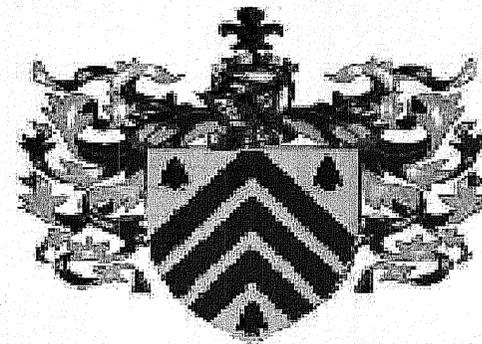


Hazelwood Road Drainage Improvements

Glocester Public Works Department

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



Glocester, Rhode Island

RIDEM PERMIT SUBMISSION

March 2017

INDEX OF DRAWINGS

<u>SHEET No.</u>	<u>DRAWING No.</u>	
1		COVER SHEET
2	C1.0	GENERAL PLAN
3	C2.0	DETAIL SHEET

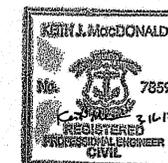
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED MAR 31 2017 FILE # 17-0051
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Walter D. Wenczek

Prepared For:

Town of Glocester
Public Works Department
91 Chestnut Hill Road
Glocester RI, 02814

Prepared By:



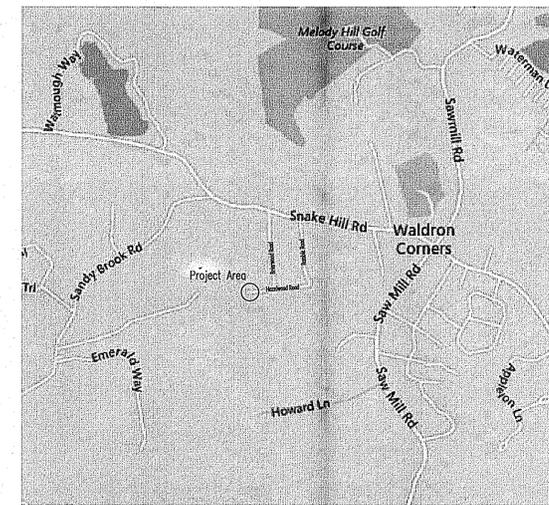
PARE CORPORATION
ENGINEERS - SCIENTISTS - PLANNERS
8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
401-334-4100



PLAN SYMBOLS	
EXISTING	PROPOSED

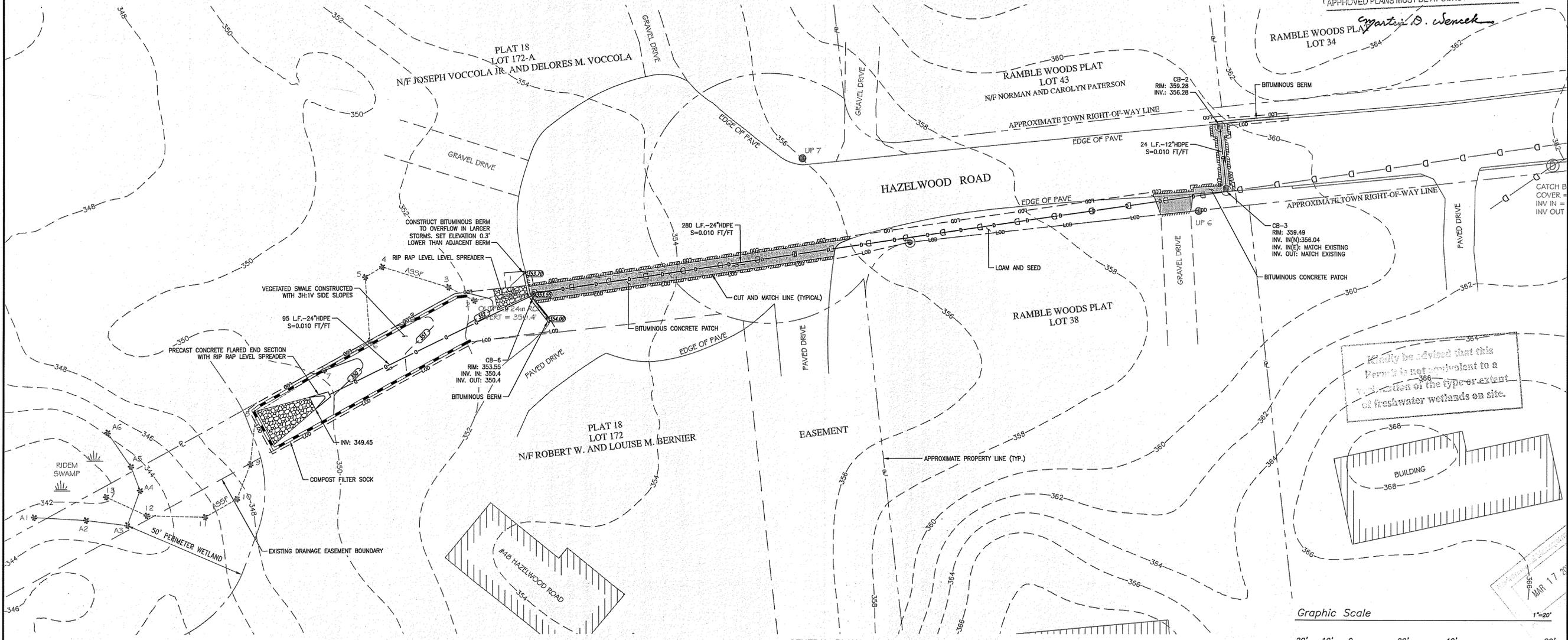
DRAINAGE AND EROSION CONTROL NOTES:

- EXISTING CONDITIONS SURVEY WAS PREPARED BY MARC N. NYBERG ASSOCIATES INC., NORTH SMITHFIELD, R.I. IN DECEMBER 2016, AND SUPPLEMENTED WITH RIGIS LIDAR CONTOURS.
- NO UNDISTURBED AREAS SHALL BE CLEARED OF EXISTING VEGETATION AFTER OCTOBER 15 OF ANY CALENDAR YEAR OR DURING ANY PERIOD OF FULL OR LIMITED WINTER SHUTDOWN. ALL DISTURBED SOILS EXPOSED PRIOR TO OCTOBER 15 OF ANY CALENDAR YEAR SHALL BE SEEDED OR PROTECTED BY THAT DATE. ANY SUCH AREAS THAT DO NOT HAVE ADEQUATE VEGETATIVE STABILIZATION, AS DETERMINED BY THE RESIDENT ENGINEER OR ENVIRONMENTAL INSPECTOR, BY NOVEMBER 15 OF ANY CALENDAR YEAR, MUST BE STABILIZED THROUGH THE USE OF EROSION CONTROL MATTING OR HAY MULCH, IN ACCORDANCE WITH SPECIFICATIONS CONTAINED WITHIN THE R.I. SOIL EROSION AND SEDIMENT CONTROL HANDBOOK. IF WORK CONTINUES WITHIN ANY OF THESE AREAS DURING THE PERIOD FROM OCTOBER 15 THROUGH APRIL 15, CARE MUST BE TAKEN TO ENSURE THAT ONLY THE AREA REQUIRED FOR THAT DAY'S WORK IS EXPOSED, AND ALL ERODIBLE SOIL MUST BE RESTABILIZED WITHIN 5 WORKING DAYS. ANY WORK TO CORRECT PROBLEMS RESULTING FROM FAILURE TO COMPLY WITH THIS PROVISION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THERE WILL BE NO SEPARATE PAYMENT FOR THIS PROVISION, IT SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION OPERATIONS. STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN 2 WEEKS OF FINAL GRADING.
- STOCKPILES OF MATERIAL SHALL NOT BE LOCATED WITHIN REGULATED WETLANDS OR BUFFER ZONE AREAS. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 3:1 AND STOCKPILES OF ERODABLE MATERIAL SHALL ALSO BE SEEDED AND RINGED WITH COMPOST FILTER SOCK TO STABILIZE.
- PRIOR TO DRAINAGE CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION (HORIZONTAL AND VERTICAL) OF ALL EXISTING PIPES AND/OR STRUCTURES WHICH ARE TO BE CONNECTED. ANY VARIATION FOUND FROM THE PLANS MUST BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO DRAINAGE AND UTILITY CONSTRUCTION. WORK CAN COMMENCE ONLY UPON THE ENGINEER'S AUTHORIZATION.
- DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING STORMS AND PERIODS OF RAINFALL THROUGHOUT THE WORK AREA.
- CATCH BASIN RIM GRADES SHALL BE SET FLUSH WITH GUTTER GRADE, OR AS DIRECTED BY THE ENGINEER.
- THE NORMAL ACCEPTABLE SEASONAL SEEDING DATES ARE SPECIFIED IN SUBSECTION L.02.03 OF THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.
- EROSION CONTROLS, SHALL BE INSTALLED AS ILLUSTRATED ON THE PLANS. THESE MEASURES SHOULD BE INSPECTED AFTER EACH RAIN EVENT, CLEANED AND MAINTAINED IN ACCORDANCE WITH THE R.I. SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, AND IF WARRANTED, ADDITIONAL MEASURES SHALL BE INSTALLED.
- THE TOE OF ANY FILL SLOPE IS TO REMAIN AT LEAST 1' INSIDE OF ALL EROSION CONTROLS. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR COVER ANY PORTION OF THE EROSION CONTROL MEASURES WITH MATERIAL. ANY MATERIAL THAT IS PLACED ON ANY EROSION CONTROLS BY THE CONTRACTOR, OR ANY AGENT OF THE CONTRACTOR, SHALL BE IMMEDIATELY REMOVED BY THE CONTRACTOR, AND ANY NECESSARY REPAIRS TO THE EROSION CONTROLS ACCOMPLISHED.
- PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES, EROSION AND SEDIMENTATION CONTROLS SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER. CLEARING MAY OCCUR PRIOR TO INSTALLATION OF SUCH CONTROLS, HOWEVER NO GRUBBING, GRADING, FILLING, OR OTHER SOIL DISTURBANCE SHALL OCCUR PRIOR TO INSTALLATION. THE LIMITS OF CLEARING AND SURFACE DISTURBANCE MUST BE STRICTLY ADHERED TO IN ALL AREAS.
- ALL EROSION CONTROLS SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS IS ESTABLISHED. IF NEEDED, TEMPORARY SEEDING CAN HELP TO MINIMIZE EROSION. TEMPORARY SEED MIX CONFORM TO R.I.D.O.T. STANDARD TEMPORARY SEED MIX.
- CONTRACTOR TO EXCAVATE TEST PITS TO VERIFY INVERTS AND ANY POTENTIAL UTILITY CONFLICTS.
- DRAINAGE INFORMATION IS PROVIDED FOR DESIGN PURPOSES ONLY. ONLY AFTER THE CONTRACTOR VERIFIES ELEVATIONS AND LENGTH OF PIPE FOR THE CONSTRUCTABILITY OF THE DRAINAGE SYSTEM SHALL ANY DRAINAGE STRUCTURE BE ORDERED.
- CONTRACTOR SHALL CLEAN AND FLUSH ALL DRAINAGE STRUCTURES AND PIPES WITHIN THE PROJECT LIMITS TO THEIR OUTFALLS. COMPOST FILTER SOCKS ARE REQUIRED TO BE INSTALLED AT ALL OUTFALLS PRIOR TO CLEANING AND FLUSHING PIPES.
- TOWN MAY SUBSTITUTE CONCRETE PIPE FOR HDPE DEPENDING ON AVAILABILITY AND COST OF MATERIALS.



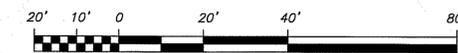
LOCUS MAP
N.T.S.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED **MAR 31 2017** FILE # **17-0067**
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

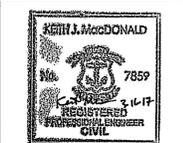


GENERAL PLAN
SCALE: 1"=20'

Graphic Scale



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



Hazelwood Road Drainage Improvements
Glocester, Rhode Island



REVISIONS:

1	Mar. 2017	Permit Submission

PROJECT NO.: 16286.00
DATE: February 2017
SCALE: 1" = 20'
DESIGNED BY: RJS
CHECKED BY: KM
DRAWN BY: RJS
APPROVED BY: KM
DRAWING TITLE:

GENERAL PLAN

DRAWING NO.: **C1.0**
SHEET NO. 2 OF 3



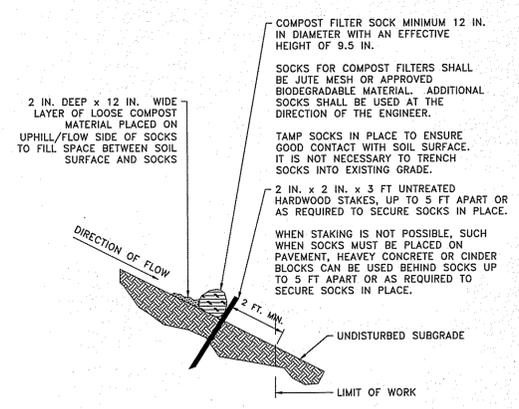
Hazelwood Road Drainage Improvements
 Gloucester, Rhode Island



REVISIONS:

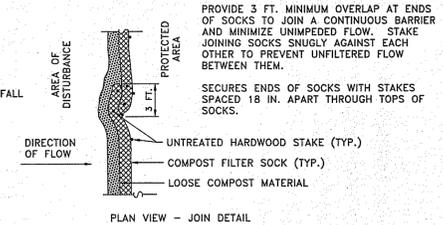
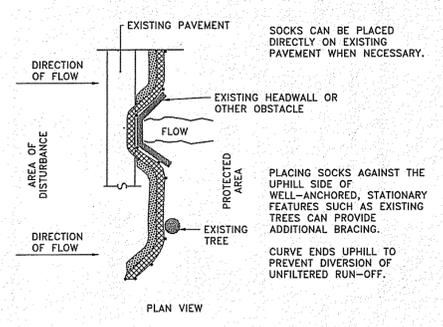
1	Mar. 2017	Permit Submission
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PROJECT NO.: 16286.00
 DATE: February 2017
 SCALE: AS NOTED
 DESIGNED BY: RJS
 CHECKED BY: KM
 DRAWN BY: RJS
 APPROVED BY: KM
 DRAWING TITLE: DETAIL SHEET
 DRAWING NO.: C2.0
 SHEET NO. 3 OF 3

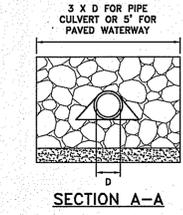
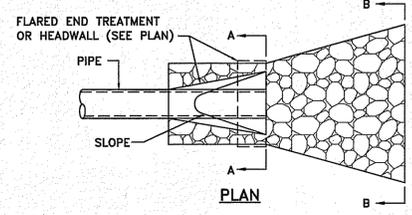


GENERAL NOTES:
 1. PROVIDE A MINIMUM SOCK DIAMETER OF 12 INCHES FOR SLOPES UP TO 50 FEET IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER SOCK DIAMETER OR ADDITIONAL COURSING OF FILTER SOCKS TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER OR STEEPER SLOPES.
 2. INSTALL SOCKS ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
 3. DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
 4. CONFIGURE SOCKS AROUND EXISTING SITE FEATURES TO MINIMIZE SITE DISTURBANCE AND MAXIMIZE CAPTURE AREA OF STORMWATER RUN-OFF.

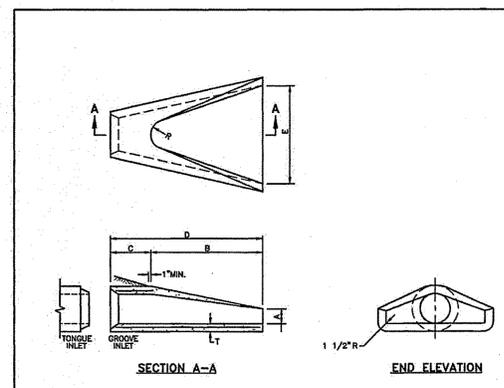
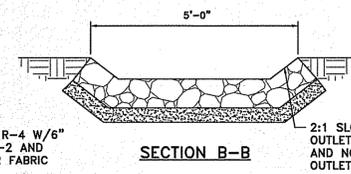
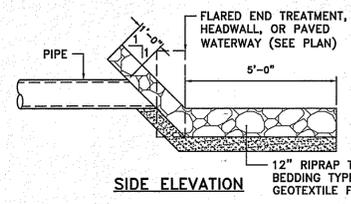
SINGLE COMPOST FILTER SOCK DETAIL
 NOT TO SCALE



RIP RAP LEVEL SPREADER DETAIL
 NOT TO SCALE



NOTE: DIMENSIONS MAY BE MODIFIED BY ENGINEER TO MEET FIELD CONDITIONS.



DIA.	DIMENSIONS							REINFORCEMENT	
	A	B	C	D	E	R	T		
1'-0"	4"	2'-0"	4'-0"	7/8"	6'-0"	7/8"	2'-0"	2"	0.048
1'-3"	6"	2'-3"	3'-10"	6'-1"	2'-6"	11"	2'-6"	2 1/4"	0.050
1'-6"	8"	2'-6"	3'-10"	6'-1"	2'-6"	12"	2'-6"	2 1/2"	0.052
2'-0"	9 1/2"	2'-7 1/2"	2'-8"	6'-1 1/2"	2'-0"	11'-2"	3"	3"	0.072
2'-6"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	1'-3"	3 1/2"	3 1/2"	0.084
3'-0"	1'-3"	5'-3"	2'-10 3/4"	6'-1 3/4"	6'-0"	1'-6"	4"	4"	0.096
3'-6"	1'-6"	5'-3"	2'-10 3/4"	6'-1 3/4"	6'-0"	1'-10"	4 1/2"	4 1/2"	0.108
4'-0"	2'-0"	6'-0"	2'-2"	6'-2"	5'-2"	1'-10"	5"	5"	0.120
4'-6"	2'-3"	5'-6"	2'-11"	6'-4"	7'-0"	2'-0"	5 1/2"	5 1/2"	0.132
5'-0"	2'-6"	5'-0"	3'-3"	6'-3"	6'-0"	2'-0"	6"	6"	0.144

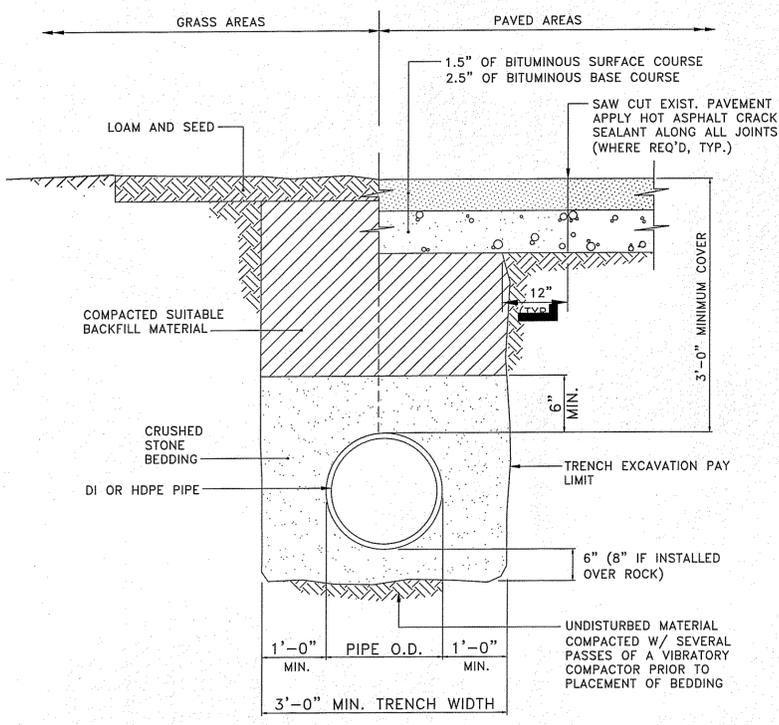
NOTE: SHALL BE IN ACCORDANCE WITH SECTION 701 OF THE R.I. STANDARD SPECIFICATIONS.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

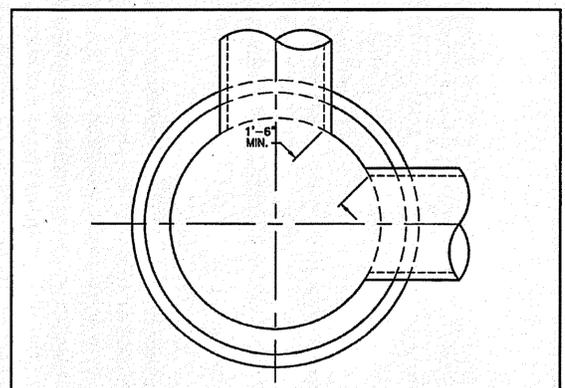
PRECAST CONCRETE FLARED END SECTION

JUNE 15, 1998

R.I. STANDARD 2.3.0



TYPICAL TRENCH FOR DRAINAGE INSTALLATION
 NOT TO SCALE



	4 FT. MANHOLE OR CATCH BASIN	5 FT. MANHOLE OR CATCH BASIN	6 FT. MANHOLE OR CATCH BASIN
MAX. PIPE O.D. STRAIGHT THRU TO 45° DEFLECTION	33 1/2" O.D. 27" R.C. PIPE	44" O.D. 36" R.C. PIPE	51" O.D. 42" R.C. PIPE
MAX. PIPE O.D. 90° DEFLECTION	23" O.D. 18" R.C. PIPE	33 1/2" O.D. 27" R.C. PIPE	37" O.D. 30" R.C. PIPE

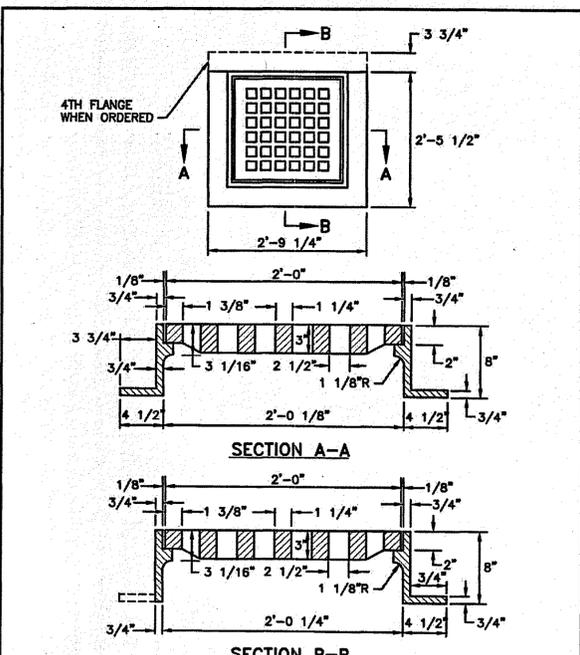
NOTE:
 1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
 2. THE MINIMUM DISTANCE BETWEEN PIPES ENTERING MANHOLES AND CATCH BASINS MUST BE 1'-6". THE SIZE OF THE CATCH BASIN WILL BE DETERMINED BY THE PIPE SIZE AND ENTRY ANGLE. (SEE TABLE ABOVE.)

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

ROUND MANHOLES AND CATCH BASINS MAXIMUM PIPE SIZE STANDARD

JUNE 15, 1998

R.I. STANDARD 5.2.0

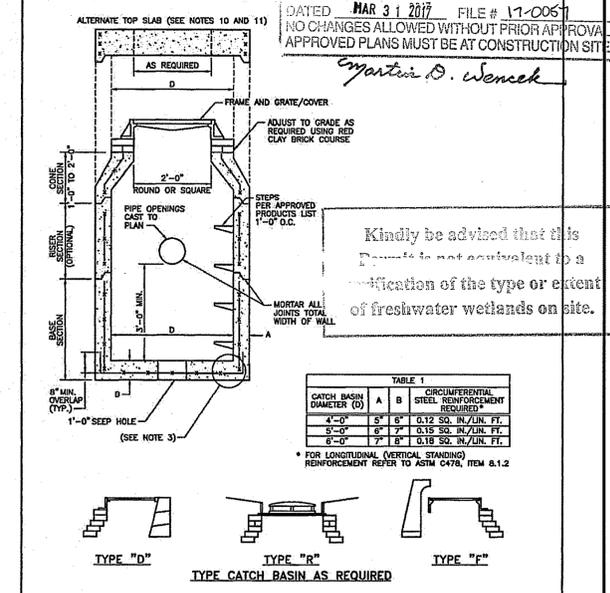


RHODE ISLAND DEPARTMENT OF TRANSPORTATION

SQUARE FRAME AND GRATE

JUNE 15, 1998

R.I. STANDARD 6.3.0



NOTE:
 1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
 2. SEE TABLE 1 FOR STEEL REINFORCEMENT REQUIREMENTS.
 3. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).
 4. STEPS SHALL CONFORM TO STD. 5.2.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.
 5. ONE POLE MONITORING BASE SECTION.
 6. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO UNCONFORMING HANMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
 7. CORREL MAKE OF RED CLAY BRICK WILL BE PERMITTED FOR THE "CORE SECTION" OF THE 4'-0" CATCH BASIN ONLY.
 8. FOR CATCH BASIN TYPES "D" AND "F" STEPS MUST BE INSTALLED ON THE CURB SIDE OF THE STRUCTURE.
 9. THE CENTERLINE OF THE OPENING MUST BE WITHIN 2'-0" FROM THE STEPS.
 10. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED ON LEADING (SEE STD. 4.7.2).
 11. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.
 12. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

PRECAST 4'-0", 5'-0", OR 6'-0" ROUND CATCH BASIN

JUNE 15, 1998

R.I. STANDARD 4.4.0

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
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 DATED MAR 31 2017 FILE # 17-0061
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Matthew D. Wenzel

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

TABLE 1

CATCH BASIN DIAMETER (D)	A	B	CIRCUMFERENTIAL STEEL REINFORCEMENT REQUIRED*
4'-0"	6"	6"	0.12 SQ. IN./LIN. FT.
5'-0"	6"	7"	0.15 SQ. IN./LIN. FT.
6'-0"	7"	8"	0.18 SQ. IN./LIN. FT.

* FOR LONGITUDINAL (VERTICAL STANDING) REINFORCEMENT REFER TO ASTM C478, ITEM 6.1.2