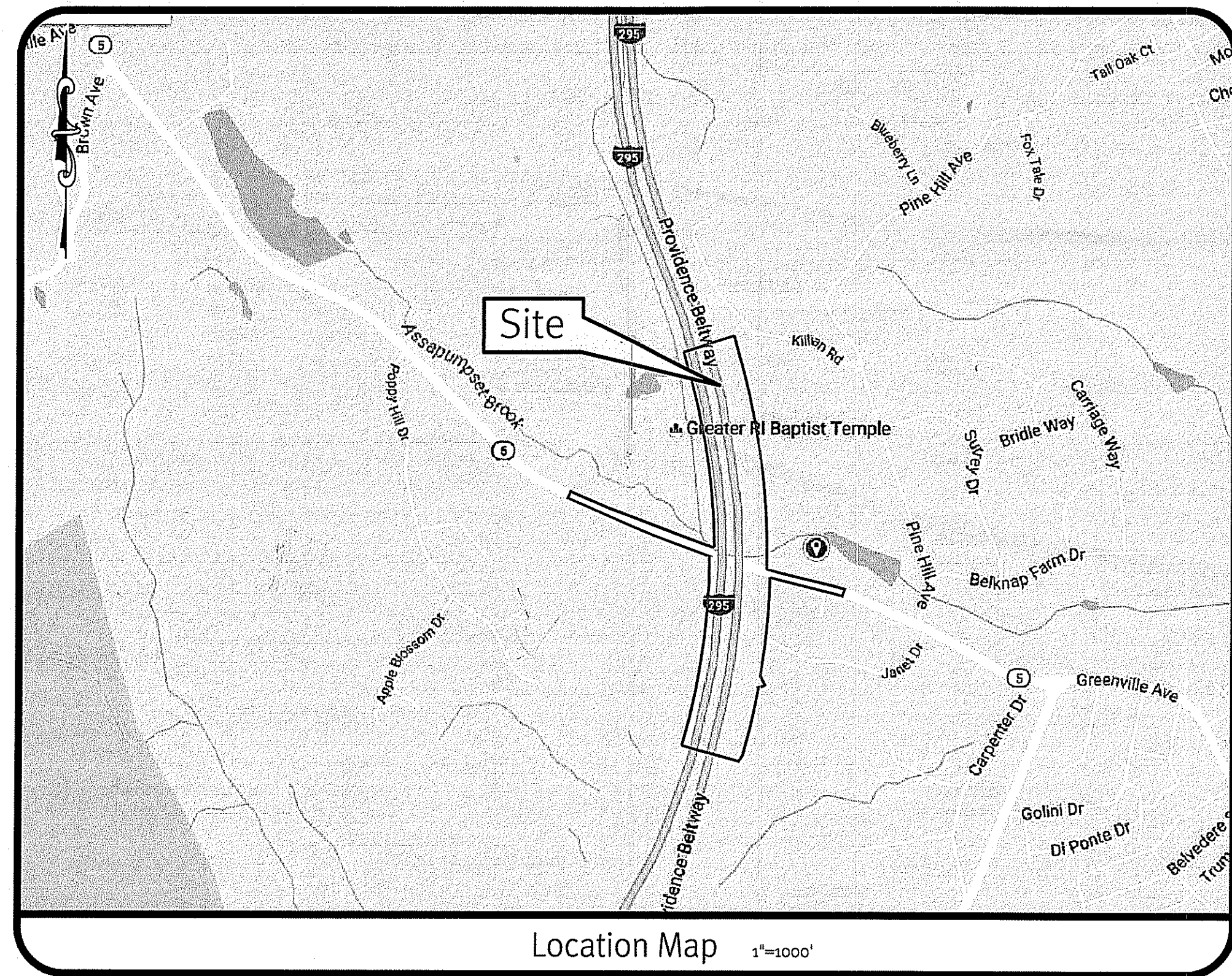


RIDEM Application to Alter

Greenville Avenue/ Route 295 Interchange

Johnston, Rhode Island



NOTE:
THIS PLAN SET FORMS PART OF A DESIGN COLLABORATION BETWEEN DIPRETE ENGINEERING AND BETA-INC FOR THE DETAILED DESIGN OF DRAINAGE COMPONENTS AND HIGHWAY COMPONENTS RESPECTIVELY. AS SUCH, THE ENCLOSED PLANS ARE SUBMITTED FOR THE REVIEW OF DRAINAGE PURPOSES ONLY, INCLUDING PIPED DRAINAGE NETWORKS, STORMWATER TREATMENT BMP'S, LIMITS OF DISTURBANCE, SOIL EROSION & SEDIMENT CONTROL, AND REVIEW OF HYDRAULIC/ HYDROLOGIC IMPACTS TO SURROUNDING ENVIRONS - ALL OF THESE COMPONENTS HAVE BEEN DESIGNED AND DETAILED BY DIPRETE ENGINEERING AS PER THE ENCLOSED PLANS AND SUPPORTING REPORTS/ CALCULATIONS. DETAILED DESIGN OF THE PROPOSED HIGHWAY ON/ OFF RAMPS AND WIDENING OF GREENVILLE AVENUE WERE UNDERTAKEN BY BETA-INC, AND WHILE THE ENCLOSED PLANS ARE REPRESENTATIVE OF THE CURRENT BETA-INC DESIGN, DETAILED DESIGN INFORMATION FOR THOSE COMPONENTS SHALL FORM PART OF A SEPARATE SUBMISSION PROCESS THROUGH RIDOT FOR PERMITTING UNDER SEPARATE COVER.

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

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED JAN 24 2017 FILE # 16-0253
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

RIDOT
All Work Within the State Right of Way Must Conform to the RI Standard Specifications, Details, and Addendums.

SESC / O&M
The Soil Erosion and Sediment Control Plan (SESC) and Operations and Maintenance Plan (O&M) are required documents with this plan set and must be maintained by the contractor and owner onsite.

DiPrete Engineering
Two Steiford Court Cranston, RI 02920
tel. 401-943-1000 fax. 401-464-6006 www.diprete-eng.com

BETA
www.BETA-inc.com

BRIAN C. GIROUX
REG. NO. 9341
REGISTERED PROFESSIONAL ENGINEER CIVIL
DEC 08 2016
Office of Water Resources

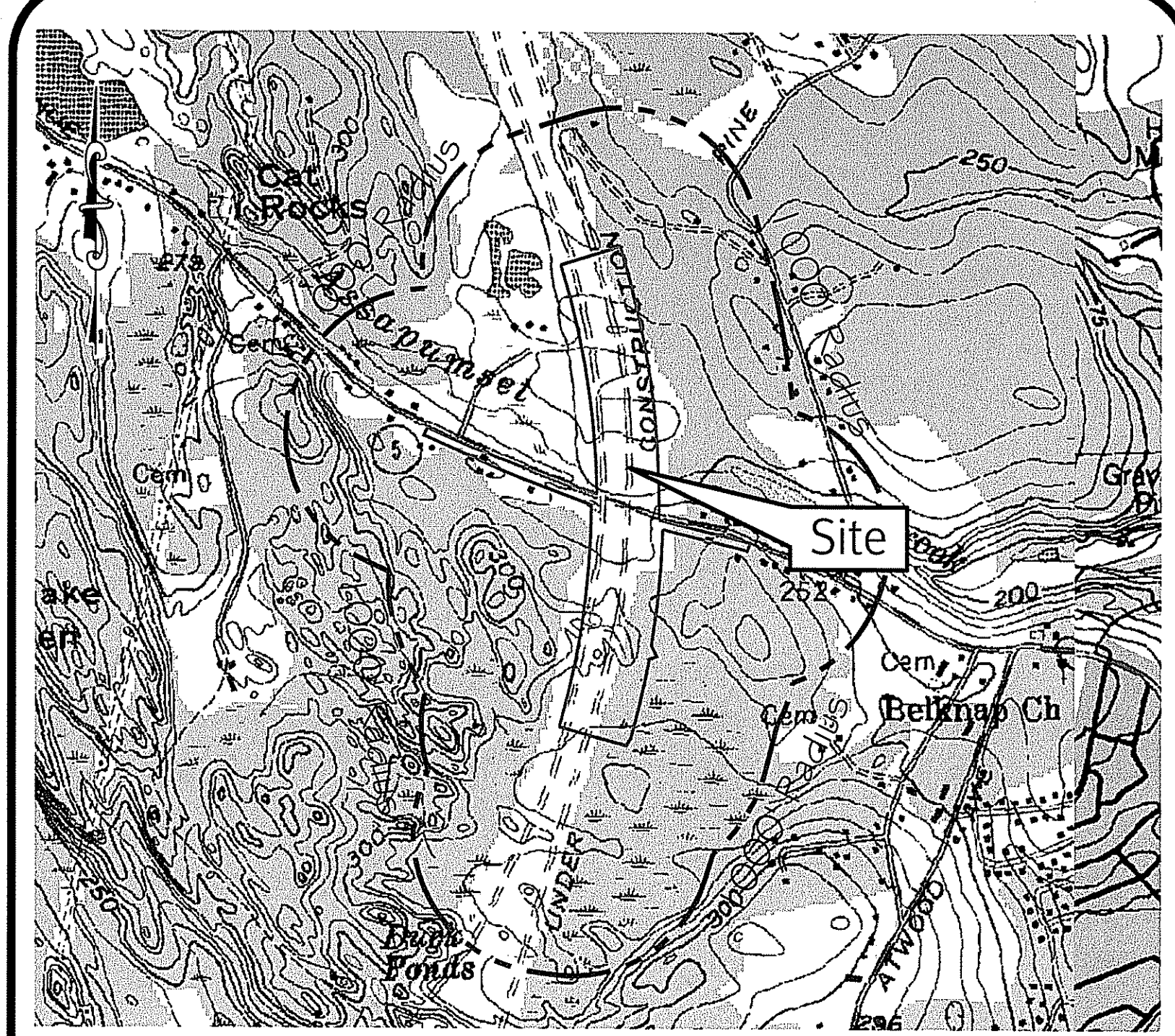
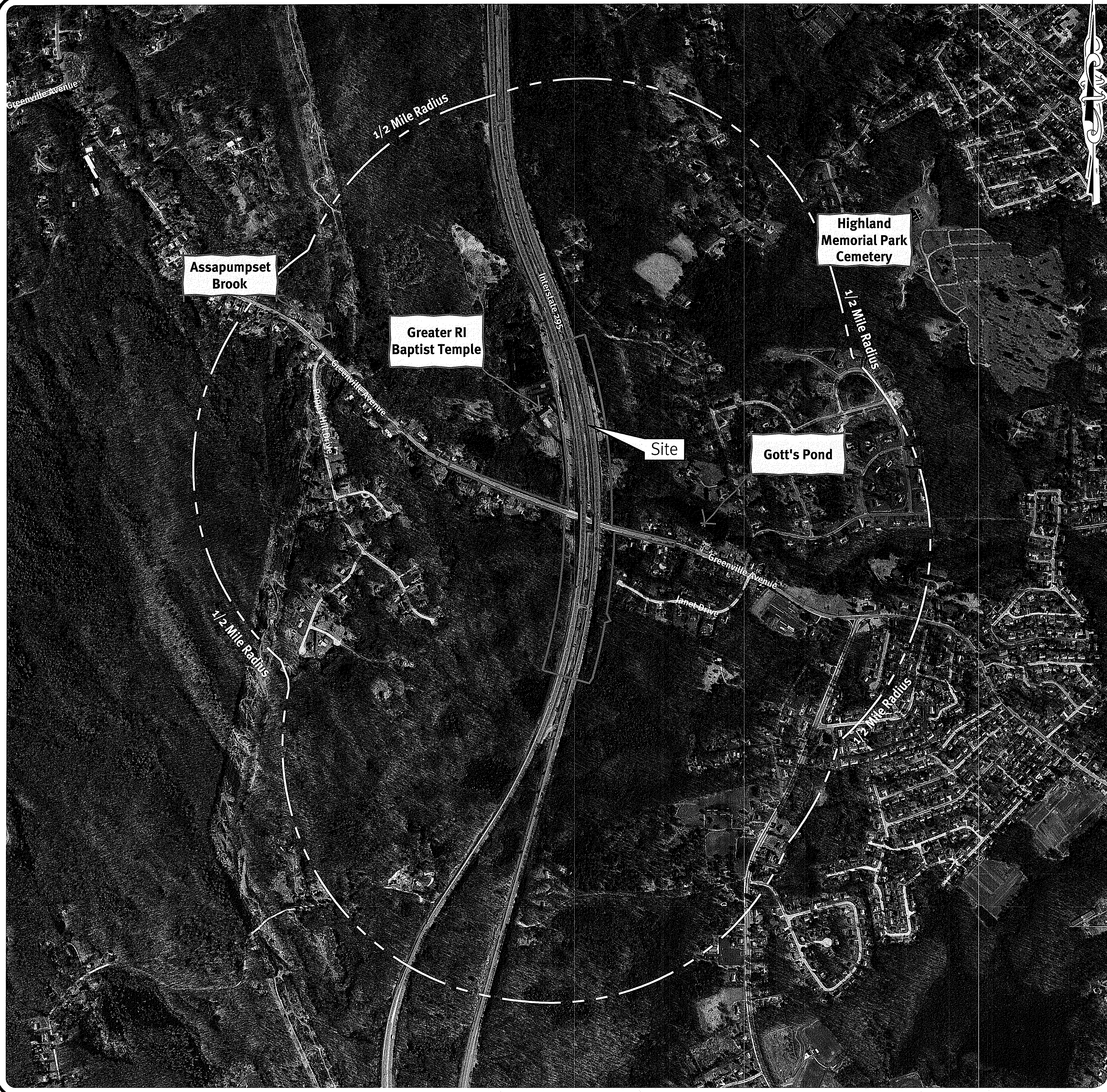
This regulatory submission set shall not be used for construction unless stamped "Issued for Construction" and signed by a Diprete Engineering representative.
The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA conformance in the implementation of this plan and design.

No.	Date	Description	Design By: BLD
1	12-29-2016	ISSUED FOR CONSTRUCTION TO RIDOT	
2			
3			
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Drawn By: BLS, B.E.I.

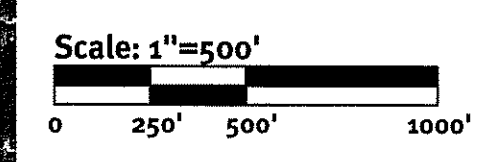
Cover Sheet
Greenville Ave /Route 295 Interchange
Intersection of Greenville Avenue and Route 295
Johnston, Rhode Island
Applicant:
Rhode Island Department of Transportation
Two Capitol Hill Providence, RI 02903
tel. 401-222-2450 fax. 401-222-2905
DC Job No: 2567-001 Copyright 2016 by DiPrete Engineering Associates, Inc.

z:\main\projects\2367-001_greenville_glen\autocad drawings\highway ramps\2367-001_csr-hwy.dwg Plotted: 1/17/2016



USGS Map Scale: 1"=1000'

Photo obtained from the RI-GIS.



Legend:

- PROPERTY LINE
- 1000' RADIUS LINE
- HALF MILE RADIUS LINE

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

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED JAN 24 2016 FILE # 16-02-53
NO CHANGES ALLOWED WITHOUT FRESH APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION STAGE

DiPrete Engineering
Two Stafford Court, Cranston, RI 02920
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BRIAN C. GIROUX
0341
REGISTERED PROFESSIONAL ENGINEER
CIVIL
DEC 8 2016
Office of Water Resources

This regulatory submission set shall not be used for construction purposes unless stamped 'Issued for Construction' and signed by a DiPrete Engineering representative.
The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA compliance in the implementation of this plan and design.

No.	Date	Description	By
1	12-05-2016	ISSUED Application to Alter R.E.C.	B.L.D.
2	9-20-2016	ISSUED Application to Alter	By:

Drawn By: R.E.S., B.F.L. Design By: B.L.D.

**Aerial Half Mile Radius
Greenville Ave /Route 295 Interchange**
Applicant:
Rhode Island Department of Transportation
Two Capitol Hill, Providence, RI 02903
tel. 401-222-2450 fax 401-222-3905

General Notes:

- THE SITE IS LOCATED ON THE TOWN OF JOHNSTON WITHIN THE RIGHT-OF-WAY OF INTERSTATE 295 AND ROUTE 5 (GREENVILLE AVENUE).
- THE LIMIT OF DISTURBANCE IS APPROXIMATELY 17.75+ ACRES AND IS WITHIN A RESIDENCE R-40 DISTRICT ZONE AND ADJUTS A CLUSTER SUBDIVISION ZONE AND RESIDENCE R-20 DISTRICT ZONE.
- THE OWNER/APPLICANT IS: RHODE ISLAND DEPARTMENT OF TRANSPORTATION
c/o PETER ALVITI, JR.
TWO CAPITOL HILL
PROVIDENCE, RHODE ISLAND 02903
- THIS SITE IS LOCATED IN FEMA FLOOD ZONE X (UNSHADED). REFERENCE FEMA FLOOD INSURANCE RATE MAP 440070282G, MAP REVISED MARCH 2, 2009.
ZONE X (UNSHADED) - THIS SITE IS LOCATED IN FEMA FLOOD ZONE X. ZONE X ARE AREAS WHERE THERE IS MINIMAL FLOODING.
- THE BOUNDARY LINE AS SHOWN ON THESE PLANS DEPICTS A CLASS I SURVEY AS PERFORMED BY DIPRETE ENGINEERING ASSOCIATES, INC. THE PLAN ITSELF CONFORMS ONLY TO A CLASS III STANDARD AS ADOPTED BY RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS. THESE PLANS ARE NOT TO BE CONSTRUED AS A CLASS I BOUNDARY PLAN AND IS NOT SUITABLE FOR RECORDING AS A CLASS I STANDARD.
- SOIL MAPPING OBTAINED FROM SOIL SURVEY OF RHODE ISLAND, PREPARED BY U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE.
- THE SITE IS NOT WITHIN A:
GROUNDWATER PROTECTION AREA (RIDEM)
NATURAL HERITAGE AREAS (RIDEMA)
GROUNDWATER PROTECTION OVERLAY DISTRICT (TOWN)
- THE FOLLOWING DOCUMENTS ARE CONSIDERED PART OF THE PROJECT PLANS AND THE CONTRACTOR/OWNER MUST MAINTAIN THESE DOCUMENTS AS PART OF A FULL PLAN SET:
• SOIL EROSION AND SEDIMENT CONTROL PLAN (SESC). THE SESC CONTAINS THE FOLLOWING:
o EROSION CONTROL MEASURES
o SHORT TERM MAINTENANCE
o ESTABLISHMENT OF VEGETATIVE COVER
o CONSTRUCTION POLLUTION PREVENTION
o SEQUENCE OF CONSTRUCTION
• OPERATIONS AND MAINTENANCE PLAN (O&M). THE O&M CONTAINS THE FOLLOWING:
o LONG TERM MAINTENANCE
o LONG TERM POLLUTION PREVENTION
- THIS PLAN SET REFERENCES RIDOT STANDARD DETAILS (DESIGNATED AS RIDOT STD X.X.X.). RIDOT STANDARD DETAILS ARE AVAILABLE FROM RIDOT AND ONLINE AT:
HTTP://WWW.DOT.RI.GOV/BUSINESS/CONTRACTORSANDCONSULTANTS.PHP.
- DETAILED SOIL EROSION AND SEDIMENT CONTROL MEASURES ARE INCORPORATED INTO THIS SUBMISSION AND CONFORM TO RIDEM BEST MANAGEMENT PRACTICES.
- THE DRAINAGE SYSTEM IS DESIGNED TO MEET THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION REGULATIONS WITH THE USE OF CATCH BASINS, SAND FILTERS, AND ABOVE GROUND WATER QUALITY DRAINAGE BASINS. THE STORMWATER MANAGEMENT SYSTEM MEETS THE RIDEM BEST MANAGEMENT PRACTICES.
- THE PROJECT IS PROPOSED TO BE BUILT IN MULTIPLE PHASES.
- SOIL EVALUATIONS WERE COMPLETED BY DIPRETE ENGINEERING BETWEEN JUNE 1-3, 2016.
- WETLAND SERIES A, B, D, E, F, G, H AND I ARE DELINEATED BY NRS AND FIELD SURVEYED BY DIPRETE ENGINEERING APPROVED UNDER RIDEM APPLICATION NO. 16-0078, DATED 4/19/2016.
WETLAND SERIES AA AND BB ARE DELINEATED AND FIELD LOCATED BY DIPRETE ENGINEERING USING SUB METER GPS TECHNOLOGY.

Traffic Notes:

- DURING CONSTRUCTION TRAFFIC CONES ARE TO BE USED FOR SEPARATION OF ACTIVE TRAFFIC FROM WORK ZONE.
- DURING CONSTRUCTION FLAGGERS SHALL BE EMPLOYED TO ENSURE SAFETY FOR INTERACTION OF CONSTRUCTION VEHICLES AND ACTIVE TRAFFIC.
- ALL SIGNS, FLAGGERS, TRAFFIC CONTROL DEVICES, AND TEMPORARY TRAFFIC ZONE ACTIVITIES SHALL MEET THE REQUIREMENTS OF THE MUTCD LATEST EDITION AND SUBSEQUENT ADDENDA.
- TEMPORARY CONSTRUCTION SIGNS SHALL BE MOUNTED ON RIDOT APPROVED SUPPORTS AND SHALL BE REMOVED OR COVERED WHEN NOT APPLICABLE.
- ALL TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES CURRENT EDITION.

RIDOT Notes:

- ALL WORK TO BE DONE WITHIN THE STATE RIGHT OF WAY (ROW) SHALL CONFORM TO RI STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AMENDED AUGUST 2013 WITH ALL REVISIONS AND ADDENDA. STANDARD DETAILS FOR THIS WORK ARE RI STANDARD DETAILS 1998 EDITIONS WITH ALL REVISIONS.
- NO LANE OR SHOULDER CLOSURES SHALL BE PERFORMED WITHIN THE STATE'S R.O.W. DURING PEAK TRAFFIC HOURS.
- THE DRAINAGE SYSTEM IS DESIGNED TO TREAT WATER QUALITY FOR THE STORMWATER RUNOFF VOLUME TO THE STATE RIGHT-OF-WAY FROM PRE-DEVELOPMENT TO POST-DEVELOPMENT.

Demolition Notes:

- ALL EXISTING UTILITIES SHOWN ARE FROM VISIBLE INFORMATION, DRAWINGS FROM OTHERS, OR INFORMATION PROVIDED TO DIPRETE ENGINEERING AND ARE SUBJECT TO CHANGE. THE LOCATIONS OF UNDERGROUND PIPES AND CONDUITS HAVE BEEN DETERMINED FROM AFOREMENTIONED PLANS OF RECORD AND ARE APPROXIMATE ONLY. PRIOR TO CONSTRUCTION, THE PROPER UTILITY ENGINEERING DEPARTMENTS SHALL BE CONTACTED AND THE ACTUAL LOCATION OF SUBSURFACE STRUCTURES SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. CALL THE DIG SAFE CENTER TOLL FREE AT 1-888-344-7233 72 HOURS PRIOR TO EXCAVATION. NOTIFY DESIGN ENGINEER OF ANY DISCREPANCIES PRIOR TO EXCAVATION. ANY DAMAGE TO UTILITIES WHICH ARE SHOWN ON THE PLANS OR DETAILED BY DIG SAFE SHALL BE THE SITE CONTRACTOR'S RESPONSIBILITY.
- CONTRACTOR TO OBTAIN ALL FEDERAL, STATE, AND MUNICIPAL APPROVALS PRIOR TO THE START OF CONSTRUCTION.
- CONTRACTOR TO PERFORM DAILY SWEEPING AT CONSTRUCTION ENTRANCE DURING DEMOLITION AND CONSTRUCTION TO MINIMIZE SEDIMENTS ON INTERSTATE 295 AND ROUTE 5 (GREENVILLE AVENUE).
- ANY DAMAGE TO EXISTING BUILDING AND PROPERTY CAUSED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND LEGALLY DISPOSING (R&D) ALL MATERIALS INDICATED ON THE PLANS UNLESS SPECIFIED OTHERWISE HERE IN. R&D MATERIALS TO INCLUDE BUT NOT LIMITED TO PAVEMENT, GRAVEL, CATCH BASINS, MANHOLES, GRATES/FRAMES/COVERS, AND ANY EXCESS SOIL THAT IS NOT INCORPORATED INTO THE WORK.
- IN ADDITION TO THOSE AREAS SPECIFICALLY DESIGNATED ON THE PLANS, ALL DISTURBED AREAS INCLUDING THE CONTRACTOR'S STOCKPILE AND STAGING AREAS WITHIN THE LIMIT OF WORK SHALL BE RESTORED TO MATCH THE DESIGN PLANS.

Blasting Notes:

- NOTICES, INSPECTIONS AND BLASTING SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL REGULATIONS.
- BLASTING PRODUCTS UTILIZED ON SITE SHALL BE FREE OF PERCHLORATE.
- PRIOR TO THE START OF CONSTRUCTION THE BLASTING PRODUCTS MANUFACTURER'S SPECIFICATIONS AND MSDS SHEETS ARE TO BE SENT TO THE TOWN ALONG WITH A LETTER STATING THE PRODUCTS ARE FREE OF PERCHLORATE.
- A PRE-BLAST SURVEY WILL BE OFFERED TO OWNERS OF APPROVED ADJACENT PROPERTIES PRIOR TO BLASTING ACTIVITIES. LAND OWNERS SHALL BE NOTIFIED VIA CERTIFIED MAIL AND PER RI STATE LAW: CHAPTER 23-28.28-37. IT IS THE CONTRACTOR'S OBLIGATION TO NOTIFY ALL LAND OWNERS PER STATE LAW.
- ROADWAYS, UTILITIES, AND BUILDINGS SHALL BE OVERBLASTED ACCORDING TO GEOTECH AND CIVIL ENGINEER REQUIREMENTS. CONTRACTOR SHALL SUBMIT BLASTING PLAN FOR APPROVAL BY THE RESPECTIVE DESIGN PROFESSIONAL PRIOR TO BLASTING.
- CONTRACTOR TO COORDINATE WITH TENNESSEE GAS AND NATIONAL GRID FOR A PRE-BLAST, DURING BLASTING, AND SHALL MONITOR DETERMINED AREAS BY UTILITY COMPANIES DURING BLASTING.
- CONTRACTOR SHALL TAKE PREVENTIVE ACTIONS WHEN BLASTING NEAR, ABOVE AND BELOW EXISTING UTILITIES AND STRUCTURES.

Erosion Control Notes:

- THE SITE CONTRACTOR IS RESPONSIBLE FOR ALL SOIL EROSION (SILT FENCE, RIDOT STD 9.2.0 OR APPROVED EQUAL) AND SEDIMENT CONTROL ON SITE. THE SITE CONTRACTOR IS TO NOTIFY THE CIVIL ENGINEER, TOWN OF JOHNSTON, AND RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT AT LEAST 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
- STOCKPILE AND CONCRETE WASHOUT LOCATIONS TO BE DETERMINED BY CIVIL ENGINEER, AND SITE CONTRACTOR PRIOR TO CONSTRUCTION. NO STOCKPILING OF MATERIAL TO BE LOCATED IN RIGHT OF WAY AND NO OPEN TRENCHES ARE TO BE LEFT OVERNIGHT. ALL EXCESS SOIL, TREES, ROCKS, BOULDERS, AND OTHER REFUSE, SHALL BE DISCARDED OFF SITE AS DIRECTED BY THE OWNER. IF CONCRETE TRUCKS ARE WASHED OUT ON SITE, ALL WASHOUT MUST BE COMPLETED IN THE DESIGNATED CONCRETE WASHOUT AREA.
- SITE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL. DUST CONTROL TREATMENTS SHALL BE APPLIED AS NECESSARY TO CONTROL AND REDUCE THE AMOUNT OF DUST THAT MAY CAUSE OFF SITE DAMAGE, BE A HEALTH HAZARD TO HUMANS, WILDLIFE, AND PLANT LIFE, OR POSE A HAZARD TO TRAFFIC SAFETY. DUST CONTROL TREATMENTS SHALL BE CONSISTENT WITH RIDEM BEST MANAGEMENT PRACTICES.
- SITE CONTRACTOR TO MAINTAIN SESC PLAN DOCUMENTATION ON THEIR RESPECTIVE PORTION OF THE SITE THROUGHOUT THE DURATION OF THE PROJECT.
- ALL INLETS THAT WILL RECEIVE CONSTRUCTION RUNOFF, TO USE DANDY POP, DANDY SACK, BALED HAY CATCH BASIN INLET PROTECTION (RIDOT STD 9.6.0) OR APPROVED EQUAL INLET PROTECTION. ALL INLET PROTECTION TO BE MAINTAINED THROUGHOUT CONSTRUCTION UNTIL FINAL SURFACE PAVEMENT IS PLACED AND ALL AREAS TRIBUTARY TO THE CATCH BASINS HAVE BEEN FULLY STABILIZED.
- SITE CONTRACTOR SHALL STAKEOUT AND PROTECT OUT ANY PROPOSED INFILTRATION AREAS PRIOR TO CONSTRUCTION. CONSTRUCTION TRAFFIC IS NOT ALLOWED WITHIN INFILTRATION AREAS. THIS INCLUDES SAND FILTERS 2-6 AND WQ INFILTRATION BASIN 1 & 2. AREAS SHALL BE PROTECTED FROM RUNOFF DURING CONSTRUCTION AND CANNOT BE USED AS TEMPORARY SEDIMENTATION AREAS DURING CONSTRUCTION. SILT FENCE SHALL BE USED TO PROTECT INFILTRATION AREAS FROM RUNOFF. CONSTRUCTION FENCING CAN BE USED TO PROTECT FROM CONSTRUCTION TRAFFIC.
- ALL EROSION CONTROL SHALL BE INSTALLED PER THE RHODE ISLAND SOIL EROSION AND SEDIMENTATION CONTROL LATEST EDITION AND THE SOIL EROSION SEDIMENTATION CONTROL PLAN (SESC).
- SEE SECTION 2.2 OF THE SESC FOR PROJECT PHASING & SEQUENCE OF CONSTRUCTION ACTIVITY.
- CONTRACTOR MAY MODIFY SEQUENCE OF CONSTRUCTION WITH APPROVAL FROM ENGINEER OF RECORD.
- CONSTRUCTION STORAGE AREAS MAY BE RELOCATED WITH APPROVAL FROM THE ENGINEER OF RECORD AND THE GENERAL CONTRACTOR.
- CONTRACTOR SHALL STABILIZE AREAS PER THE SESC PLAN. AREAS MAY BE STABILIZED WITH SEEDING, STONE, JUTE MESH, SOILTAC, OR APPROVED EQUAL.
- CONTRACTOR TO COORDINATE AND SEEK NECESSARY APPROVALS FOR ONSITE EARTHWORK AND BLASTING WITH NARRAGANSETT ELECTRIC AND TENNESSEE GAS AND OTHER APPLICABLE LOCAL AND STATE AGENCIES.

Grading and Utility Notes:

- CONSTRUCTION TO COMMENCE WINTER OF 2016 OR UPON RECEIPT OF ALL NECESSARY APPROVALS.
- CONTRACTOR TO OBTAIN ALL FEDERAL, STATE, AND MUNICIPAL APPROVALS PRIOR TO THE START OF CONSTRUCTION.
- SEQUENCE OF CONSTRUCTION SHOWN IN SESC PLAN MAY BE MODIFIED AS FIELD CONDITIONS WARRANT WITH PRIOR APPROVAL FROM THE OWNER OR OWNER'S REPRESENTATIVE.
- IN ORDER TO PREVENT GROUNDWATER FROM BEING CONVEYED ALONG UTILITY TRENCHES, AN IMPERMEABLE BARRIER SHALL BE INCORPORATED INTO ALL UTILITY TRENCHES WHERE THE TRENCH INTERCEPTS GROUNDWATER. SPACING OF THE IMPERMEABLE BARRIERS IS TO BE AT THE DISCRETION OF THE CIVIL ENGINEER AND SHALL BE BASED ON THE SITE CONDITIONS.
- ALL RETAINING WALLS AND STEEP SLOPES ARE SHOWN SCHEMATICALLY ONLY AND DIPRETE ENGINEERING IS NOT PROVIDING THE DESIGN OF THESE ITEMS. THE ACTUAL WALLS AND SLOPES ARE TO BE BUILT UNDER THE DIRECTION OF A GEOTECHNICAL ENGINEER AND CERTIFIED TO THE OWNER PRIOR TO THE COMPLETION OF THE PROJECT. RETAINING WALL SHOP DRAWINGS TO BE SUBMITTED TO DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. SHOP DRAWINGS SHALL BE STAMPED BY A RHODE ISLAND PROFESSIONAL ENGINEER.
- ALL CUT AND FILL AREAS ARE TO BE DONE UNDER THE DIRECTION OF A GEOTECHNICAL ENGINEER WITH TESTING AND CERTIFICATION TO BE PROVIDED TO THE APPLICANT AT THE COMPLETION OF THE PROJECT. DIPRETE ENGINEERING IS NOT PROVIDING THE FILL SPECIFICATION, GEOTECHNICAL ENGINEERING, STRUCTURAL ENGINEERING SERVICES, OR SUPERVISION AS PART OF THESE DRAWINGS.
- NO STOCKPILING OF MATERIAL TO BE LOCATED IN THE RIGHT OF WAY AND NO UNPROTECTED OPEN TRENCHES ARE TO BE LEFT OVERNIGHT.
- ALL LOAM IN DISTURBED AREAS TO BE STOCKPILED FOR FUTURE USE.
- ALL EXCESS MATERIALS (I.E. SOIL, TREES, ROCKS, BOULDERS, AND REFUSE) SHALL BE STOCKPILED ON SITE WITH OWNERS PERMISSION. STUMPS SHALL BE GROUND ON SITE OR REMOVED. NO STUMP DUMPS ARE ALLOWED ON SITE.
- WHERE LEDGE IS ENCOUNTERED IN A PROPOSED CUT CONDITION, PROPOSED SLOPES CAN BE REPLACED WITH ROCK OUT SLOPES WITH THE DIRECTION AND APPROVAL FROM THE GEOTECHNICAL ENGINEER AND/OR CIVIL ENGINEER AS WARRANTED BY SITE CONDITIONS.
- CLEARING AND GRUBBING IS NOT TO EXTEND BEYOND THE LIMIT OF DISTURBANCE.
- ALL STORMWATER PIPE WITHIN THE STATE'S RIGHT OF WAY TO BE RCP CLASS III TO SUIT DESIGN GROUND COVER TO PIPE. OTHER STORMWATER PIPE TO BE HDPE OR AS OTHERWISE SPECIFIED.
- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR IS TO INSPECT/VERIFY ALL EXISTING UTILITY LOCATIONS, INVERTS, PIPE SIZES AND PIPES AND STRUCTURES CONDITIONS AT POINTS WHERE THE PROPOSED UTILITIES WILL BE CONNECTING INTO THE EXISTING UTILITIES OR EXISTING UTILITY STUBS AS INSTALLED BY THE ROADWAY CONTRACTOR. AT THIS TIME, AND PRIOR TO THE START OF ANY EXISTING UTILITY REMOVAL OR PROPOSED UTILITY INSTALLATION, THE CONTRACTOR IS TO PROVIDE THE ENGINEER THE INFORMATION IN WRITING. NO UTILITY WORK IS TO PROCEED PRIOR TO THE APPROVAL OF THIS INFORMATION BY THE CIVIL ENGINEER. IF THIS INFORMATION IS NOT APPROVED BY THE CIVIL ENGINEER, ANY ADDITIONAL COSTS CAUSED BY THE ABOVE DISCREPANCIES ARE TO BE THE RESPONSIBILITY OF THE SITE CONTRACTOR.
- PRIOR TO START OF CONSTRUCTION, THE SITE CONTRACTOR SHALL VERIFY EXISTING PAVEMENT ELEVATIONS AT INTERFACE WITH PROPOSED PAVEMENTS TO ASSURE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED FACILITIES. IF THE ELEVATION DIFFERS MORE THAN 0.25' THE CONTRACTOR IS TO NOTIFY THE CIVIL ENGINEER IN WRITING AND NO WORK ON THESE INTERFACES IS TO CONTINUE UNTIL APPROVAL IS PROVIDED BY THE CIVIL ENGINEER. IF THIS INFORMATION IS NOT APPROVED BY THE CIVIL ENGINEER, ANY ADDITIONAL COSTS CAUSED BY THE ABOVE DISCREPANCIES AND THEIR RESULTS ARE TO BE THE RESPONSIBILITY OF THE SITE CONTRACTOR.
- ALL FLARED ENDS SHALL BE INSTALLED AT GRADE. CONTRACTOR TO VERIFY EXISTING ELEVATION AT OUTFALLS AND ROADWAY LOCATIONS UPON CLEARING AND GRUBBING OF SITE. PRIOR TO CONSTRUCTION AND NOTIFY DESIGN ENGINEER OF ANY DISCREPANCIES WITH DESIGN PLANS. SOME VERTICAL AND HORIZONTAL ADJUSTMENTS MAY BE NECESSARY.
- ALL STORM DRAINAGE PIPING LOCATED IN AREAS OF SEASONAL HIGH GROUND WATER SHALL BE WATER TIGHT.
- DRAINAGE STRUCTURES SHALL BE AS FOLLOWS (UNLESS OTHERWISE NOTED ON PLANS):
CATCH BASIN'S ALONG CURBING TO BE RIDOT STD. 4.4.0, TYPE F FRAME, 4' DIAMETER WITHIN APRON STONE.
CATCH BASIN'S NOT ALONG CURBING TO BE RIDOT STD 4.4.0, 4' DIAMETER
SINGLE FRAME CATCHBASIN GRATES TO BE RIDOT STD. 6.3.2
DOUBLE FRAME CATCHBASIN GRATES TO BE RIDOT STD. 6.3.2
HIGH CAPACITY CATCHBASIN GRATES TO BE RIDOT STD 6.3.4 AND INSTALLED ANYWHERE GRADES AREA 6% AND STEEPER
MANHOLE'S TO BE RIDOT STD. 4.2.0, 4.2.1 OR 4.2.2 AS REQUIRED
DRAINAGE MANHOLE COVERS TO BE RIDOT STD 6.2.1
FLARED END SECTIONS TO BE RIDOT STD 2.3.0
HEAD WALLS TO BE RIDOT STD 2.1.0
DROP INLETS TO BE RIDOT STD 4.5.0, 4.5.1 OR 4.5.2 AS REQUIRED

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

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED MAR 24 2017 FILE # 16-D253
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Existing Legend

AS SHOWN ON PROPOSED SHEETS
NOT ALL ITEMS SHOWN WILL APPEAR ON PLANS

BUILDING	RIHB	RHODE ISLAND HIGHWAY BOUND	GWT	GROUND WATER TABLE
AP	N/F (D)	ASSESSOR'S PLAT	BT (M)	BOTTOM TESTHOLE MEASURED
N/F (D)		NOW OR FORMERLY DEED	(C)	CALCULATED
STATE HIGHWAY LINE			(CA)	CHORD ANGLE
STATE FREEWAY LINE			HC	HANDICAPPED
ASSESSORS LINE			▲/△	NAIL FOUND/SET
BRUSHLINE			○/●	DRILL HOLE FOUND/SET
TREELINE			■/□	BOUND FOUND/SET
GUARDRAIL			▲	SIGN
FENCE			●	BOLLARD
RETAINING WALL			○ CB	SOIL EVALUATION
STONE WALL			○ DCB	CATCH BASIN
MINOR CONTOUR LINE			○ DMH	DOUBLE CATCH BASIN
MAJOR CONTOUR LINE			↑ FES	DRAINAGE MANHOLE
WATER LINE			→	FLARED END SECTION
SEWER LINE			○ EMH	GUY POLE
SEWER FORCE MAIN			○ UP	ELECTRIC MANHOLE
GAS LINE			○ SMH	UTILITY/POWER POLE
ELECTRIC LINE			○	LIGHTPOST
OVERHEAD WIRES			○	SEWER/SEPTIC MANHOLE
DRAINAGE LINE			○	SEWER VALVE
SOILS LINES			○	CLEANOUT
50' PERIMETER WETLAND			○	HYDRANT
100' RIVERBANK WETLAND			○	IRRIGATION VALVE
200' RIVERBANK WETLAND			○	WATER VALVE
APPROXIMATE 100 YEAR FLOODPLAIN			○	WELL
STREAM			○	MONITORING WELL
			○	UNKNOWN MANHOLE
			○	GAS VALVE
			○	BENCH MARK
			○	WETLAND LINE & FLAG
			○	STREAM FLOW DIRECTION

Proposed Legend

NOT ALL ITEMS SHOWN WILL APPEAR ON PLANS

MINOR CONTOUR LINE*	ALSP	ASSESSOR'S PLAT
MAJOR CONTOUR LINE*	BW	ALUMINUM STRUCTURAL PLATE
SPOT ELEVATION*	CB	BOTTOM OF WALL (FINISH GRADE AT BOTTOM OF WALL)
LIMIT OF DISTURBANCE - NO EROSION CONTROL	CE	CATCH BASIN
LIMIT OF DISTURBANCE STRAW WATTLE, SILT FENCE (RIDOT STD 9.2.0) OR APPROVED EQUAL CLASS C SILT FENCE (WIRE FENCE/MESH SILT FENCE)	CONC	CENTERLINE
CONSTRUCTION ENTRANCE	DCB	CONCRETE
SAW CUT LINE*	DMH	DOUBLE CATCH BASIN
EDGE OF PAVEMENT*	DI	DRAINAGE MANHOLE
BITUMINOUS BERM*	ETC	DROP INLET
CONCRETE CURB*	FES	ELECTRIC/TELECOM/CABLE LINE
ASPHALT PAVEMENT*	HC	FLARED END SECTION
TREELINE*	HDPE	HIGH CAPACITY CATCH BASIN GRATE
GUARDRAIL*	HW	HIGH DENSITY POLYETHYLENE
BMP OUTLINE	INV	HEADWALL
RETAINING WALL*	LF	INVERT
RIP RAP	LOD	LINEAR FEET
SAND FILTER	N/F	LIMIT OF DISTURBANCE
POND ACCESS	OHW	NOW OR FORMERLY
2:1 OR 1:1 SLOPES*	PE	OVERHEAD WIRE
DRAINAGE LINE	PL	POLYETHYLENE
CATCH BASIN (SEE GRADING & UTILITY NOTE 17)	PVC	PROPERTY LINE
DOUBLE CATCH BASIN (SEE GRADING & UTILITY NOTE 17)	RCP	POLYVINYL CHLORIDE
MANHOLE (SEE GRADING & UTILITY NOTE 17)	SS	REINFORCED CONCRETE PIPE
FLARED END SECTION (SEE GRADING & UTILITY NOTE 17)	SMH	SLOPE
HEAD WALL (SEE GRADING & UTILITY NOTE 17)	SS	SEWER MANHOLE
SIGN*	STA	SIDE SLOPE
PAVEMENT STRIPING*	TRANS	STATION
ARROW STRIPING STRAIGHT/TURN*	TW	TRANSITION
	TYP	TOP OF WALL (FINISH GRADE AT TOP OF WALL)
	UP	TYPICAL
		UTILITY POLE

* SEE NOTE ON COVER SHEET REGARDING DESIGN.

As-Built Notes:

- ALL COMPONENTS OF THE DRAINAGE MUST BE ASBUILT PRIOR TO COVERING. ENGINEER TO BE NOTIFIED PRIOR TO COVERING SURVEY ASBUILT LOCATIONS. ENGINEER WILL NOT ACCEPT FIELD MEASUREMENTS FROM THE SITE CONTRACTOR.

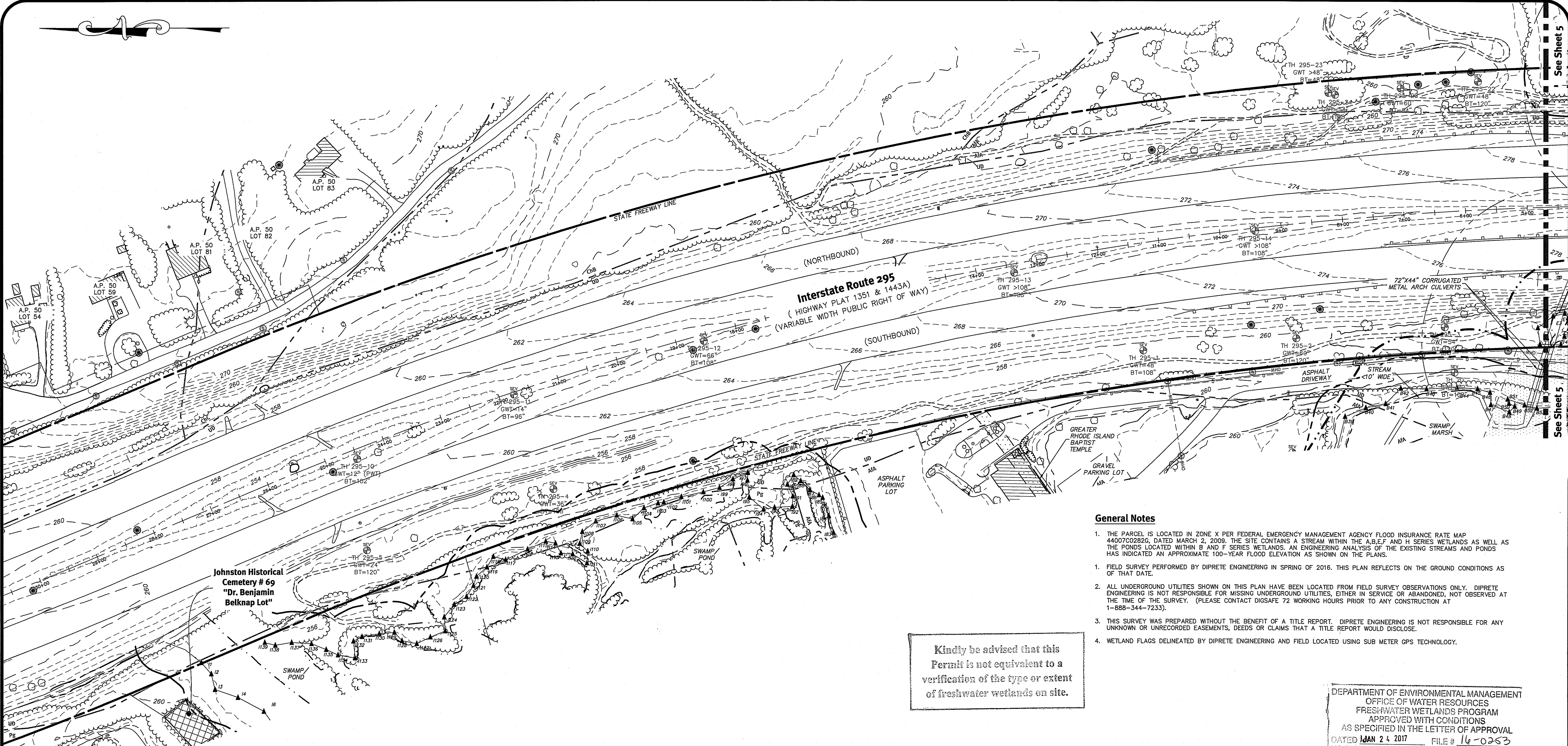
DiPrete Engineering
Two Stafford Court Cranston, RI 02920
tel. 401-943-1000 fax. 401-664-6066 www.diprete-eng.com

BETA
www.BETA-inc.com

BRIAN C. GIROUX
REGISTERED PROFESSIONAL ENGINEER CIVIL
DEC 08 2016
Office of Water Resources

This regulatory submission shall not be used for construction safety precautions and requirements, and OSHA compliance in the implementation of this plan and design.
The contractor is responsible for all of the means, methods, materials, and equipment used in the construction of the project.
Date: 03-23-2016
No. 16-D253
Description: GREENVILLE AVENUE AND ROUTE 295 INTERCHANGE
Drawn By: B.S.S. B.F.L.
Design By: B.U.D.

General Notes & Legend
Greenville Ave / Route 295 Interchange
Rhode Island Department of Transportation
Intersection of Greenville Avenue and Route 295
Applicant: Johnston, Rhode Island
Two Capitol Hill, Providence, RI 02903
tel. 401-222-2450 fax. 401-222-2905



Legend

NOT ALL ITEMS SHOWN WILL APPEAR ON THE SURVEY

BUILDING	GHW	GROUND WATER TABLE
RHB	BT	BOTTOM TESTHOLE
AP	(M)	MEASURED
N/F	(C)	CALCULATED
(D)	(CA)	CHORD ANGLE
PROPERTY LINE	HC	HANDICAPPED
ASSASSOR'S PLAT	▲/△	NAIL FOUND/SET
NOW OR FORMERLY	●/●	DRILL HOLE FOUND/SET
DEED	●/○	BOUND FOUND/SET
BRUSHLINE	▲	SIGN
TREELINE	●	BOLLARD
STATE FREEWAY LINE	⊙	SOIL EVALUATION
GUARDRAIL	⊙ CB	CATCH BASIN
FENCE	⊙ DCB	DOUBLE CATCH BASIN
RETAINING WALL	⊙ DMH	DRAINAGE MANHOLE
STONE WALL	⊙ FES	FLARED END SECTION
MINOR CONTOUR LINE	⊙ GUY	GUY POLE
MAJOR CONTOUR LINE	⊙ EMH	ELECTRIC MANHOLE
WATER LINE	⊙ UP	UTILITY/POWER POLE
SEWER LINE	⊙ LP	LIGHTPOST
SEWER FORCE MAIN	⊙ SMH	SEWER/SEPTIC MANHOLE
GAS LINE	⊙	SEWER VALVE
ELECTRIC LINE	⊙	CLEANOUT
OVERHEAD WIRES	⊙	HYDRANT
DRAINAGE LINE	⊙	IRRIGATION VALVE
SOILS LINES	⊙	WATER VALVE
50' PERIMETER WETLAND	⊙	WELL
100' RIVERBANK WETLAND	⊙	MONITORING WELL
200' RIVERBANK WETLAND	⊙	UNKNOWN MANHOLE
APPROXIMATE 100 YEAR FLOODPLAIN (SEE GENERAL NOTE 1)	⊙	GAS VALVE
	⊙	WETLAND FLAG
	⊙	BENCH MARK
	⊙	STREAM FLOW DIRECTION

Topographic & Datum Notes:

- ELEVATIONS SHOWN HEREON, IN U.S. SURVEY FEET, ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), AS DETERMINED BY DIPRETE ENGINEERING USING REAL TIME KINEMATIC G.P.S. OBSERVATIONS.
- THE TOPOGRAPHY AND PARAMETRIC FEATURES ON THIS PLAN WERE PREPARED BY COL-EAST, INC. AERIAL PHOTOGRAPHY COMPANY USING AERIAL PHOTOGRAPHS, DATED: MARCH 9, 2016. THE MAP HAS BEEN PREPARED TO CONFORM TO THE STANDARDS PUBLISHED BY THE FEDERAL GEOGRAPHIC DATA COMMITTEE FOUND IN GEOSPATIAL POSITIONING ACCURACY STANDARDS PART 3: NATIONAL STANDARD FOR SPATIAL DATA ACCURACY (FGDC-STD-007.3-1998), AS MAY BE AMENDED AS STATED IN RULES AND REGULATIONS FOR PROFESSIONAL LAND SURVEYING IN THE STATE OF RHODE ISLAND, EFFECTIVE DATE: NOVEMBER 25, 2015. AFTER SITE CLEARING BUT PRIOR TO CONSTRUCTION, THE GRADES, ELEVATIONS AND LOCATIONS WILL BE FIELD VERIFIED BY THE CONTRACTOR AND ANY DIFFERENCES PRESENTED TO DIPRETE ENGINEERING. IT IS ESSENTIAL THAT ANY DISCREPANCIES IN THE MAPPING BE DEALT WITH PRIOR TO CONSTRUCTION COMMENCEMENT.

Boundary Reference

BOUNDARY SURVEY: CITIZEN BANK CAMPUS AP 50 LOT 71 AND AP 51/1 LOT 17 - GREENVILLE AVENUE, JOHNSTONE, RHODE ISLAND. PLAN BY DIPRETE ENGINEERING, DATED MAY 3, 2016. SHEETS 1 AND 2.

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 JANUARY 1, 2016, AS FOLLOWS:

TYPE OF SURVEY	MEASUREMENT SPECIFICATION
BOUNDARY SURVEY	CLASS 1-SEE BOUNDARY REFERENCE
DATA ACCUMULATION SURVEY	CLASS T-3

THE PURPOSE FOR THE CONDUCT OF THE SURVEY AND FOR THE PREPARATION OF THE PLAN IS AS FOLLOWS:
SITE ENGINEERING AND PERMITTING.

ROBERT G. BABCOCK
No. 2504
PROFESSIONAL LAND SURVEYOR

12/1/16
ROBERT G. BABCOCK, RIPLS #2504, COA #LS.000A160

General Notes

- THE PARCEL IS LOCATED IN ZONE X PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP 4407020262, DATED MARCH 2, 2008. THE SITE CONTAINS A STREAM WITHIN THE A,B,E,F AND H SERIES WETLANDS AS WELL AS THE PONDS LOCATED WITHIN B AND F SERIES WETLANDS. AN ENGINEERING ANALYSIS OF THE EXISTING STREAMS AND PONDS HAS INDICATED AN APPROXIMATE 100-YEAR FLOOD ELEVATION AS SHOWN ON THE PLANS.
- FIELD SURVEY PERFORMED BY DIPRETE ENGINEERING IN SPRING OF 2016. THIS PLAN REFLECTS ON THE GROUND CONDITIONS AS OF THAT DATE.
- ALL UNDERGROUND UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED FROM FIELD SURVEY OBSERVATIONS ONLY. DIPRETE ENGINEERING IS NOT RESPONSIBLE FOR MISSING UNDERGROUND UTILITIES, EITHER IN SERVICE OR ABANDONED, NOT OBSERVED AT THE TIME OF THE SURVEY. (PLEASE CONTACT DIOSAFE 72 WORKING HOURS PRIOR TO ANY CONSTRUCTION AT 1-888-344-7233).
- THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT. DIPRETE ENGINEERING IS NOT RESPONSIBLE FOR ANY UNKNOWN OR UNRECORDED EASEMENTS, DEEDS OR CLAIMS THAT A TITLE REPORT WOULD DISCLOSE.
- WETLAND FLAGS DELINEATED BY DIPRETE ENGINEERING AND FIELD LOCATED USING SUB METER GPS TECHNOLOGY.

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

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED JAN 24 2017 FILE # 16-0253
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

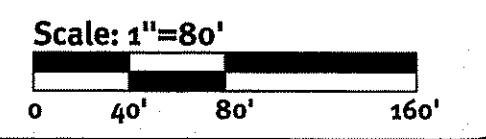
Soil Information

(REFERENCE: SOIL SURVEY OF RHODE ISLAND, U.S.D.A. SOIL CONSERVATION SERVICE)

SOIL NAME	DESCRIPTION
AfA	AGAWAM FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES
CcC	CANTON-CHARLTON-ROCK OUTCROP COMPLEX, 3 TO 15 PERCENT SLOPES
CoD	CANTON-CHARLTON-ROCK OUTCROP COMPLEX, 15 TO 35 PERCENT SLOPES
Cd	CANTON-URBAN LAND COMPLEX
CcC	CANTON AND CHARLTON FINE SANDY LOAMS, VERY ROCKY, 3 TO 15 PERCENT SLOPES
ChB	CANTON AND CHARLTON VERY STONY FINE SANDY LOAMS, 3 TO 8 PERCENT SLOPES
ChD	CANTON AND CHARLTON VERY STONY FINE SANDY LOAMS, 15 TO 25 PERCENT SLOPES
CkC	CANTON AND CHARLTON EXTREMELY STONY FINE SANDY LOAMS, 3 TO 15 PERCENT SLOPES
Du	DUMPS
HkA	HINKLEY GRAVELLY SANDY LOAM, 0 TO 3 PERCENT SLOPES
HkC	HINKLEY GRAVELLY SANDY LOAM, ROLLING
MU	MERRIMAC-URBAN LAND COMPLEX
Pf	PITS, GRAVEL
Rg	RIDGEBURY, WHITMAN, AND LEICESTER EXTREMELY STONY FINE SANDY LOAMS
Sb	SCARBORO MUCKY SANDY LOAM
Ss	SUTTON EXTREMELY STONY FINE SANDY LOAM, 0 TO 8 PERCENT SLOPES
SvB	SWANSEA MUCK, 0 TO 1 PERCENT SLOPES
UD	UDORTHENTS-URBAN LAND COMPLEX
W	WATER
Wg	WALPOLE SANDY LOAM

This Plan Should Be Indexed By The Following Streets:

- Greenville Avenue
- Interstate Route 295



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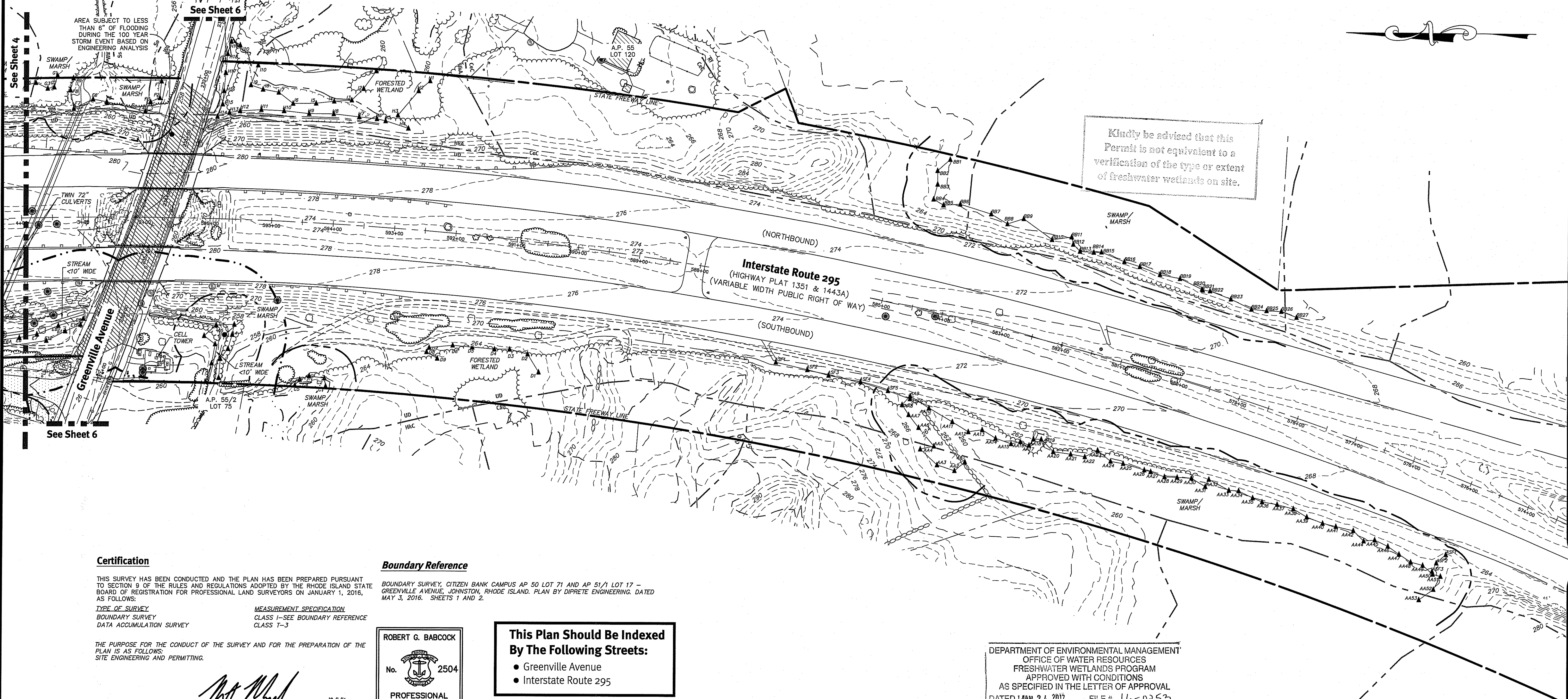
BRIAN C. GIROUX
REG. 03341
REGISTERED PROFESSIONAL ENGINEER CIVIL
Environmental Management
DEC 06 2016
Office of Water Resources

THIS REGULATORY SUBMISSION SET SHALL NOT BE USED FOR CONSTRUCTION PURPOSES UNLESS STAMPED "ISSUED FOR CONSTRUCTION" AND SIGNED BY A DIPRETE ENGINEERING REPRESENTATIVE.
THE CONTRACTOR IS RESPONSIBLE FOR ALL OF THE MEANS, METHODS, SAFETY PRECAUTIONS AND REQUIREMENTS, AND OSHA COMPLIANCE IN THE IMPLEMENTATION OF THIS PLAN AND DESIGN.

Drawn By: R.S. S.E.I.	Design By: R.L.D.
Checked By: R.S. S.E.I.	
Approved By: R.S. S.E.I.	
Scale: 1"=80'	

Existing Conditions Plan - 1
Greenville Ave / Route 295 Interchange
Intersection of Greenville Avenue and Route 295
Johnstone, Rhode Island
Applicant: Rhode Island Department of Transportation
Two Capitol Hill, Providence, RI 02903
Tel: 401-222-2650 Fax: 401-222-2905
DE Job No: 2367-001. Copyright 2016 by DiPrete Engineering Associates, Inc.

SHEET 4 OF 17



See Sheet 4

AREA SUBJECT TO LESS THAN 6" OF FLOODING DURING THE 100 YEAR STORM EVENT BASED ON ENGINEERING ANALYSIS

SWAMP/MARSH

TWIN 72" CULVERTS

STREAM <10' WIDE

GREENVILLE AVENUE

CELL TOWER

SWAMP/MARSH

STREAM <10' WIDE

SWAMP/MARSH

FORESTED WETLAND

STATE FREEWAY LINE

AP. 55 LOT 120

AP. 55/2 LOT 75

See Sheet 6

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

(NORTHBOUND) 274

Interstate Route 295
(HIGHWAY PLAT 1351 & 1443A)
(VARIABLE WIDTH PUBLIC RIGHT OF WAY)

(SOUTHBOUND) 274

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 JANUARY 1, 2016, AS FOLLOWS:

TYPE OF SURVEY: BOUNDARY SURVEY
DATA ACCUMULATION SURVEY

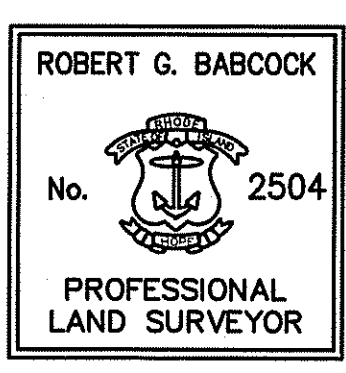
MEASUREMENT SPECIFICATION: CLASS 1-SEE BOUNDARY REFERENCE
CLASS T-3

THE PURPOSE FOR THE CONDUCT OF THE SURVEY AND FOR THE PREPARATION OF THE PLAN IS AS FOLLOWS:
SITE ENGINEERING AND PERMITTING.

Robert G. Babcock
12/1/16
ROBERT G. BABCOCK, RIFLS #2504, COA #S.000A160

Boundary Reference

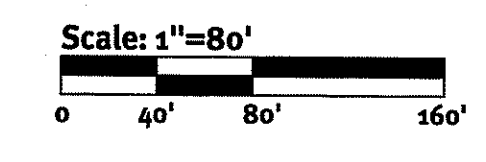
BOUNDARY SURVEY, CITIZEN BANK CAMPUS AP 50 LOT 71 AND AP 51/1 LOT 17 - GREENVILLE AVENUE, JOHNSTON, RHODE ISLAND. PLAN BY DIPRETE ENGINEERING, DATED MAY 3, 2016. SHEETS 1 AND 2.



This Plan Should Be Indexed By The Following Streets:

- Greenville Avenue
- Interstate Route 295

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED 1 JAN 24 2017 FILE # 116-0253
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE



Existing Conditions Plan - 2
Greenville Ave / Route 295 Interchange
Intersection of Greenville Avenue and Route 295
Applicant: Rhode Island Department of Transportation
Rhode Island Department of Transportation
100 Water Street
Providence, Rhode Island 02903
Tel: 401-222-2450 Fax: 401-222-2995
DC Job No: 2367-001. Copyright: 2016 by DiPrete Engineering Associates, Inc.

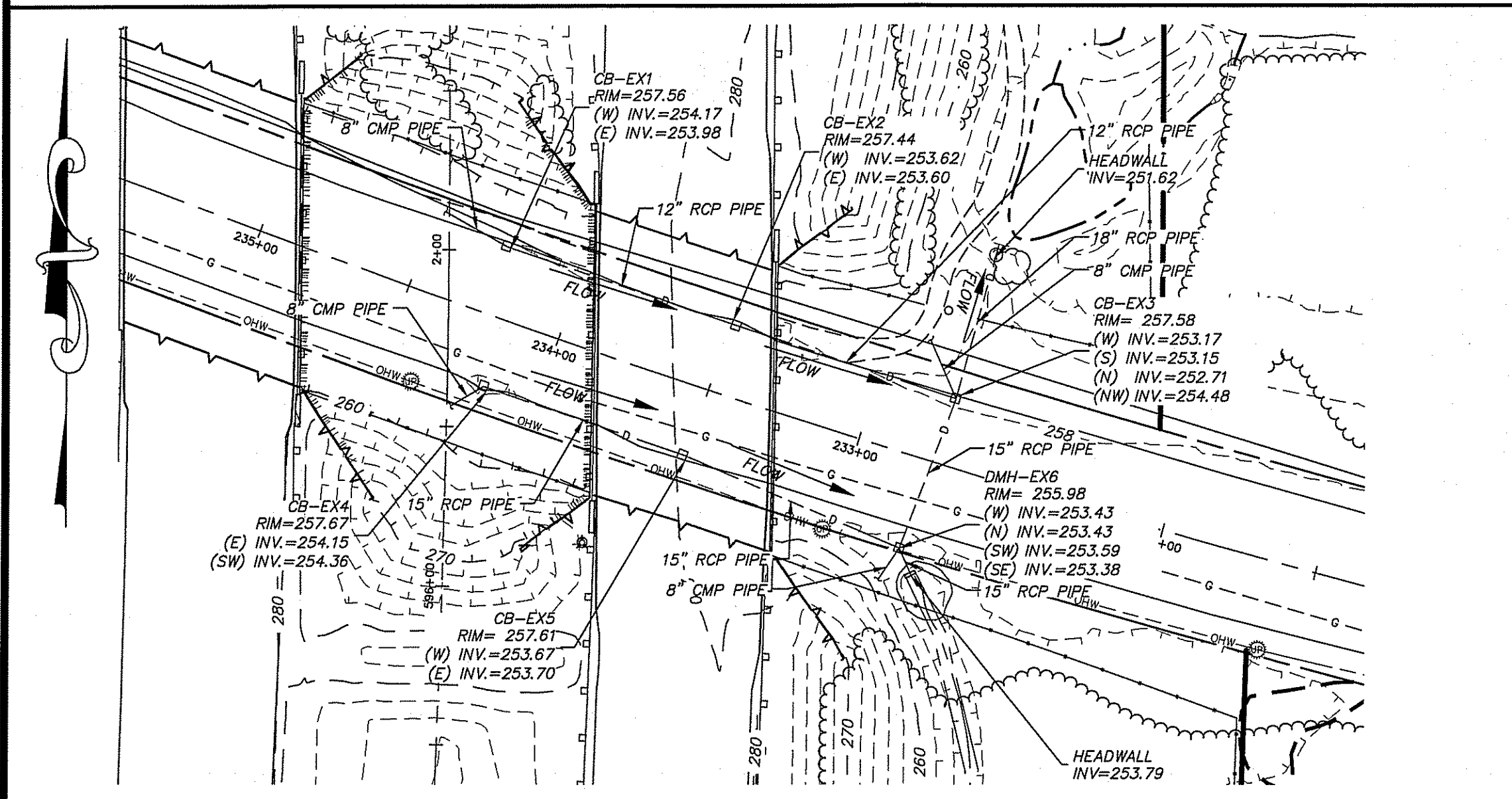
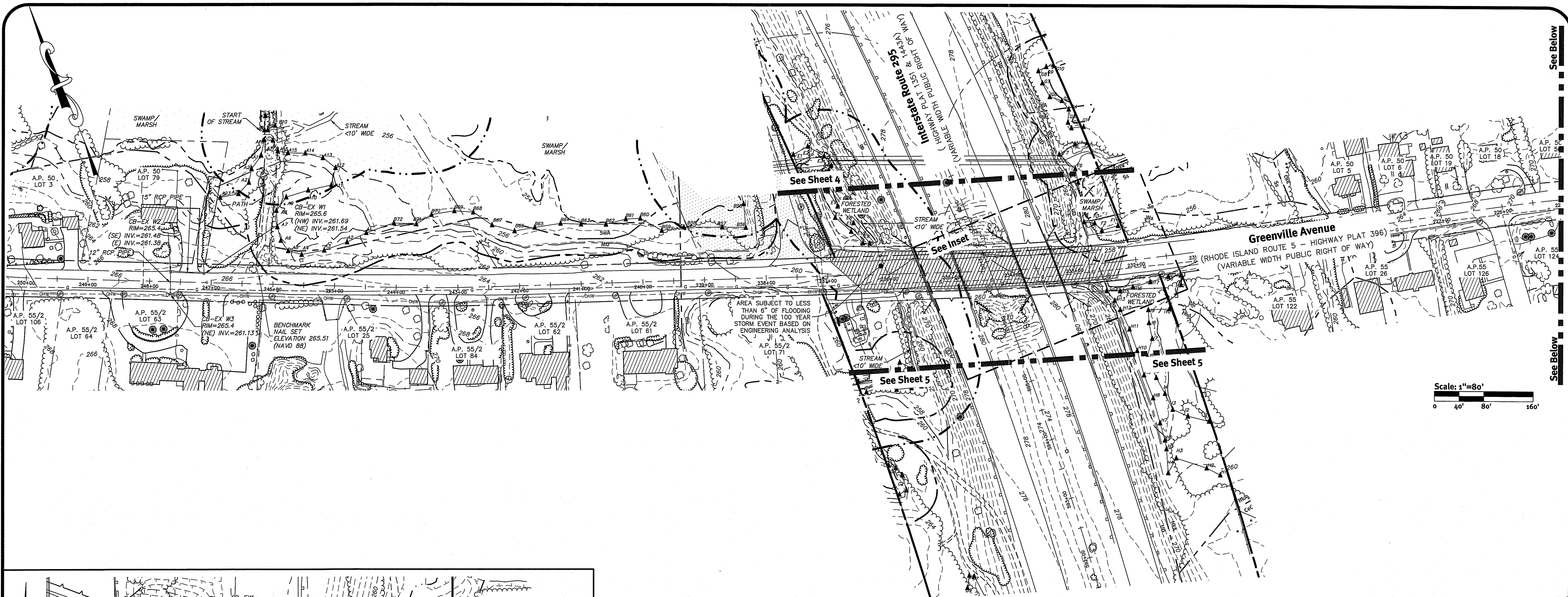
BRIAN C. GROUX
REG. NO. 8341
REGISTERED PROFESSIONAL ENGINEER - CIVIL
Environmental Management
DEC 08 2016
Office of Water Resources

This regulatory submission set shall not be used for construction purposes unless stamped, issued for construction and signed by a DiPrete Engineering representative.
The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA conformance in the implementation of this plan and design.

No.	Date	Description	Design PR. BLD
1	7/27/2016	ISSUED FOR CONSTRUCTION TO BETA	Beta



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

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED JAN 24 2017 FILE # 16-0253
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

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 JANUARY 1, 2016, AS FOLLOWS:
TYPE OF SURVEY: BOUNDARY SURVEY
MEASUREMENT SPECIFICATION: CLASS I-SEE BOUNDARY REFERENCE CLASS T-3

Boundary Reference
BOUNDARY SURVEY, CITIZEN BANK CAMPUS AP 50 LOT 71 AND AP 51/1 LOT 17 - GREENVILLE AVENUE, JOHNSTON, RHODE ISLAND. PLAN BY DIPRETE ENGINEERING. DATED MAY 3, 2016. SHEETS 1 AND 2.

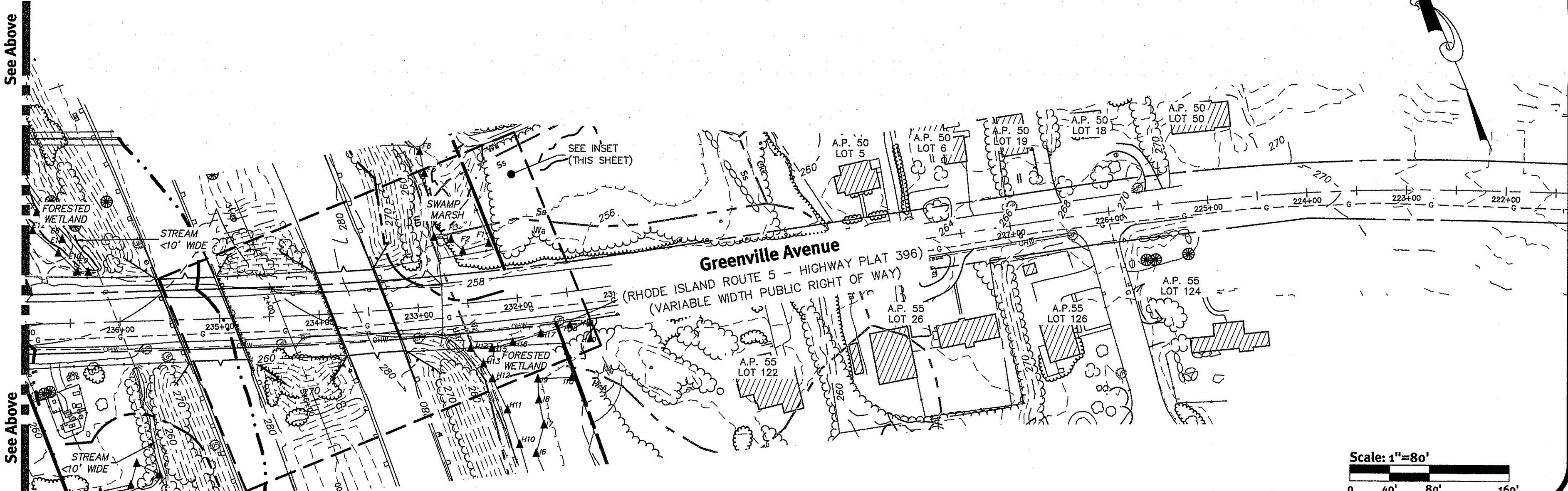
ROBERT G. BABCOCK
No. 2504
PROFESSIONAL LAND SURVEYOR

This Plan Should Be Indexed By The Following Streets:

- Greenville Avenue
- Interstate Route 295

THE PURPOSE FOR THE CONDUCT OF THE SURVEY AND FOR THE PREPARATION OF THE PLAN IS AS FOLLOWS:
SITE ENGINEERING AND PERMITTING.

ROBERT G. BABCOCK, RPLS #2504, COA #S.000A180



See Below

See Below

Diprete Engineering
Two Stafford Court Cranston, RI 02920
tel: 401-943-1000 fax: 401-664-6006 www.diprete-eng.com

Boston Providence Newport

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BRIAN C. GIROUX
REG. NO. 8341
REGISTERED PROFESSIONAL ENGINEER CIVIL

Environmental Management
DEC 08 2016
Office of Water Resources

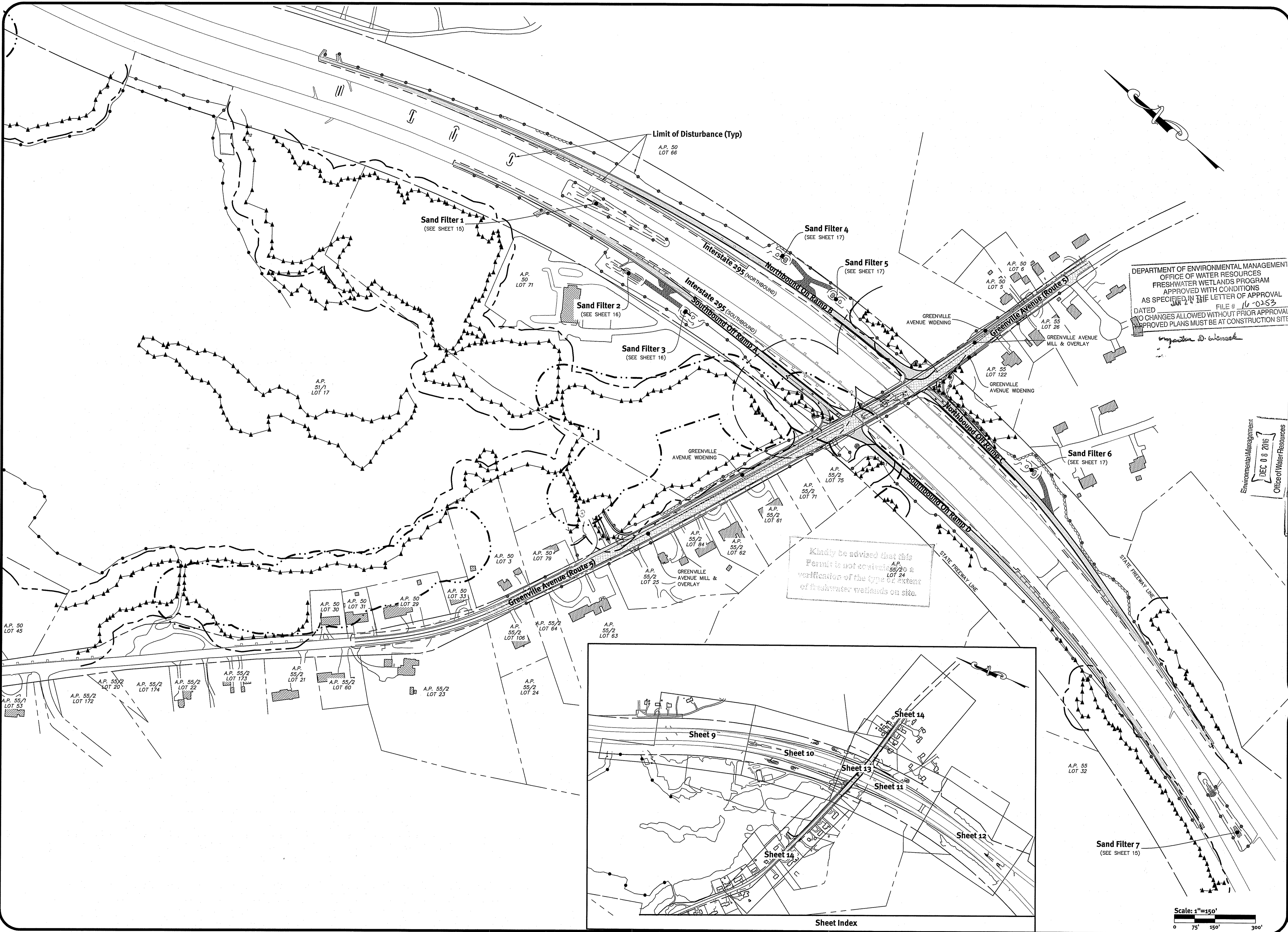
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The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA compliance in the implementation of this plan and design.

1	12/1/16	12/1/16	12/1/16	12/1/16	12/1/16	12/1/16	12/1/16	12/1/16	12/1/16
No.	Date	By	For	Description	Drawn By	Checked By	Reviewed By	Approved By	Design By
1	12/1/16	RG	RG	Initial Release to Client					
2	12/1/16	RG	RG	Final Release to Client					

Existing Conditions Plan - 3
Greenville Ave / Route 295 Interchange
Intersection of Greenville Avenue and Route 295
Johnston, Rhode Island

Applicant:
Rhode Island Department of Transportation
Two Capitol Hill, Providence, RI 02903
Tel: 401-222-2450 Fax: 401-222-2905

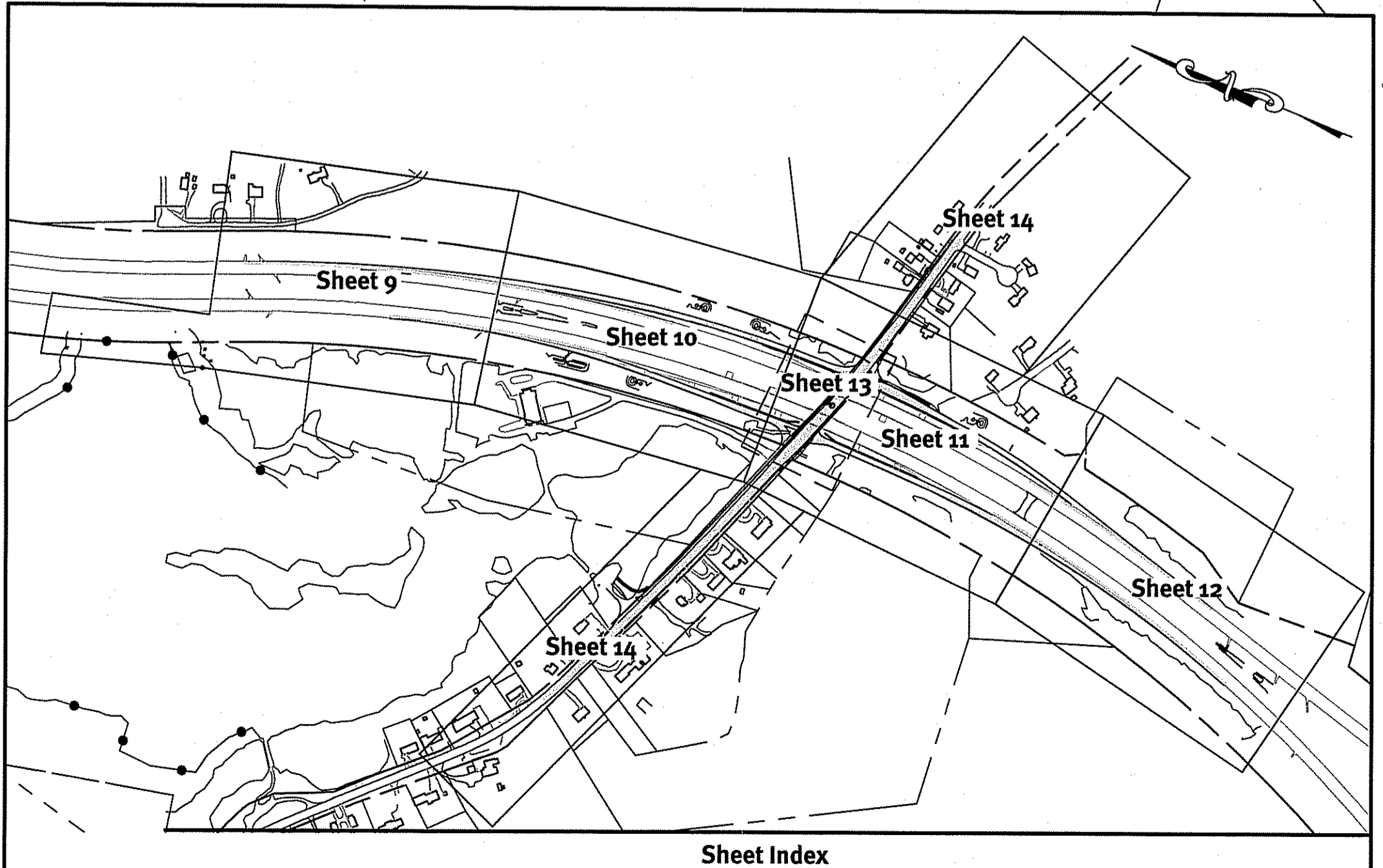
DE File No: 2367-001 Copyright 2016 by Diprete Engineering Associates, Inc.



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED JAN 2 2016 FILE # 16-0253
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Walter D. Wines

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



Scale: 1"=150'
 0 75' 150' 300'

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BRIAN C. GIROUX
 3341
 REGISTERED PROFESSIONAL ENGINEER CIVIL
 DEC 08 2016

Environmental Management
 Office of Water Resources
 DEC 08 2016

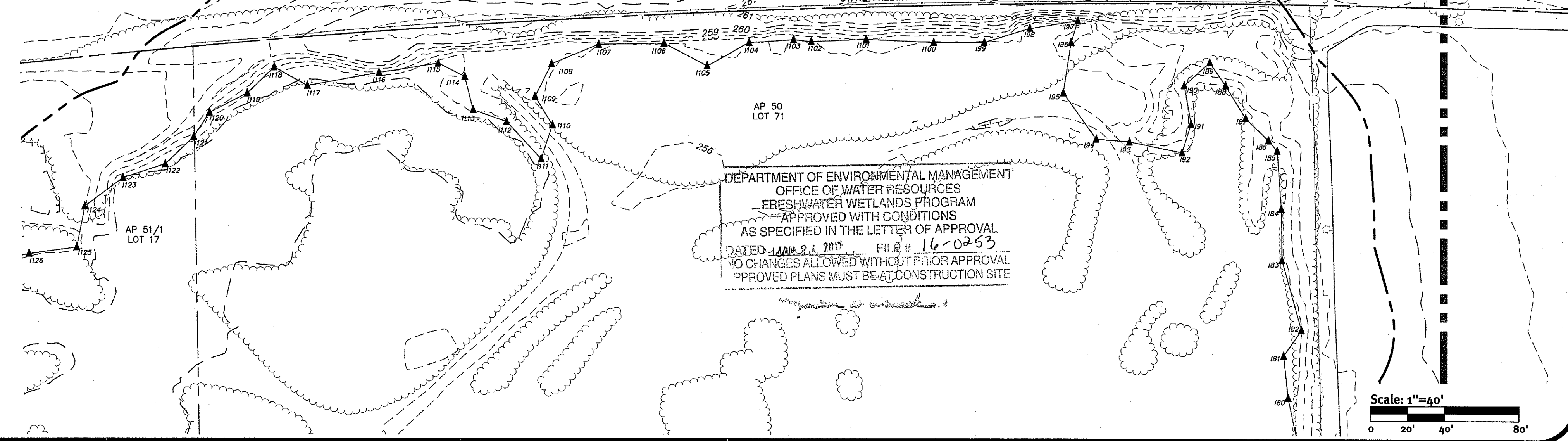
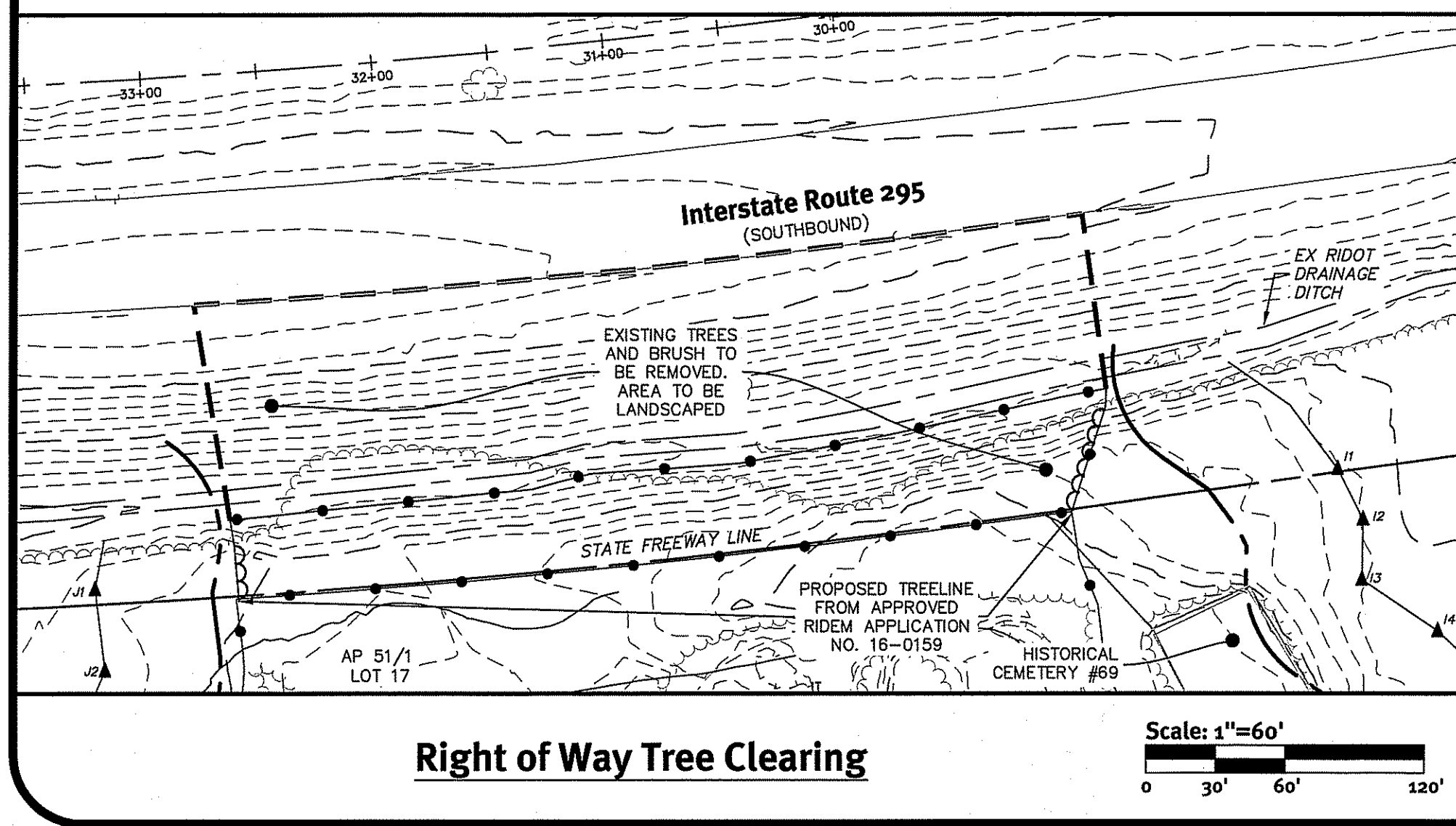
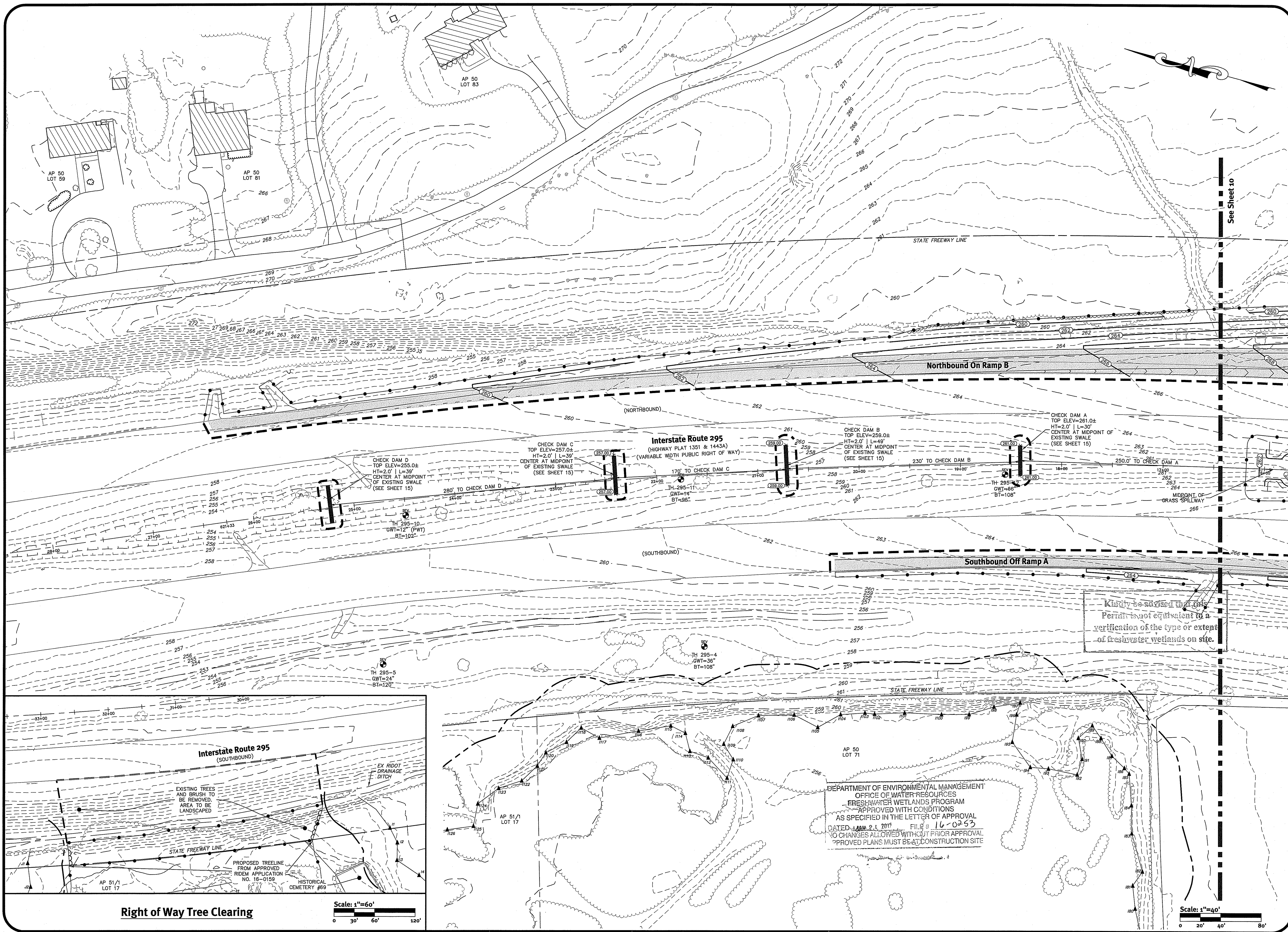
This regulatory submission set shall not be used for construction unless stamped, issued for construction, and signed by a DiPrete Engineering representative.
 The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA compliance in the implementation of this plan and design.

No.	Date	Description	Design By: B.S. B.E.I.
1	12/22/2015	Initial Design	
2	12/22/2015	Revised Design	

Overall Site Layout
Greenville Ave / Route 295 Interchange
 Intersection of Greenville Avenue and Route 295
 Johnston, Rhode Island
 Applicant: Rhode Island Department of Transportation
 Two Capitol Hill Providence, RI 02903
 tel. 401-222-2450 fax. 401-222-2905

DE 036 No. 2367-001 Copyright 2016 by DiPrete Engineering Associates, Inc.

Z:\domain\projects\12367-001_greenville\autocad drawings\highway ramps\2367-001_dsn-hwy.dwg Plotter: 12/17/2016



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 www.BETA-inc.com

BRIAN C. GIROUX
 0341
 REGISTERED PROFESSIONAL ENGINEER CIVIL

Environmental Management
 EC 08 2016
 Office of Water Resources

This regulatory submission set shall not be used for construction purposes unless stamped 'Issued for Construction' and signed by a DiPrete Engineering representative. The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA compliance in the implementation of this plan and design.

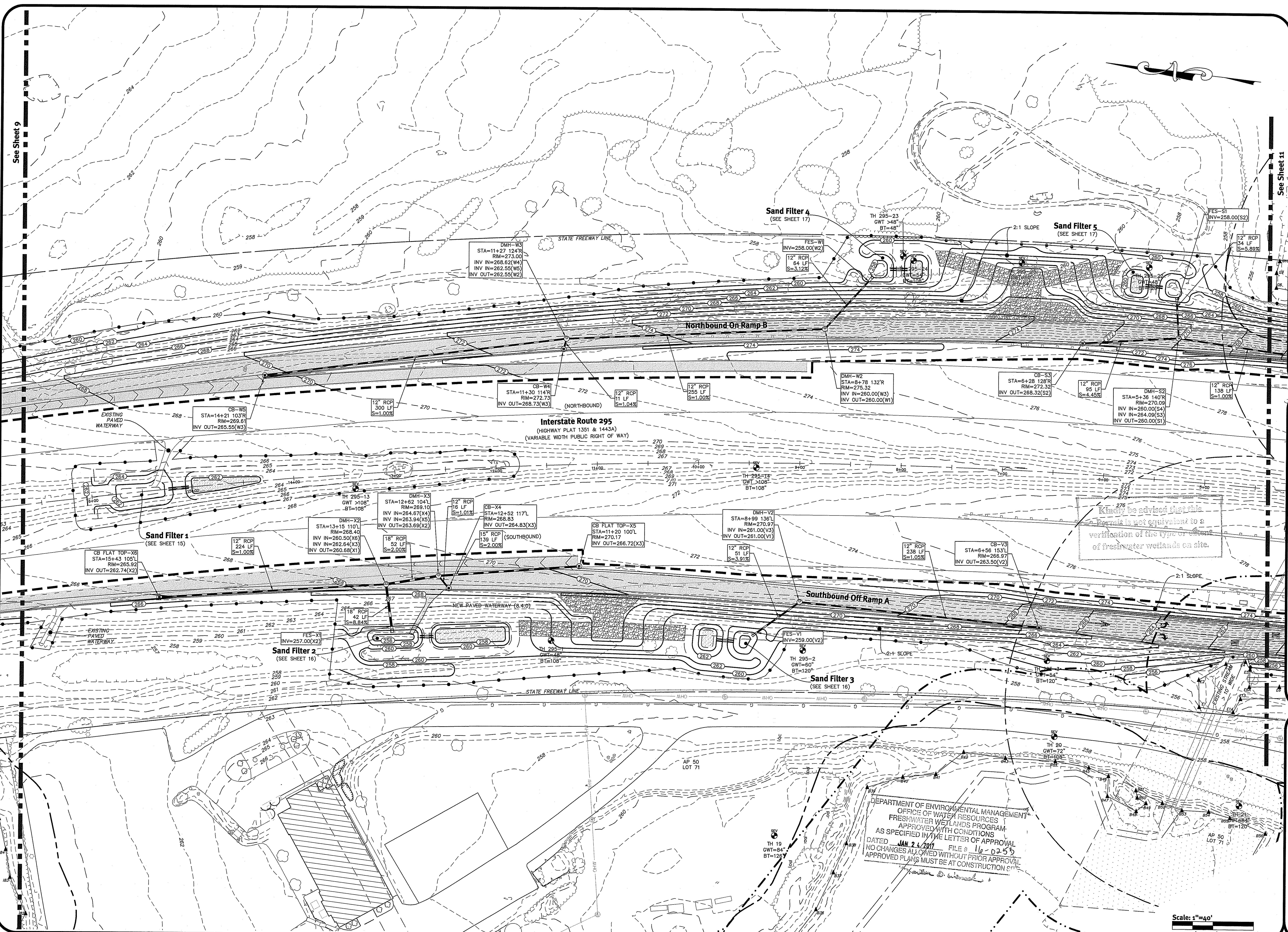
12/15/2016	RDIM Application to Alter R.E.C.	A.D.	By:
9/29/2016	RDIM Application to Alter	B.D.	By:
No.	Date	Description	Design By: B.L.D.

Grading & Drainage Plan - 1
Greenville Ave / Route 295 Interchange

Applicant: Rhode Island Department of Transportation
 Intersection of Greenville Avenue and Route 295
 Two Capitol Hill, Providence, RI 02903
 tel 401-222-2450 fax 401-222-3905

DE Job No: 2367-001. Copyright 2016 by DiPrete Engineering Associates, Inc.

SHEET 9 OF 17



See Sheet 9

See Sheet 11

Sand Filter 4
(SEE SHEET 17)

Sand Filter 5
(SEE SHEET 17)

Northbound On-Ramp B

Interstate Route 295
(HIGHWAY PLAT 1351 & 1443A)
(VARIABLE WIDTH PUBLIC RIGHT OF WAY)

Sand Filter 1
(SEE SHEET 15)

Sand Filter 2
(SEE SHEET 16)

Sand Filter 3
(SEE SHEET 16)

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

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED JAN 24 2017 FILE # 16-0253
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Scale: 1"=40'
0 20' 40' 80'

Grading & Drainage Plan - 2
Greenville Ave / Route 295 Interchange
Intersection of Greenville Avenue and Route 295
Joneston, Rhode Island
Applicant: **Rhode Island Department of Transportation**
Two Capitol Hill, Providence, RI 02903
Tel: 401-222-2450 Fax: 401-222-3905
DE Job No.: 2367-001 Copyright 2016 by DiPrete Engineering Associates, Inc.

Environmental Management
DEC 08 2016
Office of Water Resources
This regulatory submission set shall not be used for construction purposes unless stamped "Issued for Construction" and signed by a DiPrete Engineering representative.
The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA compliance in the implementation of this plan and design.

No.	Date	Description	By:
1	05-26-2016	ISSUED FOR CONSTRUCTION	ALB
2	05-26-2016	ISSUED FOR CONSTRUCTION	ALB
3	05-26-2016	ISSUED FOR CONSTRUCTION	ALB

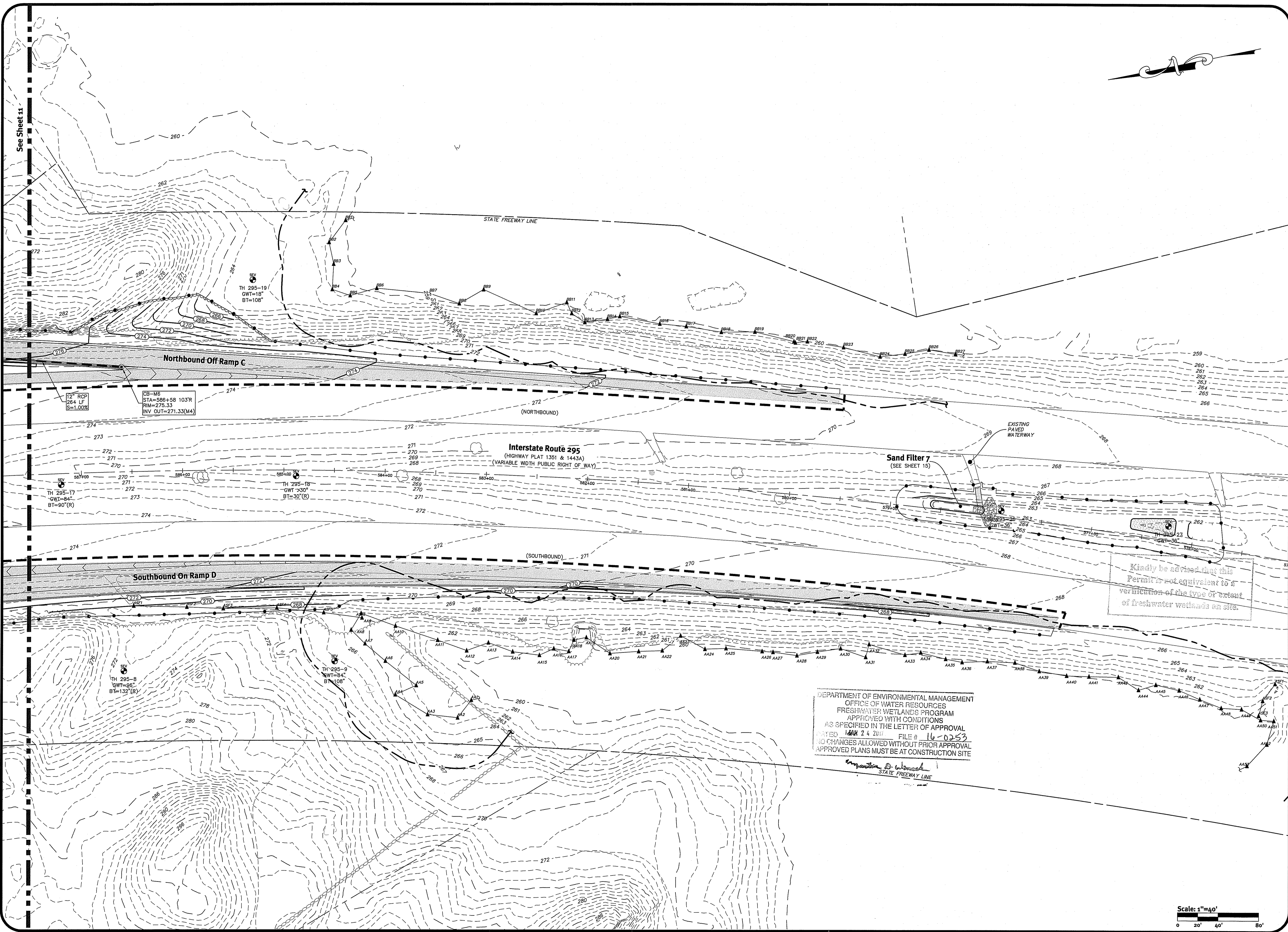
Drawn By: A.B.S., B.L.T.

BRIAN C. GIROUX
3341
REGISTERED PROFESSIONAL ENGINEER
CIVIL

BETA
www.BETA-Inc.com

DiPrete Engineering
Two Stafford Court Cranston, RI 02920
Tel: 401-943-0000 Fax: 401-464-6006 www.diprete-eng.com
Boston • Providence • Newport

z:\Vehna\projects\2367-001_greenville_glen\autocad drawings\highway ramps\2367-001_drain-hwy.dwg Plotdate: 12/17/2016



See Sheet 11



12" RCP
264 LF
S=1.00%

CS-M6
STA=586+58 103'R
RIM=275.33
INV OUT=271.33(M4)

TH 295-17
GWT=84
BT=90"(R)

TH 295-18
GWT>30
BT=30"(R)

TH 295-8
GWT=95
BT=132"(R)

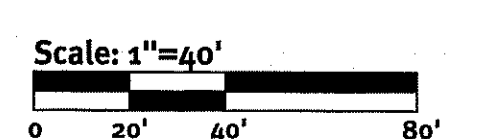
TH 295-9
GWT=84
BT=108"

Sand Filter 7
(SEE SHEET 15)

EXISTING
PAVED
WATERWAY

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

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED 10/24/2011 FILE # 16-0253
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE



DiPrete Engineering
Two Stafford Court Cranston, RI 02920
tel 402-943-1000 fax 402-641-6006 www.diprete-eng.com

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BRIAN C. GIROUX
REG. NO. 8341
REGISTERED PROFESSIONAL ENGINEER
CIVIL

Environmental Management
DEC 26 2011
Office of Water Resources

This regulatory submission set shall not be used for construction purposes unless stamped 'issued for Construction' and signed by a DiPrete Engineering representative. The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA compliance in the implementation of this plan and design.

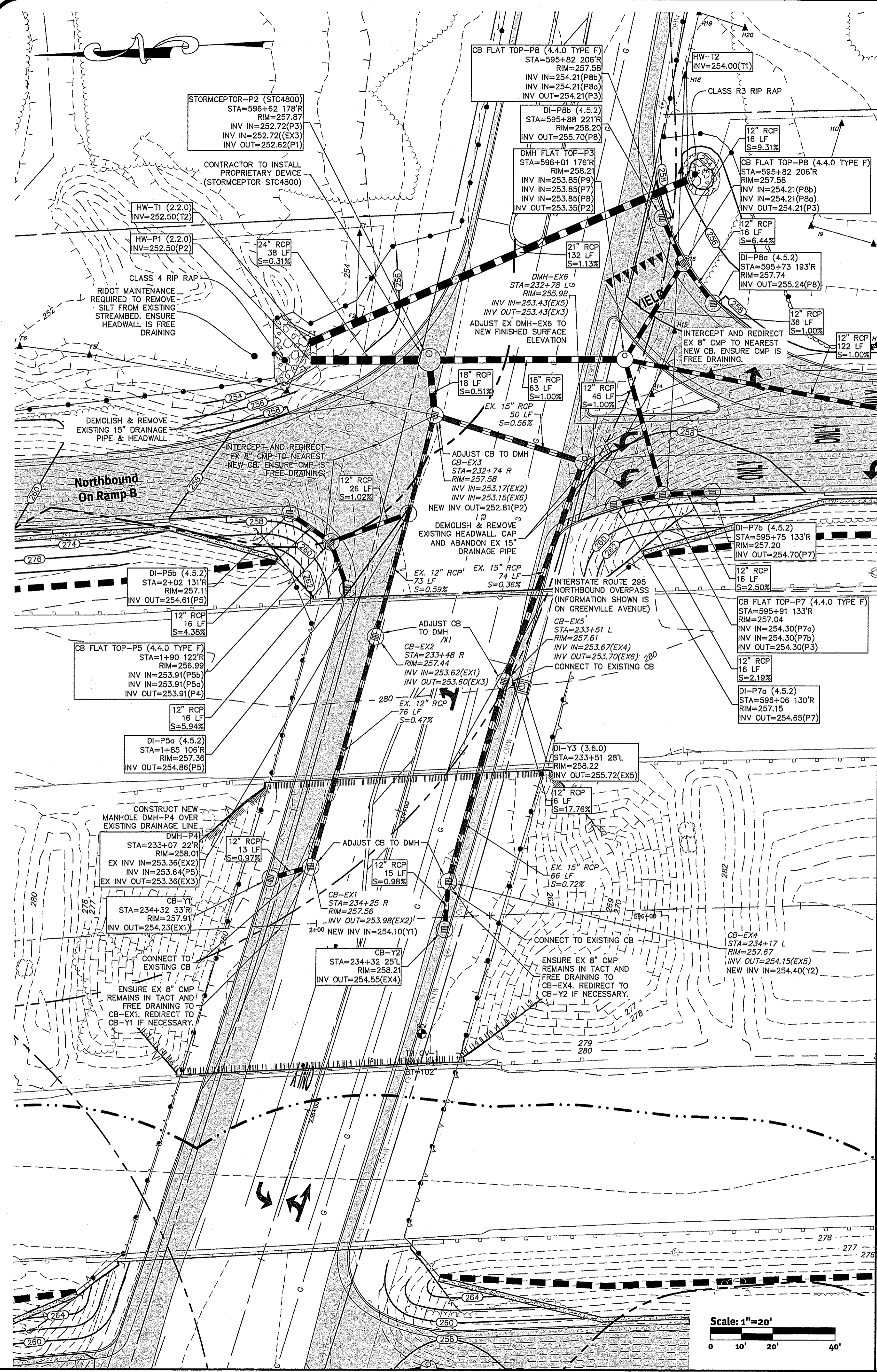
No.	Date	Description	Drawn By	Checked By	Design By	Scale
1	10-24-2011	Initial Application to AWP/REC				
2	10-24-2011	Revised Application to AWP/REC				

Grading & Drainage Plan - 4
Greenville Ave /Route 295 Interchange
Intersection of Greenville Avenue and Route 295
Johnston, Rhode Island

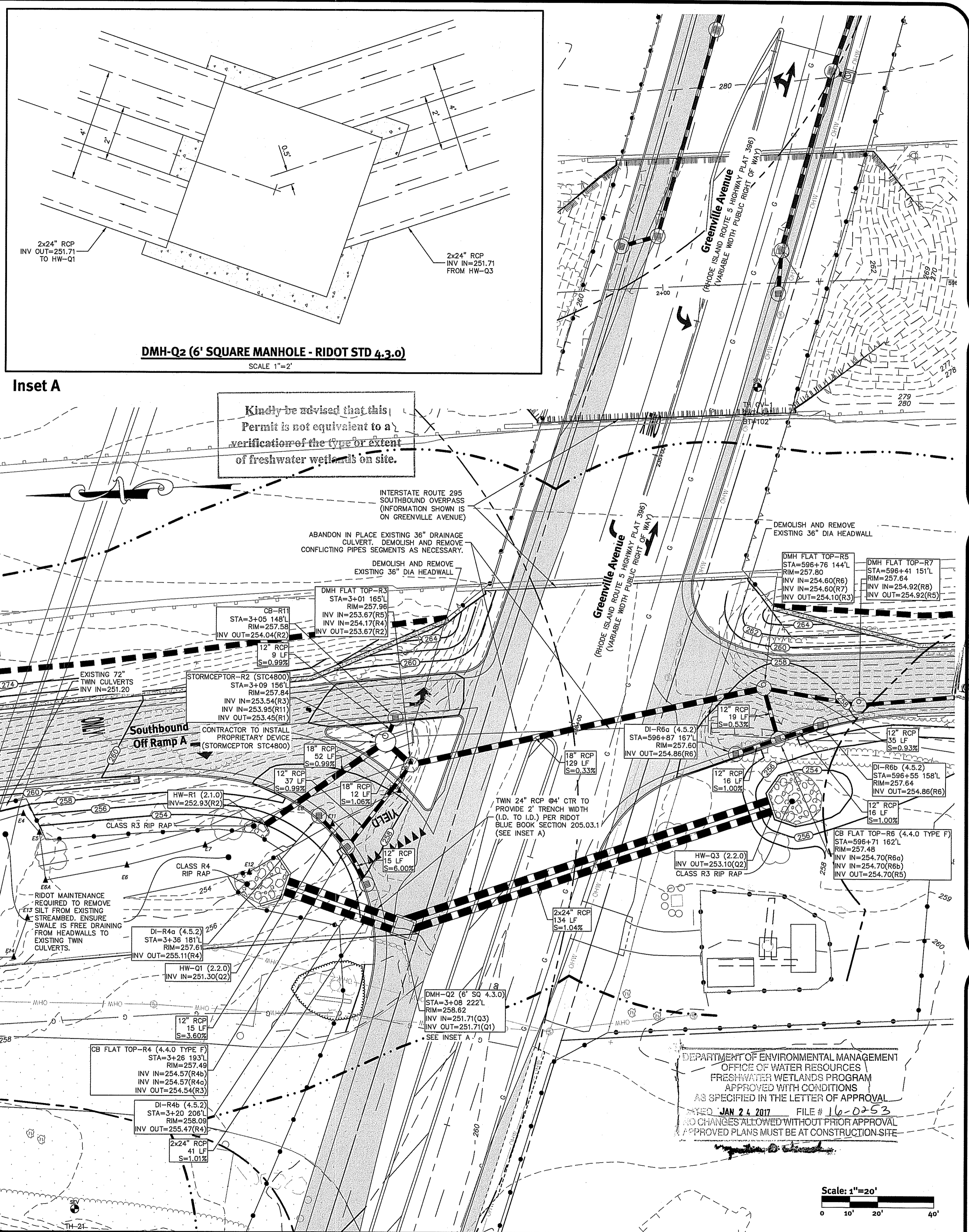
Applicant:
Rhode Island Department of Transportation
Two Capitol Hill, Providence, RI 02903
tel 402-222-2450 fax 402-222-3905

DE Job No: 2367-001 Copyright 2016 by DiPrete Engineering Associates, Inc.

z:\demain\projects\2367-001_greenville_diprete\drawings\highway_ramps\2367-001_diprete-hwy.dwg Plotter: 12/7/2016



Greenville Avenue Ramp Intersection - East



Greenville Avenue Ramp Intersection - West

Inset A

DMH-Q2 (6' SQUARE MANHOLE - RIDOT STD 4.3.0)
SCALE 1"=2'

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

DiPrete Engineering
Two Stafford Court Cranston, RI 02920
tel: (401) 949-1000 fax: (401) 464-6006 www.diprete-eng.com

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BRIAN C. GIROUX
REGISTERED PROFESSIONAL ENGINEER
No. 12341
DEC 08 2016
Professional Seal

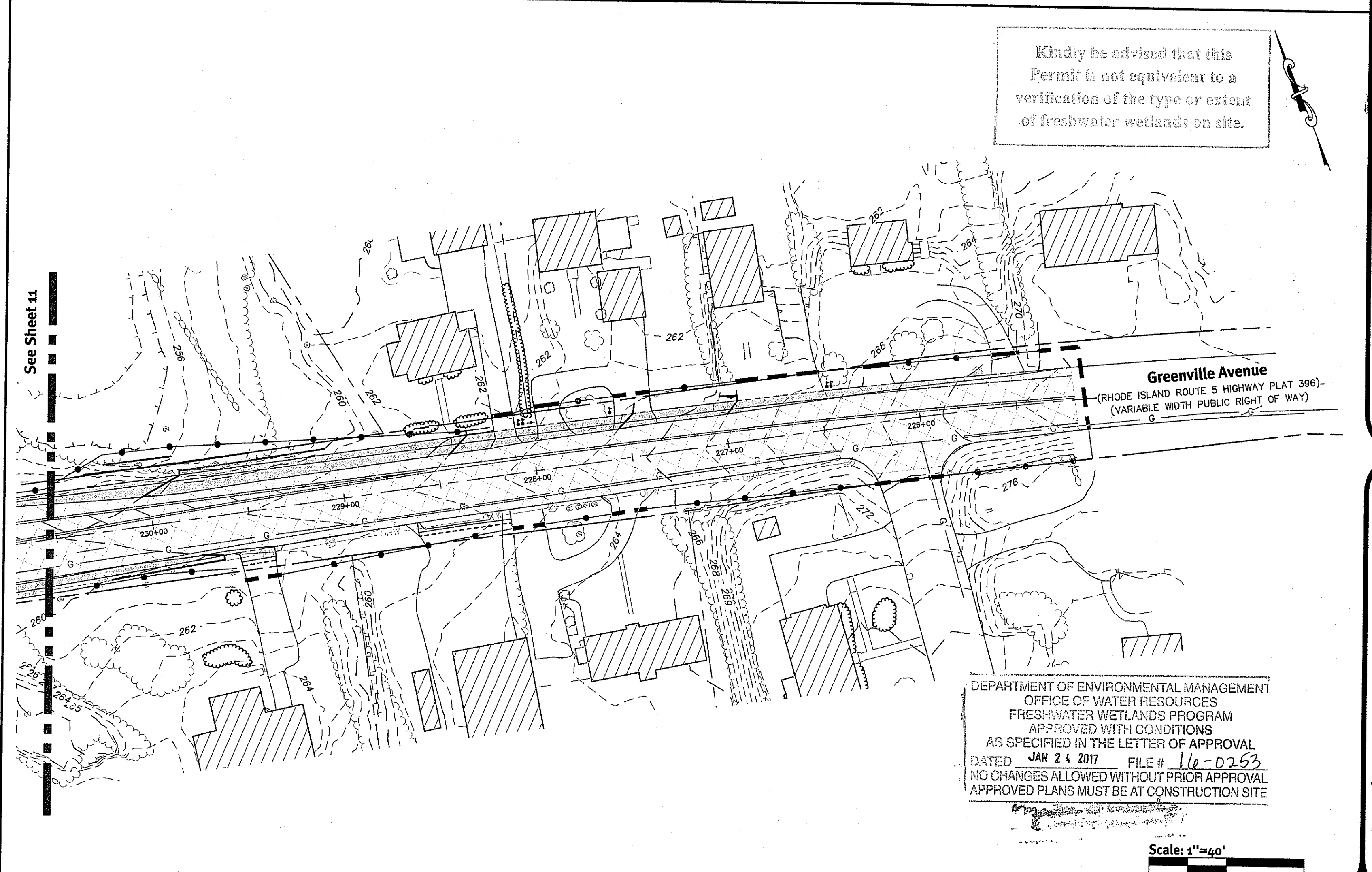
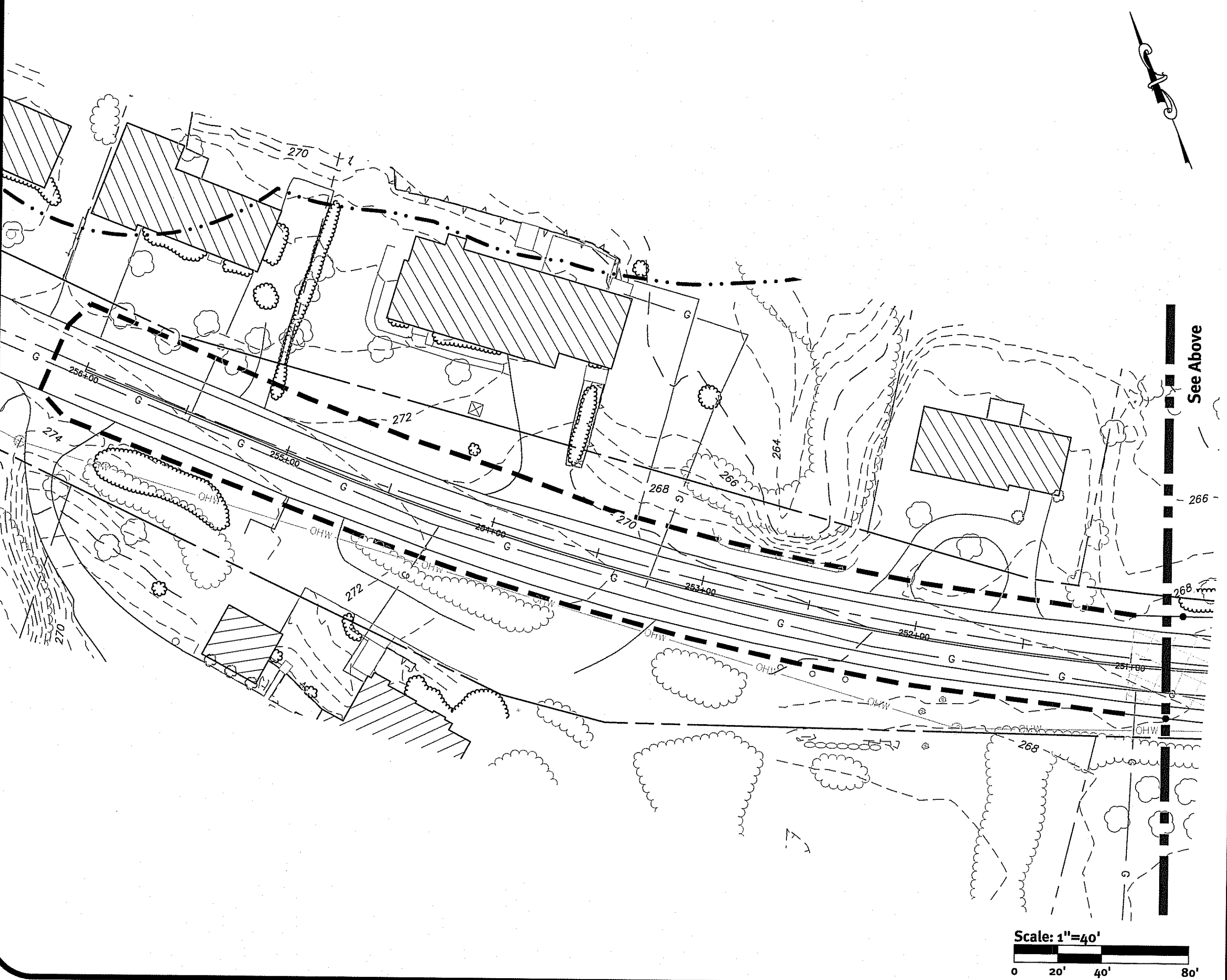
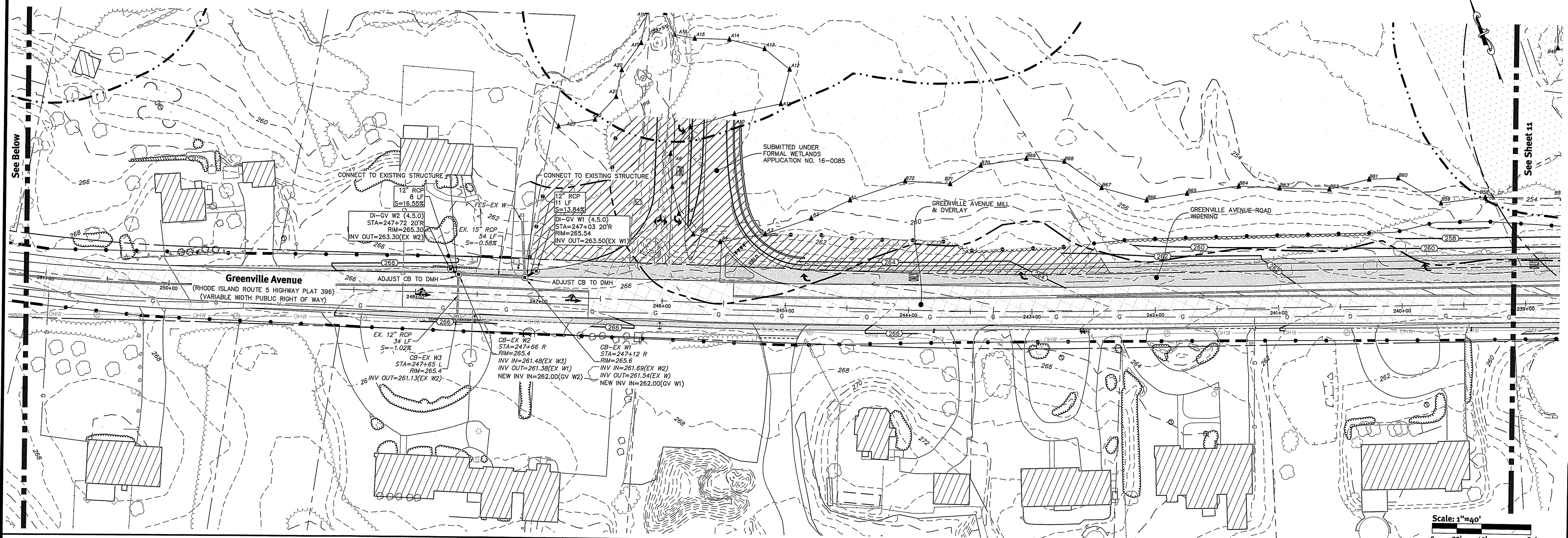
This regulatory submission set shall not be used for construction purposes unless stamped 'Issued for Construction' and signed by a DiPrete Engineering representative.
The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA compliance in the implementation of this plan and design.

No.	Date	Description	By
1	12/29/2016	ISSUED FOR CONSTRUCTION	B.C.G.
2	01/20/2017	REVISION TO DRAWING	B.C.G.

Drawn By: B.B.S. B.E.L.
Design By: B.L.D.

Grading & Drainage Plan - 5
Greenville Ave / Route 295 Interchange
Applicant: Rhode Island Department of Transportation
Intersection of Greenville Avenue and Route 295
Johnston, Rhode Island
Two Capitol Hill, Providence, RI 02903
tel: 401-222-2450 fax: 401-222-2905
DC-5a Rev. 2/87-001 Copyright 2016 by DiPrete Engineering Associates, Inc.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
ISSUED JAN 24 2017 FILE # 116-0253
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE



Scale: 1"=40'

Scale: 1"=40'

Scale: 1"=40'

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

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED JAN 24 2017 FILE # 16-0253
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Diprete Engineering
Two Stafford Court, Cranston, RI 02920
tel: 401-943-1000 fax: 401-641-6006 www.diprete-eng.com

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BRIAN C. GIROUX
REG. NO. 8341
REGISTERED PROFESSIONAL ENGINEER CIVIL

Environmental Management
DEC 5 2017
Office of Water Resources

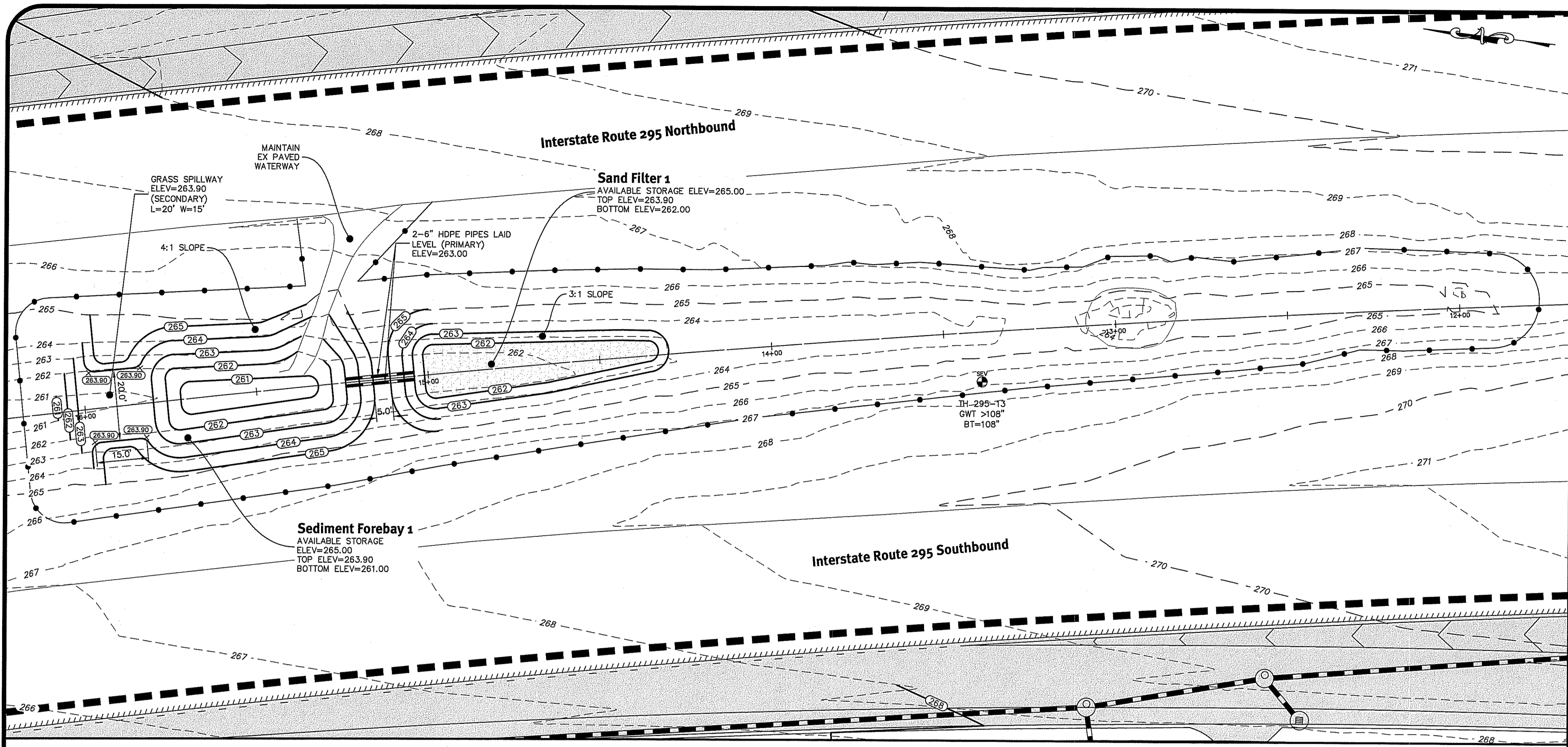
This regulatory submission set shall not be used for construction purposes unless stamped 'Issued for Construction' and signed by a Diprete Engineering representative.
The contractor is responsible for all of the means, methods, safety precautions and responsibilities for all of the work shown in the implementation of this plan and design.

No.	Date	Description	By:
1	12/25/2016	ISSUED FOR CONSTRUCTION	R.E.L.
2	9/22/2016	REVISION: APPLICATION TO ALTERNATIVE	B.L.D.

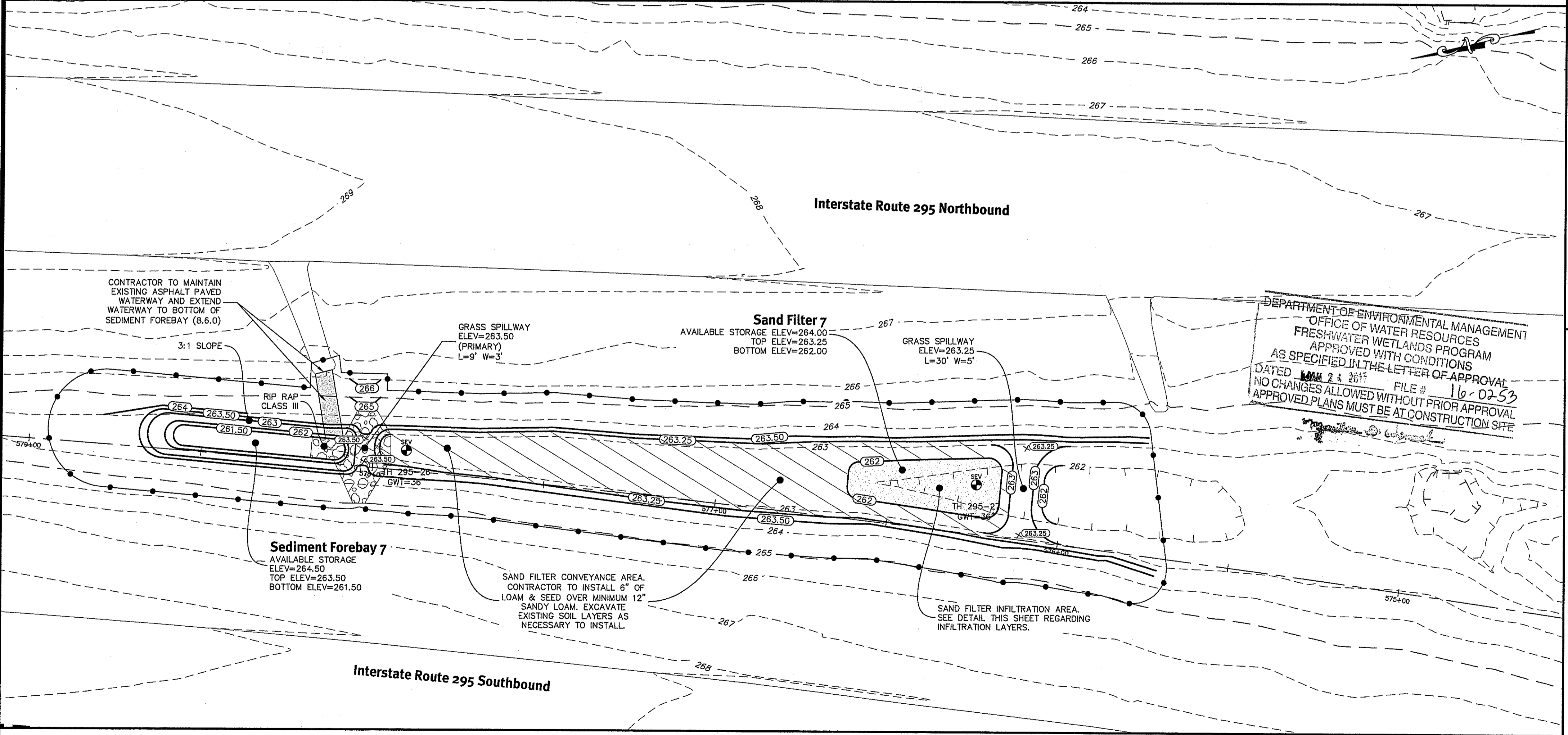
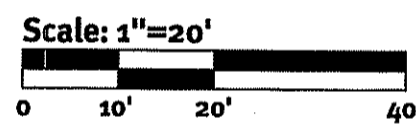
Drawn By: R.E.L., E.F.L.
Design By: B.L.D.

Grading & Drainage Plan - 6
Greenville Ave / Route 295 Interchange
Intersection of Greenville Avenue and Route 295
Applicant: Rhode Island
Rhode Island Department of Transportation
Two Capitol Hill, Providence, RI 02903
tel: 401-222-2450 fax: 401-222-3595
DE File No: 2367-001, Copyright 2016 by Diprete Engineering, Associates, Inc.

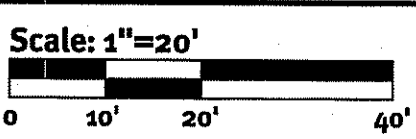
z:\main\projects\2367-001_greenville_glen\autocad\drawings\highway\2367-001-dean-hwy.dwg Plotseed: 12/7/2016



Sand Filter 1



Sand Filter 7



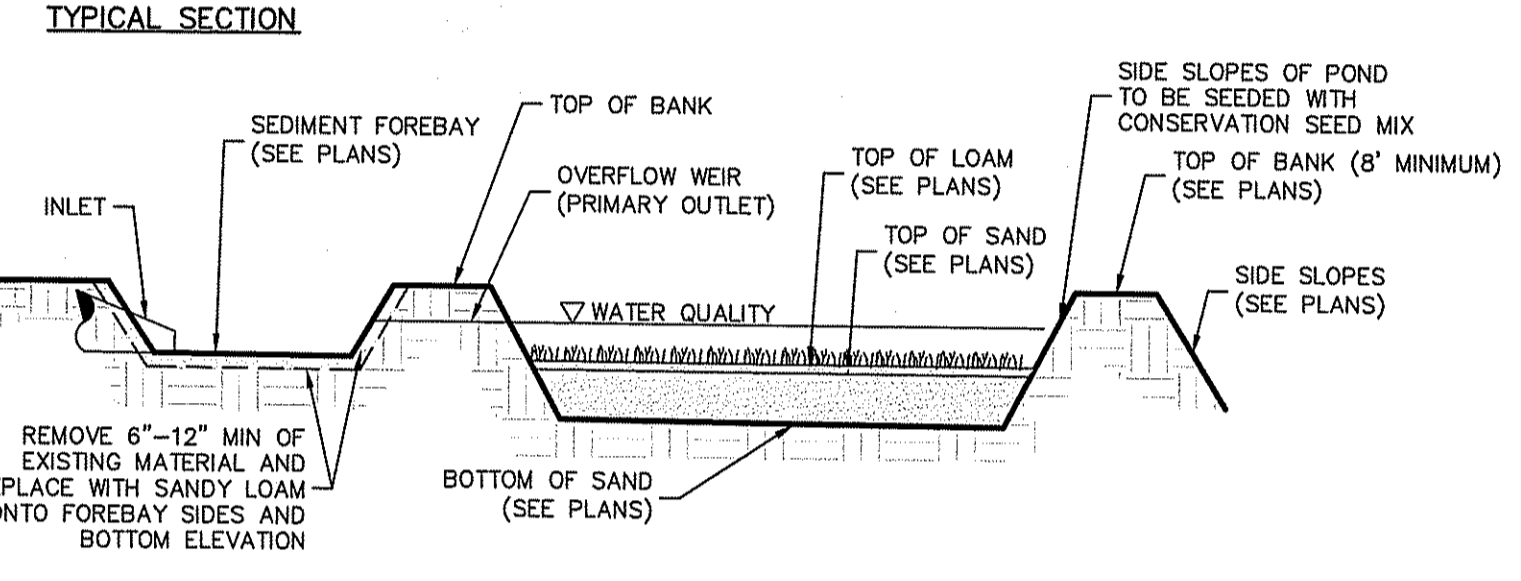
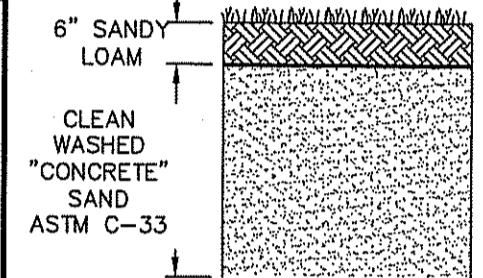
Sand Filter Planting Notes:

- SAND FILTERS HAVE BEEN DESIGNED IN ACCORDANCE WITH SECTION B.4 BASINS AND W/TS, SECTION B.5 INFILTRATION AND SAND FILTERS AND SECTION 7.0 STORAGE PRACTICES FOR STORMWATER QUALITY CONTROL OF THE RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL, LATEST EDITION.
- SEED MIX SHALL BE NEW ENGLAND EROSION CONTROL/ RESTORATION MIX FOR DETENTION BASINS & MOIST SITES AVAILABLE AT NEW ENGLAND WETLAND PLANTS, INC. IN AMHERST, MASSACHUSETTS OR EQUIVALENT. AFTER THE 6" OF LOAM HAS BEEN PLACED ON THE BOTTOM AND/OR SLOPES OF THE (SEE ENGINEERING DETAILS) THE SURFACE SHALL BE RAKED AND SEED APPLIED AT A RATE 35 LBS/ ACRE (1 LB/ 1250 SF).
- SEED MIX FOR SLOPES 3% OR STEEPER SHALL BE NEW ENGLAND CONSERVATION MIX/ WILDLIFE MIX AVAILABLE AT NEW ENGLAND WETLAND PLANTS, INC. IN AMHERST, MASSACHUSETTS OR EQUIVALENT. AFTER THE 6" OF LOAM HAS BEEN PLACED ON THE SLOPES (SEE ENGINEERING DETAILS), THE SURFACE SHALL BE RAKED AND SEED APPLIED AT A RATE 25 LBS/ ACRE (1 LB/ 1750 SF).

Maintenance & Guarantee Notes:

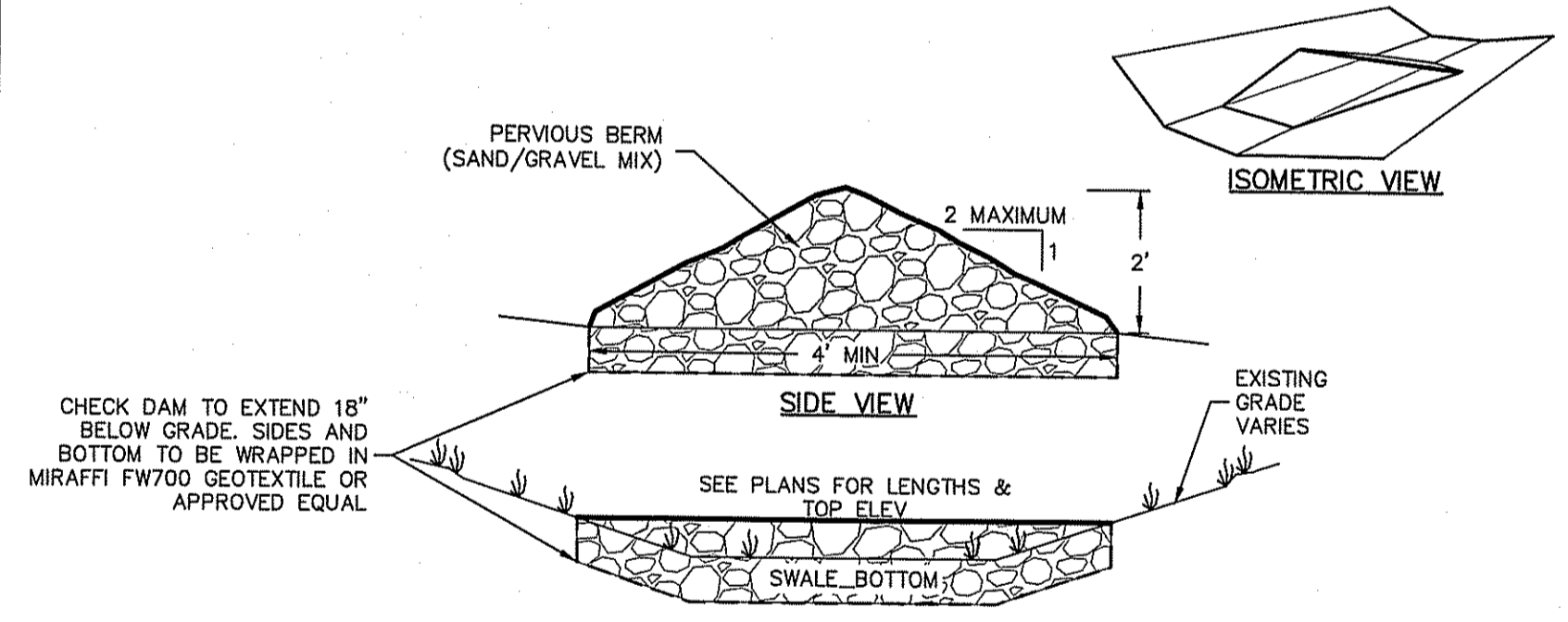
- CONTRACTOR SHALL SOO OR OVERSEED ANY AREAS NOT COVERED SUBSTANTIALLY WITH GRASS AFTER ONE YEAR FROM PLANTING.
- ALL LANDSCAPED AREAS SHALL BE KEPT FREE OF WEEDS AND DEBRIS. ALL VEGETATION WITHIN SAID AREAS SHALL BE MAINTAINED FREE OF PHYSICAL DAMAGE CAUSED BY CHEMICALS, INSECTS, DISEASES, LACK OF WATER OR OTHER CAUSES. DAMAGED PLANTS SHALL BE REPLACED WITH THE SAME OR SIMILAR VEGETATION ON AN ANNUAL BASIS.

DESCRIPTION	SF-1
AVAILABLE STORAGE ELEVATION	265.00
100 YEAR STORM ELEVATION	264.24
25 YEAR STORM ELEVATION	264.15
10 YEAR STORM ELEVATION	264.07
1 YEAR STORM ELEVATION	263.95
WQ STORM ELEVATION	263.66
TOP OF LOAM ELEVATION	262.00
SAND & LOAM DEPTH	2.0
BOTTOM OF SAND LAYER	260.00
SEASONAL HIGH GWT ELEVATION	259.11
SOIL EVALUATION	295-13



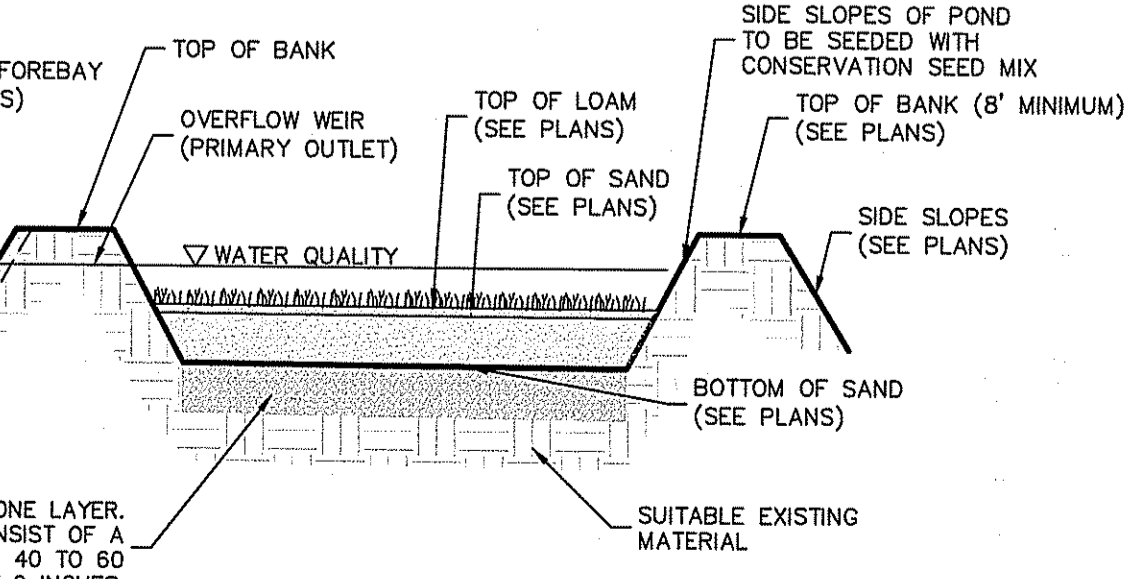
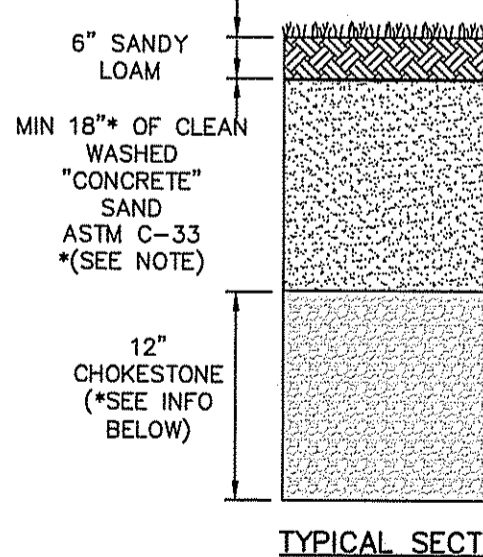
Sand Filter 1 (Infiltration)

NOT TO SCALE



Drainage Swale Stone Check Dam

NOT TO SCALE



Sand Filter 7 (Infiltration Area w/ Choke Stone Layer)

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 10/26/17 FILE # 16-02-53
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

DiPrete Engineering
Two Stafford Court Cranston, RI 02920
tel. 401-943-1000 fax. 401-464-6006 www.diprete-eng.com

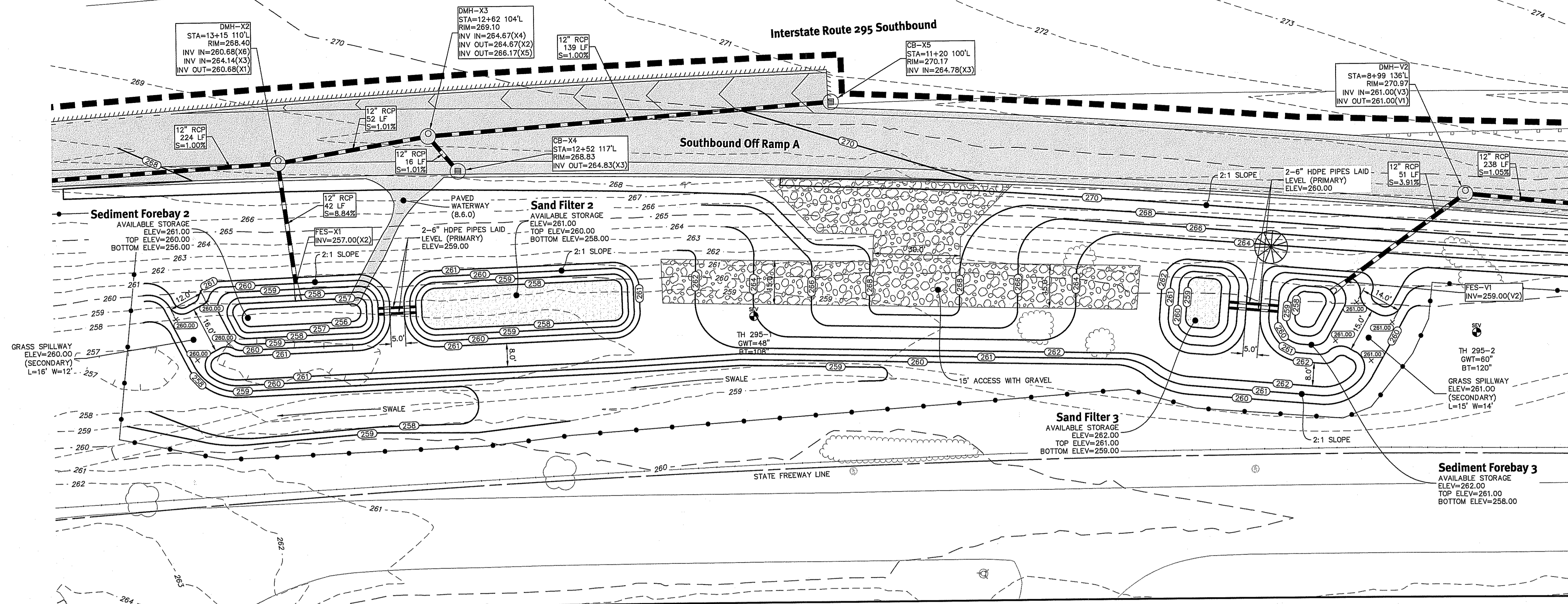
BETA
www.BETA-inc.com

BRIAN C. GIROUX
REG. NO. 3341
REGISTERED PROFESSIONAL ENGINEER
CIVIL

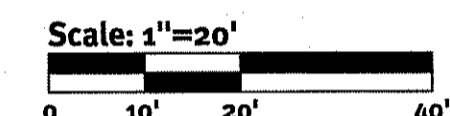
Environmental Management
Office of Water Resources
10/26/2016

This regulatory submission set shall not be used for construction purposes unless stamped for construction and signed by a DiPrete Engineering representative.
The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA compliance in the implementation of this plan and design.
APPROVED FOR CONSTRUCTION BY DATE
No. Description Date
Design by: B.S. B.E.I.

Sand Filters 1 & 7 Details
Greenville Ave / Route 295 Interchange
Rhode Island Department of Transportation
Intersection of Greenville Avenue and Route 295
Johnston, Rhode Island
Applicant: Rhode Island Department of Transportation
Two Capitol Hill, Providence, RI 02903
tel. 401-222-2450 fax. 401-222-2905
DE 360 No. 2367-001 Copyright 2016 by DiPrete Engineering Associates, Inc.



Southbound Sand Filters 2 & 3



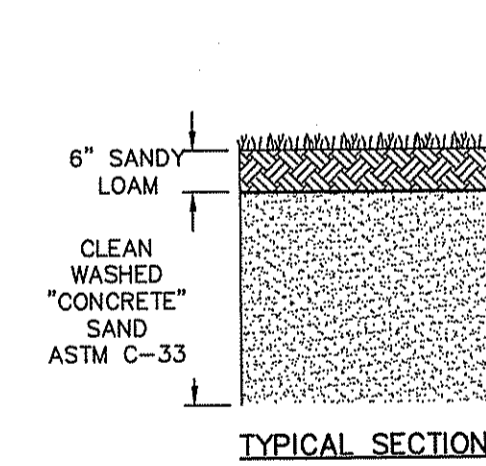
Sand Filter Planting Notes:

- SAND FILTERS HAVE BEEN DESIGNED IN ACCORDANCE WITH SECTION B.4 BASINS AND WYLS, SECTION B.5 INFILTRATION AND SAND FILTERS AND SECTION 7.0 STORAGE PRACTICES FOR STORMWATER QUALITY CONTROL OF THE RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL, LATEST EDITION.
- SEED MIX SHALL BE NEW ENGLAND EROSION CONTROL/ RESTORATION MIX FOR DETENTION BASINS & MOIST SITES AVAILABLE AT NEW ENGLAND WETLAND PLANTS, INC. IN AMHERST, MASSACHUSETTS OR EQUIVALENT. AFTER THE 6" OF LOAM HAS BEEN PLACED ON THE BOTTOM AND/OR SLOPES OF THE (SEE ENGINEERING DETAILS) THE SURFACE SHALL BE RAKED AND SEED APPLIED AT A RATE 35 LBS/ ACRE (1 LB/ 1250 SF).
- SEED MIX FOR SLOPES 3% OR STEEPER SHALL BE NEW ENGLAND CONSERVATION MIX/ WILDLIFE MIX AVAILABLE AT NEW ENGLAND WETLAND PLANTS, INC. IN AMHERST, MASSACHUSETTS OR EQUIVALENT. AFTER THE 6" OF LOAM HAS BEEN PLACED ON THE SLOPES (SEE ENGINEERING DETAILS), THE SURFACE SHALL BE RAKED AND SEED APPLIED AT A RATE 25 LBS/ ACRE (1 LB/ 1750 SF).

Maintenance & Guarantee Notes:

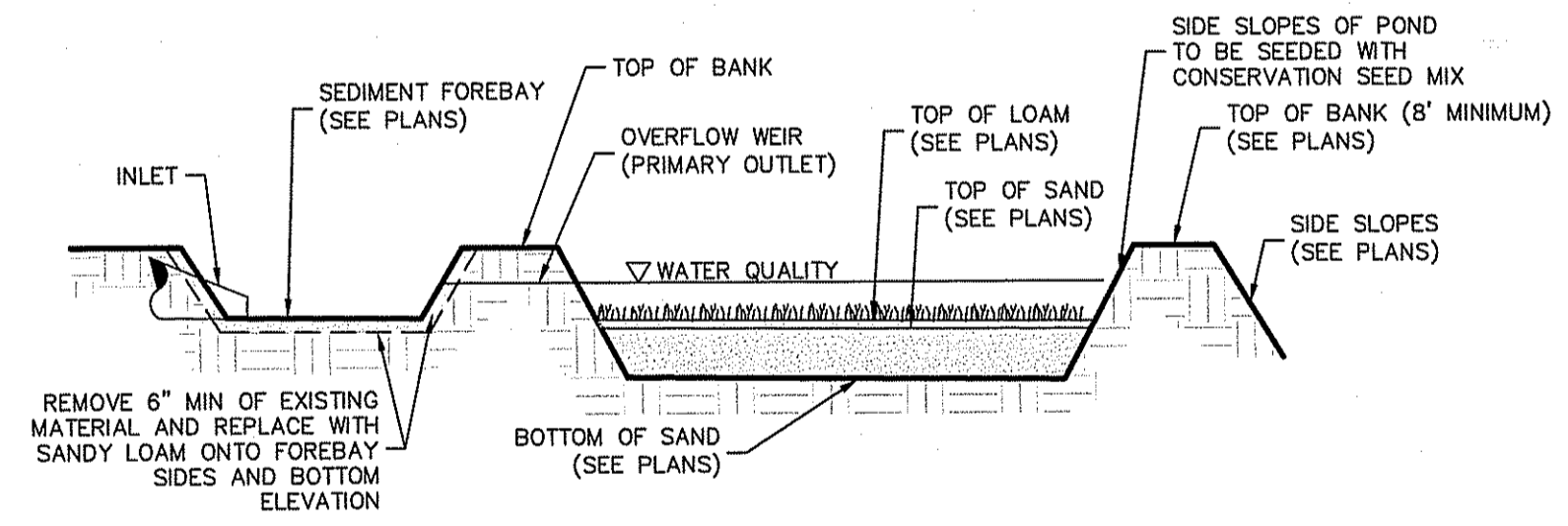
- CONTRACTOR SHALL SOE OR OVERSEED ANY AREAS NOT COVERED SUBSTANTIALLY WITH GRASS AFTER ONE YEAR FROM PLANTING.
- ALL LANDSCAPED AREAS SHALL BE KEPT FREE OF WEEDS AND DEBRIS. ALL VEGETATION WITHIN SAID AREAS SHALL BE MAINTAINED FREE OF PHYSICAL DAMAGE CAUSED BY CHEMICALS, INSECTS, DISEASES, LACK OF WATER OR OTHER CAUSES. DAMAGED PLANTS SHALL BE REPLACED WITH THE SAME OR SIMILAR VEGETATION ON AN ANNUAL BASIS.

DESCRIPTION	SF-2	SF-3
AVAILABLE STORAGE ELEVATION	261.00	262.00
100 YEAR STORM ELEVATION	260.43	261.18
25 YEAR STORM ELEVATION	260.33	261.09
10 YEAR STORM ELEVATION	260.26	261.04
1 YEAR STORM ELEVATION	260.03	259.74
WQ STORM ELEVATION	259.35	258.03
TOP OF LOAM ELEVATION	258.00	259.00
SAND & LOAM DEPTH	2.0	2.0
BOTTOM OF SAND LAYER	256.00	257.00
SEASONAL HIGH GWT ELEVATION	254.0	256.0
SOIL EVALUATION	295-1	295-2



Sand Filter (Infiltration)
NOT TO SCALE

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



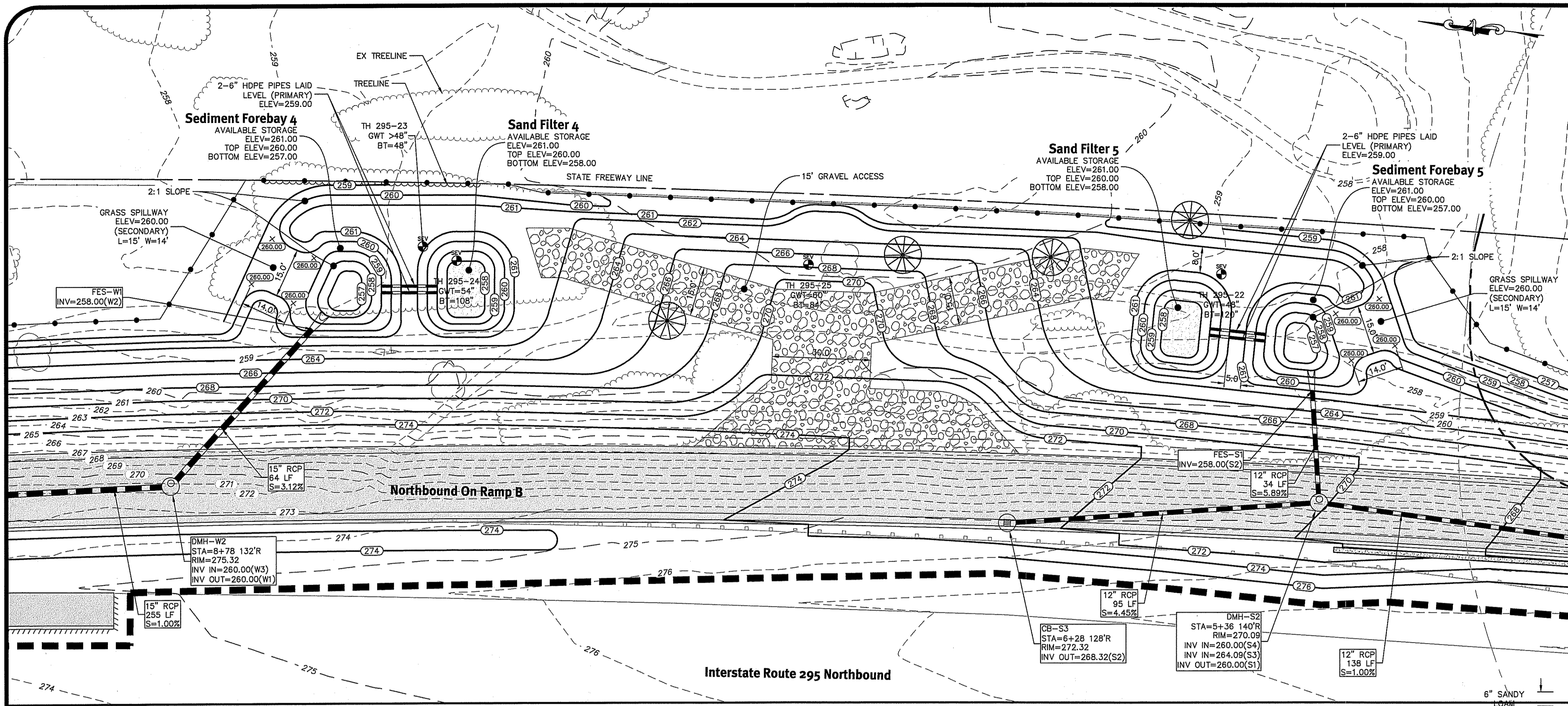
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED JAN 24 2017 FILE # 16-0253
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Environmental Management
DEC 08 2016
Office of Water Resources

This regulatory submission set shall not be used for construction unless stamped, issued for construction and signed by a DiPrete Engineering representative.
The contractor is responsible for all of the means, methods, safety precautions and requirements and design in the implementation of this plan and design.
No. 16-0253 Date 1/24/2017 Description 16-0253-01
Design By: B.L.D.

Sand Filters 2 & 3 Details
Greenville Ave / Route 295 Interchange
Intersections of Greenville Avenue and Route 295
Johnston, Rhode Island
Rhode Island Department of Transportation
Two Capitol Hill, Providence, RI 02903
Tel: 401-222-2450 Fax: 401-222-2595
DE Job No: 2867-001 Copyright 2016 by DiPrete Engineering Associates, Inc.

z:\delmain\projects\1367-001_greenville_gh\autocad\drawings\highway_ramps\1367-001-ramps-hwy.dwg Plotdate: 12/7/2016



Northbound Sand Filters 4 & 5

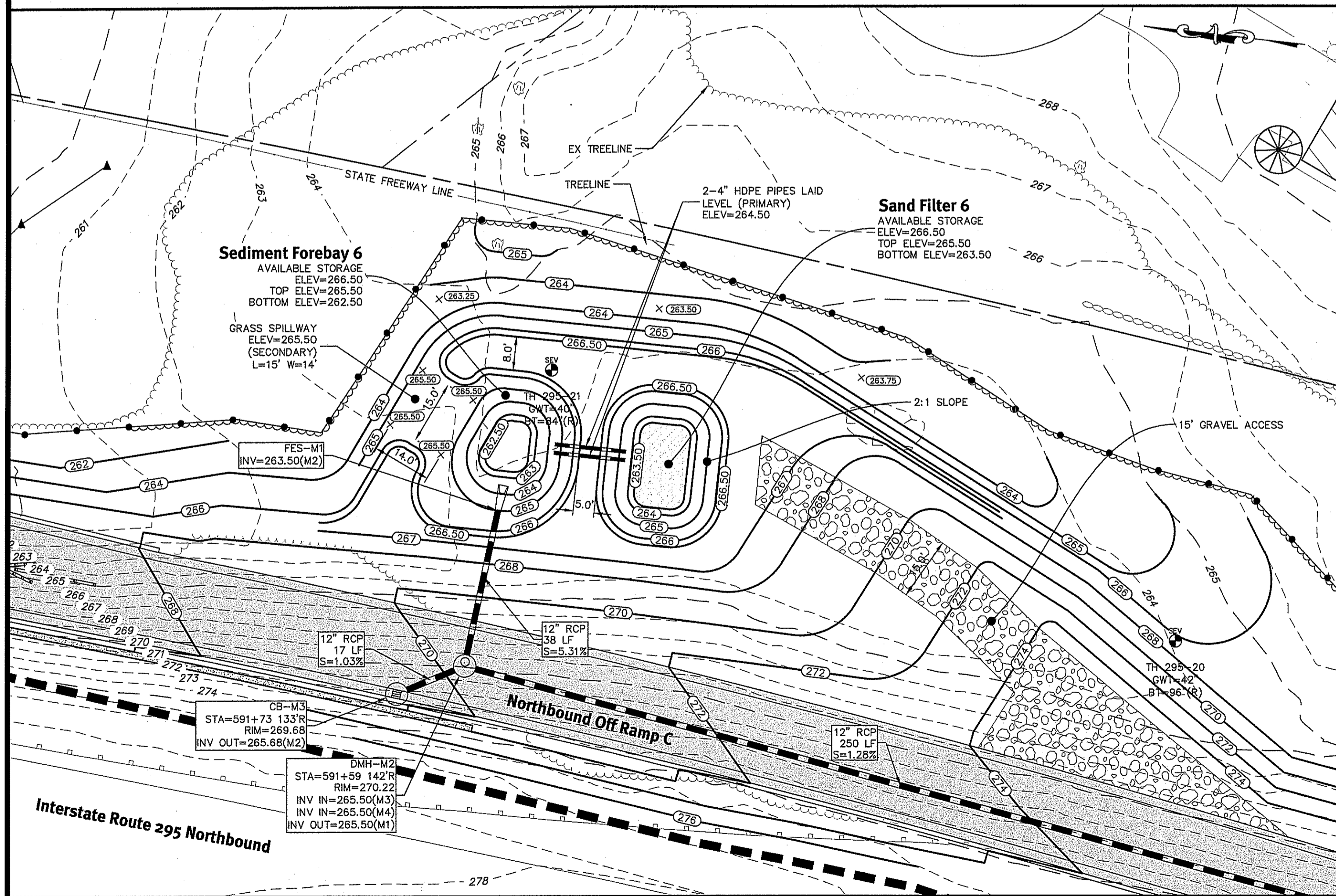
Sand Filter Planting Notes:

- SAND FILTERS HAVE BEEN DESIGNED IN ACCORDANCE WITH SECTION B.4 BASINS AND WYTS, SECTION B.5 INFILTRATION AND SAND FILTERS AND SECTION 7.0 STORAGE PRACTICES FOR STORMWATER QUALITY CONTROL OF THE RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL, LATEST EDITION.
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- SEED MIX FOR SLOPES 3% OR STEEPER SHALL BE NEW ENGLAND CONSERVATION MIX/ WILDLIFE MIX AVAILABLE AT NEW ENGLAND WETLAND PLANTS, INC. IN AMHERST, MASSACHUSETTS OR EQUIVALENT. AFTER THE 6" OF LOAM HAS BEEN PLACED ON THE SLOPES (SEE ENGINEERING DETAILS), THE SURFACE SHALL BE RAKED AND SEED APPLIED AT A RATE 25 LBS/ ACRE (1 LB/ 1750 SF).

Maintenance & Guarantee Notes:

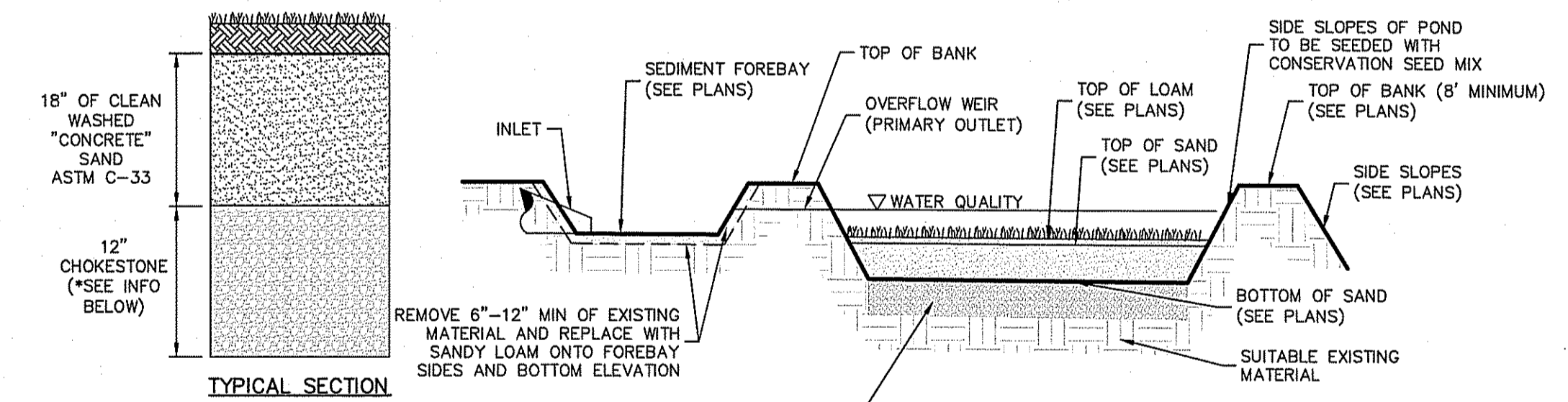
- CONTRACTOR SHALL SOD OR OVERSEED ANY AREAS NOT COVERED SUBSTANTIALLY WITH GRASS AFTER ONE YEAR FROM PLANTING.
- ALL LANDSCAPED AREAS SHALL BE KEPT FREE OF WEEDS AND DEBRIS. ALL VEGETATION WITHIN SAID AREAS SHALL BE MAINTAINED FREE OF PHYSICAL DAMAGE CAUSED BY CHEMICALS, INSECTS, DISEASES, LACK OF WATER OR OTHER CAUSES. DAMAGED PLANTS SHALL BE REPLACED WITH THE SAME OR SIMILAR VEGETATION ON AN ANNUAL BASIS.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED JAN 24 2017 FILE # 16-0253
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE



Northbound Sand Filter 6

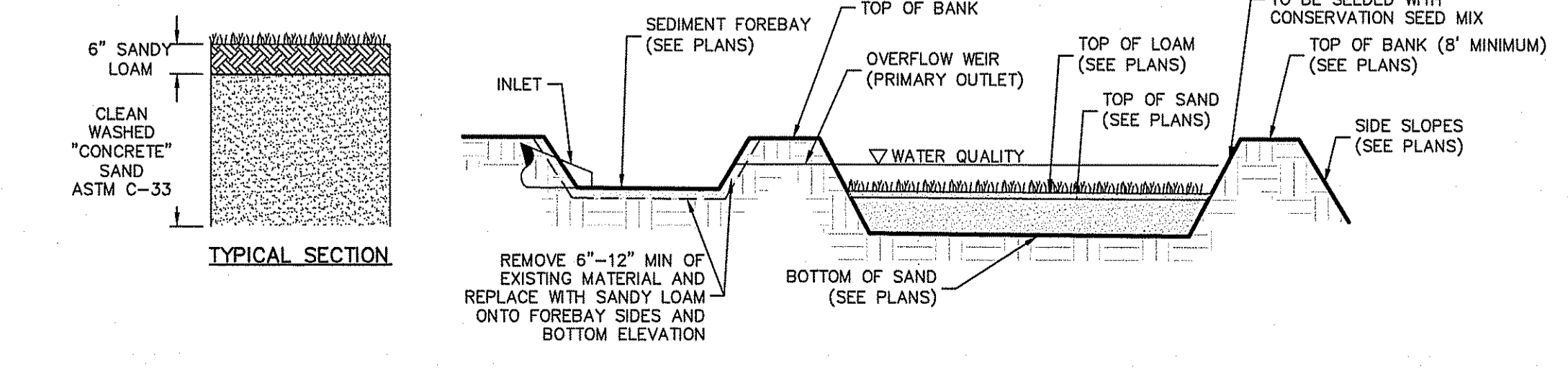
DESCRIPTION	SF-4
AVAILABLE STORAGE ELEVATION	261.00
100 YEAR STORM ELEVATION	260.22
25 YEAR STORM ELEVATION	260.16
10 YEAR STORM ELEVATION	260.11
1 YEAR STORM ELEVATION	259.77
WQ STORM ELEVATION	259.00
TOP OF LOAM ELEVATION	258.00
SAND & LOAM DEPTH	2.0
BOTTOM OF SAND LAYER	256.00
SEASONAL HIGH GWT ELEVATION	255.0
SOIL EVALUATION	295-24



Sand Filters 4 (Infiltration w/ Choke stone Layer)

NOT TO SCALE

DESCRIPTION	SF-6	SF-5
AVAILABLE STORAGE ELEVATION	266.50	261.00
100 YEAR STORM ELEVATION	265.74	260.25
25 YEAR STORM ELEVATION	265.63	260.17
10 YEAR STORM ELEVATION	265.57	260.11
1 YEAR STORM ELEVATION	265.38	259.56
WQ STORM ELEVATION	264.71	258.64
TOP OF LOAM ELEVATION	263.50	258.00
SAND & LOAM DEPTH	2.0	2.0
BOTTOM OF SAND LAYER	261.50	256.00
SEASONAL HIGH GWT ELEVATION	260.5	255.0
SOIL EVALUATION	295-21	295-22



Sand Filter 5 & 6 (Infiltration)

NOT TO SCALE

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

DiPrete Engineering
Two Stafford Court Cranston, RI 02920
tel 402-943-1000 fax 402-644-6006 www.diprete-eng.com

BETA
www.BETA-inc.com

BRIAN C. GIROUX
REGISTRED PROFESSIONAL ENGINEER CIVIL

Environmental Management
DEC 06 2016
Office of Water Resources

This regulatory submission set shall not be used for construction purposes unless stamped 'Issued for Construction' and signed by a DiPrete Engineering representative. The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA conformance in the implementation of this plan and design.

No.	Date	Description	Design By: R.L.D.
1	9-20-2016	REVISION TO ANNEC.BIC	By:
2	9-20-2016	REVISION TO ANNEC.BIC	By:
3	9-20-2016	REVISION TO ANNEC.BIC	By:

Sand Filters 4, 5 & 6 Details
Greenville Ave /Route 295 Interchange
Intersection of Greenville Avenue and Route 295
Providence, Rhode Island
Rhode Island Department of Transportation
tel 401-222-2450 fax 401-222-3905