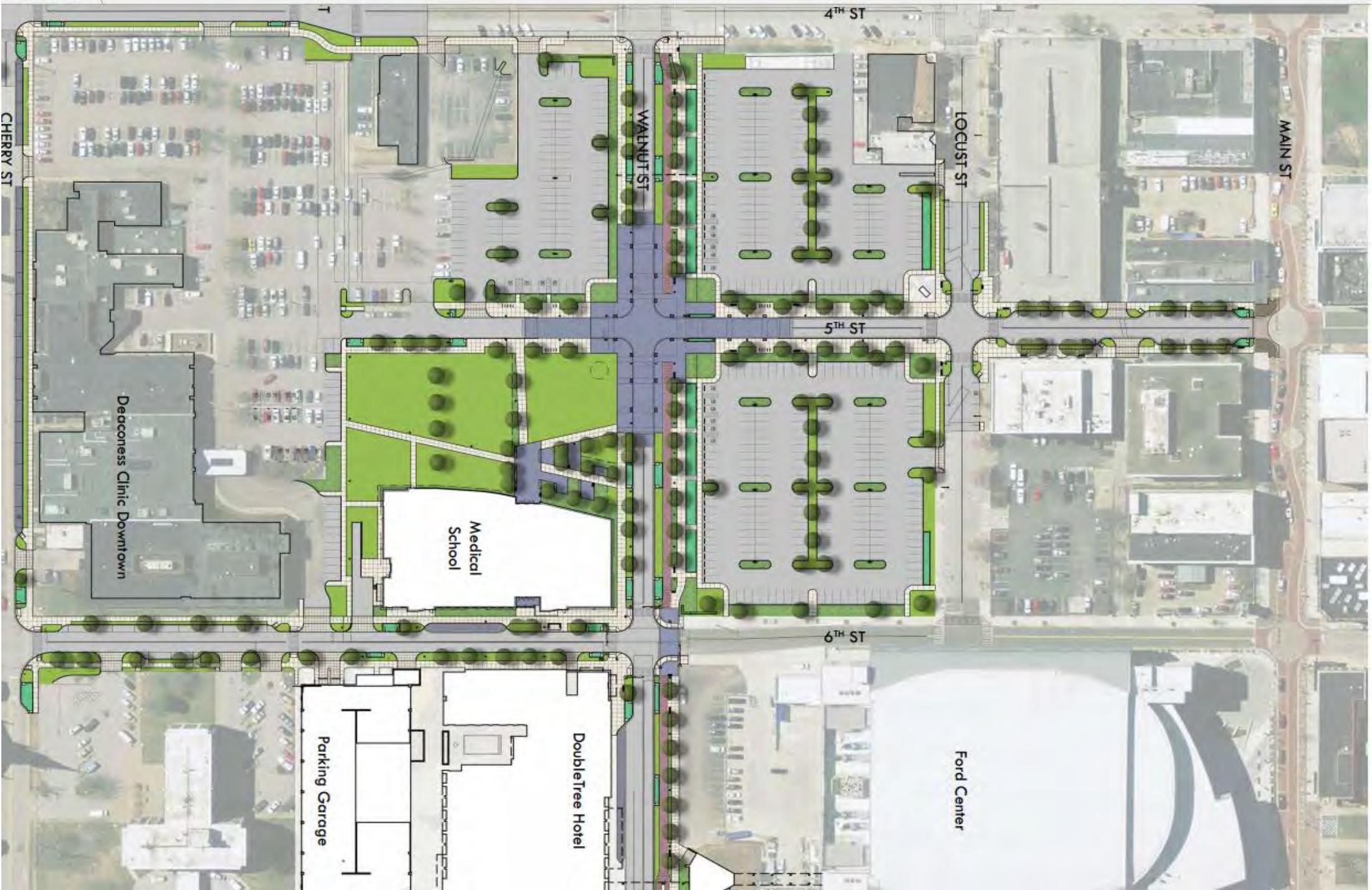


# Medical District Streetscape, City of Evansville Stormwater Quantity Solutions

City of Evansville

ADS







































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# Medical District Streetscapes



# Medical District Streetscapes



# Medical District Streetscape Stats

Capture/Store 2" rainfall

144,000 CF Total Storage

17 UGD Beds of StormTech MC3500 &  
MC4500

### PROPOSED LAYOUT SYSTEM #3/4

(7) STORMTECH MC-4500 CHAMBERS  
 (10) STORMTECH MC-4500 END CAPS  
 INSTALLED WITH 12" COVER STONE, 36" BASE STONE, 40% STONE VOID  
**INSTALLED SYSTEM VOLUME: 17,398 CF (PERIMETER STONE INCLUDED)**  
 AREA OF SYSTEM: 3,513 FT<sup>2</sup>  
 PERIMETER OF SYSTEM: 256 FT

### TIER 1 DEEP COVER SPECIAL PROVISIONS

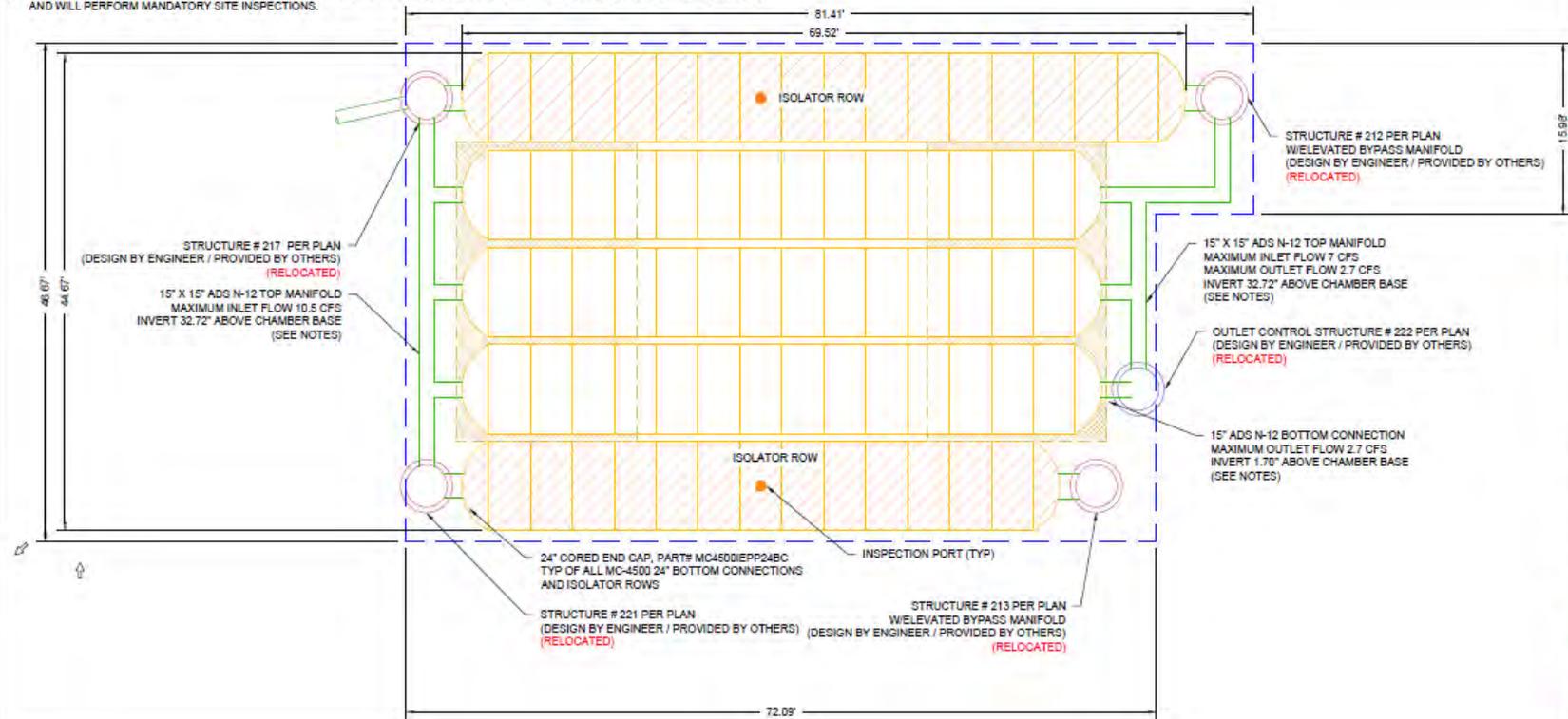
1. INSTALLATION REQUIREMENTS SHALL BE AS SPECIFIED IN THE STORMTECH DESIGN MANUALS AND CONSTRUCTION GUIDES EXCEPT AS MODIFIED IN THESE SPECIAL PROVISIONS.
2. ATTENTION IS CALLED TO "TABLE 1 - ACCEPTABLE FILL MATERIALS" IN THE STORMTECH CONSTRUCTION GUIDE AND ALL OTHER APPEARANCES OF THE "ACCEPTABLE FILL MATERIALS" TABLE. FOR AREAS OF THE SYSTEM WITH COVER ABOVE 7 FEET (2.1 m) FOR THE MC-4500 AND ABOVE 8 FEET (2.4 m) FOR THE MC-3500, EMBEDMENT STONE SHALL BE COMPACTED WITH 1 PASS OF A WALK BEHIND VIBRATORY PLATE COMPACTOR OR JUMPING JACK IN 12" (300 mm) LIFTS.
3. STONE SHALL BE GENERALLY UNIFORM IN SHAPE. FLAT OR ELONGATED STONE IS UNACCEPTABLE. FOR DESCRIPTIONS OF ANGULARITY SEE ASTM D2488 "STANDARD PRACTICE FOR DESCRIPTION AND IDENTIFICATION OF SOILS (VISUAL-MANUAL PROCEDURE)".
4. STONE SHALL BE HARD AND DURABLE. IT IS THE ENGINEER'S OR CONTRACTOR'S RESPONSIBILITY TO SELECT HARD AND DURABLE STONE. STORMTECH CONSIDERS AN LA ABRASION VALUE OF LESS THAN OR EQUAL TO 30 TO BE HARD STONE.
5. FOUNDATION STONE SHALL BE MECHANICALLY COMPACTED WITH A VIBRATORY ROLLER OR VIBRATORY PLATE IN 6" (152 mm) LIFTS.
6. EMBEDMENT STONE MUST BE DUMPED IN PLACE BY A STONE SHOOTER OR CONVEYOR OR EXCAVATOR.
7. MANIFOLD PIPE INSERTION MUST EXTEND A MINIMUM OF 5' INTO CHAMBER END CAPS.
8. INSPECTION DURING THE INSTALLATION BY THE ENGINEER, OWNER OR OTHER REPRESENTATIVE IS RECOMMENDED. THE INSPECTION SHALL INCLUDE OBSERVATIONS OF THE CHAMBER SYMMETRY DURING BACKFILLING TO ENSURE THE CONTRACTOR'S METHODS ARE NOT CAUSING UNACCEPTABLE DISTORTION OF THE CHAMBERS.
9. AN ADS FIELD TECHNICIAN WILL CONDUCT A PRECONSTRUCTION MEETING TO TRAIN ALL REPRESENTATIVES INSPECTING THE PROJECT AND WILL PERFORM MANDATORY SITE INSPECTIONS.

### NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH SHEET #7 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.

### PROPOSED ELEVATIONS

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	388.00
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	380.31
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	379.81
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	379.81
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	379.81
TOP OF STONE:	378.81
TOP OF CHAMBER:	377.81
15" TOP MANIFOLD INVERT:	375.54
24" ISOLATOR ROW INVERT:	373.00
15" BOTTOM CONNECTION INVERT:	372.95
BOTTOM OF CHAMBER:	372.81
BOTTOM OF STONE:	369.81



MEDICAL DISTRICT	
EVANSVILLE, IN	
DATE	11-10-15
DRAWN	CAJLM
CHECKED	KMS
PROJECT #	122511

REV	DRW	CHK	DESCRIPTION
01	01	01	COMPILED (REMOVED ROWS)
02	01	01	CA, OF
03	01	01	DDF
04	01	01	DDF
05	01	01	DDF
06	01	01	DDF
07	01	01	DDF
08	01	01	DDF
09	01	01	DDF
10	01	01	DDF
11	01	01	DDF
12	01	01	DDF
13	01	01	DDF
14	01	01	DDF
15	01	01	DDF
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42	01	01	DDF
43	01	01	DDF
44	01	01	DDF
45	01	01	DDF
46	01	01	DDF
47	01	01	DDF
48	01	01	DDF
49	01	01	DDF
50	01	01	DDF

**StormTech**  
 11000 Valley Mills | Evansville, IN 47619  
 800.833.7273 | www.stormtech.com

**ADS**  
 4640 TRUEMAN BLVD  
 HILLIARD, OH 43026  
 1-800-733-7473

### PROPOSED LAYOUT SYSTEM #5

(56) STORMTECH MC-4500 CHAMBERS  
 (12) STORMTECH MC-4500 END CAPS  
 INSTALLED WITH 12" COVER STONE, 36" BASE STONE, 40% STONE VOID  
 INSTALLED SYSTEM VOLUME: 15,258 CF (PERIMETER STONE INCLUDED)  
 AREA OF SYSTEM: 3,173 FT<sup>2</sup>  
 PERIMETER OF SYSTEM: 347 FT

### PROPOSED ELEVATIONS

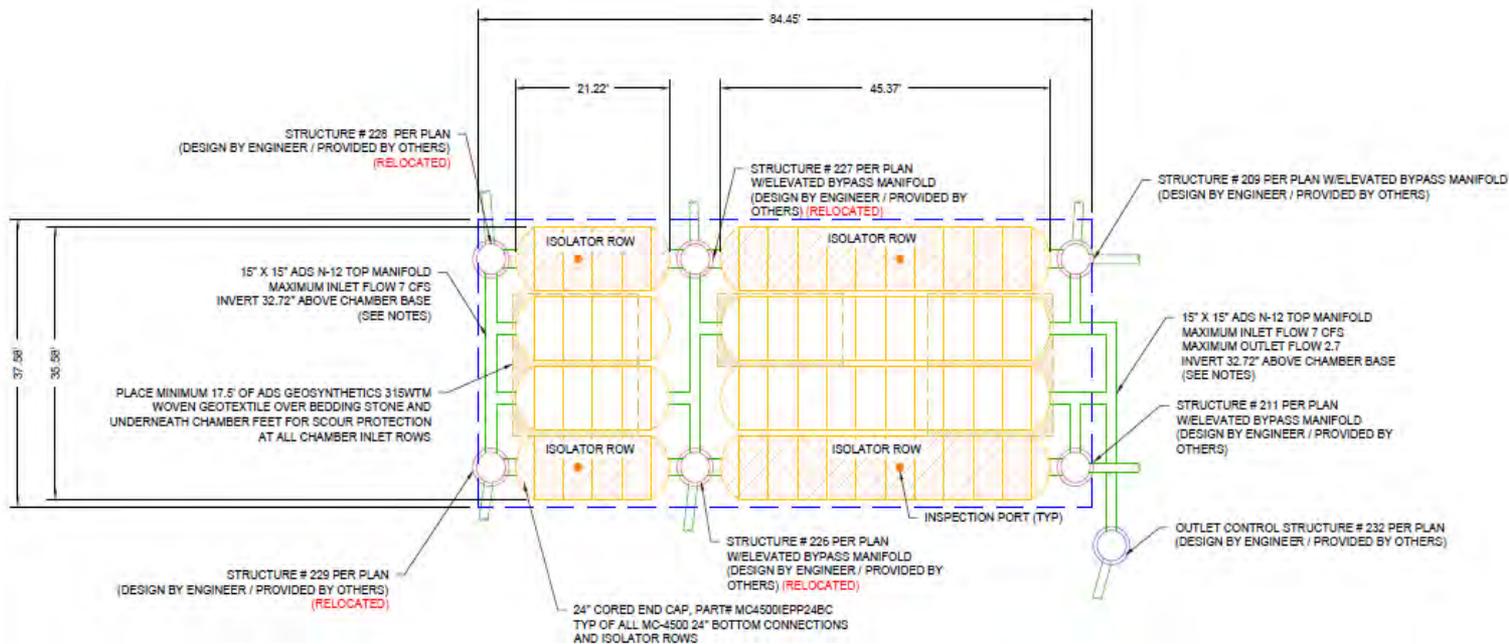
MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	388.81
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	382.31
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	381.81
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	381.51
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	381.51
TOP OF STONE:	380.51
TOP OF CHAMBER:	379.51
15' TOP MANIFOLD INVERT:	377.54
24" ISOLATOR ROW INVERT:	375.00
BOTTOM OF CHAMBER:	374.81
BOTTOM OF STONE:	371.81

### NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH SHEET #7 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.

### TIER 1 DEEP COVER SPECIAL PROVISIONS

- INSTALLATION REQUIREMENTS SHALL BE AS SPECIFIED IN THE STORMTECH DESIGN MANUALS AND CONSTRUCTION GUIDES EXCEPT AS MODIFIED IN THESE SPECIAL PROVISIONS.
- ATTENTION IS CALLED TO TABLE 1 - ACCEPTABLE FILL MATERIALS<sup>5</sup> IN THE STORMTECH CONSTRUCTION GUIDE AND ALL OTHER APPEARANCES OF THE "ACCEPTABLE FILL MATERIALS" TABLE. FOR AREAS OF THE SYSTEM WITH COVER ABOVE 7 FEET (2.1 m) FOR THE MC-4500 AND ABOVE 2 FEET (2.4 m) FOR THE MC-3500, EMBEDMENT STONE SHALL BE COMPACTED WITH 1 PASS OF A WALK BEHIND VIBRATORY PLATE COMPACTOR OR JUMPING JACK IN 12" (300 mm) LIFTS.
- STONE SHALL BE GENERALLY UNIFORM IN SHAPE. FLAT OR ELONGATED STONE IS UNACCEPTABLE. FOR DESCRIPTIONS OF ANGULARITY SEE ASTM D2489 "STANDARD PRACTICE FOR DESCRIPTION AND IDENTIFICATION OF SOILS (VISUAL-MANUAL PROCEDURE)".
- STONE SHALL BE HARD AND DURABLE. IT IS THE ENGINEER'S OR CONTRACTOR'S RESPONSIBILITY TO SELECT HARD AND DURABLE STONE. STORMTECH CONSIDERS AN LA ABRASION VALUE OF LESS THAN OR EQUAL TO 30 TO BE HARD STONE.
- FOUNDATION STONE SHALL BE MECHANICALLY COMPACTED WITH A VIBRATORY ROLLER OR VIBRATORY PLATE IN 6" (152 mm) LIFTS.
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- AN ADS FIELD TECHNICIAN WILL CONDUCT A PRECONSTRUCTION MEETING TO TRAIN ALL REPRESENTATIVES INSPECTING THE PROJECT AND WILL PERFORM MANDATORY SITE INSPECTIONS.



MEDICAL DISTRICT EVANSVILLE, IN		DATE	11-10-15	DRAWN	CAJMM	CHECKED	RMS
PROJECT #		122511		REVISIONS			
REV	DATE	DESCRIPTION	CHK	BY	DATE	BY	DATE
01	11-10-15	ISSUED FOR PERMITS	CAJ	CAJ	11-10-15	CAJ	11-10-15
02	11-10-15	CHANGES PER NEW PLANS	CAJ	CAJ	11-10-15	CAJ	11-10-15

**StormTech**  
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 10 NORTON ROAD, SUITE 1100, EVANSVILLE, IN 47710  
 888.824.1818 | 812.462.2044 | WWW.STORMTECH.COM

4640 TRUENAN BLVD  
 HILLIARD, OH 43026  
 1-800-733-7473

**ADS**  
 ADVANCED DESIGN SYSTEMS

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION OR PROVIDED TO ADS UNDER THE PROTECTION OF OUR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THE DRAWING PRIOR TO CONSTRUCTION. IT IS THE LIABILITY OF THE CLIENT TO VERIFY THE ACCURACY OF ALL INFORMATION PROVIDED TO ADS. ADS ASSUMES NO LIABILITY FOR ANY ERRORS OR OMISSIONS IN THIS DRAWING.

SHEET  
6 OF 26

### PROPOSED LAYOUT SYSTEM #21

(12) STORMTECH MC-4500 CHAMBERS

(4) STORMTECH MC-4500 END CAPS

INSTALLED WITH 12" COVER STONE, 9" BASE STONE, 40% STONE VOID

INSTALLED SYSTEM VOLUME: 2,737 CF (PERIMETER STONE INCLUDED)

AREA OF SYSTEM: 598 FT<sup>2</sup>

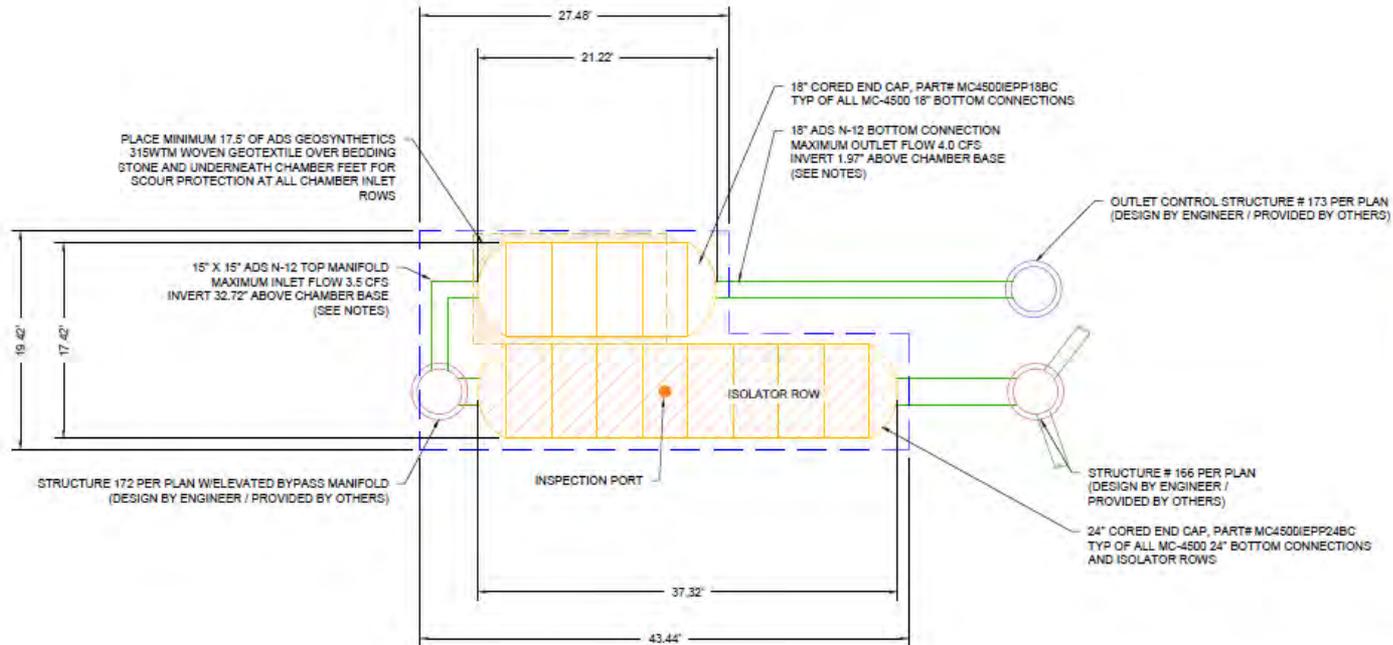
PERIMETER OF SYSTEM: 137 FT

### PROPOSED ELEVATIONS

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	387.81
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	383.31
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	382.81
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	382.81
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	382.81
TOP OF STONE:	381.81
TOP OF CHAMBER:	380.81
15" TOP MANIFOLD INVERT:	378.54
24" ISOLATOR ROW INVERT:	376.00
18" BOTTOM CONNECTION INVERT:	375.97
BOTTOM OF CHAMBER:	375.81
BOTTOM OF STONE:	375.06

### NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH SHEET #7 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.



MEDICAL DISTRICT	
EVANSVILLE, IN	
DATE	11-10-15
PROJECT #	122511
DRAWN	CAJLM
CHECKED	KMS

REV	DATE	CHK	DESCRIPTION
1	10-14-15	CA	COMBINED DRAINAGE ROWS
2	02-23-16	DRF	LAYOUT CHANGES PER NEW PLANS

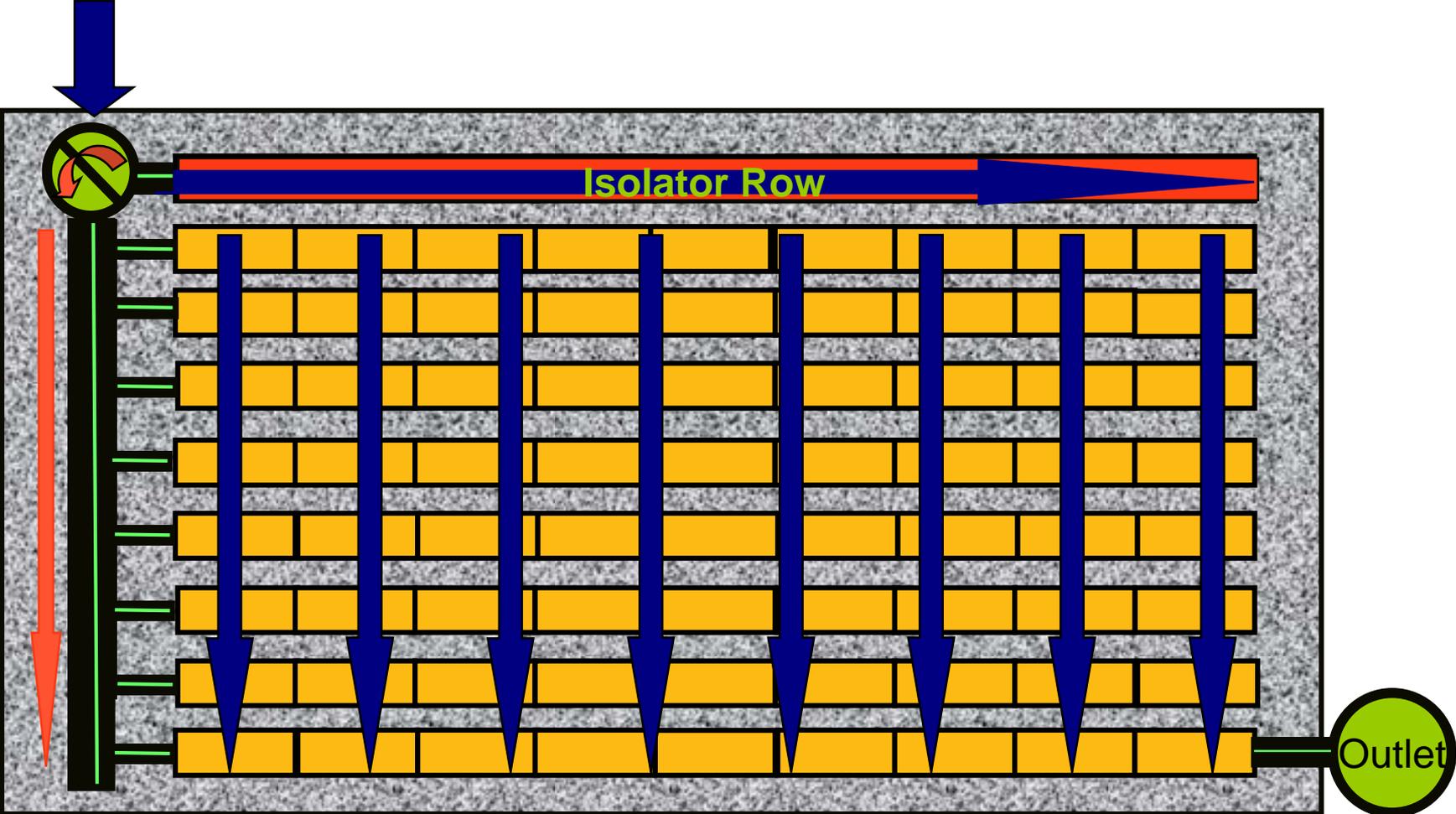
**StormTech**  
[www.stormtech.com](http://www.stormtech.com)  
 10000 State Rd. #100 | Troy, MI 48063  
 (248) 603-9800 | (800) 253-1000

**ADS**  
 4640 TRUENAN BLVD  
 HILLIARD, OH 43026  
 1-800-733-7473

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# How Does It Work?

Storm Sewer



# Isolator Row

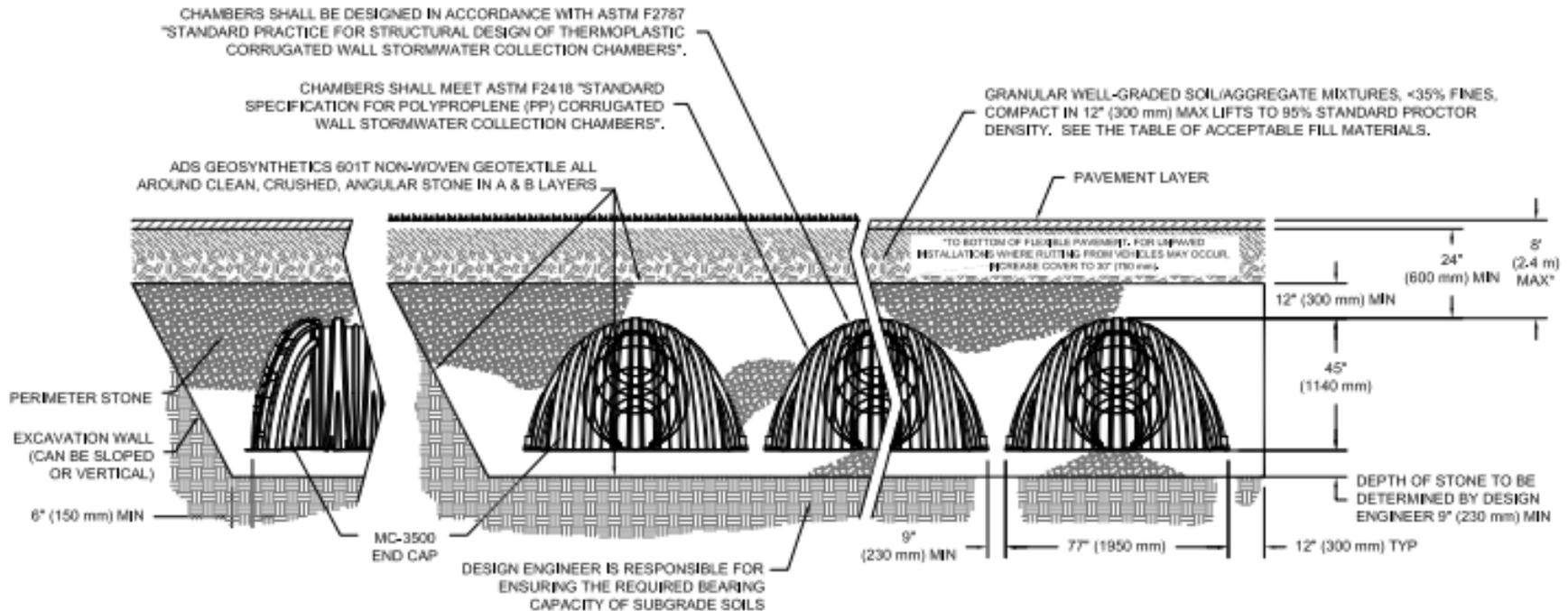


# Isolator Row Treatment Flow Rate

Model	Specific Flow Rate	Bottom Area	Flow Per Model
StormTech SC-310	2.5 gpm/sf	17.7 sf	0.10 cfs
StormTech SC-740	2.5 gpm/sf	27.8 sf	0.15 cfs
StormTech DC-780	2.5 gpm/sf	27.8 sf	0.15 cfs
StormTech MC-3500	2.5 gpm/sf	43.2 sf	0.24 cfs
StormTech MC-4500	2.5 gpm/sf	30.1 sf	0.17 cfs

# Easy to Design

**\*40% of Stone Volume is Void Space Available for Storage Volume\***



\*FOR COVER DEPTHS GREATER THAN 8.0' PLEASE CONTACT STORMTECH

THE INSTALLED CHAMBER SYSTEM SHALL PROVIDE THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 12.12 FOR EARTH AND LIVE LOADS, WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.

## MC-4500 System - Typical Cross Section

# Bearing Capacity Requirements

## 2.0 Foundations for Chambers

**TABLE 2 – MC-4500 Minimum Required Foundation Depth in inches (millimeters)**

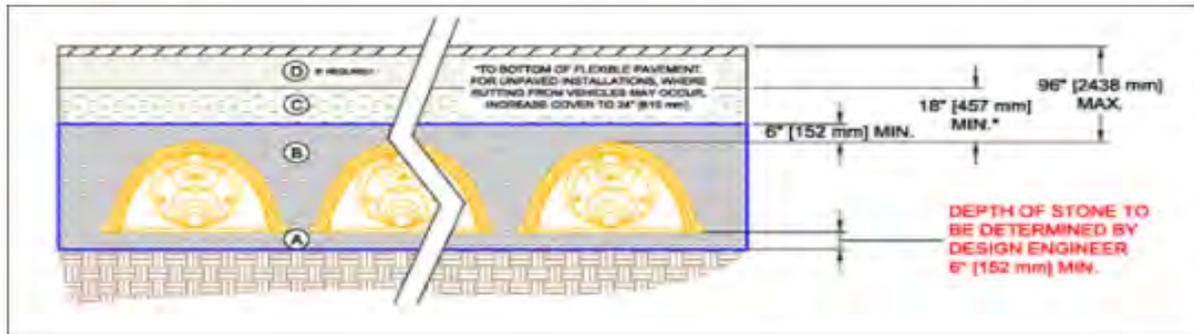
Assumes 9" (230 mm) row spacing.

Cover Hgt. ft. (m)	Minimum Bearing Resistance for Service Loads ksf (kPa)																									
	4.4 (211)	4.3 (206)	4.2 (201)	4.1 (196)	4.0 (192)	3.9 (187)	3.8 (182)	3.7 (177)	3.6 (172)	3.5 (168)	3.4 (163)	3.3 (158)	3.2 (153)	3.1 (148)	3.0 (144)	2.9 (139)	2.8 (134)	2.7 (129)	2.6 (124)	2.5 (120)	2.4 (115)	2.3 (110)	2.2 (105)	2.1 (101)	2.0 (96)	
2.0 (0.61)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)
2.5 (0.76)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	12 (300)	12 (300)	12 (300)	12 (300)	15 (375)	15 (375)	18 (450)	18 (450)	24 (600)
3.0 (0.91)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	12 (300)	12 (300)	12 (300)	12 (300)	15 (375)	15 (375)	18 (450)	18 (450)	18 (450)	24 (600)	24 (600)
3.5 (1.07)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	12 (300)	12 (300)	12 (300)	15 (375)	15 (375)	15 (375)	18 (450)	18 (450)	18 (450)	24 (600)	24 (600)	24 (600)	24 (600)
4.0 (1.22)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	12 (300)	12 (300)	12 (300)	15 (375)	15 (375)	15 (375)	18 (450)	18 (450)	18 (450)	24 (600)	24 (600)	24 (600)	24 (600)	24 (600)	30 (750)
4.5 (1.37)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	12 (300)	12 (300)	12 (300)	15 (375)	15 (375)	15 (375)	18 (450)	18 (450)	18 (450)	24 (600)	24 (600)	24 (600)	24 (600)	30 (750)	30 (750)	30 (750)	30 (750)
5.0 (1.52)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	12 (300)	12 (300)	12 (300)	12 (300)	12 (300)	15 (375)	15 (375)	15 (375)	18 (450)	18 (450)	18 (450)	24 (600)	24 (600)	24 (600)	24 (600)	30 (750)	30 (750)	30 (750)	30 (750)	36 (900)
5.5 (1.68)	9 (230)	9 (230)	9 (230)	9 (230)	9 (230)	12 (300)	12 (300)	12 (300)	12 (300)	15 (375)	15 (375)	15 (375)	18 (450)	18 (450)	18 (450)	24 (600)	24 (600)	24 (600)	24 (600)	24 (600)	30 (750)	30 (750)	30 (750)	30 (750)	36 (900)	36 (900)
6.0 (1.83)	9 (230)	9 (230)	9 (230)	12 (300)	12 (300)	12 (300)	12 (300)	15 (375)	15 (375)	15 (375)	15 (375)	18 (450)	18 (450)	18 (450)	24 (600)	24 (600)	24 (600)	24 (600)	24 (600)	30 (750)	30 (750)	30 (750)	30 (750)	36 (900)	36 (900)	36 (900)
6.5 (1.98)	9 (230)	12 (300)	12 (300)	12 (300)	12 (300)	15 (375)	15 (375)	15 (375)	15 (375)	18 (450)	18 (450)	18 (450)	24 (600)	24 (600)	24 (600)	24 (600)	24 (600)	30 (750)	30 (750)	30 (750)	30 (750)	36 (900)	36 (900)	36 (900)	36 (900)	42 (1050)
7.0 (2.13)	12 (300)	12 (300)	12 (300)	12 (300)	15 (375)	15 (375)	15 (375)	15 (375)	18 (450)	18 (450)	18 (450)	24 (600)	24 (600)	24 (600)	24 (600)	24 (600)	30 (750)	30 (750)	30 (750)	30 (750)	36 (900)	36 (900)	36 (900)	42 (1050)	42 (1050)	42 (1050)

*NOTE: The design engineer is solely responsible for assessing the bearing resistance (allowable bearing capacity) of the subgrade soils and determining the depth of foundation stone. Subgrade bearing resistance should be assessed with consideration for the range of soil moisture conditions expected under a stormwater system.*

# Acceptable Fill Materials

## SC-Series



Material Location	Description	AASHTO M43 Designation (1)	Compaction/ Density Requirement
D	Fill material for layer D starts from the top of layer C to the bottom of flexible pavement or unpaved finish grade above. Note that pavement sub-base may be part of the D layer.	N/A	Prepare per engineer's plans. Paved installations may have stringent material and preparation requirements.
C	Fill material for layer C starts from the embedment stone (B layer) to 18" (457 mm) above the top of the chamber. Note that pavement sub-base may be part of the C layer.	3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	Begin compaction after 12" (305 mm) of material over the chambers is reached. Compact additional layers in 6" (152 mm) lifts to a minimum 95% standard proctor density. (2) Roller gross vehicle weight not to exceed 12,000 lbs. (53 kN). Dynamic force not to exceed 20,000 lbs. (89 kN).
B	Embedment stone surrounding chambers from the foundation stone to the C layer above.	3, 357, 4, 467, 5, 56, 57	No compaction required.
A	Foundation stone below chambers from subgrade up to the foot (bottom) of the chamber.	3, 357, 4, 467, 5, 56, 57	Plate compact or roll to achieve a 95% standard proctor density.(2)

# Common Questions & Interesting Facts

20 years



# Injection Molded

# The "Family"



**MEETS  
ASTM  
F2418 &  
F2787**



MC-4500

MC-3500

DC-780

SC-740

SC-310

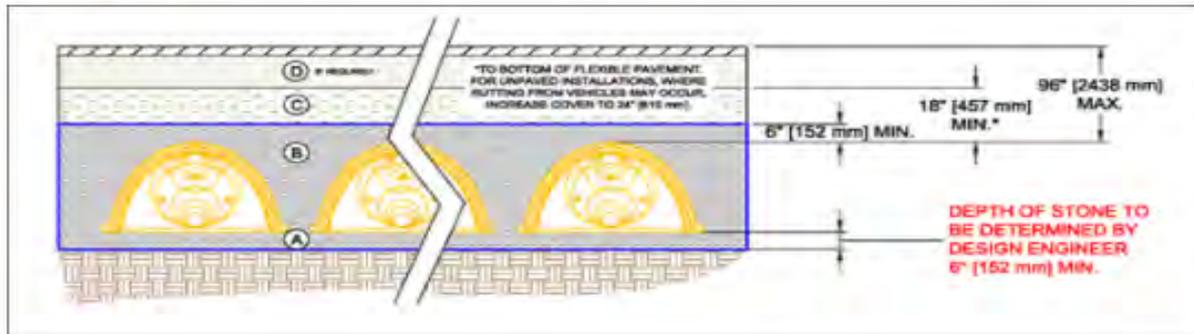
SC-160LP

50,000,000 CF of Storage  
Installed Annually

2% of that is in Indiana

# Acceptable Fill Materials

## SC-Series



Material Location	Description	AASHTO M43 Designation (1)	Compaction/ Density Requirement
D	Fill material for layer D starts from the top of layer C to the bottom of flexible pavement or unpaved finish grade above. Note that pavement sub-base may be part of the D layer.	N/A	Prepare per engineer's plans. Paved installations may have stringent material and preparation requirements.
C	Fill material for layer C starts from the embedment stone (B layer) to 18" (457 mm) above the top of the chamber. Note that pavement sub-base may be part of the C layer.	3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	Begin compaction after 12" (305 mm) of material over the chambers is reached. Compact additional layers in 6" (152 mm) lifts to a minimum 95% standard proctor density. (2) Roller gross vehicle weight not to exceed 12,000 lbs. (53 kN). Dynamic force not to exceed 20,000 lbs. (89 kN).
B	Embedment stone surrounding chambers from the foundation stone to the C layer above.	3, 357, 4, 467, 5, 56, 57	No compaction required.
A	Foundation stone below chambers from subgrade up to the foot (bottom) of the chamber.	3, 357, 4, 467, 5, 56, 57	Plate compact or roll to achieve a 95% standard proctor density.(2)

# Recycled Concrete as Backfill

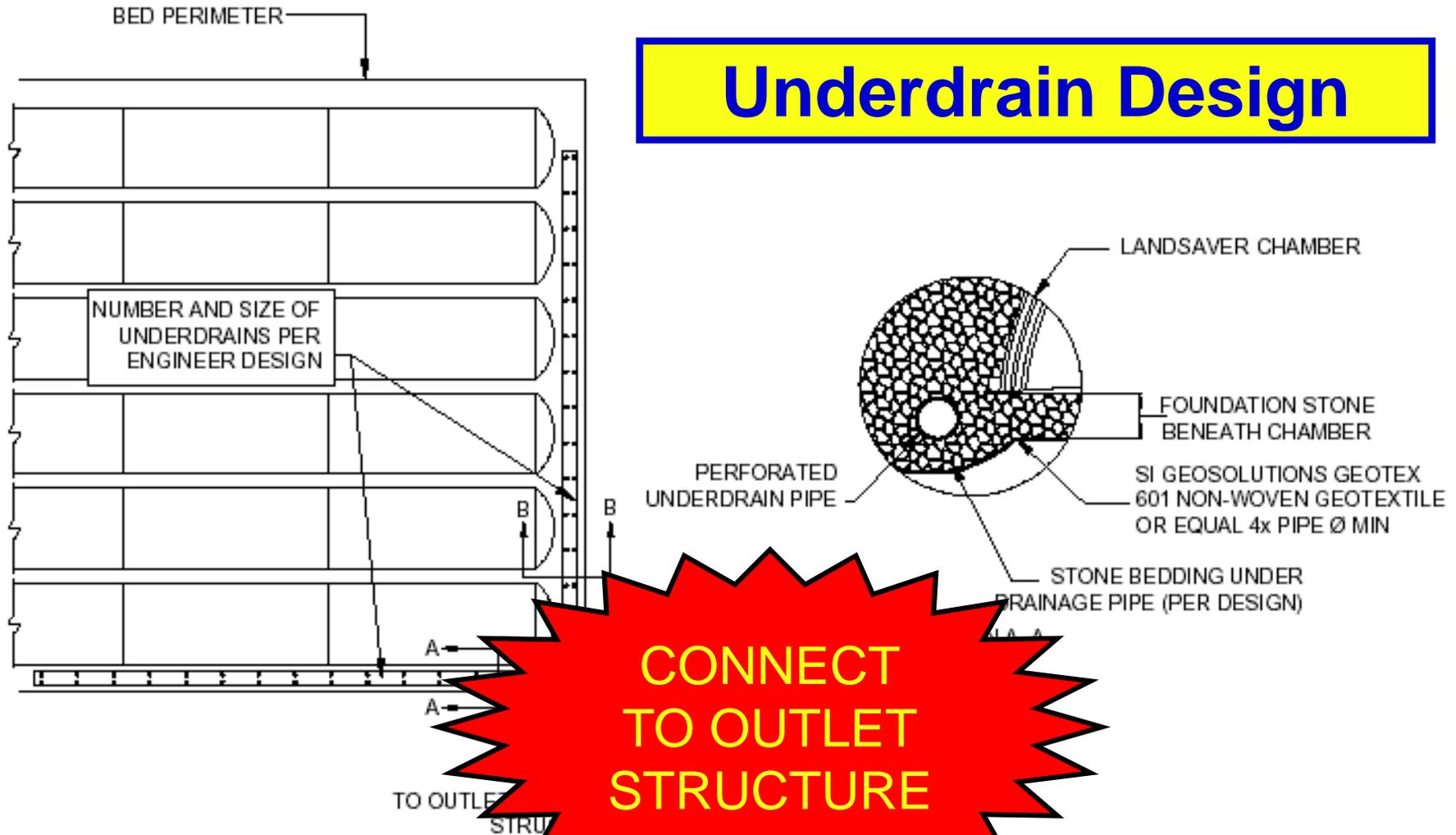
## Per ADS Tech Sheet #4

The following are specifications that StormTech recommends for the acceptance of reclaimed crushed concrete based on criteria for structural integrity.

1. Gradation: The gradation shall meet AASHTO M43 gradations as listed in the "Acceptable Fill Materials Table" in the StormTech Design Manual. Note that the material shall be processed such that fines are 5% or less.
2. The material shall meet ASTM D2488 angular or subangular classification.
3. Deleterious materials shall be limited to: a) maximum 20% reclaimed pavement materials and b) maximum 0.15% building materials.
4. Material hardness – Maximum loss of 40% in the LA Abrasion test (AASHTO T96)
5. Freeze-Thaw Resistance – Maximum 12% loss after 5 cycles in magnesium sulfate solution (AASHTO T104)
6. The design shall be in accordance with the StormTech Design Manual and Installation shall be in accordance with the StormTech Installation Instructions.

# Easy to Design

## Underdrain Design



# So What Does a Stormtech System Cost?



\$5-\$7/CF of Storage



# 10" Inspection Port



# StormTech Design Tool



**StormTech**  
*Detection • Retention • Water Quality*  
An **ADS** company



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## Save Valuable Land and Protect Water Resources

Watch how our system works

StormTech is a leading supplier of chambers for stormwater management.



### Engineers

Applications include commercial, residential, agricultural and highway drainage.

### Contractors

StormTech offers lower overall installed cost, superior design flexibility and enhanced performance.

### Developers

These chambers allow stormwater professionals to create more profitable, environmentally sound developments.

# StormTech Design Tool



Print Report | E-Mail Report | Reset to Defaults | Generate Drawing | View Profile

## ADS StormTech Design Tool

### Enter Data Here

Project Name:   
 Engineer:   
 Project Date:   
 Project Location:   
 Units:  Imperial  Metric  
 Required Storage Volume:  cubic ft.  
 Chamber Model:  MC-4500  MC-3500  DC-740  DC-780  DC-810  DC-180  
(MC-4500, MC-3500, DC-740, DC-780, DC-810, DC-180 are standard models. Custom models are available upon request.)  
 Min. Depth from Finished Grade to Invert Out:  in.  
 Max. Depth from Finished Grade to Invert Out:  in.  
Storm depth outside of the page shown may be achievable. For additional, please contact the ADS Technical Services Department at 953-452254.  
 Design Constraint:  Width  Length  
 Outlet Control Structure:  Yes (Outlet)  No Outlet  
 Design Constraint Dimension:  ft.  
 Stone Foundation Depth (8 inch min.):  in.  
 Stone Above Chambers (12 inch min., 5 89 inch max.):  in.  
 Average Cover Over Chambers (24 inch min., 5 89 inch max.):  in.  
 Stone Porosity (Industry Standard = 40%):  %

### Results

System Volume and Bed Size	
Installed Storage Volume	17201 cubic ft.
Storage Volume Per Chamber	178.9 cubic ft.
Storage Volume Per End Cap	46.9 cubic ft.
Number Of Chambers Required	93 each.
Number Of End Caps Required	12 each.
Rows/Chambers	3 rows (of 16 chambers)
Leftover Rows/Chambers	3 rows (of 16 chambers)
Maximum Length	124.25 ft.
Maximum Width	44.85 ft.
Approx. Bed Size Required	5508 square ft.

System Components	
Amount Of Stone Required	738 cubic yards
Volume Of Excavation (Not Including Fill)	1326 cubic yards
Non-woven Filter Fabric Required	1424 square yards
Length Of Isolator Row	119.4 ft.
Woven Isolator Row Fabric	219 square yards

Additional Notes:  
 A-1 The volume for the System Components are general estimates and do not include construction for walls.  
 B-1 The estimate for the Amount of Stone Required includes the Stone Required around the perimeter of the system. But, the perimeter stone is not included in the calculation for Total Concrete Volume.



MC-4500   MC-3500   DC-740   DC-780   DC-810   DC-180

EWSU

CSO

Mitigation

Projects

# Christian Life Center



# Christian Life Center



# Vine Street Parking Lot



# Center of Hope



# Center of Hope



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**HIGH PERFORMANCE**

Remember:

- Joints
- Stiffness