

**MINUTES OF VARIANCE HEARING
COBB COUNTY BOARD OF ZONING APPEALS
MARCH 15, 2023
1:30 P.M.**

The Board of Zoning Appeals Variance Hearing was held on Wednesday, March 15, 2023, at 1:30 p.m. in the second-floor public meeting room of Cobb County Building A, 100 Cherokee Street, Marietta, Georgia. Present and comprising a quorum of the Board were:

Barkley Russell, Chairwoman
Deidra Willis, Vice Chair
Fred Beloin
Kim Swanson
Alice Summerour

CHAIRWOMAN RUSSELL – CALL TO ORDER

Chairwoman Russell called the hearing to order at 1:31 p.m. and explained the procedures for the public hearing.

Mr. LeDarius Scott, Zoning Division Planner II, read into the record the following cases that were withdrawn or continued and then read in the Consent Agenda.

WITHDRAWN/CONTINUED CASES

- V-34** **TERESA CURRY** (McDonald's USA, LLC, owner) requesting a variance to reduce the minimum number of parking spaces from the required 45 to 37 in land lot 194 of the 20th district. Property is located on the west side of Mars Hill Road, north of Dennis Kemp Lane (1855 Mars Hill Road).
WITHDRAWN WITHOUT PREJUDICE
- V-35** **BELLAREED LUXURY POOLS** (Jeffrey Walker and Kameese Walker, owners) requesting a variance to 1) increase the maximum allowable impervious coverage from 35% to 43%; and 2) reduce the rear setback for an accessory structure under 650 square feet (proposed approximately 252 square foot pergola) from the required 30 feet to 20 feet in land lot 226 of the 1st district. Property is located on the south side of Heyward Square Place and on the west side of Lower Roswell Road (5426 Heyward Square Place).
WITHDRAWN WITHOUT PREJUDICE
- V-36** **ALEXANDER FARRINGTON** (Arfco Developments, LLC, owner) requesting a variance to reduce the stream buffer from the required 75 feet to 40 feet in land lot 1207 of the 16th district. Property is located at the northern terminus of Dogwood Drive, north of Nekoma Street (118 Dogwood Drive).
(Continued by Staff until the April 12, 2023 BZA hearing; therefore, was not considered at this hearing).

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WITHDRAWN/CONTINUED CASES (CONT.)

V-32 **JEFFREY JOHNSON** (Synergy Investing LLC, owner) requesting a variance to 1) reduce the front setback for lot 1 from the required 40 feet to 28 feet (existing); 2) reduce the rear setback for lot 1 from the required 35 feet to 30 feet (existing); and 3) reduce the required setbacks for an accessory structure over 650 square feet (existing approximately 1,450 square foot garage) from 100 feet to 80 feet adjacent to the southern property line, 36 feet adjacent to the northern property line, 35 feet adjacent to the western property line, and 21 feet adjacent to the eastern property line on lot 1 in land lots 660 and 661 of the 16th district. Property is located on the east side of Jewell Drive and Hiawasse Drive and on the north side of Liberty Hill Road, east of Canton Road (905 Liberty Hill Road).

Mr. Scott presented the Applicant's request for a continuance; thereafter, the following motion was made:

MOTION: Motion by Swanson, second by Summerour, to **continue** V-32 until the April 12, 2023 Board of Zoning Appeals Variance Hearing.

VOTE: **ADOPTED** 5-0

CONSENT AGENDA

MOTION: Motion by Summerour, second by Willis, to **approve** the following cases on the Consent Agenda, *as revised*:

V-29 **OSCAR ROJAS HERNANDEZ** (Oscar Rojas Hernandez and Leah Garrison, owners) requesting a variance to allow the exposed portion of a retaining wall, as measured from the adjacent property owner's side of the exposed wall, to exceed six feet in height when constructed within five feet of the property line (requested 10 foot retaining wall) in land lot 229 of the 16th district. Property is located on the east side of Christacy Way, east of Whistling Swan Place (4121 Christacy Way).

To **approve** V-29, subject to:

- 1. Development and Inspections Division comments and recommendations**

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CONSENT AGENDA (CONT.)

V-30

JENNIFER DOUGHERTY AND JOHN DOUGHERTY (Jennifer Leigh Burrows and John Richard Dougherty, owners) requesting a variance to 1) increase the maximum allowable impervious coverage from 35% to 45.56%; 2) reduce the front setback from the required 35 feet to 33 feet (existing); and 3) reduce the setbacks for an accessory structure under 144 square feet (existing approximately 80 square foot shed) from the required five feet to three feet adjacent to the western property line and to two feet adjacent to the southern property line in land lots 332 and 389 of the 16th district. Property is located on the south side of Woodrun Trail and the north side of Shallowford Road, east of Country Woods Entrance (3308 Woodrun Trail).

To **approve** V-30, subject to:

- 1. Site Plan Review comments and recommendations**
- 2. Stormwater Management Division comments and recommendations**

V-31

RON POWELL (Ronald Powell and Alise Churchill Powell, owners) requesting a variance to 1) reduce the setbacks for an accessory structure over 650 square feet (proposed 2,464 square foot pole barn/garage) from the required 100 feet to 36 feet adjacent to the eastern property line, 67 feet adjacent to the northern property line, and 93 feet adjacent to the southern property line; 2) reduce the setbacks for an accessory structure over 650 square feet (existing 751 square foot one story brick garage) from the required 100 feet to 89 feet adjacent to the southern property line and 95 feet adjacent to the northern property line; 3) allow parking and/or maneuvering of vehicles on a non-hardened and treated surface (gravel drive); and 4) allow a second electrical meter on a residential lot in land lot 145 of the 20th district. Property is located on the east side of Acworth Due West Road, south of Country Garden Walk (2870 Acworth Due West Road.)

To **approve** V-31, subject to:

- 1. Department of Transportation comments and recommendations**
- 2. Fire Department comments and recommendations**
- 3. Accessory structure architecture to substantially match the submitted photos on the site plan (attached and made a part of these minutes)**

V-33

BRIAN HUSKEY (Courtney C. Huskey and Brian Huskey, owners) requesting a variance to increase the maximum allowable impervious coverage from 35% to 43% in land lot 473 of the 16th district. Property is located on the west side of Covington Road, south of Lassiter Road (3051 Covington Road).

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CONSENT AGENDA (CONT.)

V-33 **BRIAN HUSKEY (CONT.)**

To approve V-33, subject to:

1. **Stormwater Management Division comments and recommendations**
2. **Sewer Division comments and recommendations**
3. **StormTank 25 series drawings for the Huskey residence (attached and made a part of these minutes), or its equivalent, subject to approval by Stormwater Management**

V-37 **DONALD LUCCI** (Donald G. Lucci and Sandra Lucci, owners) requesting a variance to reduce the rear setback for an accessory structure under 650 square feet (proposed 300 square foot gazebo) from the required 35 feet to 18 feet in land lot 75 of the 1st district. Property is located on the southeast side of Maple Brook, east of Dogwood Trail (4714 Maple Brook).

To approve V-37.

V-38 **VLADIMIR PALAS** (Vladimir Palas, owner) requesting a variance to 1) reduce the rear setback for an accessory structure over 650 square feet (existing approximately 750 square foot wooden deck and patio with canopy) from the required 100 feet to 23 feet on Tract 1; and 2) allow an accessory structure (existing approximately 49 square foot shed) to be located to the side of the principal building on Tract 2) in land lot 141 of the 16th district. Property is located on the south side of Mosby Drive and on the north side of Shiloh Road, west of Bells Ferry Road (375 and 383 Mosby Drive).

To approve V-38, subject to:

1. **Department of Transportation comments and recommendations**
2. **Fire Department comments and recommendations**

MOTION: Motion by Summerour, second by Beloin, to add the following stipulation to V-38:

3. **Both structures needing variances to be inspected and permitted within 60 days**

VOTE: **ADOPTED 5-0**

CONSENT VOTE: **ADOPTED 5-0**

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APPROVAL OF MINUTES

MOTION: Motion by Willis, second by Swanson, to **approve** the following minutes, *as presented*:

February 15, 2023 – Board of Zoning Appeals Variance Hearing
March 13, 2023 – Special Called Meeting/Work Session Agenda Review

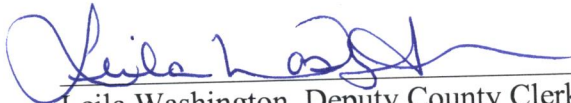
VOTE: **ADOPTED** 4-0, Summerour abstained

ADJOURNMENT

MOTION: Motion by Summerour, second by Swanson, to **adjourn** the hearing.

VOTE: **ADOPTED** 5-0

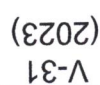
The hearing adjourned at 1:43 p.m.

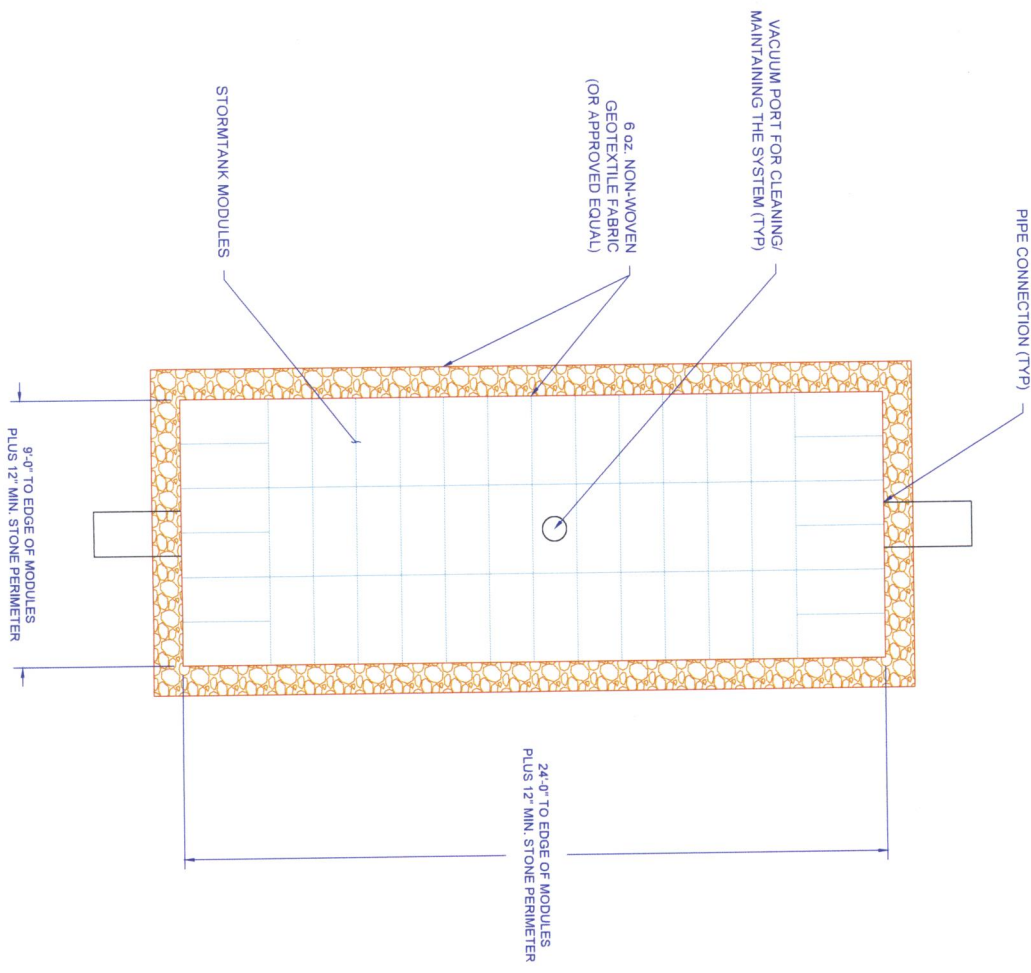


Leila Washington, Deputy County Clerk
Cobb County Board of Zoning Appeals

CC LAND SURVEYORS

2022 B
2870 Acworth Drive West Rd
Sheet No.: 1 of 1





- NOTES
- a. REFERENCE BRENTWOOD INDUSTRIES STANDARD DRAWINGS AND NOTES FOR DETAILED INFORMATION.
 - b. REFERENCE CURRENT INSTALLATION INSTRUCTIONS FOR PROPER INSTALLATION PRACTICES.
 - c. ENGINEER OF RECORD TO OBTAIN NECESSARY CONFORMANCE TO ALL APPLICABLE REGULATORY AGENCIES.
 - d. ALL INLET AND PIPE LOCATIONS AND DESIGNS BY OTHERS.
 - e. ALL STRUCTURES AND PIPES TO BE SUPPLIED BY OTHERS.

LEGEND

10" OBSERVATION PORT

¾" (19.5 mm) ANGULAR STONE

DEBRIS ROW

Proposed Layout

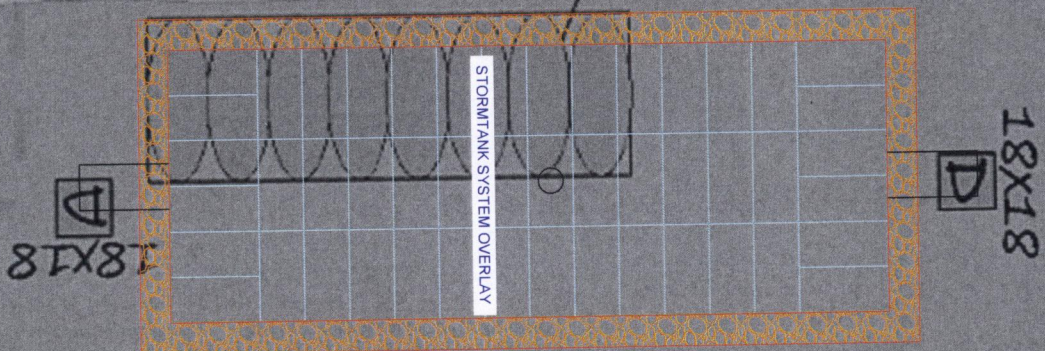
35" Tall Storm Tank Module System
(48) Storm Tank Module 25 Series Units - Model 2536
Module Footprint = 216 sqft
Excavation Footprint = 286 sqft
Estimated Geotextile fabric = 195 sq
Estimated Stone Backfill Volume = 29 cy
Installed System Storage Volume (Excluding Stone) = 628 cf
Installed System Storage Volume (Including Stone) = 941 cf

Elevations	
Max. Finished Grade	1006.00
Min. Finished Grade (HIS-25 Leads)	1000.00
Min. Finished Grade (HIS-20 Leads)	999.75
Top of Storm Backfill	999.00
Top of Module	998.00
Module Invert	995.00
Stone Invert	994.00

Material Quantities	
Model 2536	
Plates	96
35" Side Panels	44
35" Columns	384
10" Observation Port Kit(s)	1

Petition No. V-33
Meeting Date 3-15-23
Continued

stormwater
manholes for
overflow
stormwater Tank
Clean Out



PAVER POOL DECK
(2400 sqft)

Tan
Ledge

12x12
D

(2300)

GENERAL CONDITIONS

- REVIEW INSTALLATION PROCEDURES AND COORDINATE THE INSTALLATION WITH OTHER CONSTRUCTION ACTIVITIES, SUCH AS GRADING, EXCAVATION, UTILITIES, CONSTRUCTION ACCESS, EROSION CONTROL, ETC.
- OBTAIN NECESSARY STATE AND LOCAL DOCUMENTATION, AS THE INSTALLATION INVOLVES STATE DOCUMENTS BASED ON A TYPICAL INSTALLATION INSPECTED OR BASED ON BENCHMARKS SITE PREPARATION AND INSTALLATION INSPECTIONS OR SIMILAR, A BENCHMARK SYSTEM CAN SUPPORT AN HS-20 LOAD, CORROBORATE THE INSTALLATION WITH MAIN FRAMEWORK'S REPRESENTATIVE CONTRIBUTION TO BE ONSITE. TO REVIEW START UP PROCEDURES AND INSTALLATION INSTRUCTIONS.
- COMPONENTS SHALL BE UNLOADED, HANDLED AND STORED IN A SAFE, PROTECTED FROM IMPACT AND A VEHICLE MAY BE WALKED ON, BY VEHICULAR TRAFFIC IS PROHIBITED
- ASSESS REQUIRED PERMITS, MANUFACTURER'S REQUIREMENTS, PROJECT THE INSTALLATION APPROXIMATE DURATION WITH HIGHLY VISIBLE CONSTRUCTION TAPE, FENCING OR OTHER MEANS LIMIT CONSTRUCTION TO BE COMPLETE.
- ENSURE ALL CONSTRUCTION OCCURS IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS, ORDINANCES, REGULATIONS AND SAFETY REQUIREMENTS.
- EXTRA CARE AND CAUTION SHOULD BE TAKEN WHEN TEMPORARY URBED ARE AT OR BELOW GRADE F (4.4' G).

1.0 STORMTANK® ASSEMBLY

STORMTANK® MODULES:

- ASSEMBLY INSTRUCTIONS:**
1. LAY THE FRAM, LEVEL SURFACE AND INSERT THE EIGHT (8) COLUMNS INTO THE PLATEN RECEIVER CUPS. FIRMLY TAP EACH COLUMN WITH A RUBBER WALLET TO ENSURE THE COLUMN IS SEATED.
 2. PLACE A SECOND PLATEN ON A FRAM, LEVEL SURFACE. FLIP THE PREVIOUSLY ASSEMBLED COMPONENTS UPSIDE DOWN ONTO THE SECOND PLATEN.
 3. ONCE ALIGNED SEAT THE TOP ASSEMBLY BY ALTERNATING TAPS WITH A RUBBER WALLET TO EACH STRUCTURAL COLUMN UNTIL ALL COLUMNS ARE FIRMLY SEATED.

SIDE PANELS

5. ALIGN THE TOP OF THE SIDE PANEL WITH THE TOP PLATEN AND FIRMLY SEAT THE TOP PLATEN UTILIZING A RUBBER MALLET.

GENERAL NOTES

- REMOVE ACKAGING MATERIAL AND CHECK FOR ANY DAMAGE. REPORT ANY DAMAGE TO THE STORMTANK® DISTRIBUTOR OR BREITWOLD PERSONNEL.
- STORMTANK® COMPONENTS ARE BACKED BY A ONE YEAR WARRANTY, WHEN INSTALLED PER MANUFACTURERS RECOMMENDATIONS.

2.0 BASIN EXCAVATION

1. STAKE OUT AND EXCAVATE TO ELEVATIONS PER APPROVED PLANS.
2. EXCAVATION REQUIREMENTS:
 - a. EXCAVATION SHALL BE A MINIMUM OF 152 MM BELOW DESIGN ELEVATION.
 - b. STORAGE AND MOBILE ELEVATION SHALL BE A MINIMUM OF 127.035 MM BEYOND THE STORM PUMP DIMENSIONS IN ANY DIRECTION AND WITH AN ADOPTED 1/4" TOLERANCE.
 - c. EXCAVATION SHALL BE 152 MM DEEPER THAN THE DESIGN ELEVATION OF THE BASE DRAINAGE.
 - d. REMOVE COLLECTIBLE MATERIAL UNCOVERED WITHIN THE EXCAVATION INCLUDING PROTECTIVE MATERIAL FROM THE WALLS.
 - e. FURNISH, INSTALL, AND MAINTAIN EXCAVATION SUPPORT (E.G., SHIELDING, BRACING, SHIELDING BOXES, ETC.) AS REQUIRED BY REQUIREMENTS AND LOCAL LAWS, ORDINANCES, REGULATIONS AND SAFETY REQUIREMENTS.

3.0 SUB-GRADE REQUIREMENTS

1. SUBGRADE SHALL BE UNFROZEN, LEVEL, PLUS OR MINUS 1% AND FREE OF CLUMPS OR DEBRIS WITH NO STANDING WATER. MUD OR MUCK AND LOOSE MATERIALS SHALL BE REMOVED. UNFROZEN AND MOIST CONTACT WITH THE SUBGRADE SHALL BE AVOIDED.
2. UNUSUAL, UNPREDICTABLE AND/OR COMBINED AREAS MUST BE BROUGHT TO THE ENGINEER'S ATTENTION AND MITIGATING EFFORTS DETERMINED PRIOR TO COMMENCING THE SUBGRADE.
3. SUBGRADE MUST BE COMPACTED TO 98% STANDARD PROCTOR DENSITY OR AS APPROVED BY THE ENGINEER OF RECORD. IF CODE REQUIREMENTS RELATING TO SUBGRADE ARE NOT MET, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING THAT THE BEARING CAPACITY AND SETTLEMENT CRITERIA FOR SUPPORT OF THE SYSTEM HAVE MET.

4.0 LEVELING BED INSTALLATION

1. INSTALL GEOTEXTILE FABRIC AROUND INHERENT MATERIAL, AS SPECIFIED. GEOTEXTILE FABRIC SHOULD BE PLACED PER MANUFACTURER'S INSTRUCTIONS.
 - a. ADDITIONAL MATERIAL TO BE UTILIZED FOR UNRAILING ABOVE THE SYSTEM
 - b. MATERIAL SHOULD BE PROTECTED FROM DAMAGE UNTIL USE
2. AFTER THE GEOTEXTILE IS SECURED, PLACE MINIMUM 6" (152 MM) LEVELING BED MATERIAL. SHOULD BE A HARD (19 MPa) GRANULAR STONE (SEE TABLE APPENDIX B-1).
 - a. ACCEPTABLE ALL MATERIAL.
 - b. MATERIAL SHOULD BE RAKED FREE OF VOIDS, LUMPS, DEBRIS, SAND, OBJECTS AND PLANT MATERIAL TO A LEVEL WITH A MAXIMUM 1% SLOPE.
3. CORRECT ANY UNSATISFACTORY CONDITIONS.

5.0 STORMTANK® MODULE PLACEMENT

1. INSTALL GEOTECHTIVE FABRIC AND/OR LINER MATERIAL, AS SPECIFIED. GEOTECHTIVE FABRIC SHALL BE PLACED PER MANUFACTURER'S RECOMMENDATIONS. IT SHOULD BE LAPPED TO A MINIMUM OF 12" AND BE PROTECTED FROM DAMAGE UNTIL USE.
2. MARK THE FOOTPRINT OF THE MODULES FOR PLACEMENT.
3. INSTALL THE INDIVIDUAL MODULES BY HAND, AS DETAILLED BELOW.
 - a. THE MODULES SHOULD BE INSTALLED AS SHOWN IN THE STORY/TANKS SUBMITTAL DRAWINGS WITH THE SHORT SIDE OF PERIMETER TIE MODULES POINTING OUTWARD, EXCEPT AS OTHERWISE NOTED. TIES ARE IN ALIGNMENT WITH DIRECTION OF FLOW.
 - b. TO WITHIN A MAXIMUM OF (6.4 MM),
 - c. FOR DOUBLE STACK CONFIGURATIONS:
 - i. INSTALL THE BOTTOM MODULE FIRST. DO NOT INTERFERE VARIOUS HEIGHTS ACROSS LAYERS.
 - ii. BACKFILLING PRIOR TO PROCEEDING TO THE NEXT LAYER.
 - d. INSERT STAKES/SPINS (2 PER MODULE) INTO THE TOP PLATE/IN OF THE BOTTOM MODULE.
 - e. PLACE THE UPPER MODULE DIRECTLY ON TOP OF THE BOTTOM MODULE TO THE SAME DIRECTION, MAKING SURE TO STAKE THE SPINS.
4. INSTALL THE MODULES AS DETAILLED, TAKING CARE TO AVOID DAMAGE TO THE GEOTECHTIVE AND/OR LINER MATERIAL.
5. LOCK/TIE ANCHOR POINTS ON OTHER RESTRAINTS OF THE STORY/TANKS SUBMITTAL, REPRESENTATIONS IN ACCORDANCE WITH THE APPROVED SUBMITTALS, CONTRACT DOCUMENTS AND MANUFACTURER'S RECOMMENDATIONS.

6. UPON COMPLETION OF WORK

- NOTES:**
- IF DAMAGE OCCURS TO THE GEOTEXTILE FABRIC OR AN UNREPAIRABLE LINER, REPAIR THE MATERIAL IN ACCORDANCE WITH THE GEOTEXTILE/LINER MANUFACTURER'S RECOMMENDATIONS.

6.0 SIDE BACKFILL

1. INSPECT ALL GEOTEXTILES ENSURING THAT NO VOIDS OR DAMAGE EXISTS, WHICH COULD ALLOW SEDIMENT INTO THE STORMWATERS SYSTEM.
2. ADJUST THE STONE/SOIL INTERFACE GEOTEXTILES ALONG THE SLOPE OF THE MATINE SOIL, TO ENSURE THE GEOTEXTILE IS TIGHT TO THE MATINE SOIL.
3. ONCE THE GEOTEXTILE IS SECURED, BEGINS TO PLACE THE SIDE BACKFILL.
 - a. ACCEPT BACKFILL MATERIAL.
 - b. BACKFILL SLOES WITHIN 1' AROUND THE PERIMETER WITHOUT EXCEEDING 1'.
 - c. PLACE MATINE UTILIZING AN EXCAVATOR, DOZER OR CONVOYER DOOM.
 - d. UTILIZE A PLATE VIBRATOR TO SETTLE THE STONE AND PROVIDE A UNIFORM DISTRIBUTION.

NOTES:

- DO NOT APPLY A VIBRATORY LOAD TO THE WOODS JOINTS OR EXCESSIVE OF VIBRATION TO THE MATERIAL. PLACEMENT SHOULD OCCUR WITH EQUIPMENT LOCATED ON THE NATIVE SOIL SURROUNDING THE SYSTEM.
- IF DAMAGE OCCURS TO THE GEOTEXTILE FABRIC OR IMPERMEABLE LINER, REPAIR THE MATERIAL IN ACCORDANCE WITH THE GEOTEXTILE/LINER MANUFACTURER'S RECOMMENDATIONS.

7.0 TOP BACKFILL (STONE)

1. BEGINS TO PLACE THE TOP BACKLASH (19 MM) ANGLULAR STROKE. MEETING APPENDIX B.
- a. ACCEPTABLE FALL MATERIAL.
- b. PLACE MATERIAL UTILIZING AN EXCAVATOR TO DOZOR ON CONCRETE BOOM (APPENDIX C - MATERIAL PLACEMENT) AND USE A WALK-BEHIND PLATE VIBRATOR TO SETTLE THE MATERIAL.
- DO NOT WASTE ON THE DOZOR. WITHOUT A MINIMUM 15' (500 MM) COVER.
2. UPON COMPLETION OF TOP BACKLASH, WARP THE SYSTEM IN GEOTECHNICAL FABRIC AND UNDER PNEUMATIC TIRE RECOMMENDATIONS.
3. INSTALL METALLIC RAIL AROUND THE PERIMETER OF THE SYSTEM TO MARK THE AREAS FOR FUTURE UTILITY DETECTION.

NOTES:

- IF DAMAGE OCCURS TO THE GEOTEXTILE PARTIAL OR FULL COMPENSATION SHALL BE PROVIDED BY THE MANUFACTURER OF THE GEOTEXTILE MATERIAL IN ACCORDANCE WITH THE GEOTEXTILE/LINER MANUFACTURER'S RECOMMENDATIONS.

8.0 SUITABLE COMPACTABLE FILL

1. PLACE FILT ONTO THE GEOTEXTILE.
 - a. MAXIMUM 7.5 (250 MM) FILTS COMPLETED WITH A VIBRATION PLATE OR WALKER BEHIND ROLLER TO A MINIMUM OF 80% STANDARD PROCTOR DENSITY (ASTM 998).
 - b. THE MINIMUM FILL DEPTH TO THE BOTTOM OF THE GEOTEXTILE SHOULD BE 150 (6 IN) AND THE MAXIMUM FILL DEPTH TO THE BOTTOM OF THE COMBES MODULE SHOULD NOT EXCEED 117 (3.25 M).
2. FINISH TO THE SURFACE AND COMPLETE WITH NEGATIVE COVER.

IMPERVIOUS AREA

1. PLACE FLAT ONTO THE GEOTECH TEST AREA.
 - a. MAXIMUM 17 (355 MM) DEPTH COMPACTED WITH VIBRATORY PLATE OR WALK BEHIND ROLLER TO BE 98% STANDARD PROCTOR DENSITY OR TO MEET THE REQUIREMENTS OF THE CONTRACT SPECIFICATION.
 - b. SUBBASE MATERIALS SHOULD BE REFERENCED BY THE APPROVED ENGINEERING DRAWINGS.
 - c. THE MINIMUM TOP COVER TO FINISHED GRADE SHOULD NOT BE LESS THAN 2 (50 MM) AND THE MAXIMUM DEPTH FROM FINIAL GRADE TO THE BOTTOM OF THE LOWER MODULE SHOULD NOT EXCEED 11 (335 MM).

NOTE:

- A VIBRATORY ROLLER MAY ONLY BE UTILIZED FOR THE APPLICATION OF A MINIMUM OF 24 TO 30 TONS OF WEIGHT.
- MATERIAL HAS BEEN INSTALLED OR FOR THE INSTALLATION OF THE ASPHALT WEARING COURSE.
- IF DAMAGE OCCURS TO THE GEOTEXTILE FABRIC REPAIR THE MATERIAL IN ACCORDANCE WITH THE GEOTEXTILE MANUFACTURER'S RECOMMENDATIONS.

Appendix B - Acceptable Fill Materials

Parameter	Estimation	Bayesian AIC	Akaike's BIC	Bayesian DIC
Intercept	0.000	0.00	0.00	0.00
Female (reference)	0.000	0.00	0.00	0.00
Male	0.000	0.00	0.00	0.00
Age (reference)	0.000	0.00	0.00	0.00
18-24	0.000	0.00	0.00	0.00
25-34	0.000	0.00	0.00	0.00
35-44	0.000	0.00	0.00	0.00
45-54	0.000	0.00	0.00	0.00
55-64	0.000	0.00	0.00	0.00
65-74	0.000	0.00	0.00	0.00
75-84	0.000	0.00	0.00	0.00
85-94	0.000	0.00	0.00	0.00
95-104	0.000	0.00	0.00	0.00
105-114	0.000	0.00	0.00	0.00
115-124	0.000	0.00	0.00	0.00
125-134	0.000	0.00	0.00	0.00
135-144	0.000	0.00	0.00	0.00
145-154	0.000	0.00	0.00	0.00
155-164	0.000	0.00	0.00	0.00
165-174	0.000	0.00	0.00	0.00
175-184	0.000	0.00	0.00	0.00
185-194	0.000	0.00	0.00	0.00
195-204	0.000	0.00	0.00	0.00
205-214	0.000	0.00	0.00	0.00
215-224	0.000	0.00	0.00	0.00
225-234	0.000	0.00	0.00	0.00
235-244	0.000	0.00	0.00	0.00
245-254	0.000	0.00	0.00	0.00
255-264	0.000	0.00	0.00	0.00
265-274	0.000	0.00	0.00	0.00
275-284	0.000	0.00	0.00	0.00
285-294	0.000	0.00	0.00	0.00
295-304	0.000	0.00	0.00	0.00
305-314	0.000	0.00	0.00	0.00
315-324	0.000	0.00	0.00	0.00
325-334	0.000	0.00	0.00	0.00
335-344	0.000	0.00	0.00	0.00
345-354	0.000	0.00	0.00	0.00
355-364	0.000	0.00	0.00	0.00
365-374	0.000	0.00	0.00	0.00
375-384	0.000	0.00	0.00	0.00
385-394	0.000	0.00	0.00	0.00
395-404	0.000	0.00	0.00	0.00
405-414	0.000	0.00	0.00	0.00
415-424	0.000	0.00	0.00	0.00
425-434	0.000	0.00	0.00	0.00
435-444	0.000	0.00	0.00	0.00
445-454	0.000	0.00	0.00	0.00
455-464	0.000	0.00	0.00	0.00
465-474	0.000	0.00	0.00	0.00
475-484	0.000	0.00	0.00	0.00
485-494	0.000	0.00	0.00	0.00
495-504	0.000	0.00	0.00	0.00
505-514	0.000	0.00	0.00	0.00
515-524	0.000	0.00	0.00	0.00
525-534	0.000	0.00	0.00	0.00
535-544	0.000	0.00	0.00	0.00
545-554	0.000	0.00	0.00	0.00
555-564	0.000	0.00	0.00	0.00
565-574	0.000	0.00	0.00	0.00
575-584	0.000	0.00	0.00	0.00
585-594	0.000	0.00	0.00	0.00
595-604	0.000	0.00	0.00	0.00
605-614	0.000	0.00	0.00	0.00
615-624	0.000	0.00	0.00	0.00
625-634	0.000	0.00	0.00	0.00
635-644	0.000	0.00	0.00	0.00
645-654	0.000	0.00	0.00	0.00
655-664	0.000	0.00	0.00	0.00
665-674	0.000	0.00	0.00	0.00
675-684	0.000	0.00	0.00	0.00
685-694	0.000	0.00	0.00	0.00
695-704	0.000	0.00	0.00	0.00
705-714	0.000	0.00	0.00	0.00

Appendix C - Material Placement Guidelines

[illegible]

1. *Strategic planning* is the process of defining the organization's purpose, vision, and mission, and then developing a plan to achieve these goals.
2. *Strategic planning* is a process that involves the organization's top management in defining the organization's purpose, vision, and mission, and then developing a plan to achieve these goals.
3. *Strategic planning* is a process that involves the organization's top management in defining the organization's purpose, vision, and mission, and then developing a plan to achieve these goals.
4. *Strategic planning* is a process that involves the organization's top management in defining the organization's purpose, vision, and mission, and then developing a plan to achieve these goals.

BY
CGB

RECORD OF CHANGES

REV.	DATE	
A	2/1/18	

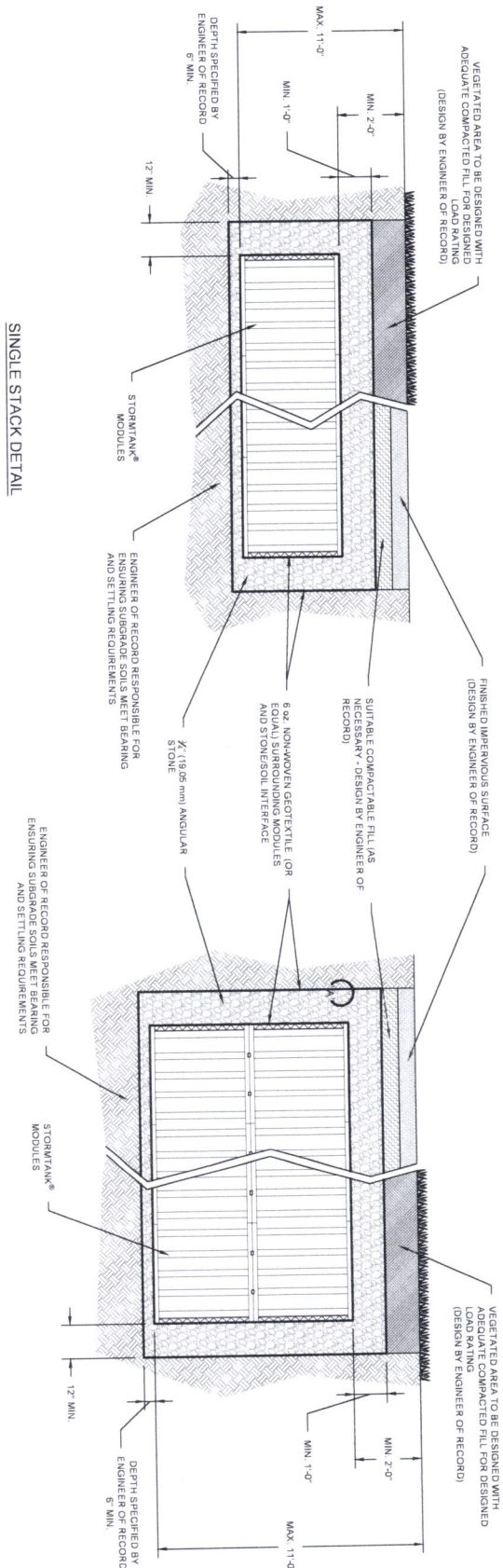
StormTank
A Brand of Brentwood Industries, Inc.
500 Spring Ridge Drive
Reading, PA 19610
Phone: (610) 374-5109
www.StormTank.com
Info@StormTank.com

Project Name



NOTES

Drawn by C. BRENSINGER	
Date N/A	Scale NTS
Project No. N/A	Sheet
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NOTES:
 a. REFERENCE CURRENT INSTALLATION INSTRUCTIONS FOR PROPER INSTALLATION PRACTICES.
 b. IMPERMEABLE LINER IS REQUIRED TO BE INSTALLED PROPERLY TO PREVENT LOSS OF EXCAVATION ONLY.

REV.	DATE	RECORD OF CHANGES	BY	APPROV.
A	02/26/20	INITIAL RELEASE/RELEASE	JAS	JAS

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 500 Spring Ridge Drive
 Reading, PA 19610
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 info@stormtank.com

STORMTANK
MODULE

Project Name
MODULE DETENTION BASIN

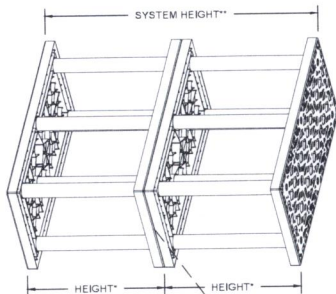
Drawn By
J. BALLEW

Scale
1" = 1'-0"

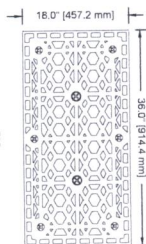
Sheet
1 of 2

Date
02/26/20

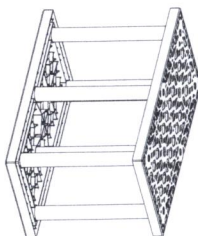
Notes
NTS



MODULE DOUBLE STACK DETAIL



TOP



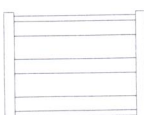
SIDE/FRONT VIEW

CONFIGURATIONS:

CONFIGURATIONS			
SYSTEM HEIGHT (mm)	Layer 1	Layer 2	CAPACITY (m³)
12' (3648 in)	2512	-	4.22 (0.1146)
18' (602.7)	2516	-	6.64 (0.1826)
24' (729.6)	2534	-	8.86 (0.2452)
30' (912.0)	2535	-	10.88 (0.3007)
33' (1004.7)	2533	-	11.98 (0.3305)
36' (1097.4)	2536	-	13.10 (0.3710)
42' (1280.7)	2512	2530	15.10 (0.4248)
48' (1470)	2512	2536	17.22 (0.4848)
51' (1526)	2516	2536	18.42 (0.5276)
54' (1670)	2516	2536	19.52 (0.5502)
57' (1746)	2524	2538	20.64 (0.5861)
60' (1824)	2524	2538	21.75 (0.6159)
63' (1900)	2530	2533	22.88 (0.6471)
66' (1976)	2533	2536	23.97 (0.6788)
69' (2103)	2533	2536	25.08 (0.7101)
72' (2179)	2536	2536	26.20 (0.7419)

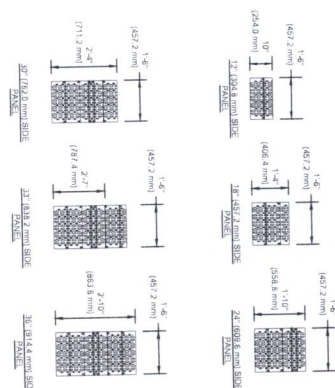


FRONT



SIDE

MODULE DETAIL



NOTES:
 1. SIDE PANELS TO BE INSTALLED ALONG SYSTEM PERIMETER UNLESS
 2. ALL HEIGHTS TO BE CUT FROM A 36\"/>

SIDE PANEL DETAIL

25 SERIES MODULE

25 SERIES MODULE				
MODEL	HEIGHT (mm)	CAPACITY (m ³)	NOMINAL VOLUME	NOMINAL WEIGHT (kg)
2512	12 (484.8)	4.216 m ³ (0.1184)	81.75% (17.54 lbs.)	17.54 lbs. (7.955)
2518	18 (662.2)	6.326 m ³ (0.1843)	85.50% (18.82 lbs.)	22.07 lbs. (10.03)
2524	24 (959.6)	8.565 m ³ (0.2424)	86.00% (19.00 lbs.)	26.30 lbs. (11.92)
2530	30 (1217.0)	10.817 m ³ (0.3084)	86.50% (19.27 lbs.)	29.50 lbs. (13.38)
2533	33 (1330.2)	11.886 m ³ (0.3289)	86.50% (19.27 lbs.)	29.82 lbs. (13.53)
2536	36 (1444.5)	13.096 m ³ (0.3716)	87.00% (19.40 lbs.)	33.10 lbs. (15.07)

- NOTES:
 a. REFERENCE CURRENT INSTALLATION INSTRUCTIONS FOR PROPER ASSEMBLY AND INSTALLATION
 b. STAKING PINS REQUIRED BETWEEN MODULE LAYERS FOR ALL STACKED SYSTEMS (SEE DETAIL)

REV	DATE	RECORD OF CHANGES	BY	APPROV
A	02/26/20	DOUBLE STACK COMBINATION ACQUISITION	CGB	CGB
B	02/26/20	FOR THE RELEASE	JAB	JAB

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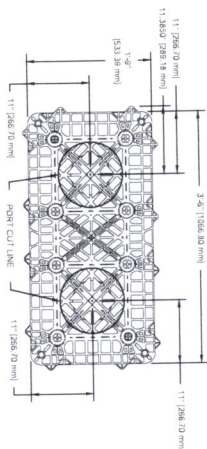


Project Name: J. BAILEY
 Drawing No: ST-MOD-001
 Scale: 2 of 2
 Date: 02/26/20

20 SERIES MODULE

STEP 1

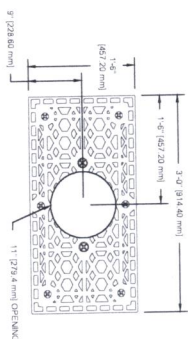
AT ONE OF THE TWO PRE-MARKED POINTS, THE PORT IS TO BE INSERTED INTO THE PORT PLATE. THE PORT IS TO BE INSERTED INTO THE PORT PLATE AND A JOGAW OR SIMILAR TOOL IS TO BE USED TO PUSH THE PORT INTO THE PORT PLATE AS CLOSE TO THE PORT DOWEL AS POSSIBLE.



25 SERIES MODULE

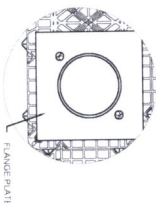
STEP 1

PORT IS TO BE MARKED ON THE PLATE AND THEN THE PORT IS TO BE INSERTED INTO THE PORT PLATE AND A JOGAW OR SIMILAR TOOL IS TO BE USED TO PUSH THE PORT INTO THE PORT PLATE AS CLOSE TO THE PORT DOWEL AS POSSIBLE.



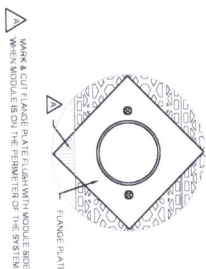
STEP 2

PLACE PORT INTO OPENING, AROUND PORT WITH MARKING FROM PREVIOUS STEP WITHIN THE PLATE.



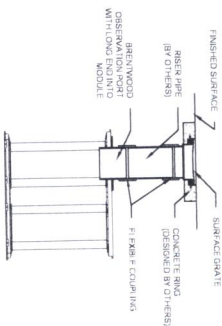
STEP 2

PLACE PORT INTO OPENING, AROUND PORT WITH MARKING FROM PREVIOUS STEP WITHIN THE PLATE.

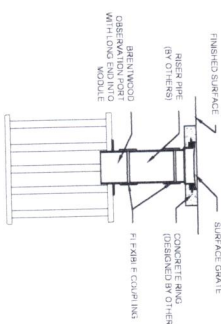


PORT INSTALLATION DETAIL

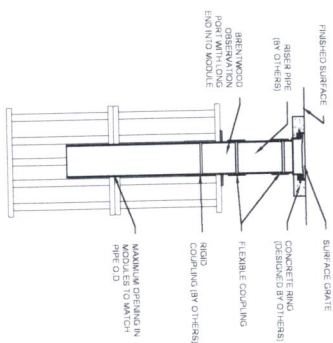
SINGLE STACK DETAIL (20 SERIES)



SINGLE STACK DETAIL (25 SERIES)



DOUBLE STACK DETAIL (25 SERIES ONLY)



DATE	BY	APPROV.
DESIGNED		
CHECKED		
INITIAL RELEASE/RELEASE		
RECORD OF CHANGES		
NO.	DATE	BY

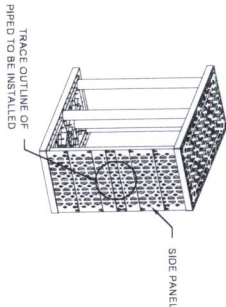
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OBSERVATION PORT INSTALLATION	
Drawn By	ST-MOD-003
Checked By	1 of 1
Date	02/26/20
Scale	NTS

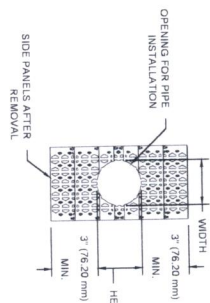


NOTES:
 1. REFER TO CURRENT INSTALLATION INSTRUCTIONS FOR PROPER INSTALLATION PRACTICES.

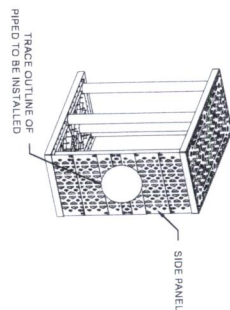
STEP 1:
 LOCATE AND MARK OPENING



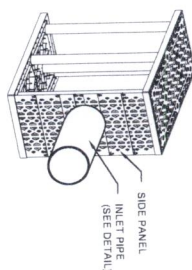
STEP 2:
 REMOVE SIDE PANELS FROM
 MODULES AND CUT OPENING



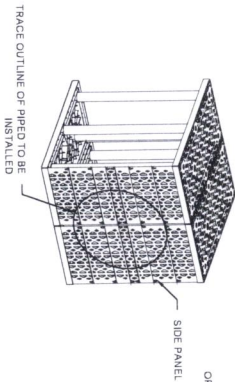
STEP 3:
 REINSTALL SIDE PANEL



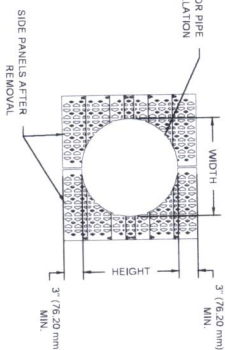
STEP 4:
 INSERT PIPE (SLIP FIT) AND SECURE
 GEOTEXTILE FABRIC



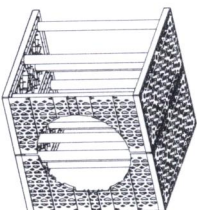
STEP 1:
 LOCATE AND MARK OPENING



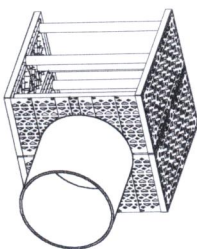
STEP 2:
 REMOVE SIDE PANELS FROM
 MODULES AND CUT OPENING



STEP 3:
 REINSTALL SIDE PANELS



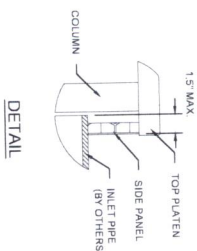
STEP 4:
 INSERT PIPE (SLIP FIT) AND SECURE
 GEOTEXTILE FABRIC



DOUBLE PANEL OPENING

MODULE 20 SERIES	MODULE 25 SERIES	MAX. OPENING HEIGHT (mm)	MAX. OPENING WIDTH (mm)	SINGLE PANEL MAX. OPENING WIDTH (mm)	DOUBLE PANEL MAX. OPENING WIDTH (mm)
-	2512	6" (152.4)	15" (381.0)	30" (762.0)	30" (762.0)
2018	2518	12" (304.8)	15" (381.0)	30" (762.0)	30" (762.0)
2024	2524	18" (457.2)	15" (381.0)	30" (762.0)	30" (762.0)
-	2530	24" (609.6)	15" (381.0)	30" (762.0)	30" (762.0)
-	2533	27" (685.8)	15" (381.0)	30" (762.0)	30" (762.0)
2036	2536	30" (762.0)	15" (381.0)	30" (762.0)	30" (762.0)

NOTES:
 1. STORMTANK CURRENT INSTALLATION INSTRUCTIONS FOR PROPER INSTALLATION PRACTICES.
 2. INLET AND OUTLET CHARGE COMBINATIONS MAY VARY, ROUND SQUARE RECTANGULAR AND MULTIFACE ARE
 ACCEPTABLE AS LONG AS MEETING DIMENSION AND LOCATION REQUIREMENTS.
 3. IF OPENING IS OTHER THAN AS SHOWN IN THIS TABLE, THE CONNECTION WILL NEED BE CUT INTO A WARPOLD.



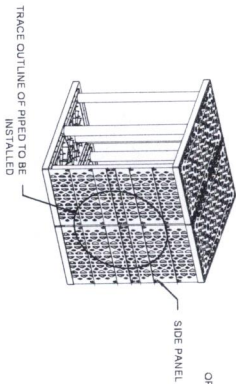
DETAIL

NO.	DATE	DESCRIPTION	BY	DATE
1	02/26/20	INITIAL RELEASED PLATE	JOB	JOB
2	02/26/20	RECORD OF CHANGES	JOB	JOB

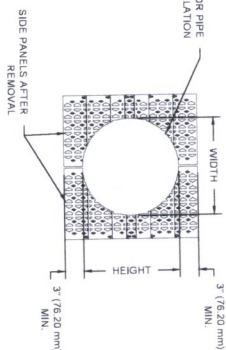
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TYPE	DATE	REVISION	BY	DATE
PLASTIC PIPE CONNECTION DETAIL	02/26/20	1	JOB	JOB
STORMTANK MODULE	02/26/20	2 of 4	JOB	JOB

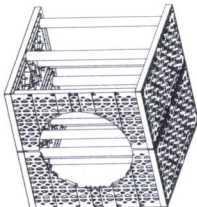
STEP 1:
 LOCATE AND MARK I.D. OPENING



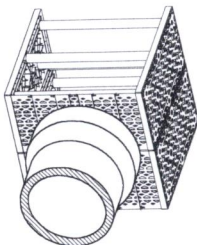
STEP 2:
 REMOVE SIDE PANELS FROM
 MODULES AND CUT OPENING



STEP 3:
 REINSTALL SIDE PANELS



STEP 4:
 ABUT THE PIPE AND SECURE
 GEOTEXTILE FABRIC



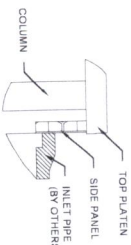
DOUBLE PANEL OPENING

DIMENSION TABLE

MODULE 20 SERIES	MODULE 25 SERIES	MAX. BELL DIAMETER (mm)	MAX. OPENING HEIGHT (mm)	MAX. OPENING WIDTH (mm)
-	2512	12" (304.8)	6" (152.4)	30" (762.0)
2018	2518	18" (457.2)	12" (304.8)	30" (762.0)
2024	2524	24" (609.6)	18" (457.2)	30" (762.0)
-	2530	30" (762.0)	24" (609.6)	30" (762.0)
-	2533	33" (838.2)	27" (685.8)	30" (762.0)
2036	2536	36" (914.4)	30" (762.0)	30" (762.0)

TYPICAL CONCRETE PIPE INFORMATION

I.D. (mm)	WALL THICKNESS (mm)	BELL DIAMETER (mm)
12" (304.8)	2.00" (50.8)	16.0" (406.4)
15" (381.0)	2.25" (57.2)	19.5" (495.3)
18" (457.2)	2.50" (63.5)	23.0" (584.2)
21" (533.4)	2.75" (69.9)	26.5" (673.1)
24" (609.6)	3.00" (76.2)	30.0" (762.0)
27" (685.8)	3.25" (82.6)	33.5" (850.9)
30" (762.0)	3.50" (88.9)	37.0" (939.8)

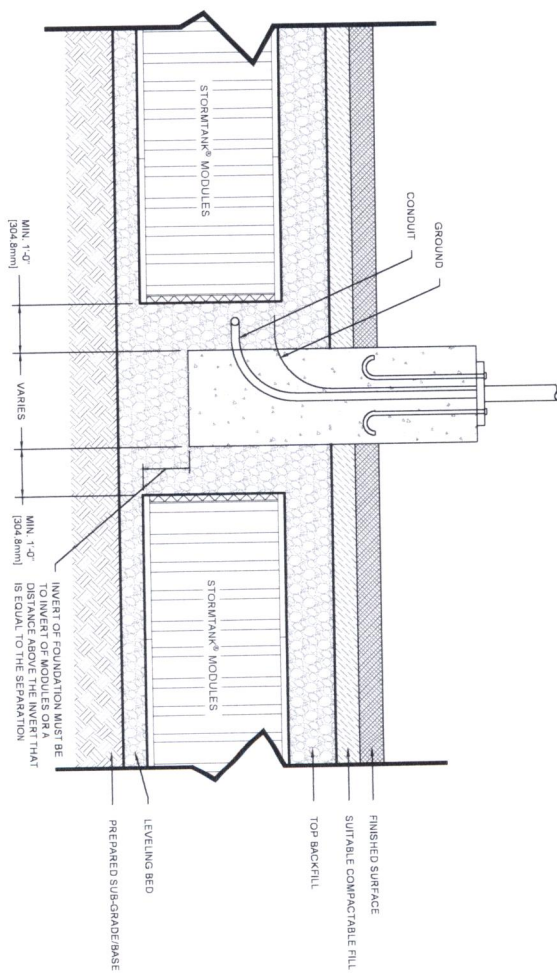


DETAIL

NOTES:
 a. REFERENCE CURRENT INSTALLATION INSTRUCTIONS FOR PROPER INSTALLATION PRACTICES.
 b. c. d. e. f. g. h. i. j. k. l. m. n. o. p. q. r. s. t. u. v. w. x. y. z. aa. ab. ac. ad. ae. af. ag. ah. ai. aj. ak. al. am. an. ao. ap. aq. ar. as. at. au. av. aw. ax. ay. az. ba. bb. bc. bd. be. bf. bg. bh. bi. bj. bk. bl. bm. bn. bo. bp. bq. br. bs. bt. bu. bv. bw. bx. by. bz. ca. cb. cc. cd. ce. cf. cg. ch. ci. cj. ck. cl. cm. cn. co. cp. cq. cr. cs. ct. cu. cv. cw. cx. cy. cz. da. db. dc. dd. de. df. dg. dh. di. dj. dk. dl. dm. dn. do. dp. dq. dr. ds. dt. du. dv. dw. dx. dy. dz. ea. eb. ec. ed. ee. ef. eg. eh. ei. ej. ek. el. em. en. eo. ep. eq. er. es. et. eu. ev. ew. ex. ey. ez. fa. fb. fc. fd. fe. ff. fg. fh. fi. fj. fk. fl. fm. fn. fo. fp. fq. fr. fs. ft. fu. fv. fw. fx. fy. fz. ga. gb. gc. gd. ge. gf. gg. gh. gi. gj. gk. gl. gm. gn. go. gp. gq. gr. gs. gt. gu. gv. gw. gx. gy. gz. ha. hb. hc. hd. he. hf. hg. hh. hi. hj. hk. hl. hm. hn. ho. hp. hq. hr. hs. ht. hu. hv. hw. hx. hy. hz. ia. ib. ic. id. ie. if. ig. ih. ii. ij. ik. il. im. in. io. ip. iq. ir. is. it. iu. iv. iw. ix. iy. iz. ja. jb. jc. jd. je. jf. jg. jh. ji. jj. jk. jl. jm. jn. jo. jp. jq. jr. js. jt. ju. jv. jw. jx. jy. jz. ka. kb. kc. kd. ke. kf. kg. kh. ki. kj. kk. kl. km. kn. ko. kp. kq. kr. ks. kt. ku. kv. kw. kx. ky. kz. la. lb. lc. ld. le. lf. lg. lh. li. lj. lk. ll. lm. ln. lo. lp. lq. lr. ls. lt. lu. lv. lw. lx. ly. lz. ma. mb. mc. md. me. mf. mg. mh. mi. mj. mk. ml. mn. mo. mp. mq. mr. ms. mt. mu. mv. mw. mx. my. mz. na. nb. nc. nd. ne. nf. ng. nh. ni. nj. nk. nl. nm. no. np. nq. nr. ns. nt. nu. nv. nw. nx. ny. nz. oa. ob. oc. od. oe. of. og. oh. oi. oj. ok. ol. om. on. oo. op. oq. or. os. ot. ou. ov. ow. ox. oy. oz. pa. pb. pc. pd. pe. pf. pg. ph. pi. pj. pk. pl. pm. pn. po. pp. pq. pr. ps. pt. pu. pv. pw. px. py. pz. qa. qb. qc. qd. qe. qf. qg. qh. qi. qj. qk. ql. qm. qn. qo. qp. qq. qr. qs. qt. qu. qv. qw. qx. qy. qz. ra. rb. rc. rd. re. rf. rg. rh. ri. rj. rk. rl. rm. rn. ro. rp. rq. rr. rs. rt. ru. rv. rw. rx. ry. rz. sa. sb. sc. sd. se. sf. sg. sh. si. sj. sk. sl. sm. sn. so. sp. sq. sr. ss. st. su. sv. sw. sx. sy. sz. ta. tb. tc. td. te. tf. tg. th. ti. tj. tk. tl. tm. tn. to. tp. tq. tr. ts. tt. tu. tv. tw. tx. ty. tz. ua. ub. uc. ud. ue. uf. ug. uh. ui. uj. uk. ul. um. un. uo. up. uq. ur. us. ut. uu. uv. uw. ux. uy. uz. va. vb. vc. vd. ve. vf. vg. vh. vi. vj. vk. vl. vm. vn. vo. vp. vq. vr. vs. vt. vu. vv. vw. vx. vy. vz. wa. wb. wc. wd. we. wf. wg. wh. wi. wj. wk. wl. wm. wn. wo. wp. wq. wr. ws. wt. wu. wv. ww. wx. wy. wz. xa. xb. xc. xd. xe. xf. xg. xh. xi. xj. xk. xl. xm. xn. xo. xp. xq. xr. xs. xt. xu. xv. xw. xx. xy. xz. ya. yb. yc. yd. ye. yf. yg. yh. yi. yj. yk. yl. ym. yn. yo. yp. yq. yr. ys. yt. yu. yv. yw. yx. yy. yz. za. zb. zc. zd. ze. zf. zg. zh. zi. zj. zk. zl. zm. zn. zo. zp. zq. zr. zs. zt. zu. zv. zw. zx. zy. zz.

REV	DATE	DESCRIPTION	BY	APPV
A	02/26/20	INITIAL RELEASE/RELEASE	JAB	JAB
B	02/26/20	RECORD OF CHANGES	JAB	JAB

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NO.	DATE	BY	APPROV.
A	02/28/20	JAB	JAB
INITIAL RELEASE			
RECORD OF CHANGES			
NO.	DATE	BY	APPROV.
INITIAL RELEASE			
RECORD OF CHANGES			

STORMTANK
MODULE

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 a brand of Stormwater Industries, Inc.
 4500 Ridge Drive
 Reading, PA 19610
 Phone: (610) 374-5109
www.stormtank.com
info@stormtank.com

Drawn by
J. BALLEW

Check by
ST-MOD-006

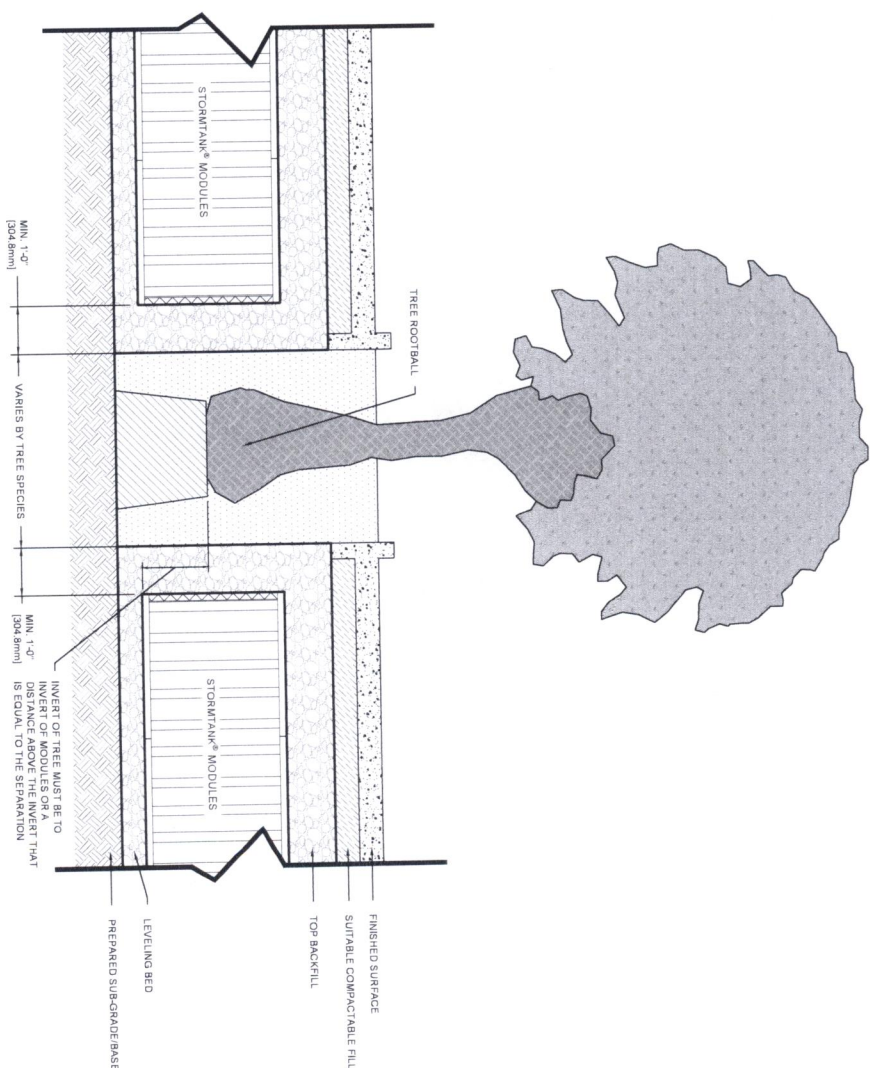
Date
02/28/20

Sheet
1 of 1

Notes
N/A

SCALE:
 1" = 1'-0"

NOTE:
 1. REFER TO STORMTANK INSTALLATION INSTRUCTIONS FOR PROPER INSTALLATION PRACTICES.



NOTES:
 1. SEE STORMTANK INSTALLATION INSTRUCTIONS FOR PROPER INSTALLATION PRACTICES.
 2. REFERENCE CURRENT INSTALLATION INSTRUCTIONS FOR PROPER INSTALLATION PRACTICES.

REV.	DATE	RECORD OF CHANGES	BY	APPV.
1	02/28/20	INITIAL RELEASE DELAY	JAB	JAB

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STORMTANK
MODULE

Drawn By
J. BAILEY

Scale
AS SHOWN

Sheet
1 of 1

Drawn Date
02/28/20

Drawn By
NTS

PROJECT NUMBER
TREE SURROUND DETAIL