EQUAL TO 2 INCHES.
  - SILT/SEDIMENT SHALL BE REMOVED FROM THE FILTER BED WHEN THE ACCUMULATION EXCEEDS ONE INCH. WHEN THE FILTERING CAPACITY OF THE SAND FILTER DIMINISHES SUBSTANTIALLY (I.E. WHEN WATER PONDS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 48 HOURS), THE TOP FEW INCHES OF DISCOLORED MATERIAL SHALL BE REMOVED AND SHALL BE REPLACED WITH FRESH MATERIAL. THE REMOVED SEDIMENTS SHALL BE DISPOSED IN AN ACCEPTANCE MANNER AT AN APPROVED AND PERMITTED LOCATION.

**LOADING & SEEDING**

SEEDING ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH SECTION L.02 SEEDING OF THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION, 2010 EDITION (WITH LATEST ADDENDA), AND SHALL ALSO CONFORM TO THE FOLLOWING:

- AFTER ROUGH GRADING IS COMPLETED, ALL DISTURBED AREAS AND AREAS LABELED AS 'LOAM AND SEED' ARE TO BE BROUGHT TO AN ELEVATION OF 6" BELOW THE PROPOSED FINISHED GRADE. SCARIFY THE SUBGRADE TO A DEPTH OF 12" WITH THE TEETH OF A BACKHOE OR A POWER RAKE TO RESULT IN AN UNCOMPACTED SUBSOIL. 6" OF GOOD QUALITY TOPSOIL IS TO BE APPLIED AND RAKED TO FINISHED GRADE.
- UNLESS SPECIFIED OTHERWISE, THE TOPSOIL IS TO BE GOOD QUALITY LOAM, FERTILE AND FREE OF WEEDS, STICKS AND STONES OVER 3/4" IN SIZE AND OTHERWISE COMPLYING WITH SECTION M.18.01 OF THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION, 2010 EDITION (WITH LATEST ADDENDA).
- THE TOP SOIL IN THE SAND FILTER BASIN SHALL CONSIST OF 40% COMPOST AND 60% SAND (ASTM C-33) THE TOPSOIL SHALL ALSO HAVE AN ORGANIC CONTENT BETWEEN 8-10% AND THE PERCENT PASSING THE #200 SIEVE BETWEEN 2-5%. TYPICAL GRADATION OF THE TOP SOIL MIXTURE SHALL MEET THE FOLLOWING:

SIEVE SIZE	PERCENT PASSING
3/8"	100
#4	95-100
#10	75-90
#40	25-40
#100	4-10
#200	2-5

- PRIOR TO SEEDING OR SODDING, FERTILIZE WITH 10-10-10 OR EQUIVALENT MIXTURE. AT LEAST 40% OF THE FERTILIZER NITROGEN SHALL BE IN SLOW RELEASE FORM. INCORPORATE THE FERTILIZER INTO THE TOP 1-2" OF THE PLANTING SOIL. APPLY AT A RATE OF 8 LBS. PER 1000 SQUARE FEET.

- APPLY LIME AT A RATE OF ONE TON PER ACRE AND UNIFORMLY INCORPORATE INTO THE TOP 1-2" OF TOPSOIL.

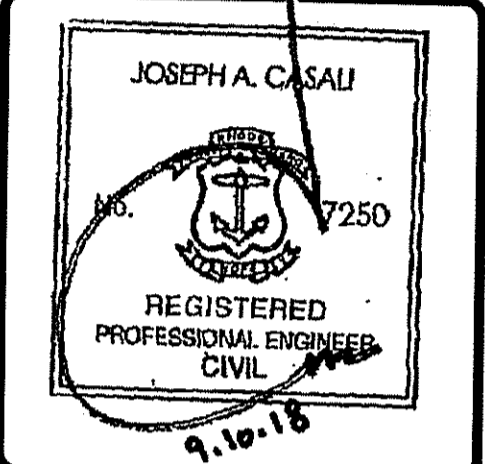
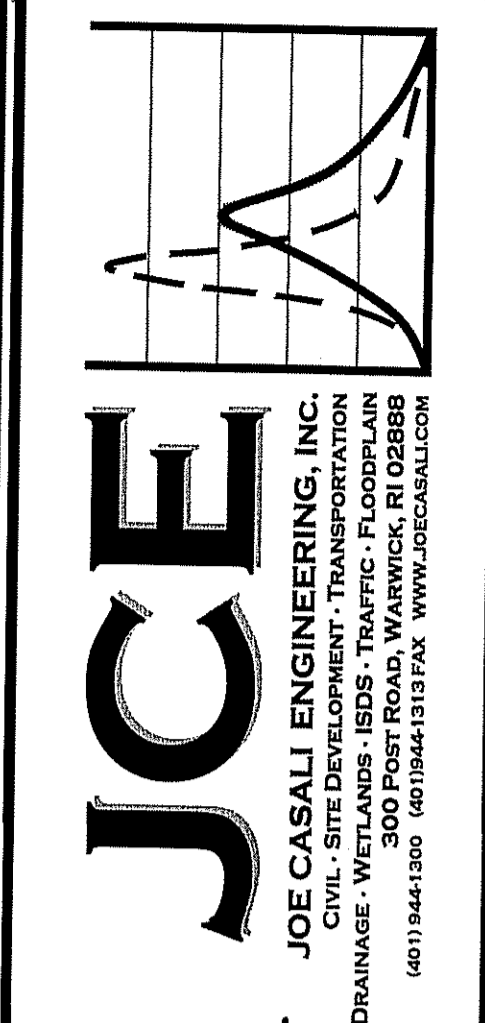
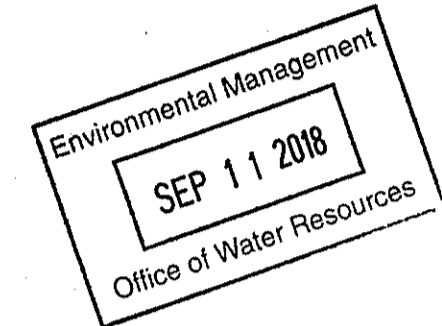
**SEEDING**

- AFTER THE SEED BED IS PREPARED, SEED IS TO BE BROADCAST EVENLY OVER THE SURFACE AND WORKED INTO THE TOP 1" OF SOIL. SEED SHALL BE APPROVED URI #2 OR APPROVED EQUAL. APPLY AT A RATE OF 4-5 LBS. PER 1000 SQUARE FEET OR AS OTHERWISE DIRECTED BY THE MANUFACTURER.

URI #2 IMPROVED SEED MIX, % BY WEIGHT:

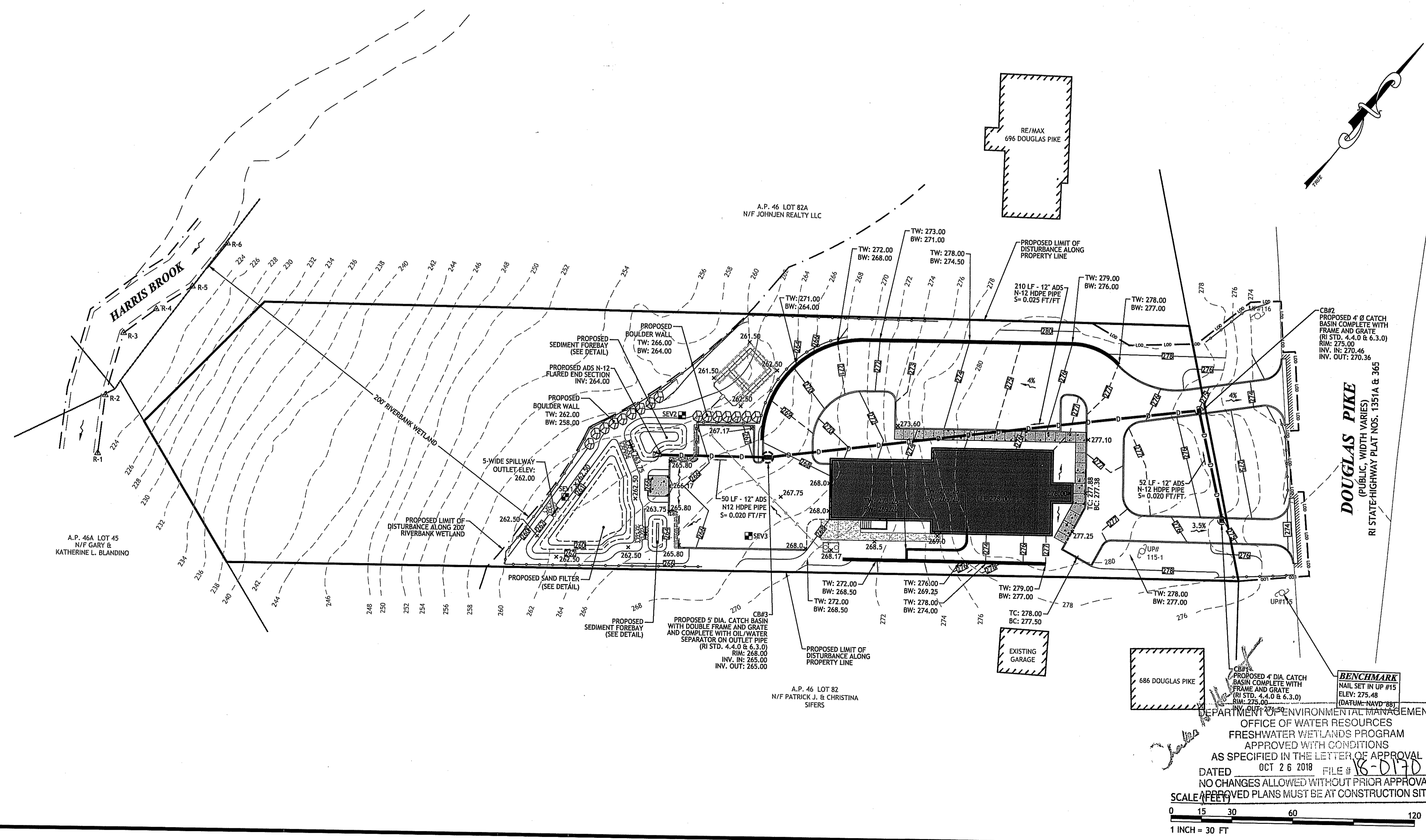
- 40% CREEPING RED FESCUE
- 20% IMPROVED PERENNIAL RYEGRASS
- 20% IMPROVED KENTUCKY BLUEGRASS
- 20% KENTUCKY BLUEGRASS

RECOMMENDED SEEDING DATES ARE MARCH 15 TO JUNE 15 AND SEPTEMBER 15 TO NOVEMBER 15. AT THE CONTRACTORS DISCRETION, SEED MAY BE APPLIED BY HYDROSEEDING RATHER THAN THE METHOD DESCRIBED ABOVE.



**690 DOUGLAS PIKE  
SMITHFIELD, RHODE ISLAND  
AP 46, LOT 82B**

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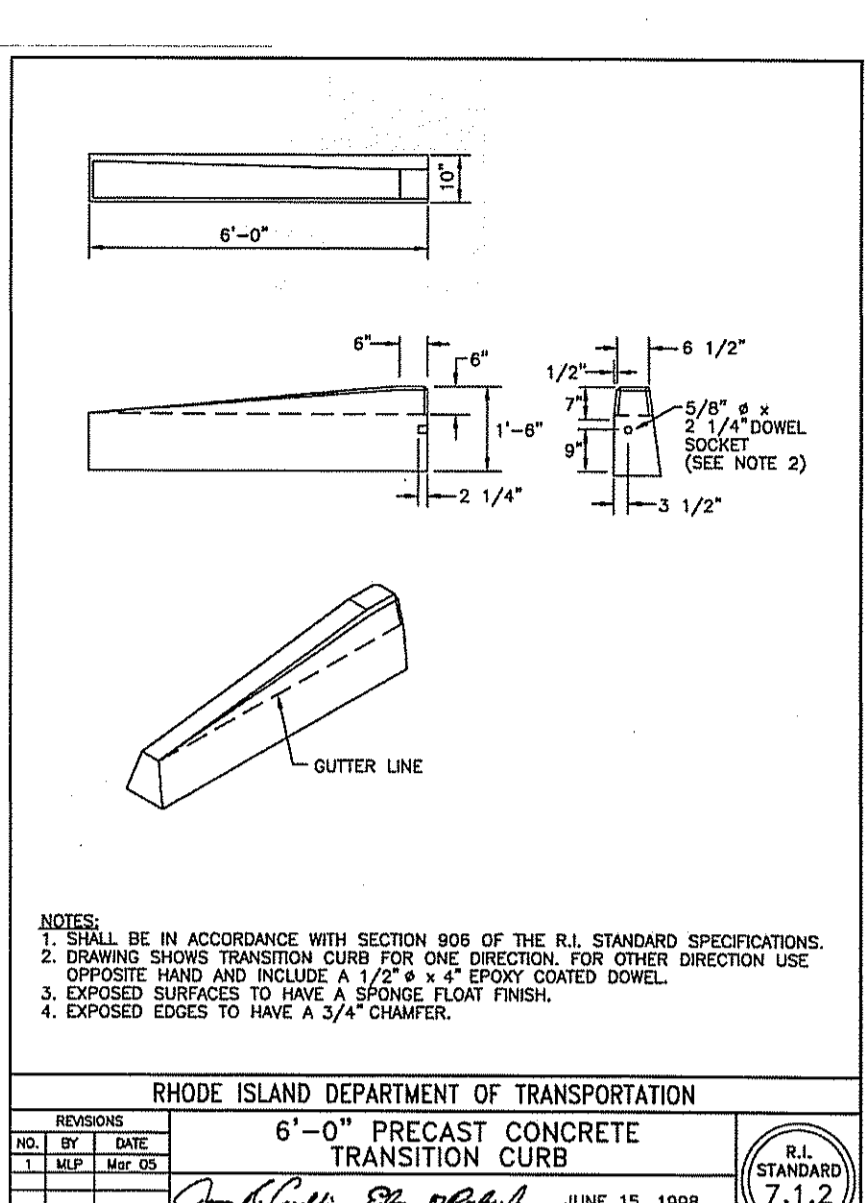
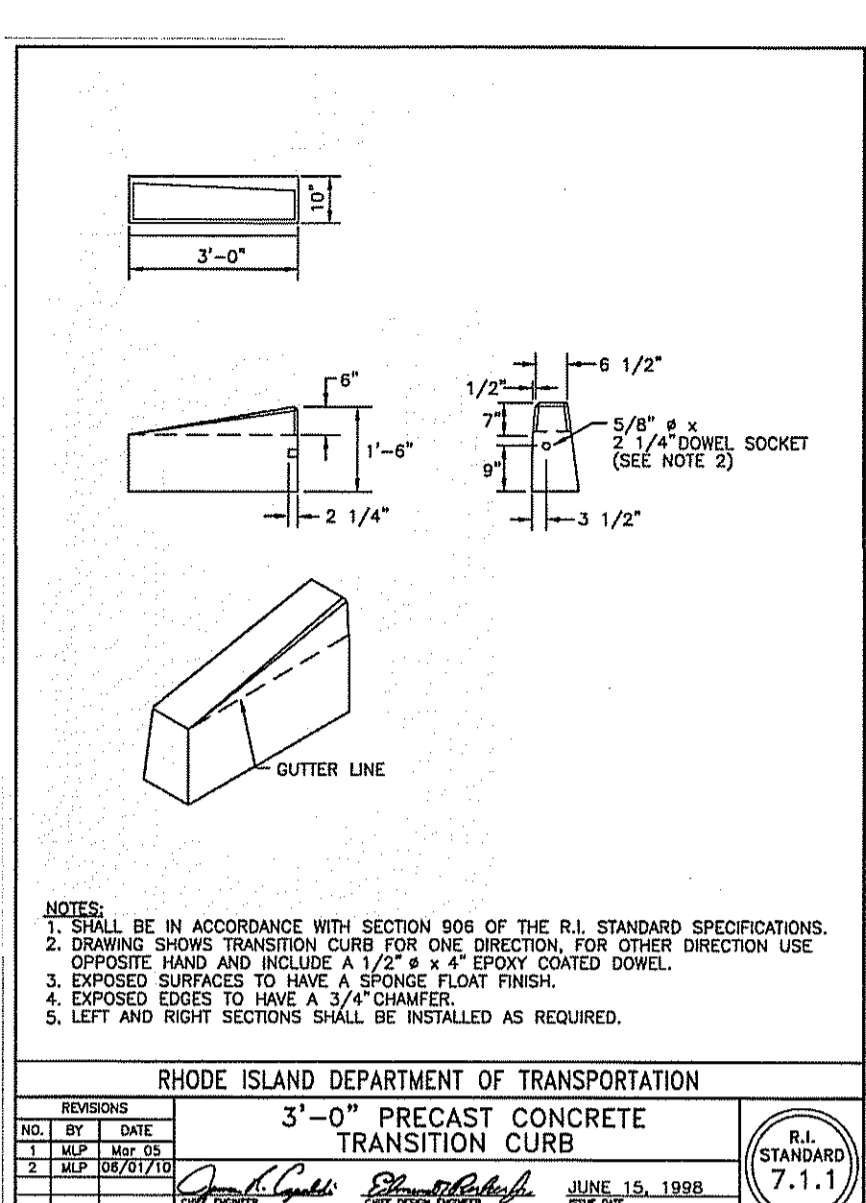
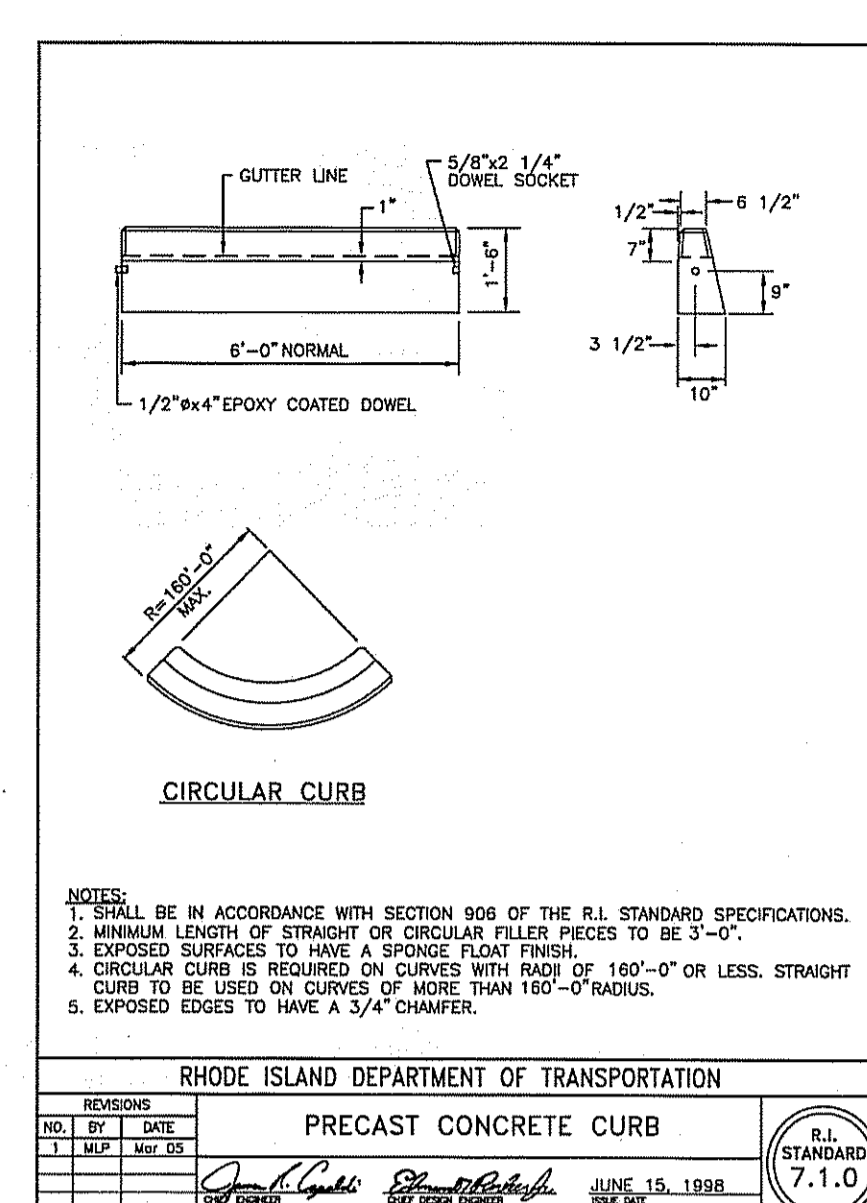
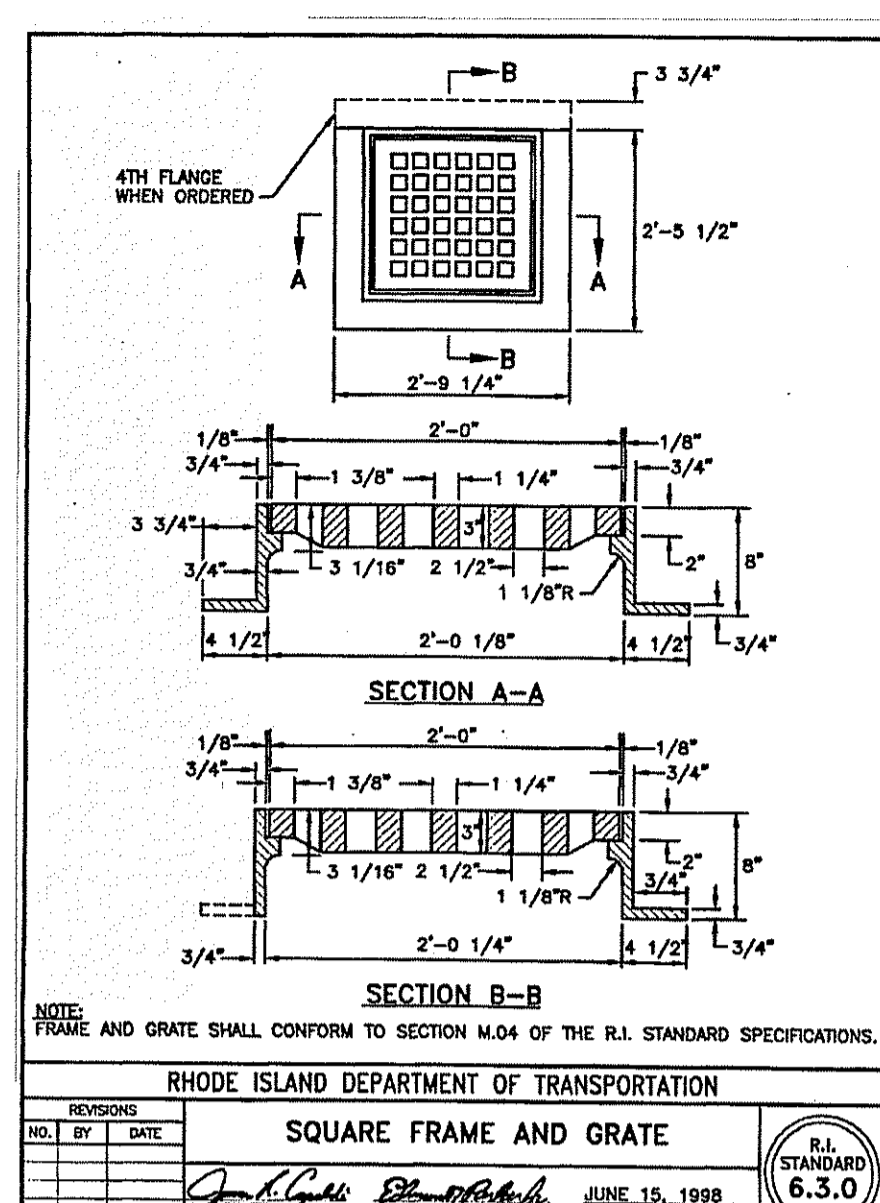
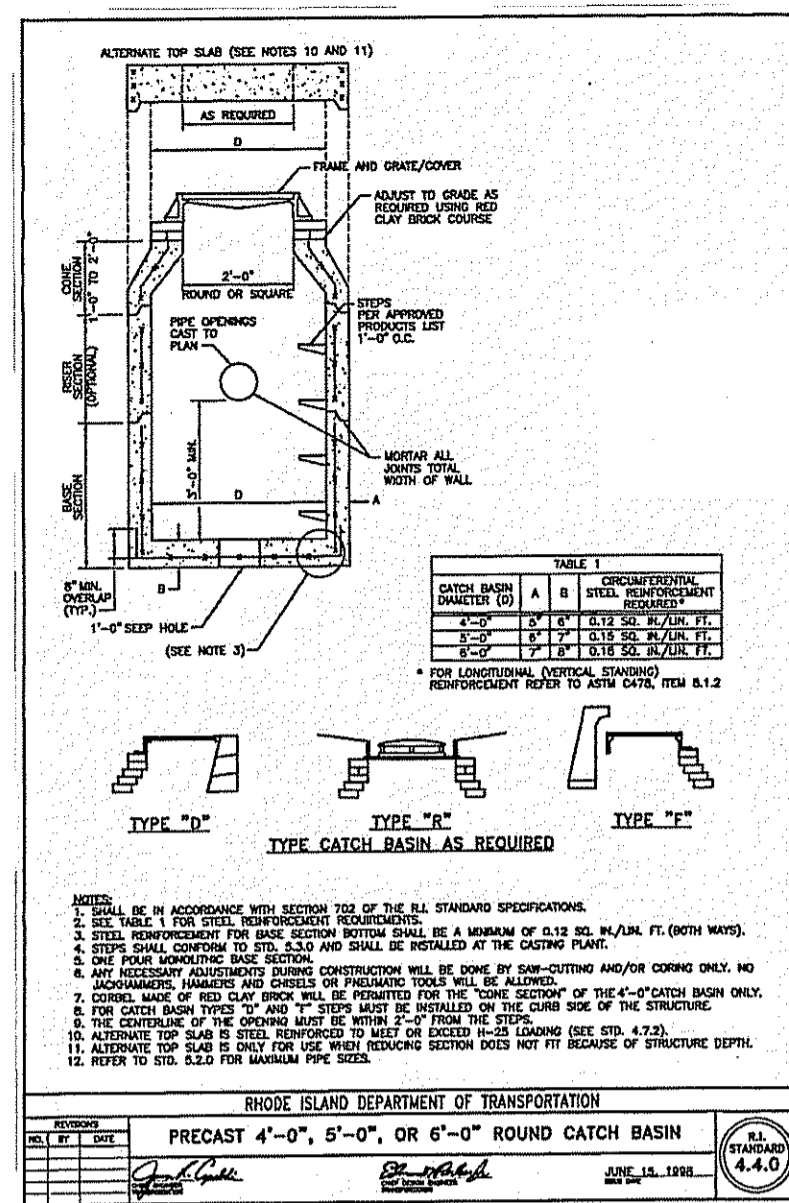
REVISIONS:	
NO.	DATE DESCRIPTION
1	9.10.2018 RIDEM

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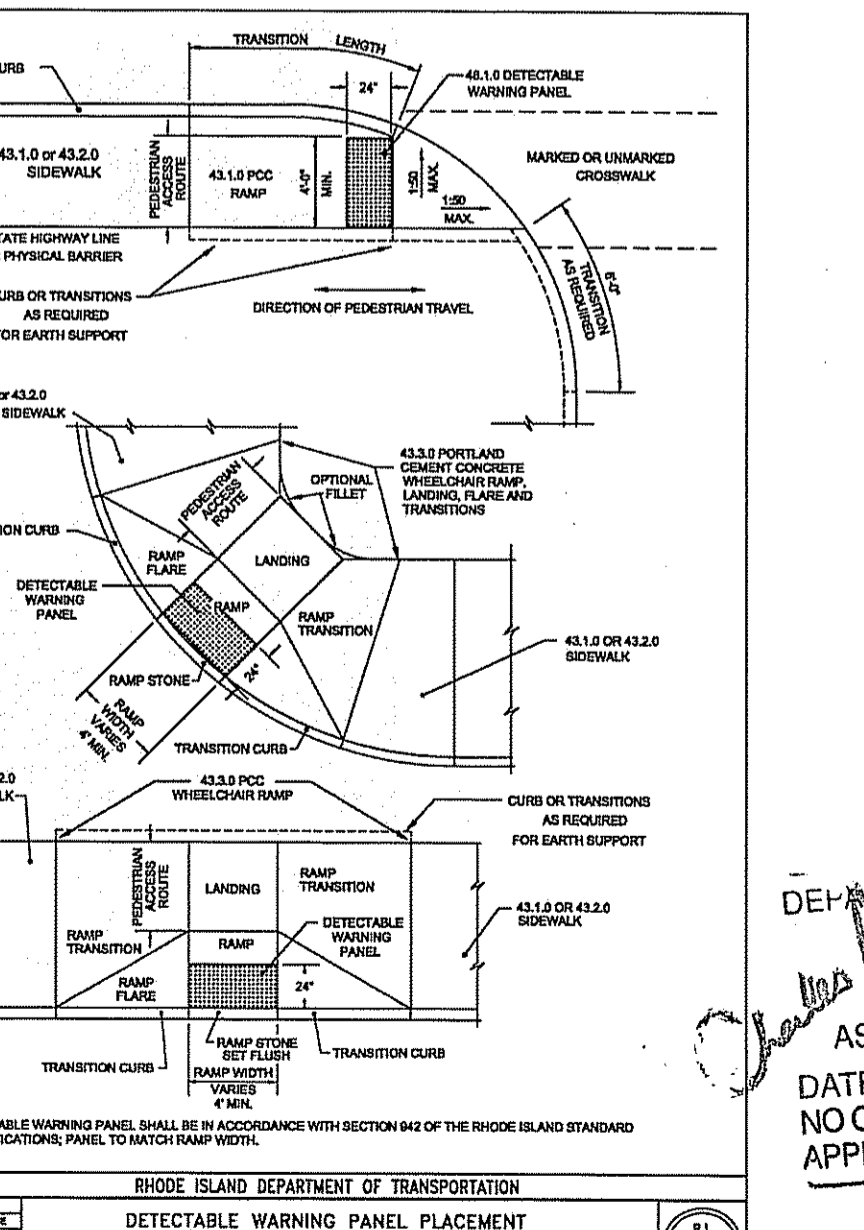
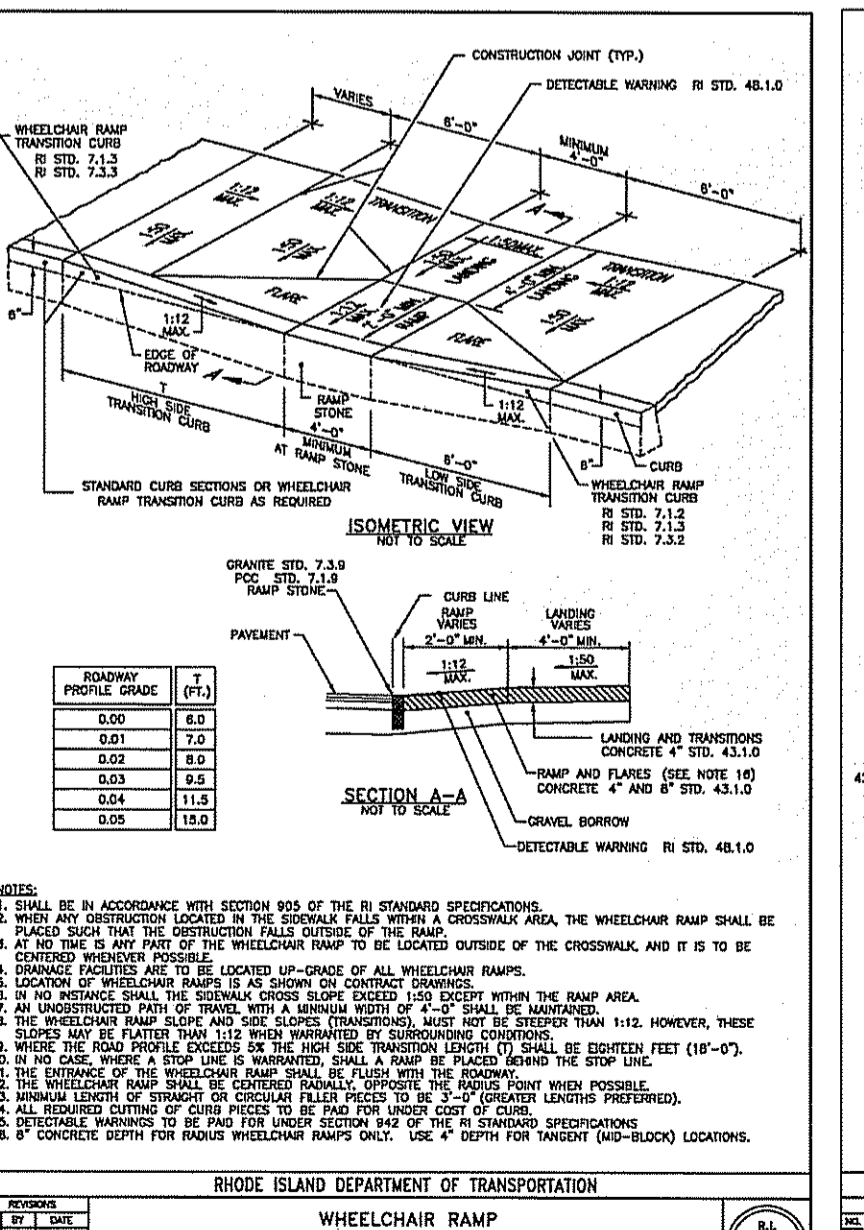
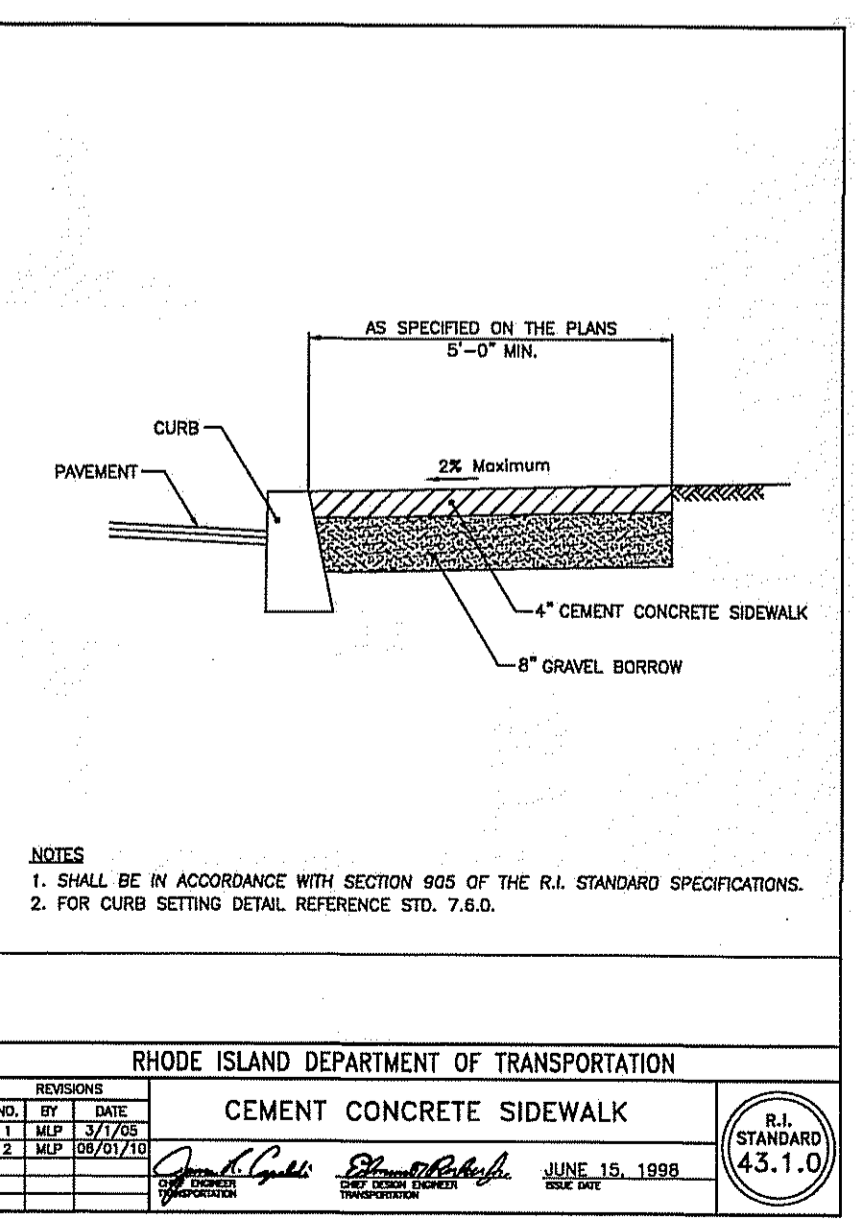
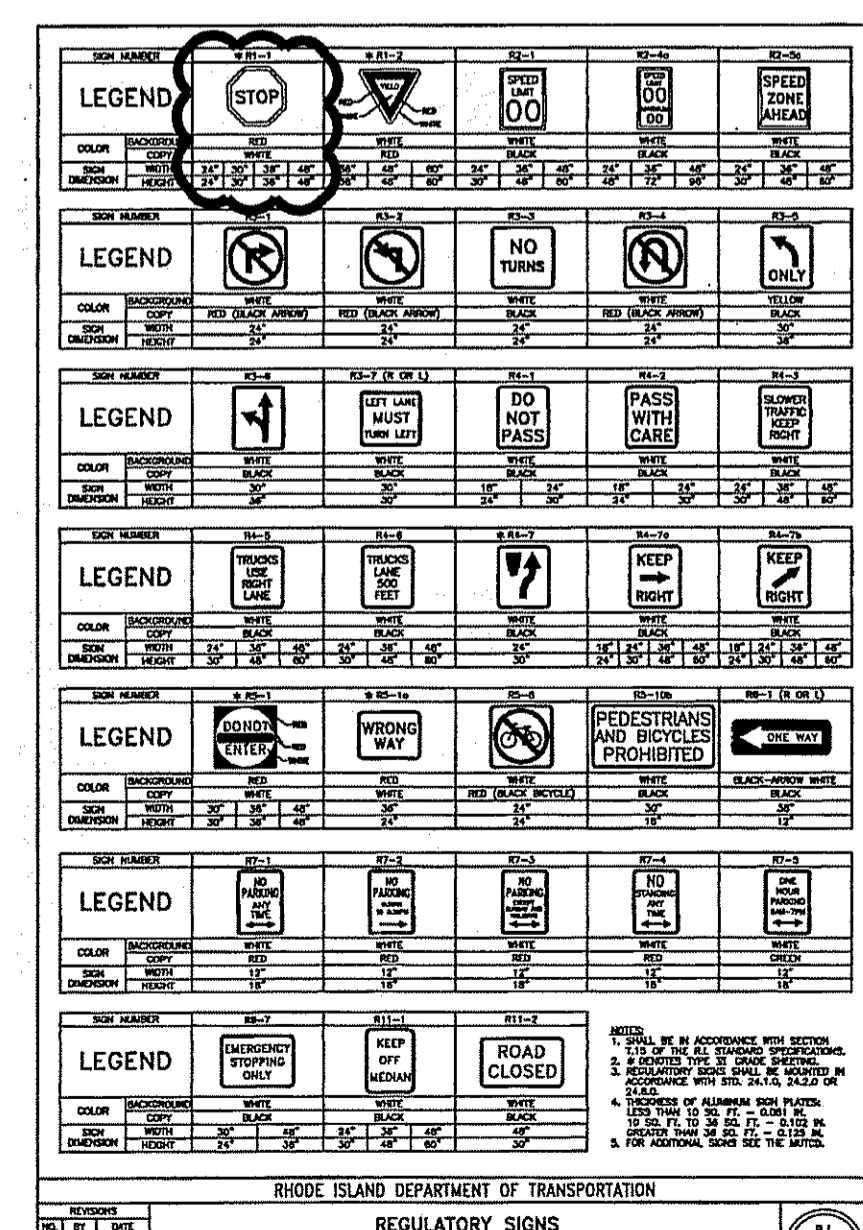
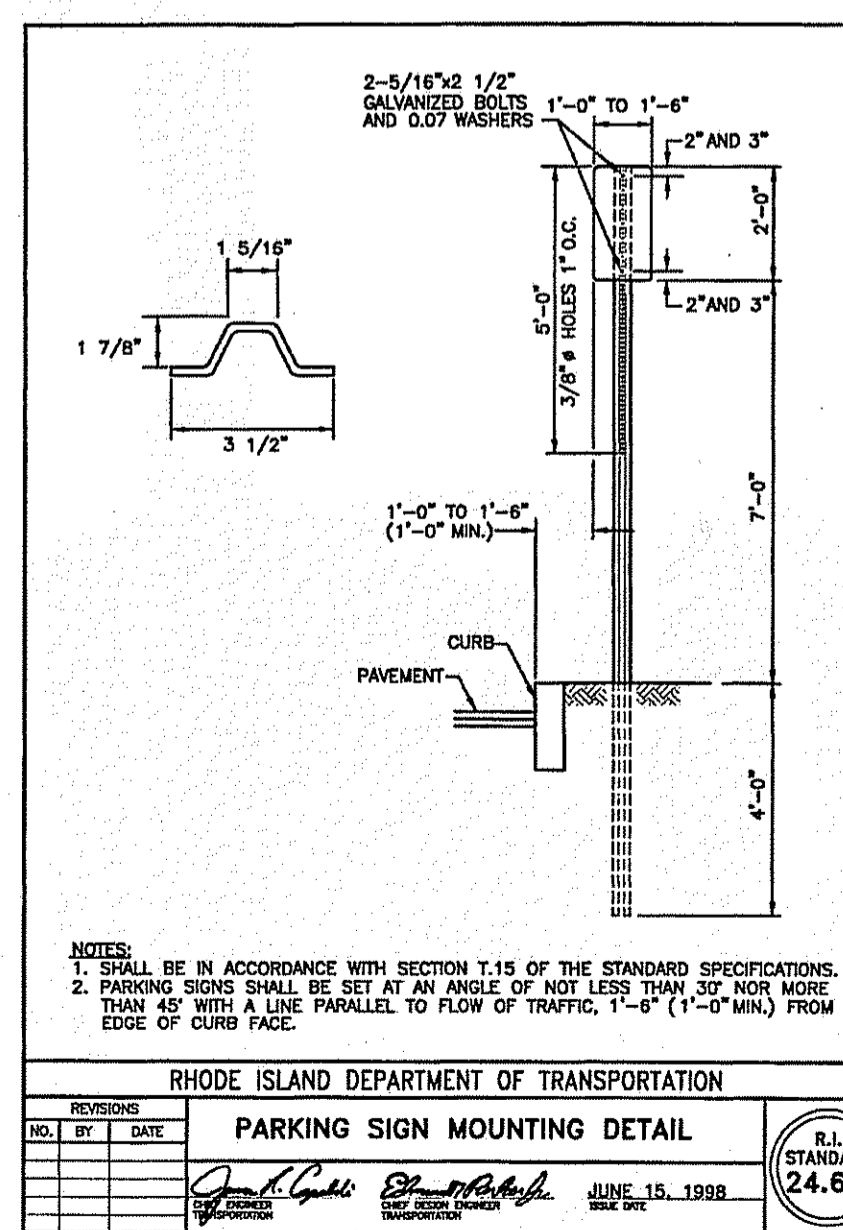
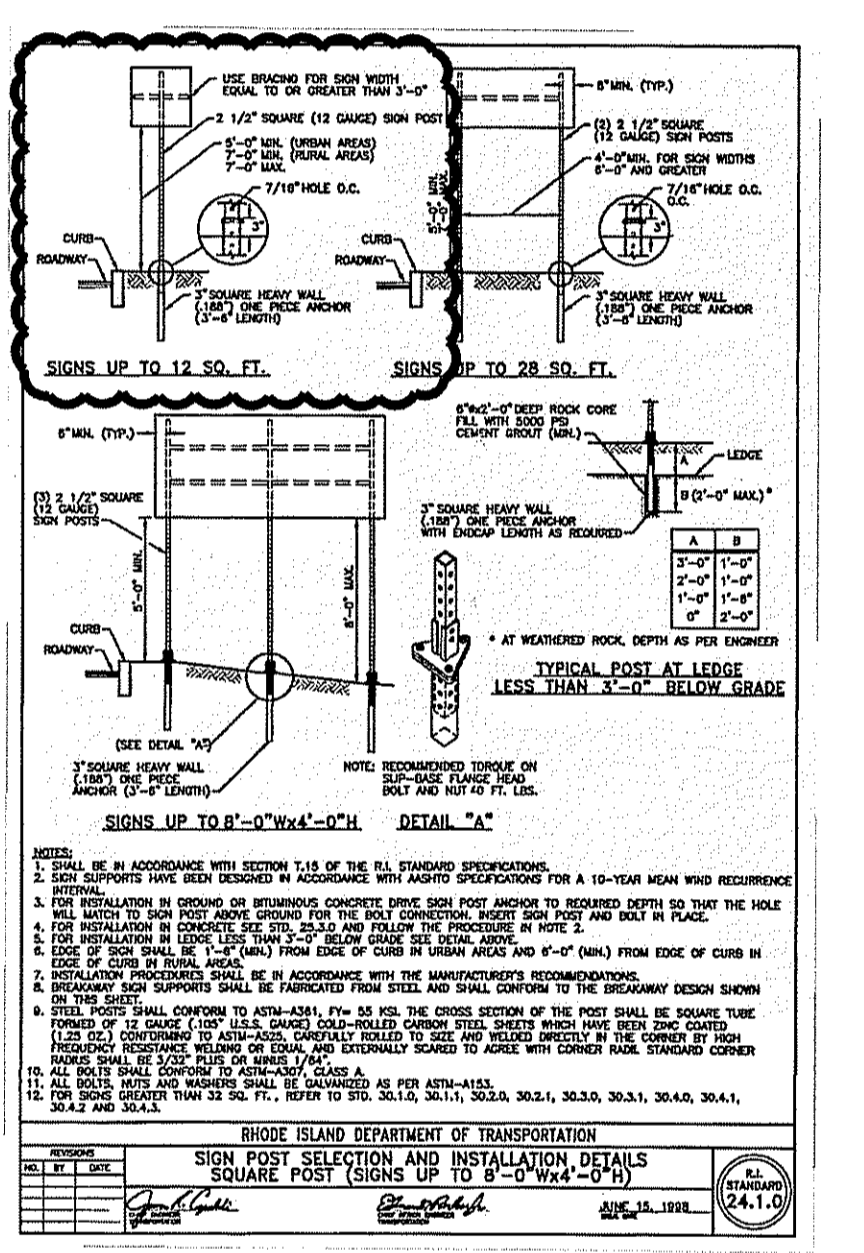
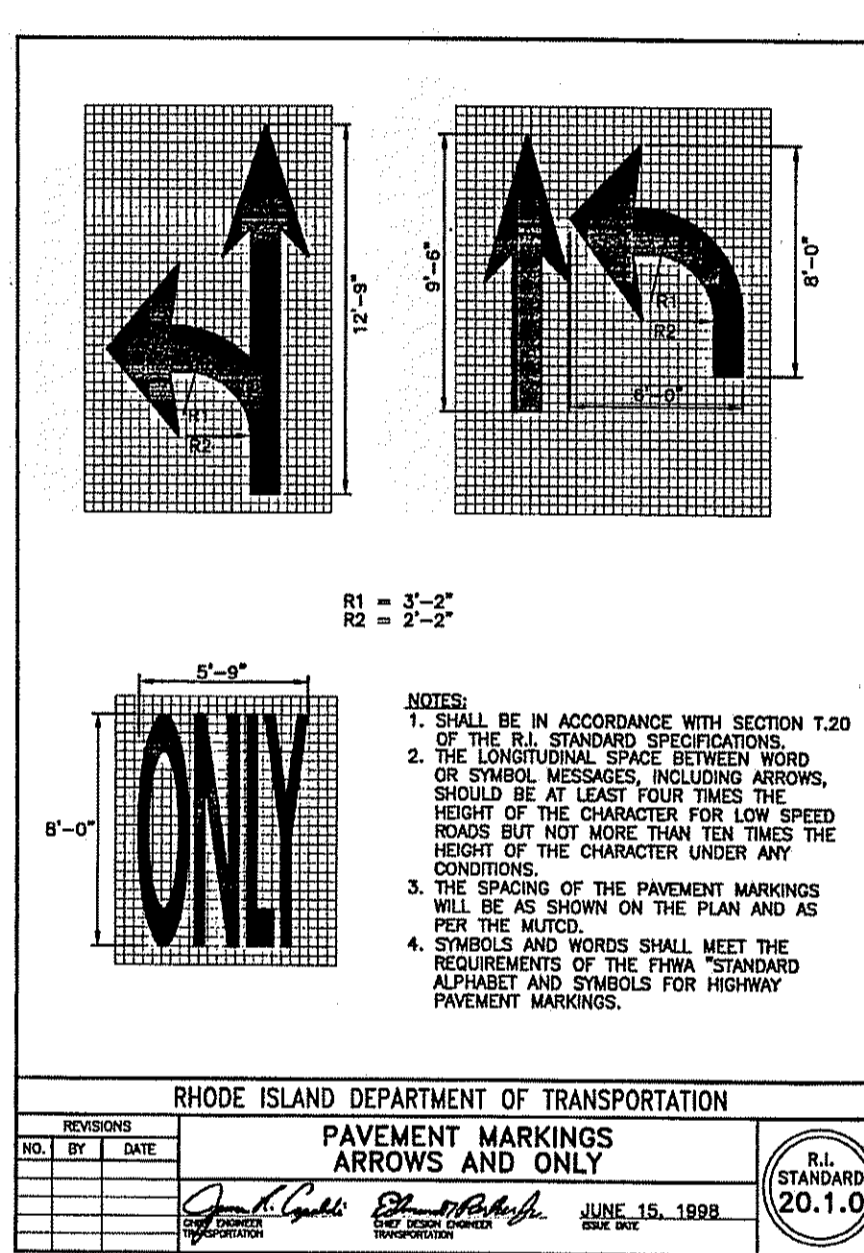
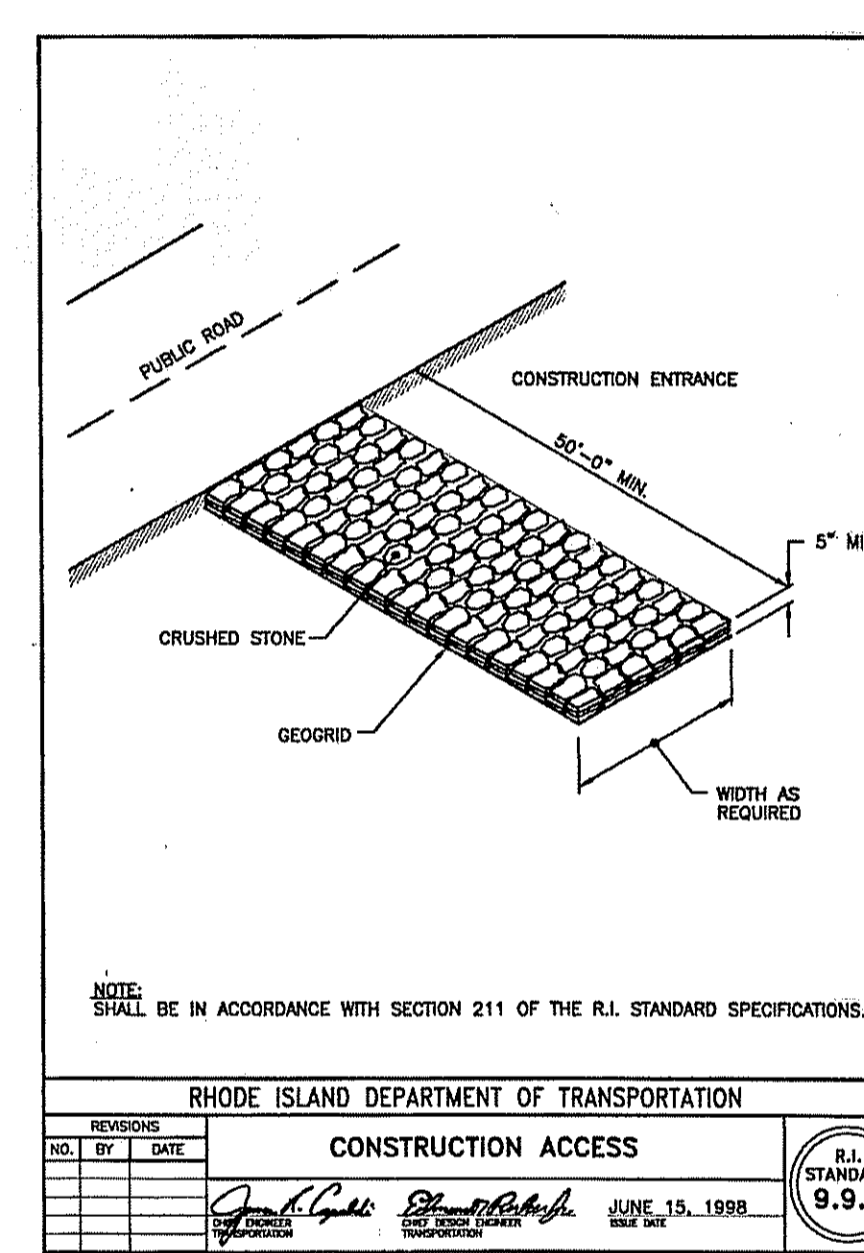
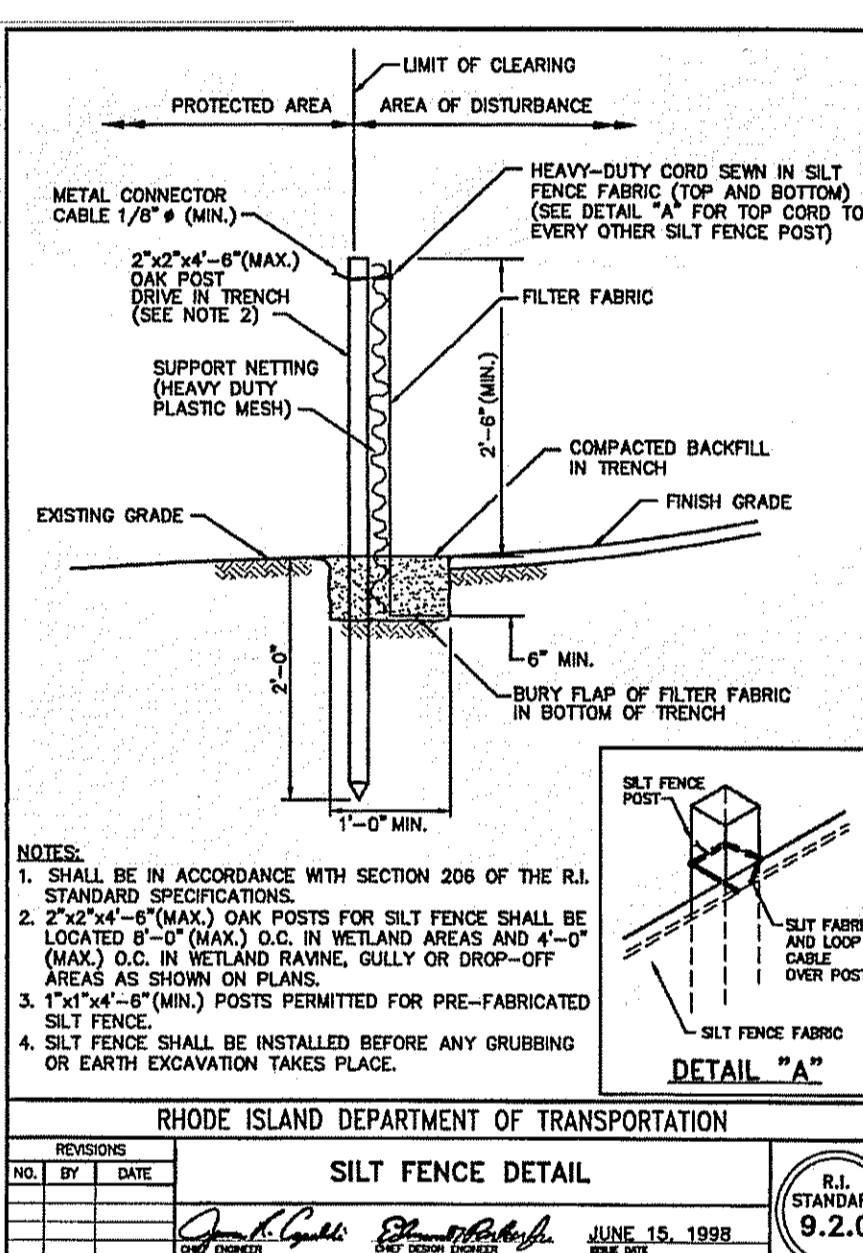
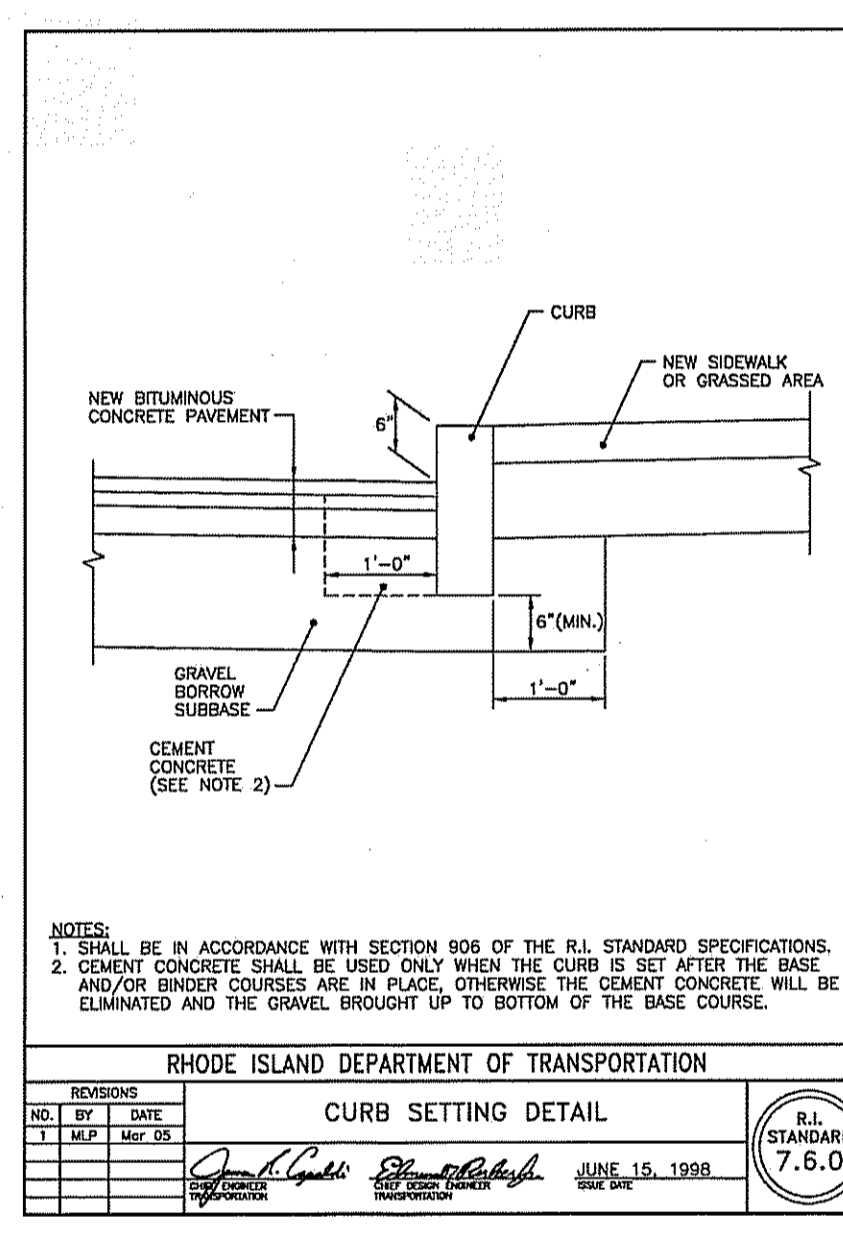
**GRADING & DRAINAGE PLAN**

**SHEET 4 OF 8**

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED OCT 26 2018 FILE # 18-0170  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
SCALE: AS SHOWN  
1 INCH = 30 FT



Environmental Management  
SEP 11 2018  
Office of Water Resources



**JCE**  
JOE CASALI ENGINEERING, INC.  
CIVIL - SITE DEVELOPMENT - TRANSPORTATION  
DRAINAGE - WETLANDS - ISDS - TRAFFIC - FLOODPLAIN  
(601)944-1300 (601)944-1313 FAX WWW.JCEONLINE.COM

JOSEPH A. CASALI  
7250  
REGISTERED PROFESSIONAL ENGINEER  
CIVIL  
9.10.18

**690 DOUGLAS PIKE**  
**SMITHFIELD, RHODE ISLAND**  
**AP 46, LOT 82B**

**REVISIONS:**

NO.	DATE	DESCRIPTION
1	9.10.2018	RIDEM

DESIGNED BY: WMLJR  
DRAWN BY: WMLJR  
CHECKED BY: JAC  
DATE: JUNE 2018  
PROJECT NO: 17-57

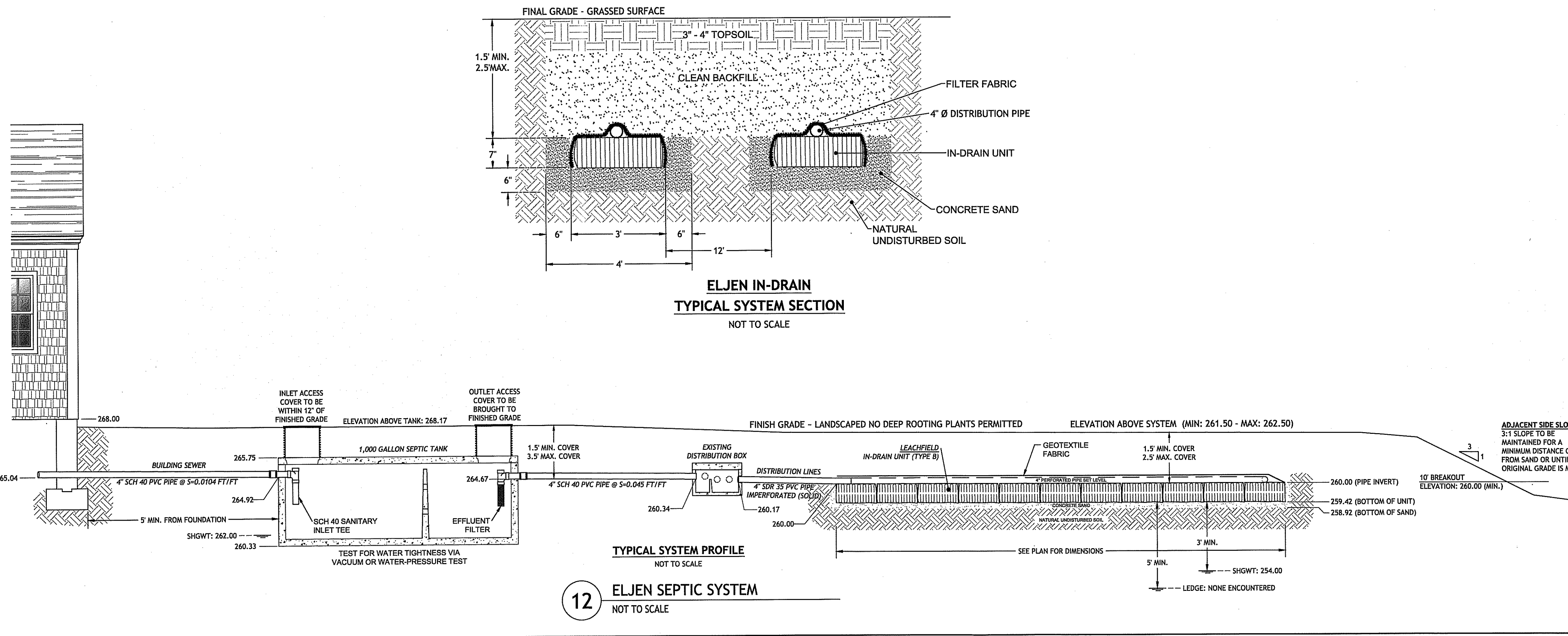
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**RI STANDARD DETAILS**

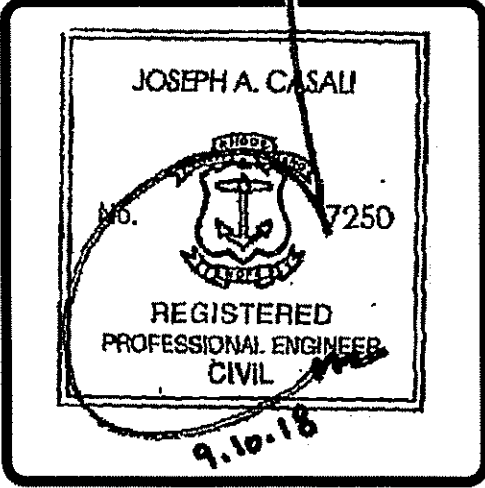
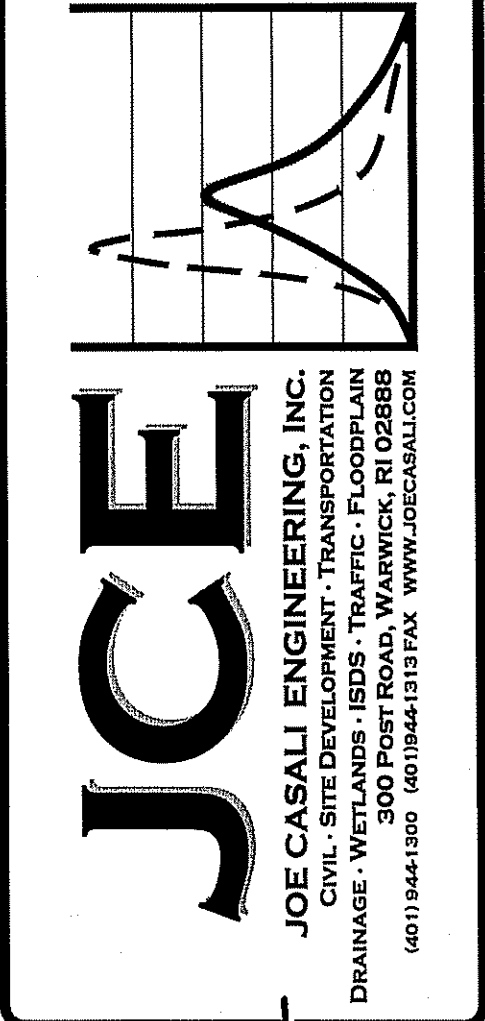
**SHEET 6 OF 8**



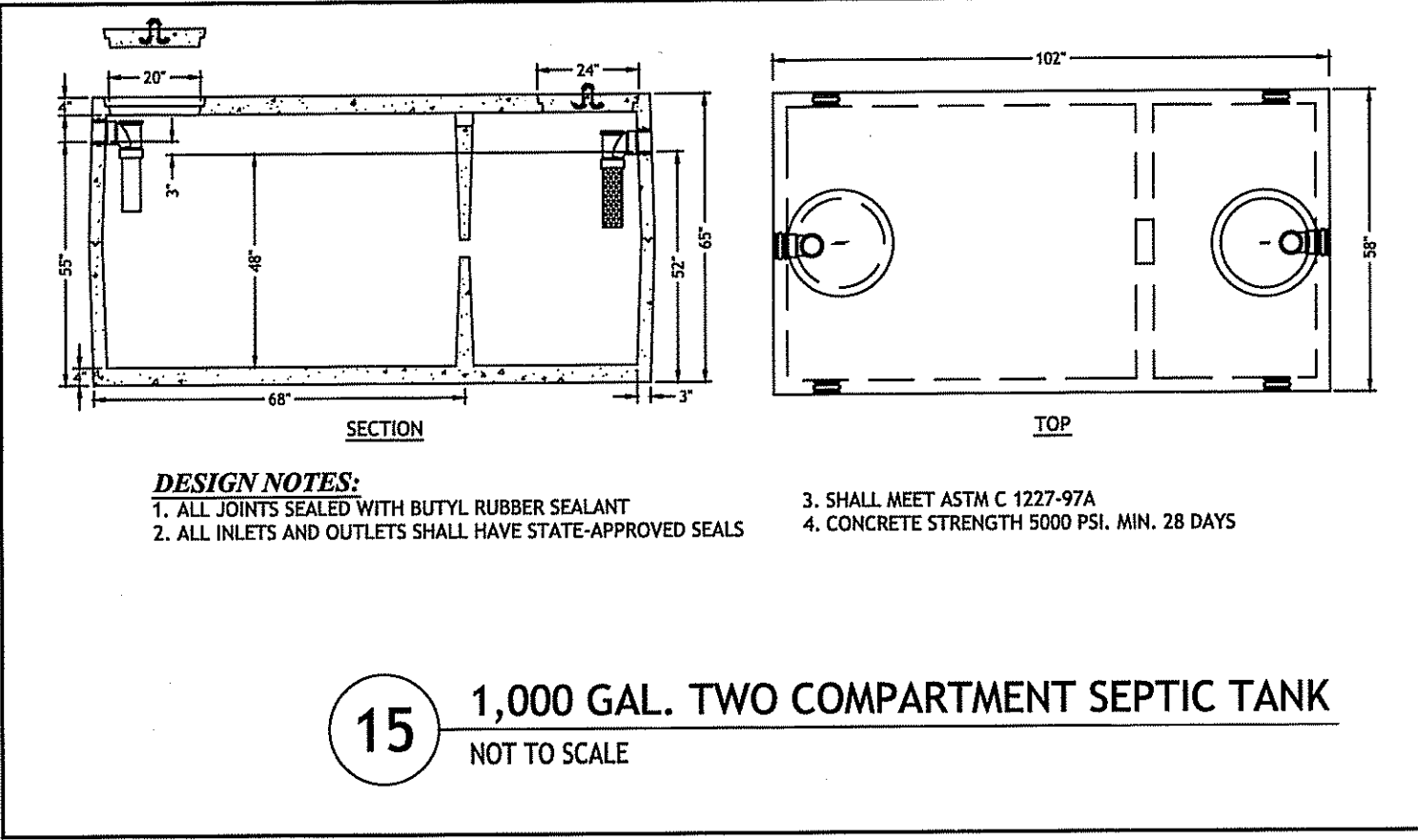
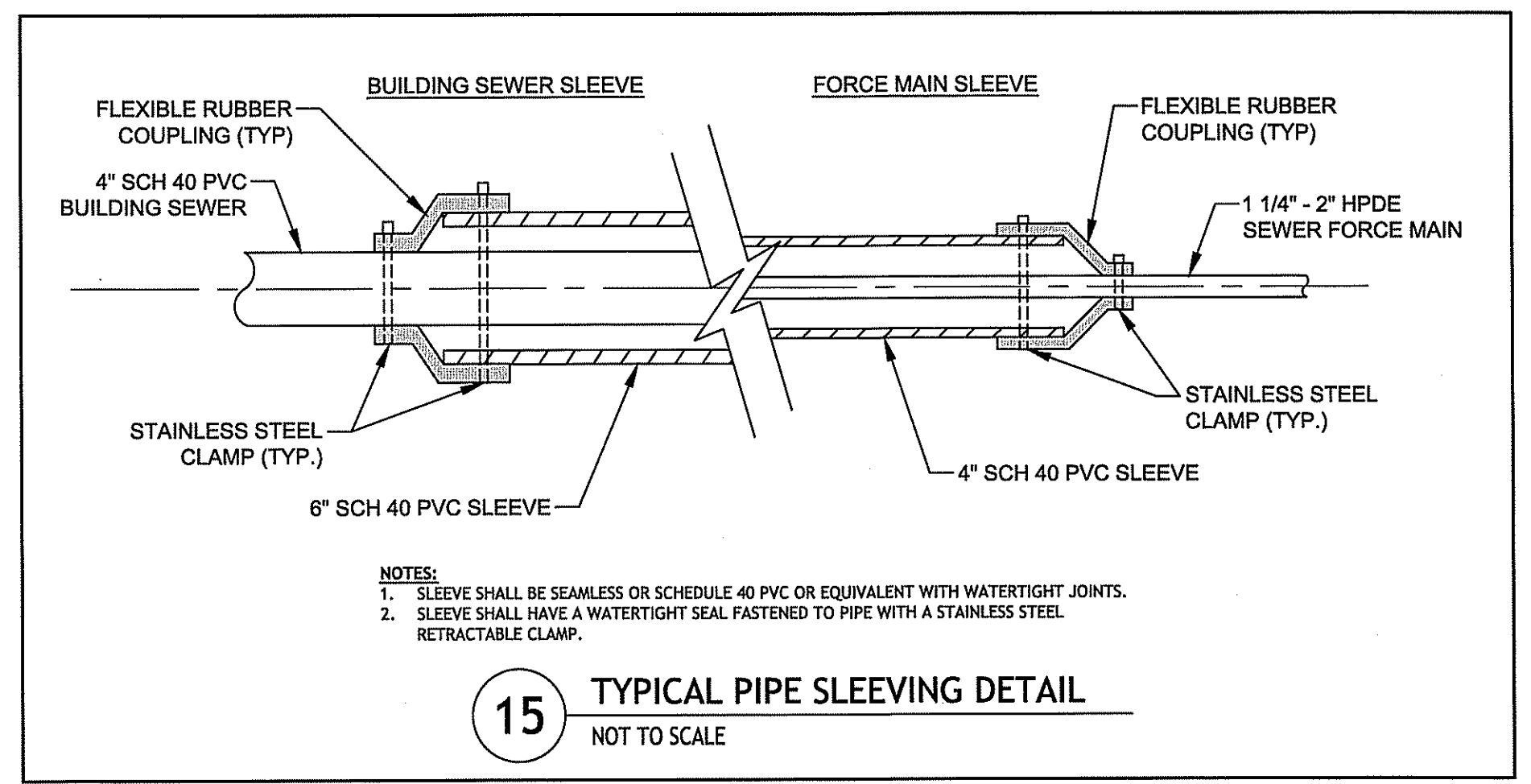
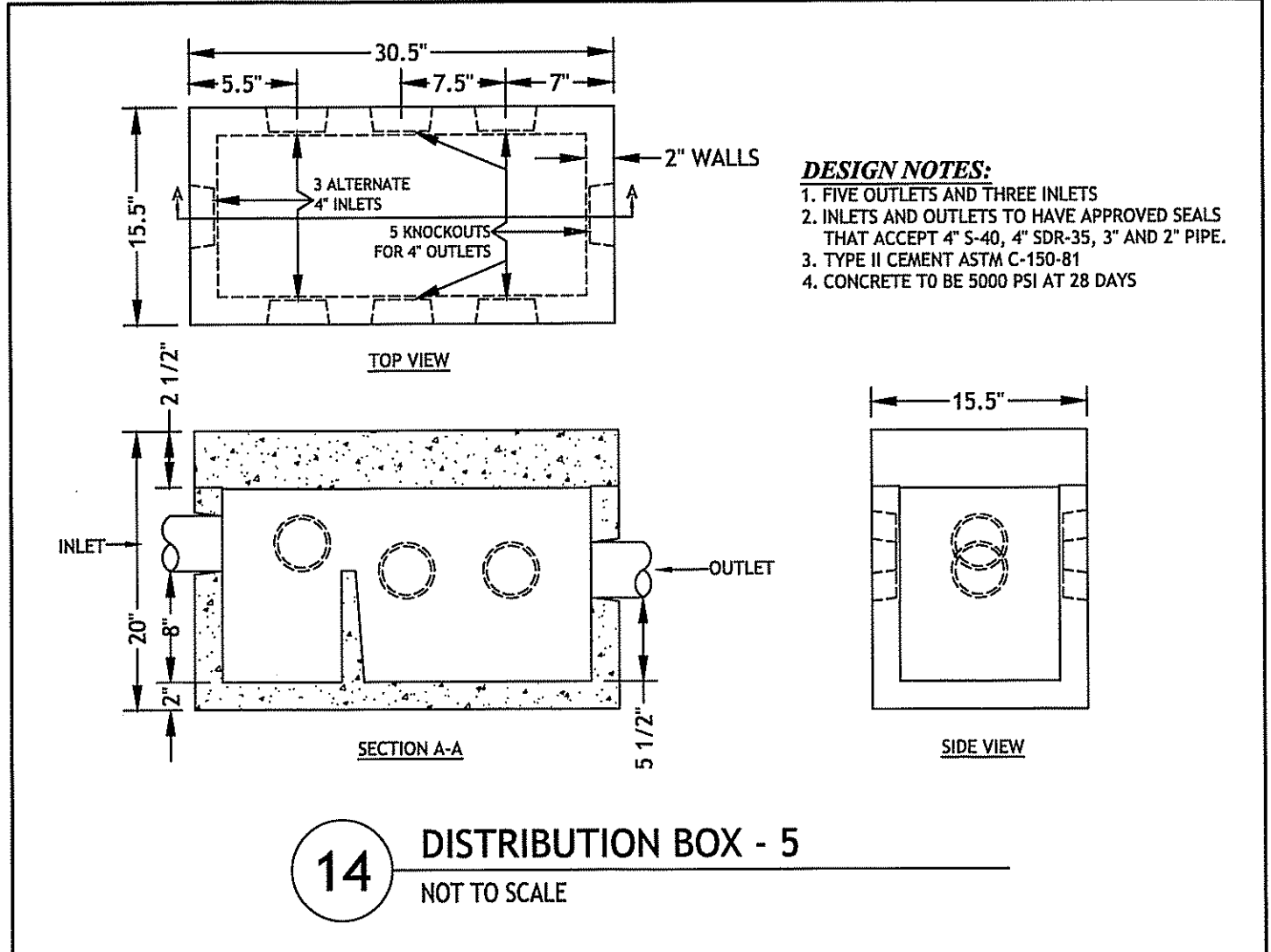
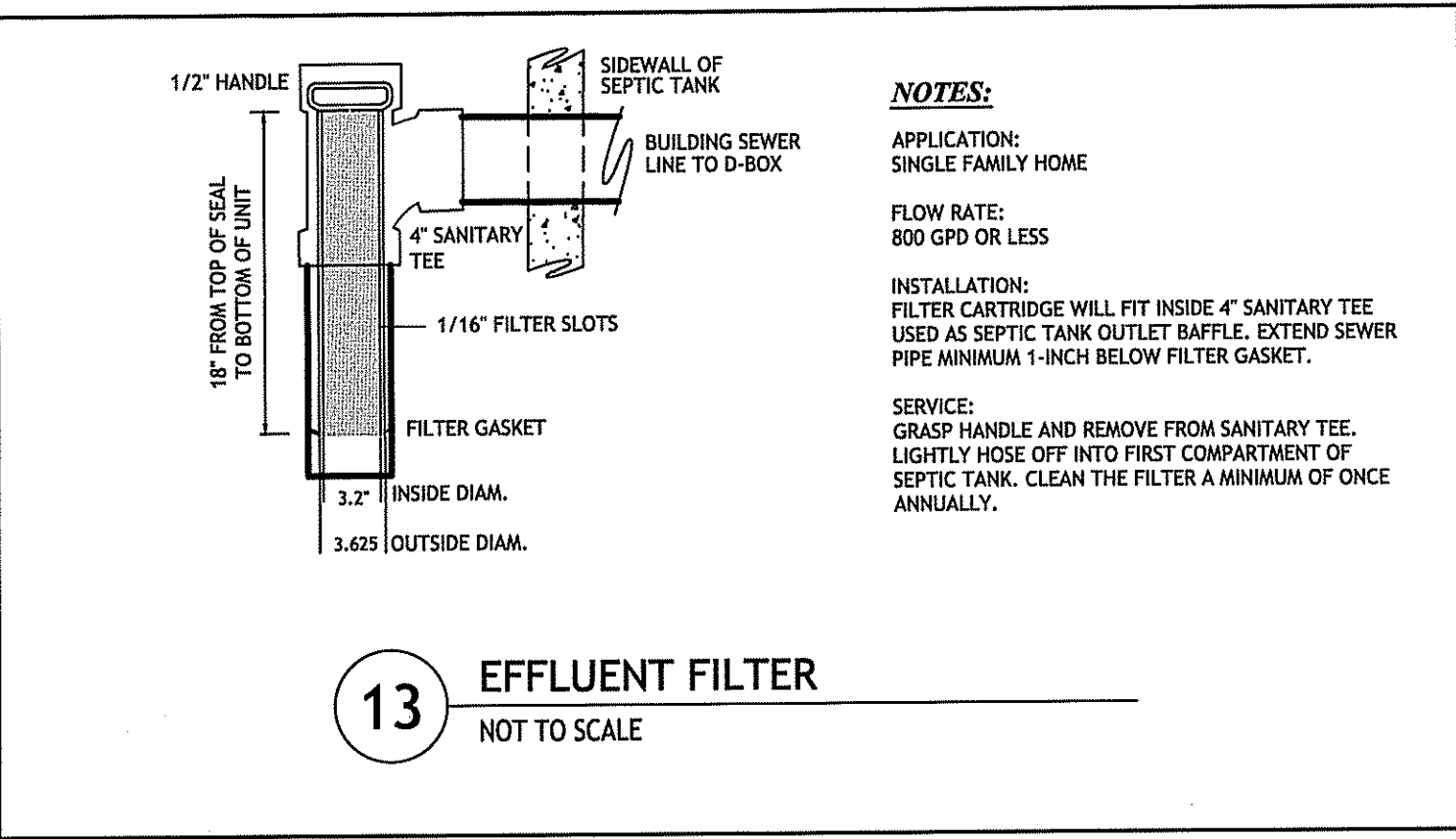
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Environmental Management  
**SEP 11 2018**  
 Office of Water Resources



**690 DOUGLAS PIKE  
 SMITHFIELD, RHODE ISLAND  
 AP 46, LOT 82B**



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED **OCT 26 2018** FILE # **18-D110**  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

REVISIONS:	NO.	DATE	DESCRIPTION
	1	9.10.2018	RIDEM

DESIGNED BY:	WMLR
DRAWN BY:	WMLR
CHECKED BY:	JAC
DATE:	JUNE 2018
PROJECT NO.:	17-57

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**DETAILS II**

**SHEET 8 OF 8**

7 of 7