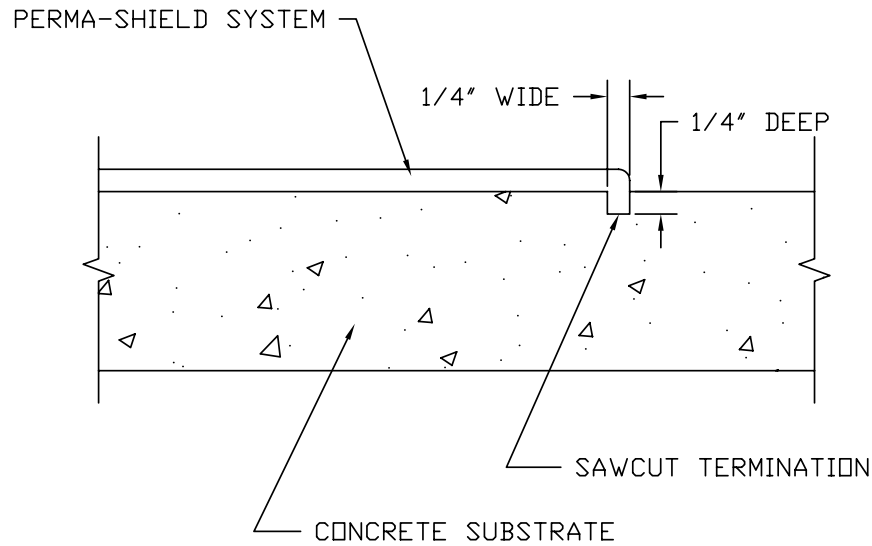


Construction Details Guide
Perma-Shield Wastewater Linings



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TYPICAL LEADING EDGE TERMINATION

SCALE: NTS

PERMA-SHIELD SYSTEMS: 434, 435, AND 436

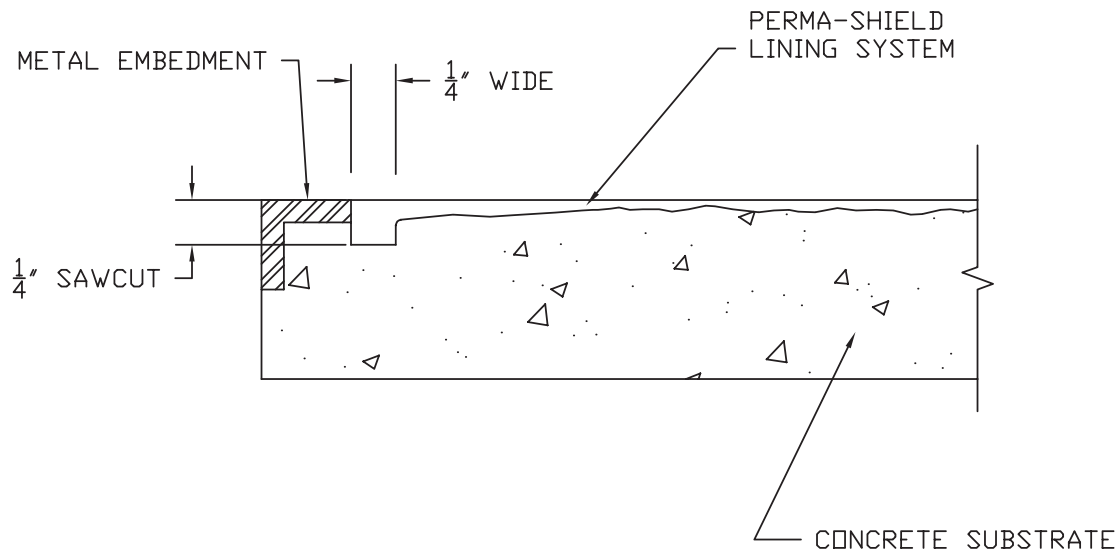
NOTE: BRUSH OR TROWEL SERIES 435 OR 436
INTO SAWCUT TERMINATION

TNEMEC PERMA-SHIELD STANDARD LINING DETAILS

LEADING EDGE TERMINATION DETAIL

DWG. NO. TLS-01

REV. 1



TYPICAL TERMINATION AT METAL EMBEDMENT IN CONCRETE

SCALE: NTS

PERMA-SHIELD SYSTEMS: 434, 435 OR 436

NOTES:

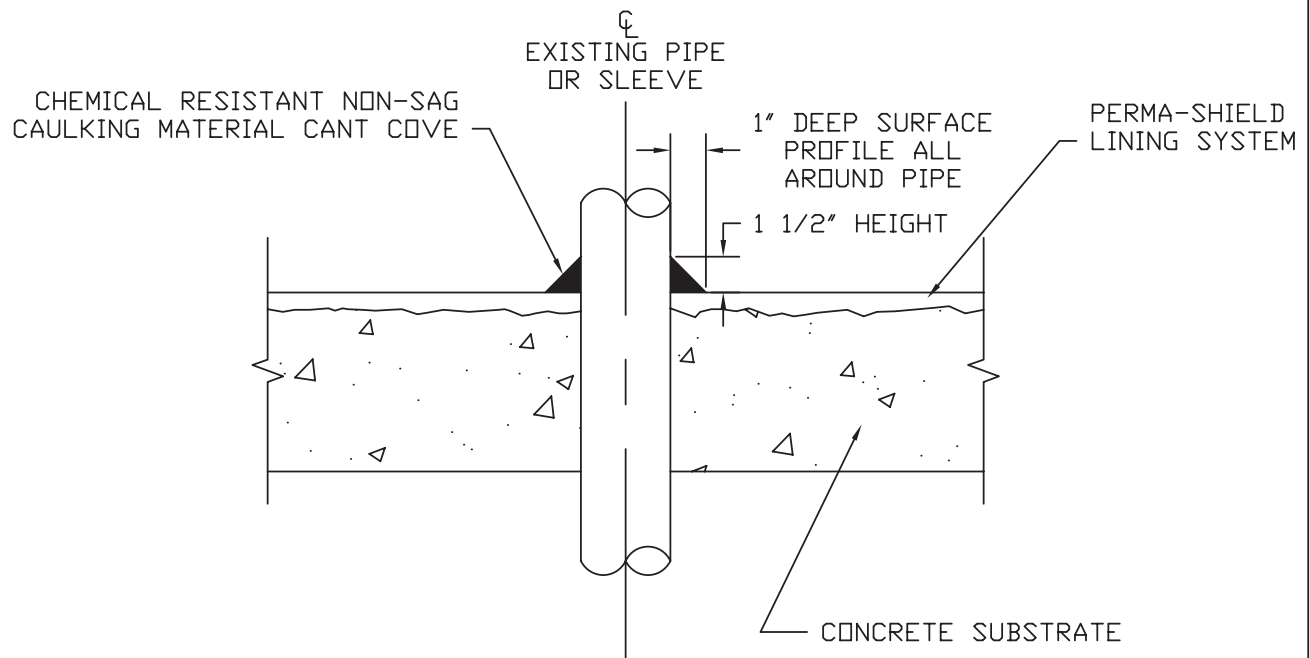
1. IF LINING IS TO BE CARRIED OVER METAL EMBEDMENT, SAWCUT TOE-IN
TERMINATION IS STILL REQUIRED.

TNEMEC PERMA-SHIELD STANDARD LINING DETAILS

TERMINATION DETAIL FOR
EMBEDDED METALS

DWG. NO. TLS-02

REV. 2



TYPICAL TERMINATION DETAIL AT PIPE PENETRATION

SCALE: NTS

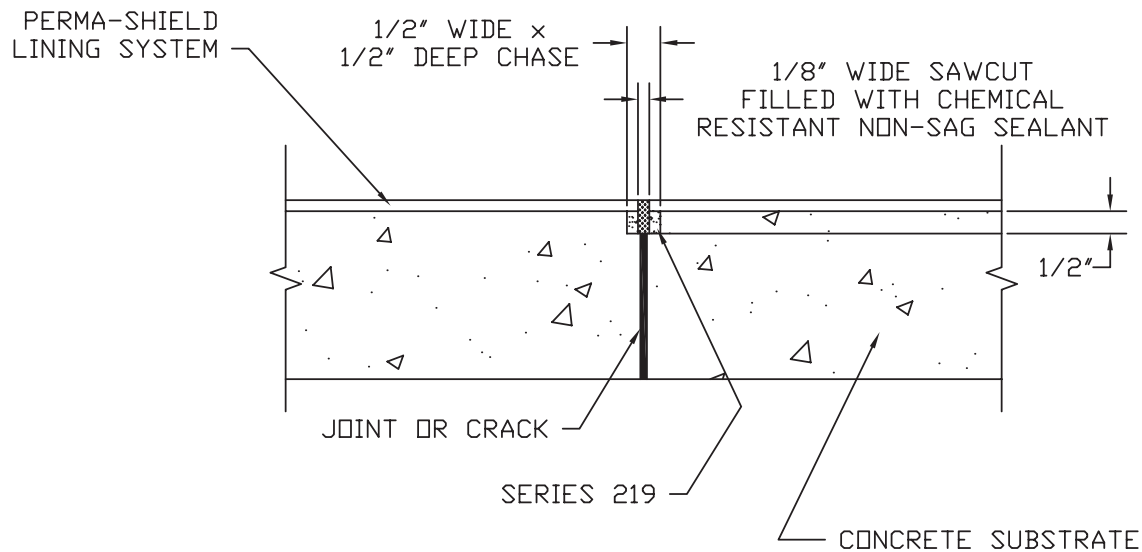
NOTE: ESTABLISH DEEPER SURFACE PROFILE 1" AROUND O.D. OF PIPE PENETRATION TO LOCK LINING SYSTEM INTO SUBSTRATE

TNEMEC PERMA-SHEILD STANDARD LINING DETAILS

SLEEVED OR NON-SLEEVED PIPE
PENETRATION

DWG. NO. TLS-03

REV. 2



PARTIAL VIEW OF STRUCTURE

SCALE: NTS

TYPICAL TERMINATION AT CONTROL OR
CONSTRUCTION JOINTS OR FOR CRACKS

NOTES:

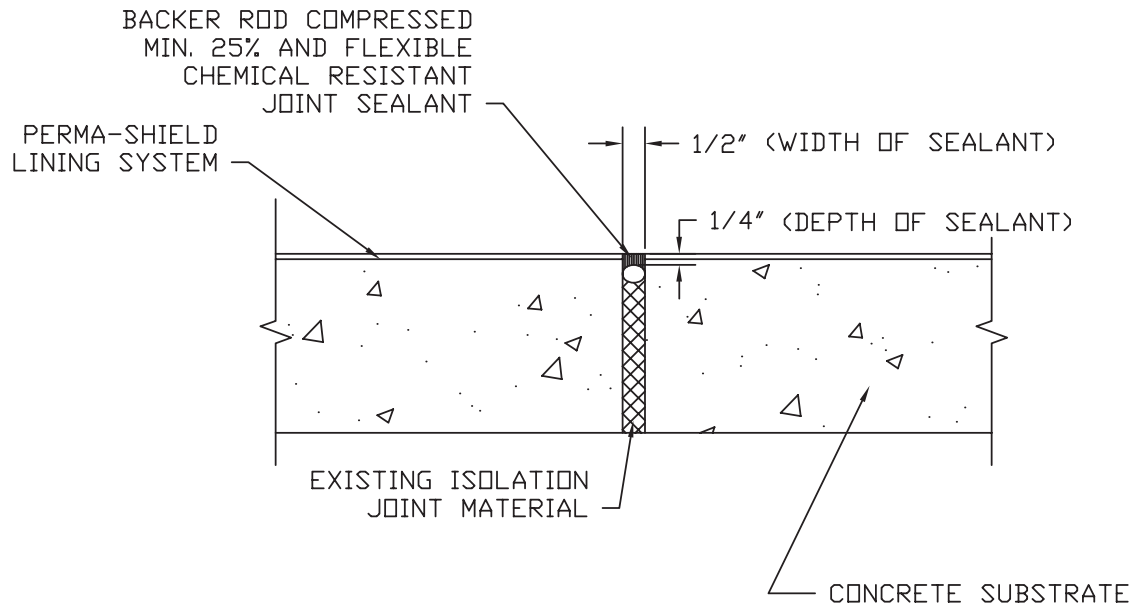
1. MAKE 1/2" x 1/2" CHASE DURING SURFACE PREPARATION OF OVERALL SUBSTRATE. MARK JOINT LOCATION WITH FINISH NAILS, EVERY 4 TO 6 FEET.
2. FILL CHASE WITH SERIES 219 AS SHOWN.
3. APPLY PERMA-SHIELD LINING SYSTEM AND ALLOW TO CURE
4. MAKE 1/8" WIDE SAWCUT DOWN TO JOINT AND VACUUM CLEAN.
5. INSTALL CHEMICAL RESISTANT NON-SAG SEALANT AS SHOWN.

TNEMEC PERMA-SHIELD STANDARD LINING DETAILS

CONTROL OR CONSTRUCTION JOINTS
OR FOR CRACKS

DWG. NO. TLS-04

REV. 2



TYPICAL EXPANSION JOINT DETAIL

SCALE: NTS

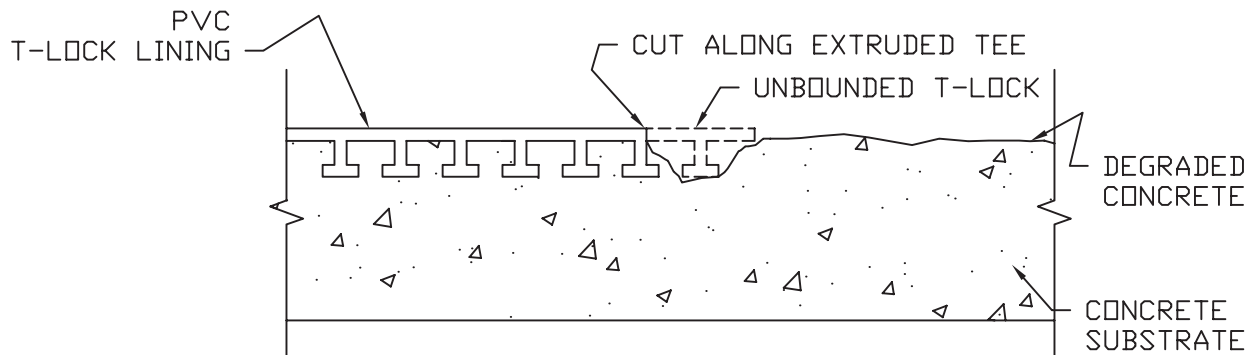
NOTE: FLEXIBLE JOINT SEALANT WIDTH TO DEPTH RATIO SHOWN APPROXIMATE 2:1 DETAIL CAN BE BUILT BY INSTALLING LINING SYSTEM OVER JOINT, RESAWCUTTING, AND INSTALLING BACKER ROD AND SEALANT.

TNEMEC PERMA-SHIELD STANDARD LINING DETAILS

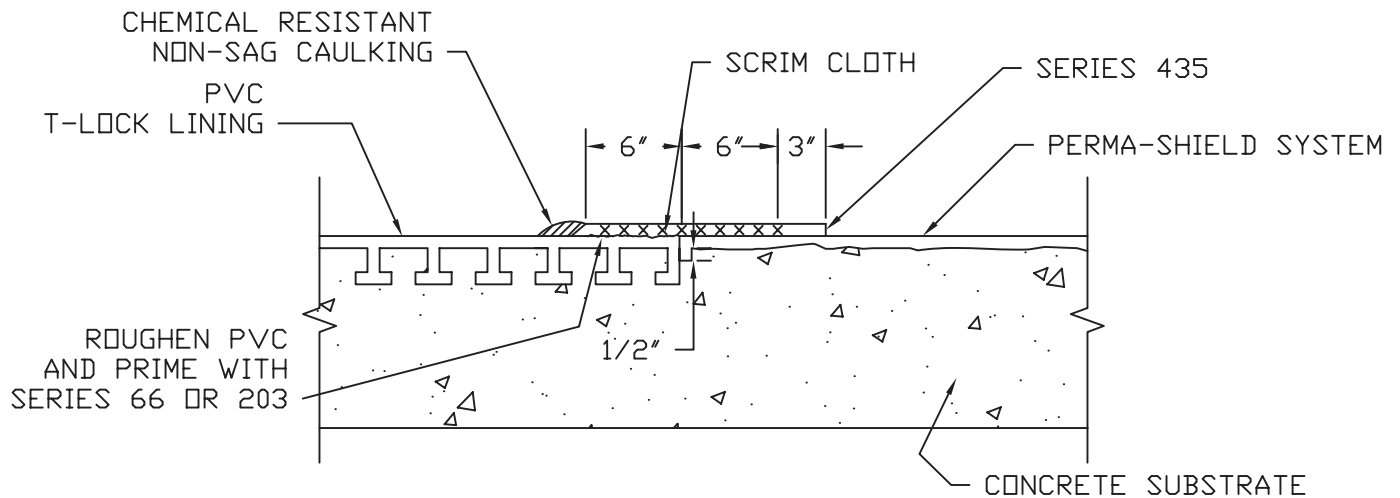
EXPANSION JOINT TREATMENT
DETAIL

DWG. NO. TLS-05

REV. 2



SECTION - EXISTING T-LOCK LINER



SECTION - TERMINATING SERIES 435 AT EXISTING T-LOCK
SCALE: NTS

NOTES:

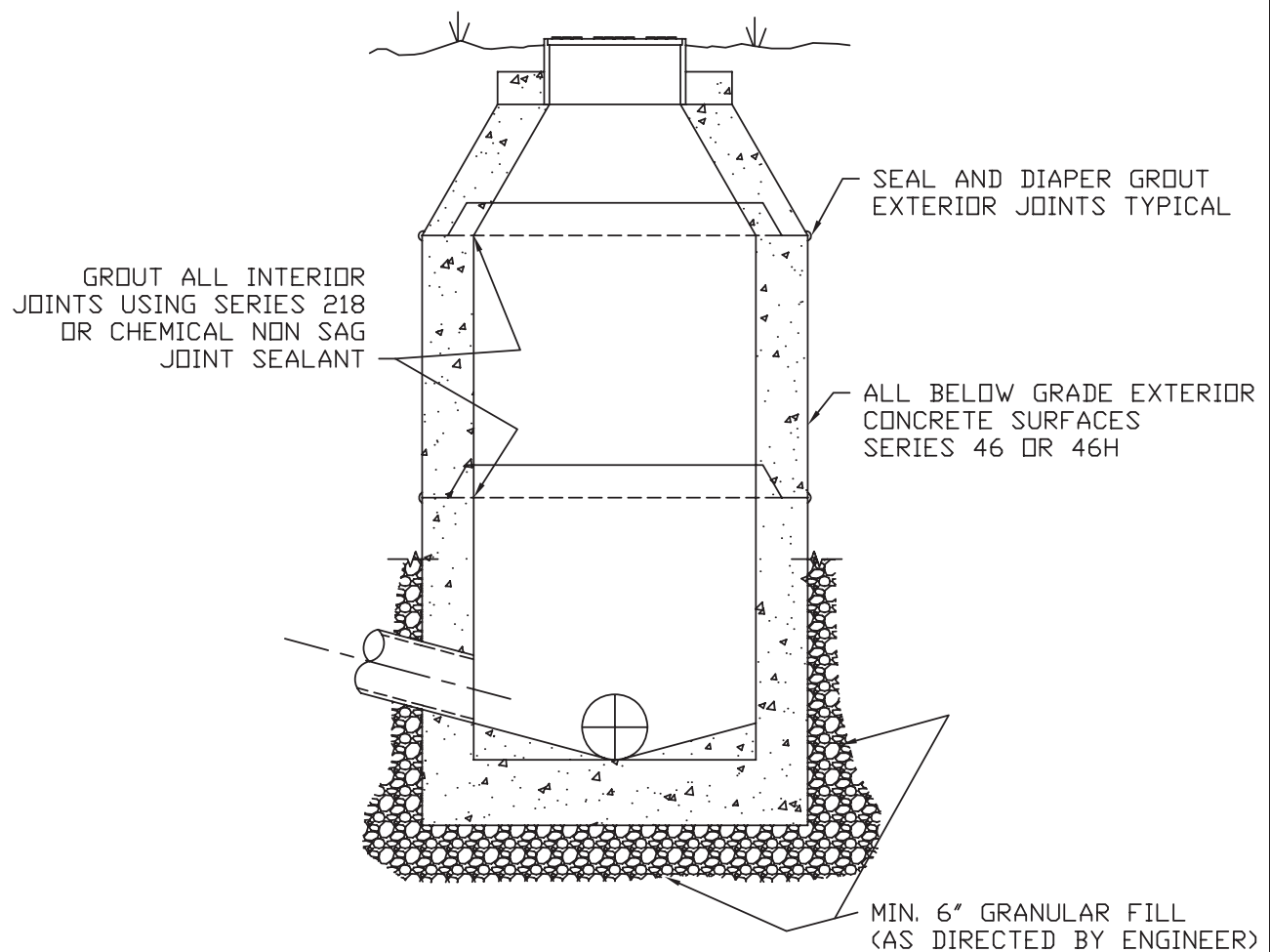
1. REMOVE UNBONDED PVC LINER AS DETAILED ABOVE.
2. SAW CUT A MINIMUM $\frac{1}{4}$ " WIDE X $\frac{1}{2}$ " DEEP TOE-IN ALONG EMBEDDED EXTRUDED PVC TEE.
3. APPLY PERMA-SHIELD SYSTEM AS PER LEADING EDGE TERMINATION DETAIL TLS-01
4. ROUGHEN PVC 6" ONTO PVC T-LOCK.
5. TAPE EDGE AT PVC FOR NEAT TRANSITION.
6. PRIME PVC WITH SERIES 66 OR 203
7. APPLY 10 MILS OF SERIES 435 AND PRESS VEIL CLOTH REINFORCEMENT INTO IT EXTENDING CLOTH 6" EACH WAY AS SHOWN.
8. APPLY ADDITIONAL 10 MILS SERIES 435 TO ENCAPSULATE VEIL CLOTH REINFORCEMENT.
9. TAPE EDGE AT PVC TO FORM NEAT TRANSITION.
10. APPLY A $\frac{1}{2}$ " BEAD OF CHEMICAL RESISTANT NON SAG CAULK MATERIAL ALONG TRANSITION AS SHOWN.

TNEMEC PERMA-SHIELD STANDARD LINING DETAILS

TERMINATION AT EXISTING T-LOCK
LINER

DWG. NO. TLS-06

REV. 2



TYPICAL DETAIL FOR NEW MANHOLE

SCALE: NTS

NOTES:

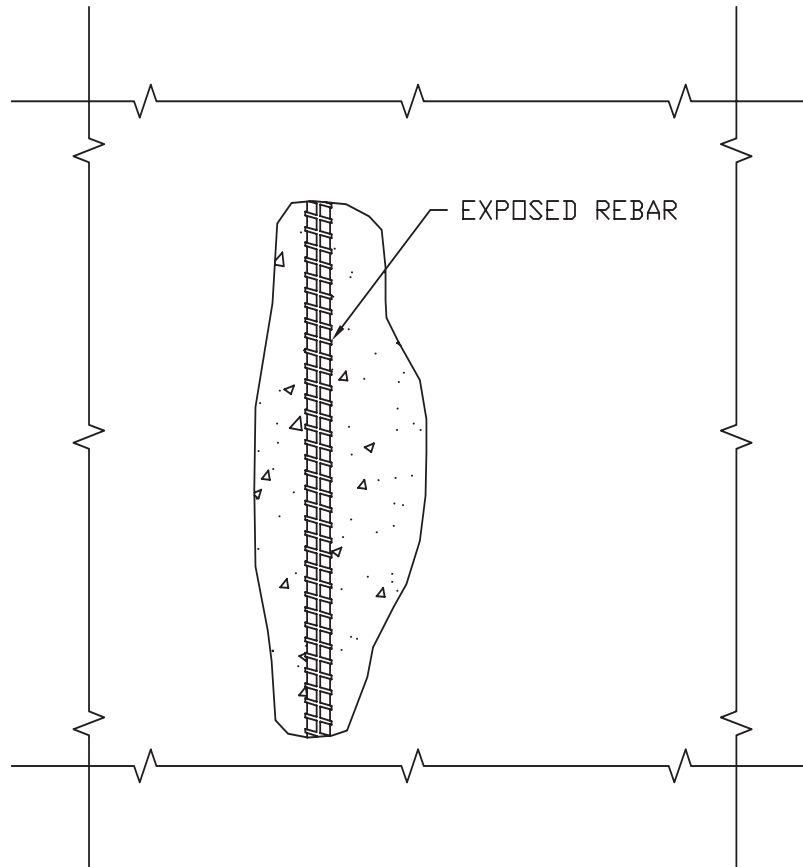
1. ALL EXTERIOR PRE-CAST OR CAST IN PLACE SECTIONS SHALL BE COATED WITH TWO COATS SERIES 46-465 OR 46H @ 8-10 MILS.
2. ALL EXTERIOR JOINTS, LIFT HOLES, INLETS AND OUTLETS TO BE SEALED AND GROUTED.
3. ALL INTERIOR CONCRETE SURFACES PREPARED TO A SSPC-SP13/NACE 6, >ICRI CSP 5.
4. ALL INTERIOR JOINTS, LIFT HOLES, INLETS AND OUTLETS TO BE GROUTED WITH SERIES 218 OR CHEMICAL NON SAG JOINT SEALANT..
5. APPLY APPLICABLE PERMA-SHIELD COATING SYSTEM.

TNEMEC PERMA-SHIELD STANDARD LINING DETAILS

NEW MANHOLE INSTALLATION

DWG. NO. TLS-08

REV. 1



TYPICAL DETAIL FOR EXPOSED REBAR REPAIR

SCALE: NTS

NOTES:

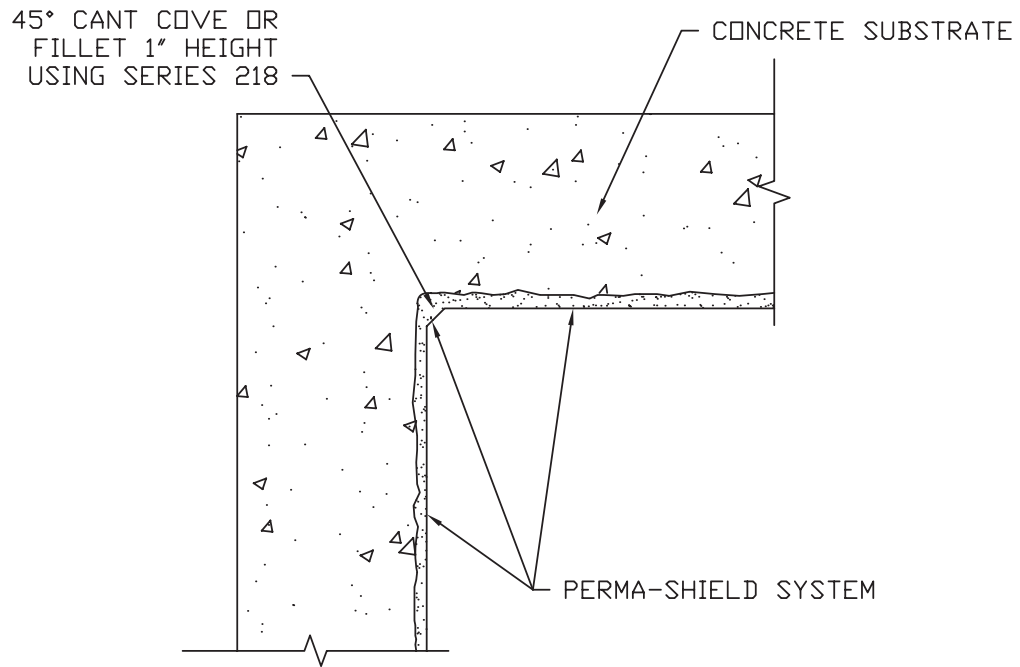
1. REMOVE DETERIORATED OR LOOSE CONCRETE SURROUNDING STEEL REINFORCING BAR (REBAR) INCLUDING $\frac{1}{2}$ " AROUND ENTIRE CIRCUMFERENCE OF REBAR.
2. ABRASIVE BLAST TO A SSPC-SP10/NACE NO.2 OR POWERTOOL CLEAN TO A SSPC-SP11.
3. APPLY 1 COAT OF SERIES 135 (OR SIMILAR).
4. BUILD SUBSTRATE USING SERIES 219 FLUSH WITH CONCRETE PLANE.

TNEMEC PERMA-SHIELD STANDARD LINING DETAILS

EXPOSED REBAR REPAIR

DWG. NO. TLS-09

REV. 1



SECTION – TYPICAL WALL TO SLAB OR CORNER WALL DETAIL

SCALE: NTS

NOTES:

1. SERIES 434 CAN BE USED IN LIEU OF SERIES 218 TO CREATE 1" CANT OR ROLLED RADIUS

TNEMEC PERMA-SHIELD STANDARD LINING DETAILS

WALL TO TOP SLAB TRANSITION

DWG. NO. TLS-10

REV. 0