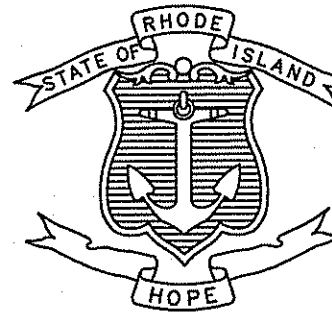


DEM COM 18-0190

# INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	STANDARD PLAN SYMBOLS AND STANDARD LEGEND
3	STANDARD NOTES (SHEET 1 OF 2)
4	STANDARD NOTES (SHEET 2 OF 2) AND JOB SPECIFIC LEGEND
5	WETLAND FLAG SURVEY
6	SEDIMENT AND EROSION CONTROL PLANS
7	SEDIMENT AND EROSION CONTROL DETAILS
8	NB DRAINAGE CROSSOVER PLANS NO.1
9	NB CROSSOVER DRAINAGE PLANS NO.2
10	NB DRAINAGE CROSSOVER PLANS NO.3
11	NB DRAINAGE CROSSOVER PLANS NO.4
12	SB DRAINAGE CROSSOVER PLANS NO.1
13	SB CROSSOVER DRAINAGE PLANS NO.2
14	SB DRAINAGE CROSSOVER PLANS NO.3
15	SB DRAINAGE CROSSOVER PLANS NO.4

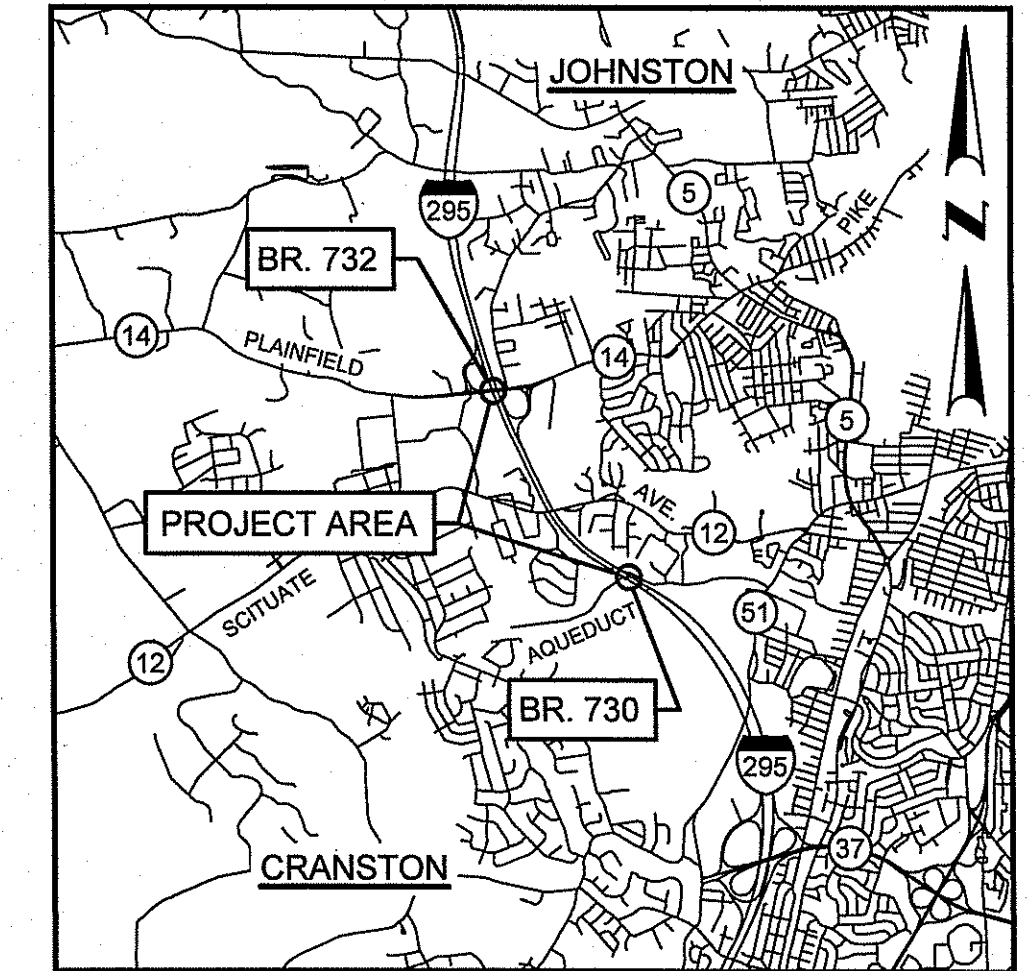
STATE OF RHODE ISLAND



## DEPARTMENT OF TRANSPORTATION

# SEDIMENT AND EROSION CONTROL PLAN

## SUPERSTRUCTURE REPLACEMENT OF PLAINFIELD PIKE BRIDGE NO. 732



LOCATION MAP  
SCALE: 1" = 5,000'

PREPARED BY:



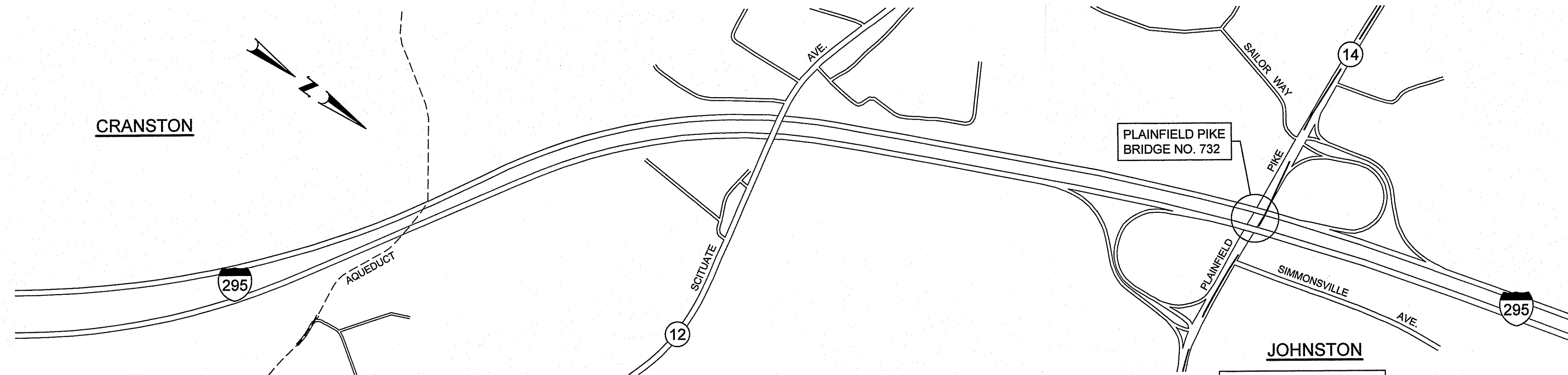
**GZA** GeoEnvironmental, Inc.  
Engineers and Scientists  
www.gza.com

TOWN OF JOHNSTON & CITY OF CRANSTON  
COUNTY OF PROVIDENCE

R.I. CONTRACT NO. 2017-DB-027 F.A. PROJECT NO. BRO-2950(003)

*Christopher D. Sweeney*  
 DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED OCT 15 2018 FILE # 18-0190  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

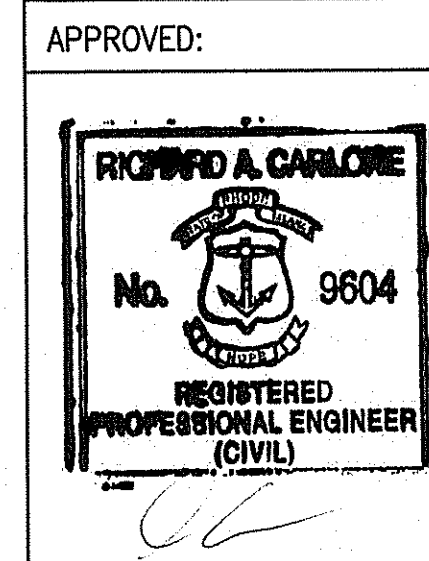
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CRANSTON

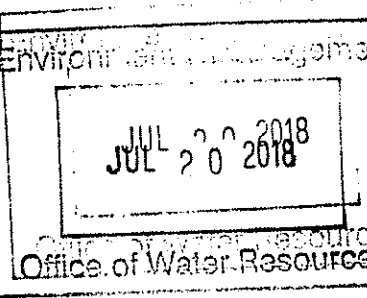
JOHNSTON

LAYOUT PLAN  
SCALE: 1" = 500'  
BASE OF LEVELS  
NAVD 88  
NAD 83 (2011) (2010.00)



Contract Number 2017-DB-027  
 Number of Sheet 1  
 Total Sheets 15

R.I. DEPARTMENT OF TRANSPORTATION	
APPROVED	
ADMINISTRATOR, PROJECT MANAGEMENT	DATE
APPROVED	
CHIEF ENGINEER OF INFRASTRUCTURE	DATE
APPROVED	
DIRECTOR	DATE
DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	
APPROVED	
DIVISION ADMINISTRATOR	DATE



© 2018 - GZA GeoEnvironmental, Inc. GZA - R:\ENV\34464.01.BRO\FIGURES\CAD\DWGS\34464.01\_BR\_SED\_COVER-1-3-7\_2018-07-18.DWG 1 JULY 19, 2018 9:26AM MICHAEL AUBIN

R.I. STANDARD SPECIFICATIONS AND STANDARD DETAILS  
 SPECIFICATIONS TO GOVERN THIS PROJECT ARE THE R.I. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED 2013, WITH ALL REVISIONS, AND THE STATE AND FEDERAL SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS. STANDARD DETAILS FOR THIS PROJECT ARE R.I. STANDARD DETAILS, 1998 EDITION, WITH ALL REVISIONS.

NOTE:  
 THIS PLAN SET DEVELOPED BY WSP USA INC. OF WARWICK, RHODE ISLAND, CAD FILES 0114T\_V1\_003\_STDNOTES001.DWG, 0114\_V1\_004\_STDNOTES002.DWG, 0114T-V1\_005\_JSNOTSYM.DWG, 0114T\_V1\_006\_SDRBRNOT001.DWG, 0114T\_V1\_002\_STDSYSM.DWG. INCLUDING TITLE/COVER SHEET AND DRAINAGE PLANS NO. 1 THROUGH 15 TRANSMITTED TO GZA BY TRNAS SYSTEMS JUNE 5, AND 6, 2018 ONLY TO DEPICT SEDIMENT AND EROSION CONTROL MEASURES.

© 2018 - GZA GeoEnvironmental, Inc. GZA-A-NEW-34464-01-BAK-FIGURES-CAD-DWG-34464-01-RO-SED-COVER-1-3-7-2018-07-18.DWG 2 JULY 19, 2018 9:24AM MICHAEL JUBIN

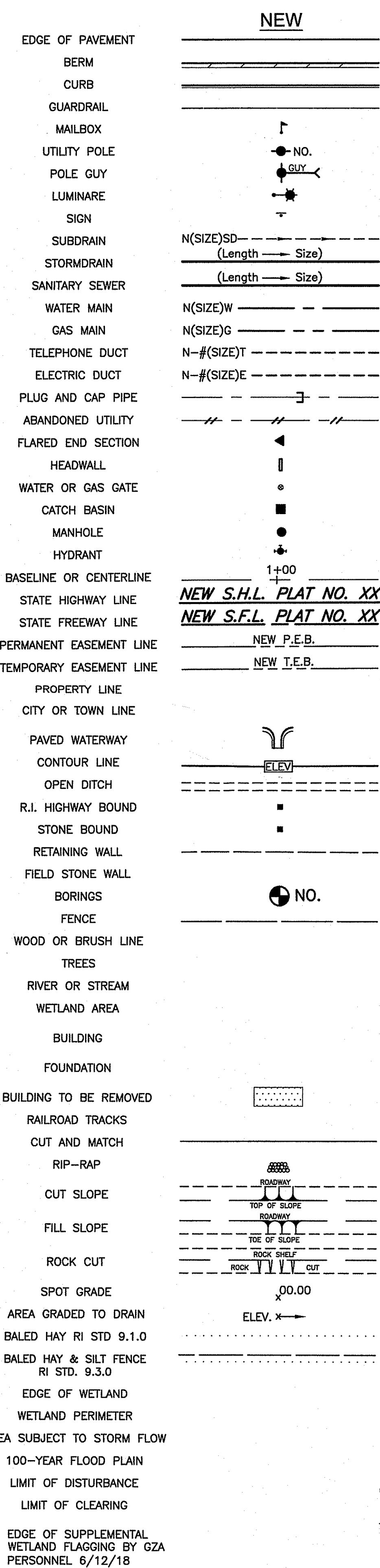
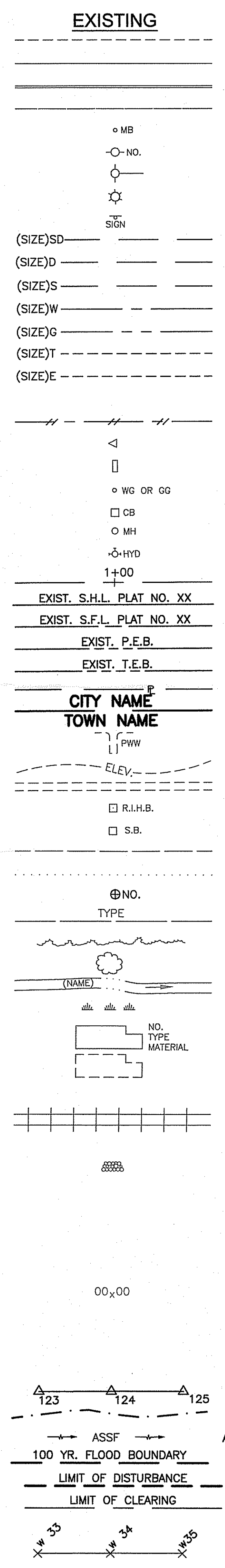


Table listing NEW symbols and their corresponding descriptions, such as UNDERDRAIN, CONCRETE CONNECTING COLLAR, and various catch basins.

Table listing NEW symbols and their corresponding descriptions, such as GRANITE APRON STONE, GRANITE SLOPED FACE CURB, and various retaining walls.

Table listing NEW symbols and their corresponding descriptions, such as DRIP LINE TREE PROTECTION DEVICE, SHRUB PROTECTION DEVICE, and various guardrails.

Approval and legend section including 'APPROVED: RICHARD A. CARLOE', 'STANDARD PLAN SYMBOLS & STANDARD LEGEND', and project information like 'GZA GeoEnvironmental, Inc.' and 'TRAN SYSTEMS'.



**LANDSCAPE NOTES:**

1. ALL PLANT MATERIAL MUST BE TAGGED AT THE NURSERY (A RECOGNIZED GROWER OF PLANT MATERIAL) IN ACCORDANCE WITH THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION. ALL PLANT MATERIAL MUST BE NURSERY GROWN; NO PLANTATION GROWN PLANT MATERIAL WILL BE ACCEPTED.
2. ALL PLANT SUBSTITUTIONS AND/OR CHANGES IN PLANT LOCATION MUST BE APPROVED IN ACCORDANCE WITH THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.
3. ALL PLANT MATERIAL IS TO BE FIELD LOCATED BY A REPRESENTATIVE FROM THE R.I.D.O.T. LANDSCAPE ARCHITECTURE UNIT.
4. A R.I.D.O.T. LANDSCAPE REPRESENTATIVE MUST BE ON SITE TO APPROVE ALL TRIMMING AND CLEARING NECESSARY TO COMPLETE THE WORK AS SHOWN ON THE PLANS.
5. ANY TOPSOIL USED AS PLANTABLE SOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS, AND SHALL CONFORM TO SECTION M.18 OF THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.
6. ALL TREES AND SHRUBS SHALL BE MULCHED WITH PINE BARK MULCH IN ACCORDANCE WITH THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.
7. ALL TREES AND/OR SHRUBS THAT ARE PLANTED AS A BED SHALL BE MULCHED AS A BED.
8. PROVIDE A MINIMUM 6"-8" BRANCHING STANDARD ON ALL TREES INSTALLED ADJACENT TO SIDEWALKS AND/OR PEDESTRIAN ACCESS AREAS.

**JOB SPECIFIC LEGEND**

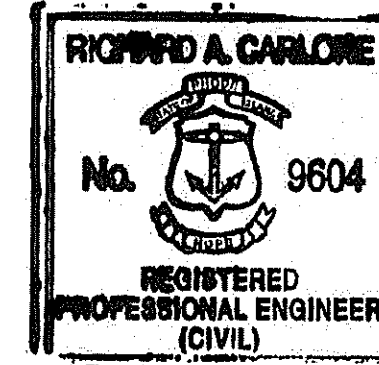
- (AFC\*) ADJUST FRAME AND COVER TO GRADE
- (CFS) COMPOST FILTER SOCK 12 INCH DIAMETER
- (DUP) REMOVE AND DISPOSE UTILITY POLE (BY OTHERS)
- (ETEA) GUARDRAIL END TREATMENT - ENERGY ABSORBING TERMINAL, TL4
- (ISCD) INLET SEDIMENT CONTROL DEVICE
- (MEPM) MATCH EXISTING PAVEMENT MARKING
- (MMO-1) MICROMILLING 1 1/2" AND OVERLAY WITH 1 1/2" DENSE FRICTION COURSE
- (MMO-2) MICROMILLING 2" AND OVERLAY WITH 2" BITUMINOUS CONCRETE SURFACE COURSE - CLASS 12.5 HMA-MODIFIED
- (NUP) NEW UTILITY POLE (BY OTHERS)
- (P-1) FULL DEPTH CONSTRUCTION I-295 (PERMANENT)  
1 1/2" DENSE FRICTION COURSE  
2 1/2" BITUMINOUS CONCRETE SURFACE COURSE - CLASS 12.5 HMA-MODIFIED  
11" BITUMINOUS CONCRETE BASE COURSE - CLASS 19.0 HMA  
12" GRAVEL BORROW SUBBASE COURSE
- (PCD-S) PERMANENT CHECK DAM - STONE
- (PMM) PAVEMENT MILLINGS MULCH
- (PT-1) PAVEMENT TRANSITION - MICROMILLING TO EXISTING
- (PT-2) PAVEMENT TRANSITION - FULL DEPTH TO MICROMILLING
- (REB) RETAIN EXISTING BERM
- (REG) RETAIN EXISTING GUARDRAIL
- (RS) SHOULDER RUMBLE STRIP
- (S-1) FULL DEPTH SAWCUT OF BITUMINOUS PAVEMENT
- (S-2) CUTTING AND MATCHING ASPHALT
- (SPM) SLOTTED PAVEMENT MARKER, ONE-WAY (WHITE)
- (TFDC) FULL DEPTH CONSTRUCTION I-295 (TEMPORARY ROADWAY)  
1 1/2" BITUMINOUS CONCRETE SURFACE COURSE - CLASS 12.5 HMA-MODIFIED  
5 1/2" BITUMINOUS CONCRETE BASE COURSE - CLASS 19.0 HMA  
12" GRAVEL BORROW SUBBASE COURSE
- (TIA) TEMPORARY IMPACT ATTENUATOR
- (WQS) WATER QUALITY SWALE
- (T4WDL) TEMPORARY 4" EPOXY RESIN PAVEMENT MARKINGS (DOTTED LINE) - WHITE
- (T4W) TEMPORARY 4" EPOXY RESIN PAVEMENT MARKINGS - WHITE
- (T4WSS) TEMPORARY 4" EPOXY RESIN PAVEMENT MARKINGS (SKIP STRIPE) - WHITE
- (T4Y) TEMPORARY 4" EPOXY RESIN PAVEMENT MARKINGS - YELLOW
- (T12W) TEMPORARY 12" EPOXY RESIN PAVEMENT MARKINGS - WHITE
- (4W) 4" EPOXY RESIN PAVEMENT MARKINGS - WHITE
- (4WSS) 4" EPOXY RESIN PAVEMENT MARKINGS (SKIP STRIPE) - WHITE
- (4WDL) 4" EPOXY RESIN PAVEMENT MARKINGS (DOTTED LINE) - WHITE
- (6WSS) 6" EPOXY RESIN PAVEMENT MARKINGS (SKIP STRIPE) - WHITE
- (6WDL) 6" EPOXY RESIN PAVEMENT MARKINGS (DOTTED LINE) - WHITE

*Signature*  
 DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED \_\_\_\_\_ FILE # 18-0190  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

NO.	ISSUE/DESCRIPTION	BY	DATE

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APPROVED:



*Signature*

**I-295 BRIDGE 732  
 JOHNSTON & CRANSTON, RHODE ISLAND**

**STANDARD NOTES (SHEET 2 OF 2)  
 & JOB SPECIFIC LEGEND**

PREPARED BY: **GZA** GeoEnvironmental, Inc.  
 Engineers and Scientists  
 www.gza.com

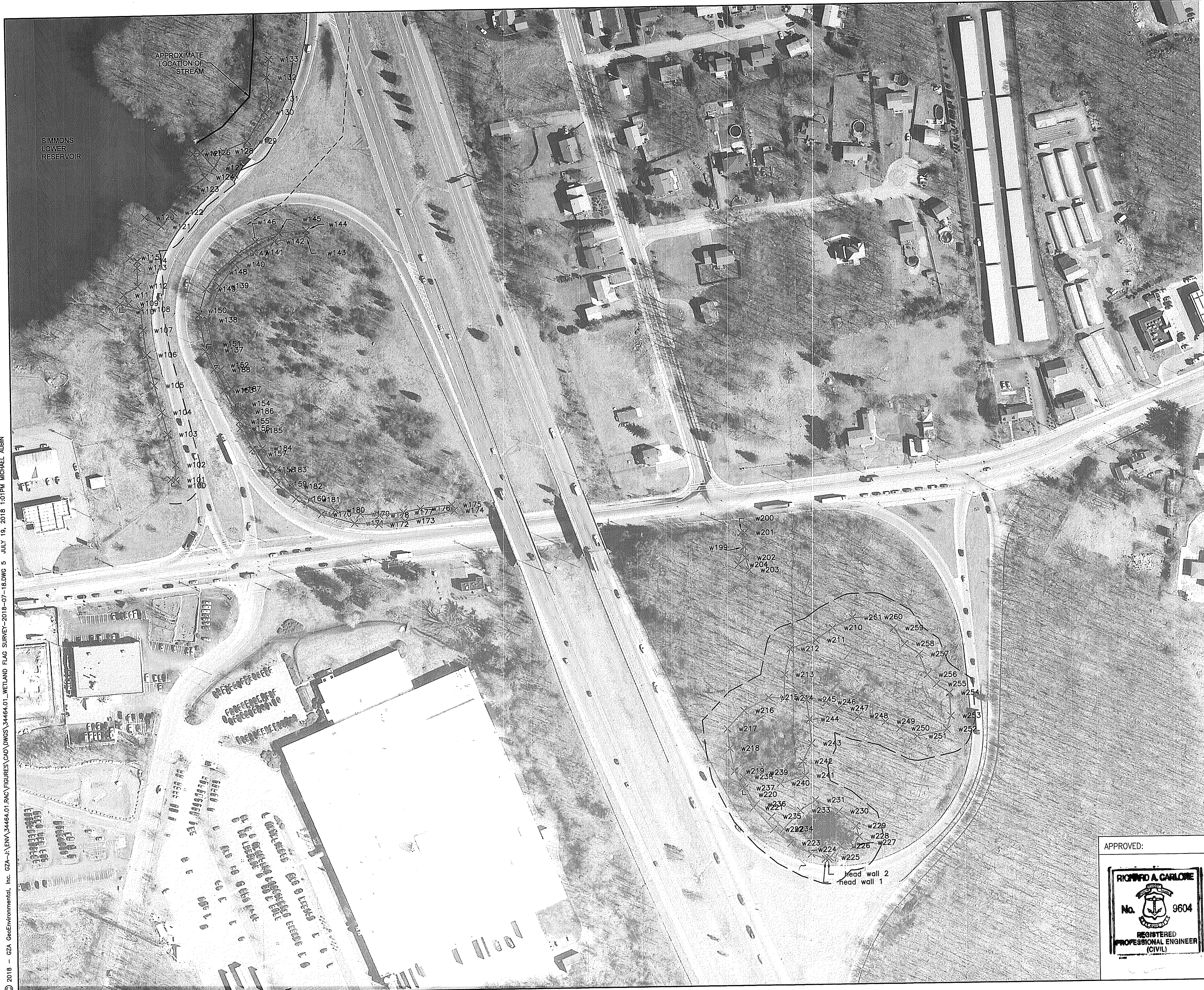
PREPARED FOR: **TRAN SYSTEMS**

PROJ MGR: RAC	DESIGNED BY: RAC	REVIEWED BY: EAS	CHECKED BY: MEA	SHEET <b>4</b>
DATE: JULY, 2018	DRAWN BY: CRB	SCALE: 1"=20'	REVISION NO. 0	

PROJECT NO. 34464.01

SHEET NO. 4 OF 15

© 2018 - GZA GeoEnvironmental, Inc. GZA-A-ENV-34464.01\_RAC\FIGURES\CAD\DWGS\34464.01\_WETLAND FLAG SURVEY-2018-07-18.DWG 5 JULY 19, 2018 1:01PM MICHAEL ALBIN

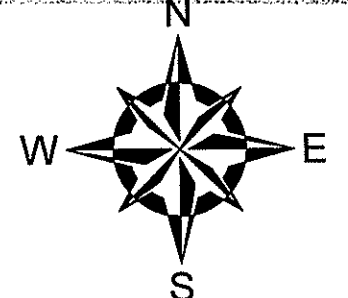


**REFERENCE NOTE:**  
 DIGITAL AERIAL ORTHOPHOTOGRAPHY PROVIDED BY RHODE ISLAND GEOGRAPHIC INFORMATION SYSTEM (RIGIS). ORTHOPHOTO IMAGES WERE ORIGINALLY PRODUCED BY THE US GEOLOGICAL SURVEY, FUGRO EARTHDATA, INC. THE IMAGES WERE OBTAINED ON APRIL 2014 AND WERE RELEASED IN 2015

**LEGEND**

- 200-FOOT RIVERBANK BUFFER
- - - - - 50-FOOT WETLAND BUFFER
- \_\_\_\_\_ WETLAND FLAG LINE
- x-w173 WETLAND FLAG MARKER

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF ENVIRONMENTAL RESOURCES  
 FIELD OPERATIONS PROGRAM  
 APPROVED PLANS FOR PERMITS AND CONSTRUCTION SITE  
 DATED OCT 15 2018 18-0190  
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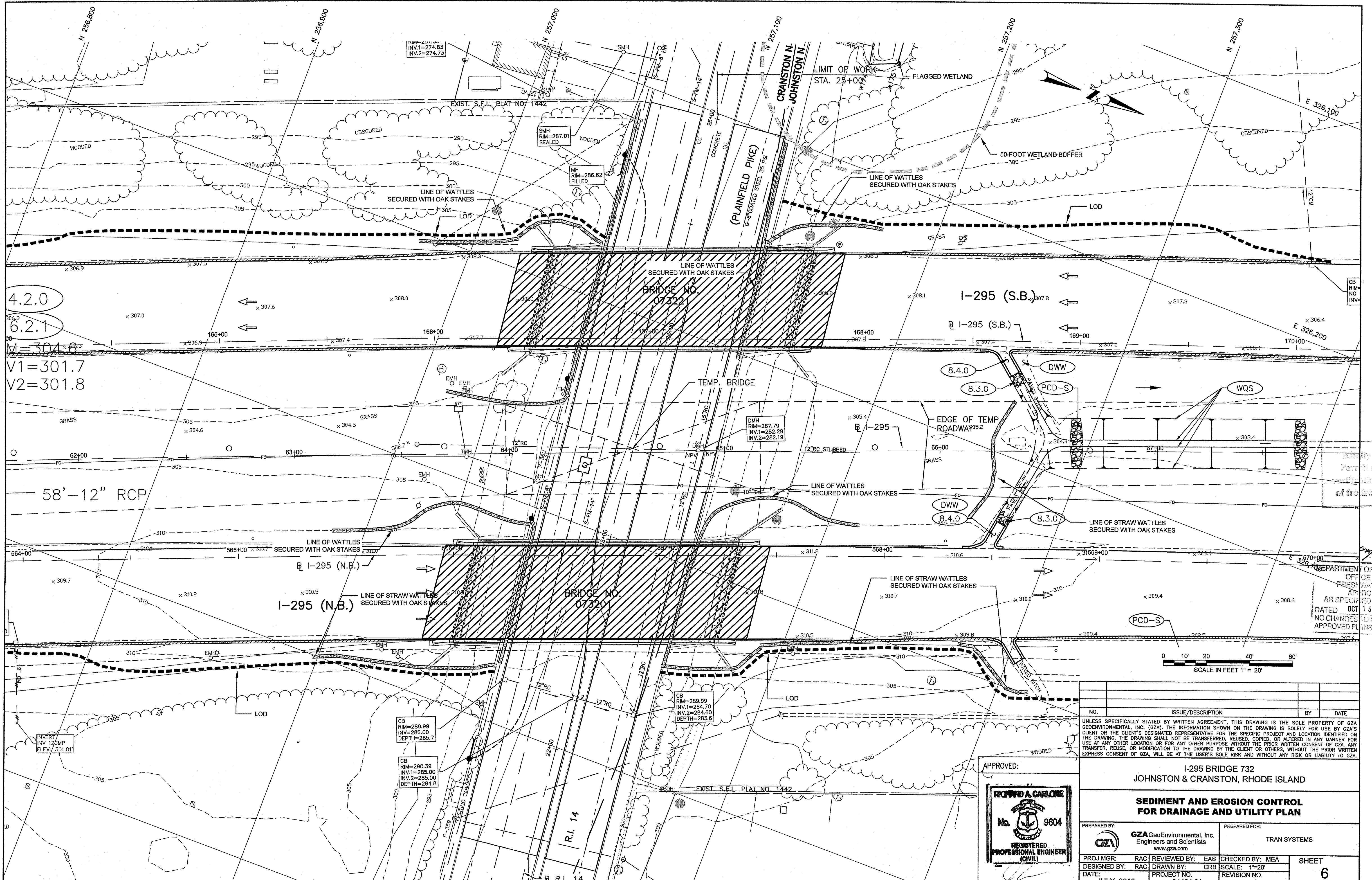
0 50' 100' 200' 300'  
 SCALE IN FEET 1" = 100'

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APPROVED:	I-295 BRIDGE 732 CRANSTON, RHODE ISLAND
	<b>WETLAND FLAG SURVEY</b>
PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com	PREPARED FOR: TRAN SYSTEMS
PROJ MGR: RAC DESIGNED BY: RAC DATE: JULY, 2018	REVIEWED BY: RAC DRAWN BY: CRB PROJECT NO. 34464.01
CHECKED BY: MEA SCALE: 1"=100' REVISION NO. 0	SHEET <b>5</b> SHEET NO. 5 OF 15

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4.2.0  
6.2.1  
M=304.6  
V1=301.7  
V2=301.8

58'-12" RCP

0 10' 20' 40' 60'  
SCALE IN FEET 1" = 20'

It is to be confirmed that this  
Plan is a true and correct  
representation of the type and 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 OCT 15 2018 FILE # 18-0190  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLAN MUST BE AT CONSTRUCTION SITE

APPROVED:  
**RICHARD A. CARLOME**  
No. 9604  
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

NO.	ISSUE/DESCRIPTION	BY	DATE

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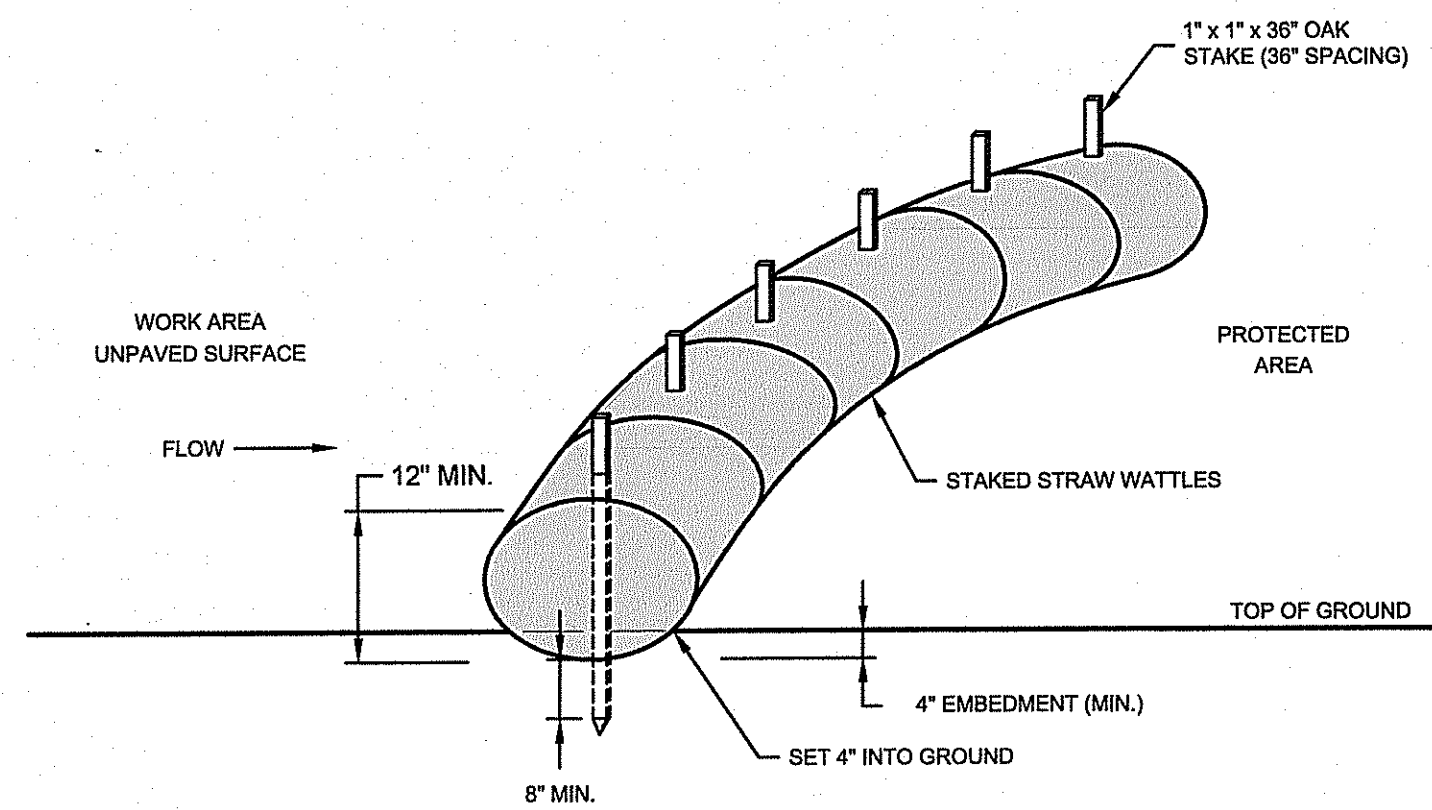
**I-295 BRIDGE 732  
JOHNSTON & CRANSTON, RHODE ISLAND**

**SEDIMENT AND EROSION CONTROL  
FOR DRAINAGE AND UTILITY PLAN**

PREPARED BY: **GZA GeoEnvironmental, Inc.**  
Engineers and Scientists  
www.gza.com

PREPARED FOR: **TRAN SYSTEMS**

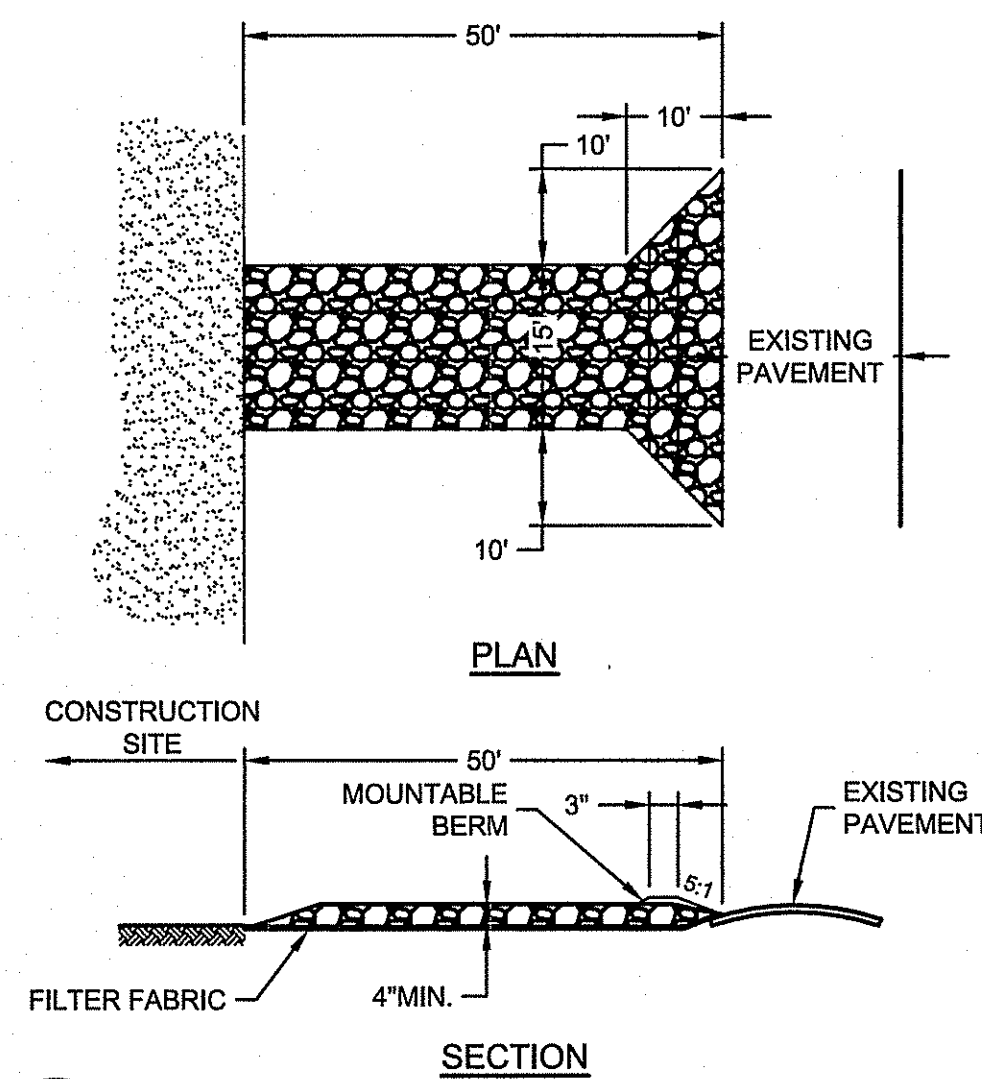
PROJ MGR: RAC REVIEWED BY: EAS CHECKED BY: MEA SHEET  
DESIGNED BY: RAC DRAWN BY: CRB SCALE: 1"=20' **6**  
DATE: JULY, 2018 PROJECT NO. 34464.01 REVISION NO. 0 SHEET NO. 6 OF 15



**2 SEDIMENTATION AND EROSION CONTROL BARRIER (STRAW WATTLES)**  
NOT TO SCALE

**NOTES**

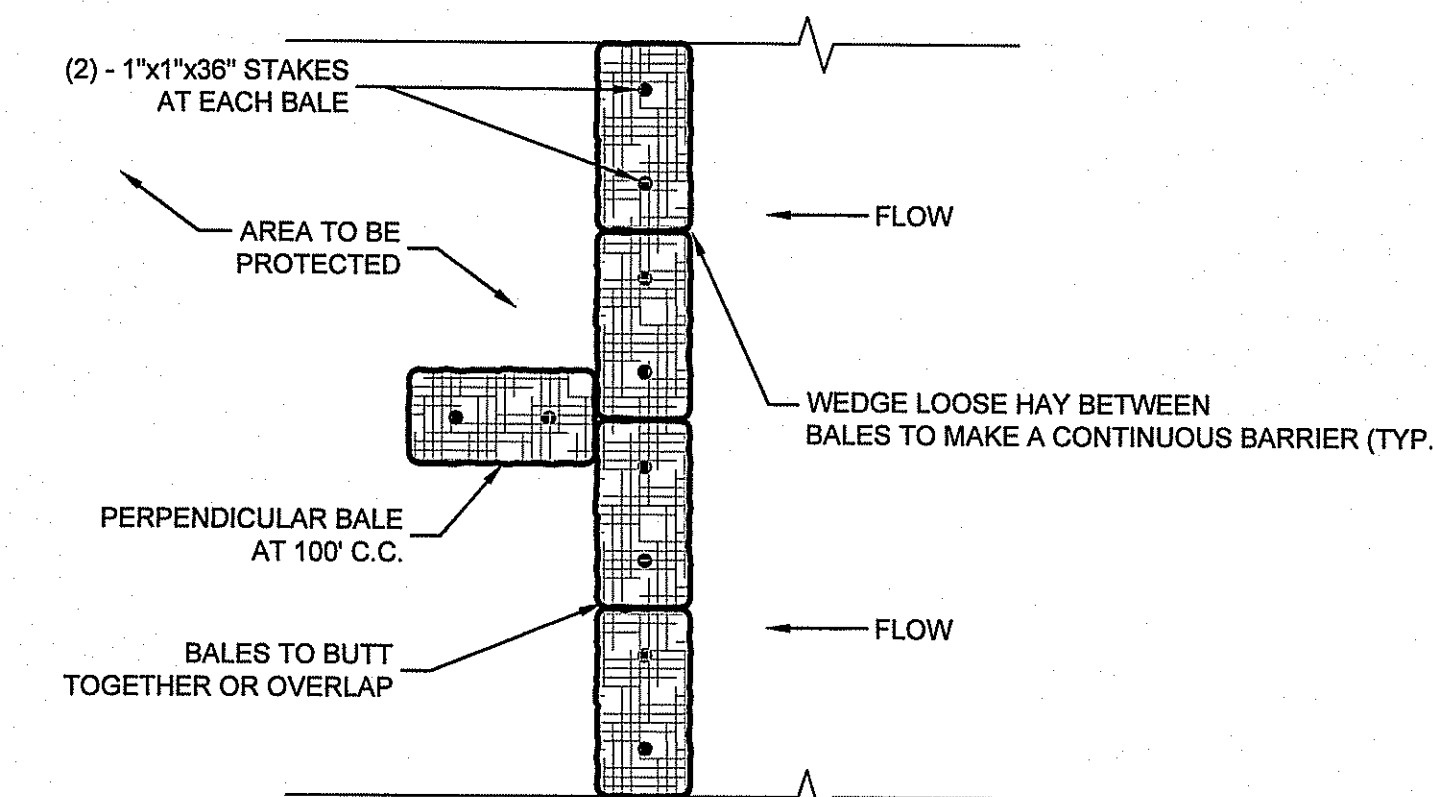
- INSPECTION SHALL BE WEEKLY AND REPAIR/REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- STRAW WATTLES SHALL BE REMOVED ONLY AS DIRECTED BY ENGINEER.



**3 TEMPORARY CONSTRUCTION ENTRANCE / EXIT**  
NOT TO SCALE

**NOTES**

- STONE SIZE - USE 2" STONE (MINIMUM) TO 6" STONE (MAXIMUM).
- LENGTH - GREATER THAN OR EQUAL TO 50 FEET WITH THICKNESS OF 4".
- WIDTH - FIFTEEN (15) FOOT TYP., BUT NOT LESS THAN FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
- SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS ENTRANCE. IF PIPING IS IMPRACTICAL, MOUNTABLE BERM SHALL BE PERMITTED.
- MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING AND ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
- PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED.
- THE CLEAN STONE SHOULD BE INSTALLED OVER A GEOTEXTILE FABRIC. GEOTEXTILE FABRIC MAY BE OMITTED FOR PERMANENT CONSTRUCTION ENTRANCES-EXITS ON A CASE-BY-CASE BASIS WITH THE RIDOT.
- FOLLOWING CONSTRUCTION, THE CONSTRUCTION ENTRANCE / EXIT SHALL BE REMOVED AND THE AREA GRADED, SEEDED, AND MULCHED AS NEEDED. ENTRANCE / EXITS MAY REMAIN DEPENDING UPON FUTURE ACCESS NEEDS AND / OR PROJECT-SPECIFIC APPROVALS BUT REQUIRES APPROVALS FROM RIDOT.

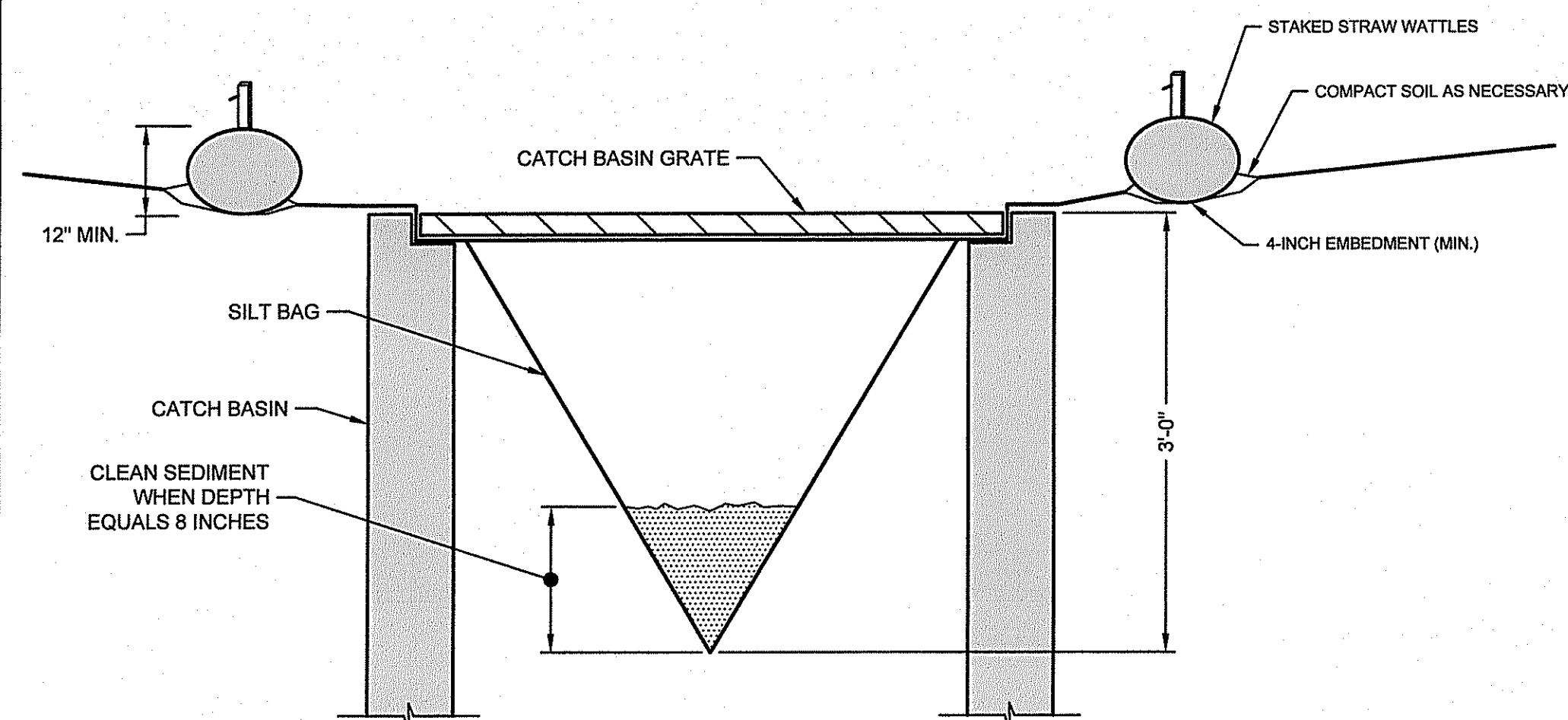


**STRAW BALE BARRIER RI STD 9.1.0**  
NOT TO SCALE

**PLAN VIEW**

**NOTE:**

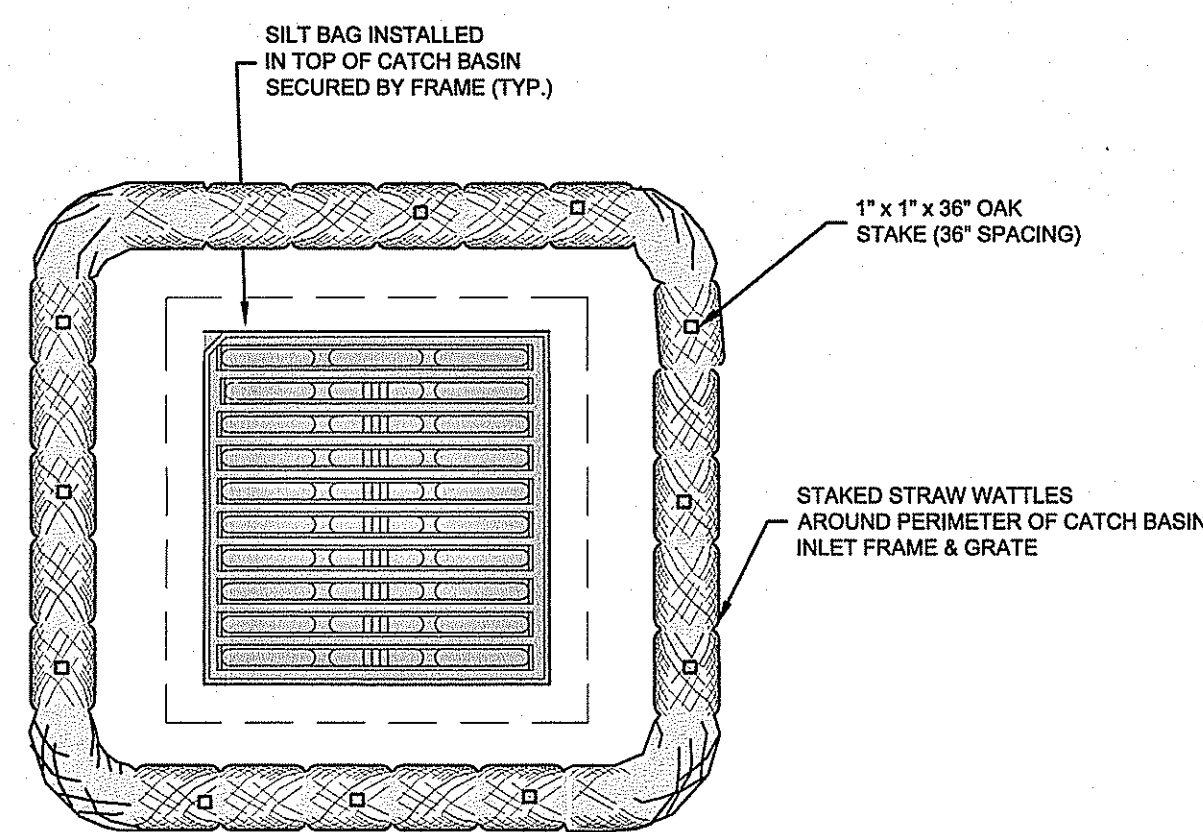
- SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE R.I. STANDARD SPECIFICATIONS.
- TO BE USED WHERE THE EXISTING GROUND SLOPES AWAY FROM THE HIGHWAY EMBANKMENT AS CALLED FOR ON THE PLANS.
- AT APPROXIMATE 100' INTERVALS A BALE OF HAY IS TO BE BUTT PERPENDICULARLY.
- STRAW BALE BARRIERS AT ALL OUTFALL LOCATIONS.
- (SEE SHEET G2, NOTE 13 IN THE DRAINAGE AND EROSION CONTROL NOTES).



**INLET PROTECTION DETAIL-CROSS SECTION VIEW**  
NOT TO SCALE

**NOTE:**

- PRODUCT TO BE SILT SACK OR APPROVED EQUAL BY RIDOT.
- TO BE PLACED WITHIN/AROUND EACH CATCH BASIN WITHIN LIMIT OF DISTURBANCE.
- STRAW WATTLES TO BE INSTALLED IN ACCORDANCE WITH DETAIL 2 ON THIS SHEET.



**PLAN VIEW - INLET PROTECTION DETAIL**  
NOT TO SCALE

*Christopher D. Wamsick*  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED OCT 15 2018 FILE # 18-018  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

NO.	ISSUE/DESCRIPTION	BY	DATE

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APPROVED: **RICHARD A. CARLORE**  
No. 9604  
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

I-295 BRIDGE 732  
JOHNSTON & CRANSTON, RHODE ISLAND

**SEDIMENT AND EROSION CONTROL DETAILS**

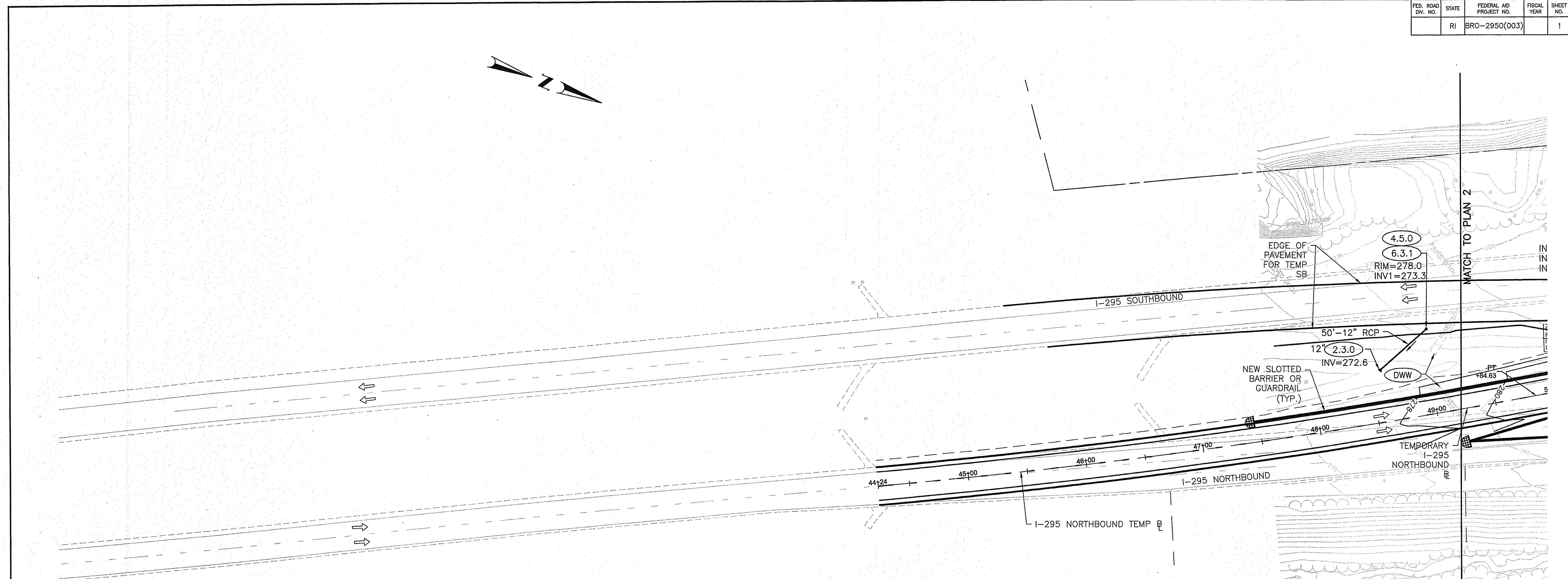
PREPARED BY: **GZA** GeoEnvironmental, Inc.  
Engineers and Scientists  
www.gza.com

PREPARED FOR: **TRAN SYSTEMS**

PROJ MGR: RAC	DESIGNED BY: RAC	REVIEWED BY: EAS	CHECKED BY: MEA
DATE: JULY, 2018	DRAWN BY: CRB	PROJECT NO.: 34464.01	SCALE: 1"=20'
		REVISION NO.: 0	

SHEET **7**  
SHEET NO. 7 OF 15

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-2950(003)		1	9



**LEGEND**

- (2.3.0) (DIA.) PRECAST CONCRETE FLARED END SECTION
- (4.2.0) PRECAST 4'-0" ROUND MANHOLE
- (4.5.0) PRECAST CONCRETE DROP INLET
- (6.2.1) HEAVY-DUTY ROUND FRAME AND COVER
- (6.3.1) SQUARE FRAME AND GRATE
- (8.4.0) PAVED WATERWAY
- (9.1.0) BALED HAY EROSION CHECK

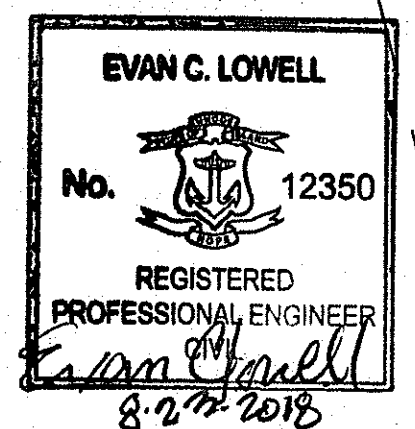
- NEW STORMDRAIN (Length → Size)
- EXISTING STORMDRAIN (SIZE)D
- NEW FLARED END SECTION
- NEW CATCH BASIN
- NEW MANHOLE
- IMPACT ATTENUATOR

- (AB) ADJUST CATCH BASIN TO GRADE
- (ABM) ADJUST CATCH BASIN TO MANHOLE
- (AC) ADJUST CURB STOP TO GRADE
- (AD) ADJUST DRAINAGE MANHOLE TO GRADE
- (AE) ADJUST ELECTRIC MANHOLE TO GRADE
- (AFC) ADJUST FRAME AND COVER TO GRADE
- (AFG) ADJUST FRAME AND GRATE TO GRADE
- (BOS) BOTTOM OF SLOPE
- (BPS) BUILD NEW STRUCTURE OVER EXISTING PIPE
- (CCB) CLEAN CATCH BASIN
- (CFP) CLEAN AND FLUSH PIPE
- (CMH) CLEAN MANHOLE
- (DCB) REMOVE AND DISPOSE CATCH BASIN
- (DFC) REMOVE AND DISPOSE FRAME AND COVER
- (DFE) REMOVE AND DISPOSE FLARED END SECTION
- (DFG) REMOVE AND DISPOSE FRAME AND GRATE
- (DMH) REMOVE AND DISPOSE MANHOLE
- (DP) REMOVE AND DISPOSE PIPE
- (DWW) REMOVE AND DISPOSE PAVED WATERWAY
- (LOD) LIMIT OF DISTURBANCE
- (RFE) RETAIN FLARED END SECTION
- (RPW) RETAIN PAVED WATERWAY
- (TEP) TIE EXISTING PIPE INTO NEW STRUCTURE
- (TNP) TIE NEW PIPE INTO EXISTING STRUCTURE
- (TOS) TOP OF SLOPE

Note: straw wattles, as shown on Sheet 7 (Sedimentation and Erosion Control Details), will be placed at the limits of disturbance (LOD) and/or bottom of slope (BOS) shown on crossover drainage plans

*Stephen D. Wonsick*  
 DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED OCT 15 2018 FILE # 18-0190  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

- NOTE:**
- ALL PIPES SHALL BE CLASS V
  - TEMPORARY DRAINAGE IS INSTALLED AND INTENDED TO FUNCTION IN BOTH TEMPORARY NB AND TEMPORARY SB CROSSOVER CONDITIONS. THE NB CROSSOVER IS STAGED BEFORE THE SB CROSSOVER



**EARLY RELEASE TMP CROSSOVER DRAINAGE AUGUST 2018**



REVISIONS		
NO.	DATE	BY

**RHODE ISLAND DEPARTMENT OF TRANSPORTATION**

PLANS FOR BRIDGE REPLACEMENT  
**BRIDGE NO. 732**  
 CRANSTON, RHODE ISLAND

**NB CROSSOVER DRAINAGE PLAN NO. 1**

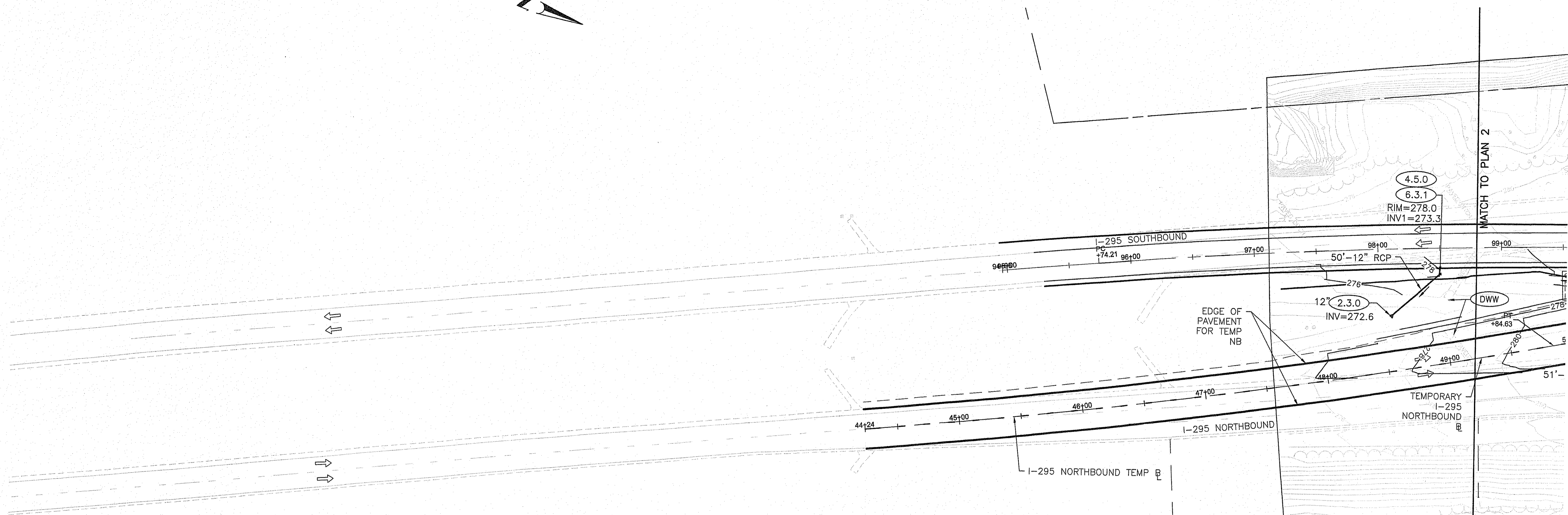
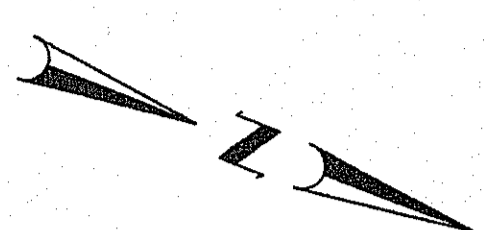
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE 1"=40'







FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-2950(003)		5	9



**LEGEND**

- (2.3.0 (DIA.) PRECAST CONCRETE FLARED END SECTION
  - (4.2.0 PRECAST 4'-0" ROUND MANHOLE
  - (4.5.0 PRECAST CONCRETE DROP INLET
  - (6.2.1 HEAVY-DUTY ROUND FRAME AND COVER
  - (6.3.1 SQUARE FRAME AND GRATE
  - (8.4.0 PAVED WATERWAY
  - (9.1.0 BALED HAY EROSION CHECK
- NEW STORMDRAIN (Length → Size)
- EXISTING STORMDRAIN (SIZE)D
- NEW FLARED END SECTION
- NEW CATCH BASIN
- NEW MANHOLE
- IMPACT ATTENUATOR

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- (DP REMOVE AND DISPOSE PIPE
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- (TOS TOP OF SLOPE

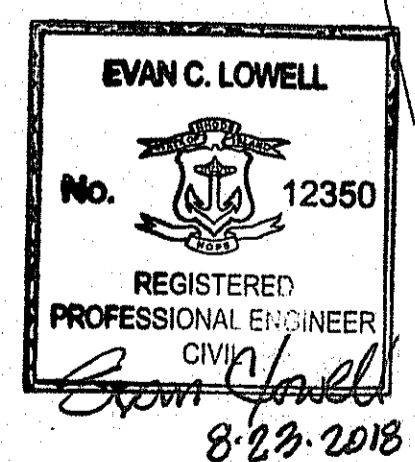
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
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*Christopher D. Wenzel*

1880  
No HOLDING ANNEALED  
(ESD) FILE OF RECORD DRAWING  
Dead End 249 Feet South  
Sheet Book #10 Page 228

**NOTE:**

- ALL PIPES SHALL BE CLASS V
- TEMPORARY DRAINAGE IS INSTALLED AND INTENDED TO FUNCTION IN BOTH TEMPORARY NB AND TEMPORARY SB CROSSOVER CONDITIONS. THE NB CROSSOVER IS STAGED BEFORE THE SB CROSSOVER



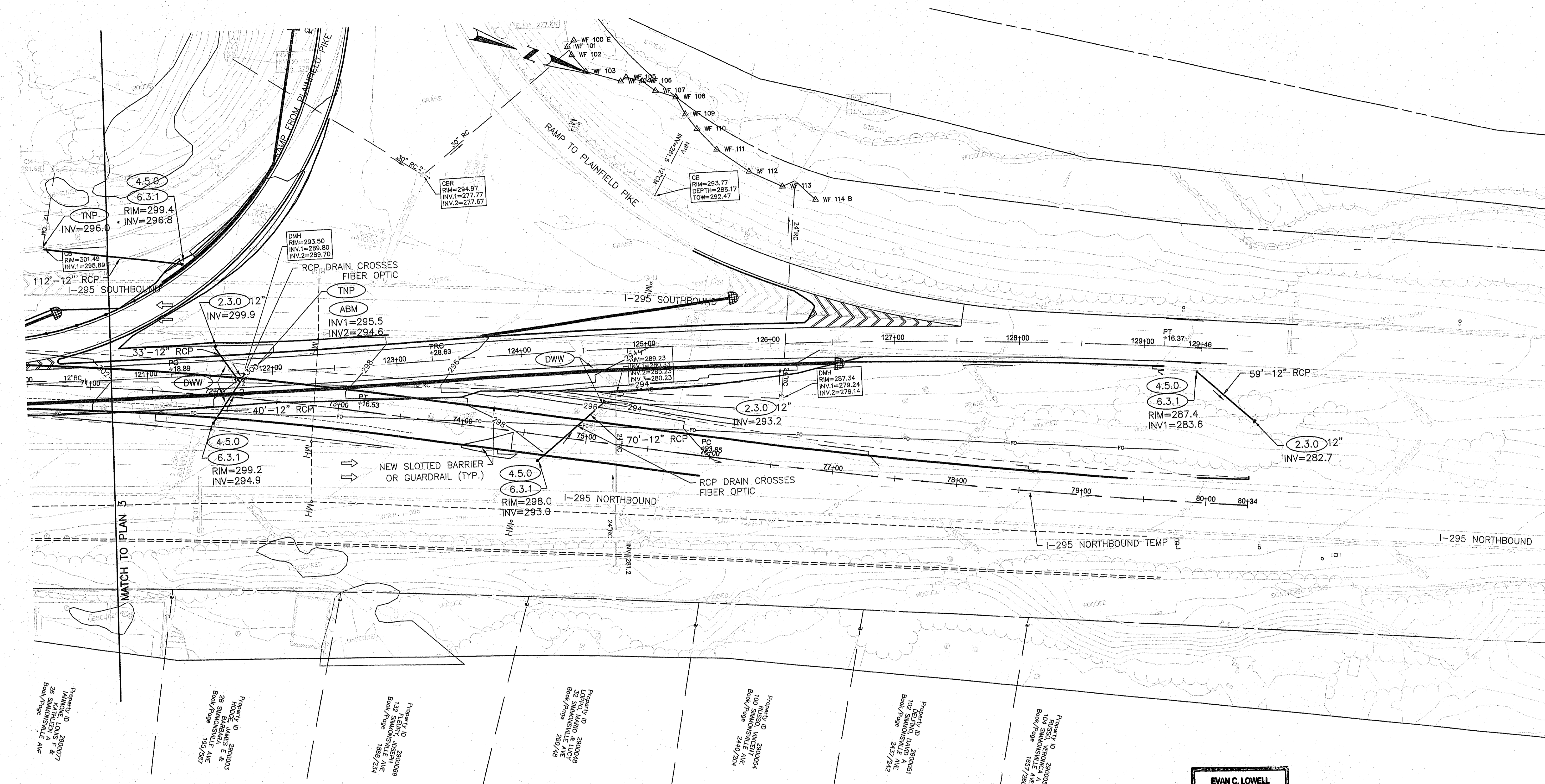
**EARLY RELEASE TMP  
CROSSOVER DRAINAGE  
AUGUST 2018**



REVISIONS			RHODE ISLAND DEPARTMENT OF TRANSPORTATION	
NO.	DATE	BY		
			PLANS FOR BRIDGE REPLACEMENT <b>BRIDGE NO. 732</b>	
			CRANSTON, RHODE ISLAND	
			<b>SB CROSSOVER DRAINAGE PLAN NO. 1</b>	
			CHECKED BY _____	DATE _____ SCALE 1"=40'







Property ID 2900027  
 28 SATTLEFIELD AVE  
 28 SATTLEFIELD AVE  
 Book/Page 185/240

Property ID 2900023  
 HODGINS BARNES E &  
 28 SATTLEFIELD AVE  
 Book/Page 185/240

Property ID 2900089  
 132 LENOX JUNCTION  
 132 LENOX JUNCTION  
 Book/Page 186/244

Property ID 2900048  
 32 MARIANO & LUCY  
 32 MARIANO & LUCY  
 Book/Page 230/243

Property ID 2900054  
 10 RUSSELL WICKENTON  
 10 RUSSELL WICKENTON  
 Book/Page 244/204

Property ID 2900051  
 103 BELFRINO PLANO  
 103 BELFRINO PLANO  
 Book/Page 243/242

Property ID 2900027  
 103 VERONICA AVE  
 103 VERONICA AVE  
 Book/Page 185/240

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  
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 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED OCT 15 2018 FILE # 18-0190  
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EVAN C. LOWELL  
 No. 12350  
 REGISTERED PROFESSIONAL ENGINEER  
 CIVIL  
 8-25-2018

EARLY RELEASE TMP  
 CROSSOVER DRAINAGE  
 AUGUST 2018

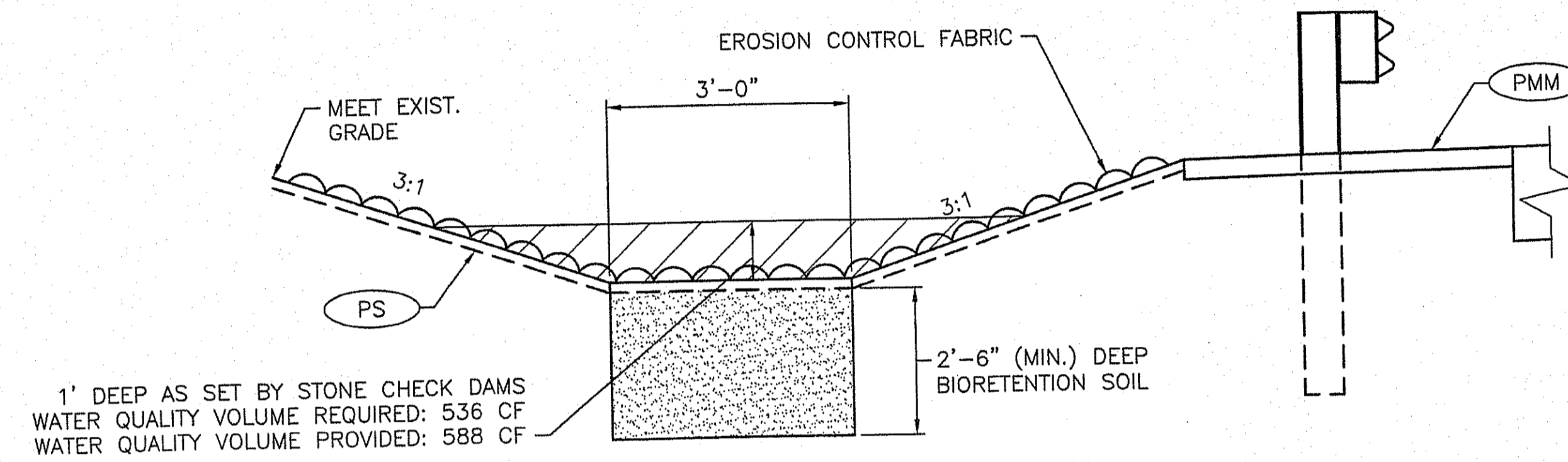


REVISIONS		
NO.	DATE	BY

RHODE ISLAND  
 DEPARTMENT OF TRANSPORTATION  
 PLANS FOR BRIDGE REPLACEMENT  
 BRIDGE NO. 732  
 CRANSTON, RHODE ISLAND  
 SB CROSSOVER DRAINAGE  
 PLAN NO. 4

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE 1"=40'

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-2950(003)		9	9



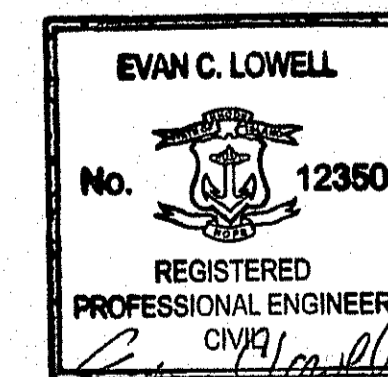
**WATER QUALITY SWALE DETAIL**  
SCALE: N.T.S.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
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APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Evan C. Lowell*

**NOTE:**

CONDUIT MATERIAL AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS.



*Evan C. Lowell*  
8/23/2018

EARLY RELEASE TMP  
CROSSOVER DRAINAGE  
AUGUST 2018



REVISIONS			RHODE ISLAND DEPARTMENT OF TRANSPORTATION
NO.	DATE	BY	
			PLANS FOR BRIDGE REPLACEMENT BRIDGE NO. 732 CRANSTON, RHODE ISLAND
			MISCELLANEOUS DETAILS
			CHECKED BY _____ DATE _____ SCALE AS NOTED