CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director

Mayor Timothy M. Keller

October 14, 2022

Ronald Bohannan, P.E.
Tierra West, LLC
5571 Midway Park Place NE
Albuquerque, NM 87109

RE: Fitz Drinks
Conceptual Grading and Drainage Plans
Engineer's Stamp Date: No Date
Hydrology File: A14D049

Dear Mr. Bohannan:

Based upon the information provided in your submittal received 09/30/2022, the Conceptual Grading & Drainage Plans are approved for action by the DRB on Platting action. However, the following comments need to be addressed prior to Building Permit approval of the above referenced project:

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

PRIOR TO BUILDING PERMIT:

1. Provide more detailed design as needed in order to obtain Hydrology's approval.

As a reminder, if the project total area of disturbance (including the staging area and any work within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the Stormwater Quality Engineer (Doug Hughes, PE, jhughes@cabq.gov, 924-3420) 14 days prior to any earth disturbance.

If you have any questions, please contact me at 924-3995 or rbrissette@cabq.gov.

Sincerely,

Renée C. Brissette

Renée C. Brissette, P.E. CFM
Senior Engineer, Hydrology
Planning Department

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

Project Title: Fiiz **Building Permit #**_____ **Hydrology File #**_____
DRB#_____ **EPC#**_____
Legal Description: TR MM-1A and MM-1B Seven Bar Ranch City Address OR Parcel 101406505748020207

Applicant/Agent: Tierra West, LLC **Contact:** Amanda Herrera
Address: 5571 Midway Park Place NE **Phone:** 505-858-3100
Email: aherrera@tierrawestllc.com

Applicant/Owner: RSF Land & Cattle Company LLC **Contact:** Greg Foltz
Address: 5740 Night Whisper Rd NW #100 Albuquerque, NM 87114 **Phone:** _____
Email: gfoltz@lcrealty.com

TYPE OF DEVELOPMENT: ___PLAT (#of lots) __RESIDENCE __DRB SITE X__ ADMIN SITE: ____
RE-SUBMITTAL: _____YES _____ NO

DEPARTMENT: _____TRANSPORTATION X____ HYDROLOGY/DRAINAGE
Check all that apply:

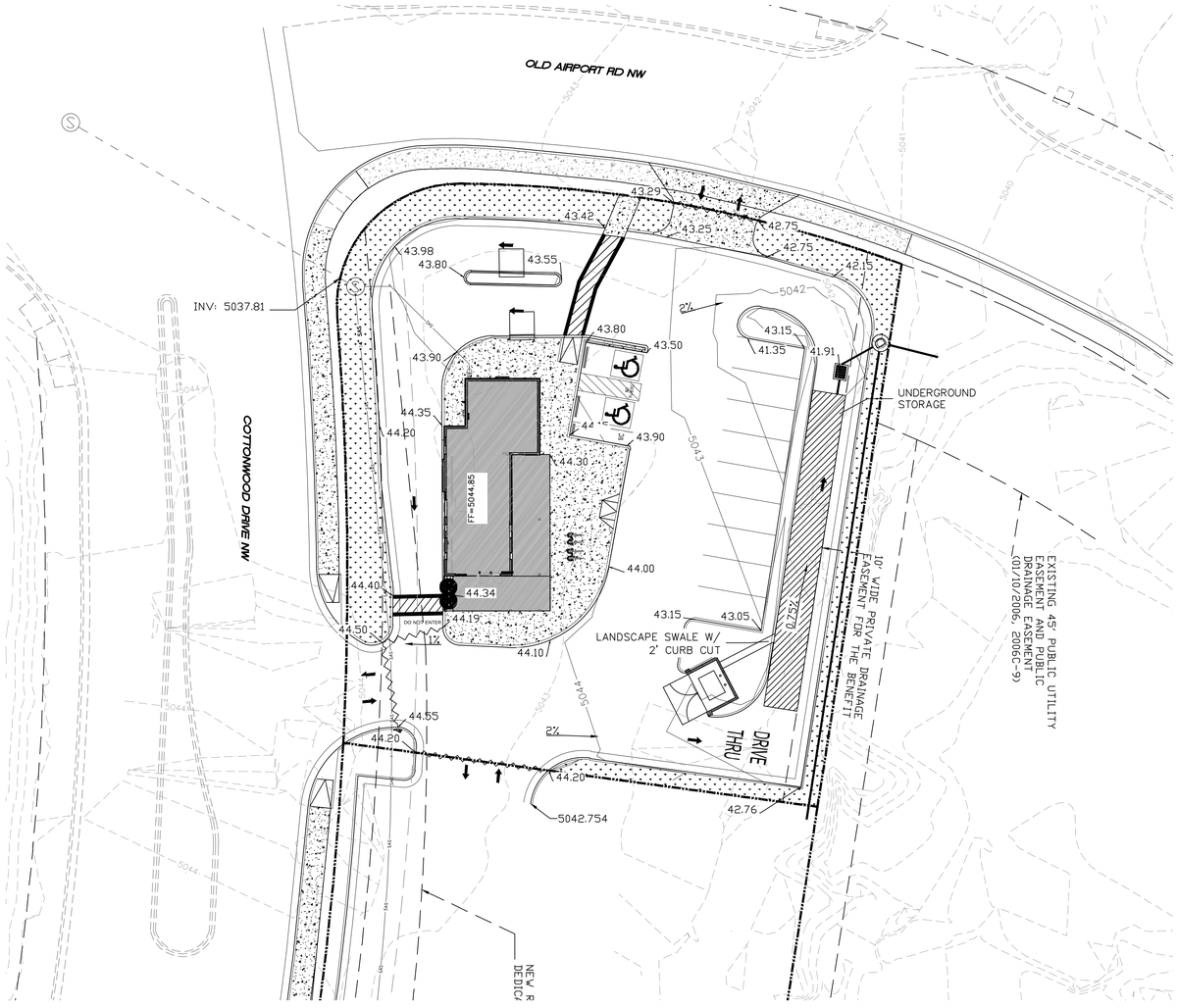
TYPE OF SUBMITTAL:

___ENGINEER/ARCHITECT CERTIFICATION
___PAD CERTIFICATION
X__CONCEPTUAL G&D PLAN
___GRADING PLAN
___DRAINAGE REPORT
___DRAINAGE MASTER PLAN
___FLOOD PLAN DEVELOPMENT PERMIT APP.
___ELEVATION CERTIFICATE
___CLOMR/LOMR
___TRAFFIC CIRCULATION LAYOUT (TCL) ADMINISTRATIVE
___TRAFFIC CIRCULATION LAYOUT FOR DRB APPROVAL
___TRAFFIC IMPACT STUDY (TIS)
___STREET LIGHT LAYOUT
___OTHER (SPECIFY)
___PRE-DESIGN MEETING?

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

___BUILDING PERMIT APPROVAL
___CERTIFICATE OF OCCUPANCY
___CONCEPTUAL TCL DRB APPROVAL
___PRELIMINARY PLAT APPROVAL
X__SITE PLAN FOR SUB'D APPROVAL
___SITE PLAN FOR BLDG PERMIT APPROVAL
___FINAL PLAT APPROVAL
___SIA/RELEASE OF FINANCIAL GUARANTEE
___FOUNDATION PERMIT APPROVAL
___GRADING PERMIT APPROVAL
___SO-19 APPROVAL
___PAVING PERMIT APPROVAL
___GRADING PAD CERTIFICATION
___WORK ORDER APPROVAL
___CLOMR/LOMR
___FLOOD PLAN DEVELOPMENT PERMIT
___OTHER (SPECIFY)_____

DATE SUBMITTED: 9/29/2022 Amanda Herrera



LEGEND

- CURB & GUTTER
- BOUNDARY LINE
- EASEMENT
- CENTERLINE
- RIGHT-OF-WAY
- BUILDING
- PROPOSED SIDEWALK
- EXISTING CURB & GUTTER
- WATER BLOCK
- LANDSCAPING
- EXISTING INDEX CONTOUR
- EXISTING CONTOUR
- PROPOSED INDEX CONTOUR
- PROPOSED CONTOUR

NOTE

ADD 5000 TO ALL SPOT ELEVATIONS

ELEVATIONS ARE TO FLOWLINE UNLESS OTHERWISE NOTED

NOTICE TO CONTRACTORS

1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
2. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HERON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF RIO RANCHO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONNECTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5. BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
7. WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

EROSION CONTROL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
4. REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL (CITY) ACCEPTANCE OF ANY PROJECT.
6. ALL SLOPES NOT STABILIZED AT THE END OF THE PROJECT SHALL BE STABILIZED IN ACCORDANCE WITH THE CITY OF RIO RANCHO SPECS OR ¾" GRAVEL

VICINITY MAP B14

LEGAL DESCRIPTION:

MM-1-B SEVEN-BAR RANCH (BEING A REPLAT OF TRACT MM-1 SEVEN-BAR RANCH) CONT 0.55 AC

EXISTING DRAINAGE:

THIS SITE IS CURRENTLY VACANT AND IS LOCATED ON THE SOUTHEAST CORNER OF COTTONWOOD DR. AND OLD AIRPORT RD. THE SITE IS BOUNDED BY ROADS ON THE NORTH AND WEST SIDE, VACANT LAND TO THE SOUTH AND THE COTTONWOOD APARTMENTS TO THE EAST AND CONTAINS APPROXIMATELY 0.55 ACRES. THE SITE DRAINS FROM SOUTH TO NORTHEAST TO A DRAINAGE BASIN THAT LEADING INTO THE EXISTING STORM SEWER AT 1.17CFS PER ACRE AS PART OF THE SAD 23 – PART 4 PLAN. THE SITE IS NOT LOCATED WITH IN A FLOOD PLAIN AS SHOWN ON THE FIRM MAP. THE OFFSITE FLOWS THAT ENTER THE SITE INCLUDE TRACTS MM-1-A (0.75CFS/AC) AND MM-1-B-1 (0.95CFS/AC) AND ARE ACCOUNTED FOR WITHIN THE SAD 23 PART 4 PLAN. DRAINAGE FROM THE TWO OTHER SITES MUST BE HELD ON-SITE AND ONLY REALEASE AT 1.17CFS/AC.

PROPOSED DRAINAGE:

THE PROPOSED SITE WILL GRADE TOWARDS THE NE CORNER OF THE SITE INTO A DROP INLET. THESE FLOWS WILL BE CAPTURED IN AN UNDERGROUND STORM STORAGE SYSTEM FOR A TOTAL OF 3,150 CF. RELEASE OF THIS SYSTEM Q(ALLOW) WILL BE RELEASED AT 3.71CFS INTO THE DRAINAGE BASIN TO THE EAST OF THE PROPERTY. EXISTING DRAINAGE FROM TRACT MM-1-A AND TRACT MM-1-B-1 WILL HEAD INTO A PIPE AND MAY ONLY BE RELEASED AT 1.17 CFS/AC (6.6CFS TOTAL) ALLOWED PER THE MASTER DRAINAGE PLAN. A NEW STORMDRAIN PIPE WILL BE INSTALLED ALONG THE EAST SIDE OF THE PROPERTY IN A NEW PRIVATE STORM DRAIN EASEMENT AND STUBBED AT THE SOUTHERN PROPERTY LINE FOR FUTURE TIE-IN WHEN TRACTS MM-1-B-1 AND MM-1-A ARE DEVELOPED

CAUTION

ALL EXISTING UTILITIES SHOWN WERE OBTAINED FROM RESEARCH, AS-BUILTS, SURVEYS OR INFORMATION PROVIDED BY OTHERS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO AND INCLUDING ANY EXCAVATION, TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS, PRIOR TO STARTING THE WORK. ANY CHANGES FROM THIS PLAN SHALL BE COORDINATED WITH AND APPROVED BY THE ENGINEER.

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
PRELIMINARY APPROVED
DATE: 10/14/22
BY: Renée C. Brissette
HydroTrans # A14D049
THESE PLANS AND/OR REPORT ARE CONCEPTUAL ONLY. MORE INFORMATION MAY BE NEEDED IN THUM AND SUBMITTED TO HYDROLOGY FOR BUILDING PERMIT APPROVAL.

Weighted E Method

On-Site Basins Existing

Basin	Area (sf)	Area (acres)	Treatment A %	Treatment A (acres)	Treatment B %	Treatment B (acres)	Treatment C %	Treatment C (acres)	Treatment D %	Treatment D (acres)	100-Year Weighted E (ac-ft)	100-Year Volume (ac-ft)	100-Year Flow cfs	10-Year Weighted E (ac-ft)	10-Year Volume (ac-ft)	10-Year Flow cfs
Tract MM-1-A	108207	2.48	100%	2.484091	0%	0.00	0%	0.00	0%	0.00	0.550	0.114	3.83	0.110	0.023	0.75
Tract MM-1-B-1	138052	3.17	100%	3.169238	0%	0.00	0%	0.00	0%	0.00	0.550	0.145	4.88	0.110	0.029	0.95
Tract MM-1-B-2	23959	0.55	100%	0.550023	0%	0.00	0%	0.00	0%	0.00	0.550	0.025	0.85	0.110	0.005	0.17
																1.86

On-Site Basins Proposed 5.65 AC) =

Basin	Area (sf)	Area (acres)	Treatment A %	Treatment A (acres)	Treatment B %	Treatment B (acres)	Treatment C %	Treatment C (acres)	Treatment D %	Treatment D (acres)	100-Year Weighted E (ac-ft)	100-Year Volume (ac-ft)	100-Year Flow cfs	10-Year Weighted E (ac-ft)	10-Year Volume (ac-ft)	10-Year Flow cfs
Tract MM-1-B-1	138052	3.17	0%	0	15%	0.48	0%	0.00	85%	2.69	2.014	0.532	12.13	1.255	0.331	7.31
Tract MM-1-B-2	23959	0.55	0%	0	15%	0.08	0%	0.00	85%	0.47	2.014	0.092	2.10	1.255	0.058	1.27
		3.72											14.23			

On-Site Basins

Total (SF)	162,011	Volume Required for Existing (AC-FT)	0.28
Water Quality (CF)	5,670	Volume Required for Proposed (AC-FT)	0.62
Water Quality (AC-FT)	0.13	VolumeProvided in Pond (AC-FT)	78.80
		Volume Pond can Hold (AC-FT)	0.738

Excess Precipitation, E (inches)		
Zone 1	100-Year	10 - Year
E_a	0.55	0.11
E_b	0.73	0.26
E_c	0.95	0.43
E_d	2.24	1.43

Peak Discharge (cfs/acre)		
Zone 1	100-Year	10 - Year
Q_a	1.54	0.3
Q_b	2.16	0.81
Q_c	2.87	1.46
Q_d	4.12	2.57

Pond Volume			
Elevation	Area (SF)	Cum Vol (CF)	Cum Vol (AC-FT)
31.6	3980	290088	
32	7190	712488	
33	9605	1292644.5	
34	12778	2069238.5	
35	16452	3069958.5	
35.6	20366	3432473.3	0.468

N

GRAPHIC SCALE
20 0 10 20
(IN FEET)
1 inch = 20 ft.

ENGINEER'S SEAL

RONALD R. BOHANNAN P.E. #7868

FIIZ DRINKS
ALBUQUERQUE, NM

CONCEPTUAL
GRADING AND DRAINAGE PLAN

TIERRA WEST, LLC
5571 MIDWAY PARK PL NE
ALBUQUERQUE, NEW MEXICO 87109
(505) 858-3100
www.tierrawestllc.com

DRAWN BY JL
DATE 7-14-22
DRAWING
SHEET # GR-1
JOB # 2022048

User Inputs

Chamber Model:	MC-3500
Outlet Control Structure:	Yes
Project Name:	Fiiz Drinks
Engineer:	Amanda Herrera Herrera
Project Location:	New Mexico
Measurement Type:	Imperial
Required Storage Volume:	500 cubic ft.
Stone Porosity:	40%
Stone Foundation Depth:	9 in.
Stone Above Chambers:	12 in.
Average Cover Over Chambers:	18 in.
Design Constraint Dimensions:	(20 ft. x 20 ft.)

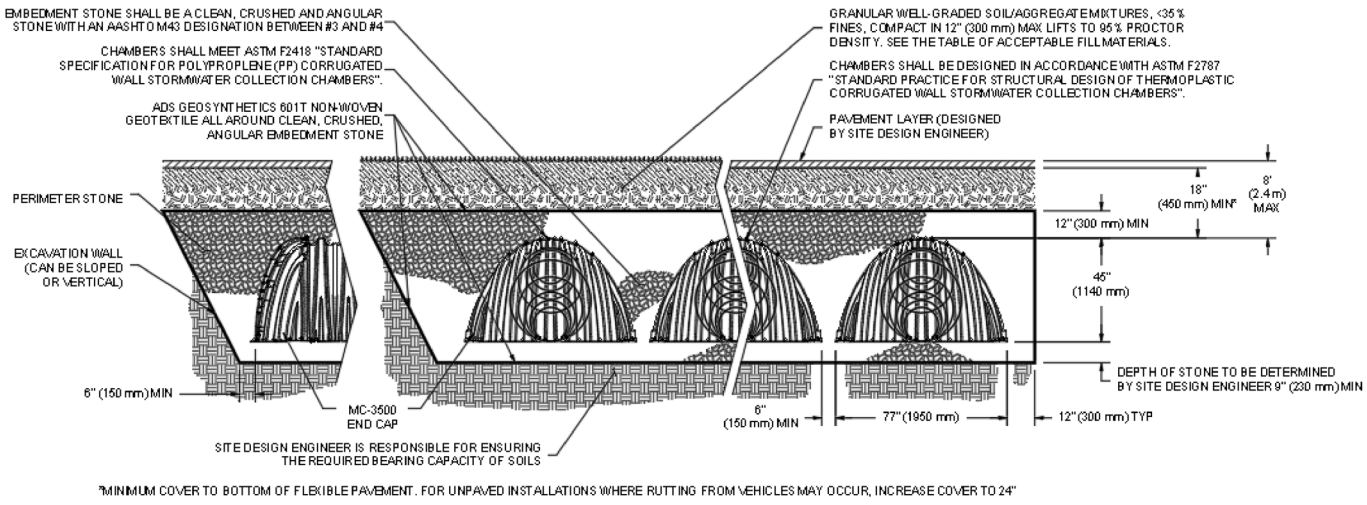
Results

System Volume and Bed Size

Installed Storage Volume:	3218.81 cubic ft.
Storage Volume Per Chamber:	109.90 cubic ft.
Number Of Chambers Required:	16
Number Of End Caps Required:	4
Chamber Rows:	2
Maximum Length:	63.08 ft.
Maximum Width:	15.33 ft.
Approx. Bed Size Required:	967.28 square ft.

System Components

Amount Of Stone Required:	130 cubic yards
Volume Of Excavation (Not Including Fill):	198 cubic yards
Total Non-woven Geotextile Required:	373 square yards
Woven Geotextile Required (excluding Isolator Row):	0 square yards
Woven Geotextile Required (Isolator Row):	0 square yards
Total Woven Geotextile Required:	0 square yards

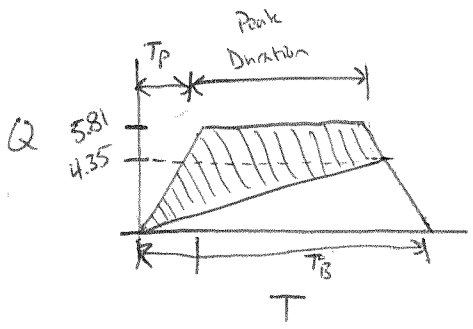


Fizz : $Q_p = 2.10$ cfs $Q_{allow} = 0.55 \times 1.17 = 0.64$ cfs

Offsite : $Q_p = 12.13$ cfs $Q_{allow} = 3.17 \times 1.17 = 3.71$ cfs

Combined for Stormtech : $Q_p = 2.10 + 3.71 = 5.81$ cfs

$Q_{allow} = 0.64 + 3.71 = 4.35$ cfs



$T_B = \left(2.107 \times 2 \times \frac{0.55}{2.10}\right) - \left(.25 \times \frac{.4675}{.55}\right)$

$= 1.104 - 0.2125$

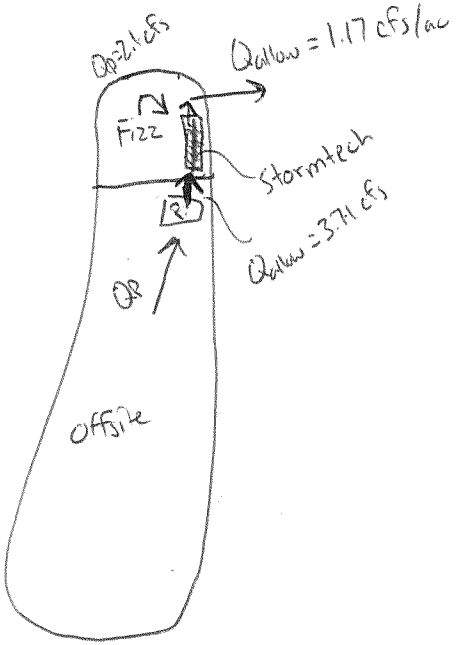
$= 0.8915$ hr

$T_p = (0.7 \times 0.2) + (1.6 - 0.85)/12 =$

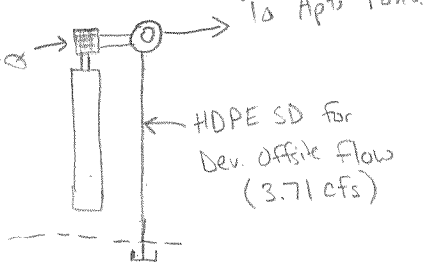
$0.14 + 0.0625 = 0.2025$ hr

P Duration = 0.2125 hr

$V = 3,146$ CF



Fizz StormTech Tank – 3,150 CF of Storage



$\frac{3,146 \text{ CF (total)}}{106.5 \text{ CF (StormTech)}} = 29.54$

30 storage chambers

x52"/12"

29.54

min – 130' of drainage easement

Easement 100" + 12" + 12" = 10.33 FT

11' x 130' Drainage easement

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	
ADS SALES REP	
PROJECT NO.	

Advanced Drainage Systems, Inc.

SiteAssist™
FOR STORMTECH
INSTALLATION INSTRUCTIONS
VISIT OUR APP

FIIZ DRINKS

ALBUQUERQUE, NM

MC-3500 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-3500.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 450 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM

1. STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
10. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
11. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

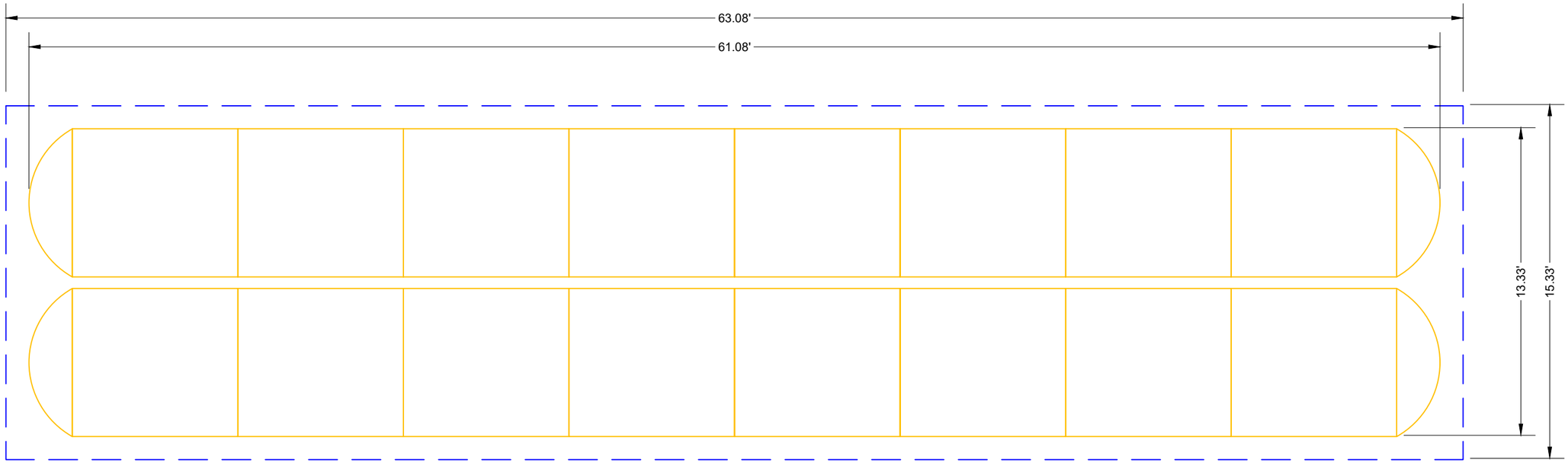
USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

PROPOSED LAYOUT		CONCEPTUAL ELEVATIONS	
16	STORMTECH MC-3500 CHAMBERS	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	12.50
4	STORMTECH MC-3500 END CAPS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	6.50
12	STONE ABOVE (in)	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	6.00
9	STONE BELOW (in)	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	6.00
40	STONE VOID	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	6.00
3219	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)	TOP OF STONE:	5.50
		TOP OF MC-3500 CHAMBER:	4.50
		BOTTOM OF MC-3500 CHAMBER:	0.75
		BOTTOM OF STONE:	0.00
967	SYSTEM AREA (SF)		
156.8	SYSTEM PERIMETER (ft)		

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW



NO ISOLATOR ROW PLUS

NO WOVEN GEOTEXTILE

BED LIMITS

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 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.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
- **NOT FOR CONSTRUCTION:** THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

FIIZ DRINKS
ALBUQUERQUE, NM
DATE:
DRAWN: AH
PROJECT #:
CHECKED: N/A

DATE	DRW	CHK	DESCRIPTION

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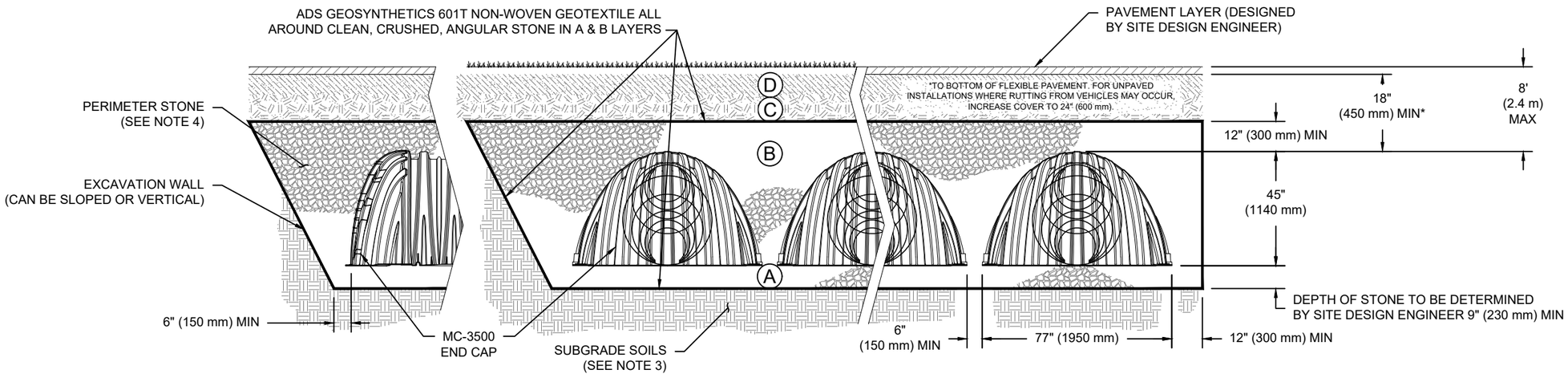
0 5' 10'

ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

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. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 450 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

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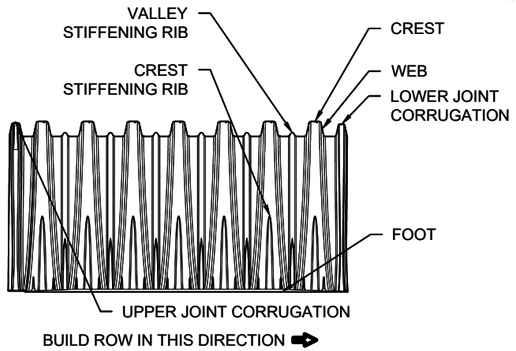
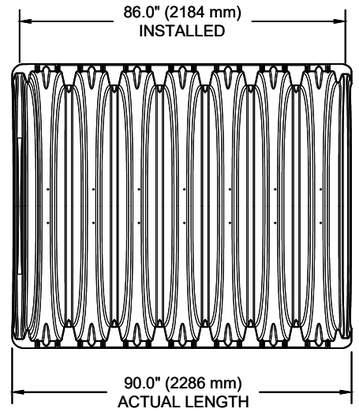
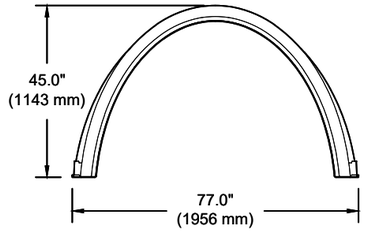
THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

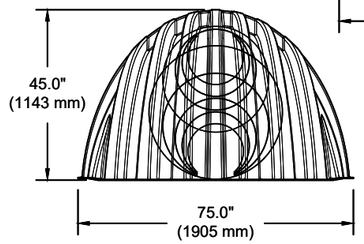
MC-3500 TECHNICAL SPECIFICATION

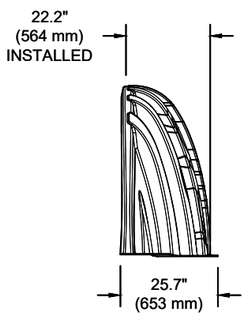
NTS











NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 86.0"	(1956 mm X 1143 mm X 2184 mm)
CHAMBER STORAGE	109.9 CUBIC FEET	(3.11 m³)
MINIMUM INSTALLED STORAGE*	175.0 CUBIC FEET	(4.96 m³)
WEIGHT	134 lbs.	(60.8 kg)

NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	75.0" X 45.0" X 22.2"	(1905 mm X 1143 mm X 564 mm)
END CAP STORAGE	14.9 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	45.1 CUBIC FEET	(1.28 m³)
WEIGHT	49 lbs.	(22.2 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION, 6" SPACING BETWEEN CHAMBERS, 6" (152 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY

MC-SERIES END CAP INSERTION DETAIL

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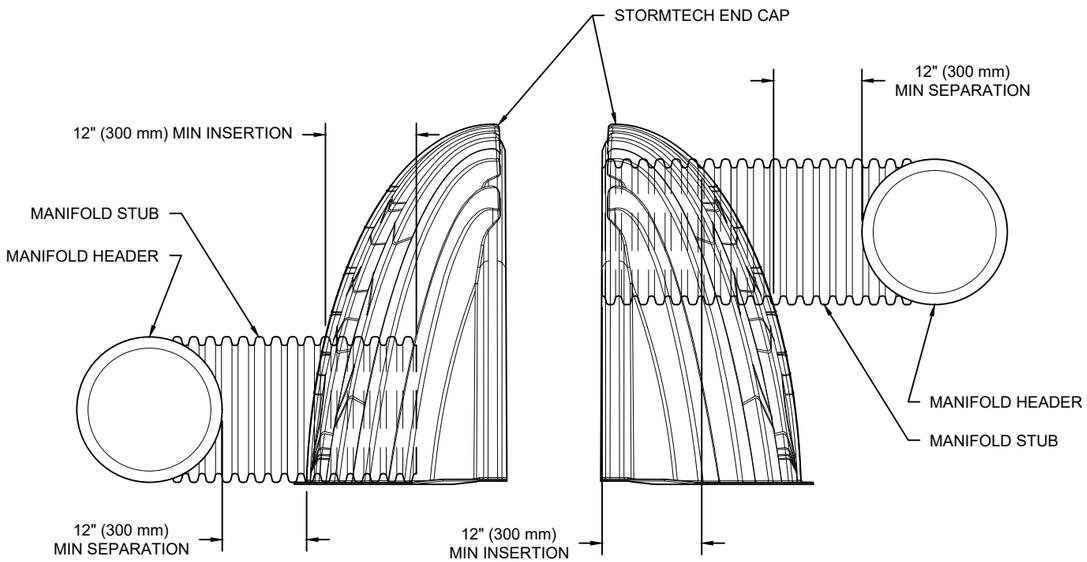
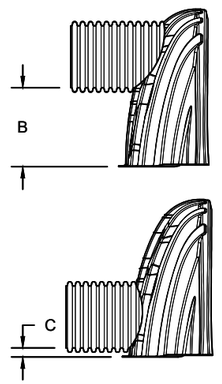


NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A WELDED CROWN PLATE END WITH "C"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	---
MC3500IEPP06B		---	0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	---
MC3500IEPP08B		---	0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	---
MC3500IEPP10B		---	0.93" (24 mm)
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)	---
MC3500IEPP12B		---	1.35" (34 mm)
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)	---
MC3500IEPP15B		---	1.50" (38 mm)
MC3500IEPP18TC	18" (450 mm)	20.03" (509 mm)	---
MC3500IEPP18TW			
MC3500IEPP18BC		---	1.77" (45 mm)
MC3500IEPP18BW			
MC3500IEPP24TC	24" (600 mm)	14.48" (368 mm)	---
MC3500IEPP24TW			
MC3500IEPP24BC		---	2.06" (52 mm)
MC3500IEPP24BW			
MC3500IEPP30BC	30" (750 mm)	---	2.75" (70 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

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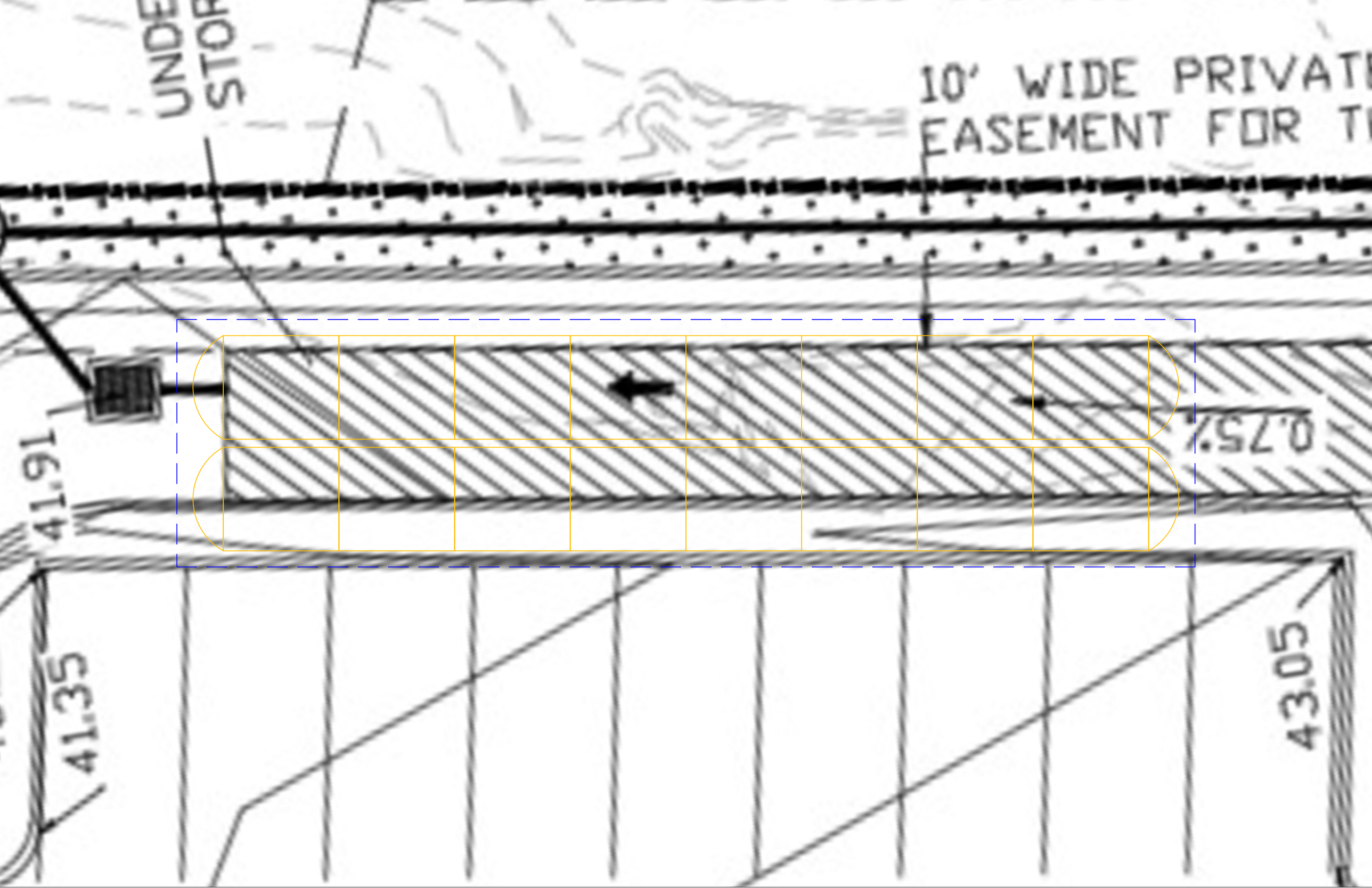
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STOR
10' WIDE PRIVATE
EASEMENT FOR T
0.75%
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