

Construction Sequence Notes

1. SURVEY LOCATE AND INSTALL EROSION CONTROL MEASURES AND TEMPORARY CONSTRUCTION FENCE AT LIMITS OF WORK;
2. BEGIN SITE DEMOLITION OPERATIONS INCLUDING ANY STRIPPING OF PAVEMENTS, TREE REMOVAL, CUTTING/CAPPING AND/OR REMOVAL OF UTILITIES, ETC.;
3. CLEAR & GRUB AND STRIP TOPSOIL & STOCKPILE. INSTALL HAYBALES OR SILT FENCE AROUND STOCKPILES;
4. COMMENCE CUT AND FILL OPERATION TO ACHIEVE SITE SUBGRADE;
5. INSTALL STORMWATER INFILTRATION AND WATER QUALITY SYSTEMS, MANHOLES, CATCH BASINS, AND PIPING;
6. CONNECT DOWNSPOUTS TO ROOF DRAIN PIPING;
7. INSTALL GRAVEL, FINE GRADE, AND BINDER.
8. INSTALL LOAM FOR PLANT AREAS.
9. SEED AND LANDSCAPE ALL AREAS.
11. SWEEP AND INSTALL PAVEMENT TOP COURSE.
12. INSTALL PAVEMENT MARKINGS.
13. REMOVE EROSION CONTROLS AT SITE PERIMETER AND CATCH BASIN FILTERS ONCE VEGETATION HAS ESTABLISHED;
14. INSPECT AND CLEAN ANY SEDIMENT FROM INFILTRATION SYSTEMS, CATCH BASINS, AND PIPING.

General Site Construction Notes

1. CONTRACTOR SHALL NOTIFY "DIG-SAFE" (1-888-344-7233) AT LEAST 72 HOURS BEFORE EXCAVATING.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.
3. ACCESSIBLE ROUTES, PARKING SPACES, RAMPS, SIDEWALKS AND WALKWAYS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE FEDERAL AMERICANS WITH DISABILITIES ACT AND WITH STATE AND LOCAL LAWS AND REGULATIONS (WHICHEVER ARE MORE STRINGENT).
4. AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE LOAM AND SEED. SEE LANDSCAPE PLANS.
5. UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS. IN THE SPECIFICATIONS, AND IN THE CONTRACT DOCUMENTS, DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, AND FIRE HYDRANTS, WITHOUT APPROPRIATE PERMITS.
6. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
7. IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, AND OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL AND SHALL NOTIFY THE OWNER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.
8. CONTRACTOR SHALL PREVENT DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS AND CORRECTIVE ACTION IF SUCH OCCURS.
9. DAMAGE RESULTING FROM CONSTRUCTION LOADS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.

Establishment of Vegetative Cover

1. SLOPES SHALL NOT BE LEFT UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON.
2. PLANTABLE SOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS AND SHALL CONFORM WITH RHODE ISLAND'S STANDARD SPECIFICATIONS, AS AMENDED.
3. THE DESIGN MIX SHALL BE COMPRISED OF THE FOLLOWING:

TYPE	LBS./ACRE
CREeping RED FESCUE	75
KENTUCKY BLUE GRASS	15
COLONIAL BENT GRASS	5
PERENNIAL RUE GRASS	5
4. EARLY SPRING OR LATE SUMMER SEEDING IS RECOMMENDED. ADD LIME, FERTILIZER, OR COMPOST TO STRIPPED AND SCREENED TOPSOIL AS REQUIRED FROM TESTING.
5. THE SEED MIX SHALL BE INOCULATED WITHIN 24 HOURS BEFORE MIXING AND PLANTING, WITH APPROPRIATE INOCULUM FOR EACH VARIETY.
6. THE RECOMMENDED SEEDING DATES ARE APRIL 1ST THROUGH JUNE 15 AND AUGUST 15 THROUGH SEPTEMBER 30. TEMPORARY TREATMENTS SHALL CONSIST OF NORTH AMERICAN GREEN S150BN OR APPROVED EQUAL. THEY SHALL BE INCORPORATED INTO THE WORK AS SHOWN ON THE PLANS.
7. HAY OR STRAW APPLICATIONS SHALL BE IN THE AMOUNT OF 2 TONS/ACRE. ALL HAY BALES OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED. ALL FILL SHALL BE THOROUGHLY COMPACTED UPON PLACEMENT IN STRICT CONFORMANCE WITH THE RHODE ISLAND STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 202.
8. STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAY. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 2:1.
9. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISH GRADING. PERMANENTLY SEEDED AREAS SHALL BE PROTECTED DURING ESTABLISHMENT WITH MULCH. ALL SEEDED AREAS WILL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHALL BE FERTILIZED AND RESEEDED AS NECESSARY.
10. REFERENCE THE "RHODE ISLAND EROSION AND SEDIMENTATION CONTROL HANDBOOK" PREPARED BY THE USDA SOIL CONSERVATION SERVICE AS A GUIDE. TEMPORARY HAY MULCH TO BE TACKED IN PLACE WITH NYLON MESH NETTING. MAXIMUM GRADED SLOPE WITHIN THE SITE TO BE 3:1, UNLESS SPECIFIED OTHERWISE.

Soil Erosion & Sediment Control Notes

1. ALL DISTURBED AREAS SHALL BE SEEDED, PROTECTED, AND MAINTAINED BY THE CONTRACTOR. THE CONTRACTOR SHALL CHECK REGULARLY ALL SEEDED AREAS TO SEE THAT A GOOD STAND IS MAINTAINED.
2. THE CONTRACTOR MUST STABILIZE (SEED) ALL AREAS WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS.
3. EROSION CONTROLS SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED.
4. THE CONTRACTOR SHALL MAINTAIN ALL TOP SOIL STOCKPILES AND SEDIMENT BARRIERS THROUGHOUT CONSTRUCTION. EXTREME CARE SHALL BE TAKEN TO ENSURE THAT SEDIMENTS DO NOT SPILL OVER THE SEDIMENT BARRIER.
5. EROSION CONTROL BARRIER SHALL BE MONITORED BY THE CONTRACTOR ON A WEEKLY BASIS AND AFTER EACH STORM FOR UNDERMINING OR DETERIORATION. CONTRACTOR SHALL REPAIR OR REPLACE AS NECESSARY.
6. CONTRACTOR SHALL CLEAN THE ACCUMULATED SEDIMENT IF HALF OF THE ORIGINAL HEIGHT OF THE EROSION CONTROL BECOMES FILLED IN WITH SEDIMENTS.
7. THE STONE STABILIZATION PAD (IF REQUIRED) AT THE SITE ENTRANCE SHALL BE MAINTAINED BY THE CONTRACTOR. THE MAINTENANCE SHALL INCLUDE TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND.
8. ALL SEDIMENTS SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
9. PRIOR TO SITE CONTRACTOR DEMOBILIZING FROM SITE, FLUSH DRAIN PIPES AND REMOVE SEDIMENT FROM ALL DRAINAGE SYSTEMS.

Drainage & Utility Notes

1. THE LOCATIONS, SIZES, AND TYPES OF EXISTING UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR ITS REPRESENTATIVE(S) HAVE NOT INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES. NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND DETERMINE THE EXACT LOCATIONS, SIZES, AND ELEVATIONS OF THE POINTS OF CONNECTIONS TO EXISTING UTILITIES AND, SHALL CONFIRM THAT THERE ARE NO INTERFERENCES WITH EXISTING UTILITIES AND THE PROPOSED UTILITY ROUTES, INCLUDING ROUTES WITHIN THE PUBLIC RIGHTS OF WAY.
2. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE OWNER'S REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT AND CONTRACTOR'S FAILURE TO NOTIFY PRIOR TO PERFORMING ADDITIONAL WORK RELEASES OWNER FROM OBLIGATIONS FOR ADDITIONAL PAYMENTS WHICH OTHERWISE MAY BE WARRANTED TO RESOLVE THE CONFLICT.
3. EXISTING UTILITIES SHALL BE TERMINATED, UNLESS OTHERWISE NOTED, IN CONFORMANCE WITH LOCAL, STATE AND INDIVIDUAL UTILITY COMPANY STANDARD SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES.
4. ALL CATCH BASINS AND DRAIN MANHOLES SHALL BE 4 FT. DIAMETER, UNLESS SPECIFIED OTHERWISE. CATCH BASINS SHALL UTILIZE HOODS AT THE OUTLET PIPE.
5. SET CATCH BASIN RIMS, INVERTS OF DRAINS AND GRADE DITCHES IN ACCORDANCE WITH ELEVATIONS ON THE GRADING AND UTILITY PLANS.
6. RIM ELEVATIONS FOR MANHOLES, WATER VALVE COVERS, GAS GATES, ELECTRIC AND TELEPHONE PULL BOXES, AND MANHOLES, AND OTHER SUCH ITEMS, ARE APPROXIMATE AND SHALL BE SET/RESET AS FOLLOWS:
-PAVEMENTS AND CONCRETE SURFACES: FLUSH
-ALL SURFACES ALONG ACCESSIBLE ROUTES: FLUSH
7. STORM DRAINS SHALL BE HDPE (ADS-N12 OR EQUAL).
8. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR AND SHALL FURNISH EXCAVATION, INSTALLATION, AND BACKFILL OF ELECTRICAL FURNISHED STEWOK RELATED ITEMS SUCH AS PULL BOXES, CONDUITS, DUCT BANKS, LIGHT POLE BASES, AND CONCRETE PADS. SITE CONTRACTOR SHALL FURNISH CONCRETE ENCASEMENT OF DUCT BANKS IF REQUIRED BY THE UTILITY COMPANY AND AS INDICATED ON THE DRAWINGS.
9. CONTRACTOR TO CREATE POSITIVE DRAINAGE TOWARDS ALL DRAIN INLETS.

Construction (Short-Term) BMP Maintenance

THE OWNER'S CONTRACTOR WILL BE RESPONSIBLE FOR SOIL EROSION AND SEDIMENT CONTROL THROUGHOUT CONSTRUCTION. THE TEMPORARY CONSTRUCTION BEST MANAGEMENT PRACTICES WILL BE MAINTAINED AS FOLLOWS:

STRAW WATTLES, HAYBALES, OR SILT FENCE
WHERE: BOTTOM SLOPE OF LAND DISTURBING ACTIVITY
WHEN: EVERY 7 DAYS AND EACH RAINFALL AMOUNT OF 0.25" AND GREATER.
MAINTENANCE: REPLACE OR REPAIR IMMEDIATELY FOLLOWING RAIN EVENT. TAKE PICTURES AND DOCUMENT RESTORATION ACCUMULATED SEDIMENT BEHIND THE CONTROL IS NECESSARY IF 1/2 OF THE ORIGINAL HEIGHT OF THE CONTROL BECOMES FILLED WITH SEDIMENT.

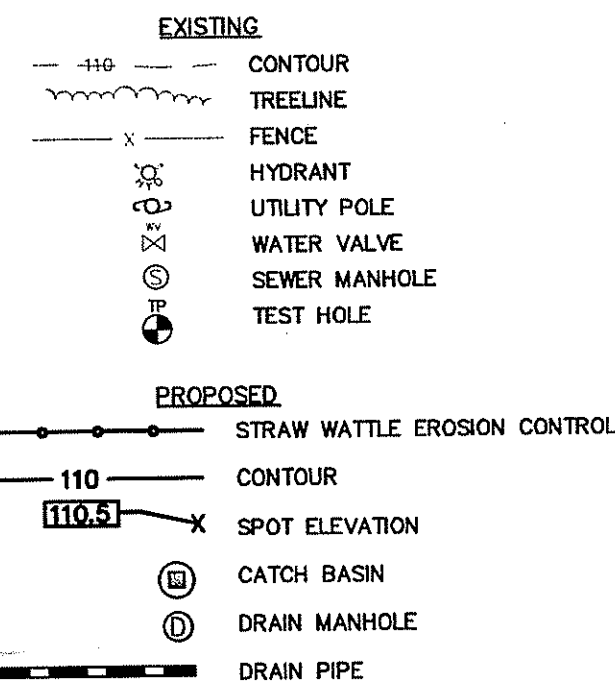
SILT SACK
WHERE: CATCH BASINS
WHEN: EVERY 7 DAYS AND WITHIN 24 HOURS AFTER EACH RAINFALL AMOUNT 0.25" AND GREATER.
MAINTENANCE: REMOVE AND DISPOSE SEDIMENT FROM SITE.

TEMPORARY SEEDING OR HAY
WHERE: LANDSCAPE AREAS
WHEN: AS REQUIRED
MAINTENANCE: RE-SEED ANY ERODED OR BARE AREAS. IF HAY IS USED, INSTALL NEW HAY IF BARE SOIL IS SHOWING.

Long-Term BMP/Stormwater System O&M

1. THE PROPERTY OWNER WILL BE THE RESPONSIBLE PARTY TO FUND AND PERFORM LONG-TERM MAINTENANCE OF THE STORMWATER SYSTEMS.
2. A LEGALLY BINDING AGREEMENT HAS BEEN OR WILL BE PREPARED AND MUST BE MAINTAINED FOR CURRENT AND FUTURE PROPERTY OWNERS AS IT RELATES TO BMP AND STORMWATER SYSTEM MAINTENANCE.
3. NO "LAND USES WITH HIGHER POTENTIAL POLLUTANT LOADS" (LUPPLS) WILL BE ALLOWED TO UTILIZE THE PROPERTY IN THE FUTURE. THE FOLLOWING LAND USES AND ACTIVITIES ARE CONSIDERED STORMWATER LUPPLS:
 - A. AREAS WITHIN AN INDUSTRIAL SITE (AS DEFINED IN RIDPS RULE 31(B)(15)) THAT ARE THE LOCATION OF ACTIVITIES SUBJECT TO THE RIDPS MULTI-SECTOR GENERAL PERMIT (EXCEPT WHERE A NO EXPOSURE CERTIFICATION FOR EXCLUSION FROM RIDPS STORMWATER PERMITTING HAS BEEN EXECUTED);
 - B. AUTO FUELING FACILITIES (I.E., GAS STATIONS);
 - C. EXTERIOR VEHICLE SERVICE, MAINTENANCE AND EQUIPMENT CLEANING AREAS;
 - D. ROAD SALT STORAGE AND LOADING AREAS (IF EXPOSED TO RAINFALL); AND
 - E. OUTDOOR STORAGE AND LOADING/UNLOADING OF HAZARDOUS SUBSTANCES.
4. STORMWATER TREATMENT BMPs AND QUANTITY CONTROL SYSTEMS WILL BE MAINTAINED AS FOLLOWS WITH ATTACHED INSPECTION CHECKLIST:
 - A. **CATCH BASIN W/ HOOD**
 - MAINTENANCE: VACUUM TRUCK OR CLAM SHELL USED TO REMOVE SEDIMENT. INSPECT OUTLET HOODS AND ENSURE PROPER FUNCTIONALITY.
 - SCHEDULE: INSPECTIONS SHALL BE PERFORMED A MINIMUM OF TWO (2) TIMES PER YEAR (SPRING/FALL). SUMPS SHALL BE CLEANED WHENEVER THE DEPTH OF SEDIMENT IS GREATER THAN OR EQUAL TO HALF THE SUMP DEPTH.
 - B. **UNDERGROUND INFILTRATION SYSTEM**
 - MAINTENANCE: JET VAC ISOLATOR ROW FROM INSPECTION PORT(S) SENDING ALL SEDIMENT TO MANHOLE SUMP. VACUUM THE MANHOLE SUMP UNTIL ALL SEDIMENT HAS BEEN REMOVED. REMOVAL OF SEDIMENT SHOULD OCCUR DURING THE SCHEDULED INSPECTIONS OR WHEN SEDIMENT HAS REACHED A HEIGHT IN THE ISOLATOR ROW EQUAL TO 50% OF CAPACITY, OR AN ELEVATION OF 16 INCHES ABOVE THE BOTTOM OF THE CHAMBER.
 - SCHEDULE: INSPECT BI-ANNUALLY (TWICE PER YEAR) AND AFTER STORMS EQUAL TO OR GREATER THAN THE 1-YEAR STORM EVENT (2.7 INCHES OF RAINFALL IN A 24-HOUR PERIOD).
 - C. **INFILTRATION BASIN**
 - MAINTENANCE: MOWING OF BASIN SHALL OCCUR TO MAINTAIN A HEIGHT OF GRASS BETWEEN 2" AND 10". RESET THE RIP-RAP APRON TO REMOVE ANY SEDIMENT BUILD UP AT THE BASIN INLET. ROTO-TIL THE BASIN BOTTOM AS REQUIRED TO RE-ESTABLISH INFILTRATION. RE-SEED ANY ERODED OR BARE AREAS.

LEGEND & SYMBOLS



5. POLLUTION PREVENTION PRACTICES

- A. **STREET SWEEPING**
 - SWEEPING OF PARKING AREAS AND ROADWAYS WILL BE PERFORMED IN EARLY SPRING TO AVOID THE INTRODUCTION OF ADDITIONAL SEDIMENT BEYOND NORMAL EXPECTED AMOUNTS INTO THE DRAINAGE SYSTEMS.
 - UTILIZATION OF EQUIPMENT SUCH AS A MECHANICAL VACUUM SWEEPER SHALL BE USED TO CLEAN AND REMOVE SAND/SALT/SEDIMENT FROM PAVED SURFACES. BUCKET EQUIPMENT MAY BE REQUIRED TO REMOVE SEDIMENT BUILD-UP LEFT BEHIND FROM STOCKPILED SNOW.
- B. **SOLID WASTE CONTAINMENT**
 - TRASH AND RECYCLING RECEPTACLES MUST BE PROVIDED WITH REGULAR COLLECTION AT ALL SITES;
- C. **DEICING AND SALT STORAGE (IF ANY)**
 - SALT STORAGE PILES SHOULD BE COMPLETELY COVERED WITH A POLY LINER OR EQUAL;
 - APPLICATION RATE OF DEICING MATERIALS SHOULD BE TAILORED TO A LOW VOLUME RATE OF TRAFFIC;
 - TRUCKS SHOULD BE EQUIPPED WITH SENSORS THAT AUTOMATICALLY CONTROL THE DEICER SPREAD RATE;
- D. **SNOW MAINTENANCE**
 - AVOID DISPOSING OR STOCKPILING SNOW ON TOP OF STORM DRAIN CATCH BASINS. SNOW COMBINED WITH SAND AND DEBRIS MAY BLOCK A STORM DRAINAGE SYSTEM, CAUSING LOCALIZED FLOODING;
 - IT IS RECOMMENDED THAT SILT FENCE OR OTHER EROSION CONTROL BARRIERS BE PLACED AROUND SNOW STOCKPILES TO AVOID SAND/SALT FROM SNOW MELT FROM ENTERING THE DRAINAGE SYSTEM.



LOCUS MAP

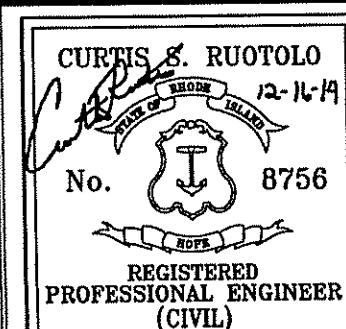
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED FEB 6 2015 FILE # 15-0005
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

James H. Hackett

JAN 13 2014

NOTES & LEGEND STORMWATER MANAGEMENT PLAN

MAP B4 LOT 21-60
867 SOCIAL STREET WOONSOCKET, RHODE ISLAND
PREPARED FOR:
PAUL & JEAN LARIVIERE



ADVANCED CIVIL DESIGN, INC.
CIVIL ENGINEERS



7 COUNTRYSIDE LANE
SCITUATE, RI 02857

PH: (401) 473-4404

NO.	DATE	DESCRIPTION

DATE: 12/10/2014

SCALE:

DESIGN/CHECK BY: C.S.R.

SHEET NO.

C-1

1 OF 4

MASTHEAD PLAN ENTITLED & ALTA/ACSM LAND TITLE SURVEY
DATED FEB. 15, 2002

MAP B5 LOT 35-115
N/F
RIVER HAVEN CONDO. ASSOC.

MAP B4 LOT 21-160
EXIST. AREA = 58,872 S.F.

BURNSIDE AVENUE

PETER RIVER

MILL STREET
(40.00' PUBLIC RIGHT OF WAY)

SOCIAL STREET
(50.00' PUBLIC RIGHT OF WAY)

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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BASE MAP REFERENCE:
AN ELECTRONIC CAD FILE OF THE BASE MAP
WAS PROVIDED BY MARC N. NYBERG
ASSOCIATES, INC. LAND SURVEYORS AND
PLANNERS OF 501 Great Road, Unit 104
SMITHFIELD, RHODE ISLAND 02896.

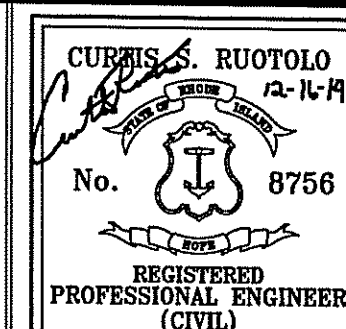
SCALE: 1"=20'
JAN 13 2015

**EROSION CONTROL, GRADING, & DRAINAGE PLAN
STORMWATER MANAGEMENT PLAN**

MAP B4 LOT 21-60
867 SOCIAL STREET WOONSOCKET, RHODE ISLAND
PREPARED FOR:
PAUL & JEAN LARIVIERE

ADVANCED CIVIL DESIGN, INC.
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NO.	DATE	DESCRIPTION

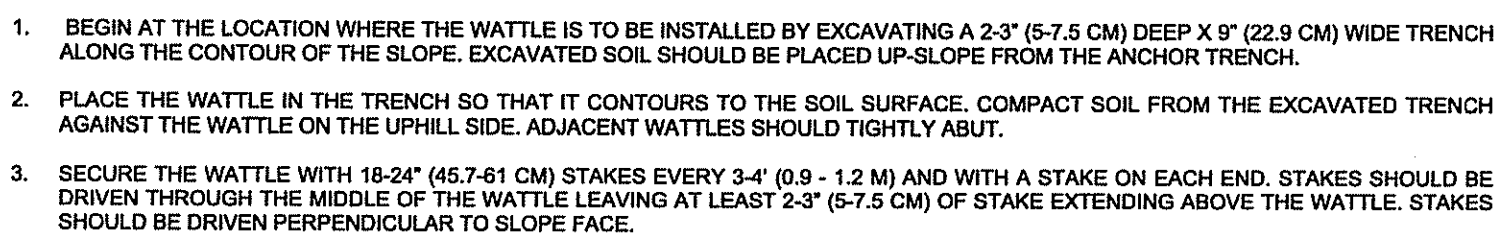
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SCALE: 1"=20'
DESIGN/CHECK BY: C.S.R.

SHEET NO.

C-2

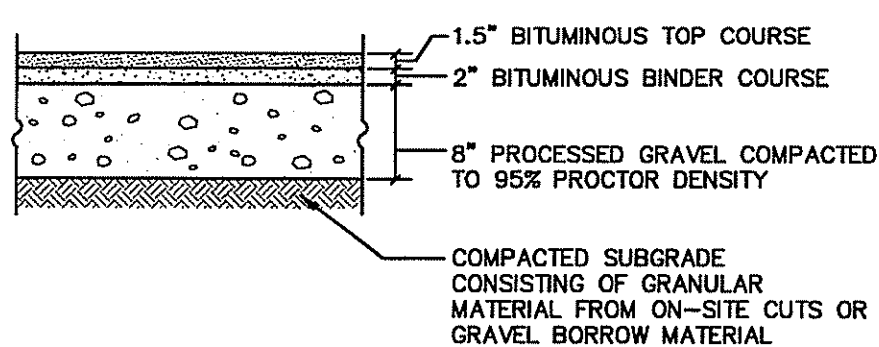
PH: (401) 473-4404

2 OF 4



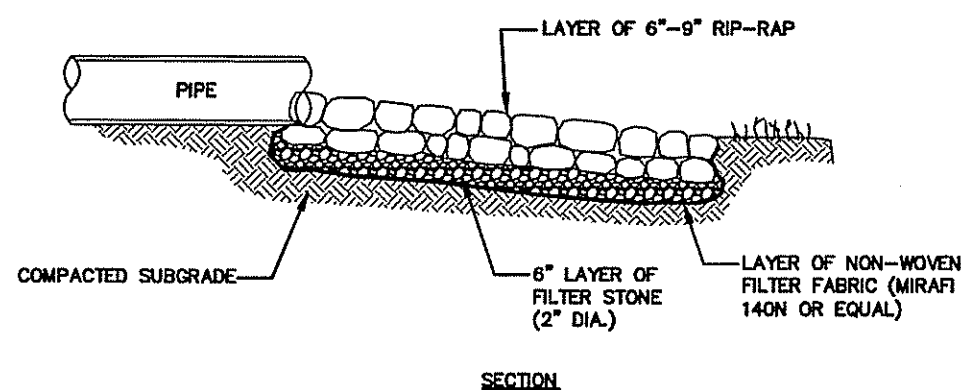
STRAW WATTLE EROSION CONTROL

NOT TO SCALE



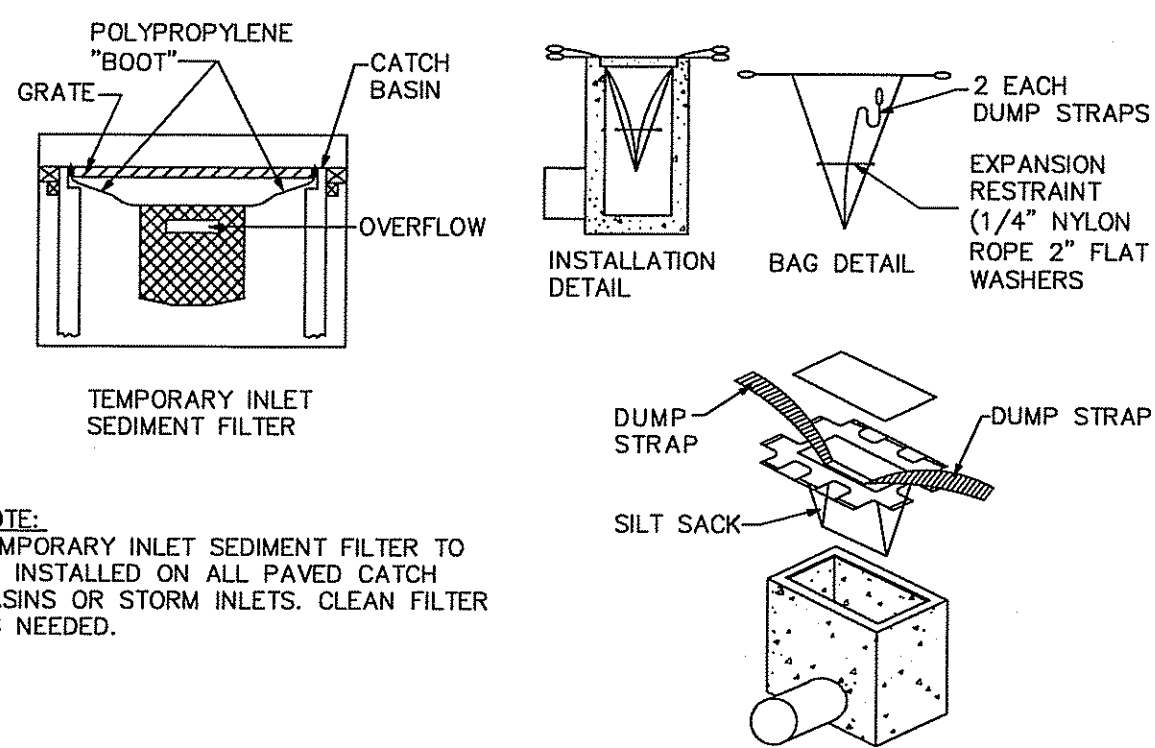
BITUMINOUS PAVEMENT SECTION

NOT TO SCALE



RIP-RAP APRON DETAIL

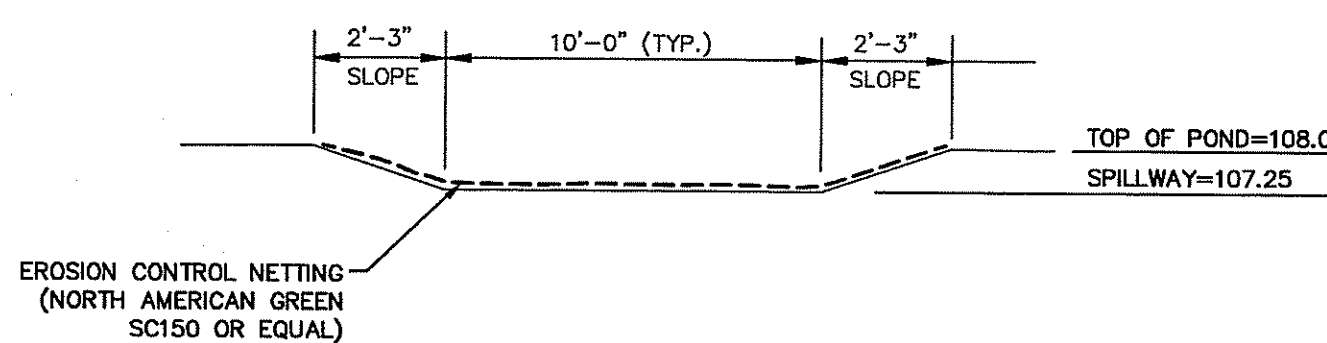
N.T.S



NOTE:
TEMPORARY INLET SEDIMENT FILTER TO
BE INSTALLED ON ALL PAVED CATCH
BASINS OR STORM INLETS. CLEAN FILTER
AS NEEDED.

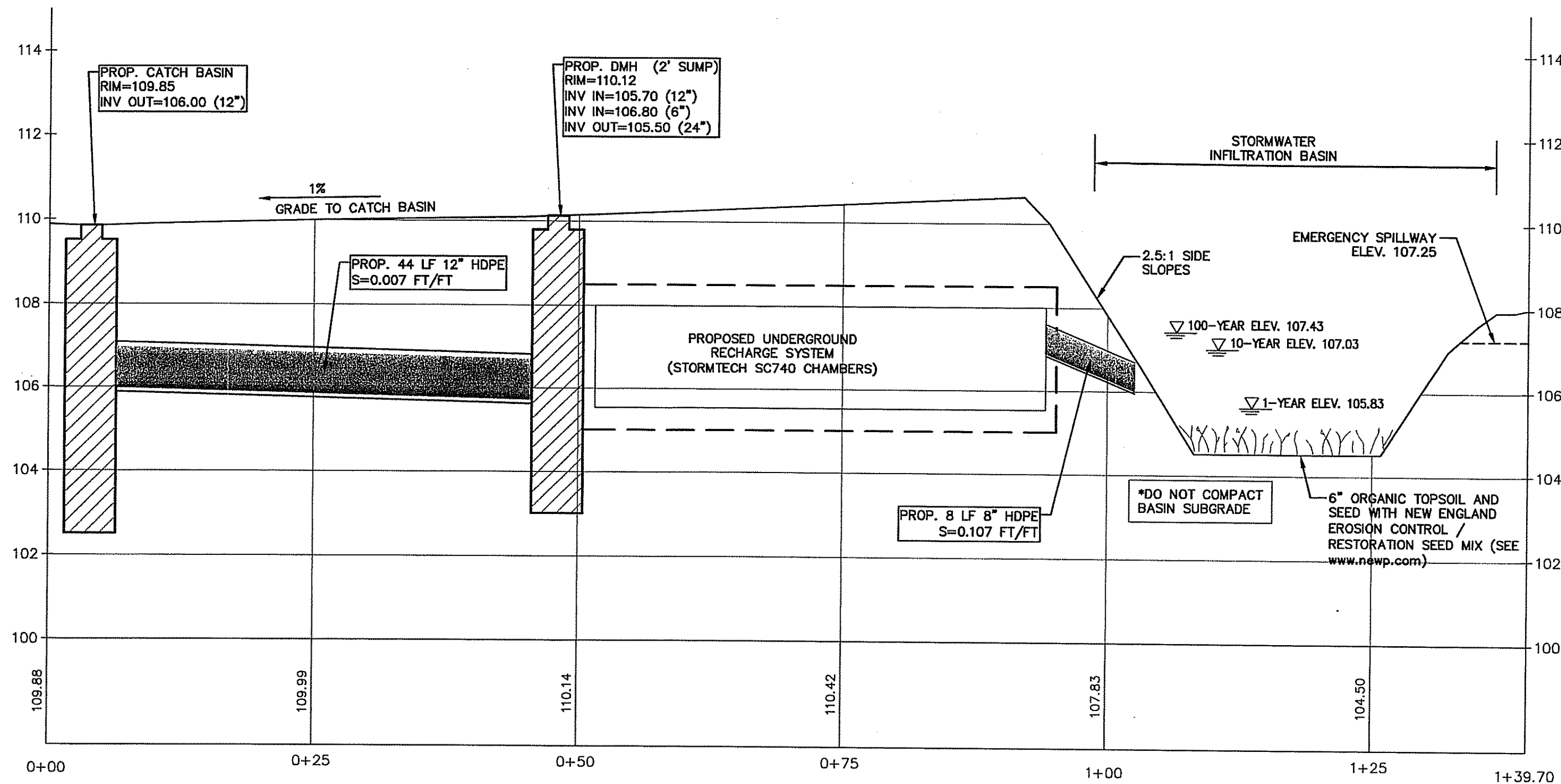
SILT SACK DETAIL

NOT TO SCALE



EMERGENCY SPILLWAY DETAIL

NTS



STORM DRAINAGE SYSTEM PROFILE

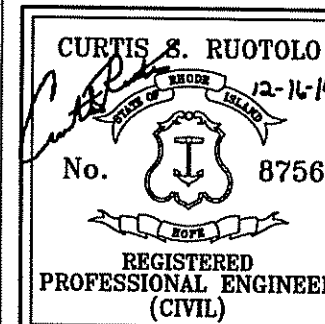
HORIZONTAL SCALE 1"=10'
VERTICAL SCALE 1"=2'-6"

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
FILE # 15-DDD5
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NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

JAN 13 2014

STORMWATER MANAGEMENT PLAN

MAP B4 LOT 21-60
867 SOCIAL STREET WOONSOCKET, RHODE ISLAND
PREPARED FOR:
PAUL & JEAN LARIVIERE



NO.	DATE	DESCRIPTION
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DATE: 12/10/2014

SCALE: AS NOTED

DESIGN/CHECK BY: C.S.R.

SHEET NO

ADVANCED CIVIL DESIGN, INC.
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AGL

D-1

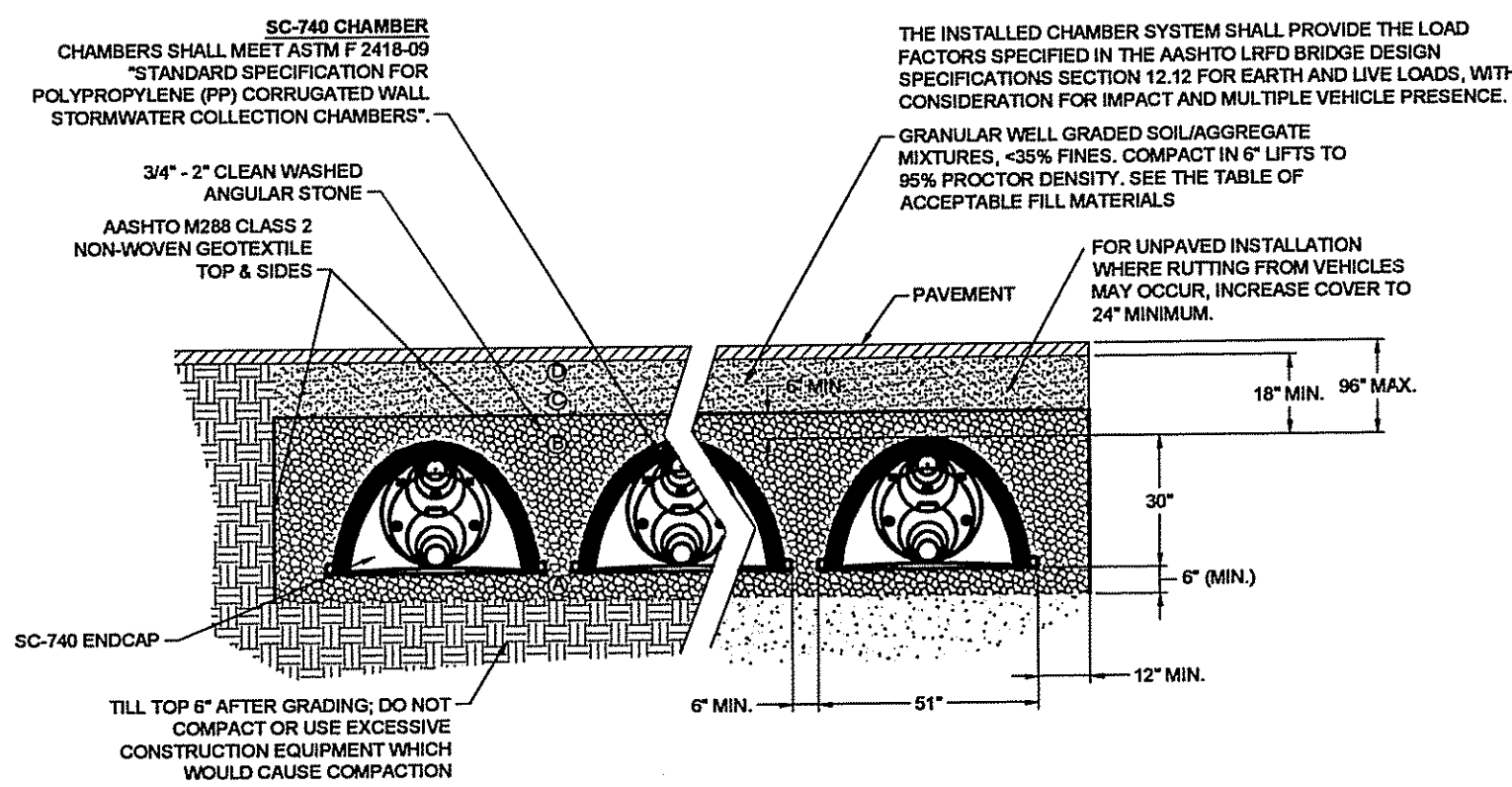
3 OF 4

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

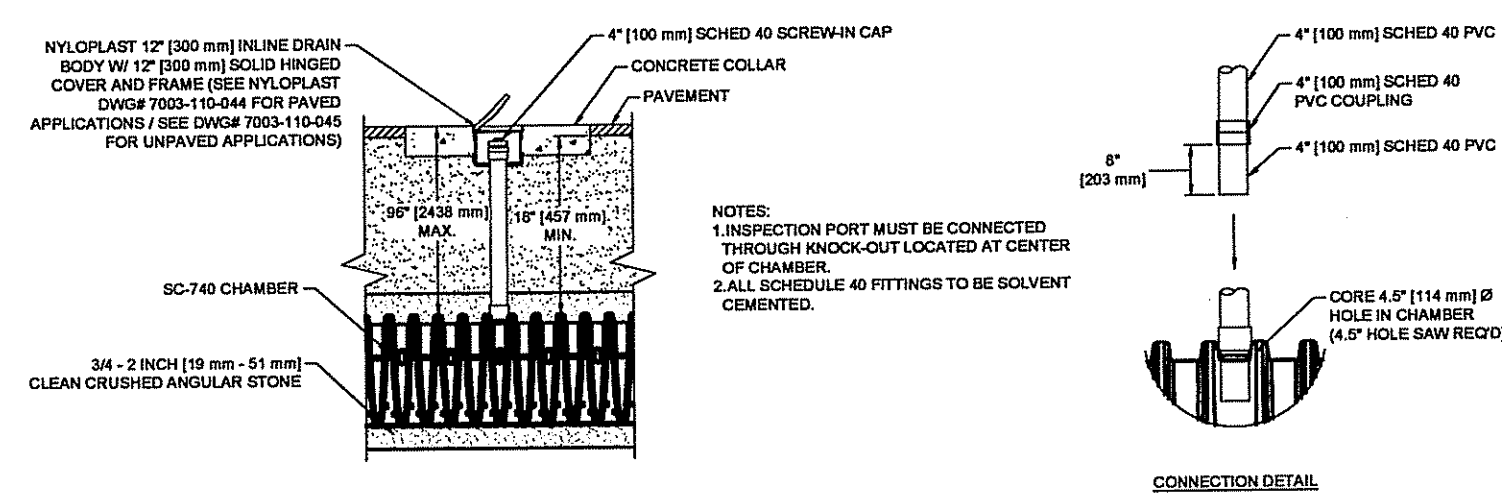
MATERIAL LOCATION	DESCRIPTION	AASHTO M43 DESIGNATION ¹	COMPACTION/DENSITY REQUIREMENT
① FILL MATERIAL FOR LAYER 12" STARTS FROM THE TOP OF THE 12" LAYER TO THE BOTTOM OF THE FLEXIBLE PAVEMENT OR UNPAVED FINISH GRADE ABOVE. NOTE THAT PAVEMENT SURFACE MAY BE PART OF THIS LAYER.	ANY SOLIDIFIED MATERIAL, NATIVE SOIL, OR FILL (ENGINEERING) PLANE, CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER ENGINEER'S PLANE. VARIOUS INSTALLATIONS MAY HAVE DIFFERENT MATERIAL AND PREPARATION REQUIREMENTS.
② FILL MATERIAL FOR LAYER 12" STARTS FROM THE TOP OF THE EMBEDMENT STONE OF LAYERS TO 18" (18" MIN) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SURFACE MAY BE PART OF THIS LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <30% FINES. MOST PAVEMENT SUB-18" (18" MIN) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SURFACE MAY BE PART OF THIS LAYER.	3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 88, 9, 10	SHOULDER COMPACTION AT PER 12" (18" MIN) OF MATERIAL OVER THE CHAMBERS IS REACHED, COMPACT ADDITIONAL LAYERS IN 12" (18" MIN) LIFTS TO A MIN. 90% STANDARD PROCTOR DENSITY. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 10,000 lbs (4500 kg).
③ EMBEDMENT STONE SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (1" LAYER) TO THE 12" LAYER ABOVE.	CLEAN WASHED ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4" - 2" (19 - 51 mm)	3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
④ FOUNDATION STONE BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN WASHED ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4" - 2" (19 - 51 mm)	3, 35, 4, 467, 5, 56, 57	FLATE COMPACT OR ROLL TO ACHIEVE A 90% STANDARD PROCTOR DENSITY.

PLEASE NOTE:
 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR, FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
 2. AS AN ALTERNATE TO PROCTOR TESTING AND FIELD DENSITY MEASUREMENTS ON OPEN GRADED STONE, STORMTECH COMPACTION REQUIREMENTS ARE MET FOR "X" LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (152 mm) MAX) LIFTS USING TWO FULL COVERAGES WITH AN APPROPRIATE COMPACTOR.

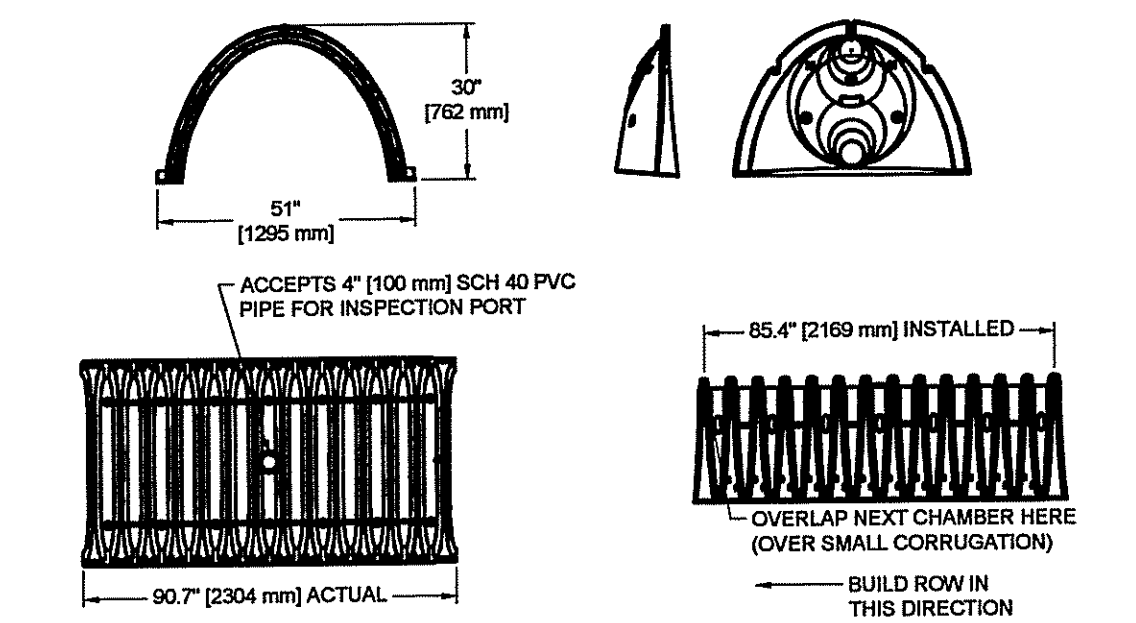
STORMTECH ACCEPTABLE FILL MATERIALS



SC-740 STANDARD CROSS SECTION



SC-740 INSPECTION PORT DETAIL

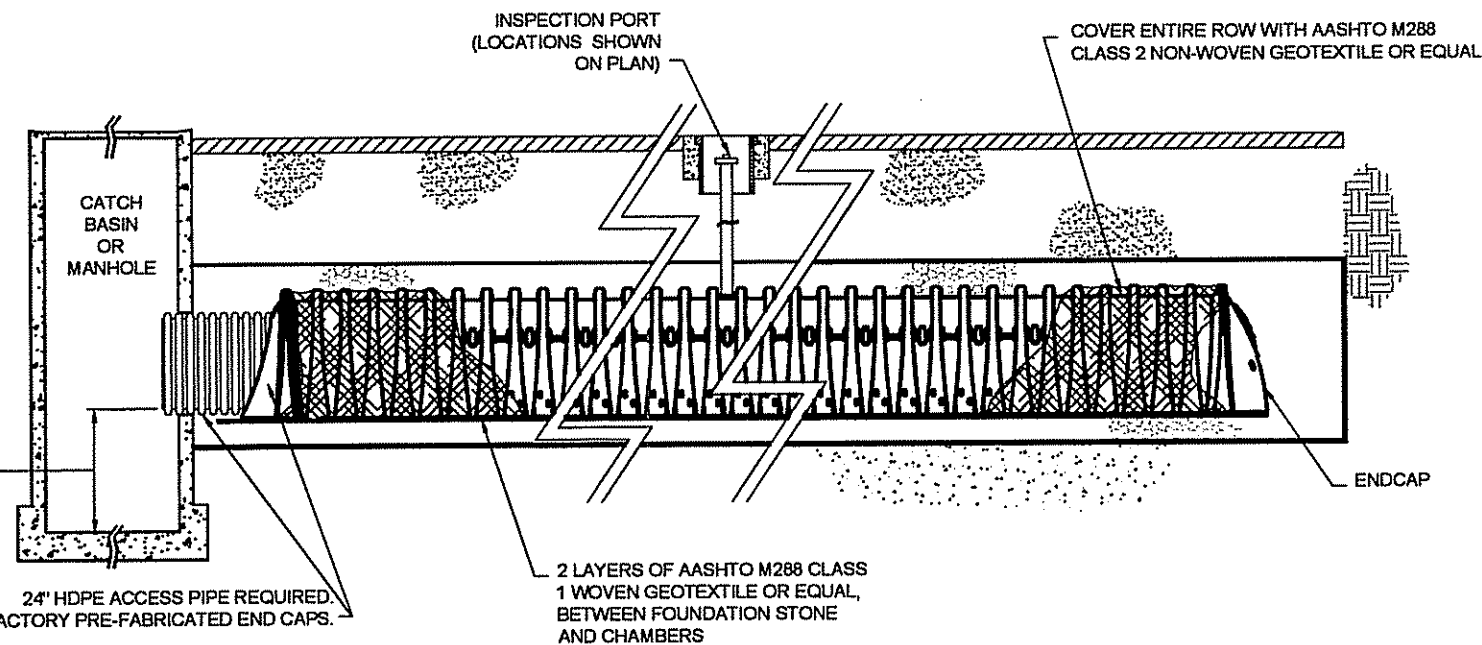


NOMINAL CHAMBER SPECIFICATIONS
 SIZE (W x H x INSTALLED LENGTH)
 CHAMBER STORAGE
 MINIMUM INSTALLED STORAGE
 WEIGHT

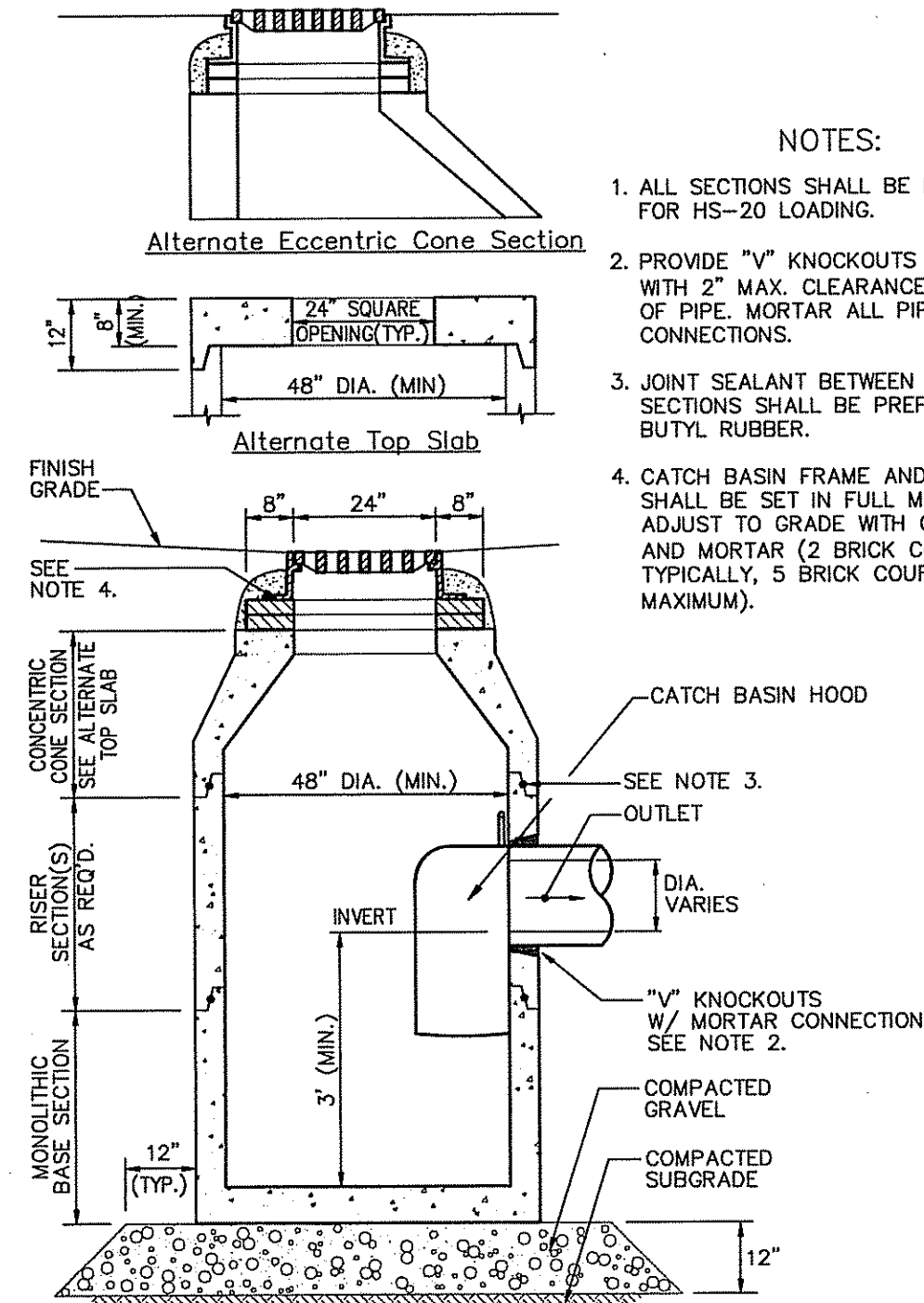
PART#	STUB	A	B	C
SC740EPE06T	6" (150 mm)	10.90" (277 mm)	18.50" (470 mm)	N/A
SC740EPE06B	6" (150 mm)	10.90" (277 mm)	N/A	0.50" (13 mm)
SC740EPE08T	8" (200 mm)	12.20" (310 mm)	16.50" (419 mm)	N/A
SC740EPE08B	8" (200 mm)	12.20" (310 mm)	N/A	0.60" (15 mm)
SC740EPE10T	10" (250 mm)	13.40" (340 mm)	14.50" (368 mm)	N/A
SC740EPE10B	10" (250 mm)	13.40" (340 mm)	N/A	0.70" (18 mm)
SC740EPE12T	12" (300 mm)	14.70" (373 mm)	12.50" (318 mm)	N/A
SC740EPE12B	12" (300 mm)	14.70" (373 mm)	N/A	1.20" (30 mm)
SC740EPE15T	15" (375 mm)	18.40" (467 mm)	9.00" (229 mm)	N/A
SC740EPE15B	15" (375 mm)	18.40" (467 mm)	N/A	1.30" (33 mm)
SC740EPE18T	18" (450 mm)	19.70" (500 mm)	5.00" (127 mm)	N/A
SC740EPE18B	18" (450 mm)	19.70" (500 mm)	N/A	1.60" (41 mm)
*SC740EPE24B	24" (600 mm)	18.50" (470 mm)	N/A	0.10" (3 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL.
 ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.
 *FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

SC-740 TECHNICAL SPEC.

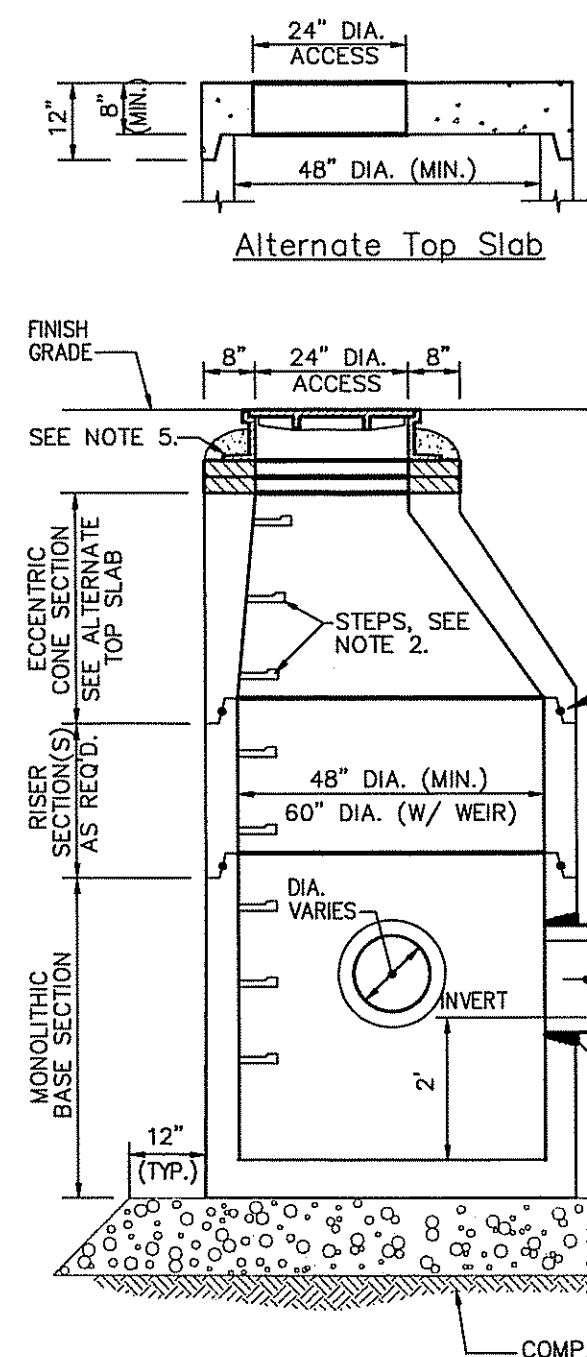


ISOLATOR ROW™ DETAIL



CATCH BASIN W/ HOOD

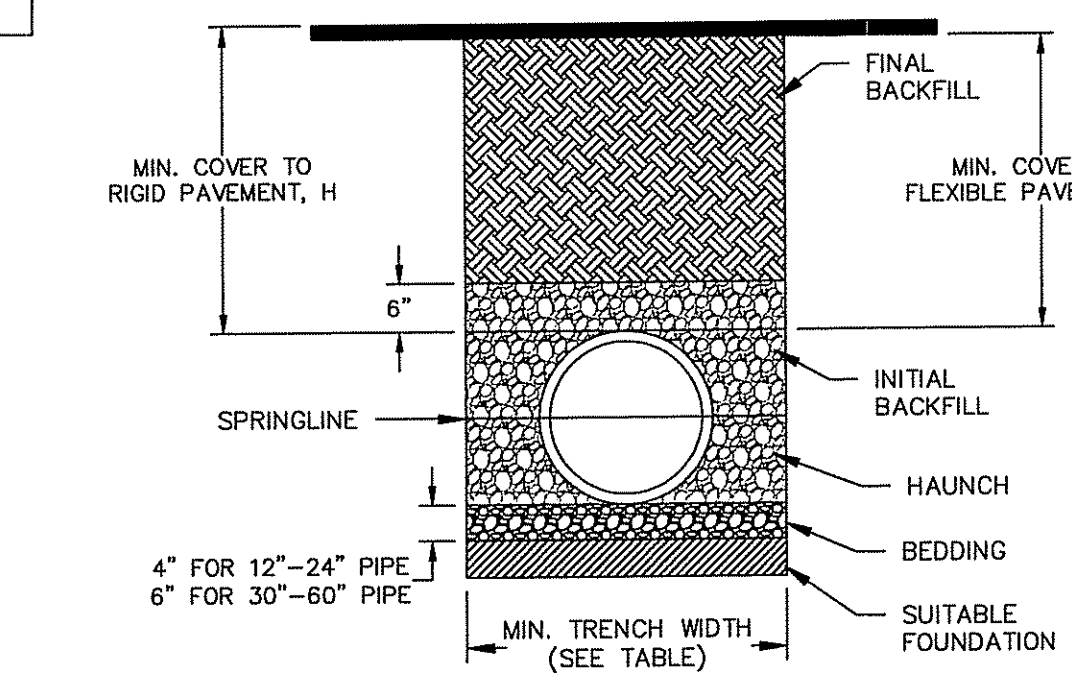
NOT TO SCALE



DRAIN MANHOLE W/ SUMP

NOT TO SCALE

- NOTES:
- ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
 - COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
 - PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
 - JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
 - DRAIN MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM).



- NOTES:
- ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION.
 - MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
 - WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
 - SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER. MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-1500mm).
 - SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6' ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
 - MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

HDPE (ADS N-12) PIPE INSTALLATION

NOT TO SCALE

RECOMMENDED MINIMUM TRENCH WIDTHS

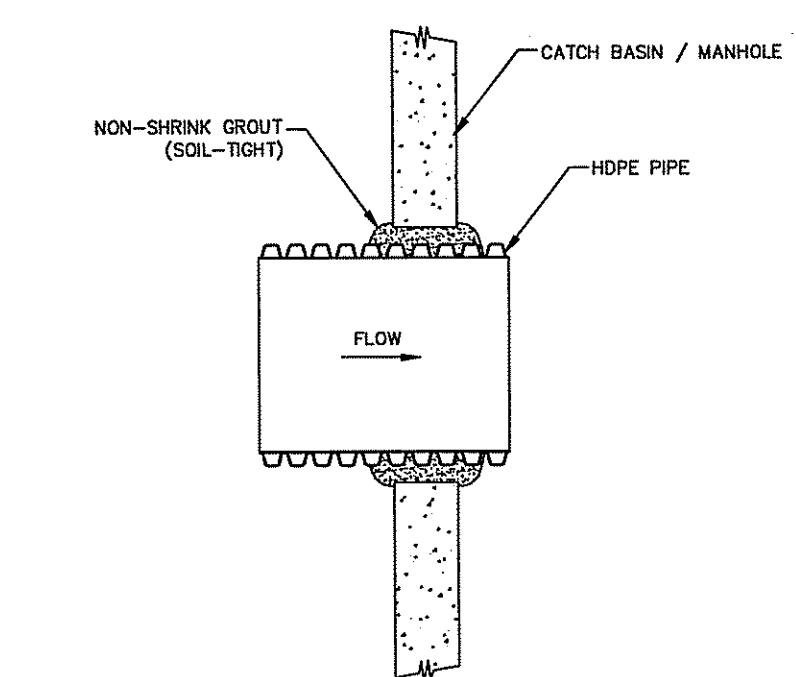
PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	38"
24"	48"
30"	58"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS		
SURFACE LIVE LOADING CONDITION		
PIPE DIAM.	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48"	12"	48"
54" - 60"	24"	60"

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

MINIMUM RECOMMENDED COVER BASED ON RAILWAY LOADING CONDITIONS	
PIPE DIAM.	COOPER E-80**
UP TO 24"	24"
30"-36"	36"
42"-60"	48"

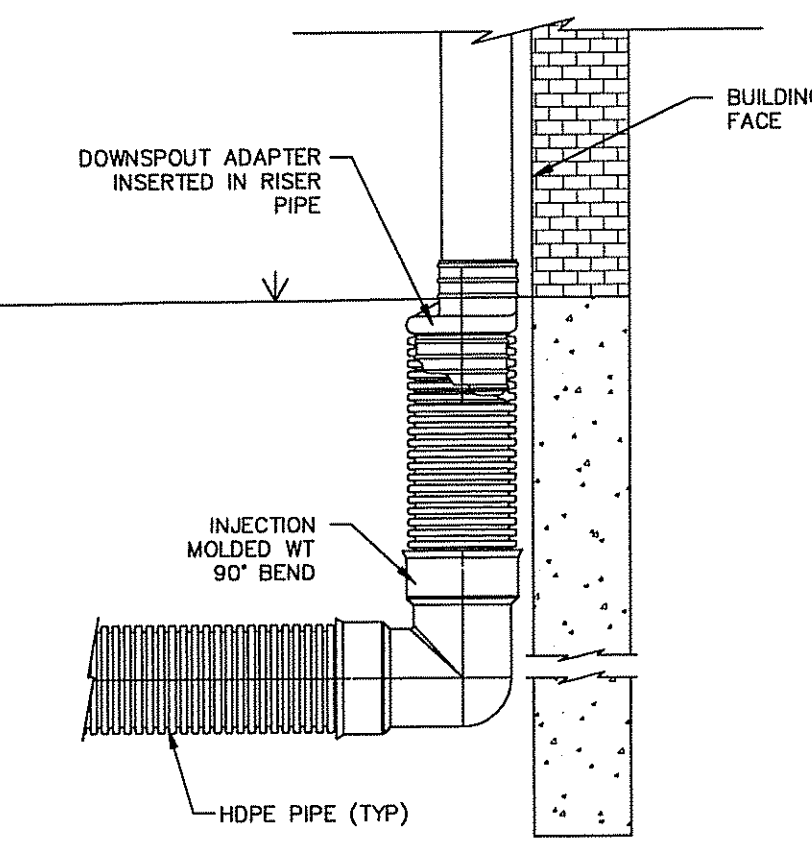
** COVER IS MEASURED FROM TOP OF PIPE TO BOTTOM OF RAILWAY TIE.
 *** E-80 COVER REQUIREMENTS, ARE ONLY APPLICABLE TO ASTM F 2306 PIPE.



HDPE PIPE TO MANHOLE CONNECTION

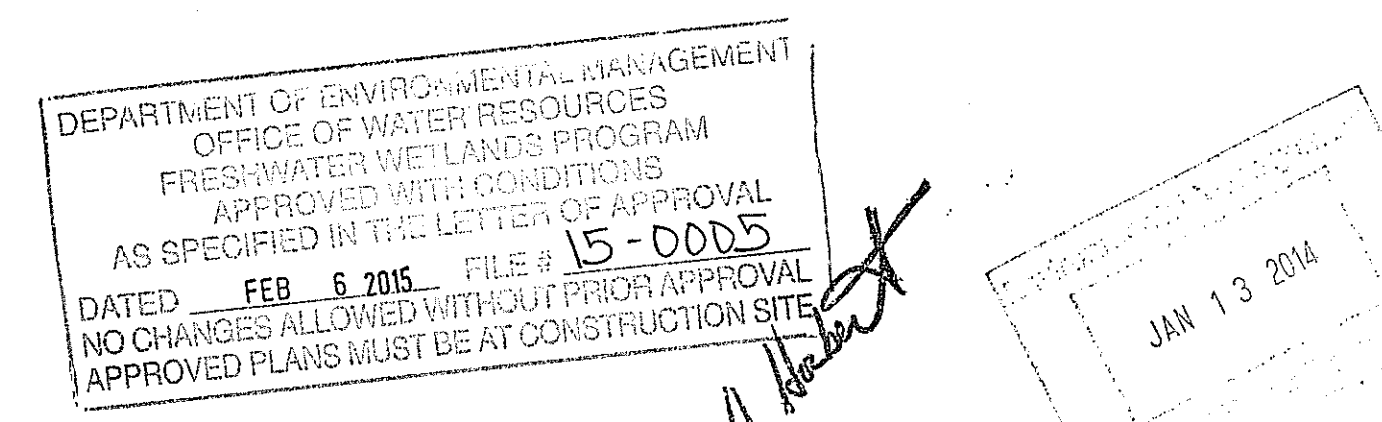
NOT TO SCALE

TYPE 1: SOIL-TIGHT USING NON-SHRINK GROUT AND CORRUGATED PIPE



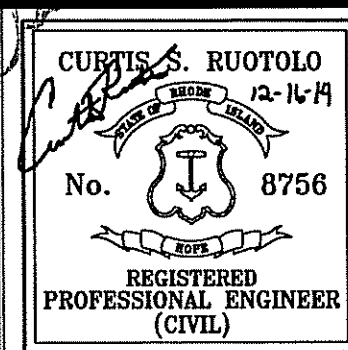
ROOF DRAIN DOWNSPOUT CONNECTION

NOT TO SCALE



STORMWATER MANAGEMENT PLAN

MAP B4, LOT 21-60
 867 SOCIAL STREET WOONSOCKET, RHODE ISLAND
 PREPARED FOR:
 PAUL & JEAN LARIVIERE



NO.	DATE	DESCRIPTION

DATE: 12/10/2014
 SCALE: AS NOTED
 DESIGN/CHECK BY: C.S.R.
 SHEET NO.

ADVANCED CIVIL DESIGN, INC.

CIVIL ENGINEERS

7 COUNTRYSIDE LANE
 SCITUATE, RI 02857

PH: (401) 473-4404

D-2

4 OF 4