STORMTECH PRODUCT SPECIFICATIONS

1.0 GENERAL

1.1 STORMTECH CHAMBERS ARE DESIGNED TO CONTROL STORMWATER RUNOFF. AS A SUBSURFACE RETENTION SYSTEM, STORMTECH CHAMBERS RETAIN AND ALLOW EFFECTIVE INFILTRATION OF WATER INTO THE SOIL. AS A SUBSURFACE DETENTION SYSTEM, STORMTECH CHAMBERS DETAIN AND ALLOW FOR THE METERED FLOW OF WATER TO AN OUTFALL.

2.0 CHAMBER PARAMETERS

2.1 THE CHAMBER SHALL BE INJECTION MOLDED OF POLYPROPYLENE RESIN TO BE INHERENTLY RESISTANT TO ENVIRONMENTAL STRESS CRACKING (ESCR), AND TO MAINTAIN ADEQUATE STIFFNESS THROUGH HIGHER TEMPERATURES EXPERIENCED DURING INSTALLATION AND SERVICE.

2.2 THE NOMINAL CHAMBER DIMENSIONS OF THE STORMTECH SC-740 SHALL BE 30.0 INCHES TALL, 51.0 INCHES WIDE AND 90.7 INCHES LONG. THE NOMINAL CHAMBER DIMENSIONS OF THE STORMTECH SC-310 SHALL BE 16.0 INCHES TALL, 34.0 INCHES WIDE AND 90.7 INCHES LONG. THE INSTALLED LENGTH OF A JOINED CHAMBER SHALL BE 85.4 INCHES.

2.3 THE CHAMBER SHALL HAVE A CONTINUOUSLY CURVED SECTION PROFILE.

2.4 THE CHAMBER SHALL BE OPEN-BOTTOMED.

2.5 THE CHAMBER SHALL INCORPORATE AN OVERLAPPING CORRUGATION JOINT SYSTEM TO ALLOW CHAMBER ROWS OF ALMOST ANY LENGTH TO BE CREATED. THE OVERLAPPING CORRUGATION JOINT SYSTEM SHALL BE EFFECTIVE WHILE ALLOWING A CHAMBER TO BE TRIMMED TO SHORTEN ITS OVERALL LENGTH.

2.6 THE NOMINAL STORAGE VOLUME OF A JOINED STORMTECH SC-740 CHAMBER SHALL BE 74.9 CUBIC FEET PER CHAMBER WHEN INSTALLED PER STORMTECH'S TYPICAL DETAILS (INCLUDES THE VOLUME OF CRUSHED ANGULAR STONE WITH AN ASSUMED 40% POROSITY). THIS EQUATES TO 2.2 CUBIC FEET OF STORAGE/SQUARE FOOT OF BED. THE NOMINAL STORAGE VOLUME OF AN INSTALLED STORMTECH SC-310 CHAMBER SHALL BE 31.0 CUBIC FEET PER CHAMBER WHEN INSTALLED PER STORMTECH'S TYPICAL DETAILS (INCLUDES THE VOLUME OF CRUSHED ANGULAR STONE WITH AN ASSUMED 40% POROSITY). THIS EQUATES TO 1.3 CUBIC
2.7 FEET OF STORAGE/SQUARE FOOT OF BED.

THE CHAMBER SHALL HAVE FORTY-EIGHT ORIFICES PENETRATING THE SIDEWALLS TO ALLOW FOR LATERAL CONVEYANCE OF WATER.

2.8 THE CHAMBER SHALL HAVE TWO ORIFICES NEAR ITS TOP TO ALLOW FOR EQUALIZATION OF AIR PRESSURE BETWEEN ITS INTERIOR AND EXTERIOR.

2.9 THE CHAMBER SHALL HAVE BOTH OF ITS ENDS OPEN TO ALLOW FOR UNIMPEDED HYDRAULIC FLOWS AND VISUAL INSPECTIONS DOWN A ROW'S ENTIRE LENGTH.

2.10 THE CHAMBER SHALL HAVE 14 CORRUGATIONS.

2.11 THE CHAMBER SHALL HAVE A CIRCULAR, INDENTED, FLAT SURFACE ON THE TOP OF THE CHAMBER FOR AN OPTIONAL 4-INCH INSPECTION PORT OR CLEAN-OUT.

2.12 THE CHAMBER SHALL BE ANALYZED AND DESIGNED USING AASHTO METHODS FOR THERMOPLASTIC CULVERTS CONTAINED IN THE LRFD BRIDGE DESIGN SPECIFICATIONS, 2ND EDITION, INCLUDING INTERIM SPECIFICATIONS THROUGH 2001. DESIGN LIVE LOAD SHALL BE THE AASHTO HS20 TRUCK. DESIGN SHALL CONSIDER EARTH AND LIVE LOADS AS APPROPRIATE FOR THE MINIMUM TO MAXIMUM SPECIFIED DEPTH OF FILL.

2.13 THE CHAMBER SHALL BE MANUFACTURED IN AN ISO 9001:2000 CERTIFIED FACILITY.

3.0 END CAP PARAMETERS

3.1 THE END CAP SHALL BE INJECTION MOLDED OF POLYPROPYLENE RESIN TO BE INHERENTLY RESISTANT TO ENVIRONMENTAL STRESS CRACKING, AND TO MAINTAIN ADEQUATE STIFFNESS THROUGH HIGHER TEMPERATURES EXPERIENCED DURING INSTALLATION AND SERVICE.

3.2 THE END CAP SHALL BE DESIGNED TO FIT INTO ANY CORRUGATION OF A CHAMBER, WHICH ALLOWS: CAPPING A CHAMBER THAT HAS ITS LENGTH TRIMMED;
3.3 SEGMENTING ROWS INTO STORAGE BASINS OF VARIOUS LENGTHS.

THE END CAP SHALL HAVE SAW GUIDES TO ALLOW EASY
3.4 CUTTING FOR VARIOUS DIAMETERS OF PIPE THAT MAY BE USED TO INLET THE SYSTEM.

THE END CAP SHALL HAVE EXCESS STRUCTURAL
3.5 ADEQUACIES TO ALLOW CUTTING AN ORIFICE OF ANY SIZE AT ANY INVERT ELEVATION.

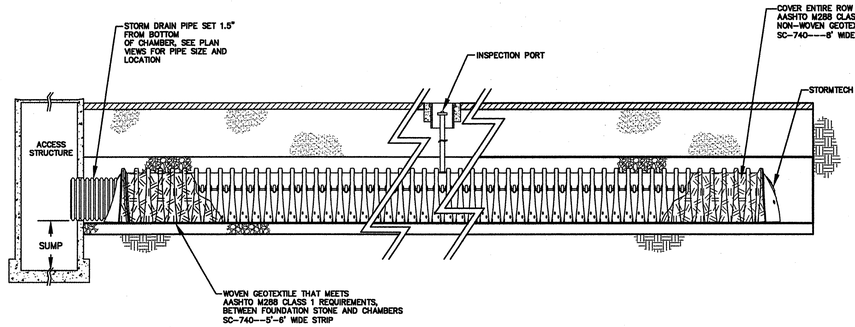
THE PRIMARY FACE OF AN END CAP SHALL BE CURVED
3.6 OUTWARD TO RESIST HORIZONTAL LOADS GENERATED NEAR THE EDGES OF BEDS.

THE END CAP SHALL BE MANUFACTURED IN AN ISO 9001:2000 CERTIFIED FACILITY.

STORMTECH GENERAL NOTES

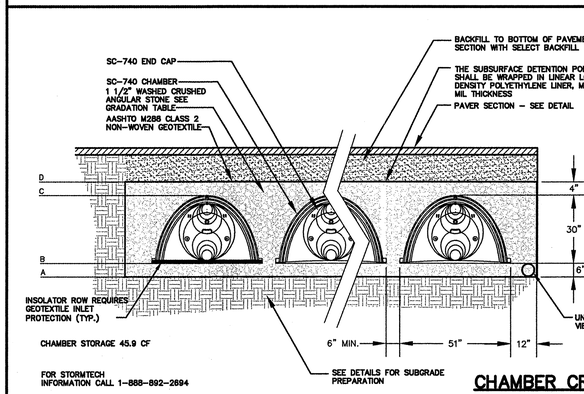
1. STORMTECH LLC ("STORMTECH") REQUIRES INSTALLING CONTRACTORS TO USE AND UNDERSTAND STORMTECH'S LATEST INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION.
2. OUR TECHNICAL SERVICES DEPARTMENT OFFERS INSTALLATION CONSULTATIONS TO INSTALLING CONTRACTORS. CONTACT OUR TECHNICAL SERVICES REPRESENTATIVE AT LEAST 30 DAYS PRIOR TO SYSTEM INSTALLATION TO ARRANGE A PRE-INSTALLATION CONSULTATION. OUR REPRESENTATIVES CAN THEN ANSWER QUESTIONS OR ADDRESS COMMENTS ON THE STORMTECH CHAMBER SYSTEM AND INFORM THE INSTALLING CONTRACTOR OF THE MINIMUM INSTALLATION REQUIREMENTS BEFORE BEGINNING THE SYSTEM'S CONSTRUCTION. CALL **1-888-892-2694** TO SPEAK TO A TECHNICAL SERVICE REPRESENTATIVE OR VISIT **WWW.STORMTECH.COM** TO RECEIVE A COPY OF OUR INSTALLATION INSTRUCTIONS.
3. STORMTECH'S REQUIREMENTS FOR SYSTEMS WITH PAVEMENT DESIGN (ASPHALT, CONCRETE PAVERS, ETC.): MINIMUM COVER IS 18 INCHES NOT INCLUDING PAVEMENT; MAXIMUM COVER IS 96 INCHES INCLUDING PAVEMENT. FOR INSTALLATIONS THAT DO NOT INCLUDE PAVEMENT, WHERE RUTTING FROM VEHICLES MAY OCCUR, MINIMUM REQUIRED COVER IS 24 INCHES, MAXIMUM COVER IS 96 INCHES.
4. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE DESIGN ENGINEER.
5. AASHTO M288 CLASS 2 NON-WOVEN GEOTEXTILE (FILTER FABRIC) MUST BE USED AS INDICATED IN THE PROJECT PLANS.
6. STONE PLACEMENT BETWEEN CHAMBERS ROWS AND AROUND PERIMETER MUST FOLLOW INSTRUCTIONS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
7. BACKFILLING OVER THE CHAMBERS MUST FOLLOW REQUIREMENTS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
8. THE CONTRACTOR MUST REFER TO STORMTECH'S INSTALLATION INSTRUCTIONS FOR A TABLE OF ACCEPTABLE VEHICLE LOADS AT VARIOUS DEPTHS OF COVER. THIS INFORMATION IS ALSO AVAILABLE AT STORMTECH'S WEBSITE: **WWW.STORMTECH.COM**. THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING VEHICLES THAT EXCEED STORMTECH'S REQUIREMENTS FROM TRAVELING ACROSS OR PARKING OVER THE STORMWATER SYSTEM. TEMPORARY FENCING, WARNING TAPE AND APPROPRIATELY LOCATED SIGNS ARE COMMONLY USED TO PREVENT UNAUTHORIZED VEHICLES FROM ENTERING SENSITIVE CONSTRUCTION AREAS.
9. THE CONTRACTOR MUST APPLY EROSION AND SEDIMENT CONTROL MEASURES TO PROTECT THE STORMWATER SYSTEM DURING ALL PHASES OF SITE CONSTRUCTION PER LOCAL CODES AND DESIGN ENGINEER'S SPECIFICATIONS.
10. STORMTECH PRODUCT WARRANTY IS LIMITED. SEE CURRENT PRODUCT WARRANTY FOR DETAILS. TO ACQUIRE A COPY CALL STORMTECH AT **1-888-892-2694** OR VISIT **WWW.STORMTECH.COM**.

SUBSURFACE DETENTION SYSTEMS MAY BE SUBSTITUTED WITH AN ENGINEER APPROVED EQUAL WHICH PROVIDES EQUAL DETENTION STORAGE AND WATER QUALITY TREATMENT



CHAMBER ISOLATOR ROW

N.T.S.



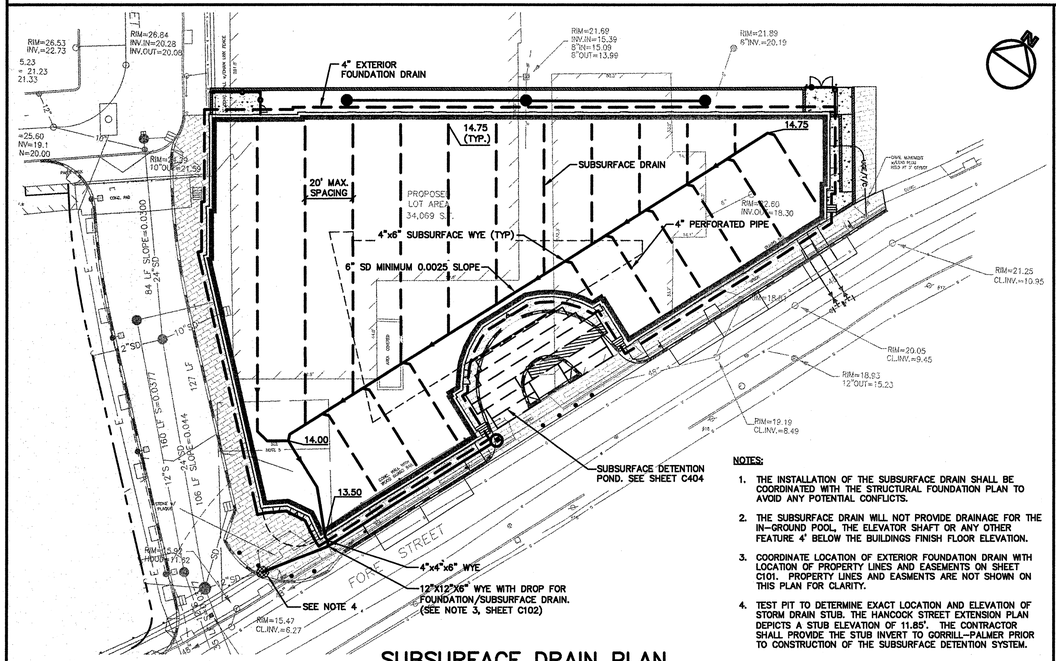
	ELEVATION			
POND	A*	B	C	D
1	12.15	12.65	15.15	15.50

1 1/2" CRUSHED ANGULAR STONE GRADATION	
SIEVE	% PASSING BY WEIGHT
2"	100
1 1/2"	90 - 100
1"	20 - 55
3/4"	0 - 15
3/8"	0 - 5

GEOTEXTILE INLET PROTECTION NOTE:
AT ALL PIPE INLETS TO CHAMBER PLACE WOVEN GEOTEXTILE THAT MEETS AASHTO M288 CLASS 1 REQUIREMENTS BETWEEN FOUNDATION STONE AND CHAMBER. PLACE A 5' - 6' WIDE STRIP CENTERED ON CHAMBER WIDTH WITH A LENGTH ALONG THE CHAMBERS EQUAL TO THE WIDTH OF THE FABRIC ROLL, BUT NOT LESS THAN 10'.

CHAMBER CROSS SECTION

N.T.S.

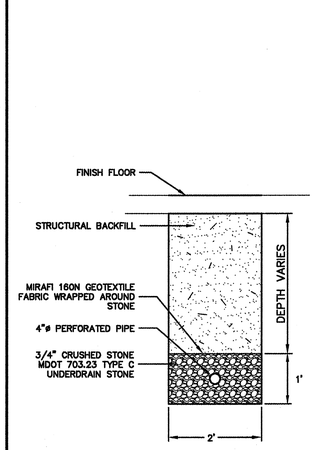


SUBSURFACE DRAIN PLAN

SCALE: 1" = 30'

NOTES:

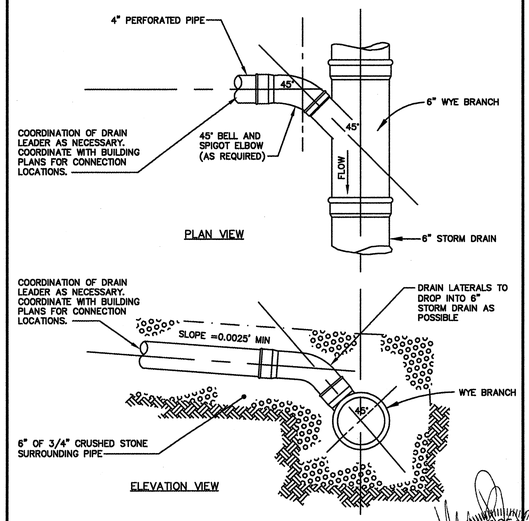
1. THE INSTALLATION OF THE SUBSURFACE DRAIN SHALL BE COORDINATED WITH THE STRUCTURAL FOUNDATION PLAN TO AVOID ANY POTENTIAL CONFLICTS.
2. THE SUBSURFACE DRAIN WILL NOT PROVIDE DRAINAGE FOR THE IN-GROUND POOL. THE ELEVATOR SHAFT OR ANY OTHER FEATURE 4' BELOW THE BUILDINGS FINISH FLOOR ELEVATION.
3. COORDINATE LOCATION OF EXTERIOR FOUNDATION DRAIN WITH LOCATION OF PROPERTY LINES AND EASEMENTS ON SHEET C101. PROPERTY LINES AND EASMENTS ARE NOT SHOWN ON THIS PLAN FOR CLARITY.
4. TEST PIT TO DETERMINE EXACT LOCATION AND ELEVATION OF STORM DRAIN STUB. THE HANCOCK STREET EXTENSION PLAN DEPICTS A STUB ELEVATION OF 11.85'. THE CONTRACTOR SHALL PROVIDE THE STUB INVERT TO GORRILL-PALMER PRIOR TO CONSTRUCTION OF THE SUBSURFACE DETENTION SYSTEM.



SUBSURFACE DRAIN

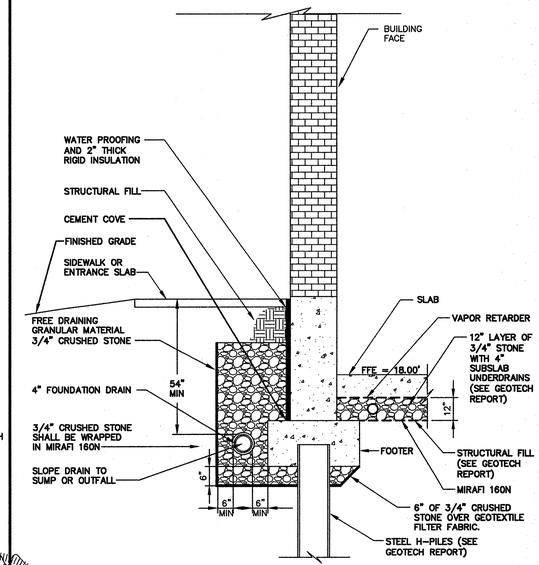
NOT TO SCALE

NOTE: THIS PLAN SET IS ISSUED FOR BIDDING PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.



4"x6" SUBSURFACE WYE

NOT TO SCALE



TYPICAL FOUNDATION DRAIN DETAIL

NOT TO SCALE

STATE OF MAINE
MAUREEN P. McCLONE
No. 7701
LICENSED PROFESSIONAL ENGINEER

Rev.	Date	Revision
-	-	-

Issued For	Date	By
90% PROGRESS	09/17/07	MPM
BIDDING	07/27/07	MPM
PUBLIC HEARING SUBMISSION	05/02/07	MPM
2ND PB WORKSHOP SUBMISSION	02/16/07	MPM
SITE PLAN APPLICATION	02/16/07	MPM

Design: WHS	Draft: BVD	Date: OCT. 2006
Checked: MPM	Scale: NONE	Job No.: 1614
File Name: 1614-DETAILS-POND.dwg		

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Drawing Name: **Drainage Details**

Project: **Residence Inn by Marriott - Portland, Maine**

Client: **Summit Hotel Properties, LLC**
218 Boston St. Suite 109 - P.O. Box 394 - Topsfield, MA 01983

Drawing No. **C403**