

## ADDENDUM

### To the Construction Documents for the:

Project:	Farmville Fire Station & Headquarters	Addendum #  <b>01</b>
Owner:	Town of Farmville	
Owner ID No.:	-	
DKA Project No.:	2015	
Prepared By:	Devanshi Kesaria	
	Bid Documents Issue Date:	6/17/2025

The date of issuance of this addendum is 7/8/2025. All conditions of the addendum are in effect as of this date. Bidders are hereby informed that the following additions, deletions, changes and/or clarifications supersede and supplement the Contract Documents for the above referenced project.

Each bidder shall be responsible for notifying his subcontractors and/or vendors of the contents of this Addendum. The items included in this Addendum are for all Contractors as the items relate to their respective trades.

From:	Devanshi Kesaria
Transmitted to:	Town of Farmville, Design Team, all current Plan Holders
Total Number of Pages:	05

### Questions and Clarifications (in no particular order):

- Reminder: Last day for questions, clarifications, RFI's, and substitution requests was Wednesday July 02, 2025. Out of fairness to all bidders, no more questions, clarifications, and substitution requests have been permitted.
- Reminder: Bid Opening is scheduled for Wednesday July 16, 2025, at 2:00 PM at the Upstairs Courtroom, 3672 N Main St, Farmville, NC 27828.
- Question: Is this project LEED Certified?
  - Response: No, this project is not LEED certified.
- Question: Who is responsible for 3<sup>rd</sup> party testing and inspections?
  - Response: The owner is responsible for hiring a third-party agency for material testing and special inspections.
- Question: Please confirm that the building permit and tap and impact fees have been waived.
  - Response: The Town will waive all the building permits, tap and impact fees.
- Question: Is the kitchen equipment owner supplied?
  - Response: All the equipment shown in the 'Cooking equipment storage' room is owner provided, contractor installed.
- Question: Please confirm that there is no allowance for unit prices A1 (Duplex receptacle), A2 (communication outlet), and A3 (Exit light).
  - Response: See revised specification section 012100 - Allowances included in the addendum. It includes allowances for unit prices A1, A2 and A3.
- Question: Can we use a standard bid bond form instead of the one provided? The way the provided one is set up will list the obligee (Town of Farmville) twice. If not, who shall we list as the obligee following the sentence "as surety, who is duly licensed to act as surety in North Carolina, are held and firmly bound unto the Town of Farmville, North Carolina" through ....."

- a. Response: Use the Revised Bid Bond provided in the project manual. The blanks are to be filled out as follows -  
“Know all men by these presents that (General Contractor’s Name) as principal, and (Insurance Company’s Name),  
as surety, who is duly licensed to act as surety in North Carolina, are held and firmly bound unto the State of North  
Carolina through Town of Farmville as obligee..”
9. Is David Bacon Act to be followed? Will certified payroll be required?  
a. Response: Yes, for both the questions.
10. Question: Is flood insurance and/ or earthquake insurance required?  
a. Response: No.
11. Question: Can the superintendent take the site progress photographs, or is a professional photographer required?  
a. Response: A professional photographer is not required. Photos taken by a member of the GC’s team are sufficient.
12. Question: Provide basis of design for Item 30 – PPE Dryer on sheet I200.  
a. Response: This item will be owner provided, contractor installed.
13. Question: There is a Section 102600 Wall Protection that is for corner guards. Specs say to reference finish schedule,  
however, there are none listed on finish schedule or shown on plans. Can you send an RFI to confirm whether or not corner  
guards are required?  
a. Response: Corner guards are required. See revised sheet I100 for location of corner guards.
14. Question: Drawing sheet A200 note (16) calls for us to provide a precast emblem but has no additional detail. We are unable  
to price without information on the requirements for this emblem. Can this information be provided or would the owner  
consider an allowance?  
a. Response: Refer to detail A7/ A700 for precast sign section. Refer to specification section 034500 – Precast  
Architectural Concrete included with Addendum 01.
15. Question: Spec 101416 has a lot of information about an aluminum plaque. The last sentence of that section states “A sample  
is shown below” but no sample is in the specs. Is there a sample illustration available? What is the size of the plaque? Drawing  
A700, Detail A7 shows a “Precast Sign Section”. Is that this plaque or is that something different? If it’s precast, is that one to  
be concrete and if so, would that then go to the mason contractor to provide?  
a. Response: Specification section 101416 has been removed; there is no metal plaque included in the project. Refer to  
specification section 034500 Precast architectural concrete included in Addendum 01 for the precast sign.
16. Question: Drawing A700 has a Sign Type D (No Tobacco...) but none are listed in the sign schedule. How many of those will be  
required?  
a. Response: Refer to revised sheet I100 for the sign type locations.
17. Question: 101416 – Plaques calls for a cast aluminum plaque. No plaque has been drawn or size specified. Please provide size  
specifications for bidding purposes.  
a. Response: Specification section 101416 has been removed; there is no metal plaque included in the project
18. Question: PEMB-Related Clarifications from Steel Building Vendor
- Roof Dead Load & Panel Type - Please confirm the roof dead load to be used for PEMB estimation and specify  
whether the roofing is to be asphalt shingles or Super Seam metal panels.
  - Wall Panel Type - Please clarify the type of wall panels (if any) that fall under the PEMB scope.
  - Structural System - Sheet S101 suggests the building is primarily supported by load-bearing walls, with no  
structural columns shown. Please confirm if columns are to be included, or if walls provide full support.
  - Mezzanine Scope & Loading - Please confirm whether the mezzanine is within the PEMB scope. If so, kindly  
provide intended usage and any applicable live/dead load values.
  - Canopies - Please confirm whether the canopies shown are to be included in the PEMB scope or if support is to  
be provided by other trades.
  - Brick Veneer Support - Please clarify if we are to provide any spandrel or structural support for the brick veneer.
  - Lintels at Openings - Please advise whether lintel members over doors and windows are required as part of the  
PEMB scope.
- b. Response: This is not a PEMB (pre-engineered metal building) design. Please use conventional steel structure design  
per the Structural sheets.
- Base bid includes asphalt shingles roof and Alternate 1 includes replacing the asphalt shingles roof with standing  
seam roof.
  - Wall panels - Refer to specification section 074213.13 for formed metal wall panels.
  - The building is designed as a load-bearing structure, please follow the Structural drawings.

- iv. There is no PEMB scope included for this building.
  - v. There is no PEMB scope included for this building.
  - vi. There is no PEMB scope included for this building.
19. Question: Please confirm the intended floor tile system assembly for the restrooms, including any required waterproofing membranes, underlayments, or transitions. Section 093000 – Tiling references general installation standards, but no restroom-specific system buildup or waterproofing requirement is provided.
- a. Response: Refer to details on sheet 1001 for tile floor system details.
20. Question: The finish schedule and plans indicate ceramic tile on restroom walls, including an accent wall, but the documents do not define the tile orientation (horizontal vs. vertical) or detail the layout of the accent wall. Please confirm the intended layout direction and whether the accent wall is to follow the same tile pattern or a different configuration.
- a. Response: Refer to the toilet wall elevations on sheet A411 for tile orientation including the accent wall.
21. Question: The overhead door notes on drawing A700 do not match the provided alternate specification or bid form. Please clarify.
- a. Response: Refer to the revised sheet A700 included in Addendum 01 for the updated notes.
22. Question: Detail F6 on A702 makes reference to a stainless-steel sill pan. Is this correct, or would aluminum be acceptable?
- a. Response: Yes, that is correct. Use stainless-steel sill pan.
23. Question: Spec section 084113 page 4 2.2 A. Says engage a professional engineer – does that mean this specific job will require stamped engineered calcs for 2 small windows and 2 entrances?
- a. Response: Yes, it could be carried out by the manufacturer's engineer as well.
24. Question: Spec section 084113 page 12, 3.8 Maintenance Service A., 1. And 2. requests storefront installer to warranty door hardware, supply tools to adjust to owner, and replace defective parts of products. The hardware is not in the storefront installers spec. section, so the subs are coming back saying they would not be able to provide this.
- a. Response: Paragraph 3.8 is removed from Spec section 084113.
25. Question: Spec section 088000 page 1, 1.5 Performance requirements A. Delegated design states comprehensive engineering analysis according to ASTM E 1300 – is this another job specific stamped engineering report for 2 small windows and 2 entrances?
- a. Response: Yes, it could be carried out by the manufacturer's engineer as well.
26. Question: For the owner provided / contractor installed furniture – are there any specifications or details for these items that help us understand what we are installing? Are any of these items to be bolted to concrete, etc.
- a. Response: The FF&E list is included on sheet 1200, but specifications/ details are not available for these items.
27. Question: On sheet C600 – Landscape Plan, the plant schedule calls for 15 'Autumn Amethyst' Encore Azaleas. But when looking at the plan, 9 plants are the correct size (ones facing the parking lot, planted next to the building), seeing as how these plants get to be around 4'x4'. When you look across the parking lot, 6 plants are also labeled as AA – 'Autumn Amethyst' Encore Azaleas, but they are the size of small trees, approximately 15' wide. Please confirm whether all fifteen labeled plants are intended to be Autumn Amethyst Encore Azaleas, or if the six larger representations are meant to be a different species.
- a. Response: We have revised 6 trees that were labeled AA to MV (Northern Belle Sweetbay Magnolia). See sheet C600 for update landscape plan and schedule.
28. Question: Is there not water along Horne Avenue? Please provide more information regarding the asphalt patching at the water taps. NCDOT does not typically allow an open cut without a min. 50' overlay. If an overlay is required, can it please be added to the drawings with a detail? If the NCDOT Encroachment Agreement has been obtained, please provide.
- a. Response: The NCDOT Encroachment Agreement has expired, and the new approval has not been received from NCDOT yet. We will provide this when obtained.
29. Question: Drawing C100 note O calls out a screen wall. I have been unable to locate a screen wall in drawings. Please provide details if a screen wall is needed.
- a. Response: The screen wall keynote can be removed. This was from an old version of the plan that included a screen wall.
30. Question: Will the owner be contracting directly with the local underground gas provided for the installation of the gas line? What are the GCs responsible for this scope of work? Drawings state to coordinate with local utility. Who pays for this work?
- a. Response: Coordinate with the local utility as the keynote says. The local utility/ owner will install the gas line.
31. Question: Drawing C200 key notes G and I point to an overhead electrical line. Note G states to remove. Note I states to coordinate with local utility for removal/relocation. Please clarify the scope of work and who pays for it?
- a. Response: Coordinate with the local utility provider as the keynote says. The cost will go to the owner.

32. Question: Is a site security fence required?
  - a. Response: Yes, a site security fence is required.
33. Substitution Request: Specification section 074113.16
  - a. Response: The proposed product – Series 2500 Double locked by Construction Metal Products, Inc. in 22 Gauge thickness is approved as noted.
34. Substitution Request: Specification section 074113.16
  - a. Response: The proposed product – MRS System 2500 by Metal Roofing Systems, Inc. in 22 Gauge thickness is approved as noted.
35. Substitution Request: Specification section 071326
  - a. Response: The proposed product – Mapethene HT60 by Polyglass USA is approved as noted. A 10-year manufacturers' and installer's warranty is required.
36. Substitution Request: Specification section 072726
  - a. Response: The proposed product does not meet the performance requirements mentioned in the specifications and is thus rejected.

#### **Specifications:**

1. Specification Section 007300 Supplementary Conditions, Entire section added.
2. Specification Section 003132A Geotechnical Report Addendum 1, Entire section added.
3. Specification Section 004313B – Form of Bid Bond, See Revised section.
4. Specification Section 012100 Allowances, Paragraph 3.3 E – Added quantity allowances A1, A2, and A3. See Revised Section.
5. Specification Section 034500 Precast Architectural Concrete, Entire section added.
6. Specification Section 074113.16 Standing Seam Metal Roof Panels,
  - a. Paragraph 2.2 B 2 a. – Nominal thickness is updated to 22 gauge.
7. Specification Section 074213.13 Formed Metal Wall Panels, Paragraph 2.3 is updated. See Revised section.
8. Specification Section 084113 Aluminum-Framed Entrances and Storefronts
  - a. Paragraph 3.8 – Strike through in its entirety.
9. Specification Section 101416 Plaques. Entire section removed.

#### **Drawings:**

1. Sheet C100 Staking Plan
  - a. Change keynote O
  - b. Show area for utility patch at May Blvd.
2. Sheet C200 Demolition Plan
  - a. Update 1 keynote G to I.
3. Sheet C600 Landscape Plan
  - a. Change 6 trees label AA to MV (Northern Belle Sweetbay Magnolia).
  - b. Update plant schedule.
4. Sheet C901 Staking Details
  - a. May Blvd utility patch detail added.
5. Sheet A700, Notes under Door Types are revised. See revised sheet A700.
6. Sheet I100, See revised sheet I100.
  - a. Detail D1: Added location of Corner guards CG1.
  - b. Detail D1: Added locations of Sign Type D.
  - c. Finishes Symbol Legend: Added CG – Corner Guard.
7. Sheet I200, See revised sheet I200.
  - a. Furniture, Fixtures and Equipment Legend: FFE#30 is revised to read as PPE Dryer, OPCI.

#### **END OF ADDENDUM**



**Attachments:**

List of Current Plan Holders  
Substitution Request: Specification section 074113.16  
Substitution Request: Specification section 074113.16  
Substitution Request: Specification section 071326  
Substitution Request: Specification section 072726  
Specification section 007300 – Supplementary Conditions  
Specification Section 003132A – Geotechnical Report Addendum 1  
Specification section 004313B – Form of Bid Bond  
Specification section 012100 – Allowances  
Specification section 034500 – Precast Architectural Concrete  
Specification section 074213.13 – Formed Metal Wall Panels  
Sheet C100 – Staking Plan  
Sheet C200 – Demolition Plan  
Sheet C600 – Landscape Plan  
Sheet C901 – Staking Details  
Sheet A700 – Door Schedule & Notes  
Sheet I100 – 1<sup>st</sup> Floor Finishes, Schedules & Details  
Sheet I200 – 1<sup>st</sup> Floor Furniture & Equipment Plan

# BID REGISTER



**DAVIS KANE**

ARCHITECTS, PA  
503 Oberlin Road | Suite 300  
Raleigh, NC 27605 | 919.833.3737

Project Contact: 919-719-2812

Email: dkesaria@davis Kane.com

Project:	<b>Farmville Fire Station &amp; Headquarters</b>
Owner:	<b>Town of Farmville</b>
Owner/SCO ID No:	-
DKA Project No:	<b>2015</b>
Bid Due Date & Time:	<b>7/16/2025 at 02:00 PM</b>
Bid Receiving Location:	<b>3672 North Main Street, Farmville, NC 27828 Upstairs Courtroom in the Farmville Municipal Building</b>
PreBid Mtg Date & Location:	<b>6/30/2025 at 11:00 am at the same location as Bid Opening</b>

BID TYPE: \_\_\_\_\_ INVITED \_\_\_\_\_ PREQUALIFICATION ☒ OPEN

ADDENDA DATES: 1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_ 4. \_\_\_\_\_ 5. \_\_\_\_\_

No.	ADDENDA:					RECIPIENT	REC'D BID DOCUMENTS VIA?		BIDDING AS A GC?	ATTENDED PREBID?
	1	2	3	4	5					
	X	X	X	X	X					
1						Farrior and Sons, Inc. 9571 West Marlboro Rd, Farmville, NC 27828 <u>Bobby L. Evans</u> Ph: XXX-XXX-XXXX Email: bobby@farriorandsons.com	Y	EMAIL / SHAREFILE		Y
2						Daniels & Daniels PO Box 10337, Goldsboro, NC 27532 <u>Josh Mozingo, Chris May</u> Ph: 919-750-1086 Email: joshm@danddccc.com; chrism@danddccc.com	Y	EMAIL / SHAREFILE		Y
3						Berry Building Group Greenville, NC <u>Casey Parker</u> Ph: Email: cparker@beryybg.com	Y	EMAIL / SHAREFILE		Y
4						Stocks and Taylor 1825 Carolina Ave, Washington, NC 27889 <u>Selden Taylor and Bryan Stocks</u> Ph: 252-975-5855 Email: mail@stockstaylor.com; staylor@stockstaylor.com; bstocks@stockstaylor.com	Y	EMAIL / SHAREFILE		Y
5						Riggs Harrod Builders, Inc Durham, NC <u>Tim Cothran</u> Ph: 919-687-0111 Email: tcothran@riggsharrod.com	Y	EMAIL / SHAREFILE		Y
6						J M Thompson Cary, NC <u>Damon Jones</u> Ph: 919-816-1783 Email: djones@jmtompson.com	Y	EMAIL / SHAREFILE		Y
7						Team Construction, LLC Jacksonville, NC <u>Scot Thompson</u> Ph: 910-320-8528 Email: sthompson@TeamConstructionNC.com	Y	EMAIL / SHAREFILE		Y
8						Waters Contracting 5367 Highway 24, Bogue, NC 28570 <u>Bishop W</u> Ph: 513-458-5943 Email: bishopw@waterscontracting.net	Y	EMAIL / SHAREFILE		Y
9						M Square Construction 230naldson St E, Fayetteville, NC 28301 <u>Samanth Locklear</u> Ph: 910-427-7777 Email: slocklear@msquareus.com	Y	EMAIL / SHAREFILE		Y
10						Group III Mgt 2715 W Vernon Ave, Kinston, NC 28504 <u>Ryan Arthur</u> Ph: 252-917-7971 Email: rarthur@groupiiimgt.com	Y	EMAIL / SHAREFILE		Y
11						MLB Construction Services, LLC 1930 N Salem Street Suite 201, Apex, NC 27523 <u>Shauna Raymond</u> Ph: 518-289-1371*145 Email: sraymond@mlbind.com	Y	EMAIL / SHAREFILE		Y
12						Costa and Company, Inc. 720 Porter Rd, Rocky Mount, NC 27803 <u>Dale Buckett</u> Ph: Email: dale@costacompanyinc.com	Y	EMAIL / SHAREFILE		Y



# SUBSTITUTION REQUEST

(During the Bidding/Negotiating Stage)

Project: Farmville Fire Station Substitution Request Number: \_\_\_\_\_  
6101 May Blvd, Farmville, NC 27828  
To: Davis Kane Architects Mr.Jimmy Edwards From: Construction Metal Products  
503 Oberlin Rd,Ste 300,Raleigh,NC,27605 Date: 6/25/25  
Re: Substitution Request A/E Project Number: 2015  
Contract For: \_\_\_\_\_

Specification Title: Standing Seam Metal Roof Panels Description: Standing-Seam Metal Roof Panels  
Section: 07 41 13 16 Page: 07 41 13 16 - 6 of 12 Article/Paragraph: 2.2 B.1 - Manufacturers

Proposed Substitution: CMP S2500 Panels  
Manufacturer: CMP Address: 2204 W. Front St. Statesville, NC 28677 Phone: 704-871-8704  
Trade Name: \_\_\_\_\_ Model No.: \_\_\_\_\_

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

Submitted by: Matthew Little  
Signed by: Matthew L Little  
Firm: Construction Metal Products (CMP)  
Address: 2204 W. Front St.  
Statesville, NC 28677  
Telephone: 704-871-8704

## A/E's REVIEW AND ACTION

- ☐ Substitution approved - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.  
☒ Substitution approved as noted - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.  
☐ Substitution rejected - Use specified materials.  
☐ Substitution Request received too late - Use specified materials.

Signed by: Devanshi Kesaria

Date: 7/1/2025

Price 22 gauge zinc-coated steel sheet roofing, 24 gauge will not be accepted.

Supporting Data Attached: ☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ \_\_\_\_\_

# CONSTRUCTION METAL PRODUCTS INC.



This is a Point-by-Point Comparative for a 2" tall Mechanically Seamed Metal Roofing Panel.

Criteria	Specified Product	Proposed Product
Manufacturer	Peterson Aluminum	Construction Metal Products, Inc.
Profile	Tite-Loc Plus Panel	Series 2500 Double Locked
Seam Type	90/180 degree seam	90/180 degree seam
Seam Height	2"	2"
Standard Panel Widths	12", 16" and 18"	12", 16", and 18"
Available Substrates	Galvalume, Aluminum and Copper	Galvalume, Aluminum and Copper
Available Thickness for Galvalume	22 ga, 24 ga	22 ga, 24ga
Available Thickness for Aluminum	.032", .040"	.032", .040"
ASTM Testing	ASTM E1592, E1680, E1646, UL 1897	ASTM E1592, E1680, E1646, UL 1897
UL Testing	UL 90	UL 90
Lock Type	Mechanical	Mechanical
Lowest Pitch Panel can be Installed	1/2":12"	1/2":12"
Curved Panels Available	No	No
Installation Base Applicable	Spaced Supports and Solid Substrates	Spaced Supports and Solid Substrates
Factory Applied Sealant Available	Yes	Yes
On-Site Roll Forming Available	Yes	Yes
Clips Available	Fixed and Floating	Fixed and Floating
Panel Style	Smooth, Pencil Ribs or Striations	Flat, Planked, Pencil Ribs, Striations
# of Standard Colors	38	34
Coating System	Kynar 500	Kynar 500
Finish Warranty	30 year	30 year
Weathertightness Warranty	20 year	20 year

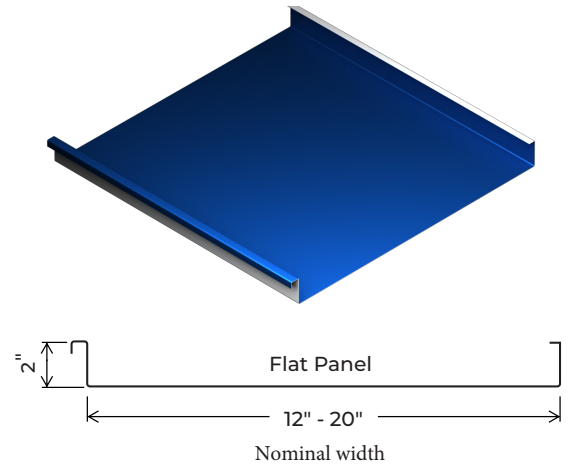
# CMP S-2500

COMMERCIAL & INDUSTRIAL



## CMP S-2500 PANEL

The CMP S-2500 “considered the stalwart of metal roof panels” maintains a profile with more than fifty years of history in the field. The S-2500’s heavy duty 2” high side seams include factory applied sealant (upon request) and are mechanically locked to provide the ultimate watertight seal, while creating a monolithic joint that will stand the test of time. This versatile roof system can be installed over solid substrates or structural framing and can accommodate roof slopes as low as  $\frac{1}{2}$ ” per foot when using the double-locked seam profile, making it ideal for even the most complicated commercial and industrial project.

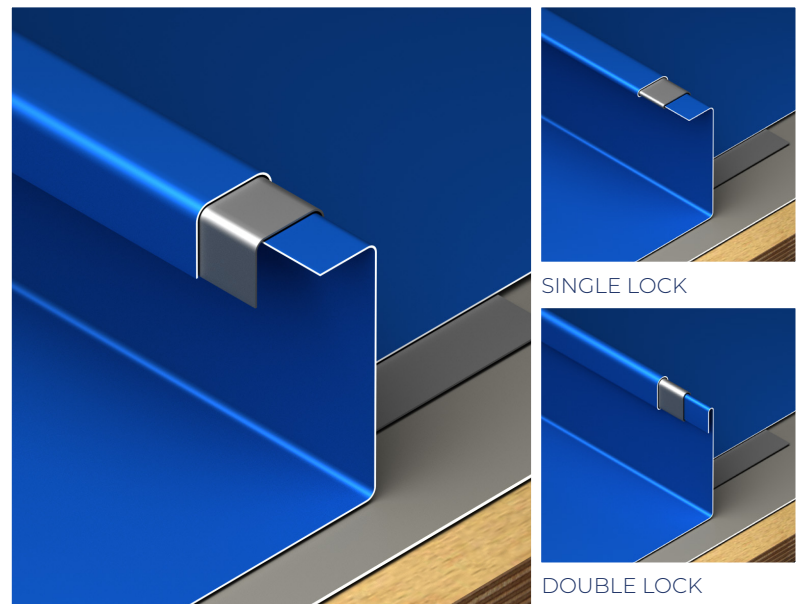


## PANEL SPECIFICATIONS

- Widths – 12”-20”, 16” standard
- Seam Height – 2”
- Made to exact lengths
- Single or double locked
- Radius / Curved panels
- 40+ different color/coating options

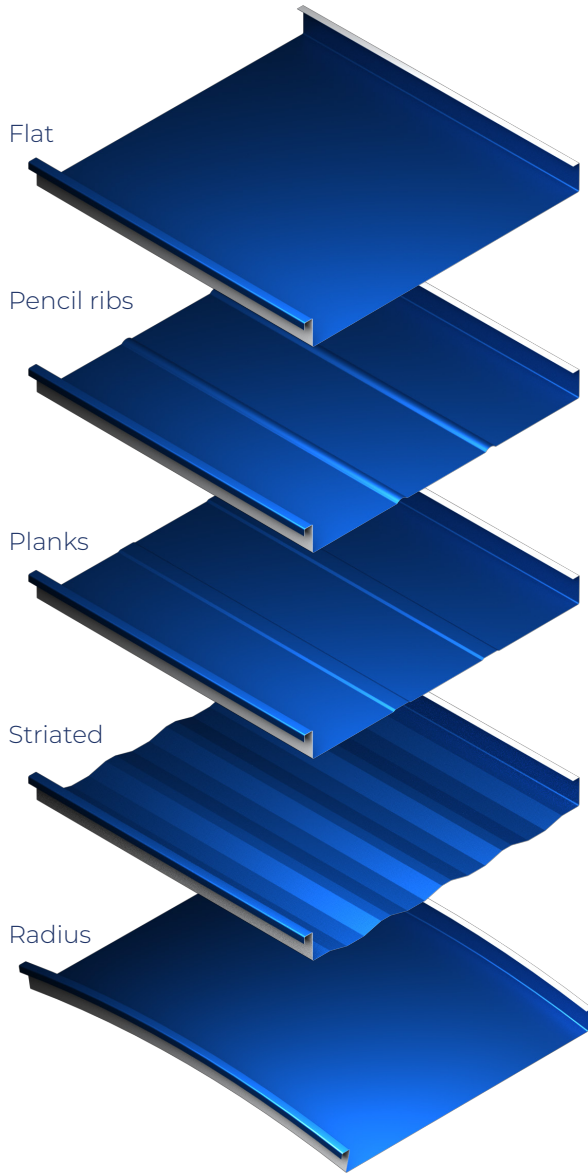
## MATERIALS AVAILABLE

- Steel – 22ga and 24ga
- Aluminum - .032” & .040”



UNSEAMED (Fixed clip shown)





## PANEL OPTIONS

Flat, Pencil Ribs, Planks  
Striated, Radius / Curved

## COLORS AND COATINGS

See all 40+ colors and coatings on the CMP or Alumaklad/Colorklad color charts at [www.cmpmetalsystems.com](http://www.cmpmetalsystems.com)

## FINISH AND PRODUCT WARRANTIES

- High quality PVDF coating by Sherwin-Williams
- Aluminum and Steel substrate up to 35 year warranty
- Contact us for more detailed information

## INSTALLATION

Concealed fastener clip system

Mechanically seamed

Can be installed over steel or plywood decking with proper underlayment, or over structural framing

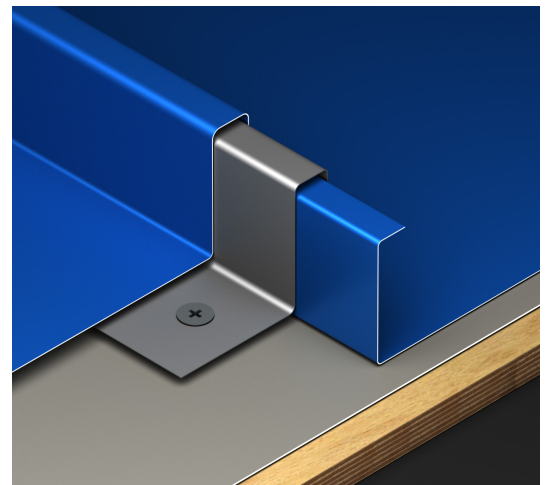
## MINIMUM SLOPE / ROOF PITCH

1/2":12



## TESTING

- UL 580-06 Wind Uplift Resistance
- UL 1897-1998,99 Wind Uplift Resistance
- UL 2218 Hail Impact
- ASTM E-1592 Uniform Pressure Test
- ASTM E1680 Air Infiltration
- ASTM E1649 Water Penetration
- ASTM D 822, G-23 & D 2244 Color Change Resistance
- Florida Building Code 2004, 2007
- ASTM E 2140 Static Water Pressure Head
- ASTM D 2247-87 Humidity Resistance
- ASTM D 1308-85 Chemical Resistance
- ASTM D 968-81 Abrasion Resistance
- ASTM D 659-86 Chalking Resistance
- ASTM E 84 Surface Burning Class "A"
- ASTM B 117-85 Salt Spray Resistance



(Fixed clip shown)

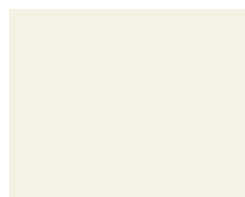


# Construction Metal Products Inc.

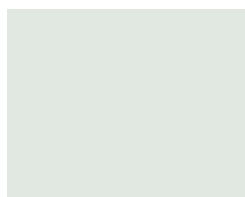
2204 West Front Street, Statesville, NC 28612, 704-871-8704  
1608 Executive Ave., Myrtle Beach, SC 29577, 843-427-0427



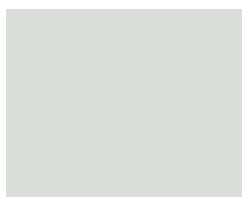
**The Solar Reflective Index (SRI) as per ASTM E1980 is noted next to each color name. All colors are direct deposit paint samples. Do not use this sheet to color match. Call your representative for a painted metal sample.**



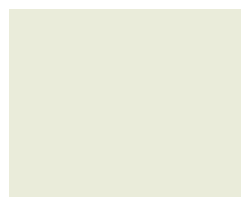
Snowdrift | 93



Regal White | 78



Stone White | 82



Bone White | 83



Sandstone | 71



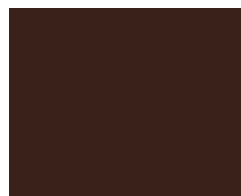
Almond | 78



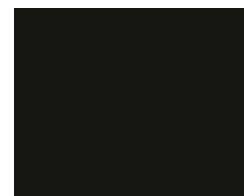
Sierra Tan | 30



Medium Bronze | 31



Mansard Brown | 26



Dark Bronze | 25



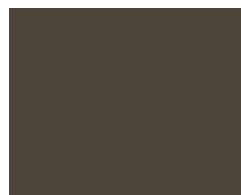
Ash Gray | 32



Dove Gray | 54



Slate Gray | 40



Musket Gray | 32



Charcoal Gray | 29



Aged Copper | 53



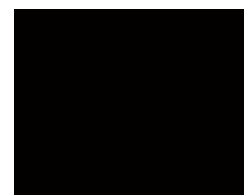
Patina Green | 55



Classic Green | 30



Hartford Green | 24



Black | -1



Slate Blue | 29



Royal Blue | 26



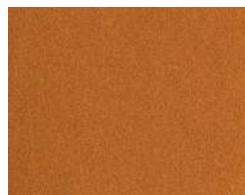
Banner Red | 43



Colonial Red | 34



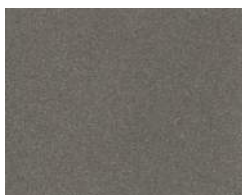
Terra Cotta | 37



Copper Penny | 45



Bright Silver | 61



Pre-Weathered Galvalume | 39



AZ55 Acrylic Galvalume

Custom colors and/or color matching is available subject to minimum volume criteria. Pricing will be dependent on project requirements.

In testament to the high quality of ColorKlad® and AlumaKlad™, a written warranty is available upon request, for qualifying applications. Available at no charge, this warranty covers peeling, color fade, chalking and paint integrity. Reference actual warranty for details and conditions. Check suitability of use in potentially corrosive atmospheres. \* Acrylic AZ55 is not covered under the ColorKlad® warranty. Metallics and Premiums may be priced higher than standard colors.

**AlumaKlad**  **ColorKlad**™





# Construction Metal Products Inc.

2204 West Front Street, Statesville, NC 28612, 704-871-8704  
1608 Executive Ave., Myrtle Beach, SC 29577, 843-427-0427



**ColorKlad®** — available in a premium cool coating — is the field-proven, time-tested leader in metal roofing. ColorKlad is made of a PVDF coating containing 70% Kynar 500® or Hylar 5000® resin over a high-quality primer, permanently bonded to commercial quality, extra smooth Grade 50 AZ50 Galvalume® or Galvanized G90 sheet or coil.

**AlumaKlad™** — available in a premium cool coating — maintains design integrity and attractive appearance when design, climatic and/or atmospheric conditions call for aluminum. AlumaKlad is made of a PVDF coating containing 70% Kynar 500® or Hylar 5000® resin over a high-quality primer, permanently bonded to 3105-H24 aluminum sheet or coil.

COOL COLORS	SRI	24ga		.032"		.040"	.050"	.063"
		20"	48"	20"	48"	48"	48"	48"
<b>AZ55 Acrylic Galvalume*</b>		●	●					
<b>Aged Copper</b>	53	●	●	●	●			
<b>Almond</b>	78	▲	●	▲	●	●	●	
<b>Ash Gray</b>	32	●	●					
<b>Bone White</b>	83	▲	●	▲	●			
<b>Charcoal Gray</b>	29	●	●	●	●			
<b>Classic Green</b>	30	●	●	▲	●	●		
<b>Colonial Red</b>	34	▲	●					
<b>Dark Bronze</b>	25	●	●	●	●	●	●	●
<b>Dove Gray</b>	54	●	●	●	●			
<b>Mansard Brown</b>	26	●	●	▲	●	●	●	
<b>Musket Gray</b>	32	●	●					
<b>Black</b>	-1	●	●	●	●			
<b>Medium Bronze</b>	31	●	●	●	●	●	●	●
<b>Patina Green</b>	55	▲	●					
<b>Regal White</b>	78	▲	●	●	●			●
<b>Sandstone</b>	71	▲	●			●	●	
<b>Sierra Tan</b>	30	●	●	●	●	●	●	
<b>Slate Blue</b>	29	▲	●					
<b>Slate Gray</b>	40	●	●	●	●			
<b>Snowdrift</b>	93	●	●	●	●			
<b>Stone White</b>	82	●	●	●	●	●		
<b>Terra Cotta</b>	37	▲	●					
<b>Premium / Metallic</b>								
<b>Banner Red</b>	43	▲	●					
<b>Bright Silver</b>	61	●	●	●	●	●	●	
<b>Copper Penny</b>	45	●	●	●	●			
<b>Hartford Green</b>	24	●	●				●	
<b>Prewathered</b>	39	●	●	●	●			
<b>Royal Blue</b>	26	●	●	●	●			

Items marked with (▲) are available but will be specially processed from 48.375" master coil and the drop coil will ship as part of order.

**AlumaKlad**  **ColorKlad™**

Kynar500® is a registered trademark of Arkema, Inc.  
Hylar5000® is a registered trademark of Solvay Solexis, Inc.  
GALVALUME® is an internationally recognized and registered trademark of BIEC International Inc., and some of its licensed producers, and a trademark of Dofasco Inc. in Canada.

# Test Performance

TEST	ASTM TEST	PERFORMANCE
<b>Physical Properties and Durability</b>		
Film Thickness	D-1005	0.15 - 0.30 mil primer 0.7 - 0.9 mil topcoat
60° Specular Gloss	D-523	25 - 35
IR Reflectivity	C-1549 (Standard test method using portable Reflectometer)	0.25 (25%) minimum
Emissivity	C-1371 E-408	0.80 (80%) minimum
Pencil Hardness	D-3363	HB - H
Flexibility, T-Bend	D-4145	1 - T aluminum 2 - T coated steel*
Adhesion	D-3359	No adhesion loss
Reverse Impact	D-2794	No cracking or loss of adhesion
Abrasion, Falling Sand	D-968	65 - 85 l/mil
Mortar Resistance	C-267	No effect
Detergent Resistance 3% Detergent, 100°F (72 hrs.)	D-2248	No effect
<b>Atmospheric and Pollutant Resistance</b>		
Acid Pollutants	D-1308 10% Muriatic Acid, (15 min.) 20% Muriatic Acid, (15 min.) AAMA 621	No effect No effect < 5 units color change
Acid Rain Test	Kesternich	10 cycles minimum, no objectionable color change
Alkali Resistance 5% @ (72 hrs.)	20% Sodium Hydroxide (1 hr.)	No effect
Salt Spray Resistance 5% @ 95°F	B-117	Passes 3,000 hrs. - aluminum Passes 1,000 hrs. - coated steel*
Humidity Resistance 100% @ 100°F	D-2247	Passes 3,000 hrs. - aluminum Passes 1,000 hrs. - coated steel*
<b>Weathering</b>		
South Florida exposure	D-2244	Less than 5 units color change at 10 yrs.
UVA (340 Bulbs)	G-154	Passes, 3,000 hrs.
Chalk Resistance	D-4214	Rating of 8 min.

Based on a minimum of 70% PVDF resin technology.

Kynar 500® is a registered trademark of Arkema, Inc.

\*All tests performed to the latest ASTM revision.

\*Performance on G-90, Zinalume, Galvalume, and other approved zinc/aluminum coated steel.

Reflectance values measured using a D&S Solar Reflectometer, values may vary between instruments and method.



www.cmpmetalsystems.com

## Construction Metal Products, Inc.

2204 West Front Street  
Statesville, NC 28677  
704-871-8704 or 888-750-9827

1608 Executive Avenue  
Myrtle Beach, SC 29577  
843-427-0427

# CONSTRUCTION METAL PRODUCTS INC.

---



Construction Metal Products Inc. has been in the metal business since 1994. Our manufacturing facilities are located in Statesville, NC & Charleston, SC. CMP was established to service the growing metal roofing demand in the Carolinas and Virginia, where 90% of our business is done.

## Some Notable Projects Done in the Last 5 Years Include:

Healthcare Partners of SC  
Contractor: Highland Roofing Company  
Architect: Pike-McFarland-Hall Associates Inc.  
Job Size: 22,500 square feet

Fort Mill Elementary School #8  
Contractor: Eastern Corporation  
Architect: AAG Associates  
Job Size: 69,475 square feet

Rowan County Satellite Jail  
Contractor: Creasy & Whiteed Roofing Co. Inc.  
Architect: Moseley Architects  
Job Size: 30,755 square feet

Fort Jackson BTC Dining Facility  
Contractor: TeamCraft Roofing  
Architect: Woolpert-KZF as a joint venture  
Job Size: 32,625 square feet

Kannapolis Veterans Park  
Contractor: Waynco Roofing LLC  
Architect: Site Solutions  
Job Size: 1,155 square feet

Lumbee Tribe of North Carolina  
Contractor: Baker Roofing  
Architect: Native American Design Service  
Job Size: 25,600 square feet

Gates County Public Library  
Contractor: Edwards Roofing  
Architect: LS3P Associates LTD.  
Job Size: 9,778 square feet

Ellenboro Elem. School-Ellenboro, NC  
Contractor: Commercial Roofing Maintenance  
Architect: LS3P/Boney-(919)851-9393  
Job Size: 92,000 sq. ft. Series 2500

## Current Jobs in Progress:

New PreK-8th School  
Contractor: Eastern Corporation  
Architect: Hite Associates  
Job Size: 179,000 square feet

Philip Simmons Elem-Middle School  
Contractor: Achelpohl Roofing and S/M  
Architect: LS3P Associates LTD.  
Job Size: 201,500 square feet

Our panel profiles are UL listed for Class 90, Class A Fire Exposure and Class 4 Impact Resistance. We also have ASTM Testing for wind uplift, Air and Water Penetration Testing. We are constantly testing new widths, gauges and profiles to better serve our customers. All of our steel used in manufacturing metal panels has been mill certified and is first quality.

Thank you for considering Construction Metal Products as your metal roofing supplier, If we can help in any way please call or visit our plant.  
Thank You,

Jason Bean  
Construction Metal Products, Inc.

# #14 PANCLIP SD-L Fastener



#14-13 fastener low profile head fastener designed for applications that require a high strength fastener available in long lengths. Popular for many applications: Panel clip/Commercial Roofing Stress Plate/Plywood/Nailboard/commercial/Fixture attachment and more... The multi-purpose nature of the Panclip SDL allows it to be installed into wood, light gauge metal up to 16ga and masonry/concrete substrates with a 3/16" pre-drill. This fastener meets 2017 Florida Building Code corrosion resistance requirements of R904.5.2 (and FBC 1506.6). The Black DMG85 coating covers the whole fastener helping the 1-1/2" and 2" parts to receive a Miami-Dade County P.C Listing # L 21-0630.03 for corrosion resistance and sheer strength.



MIAMI-DADE COUNTY  
LISTED

## Performance Specifications

Torsional:	110 in-lbs
Pull out S.Yellow Pine 1"	995 lbs ult
Pull out 1/2" Plywood	423 lbs ult
Pull out 3/4" Plywood	630 lbs ult
Pull out 22 ga (102 KSI)	575 lbs ult
Pull out 22 ga (80 KSI)	456 lbs ult
Pull out 20 ga (80 KSI)	751 lbs avg
Pull out 16 ga	1103 lbs ult
Pull out 4000 psi concrete	675 lbs avg
Pull out CMU Block	532 lbs avg
Pullover: 24ga 330 lbs, 20ga 575 lbs, 18ga 1997 lbs	
Test notes revealed severe deformation of clip prior to pullover condition at the fastener hole	
Head Height	.090" - .102"
Head Diameter:	.490" - .510"
Thread Diameter:	Maj: .238" Min .180"
Thread Style:	13TPI Butress
Drill Performance:	Up to 16ga Steel
Country of origin/COO:	Taiwan

Above values are average ultimate values. Values may change with strength and condition of substrate wood. 410 Stainless Steel parts (PANCLIP SD-SS-L) are available for pressure treated lumber and coastal applications.

## Size Selection

Size	Qty/Box	Part#	M/D Listing #
#14 x 1-1/2"	2500	DMIPL1415D	L 21-0630.03
#14 x 1-1/2"	100/2400	DMIPL1415D100	L 21-0630.03
#14 x 2"	100/2400	DMIPL1420D100	L 21-0630.03
#14 x 3"	2000	DMIPL1430D	
#14 x 3"	100/1600	DMIPL1430D100	
#14 x 4"	1000	DMIPL1440D	
#14 x 4"	100/1600	DMIPL1440D100	
#14 x 5"	1000	DMIPL1450D	
#14 x 5"	100/1200	DMIPL1450D100	
#14 x 6"	1000	DMIPL1460D	
#14 x 6"	100/1200	DMIPL1460D100	
#14 x 7"	1000	DMIPL1470D	
#14 x 8"	1000	DMIPL1480D	
#14 x 10"	100/300	DMIPL14100D100	
#14 x 12"	100/200	DMIPL14100D100	

Threading: 1-1/2" - 4" lengths are fully threaded otherwise 4" of thread under the head.

## Installation

#2 square drive suggested.

0-2500 rpm electric screw gun with depth sensing nose piece or torque control device. Suggested 1800 rpm.

Do not overdrive or under drive, not suggested for use with impact driver installation tools. Suggested 1" minimum penetration into substrate.

**Wood / Light Gauge Steel:**

Installations into wood or light gauge metal up to 16ga thick there is no pre-drill required.

**Masonry / Concrete:**

Installations into concrete block or poured concrete require a pre-drill with a 3/16" diameter masonry drill bit of sufficient length to drill a hole 1" deeper than the expected fastener penetration. Clean hole of dust prior to install.

## Corrosion Resistance:

This fastener meets 2017 Florida Building Code corrosion resistance requirements of R904.5.2 (and FBC 1506.6). This is done by use of the DMG85 Coating (over galvanizing/zinc plating). This coating has been tested to ASTM B117 1000 hour standards.

This coating on this specific screw has also been tested to a higher standard test, the HVHZ and Miami-Dade Fastener listing standards. ASTM G85 Annex A5/TAS 114 Appendix E. 280 hour standard.

This DMG85 coating on other DMI fasteners has also been tested to a higher standard test, ASTM G85 Annex A5/TAS 114 Appendix E. 1000 hour standards.

**To find a distributor call 855-800-8878 or visit [www.directmetalsinc.com](http://www.directmetalsinc.com)**



# BUTYL TAPE-SEAL



***Specially formulated  
for use on metal roof  
and wall panels.***

BUTYL TAPE-SEAL™ was designed specifically for the metal building industry to provide optimal sealing in the harshest environments.

It adheres to most clean, dry metal surfaces and does not harden, bleed or stain. With pressure, it fills minor irregularities in the surface and seals the joints providing an effective barrier against water, moisture, dust, and dirt.

BUTYL TAPE-SEAL™ is an excellent choice for use around windows, doors, roof vents, stacks, access doors, and other penetration points.

## SIZES

Stocked sizes - Others available upon request

Size (T x W x L)	TFC P.N.	Rolls/ Ctns	Ctns/ Pallet
3/32" x 3/8" x 45'	0937BCT	48	30
3/32" x 1/2" x 50'	0950BCT	22	50
3/32" x 1" x 45'	0910BCT	24	30
1/8" x 1/2" x 50'	1250BCT50	13	48
1/8" x 1" x 50'	1210BCT50	8	48
3/16" x 1/4" x 40'	1825BCT	20	48
3/16" x 7/8" x 40' *DB	1887BCT	10	48
3/16" x 7/8" x 25'	1887BCT25	8	64
3/16" x 2-1/2" x 20' *TB	TC826W	6	60

\*DB denotes double bead

\*TB denotes triple bead



***Easy to install!***



## PACKAGING

BUTYL TAPE-SEAL™ is extruded butyl material with a silicone backed release paper that is rolled and cut to specific lengths.

Our master cartons are constructed of 200 pound test material and the rolls are separated by silicone divider pads and protected by upright stacking cores.



**Adheres to:**

- Painted Metal
- Galvalume®
- Kynar®
- Aluminized Metal

## CLEAN UP

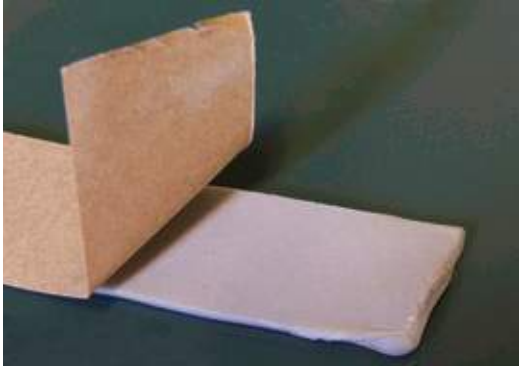
Mineral spirits will readily facilitate the cleaning of tools and equipment.



**TRIANGLE FASTENER CORPORATION**

Specialty Fasteners, Tools, Sealants, and Accessories for Commercial Construction  
800.483.1832 / [www.trianglefastener.com](http://www.trianglefastener.com)

### MATERIAL SPECIFICATION



BUTYL TAPE-SEAL™ is made from a blend of elastomers, butyl, EPDM rubber, and proprietary co-polymers.

The plasticizers are of the polyisobutylene and polybutene type, and permit no oxidation or migration. The fillers are inert and are primarily used as extenders and process aids and, to a lesser extent, as reinforcing pigments. The remaining materials are antioxidants, fungicides and organic processing aids.

### TEST DATA

BUTYL TAPE-SEAL™ has been tested to ASTM standards and meets Military and Federal Specifications.



#### Military Specifications

MIL-C-18969B, Type II, Class B

#### Federal Specifications

TT-C-1796A, Type II, Class B

(Supercedes MIL-C-18909B)

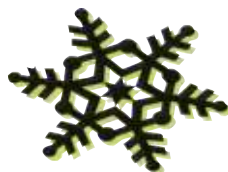
U.S.D.A. - Product chemically acceptable to the U.S. Department of Agriculture for use in meat processing areas under Federal inspection.

Property	Results
<i>Color</i>	ASTM D1729-69, Off white to grey
<i>Solids Content</i>	ASTM C771-74, 100%
<i>Specific Gravity</i>	ASTM D71-78, 1.53+/- .05
<i>Hardness</i>	ASTM D217-68 (300 gr. total weight) 0°F (-18°C) - 3.5 to 4.5 mm min. 77°F (25°C) - 10.0 to 13.0 mm 120°F (49°C) - 12.0 to 18.5mm max.
<i>Force to Compress</i>	As measured when one cubic inch of 3/8" thick material is compressed to 3/16" thick material @ 2"/min. 0°F (-18°C) - 85 lbs. 77°F (25°C) - 40 lbs. 120°F (49°C) - 29 lbs.
<i>Elongation &amp; Webbing</i>	0°F (-18°C) 250% min. (holding a 5 in. water head pressure Ethylene glycol added) 77°F (25°C) - 800% min.
<i>Plasticizer Migration</i>	ASTM C772-74, No bleed / contact stain only
<i>Staining</i>	ASTM D925-76, No bleed / contact stain only
<i>Cold Temperature Flexibility</i>	ASTM C765-73, No cracking or loss of adhesion
<i>Water Resistance</i>	ASTM D1056, Vacuum - .75% max. Static - 0%
<i>Adhesion Tensile Strength</i>	ASTM D897-78, 20 psi min.
<i>Aging Characteristics</i>	ASTM D7850-68 Weather-O-Meter, 1000 hrs - 10% reduction in most physicals QUV Cabinet (No ASTM) - 10% reduction in most physicals
<i>Shelf &amp; Service Life</i>	20 years min.
<i>Service Temperature</i>	-40°F to 220°F
<i>Heat Distortion</i>	ASTM D816-55 / 25% max.
<i>Water Resistance</i>	ASTM D1056 / Vacuum: .75% max. Static: 0%
<i>Static Water Head Test</i>	MBNA waster damming test, Passed 5in water head simulation.

HEAT



COLD



MOISTURE



DRYNESS



**TRIANGLE FASTENER CORPORATION**

Specialty Fasteners, Tools, Sealants, and Accessories for Commercial Construction  
800.483.1832 / www.trianglefastener.com



# #900 SOLAR SEAL®

TERPOLYMER ELASTOMER / ADHESIVE SEALANT

High performance colored alternative to silicones & urethanes



**COMMERCIAL** or **INDUSTRIAL** or **RESIDENTIAL**

## DESCRIPTION

#900 SOLAR SEAL is based on terpolymer technology which offers an alternative to silicone & urethane sealants. High performance terpolymer elastomers impart exceptional weather resistance, adhesion, elongation and color fade resistance to #900 SOLAR SEAL.

## APPLICATIONS:

**ARCHITECTURAL METALS**

**BRICK & MASONRY**

**CEDAR & REDWOOD**

**CURED CONCRETE**

**GLASS & FIBER GLASS**

**KYNAR® COATINGS**

(fluoropolymer coatings)

**METAL BUILDINGS**

**PRECAST PANELS**

**ROOF FLASHING**

**TERMINATION BARS**

**FIBER CEMENT BOARD**

**VINYL SIDING & WINDOWS**

◆ PRIMERLESS ◆ PAINTABLE

## COLORS

Clear, White, Black and over 200 NPC standard colors.

♣ Mfg. Name & Color stamped on each plunger.  
*Custom colors available in low minimum quantities.*

## LIMITATIONS

- ◆ Intended for exterior use. Interior application requires mandatory forced fresh air ventilation until odor dissipates.
- ◆ Not recommended for:
  - Structural applications.
  - Contact with expanded polystyrene.
  - Joints under constant water submersion.
- ◆ COMBUSTIBLE.  
Do not use near heat or flame.
- ◆ Contact NPC for written approval for use in food processing areas.
- ◆ WARNING: This product contains chemicals known to the state of California to cause cancer and/or reproductive harm. Inform chemical sensitive persons this compound contains a petroleum solvent.

## PACKAGING

Pro-Size tubes, 9 per case  
Consumer size tubes, 12 per case  
5 gallon pails

## INSTALLATION

Apply 3/8" deep, like diagram to a clean dry, frost free structurally sound surface that is free of any oils, soaps or loose material that may inhibit bonding. Warm tube overnight in cool weather.

Do not tool.

#900 SOLAR SEAL is self tooling. Clean excess sealant with a solvent such as mineral spirits or by scraping.

Open cell backer rod may be required for certain joints to prevent three point adhesion.

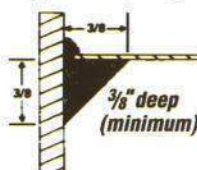
Final judgement of visual color acceptance is the applicator's responsibility.

## JOINT DESIGN

Maximum joint & sealant width is 3/4"

Maximum sealant depth is 1/2"

Minimum application depth is 3/8"



PROPER CURED BEAD

Pro-Size – Approx. coverage, 26 Lin. ft/tube

Consumer Size – Approx. coverage, 14 Lin. ft/tube

## GENERAL INFORMATION

Shelf life: 1 Year @ 75°F

Substrate temperature : 10/125°F

Service temperature : -40/300°F

Cure rate: @ 75°F

a) Thin skin in 12 hrs.

b) Complete: 21 days @ 75°F

Expected life: 20+ years when bead is installed as directed for approved applications. (See Diagram above)

◆ For professional use only

## PERFORMANCE DATA

BOND COHESION	TT-S-230c	NO BOND LOSS
SHORE A HARDNESS	TT-S-230c	30 AVERAGE
STAIN INDEX	TT-S-230c	NONE
SAG	TT-S-230c	NO SAG
UV & COLD EXPOSURE	ASTM C 920	NO CRACKING
ELONGATION	ASTM-D 412	300% - 400%
TACK FREE TIME	ASTM-C-679	4 hours
ADHESION-IN-PEEL	TT-S-1543	30 lbs/in

## SPECIFICATION DATA



100% Terpolymer Technology  
alternative to silicones & urethanes

## VOC REGULATIONS

Pro-Size tubes are approved under all State and Federal VOC regulations.

Consumer Size tubes are approved under Federal VOC regulations and in all State VOC regulations except for California. California approval is pending.

## CONSTRUCTION STANDARDS

Meets performance requirements of TT-S-00230c, Class A, Type II and ASTM C-920, Type S, Grade NS, Class 25, Use NT, except for weight loss. ASTM C-1193.

## LIMITED WARRANTY

NPC warrants #900 Solar Seal will meet the performance data tests listed below. Under this warranty the expected life of #900 Solar Seal is 20 years, provided the user has followed our installation and joint design instructions. (See Diagram above)

Under this warranty, for applications recommended by NPC as suitable for this product, and judged and tested by the test methods indicated below, our liability and obligation is limited to product replacement only.

**NPC** COLORED SEALANTS

**7** JOINT SEALANTS



**CONSTRUCTION METAL PRODUCTS, INC.  
TWENTY YEAR NO DOLLAR LIMIT WATER TIGHTNESS WARRANTY**

**Manufacturer:** Construction Metal Products, Inc.  
**Address:** 2204 West Front Street  
Statesville, NC 28677  
**Telephone:** (704) 871-8704  
**Installation Contractor:**  
**Address:**  
**Telephone:**  
**Owner:**  
**Building Name & Location:**

**Architect:**  
**Address:**  
**Telephone:**  
**General Contractor:**  
**Address:**

**Telephone:**  
**Area of metal roof:**  
**Type of products**  
**Approved and applied:**  
**Contract price:**

Sample

**WARRANTY PROVISIONS FOR MATERIALS AND WORKMANSHIP**

Construction Metal Products, Inc., a North Carolina Corporation (hereinafter "CMP"), and the Installation Contractor identified above, hereby warrant to the Owner listed above that for a period of twenty (20) years from the date of substantial completion of the Roofing System applied to the above described Building, should leaks develop in the Roofing System due solely to manufacturing defects, ordinary wear and tear by the elements or workmanship on the part of the Installation contractor, then subject to each and every term, condition and limitation contained herein, they shall be responsible for completing such repairs to the Roofing System as are necessary to return it to watertight condition. Notwithstanding anything contained herein to the contrary, during the first five years of the Warranty, CMP shall only be responsible for water leaks caused by defects in material. The Installation Contractor shall be solely responsible for any and all costs to correct any roof water leak caused by defective workmanship or installation for the first five years after substantial completion. For the next five years of this warranty, CMP will correct water leaks caused by defective material and will be jointly responsible with the Installation Contractor for labor costs incurred to correct leaks caused by defective workmanship. The total cost of such warranty repairs will be split equally between CMP and the Installation Contractor listed on this Warranty. During years 11 through 20, CMP will be solely responsible for any and all costs to correct any leak in the Roofing System due to manufacturing defects or workmanship and to return the Roofing System to a watertight condition.

**EXCLUSIONS**

The Limited Warranty shall apply only to Roofing Systems installed in areas of normal atmospheric exposure and specifically does not cover leaks caused, in whole or in part, by one of the following:

1. Marine (salt water) atmosphere or regular spray of either salt or fresh water.
2. Heavy fallout or exposure to corrosive chemicals, ash or fumes from any chemical plant, foundry, plating works, kiln, fertilizer manufacturing plant, paper or the like.
3. Any corrosive substance or condensate of any harmful substance contained, generated or released from inside the building or condensation from the underside of the roof.
4. Worker traffic on the roof, other than traffic during the course of installation.
5. Hail, fire, lightning, hurricane, tornado, earthquakes or any unusual acts of God.
6. Alterations, such as, but not limited to, structures, fixtures, or utilities being placed upon or attached to the roof without prior written authorization from CMP or repairs performed or materials furnished by entities other than CMP or the Installation Contractor.
7. Failure by the Owner or any lessee or other occupant or user of the Building to take reasonable care in maintaining the roof, such as cleaning the gutters, valleys, etc. so as to allow water to run off uninterruptedly.
8. Faulty building design or construction.
9. Birds, vermin, rodents, insects or animals or pests.

10. Settlement, failure or cracking of the roof deck, walls or foundation of the building, or defects or failures of coping gravelstop due to cracking of walls or any part of the building structure.
11. CMP shall have no liability or responsibility under or in connection with the Warranty if the Installation Contractor failed to use all roof curbs, roofjacks, sealants, mastics, sub-framing, roof panels, clips, and flashings provided by CMP or approved by CMP, nor shall CMP have any liability or responsibility in connection with this Warranty if the Installation Contractor failed to follow CMP's standard recommended installation instructions for the layout, design and erection of the Roofing System, or the Roofing System is constructed in such a manner as not to permit drainage of water from all surfaces and permit standing or ponding water.
12. Any other cause beyond the control of CMP and the Installation Contractor.

THE WARRANTY CONTAINED HEREIN EXCLUDES ANY AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE. THERE ARE NO WARRANTIES WITH EXTENT BEYOND THOSE EXPRESSLY PROVIDED IN THIS WARRANTY. CMP AND THE INSTALLATION CONTRACTOR SHALL NOT BE LIABLE TO THE OWNER FOR ANY CLAIM BASED UPON STRICT LIABILITY, NEGLIGENCE, BREACH OR WARRANTY, TORT OR OTHER THEORY OR CAUSE OR ACTION, NOR SHALL THEY BE LIABLE FOR INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES HOWEVER ARISING OR BE RESPONSIBLE FOR ANY CONSEQUENTIAL DAMAGES OR LOSS TO THE BUILDING, ITS CONTENTS OR OCCUPANTS.

### **NOTICE OF CLAIMS AND GENERAL PROVISIONS**

All claims hereunder must be submitted in writing to CMP within the Warranty period and within thirty (30) days of the discovery of any leak in the Roofing System. Failure of the Owner to do so shall relieve CMP and the Installation Contractor of any and all responsibility and/or liability under the terms hereof. If, after inspection by CMP, it is determined that the leak is caused by defects in the Roofing System's material or workmanship in accordance with this Warranty, the Roofing System shall be repaired in accordance herewith. Such work shall be completed within a reasonable period of time after notice to CMP of the weathertightness or watertightness failure. The Owner's exclusive remedy and CMP's and the Installation Contractor's liability shall be limited to repair of the Roofing System and their liability for the cost of said repairs shall not exceed the dollar amount paid by the owner for the Roofing System, including the cost of installation. All notices given under or pursuant to this Warranty shall be in writing and sent by certified mail, return receipt requested, to CMP and the Installation Contractor to the following addresses:

**Warranty Department  
Construction Metal Products, Inc.  
2204 West Front Street  
Statesville, NC 28677**

During the term of this Warranty, CMP and the Installation Contractor, their sales representatives and employees, shall have free access to the roofing during regular business hours upon reasonable notice to the Building Owner.

This document constitutes the entire Warranty made by CMP and the Installation Contractor. No modification or amendment of this Warranty shall be binding on CMP or the Installation contractor unless made in writing and signed by their authorized representatives. The terms, conditions and provision contained in this Warranty may be waived only in writing signed by CMP. No oral statements, course of conduct or course of dealing shall be deemed or constitute a waiver. The invalidity or unenforceability of any provisions of this Warranty shall not affect the enforceability and validity of any remaining provisions, and this Warranty shall be construed in all respects as if the invalid or unenforceable provisions were omitted.

This Warranty shall be governed by and construed in accordance with the laws of the State of North Carolina.

This Warranty is tendered for the sole benefit of the Owner as named above and is not transferable or assignable.

Neither CMP, nor the Installation Contractor, shall have any obligation under this Warranty unless all invoices for installation and materials have been paid in full by or on behalf of the Building Owner.

**Executed as of this \_\_\_\_ Day of \_\_ 20\_\_**

ATTEST:

MANUFACTURER

Construction Metal Products, Inc.  
2204 West Front Street, Statesville, NC 28677

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

ATTEST:

INSTALLATION CONTRACTOR

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

ATTEST:

OWNER

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

---

**Fluropon® , Fluropon® Extreme, Fluropon® Premiere, Fluropon® Classic, Fluropon® Classic II****LIMITED WARRANTY**

We are pleased to present you with THE FOLLOWING Limited Warranty on our Fluropon® coil coatings.

1. This Warranty applies if any of the following Warranty Conditions occurs during the time period specified in the attached Warranty Table:
  - a. Fluropon® exhibits cracking, flaking or peeling (loss of adhesion) to an extent that it is apparent on ordinary outdoor visual observation. Minute fracturing, which may occur in proper fabrication of the building parts, is not a covered Warranty Condition. *Failure due to substrate corrosion is not a covered Warranty Condition.*
  - b. Fluropon® chalks in excess of ASTM D-4214 method A number 8 rating when properly maintained as described herein.
  - c. Fluropon® changes color more than five (5.0) Hunter delta-E units as determined by ASTM method D-2214. Color change shall be measured on an exposed painted surface that has been cleaned of surface soils and chalk, and the corresponding values measured on the original or unexposed painted surface. Color changes may not be uniform on surfaces that are not equally exposed to the sun and elements and Sherwin-Williams does not warrant that color changes will be uniform.

2. If a Warranty condition occurs and the other requirements of this Warranty are met, Sherwin-Williams will supply you with the following Warranty benefits:

Sherwin-Williams will pay for the labor and material reasonably necessary to repaint, repair or replace, at our option, the metal panels showing the Warranty Conditions. The Warranty Benefits shall not exceed the original purchase price of the affected metal panels (not including any accessories or attachments) or the remedy provided in any other warranty provided to the building owner, whichever is less, even if our limited warranty fails of its essential purpose. This Warranty will continue to apply to any metal panels that were repainted, repaired or replaced due to a Warranty Condition, but not only unexpired portion of the Warranty period applicable to the original part.

3. Sherwin-Williams cannot control the circumstances of application. Therefore, this Limited Warranty applies only when Fluropon® coil coatings are properly applied (according to the application instructions in Sherwin-Williams's then current Technical Data Sheet) to a properly pre-treated and primed substrate (HDG Steel (G90/G60), Galvalume, and Aluminum) that is fabricated into commercial or industrial building parts. Sherwin-Williams does not warrant the use of Fluropon® coil coatings with non-Sherwin-Williams coatings. Warranty Benefits are available only for all-Sherwin-Williams coating systems. Also, because some colors may not meet our standards, Sherwin-Williams will inform you in writing at the time of color matching if the color you have selected is not an approved color.
4. To receive Warranty Benefits for a Warranty Condition, you must:
  - a. Send written notice of the Warranty Condition within thirty days of the appearance of any detectable defect to: Vice President, Coil and Extrusion, The Sherwin-Williams Corporation, P.O. Box 1461, Minneapolis, MN 55440
  - b. Provide access to the affected panels and site.
  - c. Assist us as necessary in determining the exact cause of failure.
  - d. Provide such documentation as we shall request to confirm the Warranty Condition, including records sufficient to identify the batch number and application date of the Fluropon® coating involved; and production records and quality control records from your coater showing compliance with our application specifications and the results of tests required by those specifications.
5. We are not responsible and provide no Warranty Benefits, for any damage or condition resulting from circumstances beyond our control, including any of the following:
  - a. Acts of God, falling objects, explosions, fire, external forces or other such similar or dissimilar circumstances beyond Sherwin-Williams control
  - b. Harmful fumes or foreign substances in the atmosphere, or salt spray;

---

**Fluropon®, Fluropon® Extreme, Fluropon® Premiere, Fluropon® Classic, Fluropon® Classic II****LIMITED WARRANTY**

- c. Failure to apply Fluropon® coil coatings in accordance with our specifications and instructions as outlined on our then-current published technical data sheets;
  - d. Improper or inadequate pretreatment of the substrate metal;
  - e. Defects in the substrate metal or in its fabrication, or embossing;
  - f. Any corrosion or loss of adhesion as a result of substrate fabrication or embossing processes
  - g. Significant differences in the insulation below coated metal panel;
  - h. Fluropon® which has been damaged due to moisture entrapment in coils and/or bundles during transit or storage or which has been stored or installed in such a way that allows standing water on the coating;
  - i. Failures or damage resulting from substrate exposure or corrosion at cut/bare edges or failure of the metal substrate;
  - j. Development of any other condition between the coating and the substrate which causes the coating to degrade or delaminate, including any failure or deficiency in the cleaning process or pretreatment;
  - k. Fluropon® that has been stored/installed in such a way that allows contact with animals or animal waste;
  - l. Mishandling of Fluropon® or of any substrate coated with it, including abuse, alteration, modification, improper use or storage; or
  - m. Attachment or adhesion of materials or items such as snow guards and solar panels to the coating.
6. No Warranty is provided for Fluropon® coatings on any substrate that is subjected to sea spray or installed on property located 1,500 or fewer feet from a salt-water environment.
7. If chrome free pretreatment is used, warranty for adhesion must be validated by sample testing of production material. Material must pass AAMA 2605 sec. 8.4.1.4 Boiling Water Adhesion. Following topcoat application, a sample must undergo a twenty (20) minute boiling water immersion crosshatch; sample within 5 minutes of removal from the boiling water/evaluate adhesion in the cross hatched area per AAMA sec. 8.4.1.2 Tape Pull-Off (ATSM D3359 Method B)/Result must be 5B, no tape off. Use of chrome free pretreatment with Galvalume voids warranty.
8. This warranty applies only to building parts installed on buildings within the Continental United States, Alaska and Canada. This Warranty will automatically expire upon any change or transfer of ownership of the property on which the metal coated with Fluropon® Coastal is originally installed.
9. This is our only warranty concerning Fluropon® coil coatings. Except for this Warranty, WE MAKE NO WARRANTIES, EXPRESS OR IMPLIED AND DISCLAIM ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. SHERWIN-WILLIAMS WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. We have no other liability with respect to Fluropon® coil coatings, whether based on warranty, negligence, or any other legal theory.
10. This is our complete warranty. It lists all of Sherwin-Williams's obligations regarding Fluropon® coil coatings purchased by you on or after the effective date shown below. It is only for your benefit and you may not assign it to any other person or entity. Sherwin-Williams makes no warranty to your customers and is not responsible for any warranty you choose to provide to your customers concerning the performance of Fluropon® coil coatings. Sherwin-Williams may change or discontinue this Warranty by providing you with 30 days advance written notice. Any changes will only apply to Fluropon® coil coatings sold to you after the notice period expires. This warranty shall be governed by Minnesota law, but not its conflict of law rules.



**SHERWIN-WILLIAMS**  
Coil Coatings



---

**Fluropon<sup>®</sup>, Fluropon<sup>®</sup> Extreme, Fluropon<sup>®</sup> Premiere, Fluropon<sup>®</sup> Classic, Fluropon<sup>®</sup> Classic II**

**LIMITED WARRANTY**

This warranty is not valid unless signed by an authorized agent of CMP.

Customer

Project Name

Address

Products

Order Number (On Bill of Lading)

Construction Metal Products Authorized Agent \_\_\_\_\_

Date



## WARRANTY TABLES

### Fluropon® - Standard Colors

Product	Film integrity Warranty (Section 1a) (Years From Date of Coating Application)	Color Change Warranty (Section 1c) (Years From Date of Installation of Coated Panels)	Chalking Warranty (Section 1b) (Years From Date of Installation of Coated Panels)
Fluropon®	35	30	30
Fluropon® Extreme (Hardcoat)	35	30	30
Fluropon® Premiere (requires clear coat)	20	20	20
Fluropon® Classic (requires clear coat - Metallic)	20	N/A	20
Fluropon® Classic II (Mica)	20	N/A	20

This Limited Warranty is valid for products used for roofing and sidewall coil applications only.

For the purpose of this Limited Warranty, Standard Colors use a group of pigments suitable for the majority of color matches. Some color requests cannot be formulated with durable pigments and will not carry the above mentioned warranty. The customer will be informed as to these exceptions

# CLEANING AND MAINTENANCE GUIDE OF SHERWIN-WILLIAMS FLUOROPOLYMER COATINGS

The molecules on the surface of Sherwin-Williams Coil Coatings fluoropolymer coating systems are so tightly bound together that it makes them resistant to many elements found in the environment such as air pollution, acid rain and general airborne dirt.

Although Sherwin-Williams Coil Coatings factory-applied finishes are extremely durable, a periodic cleaning to remove build-ups of resins and other residue is a good idea to extend coating life. A variety of methods for removal of surface deposits are available. Simple washing with plain water using hoses or pressure spray equipment is usually adequate. When heavy deposits of dirt or other contaminants dull surfaces, stronger methods may be needed.

## PRECAUTIONS

1. **Proper Equipment:** Do not use wire brushes, abrasives or similar cleaning tools which will mechanically abrade the coatings surface.
2. **Test:** Always test the cleaning agents listed below in an inconspicuous area before use on a large scale.
3. **Disposal:** Please make sure you dispose of cleaning solutions in an environmentally manner.

## GROUP A: HOT OR COLD DETERGENT SOLUTIONS

A 5% solution in water of commonly used commercial (non-industrial detergents) will not have any deleterious effect on a paint surface. These solutions should be followed by an adequate rinse of water. Use a cloth or a soft brush for application.

## WATTS REMOVAL PRODUCTS

Watts Removal solutions are environmentally friendly, non-toxic and water soluble. Easy application process, use a soft brush to apply and wet cloth to remove. Use only Sherwin-Williams approved products from Watts Removal Products. To purchase approved product contact them at [wattsremoval.com](http://wattsremoval.com).

## GROUP B: SOLVENTS

Most organic solvents are flammable and/or toxic, and must be handled accordingly. Read the manufacturer's Material Safety Data Sheet (MSDS) on solvent used. Keep away from open flames, sparks and electrical motors. Use adequate ventilation, protective clothing, and goggles. Solvents may be used to remove on-water soluble deposits such as tar, grease and oil paint.

- Isopropyl (rubbing alcohol)



### GROUP C: PETROLEUM SOLVENTS AND TURPENTINE

(no permanent effect on surfaces)

- VM&P naphtha
- Mineral spirits

### CHEMICAL SOLUTIONS

Mildew: In areas subjected to high humidity levels, dirt and spore deposits can permit mildew growth to occur. The following solution is recommended to remove mildew when necessary.

- 1/3 cup dry powdered laundry detergent (ex. Tide™)
- 1 qt sodium hypochlorite 5% solution (ex. Clorox™)
- 3 qts water

Rust Stains: Hydrochloric, citric or muriatic acid, diluted with ten volumes of water, may assist in removing rust stains from fluoropolymer surfaces. Limit contact to five minutes. Oxalic acid solutions or acetic acid (vinegar) may be used for the same purpose. Flush with water.

CAUTION: Acid solutions are corrosive and toxic. Flush all surfaces with copious amounts of water after use.

### GRAFFITI

Graffiti presents a special problem because of the many possible agents used, generally aerosol paints. Sherwin-Williams has approved Watts Removal Products solutions as our approved graffiti removal product. Watts Removal solutions are environmentally friendly, non-toxic and water soluble. Easy application process, use a soft brush to apply and wet cloth to remove. Use only Sherwin-Williams approved products from GRS. To purchase approved product contact them at [wattsremoval.com](http://wattsremoval.com).

### WARRANTY

Misuse or abuse of any of the cleaning agents listed above will result in a voiding of warranty for the surface affected.

### FLUOROPOLYMER COATINGS

- Fluropon® Family
- Flurothane® Family
- Flurospar® Family
- Valflon®

### AT YOUR SERVICE

Do you have a unique application? We'll work with you to find a solution. Want a unique color? We'll create it for you. Need a quick turnaround? Talk to us, and we'll help you get your project completed on time. We're here to help. In fact, with our availability at coating and service centers throughout the country, we're there for you. Give us a call and see how we can help with your next project.

#### COIL:

(888) 306-2645 or [coilhelp@sherwin.com](mailto:coilhelp@sherwin.com)

#### EXTRUSION:

(866) 351-6900 or [extrusionhelp@sherwin.com](mailto:extrusionhelp@sherwin.com)

Fluropon®, Flurothane®, Flurospar and Valflon® are registered trademarks of The Sherwin-Williams Corporation. © 2018 Sherwin-Williams All Rights Reserved.





June 26, 2025

Davis Kane Architects, PA

Project: Farmville Fire Station and Headquarters (Farmville, NC)

We know that the **Farmville Fire Station and Headquarters (Farmville, NC)** needs a permanent roof solution with a competitive price to keep the project within the owner's budget. Metal Roofing Systems (MRS) has been requested by some of the better roofers to provide them with a quote for our quality roofing products for this project. As a local manufacturer of top quality metal panels and edge metal products, our competitive pricing will help keep the project within your owner's budget.

You may recall that your firm has used our material on your projects in the past such as:

- Carmichael Gymnasium Locker Room Renovation
- Durham Public Schools – New Elementary School C
- Public Safety Station No. 36

Your design for this project reflects your interest in looking after the owner's best interest. MRS likewise tries to look after the owner's best interest by offering the best quality products on the market today at competitive pricing and these products are installed by our network of trained, certified roofing contractors.

Having performed a detailed review of the contract documents, we want to assure you that we have the same products as you have specified and that they meet or exceed your relevant performance requirements.

Since a number of roofing contractors have asked for our pricing on this project, we ask for you to please review and approve the attached CSI Substitution Request Form and let us know if you have any questions. Also, please let us know if you need for us to make the substitution request with some other form.

Please feel free to call me on my cell phone (804) 385-5798 if you should have any additional questions on the MRS product's compliance to the specified requirements.

Sincerely,

Peter Ryan  
Metal Roofing Systems, Inc.

# SUBSTITUTION REQUEST

Project: Farmville Fire Station and Headquarters (Farmville, NC)

Substitution Request Number:

From: Peter Ryan, Metal Roofing System

To: Davis Kane Architects, PA

Date: June 26, 2025

A/E project Number:

Re:

Contract For:

Specification Title: Division 7  
Section: 074113.16

Page:5&6

Description: Standing-Seam Metal Roof Panels  
Article/Paragraph: Part 2 Products 2.2

Proposed Substitution: MRS System 2500

Manufacturer: Metal Roofing Systems

Address:7670 Mikron Road Stanley, NC 28164

Phone: 704-820-3110

Fax: 704-820-0113

Trade Name: Metal Roofing Systems Inc.

Attached data includes product description, specifications, drawings, photographs, performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for the proposed substitution as for specified product
- Same maintenance service and source of replacement parts, as applicable, is available
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

Submitted by: Peter Ryan

Firm: Metal Roofing Systems Inc.

Address: 7670 Mikron Drive Stanley, NC 28164

Telephone: 704-820-3110

## A/E's REVIEW AND ACTION

- ☐ Substitution approved - Make submittals in accordance with Specification Section.
- ☒ Substitution approved as noted - Make submittals in accordance with Specification Section
- ☐ Substitution rejected - Use specified materials.
- ☐ Substitution Request received too late - Use specified materials.

Signed by: Devanshi Kesaria

Date: 7/1/2025

Price 22 gauge zinc-coated steel sheet roofing, 24 gauge will not be accepted.

Supporting Data Attached: ☒ Drawings ☒ Product Data ☐ Samples ☒ Tests ☐ Reports ☐ \_\_\_\_\_

## SUBSTITUTION REQUEST FORM

To: Davis Kane Architects, PA

Project: Farmville Fire Station and Headquarters (Farmville, NC)

We hereby submit for your consideration the following product instead of the specified item for the above project:

DRAWING: SPEC. SECT. NO: **074113.16 – STANDING-SEAM METAL ROOF PANELS**

PARAGRAPH: **PART 2 – PRODUCTS, 2.2**

Proposed Substitution: **MRS SYSTEM 2500**

Attach complete information on changes to Drawings and/or Specifications which proposed substitution will require for its proper installation.

Submit with request all necessary samples and substantiate data to prove equal quality and performance to that which is specified. Clearly mark manufacturer's literature to indicate equality in performance.

Fill in the blanks below:

- A. Does the substitution affect the dimensions shown on the Drawings? **No**  
If yes, clearly indicate the changes:
- B. Will the undersigned pay for changes to the building design, including engineering and detailing costs caused by the requested substitution? **Yes**  
If no, fully explain: **Note: MRS product is exact same as the specified product and thus will not affect the building design.**
- C. What effect does substitution have on other Contracts or other Trades? **None**
- D. What effect does substitution have on construction schedule?  
**None. Possible shorter lead times because MRS is a local Manufacturer.**
- E. Manufacturer's warranties of the proposed and specified items are.  
**The proposed product provides superior warranty with a 50-year substrate warranty, and a 40-year finish warranty, thus providing additional value to owner.**
- F. Reason for request: **MRS product is the exact same as the specified profile and provides superior warranty.**
- G. Itemized comparison of specified item(s) with the proposed substitution; list significant variations: **See attached document**

H. Accurate cost data comparing proposed substitution with product specified:

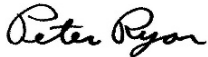
I. Designation of maintenance services and sources:

(Attach additional sheets if required.)

**Certification of Equal Performance And  
Assumption Of Liability For Equal  
Performance**

For Use By Architect:

The undersigned states that the function, appearance and quality are equivalent or superior to the specified item. Submitted By:



Accepted Not

Accepted as Noted Received

Accepted

Too Late

Signature: Peter Ryan Title: Architectural Manager

By: Devanshi Kesaria

Firm: Metal Roofing Systems, Inc.

Date: 07/01/2025

Address: 7687 Mikron Drive, Stanley, NC 28164

Remarks: Price 22 gauge zinc-coated steel sheet roofing, 24 gauge will not be accepted.

Telephone: 704-820-3110

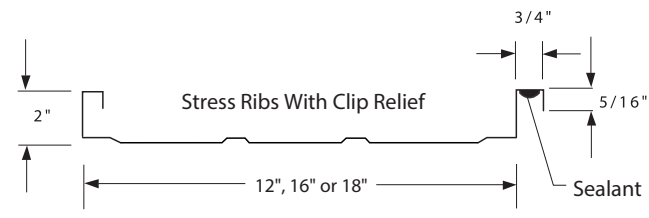
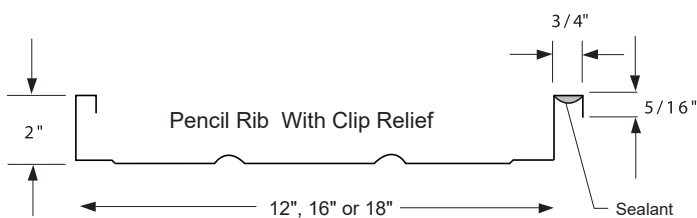
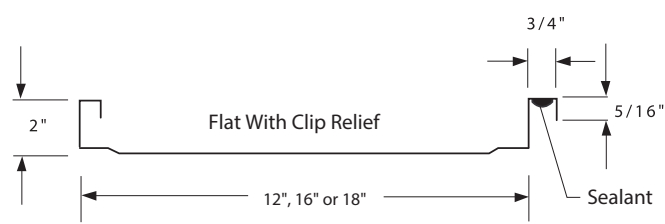
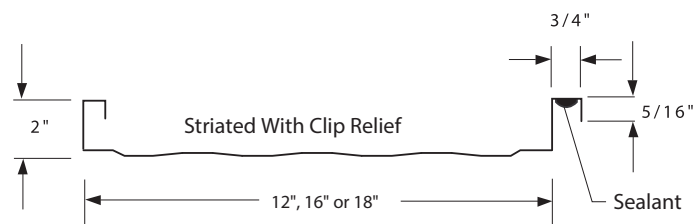
Signature shall be by person having authority to legally bind his firm to the above terms. Failure to provide legally binding signature will result in rejection of proposed substitution

Roof Panel

# MRS System 2500



12", 16" or 18" o.c.  
2" high  
Mechanical Seam  
Single Lock or Double Lock



## Materials

.032 Aluminum	24-gauge Galvalume
.040 Aluminum	22-gauge Galvalume

## Requirements

Solid substrate or open framing  
Ice & water shield or synthetic underlayment  
Minimum roof pitch: 1/2" on 12"

## PRODUCT FEATURES

- Stress ribs, pencil ribs or striated profiles available by request
- Optional clip relief available by request
- 40-year non-prorated finish warranty
- Weathertightness warranty available
- Optional Seam Sealant (Required for weathertightness warranty)

## UL CLASSIFICATION

- UL-580 Class 90
- UL-790 Class A fire rated
- UL-2218 impact resistance rated
- UL-1897 wind uplift

## ASTM TESTS

- ASTM E1592 tested
- ASTM E1646 tested
- ASTM E1680 tested
- ASTM E2140 tested

FBC Approval #: **FL41654**  
**FL39697**



**METAL ROOFING**  
Systems, Inc

Website: [www.metalroofingsystems.com](http://www.metalroofingsystems.com)



# Color Chart



**METAL ROOFING**  
SYSTEMS



SEE REVERSE SIDE FOR MATERIAL AVAILABILITY



## ENVIRONMENTALLY SMART COLORS - DESIGNED ENERGY EFFICIENT



SIERRA TAN



MEDIUM BRONZE



MANSARD BROWN



DARK BRONZE



MATTE BLACK



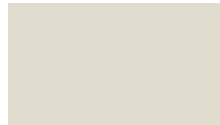
TERRA COTTA



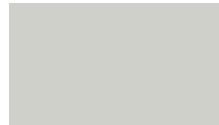
SURREY BEIGE



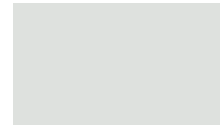
SANDSTONE



BONE WHITE



STONE WHITE



REGAL WHITE



COLONIAL RED



ASH GRAY



DOVE GRAY



SLATE GRAY



CHARCOAL GRAY



SLATE BLUE



BURGUNDY



PATINA GREEN

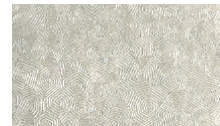


HEMLOCK GREEN



EVERGREEN

NON-PAINTED

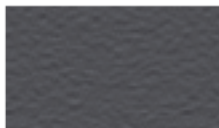


ACRYLIC-COATED GALVALUME\*

## TEXTURED COLORS - PREMIUM UPCHARGE



TLG BLACK



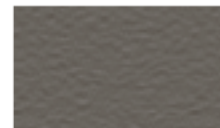
TLG CHARCOAL GRAY



TLG DARK BRONZE



TLG MEDIUM BRONZE



TLG MOONSTONE™

## METALLIC / PREMIUM COLORS - PREMIUM UPCHARGE



SILVER



COPPER



CHAMPAGNE



PRE-WEATHERED GALVALUME\*



HARTFORD GREEN



REGAL RED



REGAL BLUE

\* CONTACT YOUR REPRESENTATIVE FOR EXACT COLOR CHIP SAMPLE



## LOCATIONS

Stanley, NC

Fayetteville, NC

Conway, SC

Gallatin, TN

Pinellas Park, FL

Jackson, MS

[www.metalroofingsystems.com](http://www.metalroofingsystems.com)

**Faster. Smarter. Better. Period.**



Colors shown are matched as accurately as possible, but may vary slightly from finished product. These rich and vibrant colors are produced with either Kynar® 500 or Hylar® 5000 resins, which provide superior color retention, and allow us to offer non-prorated coating warranties for most applications. Coating warranty varies for Regal Red, Matte Black, Copper, Silver, Champagne, and Pre-Weathered Galvalume. Metallics are warranted for chip, crack, and peel only. Please contact your representative for more information.

STOCK AVAILABILITY MATRIX	LEED V4.1	ISR	EMI	3 YR. SRI	SRI	GALVALUME		ALUMINUM			
						24 GA.	22 GA.	.032	.040	.050	.063
Acrylic Coated Galvalume®	L	0.67	0.14	N/A	56	●	●				
Ash Gray		0.32	0.83	31	31	●		●	●		
Bone White	L	0.65	0.83	77	77	●		●	●	●	●
Burgundy		0.31	0.86	29	32	●					
Champagne		0.32	0.83	31	31	●					
Charcoal Gray		0.25	0.83	22	22	●	●	●	●		
Colonial Red		0.25	0.83	22	22	●		●			
Copper	L	0.35	0.75	32	32	●		●			
Dark Bronze		0.25	0.83	22	22	●	●	●	●	●	●
Dove Gray	L	0.35	0.83	35	35	●	●	●	●		
Evergreen		0.25	0.83	22	22	●		●	●		
Hartford Green		0.25	0.83	22	22	●		●	●	●	
Hemlock Green		0.25	0.83	22	22	●					
Mansard Brown		0.25	0.83	22	22	●	●	●	●	●	
Matte Black		0.25	0.83	22	22	●	●	●	●	●	●
Medium Bronze		0.25	0.83	22	22	●	●	●	●	●	●
Patina Green		0.32	0.83	31	31	●					
Pre-weathered Galvalume®		0.24	0.83	19	21	●		●			
Regal Blue		0.25	0.83	22	22	●					
Regal Red	L	0.35	0.83	35	35	●					
Regal White	L	0.65	0.83	77	77	●	●	●	●	●	●
Sandstone	L	0.35	0.83	35	35	●		●	●		
Sierra Tan		0.31	0.87	28	31	●		●	●		
Silver	L	0.54	0.77	55	60	●		●	●	●	
Slate Blue		0.25	0.83	22	22	●		●			
Slate Gray	L	0.35	0.83	35	35	●	●	●	●	●	
Stone White	L	0.55	0.83	59	63	●		●	●		
Surrey Beige	L	0.35	0.75	32	32	●		●			
Terra Cotta	L	0.35	0.83	35	35	●		●	●		
TLG Black		0.25	0.83	22	22	●					
TLG Charcoal Gray		0.25	0.83	22	22	●					
TLG Dark Bronze		0.25	0.83	22	22	●					
TLG Medium Bronze		0.25	0.83	22	22	●					
TLG Moonstone™		0.32	0.83	31	31	●					

**\* IF DESIRED COLOR IS NOT LISTED ON MATRIX PLEASE CONTACT METAL ROOFING SYSTEMS FOR AVAILABILITY**

NOTES	KEY
<ul style="list-style-type: none"> <li>All metal is painted with a .20 mil primer and .70-.90 mil Top Coat and 70% Kynar® 500 or Hylar® 5000. The reverse side has a .20 primer and .30-.40 backer coating.</li> <li>22-gauge steel available upon request.</li> <li>For low slope roofing to meet LEED V4.1 requirements, the initial SRI must be ≥ 82 OR the 3-year SRI must be ≥ 64.</li> <li>For steep slope roofing to meet LEED V4.1 requirements, the initial SRI for 75% of the roof must be ≥ 39 OR the 3-year SRI must be ≥ 32.</li> <li>Low slope roofing is defined as ≤ 2:12.</li> <li>Steep slope roofing is defined as &gt; 2:12.</li> </ul>	<ul style="list-style-type: none"> <li>● Stocked Item</li> <li>L LEED V4.1 Compliant</li> <li>ISR Initial Solar Reflectance</li> <li>EMI Emissivity</li> <li>SRI Solar Reflectance Index</li> </ul>

Oil canning is an aesthetic issue and is an inherent part of light gauge cold formed metal products. By using coil that has been processed properly, designing for thermal movement, following stringent specifications for installation, and proper handling, most oil canning can be eliminated. Oil canning is not grounds for coil/panel rejection.

Galvalume® is a registered trademark of BIEC. Hylar® 5000 is a registered trademark of Solvay Solexis, Inc. Kynar® 500 is a registered trademark of Atofina, Inc.



**METAL ROOFING**  
SYSTEMS



[www.metalroofingsystems.com](http://www.metalroofingsystems.com)

# Warranty

# 40-Year Limited COOLR “Paint” Warranty AZ50 Galvalume®, G90 Galvanized, or Aluminum

## EXCLUSIVE WARRANTY

This Warranty (collectively, the “Warranty”) is issued by Metal Roofing Systems, Inc. (hereinafter referred to as “MRS”), to the customer identified in this Certificate (hereinafter referred to as “Customer”) and applies to the finish on AZ50 Galvalume®, G90 Galvanized, or Aluminum flat sheet and coil products (hereinafter referred to as the “Product”) with PVDF based coating consisting of KYNAR 500® or Hylar 5000® resin (hereinafter referred to as the “Coating”) if erected anywhere within the Continental United States including Alaska, Hawaii and Canada.

1. Subject to the provisions contained herein, MRS warrants that during the Forty (40) Year Warranty Period, MRS’s COOLR stock Coatings will not chip, crack, peel, flake or check (except for such slight crazing or cracking as may occur on tightly roll-formed edges or break bends at the time of roll forming or other fabrication of pre-painted sheet or coil and which is accepted in the industry as standard). Subject to the provisions contained herein, MRS warrants that for Thirty (30) years from the date of installation of panels, the Coating will not chalk in excess of ASTM D-4214 method A659 number eight (8) rating when properly maintained in accordance with Valspar’s printed guidelines. Will not change color more than Five (5.0) Hunter ΔE units as determined by ASTM method D-2244 when properly maintained in accordance with Valspar’s printed guidelines. Color change will be measured on an exposed painted surface that has been cleaned of surface soils and chalk, and the corresponding values measured on the original or unexposed surface. It is understood that fading or color change may not be uniform, if the surfaces are not equally exposed to the sun and elements.

2. This Warranty does not apply to circumstances beyond Sheffield’s control, including:

a. Fire or other casualty or physical damage;

b. Unusual harmful fumes, foreign substances in the atmosphere or standing water. No warranty is provided for the coating on any substrate that is subjected to sea spray or installed on a property located 1500 or fewer feet from a coastline, salt or brackish water, or any salt water environment;

c. Improper treatment of or defects in the metal or in the fabrication or areas where items such as snow guards or solar panels are attached / adhered to the product.

d. Intermittent or continual submersion in water or any other liquid or solid material;

e. Damage from wind, deliberate damage, improper handling by erectors, from abrasive or chemical cleaners.

f. Mishandled Products, e.g., ANY PRODUCT WHICH HAS BEEN ABUSED, ALTERED, MODIFIED, USED IN A MANNER NOT ORIGINALLY INTENDED, OR STORED CONTRARY TO OUR INSTRUCTIONS.

g. Stored or installed in a way that allows for poor air circulation, contact with animals or animal waste.

h. Embossing that fractures or severely stretches the film (i.e. film is diminished at the point of emboss by greater than 0.2 mils.

3. This Warranty does not cover damage or deterioration resulting from moisture contamination or entrapment or any other contamination detrimental to the coating, which occurs prior to installation of the Products, including, without limitation, contamination occurring during shipment of the Product to the jobsite or during storage at the jobsite. This Warranty does not cover failure due to corrosion of substrate.

### 4. EXCLUDED ATMOSPHERIC CONDITIONS

This Warranty does not apply to sheet exposed at any time to corrosive, aggressive, harmful or other abnormal atmospheric conditions, including but not limited to:

**A.** Areas subject to fallout exposure to corrosive chemicals, ash, fumes, cement dust, animal waste, or it’s decomposition by-products, fallout from copper, lead, nickel or silver mining or refining operations and carbon black;

**B.** Conditions/circumstances where corrosive fumes or condensation are generated or released inside the building;

**C.** Areas subject to water run-off from lead or copper flashing or piping or areas in contact with lead or copper or lumber containing same;

5. All Warranty work will be performed by MRS, or any company, dealer, contractor, applicator, or distributor selected by MRS. Since there may be a color variance between the replacement or repainted Product and the originally installed Product due to normal weathering (i.e. exposure to sunlight and extremes of temperature and weather) of the originally installed Products, this condition shall not be indicative of a defect.

6. NOT WITHSTANDING ANYTHING TO THE CONTRARY CONTAINED HEREIN, MRS’S LIABILITY SHALL NOT EXCEED THE LESSER OF THE FOLLOWING: (I) THE CUSTOMER’S LIABILITY DIRECTLY ATTRIBUTABLE TO A BREACH OF THIS WARRANTY, OR (II) THE REFINISHING OR REPLACEMENT OF THE FAILED COATED MATERIAL, OR AT SHEFFIELD’S OPTION, REFUND OF THE PURCHASE PRICE WHICH SHALL NOT EXCEED AN AMOUNT EQUAL TO ONE HUNDRED PERCENT (100%) OF THE AMOUNTS PAID TO MRS BY THE CUSTOMER FOR THE PURCHASE OF THE DEFECTIVE PRODUCT. MRS SHALL NOT BE LIABLE FOR INJURY TO PROPERTY OTHER THAN THE FLAT SHEET AND/OR COIL PRODUCTS COATED WITH FLUOROCARBON PAINT SYSTEMS, IN THE CONDITION AND AS PURCHASED BY CUSTOMER FROM MRS, IN ALL INSTANCES, SHALL HAVE THE SOLE AND EXCLUSIVE RIGHT TO DETERMINE WHETHER OR NOT REFINISHING OR REPLACEMENT OF THE FAILED AREAS IS REQUIRED, AND TO FULFILL ITS OBLIGATION UNDER THE WARRANTY. MRS RESERVES THE RIGHT TO NEGOTIATE AND APPROVE ANY FINAL CONTRACT LET FOR REFINISHING AND REPLACEMENT AS THE CASE MAY BE.

7. This Warranty applies only to products manufactured by the customer within six (6) months from shipment thereof by MRS Metals International.

8. Claims under this Warranty must be presented by the

customer to MRS in writing during the warranty period and within thirty (30) days after Customer becomes aware that any warranted condition has occurred. Time is of the essence and failure to give notice within the specified time shall discharge MRS from any obligations under this Warranty. MRS must be given a reasonable opportunity to do an on-site inspection to determine if there is a coating failure.

9. The laws of the State of Ohio shall exclusively govern the rights and duties of the parties to this Warranty. Any controversy or claim arising out of or related to this Warranty, or the breach thereof shall be brought before a court of competent jurisdiction in Cleveland, Ohio under the substantive and procedural laws of the State of Ohio.

10. Customer acknowledges that MRS is not the manufacturer or applicator of the coating warranted herein and agrees that all issues arising from or related to the exceptions set forth herein shall be determined finally and conclusively as to Customer, by the original manufacturer.

11. Due to pigment limitations, Regal Red, Matte Black and L/S Antique Black are covered by a number eight (8) rating for chalk, and five (5) ΔE units for fade for a period of ten (10) years from installation. Copper and other metallic colors have no rating available for color change.

12. This Warranty applies solely to MRS “inventoried stock” colors. Custom matched colors and non-inventoried items may have different Warranty terms, or not be warranted.

13. For this Warranty to apply, the Customer must retain certain records. In order for MRS to process a claim, we will need to be told the original coil or skid tag number.

14. THIS WARRANTY IS GIVEN AS THE SOLE AND EXCLUSIVE WARRANTY AND EXCLUSIVE REMEDY BY OR AGAINST MRS, AND NO OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR PURPOSES, ARE MADE, AND ANY SUCH OTHER WARRANTIES ARE EXPRESSLY DISCLAIMED. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION CONTAINED IN THIS INSTRUMENT. CUSTOMER WAIVES THE BENEFIT OF ANY RULE THAT THE DISCLAIMERS OF WARRANTY SHALL BE CONSTRUED AGAINST THE SELLER, AND AGREES THAT THE DISCLAIMERS IN THIS INSTRUMENT

SHALL BE CONSTRUED LIBERALLY IN FAVOR OF MRS SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. MRS HEREBY DISCLAIMS ALL LIABILITIES FOR DAMAGES BASED ON THEORIES OF NEGLIGENCE AND STRICT PRODUCT LIABILITY. THIS WARRANTY IS EXTENDED TO CUSTOMER AND IS TRANSFERABLE AND ASSIGNABLE TO A SUBSEQUENT OWNER OF THE SUBJECT BUILDING. MRS WILL REQUIRE THE SUBJECT BUILDING TO BE INSPECTED BY AN AUTHORIZED MRS REPRESENTATIVE BEFORE ANY TRANSFER CAN TAKE PLACE. THE FEE FOR THIS INSPECTION IS AT THE OWNERS EXPENSE. THIS WARRANTY MAY NOT BE ENLARGED IN ITS SCOPE BY ANY REPRESENTATIVE, SALES PERSON, AGENT OR OTHER EMPLOYEE OF MRS, EXCEPT AS OTHERWISE EXPLICITLY PROVIDED HEREIN. THE CUSTOMER SHALL NOT PERMIT ANYONE TO CLAIM OR IMPLY THAT THIS WARRANTY EXTENDS OR CAN BE “PASSED THROUGH” TO ANYONE OTHER THAN THE CUSTOMER. THIS PROVISION IS A MATERIAL TERM OF THIS WARRANTY AND ITS VIOLATION OR BREACH BY CUSTOMER OR ANY OF CUSTOMER’S AGENTS OR REPRESENTATIVES, SHALL VOID AND CANCEL THIS WARRANTY FOR ALL PURPOSES. IN THE EVENT THIS WARRANTY IS TRANSFERRED OR ASSIGNED TO A SUBSEQUENT OWNER OF THE SUBJECT BUILDING, SUCH SUBSEQUENT OWNER SHALL COMPLY WITH ALL OF THE TERMS AND CONDITIONS OF THIS WARRANTY.

THE LIABILITY OF SELLER MRS SHALL NOT EXTEND TO PERSONAL INJURY, PROPERTY DAMAGE, LOSS OF PROFIT, DELAY OR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE FAILURE OF ANY PRODUCT OR COATING TO CONFORM WITH THE PROVISIONS OF THIS LIMITED WARRANTY.

MRS SHALL NOT IN ANY EVENT BE LIABLE TO THE CUSTOMER OR ANY OTHER PERSON OR ENTITY FOR ANY ACTIONS, CLAIMS, CAUSES OF ACTION, DAMAGES, EXPENSES AND/OR LIABILITIES ARISING FROM OR RELATED TO THE DESIGN, USE OR FAILURE OF THE PRODUCT OR COATING, FOR THE INTERRUPTION OF THE CUSTOMER’S OR ANY OTHER PERSON’S OR ENTITY’S OPERATIONS OR BUSINESS, FOR THE COST OF LABOR EXPENDED BY OTHERS ON ANY DEFECTIVE PRODUCT OR COATING OR FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES WHATSOEVER OR LOSS OF PROFIT OR OTHER FINANCIAL LOSS ARISING OUT OF THE USE OR FAILURE OF THE PRODUCT OR COATING, EVEN IF MRS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH ACTIONS, CLAIMS, CAUSES OF ACTION, DAMAGES, EXPENSE, LOSS AND/OR LIABILITIES, WHETHER ARISING FROM BREACH OF CONTRACT, BREACH OF WARRANTY, TORT, INCLUDING NEGLIGENCE, STRICT LIABILITY OR OTHERWISE TO ANYONE BY REASON OF THE FACT THAT SUCH PRODUCT OR COATING SHALL HAVE BEEN DEFECTIVE.

### SIGNATURE:

This Warranty is not valid unless signed by an authorized employee or agent of Metal Roofing Systems, Inc.

By: \_\_\_\_\_

Name Printed:

Title:

Date:

Issued To:

For:

Job:

Color:

Completion Date:



**METAL ROOFING**

SYSTEMS

# 50-Year Painted AZ50 Galvalume® Limited “Metal” Warranty

## EXCLUSIVE WARRANTY

This Warranty, (collectively, the “Warranty” is issued by Metal Roofing Systems, Inc. (hereinafter referred to as “MRS”), to the customer identified in this certificate, (hereinafter referred to as “Customer”) to warrant that the AZ50 Galvalume painted with MRS stock COOLR®, PVDF resin painted sheet steel sold for use as steel building roofing and/or siding panels, if erected within the continental United States and Caribbean, WILL NOT as a result of corrosion: rupture, fail structurally or perforate within a period of 50 years after shipment from MRS when exposed to normal atmospheric conditions.

### 1. EXCLUDED ATMOSPHERIC CONDITIONS

This Warranty does not apply to sheet exposed at any time to corrosive, aggressive, harmful or other abnormal atmospheric conditions, including but not limited to:

A: Coastline areas with a marine exposure within the following distances:

- Coastline with breaking surf – 1500 ft.
- Coastline with large bay – 800 ft.
- Coastline with marsh – 400 ft.

And all areas subjected to constant spraying of either salt or fresh water.

B. Areas subject to fallout exposure to corrosive chemicals, ash, fumes, cement dust, animal waste, or it's decomposition by-products, fallout from copper, lead, nickel or silver mining or refining operations and carbon black.

C. Conditions/circumstances where corrosive fumes or condensation are generated or released inside the building.

D. Areas subject to water run-off from lead or copper flashing or piping or areas in contact with lead or copper or lumber containing same.

### 2. OTHER EXCLUDED SITUATIONS

A. Mechanical, chemical, or other damage sustained during shipment, storage, forming, fabrication, during or after erection.

B. Failure to provide free drainage of water, including internal condensation, from overlaps on all other surfaces of the sheets or panels.

C. Failure to remove debris from overlaps and all other surfaces of the sheets or panels.

D. Damage caused to the metallic coating by improper roll forming, scouring or cleaning procedures.

E. Deterioration of the panels caused by contact with green or wet lumber or wet storage stain caused by water damage or condensation.

F. The presence of damp insulation or other corrosive materials in contact with or close proximity to the panel.

G. Deterioration to the panels is caused directly or indirectly by panel contact with fasteners. Selection of suitable long-lasting fasteners to be used with Galvalume® roofing and siding panels rests solely with the Customer.

H. Bends less than 2T for sheet thickness .030" and thinner and less than 4T for sheet thickness .031" and thicker.

I. Slopes of roof or sections of the roof flatter than 1:15.

J. Forming, which incorporates severe reverse bending or which subjects coating to alternate compression and tension.

K. “Cut edge corrosion” which is to be expected with all Galvalume®;

L. This Warranty applies only to the hot dipped aluminum-zinc alloy coating and not to any paint coating that may be applied to the metal. A separate warranty is available for MRS's COOLR paints.

### 3. EXCLUSIVE REMEDIES

Customer's exclusive remedy and Seller's sole liability for breach of this limited Warranty shall be limited to the cost of either repairing non-conforming panels, or at Seller's sole option:

A. Furnishing to Customer, FOB Customer's plant, sufficient sheet metal to enable Customer to fabricate replacement panels for the defective panels, or;

B. Reimbursing Customer for the cost of the defective panels.

### 4. LIMITATION OF DAMAGES

THE LIABILITY OF THE SELLER SHALL NOT EXTEND TO PERSONAL INJURY, PROPERTY DAMAGE, LOSS OF PROFIT, DELAY OR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE FAILURE OF ANY SHEET TO CONFORM TO THE PROVISIONS OF THIS LIMITED WARRANTY.

MRS SHALL NOT IN ANY EVENT BE LIABLE FOR THE COST OF LABOR EXPENDED BY OTHERS ON ANY DEFECTIVE PANEL OR FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES WHATSOEVER WHETHER ARISING FROM BREACH OF CONTRACT, BREACH OF WARRANTY, TORT, INCLUDING NEGLIGENCE, STRICT LIABILITY OR OTHERWISE TO ANYONE BY REASON OF THE FACT THAT SUCH PANELS SHALL HAVE BEEN DEFECTIVE.

THIS WARRANTY IS GIVEN AS THE EXCLUSIVE WARRANTY AND EXCLUSIVE REMEDY, AND NO OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR PURPOSES, ARE MADE, AND ANY SUCH OTHER WARRANTIES ARE EXPRESSLY DISCLAIMED. THERE ARE NO WARRANTIES, WHICH EXTEND BEYOND THE DESCRIPTION CONTAINED IN THIS INSTRUMENT. CUSTOMER WAIVES THE BENEFIT OF ANY RULE THAT THE DISCLAIMERS OF WARRANTY SHALL BE CONSTRUED AGAINST THE SELLER AND AGREES THAT THE DISCLAIMERS IN THIS INSTRUMENT SHALL BE CONSTRUED LIBERALLY IN FAVOR OF MRS. MRS SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. SHEFFIELD HEREBY DISCLAIMS ALL LIABILITIES FOR DAMAGES BASED ON THEORIES OF NEGLIGENCE AND STRICT PRODUCT LIABILITY.

### 5. INSPECTION AND NOTICE OF CLAIM

Customer shall exercise diligence in inspection of panels as received from MRS to mitigate repair or replacement. No Warranty shall apply to panels that are used and contain coating defects discernable by reasonable inspection. Claims for any breach of Warranty must be made within the period of this limited Warranty. Customer must give Seller a reasonable opportunity to inspect the material. Claims must be promptly reported in writing to MRS, and MRS shall be given a reasonable opportunity to inspect the panels claimed to be defective. Customer must prove that the defective materials were sold by MRS by means of proper identification of the material involved in the claim, including date of shipment by MRS, date of installation, MRS order number, coil number, and invoice number.

### 6. TRANSFERS, REPRESENTATIONS AND ASSIGNMENTS

This limited Warranty is extended to the Customer as the original purchaser from MRS and is non-transferable and non-assignable, and may not be enlarged in its scope by any representative, sales person, agent or other employee of

MRS No rights against Sheffield shall be created by any purported transfer or assignment. This provision is a material term of this Warranty and its violation or breach by Customer

or any of Customer's agents or representatives shall void and cancel this Warranty for all purposes.

### 7. WAIVER OR MODIFICATIONS OF SHEFFIELD'S RIGHTS

No terms or conditions, other than those stated herein, and no agreement or understanding, oral or written, and no course of conduct or performance, in any way purporting to modify this limited Warranty or to waive MRS rights hereunder, shall be binding on MRS unless the same be clearly set forth in a writing that expressly refers to this limited warranty and expressly refers to having such effect upon this limited Warranty, and is signed by the authorized representative of MRS.

### 8. OTHER PROVISIONS

Customer acknowledges that MRS is not the manufacturer or applicator of the coating warranted herein and agrees that all issues arising from or related to the exceptions set forth herein shall be determined finally and conclusively as to the Customer, by the original manufacturer.

### 9. GOVERNING LAW

The substantive law of the State of Ohio shall exclusively govern the rights and duties of the parties under this agreement. Any controversy or claim arising out of or related to this warranty, or the breach thereof shall be brought before a court of competent jurisdiction in Cleveland, Ohio.

### SIGNATURES:

This Warranty is not valid unless signed by an authorized employee or agent of MRS.

Metal Roofing Systems, Inc.

By: \_\_\_\_\_

Name Printed:

Title: President

Date:

“MRS”

Issued To:

For

Job:

Color:

Completion Date:



# CSI Form 1.5C

## SUBSTITUTION REQUEST (During the Bid Period)

Project: Farmville Fire Station Substitution Request Number: \_\_\_\_\_  
From: Polyglass USA, Inc. - Mapei Group  
To: Davis Kane Date: 07/01/2025  
A/E Project Number: \_\_\_\_\_  
Re: \_\_\_\_\_ Contract For: \_\_\_\_\_

Specification Title: Division 7 Description: Self-Adhering Sheet Waterproofing  
Section: 071326 Page: 3 Article/Paragraph: 2.2

Proposed Substitution: Mapethene HT60  
Manufacturer: Polyglass USA, Inc. Address: 1111 W. Newport Center Drive Phone: 888-410-1375  
Trade Name: Deerfield Beach, FL 33442 Model No.: \_\_\_\_\_

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

Submitted by: Alexandra Jewel

Signed by: Alexandra Jewel

Firm: Polyglass USA, Inc. - Mapei Group

Address: 1111 W. Newport Center Drive Deerfield Beach, FL 33442

Telephone: 954-529-1378

### A/E's REVIEW AND ACTION

- ☐ Substitution approved - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.  
☒ Substitution approved as noted - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.  
☐ Substitution rejected - Use specified materials.  
☐ Substitution Request received too late - Use specified materials.

The proposed product may be used but a 10-year manufacturer's and installer's warranty is required as mentioned in the specs.

Signed by: Devanshi Kesaria

Date: 7/3/2025

Supporting Data Attached: ☒ Drawings ☒ Product Data ☐ Samples ☒ Tests ☒ Reports ☐ \_\_\_\_\_

# POLYGLASS<sup>®</sup>



## SUBMITTAL PACKAGE

Mapethene<sup>™</sup>  
Self-adhered  
Waterproofing System



**Polyglass U.S.A., Inc.**

**CORPORATE OFFICE**

1111 WEST NEWPORT CENTER DRIVE  
DEERFIELD BEACH, FL 33442  
(954) 233-1330 • FAX (954) 418-4453

polyglass.us



**Subject: MAPETHENE™ LT/HT60 POST APPLIED SELF-ADHERED  
WATERPROOFING MEMBRANE**

This letter is to certify that MAPETHENE™ LT/HT60 meets or exceeds the physical properties published on the technical data sheet as well as those listed in MasterSpec Section 07 13 26 for self-adhering sheet waterproofing, shown below:

Physical Property	Test Method	Mapethene Data Sheet	Masterspec Standard
Thickness (mm)	ASTM D 3767 Method A	1.5mm (60 mil)	1.5mm
Resistance to Hydrostatic Head	ASTM D 5385	Pass, 71m (~231 feet)	200 feet minimum
Flexibility, 180° bend over 25 mm (1 in.) mandrel at -32°C (-25°F)	ASTM D 1970	Unaffected at -32C	Pass at -20F (~-29C)
Crack Cycling at -32°C (-25°F), 100 Cycles	ASTM C 836	Unaffected at -32C	Unaffected
Tensile Strength, Membrane, Die C (Mpa)	ASTM D 412 <sup>1</sup> The test is run at a rate of 50 mm (2 in.) per minute	325 psi	250 psi minimum
Elongation, Ultimate Failure of Rubberized Asphalt (%)	ASTM D 412 <sup>1</sup> The test is run at a rate of 50 mm (2 in.) per minute	300%	300% minimum
Puncture resistance (lbf)	ASTM E 154	50 lbf	40 lbf minimum
Permeance	ASTM E 96, Section 12- Water Method	<0.02	0.05 maximum
Water Absorption	ASTM D 570	<0.02%	0.2% maximum

This testing has been completed by a 3<sup>rd</sup> party testing laboratory, as is evident by the attached test reports.

Polyglass and its facilities are certified to ISO 9001; 2015.

Mark Franciosi  
National Technical Services Manager  
Building Envelope Solutions  
Polyglass USA, Inc.

# MAPETHENE™ HT60

## POST APPLIED SELF-ADHERED WATERPROOFING MEMBRANE FOR BELOW GRADE STRUCTURES AND ELEVATED DECKS

### PRODUCT DESCRIPTION

The specialized formulation combines a rubberized adhesive with an HDPE layer to act as a barrier against moisture, water and gas. Mapethene HT60 membrane is suitable for installations where the ambient temperature is above 40°F (5°C). See Mapethene LT60 for low temp applications.

### FEATURES AND BENEFITS

- Cold applied without using flames
- Factory controlled thickness
- Highly flexible; simple, quick and easy to apply
- Self-adhesive overlaps and excellent adhesion to various substrates
- Elastomeric, can accommodate concrete shrinkage
- Excellent chemical resistance and protection against gas vapor intrusion

### SYSTEM COMPONENTS

- Mapethene HT 60, post-applied waterproofing membrane
- Mapeprime S710, low VOC solvent based adhesive primer for use above 25°F (-4°C) and on green and damp concrete
- Mapeprime 720 W, water based adhesive primer for use above 40°F (4°C)
- Mapeproof Liquid Membrane, trowel grade liquid detailing accessory
- Mapedrain HS, high strength, high flow drainage board and protection course
- Mapestrip 25, expanding rubber waterstop for watertight joints and transitions

### TECHNICAL DESCRIPTION

Property	Test Method	Result
Thickness (mm)	ASTM D3767 Method A	1.5mm (60 mil)
Resistance to Hydrostatic Head	ASTM D5385	Pass, 71 m
Flexibility, 180° bend over 25 mm (1") mandrel at -32°C (-25°F)	ASTM D1970	Unaffected at -32°C
Crack Cycling at -32°C (-25°F), 100 Cycles	ASTM C836	Unaffected at -32°C
Tensile Strength, Membrane, Die C	ASTM D412 <sup>1</sup>	325 psi (2.2 MPa)
Tensile Strength, Film	ASTM D882 <sup>1</sup>	5000 psi (34.5 Mpa)
Elongation, Ultimate Failure of Rubberized Asphalt (%)	ASTM D412 <sup>1</sup>	300
Lap Shear	ASTM D1002 <sup>2</sup>	20 lbf
Lap Adhesion @ -5C	ASTM D1876	5 lbf/in (875 N/m)
Peel adhesions to concrete	ASTM D903	9 lbf / in (1575 N/m)
Puncture resistance	ASTM E154	50 lbf (222 N)
Permeance	ASTM E96, Section 12 - Water Method	<0.02
Water Absorption	ASTM D570	<0.02%

<sup>1</sup> The test is run at a rate of 50 mm (2 in.) per minute  
<sup>2</sup> The test is run at a rate of 102 mm (4 in.) per minute

### STORAGE AND SHELF LIFE

Mapethene HT60 may be stored for 12 months in its original packaging between 40°F–90°F (4°C–32°C).



### PRODUCT DATA

Roll Size ..... 3' x 66.7' (0.9 m x 20.3 m)  
 Coverage ..... 200 ft² (18.6 m²)  
 Weight per roll ..... 71 lb (32.2 kg)  
 Rolls/Pallet ..... 12

### WHERE TO USE

- Below grade foundations walls
- Horizontal decks
- Tunnels
- Balconies

### PRODUCT CODES

- MTHT60367



www.polyglass.us

# MAPETHENE™ HT60

## POST APPLIED SELF-ADHERED WATERPROOFING MEMBRANE FOR BELOW GRADE STRUCTURES AND ELEVATED DECKS

### LIMITATIONS

- Not intended for permanent UV exposure
- Do not install over insulation or lightweight insulating concrete
- Do not use form release agents that transfer to the concrete
- Avoid the use of curing compounds that contain wax, oil or pigments
- Not for use as a pool or containment tank lining

### SURFACE PREPARATION

- May be applied on concrete, CMU and wood.
- Substrates must be flat, sound and clean. Remove any laitance, loose aggregate, traces of dust, grease and form release agents. Remove form match lines and repair all form-tie holes, poorly consolidated areas and voids greater than 0.5" (13 mm) in width must be repaired with a latex Portland cement, concrete or epoxy mortar. Sharp edges on corners should be rounded off or ground down.
- All concrete surfaces must be cured for a minimum of 7 days for normal weight structural concrete and 14 days for lightweight structural concrete. For applications on concrete over non-vented decking, cure times will be longer. Weather and time in forms may also increase cure/dry time prior to Mapethene HT60 application.
- CMU substrates should be finished with full and flush mortar joints or parged to bring mortar joints flush with the face of the CMU.
- After preparing the substrate as specified, apply Mapeprime S710 or 720 W adhesive primer, depending on temperature and application. Refer to applicable Mapeprime Technical Data Sheets for additional application instructions.

### PRODUCT APPLICATION

#### TEMPERATURE

Mapethene HT60 should be installed in dry conditions where the ambient temperature is above 40°F (5°C). See *Mapethene LT60* for low temperature applications.

#### CRACK AND JOINT TREATMENT

- All non-structural cracks in the concrete substrate less than 1/8" (3 mm) wide and all concrete cold joints should be pre-stripped with a 6" (150 mm) wide piece of Mapethene HT60 prior to the installation of the field membrane.
- All horizontal to vertical transitions or inside corners are to be treated with a 3/4 fillet of Mapeproof Liquid Membrane prior to the installation of Mapethene HT60.

#### HORIZONTAL INSTALLATION

- Apply on horizontal decks with a minimum slope of 1/8 in/ft (11 mm/m) to drain. If 1/8 in/ft (11 mm/m) slope cannot be achieved, contact Polyglass Technical Service for additional details.

- When applying the membrane on horizontal surfaces, remove the first 9" (23 cm) of release liner, line up the roll in the direction it is to be applied and unroll the Mapethene HT60. Remove the release liner as you unroll the membrane so that it adheres evenly to the prepared substrate working from the low to the high point in a shingled fashion. Overlap all side and end laps by a minimum of 2.5" (64 mm). End laps are to be staggered and roll the entire surface of the Mapethene HT60 with a rubber roller.
- Mapethene Liquid Membrane must be used to seal all seams or laps within 12" (300 mm) of a deck to wall/curb condition or any 90 degree change in plane, along with all terminations and T-joints.
- Outside corners are to be pre-stripped with a 9" (23 cm) piece of Mapethene HT60, prior to installing the field of the membrane.

#### VERTICAL INSTALLATION

- When applying the membrane on vertical surfaces, working with convenient lengths no greater than 10 ft is recommended. Remove approximately 9", (23 cm) of release liner, line up the sheet according to the direction it is to be applied and adhere to the prepared substrate ensuring all horizontal overlaps are water shedding. Overlap all side and end laps by a minimum of 2.5" (64 mm). End laps are to be staggered and roll the entire surface of the Mapethene HT60 with a rubber roller.
- Terminate all end of day, top and bottom of wall terminations, and all T-joints of Mapethene HT60 with Mapeproof Liquid Membrane. A termination bar sealed with Mapeproof Liquid Membrane can be used as an alternative means of termination at the top or bottom of the wall.
- Outside corners are to be pre-stripped with a 9" (23 cm) piece of Mapethene HT60, prior to installing the field of the membrane.
- Refer to Polyglass standard details drawings for additional installation instructions and system requirements for both horizontal and vertical installation.



[www.polyglass.us](http://www.polyglass.us)

# MAPETHENE™ HT60

## POST APPLIED SELF-ADHERED WATERPROOFING MEMBRANE FOR BELOW GRADE STRUCTURES AND ELEVATED DECKS

### PROTECTION AND BACKFILLING

- On horizontal applications within 24 hours of applying Mapethene HT60 protect all waterproofed surfaces with Mapedrain HS, Minimum 1" (25 mm) rigid insulation or ¼ in (6 mm) asphaltic hardboard per design. Vertical walls should be protected as noted above as soon as possible to prevent trade damage and should not be exposed to UV for more than 14 days.
- Backfilling should be completed by adding and compacting in 6" (150 mm) to 12" (300 mm) lifts. Use caution when adding backfill and compacting to ensure the protection course or Mapethene HT60 is not damaged.

### MEMBRANE REPAIR

Repair damaged membrane by removing any loose or un-adhered Mapethene HT60 from the damaged area ensuring the surrounding membrane is clean and dry. Any exposed concrete would need to re-primed with the original Maeprime primer that was used and allowed to dry. Install a patch of Mapethene HT60 extending 6" (150 mm) past the damaged area in all directions. Seal all edges of the patch with Mapeproof Liquid Membrane.

### LEAK DETECTION

Conventional flood testing or electronic leak detection for horizontal applications if specified can be conducted 24-hours after application.

### CORPORATE HEADQUARTERS

Polyglass U.S.A., Inc.  
1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
[www.polyglass.us](http://www.polyglass.us)  
General Line: (888) 410-1375  
(954) 233-1330  
Customer Service: (800) 222-9782  
Technical Service: (866) 794-9659

**Questions?** [technical@polyglass.com](mailto:technical@polyglass.com)

### Product Disclaimer:

For professional use only.

Unless otherwise incorporated into or part of a supplemental manufacturer's warranty, Polyglass warrants its product(s) against manufacturing defects in its product that directly results in leakage for a period of 1 year. Refer to safety data sheet (SDS) for specific data and handling of our products. All data furnished refers to standard production and is given in good faith within the applicable manufacturing and testing tolerances. Polyglass U.S.A., Inc., reserves the right to improve and change its products at any time without prior notice. Polyglass U.S.A., Inc. cannot be held responsible for the use of its products under conditions beyond its own control. For most current product data, detail drawings and warranty information, visit [www.polyglass.us](http://www.polyglass.us)



[www.polyglass.us](http://www.polyglass.us)

# MAPEPRIME™ S710

## LOW-VOC, SOLVENT BASED ADHESIVE PRIMER FOR MAPETHENE LT60 / HT60

### PRODUCT DESCRIPTION

This quick-drying, high-tack adhesive primer is specifically formulated to promote maximum adhesion when using Polyglass waterproofing membranes.

### FEATURES AND BENEFITS

- Quick-drying
- The low content of volatile organic compounds (VOCs) is less than 250 g per L and is compliant with most state and local VOC requirements for adhesives and sealants.  
Note: Be sure to check all applicable regulations, based on the project location.
- Aggressive tack improves the adhesion of membranes to many substrates.
- Ready to use; no mixing or dilution required
- For vertical and horizontal applications
- Wide temperature application window, down to 25°F (-4°C)

### TECHNICAL DESCRIPTION

Property	Result
Color	Green
Adhesion to concrete – ASTM D6511	> 20.0 lbs per linear inch
VOCs (Rule #1168 of California's SCAQMD)*	226 g per L

\*Acetone, PCBFT and tbutyl acetate are exempt compounds.

### STORAGE AND SHELF LIFE

Store Mapeprime S710 at between 32°F and 68°F (0°C and 20°C). Protect it from weather and do not store it in direct sunlight. Improper storage could lead to product deterioration, making proper application of Mapeprime S710 difficult or impossible. Shelf life 1 year when stored properly.

### LIMITATIONS

- Substrates must be clean and dry. Mapeprime S710 is not to be installed over ponding or standing water, snow or ice.
- Use in well-ventilated areas and avoid breathing vapors.
- The solvent in Mapeprime S710 attacks polystyrene insulation.
- Do not apply Mapeprime S710 when rain is imminent.
- Avoid allowing Mapeprime S710 to puddle, as this will lengthen drying time.

### SUITABLE SUBSTRATES AND SURFACE PREPARATION

#### SUITABLE SUBSTRATES

- Concrete and concrete masonry units (CMUs)
- Wood

#### SURFACE PREPARATION

All surfaces to receive Mapeprime S710 should be dry, frost-free and free of dirt, dust, grease, rust, oil, curing agents and other contaminants. Application should be limited to an area that will be covered by a waterproofing membrane the same day. If the application area is not covered by a waterproofing membrane in the same day, Mapeprime S710 must be reapplied before installation of the waterproofing membrane.

Choose all appropriate safety equipment before use. Refer to the Safety Data Sheet for details. Consult Polyglass Technical Services Department for installation recommendations regarding substrates and conditions not listed.



### PRODUCT DATA

Pail: 5 U.S. gals. (18.9 L), covering  
250 to 425 ft<sup>2</sup> per U.S. gal.  
(6.12 to 10.4 m<sup>2</sup> per L)\*

\*Coverage rates for liquid-applied products are based on theoretical coverage relative to the percentage of solids in the material. These are recommended coverage rates to achieve the required dry-film thickness for the product and do not account for substrate condition or porosity. Thicker application of the product may be required to achieve the required dry-film thickness depending on the porosity and surface profile of the substrate.

Gross Weight 42 lbs (19.1 kg),  
Net Weight 38.3 lbs (17.3 kg)

36 pails/pallet

### WHERE TO USE

- Vertical applications
- Horizontal applications
- Low temperatures down to 25°F (-4°C)

### PRODUCT CODES

- MPS7105G



[www.polyglass.us](http://www.polyglass.us)

# MAPEPRIME™ S710

## LOW-VOC, SOLVENT BASED ADHESIVE PRIMER FOR MAPETHENE LT60 / HT60

### PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

- Apply Mapeprime S710 with a medium-nap or  $\frac{3}{8}$ " (10 mm) nap roller or with a brush. Do not pour Mapeprime S710 directly onto substrate.
- Completely cover the substrate with an even coat of Mapeprime S710 at 250 to 425 ft<sup>2</sup> per U.S. gal. (6.12 to 10.4 m<sup>2</sup> per l).
- Porous substrates such as masonry or wood will require additional material, reducing the coverage rates for proper adhesion.
- Allow Mapeprime S710 to dry for about 20 minutes at 75°F (24°C). The adhesive is sufficiently dry when it is tacky but will not transfer when touched. Adverse climate conditions (such as high humidity and cooler temperatures) or porous substrates will necessitate additional drying time.

### CORPORATE HEADQUARTERS

Polyglass U.S.A., Inc.

1111 West Newport Center Drive

Deerfield Beach, FL 33442

[www.polyglass.us](http://www.polyglass.us)

General Line: (888) 410-1375

(954) 233-1330

Customer Service: (800) 222-9782

Technical Service: (866) 794-9659

**Questions?** [technical@polyglass.com](mailto:technical@polyglass.com)

### Product Disclaimer:

For professional use only.

Unless otherwise incorporated into or part of a supplemental manufacturer's warranty, Polyglass warrants its product(s) against manufacturing defects in its product that directly results in leakage for a period of 1 year. Refer to safety data sheet (SDS) for specific data and handling of our products. All data furnished refers to standard production and is given in good faith within the applicable manufacturing and testing tolerances. Polyglass U.S.A., Inc., reserves the right to improve and change its products at any time without prior notice. Polyglass U.S.A., Inc. cannot be held responsible for the use of its products under conditions beyond its own control. For most current product data, detail drawings and warranty information, visit [www.polyglass.us](http://www.polyglass.us)



[www.polyglass.us](http://www.polyglass.us)



# MAPEPROOF™ LIQUID MEMBRANE

## TWO-COMPONENT, MONOLITHIC LIQUID WATERPROOFING DETAILING ACCESSORY FOR ABOVE AND BELOW GRADE APPLICATIONS

### PRODUCT DESCRIPTION

Mapeproof Liquid Membrane is a two-component, thixotropic, solvent-free, trowel grade membrane, specially designed for multiple uses with Polyglass waterproofing membranes.

Mapeproof Liquid Membrane, forms a continuous and flexible detail accessory to prevent the ingress and migration of water and moisture in the most critical areas of Polyglass waterproofing systems. Use Mapeproof Liquid Membrane to seal, fill, or detail Mapeproof AL, Mapeproof AL Pro, or Mapethene LT60 / HT60 membranes.

It's unique sag resistance will virtually eliminate the need to go back and re-tool on critical areas. The extended pot life is perfect for complex jobs, big or small. Ideal for a variety of applications including fillets/reinforcing applications, pile heads, vertical wall terminations, through-wall penetrations, repairs, and transitions.

### FEATURES AND BENEFITS

- Excellent tensile and shear strength
- 90 minute pot life for the most complex details
- Cold applied, chemical cure
- Two convenient sizes for jobs big and small

### SYSTEM COMPONENTS

- Mapeproof AL/AL PRO Membrane, 46 mil, horizontal and vertical grade high-performance pre-applied waterproofing membrane
- Mapeproof AL Detail Tape (4" and 8" widths), double-sided adhesive tape for watertight detailing
- Mapethene LT 60/HT 60, post-applied waterproofing membrane used in various Mapeproof AL details
- Mapedrain HS, High-strength, high-flow drainage board with protective film
- Mapestrip 25, expanding rubber waterstop for watertight joints and transitions

### TECHNICAL DESCRIPTION

Property	Test Method	Result
Workability		90 min
Application temperature range		25°F (-4°C) and rising
Solids Content	ASTM D1644	100%
Tensile strength	ASTM D412	600 psi (4.1 MPa)
Elongation	ASTM D412	240%
Peel Strength to concrete	ASTM D903	25.0 lbf (111 N)

### STORAGE AND SHELF LIFE

Shelf life 12 months when stored in original packaging in a dry environment at temperatures between 40°F (4°C) and 90°F (32°C).



### PRODUCT DATA

Mapeproof Liquid Membrane is supplied in A+B Kits:

- 38.8 lb (17.6 kg) of A+B units in a 4 gal (15.1 l) pail
- 14.6 lb (6.6 kg) of A+B units in a 1.25 gal (4.7 l) pail

Average coverage on smooth concrete surfaces: 0.006243 lb/ft<sup>2</sup>/mil (1.2 kg/m<sup>2</sup>/mm)

### WHERE TO USE

- Detailing penetrations
- Pile heads and caps
- Vertical Walls
- Details such as: inside corners, outside corners, end of day terminations, etc
- Repair material on concrete surfaces

### PRODUCT CODES

- MPLM5GK (4 gal)
- MPLM2GK (1.25 gal)



[www.polyglass.us](http://www.polyglass.us)

# MAPEPROOF™ LIQUID MEMBRANE

## TWO-COMPONENT, MONOLITHIC LIQUID WATERPROOFING DETAILING

### ACCESSORY FOR ABOVE AND BELOW GRADE APPLICATIONS

#### LIMITATIONS

- Do not mix the components (A+B) partially.
- Applications are limited to substrate and ambient temperatures as low as 25°F (-4°C).
- Do not apply Mapeproof Liquid Membrane when rain is imminent.
- Substrates must be dry to the touch. Mapeproof Liquid Membrane is not to be installed on moist surfaces, including ponding/standing water, snow, or ice.
- Substrates must be free of debris. Do not use on dusty and flaky surfaces.
- Substrates must be clean. Do not use on surfaces which are contaminated by oil, grease, or release agents.
- Not intended for permanent UV exposure.
- Use in well-ventilated areas and avoid breathing vapors.

#### SUITABLE SUBSTRATES AND SURFACE PREPARATION

All surfaces must be dry, sound and free of dust, loose areas, oil, grease, wax and oil paint.

#### PRODUCT INSTALLATION

- Mapeproof Liquid Membrane is provided in a plastic single pail containing components A and B. Pour component B (smaller one) into component A. Mix with a drill with low rotation speed (<150 RPM) for approximately 2 minutes and a mixing paddle of approx. 2" (5 cm) in diameter without entraining air; avoid partial mixing to ensure the correct ratio between part A and part B. Scrape the sides and bottom of the pail during mixing. After mixing pour from the pail or remove with a trowel.
- Mapeproof Liquid Membrane must be installed at a minimum thickness of 90 mils (2.3 mm). Refer to applicable Polyglass waterproofing details for specific application requirements.
- After the application of Mapeproof Liquid Membrane, wait at least 24 hours before exposing to water.

#### CLEANING

Mapeproof Liquid Membrane can be removed from surfaces, tools, clothing, with toluene or alcohol before the hardening reaction takes place. After hardening it may be removed mechanically.

#### CORPORATE HEADQUARTERS

Polyglass U.S.A., Inc.  
1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
[www.polyglass.us](http://www.polyglass.us)  
General Line: (888) 410-1375  
(954) 233-1330  
Customer Service: (800) 222-9782  
Technical Service: (866) 794-9659

**Questions?** [technical@polyglass.com](mailto:technical@polyglass.com)

#### Product Disclaimer:

For professional use only.

Unless otherwise incorporated into or part of a supplemental manufacturer's warranty, Polyglass warrants its product(s) against manufacturing defects in its product that directly results in leakage for a period of 1 year. Refer to safety data sheet (SDS) for specific data and handling of our products. All data furnished refers to standard production and is given in good faith within the applicable manufacturing and testing tolerances. Polyglass U.S.A., Inc., reserves the right to improve and change its products at any time without prior notice. Polyglass U.S.A., Inc. cannot be held responsible for the use of its products under conditions beyond its own control. For most current product data, detail drawings and warranty information, visit [www.polyglass.us](http://www.polyglass.us)



[www.polyglass.us](http://www.polyglass.us)

# MAPEDRAIN™ HS

## HIGH-STRENGTH, HIGH-FLOW DRAINAGE BOARD WITH PROTECTIVE FILM

### PRODUCT DESCRIPTION

Mapedrain HS provides hydrostatic relief while preventing the passage of soil or sand particles which might clog the polypropylene core. Mapedrain HS includes a polymeric protective film on the back side to provide additional protection to waterproofing membranes.

### FEATURES AND BENEFITS

- Lightweight and easy to install, Mapedrain HS provides cost savings and eliminates the need for aggregate backfill.
- Mapedrain HS also serves as a protection course for Polyglass below grade waterproofing membranes.
- Mapedrain HS's high compression strength withstands backfill pressure.
- Mapedrain HS channels water away from installed waterproofing systems.
- Native soils can be used over Mapedrain HS.
- Geotextile filter fabric prevents intrusion of soil, concrete, or construction grouts into the flow channels.
- Unaffected by permanent immersion in water, bacteria, dilute acids and alkalis: Mapedrain HS will not deteriorate when exposed to these conditions.
- Mapedrain HS offers below-grade relief of hydrostatic pressure against foundation and retaining walls, when connected to a passive gravity drain or operational sump pump.
- The drain core is 40% post-industrial recycled polypropylene material.

### TECHNICAL DESCRIPTION

Property	Test Method	Typical Result
<b>Core</b>		
Thickness	ASTM D1777	0.40" (10.16 mm)
Compressive strength	ASTM D1621	15,000 psf (718 kN/m <sup>2</sup> )
Flow (hydraulic gradient = 1)	ASTM D4716	21 g/min/ft (260 L/min/m)
<b>Fabric</b>		
Apparent opening size (AOS)	ASTM D4751	70 U.S. sieve (0.212 mm)
Grab tensile	ASTM D4632	100 lbs. (0.45 kN)
CBR puncture	ASTM D6241	250 lbs. (1.113 kN)
Flow	ASTM D4491	140 gal/min/ft <sup>2</sup> (5,704 L/min/m <sup>2</sup> )

### LIMITATIONS

- Mapedrain HS is not designed or intended to be used as a waterproofing membrane. Rather, it is an accessory for waterproofing systems.
- Do not leave Mapedrain HS permanently exposed to ultraviolet (UV) light.
- Backfill must be uniformly compacted in 6–12" lifts and must consist of clean, compactible soil. If angular aggregate is desired, it must be ¾" (19 mm) or less, and free of debris, sharp objects and stones larger than ¾" (19 mm).



### PRODUCT DATA

Roll Size ..... 4' x 50' (1.22 m x 15.2 m)  
Coverage ..... 200 ft<sup>2</sup> (18.6 m<sup>2</sup>)  
Rolls/Pallet ..... 7

### WHERE TO USE

- Vertical foundation structures
- Retaining walls
- Horizontal underslab
- Pre-applied or blind-side applications

### PRODUCT CODES

- MDHS540



[www.polyglass.us](http://www.polyglass.us)

# MAPEDRAIN™ HS

## HIGH-STRENGTH, HIGH-FLOW DRAINAGE BOARD WITH PROTECTIVE FILM

### SUITABLE SUBSTRATES AND SURFACE PREPARATION

- Before installation of Mapedrain HS, the substrate must be properly prepared or the waterproofing membrane completely installed, except in blindside waterproofing applications.
- *Horizontal:* Substrates may be concrete, earth, sand, pea gravel or crushed stone. Earth and sand substrates should be compacted. Crushed stone must be compacted, smooth and not larger than ¾" (19 mm). Concrete should be solid and smooth without ridges, sharp corners or honeycombing. Any voids and aggregate pockets exceeding 1" (2.5 cm) in diameter or a depth greater than ¾" (19 mm) should be filled with a non-shrinking cement-based grout.
- *Vertical:* Substrates may be concrete, shotcrete, wood lagging, steel sheet piling or secant piles. Substrates should be smooth and uniform without sharp protrusions or pockets. Fill tie-rod holes, honeycombs and voids with a non-shrinking cement-based grout. Grind all form fins, ridges and sharp corners, and remove excess concrete.
- *Wall lagging:* Mapedrain HS can be installed over wood lagging gaps up to 2 ½" (6.3 cm) to provide a uniform surface for waterproofing membranes. Gaps larger than 2 ½" (6.3 cm) should be completely filled with construction grout, wood or extruded polystyrene (at a minimum of 40 psi [0.28 MPa]). Do not use plywood or any other surface treatment that leaves voids in the lagging gaps.

### PRODUCT APPLICATION

Mapedrain HS prefabricated drainage composite panels can be installed against retaining walls, foundation walls (both waterproofed and non-waterproofed), lagging walls and under slabs. Mapedrain HS can be cut to fit the application with a utility knife or scissors. The panels are flexible enough to form around inside and outside corners. Mapedrain HS eliminates the need for a protection course over Polyglass waterproofing systems.

For standard installation details, follow the applicable Polyglass detail drawings at [www.polyglass.us](http://www.polyglass.us). For non-standard installation instructions, contact a Polyglass representative.

### ATTACHMENT METHODS FOR WATERPROOFING SYSTEMS

#### Attaching to walls that have adhered waterproofing membranes

- Mapedrain HS should be attached using a Polyglass approved contact adhesive. Apply approved contact adhesive to the surface of the waterproofing membrane and to the back (plastic) side of Mapedrain HS as needed prior to backfill.
- Backfill should be placed as soon as possible and extended to about 4"–6" (10–15 cm) above the termination edge of Mapedrain HS.

#### Attaching to soil retention systems for blindside applications

- Mapedrain HS should be secured with fasteners compatible with the substrate (concrete, masonry, wood or soil) and 1" (2.5 cm) washers. Prevent concrete from flowing behind the Mapedrain HS core by sealing the back side of the panel joints with a strip of Mapethene™ LT60 or HT60 sheet membrane (or duct tape). Sealing the back side of the panel is not necessary if a Mapeproof™ AL waterproofing membrane is applied over Mapedrain HS before pouring concrete or applying shotcrete.

#### Attaching to walls with no waterproofing membrane

- When Mapedrain HS is to be attached to walls that lack a waterproofing membrane, use a approved contact adhesive or fasteners compatible with the substrate and 1" (2.5 cm) washers. Mapedrain HS will be permanently secured upon installation of backfill. Backfill should be placed as soon as possible and extend to about 4"–6" (10–15 cm) above the termination edge of Mapedrain HS.

### VERTICAL INSTALLATIONS

#### Installation in columns or rows

- Mapedrain HS panels can be installed in columns or rows with the fabric side toward the soil. Each installation method is acceptable and has its advantages depending on the specific project conditions.
- *In columns:* Start at the end of the wall and align the edge of Mapedrain HS with the corner. Install Mapedrain HS starting at the low point of the wall and attach the panel to the wall. Adjacent panels should be joined together with the lateral edge of the connecting panel placed over the flanged edge of the previous panel.
- *In rows:* Place the longitudinal edge of the core against the wall so that it is flush with the wall footing and attach the panel to the wall. Attach subsequent panels in shingle fashion with fabric overlap at the bottom, placing the longitudinal edge of the upper panel over the flanged longitudinal edge of the lower panel and lap fabric from upper panel over lower panel.

#### Mapedrain HS laps

- Overlap the flange of the plastic core from panel to panel and in shingle fashion to shed water, where water flow is a concern.
- The fabric from the adjacent panels should overlap the preceding panel. The fabric can be adhered with a approved contact adhesive or duct tape.



[www.polyglass.us](http://www.polyglass.us)

# MAPEDRAIN™ HS

## HIGH-STRENGTH, HIGH-FLOW DRAINAGE BOARD WITH PROTECTIVE FILM

### Mapedrain HS termination

- Terminate Mapedrain HS about 4" to 6" (10 to 15 cm) below the finished grade.
- The termination edge of Mapedrain HS should be sealed by wrapping the filter fabric around to the back side of the panel. If there is insufficient fabric, cut and remove 3 to 4 rows of dimples from the core to provide excess fabric for wrapping behind the core. Wrapping the fabric around to the panel's back side prevents soil or construction debris from clogging the core.
- Secure the fabric with a approved contact adhesive,

### Wall setback or ledge conditions, if present

- Mapedrain HS panels should be installed beginning at the bottom of the wall and ending at the ledge.
- Subsequent courses of Mapedrain HS should be installed flat against the upper wall portion and placed so that 4" to 6" (10 to 15 cm) extend down and over the lower edge.
- The overlapping Mapedrain HS sections will be pushed flush against the wall when the backfill is installed.

### Foundation drainage collector/discharge system

- At the bottom termination of Mapedrain HS extend it out from the structure so that it is positioned under the proposed location of the collector pipe.
- Place the collector pipe as required in the design details.
- Encapsulate the collector pipe in a gravel bed with a supplemental section of a filter fabric as a separator/filter.

## HORIZONTAL INSTALLATIONS

### Under slab applications

- Install Mapedrain HS with the fabric side toward the soil.
- Place the flange of the second and subsequent panels over the back side of the preceding dimpled core and butted as close as possible to the preceding panel.
- The longitudinal and transverse panel joints of the Mapedrain HS core should be sealed with a strip of Mapethene sheet membrane or duct tape, except where a Mapeproof AL waterproofing membrane is installed on top of Mapedrain HS. This will aid in preventing concrete or soil from intruding into the Mapedrain HS core during subsequent construction phases.
- Construction traffic should be minimized over the installed Mapedrain HS.
- Sand, gravel and/or concrete may be poured directly over the Mapedrain HS core.

## CORPORATE HEADQUARTERS

Polyglass U.S.A., Inc.  
1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
[www.polyglass.us](http://www.polyglass.us)  
General Line: (888) 410-1375  
(954) 233-1330  
Customer Service: (800) 222-9782  
Technical Service: (866) 794-9659

**Questions?** [technical@polyglass.com](mailto:technical@polyglass.com)

**Product Disclaimer:** Unless otherwise incorporated into or part of a supplemental manufacturer's warranty, Polyglass warrants its product(s) against manufacturing defects in its product that directly results in leakage for a period of 1 year. Refer to safety data sheet (SDS) for specific data and handling of our products. All data furnished refers to standard production and is given in good faith within the applicable manufacturing and testing tolerances. Polyglass U.S.A., Inc., reserves the right to improve and change its products at any time without prior notice. Polyglass U.S.A., Inc. cannot be held responsible for the use of its products under conditions beyond its own control. For most current product data, detail drawings and warranty information, visit [www.polyglass.us](http://www.polyglass.us)



[www.polyglass.us](http://www.polyglass.us)

## Safety Data Sheet

### MAPEDRAIN HS

Safety Data Sheet dated: 04/06/2022 - version 3

Date of first edition: 07/08/2020



## 1. IDENTIFICATION

### Product identifier

Identification of the substance:

Trade name: MAPEDRAIN HS

Trade code: 7394501

### Recommended use of the chemical and restrictions on use

Recommended use: Article

Restrictions on use: Not available

### Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Company: Polyglass U.S.A. Inc.

1111 West Newport Center Drive

33442 - Deerfield Beach - FL - USA

Phone: 866-222-9782

Responsible: Not available

### Emergency 24 hour numbers:

Emergency Number (USA/Canada) CHEMTREC 1(800) 424-9300 / 1(703) 527-3887 Emergency Transport CANUTEC (Canada) 1-613-996-6666

## 2. HAZARD(S) IDENTIFICATION

### Classification of the chemical

0 The product is not classified as dangerous according to OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Label elements

The product is not classified as dangerous according to OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Ingredient(s) with unknown acute toxicity:

None

### Hazards not otherwise classified identified during the classification process:

None

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substances

Substance Identifications: MAPEDRAIN HS

### Mixtures

Not Relevant

Hazardous components within the meaning of 29 CFR 1910.1200 and related classification:

None

## 4. FIRST AID MEASURES

### Description of first aid measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

Wash immediately with water.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and the hazard label.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

### Most important symptoms/effects, acute and delayed

Not available

### Indication of any immediate medical attention and special treatment needed

Treatment: Not available

(see paragraph 4.1)



---

## 5. FIRE-FIGHTING MEASURES

### Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO<sub>2</sub>).

### Unsuitable extinguishing media:

None in particular.

### Specific hazards arising from the chemical

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

Hazardous combustion products: Not available

Explosive properties: Not available

Oxidizing properties: Not available

### Special protective equipment and precautions for fire-fighters

Use suitable breathing apparatus.

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

---

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove persons to safety.

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Limit leakages with earth or sand.

### Methods and material for containment and cleaning up

Take up mechanically and dispose of according to local/state/federal regulations

Scoop into containers and seal for disposal.

Retain contaminated washing water and dispose it.

---

## 7. HANDLING AND STORAGE

### Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

### Conditions for safe storage, including any incompatibilities

Storage temperature: Not available

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

---

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

No data available

Appropriate engineering controls: Not available

### Individual protection measures

Eye protection:

Not needed for normal use. Anyway, operate according good working practices.

Protection for skin:

No special precaution must be adopted for normal use.

Protection for hands:

Suitable materials for safety gloves; 29 CFR 1910.138 - ANSI/ISEA 105:

Polychloroprene - CR: thickness  $\geq 0,5\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Nitrile rubber - NBR: thickness  $\geq 0,35\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Butyl rubber - IIR: thickness  $\geq 0,5\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Fluorinated rubber - FKM: thickness  $\geq 0,4\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Use impervious gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

Respiratory protection must be used where exposure levels exceed workplace exposure limits. Refer to 29 CFR 1910.134 - CSA Z94.4 for information on selection and use of appropriate respiratory protection equipment.

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Physical state: Solid

Appearance and colour: No data available

Odour: No data available

Odour threshold: No data available

pH: No data available

Melting point / freezing point: No data available

Initial boiling point and boiling range: No data available

Flash point: Not Applicable

Evaporation rate: No data available

Upper/lower flammability or explosive limits: No data available

Vapour density: No data available

Vapour pressure: No data available

Relative density: No data available

Solubility in water: No data available

Solubility in oil: No data available

Partition coefficient (n-octanol/water): No data available

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity: No data available

Explosive properties: No data available

Oxidizing properties: No data available

Solid/gas flammability: No data available

### Other information

Substance Groups relevant properties No data available

Miscibility: No data available

Fat Solubility: No data available

Conductivity: No data available

---

## 10. STABILITY AND REACTIVITY

### Reactivity

Data not available.

### Chemical stability

Data not available.

### Possibility of hazardous reactions

None.

### Conditions to avoid

Data not available.

### Incompatible materials

Data not available.

### Hazardous decomposition products

Data not available.

---

## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

#### Substance(s) listed on the IARC Monographs:

None

#### Substance(s) listed as OSHA Carcinogen(s):

None

#### Substance(s) listed as NIOSH Carcinogen(s):

None

#### Substance(s) listed on the NTP report on Carcinogens:

None

---

## 12. ECOLOGICAL INFORMATION

### Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

### Persistence and degradability

Not available

### Bioaccumulative potential

Not available

### Mobility in soil

Not available

### Other adverse effects

Not available

---

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Recover if possible.

Methods of disposal:

Disposal of this product, solutions, packaging and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor.

Do not dispose of waste into sewers.

Clean waste packaging should be recycled when possible and authorized by the authority.

Disposal considerations:

Do not allow to enter drains or watercourses.

Dispose of product according to all federal, state and local applicable regulations.

If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.

Dispose of containers contaminated by the product in accordance with local or national legal provisions. For further information, contact your local waste authority.

Special precautions:

This material and its container must be disposed of in a safe way. Care should be taken when handling untreated empty containers.

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Empty containers or liners may retain some product residues. Do not re-use empty containers.

---

## 14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

### UN number

DOT-UN Number: Not Applicable

ADR-UN number: Not Applicable

IATA-Un number: Not Applicable

IMDG-Un number: Not Applicable

### UN proper shipping name

DOT-Proper Shipping Name: Not Applicable

ADR-Shipping Name: Not Applicable

IATA-Technical name: Not Applicable

IMDG-Technical name: Not Applicable

### Transport hazard class(es)

DOT-Hazard Class: Not Applicable

ADR-Class: Not Applicable

IATA-Class: Not Applicable

IMDG-Class: Not Applicable

### Packing group

DOT-Packing group: Not Applicable

ADR-Packing Group: Not Applicable

IATA-Packing group: Not Applicable

IMDG-Packing group: Not Applicable

### Environmental hazards

Marine pollutant: No

Environmental Pollutant: Not Applicable

DOT-RQ: Not Applicable

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not Applicable

**Special precautions**

Department of Transportation (DOT):

Not Applicable

Road and Rail (ADR-RID) :

Not Applicable

Air (IATA) :

Not Applicable

Sea (IMDG) :

Not Applicable

---

**15. REGULATORY INFORMATION**

**USA - Federal regulations**

**TSCA - Toxic Substances Control Act**

**TSCA inventory:**

This substance is listed on the TSCA inventory

**TSCA listed substances:**

None

**SARA - Superfund Amendments and Reauthorization Act**

**Section 302 - Extremely Hazardous Substances:**

No

**Section 304 - Hazardous substances:**

No

**Section 313 - Toxic chemical list:**

No

**CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act**

**Substance(s) listed under CERCLA:**

None

**CAA - Clean Air Act**

**CAA listed substances:**

None

**CWA - Clean Water Act**

**CWA listed substances:**

None

**USA - State specific regulations**

**California Proposition 65**

**Substance(s) listed under California Proposition 65:**

None

**Massachusetts Right to know**

**Substance(s) listed under Massachusetts Right to know:**

No

**Pennsylvania Right to know**

**Substance(s) listed under Pennsylvania Right to know:**

No

**New Jersey Right to know**

**Substance(s) listed under New Jersey Right to know:**

No

**Canada - Federal regulations**

**DSL - Domestic Substances List**

**DSL Inventory:**

This substance is listed in the DSL.

**NDSL - Non Domestic Substances List**

**NDSL Inventory:**

This substance is not listed in the NDSL.

## **NPRI - National Pollutant Release Inventory**

### **Substances listed in NPRI:**

None

## **16. OTHER INFORMATION**

Safety Data Sheet dated: 4/6/2022 - version 3

### **Additional classification information**

NFPA Health: 0 = Minimal

NFPA Flammability: 0 = Not Combustible

NFPA Reactivity: 0 = Minimal

NFPA Special Risk: Not available



**NFPA**

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. The information herein is presented in good faith and believed to be accurate as of the effective date given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

This document was prepared by a competent person who has received appropriate training.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This SDS cancels and replaces any preceding release.

### **Legend to abbreviations and acronyms used in the safety data sheet:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.

IMDG: International Maritime Code for Dangerous Goods.

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

CLP: Classification, Labeling, Packaging.

EINECS: European Inventory of Existing Commercial Chemical Substances.

INCI: International Nomenclature of Cosmetic Ingredients.

CAS: Chemical Abstracts Service (division of the American Chemical Society).

GefStoffVO: Ordinance on Hazardous Substances, Germany.

LC50: Lethal concentration, for 50 percent of test population.

LD50: Lethal dose, for 50 percent of test population.

DNEL: Derived No Effect Level.

PNEC: Predicted No Effect Concentration.

TLV: Threshold Limiting Value.

TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).

STEL: Short Term Exposure limit.

STOT: Specific Target Organ Toxicity.

WGK: German Water Hazard Class.

KSt: Explosion coefficient.

### **Paragraphs modified from the previous revision:**

- 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING
- 3. COMPOSITION/INFORMATION ON INGREDIENTS
- 4. FIRST AID MEASURES
- 5. FIRE-FIGHTING MEASURES
- 7. HANDLING AND STORAGE
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 11. TOXICOLOGICAL INFORMATION
- 12. ECOLOGICAL INFORMATION
- 14. TRANSPORT INFORMATION

## Safety Data Sheet

### MAPEPRIME S710

Safety Data Sheet dated: 09/23/2021 - version 4

Date of first edition: 06/24/2016



## 1. IDENTIFICATION

### Product identifier

Mixture identification:

Trade name: MAPEPRIME S710

Trade code: 9028253

### Recommended use of the chemical and restrictions on use

Recommended use: Adhesive

Restrictions on use: Not available

### Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Company: Polyglass U.S.A. Inc.

1111 West Newport Center Drive

33442 - Deerfield Beach - FL - USA

Phone: 866-222-9782

Responsible: Not available

### Emergency 24 hour numbers:

Emergency Number (USA/Canada) CHEMTREC 1(800) 424-9300 / 1(703) 527-3887 Emergency Transport CANUTEC (Canada) 1-613-996-6666

## 2. HAZARD(S) IDENTIFICATION



### Classification of the chemical

Flam. Liq. 2	Highly flammable liquid and vapour.
Skin Irrit. 2	Causes skin irritation.
Eye Irrit. 2A	Causes serious eye irritation.
Repr. 2	Suspected of damaging fertility. Suspected of damaging the unborn child.
STOT SE 3	May cause drowsiness or dizziness.
STOT RE 2	May cause damage to organs through prolonged or repeated exposure if inhaled.
Aquatic Acute 3	Harmful to aquatic life
Aquatic Chronic 3	Harmful to aquatic life with long lasting effects.

### Label elements

#### Pictograms and Signal Words



Danger

### Hazard statements:

H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled.
H402	Harmful to aquatic life
H412	Harmful to aquatic life with long lasting effects.

### Precautionary statements:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces. — No smoking.



P235	Keep cool.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe mist/vapours/spray.
P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTER if you feel unwell.
P314	Get medical advice/attention if you feel unwell.
P321	Specific treatment (see supplementary instructions on this label)
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire, use a foam fire extinguisher to extinguish.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with applicable regulations.

**Ingredient(s) with unknown acute toxicity:**

None

**Hazards not otherwise classified identified during the classification process:**

None

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substances**

Not available

**Mixtures**

Hazardous components within the meaning of 29 CFR 1910.1200 and related classification:

**List of components**

Concentration (% w/w)	Name	Ident. Numb.	Classification	Registration Number
10-20 %	TOLUENE	CAS:108-88-3 EC:203-625-9 Index:601-021-00-3	Flam. Liq. 2, H225; Skin Irrit. 2, H315; Repr. 2, H361; STOT SE 3, H336; STOT RE 2, H373; Asp. Tox. 1, H304; Aquatic Acute 2, H401; Aquatic Chronic 3, H412	
10-20 %	TERT-BUTYL ACETATE	CAS:540-88-5	Flam. Liq. 2, H225; Acute Tox. 4, H332; STOT SE 3, H336; Aquatic Acute 3, H402	
10-20 %	ACETONE	CAS:67-64-1	Flam. Liq. 2, H225; Eye Irrit. 2A, H319; STOT SE 3, H336	
5-10 %	N-HEXANE	CAS:110-54-3 EC:203-777-6 Index:601-037-00-0	Flam. Liq. 2, H225; Asp. Tox. 1, H304; Skin Irrit. 2, H315; STOT SE 3, H336; Repr. 2, H361; STOT RE 2, H373; Aquatic Chronic 2, H411	
1-2.5 %	1-CHLORO-4-(TRIFLUOROMETHYL)BENZENE	CAS:98-56-6 EC:202-681-1	Flam. Liq. 3, H226; STOT SE 3, H336; STOT RE 2, H373	N.A.

## 4. FIRST AID MEASURES

### Description of first aid measures

In case of skin contact:

- Immediately take off all contaminated clothing.
- Remove contaminated clothing immediately and dispose of safely.
- After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

- After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.
- Protect uninjured eye.

In case of Ingestion:

- Do not induce vomiting, get medical attention showing the SDS and the hazard label.

In case of Inhalation:

- If breathing is irregular or stopped, administer artificial respiration.
- In case of inhalation, consult a doctor immediately and show him packing or label.

### Most important symptoms/effects, acute and delayed

Eye irritation  
Eye damages  
Skin Irritation  
Erythema

### Indication of any immediate medical attention and special treatment needed

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

(see paragraph 4.1)

---

## 5. FIRE-FIGHTING MEASURES

### Extinguishing media

Suitable extinguishing media:

### Unsuitable extinguishing media:

None in particular.

### Specific hazards arising from the chemical

- Do not inhale explosion and combustion gases.
- Burning produces heavy smoke.
- Hazardous combustion products: Not available
- Explosive properties: Not available
- Oxidizing properties: Not available

### Special protective equipment and precautions for fire-fighters

- Use suitable breathing apparatus.
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Move undamaged containers from immediate hazard area if it can be done safely.

---

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

- Wear personal protection equipment.
- Remove all sources of ignition.
- Wear breathing apparatus if exposed to vapours/dusts/aerosols.
- Provide adequate ventilation.
- Use appropriate respiratory protection.
- Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
- Limit leakages with earth or sand.

### Methods and material for containment and cleaning up

- Suitable material for taking up: absorbing material, organic, sand
- Retain contaminated washing water and dispose it.

---

## 7. HANDLING AND STORAGE

### Precautions for safe handling

- Avoid contact with skin and eyes, inhalation of vapours and mists.
- Exercise the greatest care when handling or opening the container.
- Do not use on extensive surface areas in premises where there are occupants.
- Use localized ventilation system.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

### Conditions for safe storage, including any incompatibilities

Storage temperature: Not available

Always keep in a well ventilated place.

Store at below 20 °C. Keep away from unguarded flame and heat sources. Avoid direct exposure to sunlight.

Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.

Avoid accumulating electrostatic charge.

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Cool and adequately ventilated.

Safety electric system.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### List of components with OEL value

Component	OEL Type	Country	Ceiling	Long Term mg/m3	Long Term ppm	Short Term mg/m3	Short Term ppm	Behaviour	Note
TOLUENE	OSHA				200				
	ACGIH				20				A4 - Not Classifiable as a Human Carcinogen;female reproductive;pregnancy loss;visual impairment;
	OSHA		C				300		
	EU			192	50	384	100	Indicative	Possibility of significant uptake through the skin;
	MAK	GERMANY		190	50				
	ACGIH				20				A4 - Not Classifiable as a Human Carcinogen;female reproductive damage;pregnancy loss;visual impairment
	MAK	AUSTRIA		190	50	380	100		
	MAK	SWITZERLAND		190	50				
	EU			192	50	384	100	Indicative	Possibility of significant uptake through the skin
	OSHA			950	200				
TERT-BUTYL ACETATE	ACGIH				200				eye and upper respiratory tract irritation;
	MAK	GERMANY		96	20				
	ACGIH				50		150		eye and upper respiratory tract irritation (listed under Butyl acetates, all isomers)
	MAK	AUSTRIA		96	20	96	20		
	MAK	SWITZERLAND		240	50				
	MAK	AUSTRIA	C			96	20		
ACETONE	OSHA			2400	1000				
	ACGIH				500		750		A4 - Not Classifiable as a Human Carcinogen;CNS impairment;eye and upper respiratory tract irritation;hematologic effects;

N-HEXANE	EU		1210	500			Indicative
	MAK	GERMANY	1200	500			
	ACGIH			250		500	A4 - Not Classifiable as a Human Carcinogen; CNS impairment; eye and upper respiratory tract irritation
	MAK	AUSTRIA	1200	500	4800	2000	
	MAK	SWITZERLAND	1200	500			
	OSHA		1800	500			
	ACGIH			50			Skin - potential significant contribution to overall exposure by the cutaneous route; CNS impairment; eye irritation; peripheral neuropathy;
	EU		72	20			Indicative
	MAK	GERMANY	180	50			
	ACGIH			50			Skin - potential significant contribution to overall exposure by the cutaneous route; CNS impairment; eye irritation; peripheral neuropathy
	MAK	AUSTRIA	72	20	288	80	
	MAK	SWITZERLAND	180	50			

#### Biological Exposure Index

CAS-No.	Component	Value	UoM	Medium	Biological Indicator	Sampling Period
108-88-3	TOLUENE	0.02	mg/L	Blood	Toluene	Before last turn of the working week
		0.03	mg/L	Urine	Toluene	End of turn
		0.3	MGGCREAT	Urine	O-Cresol	End of turn
67-64-1	ACETONE	50	mg/L	Urine	Acetone	End of turn
		25	mg/L	Urine	Acetone	End of turn
110-54-3	N-HEXANE	0.4	mg/L	Urine	Hexanedione	End of turn; End of working week
		0.5	mg/L	Urine	Hexanedione	End of turn

Appropriate engineering controls: Not available

#### Individual protection measures

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Suitable materials for safety gloves; 29 CFR 1910.138 - ANSI/ISEA 105:

Polychloroprene - CR: thickness  $\geq 0,5\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Nitrile rubber - NBR: thickness  $\geq 0,35\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Butyl rubber - IIR: thickness  $\geq 0,5\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Fluorinated rubber - FKM: thickness  $\geq 0,4\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Use impervious gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

Respiratory protection must be used where exposure levels exceed workplace exposure limits. Refer to 29 CFR 1910.134 - CSA Z94.4 for information on selection and use of appropriate respiratory protection equipment.

Use adequate protective respiratory equipment.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Physical state: Liquid

Appearance and colour: Blue

Odour: Like: Acetone

Odour threshold: No data available

pH: No data available  
Melting point / freezing point: No data available  
Initial boiling point and boiling range: No data available  
Flash point: -6 °C (21 °F)  
Evaporation rate: No data available  
Upper/lower flammability or explosive limits: No data available  
Vapour density: No data available  
Vapour pressure: No data available  
Relative density: 0.96 g/cm<sup>3</sup>  
Solubility in water: No data available  
Solubility in oil: No data available  
Partition coefficient (n-octanol/water): No data available  
Auto-ignition temperature: No data available  
Decomposition temperature: No data available  
Viscosity: No data available  
Explosive properties: No data available  
Oxidizing properties: No data available  
Solid/gas flammability: No data available

#### Other information

Substance Groups relevant properties No data available  
Miscibility: No data available  
Fat Solubility: No data available  
Conductivity: No data available

---

## 10. STABILITY AND REACTIVITY

### Reactivity

It may generate dangerous reactions (See subsections below)

### Chemical stability

It may generate dangerous reactions (See subsections below)

### Possibility of hazardous reactions

None.

### Conditions to avoid

Avoid accumulating electrostatic charge.

### Incompatible materials

Avoid contact with combustible materials. The product could catch fire.

### Hazardous decomposition products

None.

---

## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

#### Toxicological information of the mixture:

There is no toxicological data available on the mixture. Consider the individual concentration of each component to assess toxicological effects resulting from exposure to the mixture.

#### Toxicological information on main components of the mixture:

TOLUENE	a) acute toxicity	LD50 Skin Rabbit = 8390 mg/kg
		LC50 Inhalation Rat = 125 mg/l 4h
		LD50 Oral Rat = 636 mg/kg
		LD50 Skin Rat = 12124.00000 ml/kg
		LC50 Inhalation Rat > 26700.00000 ppm 1h
		LD50 Skin Rabbit = 12000 mg/kg
		LC50 Inhalation Rat = 12.5 mg/l 4h
TERT-BUTYL ACETATE	a) acute toxicity	LD50 Oral Rat = 2600 mg/kg
		LD50 Oral Rat = 4100 mg/kg
		LC50 Inhalation Rat > 2230 mg/m3 4h
		LD50 Skin Rabbit > 2000 mg/kg
		LC50 Inhalation Rat > 9482 mg/m3 4h

ACETONE	a) acute toxicity	LC50 Inhalation Rat = 50100 mg/m <sup>3</sup> 8h LD50 Skin Rabbit > 15700 mg/kg LC50 Inhalation Rat = 50100 mg/m <sup>3</sup> 8h LD50 Oral Rat = 5800 mg/kg
N-HEXANE	a) acute toxicity	LD50 Skin Rabbit = 3000 mg/kg LC50 Inhalation Rat = 48000 ppm 4h LD50 Oral Rat = 25 g/kg

**If not differently specified, the information required in the regulation and listed below must be considered as N.A.**

- a) acute toxicity
- b) skin corrosion/irritation
- c) serious eye damage/irritation
- d) respiratory or skin sensitisation
- e) germ cell mutagenicity
- f) carcinogenicity
- g) reproductive toxicity
- h) STOT-single exposure
- Toxicological kinetics, metabolism and distribution information
- i) STOT-repeated exposure
- j) aspiration hazard

**Substance(s) listed on the IARC Monographs:**

TOLUENE Group 3

**Substance(s) listed as OSHA Carcinogen(s):**

None

**Substance(s) listed as NIOSH Carcinogen(s):**

None

**Substance(s) listed on the NTP report on Carcinogens:**

None

## 12. ECOLOGICAL INFORMATION

### Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

### List of components with eco-toxicological properties

Component	Ident. Numb.	Ecotox Infos
TOLUENE	CAS: 108-88-3 - EINECS: 203-625-9 - INDEX: 601-021-00-3	a) Aquatic acute toxicity : LC50 Fish <i>Lepomis macrochirus</i> 11 mg/L 96h EPA  a) Aquatic acute toxicity : LC50 Fish <i>Oryzias latipes</i> = 54 mg/L 96h EPA a) Aquatic acute toxicity : EC50 Algae <i>Pseudokirchneriella subcapitata</i> > 433 mg/L 96h IUCLID  a) Aquatic acute toxicity : LC50 Fish <i>Pimephales promelas</i> 15.22 mg/L 96h EPA  a) Aquatic acute toxicity : LC50 Fish <i>Pimephales promelas</i> = 12.6 mg/L 96h EPA  a) Aquatic acute toxicity : LC50 Fish <i>Oncorhynchus mykiss</i> 5.89 mg/L 96h EPA a) Aquatic acute toxicity : LC50 Fish <i>Oncorhynchus mykiss</i> 14.1 mg/L 96h EPA a) Aquatic acute toxicity : LC50 Fish <i>Oncorhynchus mykiss</i> = 5.8 mg/L 96h EPA



		a) Aquatic acute toxicity : LC50 Fish Poecilia reticulata = 28.2 mg/L 96h EPA
		a) Aquatic acute toxicity : LC50 Fish Poecilia reticulata 50.87 mg/L 96h EPA
		a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna 5.46 mg/L 48h EPA
		a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 11.5 mg/L 48h IUCLID
		a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata = 12.5 mg/L 72h EPA
TERT-BUTYL ACETATE	CAS: 540-88-5	a) Aquatic acute toxicity : LC50 Fish Pimephales promelas 296 mg/L 96h EPA
ACETONE	CAS: 67-64-1	a) Aquatic acute toxicity : LC50 Fish Pimephales promelas 6210 mg/L 96h IUCLID
		a) Aquatic acute toxicity : LC50 Fish Lepomis macrochirus = 8300 mg/L 96h EPA
		a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna 10294 mg/L 48h EPA
		G : LC50 Avian Phasianus colchicus > 40000 ppm 5d IUCLID
		G : LC50 Avian Coturnix coturnix japonica > 40000 ppm 5d IUCLID
		d) Terrestrial toxicity : LC50 Worm Eisenia foetida 200 µg/cm2 48h IUCLID
		a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss 4.74 mL/L 96h EPA
		a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna 12600 mg/L 48h IUCLID
N-HEXANE	CAS: 110-54-3 - EINECS: 203-777-6 - INDEX: 601-037-00-0	a) Aquatic acute toxicity : LC50 Fish Pimephales promelas 2.1 mg/L 96h EPA

#### Persistence and degradability

Not available

#### Bioaccumulative potential

Not available

#### Mobility in soil

Not available

#### Other adverse effects

Not available

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Recover if possible.

#### Methods of disposal:

Disposal of this product, solutions, packaging and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor.

Do not dispose of waste into sewers.

#### Disposal considerations:

Do not allow to enter drains or watercourses.

Dispose of product according to all federal, state and local applicable regulations.

If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.

Dispose of containers contaminated by the product in accordance with local or national legal provisions. For further information, contact your local waste authority.

#### Special precautions:

This material and its container must be disposed of in a safe way. Care should be taken when handling untreated empty containers.

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Empty containers or liners may retain some product residues. Do not re-use empty containers.

### 14. TRANSPORT INFORMATION

#### UN number

ADR-UN number: 1133

DOT-UN Number: UN1133

IATA-Un number: 1133

IMDG-Un number: 1133

**UN proper shipping name**

ADR-Shipping Name: ADHESIVES

DOT-Proper Shipping Name: Adhesives, containing a flammable liquid

IATA-Technical name: ADHESIVES containing flammable liquid

IMDG-Technical name: ADHESIVES containing flammable liquid

**Transport hazard class(es)**

ADR-Class: 3

DOT-Hazard Class: 3

IATA-Class: 3

IMDG-Class: 3

**Packing group**

ADR-Packing Group: II

DOT-Packing group: II

IATA-Packing group: II

IMDG-Packing group: II

**Environmental hazards**

Marine pollutant: No

Environmental Pollutant: Not available

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not available

**Special precautions**

Department of Transportation (DOT):

DOT-Special Provision(s): 149, 383, B52, IB2, T4, TP1, TP8

DOT-Label(s): 3

DOT-Symbol: N/A

DOT-Cargo Aircraft: N/A

DOT-Passenger Aircraft: N/A

DOT-Bulk: N/A

DOT-Non-Bulk: N/A

Road and Rail (ADR-RID) :

ADR exempt: No

ADR-Label: 3

ADR-Hazard identification number: 33

ADR-Transport category (Tunnel restriction code): 2 (D/E)

Air (IATA) :

IATA-Passenger Aircraft: 353

IATA-Cargo Aircraft: 364

IATA-Label: 3

IATA-Subsidiary hazards: -

IATA-Erg: 3L

IATA-Special Provisioning: A3

Sea (IMDG) :

IMDG-Stowage Code: Category B

IMDG-Stowage Note: -

IMDG-Subsidiary hazards: -

IMDG-Special Provisioning: -

IMDG-Page: N/A

IMDG-Label: N/A

IMDG-EMS: F-E, S-D

IMDG-MFAG: N/A

---

**15. REGULATORY INFORMATION**

**USA - Federal regulations**

**TSCA - Toxic Substances Control Act**

**TSCA inventory:**

All the components are listed on the TSCA inventory

**TSCA listed substances:**

TOLUENE	is listed in TSCA	Section 8b
TERT-BUTYL ACETATE	is listed in TSCA	Section 8b Section 8a - PAIR
ACETONE	is listed in TSCA	Section 8b
N-HEXANE	is listed in TSCA	Section 8b

**SARA - Superfund Amendments and Reauthorization Act**

**Section 302 - Extremely Hazardous Substances:**

No substances listed

**Section 304 - Hazardous substances:**

TOLUENE  
TERT-BUTYL ACETATE  
ACETONE  
N-HEXANE

**Section 313 - Toxic chemical list:**

TOLUENE  
N-HEXANE

**CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act**

**Substance(s) listed under CERCLA:**

TOLUENE	Reportable quantity:	1000	pounds
TERT-BUTYL ACETATE	Reportable quantity:	5000	pounds
ACETONE	Reportable quantity:	5000	pounds
N-HEXANE	Reportable quantity:	5000	pounds

**CAA - Clean Air Act**

**CAA listed substances:**

TOLUENE	is listed in CAA	Section 112(b) - HAP	Section 112(b) - HON
ACETONE	is listed in CAA	Section 112(b) - HON	
N-HEXANE	is listed in CAA	Section 112(b) - HAP	Section 112(b) - HON

**CWA - Clean Water Act**

**CWA listed substances:**

TOLUENE	is listed in CWA	Section 307	Section 311
TERT-BUTYL ACETATE	is listed in CWA	Section 311	

**USA - State specific regulations**

**California Proposition 65**

**Substance(s) listed under California Proposition 65:**

TOLUENE	Listed as reproductive toxicant
N-HEXANE	Listed as reproductive toxicant

**Massachusetts Right to know**

**Substance(s) listed under Massachusetts Right to know:**

TOLUENE  
TERT-BUTYL ACETATE  
ACETONE  
N-HEXANE

**Pennsylvania Right to know**

**Substance(s) listed under Pennsylvania Right to know:**

TOLUENE  
TERT-BUTYL ACETATE  
ACETONE  
N-HEXANE

**New Jersey Right to know**

**Substance(s) listed under New Jersey Right to know:**

TOLUENE  
TERT-BUTYL ACETATE  
ACETONE

**Canada - Federal regulations****DSL - Domestic Substances List****DSL Inventory:**

All the substances are listed in the DSL.

**NDSL - Non Domestic Substances List****NDSL Inventory:**

No substances listed

**NPRI - National Pollutant Release Inventory****Substances listed in NPRI:**

No substances listed

**16. OTHER INFORMATION**

Safety Data Sheet dated: 9/23/2021 - version 4

**Additional classification information**

NFPA Health: 1 = Slight

NFPA Flammability: 3 = Flammable liquid

NFPA Reactivity: 1 = Slight

NFPA Special Risk: Not available



Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. The information herein is presented in good faith and believed to be accurate as of the effective date given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

This document was prepared by a competent person who has received appropriate training.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This SDS cancels and replaces any preceding release.

<b>Code</b>	<b>Description</b>
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled.
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

**Legend to abbreviations and acronyms used in the safety data sheet:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.

IMDG: International Maritime Code for Dangerous Goods.

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

CLP: Classification, Labeling, Packaging.

EINECS: European Inventory of Existing Commercial Chemical Substances.

INCI: International Nomenclature of Cosmetic Ingredients.

CAS: Chemical Abstracts Service (division of the American Chemical Society).

GefStoffVO: Ordinance on Hazardous Substances, Germany.

LC50: Lethal concentration, for 50 percent of test population.

LD50: Lethal dose, for 50 percent of test population.

DNEL: Derived No Effect Level.

PNEC: Predicted No Effect Concentration.

TLV: Threshold Limiting Value.

TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).

STEL: Short Term Exposure limit.

STOT: Specific Target Organ Toxicity.

WGK: German Water Hazard Class.

KSt: Explosion coefficient.

**Paragraphs modified from the previous revision:**

- 2. HAZARDS IDENTIFICATION
- 3. COMPOSITION/INFORMATION ON INGREDIENTS
- 11. TOXICOLOGICAL INFORMATION
- 12. ECOLOGICAL INFORMATION
- 15. REGULATORY INFORMATION

## Safety Data Sheet

### MAPEPROOF LIQUID MEMBRANE NA PART A

Safety Data Sheet dated: 11/12/2021 - version 1

Date of first edition: 11/12/2021



## 1. IDENTIFICATION

### Product identifier

Mixture identification:

Trade name: MAPEPROOF LIQUID MEMBRANE NA PART A

Trade code: 9024395

### Recommended use of the chemical and restrictions on use

Recommended use: Polyurethane membrane

Restrictions on use: Not available

### Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Company: Polyglass U.S.A. Inc.

1111 West Newport Center Drive

33442 - Deerfield Beach - FL - USA

Phone: 866-222-9782

Responsible: Not available

### Emergency 24 hour numbers:

Emergency Number (USA/Canada) CHEMTREC 1(800) 424-9300 / 1(703) 527-3887 Emergency Transport CANUTEC (Canada) 1-613-996-6666

## 2. HAZARD(S) IDENTIFICATION



### Classification of the chemical

Eye Irrit. 2A Causes serious eye irritation.

Skin Sens. 1 May cause an allergic skin reaction.

### Label elements

#### Pictograms and Signal Words



Warning

### Hazard statements:

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

### Precautionary statements:

P261 Avoid breathing mist/vapours/spray.

P264 Wash hands thoroughly after handling.

P272 Contaminated work clothing should not be allowed out of the workplace.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352 IF ON SKIN: Wash with plenty of water.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321 Specific treatment (see supplementary instructions on this label)

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

P363 Wash contaminated clothing before reuse.

P501 Dispose of contents/container in accordance with applicable regulations.

### Ingredient(s) with unknown acute toxicity:

None

### Hazards not otherwise classified identified during the classification process:

None



---

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substances

Not available

#### Mixtures

Hazardous components within the meaning of 29 CFR 1910.1200 and related classification:

#### List of components

Concentration (% w/w)	Name	Ident. Numb.	Classification	Registration Number
1-2.5 %	ETHOHEXADIOL	CAS:94-96-2 EC:202-377-9 Index:603-087-00-9	Eye Dam. 1, H318	
0.1-0.25 %	BIS(1,2,2,6,6-PENTAMETHYL-4-PIPERIDYL) SEBACATE	CAS:41556-26-7 EC:255-437-1	Skin Sens. 1, H317; Aquatic Acute 1, H400; Aquatic Chronic 1, H410	

---

### 4. FIRST AID MEASURES

#### Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.  
OBTAIN IMMEDIATE MEDICAL ATTENTION.  
Obtain medical attention if skin related symptoms persist.  
Remove contaminated clothing immediately and dispose of safely.  
After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.  
Protect uninjured eye.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and the hazard label.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

#### Most important symptoms/effects, acute and delayed

Eye irritation

Eye damages

#### Indication of any immediate medical attention and special treatment needed

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

(see paragraph 4.1)

---

### 5. FIRE-FIGHTING MEASURES

#### Extinguishing media

Suitable extinguishing media:

Water.  
Carbon dioxide (CO<sub>2</sub>).

#### Unsuitable extinguishing media:

None in particular.

#### Specific hazards arising from the chemical

Do not inhale explosion and combustion gases.  
Burning produces heavy smoke.  
Hazardous combustion products: Not available  
Explosive properties: Not Relevant  
Oxidizing properties: Not Relevant

#### Special protective equipment and precautions for fire-fighters

Use suitable breathing apparatus.  
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Move undamaged containers from immediate hazard area if it can be done safely.

---

### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.  
Remove persons to safety.  
Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.  
Limit leakages with earth or sand.

#### **Methods and material for containment and cleaning up**

Suitable material for taking up: absorbing material, organic, sand  
Retain contaminated washing water and dispose it.

---

## **7. HANDLING AND STORAGE**

### **Precautions for safe handling**

Avoid contact with skin and eyes, inhalation of vapours and mists.  
Don't use empty container before they have been cleaned.  
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.  
Contaminated clothing should be changed before entering eating areas.  
Do not eat or drink while working.  
See also section 8 for recommended protective equipment.

### **Conditions for safe storage, including any incompatibilities**

Data not available.

Storage temperature: Not available

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

---

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Control parameters**

No data available

Appropriate engineering controls: Not available

### **Individual protection measures**

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Suitable materials for safety gloves; 29 CFR 1910.138 - ANSI/ISEA 105:

Polychloroprene - CR: thickness  $\geq 0,5\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Nitrile rubber - NBR: thickness  $\geq 0,35\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Butyl rubber - IIR: thickness  $\geq 0,5\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Fluorinated rubber - FKM: thickness  $\geq 0,4\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Use impervious gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

Respiratory protection must be used where exposure levels exceed workplace exposure limits. Refer to 29 CFR 1910.134 - CSA Z94.4 for information on selection and use of appropriate respiratory protection equipment.

Not available

---

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

### **Information on basic physical and chemical properties**

Physical state: Liquid

Appearance and colour: liquid Blue

Odour: Like: Amines

Odour threshold: Not Relevant

pH: Not Relevant

Melting point / freezing point: Not Relevant

Initial boiling point and boiling range: Not Relevant

Flash point: 100 °C (212 °F)

Evaporation rate: Not Relevant

Upper/lower flammability or explosive limits: Not Relevant

Vapour density: Not Relevant

Vapour pressure: Not Relevant

Relative density: 1.21 g/cm<sup>3</sup>  
Solubility in water: Insoluble  
Solubility in oil: soluble  
Partition coefficient (n-octanol/water): Not Relevant  
Auto-ignition temperature: Not Relevant  
Decomposition temperature: Not Relevant  
Viscosity: No data available  
Explosive properties: Not Relevant  
Oxidizing properties: Not Relevant  
Solid/gas flammability: Not Relevant

#### Other information

Substance Groups relevant properties Not Relevant  
Miscibility: Not Relevant  
Fat Solubility: Not Relevant  
Conductivity: Not Relevant

---

## 10. STABILITY AND REACTIVITY

### Reactivity

No data available

### Chemical stability

Data not available.

### Possibility of hazardous reactions

None.

### Conditions to avoid

No data available

### Incompatible materials

Data not available.

### Hazardous decomposition products

Data not available.

---

## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

#### Toxicological information on main components of the mixture:

ETHOHEXADIOL	a) acute toxicity	LD50 Oral Rat = 1400 mg/kg LD50 Skin Rabbit = 9.51 ml/kg LD50 Skin Rabbit = 10.8 ml/kg LC50 Inhalation Rat > 3.8 mg/l 4h
--------------	-------------------	---

BIS(1,2,2,6,6-PENTAMETHYL-4-PIPERIDYL) SEBACATE	a) acute toxicity	LD50 Oral Rat = 2615 mg/kg
---	-------------------	----------------------------

#### Substance(s) listed on the IARC Monographs:

None

#### Substance(s) listed as OSHA Carcinogen(s):

None

#### Substance(s) listed as NIOSH Carcinogen(s):

None

#### Substance(s) listed on the NTP report on Carcinogens:

None

---

## 12. ECOLOGICAL INFORMATION

### Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

#### List of components with eco-toxicological properties

Component	Ident. Numb.	Ecotox Infos
BIS(1,2,2,6,6-PENTAMETHYL-4-PIPERIDYL) SEBACATE	CAS: 41556-26-7 - EINECS: 255-437-1	a) Aquatic acute toxicity : LC50 Fish Lepomis macrochirus = 0.97 mg/L 96h

#### Persistence and degradability

Not available

#### Bioaccumulative potential

Not available

#### Mobility in soil

Not available

#### Other adverse effects

Not available

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Recover if possible.

#### Methods of disposal:

Disposal of this product, solutions, packaging and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor.

Do not dispose of waste into sewers.

#### Disposal considerations:

Do not allow to enter drains or watercourses.

Dispose of product according to all federal, state and local applicable regulations.

If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.

Dispose of containers contaminated by the product in accordance with local or national legal provisions. For further information, contact your local waste authority.

#### Special precautions:

This material and its container must be disposed of in a safe way. Care should be taken when handling untreated empty containers.

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Empty containers or liners may retain some product residues. Do not re-use empty containers.

### 14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

#### UN number

ADR-UN number: Not available

DOT-UN Number: Not available

IATA-Un number: Not available

IMDG-Un number: Not available

#### UN proper shipping name

ADR-Shipping Name: Not available

DOT-Proper Shipping Name: Not available

IATA-Technical name: Not available

IMDG-Technical name: Not available

#### Transport hazard class(es)

ADR-Class: Not available

DOT-Hazard Class: Not available

IATA-Class: Not available

IMDG-Class: Not available

#### Packing group

ADR-Packing Group: Not available

DOT-Packing group: Not available

IATA-Packing group: Not available

IMDG-Packing group: Not available

#### Environmental hazards

Marine pollutant: No

Environmental Pollutant: Not available

#### Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not available

**Special precautions**

Department of Transportation (DOT):

Not available

Road and Rail (ADR-RID) :

Not available

Air (IATA) :

Not available

Sea (IMDG) :

Not available

---

**15. REGULATORY INFORMATION****USA - Federal regulations****TSCA - Toxic Substances Control Act****TSCA inventory:**

All the components are listed on the TSCA inventory

**TSCA listed substances:**

ETHOHEXADIOL is listed in TSCA Section 8b Section 8a - PAIR

BIS(1,2,2,6,6-PENTAMETHYL-4-PIPERIDYL) SEBACATE is listed in TSCA Section 8b

**SARA - Superfund Amendments and Reauthorization Act****Section 302 - Extremely Hazardous Substances:**

No substances listed

**Section 304 - Hazardous substances:**

No substances listed

**Section 313 - Toxic chemical list:**

No substances listed

**CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act****Substance(s) listed under CERCLA:**

No substances listed

**CAA - Clean Air Act****CAA listed substances:**

No substances listed

**CWA - Clean Water Act****CWA listed substances:**

No substances listed

**USA - State specific regulations****California Proposition 65****Substance(s) listed under California Proposition 65:**

No substances listed

**Massachusetts Right to know****Substance(s) listed under Massachusetts Right to know:**

No substances listed

**Pennsylvania Right to know****Substance(s) listed under Pennsylvania Right to know:**

No substances listed

**New Jersey Right to know****Substance(s) listed under New Jersey Right to know:**

No substances listed

**Canada - Federal regulations****DSL - Domestic Substances List****DSL Inventory:**

All the substances are listed in the DSL.

**NDSL - Non Domestic Substances List****NDSL Inventory:**

No substances listed

## NPRI - National Pollutant Release Inventory

### Substances listed in NPRI:

No substances listed

## 16. OTHER INFORMATION

Safety Data Sheet dated: 11/12/2021 - version 1

### Additional classification information

NFPA Health: 1 = Slight

NFPA Flammability: 1 = Combustible if heated

NFPA Reactivity: 0 = Minimal

NFPA Special Risk: Not available



Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. The information herein is presented in good faith and believed to be accurate as of the effective date given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

This document was prepared by a competent person who has received appropriate training.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This SDS cancels and replaces any preceding release.

Code	Description
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

### Legend to abbreviations and acronyms used in the safety data sheet:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.

IMDG: International Maritime Code for Dangerous Goods.

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

CLP: Classification, Labeling, Packaging.

EINECS: European Inventory of Existing Commercial Chemical Substances.

INCI: International Nomenclature of Cosmetic Ingredients.

CAS: Chemical Abstracts Service (division of the American Chemical Society).

GefStoffVO: Ordinance on Hazardous Substances, Germany.

LC50: Lethal concentration, for 50 percent of test population.

LD50: Lethal dose, for 50 percent of test population.

DNEL: Derived No Effect Level.

PNEC: Predicted No Effect Concentration.

TLV: Threshold Limiting Value.

TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).

STEL: Short Term Exposure limit.

STOT: Specific Target Organ Toxicity.

WGK: German Water Hazard Class.

KSt: Explosion coefficient.

## Safety Data Sheet

### MAPEPROOF LIQUID MEMBRANE PART B

Safety Data Sheet dated: 02/18/2022 - version 5

Date of first edition: 04/13/2020



## 1. IDENTIFICATION

### Product identifier

Mixture identification:

Trade name: MAPEPROOF LIQUID MEMBRANE PART B

Trade code: 9024384

### Recommended use of the chemical and restrictions on use

Recommended use: Polyurethane membrane

Restrictions on use: Not available

### Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Company: Polyglass U.S.A. Inc.

1111 West Newport Center Drive

33442 - Deerfield Beach - FL - USA

Phone: 866-222-9782

Responsible: Not available

### Emergency 24 hour numbers:

Emergency Number (USA/Canada) CHEMTREC 1(800) 424-9300 / 1(703) 527-3887 Emergency Transport CANUTEC (Canada) 1-613-996-6666

## 2. HAZARD(S) IDENTIFICATION



### Classification of the chemical

Skin Irrit. 2	Causes skin irritation.
Eye Irrit. 2B	Causes eye irritation
Skin Sens. 1	May cause an allergic skin reaction.
Acute Tox. 4	Harmful if inhaled.
Resp. Sens. 1	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
STOT SE 3	May cause respiratory irritation.

### Label elements

#### Pictograms and Signal Words



Danger

### Hazard statements:

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H320	Causes eye irritation
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.

### Precautionary statements:

P261	Avoid breathing mist/vapours/spray.
P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves.
P285	In case of inadequate ventilation wear respiratory protection.
P302+P352	IF ON SKIN: Wash with plenty of water.



P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a doctor if you feel unwell.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P342+P311	If experiencing respiratory symptoms: Call a doctor.
P362+P364	Take off contaminated clothing and wash it before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with applicable regulations.

**Ingredient(s) with unknown acute toxicity:**

None

**Hazards not otherwise classified identified during the classification process:**

None

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substances**

Not Relevant

**Mixtures**

Hazardous components within the meaning of 29 CFR 1910.1200 and related classification:

**List of components**

Concentration (% w/w)	Name	Ident. Numb.	Classification	Registration Number
50-75 %	POLY(OXYPROPYLENE)GLYCOL, METHYLENEDIPHENYL DIISOCYANATE COPOLYMER	CAS:39420-98-9 EC:643-036-8	Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Resp. Sens. 1, H334; Skin Sens. 1, H317; Carc. 2, H351; STOT SE 3, H335; STOT RE 2, H373	
25-50 %	4,4'-METHYLENEDIPHENYL DIISOCYANATE	CAS:101-68-8 EC:202-966-0 Index:615-005- 00-9	Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335; STOT RE 2, H373; Carc. 2, H351; Resp. Sens. 1, H334; Skin Sens. 1, H317	
10-20 %	DIPHENYLMETHANE-2,4- DIISOCYANATE	CAS:5873-54-1 EC:227-534-9 Index:615-005- 00-9	Eye Irrit. 2A, H319; Skin Irrit. 2, H315; STOT SE 3, H335; Resp. Sens. 1, H334; Acute Tox. 4, H332; STOT RE 2, H373; Skin Sens. 1, H317	
2.5-5 %	4,4'-METHYLENEDIPHENYL DIISOCYANATE, OLIGOMERS	CAS:25686-28-6 EC:500-040-3	Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Resp. Sens. 1, H334; Skin Sens. 1, H317; Carc. 2, H351; STOT SE 3, H335; STOT RE 2, H373	

### 4. FIRST AID MEASURES

**Description of first aid measures**

In case of skin contact:

- Immediately take off all contaminated clothing.
- OBTAIN IMMEDIATE MEDICAL ATTENTION.
- Obtain medical attention if skin related symptoms persist.
- Remove contaminated clothing immediately and dispose of safely.
- After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

- After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.
- Protect uninjured eye.

In case of Ingestion:

- Do not induce vomiting, get medical attention showing the SDS and the hazard label.

In case of Inhalation:

If breathing is irregular or stopped, administer artificial respiration.

In case of inhalation, consult a doctor immediately and show him packing or label.

**Most important symptoms/effects, acute and delayed**

Eye irritation

Eye damages

Skin Irritation

Erythema

**Indication of any immediate medical attention and special treatment needed**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

(see paragraph 4.1)

---

## **5. FIRE-FIGHTING MEASURES**

### **Extinguishing media**

Suitable extinguishing media:

Water.

Carbon dioxide (CO<sub>2</sub>).

### **Unsuitable extinguishing media:**

None in particular.

### **Specific hazards arising from the chemical**

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

Hazardous combustion products: Not available

Explosive properties: Not available

Oxidizing properties: Not available

### **Special protective equipment and precautions for fire-fighters**

Use suitable breathing apparatus.

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

---

## **6. ACCIDENTAL RELEASE MEASURES**

### **Personal precautions, protective equipment and emergency procedures**

Wear personal protection equipment.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Provide adequate ventilation.

Use appropriate respiratory protection.

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Limit leakages with earth or sand.

### **Methods and material for containment and cleaning up**

Suitable material for taking up: absorbing material, organic, sand

Retain contaminated washing water and dispose it.

---

## **7. HANDLING AND STORAGE**

### **Precautions for safe handling**

Avoid contact with skin and eyes, inhalation of vapours and mists.

Do not use on extensive surface areas in premises where there are occupants.

Use localized ventilation system.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

### **Conditions for safe storage, including any incompatibilities**

Storage temperature: Not available

Always keep in a well ventilated place.

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Cool and adequately ventilated.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### List of components with OEL value

Component	OEL Type	Country	Ceiling	Long Term mg/m3	Long Term ppm	Short Term mg/m3	Short Term ppm	Behaviour	Note
4,4'-METHYLENEDIPHENYL DIISOCYANATE	ACGIH				0.005				respiratory sensitization (listed under Methylene bisphenyl isocyanate (MDI));
	OSHA		C			0.2	0.02		
	MAK	GERMANY		0.05					
	ACGIH				0.005				respiratory sensitization (listed under Methylene bisphenyl isocyanate (MDI))
DIPHENYLMETHANE-2,4-DIISOCYANATE	MAK	AUSTRIA		0.05	0.005	0.1	0.01		
	MAK	AUSTRIA		0.05	0.005	0.1	0.01		

Appropriate engineering controls: Not available

#### Individual protection measures

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Suitable materials for safety gloves; 29 CFR 1910.138 - ANSI/ISEA 105:

Polychloroprene - CR: thickness  $\geq 0,5\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Nitrile rubber - NBR: thickness  $\geq 0,35\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Butyl rubber - IIR: thickness  $\geq 0,5\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Fluorinated rubber - FKM: thickness  $\geq 0,4\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Use impervious gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

Respiratory protection must be used where exposure levels exceed workplace exposure limits. Refer to 29 CFR 1910.134 - CSA Z94.4 for information on selection and use of appropriate respiratory protection equipment.

Use respiratory protection where ventilation is insufficient or exposure is prolonged.

Use adequate protective respiratory equipment.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Physical state: Liquid

Appearance and colour: light yellow

Odour: none

Odour threshold: No data available

pH: 8.00

Melting point / freezing point: No data available

Initial boiling point and boiling range: 300 °C (572 °F)

Flash point: 100 °C (212 °F)

Evaporation rate: No data available

Upper/lower flammability or explosive limits: No data available

Vapour density: No data available

Vapour pressure: No data available

Relative density: 1.11 g/cm<sup>3</sup>

Solubility in water: No data available

Solubility in oil: No data available

Partition coefficient (n-octanol/water): No data available

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity: No data available

Explosive properties: No data available

Oxidizing properties: No data available  
Solid/gas flammability: No data available

#### Other information

Substance Groups relevant properties No data available  
Miscibility: No data available  
Fat Solubility: No data available  
Conductivity: No data available

---

## 10. STABILITY AND REACTIVITY

### Reactivity

Stable under normal conditions

### Chemical stability

Data not available.

### Possibility of hazardous reactions

None.

### Conditions to avoid

Stable under normal conditions.

### Incompatible materials

None in particular.

### Hazardous decomposition products

None.

---

## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

#### Toxicological information on main components of the mixture:

4,4'-METHYLENEDIPHENYL DIISOCYANATE      a) acute toxicity      LC50 Inhalation Rat = 369 mg/m<sup>3</sup> 4h

LD50 Oral Rat = 31600 mg/kg

#### Substance(s) listed on the IARC Monographs:

4,4'-METHYLENEDIPHENYL DIISOCYANATE      Group 3

#### Substance(s) listed as OSHA Carcinogen(s):

None

#### Substance(s) listed as NIOSH Carcinogen(s):

None

#### Substance(s) listed on the NTP report on Carcinogens:

None

---

## 12. ECOLOGICAL INFORMATION

### Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

### Persistence and degradability

Not available

### Bioaccumulative potential

Not available

### Mobility in soil

Not available

### Other adverse effects

Not available

---

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Recover if possible.

**Methods of disposal:**

Disposal of this product, solutions, packaging and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor.

Do not dispose of waste into sewers.

**Disposal considerations:**

Do not allow to enter drains or watercourses.

Dispose of product according to all federal, state and local applicable regulations.

If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.

Dispose of containers contaminated by the product in accordance with local or national legal provisions. For further information, contact your local waste authority.

**Special precautions:**

This material and its container must be disposed of in a safe way. Care should be taken when handling untreated empty containers.

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Empty containers or liners may retain some product residues. Do not re-use empty containers.

---

## **14. TRANSPORT INFORMATION**

### **UN number**

ADR-UN number: NA3082

DOT-UN Number: NA3082

IATA-Un number: -

IMDG-Un number: -

### **UN proper shipping name**

ADR-Shipping Name: - (4,4'-METHYLENEDIPHENYL DIISOCYANATE)

DOT-Proper Shipping Name: Other regulated substances, liquid, n.o.s (4,4'-METHYLENEDIPHENYL DIISOCYANATE)

IATA-Technical name: - (4,4'-METHYLENEDIPHENYL DIISOCYANATE)

IMDG-Technical name: - (4,4'-METHYLENEDIPHENYL DIISOCYANATE)

### **Transport hazard class(es)**

ADR-Class: -

DOT-Hazard Class: 9

IATA-Class: -

IMDG-Class: -

### **Packing group**

ADR-Packing Group: -

DOT-Packing group: III

IATA-Packing group: -

IMDG-Packing group: -

### **Environmental hazards**

Marine pollutant: No

Environmental Pollutant: Not available

DOT-RQ: Yes                      DOT-RQ - Quantity: 5000 lbs

### **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not available

### **Special precautions**

Department of Transportation (DOT):

DOT-Special Provision(s): A189, IB3, T2, TP1

DOT-Label(s): 9

DOT-Symbol: N/A

DOT-Cargo Aircraft: N/A

DOT-Passenger Aircraft: N/A

DOT-Bulk: N/A

DOT-Non-Bulk: N/A

Road and Rail (ADR-RID) :

ADR-Label: -

ADR-Hazard identification number: -

ADR-Transport category (Tunnel restriction code): -

Air ( IATA ) :

IATA-Passenger Aircraft: -

IATA-Cargo Aircraft: -

IATA-Label: -

IATA-Subsidiary hazards: -

IATA-Erg: -

IATA-Special Provisioning: -

Sea ( IMDG ) :

IMDG-Stowage Code: -

IMDG-Stowage Note: -

IMDG-Subsidiary hazards: -

IMDG-Special Provisioning: -

IMDG-Page: N/A

IMDG-Label: N/A

IMDG-EMS: -

IMDG-MFAG: N/A

---

## 15. REGULATORY INFORMATION

### USA - Federal regulations

#### TSCA - Toxic Substances Control Act

##### TSCA inventory:

All the components are listed on the TSCA inventory

##### TSCA listed substances:

POLY(OXYPROPYLENE)GLYCOL, is listed in TSCA Section 8b  
METHYLENEDIPHENYL  
DIISOCYANATE COPOLYMER

4,4'-METHYLENEDIPHENYL is listed in TSCA Section 8b Section 8a - PAIR  
DIISOCYANATE

DIPHENYLMETHANE-2,4- is listed in TSCA Section 8b Section 8a - PAIR  
DIISOCYANATE

4,4'-METHYLENEDIPHENYL is listed in TSCA Section 8b  
DIISOCYANATE, OLIGOMERS

#### SARA - Superfund Amendments and Reauthorization Act

##### Section 302 - Extremely Hazardous Substances:

No substances listed

##### Section 304 - Hazardous substances:

4,4'-METHYLENEDIPHENYL DIISOCYANATE

##### Section 313 - Toxic chemical list:

4,4'-METHYLENEDIPHENYL DIISOCYANATE

#### CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

##### Substance(s) listed under CERCLA:

4,4'-METHYLENEDIPHENYL DIISOCYANATE Reportable quantity: 5000 pounds

#### CAA - Clean Air Act

##### CAA listed substances:

4,4'-METHYLENEDIPHENYL is listed in CAA Section 112(b) - HAP Section 112(b) - HON  
DIISOCYANATE

#### CWA - Clean Water Act

##### CWA listed substances:

No substances listed

### USA - State specific regulations

## California Proposition 65

### Substance(s) listed under California Proposition 65:

No substances listed

## Massachusetts Right to know

### Substance(s) listed under Massachusetts Right to know:

4,4'-METHYLENEDIPHENYL DIISOCYANATE

## Pennsylvania Right to know

### Substance(s) listed under Pennsylvania Right to know:

4,4'-METHYLENEDIPHENYL DIISOCYANATE

## New Jersey Right to know

### Substance(s) listed under New Jersey Right to know:

4,4'-METHYLENEDIPHENYL DIISOCYANATE

## Canada - Federal regulations

### DSL - Domestic Substances List

#### DSL Inventory:

All the substances are listed in the DSL.

### NDSL - Non Domestic Substances List

#### NDSL Inventory:

No substances listed

### NPRI - National Pollutant Release Inventory

#### Substances listed in NPRI:

No substances listed

## 16. OTHER INFORMATION

Safety Data Sheet dated: 2/18/2022 - version 5

### Additional classification information

NFPA Health: 1 = Slight

NFPA Flammability: 1 = Combustible if heated

NFPA Reactivity: 0 = Minimal

NFPA Special Risk: Not available



NFPA

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. The information herein is presented in good faith and believed to be accurate as of the effective date given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

This document was prepared by a competent person who has received appropriate training.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This SDS cancels and replaces any preceding release.

Code	Description
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H320	Causes eye irritation
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.

### Legend to abbreviations and acronyms used in the safety data sheet:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.

IMDG: International Maritime Code for Dangerous Goods.

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

CLP: Classification, Labeling, Packaging.



EINECS: European Inventory of Existing Commercial Chemical Substances.  
INCI: International Nomenclature of Cosmetic Ingredients.  
CAS: Chemical Abstracts Service (division of the American Chemical Society).  
GefStoffVO: Ordinance on Hazardous Substances, Germany.  
LC50: Lethal concentration, for 50 percent of test population.  
LD50: Lethal dose, for 50 percent of test population.  
DNEL: Derived No Effect Level.  
PNEC: Predicted No Effect Concentration.  
TLV: Threshold Limiting Value.  
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).  
STEL: Short Term Exposure limit.  
STOT: Specific Target Organ Toxicity.  
WGK: German Water Hazard Class.  
KSt: Explosion coefficient.

**Paragraphs modified from the previous revision:**

- 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING
- 2. HAZARDS IDENTIFICATION
- 3. COMPOSITION/INFORMATION ON INGREDIENTS
- 5. FIRE-FIGHTING MEASURES
- 7. HANDLING AND STORAGE
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 11. TOXICOLOGICAL INFORMATION
- 12. ECOLOGICAL INFORMATION
- 14. TRANSPORT INFORMATION

## Safety Data Sheet

### MAPETHENE HT

Safety Data Sheet dated: 06/16/2021 - version 2

Date of first edition: 07/08/2020



## 1. IDENTIFICATION

### Product identifier

Identification of the substance:

Trade name: MAPETHENE HT

Trade code: 2819876

### Recommended use of the chemical and restrictions on use

Recommended use: ARTICLE

Restrictions on use: Not available

### Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Company: Polyglass U.S.A. Inc.

1111 West Newport Center Drive

33442 - Deerfield Beach - FL - USA

Phone: 866-222-9782

Responsible: Not available

### Emergency 24 hour numbers:

Emergency Number (USA/Canada) CHEMTREC 1(800) 424-9300 / 1(703) 527-3887 Emergency Transport CANUTEC (Canada) 1-613-996-6666

## 2. HAZARD(S) IDENTIFICATION

### Classification of the chemical

0 The product is not classified as dangerous according to OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Label elements

The product is not classified as dangerous according to OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Ingredient(s) with unknown acute toxicity:

None

### Hazards not otherwise classified identified during the classification process:

None

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substances

Substance Identifications: MAPETHENE HT

### Mixtures

Not available

Hazardous components within the meaning of 29 CFR 1910.1200 and related classification:

None

## 4. FIRST AID MEASURES

### Description of first aid measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

Wash immediately with water.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and the hazard label.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

### Most important symptoms/effects, acute and delayed

Not available

### Indication of any immediate medical attention and special treatment needed

Treatment: Not available

(see paragraph 4.1)

---

## 5. FIRE-FIGHTING MEASURES

### Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO<sub>2</sub>).

### Unsuitable extinguishing media:

None in particular.

### Specific hazards arising from the chemical

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

Hazardous combustion products: Not available

Explosive properties: Not available

Oxidizing properties: Not available

### Special protective equipment and precautions for fire-fighters

Use suitable breathing apparatus.

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

---

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove persons to safety.

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Limit leakages with earth or sand.

### Methods and material for containment and cleaning up

Take up mechanically and dispose of according to local/state/federal regulations

Scoop into containers and seal for disposal.

Retain contaminated washing water and dispose it.

---

## 7. HANDLING AND STORAGE

### Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

### Conditions for safe storage, including any incompatibilities

Storage temperature: Not available

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

---

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

No data available

Appropriate engineering controls: Not available

### Individual protection measures

Eye protection:

Not needed for normal use. Anyway, operate according good working practices.

Protection for skin:

No special precaution must be adopted for normal use.

Protection for hands:

Suitable materials for safety gloves; 29 CFR 1910.138 - ANSI/ISEA 105:

Polychloroprene - CR: thickness  $\geq 0,5\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Nitrile rubber - NBR: thickness  $\geq 0,35\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Butyl rubber - IIR: thickness  $\geq 0,5\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Fluorinated rubber - FKM: thickness  $\geq 0,4\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Use impervious gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

#### Respiratory protection:

Respiratory protection must be used where exposure levels exceed workplace exposure limits. Refer to 29 CFR 1910.134 - CSA Z94.4 for information on selection and use of appropriate respiratory protection equipment.

Not available

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Physical state: Solid

Appearance and colour: No data available

Odour: No data available

Odour threshold: No data available

pH: No data available

Melting point / freezing point: No data available

Initial boiling point and boiling range: No data available

Flash point: Not Applicable

Evaporation rate: No data available

Upper/lower flammability or explosive limits: No data available

Vapour density: No data available

Vapour pressure: No data available

Relative density: No data available

Solubility in water: No data available

Solubility in oil: No data available

Partition coefficient (n-octanol/water): No data available

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity: No data available

Explosive properties: No data available

Oxidizing properties: No data available

Solid/gas flammability: No data available

### Other information

Substance Groups relevant properties No data available

Miscibility: No data available

Fat Solubility: No data available

Conductivity: No data available

---

## 10. STABILITY AND REACTIVITY

### Reactivity

Data not available.

### Chemical stability

Data not available.

### Possibility of hazardous reactions

None.

### Conditions to avoid

Data not available.

### Incompatible materials

Data not available.

### Hazardous decomposition products

Data not available.

---

## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

Toxicological information of the product: No data available

### Substance(s) listed on the IARC Monographs:

None

### Substance(s) listed as OSHA Carcinogen(s):

None

### Substance(s) listed as NIOSH Carcinogen(s):

None

**Substance(s) listed on the NTP report on Carcinogens:**

None

---

**12. ECOLOGICAL INFORMATION****Toxicity**

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

**List of Eco-Toxicological properties of the product**

No data available

**Persistence and degradability**

Not available

**Bioaccumulative potential**

Not available

**Mobility in soil**

Not available

**Other adverse effects**

Not available

---

**13. DISPOSAL CONSIDERATIONS****Waste treatment methods**

The generation of waste should be avoided or minimized wherever possible. Recover if possible.

Methods of disposal:

Disposal of this product, solutions, packaging and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor.

Do not dispose of waste into sewers.

Clean waste packaging should be recycled when possible and authorized by the authority.

Disposal considerations:

Do not allow to enter drains or watercourses.

Dispose of product according to all federal, state and local applicable regulations.

If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.

Dispose of containers contaminated by the product in accordance with local or national legal provisions. For further information, contact your local waste authority.

Special precautions:

This material and its container must be disposed of in a safe way. Care should be taken when handling untreated empty containers.

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Empty containers or liners may retain some product residues. Do not re-use empty containers.

---

**14. TRANSPORT INFORMATION**

Not classified as dangerous in the meaning of transport regulations.

**UN number**

ADR-UN number: Not available

DOT-UN Number: Not available

IATA-Un number: Not available

IMDG-Un number: Not available

**UN proper shipping name**

ADR-Shipping Name: Not available

DOT-Proper Shipping Name: Not available

IATA-Technical name: Not available

IMDG-Technical name: Not available

**Transport hazard class(es)**

ADR-Class: Not available

DOT-Hazard Class: Not available

IATA-Class: Not available

IMDG-Class: Not available

**Packing group**

ADR-Packing Group: Not available

DOT-Packing group: Not available  
IATA-Packing group: Not available  
IMDG-Packing group: Not available

**Environmental hazards**

Marine pollutant: No  
Environmental Pollutant: Not available

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not available

**Special precautions**

Department of Transportation (DOT):

Not available

Road and Rail (ADR-RID) :

Not available

Air (IATA) :

Not available

Sea (IMDG) :

Not available

---

**15. REGULATORY INFORMATION**

**USA - Federal regulations**

**TSCA - Toxic Substances Control Act**

**TSCA inventory:**

This substance is listed on the TSCA inventory

**TSCA listed substances:**

None

**SARA - Superfund Amendments and Reauthorization Act**

**Section 302 - Extremely Hazardous Substances:**

No

**Section 304 - Hazardous substances:**

No

**Section 313 - Toxic chemical list:**

No

**CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act**

**Substance(s) listed under CERCLA:**

None

**CAA - Clean Air Act**

**CAA listed substances:**

None

**CWA - Clean Water Act**

**CWA listed substances:**

None

**USA - State specific regulations**

**California Proposition 65**

**Substance(s) listed under California Proposition 65:**

None

**Massachusetts Right to know**

**Substance(s) listed under Massachusetts Right to know:**

No

**Pennsylvania Right to know**

**Substance(s) listed under Pennsylvania Right to know:**

No

**New Jersey Right to know**

**Substance(s) listed under New Jersey Right to know:**

No

**Canada - Federal regulations**

**DSL - Domestic Substances List**

**DSL Inventory:**

This substance is listed in the DSL.

**NDSL - Non Domestic Substances List****NDSL Inventory:**

This substance is not listed in the NDSL.

**NPRI - National Pollutant Release Inventory****Substances listed in NPRI:**

None

---

**16. OTHER INFORMATION**

Safety Data Sheet dated: 6/16/2021 - version 2

**Additional classification information**

NFPA Health: 0 = Minimal

NFPA Flammability: 0 = Not Combustible

NFPA Reactivity: 0 = Minimal

NFPA Special Risk: NONE



Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. The information herein is presented in good faith and believed to be accurate as of the effective date given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

This document was prepared by a competent person who has received appropriate training.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This SDS cancels and replaces any preceding release.

**Legend to abbreviations and acronyms used in the safety data sheet:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.

IMDG: International Maritime Code for Dangerous Goods.

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

CLP: Classification, Labeling, Packaging.

EINECS: European Inventory of Existing Commercial Chemical Substances.

INCI: International Nomenclature of Cosmetic Ingredients.

CAS: Chemical Abstracts Service (division of the American Chemical Society).

GefStoffVO: Ordinance on Hazardous Substances, Germany.

LC50: Lethal concentration, for 50 percent of test population.

LD50: Lethal dose, for 50 percent of test population.

DNEL: Derived No Effect Level.

PNEC: Predicted No Effect Concentration.

TLV: Threshold Limiting Value.

TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).

STEL: Short Term Exposure limit.

STOT: Specific Target Organ Toxicity.

WGK: German Water Hazard Class.

KSt: Explosion coefficient.

**Paragraphs modified from the previous revision:**

- 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING
- 4. FIRST AID MEASURES
- 6. ACCIDENTAL RELEASE MEASURES
- 7. HANDLING AND STORAGE
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 9. PHYSICAL AND CHEMICAL PROPERTIES
- 16. OTHER INFORMATION



# MAPETHENE DRAWING LIST

## DETAILS APPLICABLE FOR MAPETHENE HT60 & MAPETHENE LT60

### VERTICAL APPLICATIONS

MT-1A	FOUNDATION WATERPROOFING/GENERAL ASSEMBLY
MT-1B	FOUNDATION WALL - FLOOR SLAB AT FOOTING LEVEL
MT-1C	FOUNDATION WALL - ELEVATED FLOOR SLAB
MT-1D	FOUNDATION WALL - FLOOR SLAB AT FOOTING LEVEL W/INSULATION
MT-1E	FOUNDATION WALL//MAT SLAB
MT-1F	FOUNDATION WALL - FLOOR SLAB AT FOOTING LEVEL - HYDROSTATIC (OPTION 1)
MT-1G	FOUNDATION WALL - ELEVATED FLOOR SLAB - HYDROSTATIC (OPTION 1)
MT-1H	FOUNDATION WALL - FLOOR SLAB AT FOOTING LEVEL W/INSULATION HYDROSTATIC
MT-1I	FOUNDATION WALL//MAT SLAB - HYDROSTATIC
MT-1J	FOUNDATION WALL - FLOOR SLAB AT FOOTING LEVEL - HYDROSTATIC (OPTION 2)
MT-1K	FOUNDATION WALL - ELEVATED FLOOR SLAB - HYDROSTATIC (OPTION 2)

### HORIZONTAL APPLICATIONS

MT-2A	SPLIT SLAB PLAZA DECK
MT-2B	INSULATED SPLIT SLAB PLAZA DECK
MT-2C	PAVER & PEDESTAL PLAZA DECK W/OPTIONAL RIGID INSULATION
MT-2D	PAVER & MORTAR BED PLAZA DECK
MT-2E	PAVER & SAND SLAB PLAZA DECK
MT-2F	BALLAST & INSULATION PLAZA DECK
MT-2G	TILE & MORTAR BED - DECK OR BALCONY
MT-2H	DUAL MEMBRANE SYSTEM

### JOINTS & CRACKS

MT-3A	WALL/DECK NON-MOVING, NON-STRUCTURAL CRACK TREATMENT
MT-3B	WALL/DECK CONCRETE CONTROL JOINT
MT-3C	WALL CONTROL V JOINT
MT-3D	WALL/DECK NON-MOVING GROUTED PRECAST JOINT
MT-3E	ALTERNATE WALL/DECK NON-MOVING, NON-STRUCTURAL CRACK TREATMENT
MT-3F	ALTERNATE WALL/DECK NON-MOVING GROUTED PRECAST JOINT
MT-3G	ALTERNATE WALL CONTROL V JOINT
MT-3H	ALTERNATE WALL/DECK NON-MOVING GROUTED PRECAST JOINT

### CORNERS

MT-4A	WALL OUTSIDE CORNER DETAIL
MT-4B	ALTERNATE WALL OUTSIDE CORNER DETAIL
MT-4C	WALL INSIDE CORNER DETAIL
MT-4D	ALTERNATE WALL INSIDE CORNER DETAIL
MT-4E	WALL/FOOTING OUTSIDE CORNER DETAIL
MT-4F	WALL/FOOTING INSIDE CORNER DETAIL

### BRICK LEDGE

MT-5A	BRICK LEDGE
-------	-------------

### EXPANSION JOINTS

MT-6A	WALL OR DECK 1 IN (2.5 CM) OR LESS EXPANSION JOINT
MT-6B	WALL TO DECK 1 IN (2.5 CM) OR LESS EXPANSION JOINT

### PENETRATIONS

MT-7A	WALL PENETRATION
MT-7B	DECK PENETRATION

### FLASHING

MT-8A	FLASHING AT DECK TO CURB/PARAPET - ISOMETRIC
MT-8B	FLASHING AT DECK TO CURB/PARAPET - SECTION VIEW

### DRAINS

MT-9A	PLAZA DECK DRAIN - SPLIT SLAB
MT-9B	PLAZA DECK DRAIN WITH SAND-SET PAVERS
MT-9C	PLAZA DECK DRAIN WITH PAVERS & MORTAR BED

### TERMINATIONS

MT-10A	VERTICAL TERMINATION
MT-10B	VERTICAL TERMINATION W/TERM BAR
MT-10C	VERTICAL TERMINATION W/TERM BAR & COUNTER FLASHING

### MISC. TIE-IN DETAILS

MT-11A	DECK/FOUNDATION WALL - MAPETHENE TO MAPEPROOF HW/SW TIE-IN
MT-11B	DECK/FOUNDATION WALL - MAPETHENE TO MAPEPROOF AL TIE-IN



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## MAPETHENE DRAWING LIST

DETAILS ARE INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

### **SUPERCEDES:**

00/00/0000

### **DATE:**

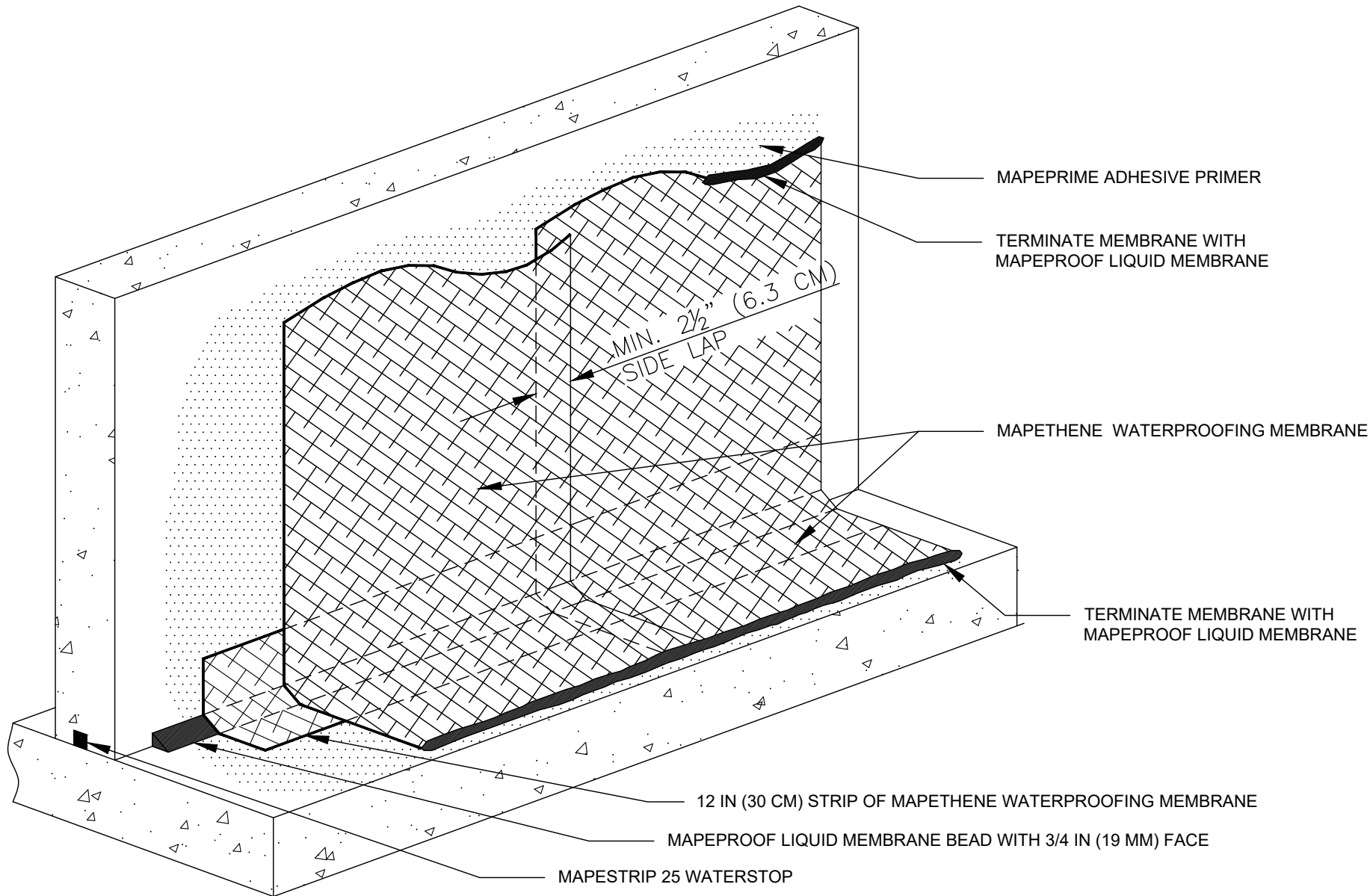
02/01/2022

### **SCALE:**

NOT TO SCALE

### **DRAWING #:**

**MT-1**



**polyglass.us**  
 1111 West Newport Center Drive  
 Deerfield Beach, FL 33442  
 Technical Service: (866) 794-9659  
 technical@polyglass.com

## FOUNDATION WATERPROOFING

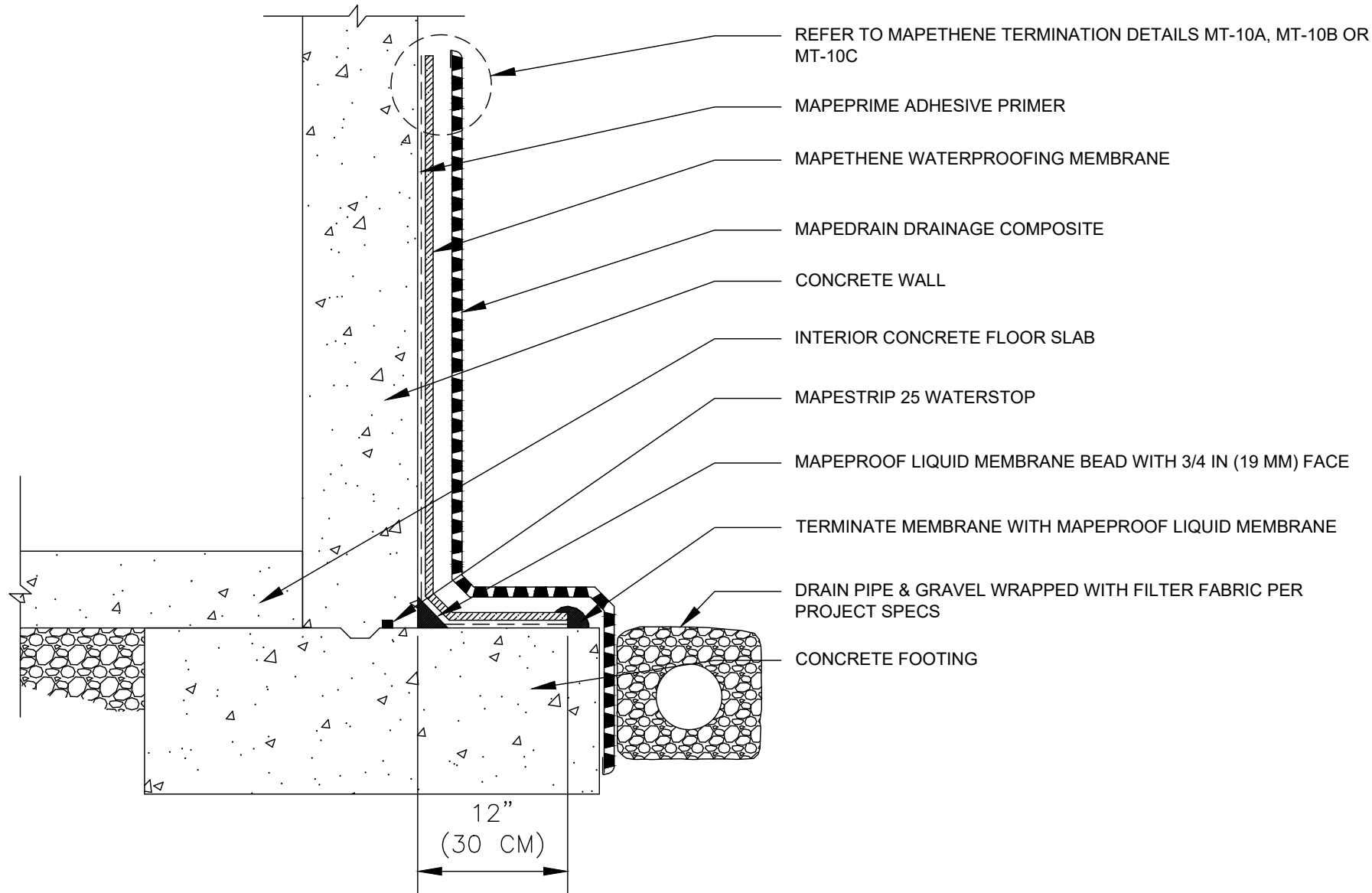
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

**DATE:**  
04/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-1A**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## FOUNDATION WALL FLOOR SLAB AT FOOTING LEVEL

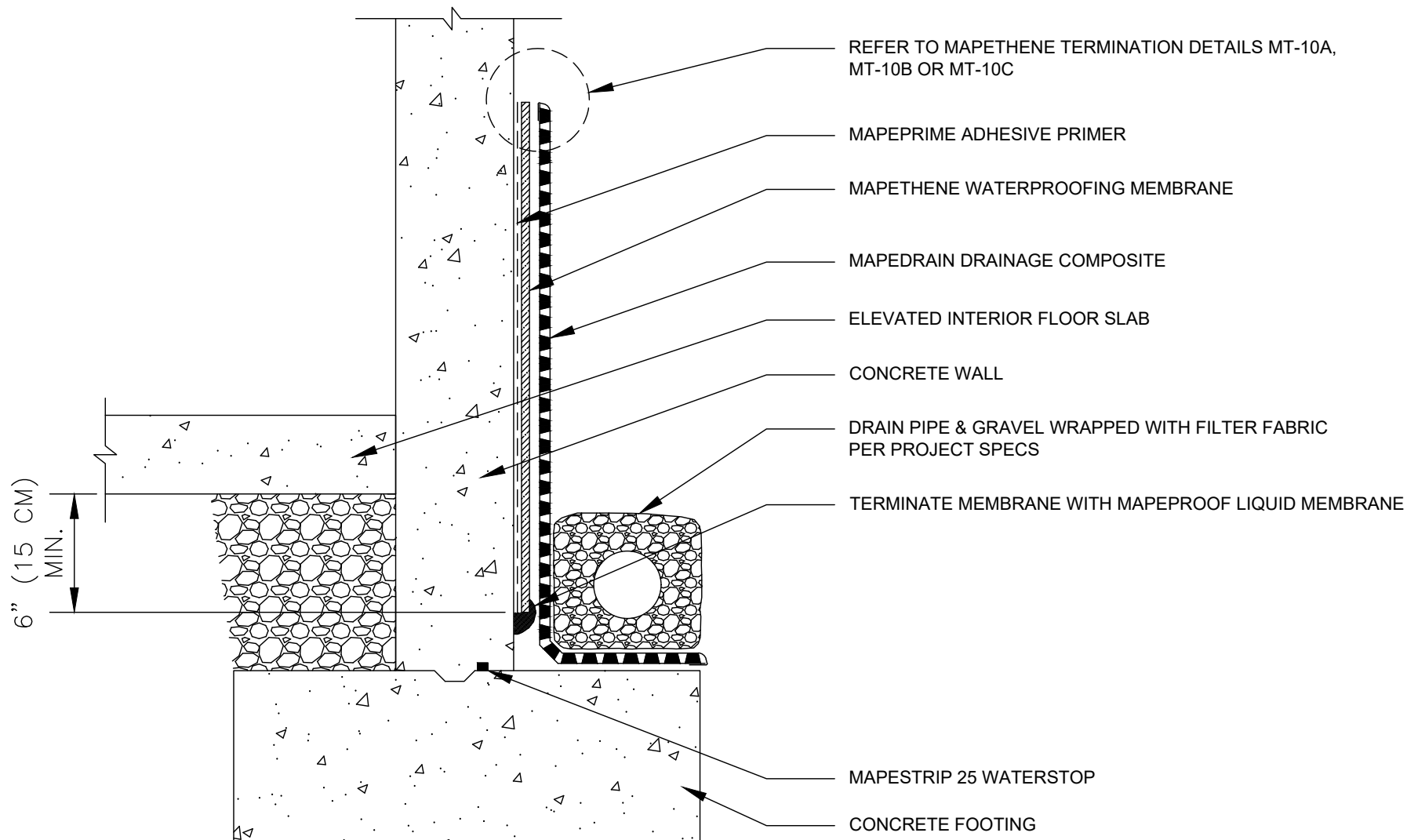
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-1B**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## FOUNDATION WALL ELEVATED FLOOR SLAB

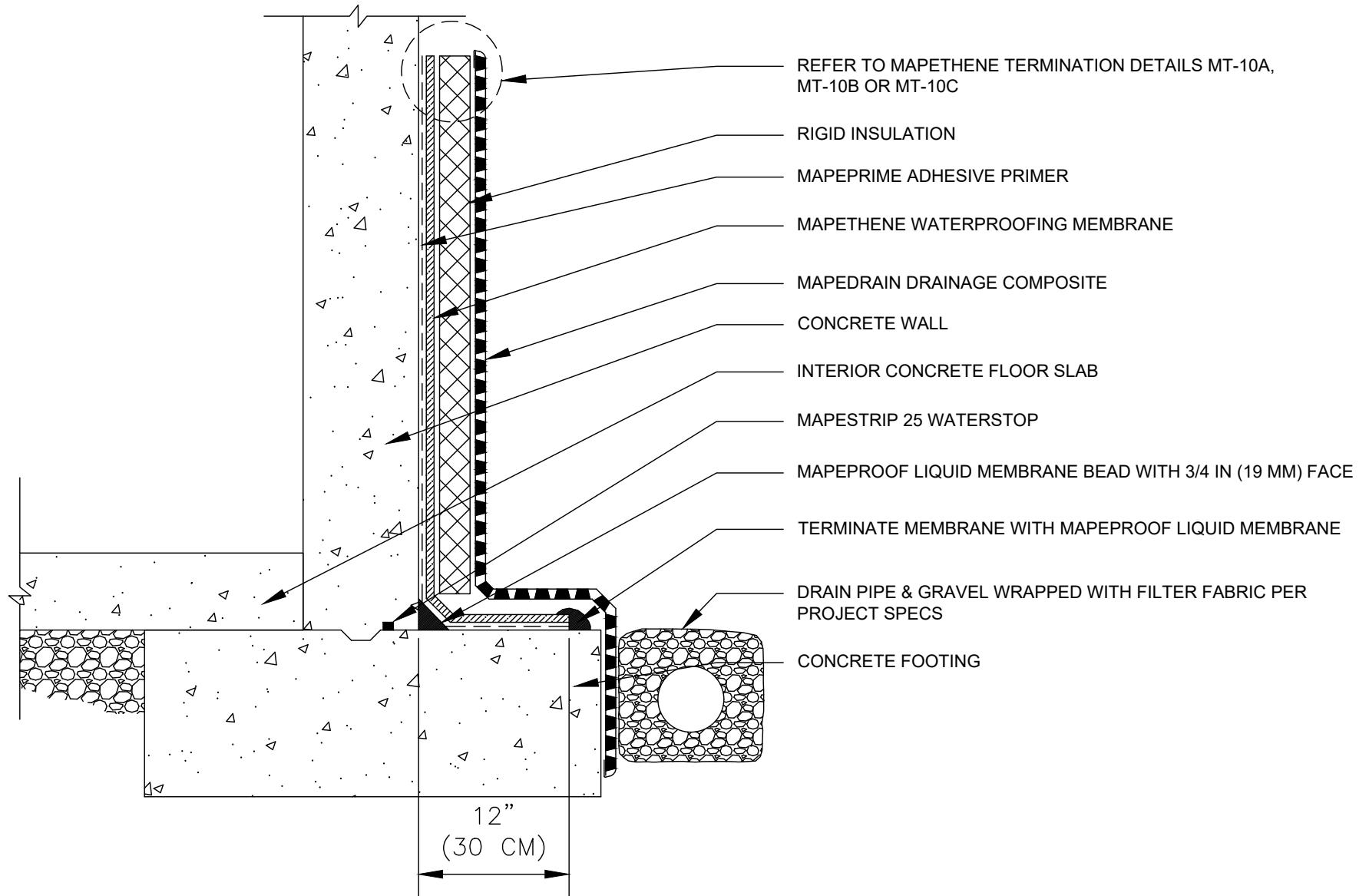
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-1C**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## FOUNDATION WALL FLOOR SLAB AT FOOTING LEVEL WITH INSULATION

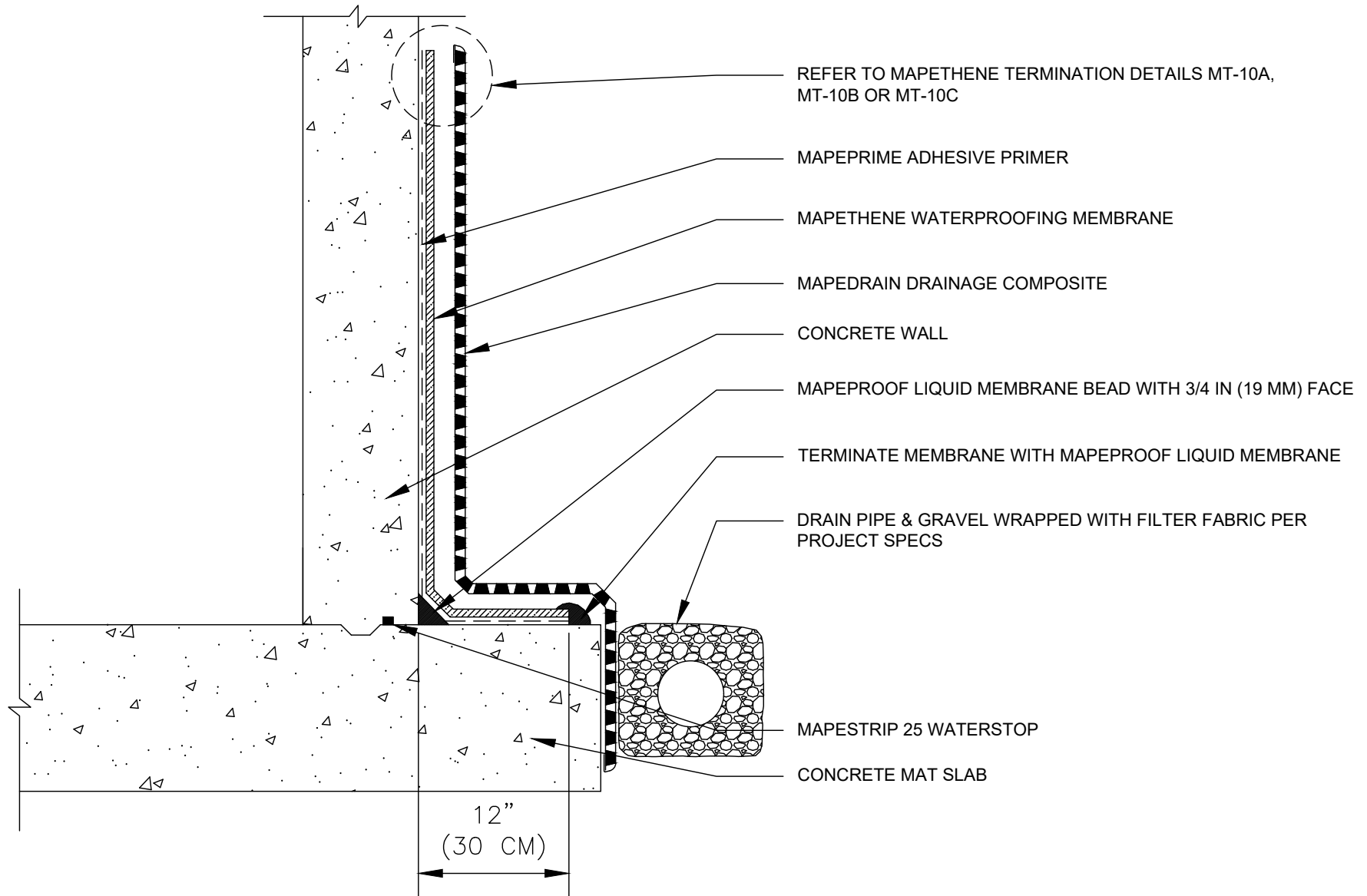
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-1D**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## FOUNDATION WALL/MAT SLAB

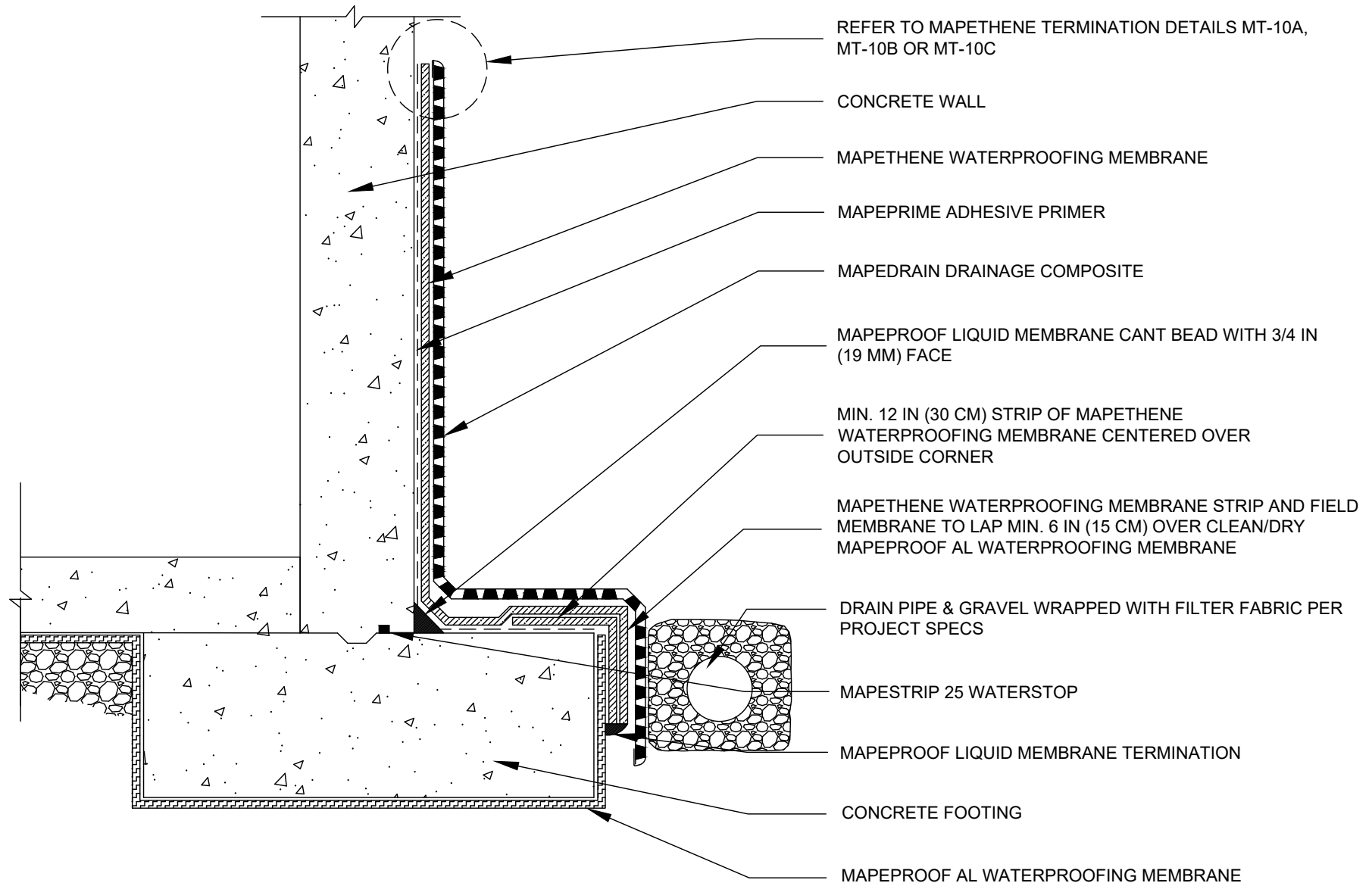
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-1E**



[polyglass.us](http://polyglass.us)

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
[technical@polyglass.com](mailto:technical@polyglass.com)

## FOUNDATION WALL FLOOR SLAB AT FOOTING LEVEL HYDROSTATIC - OPTION 1

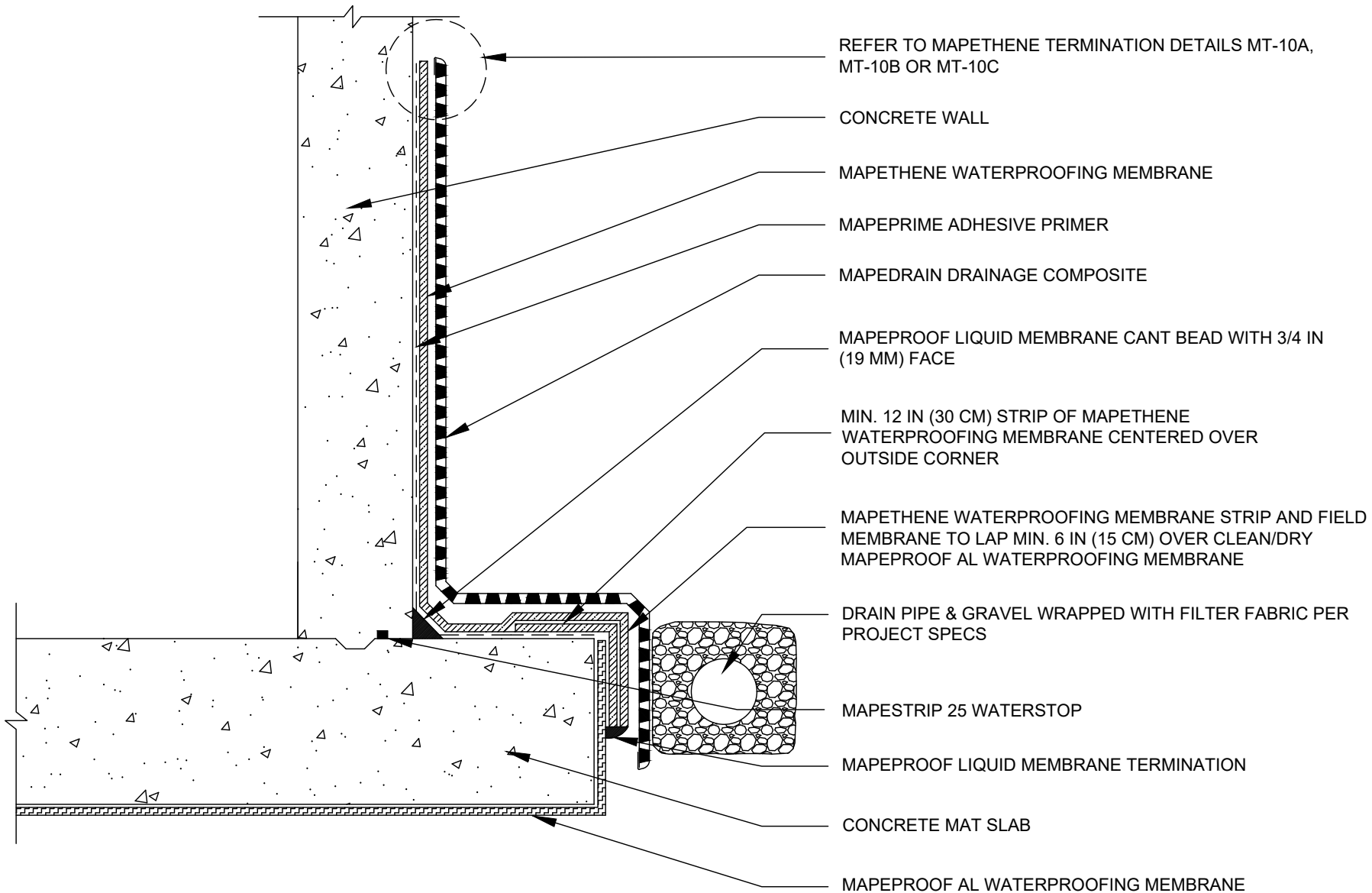
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

<b>SUPERCEDES:</b>	00/00/0000
<b>DATE:</b>	02/01/2022
<b>SCALE:</b>	NOT TO SCALE
<b>DRAWING #:</b>	<b>MT-1F</b>









[polyglass.us](http://polyglass.us)

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## FOUNDATION WALL/MAT SLAB HYDROSTATIC

DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-11**

MAPEPROOF LIQUID MEMBRANE  
TERMINATION

MAPETHENE WATERPROOFING  
MEMBRANE 6 IN (15 CM) STRIP

MAPEPROOF AL DETAIL  
TAPE (8 IN)

MAPEPROOF AL  
WATERPROOFING MEMBRANE

REFER TO MAPETHENE TERMINATION DETAILS  
MT-10A, MT-10B OR MT-10C

MAPEPRIME ADHESIVE PRIMER

MAPETHENE WATERPROOFING MEMBRANE

MAPEDRAIN DRAINAGE COMPOSITE

CONCRETE WALL

INTERIOR CONCRETE FLOOR SLAB

MAPESTRIP 25 WATERSTOP

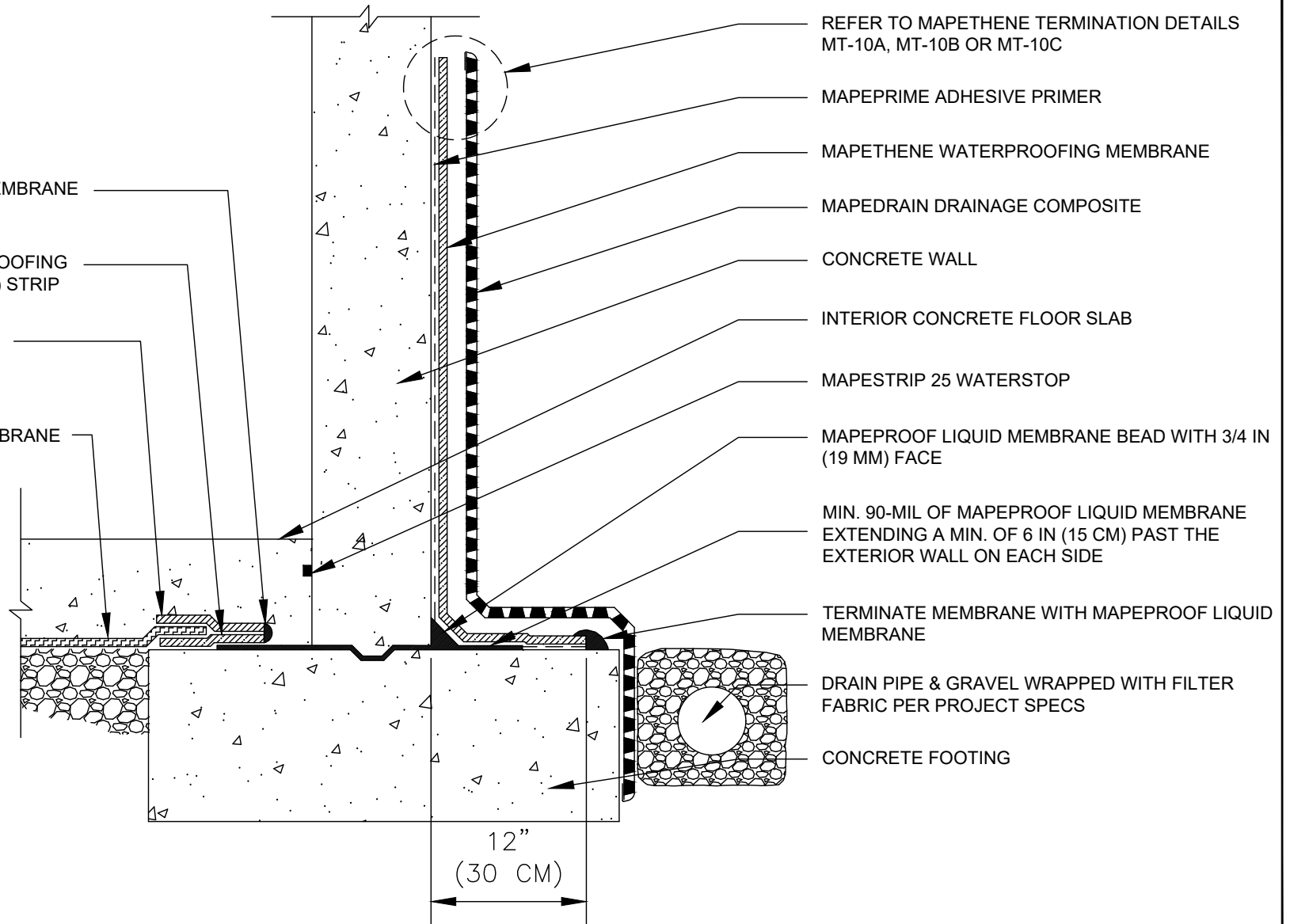
MAPEPROOF LIQUID MEMBRANE BEAD WITH 3/4 IN  
(19 MM) FACE

MIN. 90-MIL OF MAPEPROOF LIQUID MEMBRANE  
EXTENDING A MIN. OF 6 IN (15 CM) PAST THE  
EXTERIOR WALL ON EACH SIDE

TERMINATE MEMBRANE WITH MAPEPROOF LIQUID  
MEMBRANE

DRAIN PIPE & GRAVEL WRAPPED WITH FILTER  
FABRIC PER PROJECT SPECS

CONCRETE FOOTING



[polyglass.us](http://polyglass.us)

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
[technical@polyglass.com](mailto:technical@polyglass.com)

## FOUNDATION WALL FLOOR SLAB AT FOOTING LEVEL HYDROSTATIC - OPTION 2

DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

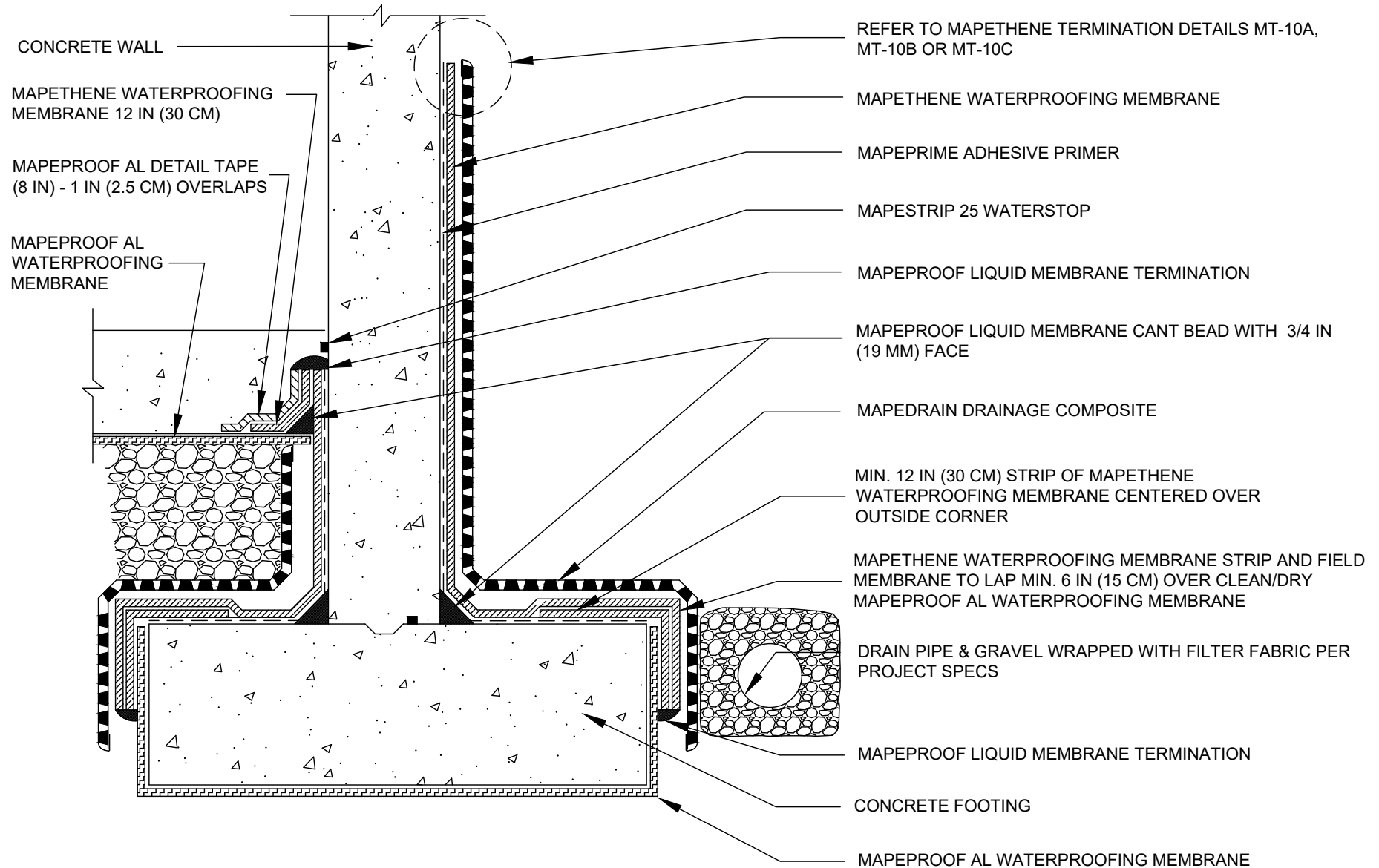
02/01/2022

**SCALE:**

NOT TO SCALE

**DRAWING #:**

**MT-1J**



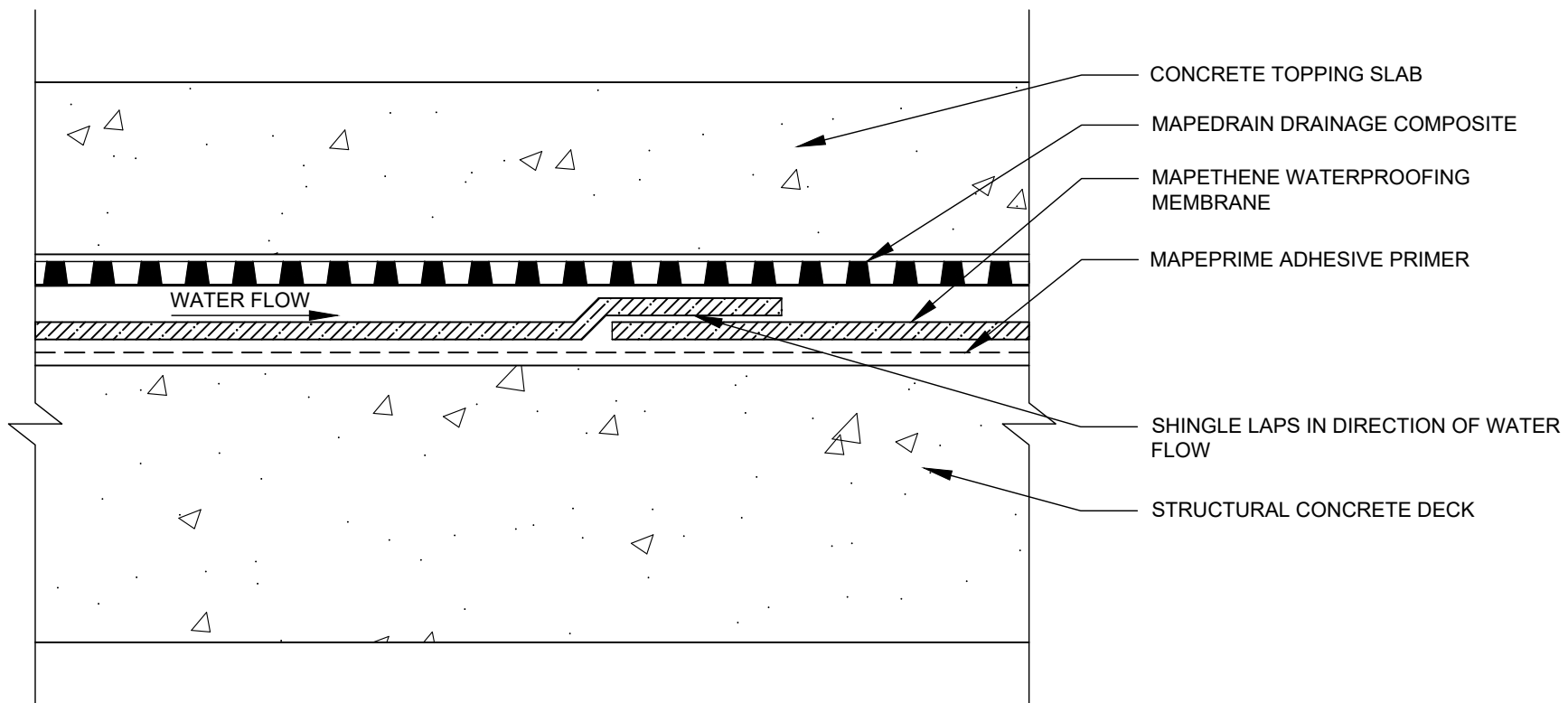
[polyglass.us](http://polyglass.us)

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
[technical@polyglass.com](mailto:technical@polyglass.com)

## FOUNDATION WALL ELEVATED FLOOR SLAB HYDROSTATIC - OPTION 2

DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

<b>SUPERCEDES:</b>	00/00/0000
<b>DATE:</b>	02/01/2022
<b>SCALE:</b>	NOT TO SCALE
<b>DRAWING #:</b>	<b>MT-1K</b>



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## SPLIT SLAB PLAZA DECK

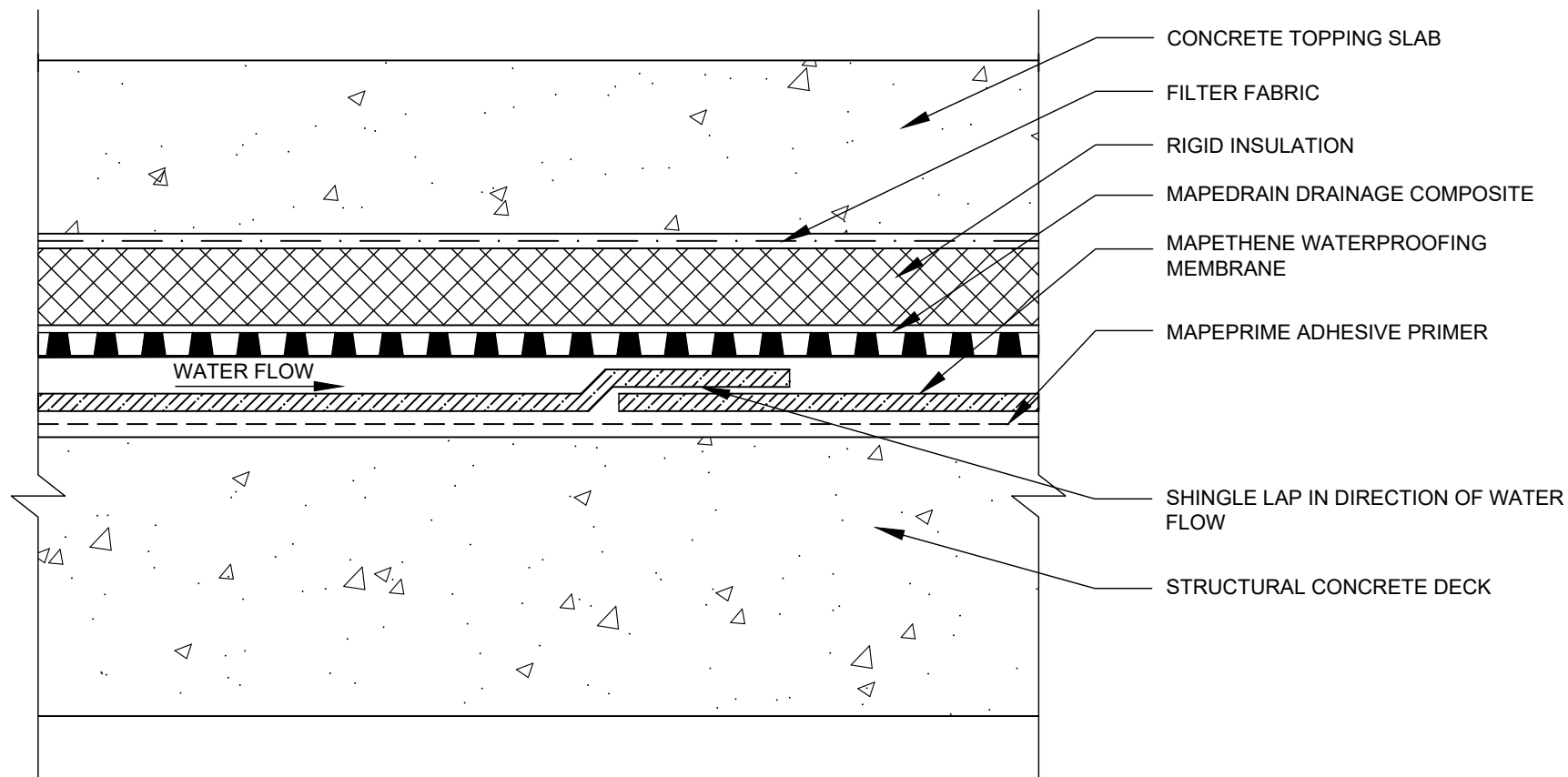
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-2A**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## INSULATED SPLIT SLAB PLAZA DECK

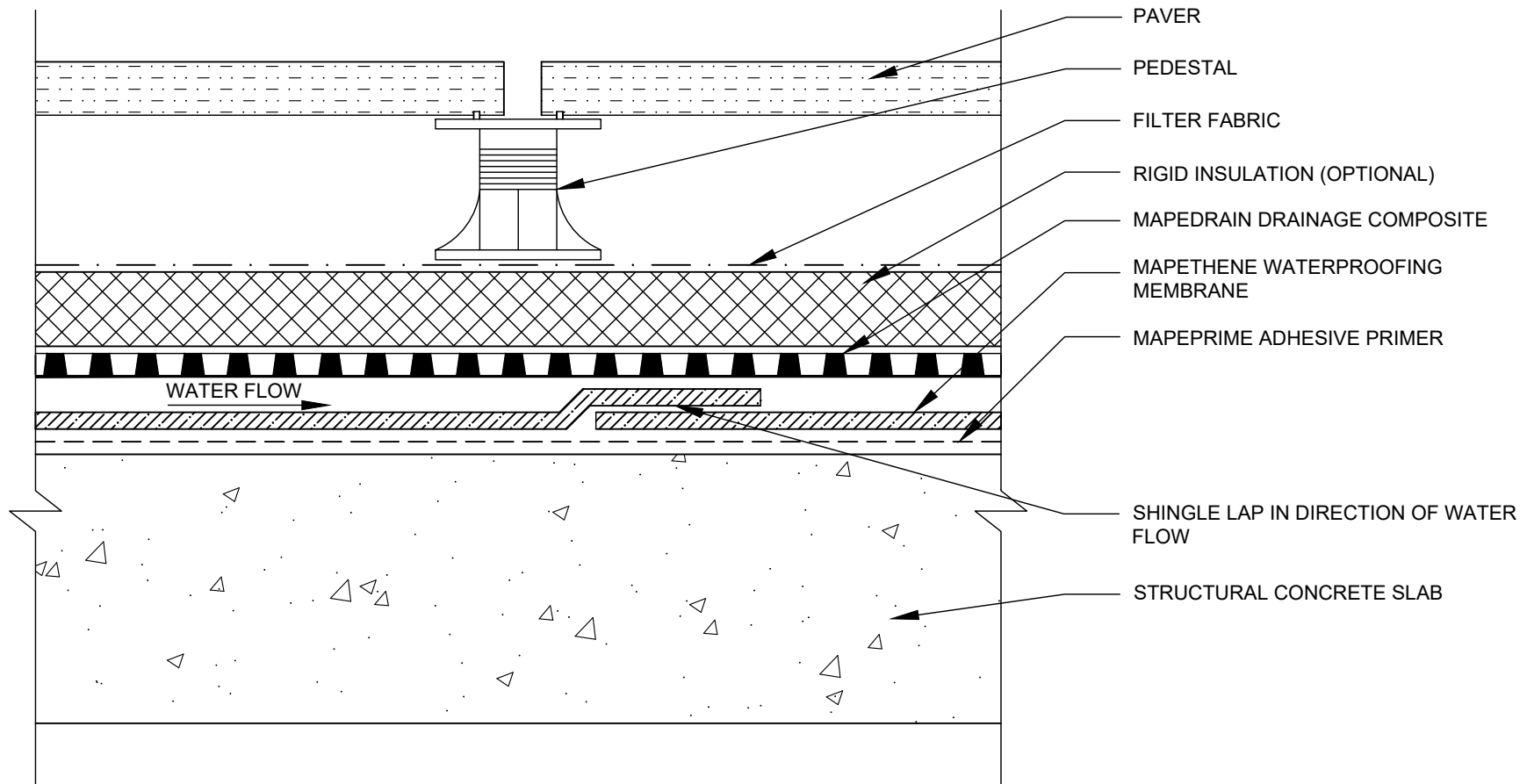
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-2B**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## PAVER & PEDESTAL PLAZA DECK WITH OPTIONAL RIGID INSULATION

DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

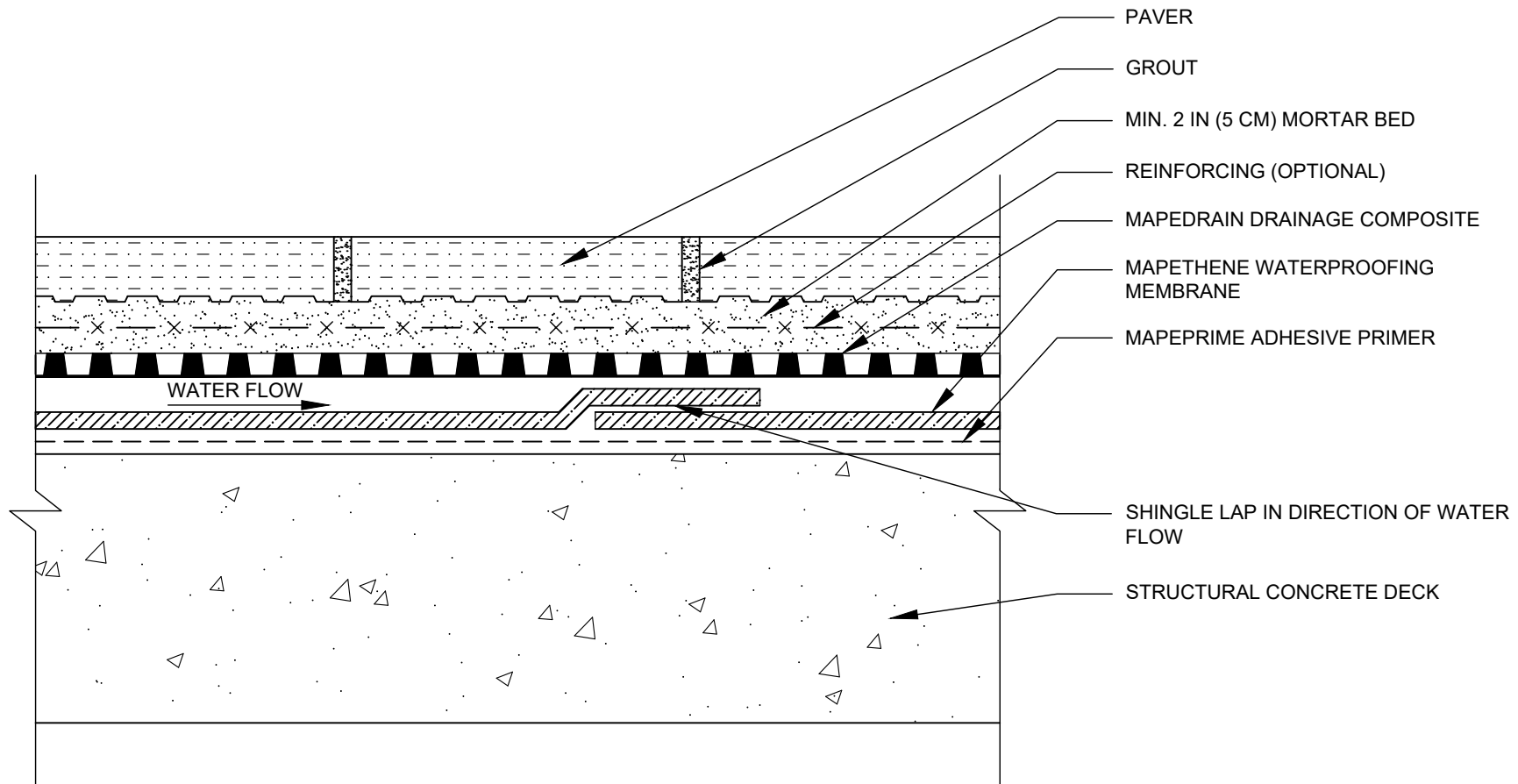
**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-2C**





**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## PAVER & MORTAR BED PLAZA DECK

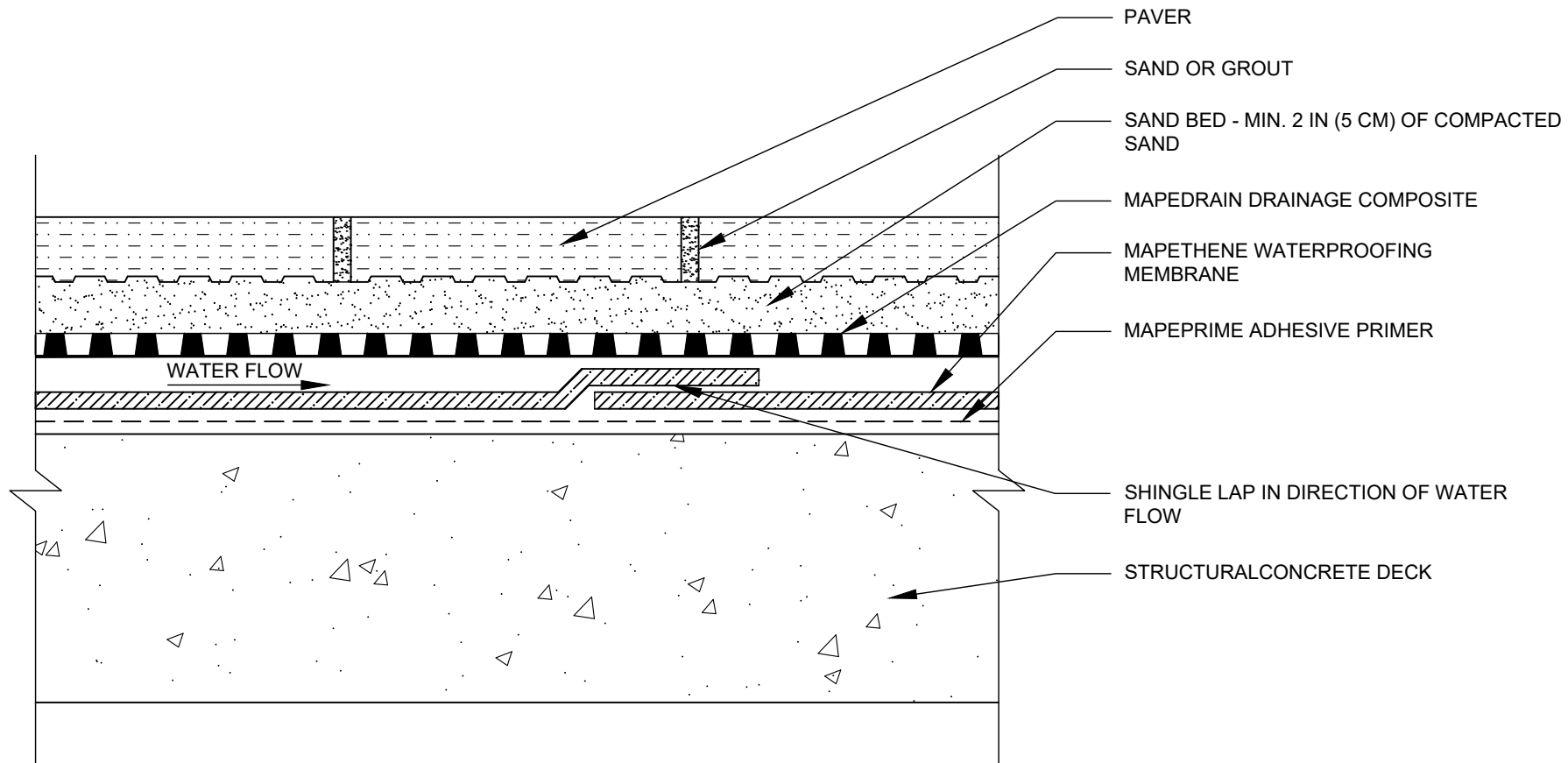
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-2D**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## PAVER & SAND BED PLAZA DECK

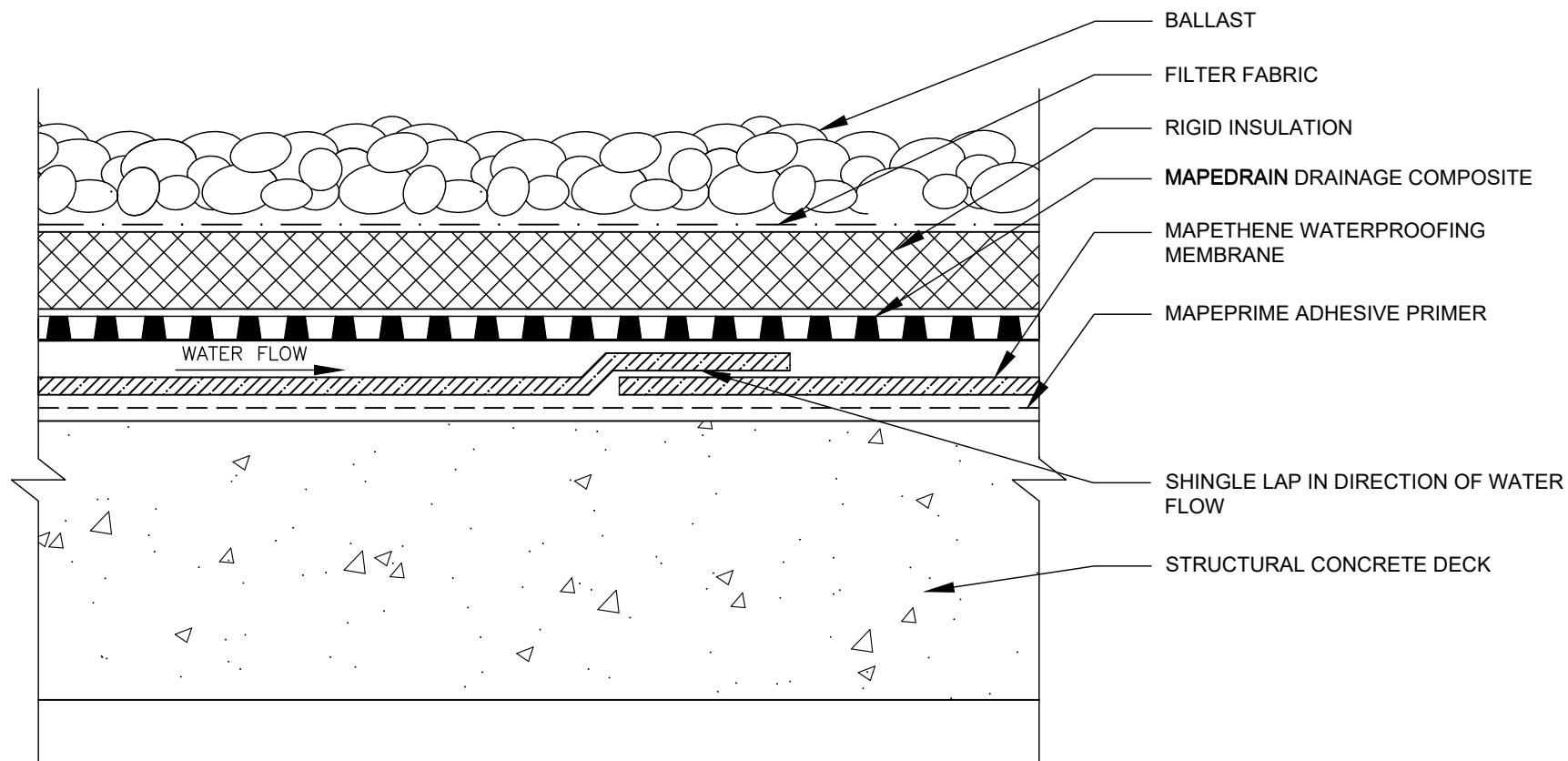
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-2E**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## BALLAST & RIGID INSULATION PLAZA DECK

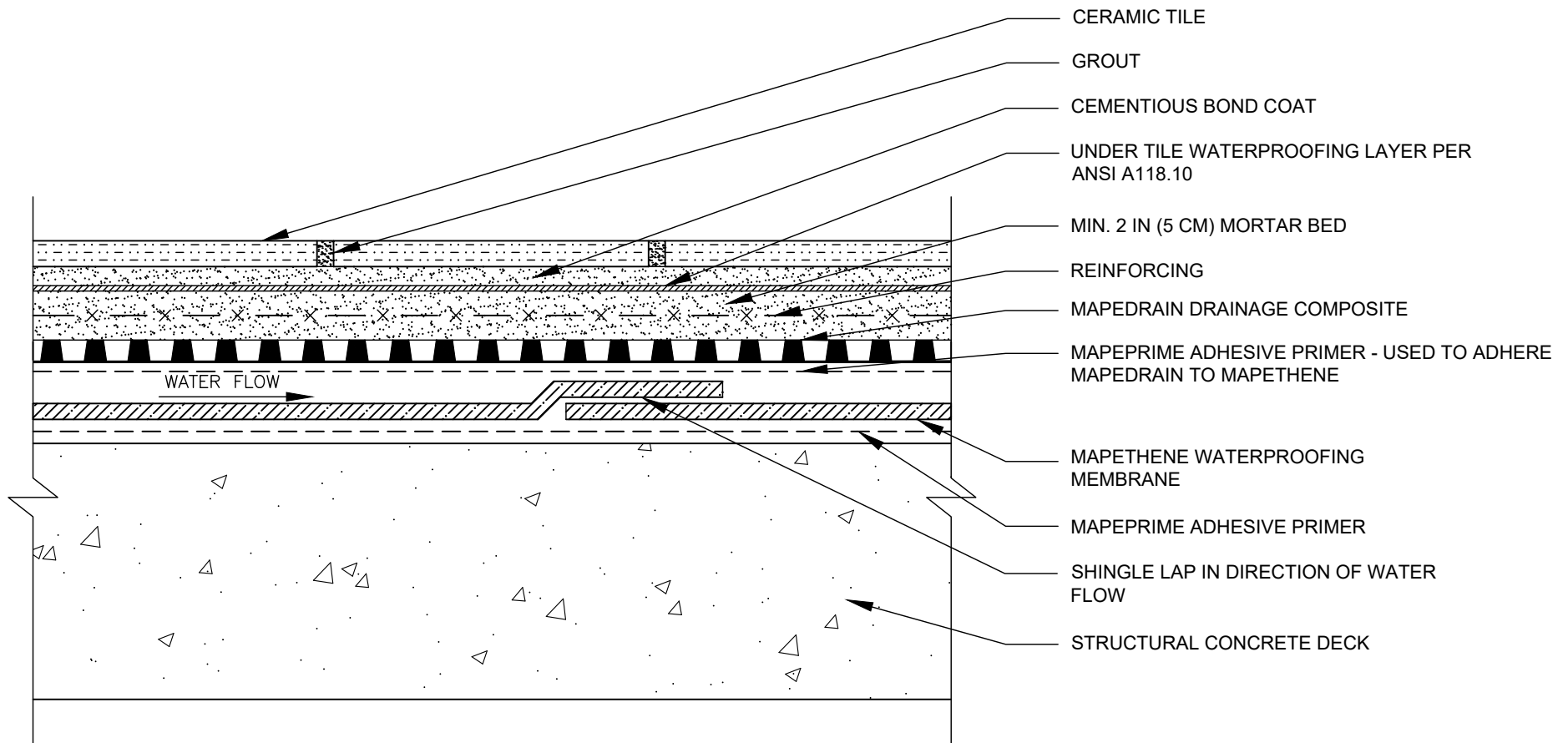
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-2F**



NOTES:  
REFER TO "TILE COUNCIL OF NORTH AMERICA" FOR CERAMIC TILE INSTALLATION.



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## TILE & MORTAR BED DECK OR BALCONY

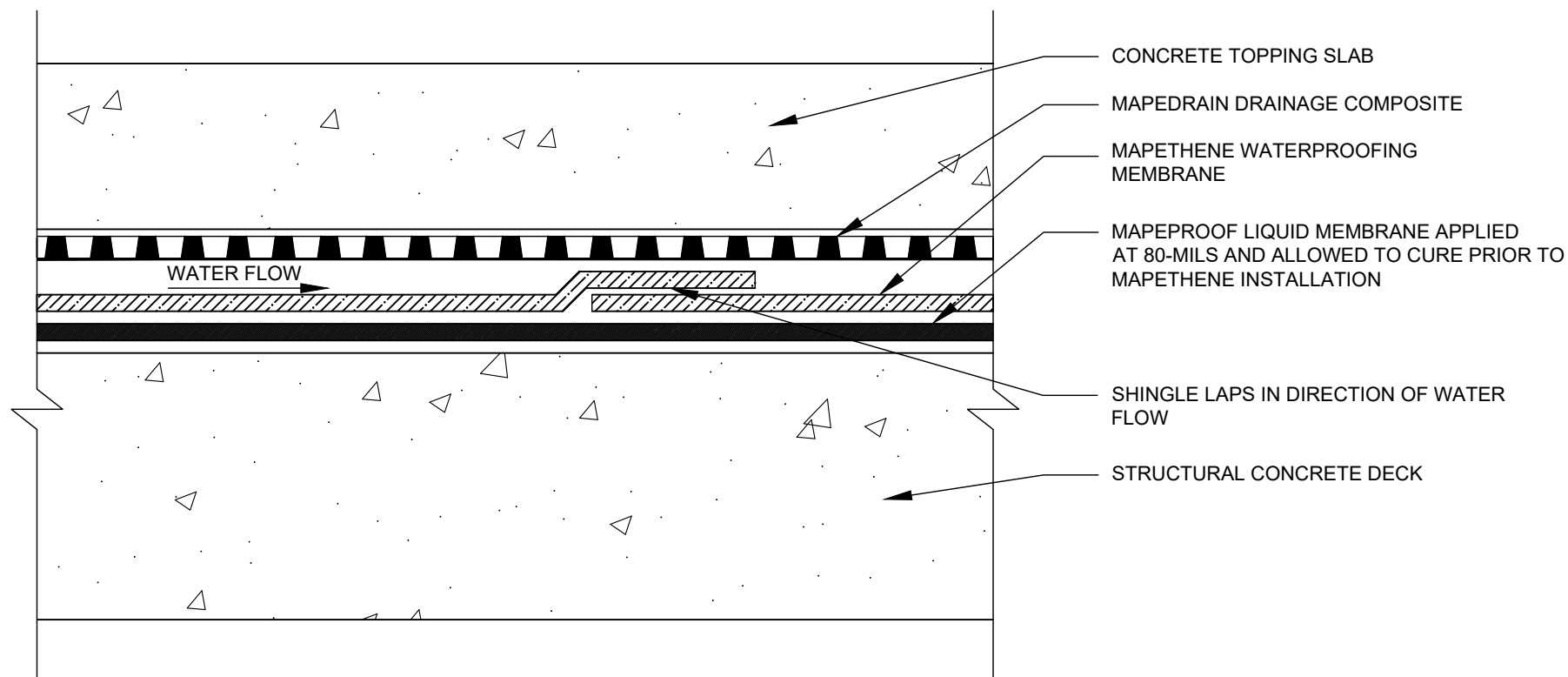
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-2G**



#### NOTES:

1. MAPETHENE WATERPROOFING MEMBRANE SHOULD BE INSTALLED THE DAY FOLLOWING THE INSTALLATION OF MAPEPROOF LIQUID MEMBRANE BUT NO MORE THAN 36-HOURS
2. ENSURE MAPEPROOF LIQUID MEMBRANE IS CLEAN AND DRY BEFORE INSTALLING MAPETHENE MEMBRANE



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## DUAL MEMBRANE SYSTEM

DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

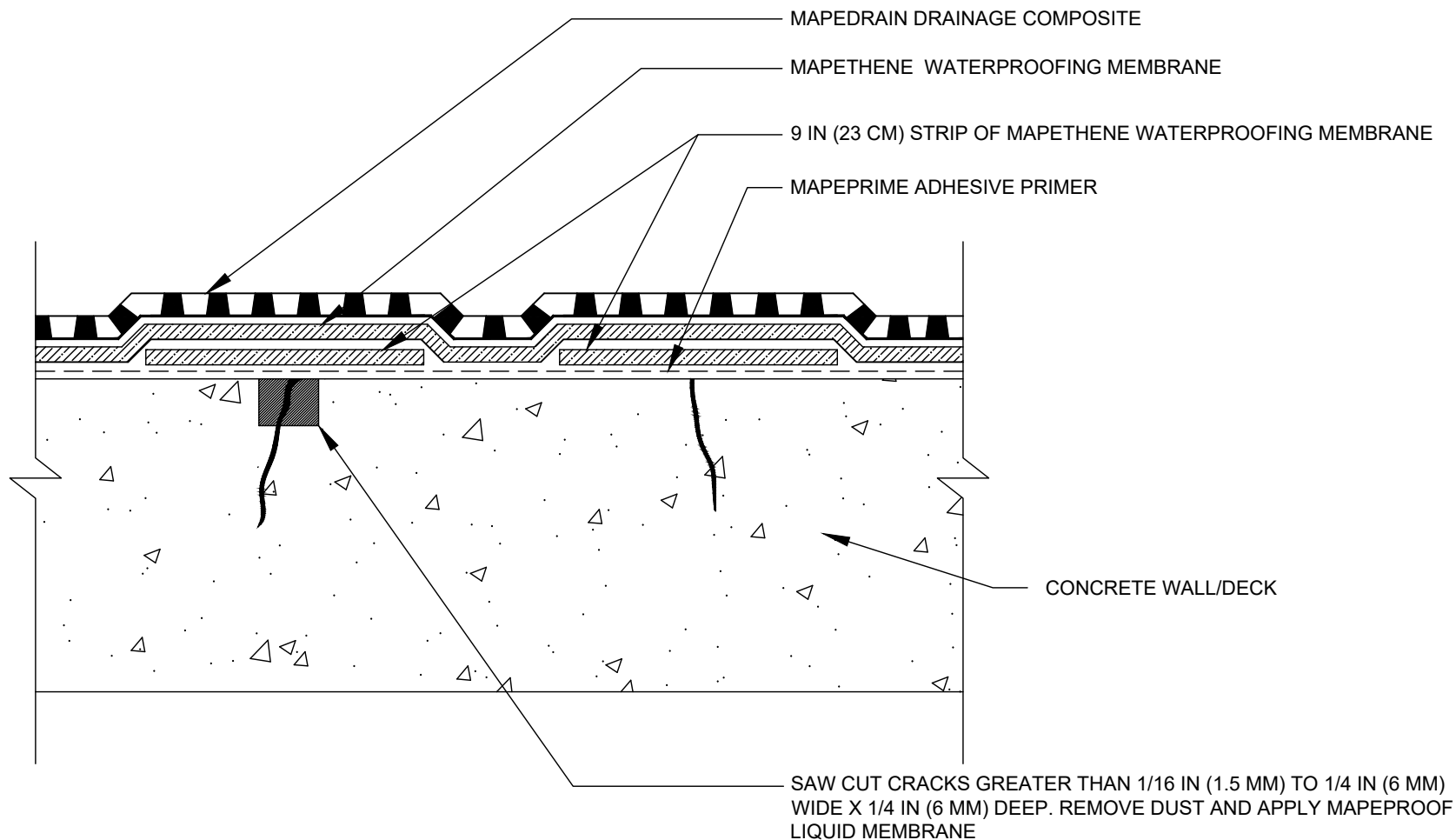
02/01/2022

**SCALE:**

NOT TO SCALE

**DRAWING #:**

**MT-2H**



CRACK GREATER THAN  
1/16 IN (1.5 MM) WIDE

CRACK LESS THAN  
1/16 IN (1.5 MM) WIDE



[polyglass.us](http://polyglass.us)

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
[technical@polyglass.com](mailto:technical@polyglass.com)

## WALL/DECK NON-MOVING NON-STRUCTURAL CRACK TREATMENT

DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

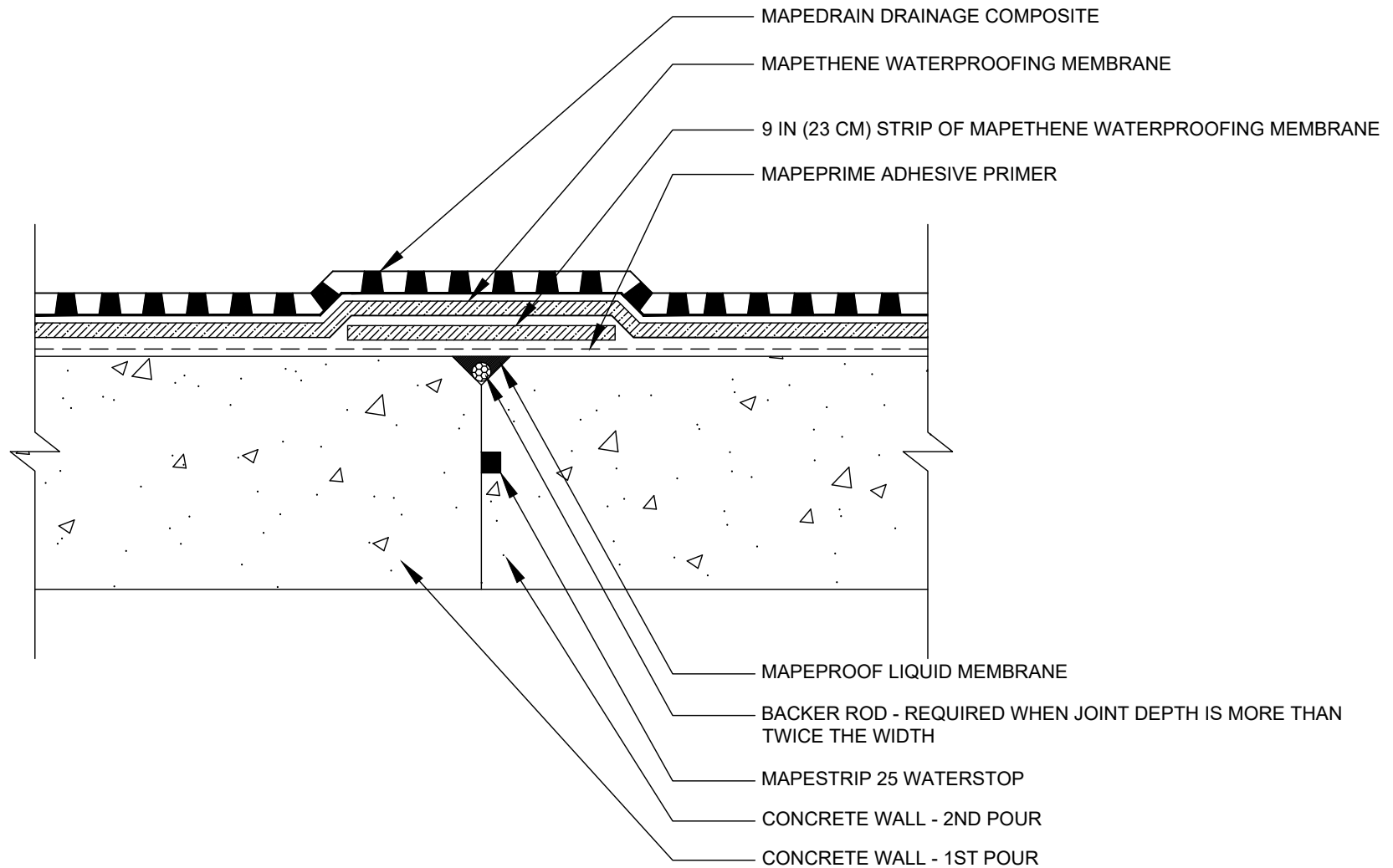
**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-3A**





**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## WALL "V" CONTROL JOINT

DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

02/01/2022

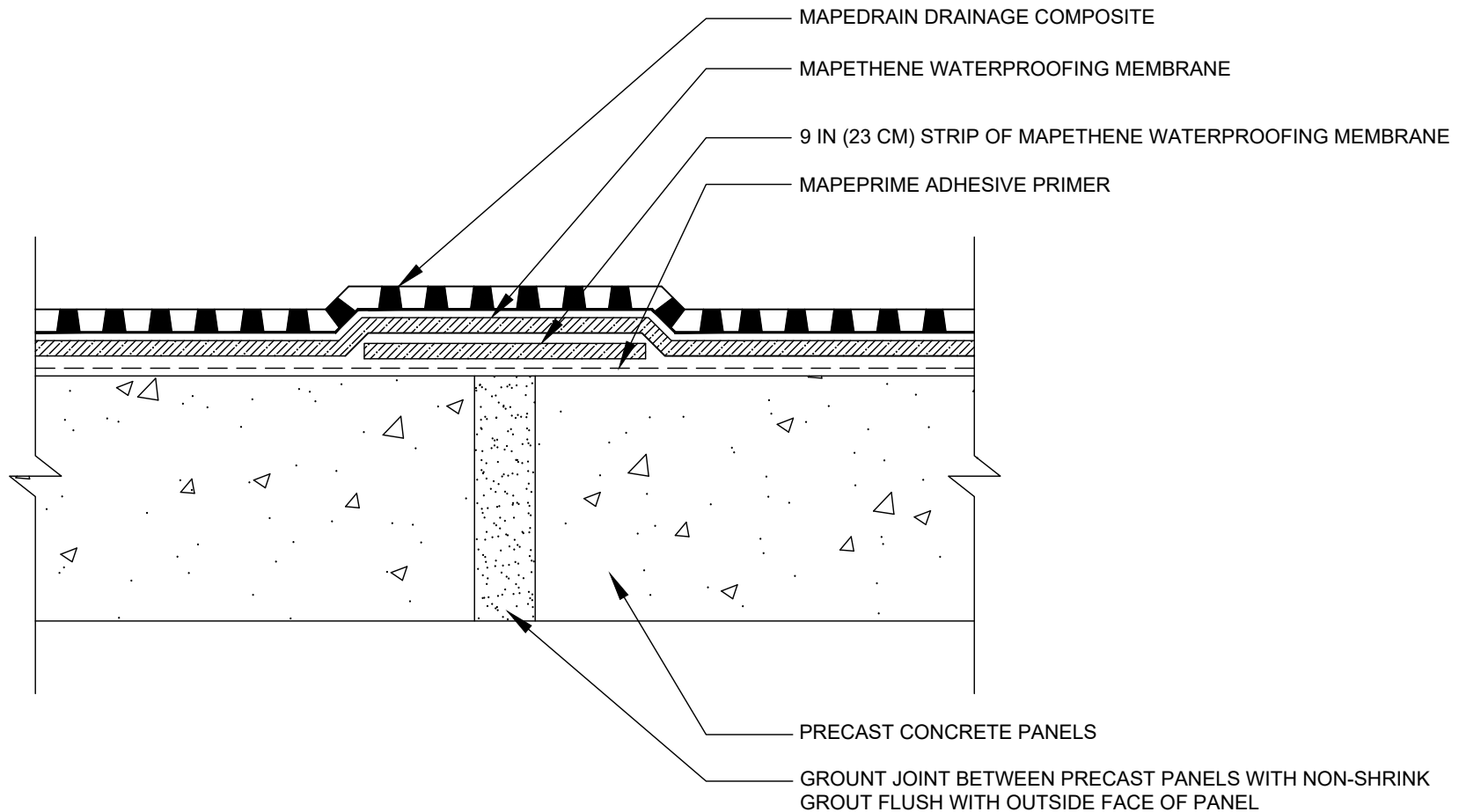
**SCALE:**

NOT TO SCALE

**DRAWING #:**

**MT-3C**





**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## WALL/DECK NON-MOVING GROUTED PRECAST JOINT

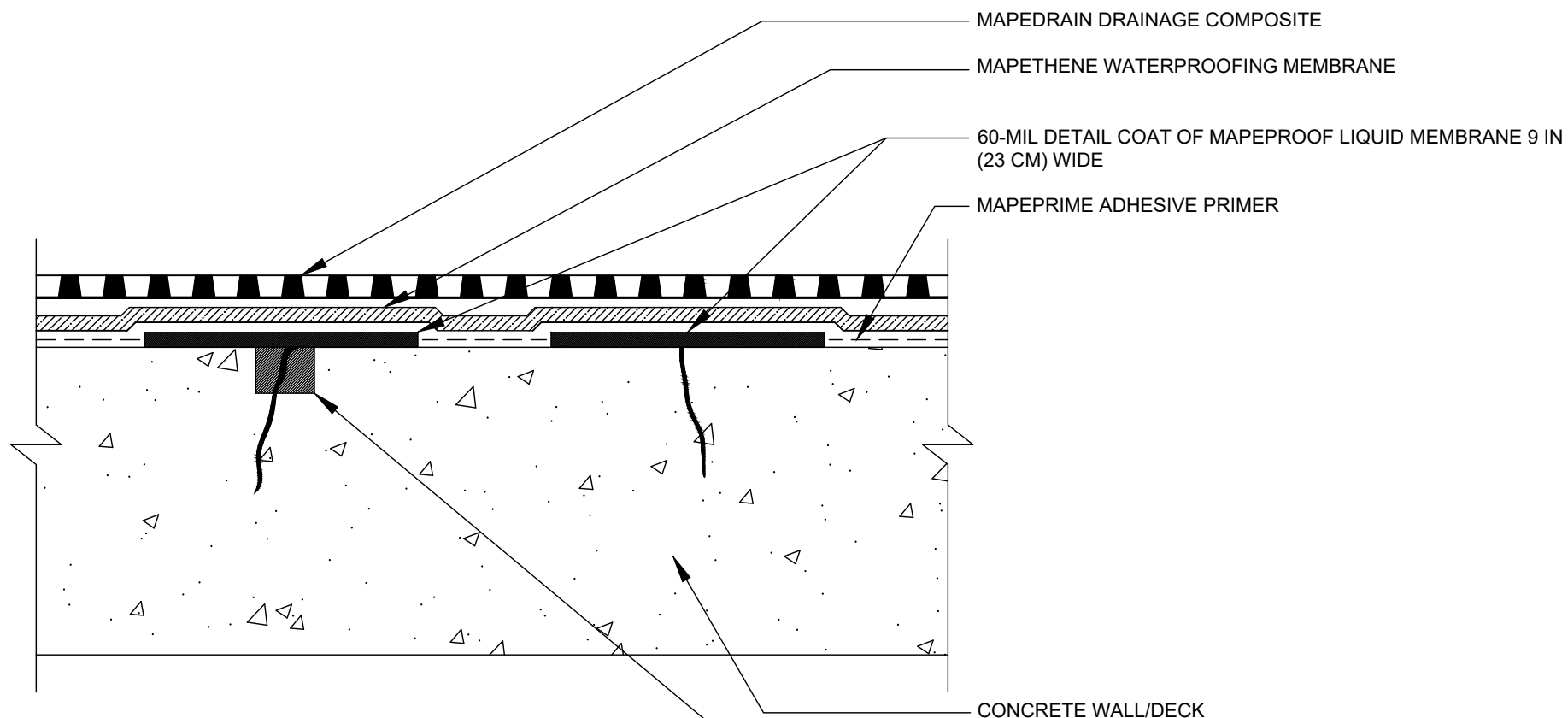
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-3D**



CRACK GREATER THAN  
1/16 IN (1.5 MM) WIDE

CRACK LESS THAN  
1/16 IN (1.5 MM) WIDE



[polyglass.us](http://polyglass.us)

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
[technical@polyglass.com](mailto:technical@polyglass.com)

## ALTERNATE WALL/DECK NON-STRUCTURAL CRACK TREATMENT

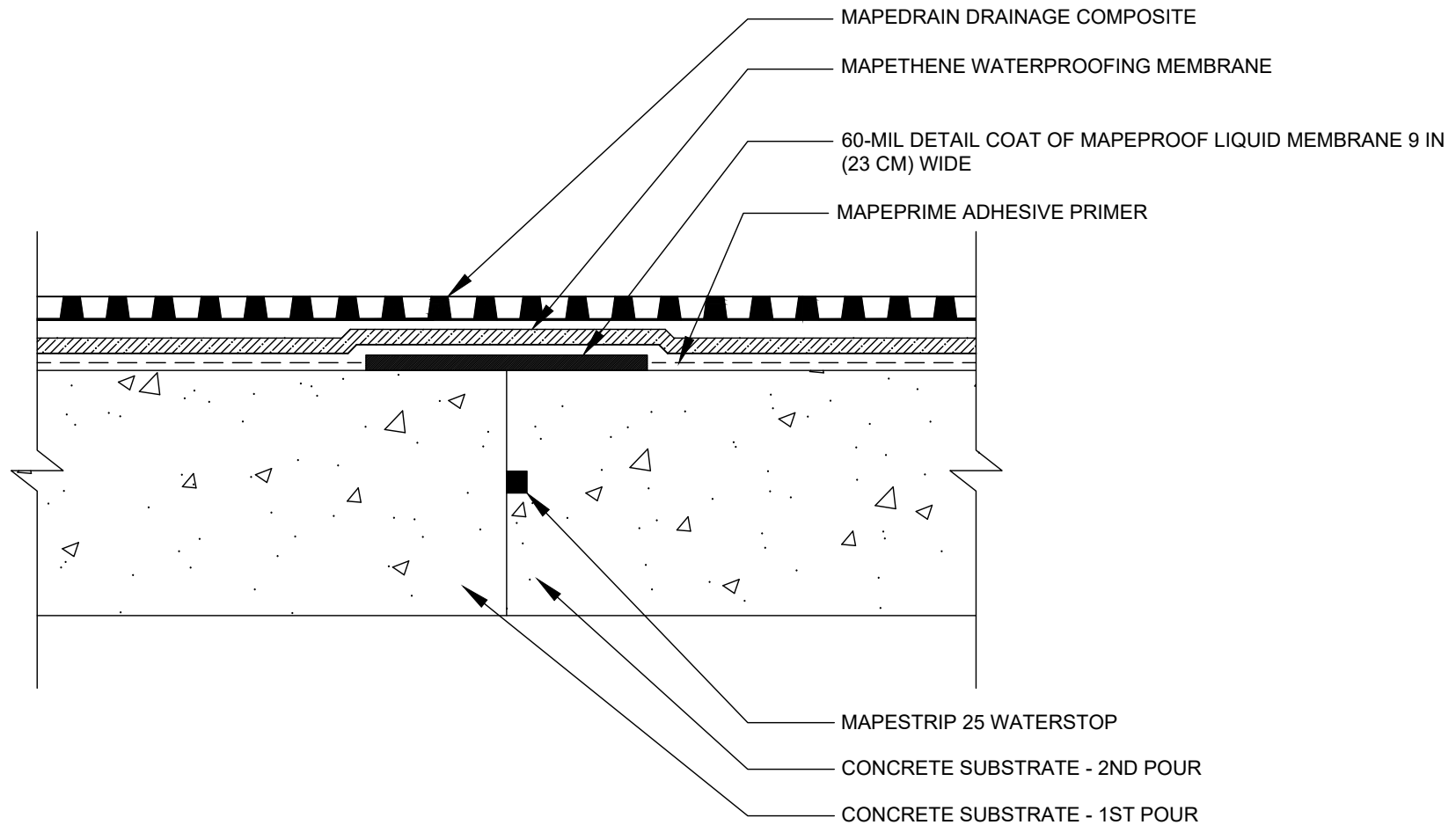
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-3E**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## ALTERNATE WALL/DECK CONCRETE CONTROL JOINT

DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

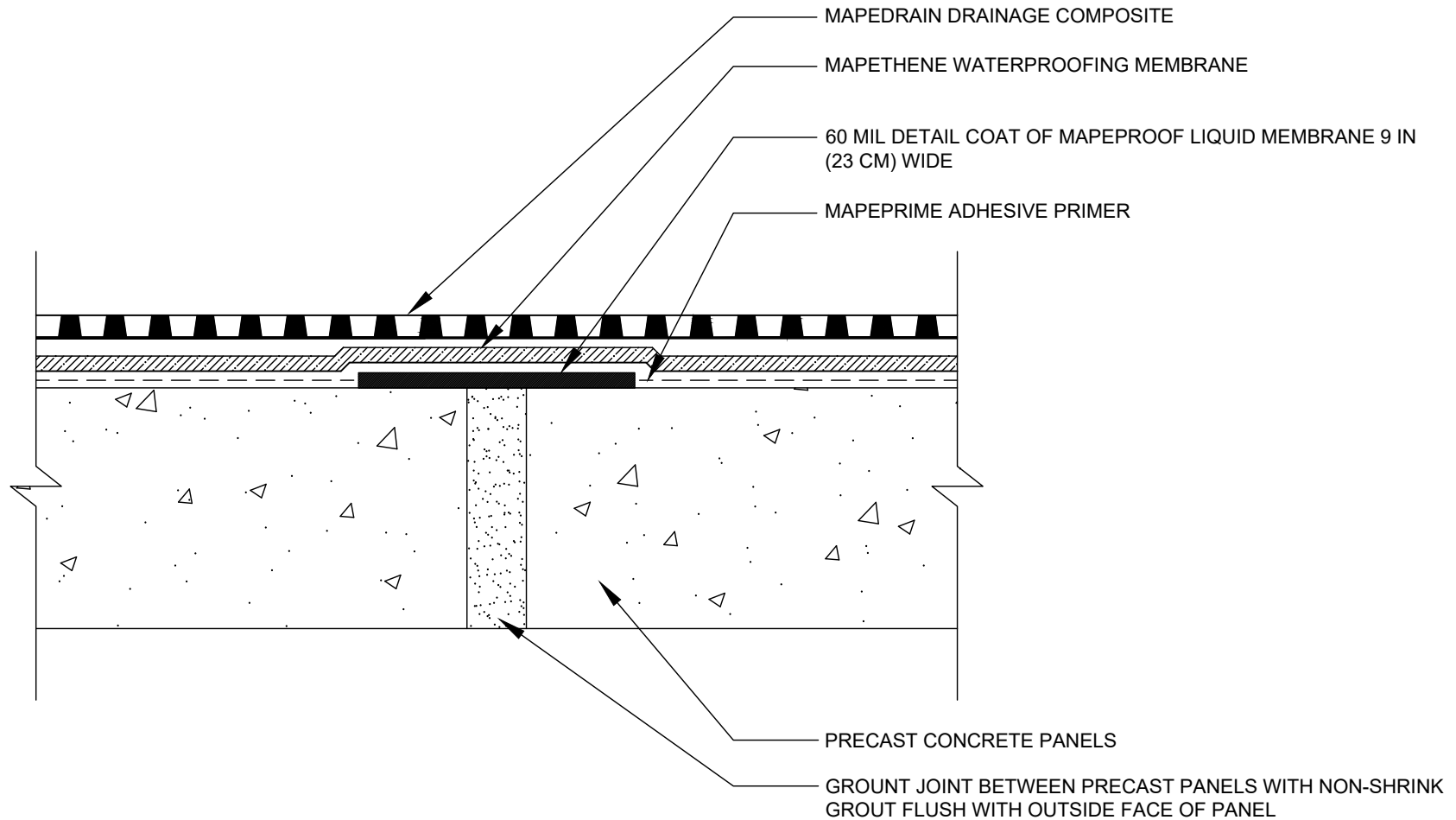
**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-3F**





**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## ALTERNATE WALL/DECK NON-MOVING GROUTED PRECAST JOINT

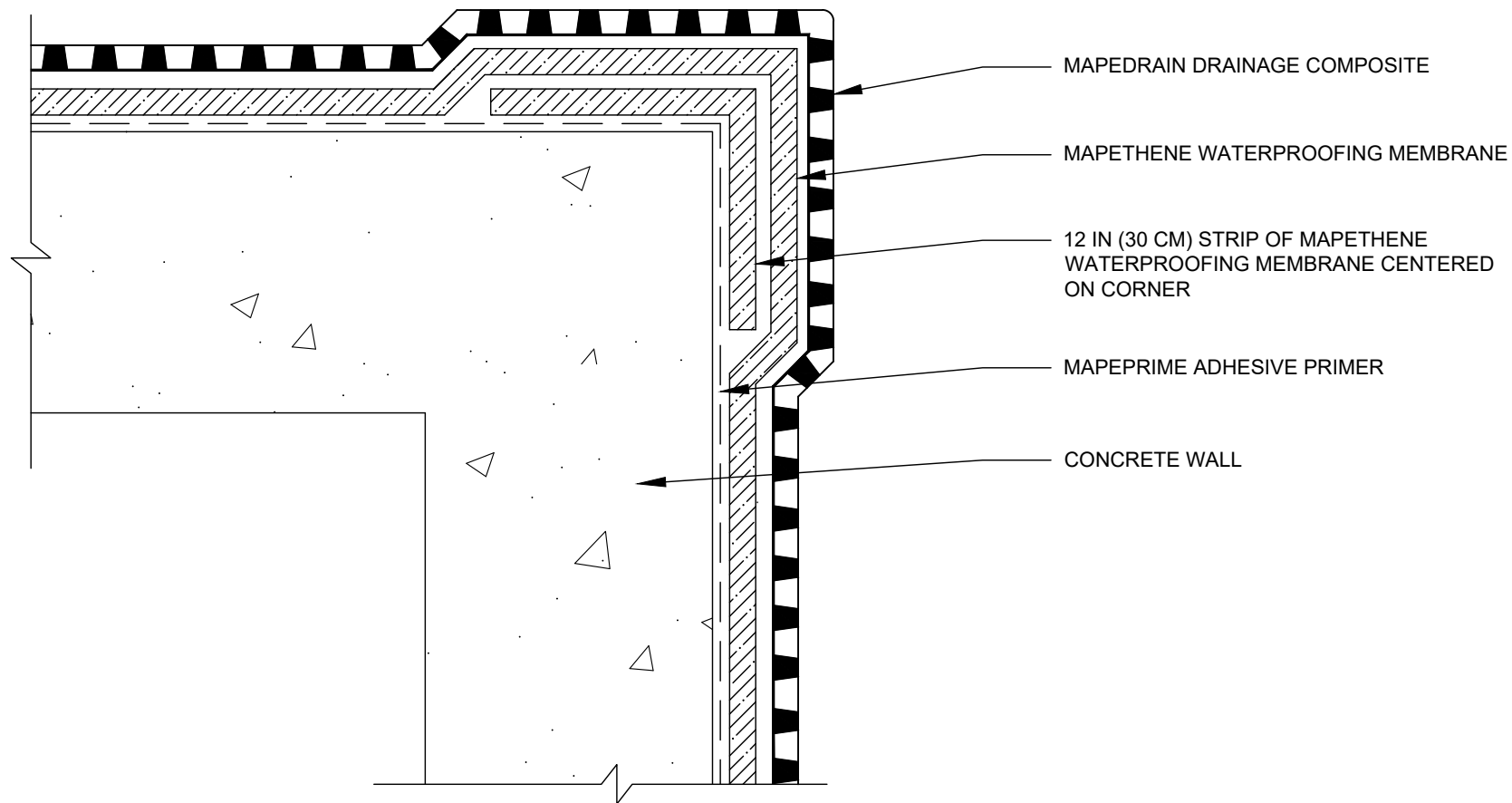
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-3H**



PLAN VIEW



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## WALL OUTSIDE CORNER DETAIL

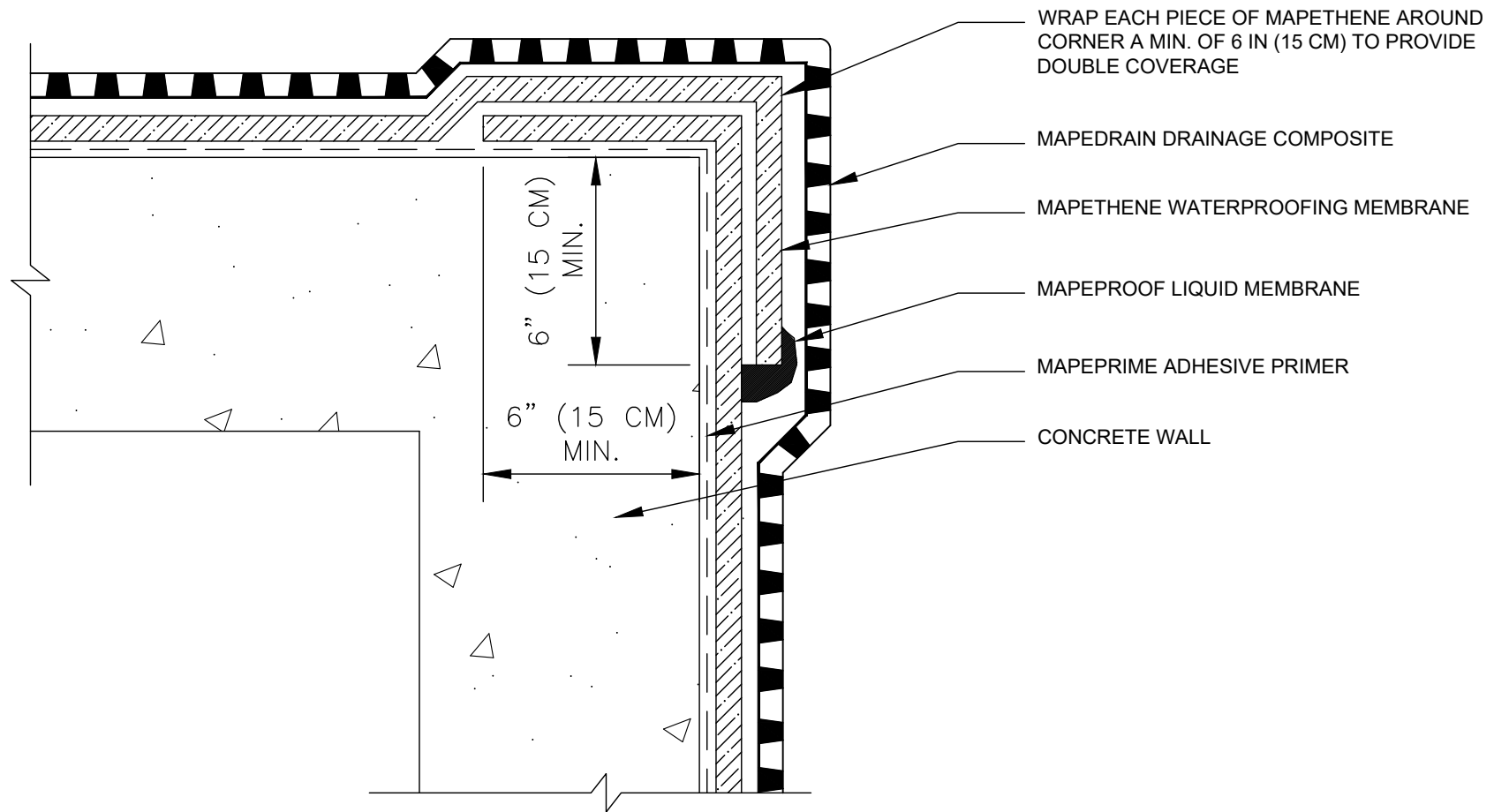
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-4A**



**PLAN VIEW**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## ALTERNATE WALL OUTSIDE CORNER DETAIL

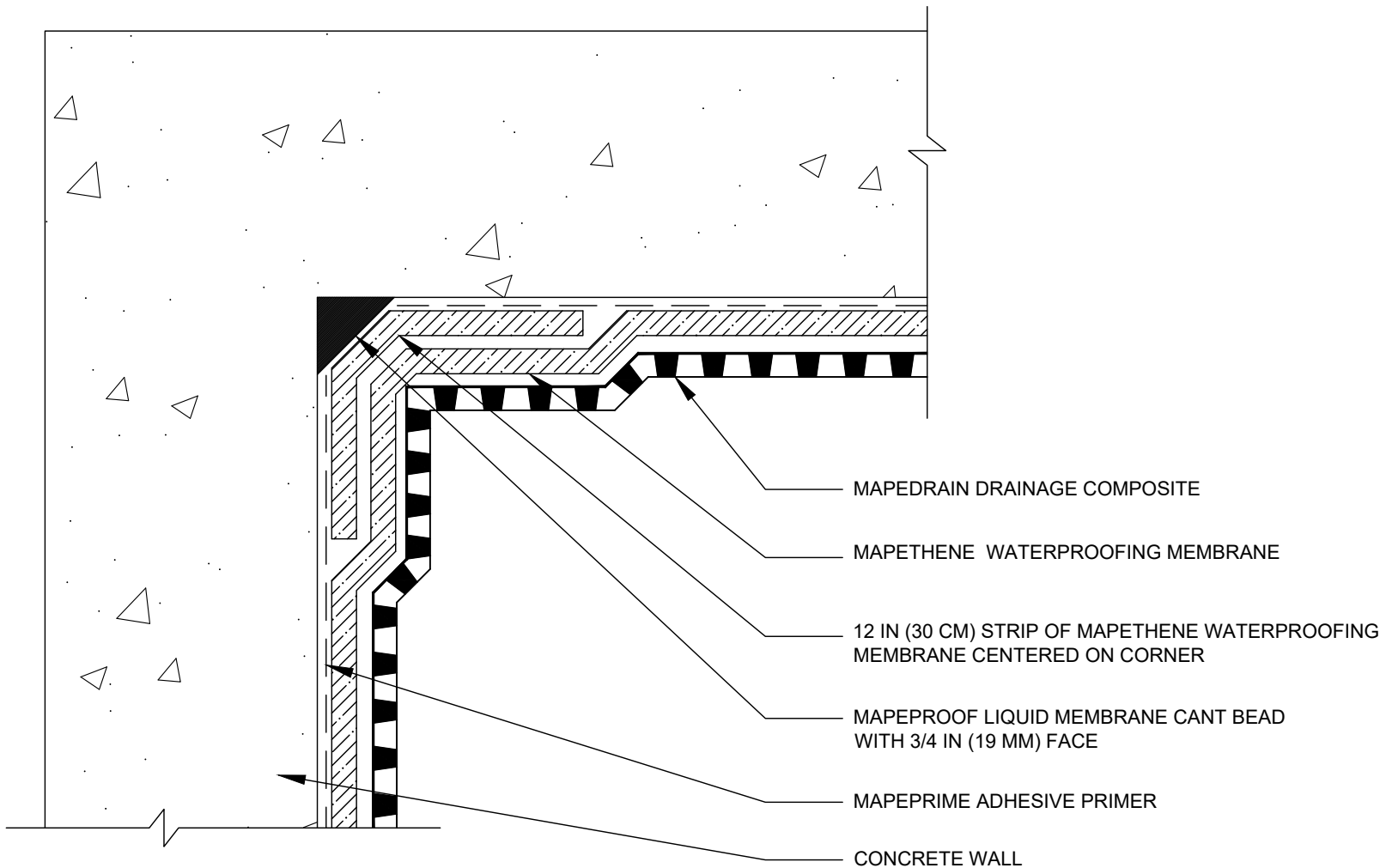
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-4B**



**PLAN VIEW**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## WALL INSIDE CORNER DETAIL

DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

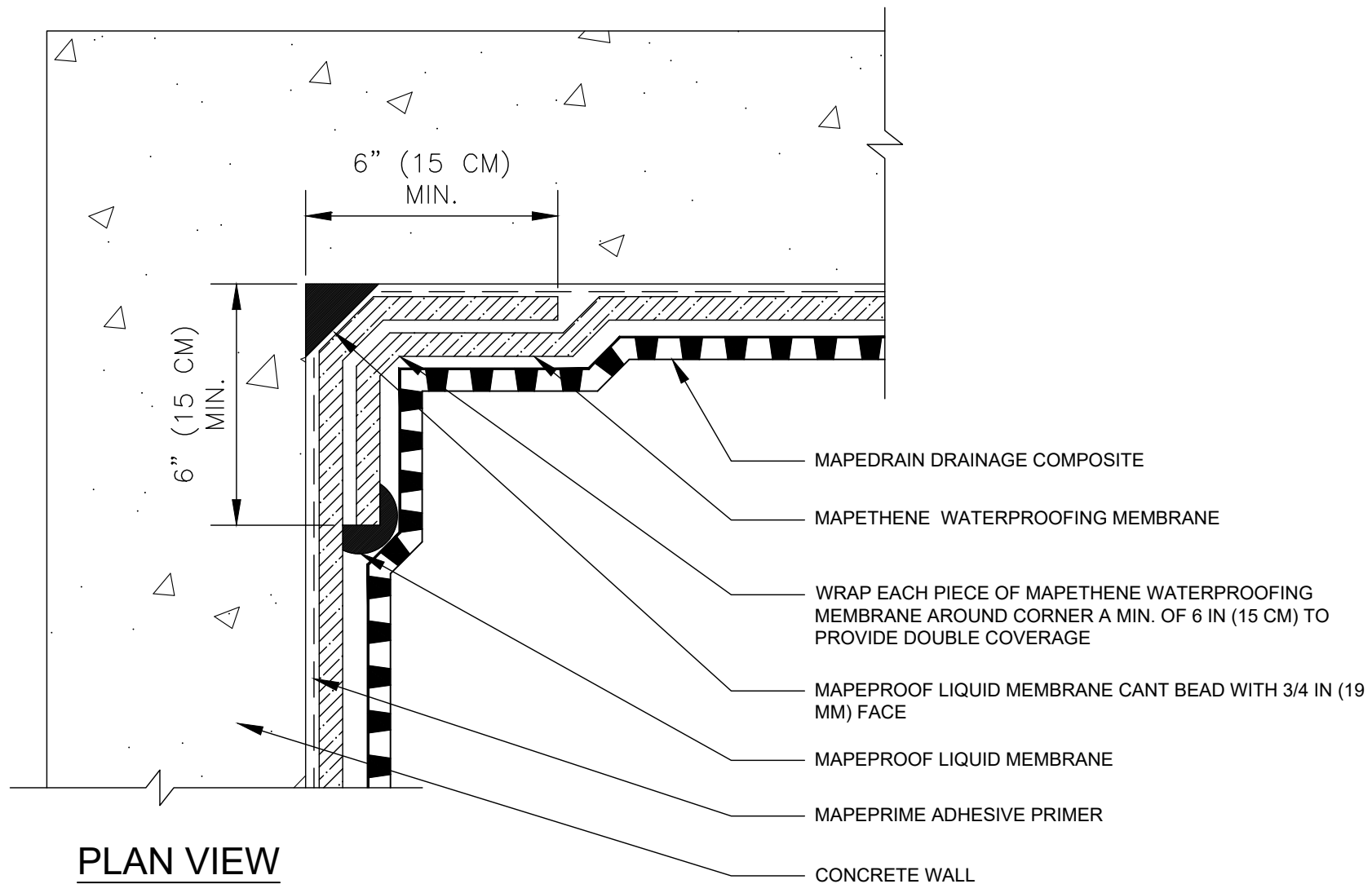
**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-4C**





**PLAN VIEW**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## ALTERNATE WALL INSIDE CORNER DETAIL

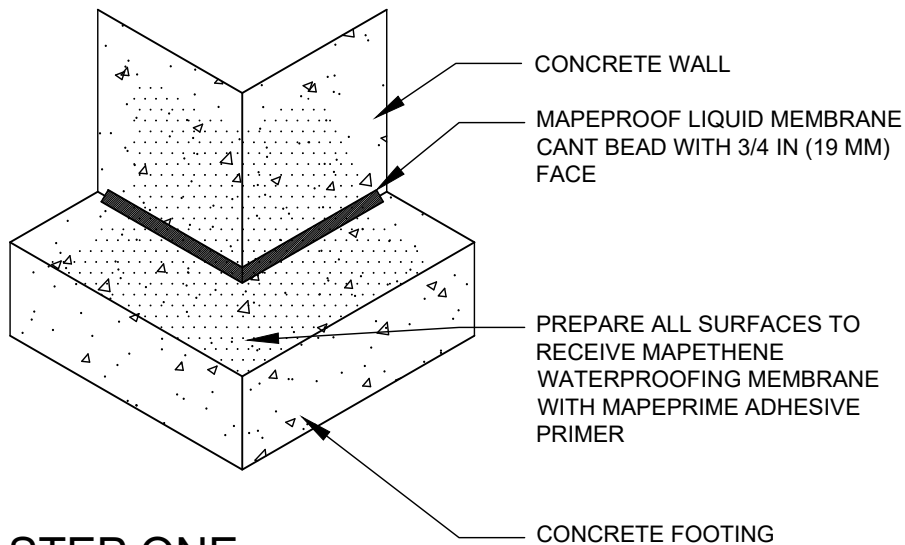
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

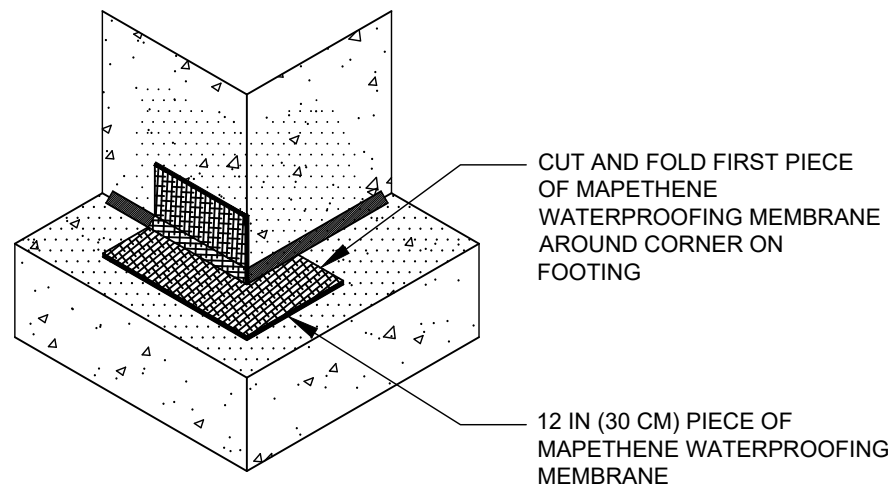
**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

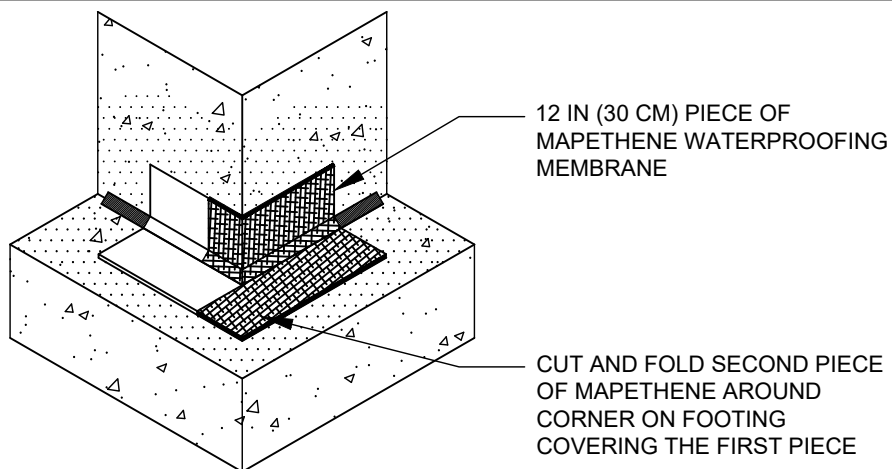
**DRAWING #:**  
**MT-4D**



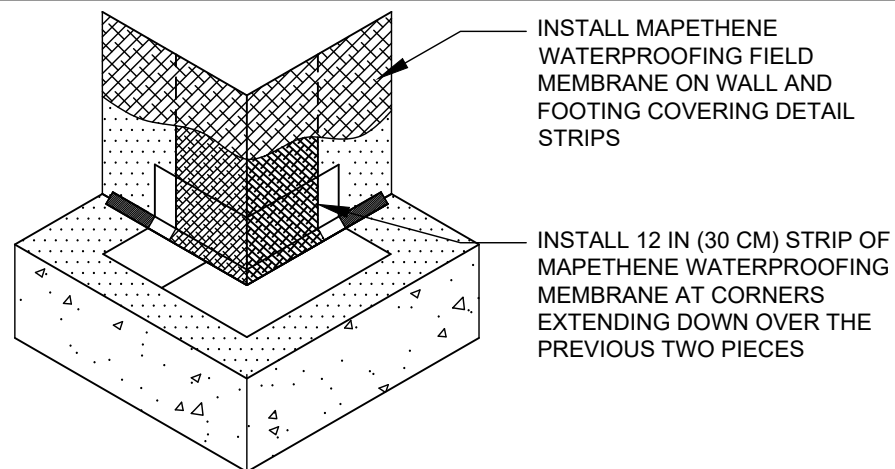
## STEP ONE



## STEP TWO



## STEP THREE



## STEP FOUR



[polyglass.us](http://polyglass.us)

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
[technical@polyglass.com](mailto:technical@polyglass.com)

# WALL/FOOTING OUTSIDE CORNER DETAIL

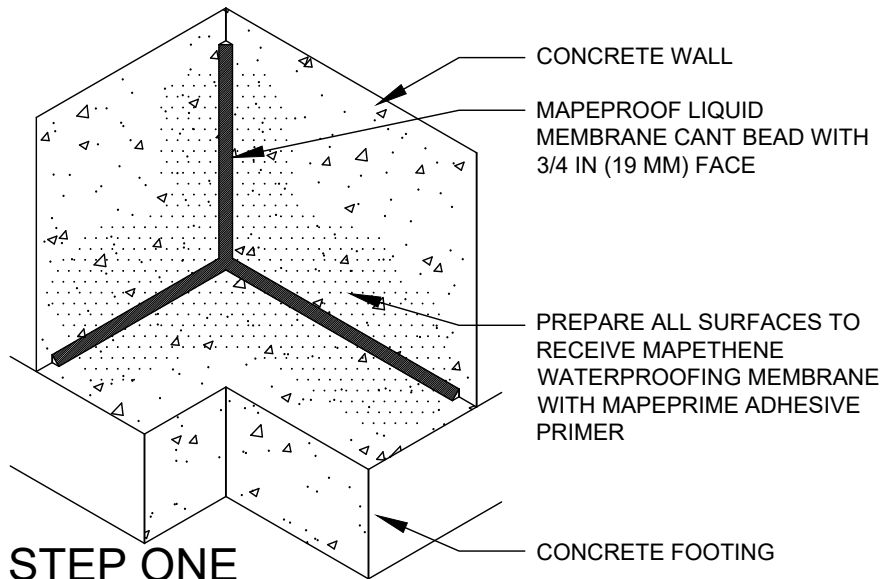
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

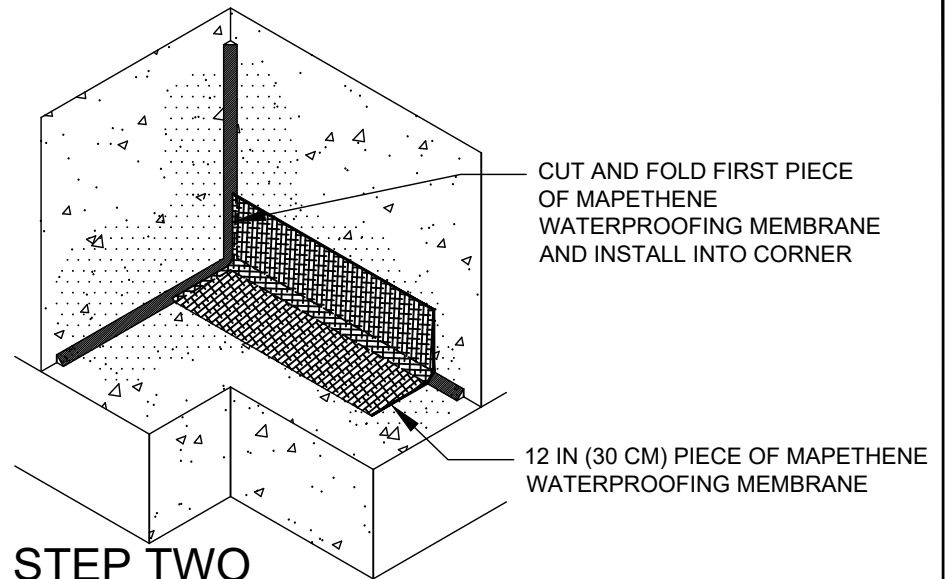
**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

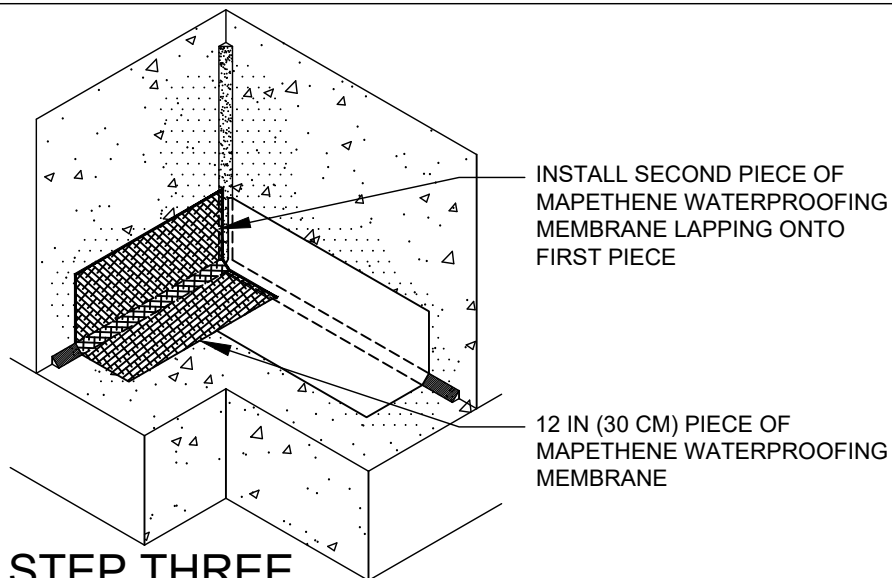
**DRAWING #:**  
**MT-4E**



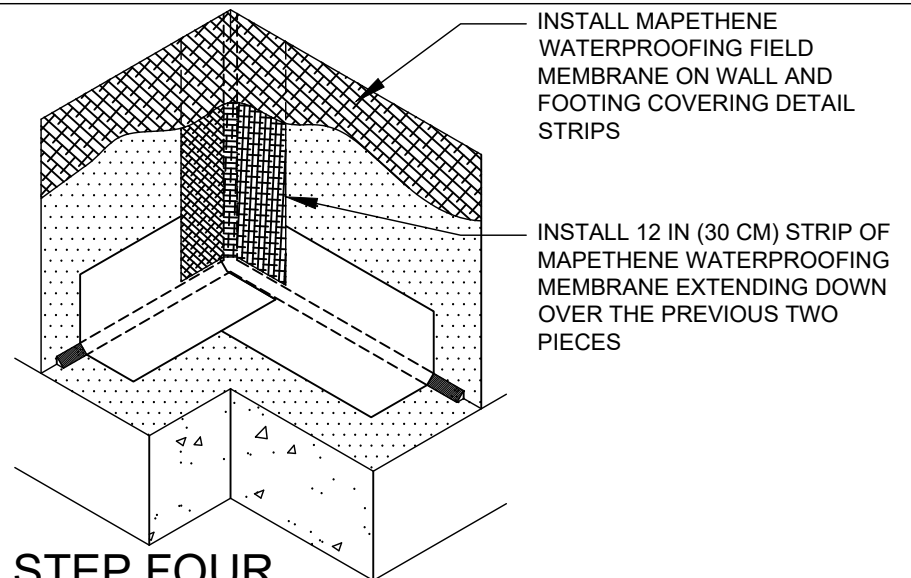
## STEP ONE



## STEP TWO



## STEP THREE



## STEP FOUR



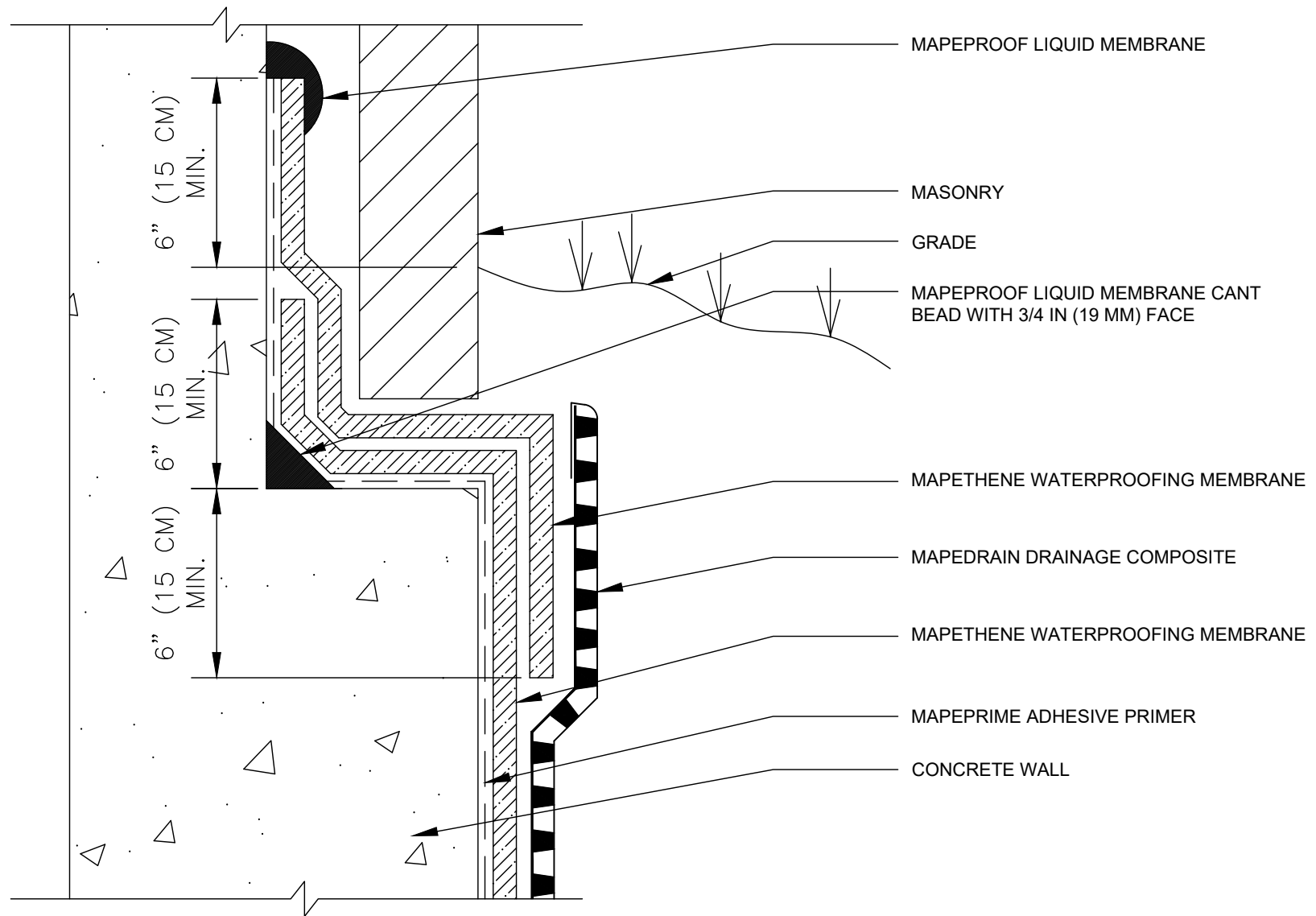
[polyglass.us](http://polyglass.us)

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
[technical@polyglass.com](mailto:technical@polyglass.com)

# WALL/FOOTING INSIDE CORNER DETAIL

DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

<b>SUPERCEDES:</b>	00/00/0000
<b>DATE:</b>	02/01/2022
<b>SCALE:</b>	NOT TO SCALE
<b>DRAWING #:</b>	<b>MT-4F</b>



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## BRICK LEDGE

DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

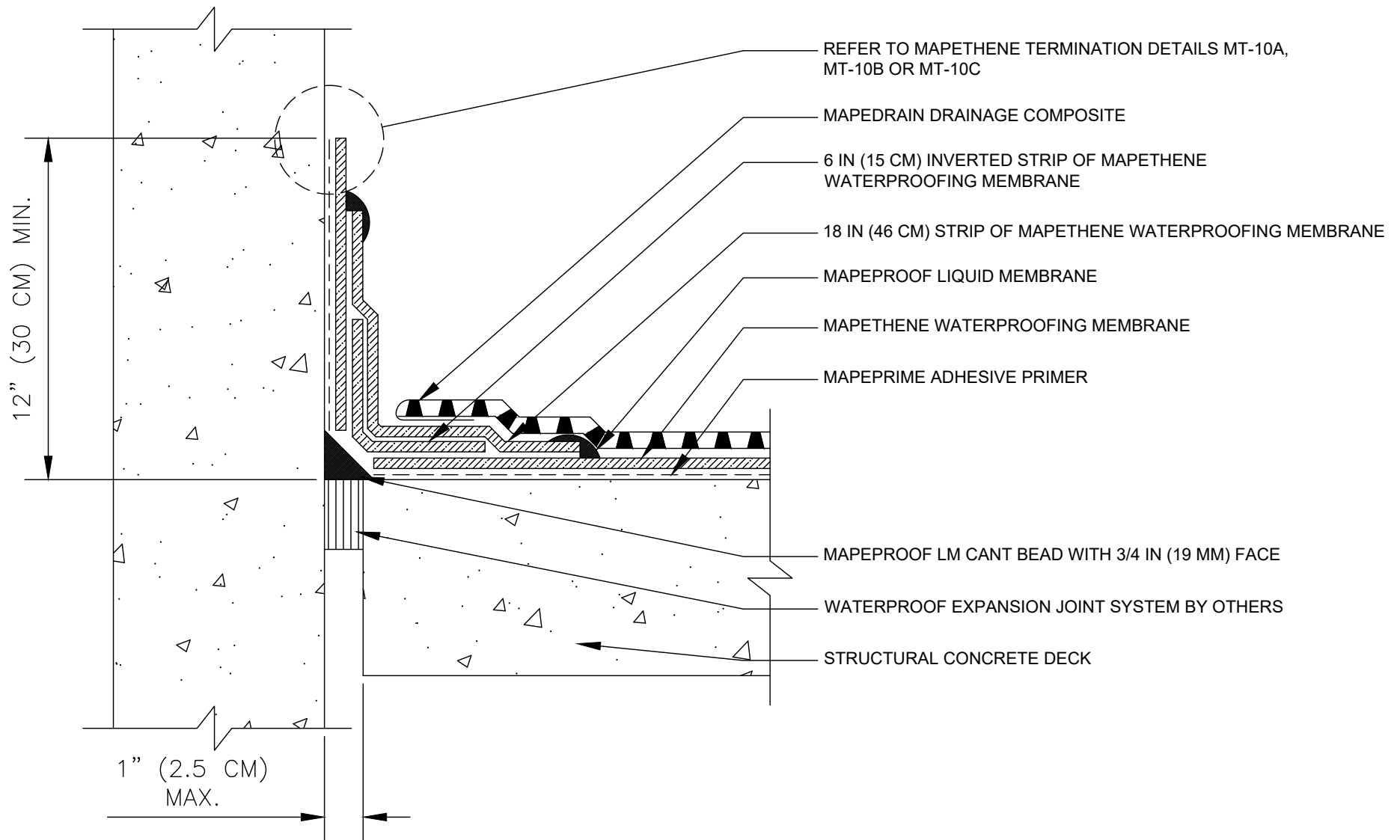
**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-5A**





**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## WALL TO DECK 1" (2.5 CM) OR LESS EXPANSION JOINT

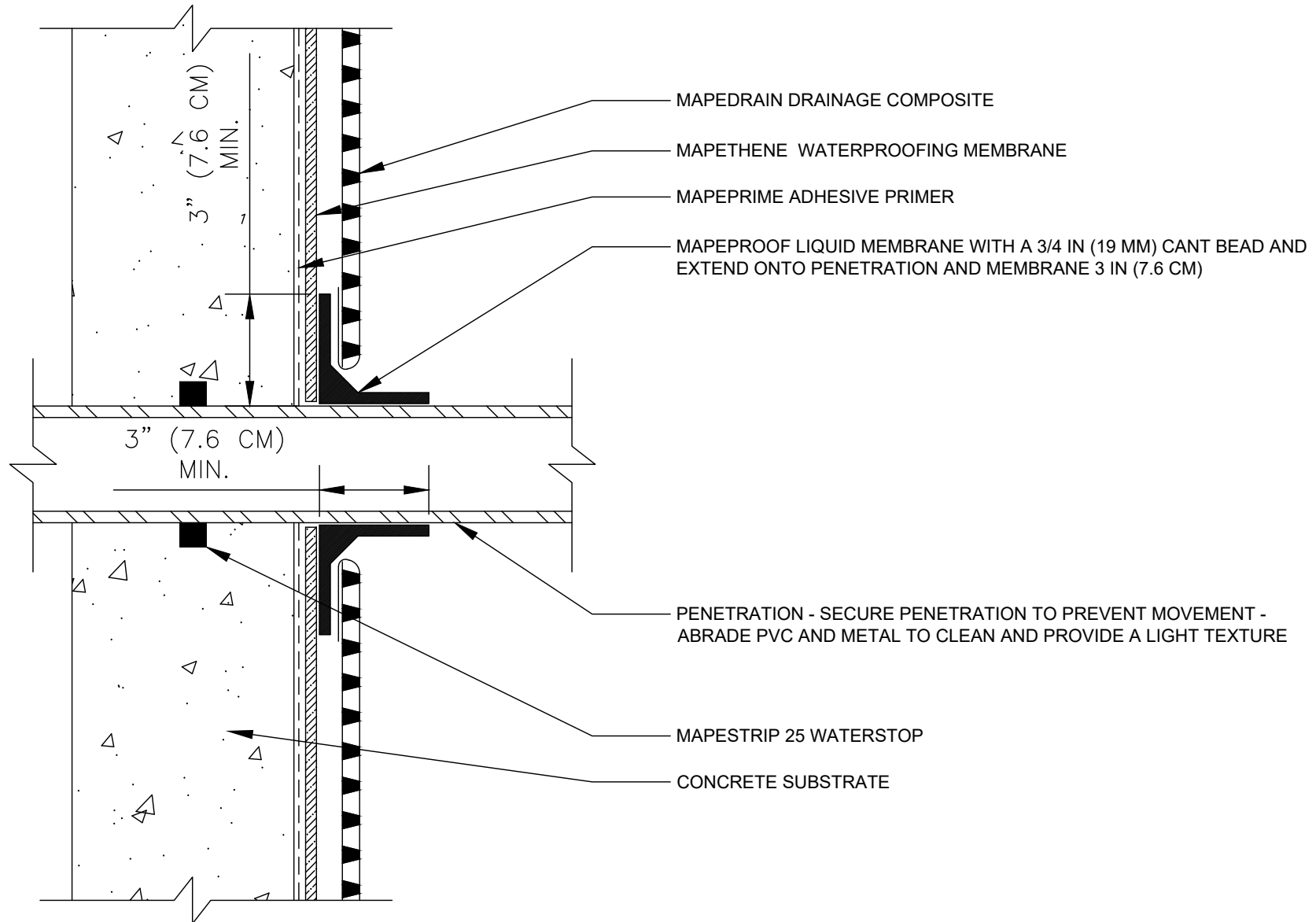
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-6B**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## WALL PENETRATION

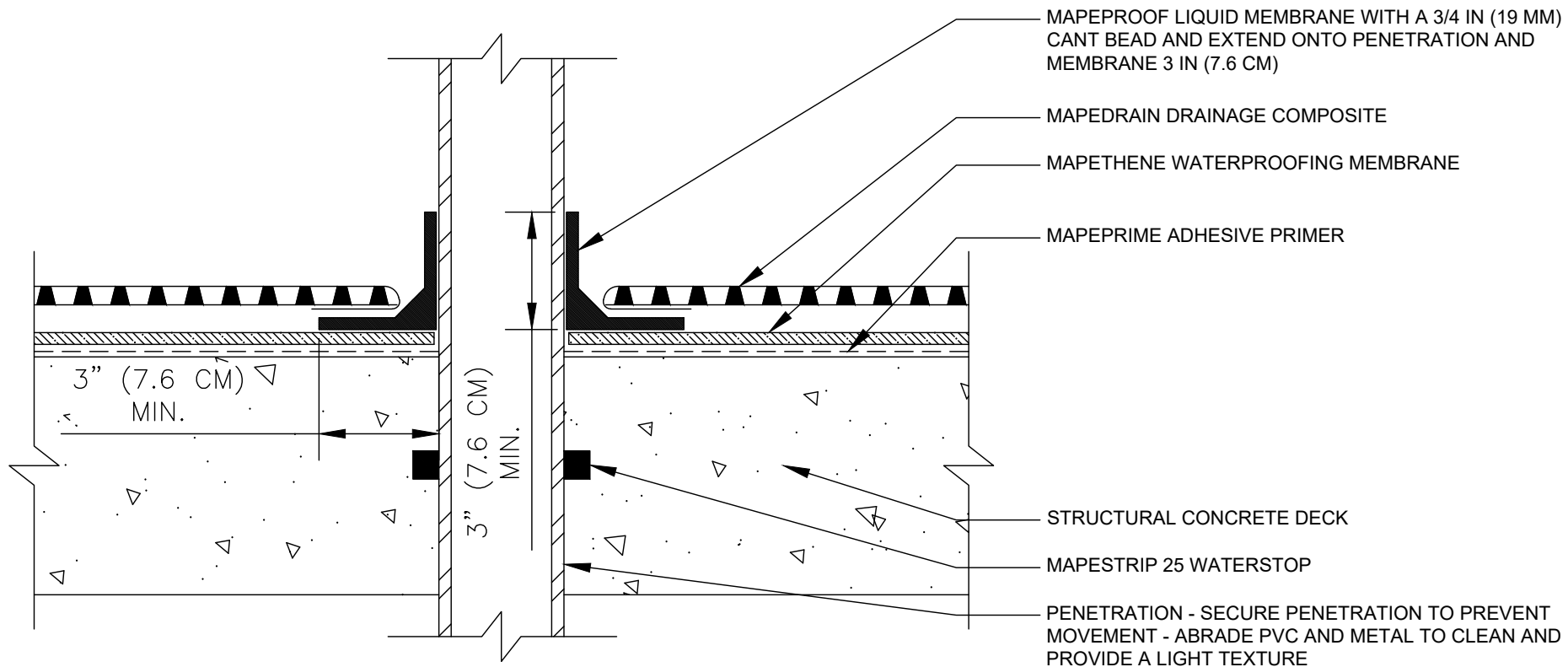
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-7A**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## DECK PENETRATION

DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

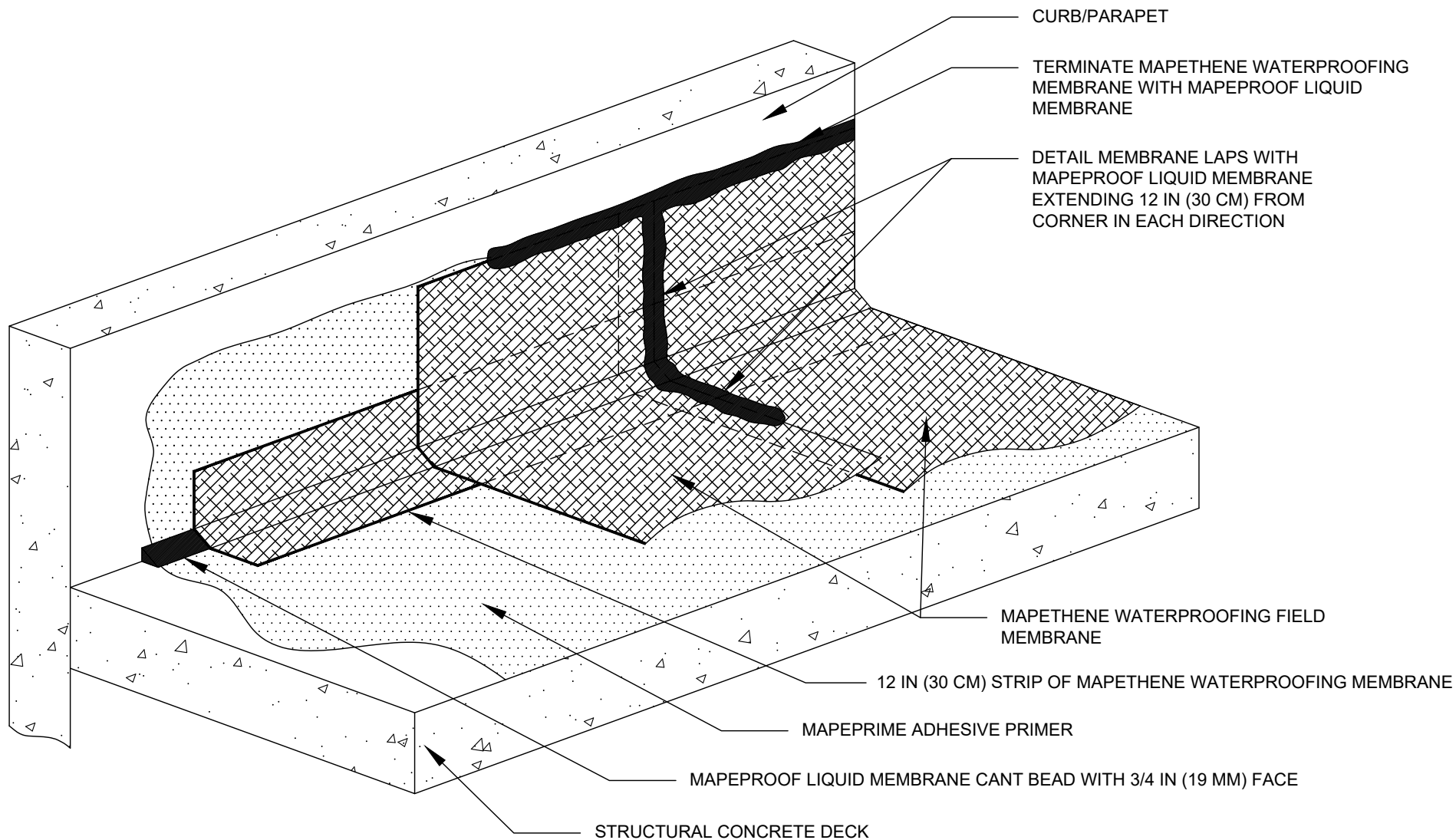
**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-7B**





**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## FLASHING AT DECK TO CURB/PARAPET - ISOMETRIC

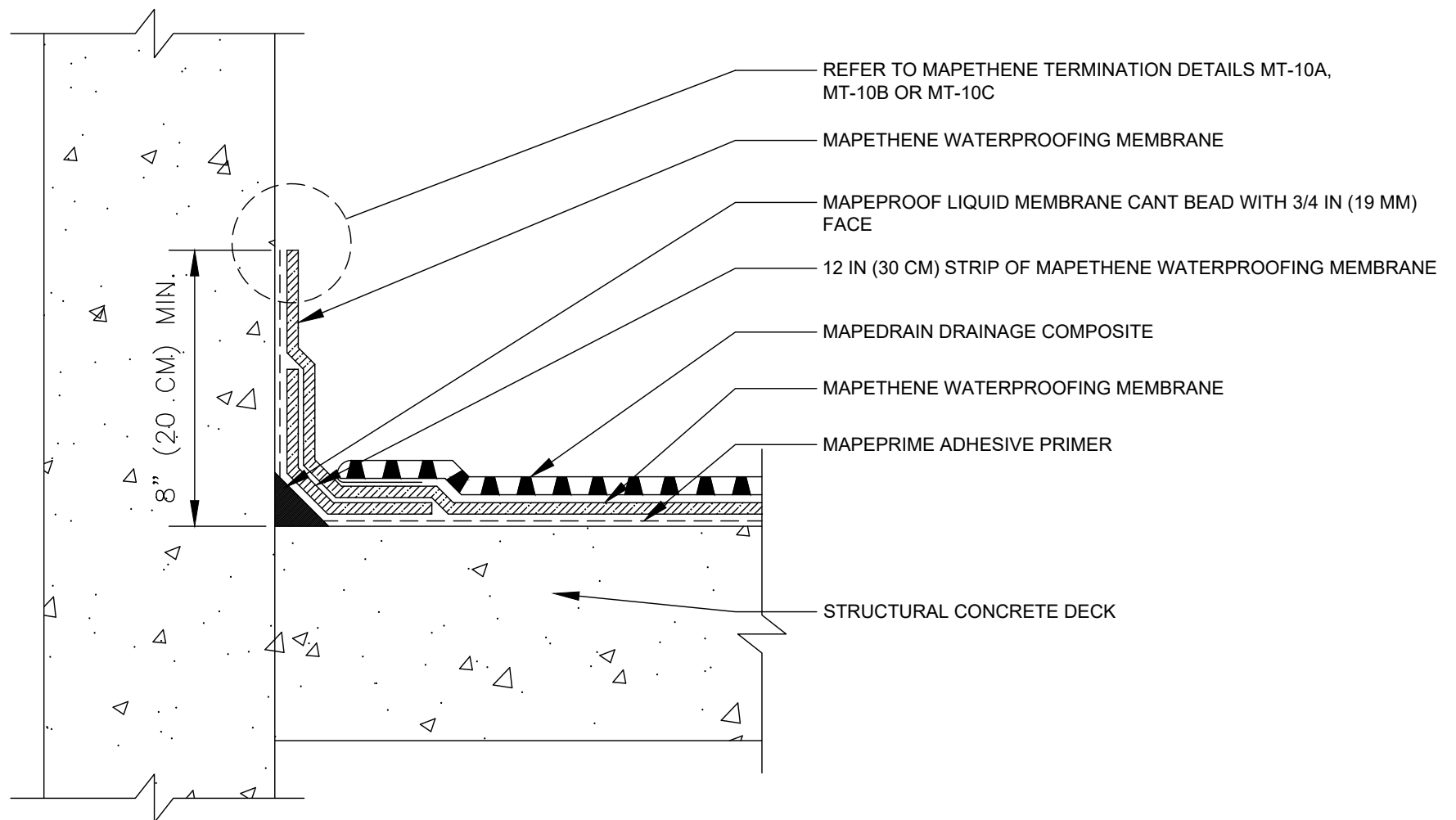
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-8A**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## FLASHING AT DECK TO CURB/PARAPET SECTION VIEW

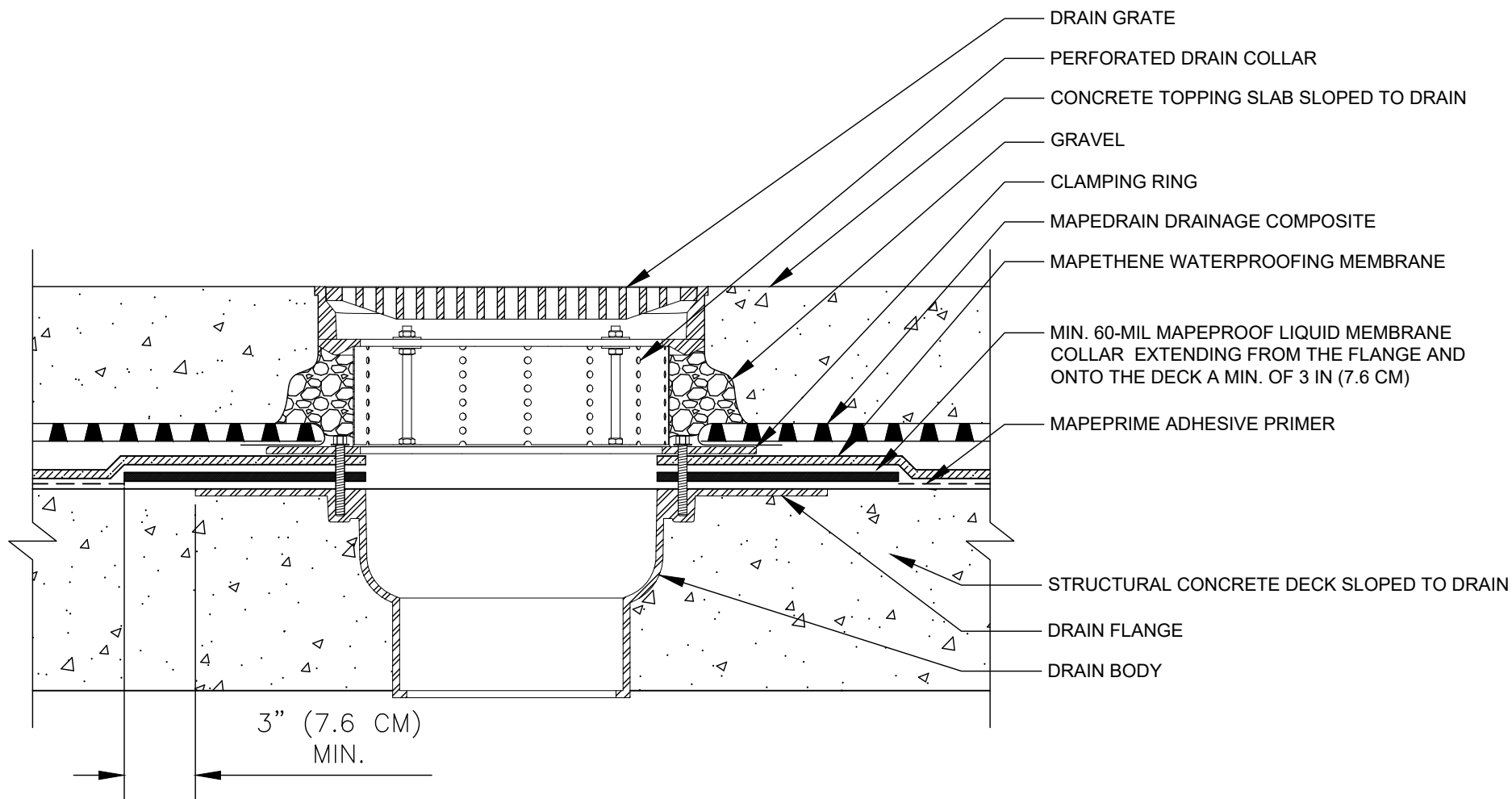
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-8B**



**polyglass.us**

1111 West Newport Center Drive  
 Deerfield Beach, FL 33442  
 Technical Service: (866) 794-9659  
 technical@polyglass.com

## PLAZA DECK DRAIN

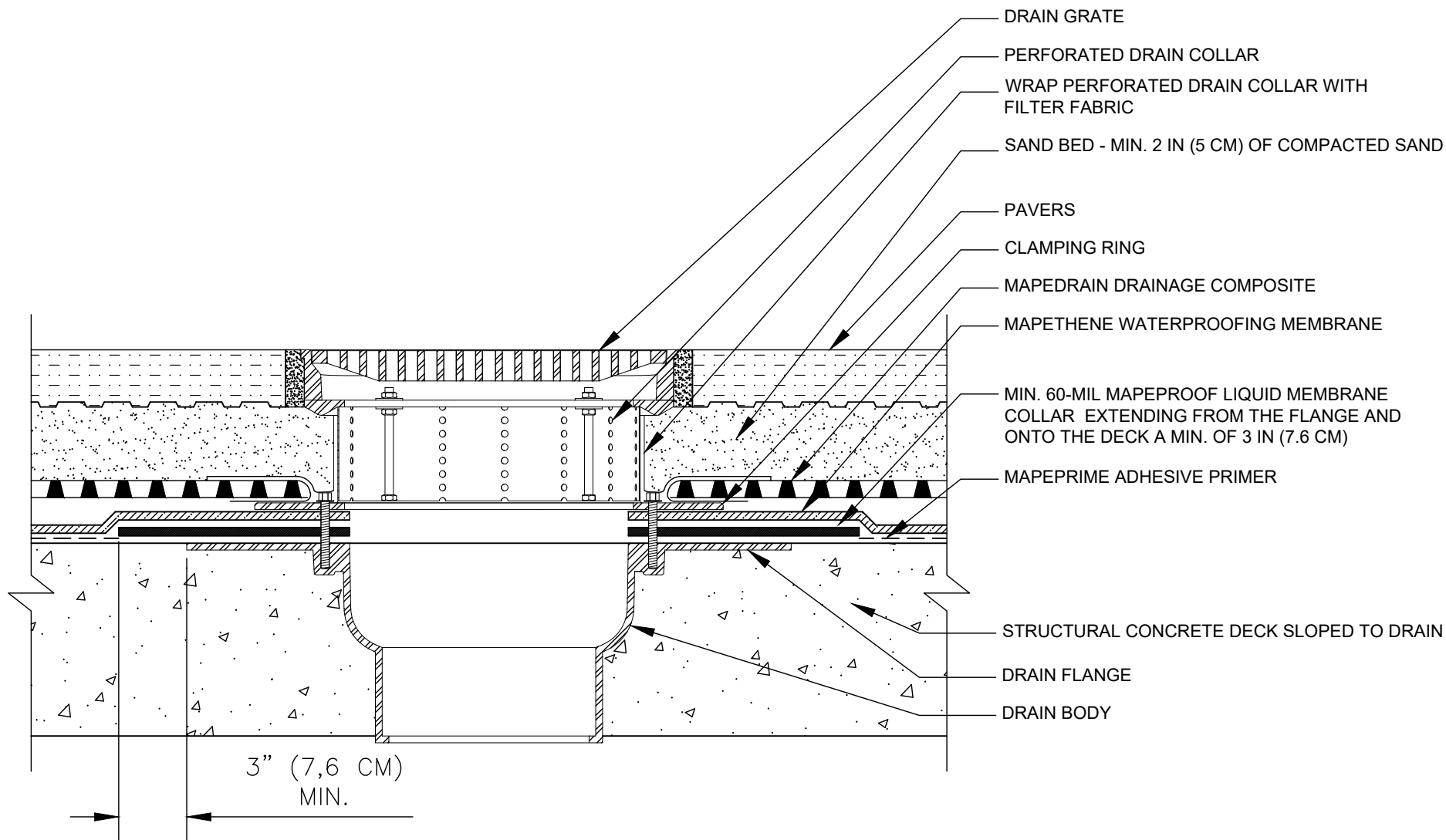
DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
 00/00/0000

**DATE:**  
 02/01/2022

**SCALE:**  
 NOT TO SCALE

**DRAWING #:**  
**MT-9A**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## PLAZA DECK DRAIN WITH SAND SET PAVERS

DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

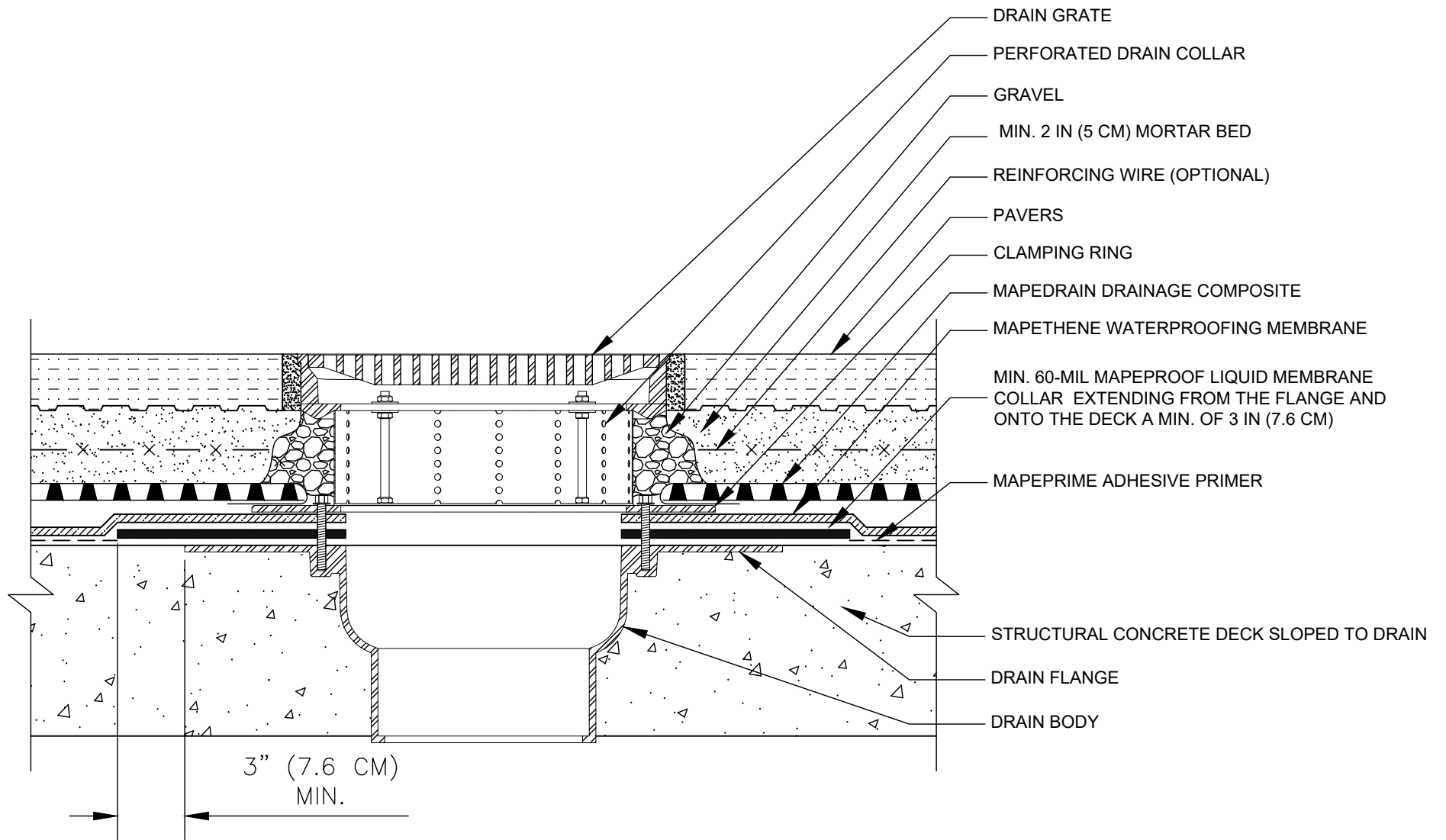
02/01/2022

**SCALE:**

NOT TO SCALE

**DRAWING #:**

**MT-9B**



- DRAIN GRATE
- PERFORATED DRAIN COLLAR
- GRAVEL
- MIN. 2 IN (5 CM) MORTAR BED
- REINFORCING WIRE (OPTIONAL)
- PAVERS
- CLAMPING RING
- MAPERAIN DRAINAGE COMPOSITE
- MAPETHENE WATERPROOFING MEMBRANE
- MIN. 60-MIL MAPEPROOF LIQUID MEMBRANE COLLAR EXTENDING FROM THE FLANGE AND ONTO THE DECK A MIN. OF 3 IN (7.6 CM)
- MAPEPRIME ADHESIVE PRIMER
- STRUCTURAL CONCRETE DECK SLOPED TO DRAIN
- DRAIN FLANGE
- DRAIN BODY

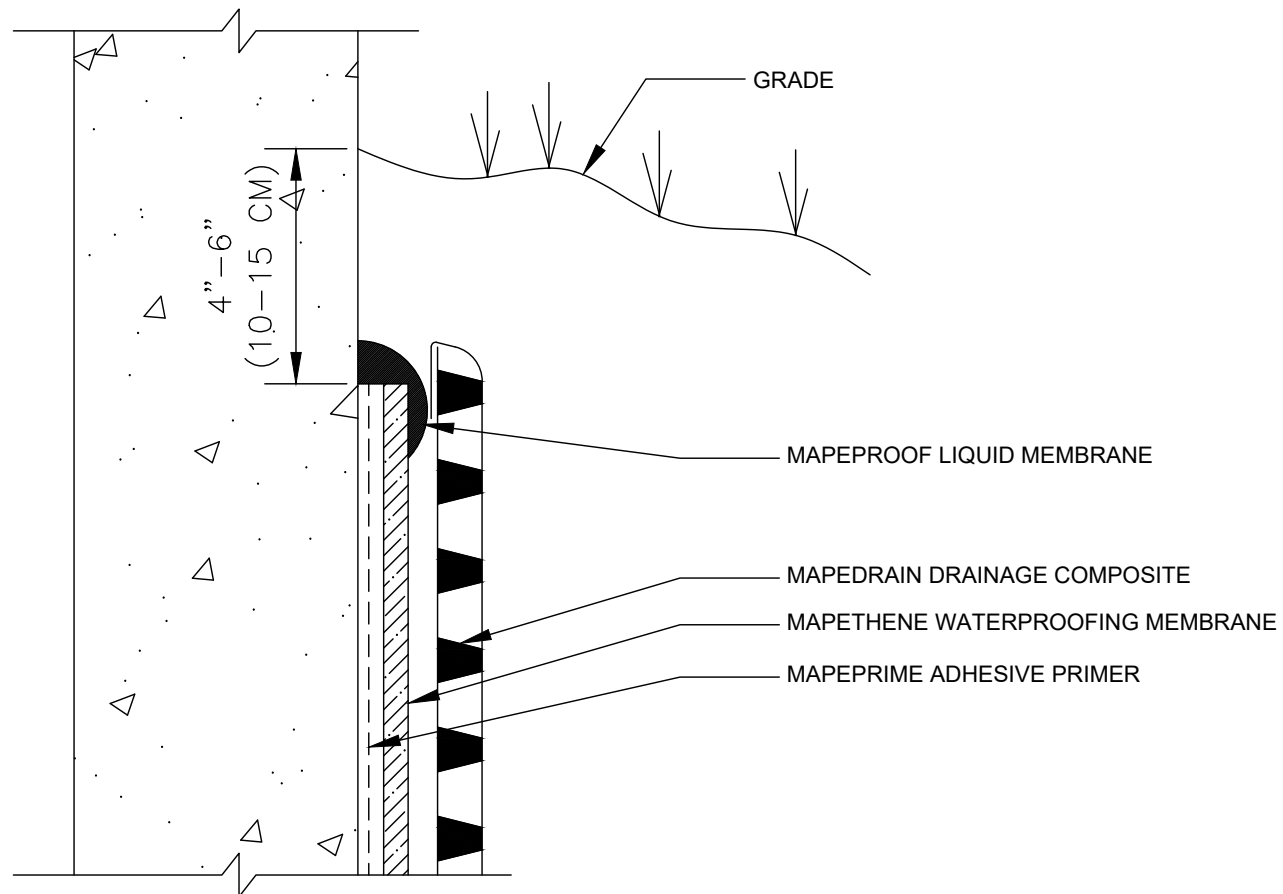


**polyglass.us**  
 1111 West Newport Center Drive  
 Deerfield Beach, FL 33442  
 Technical Service: (866) 794-9659  
 technical@polyglass.com

# PLAZA DECK DRAIN WITH PAVERS & MORTAR BED

DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

<b>SUPERCEDES:</b>	00/00/0000
<b>DATE:</b>	02/01/2022
<b>SCALE:</b>	NOT TO SCALE
<b>DRAWING #:</b>	MT-9C



**NOTES:**

1. TERMINATE MAPETHENE WATERPROOFING MEMBRANE AND MAPEDRAIN DRAINAGE COMPOSITE APPROXIMATELY 4-6 IN (10-15 CM) BELOW FINAL GRADE.
2. IF MAPETHENE WATERPROOFING MEMBRANE EXTENDS ABOVE FINAL GRADE, IT MUST BE PROTECTED WITH METAL COUNTER FLASHING.



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## VERTICAL TERMINATION

DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

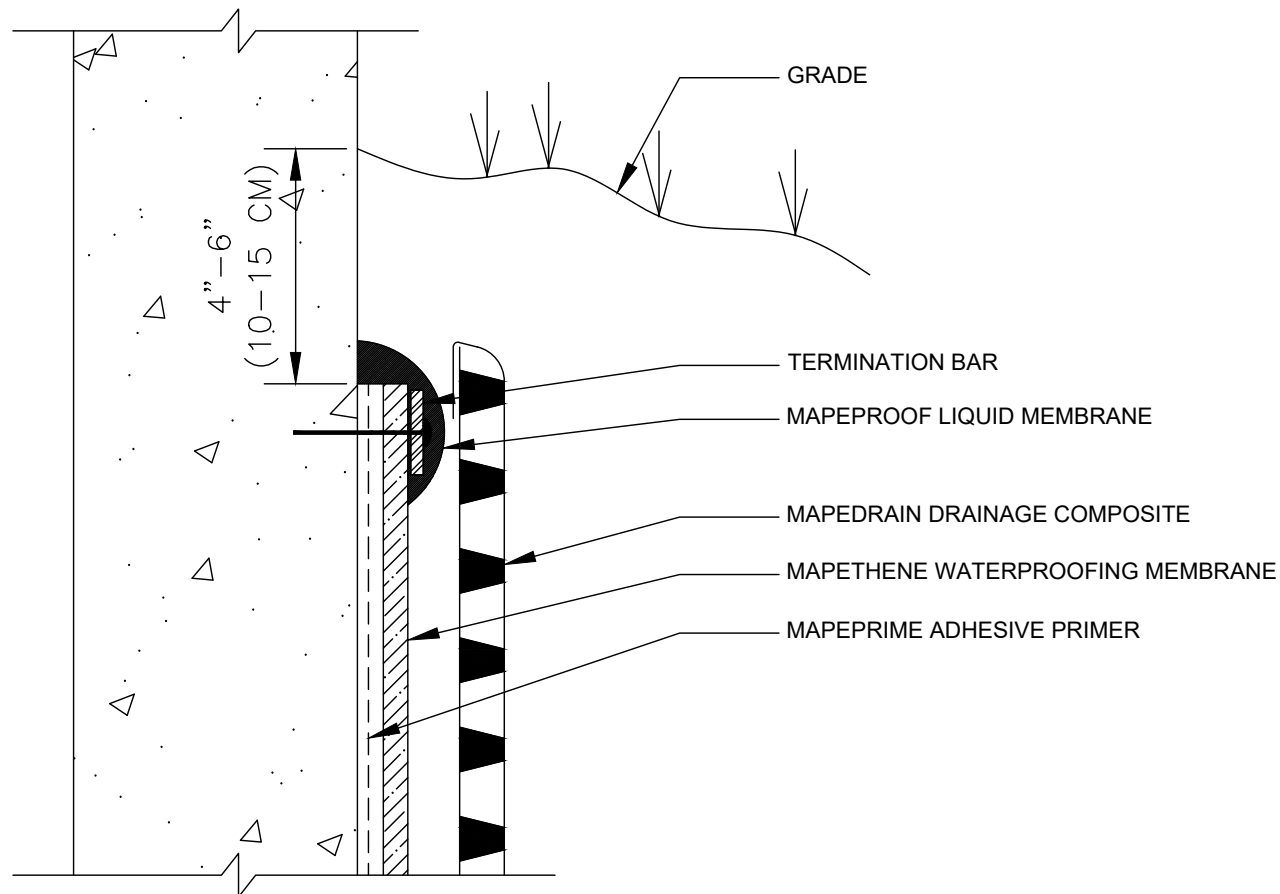
02/01/2022

**SCALE:**

NOT TO SCALE

**DRAWING #:**

**MT-10A**



**NOTES:**

1. TERMINATE MAPETHENE WATERPROOFING MEMBRANE AND MAPEDRAIN DRAINAGE COMPOSITE APPROXIMATELY 4-6 IN (10-15 CM) BELOW FINAL GRADE.
2. IF MAPETHENE WATERPROOFING MEMBRANE EXTENDS ABOVE FINAL GRADE, IT MUST BE PROTECTED WITH METAL COUNTER FLASHING.
3. TERMINATION BAR REQUIRED ON CMU



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## VERTICAL TERMINATION WITH TERMINATION BAR

DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

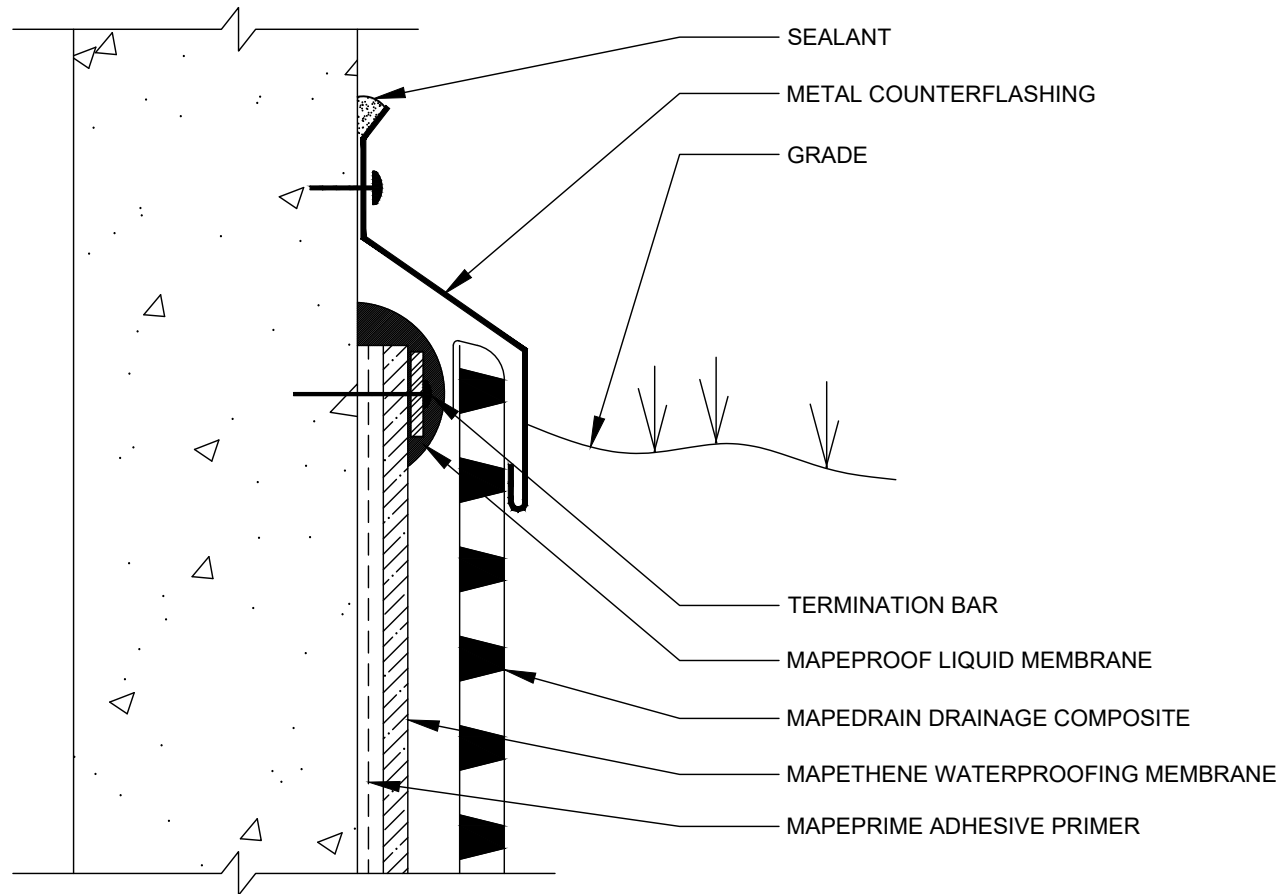
02/01/2022

**SCALE:**

NOT TO SCALE

**DRAWING #:**

**MT-10B**



**NOTES:**

IF MAPETHENE WATERPROOFING MEMBRANE EXTENDS ABOVE FINAL GRADE, IT MUST BE PROTECTED WITH METAL COUNTER FLASHING.



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## VERTICAL TERMINATION WITH TERMINATION BAR & COUNTER FLASHING

DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

02/01/2022

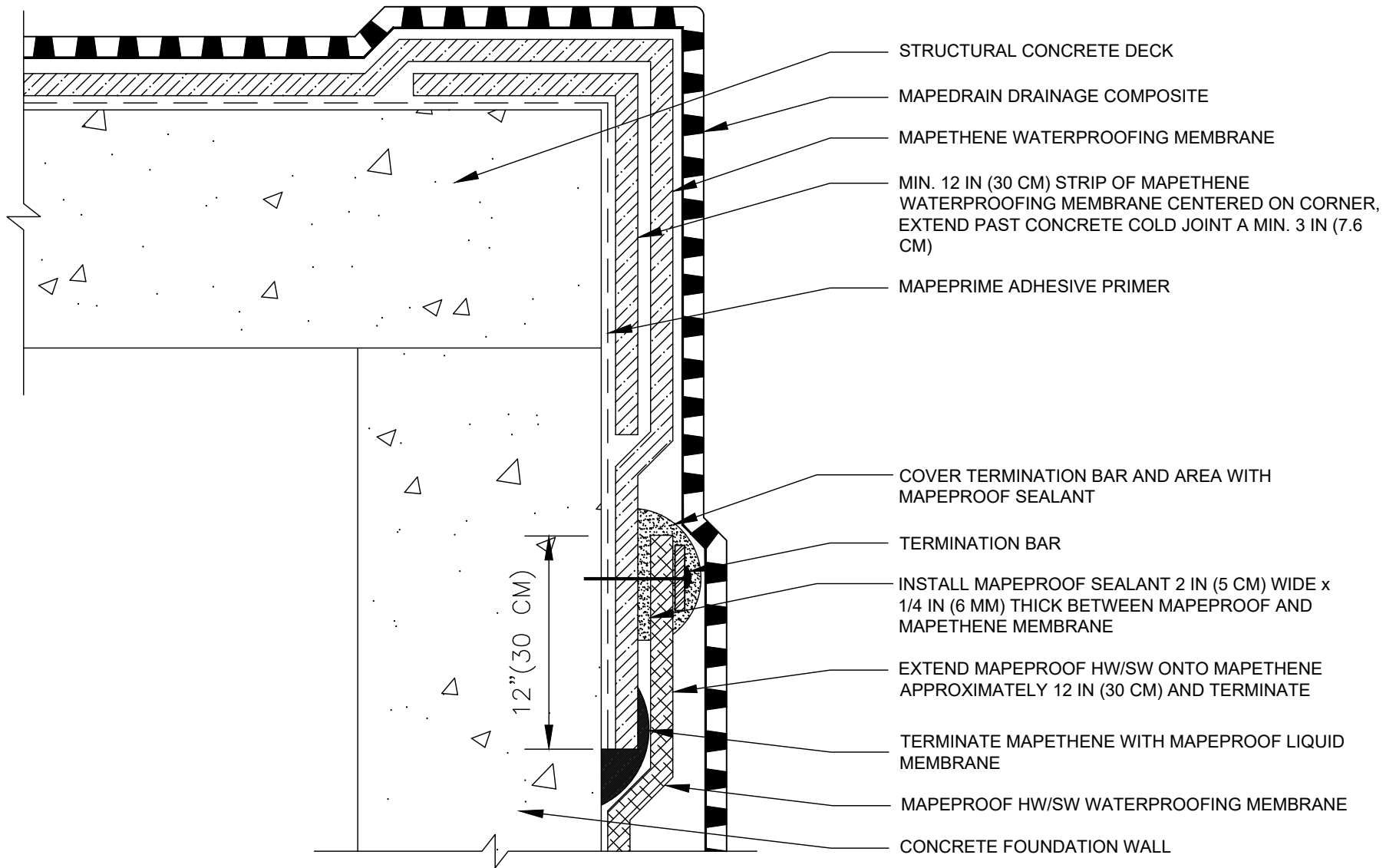
**SCALE:**

NOT TO SCALE

**DRAWING #:**

**MT-10C**





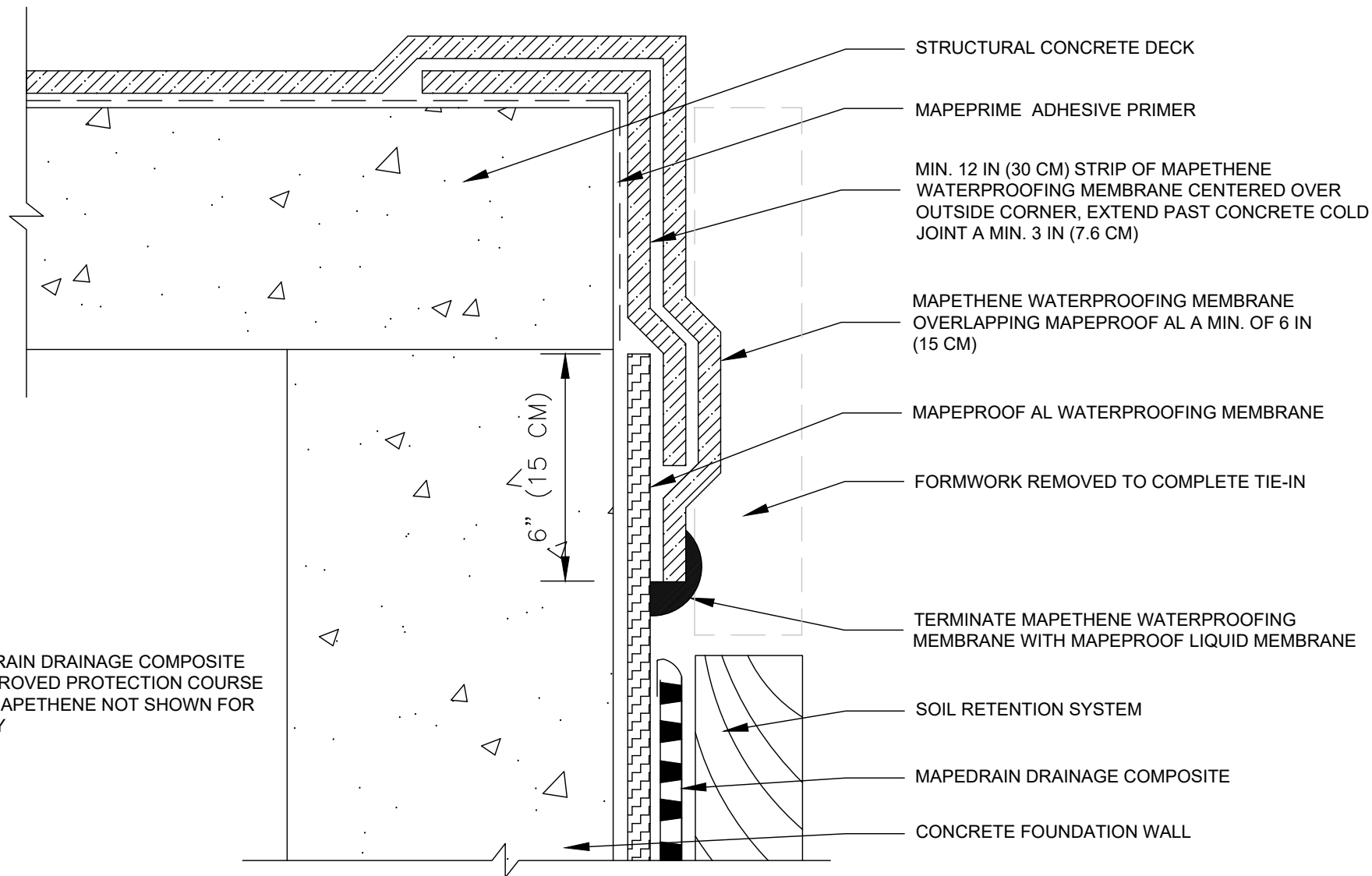
**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## DECK/FOUNDATION WALL MAPETHENE/MAPEPROOF HW/SW TIE-IN

DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

<b>SUPERCEDES:</b>	00/00/0000
<b>DATE:</b>	02/01/2022
<b>SCALE:</b>	NOT TO SCALE
<b>DRAWING #:</b>	<b>MT-11A</b>



**NOTES**  
 MAPEDRAIN DRAINAGE COMPOSITE  
 OR APPROVED PROTECTION COURSE  
 OVER MAPETHENE NOT SHOWN FOR  
 CLARITY



**polyglass.us**

1111 West Newport Center Drive  
 Deerfield Beach, FL 33442  
 Technical Service: (866) 794-9659  
 technical@polyglass.com

## DECK/FOUNDATION WALL MAPETHENE TO MAPEPROOF AL TIE-IN

DETAIL IS INTENDED TO BE A GUIDE FOR WATERPROOFING INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

**DATE:**  
02/01/2022

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
**MT-11B**



5 YEAR MAPETHENE™ HT60 MATERIAL WARRANTY

Owner's Name:  
Owner's Address:

Contractor Name:  
Contractor Address:  
Contractor Phone:

Building Name:  
Building Address:

Contractor Phone:  
Polyglass Registered Contractor #:

Polyglass Product(s) Used:

Product

Project Size Square Feet:

Installation Completion Date:  
Warranty Number:

**TERMS AND CONDITIONS:**  
Definitions: "Polyglass" shall mean Polyglass® U.S.A, Inc. 1111 W. Newport Center Drive; Deerfield Beach, FL 33442. "Owner" shall mean the original party listed above as Owner's Name whose building the Polyglass waterproofing membrane product is installed.

Polyglass warrants; the Polyglass' product(s) to be free from manufacturing defects which affects the ability of the membrane to perform in a watertight manner (herein considered defective) for the period of Five (5) years from the date of original installation of the membrane as identified above.

Should Polyglass' membrane be deemed defective by Polyglass, as described above, Polyglass shall provide replacement material to the owner equal in quantity to the material found to be defective. Polyglass' maximum liability, under any circumstances, shall not exceed the original cost of the defective membrane; excluding all installation related labor costs or other materials not supplied or furnished by Polyglass.

- Polyglass shall have no obligation based upon the following exclusions under this warranty:**
- 1) Damage by natural disasters, including but not limited to lightning, hail, floods, hurricanes, tornadoes, earthquakes or similar acts of God or natural causes;
  - 2) Damage by willful or negligent acts, fire, vandalism, or other misuse;
  - 3) Damage by use of materials not furnished or approved by Polyglass or chemical incompatibility with other materials;
  - 4) Structural failure including gaps or cracks in the structural deck or wall in excess of 1/16" wide, cracking due to structural movement, excessive deflection or other failure of the substrate;
  - 5) Alterations or repairs made to the membrane without prior written authorization of Polyglass;
  - 6) Failure due to workmanship or improper installation as determined by Polyglass' sole judgment;
  - 7) Failure to strictly comply with Polyglass' latest instructions and recommendations as to product installation;
  - 8) Failure to comply with any and all Terms and Conditions of this warranty;
  - 9) Damage or injury arising in any way from an actual or alleged discharge or release of any pollutant or waste, environmental or airborne contaminants;
  - 10) Damage or injury arising in any way from testing/sampling of membrane, design and consulting errors or omissions.

In addition to items 1-10 above, owner agrees by acceptance of this warranty that Polyglass shall have no responsibility whatsoever for bodily injury to any person or damage to the structure or its contents directly or indirectly arising out of any defects in its waterproofing membrane or any other consequential or incidental damages or attorney's fees. Polyglass' sole responsibility is to provide replacement of defective membrane that is directly related to leakage. This warranty does not include the cost of removal of existing materials, the cost of labor to remove or replace any overburden, or any other obstructions concealing the Polyglass membrane.

**Cancellation of Warranty:** This warranty shall become null and void if any of the following work is performed without prior written approval of Polyglass: a) any alterations or repairs to the membrane of any magnitude; b) subsequent work on or through the membrane, or c) changes in building usage; d) change in ownership of the building; e) any unauthorized damaging activity to the membranes

**Claim Procedure:**  
Polyglass shall have no obligation under this warranty unless Owner shall have promptly notified Polyglass in writing along with attached Proof of Purchase to Polyglass by Registered or Certified Mail. Direct all claims to Polyglass U.S.A, Inc. 1111 W. Newport Center Drive, Deerfield Beach, Florida 33442, ATTN: Warranty Department. Any claim shall provide a copy of warranty and detailed information of the leakage and alleged defect. Polyglass must receive such notice within ten (10) days after discovery of the claimed defect. Failure to notify will result in voiding of this warranty. Polyglass reserves the right to request retained samples of the membrane to be provided at Owner's expense and submitted to Polyglass for analysis in lieu of any site review of in-service materials/conditions.

Owner shall provide Polyglass, and its agents and employees, free, safe and reasonable access to the building during regular business hours during the term of the warranty. Owner shall be responsible for all costs related to safe and reasonable access to investigate claim. Failure to comply will result in voiding of this warranty.

Polyglass' good-faith determination of the source of leakage, damage, or alleged defect to the waterproofing shall be exclusive and binding to owner.  
Polyglass' failure at any time to enforce any of the terms and conditions of this warranty shall not be construed as a waiver of such provisions.  
Polyglass reserves the right to discontinue or modify any of its products and shall not be liable to Owner as a result of any such discontinuance or modification.

This constitutes your entire express warranty for the products or system of products purchased. To the extent permitted by law, all other warranties, whether expressed or implied, including, but not limited to the implied warranties of **MERCHANTABILITY** and **FITNESS FOR A PARTICULAR PURPOSE** are EXCLUDED. ANY IMPLIED WARRANTIES ARISING BY OPERATION OF LAW ARE LIMITED IN DURATION TO THE TERM OF THIS WARRANTY. POLYGLASS WILL NOT PAY OR BE LIABLE UNDER ANY CIRCUMSTANCES FOR INCIDENTAL, CONSEQUENTIAL, SPECIAL OR EXEMPLARY DAMAGES, OR FOR LOST PROFITS OR BUSINESS INTERRUPTION LOSS. YET, SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. No implied warranty can be modified by any course of dealing, course of performance or usage of trade. This warranty gives you specific legal rights and you may also have other rights which vary from state to state. NO REPRESENTATION, PROMISE, AFFIRMATION OR STATEMENT BY ANY EMPLOYEE OR AGENT OF POLYGLASS WILL BE ENFORCEABLE AGAINST POLYGLASS UNLESS IT IS SPECIFICALLY INCLUDED IN THIS WARRANTY. POLYGLASS' AGENTS HAVE NO AUTHORITY TO GIVE WARRANTIES BEYOND THOSE PROVIDED IN THS WARRANTY.ALL RIGHTS AND DUTIES ARISING UNDER THIS WARRANTY SHALL BE GOVERNED BY FLORIDA LAW.

**Warranty as provided by Polyglass is solely based upon information provided within the Product Registration/Warranty Request Form. Information presented and determined as incomplete or inaccurate, shall result in this warranty being null and void.**

Signed on Behalf of Polyglass U.S.A. Inc.

Date

# CSI Form 1.5C

## SUBSTITUTION REQUEST (During the Bid Period)

Project: Farmville Fire Station Substitution Request Number: \_\_\_\_\_  
From: Polyglass USA, Inc. - Mapei Group  
To: Davis Kane Date: 07/01/2025  
A/E Project Number: \_\_\_\_\_  
Re: \_\_\_\_\_ Contract For: \_\_\_\_\_

Specification Title: Division 7 Description: Fluid-Applied Membrane Air Barriers  
Section: 072726 Page: 4 Article/Paragraph: 2.3

Proposed Substitution: VertiWrap VPL  
Manufacturer: Polyglass USA, Inc. Address: 1111 W. Newport Center Drive Phone: 888-410-1375  
Trade Name: Deerfield Beach, FL 33442 Model No.: \_\_\_\_\_

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

Submitted by: Alexandra Jewel

Signed by: Alexandra Jewel

Firm: Polyglass USA, Inc. - Mapei Group

Address: 1111 W. Newport Center Drive Deerfield Beach, FL 33442

Telephone: 954-529-1378

### A/E's REVIEW AND ACTION

- ☐ Substitution approved - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.  
☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.  
☒ Substitution rejected - Use specified materials.  
☐ Substitution Request received too late - Use specified materials.

The air barrier does not meet the minimum thickness requirement of 35 mils when dry.

Signed by: Devanshi Kesaria

Date: 7/3/2025

Supporting Data Attached: ☒ Drawings ☒ Product Data ☐ Samples ☒ Tests ☒ Reports ☐ \_\_\_\_\_

# POLYGLASS<sup>®</sup>



## SUBMITTAL PACKAGE

**VERTIWRAP<sup>™</sup> VPL**  
**Air Barrier System**

**Polyglass U.S.A., Inc.**

**CORPORATE OFFICE**

1111 WEST NEWPORT CENTER DRIVE  
DEERFIELD BEACH, FL 33442  
(954) 233-1330 • FAX (954) 418-4453

[polyglass.us](http://polyglass.us)



**Subject: Polyglass VERTIWRAP™ VPL PRIMERLESS, FLUID-APPLIED, WATER RESISTIVE VAPOR PERMEABLE AIR BARRIER SYSTEM CERTIFICATION LETTER**

This letter is to certify that VERTIWRAP™ VPL meets or exceeds the physical properties published on the technical data sheet and is NFPA 285 compliant as part of various wall assemblies. All testing has been completed by a 3<sup>rd</sup> party testing laboratory.

AAMA 711 compliant detail tapes (VERTIWRAP™ NPS) are available in 6", 9", & 12" for a complete and continuous air barrier system.

Polyglass and its facilities are certified to ISO 9001; 2015.

Mark Franciosi  
National Technical Services Manager  
Building Envelope Solutions  
Polyglass USA, Inc.

# VERTIWRAP™ VPL

## PRIMERLESS, FLUID-APPLIED, WATER RESISTIVE VAPOR PERMEABLE AIR BARRIER

### PRODUCT DESCRIPTION

VertiWrap VPL air barrier membrane permits the passage of water vapor, while acting as a barrier to air and liquid water. VertiWrap VPL reduces the build up of moisture in the wall assembly, increasing the wall durability and comfort of the building occupants. VertiWrap VPL incorporates SwiftSet™ Technology which allows rain resistance in 30 minutes under ideal conditions\*. VertiWrap VPL is compliant in a wide variety of NFPA285 wall assemblies.

\*50°F and rising, in direct sunlight

### FEATURES AND BENEFITS

- 13 perms
- SwiftSet Technology – rain ready in 30 minutes under ideal conditions
- Single pass application
- 50 mils wet, 25 mils dry
- Designed to be sprayed, rolled, or trowel applied
- Monolithic membrane fully adheres to substrate virtually eliminating water migration
- Sheds water while allow vapor to pass
- 6 months UV Exposure
- Seals around fasteners used in brick ties, terminations bars, etc.
- NFPA 285 compliant in most wall assemblies

### SYSTEM COMPONENTS

- VertiWrap NPS
- VertiWrap TVWF
- VertiSeal 50

### TECHNICAL DESCRIPTION

Property	Test Method	Typical Result
Color		Green
Thickness, nominal		50 mil WFT / 25 mil DFT
Application Temperature, min		+40°F (4.4°C)
Water Resistance	ASTM E331	PASS @ > 15 psf
Water Vapor Permeance	ASTM E96	13 perms
Air Leakage (Membrane)	ASTM E2178	< 0.02 L/s.m. <sup>2</sup>
Air Leakage through Assembly	ASTM E2357	PASS
Elongation	ASTM D412 Die C	> 250%
Tensile Strength	ASTM D412 Die C	100 psi
Nail Sealability	ASTM D1970 Sec 8.9	PASS
Low Temperature Flexibility	AC38 Section 3.34	PASS
UV Exposure	AC38 Section 4.1.2	PASS
Flame Spread	ASTM E84	Class A
Smoke Developed	ASTM E84	Class A
NFPA 285	NFPA 285	PASS
VOC Content	EPA Method 24	< 50 g/L

### STORAGE AND SHELF LIFE

12 month shelf-life if stored in its original packaging in a dry environment at a temperature between 40°F and 90°F (4°C and 32°C). Store VertiWrap VPL off the ground and protected from moisture and freezing.



### PRODUCT DATA

#### 5 gal pails

Gross Weight – 52 lb (23.6 kg)  
Net Weight – 49.9 lb (22.6 kg)  
36 Pails per Pallet

#### 55 gal drums

Gross Weight – 604 lb (273.9 kg)  
Net Weight – 549 lb (249 kg)  
4 Drums per Pallet

### APPROVALS & CERTIFICATIONS

- NFPA 285 Compliant

### WHERE TO USE

- Above grade walls

### PRODUCT CODES

- VertiWrap VPL 5 gal – VTWWPL05G
- VertiWrap VPL 55 gal – VTWWPL55G

**POLYGLASS**



[www.polyglass.us](http://www.polyglass.us)

# VERTIWRAP™ VPL

## PRIMERLESS, FLUID-APPLIED, WATER RESISTIVE VAPOR PERMEABLE AIR BARRIER

### LIMITATIONS

- VertiWrap VPL cannot be permanently exposed to UV and must be protected or covered with the exterior cladding within 6 months of installation.
- VertiWrap VPL has a maximum in-service temperature of 180°F (82°C).

### SUITABLE SUBSTRATES AND SURFACE PREPARATION

#### EXTERIOR GRADE GLASS MAT SHEATHING, PLYWOOD OR OSB

Panel joints should be securely fastened, flush and spaced according to the manufacturer's requirements. All sheathing joints must be filled with VertiSeal 50, extending approximately ½" on each side of the joint at a minimum thickness of 15 mils. VertiWrap VPL can be installed over VertiSeal 50 once the sealant is tack free. Damaged sheathing must be repaired according to the manufacturer's requirements prior to application. Mapeprime S710 or solvent based spray adhesive on gypsum cut edges is advised prior to installing VertiWrap products.

#### CONCRETE MASONRY UNIT (CMU)

CMU joints should be struck full and flush, and mortar must be allowed to cure for a minimum of 3 days prior to application of the VertiWrap system. All mortar must be removed from pre-installed brick ties.

#### CONCRETE

Remove any loose aggregate and repair spalled areas or other deficiencies in the concrete. Bugholes greater than ¼" should be repaired with a non-shrink grout and all form match lines removed. Allow concrete to cure for a minimum of 7 days.

### PRODUCT APPLICATION

#### TEMPERATURE

VertiWrap VPL may be applied to clean, dry, frost free substrates per surface preparation guidelines when air and surface temperature are 40°F (4°C) and rising. At temperatures of 50°F (10°C) and rising in direct sunlight, VertiWrap VPL can accept moderate rain 30 minutes after application with no adverse effects. At colder temperatures and or damp conditions, curing will be extended and installation prior to expected rainfall should be avoided. VertiWrap VPL fully cure in 24 hours at 70°F (21°C) with 50% relative humidity.

### INSTALLATION

- Ensure that wall assemblies are dried in and that the top of walls are protected from water intrusion prior to installing. All substrates must be clean, dry and free of frost.
- VertiWrap VPL is ready to use and requires no mixing unless separation is observed. Installation can be achieved by standard roller, power roller, brush or spray. For spray

applications a pneumatic or airless sprayer with a working pressure of 3500 psi and a 45:1 lower unit capable of delivering approx. 3 gallons per minute is advised. Typical spray equipment would be a Graco 733/833 with a hose combination of ½" and ⅜" and tip sizes ranging from 0.035–0.039. Consult Polyglass Technical Services for additional details on spray equipment.

- Treat all outside corners and transitions to dissimilar substrates with a minimum 6" (15 cm) strip of VertiWrap NPS centered over the corner.
- All penetrations through the VertiWrap VPL system must be fully secured. VertiSeal 50 or a Polyglass approved sealant must be applied around all penetrations through the VertiWrap VPL membrane. VertiSeal 50 may also be applied to all post applied fasteners at the discretion of the installer or as part of the project design requirements.
- VertiWrap NPS can be used at window and door openings, alternatively VertiWrap VPL can be used as flashing at the jambs and the head after pre-treating the interface between the sheathing and framing with VertiSeal 50. VertiWrap NPS must always be installed at the sill if VertiWrap VPL is used as the jambs and head. See standard Polyglass details for additional detailing instructions.

### COVERAGE

- VertiWrap VPL applied at 50 wet mils will provide a typical coverage rate of 32 ft²/gal to achieve a 25 mil dry film thickness.
- Coverage rates may vary depending on the substrate porosity and texture of the substrate. Very porous substrates will result in lower coverage rates.

### REPAIRS

- The system should be inspected for damage prior to concealment.
- Repairs to damaged areas should be made by first removing any unbonded membrane and then installing VertiWrap VPL a min. of 6" past the damaged area.

### CLEANING

Mild detergent and water can be used to clean tools and equipment.



# VERTIWRAP™ VPL

## PRIMERLESS, FLUID-APPLIED, WATER RESISTIVE VAPOR PERMEABLE AIR BARRIER

### CORPORATE HEADQUARTERS

Polyglass U.S.A., Inc.  
1111 West Newport Center Drive  
Deerfield Beach, FL 33442

[www.polyglass.us](http://www.polyglass.us)

General Line: (888) 410-1375  
(954) 233-1330

Customer Service: (800) 222-9782

Technical Service: (866) 794-9659

**Questions?** [technical@polyglass.com](mailto:technical@polyglass.com)

**Product Disclaimer:** Unless otherwise incorporated into or part of a supplemental manufacturer's warranty, Polyglass warrants its product(s) against manufacturing defects in its product that directly results in leakage for a period of 1 year. Refer to safety data sheet (SDS) for specific data and handling of our products. All data furnished refers to standard production and is given in good faith within the applicable manufacturing and testing tolerances. Polyglass U.S.A., Inc., reserves the right to improve and change its products at any time without prior notice. Polyglass U.S.A., Inc. cannot be held responsible for the use of its products under conditions beyond its own control. For most current product data, detail drawings and warranty information, visit [www.polyglass.us](http://www.polyglass.us)

**POLYGLASS®**



[www.polyglass.us](http://www.polyglass.us)

# VERTISEAL™ 50

## ONE-PART, LOW VOC, MOISTURE CURE, SEALANT FOR USE WITH VERTIWRAP AIR AND VAPOR BARRIERS

### PRODUCT DESCRIPTION

VertiSeal 50 is a silane-terminated polyether (STPE) based sealant designed for use in terminations, penetrations, and openings. Low-odor formula is VOC compliant in all 50 states.

### FEATURES AND BENEFITS

- ASTM C920 Type S, Grade NS, Class 50
- STPE technology
- VOC < 20 g/L
- Virtually no shrink
- Rain resistant in minutes
- AAMA-714-22 compliant

### SYSTEM COMPONENTS

- VertiWrap VPL
- VertiWrap VPS
- VertiWrap NPS
- VertiWrap NPL

### TECHNICAL DESCRIPTION

Property	Test Method	Typical Result
Color		White
Elongation	ASTM D412	1200%
Tensile Strength	ASTM D412	125 psi
Hardness	ASTM C661	15 A
Modulus @ 100% elongation	ASTM D412	20 psi
Service Temperature		-75°F to 300°F
Skin time		20 – 30 minutes

### STORAGE AND SHELF LIFE

12 month shelf-life if stored in its original packaging in a dry environment at a temperature between 40°F and 80°F (4°C and 26.7°C). Store VertiSeal 50 off the ground and protected from moisture.

### LIMITATIONS AND PRODUCT APPLICATION

Reference installation guide or contact Technical Service for limitations and proper application guidance.



### PRODUCT DATA

20 oz Sausage  
20 Sausages per Carton  
Gross Weight: 45 lb (20.4 kg)  
Net Weight: 44.5 lb (20.2 kg)  
Cartons per Pallet: 45

### WHERE TO USE

- Above grade walls transitions and terminations
- Window and door openings
- Penetration details

### PRODUCT CODES

- VertiSeal 50 Carton (20 oz Sausages) – VTS5020



[www.polyglass.us](http://www.polyglass.us)

# VERTISEAL™ 50

## ONE-PART, LOW VOC, MOISTURE CURE, SEALANT FOR USE WITH VERTIWRAP AIR AND VAPOR BARRIERS

### CORPORATE HEADQUARTERS

Polyglass U.S.A., Inc.  
1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
[www.polyglass.us](http://www.polyglass.us)

General Line: (888) 410-1375  
(954) 233-1330

Customer Service: (800) 222-9782

Technical Service: (866) 794-9659

**Questions?** [technical@polyglass.com](mailto:technical@polyglass.com)

**Product Disclaimer:** Unless otherwise incorporated into or part of a supplemental manufacturer's warranty, Polyglass warrants its product(s) against manufacturing defects in its product that directly results in leakage for a period of 1 year. Refer to safety data sheet (SDS) for specific data and handling of our products. All data furnished refers to standard production and is given in good faith within the applicable manufacturing and testing tolerances. Polyglass U.S.A., Inc., reserves the right to improve and change its products at any time without prior notice. Polyglass U.S.A., Inc. cannot be held responsible for the use of its products under conditions beyond its own control. For most current product data, detail drawings and warranty information, visit [www.polyglass.us](http://www.polyglass.us)



# VERTIWRAP™ NPS

## PRIMERLESS, SELF-ADHERED, WATER RESISTIVE NON-PERMEABLE AIR AND VAPOR BARRIER

### PRODUCT DESCRIPTION

VertiWrap NPS air barrier membrane prevents the passage of air, water vapor, and liquid water from entering the wall assembly. VertiWrap NPS locks moisture out of the wall assembly, increasing the wall durability and comfort of the building occupants. Primerless and Self-Adhered to a variety of substrates, including glass-mat exterior grade sheathing, for quick and easy install. VertiWrap NPS is compliant in a wide variety of NFPA 285 Wall Assemblies.

### FEATURES AND BENEFITS

- Impermeable to air, liquid water, and water vapor
- Primerless, airtight adhesion to glass mat sheathing down to 25°F
- Immediate resistance to wind-driven rain
- Fully adhered to substrate eliminating water migration
- Seals around fasteners used in brick ties, termination bars, etc.
- 6 months UV exposure
- NFPA 285 compliant in most wall assemblies
- AAMA 711 compliant detail tape available in 6", 9", 12" widths

### SYSTEM COMPONENTS

- VertiWrap VPS
- VertiWrap VPL
- VertiWrap NPL
- VertiSeal 50

### TECHNICAL DESCRIPTION

Property	Test Method	Typical Result
Color		White with Green Print
Thickness, nominal		12 mils
Application Temperature, min		+25°F (-3.9°C)
Water Resistance	ASTM E331	PASS @ > 15 psf
Water Resistance	AATCC TM127 Method B Option 2	PASS - 55 cm static water head for 5 hours without water leakage
Water Vapor Permeance	ASTM E96	< 0.1 perms
Air Leakage (Membrane)	ASTM E2178	< 0.02 L/s.m. <sup>2</sup>
Air Leakage through Assembly	ASTM E2357	< 0.2 L/s.m. <sup>2</sup>
Tensile Strength, Dry	ASTM D882	> 40 lbf / in per in width
Average Break Force, Dry	ASTM D5034	> 40 lb MD > 35 lb XD
Peel Adhesion to DensGlass <sup>1</sup>	ASTM D903	> 4.5 lbf/in
Lap Adhesion @ 25°F <sup>2</sup>	ASTM D903 Modified	> 4.5 lbf/in
Nail Sealability	ASTM D1970 Sec 8.9	PASS
Low Temperature Flexibility	AC38 Section 3.34	PASS
UV Exposure	AC38 Section 4.1.2	PASS
Flame Spread	ASTM E84	Class A
Smoke Developed	ASTM E84	Class A
NFPA 285	NFPA 285	PASS

1. At room temperature after 24 hours of conditioning at test temperature and pull speed of 6 in/min

2. At 25°F after 24 hours of conditioning at test temperature and pull speed of 6 in/min



### PRODUCT DATA

3' x 75' (0.9 m x 22.8 m)

225 ft<sup>2</sup>/roll (20.9 m<sup>2</sup>)

Weight per roll 15.1 lb (6.8 kg)

40 rolls per pallet

### APPROVALS & CERTIFICATIONS

- NFPA 285 Complaint
- 6", 9", and 12" widths all comply with AAMA 711

### WHERE TO USE

- Above grade walls
- Transition details
- Windows and doors

### PRODUCT CODES

- VertiWrap NPS 36" – VTWNPS3675
- VertiWrap NPS 12" – VTWNPS1275
- VertiWrap NPS 9" – VTWNPS0975
- VertiWrap NPS 6" – VTWNPS0675



[www.polyglass.us](http://www.polyglass.us)

# VERTIWRAP™ NPS

## PRIMERLESS, SELF-ADHERED, WATER RESISTIVE NON-PERMEABLE AIR AND VAPOR BARRIER

### STORAGE AND SHELF LIFE

12 month shelf-life if stored in its original packaging in a dry environment at a temperature between 40°F and 90°F (4°C and 32°C). Store VertiWrap NPS off the ground and protected from moisture.

### LIMITATIONS AND PRODUCT APPLICATION

Reference installation guide or contact Technical Service for limitations and proper application guidance.

### CORPORATE HEADQUARTERS

Polyglass U.S.A., Inc.  
1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
[www.polyglass.us](http://www.polyglass.us)

General Line: (888) 410-1375  
(954) 233-1330

Customer Service: (800) 222-9782  
Technical Service: (866) 794-9659

**Questions?** [technical@polyglass.com](mailto:technical@polyglass.com)

**Product Disclaimer:** Unless otherwise incorporated into or part of a supplemental manufacturer's warranty, Polyglass warrants its product(s) against manufacturing defects in its product that directly results in leakage for a period of 1 year. Refer to safety data sheet (SDS) for specific data and handling of our products. All data furnished refers to standard production and is given in good faith within the applicable manufacturing and testing tolerances. Polyglass U.S.A., Inc., reserves the right to improve and change its products at any time without prior notice. Polyglass U.S.A., Inc. cannot be held responsible for the use of its products under conditions beyond its own control. For most current product data, detail drawings and warranty information, visit [www.polyglass.us](http://www.polyglass.us)



[www.polyglass.us](http://www.polyglass.us)

## Safety Data Sheet

### VERTISEAL 50

Safety Data Sheet dated: 01/11/2023 - version 1

Date of first edition: 01/11/2023



## 1. IDENTIFICATION

### Product identifier

Mixture identification:

Trade name: VERTISEAL 50

Trade code: 9067102

### Recommended use of the chemical and restrictions on use

Recommended use: Adhesive; Sealant

Restrictions on use: Not available

### Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Company: Polyglass U.S.A. Inc.

1111 West Newport Center Drive

33442 - Deerfield Beach - FL - USA

Phone: +1 866-222-9782

Responsible: info@polyglass.com

### Emergency 24 hour numbers:

Emergency Number (USA/Canada) CHEMTREC 1(800) 424-9300 / 1(703) 527-3887 Emergency Transport CANUTEC (Canada) 1-613-996-6666

## 2. HAZARD(S) IDENTIFICATION



### Classification of the chemical

Eye irritation, Category 2A

Causes serious eye irritation.

Skin Sensitization, Category 1

May cause an allergic skin reaction.

Germ cell mutagenicity, Category 2

Suspected of causing genetic defects if inhaled, in contact with skin and if swallowed.

Reproductive toxicity, Category 1B

May damage fertility. May damage the unborn child.

Specific target organ toxicity following single exposure, Category 1

Causes damage to organs if inhaled, in contact with skin and if swallowed.

Specific target organ toxicity following repeated exposure, Category 1

Causes damage to organs through prolonged or repeated exposure if inhaled, in contact with skin and if swallowed.

### Label elements

#### Pictograms and Signal Words



Danger

### Hazard statements

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H341 Suspected of causing genetic defects if inhaled, in contact with skin and if swallowed.

H360FD May damage fertility. May damage the unborn child.

H370 Causes damage to organs if inhaled, in contact with skin and if swallowed.

H372 Causes damage to organs through prolonged or repeated exposure if inhaled, in contact with skin and if swallowed.

### Precautionary statements

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe mist/vapours/spray.

P264 Wash skin thoroughly after handling.

P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing must not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P311	IF exposed or concerned: Call a doctor.
P321	Specific treatment (see supplementary instructions on this label)
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
P405	Store locked up.
P501	Dispose of contents/container in accordance with applicable regulations.

#### **Ingredient(s) with unknown acute toxicity:**

None

#### **Hazards not otherwise classified identified during the classification process:**

None

This product contains titanium dioxide which IARC has classified as a Group 2B carcinogen (possibly carcinogenic to humans). Evidence is based on sufficient animal testing as a result of long-term inhalation at high concentrations of respirable amounts of titanium dioxide. Because this product is in liquid or paste form, it does not pose a dust hazard; therefore, this classification is not relevant. (Note: sanding of the hardened product may create a dust hazard)

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

#### **Substances**

Not Relevant

#### **Mixtures**

Hazardous components within the meaning of 29 CFR 1910.1200 and related classification:

#### **List of components**

<b>Qty</b>	<b>Name</b>	<b>Ident. Numb.</b>	<b>Classification</b>	<b>Registration Number</b>
2.5-5 %	titanium dioxide; Dioxotitanium	CAS:13463-67-7 EC:236-675-5 Index:022-006-00-2	Carc. 2, H351	
2.5-5 %	vinyltrimethoxysilane; Trimethoxyvinylsilane	CAS:2768-02-7 EC:220-449-8 Index:014-049-00-0	Flam. Liq. 3, H226; Acute Tox. 4, H332	
1-2.5 %	dibutyltin oxide	CAS:818-08-6 EC:212-449-1	Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Dam. 1, H318; Muta. 2, H341; STOT SE 1, H370; STOT RE 1, H372; Skin Sens. 1, H317; Repr. 1B, H360; Aquatic Chronic 2, H411	01-2119496058-28-XXXX
0.49-1 %	carbon black; acetylene black	CAS:1333-86-4 EC:215-609-9	Comb. Dust, USH003	

### **4. FIRST AID MEASURES**

#### **Description of first aid measures**

In case of skin contact:

Immediately take off all contaminated clothing.  
OBTAIN IMMEDIATE MEDICAL ATTENTION.  
Obtain medical attention if skin related symptoms persist.  
Remove contaminated clothing immediately and dispose of safely.  
After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.  
Protect uninjured eye.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and the hazard label.

In case of Inhalation:

If breathing is irregular or stopped, administer artificial respiration.

In case of inhalation, consult a doctor immediately and show him packing or label.

**Most important symptoms/effects, acute and delayed**

Eye irritation

Eye damages

**Indication of any immediate medical attention and special treatment needed**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

(see paragraph 4.1)

---

## 5. FIRE-FIGHTING MEASURES

### Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO<sub>2</sub>).

### Unsuitable extinguishing media:

None in particular.

### Specific hazards arising from the chemical

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

Hazardous combustion products: Not available

Explosive properties: Not available

Oxidizing properties: Not available

### Special protective equipment and precautions for fire-fighters

Use suitable breathing apparatus.

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

---

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Provide adequate ventilation.

Use appropriate respiratory protection.

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Limit leakages with earth or sand.

### Methods and material for containment and cleaning up

Suitable material for taking up: absorbing material, organic, sand

Retain contaminated washing water and dispose it.

---

## 7. HANDLING AND STORAGE

### Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Exercise the greatest care when handling or opening the container.

Use localized ventilation system.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

### Conditions for safe storage, including any incompatibilities

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

Storage temperature: Not available



## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Community Occupational Exposure Limits (OEL)

	OEL Type	Country	Occupational Exposure Limit
titanium dioxide; Dioxotitanium CAS: 13463-67-7	OSHA		Long Term: 15 mg/m3
	ACGIH		Long Term: 10 mg/m3 A4 - Not Classifiable as a Human Carcinogen;lower respiratory tract irritation;
	MAK	GERMANY	Long Term: 0.3 mg/m3
	ACGIH		Long Term: 10 mg/m3 A4 - Not Classifiable as a Human Carcinogen;lower respiratory tract irritation
	MAK	AUSTRIA	Long Term: 5 mg/m3; Short Term: 10 mg/m3
dibutyltin oxide CAS: 818-08-6	MAK	SWITZERLAND	Long Term: 3 mg/m3
	MAK	GERMANY	Long Term: 0.02 mg/m3 - 0.004 ppm
	OSHA		Long Term: 0.1 mg/m3
	ACGIH		Long Term: 0.1 mg/m3; Short Term: 0.2 mg/m3 "A4 - Not Classifiable as a Human Carcinogen" As Tin organic compounds [RR-00042-0];"Skin - potential significant contribution to overall exposure by the cutaneous route" As Tin organic compounds [RR-00042-0];"eye and upper respiratory tract irritation;headache;nausea;CNS and immune effects" As Tin organic compounds [RR-00042-0]
	MAK	AUSTRIA	Long Term: 0.1 mg/m3; Short Term: 0.2 mg/m3 - 0.008 ppm
	MAK	SWITZERLAND	Long Term: 0.1 mg/m3 - 0.004 ppm
	MAK	SWITZERLAND	Long Term: 0.02 mg/m3 - 0.004 ppm
	OSHA		Long Term: 3.5 mg/m3
	ACGIH		Long Term: 3 mg/m3 A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans;bronchitis;
	ACGIH		Long Term: 3 mg/m3 A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans;bronchitis
carbon black; acetylene black CAS: 1333-86-4	OSHA		Long Term: 3.5 mg/m3

Appropriate engineering controls: Not available

#### Individual protection measures

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Suitable materials for safety gloves; 29 CFR 1910.138 - ANSI/ISEA 105:

Polychloroprene - CR: thickness  $\geq 0,5\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Nitrile rubber - NBR: thickness  $\geq 0,35\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Butyl rubber - IIR: thickness  $\geq 0,5\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Fluorinated rubber - FKM: thickness  $\geq 0,4\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Use impervious gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

Respiratory protection must be used where exposure levels exceed workplace exposure limits. Refer to 29 CFR 1910.134 - CSA Z94.4 for information on selection and use of appropriate respiratory protection equipment.

Use adequate protective respiratory equipment.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Physical state: Liquid

Appearance and colour: paste various

Odour: mild  
Odour threshold: No data available  
pH: No data available  
Melting point / freezing point: No data available  
Initial boiling point and boiling range: No data available  
Flash point: 94 °C (201 °F)  
Evaporation rate: No data available  
Upper/lower flammability or explosive limits: No data available  
Vapour density: No data available  
Vapour pressure: No data available  
Relative density: 1.50 g/cm<sup>3</sup>  
Solubility in water: slightly soluble  
Solubility in oil: No data available  
Partition coefficient (n-octanol/water): No data available  
Auto-ignition temperature: No data available  
Decomposition temperature: No data available  
Viscosity: No data available  
Explosive properties: No data available  
Oxidizing properties: No data available  
Solid/gas flammability: No data available

#### Other information

Substance Groups relevant properties No data available  
Miscibility: No data available  
Fat Solubility: No data available  
Conductivity: No data available

---

## 10. STABILITY AND REACTIVITY

### Reactivity

Stable under normal conditions

### Chemical stability

Data not available.

### Possibility of hazardous reactions

None.

### Conditions to avoid

Stable under normal conditions.

### Incompatible materials

None in particular.

### Hazardous decomposition products

None.

---

## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

#### Toxicological Information of the Preparation

a) acute toxicity	Not classified Based on available data, the classification criteria are not met
b) skin corrosion/irritation	Not classified Based on available data, the classification criteria are not met
c) serious eye damage/irritation	The product is classified: Eye irritation, Category 2A(H319)
d) respiratory or skin sensitisation	The product is classified: Skin Sensitization, Category 1(H317)
e) germ cell mutagenicity	The product is classified: Germ cell mutagenicity, Category 2(H341)
f) carcinogenicity	Not classified Based on available data, the classification criteria are not met
g) reproductive toxicity	The product is classified: Reproductive toxicity, Category 1B(H360)
h) STOT-single exposure	The product is classified: Specific target organ toxicity following single exposure, Category 1(H370)
i) STOT-repeated exposure	The product is classified: Specific target organ toxicity following repeated exposure, Category 1(H372)
j) aspiration hazard	Not classified

**Toxicological information on main components of the mixture:**

titanium dioxide; Dioxotitanium	a) acute toxicity	LD50 Oral Rat > 10000 mg/kg
vinyltrimethoxysilane; Trimethoxyvinylsilane	a) acute toxicity	LD50 Oral Rat = 7340 µL/kg
dibutyltin oxide	a) acute toxicity	LD50 Skin Rat > 2000 mg/kg LD50 Oral Rat = 44.9 mg/kg
carbon black; acetylene black	a) acute toxicity	LD50 Oral Rat > 15400 mg/kg  LD50 Skin Rabbit > 3 g/kg LD50 Oral Rat > 15400 mg/kg

**Substance(s) listed on the IARC Monographs:**

titanium dioxide; Dioxotitanium	Group 2B
carbon black; acetylene black	Group 2B

**Substance(s) listed as OSHA Carcinogen(s):**

titanium dioxide; Dioxotitanium
carbon black; acetylene black

**Substance(s) listed as NIOSH Carcinogen(s):**

titanium dioxide; Dioxotitanium
carbon black; acetylene black

**Substance(s) listed on the NTP report on Carcinogens:**

None

**12. ECOLOGICAL INFORMATION****Toxicity**

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

**List of Eco-Toxicological properties of the product**

Not classified for environmental hazards.

Based on available data, the classification criteria are not met

**List of Eco-Toxicological properties of the components**

Component	Ident. Numb.	Ecotox Data
vinyltrimethoxysilane; Trimethoxyvinylsilane	CAS: 2768-02-7 - EINECS: 220- 449-8 - INDEX: 014-049-00-0	a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss = 191 mg/L 96h ECHA
carbon black; acetylene black	CAS: 1333-86-4 - EINECS: 215- 609-9	a) Aquatic acute toxicity : EC50 Daphnia Magna > 5600 mg/L 1333-86-4 - 24hr

**Persistence and degradability**

N.A.

**Bioaccumulative potential**

N.A.

**Mobility in soil**

N.A.

**Other adverse effects**

N.A.

---

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Recover if possible.

#### Methods of disposal:

Disposal of this product, solutions, packaging and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor.

Do not dispose of waste into sewers.

#### Disposal considerations:

Do not allow to enter drains or watercourses.

Dispose of product according to all federal, state and local applicable regulations.

If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.

Dispose of containers contaminated by the product in accordance with local or national legal provisions. For further information, contact your local waste authority.

#### Special precautions:

This material and its container must be disposed of in a safe way. Care should be taken when handling untreated empty containers.

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Empty containers or liners may retain some product residues. Do not re-use empty containers.

---

### 14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

#### UN number

DOT-UN Number: Not Applicable

ADR-UN number: Not Applicable

IATA-Un number: Not Applicable

IMDG-Un number: Not Applicable

#### UN proper shipping name

DOT-Proper Shipping Name: Not Applicable

ADR-Shipping Name: Not Applicable

IATA-Technical name: Not Applicable

IMDG-Technical name: Not Applicable

#### Transport hazard class(es)

DOT-Hazard Class: Not Applicable

ADR-Class: Not Applicable

IATA-Class: Not Applicable

IMDG-Class: Not Applicable

#### Packing group

DOT-Packing group: Not Applicable

ADR-Packing Group: Not Applicable

IATA-Packing group: Not Applicable

IMDG-Packing group: Not Applicable

#### Environmental hazards

Marine pollutant: No

Environmental Pollutant: Not Applicable

DOT-RQ: No

#### Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not Applicable

#### Special precautions

Department of Transportation (DOT):

Not Applicable

Road and Rail (ADR-RID):

Not Applicable

Air (IATA):

Not Applicable

Sea (IMDG):

Not Applicable

---

### 15. REGULATORY INFORMATION

#### USA - Federal regulations

#### TSCA - Toxic Substances Control Act

**TSCA inventory:**

All the components are listed on the TSCA inventory

**TSCA listed substances:**

titanium dioxide; Dioxotitanium is listed in TSCA Section 8b

vinyltrimethoxysilane; Trimethoxyvinylsilane is listed in TSCA Section 8b

dibutyltin oxide is listed in TSCA Section 8b Section 5

carbon black; acetylene black is listed in TSCA Section 8b

**SARA - Superfund Amendments and Reauthorization Act****Section 302 - Extremely Hazardous Substances:**

No substances listed

**Section 304 - Hazardous substances:**

No substances listed

**Section 313 - Toxic chemical list:**

No substances listed

**CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act****Substance(s) listed under CERCLA:**

No substances listed

**CAA - Clean Air Act****CAA listed substances:**

No substances listed

**CWA - Clean Water Act****CWA listed substances:**

No substances listed

**USA - State specific regulations****California Proposition 65****Substance(s) listed under California Proposition 65:**

titanium dioxide; Dioxotitanium Listed as carcinogen

carbon black; acetylene black Listed as carcinogen

**Massachusetts Right to know****Substance(s) listed under Massachusetts Right to know:**

titanium dioxide; Dioxotitanium

carbon black; acetylene black

**Pennsylvania Right to know****Substance(s) listed under Pennsylvania Right to know:**

titanium dioxide; Dioxotitanium

carbon black; acetylene black

**New Jersey Right to know****Substance(s) listed under New Jersey Right to know:**

titanium dioxide; Dioxotitanium

carbon black; acetylene black

**Canada - Federal regulations****DSL - Domestic Substances List****DSL (Domestic Substances List)**

All the substances are listed in the DSL.

**NDSL - Non Domestic Substances List****NDSL (Non Domestic Substances List)**

No substances listed

**NPRI - National Pollutant Release Inventory****NPRI (National Pollutant Release Inventory) - List of substances listed.**

No substances listed

## 16. OTHER INFORMATION

Safety Data Sheet dated: 1/11/2023 - version 1

### Additional classification information

NFPA Health: 1 = Slight

NFPA Flammability: 1 = Combustible if heated

NFPA Reactivity: 0 = Minimal

NFPA Special Risk: NONE



Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. The information herein is presented in good faith and believed to be accurate as of the effective date given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

This document was prepared by a competent person who has received appropriate training.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This SDS cancels and replaces any preceding release.

Code	Description
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.
H360	May damage fertility or the unborn child.
H370	Causes damage to organs.
H372	Causes damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
USH003	May form combustible dust concentrations in air.

Code	Hazard class and hazard category	Description
A.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), Category 4
A.1/4/Oral	Acute Tox. 4	Acute toxicity (oral), Category 4
A.2/2	Skin Irrit. 2	Skin irritation, Category 2
A.3/1	Eye Dam. 1	Serious eye damage, Category 1
A.4.2/1	Skin Sens. 1	Skin Sensitization, Category 1
A.5/2	Muta. 2	Germ cell mutagenicity, Category 2
A.6/2	Carc. 2	Carcinogenicity, Category 2
A.7/1B	Repr. 1B	Reproductive toxicity, Category 1B
A.8/1	STOT SE 1	Specific target organ toxicity following single exposure, Category 1
A.9/1	STOT RE 1	Specific target organ toxicity following repeated exposure, Category 1
B.6/3	Flam. Liq. 3	Flammable Liquids — Category 3
US-ADD/CD	Comb. Dust	Combustible dust
US-HAE/C2	Aquatic Chronic 2	Chronic (long term) aquatic hazard, category 2

### Legend to abbreviations and acronyms used in the safety data sheet:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.

IMDG: International Maritime Code for Dangerous Goods.

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

CLP: Classification, Labeling, Packaging.

EINECS: European Inventory of Existing Commercial Chemical Substances.

INCI: International Nomenclature of Cosmetic Ingredients.

CAS: Chemical Abstracts Service (division of the American Chemical Society).

GefStoffVO: Ordinance on Hazardous Substances, Germany.

LC50: Lethal concentration, for 50 percent of test population.

LD50: Lethal dose, for 50 percent of test population.

DNEL: Derived No Effect Level.

PNEC: Predicted No Effect Concentration.

TLV: Threshold Limiting Value.

TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).

STEL: Short Term Exposure limit.

STOT: Specific Target Organ Toxicity.

WGK: German Water Hazard Class.

KSt: Explosion coefficient.

## Safety Data Sheet

### VERTIWRAP VPL

Safety Data Sheet dated: 02/10/2023 - version 1

Date of first edition: 02/10/2023



## 1. IDENTIFICATION

### Product identifier

Mixture identification:

Trade name: VERTIWRAP VPL

Trade code: PLY0119

### Recommended use of the chemical and restrictions on use

Recommended use: Coating

Restrictions on use: Not available

### Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Company: Polyglass U.S.A. Inc.

1111 West Newport Center Drive

33442 - Deerfield Beach - FL - USA

Phone: +1 866-222-9782

Responsible: info@polyglass.com

### Emergency 24 hour numbers:

Emergency Number (USA/Canada) CHEMTREC 1(800) 424-9300 / 1(703) 527-3887 Emergency Transport CANUTEC (Canada) 1-613-996-6666

## 2. HAZARD(S) IDENTIFICATION



### Classification of the chemical

Acute aquatic hazard, category 1

Very toxic to aquatic life.

Chronic (long term) aquatic hazard, category 3

Harmful to aquatic life with long lasting effects.

### Label elements

#### Pictograms and Signal Words



Warning

### Hazard statements

H400 Very toxic to aquatic life.

H412 Harmful to aquatic life with long lasting effects.

### Precautionary statements

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P391 Collect spillage.

P405 Store locked up.

P501 Dispose of contents/container in accordance with applicable regulations.

### Ingredient(s) with unknown acute toxicity:

None

### Hazards not otherwise classified identified during the classification process:

None

This product contains crystalline silica (quartz sand). IARC has classified crystalline silica as a Group 1 carcinogen. Both IARC and NTP consider silica as a known human carcinogen. Evidence is based on the chronic and long-term exposure workers have had to respirable sized crystalline silica dust particles. Because this product is in liquid or paste form, it does not pose a dust hazard; therefore, this classification is not relevant. (Note: sanding of the hardened product may create a silica dust hazard)



This product contains titanium dioxide which IARC has classified as a Group 2B carcinogen (possibly carcinogenic to humans). Evidence is based on sufficient animal testing as a result of long-term inhalation at high concentrations of respirable amounts of titanium dioxide. Because this product is in liquid or paste form, it does not pose a dust hazard; therefore, this classification is not relevant. (Note: sanding of the hardened product may create a dust hazard)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Not Relevant

Mixtures

Hazardous components within the meaning of 29 CFR 1910.1200 and related classification:

List of components

Qty	Name	Ident. Numb.	Classification	Registration Number
1-2.5 %	zinc oxide; oxozinc	CAS:1314-13-2 EC:215-222-5 Index:030-013-00-7	Aquatic Acute 1, H400; Aquatic Chronic 1, H410	
0.49-1 %	titanium dioxide; Dioxotitanium	CAS:13463-67-7 EC:236-675-5 Index:022-006-00-2	Carc. 2, H351	
0.25-0.49 %	silica sand; quartz	CAS:14808-60-7 EC:238-878-4	STOT RE 1, H372; Carc. 1A, H350	

4. FIRST AID MEASURES

Description of first aid measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

Wash immediately with water.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and the hazard label.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

Most important symptoms/effects, acute and delayed

Not available

Indication of any immediate medical attention and special treatment needed

Treatment: Not available

(see paragraph 4.1)

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO2).

Unsuitable extinguishing media:

None in particular.

Specific hazards arising from the chemical

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

Hazardous combustion products: Not available

Explosive properties: Not Relevant

Oxidizing properties: Not Relevant

Special protective equipment and precautions for fire-fighters

Use suitable breathing apparatus.

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove persons to safety.  
Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.  
Limit leakages with earth or sand.

#### Methods and material for containment and cleaning up

Suitable material for taking up: absorbing material, organic, sand  
Retain contaminated washing water and dispose it.

---

## 7. HANDLING AND STORAGE

### Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.  
Exercise the greatest care when handling or opening the container.  
Don't use empty container before they have been cleaned.  
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.  
Contaminated clothing should be changed before entering eating areas.  
Do not eat or drink while working.  
See also section 8 for recommended protective equipment.

### Conditions for safe storage, including any incompatibilities

Store above freezing  
Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

Storage temperature: Not available

---

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Community Occupational Exposure Limits (OEL)

	OEL Type	Country	Occupational Exposure Limit
zinc oxide; oxozinc CAS: 1314-13-2	OSHA		Long Term: 5 mg/m <sup>3</sup>
	OSHA		Long Term: 15 mg/m <sup>3</sup>
	ACGIH		Long Term: 2 mg/m <sup>3</sup> ; Short Term: 10 mg/m <sup>3</sup> metal fume fever;
	ACGIH		Long Term: 2 mg/m <sup>3</sup> ; Short Term: 10 mg/m <sup>3</sup> metal fume fever
	MAK	AUSTRIA	Long Term: 5 mg/m <sup>3</sup>
	MAK	SWITZERLAND	Long Term: 3 mg/m <sup>3</sup>
titanium dioxide; Dioxotitanium CAS: 13463-67-7	OSHA		Long Term: 15 mg/m <sup>3</sup>
	ACGIH		Long Term: 10 mg/m <sup>3</sup> A4 - Not Classifiable as a Human Carcinogen;lower respiratory tract irritation;
	MAK	GERMANY	Long Term: 0.3 mg/m <sup>3</sup>
	ACGIH		Long Term: 10 mg/m <sup>3</sup> A4 - Not Classifiable as a Human Carcinogen;lower respiratory tract irritation
	MAK	AUSTRIA	Long Term: 5 mg/m <sup>3</sup> ; Short Term: 10 mg/m <sup>3</sup>
	MAK	SWITZERLAND	Long Term: 3 mg/m <sup>3</sup>
silica sand; quartz CAS: 14808-60-7	ACGIH		Long Term: 0.025 mg/m <sup>3</sup> A2 - Suspected Human Carcinogen;lung cancer;pulmonary fibrosis;
	ACGIH		Long Term: 0.025 mg/m <sup>3</sup> A2 - Suspected Human Carcinogen;lung cancer;pulmonary fibrosis
	MAK	AUSTRIA	Long Term: 0.15 mg/m <sup>3</sup>
	MAK	SWITZERLAND	Long Term: 0.15 mg/m <sup>3</sup>

Appropriate engineering controls: Not available

### Individual protection measures

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Suitable materials for safety gloves; 29 CFR 1910.138 - ANSI/ISEA 105:

Polychloroprene - CR: thickness  $\geq 0,5\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Nitrile rubber - NBR: thickness  $\geq 0,35\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Butyl rubber - IIR: thickness  $\geq 0,5\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Fluorinated rubber - FKM: thickness  $\geq 0,4\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Use impervious gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

Respiratory protection must be used where exposure levels exceed workplace exposure limits. Refer to 29 CFR 1910.134 - CSA Z94.4 for information on selection and use of appropriate respiratory protection equipment.

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Physical state: Liquid

Appearance and colour: liquid Green

Odour: ammonia

Odour threshold: Not Relevant

pH: 10.50

pH (water dispersion, 10%): 9.10

Melting point / freezing point: Not Relevant

Initial boiling point and boiling range: Not Relevant

Flash point: 100 °C (212 °F)

Evaporation rate: Not Relevant

Upper/lower flammability or explosive limits: Not Relevant

Vapour density: Not Relevant

Vapour pressure: Not Relevant

Relative density: 1.22 g/cm<sup>3</sup>

Solubility in water: easily soluble

Solubility in oil: Not Relevant

Partition coefficient (n-octanol/water): Not Relevant

Auto-ignition temperature: Not Relevant

Decomposition temperature: Not Relevant

Viscosity: Not Relevant

Explosive properties: Not Relevant

Oxidizing properties: Not Relevant

Solid/gas flammability: Not Relevant

### Other information

Substance Groups relevant properties Not Relevant

Miscibility: Not Relevant

Fat Solubility: Not Relevant

Conductivity: Not Relevant

---

## 10. STABILITY AND REACTIVITY

### Reactivity

No data available

### Chemical stability

Data not available.

### Possibility of hazardous reactions

None.

### Conditions to avoid

No data available

### Incompatible materials

Data not available.

### Hazardous decomposition products

## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

#### Toxicological Information of the Preparation

a) acute toxicity	Not classified
	Based on available data, the classification criteria are not met
b) skin corrosion/irritation	Not classified
	Based on available data, the classification criteria are not met
c) serious eye damage/irritation	Not classified
	Based on available data, the classification criteria are not met
d) respiratory or skin sensitisation	Not classified
	Based on available data, the classification criteria are not met
e) germ cell mutagenicity	Not classified
	Based on available data, the classification criteria are not met
f) carcinogenicity	Not classified
	Based on available data, the classification criteria are not met
g) reproductive toxicity	Not classified
	Based on available data, the classification criteria are not met
h) STOT-single exposure	Not classified
	Based on available data, the classification criteria are not met
i) STOT-repeated exposure	Not classified
	Based on available data, the classification criteria are not met
j) aspiration hazard	Not classified
	Based on available data, the classification criteria are not met

#### Toxicological information on main components of the mixture:

zinc oxide; oxozinc	a) acute toxicity	LD50 Oral Rat > 5000 mg/kg
		LD50 Oral Rat > 5000 mg/kg
titanium dioxide; Dioxotitanium	a) acute toxicity	LD50 Oral Rat > 10000 mg/kg
silica sand; quartz	a) acute toxicity	LD50 Oral Rat = 500 mg/kg

#### Substance(s) listed on the IARC Monographs:

titanium dioxide; Dioxotitanium	Group 2B
silica sand; quartz	Group 1

#### Substance(s) listed as OSHA Carcinogen(s):

titanium dioxide; Dioxotitanium  
silica sand; quartz

#### Substance(s) listed as NIOSH Carcinogen(s):

titanium dioxide; Dioxotitanium  
silica sand; quartz

#### Substance(s) listed on the NTP report on Carcinogens:

silica sand; quartz

## 12. ECOLOGICAL INFORMATION

### Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

#### List of Eco-Toxicological properties of the product

The product is classified: Acute aquatic hazard, category 1(H400), Chronic (long term) aquatic hazard, category 3(H412)

## List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
zinc oxide; oxozinc	CAS: 1314-13-2 - EINECS: 215-222-5 - INDEX: 030-013-00-7	a) Aquatic acute toxicity : LC50 Fish Danio rerio = 1.55 mg/L 96h ECHA
silica sand; quartz	CAS: 14808-60-7 - EINECS: 238-878-4	a) Aquatic acute toxicity : LC50 carp > 10000 mg/L 72h

### Persistence and degradability

N.A.

### Bioaccumulative potential

N.A.

### Mobility in soil

N.A.

### Other adverse effects

N.A.

---

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Recover if possible.

#### Methods of disposal:

Disposal of this product, solutions, packaging and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor.

Do not dispose of waste into sewers.

#### Disposal considerations:

Do not allow to enter drains or watercourses.

Dispose of product according to all federal, state and local applicable regulations.

If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.

Dispose of containers contaminated by the product in accordance with local or national legal provisions. For further information, contact your local waste authority.

#### Special precautions:

This material and its container must be disposed of in a safe way. Care should be taken when handling untreated empty containers.

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Empty containers or liners may retain some product residues. Do not re-use empty containers.

---

## 14. TRANSPORT INFORMATION

### UN number

DOT-UN Number: Not Applicable

ADR-UN number: 3082

IATA-Un number: 3082

IMDG-Un number: 3082

### UN proper shipping name

DOT-Proper Shipping Name: (Not regulated for US DOT) (zinc oxide - diuron)

ADR-Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (zinc oxide - diuron)

IATA-Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (zinc oxide - diuron)

IMDG-Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (zinc oxide - diuron)

### Transport hazard class(es)

DOT-Hazard Class: Not Applicable

ADR-Class: 9

IATA-Class: 9

IMDG-Class: 9

### Packing group

DOT-Packing group: Not Applicable

ADR-Packing Group: III

IATA-Packing group: III

IMDG-Packing group: III

#### **Environmental hazards**

Marine pollutant: Yes

Environmental Pollutant: Not Applicable

DOT-RQ: No

#### **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not Applicable

#### **Special precautions**

Department of Transportation (DOT):

Road and Rail (ADR-RID):

ADR-Label: 9

ADR-Hazard identification number: 90

ADR-Transport category (Tunnel restriction code): 3 (-)

Air (IATA):

IATA-Passenger Aircraft: 964

IATA-Cargo Aircraft: 964

IATA-Label: 9

IATA-Subsidiary hazards: -

IATA-Erg: 9L

IATA-Special Provisions: A97 A158 A197 A215

Sea (IMDG):

IMDG-Stowage Code: Category A

IMDG-Stowage Note: -

IMDG-Subsidiary hazards: -

IMDG-Special Provisions: 274 335 969

IMDG-Page: N/A

IMDG-Label: N/A

IMDG-EMS: F-A, S-F

IMDG-MFAG: N/A

---

## **15. REGULATORY INFORMATION**

### **USA - Federal regulations**

#### **TSCA - Toxic Substances Control Act**

##### **TSCA inventory:**

All the components are listed on the TSCA inventory

##### **TSCA listed substances:**

zinc oxide; oxozinc is listed in TSCA Section 8b

titanium dioxide; Dioxotitanium is listed in TSCA Section 8b

silica sand; quartz is listed in TSCA Section 8b

#### **SARA - Superfund Amendments and Reauthorization Act**

##### **Section 302 - Extremely Hazardous Substances:**

No substances listed

##### **Section 304 - Hazardous substances:**

No substances listed

##### **Section 313 - Toxic chemical list:**

zinc oxide; oxozinc

#### **CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act**

##### **Substance(s) listed under CERCLA:**

No substances listed

#### **CAA - Clean Air Act**

##### **CAA listed substances:**

No substances listed

#### **CWA - Clean Water Act**

##### **CWA listed substances:**

No substances listed

### **USA - State specific regulations**

## California Proposition 65

### Substance(s) listed under California Proposition 65:

titanium dioxide; Dioxotitanium      Listed as carcinogen  
silica sand; quartz                      Listed as carcinogen

## Massachusetts Right to know

### Substance(s) listed under Massachusetts Right to know:

zinc oxide; oxozinc  
titanium dioxide; Dioxotitanium  
silica sand; quartz

## Pennsylvania Right to know

### Substance(s) listed under Pennsylvania Right to know:

zinc oxide; oxozinc  
titanium dioxide; Dioxotitanium  
silica sand; quartz

## New Jersey Right to know

### Substance(s) listed under New Jersey Right to know:

zinc oxide; oxozinc  
titanium dioxide; Dioxotitanium  
silica sand; quartz

## Canada - Federal regulations

### DSL - Domestic Substances List

#### DSL (Domestic Substances List)

All the substances are listed in the DSL.

### NDSL - Non Domestic Substances List

#### NDSL (Non Domestic Substances List)

No substances listed

### NPRI - National Pollutant Release Inventory

#### NPRI (National Pollutant Release Inventory) - List of substances listed.

No substances listed

## 16. OTHER INFORMATION

Safety Data Sheet dated: 2/10/2023 - version 1

### Additional classification information

NFPA Health: 1 = Slight  
NFPA Flammability: 1 = Combustible if heated  
NFPA Reactivity: 0 = Minimal  
NFPA Special Risk: NONE



Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. The information herein is presented in good faith and believed to be accurate as of the effective date given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

This document was prepared by a competent person who has received appropriate training.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This SDS cancels and replaces any preceding release.

Code	Description
H350	May cause cancer.
H351	Suspected of causing cancer.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Code	Hazard class and hazard category	Description
A.6/1A	Carc. 1A	Carcinogenicity, Category 1A
A.6/2	Carc. 2	Carcinogenicity, Category 2
A.9/1	STOT RE 1	Specific target organ toxicity following repeated exposure, Category 1
US-HAE/A1	Aquatic Acute 1	Acute aquatic hazard, category 1
US-HAE/C1	Aquatic Chronic 1	Chronic (long term) aquatic hazard, category 1

**Legend to abbreviations and acronyms used in the safety data sheet:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.  
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.  
IMDG: International Maritime Code for Dangerous Goods.  
IATA: International Air Transport Association.  
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).  
ICAO: International Civil Aviation Organization.  
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).  
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.  
CLP: Classification, Labeling, Packaging.  
EINECS: European Inventory of Existing Commercial Chemical Substances.  
INCI: International Nomenclature of Cosmetic Ingredients.  
CAS: Chemical Abstracts Service (division of the American Chemical Society).  
GefStoffVO: Ordinance on Hazardous Substances, Germany.  
LC50: Lethal concentration, for 50 percent of test population.  
LD50: Lethal dose, for 50 percent of test population.  
DNEL: Derived No Effect Level.  
PNEC: Predicted No Effect Concentration.  
TLV: Threshold Limiting Value.  
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).  
STEL: Short Term Exposure limit.  
STOT: Specific Target Organ Toxicity.  
WGK: German Water Hazard Class.  
KSt: Explosion coefficient.



# VERTIWRAP VPL DRAWING LIST

## WINDOW DETAILS

### MASONRY CLADDING

VW-VPL-1A	SILL DETAIL MASONRY CLADDING (OPTION-1)
VW-VPL-1B	SILL DETAIL MASONRY CLADDING (OPTION-2)
VW-VPL-1C	JAMB DETAIL MASONRY CLADDING (OPTION-1)
VW-VPL-1D	JAMB DETAIL MASONRY CLADDING (OPTION-2)
VW-VPL-1E	HEAD DETAIL MASONRY CLADDING (OPTION-1)
VW-VPL-1F	HEAD DETAIL MASONRY CLADDING (OPTION-2)

### NON-MASONRY CLADDING

VW-VPL-1G	SILL DETAIL NON-MASONRY CLADDING (OPTION-1)
VW-VPL-1H	SILL DETAIL NON-MASONRY CLADDING (OPTION-2)
VW-VPL-1I	JAMB DETAIL NON-MASONRY CLADDING (OPTION-1)
VW-VPL-1J	JAMB DETAIL NON-MASONRY CLADDING (OPTION-2)
VW-VPL-1K	HEAD DETAIL NON-MASONRY CLADDING (OPTION-1)
VW-VPL-1L	HEAD DETAIL NON-MASONRY CLADDING (OPTION-2)

VW-VPL-1M	SELF-ADHERED WINDOW FLASHING
VW-VPL-1N	VERTISEAL 50 FLASHING - ROUGH OPENING
VW-VPL-1O	VPL FLASHING OPTION - ROUGH OPENING

## FLOOR LINE DETAILS

VW-VPL-2A	FLOOR LINE TRANSITION MASONRY CLADDING (OPTION-1)
VW-VPL-2B	FLOOR LINE TRANSITION MASONRY CLADDING (OPTION-2)

## CORNER DETAILS

VW-VPL-3A	OUTSIDE CORNER (OPTION-1)
VW-VPL-3B	OUTSIDE CORNER (OPTION-2)
VW-VPL-3C	INSIDE CORNER (OPTION-1)
VW-VPL-3D	INSIDE CORNER (OPTION-2)

## JOINTS

VW-VPL-4A	DEFLECTION JOINT
VW-VPL-4B	CONTROL JOINT
VW-VPL-4C	SHEATHING JOINT TREATMENT
VW-VPL-4D	EXPANSION JOINT

## PENETRATIONS

VW-VPL-5A	PENETRATION
-----------	-------------

## PARAPET

VW-VPL-6A	PARAPET
-----------	---------

## TRANSITION TO WATERPROOFING

VW-VPL-7A	BASE OF WALL TRANSITION TO MAPETHENE
VW-VPL-7B	BASE OF WALL TRANSITION TO MAPESEAL GC
VW-VPL-7C	DECK TO WALL TRANSITION TO MAPETHENE
VW-VPL-7D	DECK TO WALL TRANSITION TO MAPESEAL GC
VW-VPL-7E	AT GRADE TRANSITION TO MAPETHENE
VW-VPL-7F	AT GRADE TRANSITION TO MAPESEAL GC



[polyglass.us](http://polyglass.us)

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
[technical@polyglass.com](mailto:technical@polyglass.com)

## VERTIWRAP VPL

## DETAIL DRAWING LIST

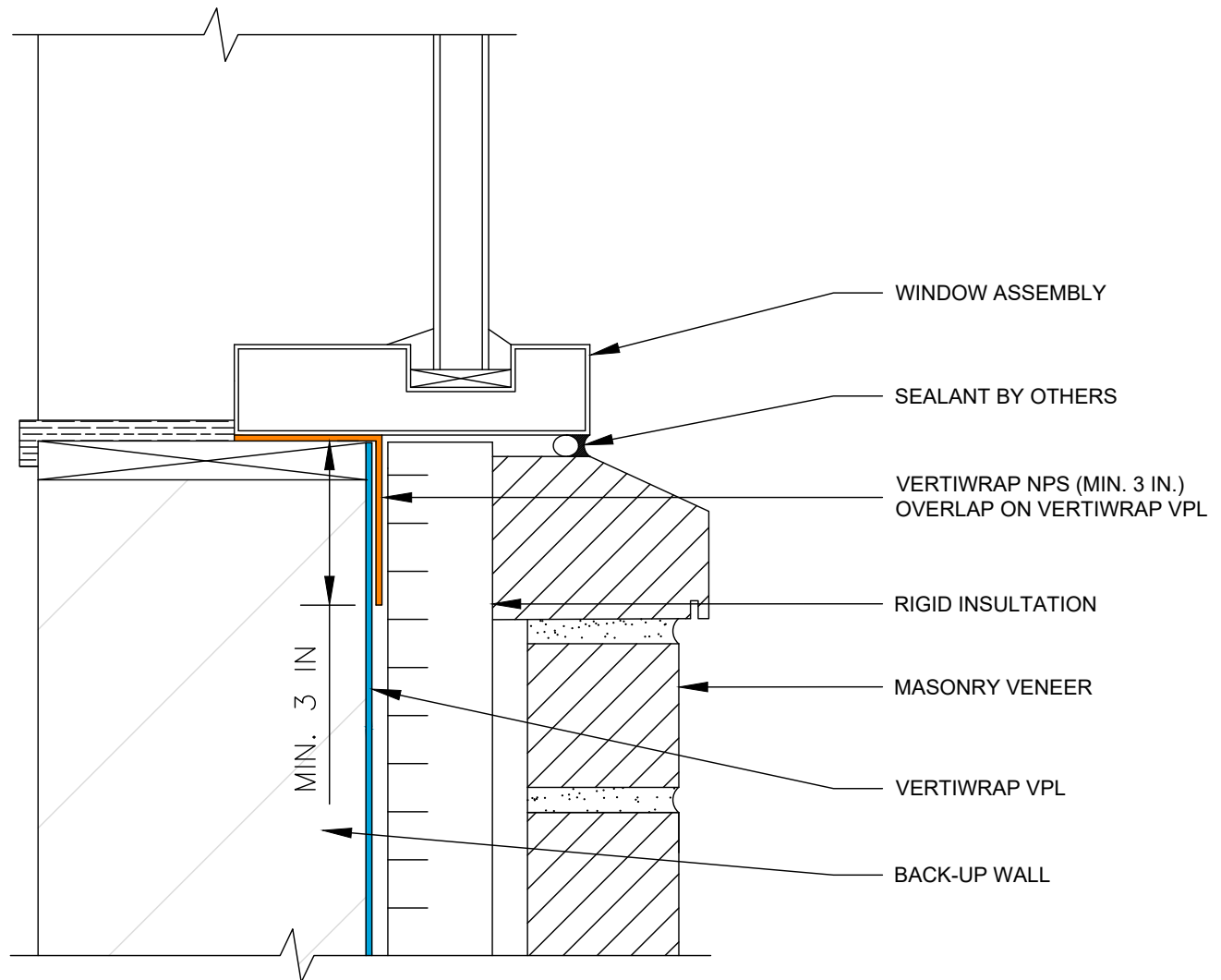
DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**  
00/00/0000

**DATE:**  
04/01/2023

**SCALE:**  
NOT TO SCALE

**DRAWING #:**  
VW-VPL-1



**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. VERTIWRAP NPS SHOULD EXTEND INTO THE WINDOW OPENING AT A DIMENSION PER THE PROJECT DESIGN
4. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL**

**WINDOW SILL  
MASONRY CLADDING (OPTION-1)**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

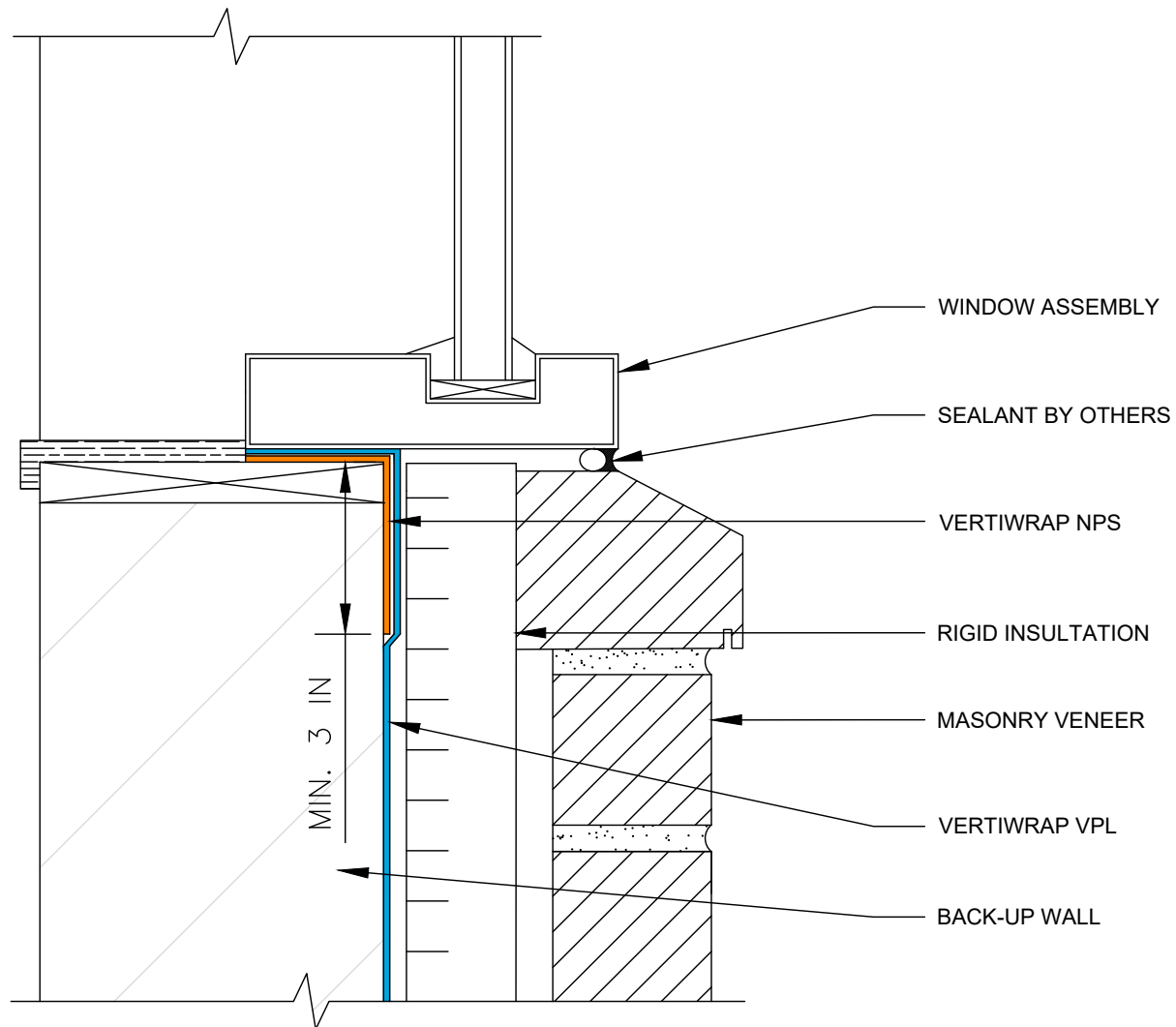
04/01/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-1A



**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. VERTIWRAP NPS SHOULD EXTEND INTO THE WINDOW OPENING AT A DIMENSION PER THE PROJECT DESIGN
4. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL**

**WINDOW SILL  
MASONRY CLADDING (OPTION-2)**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

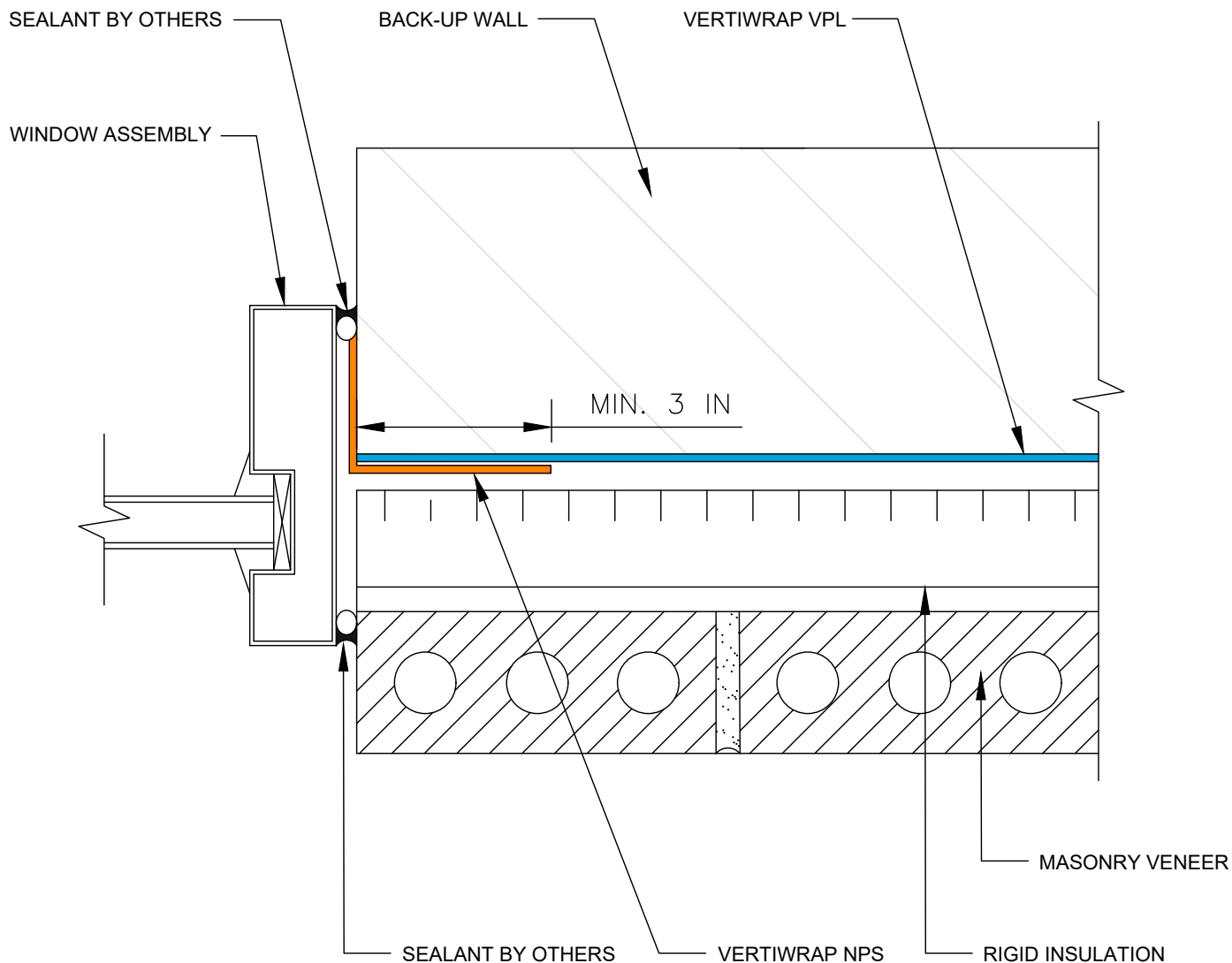
04/01/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-1B



#### NOTES:

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. VERTIWRAP NPS SHOULD EXTEND INTO THE WINDOW OPENING AT A DIMENSION PER THE PROJECT DESIGN
4. VERTIWRAP NPS MAY BE OMITTED AT JAMB AND VERTIWRAP VPL CAN BE EXTENDED INTO THE ROUGH OPENING
5. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL**

**WINDOW JAMB  
MASONRY CLADDING (OPTION-1)**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

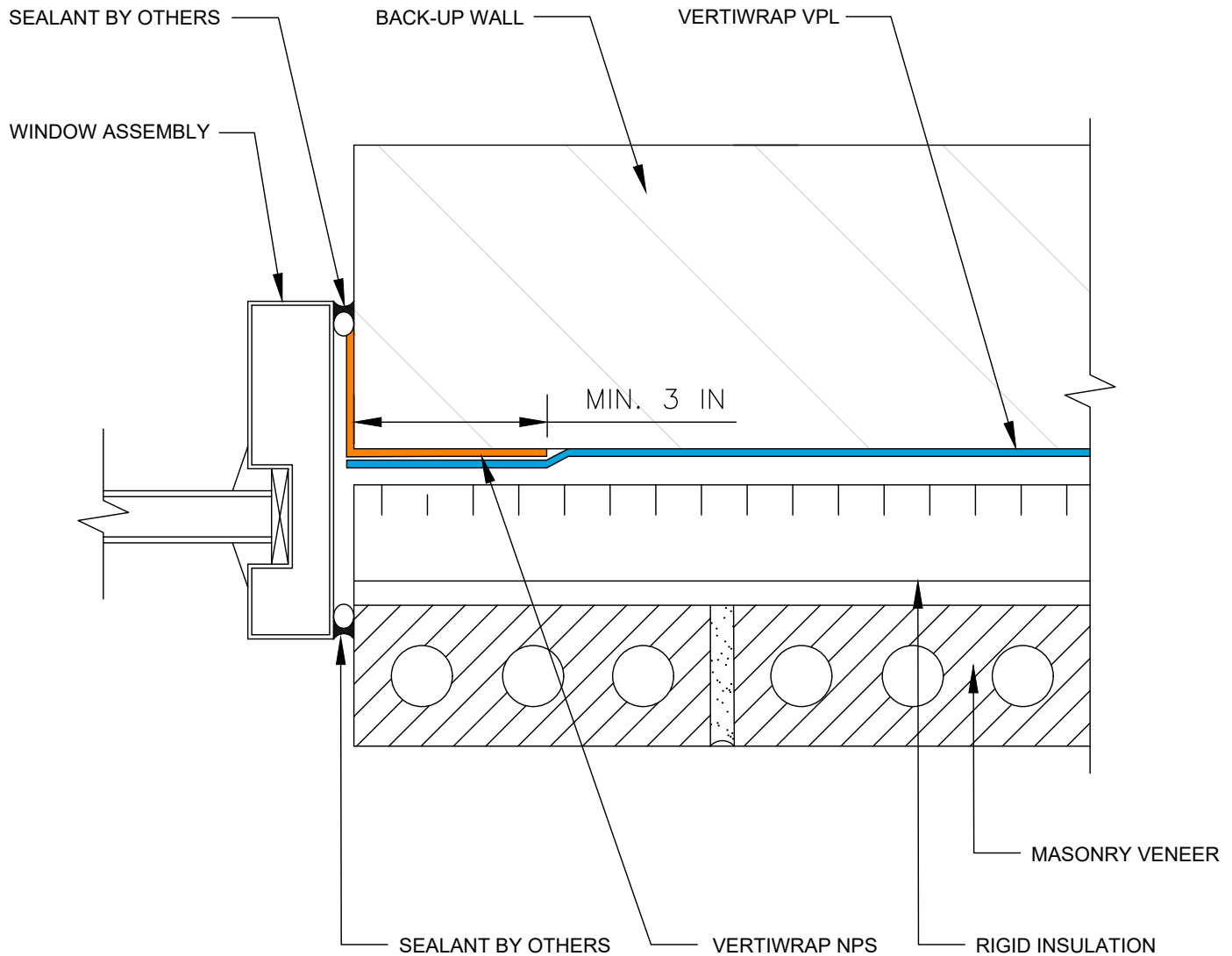
04/01/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-1C



**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. VERTIWRAP NPS SHOULD EXTEND INTO THE WINDOW OPENING AT A DIMENSION PER THE PROJECT DESIGN
4. VERTIWRAP NPS MAY BE OMITTED AT JAMB AND VERTIWRAP VPL CAN BE EXTENDED INTO THE ROUGH OPENING
5. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL**

**WINDOW JAMB  
MASONRY CLADDING (OPTION-2)**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

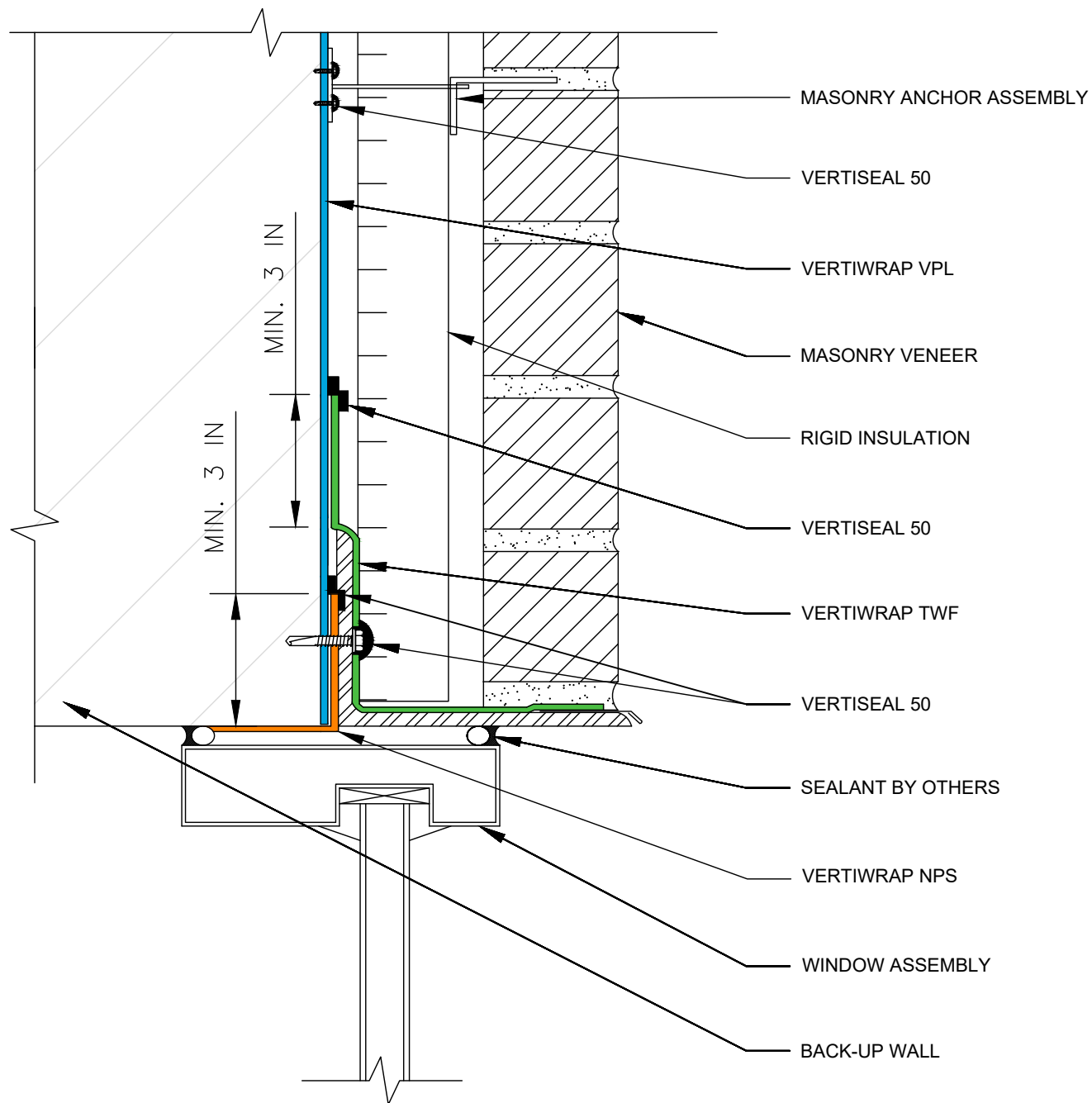
04/01/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-1D



**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. VERTIWRAP NPS SHOULD EXTEND INTO THE WINDOW OPENING AT A DIMENSION PER THE PROJECT DESIGN
4. VERTIWRAP NPS MAY BE OMITTED AT HEAD AND VERTIWRAP VPL CAN BE EXTENDED INTO THE ROUGH OPENING
5. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## VERTIWRAP VPL

### WINDOW HEAD MASONRY CLADDING (OPTION-1)

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

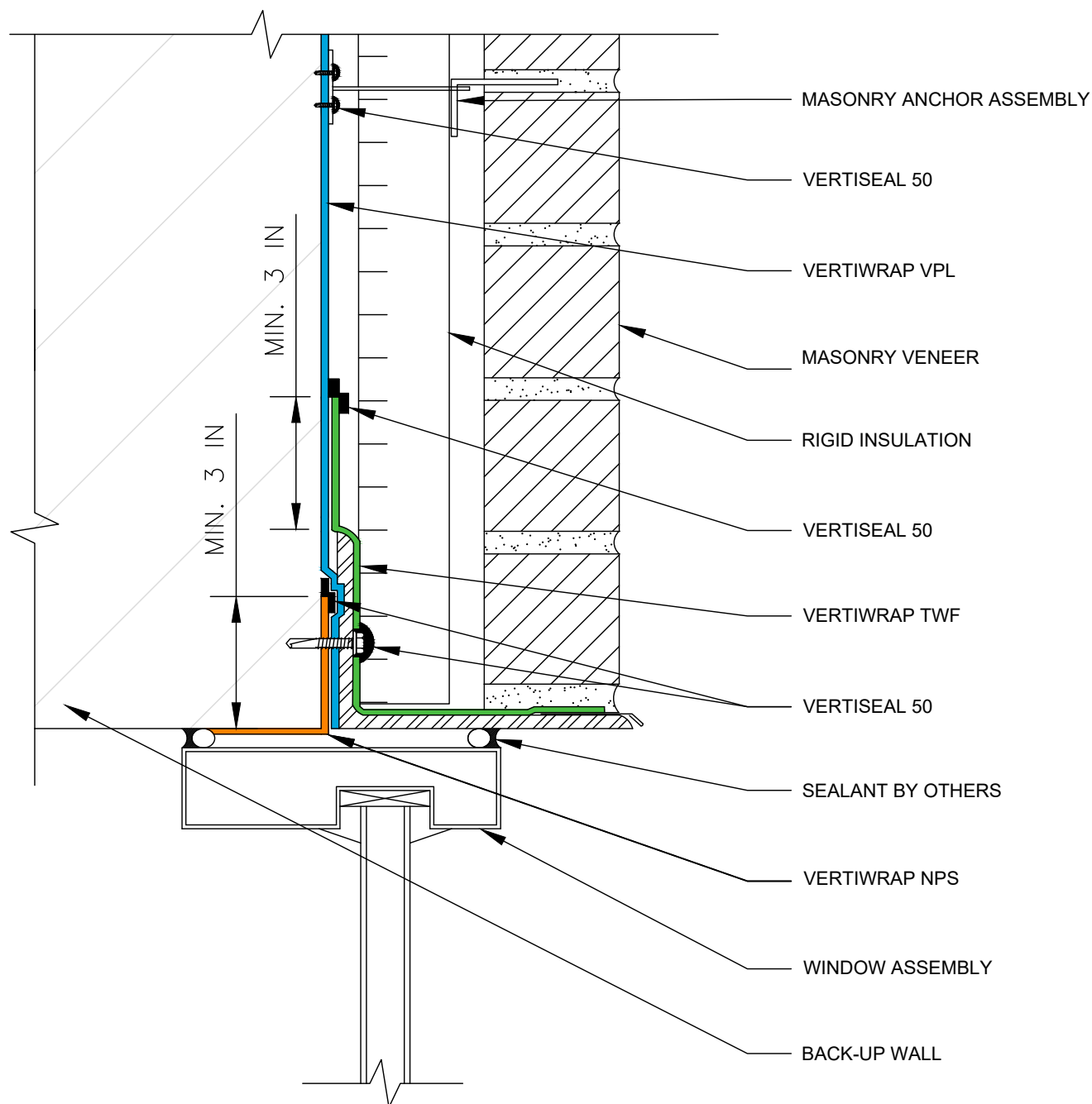
04/01/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-1E



#### NOTES:

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. VERTIWRAP NPS SHOULD EXTEND INTO THE WINDOW OPENING AT A DIMENSION PER THE PROJECT DESIGN
4. VERTIWRAP NPS CAN BE OMITTED AT HEAD AND VERTIWRAP VPL CAN BE EXTENDED INTO THE ROUGH OPENING
5. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## VERTIWRAP VPL

## WINDOW HEAD MASONRY CLADDING (OPTION-2)

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

#### SUPERCEDES:

00/00/0000

#### DATE:

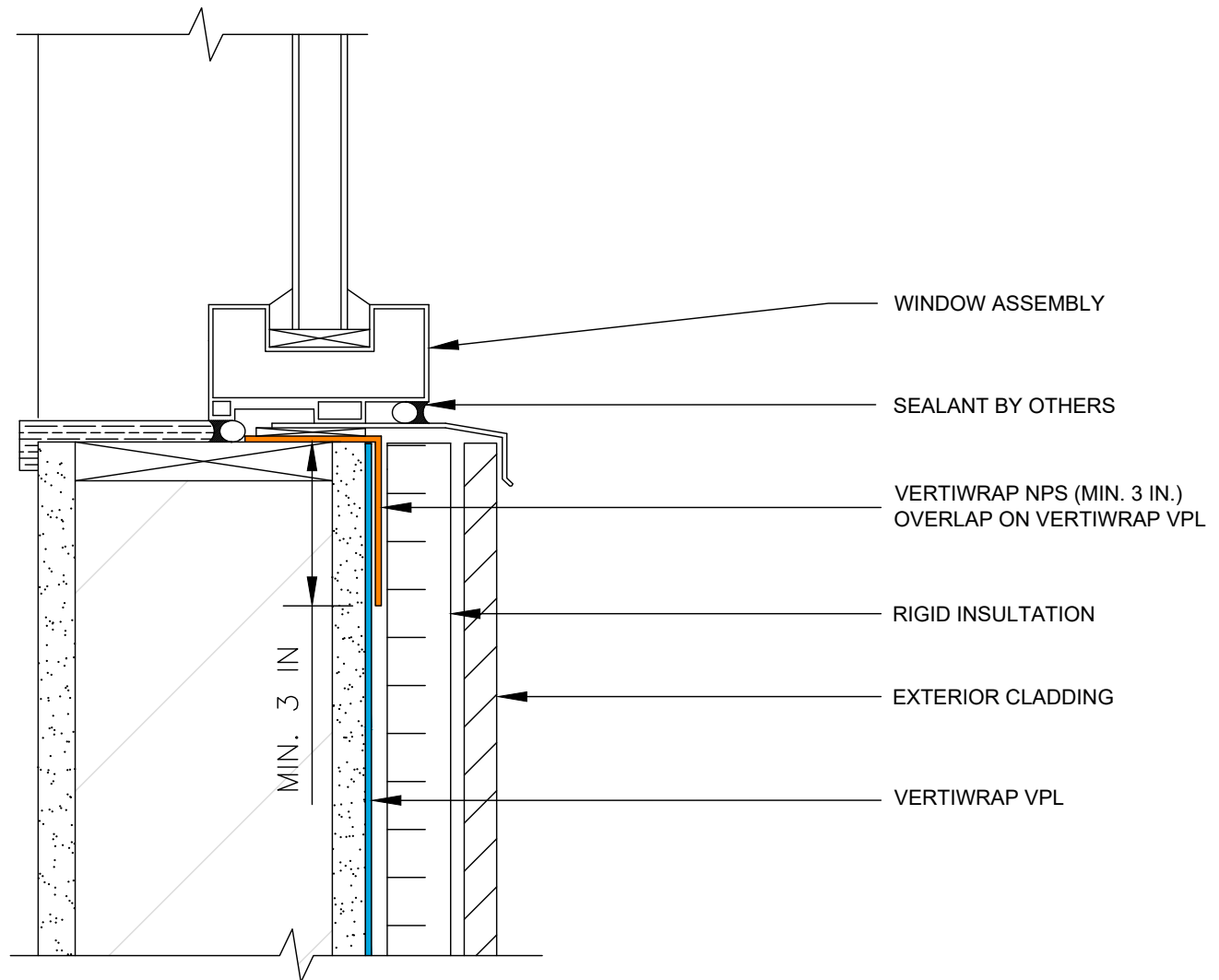
04/01/2023

#### SCALE:

NOT TO SCALE

#### DRAWING #:

VW-VPL-1F



**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. VERTIWRAP NPS SHOULD EXTEND INTO THE WINDOW OPENING AT A DIMENSION PER THE PROJECT DESIGN
4. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL  
WINDOW SILL  
NON-MASONRY CLADDING  
(OPTION-1)**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

04/01/2023

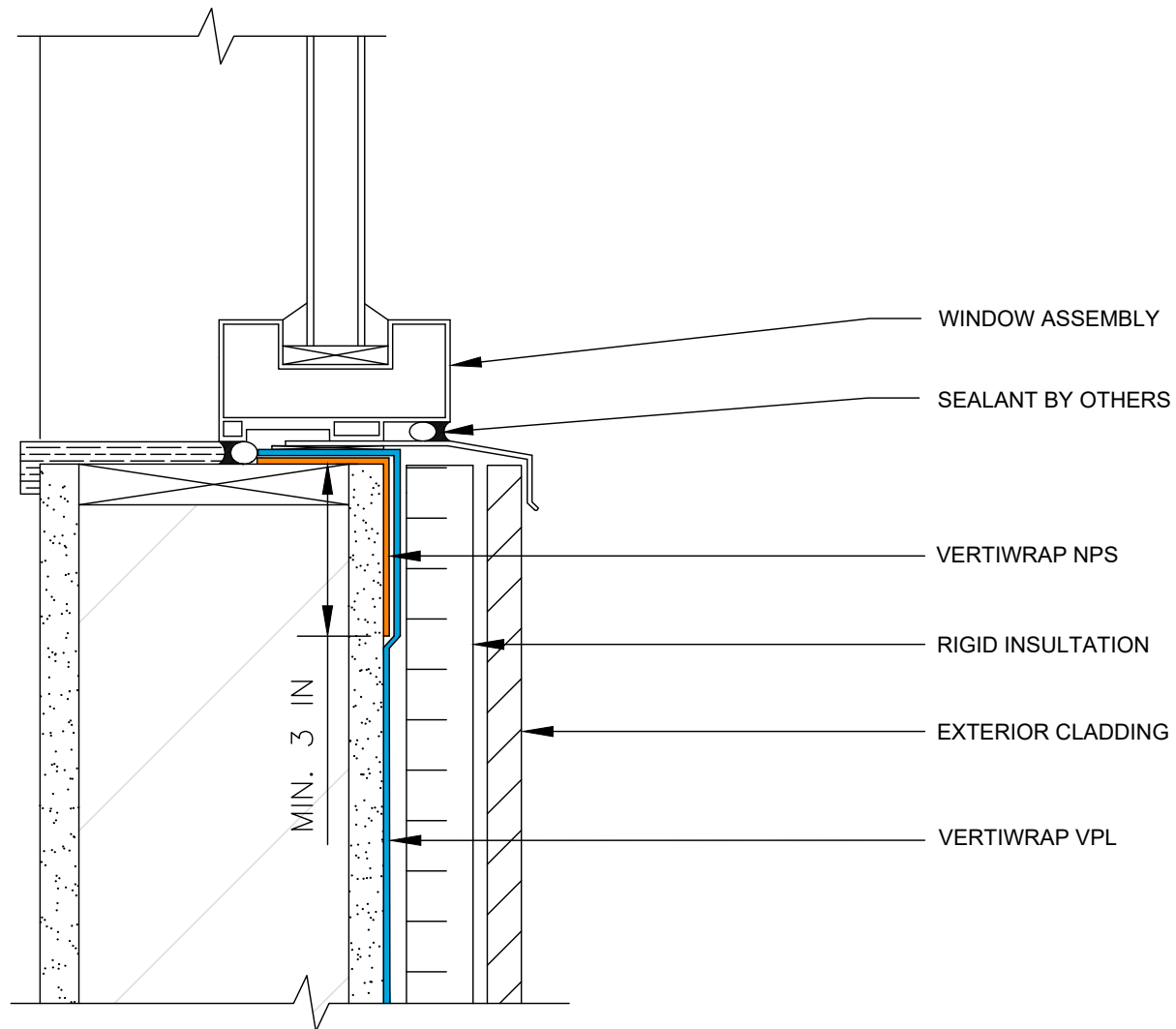
**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-1G





**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. VERTIWRAP NPS SHOULD EXTEND INTO THE WINDOW OPENING AT A DIMENSION PER THE PROJECT DESIGN
4. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL  
WINDOW SILL  
NON-MASONRY CLADDING  
(OPTION-2)**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

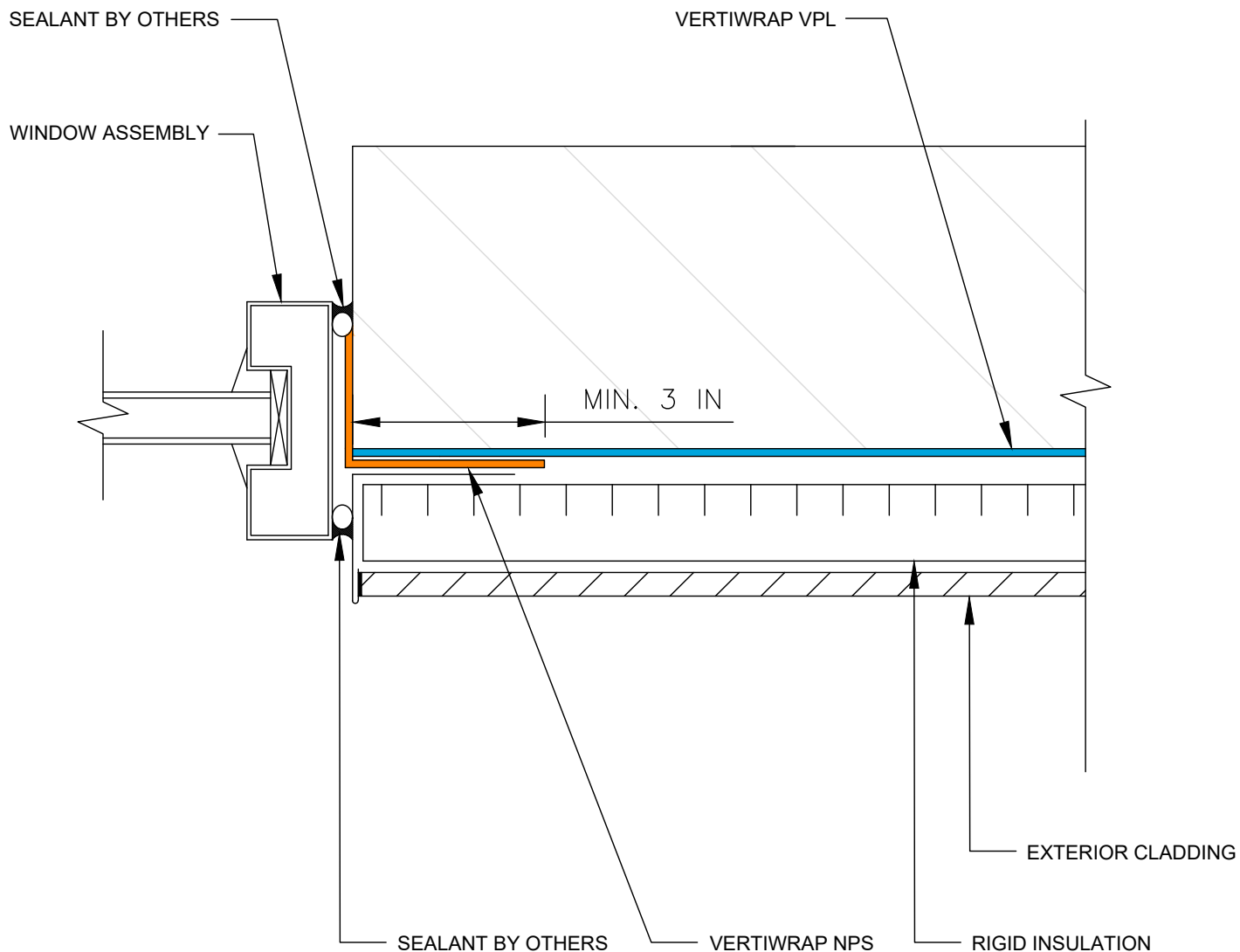
04/01/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-1H



**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. VERTIWRAP NPS SHOULD EXTEND INTO THE WINDOW OPENING AT A DIMENSION PER THE PROJECT DESIGN
4. VERTIWRAP NPS MAY BE OMITTED AT JAMB AND VERTIWRAP VPL CAN BE EXTENDED INTO THE ROUGH OPENING
5. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL  
WINDOW JAMB  
NON-MASONRY CLADDING  
(OPTION-1)**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

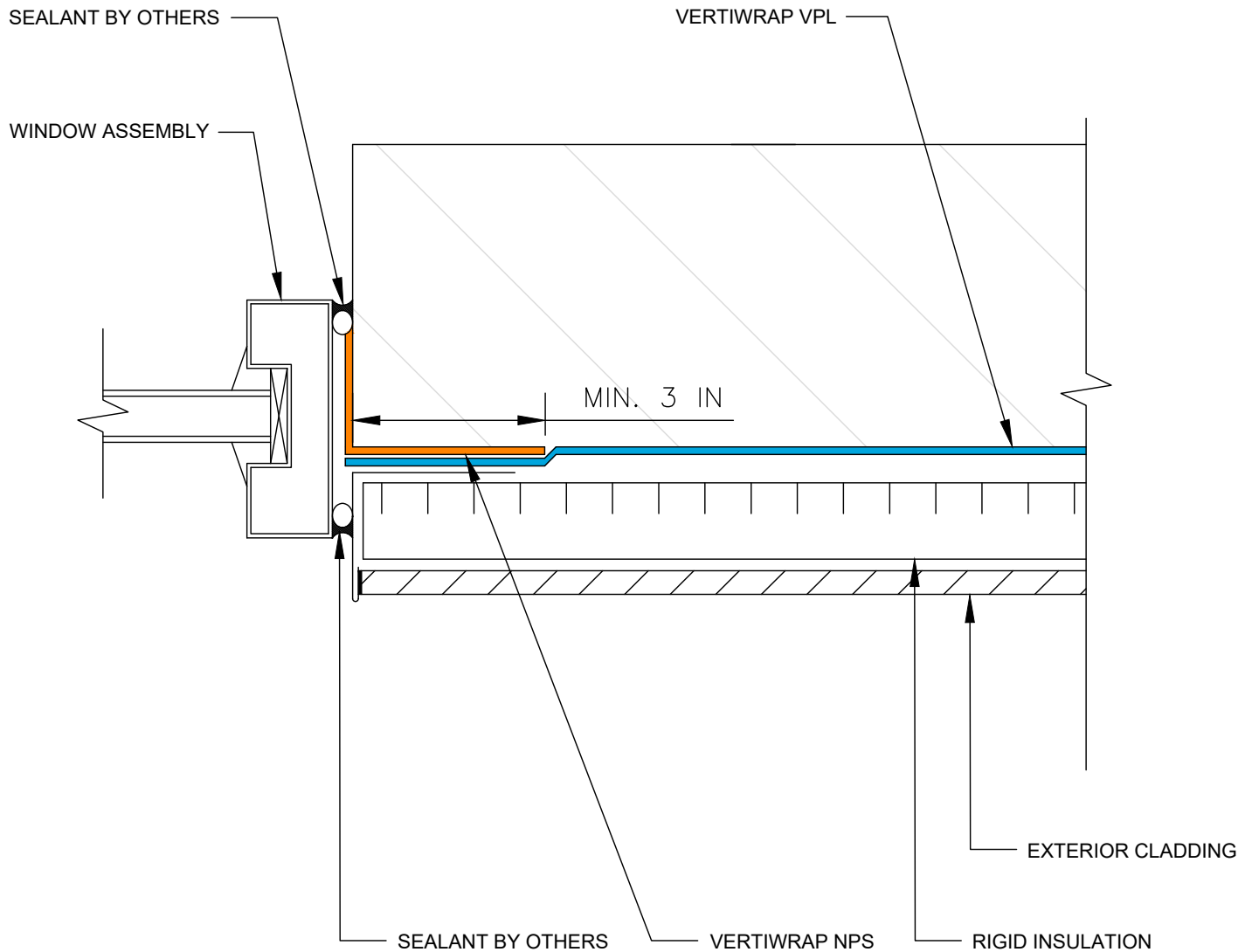
04/01/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-1I



**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. VERTIWRAP NPS SHOULD EXTEND INTO THE WINDOW OPENING AT A DIMENSION PER THE PROJECT DESIGN
4. VERTIWRAP NPS MAY BE OMITTED AT JAMB AND VERTIWRAP VPL CAN BE EXTENDED INTO THE ROUGH OPENING
5. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL  
WINDOW JAMB  
NON-MASONRY CLADDING  
(OPTION-2)**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

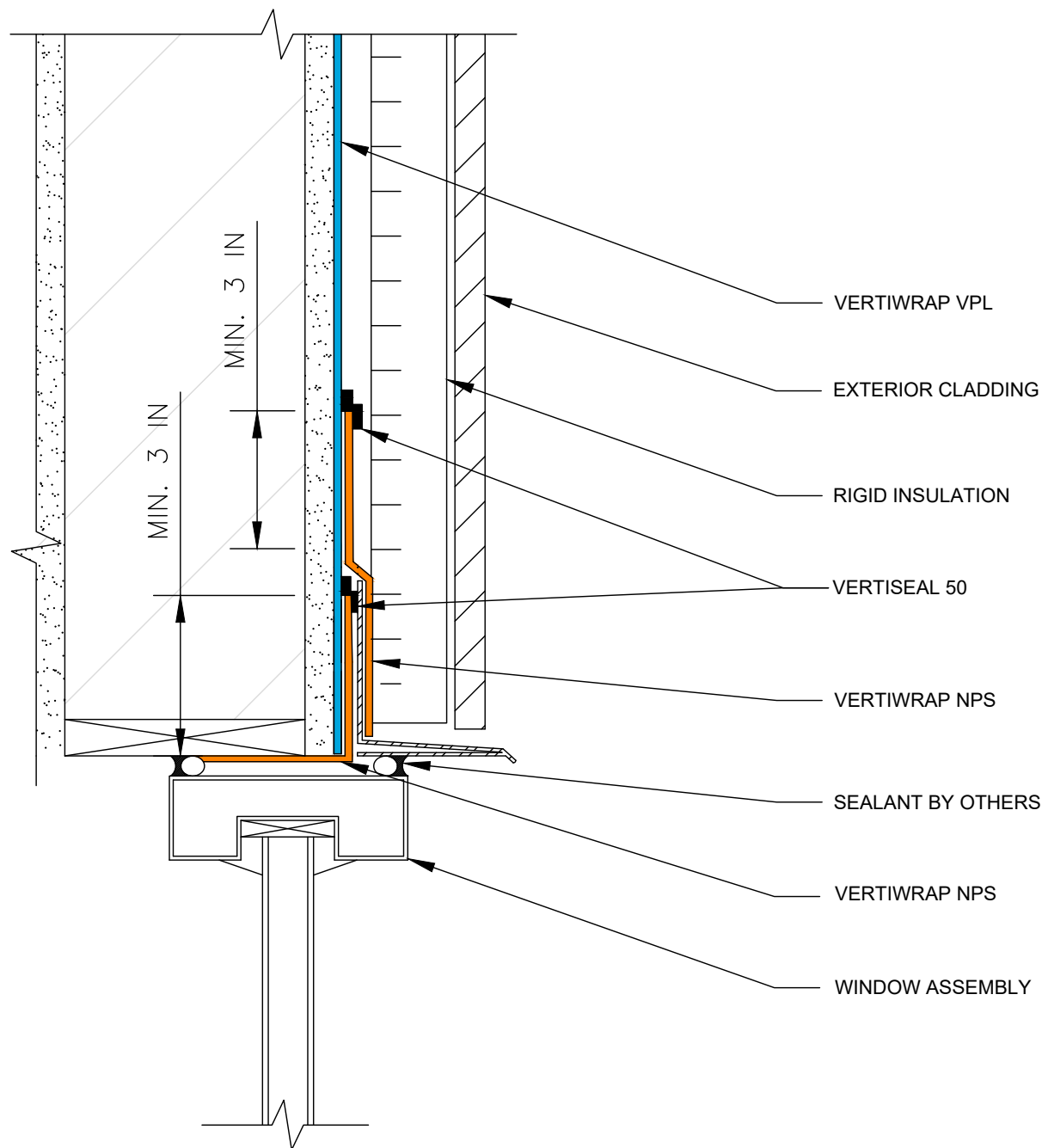
04/01/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-1J



#### NOTES:

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. VERTIWRAP NPS SHOULD EXTEND INTO THE WINDOW OPENING AT A DIMENSION PER THE PROJECT DESIGN
4. VERTIWRAP NPS MAY BE OMITTED AT HEAD AND VERTIWRAP VPL CAN BE EXTENDED INTO THE ROUGH OPENING
5. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL**

**WINDOW HEAD  
NON-MASONRY CLADDING  
(OPTION-1)**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

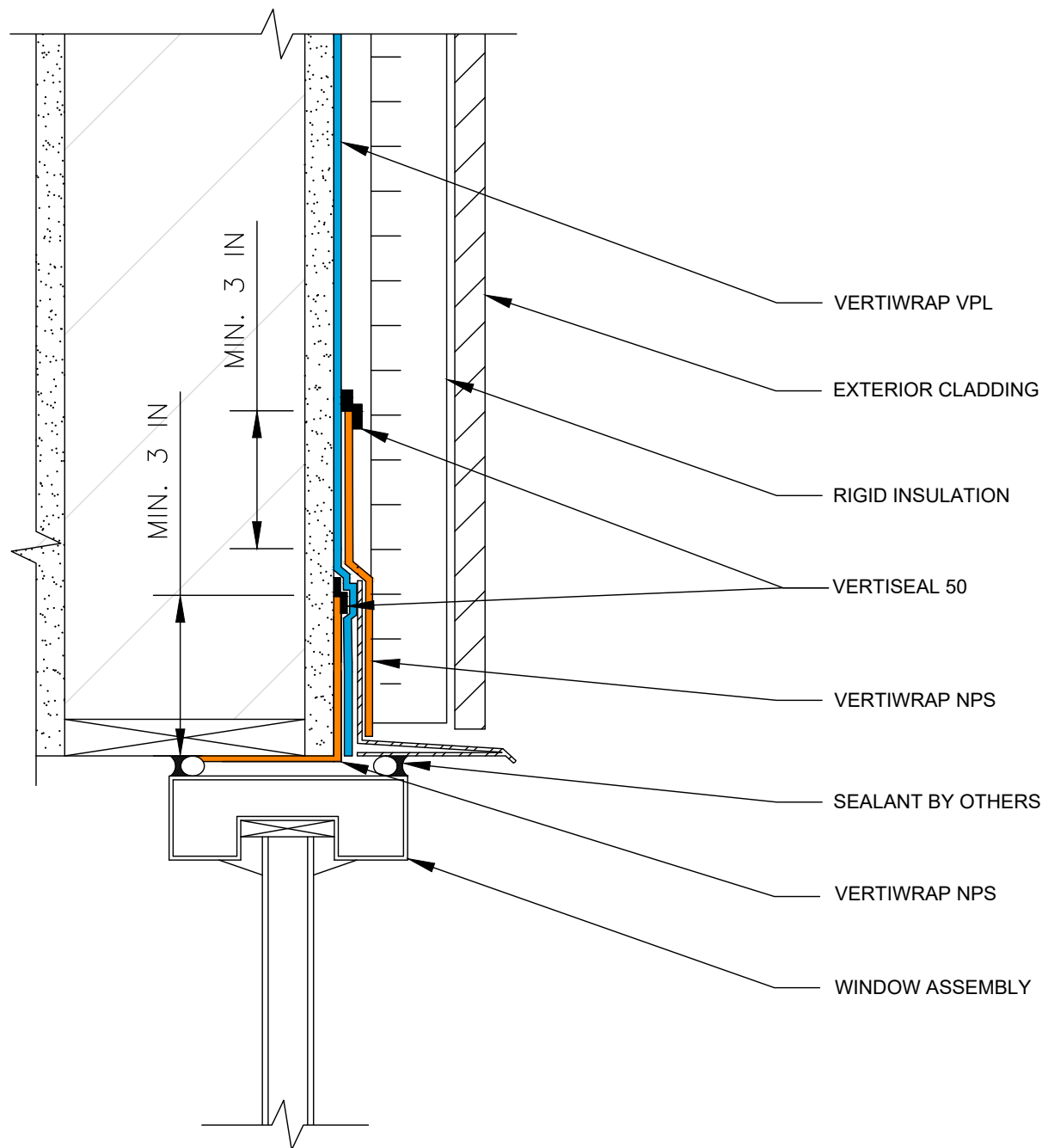
04/01/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-1K



**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. VERTIWRAP NPS SHOULD EXTEND INTO THE WINDOW OPENING AT A DIMENSION PER THE PROJECT DESIGN
4. VERTIWRAP NPS MAY BE OMITTED AT HEAD AND VERTIWRAP VPL CAN BE EXTENDED INTO THE ROUGH OPENING
5. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPS**

**WINDOW HEAD  
NON-MASONRY CLADDING  
(OPTION-2)**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

04/01/2023

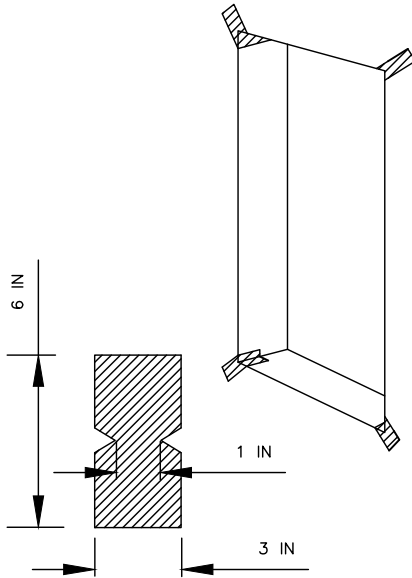
**SCALE:**

NOT TO SCALE

**DRAWING #:**

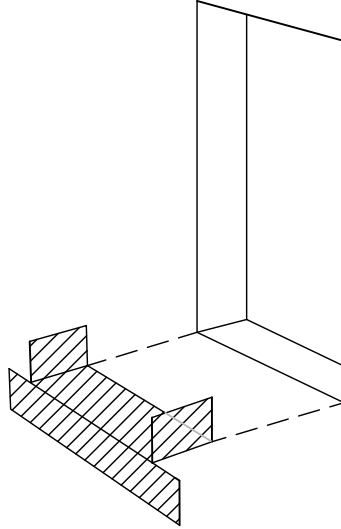
VW-VPS-1L

### STEP 1 - CORNER FLASHING

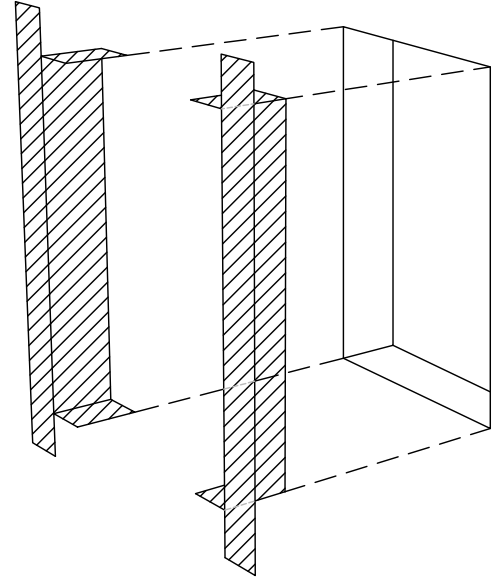


CORNER FLASHING

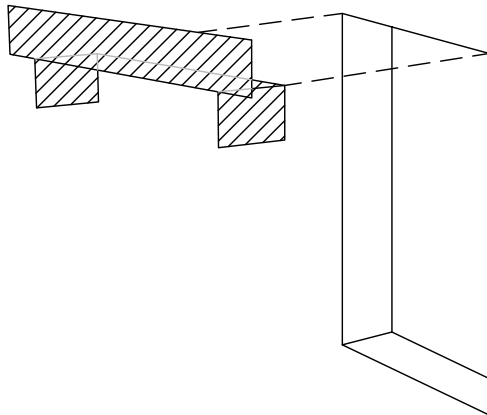
### STEP 2 - SILL FLASHING



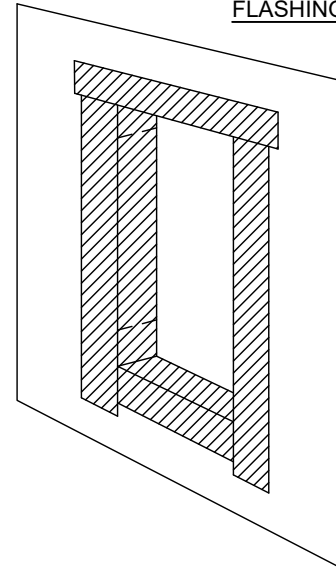
### STEP 3 - JAMB FLASHING



### STEP 4 - HEAD FLASHING



### FLASHING COMPLETED



#### NOTES:

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. VERTIWRAP SHOULD EXTEND INTO THE WINDOW OPENING AT A DIMENSION PER THE PROJECT DESIGN
4. ALL VERTIWRAP FLASHING SHOULD EXTEND A MIN. OF 3 IN. ONTO THE SHEATHING AND OR PREVIOUSLY INSTALLED VERTIWRAP MEMBRANE. VERTICAL LEGS OF FLASHING SHOULD EXTEND A MIN. OF 3 IN. AT ANY PLANE CHANGES
5. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL**

**SELF-ADHERED  
WINDOW FLASHING**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

04/01/2023

**SCALE:**

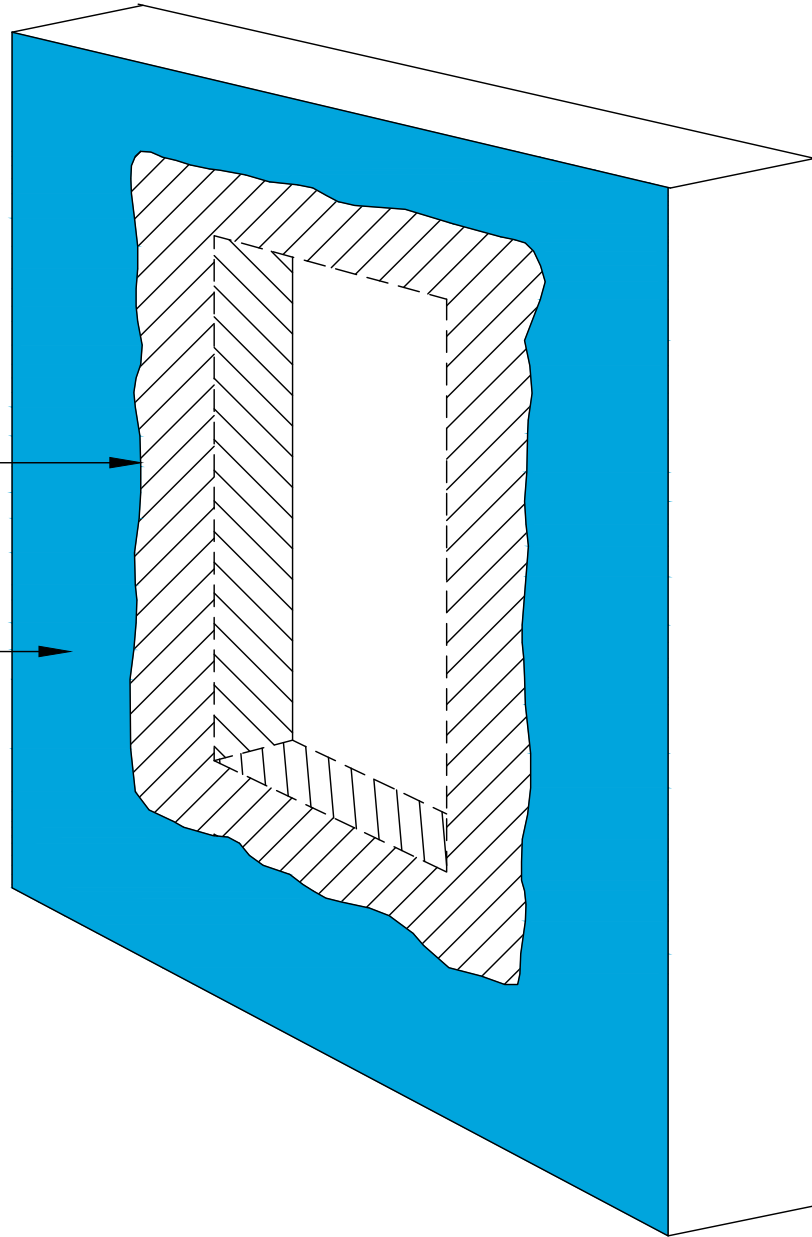
NOT TO SCALE

**DRAWING #:**

VW-VPL-1M

VERTISEAL 50  
(MINIMUM 25-MILS)

VERTIWRAP VPL



NOTES:

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. VERTISEAL 50 SHOULD EXTEND INTO THE WINDOW OPENING AT A DIMENSION PER THE PROJECT DESIGN
4. VERTISEAL 50 SHOULD EXTEND A MIN. OF 3 IN. ONTO THE VERTIWRAP VPL
5. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## VERTIWRAP VPL

## VERTISEAL 50 FLASHING ROUGH OPENING

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

04/01/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

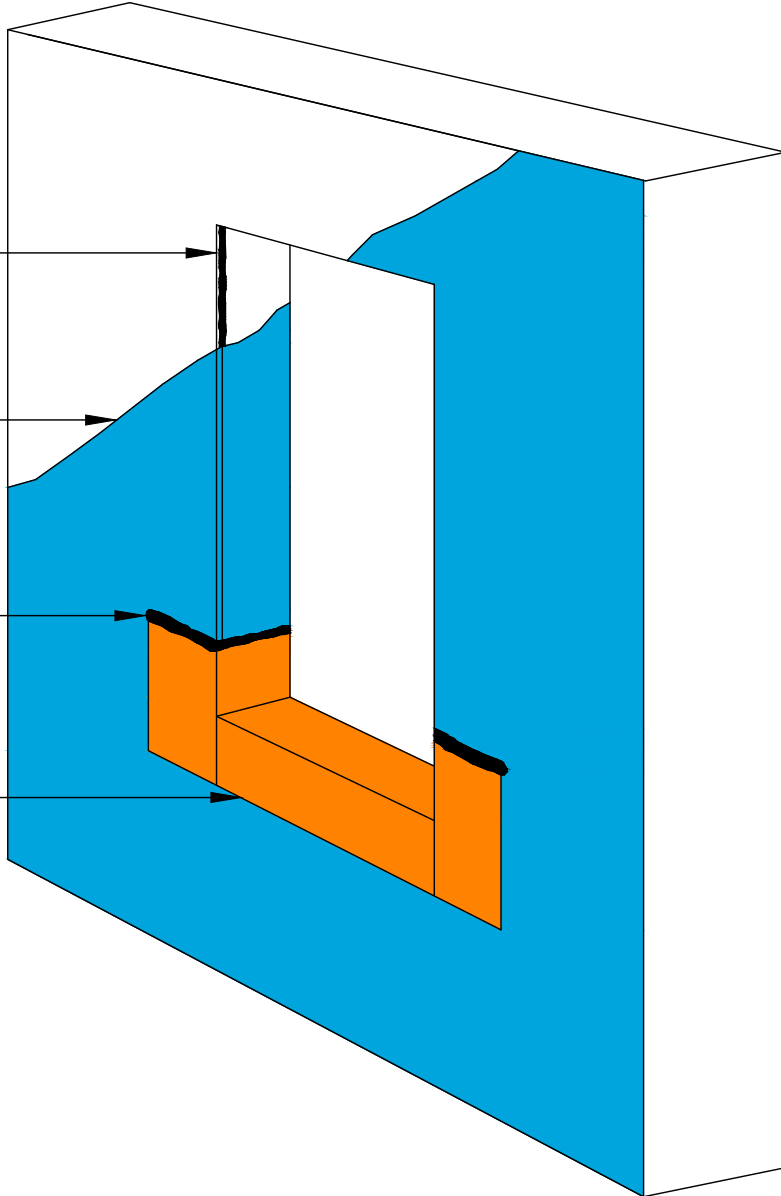
VW-VPL-1N

VERTISEAL 50  
(SEAL TRANSITION FROM  
FRAMING TO SHEATHING  
PRIOR TO VERTIWRAP VPL)

VERTIWRAP VPL

VERTISEAL 50

VERTIWRAP NPS



NOTES:

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. VERTIWRAP NPS MUST BE INSTALLED AT THE SILL PER STANDARD DETAILING AND TOP TERMINATIONS SEALED WITH VERTISEAL 50. VERTIWRAP NPS CAN BE INSTALLED BEFORE OR AFTER THE INSTALLATION OF VERTIWRAP VPL
4. ALL TRANSITION BETWEEN FRAMING AND SHEATHING MUST BE SEALED WITH VERTISEAL 50 PRIOR TO THE INSTALLATION OF VERTIWRAP VPL
5. VERTIWRAP NPS AND VERTIWRAP VPL SHOULD EXTEND INTO THE WINDOW OPENING AT A DIMENSION PER THE PROJECT DESIGN
6. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



[polyglass.us](http://polyglass.us)

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
[technical@polyglass.com](mailto:technical@polyglass.com)

## VERTIWRAP VPL

### VERTIWRAP VPL FLASHING ROUGH OPENING

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

04/01/2023

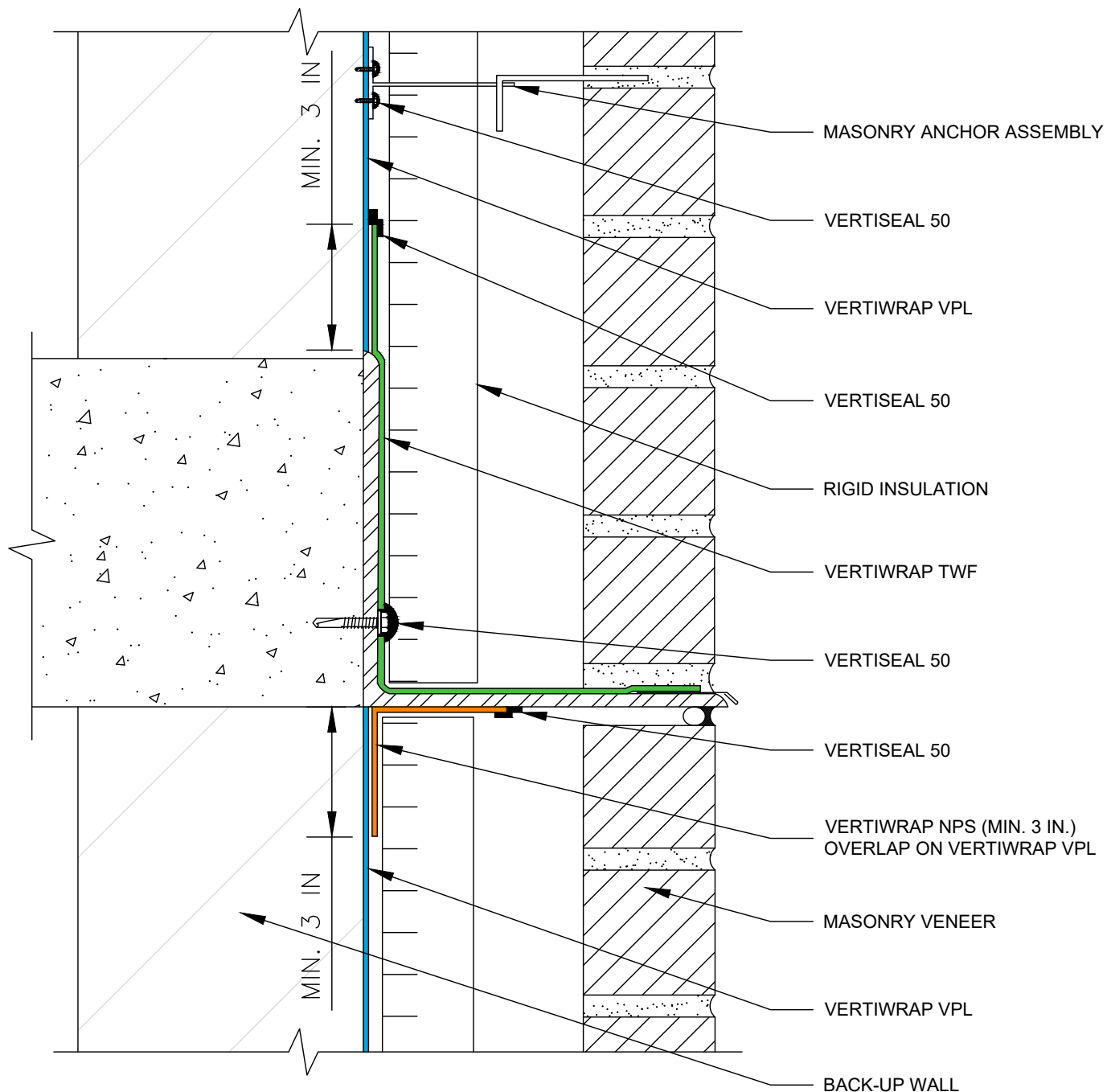
**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-10





**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL  
FLOOR LINE TRANSITION  
MASONRY CLADDING  
(OPTION-1)**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

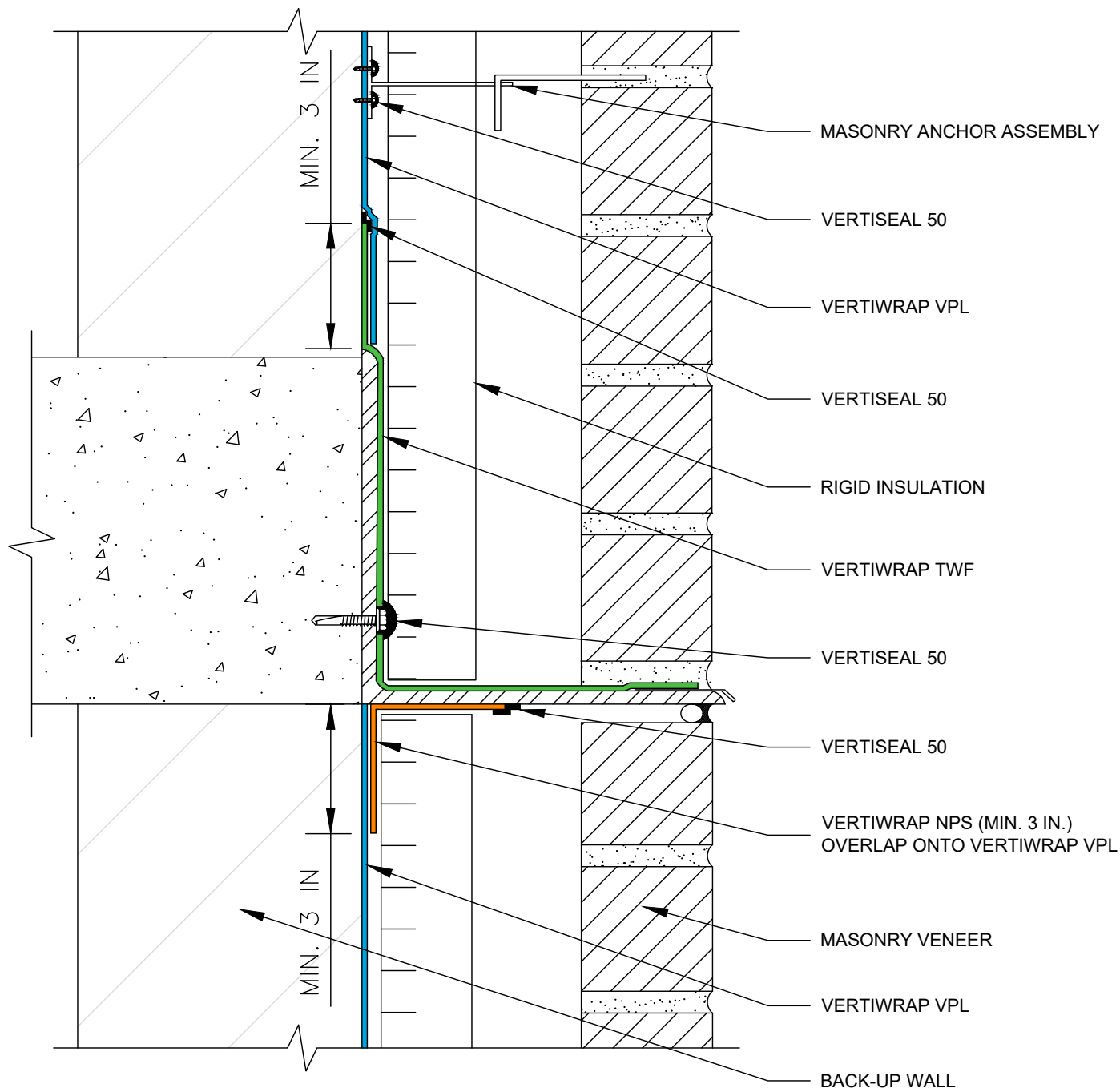
04/01/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-2A



**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL  
FLOOR LINE TRANSITION  
MASONRY CLADDING  
(OPTION-2)**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

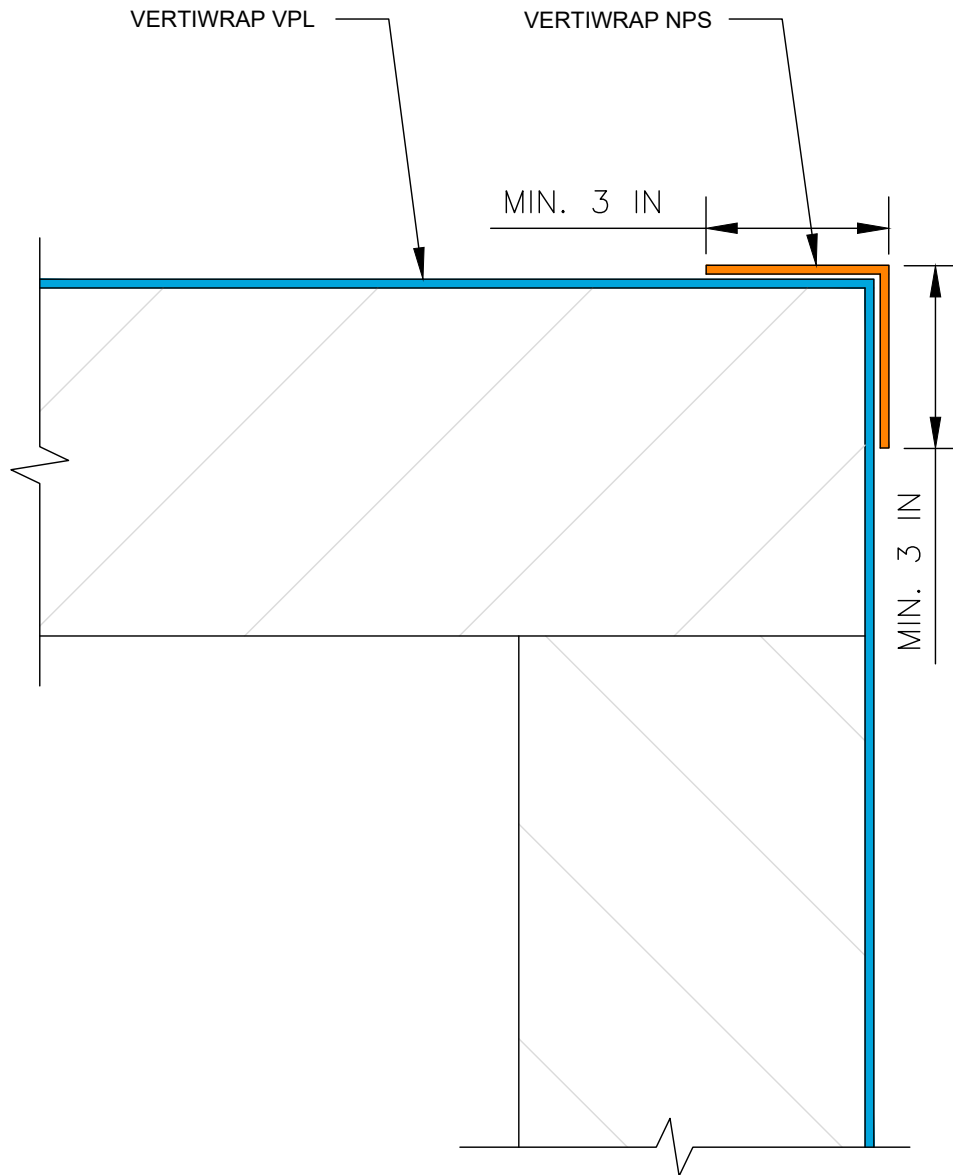
04/01/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-2B



**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL**

**OUTSIDE CORNER  
(OPTION-1)**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

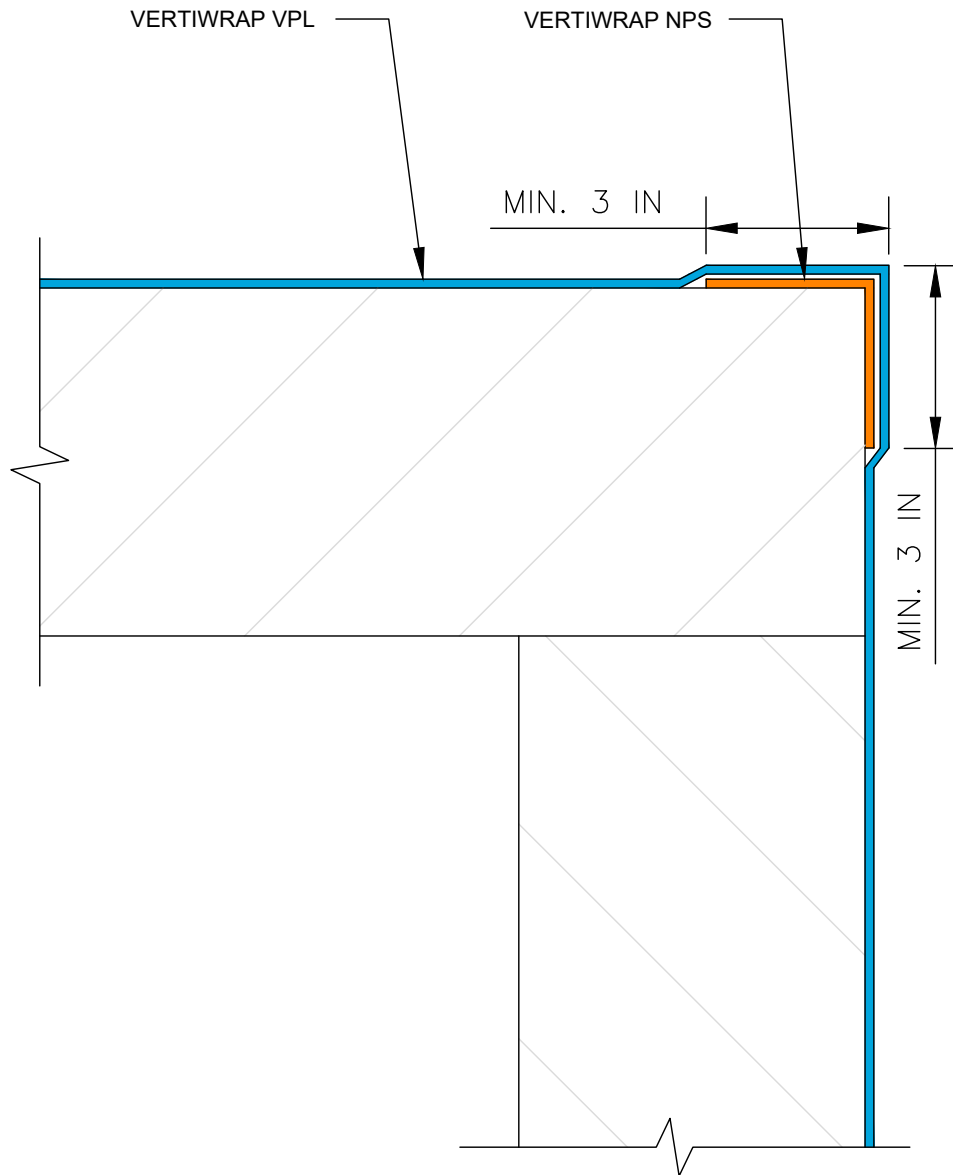
04/01/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-3A



**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL**

**OUTSIDE CORNER  
(OPTION-2)**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

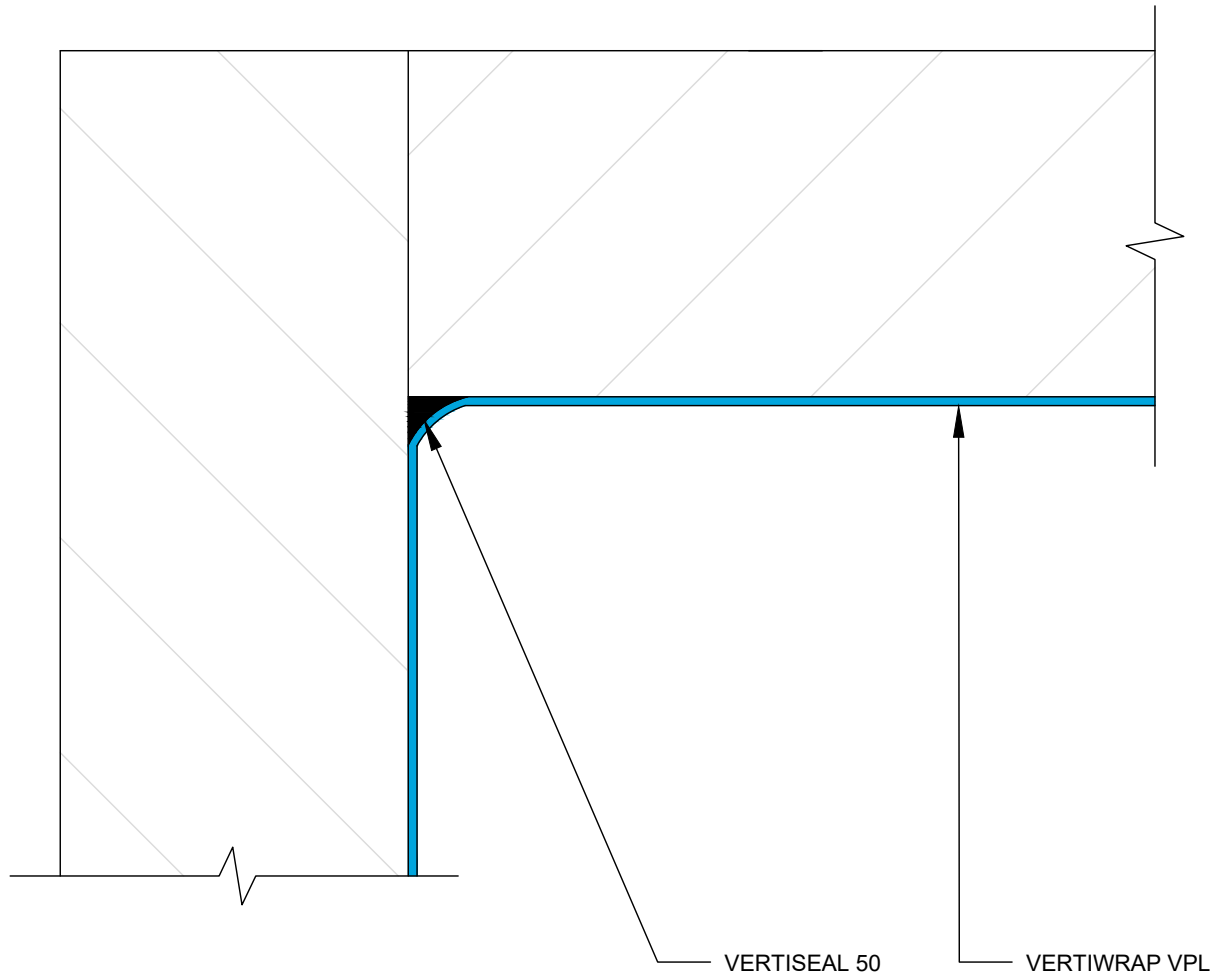
04/01/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-3B



**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL**

**INSIDE CORNER  
(OPTION-1)**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

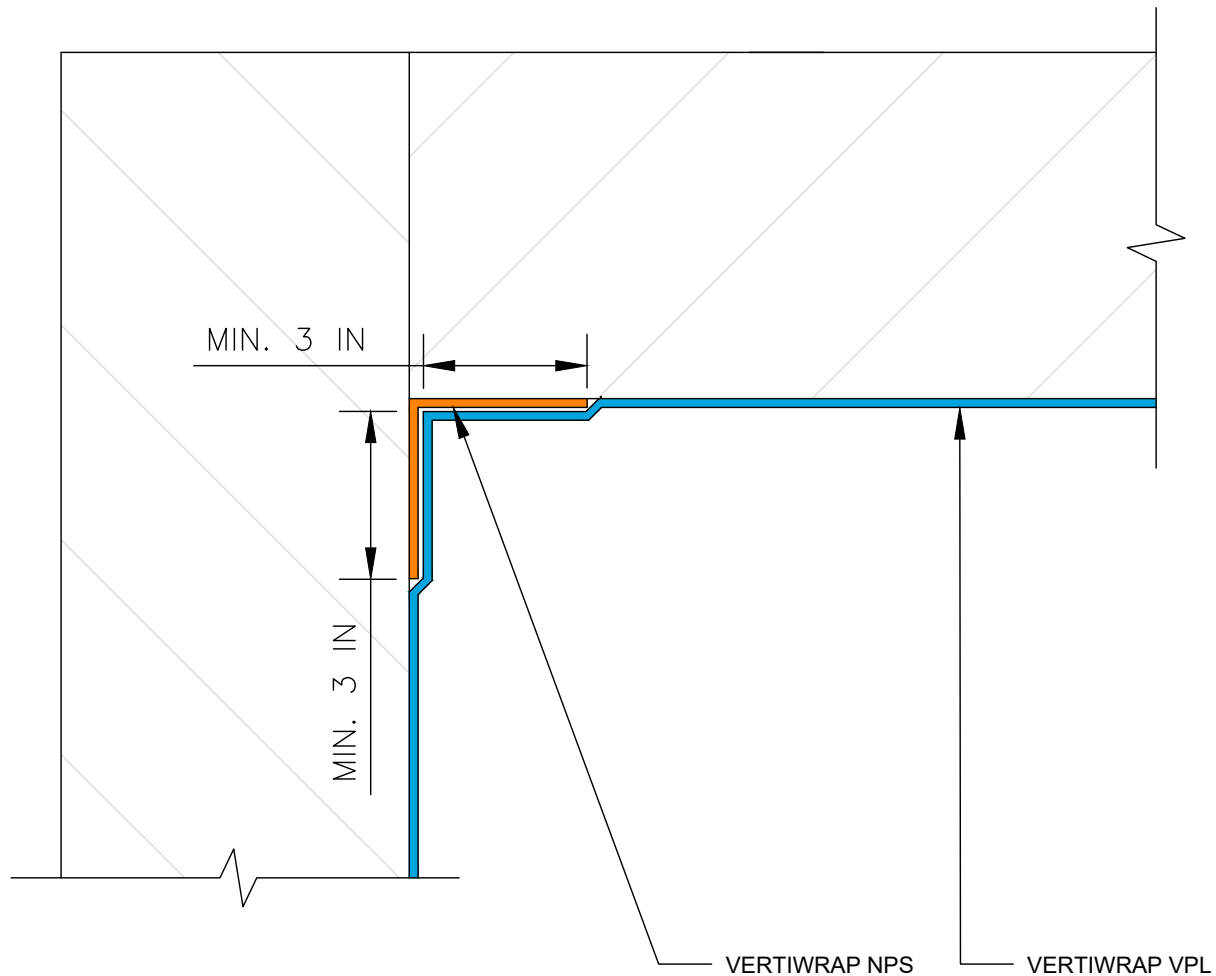
04/01/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-3C



**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL**

**INSIDE CORNER  
(OPTION-2)**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

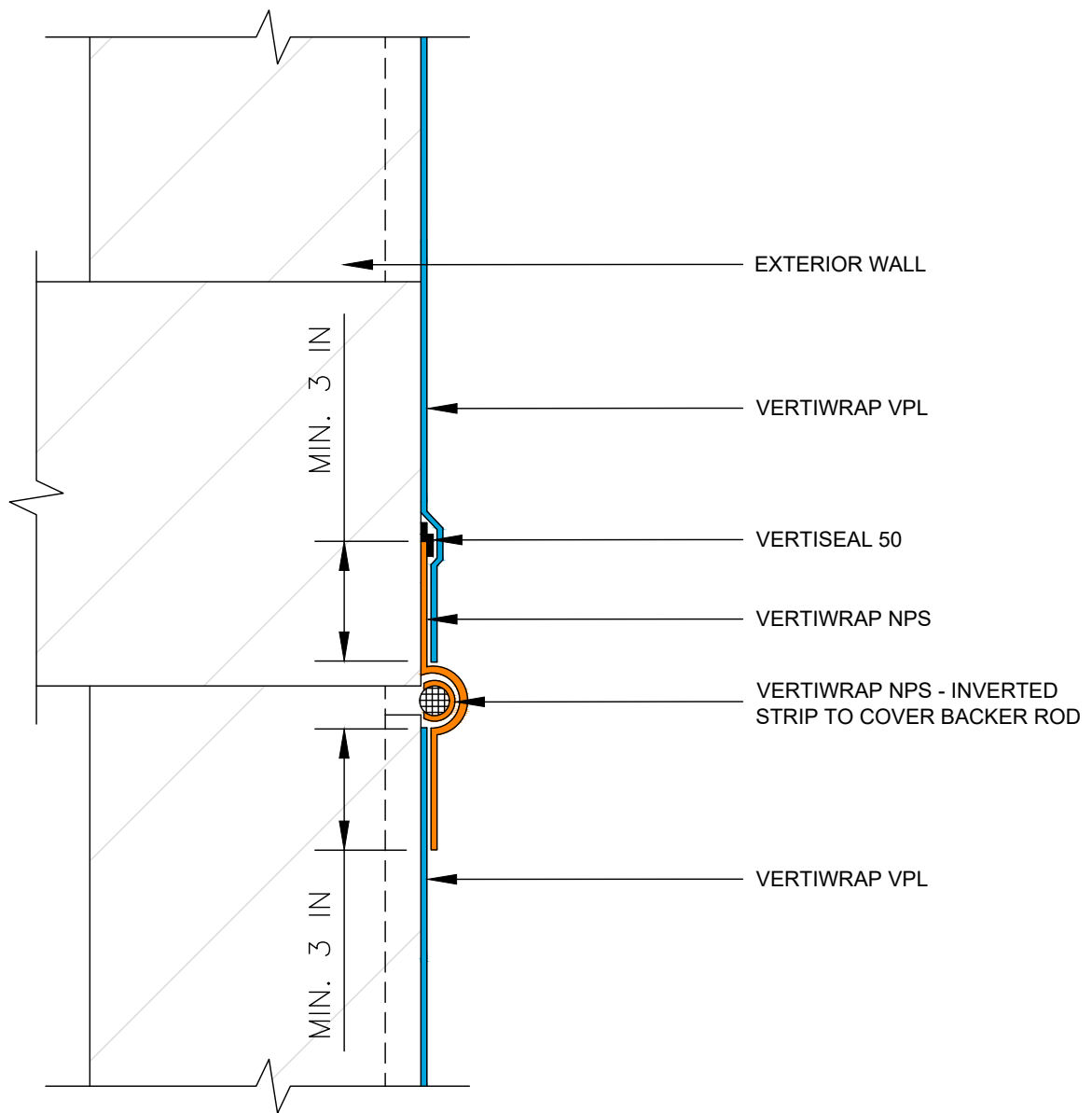
04/01/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-3D



**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL**

**DEFLECTION JOINT**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

04/01/2023

**SCALE:**

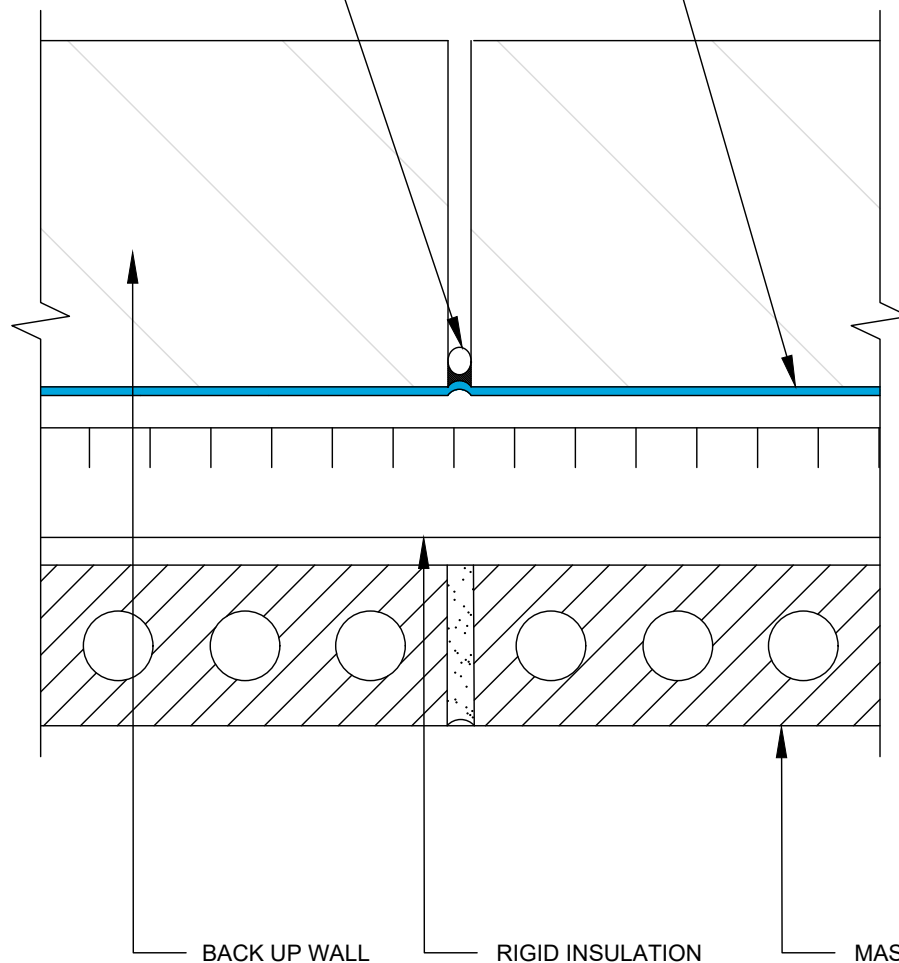
NOT TO SCALE

**DRAWING #:**

VW-VPL-4A

BACKER ROD AND COMPATIBLE SELANT

VERTIWRAP VPL



NOTES:

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. MAXIMUM JOINT WIDTH 1/2", WITH MAXIMUM 10% +/- MOVEMENT
3. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
4. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL**

**CONTROL JOINT**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

04/01/2023

**SCALE:**

NOT TO SCALE

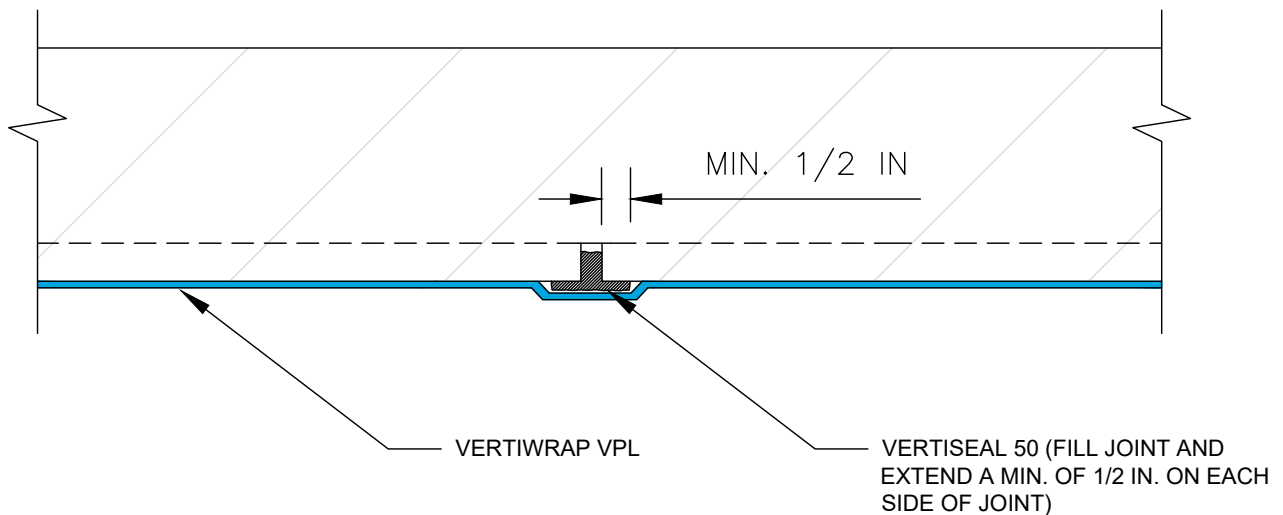
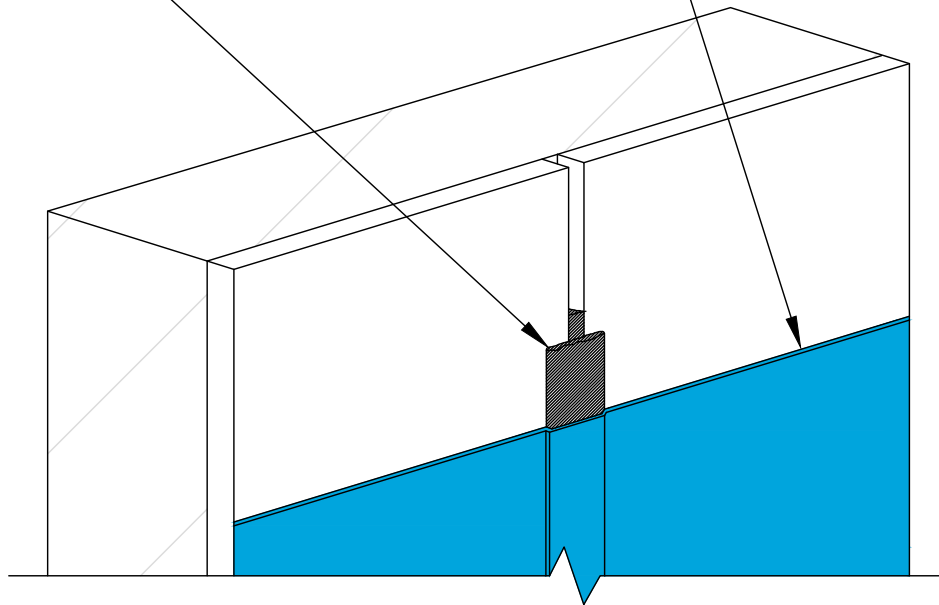
**DRAWING #:**

VW-VPL-4B



VERTISEAL 50 (FILL JOINT AND  
EXTEND A MIN. OF 1/2 IN. ON EACH  
SIDE OF JOINT)

VERTIWRAP VPL



**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL**

**SHEATHING JOINT TREATMENT**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

04/01/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

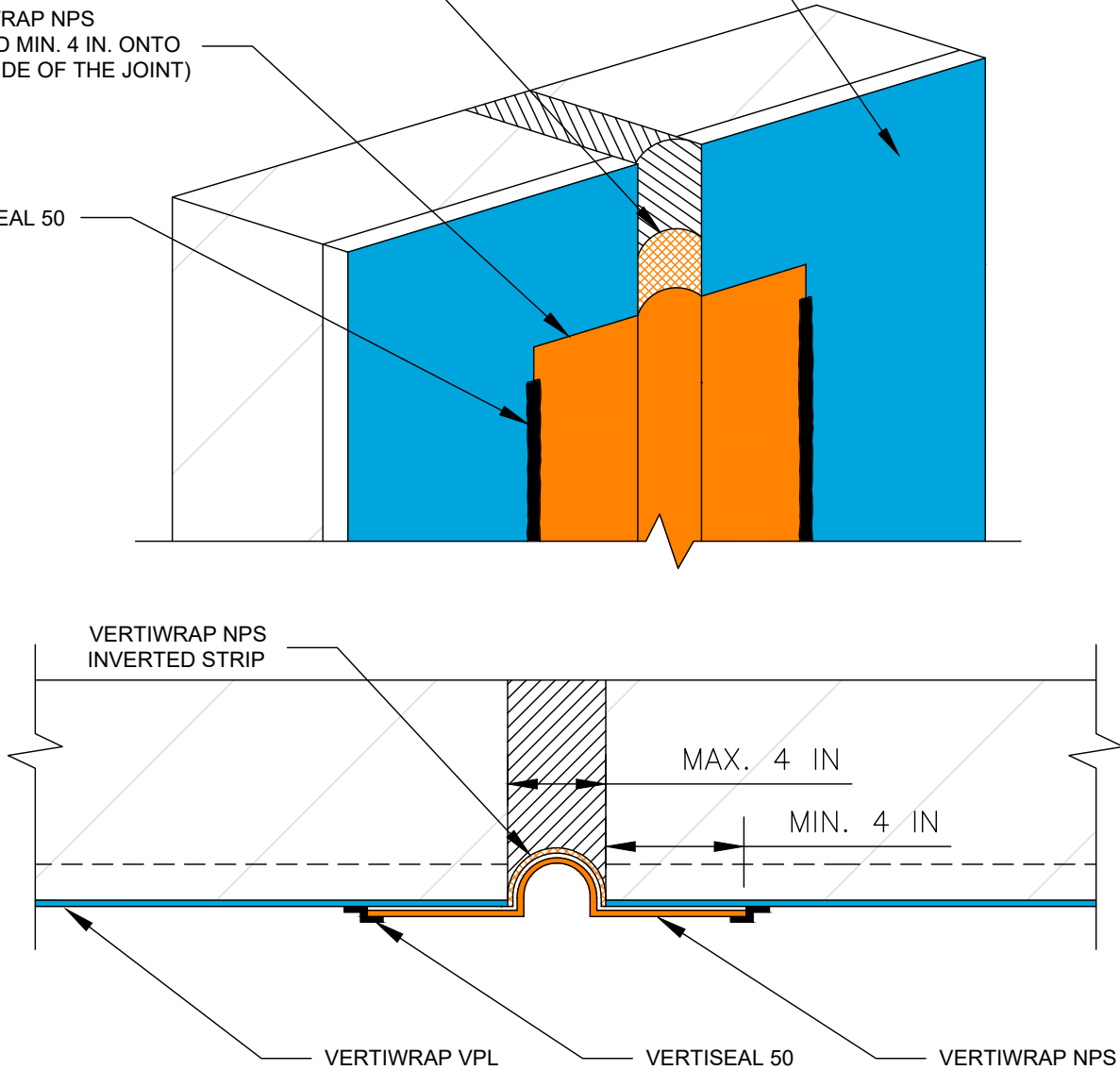
VW-VPL-4C

VERTIWRAP NPS INVERTED STRIP  
(TWICE THE WIDTH OF THE JOINT)

VERTIWRAP VPL

VERTIWRAP NPS  
(EXTEND MIN. 4 IN. ONTO  
EACH SIDE OF THE JOINT)

VERTISEAL 50



NOTES:

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. VERTIWRAP NPS INVERTED STRIP TO BE TWICE THE WIDTH OF THE JOINT
4. MAXIMUM JOINT WIDTH 4 IN., CAPABLE OF 50% +/- MOVEMENT IN COMPRESSION AND ELONGATION. FOR JOINTS LARGER THAN 4 IN. OR POTENTIAL FOR DIFFERENTIAL MOVEMENT CONSULT POLYGLASS
5. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL**

**EXPANSION JOINT**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

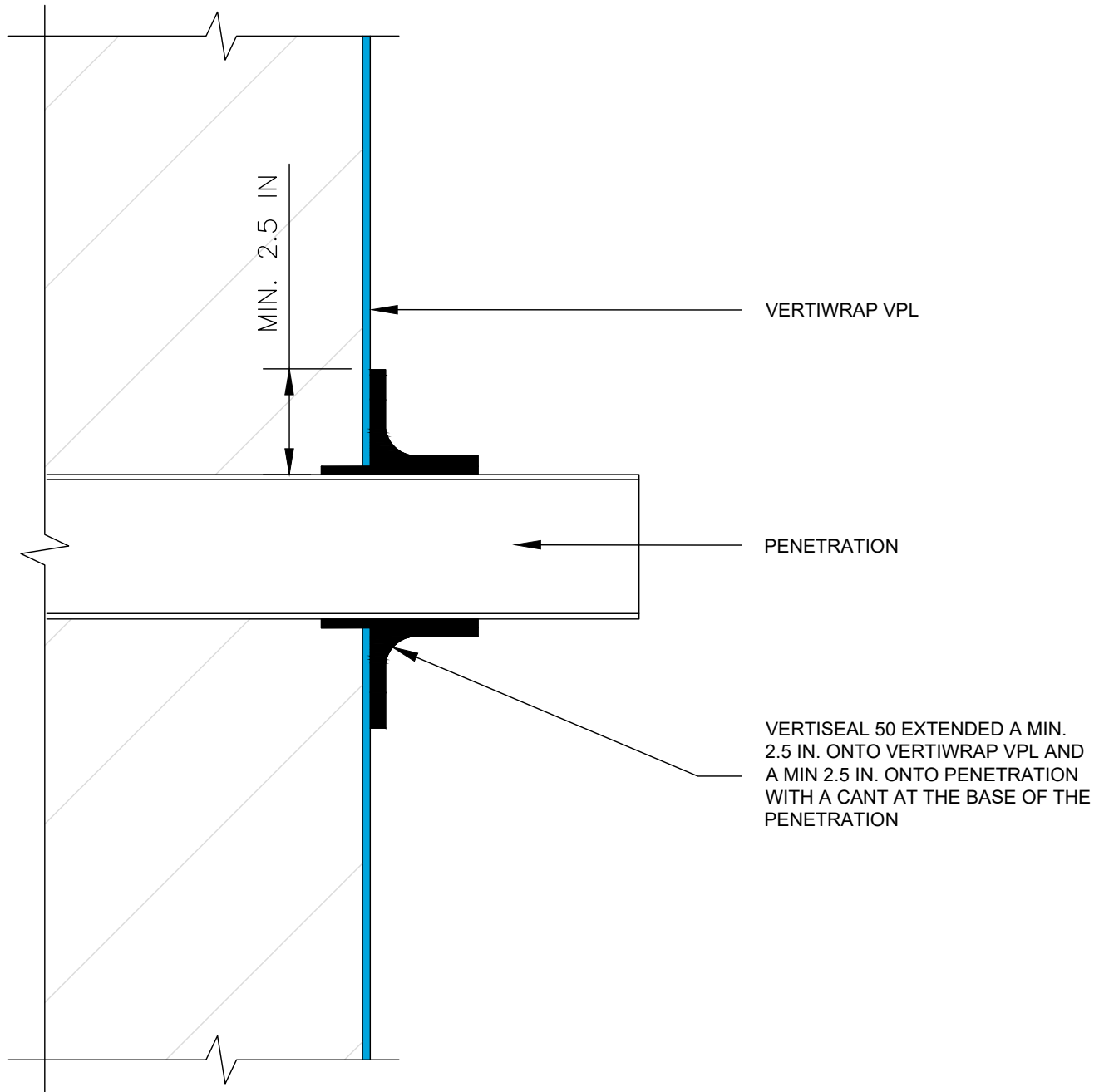
04/01/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-4D



**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL**

**PENETRATION**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

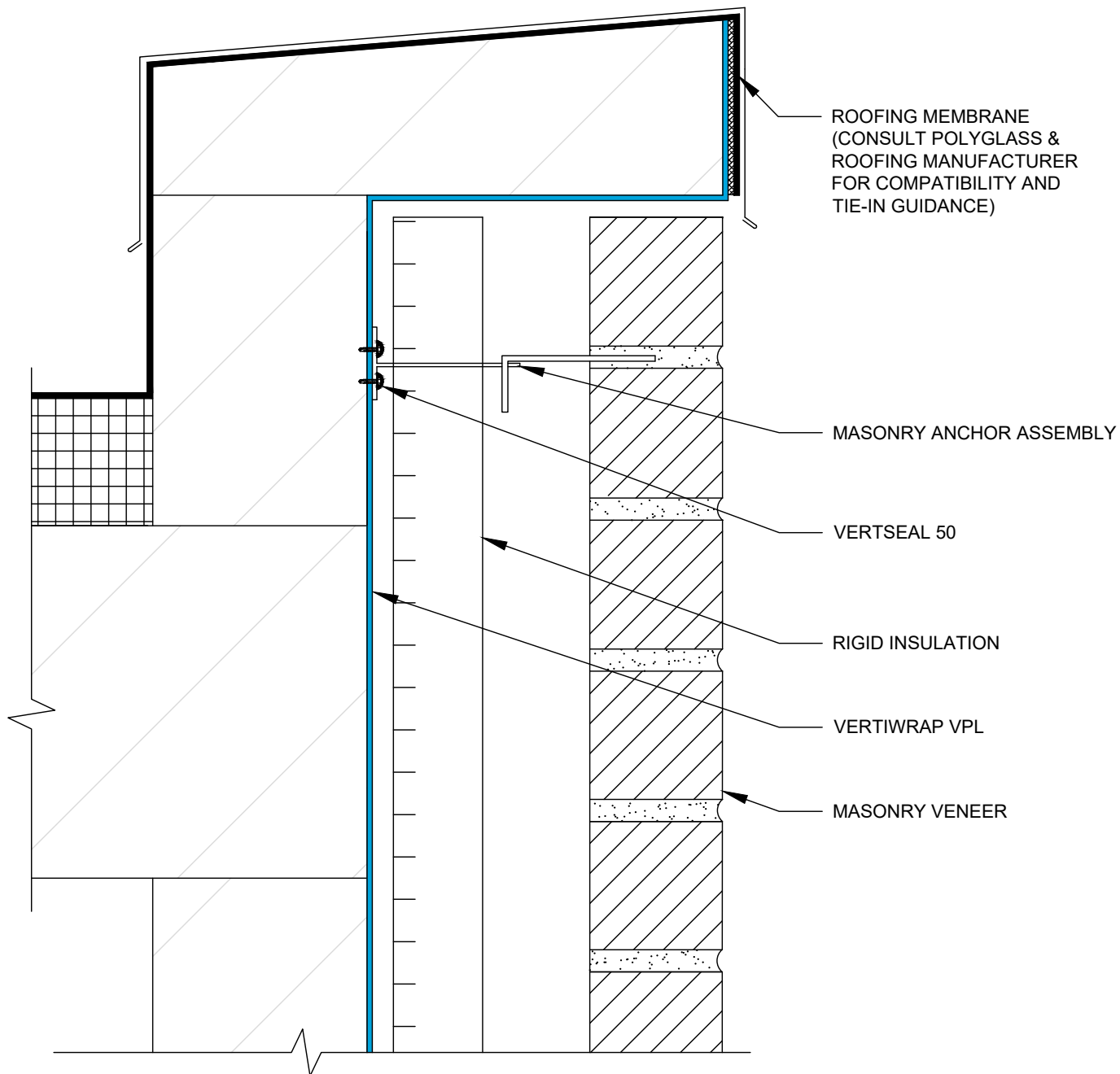
04/01/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-5A



**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL**

**PARAPET**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

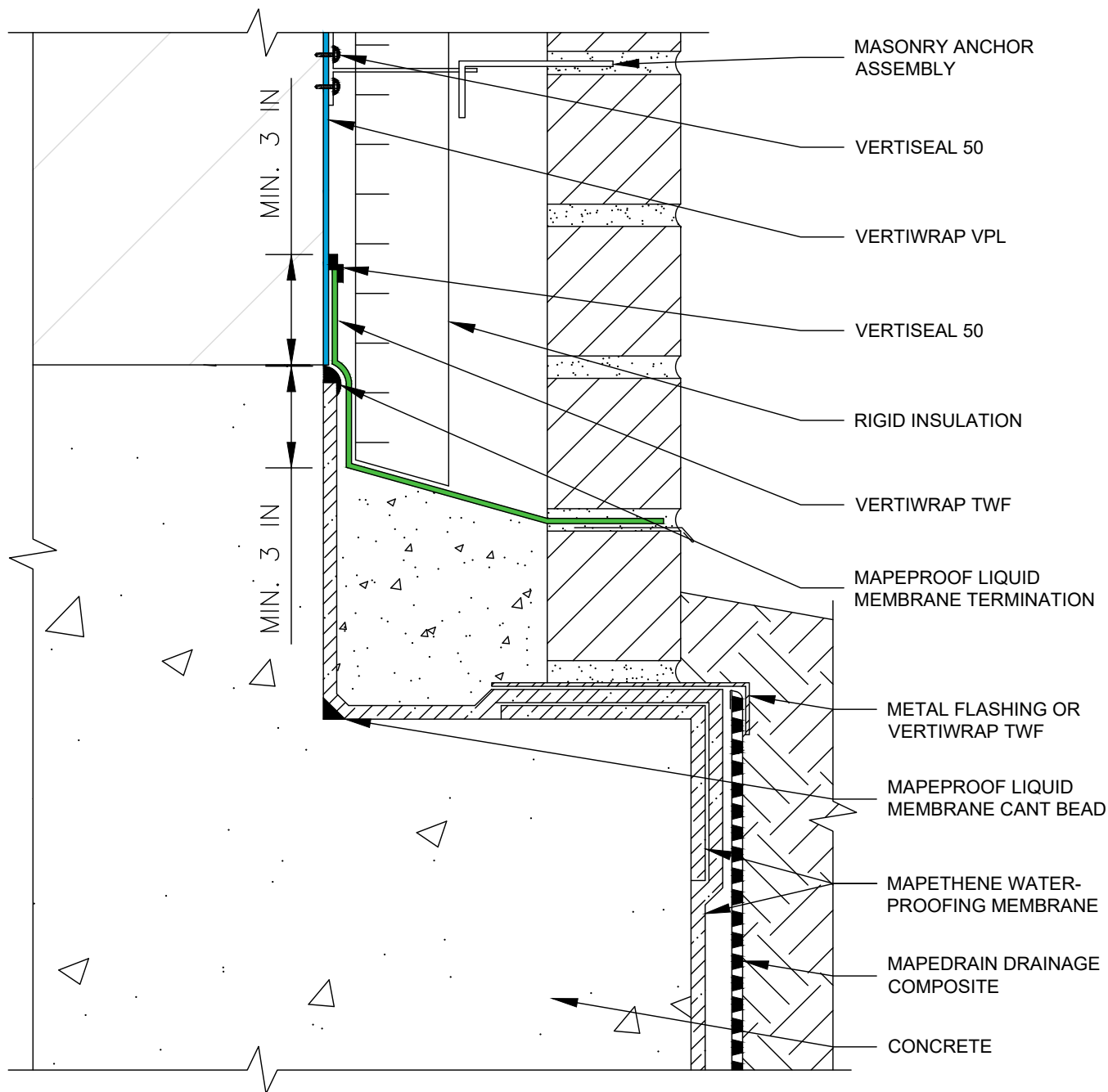
04/01/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-6A



**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL**

**BASE OF WALL  
TRANSITION TO MAPETHENE**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

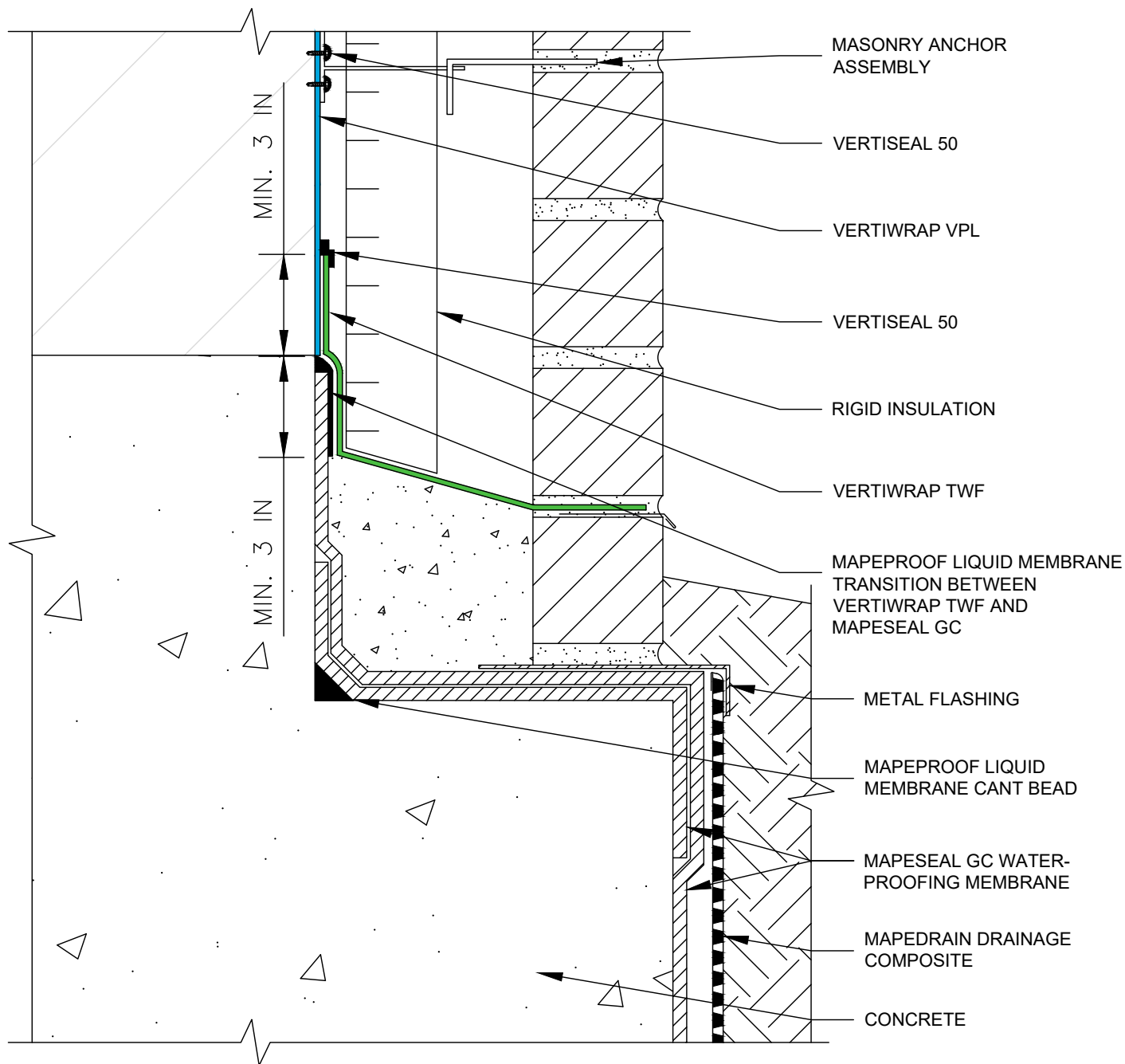
04/01/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-7A



**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL**

**BASE OF WALL  
TRANSITION TO MAPESEAL GC**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

04/01/2023

**DATE:**

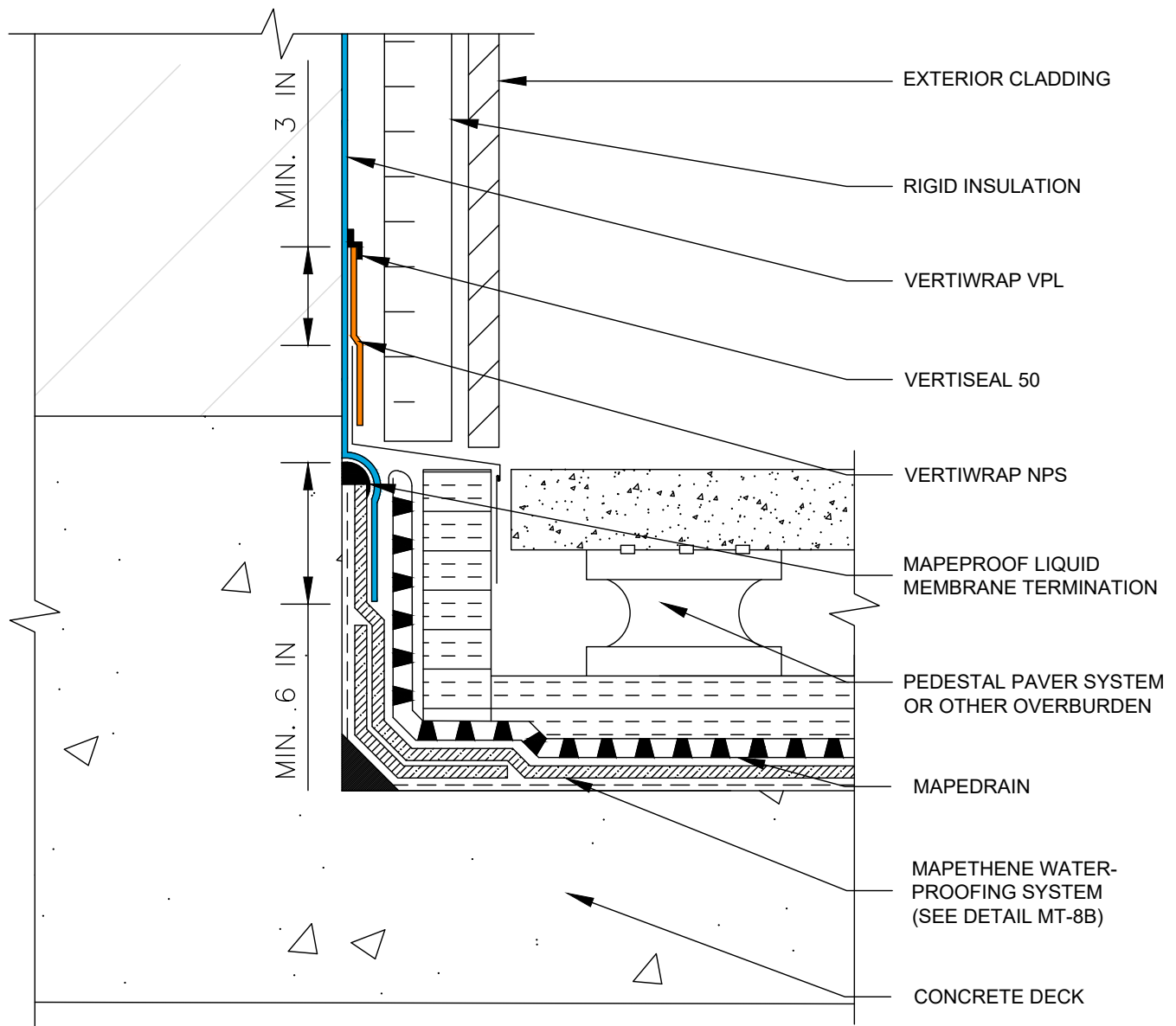
06/13/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-7B



**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL**

**DECK TO WALL  
TRANSITION TO MAPETHENE**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

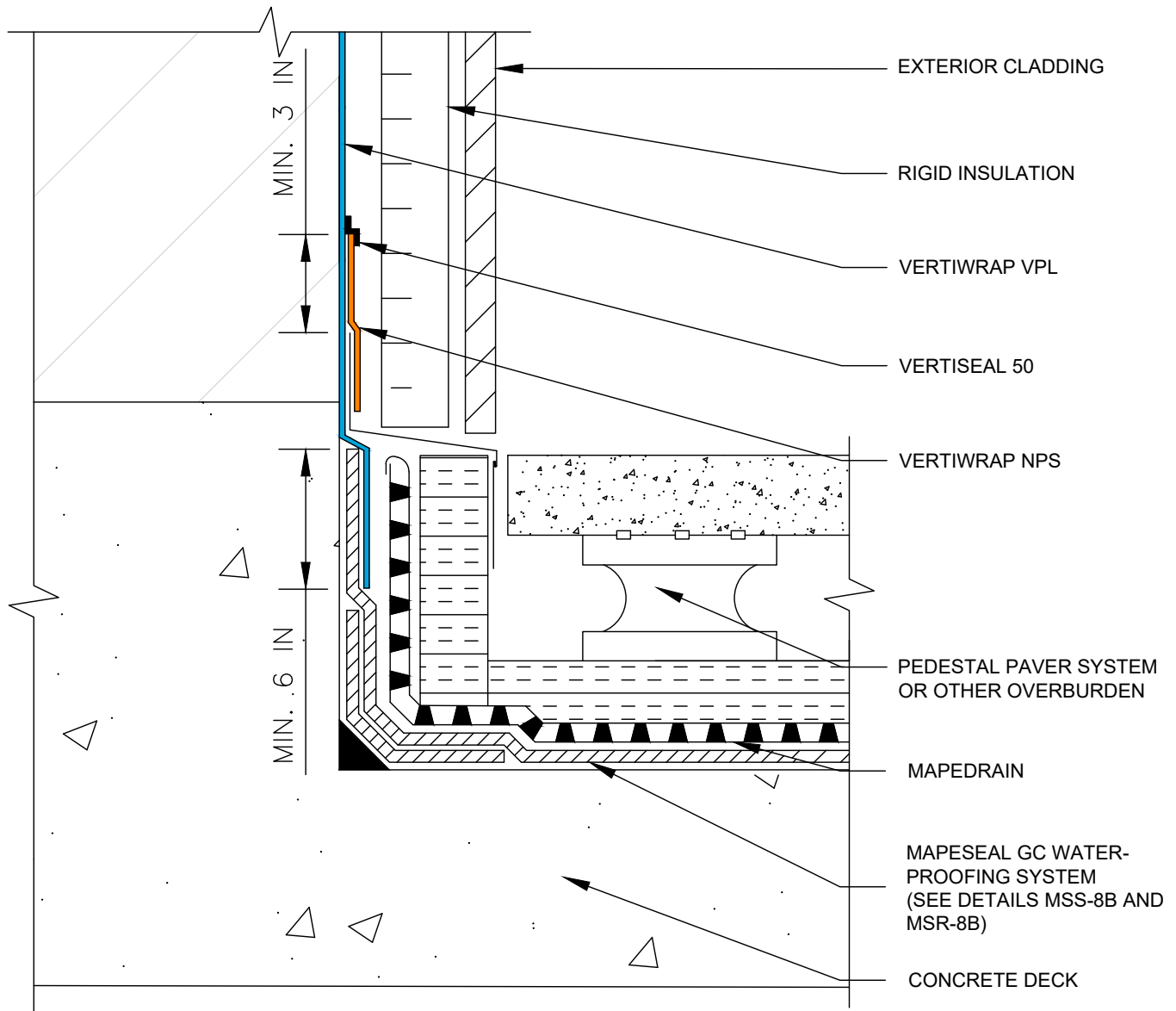
04/01/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-7C



**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

**VERTIWRAP VPL**

**DECK TO WALL  
TRANSITION TO MAPESEAL GC**

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

04/01/2023

**DATE:**

06/13/2023

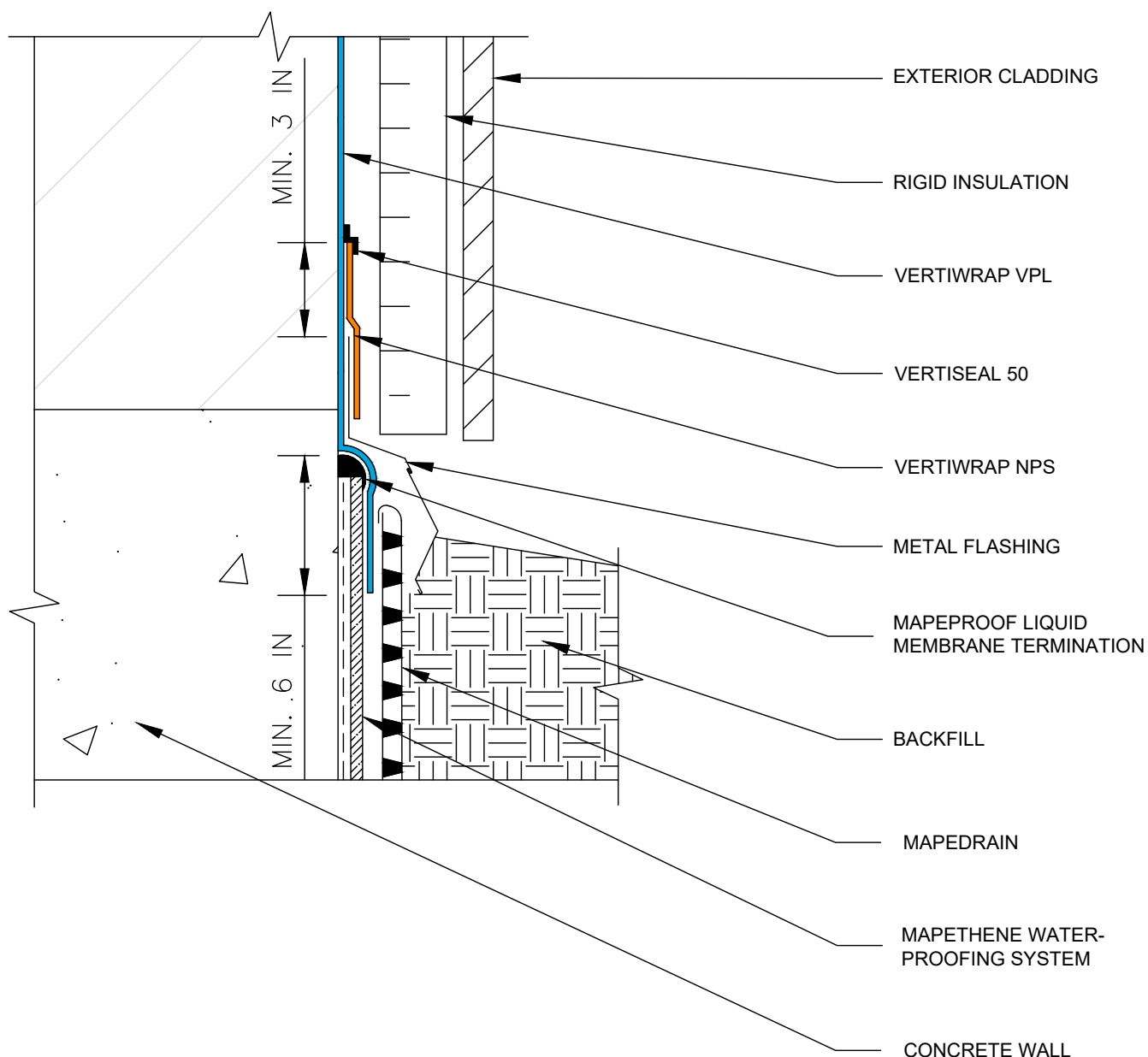
**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-7D





**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## VERTIWRAP VPL

## AT GRADE TRANSITION TO MAPETHENE

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

00/00/0000

**DATE:**

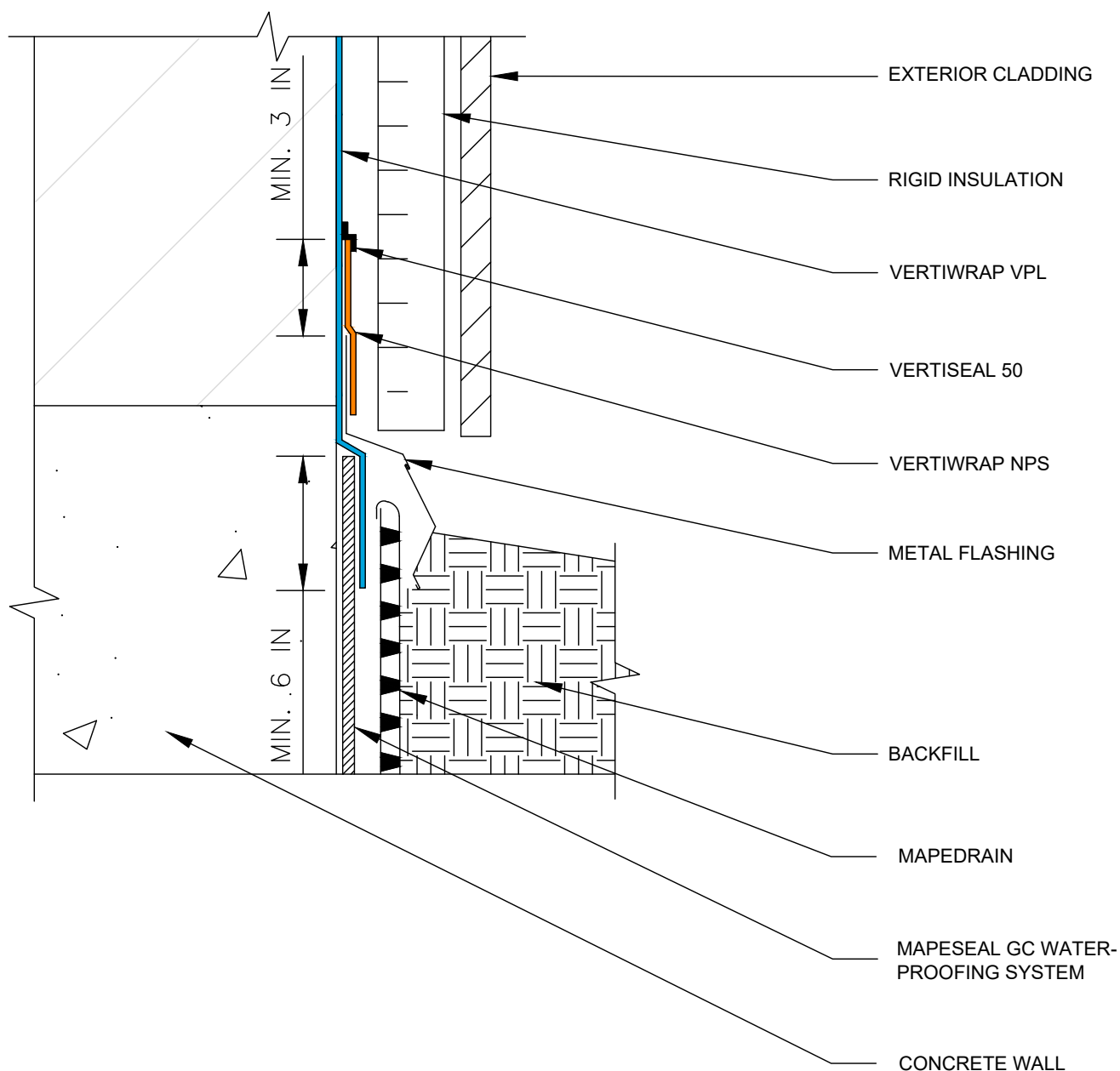
04/01/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-7E



**NOTES:**

1. THIS WALL ASSEMBLY MAY NOT BE SUITABLE FOR ALL CLIMATES/REGIONS. CONSULT A BUILDING SCIENCE PROFESSIONAL FOR ASSISTANCE WITH EXTERIOR WALL DESIGNS
2. INSTALL THE VERTIWRAP SYSTEM TO FORM A CONTINUOUS AIR AND WATER BARRIER
3. INSTALL PRODUCTS ACCORDING TO THEIR RESPECTIVE TECHNICAL DATA SHEETS AND APPLICATION INSTRUCTIONS

**POLYGLASS**



**polyglass.us**

1111 West Newport Center Drive  
Deerfield Beach, FL 33442  
Technical Service: (866) 794-9659  
technical@polyglass.com

## VERTIWRAP VPL

## AT GRADE TRANSITION TO MAPESEAL GC

DETAIL IS INTENDED TO BE A GUIDE FOR AIR BARRIER INSTALLATION ONLY.

**SUPERCEDES:**

04/01/2023

**DATE:**

06/13/2023

**SCALE:**

NOT TO SCALE

**DRAWING #:**

VW-VPL-7F



5 YEAR VERTIWRAP™ VPL MATERIAL WARRANTY

Owner's Name:  
Owner's Address:

Contractor Name:  
Contractor Address:  
Contractor Phone:

Building Name:  
Building Address:

Contractor Phone:  
Polyglass Registered Contractor #:

Polyglass Product(s) Used:

Product

Project Size Square Feet:

Installation Completion Date:  
Warranty Number:

**TERMS AND CONDITIONS:**  
Definitions: "Polyglass" shall mean Polyglass® U.S.A, Inc. 1111 W. Newport Center Drive, Deerfield Beach, FL 33442. "Owner" shall mean the original party listed above as Owner's Name whose building the Polyglass waterproofing membrane product is installed.

Polyglass warrants; the Polyglass' product(s) will comply with their current specifications and be free from manufacturing defects for the period of Five (5) years from the date of original installation of the membrane as identified above.

Should Polyglass' membrane be deemed defective by Polyglass, as described above, Polyglass shall provide replacement material to the owner equal in quantity to the material found to be defective. Polyglass' maximum liability, under any circumstances, shall not exceed the original cost of the defective membrane; excluding all installation related labor costs or other materials not supplied or furnished by Polyglass.

Polyglass shall have no obligation based upon the following exclusions under this warranty:

- 1)

Damage by natural disasters, including but not limited to lightning, hail, floods, hurricanes, tornadoes, earthquakes or similar acts of God or natural causes;
- 2)

Damage by willful or negligent acts, fire, vandalism, or other misuse;
- 3)

Damage by use of materials not furnished or approved by Polyglass or chemical incompatibility with other materials;
- 4)

Structural failure including gaps or cracks in the structural wall in excess of 1/16" wide, cracking due to structural movement, excessive deflection or other failure of the substrate;
- 5)

Alterations or repairs made to the membrane without prior written authorization of Polyglass;
- 6)

Failure due to workmanship or improper installation as determined by Polyglass' sole judgment;
- 7)

Failure to strictly comply with Polyglass' latest instructions and recommendations as to product installation;
- 8)

Failure to comply with any and all Terms and Conditions of this warranty;
- 9)

Damage or injury arising in any way from an actual or alleged discharge or release of any pollutant or waste, environmental or airborne contaminants;
- 10)

Damage or injury arising in any way from testing/sampling of membrane, design and consulting errors or omissions.

In addition to items 1-10 above, owner agrees by acceptance of this warranty that Polyglass shall have no responsibility whatsoever for bodily injury to any person or damage to the structure or its contents directly or indirectly arising out of any defects in its membrane or any other consequential or incidental damages or attorney's fees. Polyglass' sole responsibility is to provide replacement of defective membrane. This warranty does not include the cost of removal of existing materials, the cost of labor to remove or replace any overburden, or any other obstructions concealing the Polyglass membrane.

**Cancellation of Warranty:** This warranty shall become null and void if any of the following work is performed without prior written approval of Polyglass: a) any alterations or repairs to the membrane of any magnitude; b) subsequent work on or through the membrane, or c) changes in building usage; d) change in ownership of the building; e) any unauthorized damaging activity to the membranes

**Claim Procedure:**

Polyglass shall have no obligation under this warranty unless Owner shall have promptly notified Polyglass in writing along with attached Proof of Purchase to Polyglass by Registered or Certified Mail. Direct all claims to Polyglass U.S.A, Inc. 1111 W. Newport Center Drive, Deerfield Beach, Florida 33442, ATTN: Warranty Department. Any claim shall provide a copy of warranty and detailed information of the alleged defect. Polyglass must receive such notice within ten (10) days after discovery of the claimed defect. Failure to notify will result in voiding of this warranty. Polyglass reserves the right to request retained samples of the membrane to be provided at Owner's expense and submitted to Polyglass for analysis in lieu of any site review of in-service materials/conditions.

Owner shall provide Polyglass, and its agents and employees, free, safe and reasonable access to the building during regular business hours during the term of the warranty. Owner shall be responsible for all costs related to safe and reasonable access to investigate claim. Failure to comply will result in voiding of this warranty.

Polyglass' good-faith determination of the source of leakage, damage, or alleged defect to the membrane shall be exclusive and binding to owner.  
Polyglass' failure at any time to enforce any of the terms and conditions of this warranty shall not be construed as a waiver of such provisions.  
Polyglass reserves the right to discontinue or modify any of its products and shall not be liable to Owner as a result of any such discontinuance or modification.

This constitutes your entire express warranty for the products or system of products purchased. To the extent permitted by law, all other warranties, whether expressed or implied, including, but not limited to the implied warranties of **MERCHANTABILITY** and **FITNESS FOR A PARTICULAR PURPOSE** are EXCLUDED. ANY IMPLIED WARRANTIES ARISING BY OPERATION OF LAW ARE LIMITED IN DURATION TO THE TERM OF THIS WARRANTY. POLYGLASS WILL NOT PAY OR BE LIABLE UNDER ANY CIRCUMSTANCES FOR INCIDENTAL, CONSEQUENTIAL, SPECIAL OR EXEMPLARY DAMAGES, OR FOR LOST PROFITS OR BUSINESS INTERRUPTION LOSS. YET, SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. No implied warranty can be modified by any course of dealing, course of performance or usage of trade. This warranty gives you specific legal rights and you may also have other rights which vary from state to state. NO REPRESENTATION, PROMISE, AFFIRMATION OR STATEMENT BY ANY EMPLOYEE OR AGENT OF POLYGLASS WILL BE ENFORCEABLE AGAINST POLYGLASS UNLESS IT IS SPECIFICALLY INCLUDED IN THIS WARRANTY. POLYGLASS' AGENTS HAVE NO AUTHORITY TO GIVE WARRANTIES BEYOND THOSE PROVIDED IN THIS WARRANTY. ALL RIGHTS AND DUTIES ARISING UNDER THIS WARRANTY SHALL BE GOVERNED BY FLORIDA LAW.

**Warranty as provided by Polyglass is solely based upon information provided within the Product Registration/Warranty Request Form. Information presented and determined as incomplete or inaccurate, shall result in this warranty being null and void.**

Signed on Behalf of Polyglass U.S.A. Inc.

Date

January 19, 2022



Davis Kane Architects, PA  
503 Oberlin Road, Suite 300  
Raleigh, NC 278202

Attn: Mr. Jimmy Edwards  
P: (919) 719-2805  
E: jedwards@daviskane.com

Re: Geotechnical Engineering Report Addendum 1  
Farmville Fire Station and Head Quarters  
6101 May Boulevard  
Farmville, Pitt County, North Carolina  
Terracon Project No. 72205105

Dear Mr. Edwards:

We have completed Geotechnical Engineering services for the above referenced project. This study was performed in general accordance with Terracon Proposal No. P72205105 dated October 2, 2020. This report addendum of our Geotechnical Report dated November 30, 2021 presents the seasonal high-water table (SHWT), infiltration test results, and California bearing ratio (CBR) test results and presents our subconsultants report for SHWT and infiltration testing.

## PROJECT INFORMATION

Seasonal high-water table and infiltration testing was requested at the west and east ends of the proposed stormwater pond and in the pavement section at the southern end of the site. California bearing ratio testing was also requested for pavement design.

## EXPLORATION AND TESTING PROCEDURES

### Seasonal High-Water Table and Infiltration

Exploration Locations	Hand Auger Depth (feet)	Location
One (B-14)	2.5	Proposed stormwater pond
One (SHWT-2)	4	Proposed stormwater pond
One (SHWT-3)	4	Planned parking area

For more information regarding B-14, reference our subconsultants report titled *Report of a Soil Evaluation for Stormwater Treatment* dated December 2, 2021 located in the attachments.

We determined the seasonal high-water table (SHWT) and performed infiltration testing for the proposed stormwater pond and parking area. Three hand augured borings were advanced to

## Geotechnical Engineering Report Addendum 1

Farmville Fire Station and Head Quarters ■ Farmville, Pitt County, North Carolina  
January 19, 2022 ■ Terracon Project No. 72205105



depths up to 4 feet to evaluate soils in general accordance with stormwater regulations including the following:

- The soils were evaluated for texture, structure, consistency and depth to SHWT
- The soil horizons were documented and reported in the USDA classification system.
- Performed in-situ permeability/infiltration testing at each location. Infiltration testing was performed using an Aardvark Soil Permeameter. If the soils encountered in the borings were similar, one infiltration test was sufficient. If the soils were fill, deemed to be sufficiently clayey to negate the test or the SHWT was within 12 inches of the existing ground surface, infiltration was not performed.

### California Bearing Ratio (CBR)

Exploration Locations	Hand Auger Depth (feet)	Location
One (B-2 and B-11)	1 to 4	See Exploration Plan

A composite sample at exploration locations B-2 and B-11 was taken for the CBR test. The test resulted in a CBR value of 10%. The report can be found in the attachment section.

Laboratory tests for the standard Proctor, maximum dry density and CBR were conducted on a bulk composite soil sample. The test results are presented in the **Laboratory Testing** section of this addendum and summarized in the table below:

Moisture-Density Relationship (Proctor) / CBR				
Sample	Sample Depth (feet)	Maximum Dry Density (pcf)	Optimum Moisture Content (%)	CBR (%)
B-2 and B-1 Composite	1-4	114	13	10

Based on the results of the laboratory testing, the recommendations for the pavements presented in the Geotechnical Report for the project remain unchanged.

## SUMMARY AND RESULTS

### Seasonal High-Water Table

Boring B-14 has a seasonal high-water table at a depth of 26 inches below the surface. The surface elevation of B-14 is approximately 66 feet MSL. SHWT-2 has a seasonal high-water table at a depth of 18 inches below the surface. SHWT-3 has a seasonal high-water table at a depth of 31 inches below the surface. The surface elevation of SHWT-2 and SHWT-3 is approximately 66 feet MSL and 73 feet MSL, respectively. The SHWT was determined by the color patterns of the

## Geotechnical Engineering Report Addendum 1

Farmville Fire Station and Head Quarters ■ Farmville, Pitt County, North Carolina  
January 19, 2022 ■ Terracon Project No. 72205105



soil. The orange mottling encountered at these depths were indications of the SHWT. Fill soil was encountered to a depth of 2.5 feet at test location SHWT-3.

### Infiltration Testing

The permeability at exploration location B-14 was determined to be 8 inches per hour. The permeability at exploration location SHWT-2 was determined to be 0.11 inches per hour. The permeability at exploration location SHWT-3 was determined to be 0.23 inches per hour. B-14 was tested at a depth of 30 inches below the existing grade, SHWT 2 was tested at a depth of 24 inches below the existing grade, and SHWT-3 was tested at 29 inches below the existing grade.

## CLOSURE

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,

**Terracon Consultants, Inc.**

Branson Rogers  
Geotechnical Professional

Andrew J. Gliniak, PE  
Geotechnical Project Engineer  
Registered NC 042183

James (Jim) D. Hoskins, III, PE  
Sr. Principal / Office Manager

Attachments:      Exploration Plan  
                         Exploration Plan: Additional Exploration Points  
                         Boring Logs  
                         Field Testing  
                         Laboratory Testing  
                         Report of a Soil Evaluation for Stormwater Treatment

## ATTACHMENTS

## **EXPLORATION PLAN**

### **Contents:**

Exploration Plan

Note: All attachments are one page unless note



## EXPLORATION PLAN

Farmville Fire Station ■ Farmville, NC

January 19, 2022 ■ Terracon Project No. 72205105

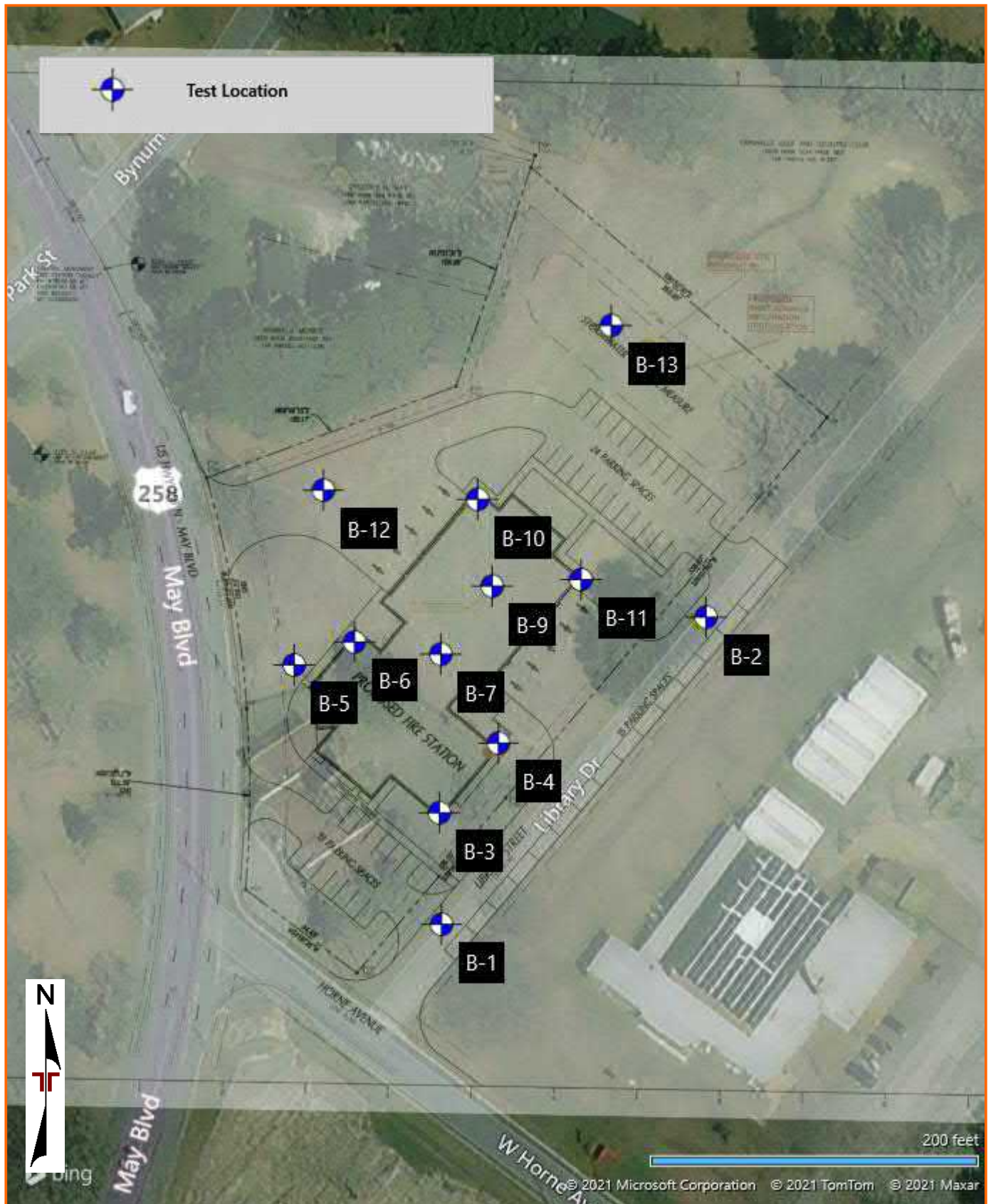


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS  
NOT INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED  
BY MICROSOFT BING MAPS

## **EXPLORATION PLAN: ADDITIONAL EXPLORATION LOCATIONS**

Exploration Plan

Note: All attachments are one page unless note

## EXPLORATION PLAN: Additional Exploration Locations

Farmville Fire Station ■ Farmville, NC

January 19, 2022 ■ Terracon Project No. 72205105

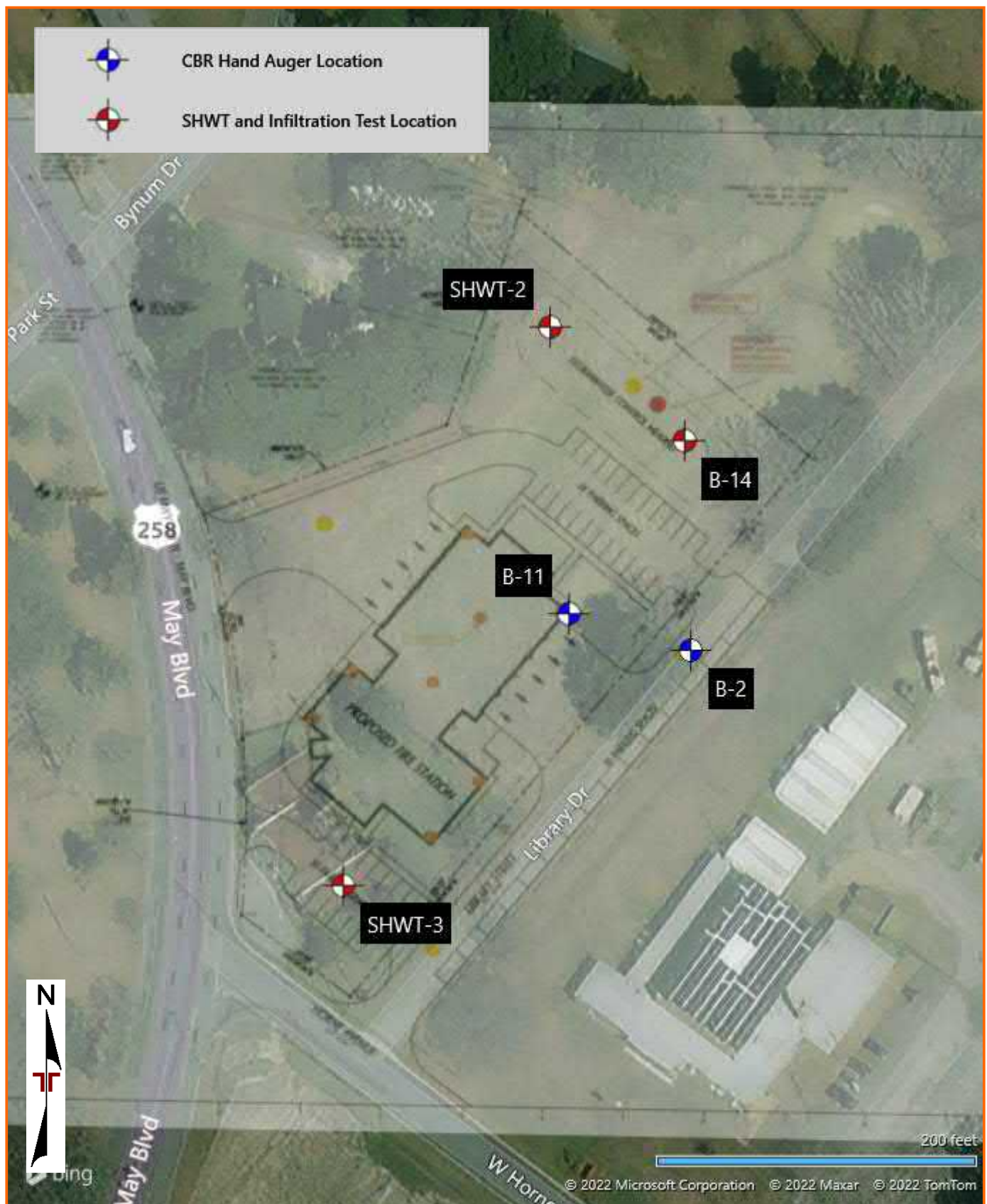


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS  
NOT INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED  
BY MICROSOFT BING MAPS

## **BORING LOGS**

### **Contents:**

Boring Logs (SHWT-2 and SHWT-3)

Note: All attachments are one page unless noted above.



# BORING LOG NO. SHWT-2

Page 1 of 1

**PROJECT:** Farmville Fire Station

**CLIENT:** Davis Kane Architects PA  
Raleigh, NC

**SITE:** 6101 May Blvd.  
Farmville, NC

MODEL LAYER	GRAPHIC LOG	LOCATION See <a href="#">Exploration Plan</a> Latitude: 35.6044° Longitude: -77.5898°  Approximate Surface Elev.: 66 (Ft.) +/-	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE
DEPTH		ELEVATION (Ft.)			
0.3		<b>FILL - SILTY SAND</b> , gray	66+/-		
2.0		<b>SANDY LEAN CLAY (CL)</b> , gray with orange	64+/-		
4.0		<b>Boring Terminated at 4 Feet</b>	62+/-		

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:  
Hand Auger

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (If any).

Notes:

Abandonment Method:  
Boring backfilled with soil cuttings upon completion.

See [Supporting Information](#) for explanation of symbols and abbreviations.

Elevations were interpolated from a topographic site plan.

## WATER LEVEL OBSERVATIONS

**Terracon**

314 Beacon Dr  
Winterville, NC

Boring Started: 12-10-2021

Boring Completed: 12-10-2021

Drill Rig: Hand Auger

Driller:

Project No.: 72205105



# BORING LOG NO. SHWT-3

Page 1 of 1

**PROJECT:** Farmville Fire Station

**CLIENT:** Davis Kane Architects PA  
Raleigh, NC

**SITE:** 6101 May Blvd.  
Farmville, NC

MODEL LAYER	GRAPHIC LOG	LOCATION See <a href="#">Exploration Plan</a> Latitude: 35.6035° Longitude: -77.5902°  Approximate Surface Elev.: 72 (Ft.) +/- ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE
		0.3 <b>TOPSOIL</b> , 3 inches <b>FILL - SILTY SAND</b> , gravel and glass peices, brown	72+/-		
		2.0 <b>FILL - CLAYEY SAND (SC)</b> , orange	70+/-		
		2.5 <b>SILTY SAND (SM)</b> , brown wiith orange	69.5+/-		
		3.0 <b>SANDY LEAN CLAY (CL)</b> , brownish gray with orange	69+/-		
		4.0 <b>Boring Terminated at 4 Feet</b>	68+/-		

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method: Hand Auger	See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).	Notes:	
Abandonment Method: Boring backfilled with soil cuttings upon completion.	See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.  Elevations were interpolated from a topographic site plan.		
<b>WATER LEVEL OBSERVATIONS</b>	<b>Terracon</b> 314 Beacon Dr Winterville, NC	Boring Started: 12-10-2021	Boring Completed: 12-10-2021
		Drill Rig: Hand Auger	Driller:
		Project No.: 72205105	

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 72205105 FARMVILLE FIRE ST.GPJ TERRACON\_DATATEMPLATE.GDT 1/18/22

## **FIELD TESTING**

### **Contents:**

SHWT-2 (2 pages)

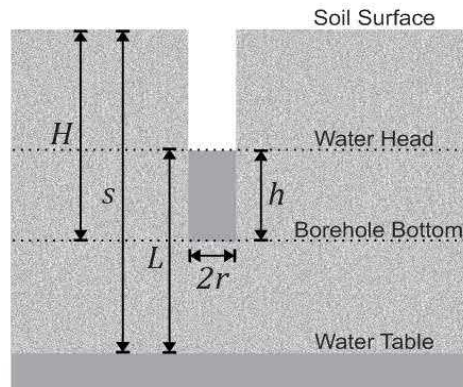
SHWT-3 (2 pages)

Note: All attachments are one page unless noted above.



SHWT-2

# Soilmoisture Ksat Calculator



H = borehole depth, r = borehole radius, h = constant water head height in borehole, s = water table depth and L = the vertical distance between constant water head and water table / impervious layer.

## Parameters Scenario

Q: Steady Flow Rate (ml/min):	33.33
r: Borehole Radius (cm):	3.81
h: Water head Height (cm):	71
H: Depth of Borehole (cm):	116.8
Water Temp @:	25
S: Water Table Depth (cm):	152.4

## Elrick and Reynolds

Soil Type Description
I. Compacted, Structure-less, clayey or silty material
II. Soils which are both fine textured (clayey or silty)
III. Most structured soils from clays through loams; a
IV. Coarse and gravely sands; may also include some

	(m/s)
Ksat I:	1.90E-07
Ksat II:	3.91E-07
Ksat III:	5.18E-07
Ksat IV:	5.56E-07

## Radcliffe (new)

I. Compacted, Structure-less, clayey or silty material
II. Soils which are both fine textured (clayey or silty)
III. Most structured soils from clays through loams; a
IV. Coarse and gravely sands; may also include some

	(m/s)
Ksat I:	2.72E-07
Ksat II:	4.84E-07
Ksat III:	6.56E-07
Ksat IV:	9.99E-07

## Glover

	(m/s)
Ksat:	4.7E-07

## Earth Manual

Water Table Condition
a. Deep Water Table (L/h) > 3
b. Shallow Water Table 1 <= (L/h) <= 3
c. Very Shallow water Table (L/h) < 1

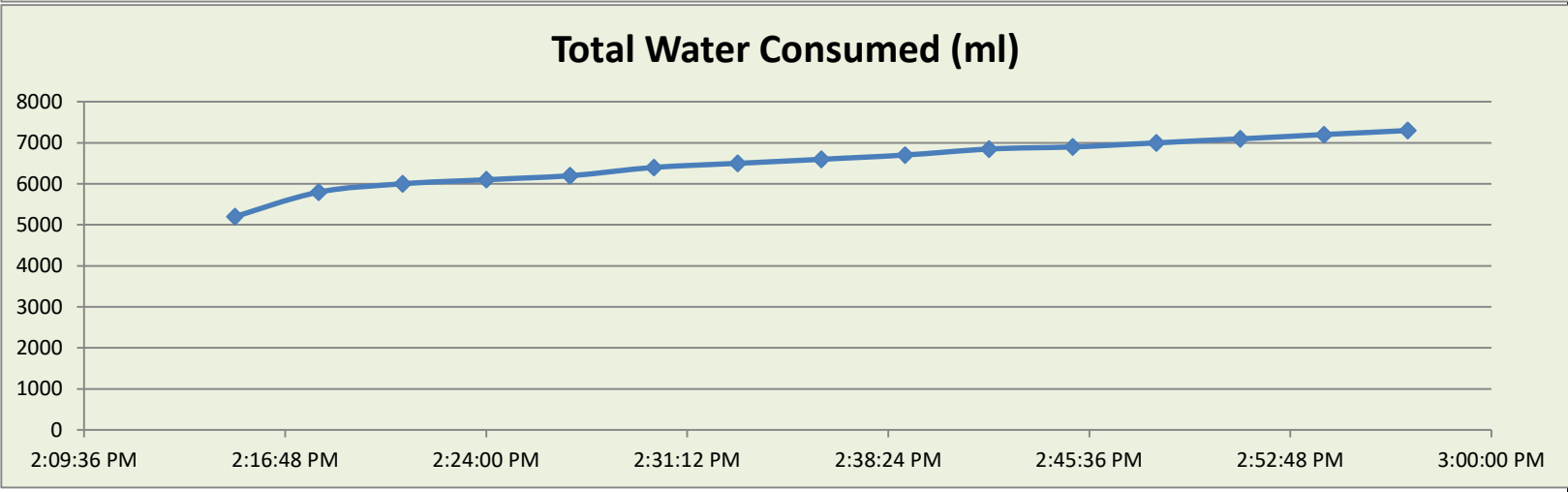
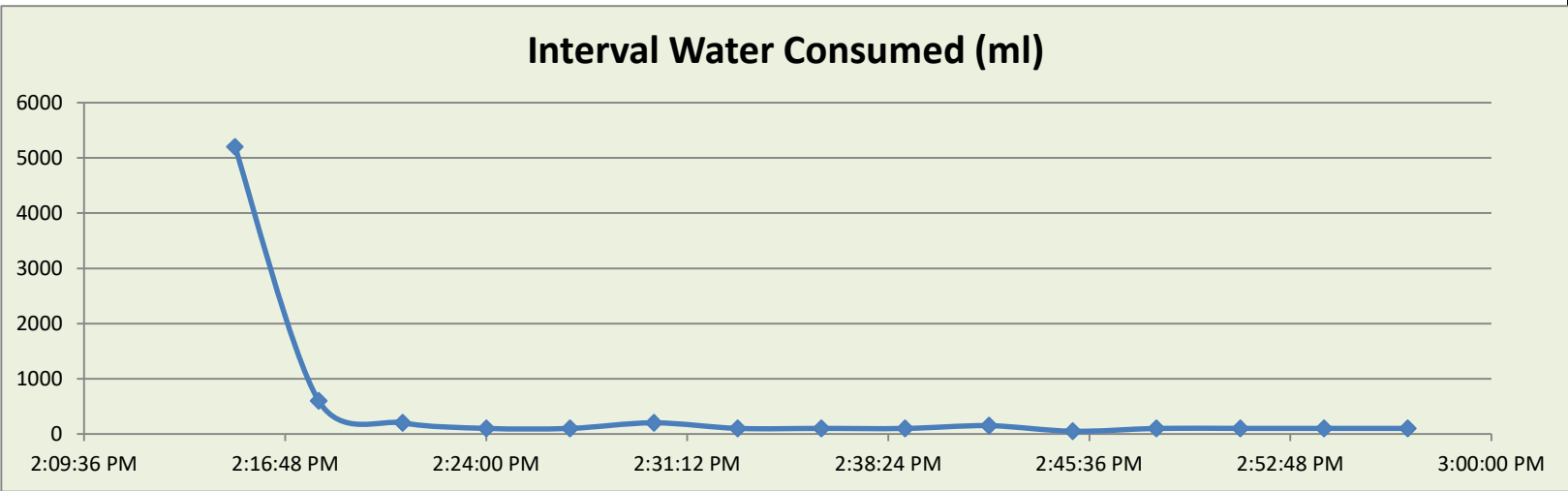
	(m/s)	(in/hr)
Ksat-a:		
Ksat-b:	7.7E-07	0.11
Ksat-c:		





# Soilmoisture Ksat Calculator

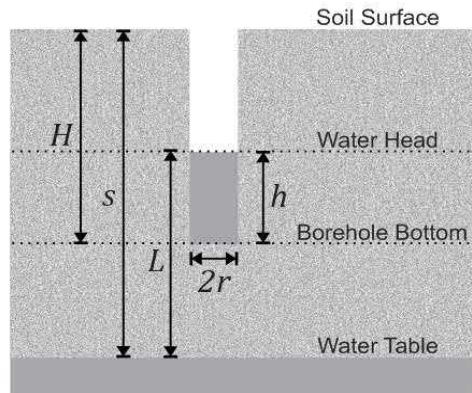
Reading Number	Time	Reservoir Water Level (ml)	Elapsed Time (min)	Interval Water Consumed (ml)	Total Water Consumed (ml)	Water Consumption Rate (ml/min)
1	2:12:00 PM	11100				
2	2:15:00 PM	5900	3.00	5200.00	5200.00	1733.33
3	2:18:00 PM	5300	3.00	600.00	5800.00	200.00
4	2:21:00 PM	5100	3.00	200.00	6000.00	66.67
5	2:24:00 PM	5000	3.00	100.00	6100.00	33.33
6	2:27:00 PM	4900	3.00	100.00	6200.00	33.33
7	2:30:00 PM	4700	3.00	200.00	6400.00	66.67
8	2:33:00 PM	4600	3.00	100.00	6500.00	33.33
9	2:36:00 PM	4500	3.00	100.00	6600.00	33.33
10	2:39:00 PM	4400	3.00	100.00	6700.00	33.33
11	2:42:00 PM	4250	3.00	150.00	6850.00	50.00
12	2:45:00 PM	4200	3.00	50.00	6900.00	16.67
13	2:48:00 PM	4100	3	100	7000	33.33
14	2:51:00 PM	4000	3	100	7100	33.33
15	2:54:00 PM	3900	3	100	7200	33.33
16	2:57:00 PM	3800	3	100	7300	33.33





SHWT-3

# Soilmoisture Ksat Calculator



H = borehole depth, r = borehole radius, h = constant water head height in borehole, s = water table depth and L = the vertical distance between constant water head and water table / impervious layer.

## Parameters Scenario

Q: Steady Flow Rate (ml/min):	33.33
r: Borehole Radius (cm):	3.81
h: Water head Height (cm):	38.1
H: Depth of Borehole (cm):	111.76
Water Temp ©:	25
S: Water Table Depth (cm):	152.4

## Elrick and Reynolds

Soil Type Description
I. Compacted, Structure-less, clayey or silty material
II. Soils which are both fine textured (clayey or silty)
III. Most structured soils from clays through loams; a
IV. Coarse and gravely sands; may also include some

	(m/s)
Ksat I:	3.48E-07
Ksat II:	8.50E-07
Ksat III:	1.23E-06
Ksat IV:	1.39E-06

## Radcliffe (new)

I. Compacted, Structure-less, clayey or silty material
II. Soils which are both fine textured (clayey or silty)
III. Most structured soils from clays through loams; a
IV. Coarse and gravely sands; may also include some

	(m/s)
Ksat I:	2.82E-07
Ksat II:	6.16E-07
Ksat III:	9.54E-07
Ksat IV:	1.37E-06

## Glover

	(m/s)
Ksat:	1.3E-06

## Earth Manual

Water Table Condition
a. Deep Water Table (L/h) > 3
b. Shallow Water Table 1 <= (L/h) <= 3
c. Very Shallow water Table (L/h) < 1

	(m/s)	(in/hr)
Ksat-a:		
Ksat-b:	1.6E-06	0.23
Ksat-c:		

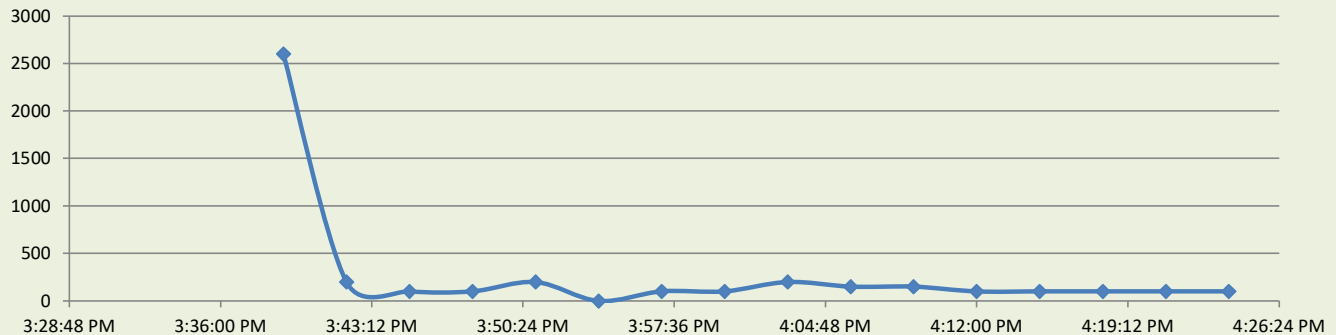


SHWT-3

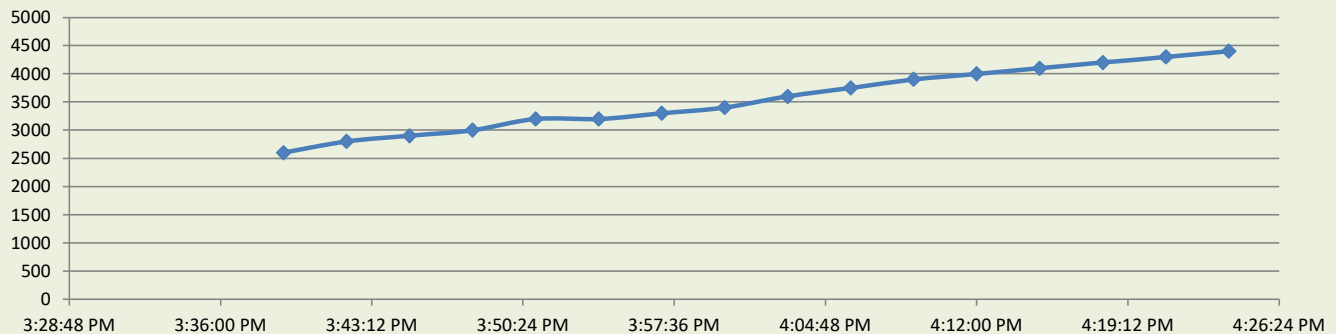
# Soilmoisture Ksat Calculator

Reading Number	Time	Reservoir Water Level (ml)	Elapsed Time (min)	Interval Water Consumed (ml)	Total Water Consumed (ml)	Water Consumption Rate (ml/min)
1	3:36:00 PM	8700				
2	3:39:00 PM	6100	3.00	2600.00	2600.00	866.67
3	3:42:00 PM	5900	3.00	200.00	2800.00	66.67
4	3:45:00 PM	5800	3.00	100.00	2900.00	33.33
5	3:48:00 PM	5700	3.00	100.00	3000.00	33.33
6	3:51:00 PM	5500	3.00	200.00	3200.00	66.67
7	3:54:00 PM	5500	3.00	0.00	3200.00	0.00
8	3:57:00 PM	5400	3.00	100.00	3300.00	33.33
9	4:00:00 PM	5300	3.00	100.00	3400.00	33.33
10	4:03:00 PM	5100	3.00	200.00	3600.00	66.67
11	4:06:00 PM	4950	3.00	150.00	3750.00	50.00
12	4:09:00 PM	4800	3.00	150.00	3900.00	50.00
13	4:12:00 PM	4700	3.00	100.00	4000.00	33.33
14	4:15:00 PM	4600	3.00	100.00	4100.00	33.33
15	4:18:00 PM	4500	3.00	100.00	4200.00	33.33
16	4:21:00 PM	4400	3.00	100.00	4300.00	33.33
17	4:24:00 PM	4300	3.00	100.00	4400.00	33.33

Interval Water Consumed (ml)



Total Water Consumed (ml)



## **LABORATORY TESTING**

### **Contents:**

Laboratory Testing  
Standard Proctor Results  
CBR Results

Note: All attachments are one page unless noted above.

## **Geotechnical Engineering Report Addendum 1**

Farmville Fire Station and Head Quarters ■ Farmville, Pitt County, North Carolina

January 19, 2022 ■ Terracon Project No. 72205105

### **Laboratory Testing**

The project engineer reviewed the field data and assigned laboratory tests to understand the engineering properties of the various soil strata, as necessary, for this project. Procedural standards noted below are for reference to methodology in general. In some cases, variations to methods were applied because of local practice or professional judgment. Standards noted below include reference to other, related standards. Such references are not necessarily applicable to describe the specific test performed.

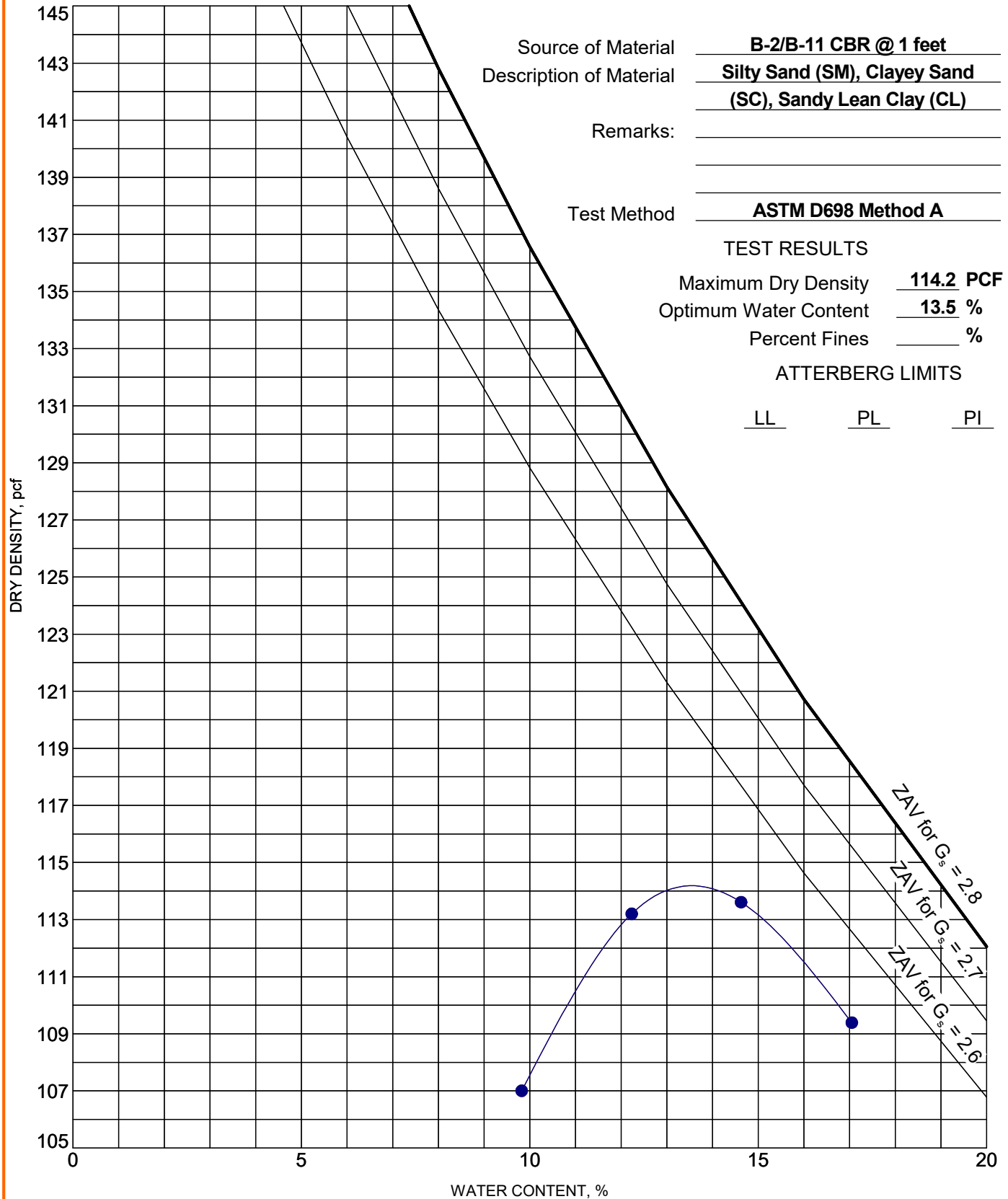
- ASTM D2487 Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
- ASTM D2488 Standard Practice of Description and Identification of Soils (Visual Manual Method)
- ASTM D698 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort
- ASTM D1883 Standard Test Method for California Bearing Ratio (CBR) of Laboratory-Compacted Soils

The laboratory testing program often included examination of soil samples by an engineer. Based on the material's texture and plasticity, we described and classified the soil samples in accordance with the Unified Soil Classification System.

# MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. COMPACTION - V1 72205105 FARMVILLE FIRE ST.GPJ TERRACON\_DATATEMPLATE.GDT 1/18/22



PROJECT: Farmville Fire Station

SITE: 6101 May Blvd.  
Farmville, NC

**Terracon**  
314 Beacon Dr  
Winterville, NC

PROJECT NUMBER: 72205105

CLIENT: Davis Kane Architects PA  
Raleigh, NC

# REPORT FOR CALIFORNIA BEARING RATIO



Service Date: 11/29/21

Report Date: 12/07/21

2401 Brentwood Road, Suite 107

Raleigh, NC 27604

919-873-2211

## Client

Davis Kane Architects, PA

Attn: Jimmy Edwards

503-300 Oberlin Road

Raleigh, NC 27605-1379

## Project

Farmville Fire Station

6101 May Blvd.

Farmville, North Carolina

Project No. 72205105

## SAMPLE INFORMATION

Sample Number: Bulk Sample

Boring Number: B-2/B-11

Sample Location: Bulk Sample

Depth: 1.0 - 4.0'

Material Description:

Proctor Method: ASTM D698 - Method A

Maximum Dry Density (pcf): 114.2

Optimum Moisture: 13.5

Liquid Limit: N/A

Plasticity Index: N/A

## CBR TEST DATA

CBR Value at 0.100 inch 9.9

CBR Value at 0.200 inch 9.8

Surcharge Weight (lbs) 10

Soaking Condition Soaked

Length of Soaking (hours) 96

Swell (%) 0.1

## DENSITY DATA

Dry Density Before Soaking (pcf) 109.5

Compaction of Proctor (%) 95.8

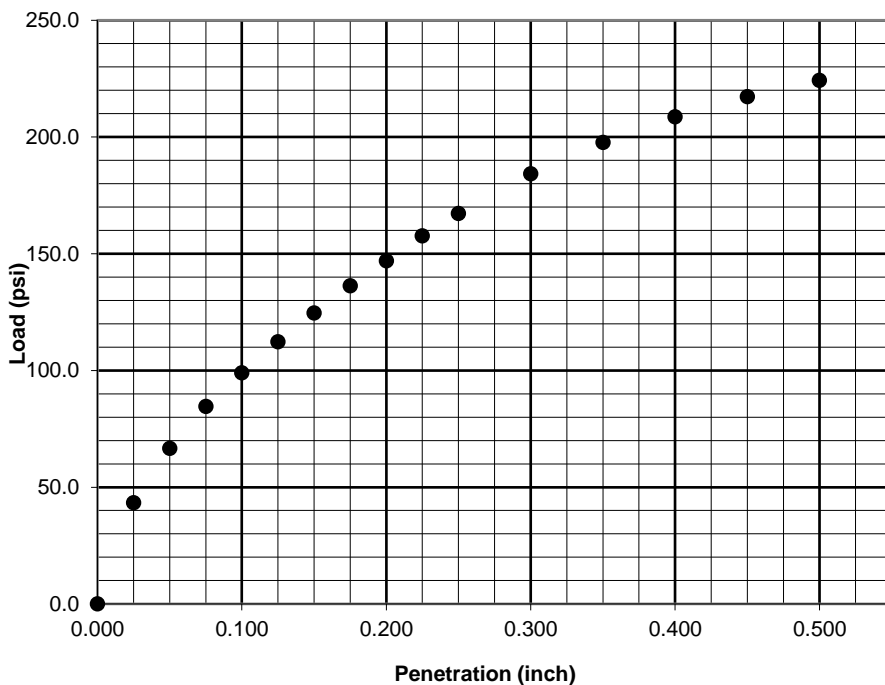
## MOISTURE DATA

Before Compaction (%) 13.8

After Compaction (%) 14.0

Top 1" After Soaking (%) 17.7

Average After Soaking (%) 16.5



## Comments:

Services: Obtain soil sample and test for California Bearing Ratio

Terracon Rep: Stephanie Huffman

Reported To: Drew Gliniak

Contractor:

Report Distribution

Reviewed by:

Drew Gliniak

Geotechnical Project Manager

Test Methods: ASTM D1883

The tests were performed in general accordance with applicable ASTM, AASHTO, or DOT test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced except in full without the written approval of Terracon. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar or identical materials.

## REPORT OF A SOIL EVALUATION FOR STORMWATER TREATMENT





## **Fred D. Smith Soil Scientist**

---

December 2, 2021

Mr. Drew Gliniak  
Terracon Consulting Engineers and Scientists  
314 Beacon Dr  
Winterville, NC 28590

Subject: Report of a Soil Evaluation for Stormwater Treatment  
Proposed Farmville Fire Station  
Project Number 72205105

Dear Mr. Gliniak,

This letter concerns the soil evaluation at the above-mentioned site. You authorized me to determine the depth to the 'seasonal high-water table' (SHWT) and soil permeability test at the site at one location. You provided to me an aerial photo site drawing showing locations for my hand auger evaluation and your geotechnical borings.

### **Seasonal High-Water Table (SHWT)**

The SHWT has become more frequently used as an indicator of the highest level of water table fluctuations due to agricultural considerations, regulations for septic system designs and, more recently, stormwater design. The SHWT is routinely estimated by Soil Scientists from soil morphology (soil forming factors) and landscape position. Soil colors are evaluated because gray colors are associated with saturated and chemically reducing soil environments- the presence or absence of iron. Red, reddish yellow, brown, and brownish yellow colors are associated with aerobic and chemically oxidizing conditions.

During weathering of soil minerals, over a period of time, soluble constituents are removed from the soil profile and more stable compounds will precipitate. Iron is released from minerals and coats soil particles with thin oxide coatings that give soils their red to yellow colors. The natural color of soil particles is gray until they are coated with iron.

Soils also contain microorganisms that generate energy from the oxidation of soil organic matter. When the soil becomes saturated from flooding or slowly percolating water, oxygen is removed from the soil layer and anaerobic conditions prevail. Under anaerobic conditions, other types of soil microbes can derive energy the chemical reduction of oxidized iron and change its state from ferric to ferrous iron (loss of an electron). The requirements for this chemical-microbiological process are the absence of oxygen for several weeks, a temperature of at least 41 degrees (F), and the presence of organic matter (roots, etc).

During periods of alternative wetting and drying cycles, or SHWT cycles, ferrous iron may move short distances and precipitate during the drying (reoxidation) process. These mottling patterns are called redoximorphic colors.

Soil Scientists use the Munsell Color System to evaluate the degree of color changes visible in the soil. Low chroma colors are considered to be gray or black in the Munsell System (chroma less than 2). We normally consider that once a soil layer has about 5% gray colors and redoximorphic patterns (red-yellow-colored mottles), then that soil is saturated at least 21 days and qualifies as a SHWT.

## Soil Permeability Equipment and Procedure

The soil permeability was measured using an Aardvark Soil Permeameter. This equipment has been approved by North Carolina and many other states to provide consistent saturated conductivities for septic designs, and spray irrigation studies, and stormwater evaluations. This equipment performs well where slowly permeable natural soil (not fill material) to rapidly permeable natural soil is to be tested. However, it is not sufficiently accurate enough for permeability rates less than 0.01 inches per hour such as are found on compacted soils, expansive clay soils, and clay liners on lagoons or wet stormwater impoundments.

The Aardvark Permeameter maintains a constant head of water in a bore hole by using a foot valve within the ground unit. First the hole is soaked for a period of time to allow pore spaces to fill with water to achieve a saturated flow. The length of soak time is related to the soil texture being evaluated, i.e., clays take much longer soak times than do loams and sands.

Then the flow of water out of the reservoir is measured over time on a graduated scale until a steady state flow is determined. Steady state is defined as the time during which the rate of flow reaches a constant value, usually when three consecutive measurements are the same. If steady state is not reached, then the data points are graphed and the mean is computed.

The test hole dimensions, soil parameters, and flow results are entered into an Excel spreadsheet program that computes the permeability value in inches per hour. The field forms are attached and the results are tabulated.

## Permeability Results

The permeability was measured at the B-14 location shown on the attached site drawing.

**The permeability of the sandy loam layer at a depth of 30 inches below existing grade was determined to be 8 inches per hour.**

## Soils and Groundwater

The location for this evaluation was requested at B-14. I also reviewed the Terracon Boring logs for the closest locations to B-14 which are B-13M, B-13, B-11M, and B-2.

My hand auger soil description is presented in Table 1 and classified into the USDA Soil classification system.

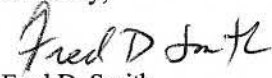
**Hand auger B-14 has a seasonal high-water table depth at 26 inches below the surface. Some surficial fill may be present at this location (see Table 1 and note). These SHWT determinations were determined by the soil color patterns at those depths. We normally estimate the degree of mottling color patterns to be at least 5% of the soil matrix to call them a SHWT.**

The Terracon borings nearby B-14 indicate similar textures of soils using both the USDA classification and the engineer's classification system.

Borings B-2 and B-13 record an actual groundwater level of about 5 to 6 feet below the surface. Groundwater was not encountered in the hand auger borings at B-14 or at B-13M or at B-11M.

I appreciate the opportunity to work with you on this project. Please contact me if you have questions or need additional information.

Sincerely,

  
Fred D. Smith  
Licensed Soil Scientist

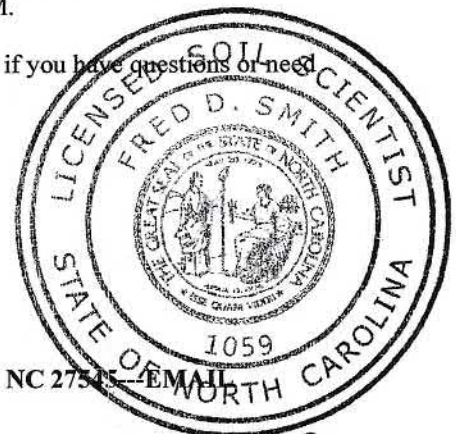


Table 1  
Soil Descriptions  
USDA Soil Classification  
Farmville Fire Station

B-14

Horizon/Depth (inches)	Texture	Color and description
A topsoil/ 0-12	Loamy sand	Very dark gray (10YR 3/1)
**B/ 12-44	Sandy loam	Light gray to gray with brownish yellow mottles
B2/ 44-60+	Sandy loam grading to sandy clay loam	Gray with reddish brown mottles (10YR 6/1; 5YR 4/4) with moderate medium sbk structure.

\*\* SHWT at 26 inches below the surface where soil color patterns that show reduction of iron and concentrations of iron as a light gray matrix with brownish yellow mottling that is common and distinct.



# Farmville Fire Station Overview

Write a description for your map.

## Legend

- Exploration Locations

SHWT and Infiltration  
Testing

B-14  
B-13  
B-10  
B-12  
B-9  
B-11  
B-8  
B-6  
B-5  
B-3  
B-2  
B-1



300 ft

W Home Ave

May Blvd

Park St

BUS 258

of Farmville

Google Earth

2021 Google



[illegible]

## Page 1 of 1

**CLIENT:** Davis Kane Architects PA  
Raleigh, NC

**SITE:** 6101 May Blvd.  
Farmville, NC

MODEL LAYER		GRAPHIC LOG	LOCATION See Exploration Plan	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	WATER CONTENT (%)	ATTERBERG LIMITS	PERCENT FINES
			Latitude: 35.6044° Longitude: -77.5897°		Approximate Surface Elev.: 66 (Ft.) +/-					LL-PL-PI	
			0.3 <b>TOPSOIL</b> , -3 inches	66+/-							
1			<b>FILL - SILTY SAND</b> , brownish gray			1					
			2.0 <b>SANDY LEAN CLAY (CL)</b> , brownish gray to gray	64+/-		2					
			5.0 <b>SILTY SAND (SM)</b> , gray	61+/-		3					
2			6.0 <b>CLAYEY SAND (SC)</b> , light brown	60+/-		4					
			7.0 <b>POORLY GRADED SAND (SP)</b> , light brown	59+/-		5					
			10.0 <b>Boring Terminated at 10 Feet</b>	56+/-		6					
						7					
						8					
						9					
						10					

Stratification lines are approximate. In-situ, the transition may be gradual.

**Notes:**

See **Supporting Information** for explanation of symbols and abbreviations.

# Terracon

Boring Completed: 10-26-2021

Drill Rig: Geoprobe

Driller: RDU

Project No.: 72205105

**Cave in**

314 Beacon Dr  
Winterville, NC

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 72205105 FARMVILLE FIRE ST.GPJ TERRACON DATATEMPLATE.GDT 11/24/21



CPT LOG NO. B-13

PROJECT: Farmville Fire Station

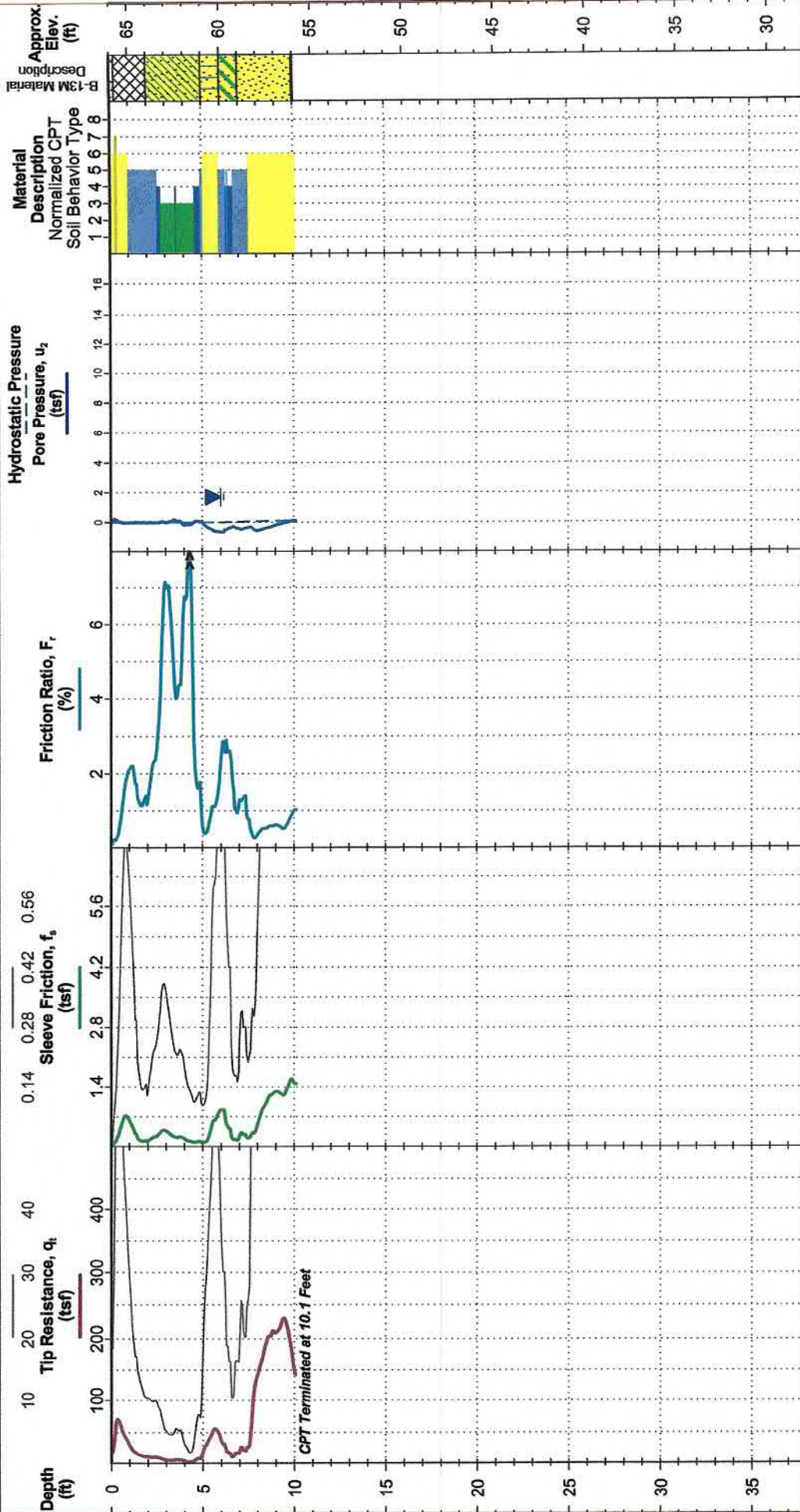
CLIENT: Davis Kane Architects PA  
Raleigh, NC

TEST LOCATION: See [Exploration Plan](#)

Approx. Surface Elev: 66 ft +/- Adjacent Test: B-13M  
Latitude: 35.6043739113085°  
Longitude: -77.5896719326032°

SITE: 6101 May Blvd.  
Farmville, NC

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. CPT REPORT 72205105 FARMVILLE FIRE ST.GPJ TERRACON\_DATATEMPLATE.GDT 11/24/21



Cave in depth= 13.0 feet  
Topsoil = 2 inches  
See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).

**WATER LEVEL OBSERVATION**  
6 ft measured water depth  
(used in normalizations and correlations;  
See [Supporting Information](#))

Probe no. 5143 with net area ratio of 0.84  
U2 pore pressure transducer location  
Manufactured by Geotech A.B.; calibrated 2/1/2019  
Tip and sleeve areas of 10 cm<sup>2</sup> and 150 cm<sup>2</sup>  
Ring friction reducer with O.D. of 1.875 in

**Terracon**  
314 Beacon Dr  
Winterville, NC

CPT Started: 10/26/2021  
Rig: Geoprobe  
Project No.: 72205105

CPT Completed: 10/26/2021

Operator: RDU

# BORING LOG NO. B-11M

Page 1 of 1

PROJECT: Farmville Fire Station

CLIENT: Davis Kane Architects PA  
Raleigh, NC

SITE: 6101 May Blvd.  
Farmville, NC

MODEL LAYER	GRAPHIC LOG	LOCATION See Exploration Plan Latitude: 35.6039° Longitude: -77.5897° Approximate Surface Elev.: 68 (Ft.) +/-	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
			0.3	68+/-						
		<b>TOPSOIL</b> , - 3 inches								
1		<b>FILL - SILTY SAND</b> , brown	1.0	67+/-	1			18.2		
		<b>CLAYEY SAND (SC)</b> , trace organics, brown with black/orange	2.0	66+/-	2					
		<b>SANDY LEAN CLAY (CL)</b> , brown with orange	3.5	64.5+/-	3					
		<b>CLAYEY SAND (SC)</b> , brown with orange to brownish gray	6.5	61.5+/-	6			19.6	29-14-15	41
		<b>SILTY SAND (SM)</b> , brownish gray	10.0	58+/-	10			24.7		
		<b>Boring Terminated at 10 Feet</b>						21.2		

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:  
Direct Push

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).

Notes:

Abandonment Method:

See Supporting Information for explanation of symbols and abbreviations.

## WATER LEVEL OBSERVATIONS

See CPT log

**Terracon**

314 Beacon Dr  
Winterville, NC


Boring Started: 10-26-2021

Boring Completed: 10-26-2021

Drill Rig: Geoprobe

Driller: RDU

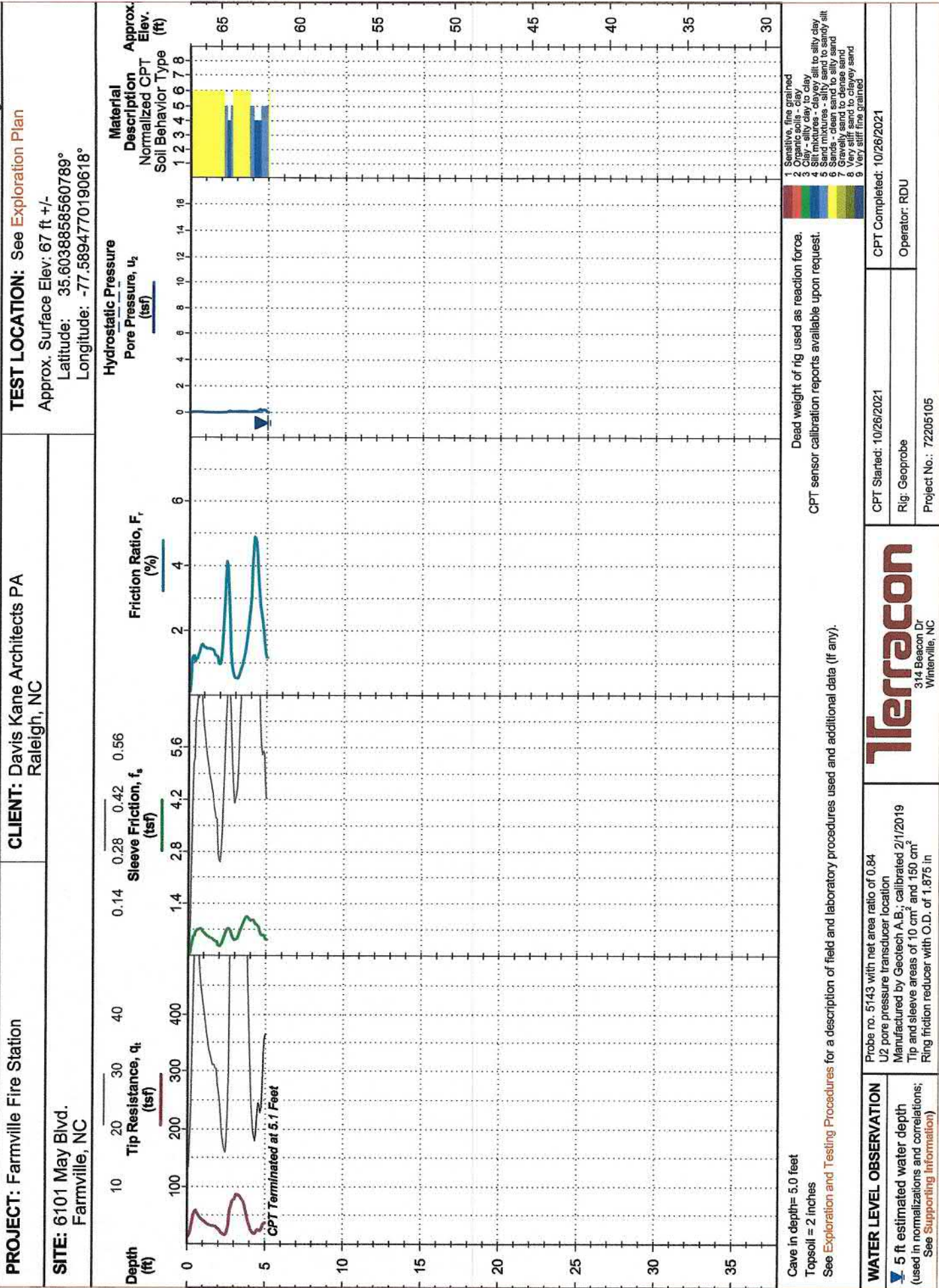
Project No.: 72205105

 Cave in

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 72205105 FARMVILLE FIRE ST.GPJ TERRACON\_DATATEMPLATE.GDT 11/24/21



CPT LOG NO. B-2



**FORM OF BID BOND**

KNOW ALL MEN BY THESE PRESENTS THAT \_\_\_\_\_  
\_\_\_\_\_ as principal, and  
\_\_\_\_\_, as surety, who is duly licensed to act as  
surety in North Carolina, are held and firmly bound unto the State of North Carolina through\_\_\_\_  
\_\_\_\_\_ as obligee, in the penal sum of  
\_\_\_\_\_ DOLLARS, lawful money of the United  
States of America, for the payment of which, well and truly to be made, we bind ourselves, our heirs,  
executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Signed, sealed and dated this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_

WHEREAS, the said principal is herewith submitting proposal for and the principal desires  
to file this bid bond in lieu of making the cash deposit as required by G.S. 143-129.

NOW, THEREFORE, THE CONDITION OF THE ABOVE OBLIGATION is such, that if  
the principal shall be awarded the contract for which the bid is submitted and shall execute the  
contract and give bond for the faithful performance thereof within ten days after the award of same to  
the principal, then this obligation shall be null and void; but if the principal fails to so execute such  
contract and give performance bond as required by G.S. 143-129, the surety shall, upon demand,  
forthwith pay to the obligee the amount set forth in the first paragraph hereof. Provided further, that  
the bid may be withdrawn as provided by G.S. 143-129.1

\_\_\_\_\_(SEAL)

\_\_\_\_\_(SEAL)

\_\_\_\_\_(SEAL)

\_\_\_\_\_(SEAL)

\_\_\_\_\_(SEAL)

## SUPPLEMENTARY CONDITIONS

### SCOPE

These Supplementary Conditions amend or supplement the General Conditions. All provisions of the General Conditions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions which are defined in the General Conditions have the meanings assigned to them in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to the singular and plural thereof.

Add a new Paragraph after Paragraph 4.1.2 which is to read as follows:

4.1.3 In the preparation of the Drawings and Specifications, Architect has relied upon:

1. The following report of explorations and tests of subsurface conditions at the Site.
  - a. Terracon Geotechnical Engineering Report - Farmville Fire Station & Headquarters – November 30, 2021
  - b. Terracon Geotechnical Engineering Report Addendum 1 – SHWT, Infiltration Testing, & California bearing ratio (CBR) – January 19, 2022.
  - c. The technical data contained in such report upon which Contractor may rely are: the boring method, the locations and logs of the borings, the levels of subsurface water (if any), laboratory test methods and results, and similar factual data. Bore hole information represents subsurface characteristics to the extent indicated, only for the point location of the bore hole and, with regard to the level of subsurface water (if any), only at the time the boring was made. Contractor shall make its own interpretations of the subsurface characteristics to be encountered between bore holes and its own interpretations of the fluctuation of the level of subsurface water (if any) at and between bore holes.
  - d. A copy of the above reports is included in the Project Manual.

Add the following to Paragraph 8.2:

8.2.4 The schedule below contains certain specific dates in addition to date of Notice to Proceed and Time for Completion. These dates shall be adhered to and are the last acceptable dates unless modified by mutual agreement between the Contractor and the Owner. All dates indicate midnight unless otherwise stipulated. The only exceptions to this schedule are defined in the General Conditions and Supplemental Conditions under Paragraph 8.3 DELAYS AND EXTENSIONS OF TIME.

Notice of Intent to Award – 7/21/2025

Return of Owner Contractor Agreement by Contractor – within 14 days after Notice of Award

Notice to Proceed – 9/15/2025

Substantial Completion – 7/13/2026

Final Completion – 08/17/2026

8.2.4.1 The Owner reserves the right to withhold the issuance of Notice to Proceed by up to sixty (60) days. For each day that Notice to Proceed is withheld pursuant to this Subparagraph, the dates established for Substantial Completion and Final Completion shall be adjusted. The contractor shall not be entitled to additional compensation if the owner withholds the issuance of Notice to Proceed pursuant to this Subparagraph.

TOWN OF FARMVILLE | Farmville Fire Station

Add the following to Paragraph 8.3:

8.3.4 Final Completion Liquidated Damages shall be the sum of five hundred dollars (\$500.00) per calendar day, and this amount shall be assessed in accordance with Subparagraph 8.5.1 of the General Conditions.

Add the following to Paragraph 9.5:

9.5.5 Additional services and dispute resolution services by the Design Consultant shall be paid by the Contractor at the rate of two hundred twenty dollars (\$220.00) per hour.

Add the following to Paragraph 11.1.1:

11.1.1.1 The insurance requirements are as follows:

1. Comprehensive Automobile Liability. The liability limits shall be as noted in the Supplementary Conditions. This insurance shall be written in comprehensive form and shall protect the Contractor against all claims for injuries to members of the public and damage to property of others arising from the use of motor vehicles, and shall cover operation on or off the site of all motor vehicles licensed for highway use, whether they are owned, non-owned, or hired.
  - a. The liability limits shall not be less than \$1,000,000 Single Limit.
  - b. The policy shall include the Town of Farmville as additional named insureds and shall include a provision prohibiting cancellation or termination without 30 days' prior notice by certified mail to the Town of Farmville. A certificate evidencing such coverage shall be provided to the Town or, if such insurance is provided by a private carrier, a completed certificate of insurance, in form acceptable to the Town, shall be provided to the Town.
2. Comprehensive General Liability. The liability limits shall be as noted in the Supplementary Conditions. This insurance shall be written in comprehensive form and shall protect the Contractor against all claims arising from injuries to persons other than his/her employees or damage to property of the Owner or others arising out of any act or omission of the Contractor or his/her agents, employees or subcontractors. The policy shall also include protection against claims insured by usual Personal Injury Liability Coverage, a "Protective Liability" endorsement to insure the contractual liability assumed by the Contractor under the indemnification provisions in General Conditions, and "Completed Operations and Products Liability" Coverage (to remain in force during the correction period).
  - a. The liability limits shall be not less than \$1,000,000 Single Limit / \$2,000,000 General Aggregate
  - b. The policy shall include the Town of Farmville as additional named insureds and shall include a provision prohibiting cancellation or termination without 30 days' prior notice by certified mail to the Town of Farmville. A certificate evidencing such coverage shall be provided to the Town or, if such insurance is provided by a private carrier, a completed certificate of insurance, in form acceptable to the Town, shall be provided to the Town.
3. To the extent that the Contractor's work, or work under his/her direction, may require blasting, explosive conditions, or underground operations, the Comprehensive General Liability coverage shall contain no exclusion relative to blasting, explosion, collapse of buildings, or damage to underground property.
4. Umbrella Liability. This insurance shall protect the Contractor against all claims in excess of the limits provided under the Worker's Compensation and Employer's Liability, Comprehensive Automobile Liability, and General Liability Policies.
  - a. The liability limits shall be not less than \$5,000,000.
5. Worker's Compensation. The Contractor shall take out and maintain during the life of this Contract, Worker's Compensation Insurance for all employees employed at the site of the project

TOWN OF FARMVILLE | Farmville Fire Station

under this Contract. The coverage must include employers' liability with a limit no less than the minimum required by North Carolina State Statute.

6. Builder's Risk All-Risk Insurance. The Contractor shall secure and maintain during the life of this Contract, Builder's Risk All-Risk Insurance, including fire and extended coverage, wind and water damage from hurricanes and tropical storms, flooding, and special extended coverage, for 100% of the Contract amount. The coverage should provide for losses to be paid to the Contractor, the Owner, and the Trustee as their interests may appear.
7. Proof of Carriage. The Contractor shall within 10 days of receiving the Notice of Award, provide the Owner with original certificates of all insurance (copies/faxes are not acceptable), each with substantially the following notation or endorsement: "Written notice of cancellation, expiration, nonrenewal or changes in coverage, during the full period of construction covered by this Contract, shall be given to the City of Jacksonville ten (30) days prior to the date of such cancellation, expiration, nonrenewal, lapse of coverage, or changes in coverage affecting this Policy."
8. The Contractor shall furnish such additional insurance as may be required by the General Statutes of North Carolina, including motor vehicle insurance in amounts not less than statutory limits.

Add the following to Paragraph 11.2.1:

11.2.1.1 Bid Bond - 5% bond is required for this project.

- a. Bid price shall be guaranteed for 60 days after Bid Opening.

Add the following after 15.4.4.3:

ARTICLE 16 STATUTORY REQUIREMENTS

- 16.01 This Article contains portions of certain Laws or Regulations which, by provision of Law or Regulations, are required to be included in the Contract Documents. The material included in this Article may not be complete or current. Contractor's obligation to comply with all Laws and Regulations applicable to the Work is set forth in Paragraph 3.7 of the General Conditions.
- 16.02 The Guidelines for Recruitment of Minority Businesses & Appendix E for Participation in Construction Contracts are provided in the Project Manual.
- 16.03 REGULATIONS PURSUANT TO SO-CALLED "ANTI-KICKBACK ACT"

The Contractor shall comply with the applicable regulations of the Secretary of Labor, United States Department of Labor, made pursuant to the so-called "Anti-Kickback Act" of June 13, 1934 (48 Stat. 948; 62 Stat. 862; Title 18 U. S. C., Section 874; and Title 40 U.S.C. Section 276 (c), and any amendments or modification thereof), shall cause appropriate provisions to be inserted in subcontracts to insure compliance therewith by all subcontractors subject thereto, and shall be responsible for the submission of statements required of subcontractors thereunder, except as said Secretary of Labor may specifically provide for reasonable limitations, variations, tolerances, and exceptions from the requirements thereof.

- 16.04 NONDISCRIMINATION CLAUSE

Section 109. Housing and Community Development Act of 1974. No person in the United States shall on the ground of race, color, national origin or sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with funds available under this title.

- 16.05 AGE DISCRIMINATION ACT OF 1975

#### TOWN OF FARMVILLE | Farmville Fire Station

No qualified person shall on the basis of age be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any program or activity which receives or benefits from Federal Financial assistance.

#### 16.07 SECTION 504 OF THE RECONSTRUCTION ACT OF 1973

No qualified handicapped person shall on the basis of handicap be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any program or activity which receives or benefits from Federal Financial assistance.

#### 16.08 INTEREST OF CERTAIN FEDERAL AND OTHER OFFICIALS

The Contractor shall be aware of and observe the requirements of the Federal Funding Agreement making federal funds available to the Town of Farmville which provides that no member of or Delegate to the Congress of the United States and no Resident Commissioner, shall be admitted to any share or part of this Agreement or to any benefit to arise from the same.

The Contractor shall also be aware of and observe the requirements which states that no member, officer, or employee of the Town of Farmville or its designees or agents, no member of the governing body of the locality who exercised any functions or responsibilities with respect to the program during his/her tenure or for one year thereafter, shall have any private interest, direct or indirect, in this contract or any subcontract, or the proceeds thereof, for work to be performed in connection with the program assisted under the agreement.

#### 16.09 DAVIS-BACON ACT PROVISIONS

When required by the Federal grant program legislation, all construction Contracts in excess of \$2,000 awarded by grantees and subgrantees shall include a provision for compliance with the Davis-Bacon Act (40 USC 276a to a-7) as supplemented by Department of Labor regulations (29 CFR Part 5). Under this Act, Contractors shall be required to pay wages to laborers and mechanics at a rate not less than the minimum wages specified in a wage determination made by the Secretary of Labor. In addition, Contractors shall be required to pay wages not less often than once a week. The grantee shall place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation and the award of a Contract shall be conditioned upon the acceptance of the wage determination. The grantee shall report all suspected or reported violations to the grantor agency.

#### 16.10 CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The Contractor, if the Contract is in excess of \$2,000, and any of his subcontractors, shall comply with Section 103 and 107 of the Contract Work Hours and Safety Standards Act (40 USC 327-330) as supplemented by Department of Labor Regulations contained in 29 CFR Parts 3, 5 and 5a. Under Section 103 of the Act, the Contractor and any of his subcontractors, shall be required to compute, the wages of every mechanic and laborer on the basis of a standard work week of forty hours. Work in excess of the standard work week is permissible, provided the worker is compensated at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in any work week. Section 5 of the Federal Labor Standards Provisions, BUD Form 4010 and 4010.1 attached and incorporated herein, sets forth in detail the Section 103 requirements.

Section 107 of the Act provides that no laborer or mechanic shall be required to work in surroundings or under working conditions that are unsanitary, hazardous or dangerous to his health and safety as determined under construction, safety and health standards promulgated by the Secretary of Labor. These requirements do not apply to the purchase of supplies or materials or articles ordinarily available on the open market.

16.11 ACCESS TO RECORDS AND RECORD RETAINAGE CLAUSE

In general, all official project records and documents must be maintained during the operation of this project and for a period of three years following close out in compliance with 15 NCAC 13L Rule .0911, Recordkeeping.

The North Carolina Department of Natural Resources and Community Development, the North Carolina Department of the Treasurer, U.S. Department of Housing and Urban Development, the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any books, documents, papers and records of the Administering Agency which are pertinent to the execution of this Agreement, for the purpose of making audits, examinations, excerpts and transcriptions in compliance with the above Rule.

16.12 CLEAN AIR ACT PROVISIONS

The Contractor shall comply with the provisions of the Clean Air Act, as amended (42 U.S.C. 1857 et. seq.) and with the Federal Water Pollution Control Act as amended (33 U.S.C. 1251 et seq.) and the regulations thereunder (40 CFR Part 15 and CFR Part 61).

16.13 LEAD-BASED PAINT PROVISIONS

The Contractor will comply with the provisions of the regulations of the Department of Housing and Urban Development (24 CFR Part 35) issued pursuant to the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4831 et seq.) in that he shall not use lead-based paint in connection with this Contract, and shall specify by brand name and type all paints and paint preparation materials to be used.

16.14 RETAINAGE OF SUB-CONTRACTOR FUNDS

Pursuant to N.C. General Statute 143.134.1 (b2), the following identified early finishing trades may be allowed early line-item release of retained funds as long as the performed work by the subcontractor is acceptable and in accordance with the Contract Documents and pursuant to Article 13.03 of the General Conditions:

- Subcontractor's whose contract amount is over \$100,000. Possible subcontractors include, but are not limited to the following:
  1. Earthwork
  2. Concrete
  3. Masonry
  4. Light gauge metal framing
  5. Flooring
  6. Plumbing
  7. Electrical
  8. Mechanical

16.15 Required Contract Provisions

The Contractor shall comply with the provisions of 09NCAC 03M .0703, Required Contract Provisions for Grant Funding.

TOWN OF FARMVILLE | Farmville Fire Station

16.16 Annual Independent Audit; Rules and Regulations

The Contractor shall comply with the provisions of North Carolina GS 1-110, 159-34 for Annual Independent Audits.

END OF SUPPLEMENTARY CONDITIONS



## SECTION 012100 - ALLOWANCES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
  - 1. Certain items are specified in the Contract Documents by allowances. These allowances include installation.
  - 2. These allowances are for use only at the Owner's discretion for Work above and beyond that which is delineated and/or quantified elsewhere in the Contract Documents.
  - 3. The Work described in the Schedule of Allowances is identical to Work described elsewhere in the Contract Documents and the full requirements of the Contract Documents apply to the applicable Work described in the Schedule of Allowances.
- B. Types of allowances include the following:
  - 1. Unit-cost allowances.
  - 2. Quantity allowances.
  - 3. Contingency allowances.
- C. Related Requirements:
  - 1. Section 012200 "Unit Prices" for procedures for using unit prices, including adjustment of quantity allowances when applicable.
  - 2. Section 012600 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.
  - 3. Section 014000 "Quality Requirements" for procedures governing the use of allowances for field testing by an independent testing agency.

#### 1.3 DEFINITIONS

- A. Allowance: A quantity of work or dollar amount included in the Contract, established in lieu of additional requirements, used to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.

#### 1.4 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection, or purchase and delivery, of each product or system described by an allowance must be completed by the Owner to avoid delaying the Work.
- B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by Architect from the designated supplier.

#### 1.5 ACTION SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances in the form specified for Change Orders.

#### 1.6 INFORMATIONAL SUBMITTALS

- A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

#### 1.7 COORDINATION

- A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.
- B. Factor in time/schedule impacts as though allowances WILL be used in full.

#### 1.8 ALLOWANCES ADMINISTRATIVE REQUIREMENTS

- A. Allowances Log: Prepare, maintain, and distribute a tabular log of allowances usage organized by the allowance number. Distribute current log at each Monthly Progress Meeting. Provide log with not less than the following information:
  - 1. Project name and number, including Owner project No.
  - 2. Name and address of Architect and Construction Manager.
  - 3. Summary page with each allowance number, description, unit quantity, unit price, and units used to date, allocated by Bid Package. Sum total dollar quantity remaining for each allowance.
  - 4. Within the Allowances Log, to support the Summary Page, track the date, description of use, and units used for each allowance or portion thereof utilized.

#### 1.9 UNIT-COST ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include taxes, freight , and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner or selected by Architect under allowance shall be included as part of the Contract Sum and not part of the allowance.
- C. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.
  - 1. If requested by Architect, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

#### 1.10 QUANTITY ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include taxes, freight , and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner or selected by Architect under allowance shall be included as part of the Contract Sum and not part of the allowance.
- C. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.
  - 1. If requested by Architect, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

#### 1.11 CONTINGENCY ALLOWANCES

- A. Use the contingency allowance only as directed by Architect for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.
- B. Contractor's overhead, profit, and related costs for products and equipment ordered by Owner under the contingency allowance are included in the allowance and are not part of the Contract Sum. These costs include delivery, installation , taxes, insurance, equipment rental, and similar costs.
- C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit.
- D. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

## PART 2 - PRODUCTS (Not Used)

## PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

## 3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

## 3.3 SCHEDULE OF ALLOWANCES

- A. Allowances includes material cost receiving, handling, and installation and Contractor overhead and profit.
- B. See Division 01 Section “Unit Prices” for complete descriptions of Work included under applicable Allowances
- C. Lump Sum Allowances

Item	Description	Amount	Bid Package(s)
LS1	Bi-Directional Antenna (BDA) System requirement evaluation and installation, as per notes and details on sheet SA001.	\$50,000	

- D. Unit-Cost Allowances

Item	Description	Unit	Unit Price	Bid Package(s)
UC1	Brick: Provide Brick Color as specified in Division 04 Section “Unit Masonry” for Brick Color 1	1000 Nominal	\$550	
UC2	Brick: Provide Brick Color as specified in Division 04 Section “Unit Masonry” for Brick Color 2	1000 Nominal	\$550	
UC3	Brick: Provide Brick Color as specified in Division 04 Section “Unit Masonry” for Brick Color 3	1000 Nominal	\$550	

## E. Quantity Allowances

Item	Description	Unit	Unit Qty	Bid Package(s)
<b>Q1</b>	Rock removal in Open Areas (Mass Rock) and disposal off-site	Each Cubic Yard	10	
<b>Q2</b>	Rock removal in Trenches and Pits (Trench Rock) and disposal off-site	Each Cubic Yard	10	
<b>Q3</b>	Unsuitable soils removal and disposal on-site	Each Cubic Yard	1500	
<b>Q4</b>	Replacement of removed rock or unsuitable soils with on-site suitable soil in-place	Each Cubic Yard	750	
<b>Q5</b>	Replacement of removed rock or unsuitable soils with Aggregate Base Course in-place	Each Cubic Yard	500	
<b>Q6</b>	Replacement of removed rock or unsuitable soils with No.57 washed stone in-place	Each Cubic Yard	250	
<b>Q7</b>	Impervious Clay Soil Liner at Constructed Stormwater Wetland in-place.	Each Sq. Yard	1200	
<b>Q8</b>	Woven Geo-Textile Fabric in place	Each Sq. Yard	500	
<b>Q9</b>	Biaxial Geo-Grid in place	Each Sq. Yard	500	
<b>A1</b>	<u>Duplex Receptacle</u>	<u>Each unit</u>	<u>4</u>	
<b>A2</b>	<u>Communication Outlet</u>	<u>Each unit</u>	<u>4</u>	
<b>A3</b>	<u>Exit Light</u>	<u>Each unit</u>	<u>2</u>	

END OF SECTION 012100

## SECTION 034500 - PRECAST ARCHITECTURAL CONCRETE

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Precast architectural concrete for exterior emblems

B. Related Requirements:

1. Section 033000 "Cast-in-Place Concrete" site-cast concrete requirements and for installing connection anchors in concrete.
2. Division 05 Section "Structural Steel Framing" for furnishing and installing connections attached to structural-steel framing.
3. Division 07 Section "Joint Sealants" for sealing joints between precast concrete units.

#### 1.2 DEFINITIONS

- A. Design Reference Sample: Sample of approved architectural precast concrete color, finish, and texture preapproved by Architect.

#### 1.3 ACTION SUBMITTALS

A. Product Data:

1. Precast architectural concrete emblem design mixtures: Include compressive strength and water-absorption tests for each precast concrete mixture.

B. Shop Drawings:

1. Detail fabrication and installation of architectural precast concrete units.
2. Indicate locations, plans, elevations, dimensions, shapes, and cross sections of each unit.
3. Indicate joints, reveals, drips, chamfers, and extent and location of each surface finish.
4. Indicate locations, tolerances, and details of anchorage devices to be embedded in or attached to structure or other construction.
5. Indicate locations, extent, and treatment of dry joints if two-stage casting is proposed.
6. Indicate locations, type, dimensions, and details of facing units, including corner units, special shapes, joint treatment, and anchors.
7. If design modifications are proposed to meet performance requirements and field conditions, submit design calculations and indicate modified areas on Shop Drawings. Do not adversely affect the appearance, durability, or strength of units.

- C. Samples: Design reference samples for initial verification of design intent, for each type of finish indicated on exposed surfaces of architectural precast concrete units, in sets of three, representative of finish, color, and texture variations expected; approximately 12 by 12 by 2 inches (300 by 300 by 50 mm).

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Provide locations, setting diagrams, templates, instructions, and directions, as required, for furnishing and installation of loose connection hardware and anchorage items to be embedded in or attached to other constructions.
- B. Material Test Reports: For each of the following items, for tests performed by the manufacturer.
  - 1. Aggregates.
  - 2. Cementitious materials.
  - 3. Reinforcing materials.
- C. Qualification Statements: For fabricator and Installer.

#### 1.5 QUALITY ASSURANCE

- A. Fabricator Qualifications: A firm that assumes responsibility for engineering architectural precast concrete units to comply with performance requirements. This responsibility includes preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer.
  - 1. Designated at the time of bidding as a PCI-certified plant for Category AT.
  - 2. Quality-Control Standard: For manufacturing procedures and testing requirements, quality-control recommendations, and dimensional tolerances for types of units required, comply with PCI MNL 117 and PCI MNL 135.
- B. Installer Qualifications: A precast concrete erector who has retained a "PCI-Certified Field Auditor" to conduct a field audit of a project in the same category as this Project and who can produce an Erectors' Post-Audit Declaration.
- C. Sample Panels: After sample approval and before fabricating architectural precast concrete units, produce a minimum of two sample panels approximately 3-feet-long and in profile indicated in drawings, for review by Architect. Incorporate full-scale details of architectural features, finishes, textures, and transitions in sample panels. Include portion of specialty seal imprint on sample panel.
  - 1. Locate panels where indicated or, if not indicated, as directed by Architect.
  - 2. Damage part of an exposed-face surface for each finish, color, and texture, and demonstrate adequacy of repair techniques proposed for repair of surface blemishes.
  - 3. After acceptance of repair technique, maintain one sample panel at manufacturer's plant and one at Project site in an undisturbed condition as a standard for judging the completed Work.
  - 4. Demolish and remove sample panels when directed.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver architectural precast concrete units in such quantities and at such times to limit unloading units temporarily on the ground or other rehandling.
- B. Support units during shipment on nonstaining shock-absorbing material.
- C. Store units with adequate dunnage and bracing, and protect units to prevent contact with soil, prevent staining, and prevent cracking, distortion, warping, or other physical damage.
- D. Place stored units so identification marks are clearly visible, and units can be inspected.
- E. Handle and transport units in a manner that avoids excessive stresses that cause cracking or damage.

- F. Lift and support units only at designated points indicated on Shop Drawings.

## PART 2 - PRODUCTS

### 2.1 MOLD MATERIALS

- A. Molds: Rigid, dimensionally stable, nonabsorptive material, warp and buckle free, that provides continuous and true precast concrete surfaces within fabrication tolerances indicated; nonreactive with concrete and suitable for producing required finishes.
- B. Form-Release Agent: Commercially produced form-release agent that does not bond with, stain, or adversely affect precast concrete surfaces and does not impair subsequent surface or joint treatments of precast concrete.

### 2.2 REINFORCING MATERIALS

- A. Reinforcing Bars: ASTM A615/A615M, **Grade 60 (Grade 420)**, deformed.
- B. Galvanized Reinforcing Bars: ASTM A615/A615M, **Grade 60 (Grade 420)**, deformed bars, with ASTM A767/A767M, Class II zinc coating and chromate treatment.
- C. Plain-Steel Welded-Wire Reinforcement: ASTM A1064/A1064M, fabricated from galvanized-steel wire into flat sheets.
- D. Supports: Suspend reinforcement from back of mold. Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcement in place may only be used if they are not visible in the finished face.

### 2.3 CONCRETE MATERIALS

- A. Portland Cement: ASTM C150/C150M, Type I or Type III, white, unless otherwise indicated, as required to produce color to match architect's sample.
- B. Normal-Weight Aggregates: Except as modified by PCI MNL 117, ASTM C33/C33M, with coarse aggregates complying with Class 5S. Stockpile fine and coarse aggregates for each type of exposed finish from a single source (pit or quarry) for Project.
  - 1. Face-Mixture-Coarse Aggregates: Selected, hard, and durable; free of material that reacts with cement or causes staining; to match selected finish sample.
    - a. Gradation: Uniformly graded.
  - 2. Face-Mixture-Fine Aggregates: Selected, natural or manufactured sand compatible with coarse aggregate; to match selected finish sample.
- C. Coloring Admixture: ASTM C 979, synthetic or natural mineral-oxide pigments or colored water-reducing admixtures, temperature stable, and nonfading.
- D. Water: Potable; free from deleterious material that may affect color stability, setting, or strength of concrete and complying with chemical limits of PCI MNL 117.



## 2.4 ACCESSORIES

- A. Precast Accessories: Provide clips, hangers, high-density plastic or steel shims, and other accessories required to install architectural precast concrete units.

## 2.5 GROUT MATERIALS

- A. Sand-Cement Grout: Portland cement, ASTM C150/C150M, Type I, and clean, natural sand, ASTM C144 or ASTM C404. Mix at ratio of 1 part cement to 2-1/2 to 3 parts sand, by volume, with minimum water required for placement and hydration. Water-soluble chloride ion content is to be less than 0.06 percent by weight of cement when tested in accordance with ASTM C1218/C1218M.

## 2.6 CONCRETE MIXTURES

- A. Prepare design mixtures for each type of precast concrete required.
  - 1. Use a single design mixture for units with more than one major face or edge exposed.
  - 2. Where only one face of unit is exposed, use either a single design mixture or separate mixtures for face and backup.
- B. Design mixtures may be prepared by a qualified independent testing agency or by qualified precast plant personnel at architectural precast concrete fabricator's option.
- C. Limit water-soluble chloride ions to maximum percentage by weight of cement permitted by ACI 318 or PCI MNL 117 when tested in accordance with ASTM C1218/C1218M.
- D. Normal-Weight Concrete Mixtures: Proportion full-depth mixture by either laboratory trial batch or field test data methods in accordance with ACI 211.1, with materials to be used on Project, to provide normal-weight concrete with the following properties:
  - 1. Compressive Strength (28 Days): 5000 psi (34.5 MPa) minimum.
  - 2. Maximum Water-Cementitious Materials Ratio: 0.45.
- E. Water Absorption: Six percent by weight or 14 percent by volume, tested in accordance with ASTM C642, except for boiling requirement.

## 2.7 FABRICATION OF MOLDS

- A. Molds: Accurately construct molds, mortar tight, of sufficient strength to withstand pressures due to concrete-placement operations and temperature changes and for prestressing and detensioning operations. Coat contact surfaces of molds with release agent before reinforcement is placed. Avoid contamination of reinforcement and prestressing tendons by release agent.
  - 1. Place form liners accurately to provide finished surface texture indicated. Provide solid backing and supports to maintain stability of liners during concrete placement. Coat form liner with form-release agent.
- B. Maintain molds to provide completed architectural precast concrete units of shapes, lines, and dimensions indicated, within fabrication tolerances specified.

1. Form joints are not permitted on faces exposed to view in the finished Project.
2. Edge and Corner Treatment: Uniformly radiused.

## 2.8 FABRICATION OF PRECAST ARCHITECTURAL CONCRETE

- A. Cast-in Anchors, Inserts, Plates, Angles, and Other Anchorage Hardware: Fabricate anchorage hardware with sufficient anchorage and embedment to comply with design requirements. Accurately position for attachment of loose hardware, and secure in place during precasting operations. Locate anchorage hardware where it does not affect position of main reinforcement or concrete placement.
  1. Weld-headed studs and deformed bar anchors used for anchorage in accordance with AWS D1.1/D1.1M and AWS C5.4.
- B. Furnish loose hardware items, including steel plates, clip angles, seat angles, anchors, dowels, cramps, hangers, and other hardware shapes for securing architectural precast concrete units to supporting and adjacent construction.
- C. Cast-in reglets, slots, holes, and other accessories in architectural precast concrete units, as indicated on the Drawings.
- D. Reinforcement: Comply with recommendations in PCI MNL 117 for fabricating, placing, and supporting reinforcement.
  1. Clean reinforcement of loose rust and mill scale, earth, and other materials that reduce or destroy the bond with concrete. When damage to epoxy-coated reinforcing exceeds limits specified in ASTM A775/A775M, repair with patching material compatible with coating material and epoxy coat bar ends after cutting.
  2. Accurately position, support, and secure reinforcement against displacement during concrete-placement and consolidation operations. Completely conceal support devices to prevent exposure on finished surfaces.
  3. Place reinforcing steel and prestressing strands to maintain at least **3/4-inch (19-mm)** minimum concrete cover. Increase cover requirements for reinforcing steel to **1-1/2 inches (38 mm)** when units are exposed to corrosive environment or severe exposure conditions. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position while placing concrete. Direct wire tie ends away from finished, exposed concrete surfaces.
  4. Install welded-wire reinforcement in lengths as long as practicable. Lap adjoining pieces at least one full mesh spacing and wire tie laps, where required by design. Offset laps of adjoining widths to prevent continuous laps in either direction.
- E. Reinforce architectural precast concrete units to resist handling, transportation, and erection stresses and specified in-place loads.
- F. Comply with requirements in PCI MNL 117 and requirements in this Section for measuring, mixing, transporting, and placing concrete. After concrete batching, no additional water may be added.
- G. Place concrete in a continuous operation to prevent cold joints or planes of weakness from forming in precast concrete units.
  1. Place backup concrete mixture to ensure bond with face-mixture concrete.
- H. Thoroughly consolidate placed concrete by internal and external vibration without dislocating or damaging reinforcement and built-in items, and minimize pour lines, honeycombing, or entrapped air voids on surfaces. Use equipment and procedures complying with PCI MNL 117.

1. Place self-consolidating concrete without vibration in accordance with PCI TR-6. Ensure adequate bond between face and backup concrete, if used.
- I. Comply with PCI MNL 117 for hot- and cold-weather concrete placement.
- J. Identify pickup points of architectural precast concrete units and orientation in structure with permanent markings, complying with markings indicated on Shop Drawings. Imprint or permanently mark casting date on each architectural precast concrete unit on a surface that does not show in finished structure.
- K. Cure concrete, in accordance with PCI MNL 117, by moisture retention without heat or by accelerated heat curing using low-pressure live steam or radiant heat and moisture. Cure units until compressive strength is high enough to ensure that stripping does not have an effect on performance or appearance of final product.
- L. Discard and replace architectural precast concrete units that do not comply with requirements, including structural, manufacturing tolerance, and appearance, unless repairs comply with requirements in PCI MNL 117 and Architect's approval.

## 2.9 FABRICATION TOLERANCES

- A. Fabricate architectural precast concrete units to shapes, lines, and dimensions indicated so each finished unit complies with PCI MNL 117 product tolerances as well as position tolerances for cast-in items.
- B. Fabricate architectural precast concrete units to shapes, lines, and dimensions indicated so each finished unit complies with the following product tolerances:
  1. Overall Height and Width of Units, Measured at the Face Exposed to View: As follows:
    - a. 10 ft. (3 m) or under, plus or minus 1/8 inch (3 mm).
    - b. 10 to 20 ft. (3 to 6 m), plus 1/8 inch (3 mm), minus 3/16 inch (5 mm).
  2. Total Thickness or Flange Thickness: Exposed edge plus or minus 1/8 inch (3 mm); Unexposed edge plus 1/4 inch (6 mm), minus 1/8 inch (3 mm).
  3. Variation from Square or Designated Skew (Difference in Length of the Two Diagonal Measurements): Plus or minus 1/8 inch/72 inches (3 mm/1830 mm) or 1/2 inch (13 mm) total, whichever is greater.
  4. Bowing: Plus or minus L/360, maximum 1 inch (25 mm).
  5. Local Smoothness: 1/4 inch/10 ft. (6 mm/3 m).
  6. Warping: 1/16 inch/12 inches (1.6 mm/300 mm) from nearest adjacent corner.
- C. Position Tolerances: For cast-in items measured from datum line location, as indicated on Shop Drawings.
  1. Weld Plates: Plus or minus 1 inch (25 mm).
  2. Tipping and Flushness of Plates: Plus or minus 1/4 inch (6 mm).
  3. Dimensions of Architectural Features and Rustications: Plus or minus 1/8 inch (3 mm).
  4. Inserts: Plus or minus 1/2 inch (13 mm).
  5. Handling Devices: Plus or minus 3 inches (75 mm).
  6. Reinforcing Steel and Welded-Wire Reinforcement: Plus or minus 1/4 inch (6 mm) where position has structural implications or affects concrete cover; otherwise, plus or minus 1/2 inch (13 mm).
  7. Reinforcing Steel Extending out of Member: Plus or minus 1/2 inch (13 mm).
  8. Prestressing Reinforcement: Plus or minus 1/4 inch (6 mm), perpendicular to panel; plus or minus 1 inch (25 mm), parallel to panel.
  9. Location of Rustication Joints: Plus or minus 1/8 inch (3 mm).
  10. Location of Opening within Panel: Plus or minus 1/4 inch (6 mm).
  11. Location of Flashing Reglets: Plus or minus 1/4 inch (6 mm).

12. Location of Flashing Reglets at Edge of Panel: Plus or minus 1/8 inch (3 mm).
13. Location of Bearing Surface from End of Member: Plus or minus 1/4 inch (6 mm).
14. Position of Sleeve: Plus or minus 1/2 inch (13 mm).

## 2.10 FINISHES

- A. Finish exposed surfaces of architectural precast concrete units with smooth, steel-trowel finish. Corners, including false joints shall be uniform, straight, and sharp. Finish exposed surfaces of architectural precast concrete units to match approved sample panels and as follows:
  1. PCI's "Architectural Precast Concrete - Color and Texture Selection Guide."
  2. Color: As selected by Architect from manufacturer's full range of at least 12 color options.
  3. Abrasive-Blast Finish: Use abrasive grit, equipment, application techniques, and cleaning procedures for lightly blasted finish.
- B. Finish exposed top surfaces of architectural precast concrete units to match face-surface finish.
- C. Finish unexposed surfaces of architectural precast concrete units by float finish except at corner where concealed surface is adjacent to exposed surface; at these corners the concealed surface to be trowel finished for 2" minimum from corner to maintain straight corner.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine supporting structural frame or foundation and conditions for compliance with requirements for installation tolerances, bearing surface tolerances, and other conditions affecting performance of the Work.
- B. Do not install precast concrete units until supporting cast-in-place concrete has attained minimum allowable design compressive strength and supporting steel or other structure is structurally ready to receive loads from precast concrete units.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. Erect architectural precast concrete level, plumb, and square within specified allowable tolerances. Provide temporary supports and bracing as required to maintain position, stability, and alignment of units until permanent connections are completed.
  1. Install temporary steel or plastic spacing shims as precast concrete units are being erected. Tack weld steel shims to each other to prevent shims from separating.
  2. Maintain horizontal and vertical joint alignment and uniform joint width as erection progresses.
  3. Remove projecting lifting devices and grout fill voids within recessed lifting devices flush with surface of adjacent precast surfaces when recess is exposed.
  4. Unless otherwise indicated, maintain uniform joint widths of 1/4 inch.
- B. Connect architectural precast concrete units in position by bolting, welding, grouting, or as otherwise indicated on Shop Drawings. Remove temporary shims, wedges, and spacers as soon as practical after connecting and grouting are completed.

- C. Grouting or Dry Packing Connections and Joints: Grout connections where required or indicated. Retain flowable grout in place until hard enough to support itself. Alternatively, pack spaces with stiff dry pack grout material, tamping until voids are completely filled. Place grout and finish smooth, level, and plumb with adjacent concrete surfaces. Promptly remove grout material from exposed surfaces before it affects finishes or hardens. Keep grouted joints damp for not less than 24 hours after initial set.

### 3.3 ERECTION TOLERANCES

- A. Erect architectural precast concrete units level, plumb, square, and in alignment without exceeding the noncumulative erection tolerances of PCI MNL 135.

### 3.4 REPAIR

- A. Repair architectural precast concrete units if permitted by Architect. Architect reserves the right to reject repaired units that do not comply with requirements.
- B. Mix patching materials and repair units so cured patches blend with color, texture, and uniformity of adjacent exposed surfaces and show no apparent line of demarcation between original and repaired work, when viewed in typical daylight illumination from a distance of 20 ft. (6 m).
- C. Prepare and repair damaged galvanized coatings with galvanizing repair paint in accordance with ASTM A780/A780M.
- D. Wire brush, clean, and paint damaged prime-painted components with same type of shop primer.
- E. Remove and replace damaged architectural precast concrete units when repairs do not comply with requirements.

### 3.5 CLEANING

- A. Clean surfaces of precast concrete units exposed to view.
- B. Clean mortar, plaster, fireproofing, weld slag, and other deleterious material from concrete surfaces and adjacent materials immediately.
- C. Clean exposed surfaces of precast concrete units after erection and completion of joint treatment to remove weld marks, other markings, dirt, and stains.
  - 1. Perform cleaning procedures, if necessary, in accordance with precast concrete fabricator's recommendations. Protect other work from staining or damage due to cleaning operations.
  - 2. Do not use cleaning materials or processes that could change the appearance of exposed concrete finishes or damage adjacent materials.

END OF SECTION 034500

## SECTION 074213.13 – FORMED METAL WALL PANELS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section Includes:

- 1. Exposed-fastener, lap-seam metal wall panels.

- B. Related Sections:

- 1. Division 01 Section "Quality Requirements" for Integrated Exterior Mockups.
  - 2. Division 01 Section "Roof Warranties" for Sheet Metal flashing & trim
  - 3. Division 05 Section "Cold-Formed Metal Framing" for support framing, including girts, studs, and bracing.
  - 4. Division 07 Section "Joint Sealants: for field-applied sealants not otherwise specified in this Section.
  - 5. Division 13 Section "Metal Building Systems" for installing metal wall panels with the metal buildings.

#### 1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

- 1. Meet with Owner, Architect, metal panel Installer, metal panel manufacturer's representative, and structural-support Installer.
  - 2. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
  - 3. Review methods and procedures related to metal panel installation, including manufacturer's written instructions.
  - 4. Examine support conditions for compliance with requirements, including alignment between and attachment to structural members.
  - 5. Review flashings, special siding details, wall penetrations, openings, and condition of other construction that affect metal panels.
  - 6. Review temporary protection requirements for metal panel assembly during and after installation.
  - 7. Review of procedures for repair of metal panels damaged after installation.
  - 8. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

- 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of wall panel and accessory.

B. Shop Drawings:

1. Include fabrication and installation layouts of metal wall panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, fastener locations, and accessories; and special details. Distinguish between factory-, shop- and field-assembled work.
2. Accessories: Include details of the following items, at a scale of not less than 1-1/2 inches per 12 inches (1:10):
  - a. Flashing and trim, including trim at penetrations.
  - b. Anchorage systems.

C. Samples for Initial Selection: For each type of exposed metal wall panel indicated with factory-applied color finishes, provide manufacturer printed color charts.

D. Samples for Verification: For each type of exposed metal wall panel indicated with factory-applied color finishes, match Architects sample (Basis of Design: MBCI – Natural Patina).

1. Include samples of trim and accessories involving color selection.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Product Test Reports: For each product, for tests performed by a qualified testing agency.

C. Field quality-control reports.

D. Sample Warranties: For special warranties.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For metal wall panels to include in maintenance manuals.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

B. Fabricator Qualifications: Certified by metal-faced composite wall panel manufacturer to fabricate and install manufacturer wall panel system.

C. Testing Agency Qualifications: Qualified according to ASTM E 329 for testing indicated, as documented according to ASTM E 548.

D. Source Limitations: Obtain each type of metal wall panel through one source from a single manufacturer.

E. Product Options: Drawings indicate size, profiles, and dimensional requirements of metal wall panels are based on the specific system indicated. Refer to Division 1 Section “Product Requirements”.

1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect’s approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

- F. Fire Resistance Ratings: Where indicated, provide metal wall panels identical to those of assemblies tested for fire resistance per ASTM E 119 by testing and inspecting agency acceptable to authorities having jurisdiction.
  - 1. Combustion Characteristics: ASTM E 136
  - 2. Fire-Resistance Ratings: Indicated by design designations from UL's "Fire Resistance Directory" or from the listings of another testing and inspecting agency.
  - 3. Metal wall panels shall be identified with appropriate markings from an applicable testing and inspecting agency.
- G. Surface Burning Characteristics: Provide insulated wall panels having insulation core materials with the following surface burning characteristics as determined by testing identical products per ASTM E 84 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:
  - 1. Flame Spread Index: 25 or less, unless otherwise specified
  - 2. Smoke Developed Index, 450 or less, unless otherwise specified
- H. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.
  - 1. Build mockup of typical metal panel assembly as shown on Drawings, including corner, supports, attachments, and accessories. See Division 01 Section "Quality Requirements" for Integrated Exterior Mockups.
  - 2. Water-Spray Test: Conduct water-spray test of metal panel assembly mockup, testing for water penetration according to AAMA 501.2
  - 3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
  - 4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion

#### 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver components, sheets, metal wall panels, and other manufactured items so as not to be damaged or deformed. Package metal wall panels for protection during transportation and handling.
- B. Unload, store, and erect metal wall panels in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack metal wall panels horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal wall panels to ensure dryness, with positive slope for drainage of water. Do not store metal wall panels in contact with other materials that might cause staining, denting, or other surface damage.
- D. Retain strippable protective covering on metal wall panel for period of metal wall panel installation.

#### 1.9 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal wall panels to be performed according to manufacturers' written instructions and warranty requirements.

#### 1.10 COORDINATION

- A. Coordinate metal wall panel installation with rain drainage work, flashing, trim, and construction of girts, studs, soffits, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.



## 1.11 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal wall panel systems that fail in materials or workmanship within specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Structural failures including rupturing, cracking, or puncturing.
    - b. Deterioration of metals and other materials beyond normal weathering.
  - 2. Warranty Period: 5 years from date of Substantial Completion.
- B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal wall panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
  - 1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
    - a. Color fading more than 5 Hunter units when tested according to ASTM D2244.
    - b. Chalking in excess of a No. 8 rating when tested according to ASTM D4214.
    - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
  - 2. Finish Warranty Period: 20 years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 GENERAL

- A. Source Limitations: The same metal wall panel products shall be installed on the PEMB buildings and the office building.

### 2.2 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E1592:
  - 1. Wind Loads: As indicated on Drawings.
  - 2. Other Design Loads: As indicated on Drawings.
  - 3. Deflection Limits: For wind loads, no greater than 1/240 of the span.
- B. Air Infiltration: Air leakage of not more than 0.06 cfm/sq. ft. (0.3 L/s per sq. m) when tested according to ASTM E283 at the following test-pressure difference:
  - 1. Test-Pressure Difference: 1.57 lbf/sq. ft. (75 Pa).
- C. Water Penetration under Static Pressure: No water penetration when tested according to ASTM E331 at the following test-pressure difference:
  - 1. Test-Pressure Difference: 6.24 lbf/sq. ft. (300 Pa).
- D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of

connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- E. Seismic Performance: Provide metal wall panel assemblies capable of withstanding the effects of earthquake motions determined to ASCE 7, "Minimum Design Loads for Buildings and other Structures": Section 9, "Earthquake Loads".

## 2.3 CONCEALED-FASTNER LAP-SEAM METAL WALL PANELS

- A. Provide factory-formed metal panels designed to be field assembled by lapping and interconnecting side edges of adjacent panels and mechanically attaching through panel to supports using concealed fasteners and factory-applied sealant in side laps. Include accessories required for weathertight installation
- B. Flush-Profile, Concealed-Fastener Metal Wall Panels: Formed with vertical panel edges and a flat pan between panel edges; with flush joint between panels.
  1. Basis-of-Design: Subject to compliance with requirements, provide Design Wall DWF by ATAS International, Inc., other available manufacturers offering acceptable equivalent products that may be incorporated into the Work include the following:
    - a. CENTRIA Architectural Systems
    - b. IMETCO
    - c. Construction Metal Products Inc.
  2. Metallic-Coated Steel Sheet: Zinc-coated (galvanized) steel sheet complying with ASTM A653/A653M, G90 coating designation, or aluminum-zinc alloy-coated steel sheet complying with ASTM A792/A792M, Class AZ50 coating designation; structural quality. Pre-painted by the coil-coating process to comply with ASTM A755/A755M.
    - a. Nominal Thickness: 24 gauge.
    - b. Exterior Finish: Three coat fluoropolymer
    - c. Color: As selected by Architect from manufacturer's full range of standard and premium colors.
  3. Rib Spacing: 4 inches (102 mm)
  4. Panel Height: Manufacturer's standard.
  5. Panel Layout and Size:
    - a. Horizontal: 12 X 60 inches (305 by 1524 mm)
  6. Attached on Z-furring channels as indicated on the Drawings.

## 2.4 METAL SOFFIT PANELS

- A. Provide metal soffit panels designed to be installed by lapping and interconnecting side edges of adjacent panels and mechanically attaching through panel to support using concealed fasteners in side laps. Include accessories required for weathertight installation.
- B. Metal Soffit Panels:
  1. Finish: Finish and material to match metal siding
  2. Sealant: Factory applied within interlocking joint.
- C. Flush-Profile Metal Soffit Panels: Perforated panels formed with vertical panel edges and a flat pan between panel edges; with flush joint between panel.
  1. Material: Finish and material to match metal siding
  2. Panel Coverage: As selected by the architect from the manufacturer's full range.
  3. Panel Height: 5/8" inch
  4. Provide J-Trim as indicated on the Drawings.

## 2.5 MISCELLANEOUS MATERIALS

- A. Miscellaneous Metal Subframing and Furring: ASTM C645, cold-formed, metallic-coated steel sheet, ASTM A653/A653M, G90 (Z275 hot-dip galvanized) coating designation or ASTM A792/A792M, Class AZ50 (Class AZM150) aluminum-zinc-alloy coating designation unless otherwise indicated. Provide manufacturer's standard sections as required for support and alignment of metal panel system.
- B. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated.
  - 1. Closures: Provide closures at eaves and rakes, fabricated of same metal as metal panels.
  - 2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
  - 3. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- (25-mm-) thick, flexible closure strips; cut or premolded to match metal panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
- C. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, bases, drips, sills, jambs, corners, endwalls, framed openings, rakes, fasciae, parapet caps, soffits, reveals, and fillers. Finish flashing and trim with same finish system as adjacent metal panels.
- D. Panel Fasteners: Self-tapping screws designed to withstand design loads. Provide exposed fasteners with heads matching color of metal panels by means of plastic caps or factory-applied coating. Provide EPDM or PVC sealing washers for exposed fasteners.
- E. Panel Sealants: Provide sealant type recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.
  - 1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.
  - 2. Joint Sealant: ASTM C920; elastomeric polyurethane or silicone sealant; of type, grade, class, and use classifications required to seal joints in metal panels and remain weathertight; and as recommended in writing by metal panel manufacturer.
  - 3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C1311.

## 2.6 FABRICATION

- A. Fabricate and finish metal wall panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.
- B. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.
- C. Fabricate metal wall panel joints with factory-installed captive gaskets or separator strips that provide a weathertight seal and prevent metal-to-metal contact, and that minimize noise from movements.
- D. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.

1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
2. Seams for Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.
3. Sealed Joints: Form nonexpansion, but movable, joints in metal to accommodate sealant and to comply with SMACNA standards.
4. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
5. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal recommended by metal wall panel manufacturer.
  - a. Size: As recommended by SMACNA's "Architectural Sheet Metal Manual" or metal wall panel manufacturer for application but not less than thickness of metal being secured.

## 2.7 FINISHES

- A. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- C. Steel Panels and Accessories:
  1. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent polyvinylidene fluoride (PVDF) resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal wall panel supports, and other conditions affecting performance of Work.
  1. Examine wall framing to verify that girts, angles, channels, studs, and other structural panel support members and anchorage have been installed within alignment tolerances required by metal wall panel manufacturer.
  2. Examine wall sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal wall panel manufacturer.
    - a. Verify that air- or water-resistive barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.
- B. Examine roughing-in for components and systems penetrating metal wall panels to verify actual locations of penetrations relative to seam locations of metal wall panels before metal wall panel installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Miscellaneous Supports: Install subframing, furring, and other miscellaneous panel support members and anchorages according to ASTM C754 and metal panel manufacturer's written recommendations.

### 3.3 INSTALLATION

- A. General: Install metal wall panels according to manufacturer's written instructions in orientation, sizes, and locations indicated. Install panels perpendicular to supports unless otherwise indicated. Anchor metal wall panels and other components of the Work securely in place, with provisions for thermal and structural movement.
  - 1. Commence metal wall panel installation and install minimum of 300 sq. ft. (27.8 sq. m.) in presence of factory-authorized representative.
  - 2. Shim or otherwise plumb substrates receiving metal wall panels.
  - 3. Flash and seal metal wall panels at perimeter of all openings. Fasten with self-tapping screws. Do not begin installation until air- or water-resistive barriers and flashings that will be concealed by metal wall panels are installed.
  - 4. Install screw fasteners in predrilled holes.
  - 5. Locate and space fastenings in uniform vertical and horizontal alignment.
  - 6. Install flashing and trim as metal wall panel work proceeds.
  - 7. Locate panel splices over, but not attached to, structural supports. Stagger panel splices and end laps to avoid a four-panel lap splice condition.
  - 8. Apply elastomeric sealant continuously between metal base channel (sill angle) and concrete and elsewhere as indicated or, if not indicated, as necessary for waterproofing.
  - 9. Align bottom of metal wall panels and fasten with blind rivets, bolts, or self-tapping screws. Fasten flashings and trim around openings and similar elements with self-tapping screws.
  - 10. Provide weathertight escutcheons for pipe- and conduit-penetrating panels.
  - 11. Any penetrations through air-barrier assembly shall be fully sealed prior to installation of panels. Air-barrier will be inspected after subgirt and framing installation and prior to installation of panels.
- B. Fasteners:
  - 1. Steel Wall Panels: Use stainless-steel fasteners for surfaces exposed to the exterior; use galvanized steel fasteners for surfaces exposed to the interior.
- C. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action as recommended by metal wall panel manufacturer.
- D. Joint Sealers: Install gaskets, joint fillers, and sealants where indicated and where required for weathertight performance of metal wall panel assemblies. Provide types of gaskets, fillers, and sealants indicated or, if not indicated, types recommended by metal wall panel manufacturer.
  - 1. Seal metal wall panel end laps with double beads of tape or sealant, full width of panel. Seal side joints where recommended by metal wall panel manufacturer.
  - 2. Prepare joints and apply sealants to comply with requirements in Division 07 Section "Joint Sealants."
- E. Lap-Seam Metal Wall Panels: Fasten metal wall panels to supports with fasteners at each lapped joint at location and spacing recommended by manufacturer.
  - 1. Lap ribbed or fluted sheets one full rib corrugation. Apply panels and associated items for neat and weathertight enclosure. Avoid "panel creep" or application not true to line.
  - 2. Provide metal-backed washers under heads of exposed fasteners bearing on weather side of metal wall panels.

3. Locate and space exposed fasteners in uniform vertical and horizontal alignment. Use proper tools to obtain controlled uniform compression for positive seal without rupture of washer.
  4. Install screw fasteners with power tools having controlled torque adjusted to compress washer tightly without damage to washer, screw threads, or panels. Install screws in predrilled holes.
  5. Flash and seal panels with weather closures at perimeter of all openings.
- F. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.
1. Install components required for a complete metal panel system including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items. Provide types indicated by metal wall panel manufacturer; or, if not indicated, provide types recommended by metal panel manufacturer.
- G. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that are permanently watertight.
1. Install exposed flashing and trim that is without buckling and tool marks, and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and achieve waterproof performance.
  2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet (3 m) with no joints allowed within 24 inches (610 mm) of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with mastic sealant (concealed within joints).

### 3.4 FIELD QUALITY CONTROL

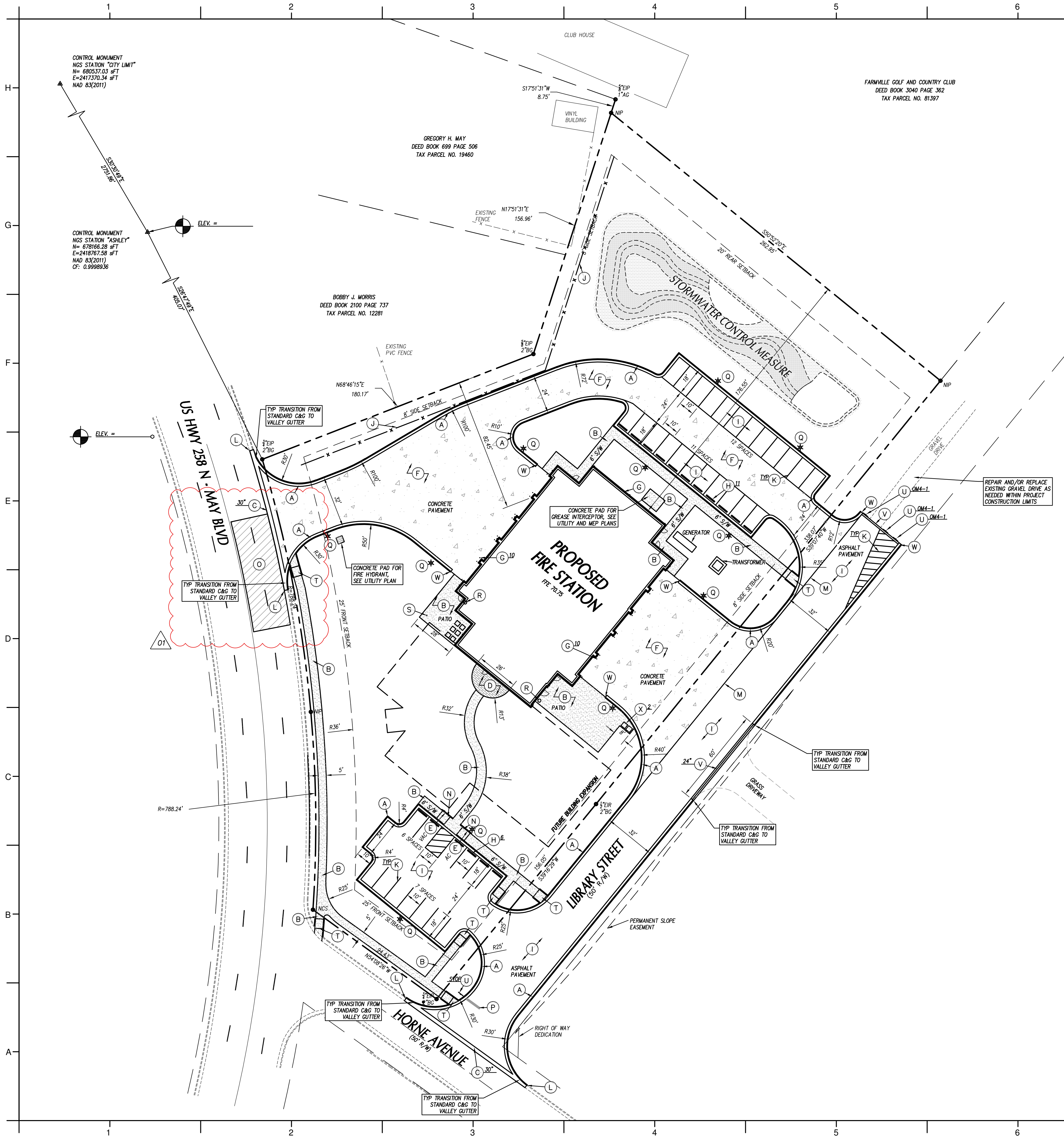
- A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Water-Spray Test: After completing the installation of 75-foot- (23-m-) by-2-story minimum area of metal wall panel assembly, test assembly for water penetration according to AAMA 501.2 in a 2-bay area directed by Architect.
- C. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect and test completed metal wall panel installation, including accessories.
- D. Remove and replace metal wall panels where tests and inspections indicate that they do not comply with specified requirements.
- E. Additional tests and inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- F. Prepare test and inspection reports.

3.5 CLEANING AND PROTECTION

- A. Remove temporary protective coverings and strippable films, if any, as metal wall panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal wall panel installation, clean finished surfaces as recommended by metal wall panel manufacturer. Maintain in a clean condition during construction.
- B. After metal wall panel installation, clear weep holes and drainage channels of obstructions, dirt, and sealant.
- C. Replace metal wall panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 074213





KEY NOTES

- A 24" CURB & GUTTER, SEE DETAIL SHEET C901.
- B CONCRETE SIDEWALK, SEE DETAIL SHEET C901.
- C VALLEY GUTTER, SEE DETAIL SHEET C901.
- D CONCRETE PAVERS, SEE DETAIL SHEET C901.
- E ACCESSIBLE PARKING & SIGNAGE, SEE DETAIL SHEET C901.
- F CONCRETE PAVEMENT, SEE DETAIL SHEET C901.
- G SEE ARCHITECTURAL PLANS FOR BUILDING, CANOPY, STRUCTURAL WALLS, BUILDING COLUMNS, BOLLARDS, MECHANICAL YARD AND SCREEN WALLS.
- H PRECAST CONCRETE WHEELSTOP, SEE DETAIL SHEET C901.
- I HEAVY DUTY ASPHALT PAVEMENT, SEE DETAIL SHEET C901.
- J 6" VINYL PRIVACY FENCE, SEE DETAIL SHEET C902.
- K PARKING SPACE STRIPING, TYP, SEE TRAFFIC CONTROL NOTES THIS SHEET.
- L TIE IN TO EXISTING CURB & GUTTER.
- M CONCRETE FLUSH WITH ASPHALT.
- N ACCESSIBLE PARKING CURB RAMP, SEE DETAIL SHEET C901.
- O 2-IN COLD MILL AND 2-IN ASPHALT (5-9.5-B) OVERLAY IN VICINITY OF PAVEMENT CUT FOR WATERLINE CONNECTIONS. RE-APPLY THERMOPLASTIC PAVEMENT MARKINGS TO MATCH EXISTING. SEE DETAIL SHEET C901.
- P STOP BAR, SEE TRAFFIC CONTROL NOTES THIS SHEET.
- Q LIGHT POLE, SHOWN ON CIVIL PLANS FOR REFERENCE ONLY, SEE LIGHTING/ELECTRICAL PLANS.
- R TRASH RECEPTACLE, SEE SPECS.
- S FLAG POLE, SEE SPECS AND DETAIL SHEET C902.
- T ACCESSIBLE CURB RAMP, SEE DETAIL SHEET C901.
- U TRAFFIC CONTROL SIGNAGE, SEE TRAFFIC CONTROL NOTES THIS SHEET.
- V CONCRETE GRADE BEAM, SEE DETAIL SHEET C902.
- W STANDARD METHOD OF ENDING CURB & GUTTER, SEE DETAIL SHEET C901.
- X ROLL OUT WASTE CONTAINER, TO BE PROVIDED BY OWNER.

TRAFFIC CONTROL NOTES

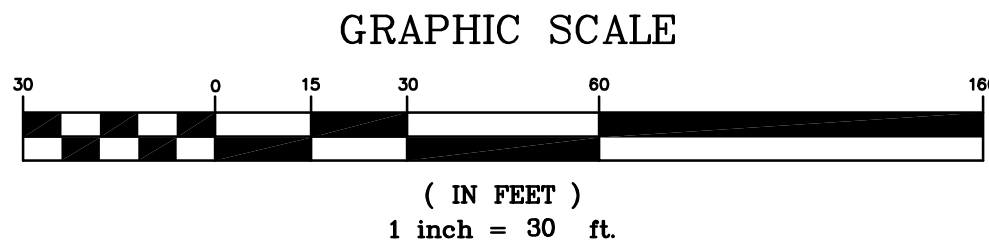
- ALL SITE SIGNAGE SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND NCOT STANDARDS.

SIGN	MUTCD STD.	SIZE
STOP	R1-1	30"x30"
OBJECT MARKER	OM4-1	18"x18"
- ALL SIGNS SHALL BE MOUNTED WITH 7-FT MIN. VERTICAL CLEARANCE TO THE BOTTOM OF THE SIGN ON 3-LB. GALV. STEEL U-CHANNEL POST SET IN 3-FT DEEP x 12-IN DIA. CONCRETE FOOTING.
- ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MUTCD AND NCOT STANDARDS AND THE PROJECT SPECIFICATIONS.

MARKING	NCOT STD.	SIZE	COLOR
PARKING SPACES	-	4-IN	WHT.
STOP BAR	-	24-IN	WHT.
- ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC TYPE EXCEPT FOR PARKING SPACE LINES WHICH SHALL BE ALKYD-RESIN TYPE PAINT.
- ALL SIGNAGE SHALL BE FIELD STAKED AND THE LOCATIONS APPROVED BY CLH DESIGN PRIOR TO SIGN INSTALLATION.
- COORDINATE FIRE LANE MARKINGS WITH TOWN OF FARMVILLE FIRE MARSHAL. BASE BID SHALL INCLUDE 1,135 LINEAR FEET.
- ALL SIGNS SHALL USE PRISMATIC SHEETING THAT MEETS MINIMUM REFLECTIVITY STANDARDS FOUND IN THE LATEST EDITION OF THE MUTCD.

GENERAL NOTES

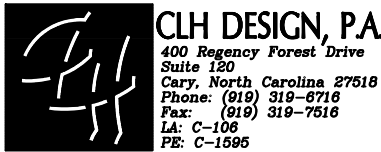
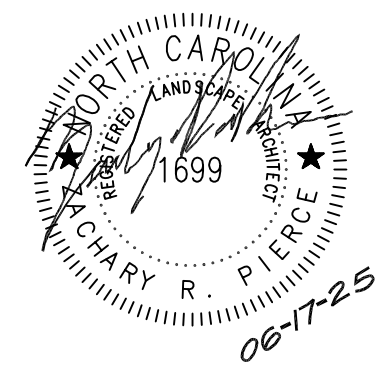
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF FARMVILLE AND NCOT STANDARDS AND SPECIFICATIONS.
- ALL DIMENSIONS SHOWN ARE TO FACE OF CURB AND FACE OF BUILDING WALL, UNLESS OTHERWISE SHOWN.
- CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF ALL DIMENSIONS SHOWN AND CONTACT THE ARCHITECT IF ANY DISCREPANCIES OCCUR.
- CONSTRUCTION STAKE OUT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL PAVEMENT MARKINGS AND SIGNAGE SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
- ALL FACE OF RADIUS' ARE 4 FT UNLESS OTHERWISE SHOWN.
- ALL PARKING SPACES SHALL BE 9' WIDE X 18 FT DEEP MIN.
- (AC) DENOTES ACCESSIBLE PARKING SPACE.
- (VAC) DENOTES VAN ACCESSIBLE PARKING SPACE.
- ANY AND ALL LANDSCAPING, EXISTING TREES OR SHRUBS TO REMAIN WHICH ARE DAMAGED DURING DEMOLITION OR CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR UTILIZING A LICENSED LANDSCAPE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL SUBMIT SCALED PLANS OF ALL SCORING/JOINTS FOR APPROVAL BY ARCHITECT 30 DAYS MINIMUM PRIOR TO INSTALLATION.
- THE CROSS-SLOPE ON ALL SIDEWALKS SHALL BE A MAXIMUM OF 2.0%.
- NO WORK SHALL BE PERFORMED ON RIGHT-OF-WAYS OR ADJACENT PROPERTIES UNTIL THE OWNER NOTIFIES CONTRACTOR IN WRITING OF PROCUREMENT OF APPROPRIATE PERMITS, EASEMENTS, AGREEMENTS, OR RIGHTS-OF-WAY.



PROJECT INFORMATION

TOWN OF FARMVILLE  
FIRE STATION &  
HEADQUARTERS  
6101 MAY BOULEVARD

SEALS



DKA JOB NUMBER  
2015

(CLH JOB NUMBER 20-134)

REVISIONS

NO.	DATE	DESCRIPTION
01	07-08-25	AD-01

These drawings are the property of Davis Kane Architects, P.A. They may not be used for any purpose without written permission.  
Copyright © 2025 by Davis Kane Architects, P.A. All rights reserved.

PA: ZRP/SJM  
PM: YLA  
Drawn By: DAL,DCC,HRW  
Plot Date:

DATE ISSUED

PERMIT & BID SET

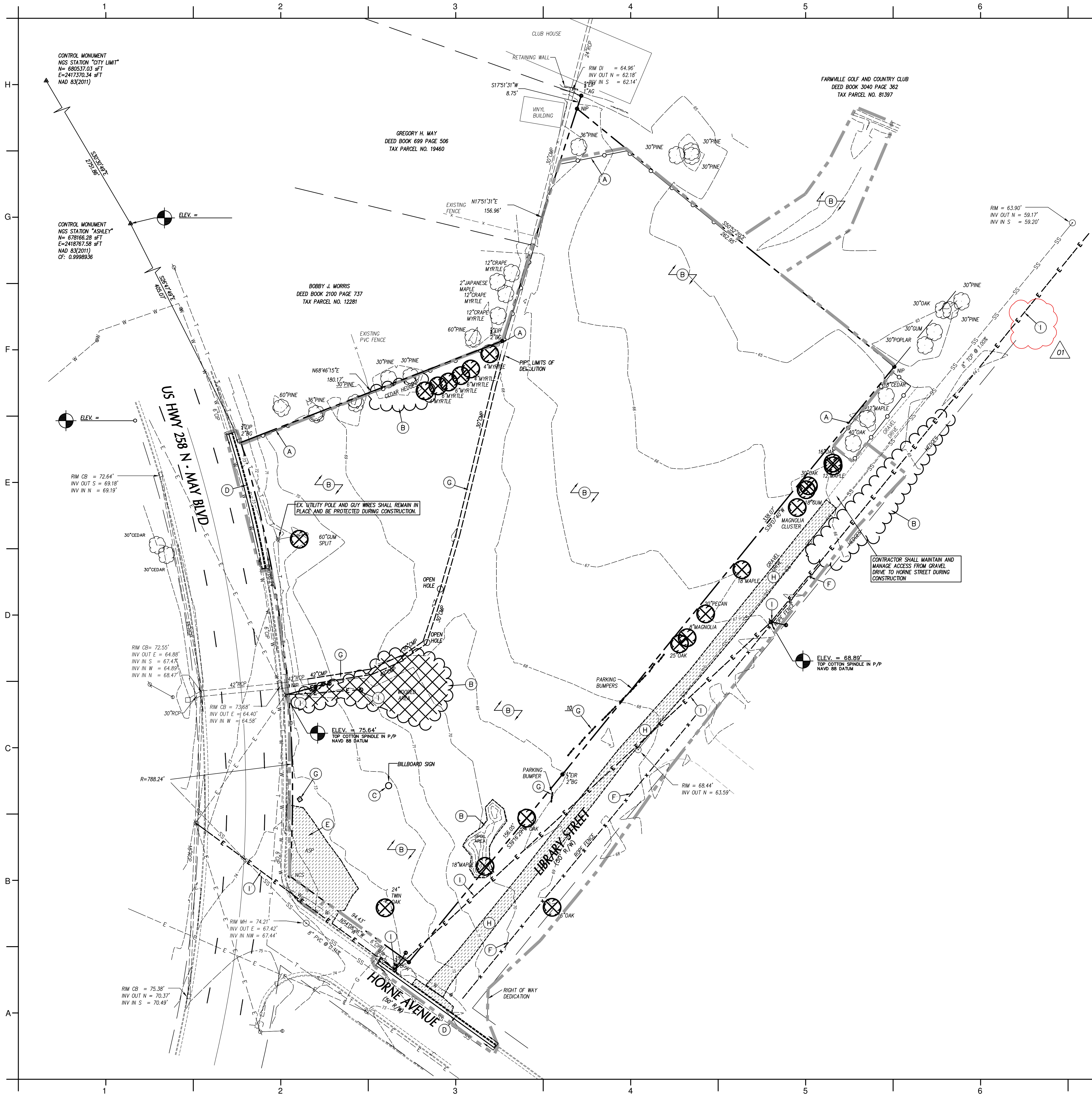
06/17/2025

SHEET TITLE

SITE STAKING PLAN

C100





STRUCTURES/UTILITIES TO BE REMOVED		STRUCTURES/UTILITIES TO REMAIN	
OVERHEAD ELECTRICAL	-----E-----	OVERHEAD ELECTRICAL	-----E-----
UNDERGROUND ELECTRICAL	-----UE-----	UNDERGROUND ELECTRICAL	-----UE-----
FIRE PROTECTION	-----FP-----	FIRE PROTECTION	-----FP-----
GAS	-----G-----	GAS	-----G-----
SANITARY SEWER	-----SS-----	SANITARY SEWER	-----SS-----
TELEPHONE	-----T-----	TELEPHONE	-----T-----
UNDERGROUND TELEPHONE	-----UT-----	UNDERGROUND TELEPHONE	-----UT-----
FIBER OPTIC	-----FO-----	FIBER OPTIC	-----FO-----
WATER	-----W-----	WATER	-----W-----
FORCE MAIN	-----FM-----	FORCE MAIN	-----FM-----
STORM DRAIN	=====	STORM DRAIN	=====
INDIVIDUAL TREE TO BE REMOVED		INDIVIDUAL TREE TO REMAIN	
LIGHT POLE		LIGHT POLE	
UTILITY POLE		UTILITY POLE	
MANHOLE		MANHOLE	
CLEAN OUT		CLEAN OUT	
DROP INLET/CATCH BASIN		DROP INLET/CATCH BASIN	
FIRE HYDRANT		FIRE HYDRANT	
WATER VALVE		WATER VALVE	
CONSTR./CLEARING LIMITS	-----	PAVEMENT, S/W, C&G TO BE REMOVED	
TREE PROTECTION FENCE	-----	TREE STAND TO BE REMOVED	

- GENERAL NOTES**
- ALL EXISTING STRUCTURES AND UTILITIES SHALL BE REMOVED AS NEEDED TO ALLOW NEW CONSTRUCTION. IN GENERAL, FEATURES INDICATED IN BOLD ON THIS PLAN SHALL BE REMOVED.
  - ALL PAVEMENT OR CONCRETE TO BE REMOVED SHALL BE SAW CUT TO PROVIDE A STRAIGHT AND UNIFORM JOINT FOR NEW PAVEMENT, SIDEWALK, OR CURB AND GUTTER. ANY EXISTING PAVEMENT, SIDEWALK, CURB AND GUTTER, ETC. THAT MUST BE REMOVED TO ALLOW NEW CONSTRUCTION SHALL BE REMOVED AND REPAIRED PER THE SPECIFICATIONS AND DETAILS OR TO MATCH PRE-CONSTRUCTION CONDITIONS (WHETHER OR NOT SHOWN ON THE DRAWINGS SHALL BE REMOVED).
  - ALL UTILITIES OR STRUCTURES NOT INDICATED FOR REMOVAL OR MODIFICATION ARE TO REMAIN AND BE PROTECTED FROM DAMAGE.
  - ALL WASTE MATERIAL GENERATED FROM DEMOLITION ACTIVITIES SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL APPLICABLE RULES AND REGULATIONS.
  - EXISTING SITE BOUNDARY AND TOPOGRAPHIC SURVEY INFORMATION WAS TAKEN FROM SURVEY BY MCDAVID ASSOCIATES, INC. PERFORMED 12-15-2020. THESE PLANS DO NOT ASSUME ANY LIABILITY FOR ANY EXISTING INFORMATION BOTH SHOWN AND NOT SHOWN ON THE SURVEY AND ANY CHANGES TO THE EXISTING CONDITIONS THAT MAY HAVE OCCURRED AFTER THE SURVEY WAS ISSUED. CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION.
  - INSTALL TREE PROTECTION FENCING PRIOR TO BEGINNING CLEARING OPERATIONS. CLEAR AND GRUB ALL AREAS AS SHOWN AND REQUIRED TO PERMIT INSTALLATION OF NEW CONSTRUCTION PER SPECIFICATIONS AND DRAWINGS. EXISTING TREES, SHRUBS OR OTHER LANDSCAPE MATERIAL WHICH WILL CONFLICT WITH NEW CONSTRUCTION SHALL BE REMOVED (WHETHER OR NOT SHOWN ON THE DRAWINGS). ALL CONTRACTORS SHALL VISIT THE SITE AND OBSERVE EXISTING CONDITIONS PRIOR TO BIDDING.
  - TO MINIMIZE DAMAGE TO EXISTING TREES NEAR THE INTERIOR EDGE OF CLEARING LIMITS, THE CONTRACTOR SHALL CUT 2'-FT DEEP TRENCHES ALONG THE LIMITS OF DISTURBANCE, SO AS TO CUT, RATHER THAN TEAR ROOTS.
  - PRIOR TO DEMOLISHING EXISTING STRUCTURES, MAKE AN INSPECTION FOR ANY HAZARDOUS MATERIALS. CONTACT ARCHITECT IMMEDIATELY IF ANY HAZARDOUS MATERIALS ARE DISCOVERED. CAP AND REMOVE UTILITY SERVICES, FUEL TANKS AND SEPTIC SYSTEMS. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.
  - VERIFY ALL ILLUSTRATED UNDERGROUND ELEMENTS/UTILITIES. EXERCISE REASONABLE EFFORTS TO PROTECT ANY UNKNOWN UNDERGROUND ELEMENTS/UTILITIES. NOTIFY THE ARCHITECT IMMEDIATELY IF UNKNOWN ELEMENTS/UTILITIES ARE DISCOVERED THAT WOULD NECESSITATE MODIFICATION TO THE PROPOSED DESIGN.
  - CONTACT UTILITY LOCATING SERVICE AT LEAST 48-HRS PRIOR TO EXCAVATION.
  - PROTECT ALL ADJACENT PROPERTIES, THE GENERAL PUBLIC AND ALL OF THE OWNER'S FACILITIES. SHOULD DAMAGES OCCUR, REPAIR IMMEDIATELY AS DIRECTED BY THE ARCHITECT.
  - ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF FARMVILLE AND/OR NC DOT STANDARDS AND SPECIFICATIONS.
  - ALL EXISTING VAULTS, MANHOLES, STORM DRAIN STRUCTURES, CLEANOUTS, ETC. SHALL BE ADJUSTED AS NEEDED TO MATCH FINISH GRADE.
  - DEMOLITION AND PATCHING OF PAVEMENT, SIDEWALK, CURB AND GUTTER AND OTHER EXISTING PAVED SURFACES IN ADDITION TO THAT INDICATED ON THIS PLAN SHALL BE PERFORMED AS REQUIRED TO CONSTRUCT AND INSTALL NEW UTILITIES. ALL SUCH DEMOLITION AND PATCHING SHALL BE INCLUDED IN THE BASE BID SCOPE OF WORK. SEE SHEET C202 FOR PAVEMENT REPAIR DETAILS.
  - THIS SITE IS NOT LOCATED WITHIN SPECIAL FLOOD HAZARD AREAS AS DETERMINED BY FEMA AND DEPICTED ON F.I.R.M. MAP 3720461700K, DATED 04-16-2013 AS BEING WITHIN ZONE "X" OTHER AREA.
  - NO WORK SHALL BE PERFORMED ON RIGHT-OF-WAYS OR ADJACENT PROPERTIES UNTIL THE OWNER NOTIFIES CONTRACTOR IN WRITING OF PROCUREMENT OF APPROPRIATE PERMITS, EASEMENTS, AGREEMENTS, OR RIGHTS-OF-WAY.

- KEY NOTES**
- (A) TEMPORARY TREE PROTECTION FENCE, SEE DETAIL SHEET C701.
  - (B) CLEAR AND GRUB, STRIP TOPSOIL WITHIN CONSTRUCTION LIMITS.
  - (C) EXISTING BILLBOARD TO BE REMOVED BY BILLBOARD COMPANY.
  - (D) SAW CUT AND REMOVE EXISTING CURB AND GUTTER.
  - (E) EXISTING PAVEMENT TO BE REMOVED.
  - (F) EXISTING FENCE TO BE REMOVED
  - (G) EXISTING STRUCTURE/UTILITY TO BE REMOVED.
  - (H) EXISTING GRAVEL DRIVE TO BE REMOVED.
  - (I) CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANY FOR REMOVAL AND/OR RELOCATION OF EXISTING STRUCTURE/UTILITY.

**LEGEND**

STRUCTURES/UTILITIES TO BE REMOVED	STRUCTURES/UTILITIES TO REMAIN
OVERHEAD ELECTRICAL	OVERHEAD ELECTRICAL
UNDERGROUND ELECTRICAL	UNDERGROUND ELECTRICAL
FIRE PROTECTION	FIRE PROTECTION
GAS	GAS
SANITARY SEWER	SANITARY SEWER
TELEPHONE	TELEPHONE
UNDERGROUND TELEPHONE	UNDERGROUND TELEPHONE
FIBER OPTIC	FIBER OPTIC
WATER	WATER
FORCE MAIN	FORCE MAIN
STORM DRAIN	STORM DRAIN
INDIVIDUAL TREE TO BE REMOVED	INDIVIDUAL TREE TO REMAIN
LIGHT POLE	LIGHT POLE
UTILITY POLE	UTILITY POLE
MANHOLE	MANHOLE
CLEAN OUT	CLEAN OUT
DROP INLET/CATCH BASIN	DROP INLET/CATCH BASIN
FIRE HYDRANT	FIRE HYDRANT
WATER VALVE	WATER VALVE
CONSTR./CLEARING LIMITS	PAVEMENT, S/W, C&G TO BE REMOVED
TREE PROTECTION FENCE	TREE STAND TO BE REMOVED

**GENERAL NOTES**

- ALL EXISTING STRUCTURES AND UTILITIES SHALL BE REMOVED AS NEEDED TO ALLOW NEW CONSTRUCTION. IN GENERAL, FEATURES INDICATED IN BOLD ON THIS PLAN SHALL BE REMOVED.
- ALL PAVEMENT OR CONCRETE TO BE REMOVED SHALL BE SAW CUT TO PROVIDE A STRAIGHT AND UNIFORM JOINT FOR NEW PAVEMENT, SIDEWALK, OR CURB AND GUTTER. ANY EXISTING PAVEMENT, SIDEWALK, CURB AND GUTTER, ETC. THAT MUST BE REMOVED TO ALLOW NEW CONSTRUCTION SHALL BE REMOVED AND REPAIRED PER THE SPECIFICATIONS AND DETAILS OR TO MATCH PRE-CONSTRUCTION CONDITIONS (WHETHER OR NOT SHOWN ON THE DRAWINGS SHALL BE REMOVED).
- ALL UTILITIES OR STRUCTURES NOT INDICATED FOR REMOVAL OR MODIFICATION ARE TO REMAIN AND BE PROTECTED FROM DAMAGE.
- ALL WASTE MATERIAL GENERATED FROM DEMOLITION ACTIVITIES SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL APPLICABLE RULES AND REGULATIONS.
- EXISTING SITE BOUNDARY AND TOPOGRAPHIC SURVEY INFORMATION WAS TAKEN FROM SURVEY BY MCDAVID ASSOCIATES, INC. PERFORMED 12-15-2020. THESE PLANS DO NOT ASSUME ANY LIABILITY FOR ANY EXISTING INFORMATION BOTH SHOWN AND NOT SHOWN ON THE SURVEY AND ANY CHANGES TO THE EXISTING CONDITIONS THAT MAY HAVE OCCURRED AFTER THE SURVEY WAS ISSUED. CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION.
- INSTALL TREE PROTECTION FENCING PRIOR TO BEGINNING CLEARING OPERATIONS. CLEAR AND GRUB ALL AREAS AS SHOWN AND REQUIRED TO PERMIT INSTALLATION OF NEW CONSTRUCTION PER SPECIFICATIONS AND DRAWINGS. EXISTING TREES, SHRUBS OR OTHER LANDSCAPE MATERIAL WHICH WILL CONFLICT WITH NEW CONSTRUCTION SHALL BE REMOVED (WHETHER OR NOT SHOWN ON THE DRAWINGS). ALL CONTRACTORS SHALL VISIT THE SITE AND OBSERVE EXISTING CONDITIONS PRIOR TO BIDDING.
- TO MINIMIZE DAMAGE TO EXISTING TREES NEAR THE INTERIOR EDGE OF CLEARING LIMITS, THE CONTRACTOR SHALL CUT 2'-FT DEEP TRENCHES ALONG THE LIMITS OF DISTURBANCE, SO AS TO CUT, RATHER THAN TEAR ROOTS.
- PRIOR TO DEMOLISHING EXISTING STRUCTURES, MAKE AN INSPECTION FOR ANY HAZARDOUS MATERIALS. CONTACT ARCHITECT IMMEDIATELY IF ANY HAZARDOUS MATERIALS ARE DISCOVERED. CAP AND REMOVE UTILITY SERVICES, FUEL TANKS AND SEPTIC SYSTEMS. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.
- VERIFY ALL ILLUSTRATED UNDERGROUND ELEMENTS/UTILITIES. EXERCISE REASONABLE EFFORTS TO PROTECT ANY UNKNOWN UNDERGROUND ELEMENTS/UTILITIES. NOTIFY THE ARCHITECT IMMEDIATELY IF UNKNOWN ELEMENTS/UTILITIES ARE DISCOVERED THAT WOULD NECESSITATE MODIFICATION TO THE PROPOSED DESIGN.
- CONTACT UTILITY LOCATING SERVICE AT LEAST 48-HRS PRIOR TO EXCAVATION.
- PROTECT ALL ADJACENT PROPERTIES, THE GENERAL PUBLIC AND ALL OF THE OWNER'S FACILITIES. SHOULD DAMAGES OCCUR, REPAIR IMMEDIATELY AS DIRECTED BY THE ARCHITECT.
- ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF FARMVILLE AND/OR NC DOT STANDARDS AND SPECIFICATIONS.
- ALL EXISTING VAULTS, MANHOLES, STORM DRAIN STRUCTURES, CLEANOUTS, ETC. SHALL BE ADJUSTED AS NEEDED TO MATCH FINISH GRADE.
- DEMOLITION AND PATCHING OF PAVEMENT, SIDEWALK, CURB AND GUTTER AND OTHER EXISTING PAVED SURFACES IN ADDITION TO THAT INDICATED ON THIS PLAN SHALL BE PERFORMED AS REQUIRED TO CONSTRUCT AND INSTALL NEW UTILITIES. ALL SUCH DEMOLITION AND PATCHING SHALL BE INCLUDED IN THE BASE BID SCOPE OF WORK. SEE SHEET C202 FOR PAVEMENT REPAIR DETAILS.
- THIS SITE IS NOT LOCATED WITHIN SPECIAL FLOOD HAZARD AREAS AS DETERMINED BY FEMA AND DEPICTED ON F.I.R.M. MAP 3720461700K, DATED 04-16-2013 AS BEING WITHIN ZONE "X" OTHER AREA.
- NO WORK SHALL BE PERFORMED ON RIGHT-OF-WAYS OR ADJACENT PROPERTIES UNTIL THE OWNER NOTIFIES CONTRACTOR IN WRITING OF PROCUREMENT OF APPROPRIATE PERMITS, EASEMENTS, AGREEMENTS, OR RIGHTS-OF-WAY.

**KEY NOTES**

- (A) TEMPORARY TREE PROTECTION FENCE, SEE DETAIL SHEET C701.
- (B) CLEAR AND GRUB, STRIP TOPSOIL WITHIN CONSTRUCTION LIMITS.
- (C) EXISTING BILLBOARD TO BE REMOVED BY BILLBOARD COMPANY.
- (D) SAW CUT AND REMOVE EXISTING CURB AND GUTTER.
- (E) EXISTING PAVEMENT TO BE REMOVED.
- (F) EXISTING FENCE TO BE REMOVED
- (G) EXISTING STRUCTURE/UTILITY TO BE REMOVED.
- (H) EXISTING GRAVEL DRIVE TO BE REMOVED.
- (I) CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANY FOR REMOVAL AND/OR RELOCATION OF EXISTING STRUCTURE/UTILITY.

**GRAPHIC SCALE**

( IN FEET )

1 inch = 30 ft.

**DAVIS KANE ARCHITECTS, P.A.**  
503 OBERLIN ROAD SUITE 300  
RALEIGH, NC 27605  
919.833.3737  
www.davisokane.com

**PROJECT INFORMATION**

**TOWN OF FARMVILLE  
FIRE STATION &  
HEADQUARTERS**  
6101 MAY BOULEVARD

**SEALS**

**CLH DESIGN, P.A.**  
400 Regency Forest Drive  
Suite 100  
Cary, North Carolina 27513  
Phone: (919) 528-6712  
Fax: (919) 528-6712  
E-Mail: clyde@clhdesign.com

**DKA JOB NUMBER**  
2015  
(CLH JOB NUMBER 20-134)

**REVISIONS**

NO.	DATE	BY	DESCRIPTION
01	07-08-25	AD-01	

These drawings are the property of Davis Kane Architects, P.A. They may not be used for any purpose without written permission.  
Copyright © 2025 by Davis Kane Architects, P.A. All rights reserved.

PA: ZRP/SJM  
PM: YLA  
Drawn By: DAL/DCC/HRW  
Plot Date:

**DATE ISSUED**  
PERMIT & BID SET

06/17/2025

**SHEET TITLE**  
EXISTING CONDITIONS  
/ DEMO PLAN

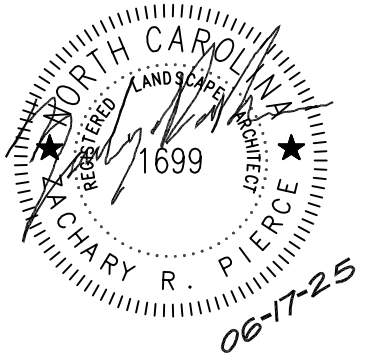
**C200**



PROJECT INFORMATION

TOWN OF FARMVILLE  
FIRE STATION &  
HEADQUARTERS  
6101 MAY BOULEVARD

SEALS



DKA JOB NUMBER  
2015

(CLH JOB NUMBER 20-134)

REVISIONS

01 07-08-25 AD-01

These drawings are the property of Davis Kane Architects, P.A. They may not be used for any purpose without written permission.  
Copyright © 2025 by Davis Kane Architects, P.A.  
All rights reserved.

PA: ZRP/SJM  
PM: YLA  
Drawn By: DAL/DCC/HRW  
Plot Date:

DATE ISSUED

PERMIT & BID SET

06/17/2025

SHEET TITLE

LANDSCAPE PLAN

C600

GENERAL NOTES-LANDSCAPING

1. LOCATE ALL EXISTING UTILITIES PRIOR TO INSTALLATION OF PLANT MATERIAL. NOTIFY OWNER OF ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THOSE SHOWN ON THE PLAN.
2. VERIFICATION OF TOTAL QUANTITIES AS SHOWN ON THE PLANT LIST SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND THE TOTAL QUANTITIES SHALL BE AS SHOWN ON THE PLAN.
3. ALL PLANT MATERIAL SHALL CONFORM WITH THE STANDARDS SET FORTH BY THE AMERICAN ASSOCIATION OF NURSERYMEN AND THE WRITTEN SPECIFICATIONS.
4. ALL PLANT MATERIAL (SHRUBS/TREES) SHALL BE A MINIMUM DISTANCE OF 4 1/2 FEET FROM BACK OF CURB, EXCEPT ALONG ANY NEW WALLS ADJACENT TO PARKING WHERE CURB STOPS WILL BE USED. ALL PLANTING BEDS TO BE MULCHED WITH A MINIMUM OF 3" OF MULCH.
5. ALL PLANT GROUPINGS SHALL BE MULCHED AS ONE BED. 3" OF DYED BROWN DOUBLE SHREDDED HARDWOOD MULCH SHALL BE USED AROUND ALL PLANTINGS.
6. APPLY PRE-EMERGENT HERBICIDE TO ALL NEW PLANTING BEDS AT MANUFACTURER'S RECOMMENDED RATE PRIOR TO INSTALLATION OF MULCH.
7. ESTABLISH POSITIVE DRAINAGE IN ALL PLANTING BEDS AND AWAY FROM BUILDINGS.
8. DO NOT INSTALL PLANT MATERIAL IN IMPERVIOUS SOILS, (i.e. HOLES WHICH, WHEN FILLED WITH WATER, DO NOT COMPLETELY DRAIN WITHIN TWO HOURS). SEE SPECIFICATIONS FOR TOPSOIL REQUIREMENTS.
9. LAWN AREAS SHALL BE SEEDED WITH RIVERA OR SUNSTAR BERMUDA GRASS 95% COVERAGE (BASED ON A PER SQUARE YARD SAMPLE) SHALL BE ATTAINED PRIOR TO FINAL INSPECTION. SEE DETAIL SHEET FOR RATES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
10. CONTACT THE LANDSCAPE ARCHITECT FOR INSPECTION 48 HOURS IN ADVANCE OF THE SCHEDULED SITE VISIT AND AT THE FOLLOWING INTERVALS:
  - 10.1. REVIEW OF GRADING PRIOR TO PLANT AND LAWN INSTALLATION
  - 10.2. REVIEW OF PLANT MATERIAL PRIOR TO INSTALLATION.
  - 10.3. ONE SUBSTANTIAL COMPLETION MEETING FOR PLANT INSTALLATION.
  - 10.4. ONE FINAL INSPECTION FOR ALL SEEDING/PLANTING OPERATIONS.
11. THE TREE PROTECTION FENCE SHALL BE MAINTAINED ON THE SITE UNTIL ALL SITE WORK IS COMPLETED AND THE FINAL SITE INSPECTION PRIOR TO THE CERTIFICATE OF OCCUPANCY (CO) IS SCHEDULED. THE FENCING SHALL BE REMOVED PRIOR TO FINAL SITE INSPECTION FOR THE CO.
12. LANDSCAPE SUB-CONTRACTOR (UNDER GC CONTRACT) SHALL BE RESPONSIBLE FOR WATERING ALL PLANTS AND LAWN AREAS AT HIS COST FROM HIS OWN WATER SOURCE INCLUDING DURING PERIODS OF DROUGHT UNTIL THE PLANTS AND LAWN MEET FINAL COMPLETION. PLANT MATERIALS OR AREAS OF GRASS WHICH PERISH SHALL BE RE-ESTABLISHED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.
13. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ALL EQUIPMENT & SUBCONTRACTORS AWAY FROM SEED AREAS. IF DAMAGE OCCURS, THROUGH NO FAULT OF THE OWNER, AREAS SHALL BE REGRADED AND RESEED IMMEDIATELY AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL WATER AND MAINTAIN THOSE AREAS UNTIL THEY ARE AT 90% COVERAGE AT FINAL COMPLETION.
14. SUBSTITUTIONS OF PLANT MATERIAL SHALL ONLY BE ACCEPTED 60 DAYS PRIOR TO COMMENCEMENT OF PLANTING OPERATIONS. SUBSTITUTION REQUESTS MUST BE IN WRITING AND WILL ONLY BE ACCEPTED FOR LACK OF AVAILABILITY REASONS WHICH CAN BE SUBSTANTIATED OR FOR SUPERIOR STOCK SUBSTITUTIONS.
15. LANDSCAPE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT TO REVIEW GRADING ONE WEEK PRIOR TO SEEDING. IF THE LANDSCAPE CONTRACTOR AND LANDSCAPE ARCHITECT FIND GRADING UNACCEPTABLE FOR FINAL SEEDING, LANDSCAPE CONTRACTOR SHALL BRING IT TO THE ATTENTION OF THE GENERAL CONTRACTOR. LANDSCAPE CONTRACTOR SHALL NOT PROCEED WITHOUT APPROVAL BY LANDSCAPE ARCHITECT.
16. IF CONFLICTS OCCUR BETWEEN WRITTEN SPECIFICATIONS AND THE DRAWINGS, THE WRITTEN SPECIFICATIONS SHALL PREVAIL.
17. GENERAL LAWN AREAS SHALL BE SEEDED WITH RIVERA OR SUNSTAR BERMUDA.
18. ALL 3:1 SLOPES SHALL BE STABILIZED WITH 'NO-MOW' NATURALIZED SEED MIX AND EROSION CONTROL MATTING, UNLESS NOTED OTHERWISE.
19. ALL FOUNDATION SHRUBS AND TREES TO BE PLANTED A MINIMUM OF 5'-FT FROM BUILDING WALL. NOTIFY LANDSCAPE ARCHITECT FOR ANY DISCREPANCIES.
20. INSTALL PERMANENT SEEDING ALONG ALL ROADSIDE DITCHES AND CHANNELS WITHIN CONSTRUCTION LIMITS OF PROJECT. SEE EROSION CONTROL PLANS FOR ADDITIONAL INFORMATION.

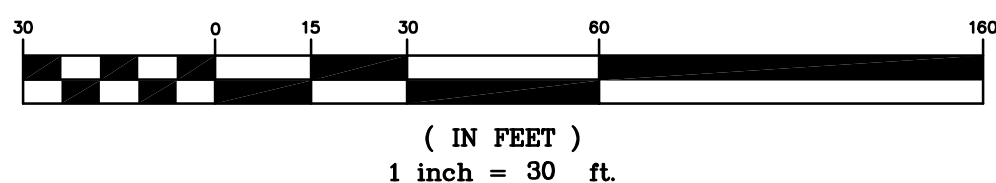
PLANT SCHEDULE

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
<b>TREES</b>					
CV	10	<i>Chionanthus virginicus</i> White Fringetree	B&B	MULTI-TRUNK	6' HT MIN.
MV	7	<i>Magnolia virginiana</i> 'Northern Belle' Northern Belle Sweetbay Magnolia	CONT./B&B	MULTI-TRUNK	5'-6' HT.
QB	4	<i>Quercus bicolor</i> Swamp White Oak	B&B	2" CAL MIN.	8' HT MIN.
QL	13	<i>Quercus lyrata</i> Overcup Oak	B&B	2" CAL MIN.	8' HT MIN.
<b>SHRUBS</b>					
AA	9	<i>Azalea x 'Canale'</i> TM Autumn Amethyst Encore Azalea	#3 CONT., FULL SPACE AS SHOWN		18" HT MIN.
AL	2	<i>Azalea x 'Roblex'</i> TM Autumn Lily Encore Azalea	#3 CONT., FULL SPACE AS SHOWN		18" HT MIN.
OP	13	<i>Calliopsis x 'NCCX2'</i> TM Pearl Glam Beautyberry	#3 CONT., FULL SPACE AS SHOWN		18" HT MIN.
DB	54	<i>Dietylum x 'Blue Cascade'</i> Blue Cascade Shrub	#3 CONT., FULL SPACE AS SHOWN		24" HT MIN.
FM	7	<i>Fothergilla major</i> 'Mount Airy' Mount Airy Fothergilla	#3 CONT., FULL SPACE AS SHOWN		18" HT MIN.
IG	27	<i>Ilex glabra</i> 'Shamrock' Shamrock Inkberry Holly	#3 CONT., FULL SPACE AS SHOWN		24" HT MIN.
IC	56	<i>Ilex vomitoria</i> 'Condeux' TM Bordeaux Yaupon Holly	#3 CONT., FULL SPACE AS SHOWN		24" HT MIN.
LC	48	<i>Loropetalum chinense</i> 'Shang-white' TM Emerald Snow Loropetalum	#3 CONT., FULL SPACE AS SHOWN		24" HT MIN.
VO	24	<i>Viburnum obovatum</i> 'Mrs. Schiller's Delight' Mrs. Schiller's Delight Viburnum	#3 CONT., FULL SPACE AS SHOWN		18" HT MIN.
<b>GROUND COVERS</b>					
MC	35	<i>Muhlenbergia capillaris</i> 'White Cloud' White Cloud Muhly Grass	1 GAL		

LANDSCAPE REQUIREMENTS

- ROADSIDE BUFFER YARD REQUIREMENTS**
- A MINIMUM 10'-FOOT PERPETUALLY MAINTAINED NATURAL OR PLANTED BUFFER YARD SHALL BE PROVIDED TO SCREEN THE NONRESIDENTIAL USE FROM ALL ADJOINING PUBLIC ROAD RIGHTS OF WAY.
  - THE REQUIRED ROADSIDE BUFFER YARD SHALL CONTAIN AT LEAST ONE CANOPY TREE FOR EACH FORTY LINEAR FEET OF ROAD FRONTAGE AND EACH TREE SHALL BE A MINIMUM OF 8" IN HEIGHT AT THE TIME OF PLANTING. EACH TREE SHALL BE A SPECIES WHICH CAN BE EXPECTED TO ATTAIN A MINIMUM HEIGHT OF 40' AND HAVE A CROWN WIDTH OF 30' OR GREATER AT MATURITY. LINEAR FEET OF ROAD FRONTAGE: 377'-61" OF DRIVEWAY=316'
  - # REQUIRED BUFFER YARD TREES: 8
  - PROVIDED: 10
  - 7 OF THE REQUIRED 10 TREES ARE A SMALL-STATURE SPECIES AND WILL NOT MATURE TO A HEIGHT OF 40'. THESE TREES HAVE BEEN SELECTED DUE TO THE CLOSE PROXIMITY OF AN OVERHEAD UTILITY LINE AND CONCERN FOR ONGOING MAINTENANCE.
  - THE ROADSIDE BUFFER YARD SHALL ALSO CONTAIN EVERGREEN SHRUBS, PLANTED 4' ON CENTER, WHICH ARE OF A SPECIES THAT CAN BE EXPECTED TO REACH A MINIMUM HEIGHT OF 36" AND A MINIMUM SPREAD OF 30" WITHIN 3 YEARS OF PLANTING.
  - ALL TREES AND SHRUBS SHOULD BE PLANTED WITHIN A LANDSCAPING BED CONSISTING OF NATURAL MULCH WITH A MINIMUM DEPTH OF 3" TO IMPROVE GROWTH AND PERFORMANCE OVER TIME.
- PROPERTY LINE BUFFER YARD REQUIREMENTS**
- WHERE A NONRESIDENTIAL USE ADJUTS A RESIDENTIALLY USED OR ZONED LOT, A MINIMUM 10' PERPETUALLY MAINTAINED NATURAL OR PLANTED BUFFER YARD SHALL BE PROVIDED ALONG ALL ADJOINING PROPERTY LINES THAT TO NOT COINCIDE WITH ROAD RIGHTS-OF-WAY.
  - LINEAR FEET OF FRONTAGE: 337'
  - # REQUIRED BUFFER YARD TREES: 9
  - PROVIDED: 5 (4 TREES EXISTING)
  - ONE CANOPY TREE IS REQUIRED FOR EACH 40 LINEAR FEET OF PROPERTY LINE ADJOINING A RESIDENTIALLY ZONED LOT. THE EVERGREEN SHRUB REQUIREMENTS ARE THE SAME AS THE ROADSIDE BUFFER YARD REQUIREMENTS.

GRAPHIC SCALE









DOOR, FRAME AND SIGNAGE SCHEDULE														
DOOR NUMBER	TYPE	QUANTIT Y	DOOR					FRAME			HARDWARE	SIGN TYPE	FIRE RATING	COMMENTS
			WIDTH	HEIGHT	THICKNESS	MATERIAL	FINISH	TYPE	MATERIAL	FINISH				
100.1	C	(1)	3' - 3"	7' - 0"	1 3/4"	ALUM	FACT	*	ALUM	FACT	SET 1	-	*	EXTERIOR, SEE STOREFRONT SCHEDULE
100.2	C	(1)	3' - 10"	7' - 2"	1 3/4"	ALUM	FACT	*	ALUM	FACT	SET 1	-	*	EXTERIOR, SEE STOREFRONT SCHEDULE
101	-	-	3' - 0"	7' - 0"	-	-	-	I	HM	PAINT	-	-	-	CASED OPENING
101A	A	(1)	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 5	C	-	
102.1	B	(1)	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 8	A	-	
102.2	B	(1)	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 9	-	-	
104.1	B	(1)	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 12	B	-	
104.2	B	(1)	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 13	B	-	
104.3	B	(1)	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 11	B	-	
105	A	(1)	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	II	HM	PAINT	SET 6	C	-	
106.1	A	(1)	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 11	A	-	
106.2	A	(1)	4' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 10	B	-	
106.3	A	(1)	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 11	A	-	
107.1	B	(1)	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 12	B	-	
107.2	B	(1)	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 13	B	-	
107.3	A	(1)	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 2	-	-	
108.1	A	(1)	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 14	-	-	
108.2	D	(1)	14' - 0"	14' - 0"	-	STEEL	FACT	*	STEEL	FACT	SET 4	-	-	EXTERIOR, OVERHEAD SECTIONAL DOOR
108.3	D	(1)	14' - 0"	14' - 0"	-	STEEL	FACT	*	STEEL	FACT	SET 4	-	-	EXTERIOR, OVERHEAD SECTIONAL DOOR
108.4	D	(1)	14' - 0"	14' - 0"	-	STEEL	FACT	*	STEEL	FACT	SET 4	-	-	EXTERIOR, OVERHEAD SECTIONAL DOOR
108.5	D	(1)	14' - 0"	14' - 0"	-	STEEL	FACT	*	STEEL	FACT	SET 4	-	-	EXTERIOR, OVERHEAD SECTIONAL DOOR
108.6	D	(1)	14' - 0"	14' - 0"	-	STEEL	FACT	*	STEEL	FACT	SET 4	-	-	EXTERIOR, OVERHEAD SECTIONAL DOOR
108.7	A	(1)	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 2	-	-	
108.8	A	(1)	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 2	-	-	
108.9	D	(1)	14' - 0"	14' - 0"	-	STEEL	FACT	*	STEEL	FACT	SET 4	-	-	EXTERIOR, OVERHEAD SECTIONAL DOOR
108.10	D	(1)	14' - 0"	14' - 0"	-	STEEL	FACT	*	STEEL	FACT	SET 4	-	-	EXTERIOR, OVERHEAD SECTIONAL DOOR
108.11	D	(1)	14' - 0"	14' - 0"	-	STEEL	FACT	*	STEEL	FACT	SET 4	-	-	EXTERIOR, OVERHEAD SECTIONAL DOOR
108.12	D	(1)	14' - 0"	14' - 0"	-	STEEL	FACT	*	STEEL	FACT	SET 4	-	-	EXTERIOR, OVERHEAD SECTIONAL DOOR
108.13	D	(1)	14' - 0"	14' - 0"	-	STEEL	FACT	*	STEEL	FACT	SET 4	-	-	EXTERIOR, OVERHEAD SECTIONAL DOOR
109	A	(2)	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 7	B	-	
110	A	(2)	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 7	B	-	
111	A	(1)	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 3	A	-	
112	A	(1)	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 7	A	-	
M001	A	(1)	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 7	A	-	

</



PROJECT INFORMATION

TOWN OF FARMVILLE  
FIRE STATION &  
HEADQUARTERS  
6101 MAY BOULEVARD,  
FARMVILLE, NC 27828

SEALS



DKA JOB NUMBER  
2015

REVISIONS		
1	Addendum 01	7/8/2025

These drawings are the property of Davis Kane Architects, P.A. They may not be reused for any purpose without written permission.  
Copyright © 2023 by Davis Kane Architects, P.A. All rights reserved.

PA: JIMMY ARDEL EDWARDS  
PM: DK  
Drawn By: NK  
Plot Date: 7/8/2025 9:42:31 AM

DATE ISSUED

BID SET  
6/17/2025

SHEET TITLE  
1ST FLOOR  
FINISHES PLAN

I100

D1 1ST FLOOR - FINISHES PLAN  
1/8" = 1'-0"

FINISHES GENERAL NOTES:

- SEE FLOOR PLANS FOR WALL TYPES.
- SEE INTERIOR ELEVATIONS AND DETAILS FOR LOCATION OF CASEWORK AND WALL FINISH SELECTIONS NOT SHOWN ON PLAN.
- WHERE PAINT IS INDICATED ON LEGEND, PROVIDE THE FOLLOWING:  
FINISH LOCATION  
EGG-SHELL GWB WALLS, UON  
SEMI-GLOSS MASONRY WALLS, UON  
SEMI-GLOSS INTERIOR FRAMES  
SATIN GLOSS RAILINGS
- PAINT COLORS PROVIDED IN FINISHES LEGEND ARE FOR COLOR MATCH ONLY.
- INTERIOR FINISHES INDICATED BY AREA UON.
- INTERIOR FINISH ACCENTS INDICATED AT LOCATION BY SYMBOL, WITH LEADER DESIGNATION.
- FOR CEILING FINISH AND COLORS REFER TO REFELCTED CEILING PLANS.
- FOR INFORMATION ABOUT THRESHOLDS SEE DOOR SCHEDULE.
- PAINT ALL STAIR STRINGERS, GUARDRAILS, HANDRAILS, BRACKETS AND UNDERSIDE OF STAIRS THROUGHOUT ALL THREE STAIRS.

FINISHES PLAN NOTES:

- FOR FINISH SCHEDULE SEE I000.
- SEE A001 FOR GENERAL PLAN & PARTITION NOTES.
- REFER TO A002 FOR PARTITION CONSTRUCTION TYPE.
- TYPICAL ASSEMBLY & MOUNTING HEIGHTS SEE SHEET A001.
- SEE I000 THROUGH I001 FOR INTERIOR FINISHES LEGEND, SCHEDULES AND ADDITIONAL FINISHES REQUIREMENTS.

FINISHES KEY NOTES:

NOTE: NOT ALL OF THE KEY NOTES ARE APPLICABLE TO THIS PLAN. SEE PLAN FOR KEYED ITEM LOCATIONS. KEY NOTES SUPPLEMENT INFORMATION FOUND ELSEWHERE IN THE DRAWINGS.

- ①1 6 INCH WIDE TRAFFIC LINES, COLOR TO MATCH BOLLARDS  
②2 METAL TRANSITIONS  
③3 MARBLE THRESHOLDS

FINISHES KEY:

- LUXURY VINYL TILE  
SEALED CONCRETE  
CERAMIC TILE

FINISHES SYMBOL LEGEND

- FINISHES  
CPT FLOORING  
PNT WALL UON  
PNT BASE UON  
PNT ACCENT PAINT  
ST 'A' SIGN TYPE  
CG CORNER GUARD



PROJECT INFORMATION

TOWN OF FARMVILLE  
FIRE STATION &  
HEADQUARTERS  
6101 MAY BOULEVARD,  
FARMVILLE, NC 27828

SEALS



DKA JOB NUMBER

2015

REVISIONS

1 Addendum 01 7/8/2025

These drawings are the property of Davis Kane Architects, P.A. They may not be reused for any purpose without written permission.  
Copyright © 2023 by Davis Kane Architects, P.A. All rights reserved.

PA: JIMMY ARDEL EDWARDS  
PM: DK  
Drawn By: NK  
Plot Date: 7/8/2025 12:49:43 PM

DATE ISSUED

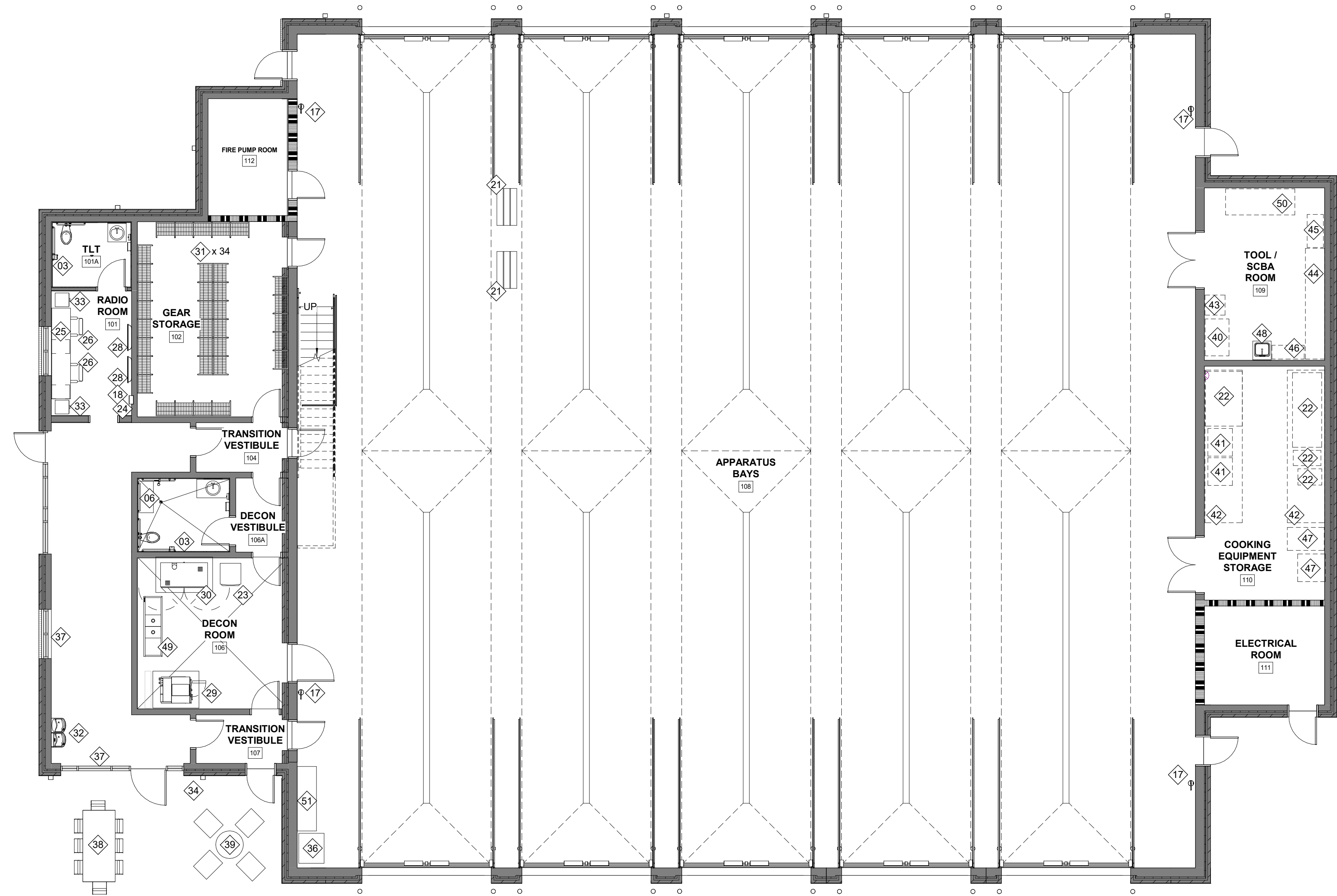
BID SET  
6/17/2025

SHEET TITLE

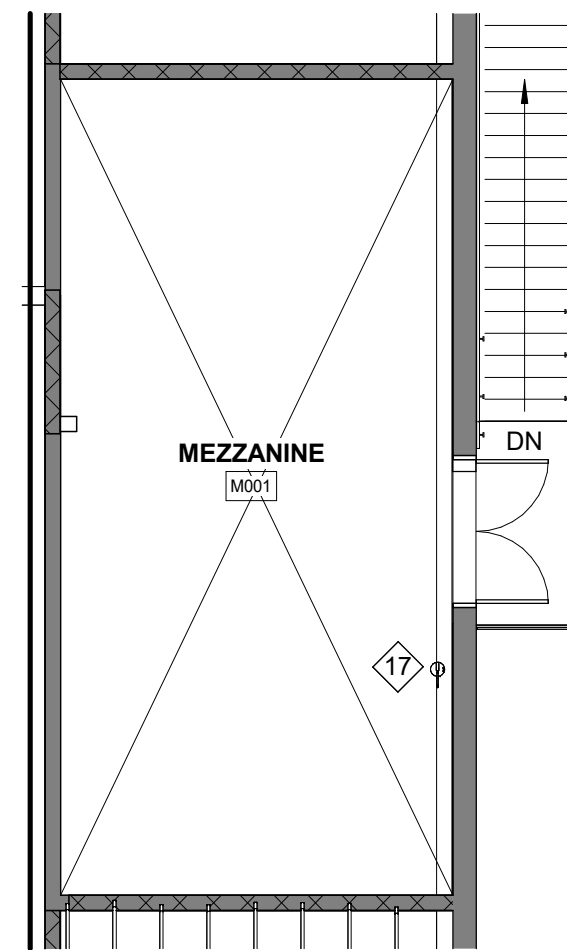
1ST FLOOR  
FURNITURE &  
EQUIPMENT PLAN

1200

C1 1ST FLOOR - FURNITURE PLAN  
1/8" = 1'-0"



C6 MEZZANINE FLOOR - FURNITURE PLAN  
1/8" = 1'-0"



FURNITURE, FIXTURES, AND EQUIPMENT LEGEND

NOTE: CONTRACTOR TO COORDINATE ALL FF&E ITEMS WITH OWNER PRIOR TO SCHEDULING DELIVERY AND INSTALLATION

01	PAPER TOWEL DISPENSER, WALL MOUNTED
02	NOT USED
03	TOILET PAPER DISPENSER
04	ADA PIPE PROTECTION
05	SOAP DISPENSER, WALL MOUNTED
06	ADA SHOWER SEAT
07	SHOWER CURTAIN ROD & HOOKS
08	TOWEL HOOK
09	24" X 36" MIRROR
10	18" GRAB BAR
11	24" GRAB BAR
12	36" GRAB BAR
13	42" GRAB BAR
14	FIXED SHOWER FIXTURE, SEE PLUMBING DRAWINGS

15	STAINLESS STEEL RECESSED SHELF
16	ACCESSIBLE SHOWER FIXTURE, SEE PLUMBING DRAWINGS
17	FIRE EXTINGUISHER AND HOOK
18	FIRE EXTINGUISHER AND CABINET
19	AED IN CABINET
20	MOP HOLDER
21	BENCH SEAT, OPCI
22	FRYER, OPCI
23	STACKABLE WASHER & DRYER, OPCI
24	WASTE BIN FOR PAPER
25	BLACKOUT ROLLER SHADES
26	TASK CHAIR, OPCI
27	NOT USED
28	WALL MOUNTED FLAT SCREEN TV, OPCI

29	EXTRACTOR, OPCI
30	PPE DRYER, OPCI
31	GEAR LOCKER - 18"W x24"D, NO BASE
32	ADA DUAL HEIGHT ELECTRIC WATER COOLER W/ BOTTLE FILLER, SEE PLUMBING DRAWINGS
33	FILING CABINET, OPCI
34	PROPANE GRILL, OPCI
35	RECYCLABLE BIN FOR PAPER, PLASTIC, & METAL
36	VENDING MACHING, OPCI
37	2" WINDOW BLINDS
38	OUTDOOR TABLE & CHAIRS, OPCI
39	OUTDOOR LOUNGE TABLE AND CHAIRS, OPCI
40	ICE MAKER, OPCI
41	SINGLE GRIDDLE, OPCI
42	LARGE STORAGE RACK, OPCI

43	AIR COMPRESSOR, OPCI
44	WORK TABLE BENCH, OPCI
45	TOOL BOX, OPCI
46	FLAMMABLE CABINET, OPCI
47	STAINLESS STEEL PREP TABLE, OPCI
48	UTILITY SINK, SEE PLUMBING DRAWINGS
49	SCULLERY SINK, SEE PLUMBING DRAWINGS
50	SCBA, OPCI