

# CONCRETE RESTORATION AND REPAIRS

# HILLCREST 15 CONDOMINIUM

## BUILDING (B) 4800 LANE , HOLLYWOOD, FL-33021

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CONCRETE RESTORATION AND REPAIRS  
**HILLCREST 15 CONDOMINIUM**  
 4800 HILLCREST LANE HOLLYWOOD, FL 33021

Seal

FARRUKH SAYED  
PE# 64701

Date: 08/15/2023  
 Drawn BY: A.Z  
 Revised: FS  
 REVISIONS:

Job No.  
22158

Drawing No.

**S-1**

GENERAL NOTES	EPOXY APPLICATION	DEMOLITION NOTES	SCOPE OF WORK
<p>1. CONTRACTOR SHALL MAKE A SITE VISIT PRIOR TO SUBMITTING A BID FOR THE PROJECT. PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL VERIFY THE SITE EXISTING CONDITIONS.</p> <p>2. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS REQUIRED FOR RESTORATION.</p> <p>3. ALL WORK PERFORMED UNDER THE CONTRACT SHALL COMPLY WITH THE REQUIREMENTS OF THESE PLANS &amp; ACCOMPANYING PROJECT SPECIFICATIONS, &amp; ALL REFERENCES CITED WITHIN THE PROJECT SPECIFICATIONS. THE CONTRACT WITH THE OWNER SHALL GOVERN &amp; SUPERCEDE OVER REFERENCED SPECIFICATIONS. MEANS OF MEASUREMENT &amp; PAYMENT SHALL BE AS SET FORTH BY THE OWNER &amp; STATED IN THE CONTRACT.</p> <p>4. THESE NOTES ARE INTENDED TO ADD CLARIFICATION &amp; SUPPLEMENT PROJECT SPECIFICATIONS, &amp; ARE NOT INTENDED TO REPLACE SPECIFICATIONS. SEE PROJECT SPECIFICATIONS ADDITIONAL REQUIREMENTS TO THESE NOTES.</p> <p>5. ANY &amp; ALL SAFETY REGULATIONS ARE TO BE STRICTLY ADHERED TO. METHODS OF CONSTRUCTION &amp; INSTALLATION OF STRUCTURAL ELEMENTS &amp; CONSTRUCTION MATERIAL ARE THE RESPONSIBILITY OF THE CONTRACTOR.</p> <p>6. THE CONTRACTOR SHALL MAINTAIN A CLEAN &amp; SAFE JOB SITE. DEMOLISHED MATERIALS &amp; CONSTRUCTION-GENERATED DEBRIS SHALL BE REMOVED DAILY. DISPOSAL OF SAID MATERIALS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CONSTRUCTION DEBRIS SHALL BE DISPOSED OF IN AN APPROVED SANITARY LANDFILL.</p> <p>7. AS PART OF PERMIT CONDITIONS, THE CONTRACTOR MAY BE REQUIRED TO EMPLOY CONSTRUCTION DEBRIS CONTROL MEASURES SUCH AS FENCES &amp; OTHER DEVICES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEAN-UP OF ANY PROJECT-GENERATED DEBRIS LOCATED OUTSIDE THE IMMEDIATE WORK AREA.</p> <p>8. THE CONTRACTOR SHALL ABIDE BY ALL APPLICABLE LOCAL, STATE, AND FEDERAL ENVIRONMENTAL PROTECTION STANDARDS, LAWS, &amp; REGULATIONS.</p> <p>9. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REPORT IMMEDIATELY TO THE ENGINEER ANY &amp; ALL UNEXPECTED OBSTACLES, OBSTRUCTIONS, DEBRIS, CONDUITS, CABLES, PIPELINES, TANKS, OR ARTIFACTS UNEARTHED DURING CONSTRUCTION.</p> <p>10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR BRINGING ALL FACETS OF THE PROJECT IN COMPLIANCE WITH &amp; IN CONFORMANCE WITH THESE PLANS &amp; SPECIFICATIONS. IF ANY MODIFICATIONS TO THE PLAN IS DEEMED NECESSARY BY THE CONTRACTOR, THE CONTRACTOR SHALL SUBMIT PROPOSED CHANGES IN WRITING TO THE ENGINEER FOR APPROVAL.</p> <p>11. THE CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES IN THE AREA OF CONSTRUCTION PRIOR TO COMMENCING WITH CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER IN THE EVENT PROJECT ELEMENTS CONFLICT WITH UTILITIES.</p> <p>12. THE CONTRACTOR SHALL REMOVE ALL CONSTRUCTION EQUIPMENT, STAGING, FALLSWORKS, &amp; OTHER TEMPORARY STRUCTURES AT THE COMPLETION OF THE PROJECT.</p> <p>13. IF DURING PROJECT CONSTRUCTION ANY DAMAGE TO STATE, COUNTY, OR LOCAL INFRASTRUCTURE INCLUDING, BUT NOT LIMITED TO ROADS, SIDEWALKS, &amp; UTILITIES IS CAUSED BY CONSTRUCTION ACTIVITIES RELATED TO THIS PROJECT, REPAIRS SHALL BE MADE BY THE CONTRACTOR &amp; APPROVED BY THE ENGINEER.</p> <p>14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADHERING TO ALL CONDITIONS OF ENVIRONMENTAL &amp; BUILDING PERMITS CONDITIONS &amp; COMPLYING TO REQUITE REPORTING REQUIREMENTS.</p> <p>15. CONTRACTOR SHALL NOT IMPEDE OR INTERRUPT MARINE ACTIVITIES ALONG THE BAY WATERWAY.</p>	<p>ASTM C881 - CIVIL ENGINEERING APPLICATIONS</p> <p>"STANDARD SPECIFICATION FOR EPOXY-RESIN BASED BONDING SYSTEMS FOR CONCRETE"</p> <p>REPLACE OR REPAIR? A RESTORATION PROJECT PROPERLY EXECUTED AND USING THE CORRECT REPAIR PRODUCTS CAN ADD YEARS TO THE SERVICE LIFE OF A STRUCTURE. THE COST TO PROPERLY REPAIR A STRUCTURE IS OFTEN SIGNIFICANTLY LESS THAN THE COST OF REPLACEMENT OR FURTHER DETERIORATION. HOWEVER, A POORLY DESIGNED REPAIR PROJECT USING THE WRONG PRODUCTS CAN RESULT IN A CONTINUING, EXPENSIVE HEADACHE. THE AMERICAN SOCIETY FOR TESTING AND MATERIALS DEVELOPED ASTM C881 TO ASSIST ENGINEERS, ARCHITECTS AND CONTRACTORS SELECT RESIN SYSTEMS BEST SUITED FOR A PARTICULAR APPLICATION.</p> <p>THIS SPECIFICATION DEFINES A CLASSIFICATION SYSTEM FOR EPOXY RESINS AND IS ROUTINELY REFERENCED IN CIVIL ENGINEERING PROJECTS. SEVEN TYPES ARE LISTED, BASED ON APPLICATION AND PHYSICAL PROPERTIES SUCH AS COMPRESSIVE STRENGTH, MODULUS AND BOND STRENGTH. FOR EACH TYPE OF EPOXY SYSTEM, THE SPECIFICATION DESCRIBES THREE GRADES ACCORDING TO VISCOSITY AND SAG RESISTANCE.</p> <p style="padding-left: 40px;">GRADE 1: LOW VISCOSITY (2,000 CPS MAX.)</p> <p style="padding-left: 40px;">GRADE 2: MEDIUM VISCOSITY (2,000 – 10,000 CPS)</p> <p style="padding-left: 40px;">GRADE 3: NON-SAG (1/4" SAG RESISTANCE)</p> <p>THE EPOXY SYSTEMS ARE FURTHER CHARACTERIZED BY CLASS, WHICH INDICATES THE TEMPERATURE RANGE IN WHICH THE EPOXY CAN BE APPLIED. AS AN EXAMPLE, CLASS A PRODUCTS ARE DESIGNED FOR USE BELOW 40 DEGREES F., CLASS B PRODUCTS ARE FOR USE BETWEEN 40-60 DEGREES F., AND CLASS C PRODUCTS ARE FOR USE ABOVE 60 DEGREES F.</p> <p>EPOXY CHEMICALS, INC. PROVIDES EPOXY CURING AGENTS USED TO FORMULATE THE TYPES, GRADES AND CLASSES COMMONLY USED IN CIVIL ENGINEERING APPLICATIONS. EPOXY CHEMICALS AMINE CURING AGENTS, A-6 POLYAMINE, FB-31 POLYAMINE, AND FS-290 POLYAMINE, ARE USED IN THE FORMULATION OF THE FOLLOWING ASTM C881 EPOXIES:</p> <p style="padding-left: 40px;">TYPE I – BONDING HARDENED CONCRETE TO HARDENED CONCRETE (NON-LOAD BEARING).</p> <p style="padding-left: 40px;">TYPE II – BONDING FRESH CONCRETE TO HARDENED CONCRETE (NON-LOAD BEARING)</p> <p style="padding-left: 40px;">TYPE III – BONDING SKID RESISTANT MATERIALS TO HARDENED CONCRETE (LOW MODULUS)</p> <p style="padding-left: 40px;">TYPE IV – BONDING HARDENED CONCRETE TO HARDENED CONCRETE (LOAD BEARING)</p> <p style="padding-left: 40px;">TYPE V – BONDING FRESH CONCRETE TO HARDENED CONCRETE (LOAD BEARING)</p> <p style="padding-left: 40px;">TYPE VI – BONDING AND SEALING SEGMENTAL PRE-CAST ELEMENTS WITH INTERNAL TENDONS AND SPAN BY SPAN ERECTION.</p> <p style="padding-left: 40px;">TYPE VII – SEALING SEGMENTAL PRE-CAST ELEMENTS.</p> <p>STRUCTURAL EPOXY GENERAL NOTES</p> <ul style="list-style-type: none"> <li>- THE CONCRETE TO BE USED FOR THE REPAIRS THAT HAS A 28-DAY CONCRETE COMPRESSIVE STRENGTH OF 6000 PSI.</li> <li>- THE CRACKS SHALL BE EPOXY-INJECTED IN ACCORDANCE WITH INDUSTRY STANDARDS USING EPOXY CRACK SEALER, INJECTION PORTS, AND INJECTABLE GRADE EPOXY IN CONFORMANCE WITH ASTM C-881 STANDARDS FOR STRUCTURAL GRADE EPOXIES.</li> <li>- REINFORCING STEEL SHOULD BE GRADE 60, WITH A TENSILE STRENGTH OF ATLEAST 60KSI, MEETING OR EXCEEDING ASTM A615.</li> <li>- THE EPOXY ADHESIVE USED TO SECURE REINFORCING STEEL DOWELS SHALL BE A STRUCTURAL GRADE ADHESIVE MEETING ASTM C881 REQUIREMENTS.</li> <li>- THE EXISTING FACES THAT WILL BE IN PERMANENT CONTACT WITH THE NEW REPAIR CONCRETE SHALL BE ROUGHENED TO AN AMPLITUDE OF 1/4" AND CLEANED IN ORDER TO PROVIDE OPTIMAL SURFACES FOR BONDING NEW CONCRETE TO OLD CONCRETE.</li> <li>- CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF ATLEAST 6000 PSI WITH A WATER CEMENT RATIO OF 0.40 OR LESS. CONCRETE CYLINDER TESTING SHALL BE PROVIDED TO CONFIRM THAT THE IN SITU STRENGTH MEETS THE REQUIREMENT HEREIN.</li> </ul>	<p>1. DO NOT SAW CUT ANY STRUCTURAL COMPONENT OF OR DO ANY WORK THAT MAY IN ANY MANNER DIMINISH THE STRUCTURAL INTEGRITY OF THE EXISTING BEAMS, JOISTS, COLUMNS, OR CONC. SLABS; OR THE BUILDING IN GENERAL.</p> <p>2. THE DEMOLITION INDICATED IS INTENDED TO SHOW THE GENERAL SCOPE OF DEMOLITION WORK &amp; IS DIAGRAMMATIC IN NATURE. G.C. TO PERFORM ALL WORK REQUIRED FOR THE SATISFACTORY COMPLETION OF THE INTENT OF THE SCOPE OF WORK INDICATED IN THE DRAWINGS. THE INTENT OF THE DRAWINGS IS TO COMPLETE ALL DEMOLITION AS REQUIRED TO COMPLETE THE PROPOSED NEW CONSTRUCTION &amp; THE G.C. SHALL BE RESPONSIBLE FOR SUCH.</p> <p>3. THE CODES HAVING JURISDICTION SHALL BE OBSERVED STRICTLY IN THE DEMOLITION ON THE PROJECT, INCLUDING ALL APPLICABLE STATE, CITY, COUNTY BUILDING, ZONING, ELECTRICAL, MECHANICAL, PLUMBING, LIFE SAFETY AND FIRE CODES. CONTRACTOR SHALL VERIFY ALL CODE REQUIREMENTS &amp; THE DEMOLITION DOCUMENTS &amp; BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT.</p> <p>4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED DEMOLITION &amp; TRADE PERMITS &amp; THEIR RESPECTIVE COSTS.</p> <p>5. THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO DEMOLITION &amp;/OR CONTRACT NEGOTIATIONS &amp; SHALL VERIFY EXISTING CONDITIONS WITH THE DEMOLITION DOCUMENTS. DISCREPANCIES BETWEEN DEMOLITION DOCUMENTS (&amp; THEIR INTENT) SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR CLARIFICATION. BIDS SHALL NOT BE SUBMITTED OR CONTRACTS NEGOTIATED BY THE CONTRACTOR PRIOR TO CLARIFICATION OF THE INTENT OF THE DEMOLITION DOCUMENTS WHERE SUCH INTENT IS IN DOUBT.</p> <p>6. THE CONTRACTOR SHALL MAINTAIN THE PREMISE CLEAN &amp; FREE OF TRASH DEBRIS &amp; SHALL PROTECT ALL ADJACENT WORK FROM DAMAGE, SOILING, ETC. ALL REMAINING FACILITIES SHALL BE LEFT CLEAN &amp; READY FOR CONSTRUCTION UPON COMPLETION OF DEMOLITION.</p> <p>7. SHUTOFF, CAP &amp; OTHERWISE PROTECT PUBLIC UTILITY LINES IN ACCORDANCE WITH THE REQUIREMENTS OF THE PUBLIC AGENCY OR UTILITY HAVING JURISDICTION.</p> <p>8. USE THE MEANS NECESSARY TO PREVENT DUST FROM BECOMING A NUISANCE.</p> <p>9. G.C. TO PATCH &amp; REPAIR GWB AT ALL LOCATIONS WHERE THE EXISTING SURFACE IS NOT STRAIGHT &amp; TRUE.</p> <p>10. ALL AREAS AFFECTED / DAMAGED BY ANY DEMO WORK SHALL BE REPAIRED TO LIKE NEW CONDITION BY THE G.C.</p>	<ol style="list-style-type: none"> <li>1. SECURE THE AREA AS PER THE INSTRUCTIONS OF REGULATORY AGENCIES.</li> <li>2. PERFORM DEMOLITION ON PORTION OF THE COMPONENTS TO REPAIR OR REBUILD AS PER ENGINEER ON RECORD'S INSTRUCTIONS.</li> <li>3. PERFORM REPAIRS AS PER THE SPECIFICATIONS TO THE BUILDINGS COMPONENTS.</li> <li>4. REPAIR THE CRACKS AND DETERIORATED CONCRETE.</li> <li>5. FINISH TO MATCH EXISTING FINISH ON THE REPAIRED AREAS.</li> <li>6. PAINT THE REPAIRED AREAS.</li> <li>7. CLEAN THE AREA AND HALLWAY DEBRIS.</li> </ol>
<b>TYPICAL CRACK REPAIR</b>		<b>TYPICAL SPALLED CONCRETE REPAIR</b>	<b>LOCATION MAP</b>
<p>CRACKS SHALL BE CLEANED TO PROVIDE FOR GOOD ADHESION OF THE EPOXY</p> <p>HOLES SHALL BE DRILLED ALL ALONG THE CRACKS AT A SPACING NOT TO EXCEED 6" ON CENTER.</p> <p>AFTER HOLES HAVE BEEN DRILLED THEY SHALL BE THOROUGHLY CLEANED TO REMOVE ALL DEBRIS, DUST AND LAITANCE.</p> <p>THE CRACKS SHALL BE SEALED ALL ALONG THEIR LENGTHS USING AN EPOXY WITH A GEL OR PASTE CONSISTENCY.</p> <p>THE INJECTION PORTS SHALL BE SEALED ALL AROUND USING THE SAME EPOXY PASTE MATERIAL.</p> <p>AFTER ALLOWING THE EPOXY PASTE SEALANT TO CURE FOR 24 HOURS THE LOW VISCOSITY EPOXY SHALL BE INJECTED THROUGH THE PORTS ONE AT A TIME. EPOXY SHALL BE INJECTED INTO ONE PORT UNTIL EPOXY IS SEEN EXISTING THE NEXT ADJACENT PORT. AT SUCH TIME THE PORT HAVING JUST BEEN USED SHALL BE CAPPED AND EPOXY SHALL BE INJECTED THROUGH THE NEXT PORT. THIS SEQUENCE SHALL BE REPEATED UNTIL ALL PORTS HAVE BEEN USED AND CAPPED ALONG EACH CRACK.</p> <p>AFTER ALLOWING THE INJECTED EPOXY TO CURE FOR 24 HOURS THE PASTE EPOXY SHALL BE SEALED GROUND FLUSH WITH THE CRACK FACE.</p>	<b>STRUCTURAL DESIGN CRITERIA &amp; CODES</b>	<p>SC-1 THE CONTRACTOR SHALL LOCATE ALL SPALLS AS PER PLANS &amp; LOCATE ANY OTHER SPALLS ADJACENT TO THE ONES SHOWN ON PLAN BY SOUNDING THE CONCRETE SURFACES USING A HAMMER. SUSPECTED AREAS OF DELAMINATION SHALL BE MARKED WITH CHALK OR PAINT.</p> <p>SC-2 DELAMINATED, SPALLED, &amp; UNSOUND CONCRETE AREAS SHALL HAVE THEIR MARKED BOUNDARIES SAW-CUT TO A MINIMUM DEPTH OF 3/4" INTO THE CONCRETE SURFACE. ALL EDGES SHALL BE STRAIGHT &amp; PATCHED AREAS ARE TO BE AS SQUARE &amp; RECTANGULAR AS POSSIBLE.</p> <p>SC-3 CONCRETE SHALL BE REMOVED USING A 15# CHIPPING HAMMER.</p> <p>SC-4 WHERE REINFORCEMENT IS EXPOSED BY CONCRETE REMOVAL, EXTRA CAUTION SHALL BE EXERCISED TO AVOID DAMAGING DURING REMOVAL OF ADDITIONAL UNSOUND CONCRETE.</p> <p>SC-5 IF SCALE IS PRESENT ON REINFORCEMENT, ADDITIONAL CONCRETE SHALL BE REMOVED UNTIL CLEAN, SOUND REINFORCEMENT IS FOUND.</p> <p>SC-6 UPON REMOVAL OF ALL DAMAGED CONCRETE, &amp; PRIOR TO STARTING REPAIR, A REVIEW BY THE ENGINEER OF RECORD SHALL BE CONDUCTED.</p> <p>SC-7 ALL EXPOSED CONCRETE &amp; STEEL SHALL BE WIRE BRUSHED &amp; CLEANED &amp; TREATED WITH SIKA "ARMATEC" 110 EPOCEM.</p> <p>SC-8 THE CUT AREA OF THE CONCRETE SHALL BE CLEAN &amp; DRY PRIOR TO COMMENCEMENT OF PATCHING</p> <p>SC-9 REPAIRS FOR SPALLS :</p> <p>THE EXISTING CONCRETE SURFACE IS TO BE PREPARED IN A SATURATED, SURFACE DRY CONDITION JUST PRIOR TO PLACEMENT OF THE REPAIR MORTAR.</p> <p>THE MIXED "SIKATOP 123" PLUS MORTAR MUST BE WORKED WELL WITH THE CONCRETE SURFACE FILLING ALL PORES &amp; VOIDS. FORCE MATERIAL AGAINST CONCRETE SURFACE FILLING ALL PORES &amp; VOIDS. FORCE MATERIAL AGAINST EDGE OF REPAIR, WORKING TOWARD CENTER. THOROUGHLY COMPACT THE MORTAR AROUND EXPOSED REINFORCEMENT. WHEN MULTIPLE LIFTS ARE REQUIRED (APPLICATION THICKNESS MAXIMUM 3" PER LIFT) SCORE TOP SURFACE ON EACH LIFT TO PRODUCE A ROUGHENED SUBSTRATE FOR NEXT LIFT. ALLOW PRECEDING LIFT TO HARDEN BEFORE APPLYING FRESH MATERIAL. SATURATE SURFACE OF THE LIFT WITH CLEAN WATER. IF PREVIOUS LAYERS ARE OVER 48 HOURS OLD, MECHANICALLY PREPARE THE SUBSTRATE. DAMPEN &amp; APPLY BONDING AGENT OR SCRUB COAT PRIOR TO THE NEXT APPLICATION OF MORTAR.</p>	
<b>EPOXY MATERIAL REQUIREMENTS</b>	<b>DIMENSIONS</b>	<b>DRAWING INDEX</b>	
<p>FOR EPOXY GEL, REQUIRED FOR SEALING THE CRACKS PRIOR TO EPOXY INJECTION, THE FOLLOWING MATERIAL SHALL BE USED:</p> <p>SIKADUR 23, LO-MOD GEL, MANUFACTURED BY SIKA CORPORATION</p> <p>FOR THE EPOXY TO BE INJECTED AS PART OF THE EPOXY INJECTION THE FOLLOWING MATERIAL SHALL BE USED:</p> <p>SIKADUR 35, HI-MOD LV, MANUFACTURED BY SIKA CORPORATION</p>	<p>CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION AND/OR ORDERING MATERIAL. IN CASE OF ANY DISCREPANCY NOTIFY THE ENGINEER OF RECORD.</p>	<p>S-1 GENERAL NOTES &amp; LOCATION PLAN</p> <p>S-2 SITE PLAN</p> <p>S-3 REPAIR DETAILS</p> <p>S-4 REPAIR DETAILS</p> <p>S-5 BUILDING ELEVATIONS AND AREA OF WORK</p> <p>S-6 POST SHORING SYSTEM DETAILS AND NOTES</p> <p>S-7 FIRE SAFETY PLAN</p>	

SITE PLAN - HILCREST 15 CONDOMINIUM  
SCALE: N.T.S



Area of work

CONCRETE RESTORATION AND REPAIRS  
**HILLCREST 15 CONDOMINIUM**  
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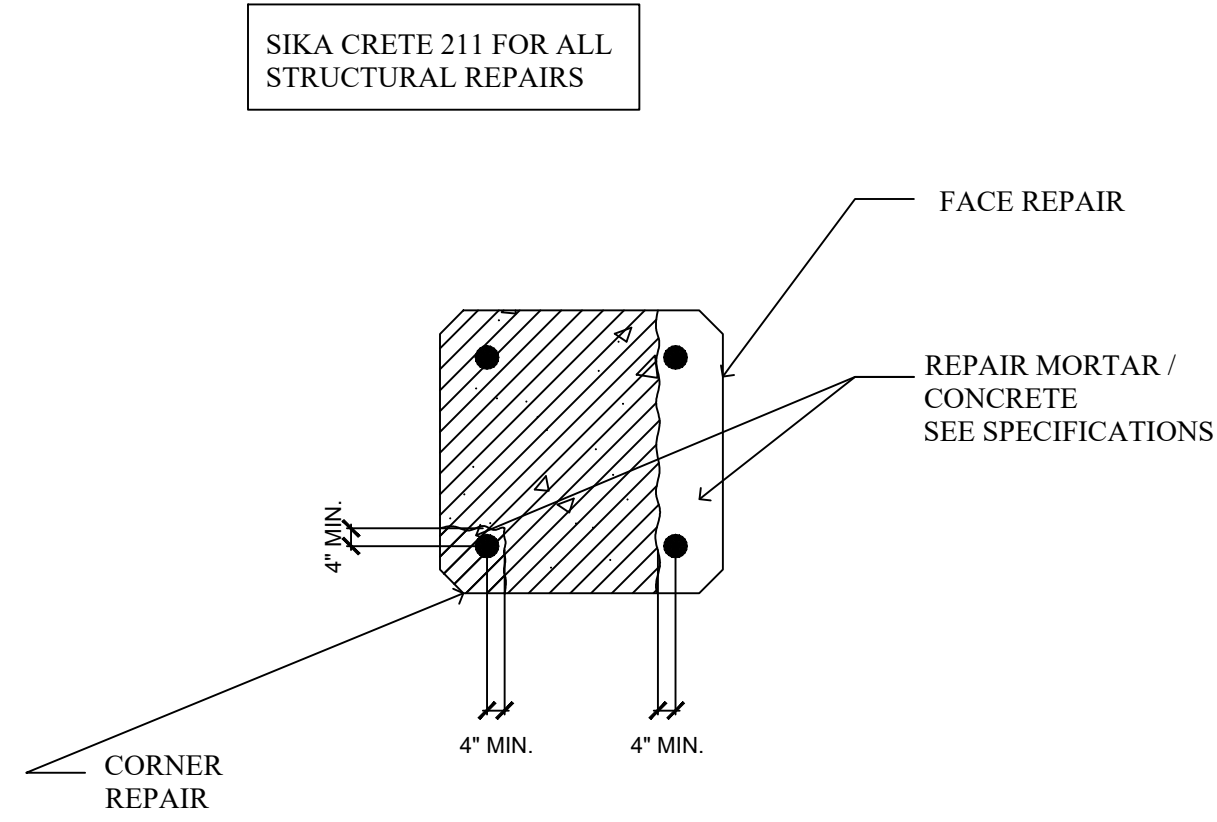
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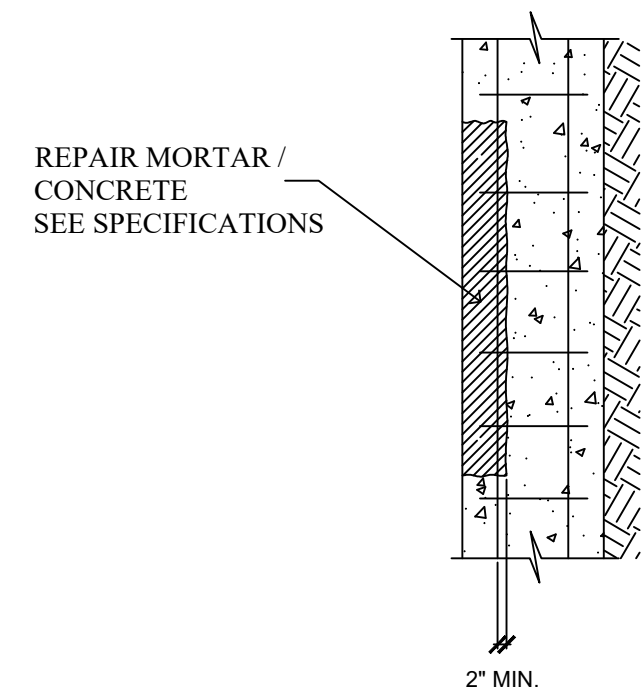
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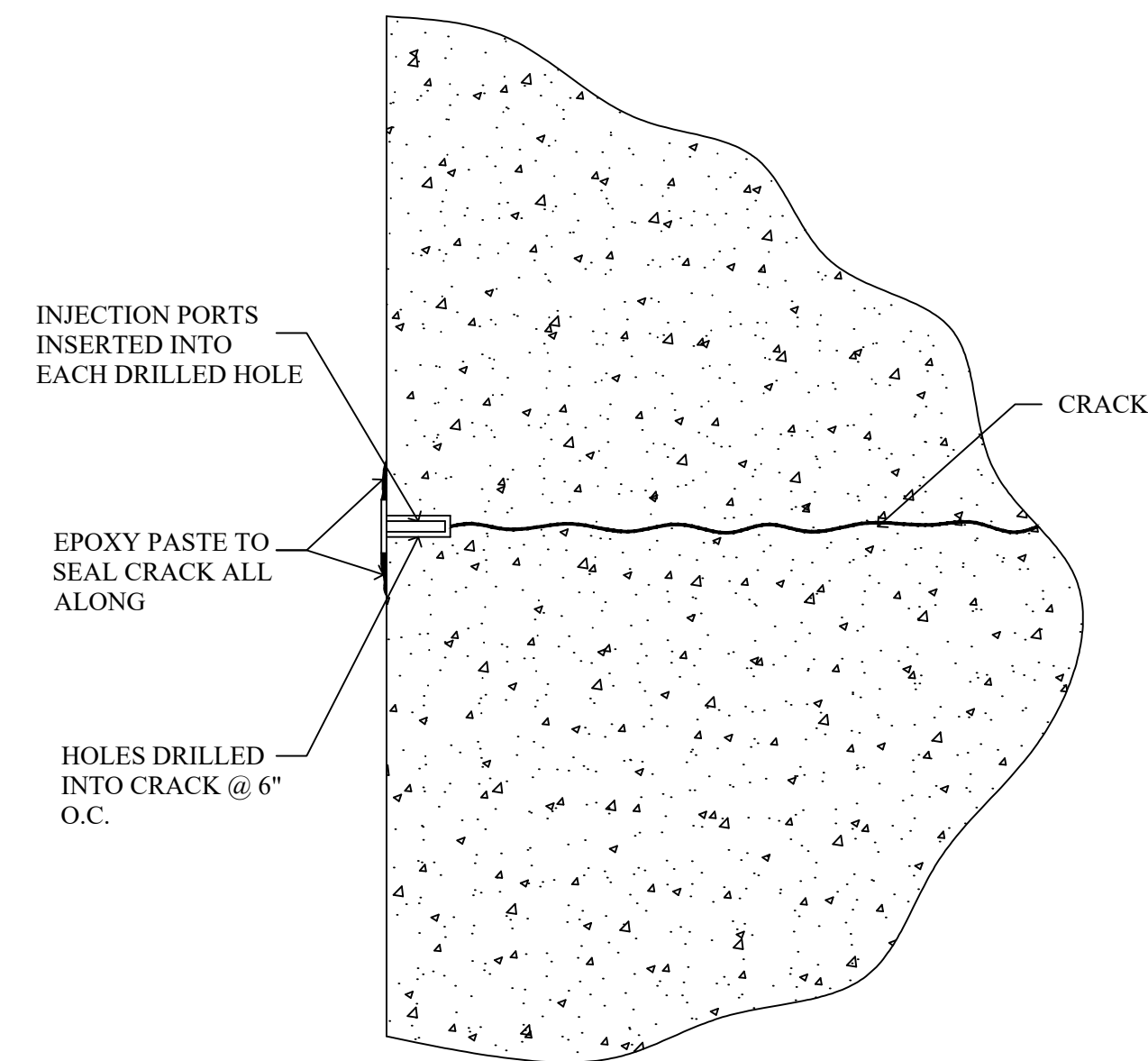
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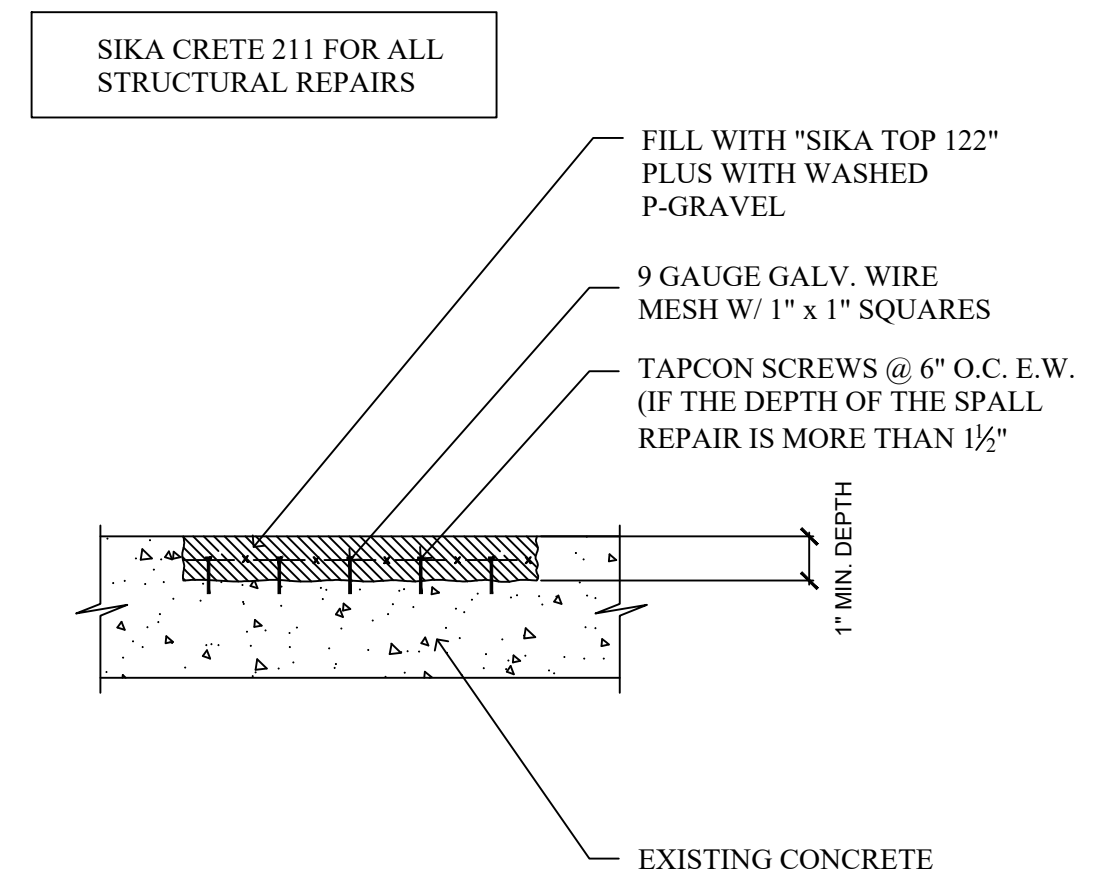
1 TYPICAL COLUMN REPAIR DETAIL  
SCALE: NTS



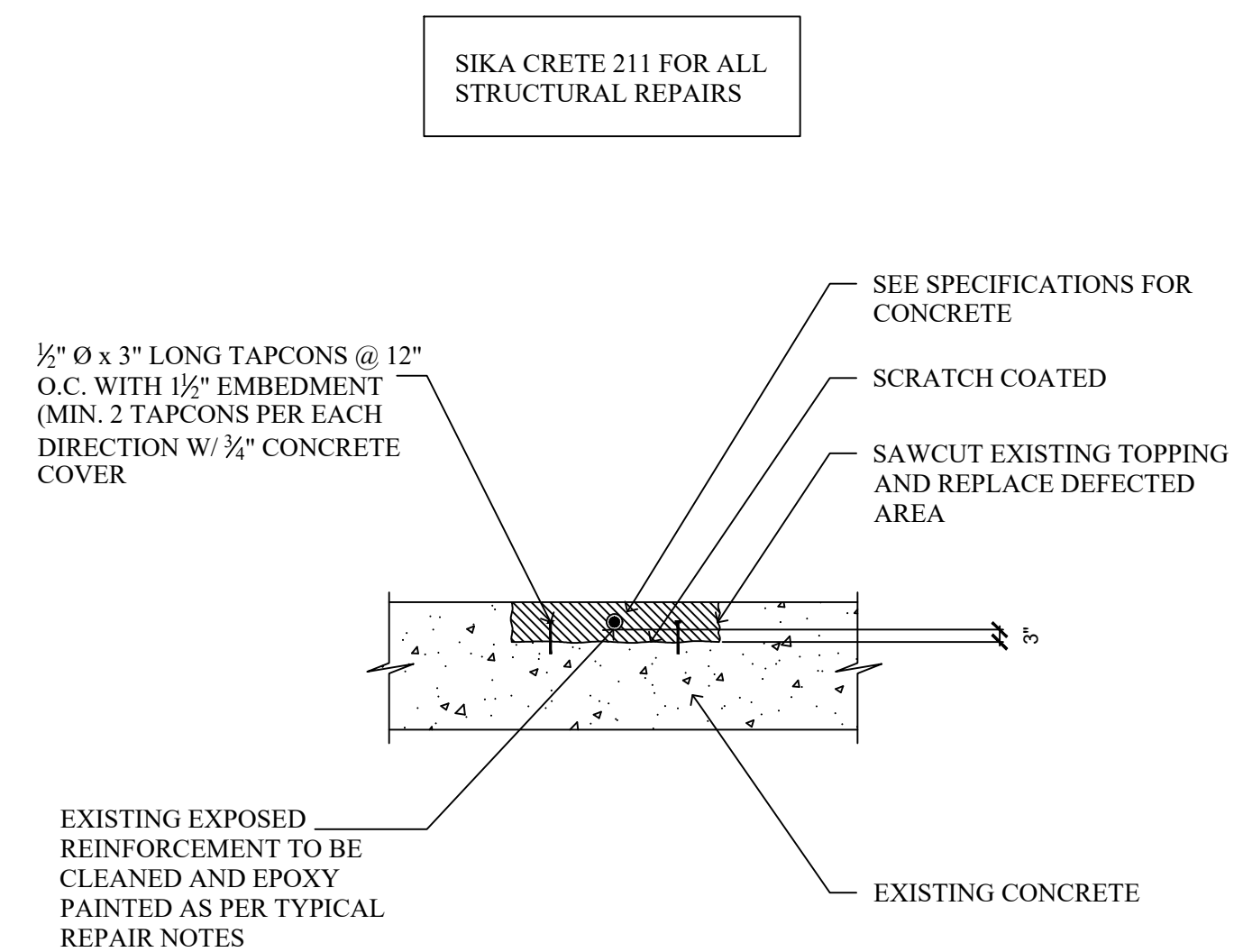
2 TYPICAL COLUMN REPAIR DETAIL  
SCALE: NTS



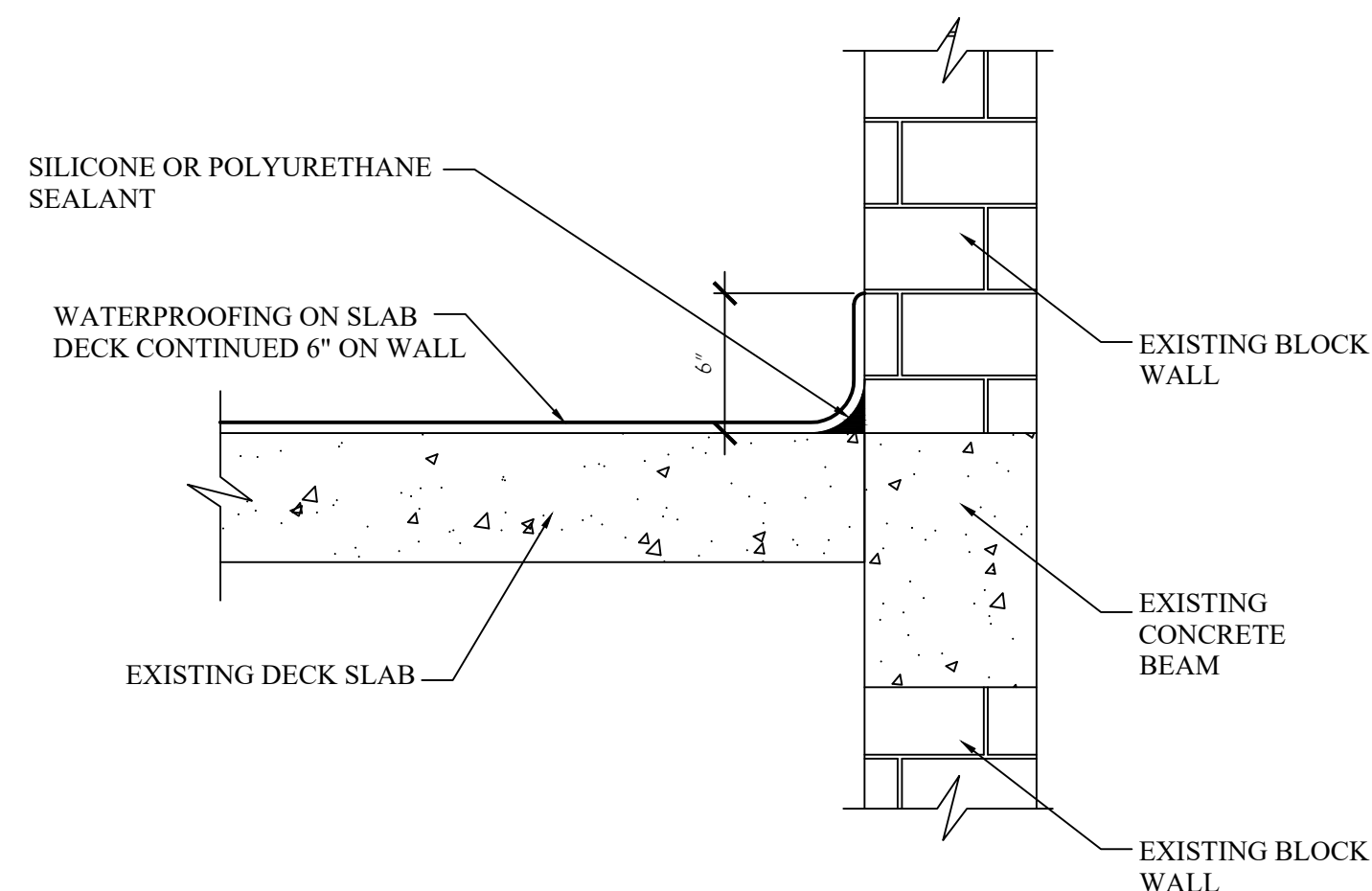
3 EPOXY INJECTION DETAIL  
SCALE: NTS



4 TYP. PARTIAL DEPTH SLAB REPAIR DETAIL  
SCALE: NTS



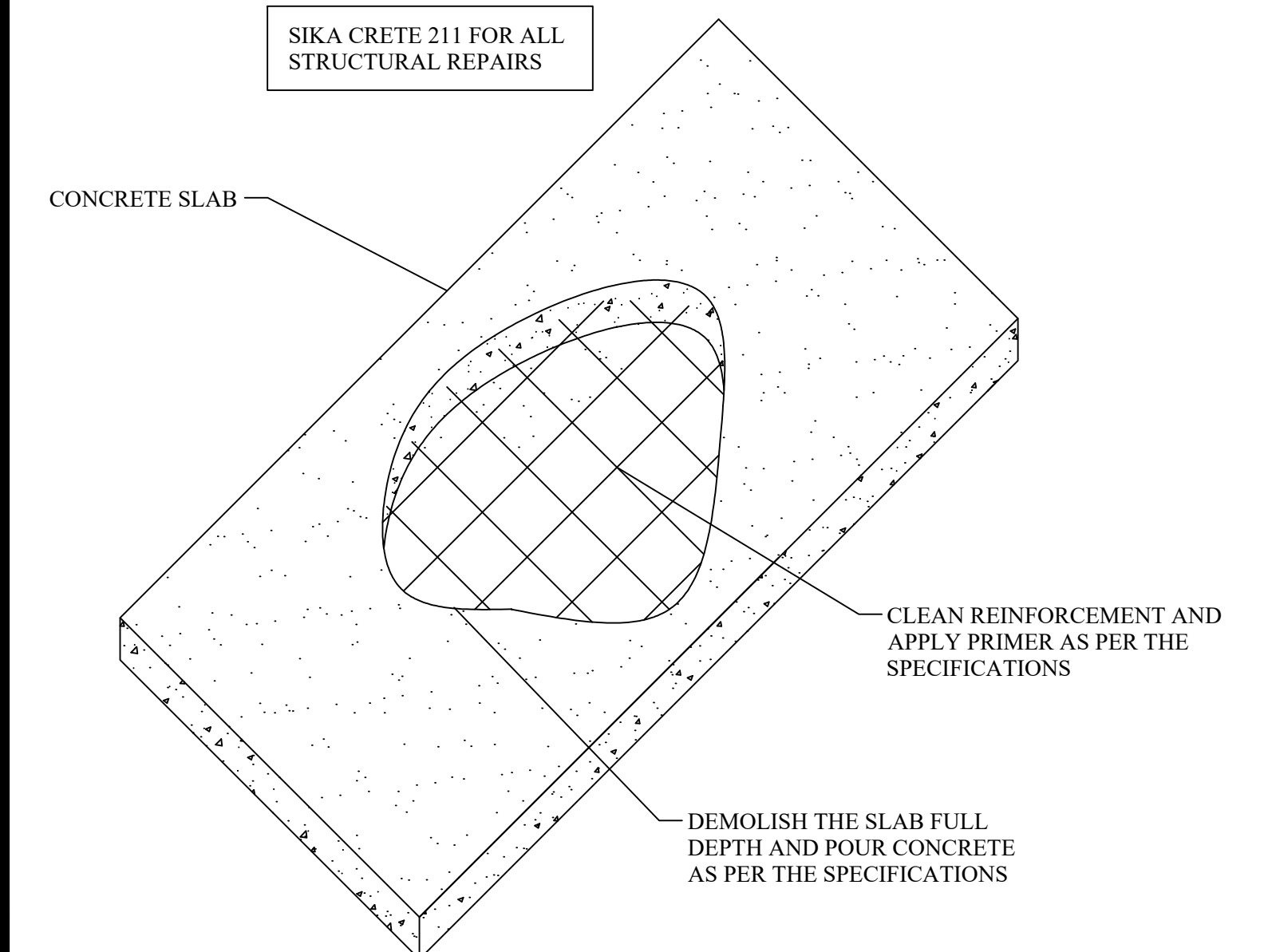
5 TYP. CONCRETE BEAM REPAIR DETAIL  
SCALE: NTS



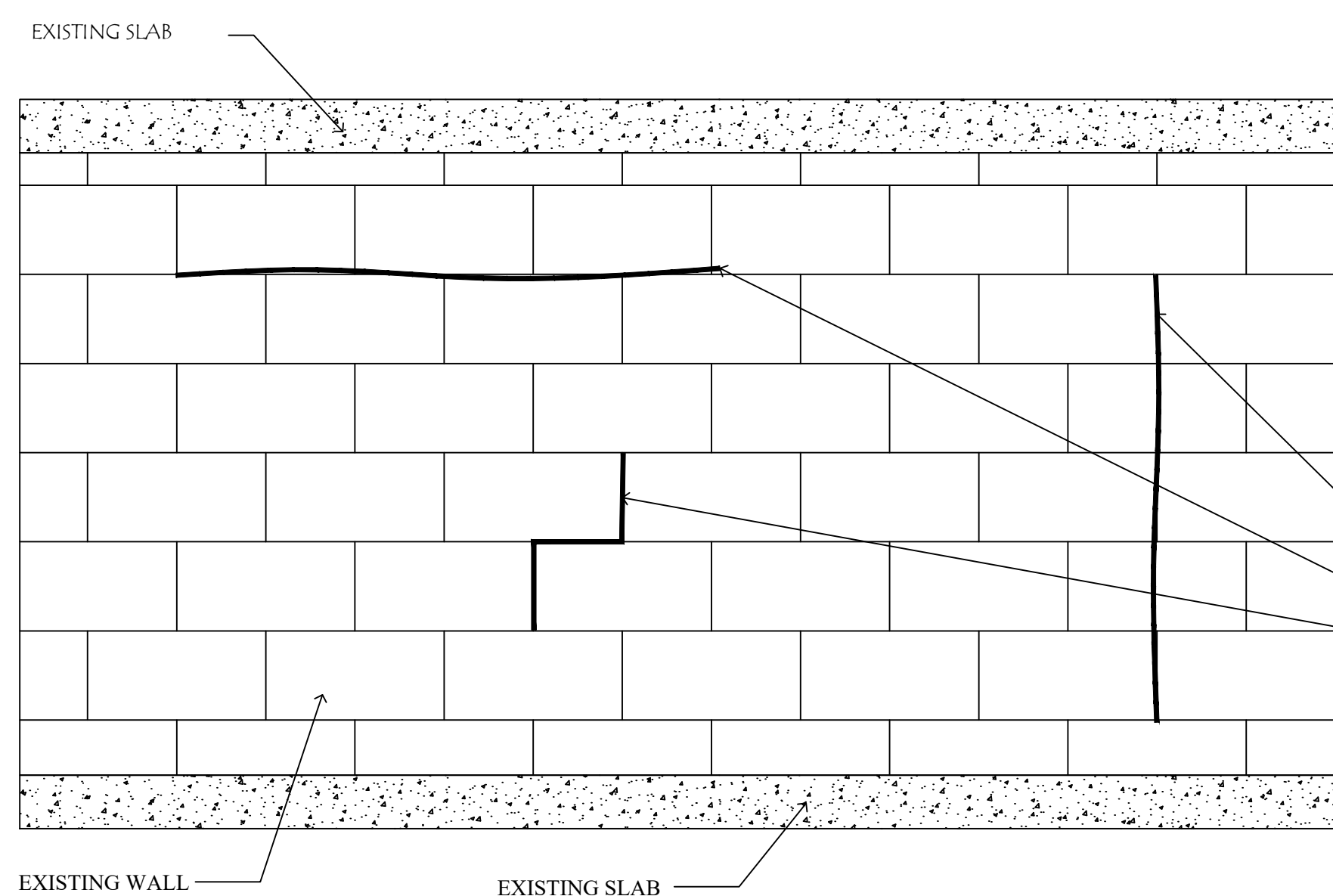
6 WALL AND SLAB INTERFACE CAULKING & WATERPROOFING DETAIL  
SCALE: NTS

SIKA CRETE 211 FOR ALL STRUCTURAL REPAIRS

7 PARTIAL DEPTH SLAB REPAIRS  
SCALE: NTS

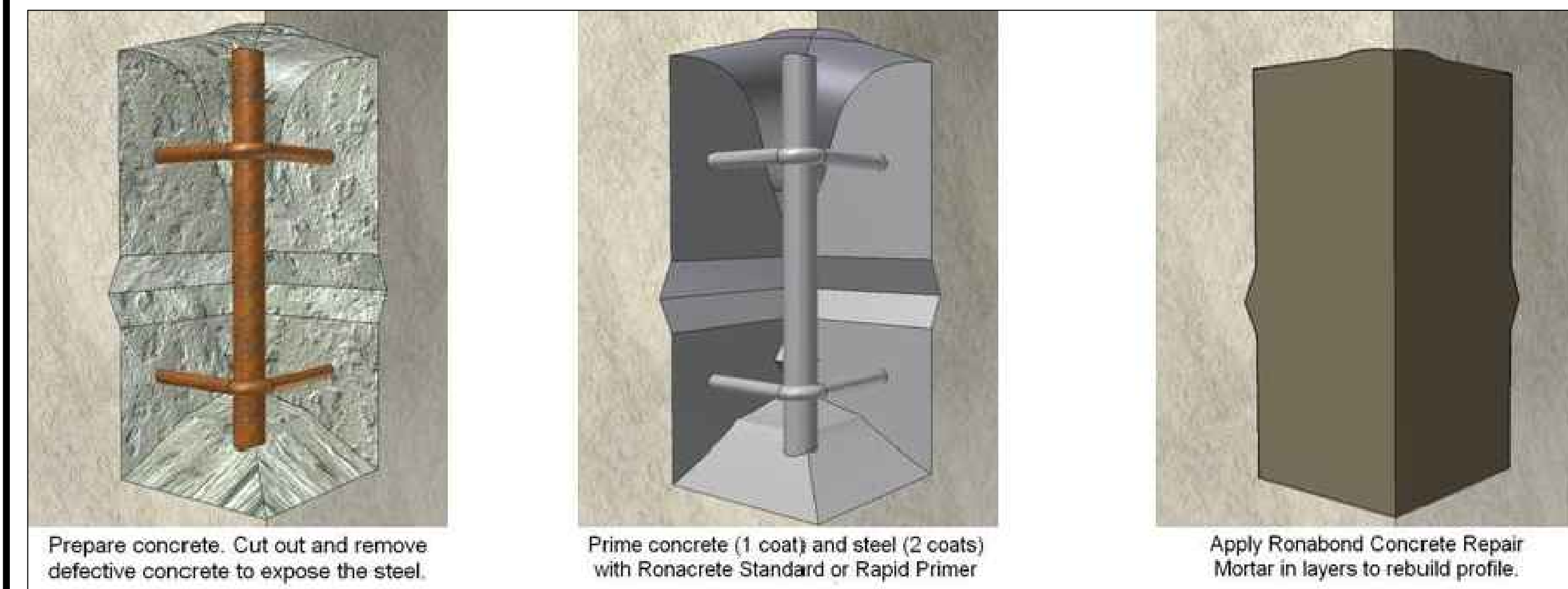


8 FULL DEPTH SLAB REPAIR  
SCALE: NTS



9 BLOCK WALL REPAIR DETAIL  
SCALE: NTS

REMOVE 3" IN WIDTH OF STUCCO FROM THE LOCATIONS WHERE CRACKS EXISTS AND CLEAN THE CRACK THOROUGHLY. THEN FILL THE GAPS WITH NEW MORTAR. APPLY SIKA WATERPROOFING MEMBRANE THEN INSTALL SIKA FLEXTAPE THEN APPLY WATERPROOFING MEMBRANE AGAIN. APPLY STUCCO UPON CURING AND PAINT THE SURFACE TO MATCH EXISTING.



10 TYPICAL COLUMN & BEAM REPAIR  
SCALE: NTS

Seal

FARRUKH SAYEED  
PE# 64701

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S-3

# ASTM C881 Adhesives

EPOXY RESIN SYSTEMS FOR CIVIL ENGINEERING APPLICATIONS

ASTM C881

"STANDARD SPECIFICATION FOR EPOXY-RESIN BASED BONDING SYSTEMS FOR CONCRETE"

REPLACE OR REPAIR? A RESTORATION PROJECT PROPERLY EXECUTED AND USING THE CORRECT REPAIR PRODUCTS CAN ADD YEARS TO THE SERVICE LIFE OF A STRUCTURE. THE COST TO PROPERLY REPAIR A STRUCTURE IS OFTEN SIGNIFICANTLY LESS THAN THE COST OF REPLACEMENT OR FURTHER DETERIORATION. HOWEVER, THIS SPECIFICATION DEFINES A CLASSIFICATION SYSTEM FOR EPOXY RESINS AND IS ROUTINELY REFERENCED IN CIVIL ENGINEERING PROJECTS. SEVEN TYPES ARE LISTED, BASED ON APPLICATION AND PHYSICAL PROPERTIES SUCH AS COMPRESSIVE STRENGTH, MODULUS AND BOND STRENGTH. FOR EACH TYPE OF EPOXY SYSTEM, THE SPECIFICATION DESCRIBES THREE GRADES ACCORDING TO VISCOSITY AND SAG RESISTANCE

- GRADE 1: LOW VISCOSITY (2,000 CPS MAX.)
- GRADE 2: MEDIUM VISCOSITY (2,000 - 10,000 CPS)
- GRADE 3: NON-SAG (1/4" SAG RESISTANCE)

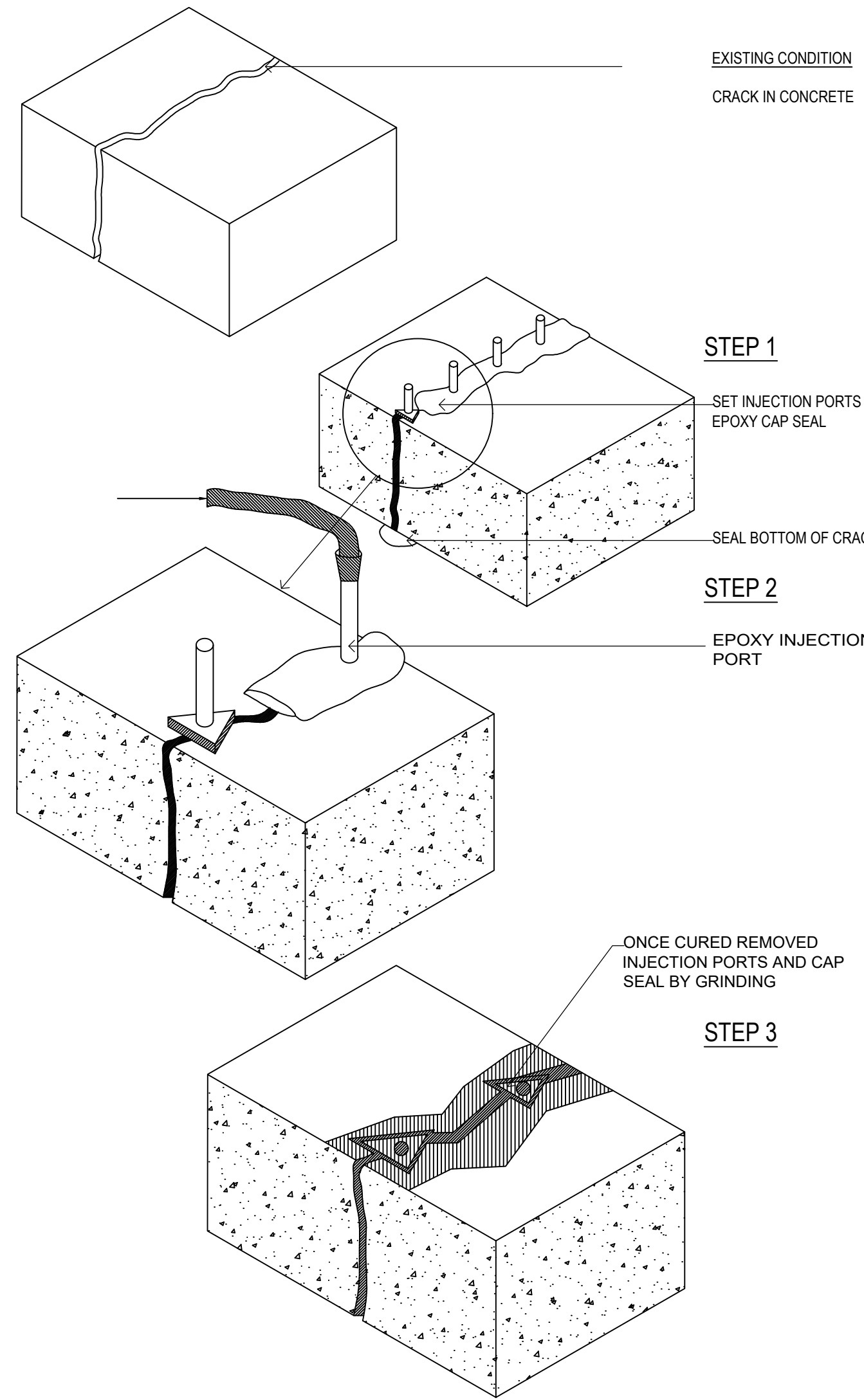
THE EPOXY SYSTEMS ARE FURTHER CHARACTERIZED BY CLASS, WHICH INDICATES THE TEMPERATURE RANGE IN WHICH THE EPOXY CAN BE APPLIED. AS AN EXAMPLE, CLASS A PRODUCTS ARE DESIGNED FOR USE BELOW 40 USE ABOVE 60 DEGREES F. EPOXY CHEMICALS, INC. PROVIDES EPOXY CURING AGENTS USED TO FORMULATE THE TYPES, GRADES AND CLASSES COMMONLY USED IN CIVIL ENGINEERING APPLICATIONS. EPOXY CHEMICALS AMINE CURING AGENTS, A-6 POLYAMINE, FB-31 POLYAMINE, AND FS-290 POLYAMINE, ARE USED IN THE FORMULATION OF THE FOLLOWING ASTM C881

EPOXIES:

- TYPE I - BONDING HARDENED CONCRETE TO HARDENED CONCRETE (NON-LOAD BEARING)
- TYPE II - BONDING FRESH CONCRETE TO HARDENED CONCRETE (NON-LOAD BEARING)
- TYPE III - BONDING SKID RESISTANT MATERIALS TO HARDENED CONCRETE (LOW MODULUS)
- TYPE IV - BONDING HARDENED CONCRETE TO HARDENED CONCRETE (LOAD BEARING)
- TYPE V - BONDING FRESH CONCRETE TO HARDENED CONCRETE (LOAD BEARING)
- TYPE VI - BONDING AND SEALING SEGMENTAL PRE-CAST ELEMENTS WITH INTERNAL TENDONS AND SPAN BY SPAN ERECTION
- TYPE VII - SEALING SEGMENTAL PRE-CAST ELEMENTS.

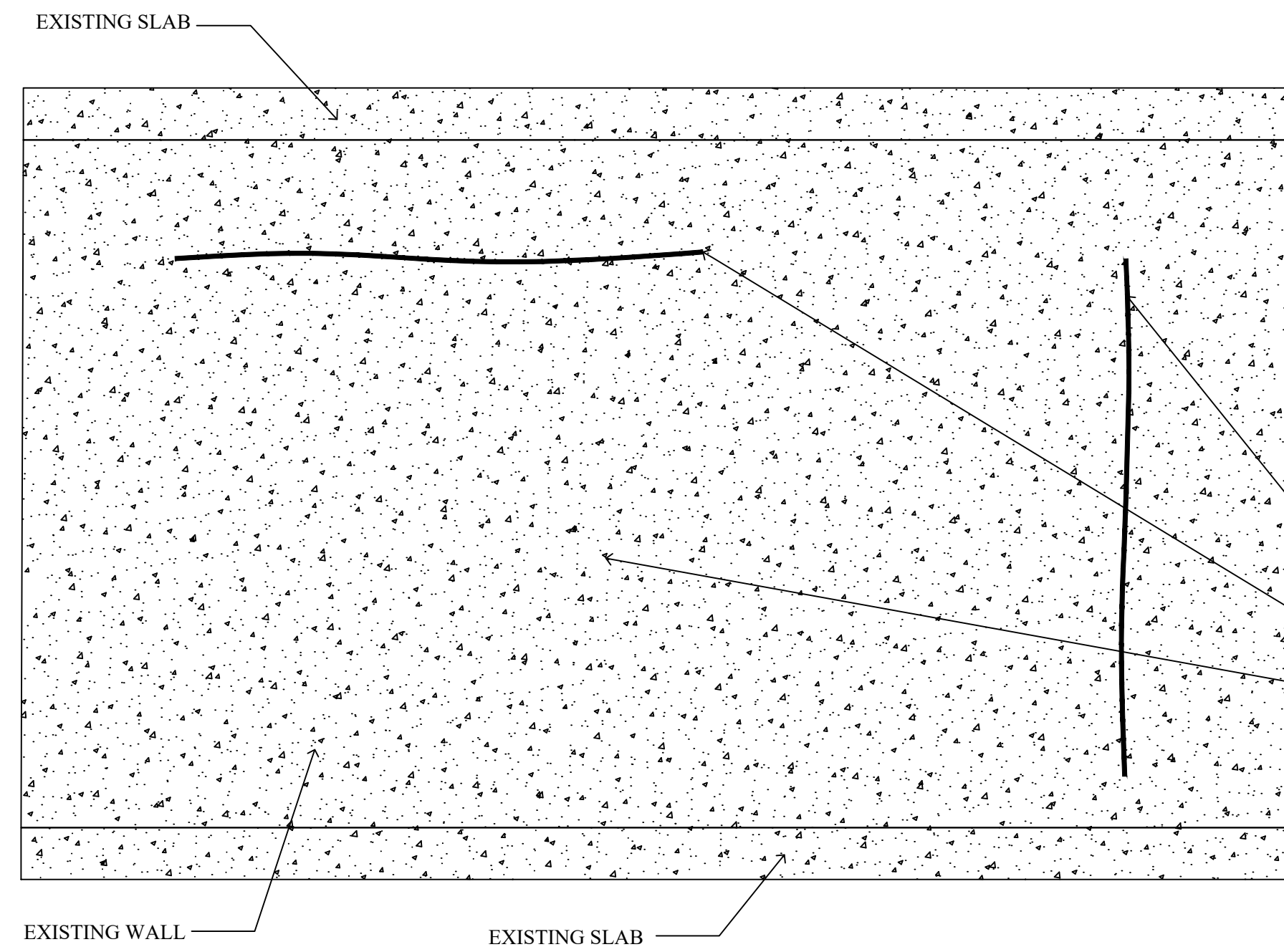
STRUCTURAL EPOXY GENERAL NOTES

- THE CONCRETE TO BE USED FOR THE REPAIRS THAT HAS A 28-DAY CONCRETE COMPRESSIVE STRENGTH OF 6000 PSI.
- THE CRACKS SHALL BE EPOXY-INJECTED IN ACCORDANCE WITH INDUSTRY STANDARDS USING EPOXY CRACK SEALER, INJECTION PORTS, AND INJECTABLE GRADE EPOXY IN CONFORMANCE WITH ASTM C-881 STANDARDS FOR STRUCTURAL GRADE EPOXIES.
- REINFORCING STEEL SHOULD BE GRADE 60, WITH A TENSILE STRENGTH OF ATLEAST 60KSI, MEETING OR EXCEEDING ASTM A615.
- THE EPOXY ADHESIVE USED TO SECURE REINFORCING STEEL DOWELS SHALL BE A STRUCTURAL GRADE ADHESIVE MEETING ASTM C881 REQUIREMENTS.
- THE EXISTING FACES THAT WILL BE IN PERMANENT CONTACT WITH THE NEW REPAIR CONCRETE SHALL BE ROUGHENED TO AN AMPLITUDE OF 1/8" AND CLEANED IN ORDER TO PROVIDE OPTIMAL SURFACES FOR BONDING NEW CONCRETE TO OLD CONCRETE.
- CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF ATLEAST 6000 PSI WITH A WATER CEMENT RATIO OF 0.40 OR LESS. CONCRETE CYLINDER TESTING SHALL BE PROVIDED TO CONFIRM THAT THE IN SITU STRENGTH MEETS THE REQUIREMENT HEREIN.



1 S-4 EPOXY INJECTION CRACK REPAIR DETAIL  
SCALE: N.T.S.

2 S-4 ASTM C881 AND STRUCTURAL EPOXY NOTES  
SCALE: N.T.S.

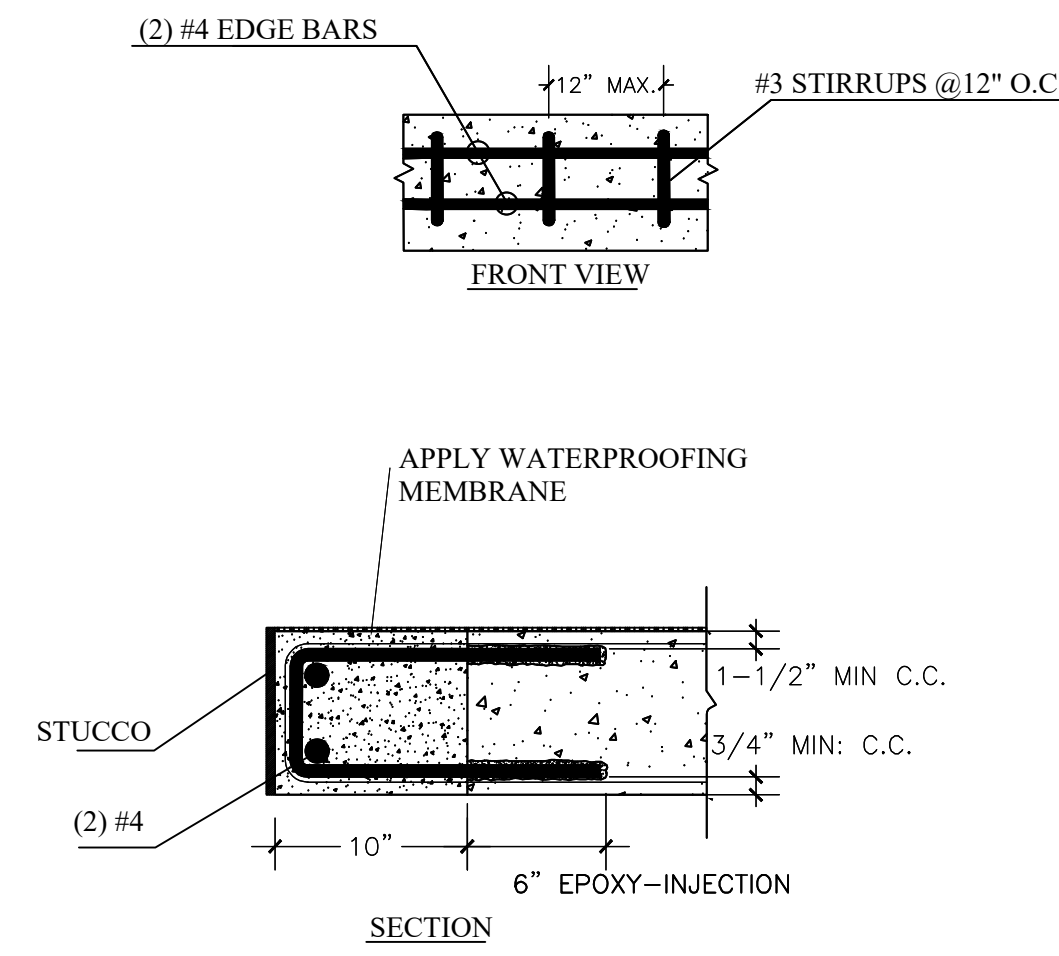


SEE PROJECT MANUAL FOR SPALLED CONCRETE REPAIR SPECIFICATIONS AND MATERIALS TO BE USED.

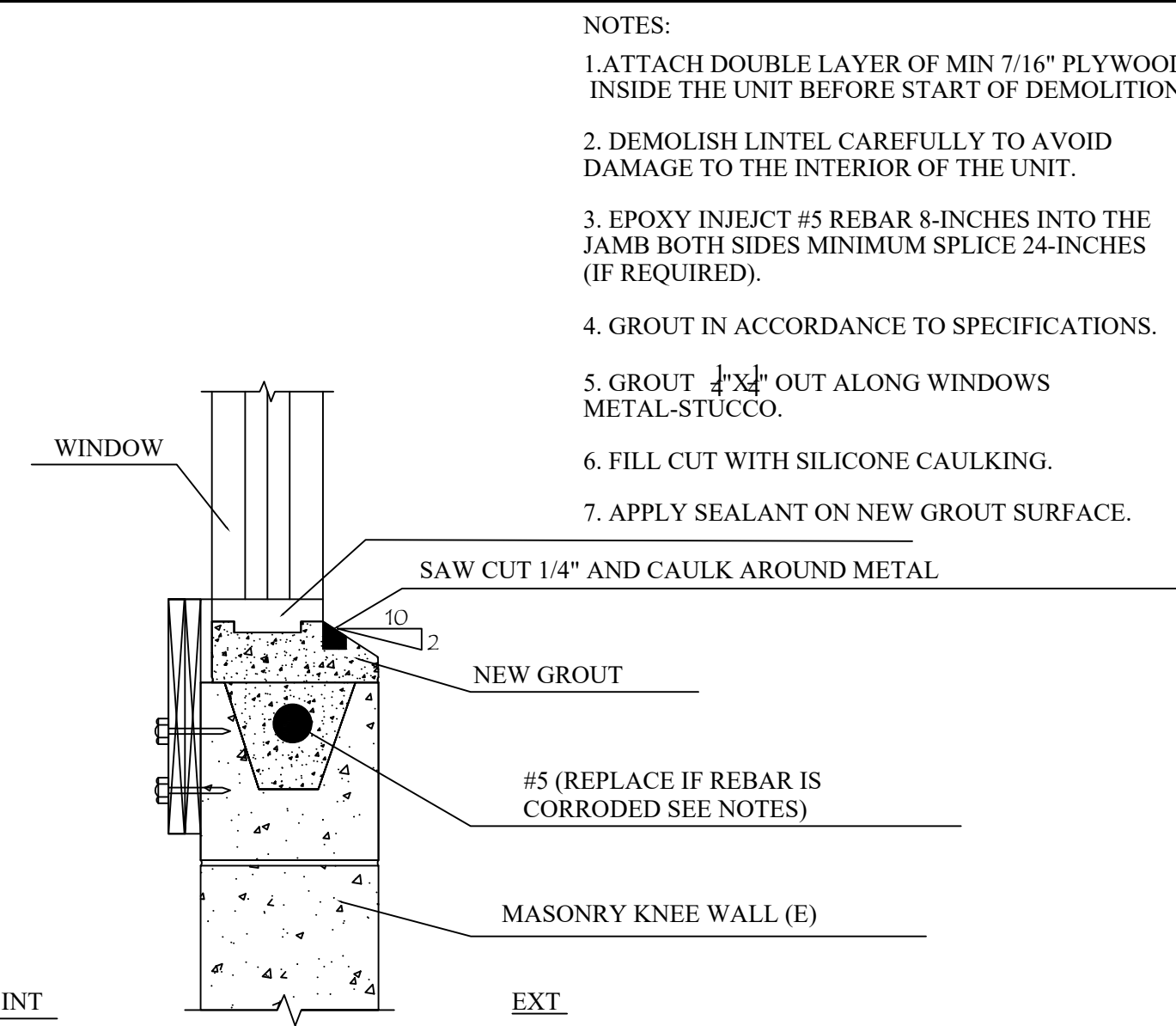
FOR CRACKS ON POURED WALL. DRILL 3/8" HOLES AND INSTALL PORTS AT 8" O.C. ALONG THE ENTIRE LENGTH OF THE CRACK. INJECT CRACKS WITH CONCRESE LPL MANUFACTURED BY BASF. SEAL CRACKS AND SECURE PORTS.

REMOVE 3" IN WIDTH OF STUCCO FROM THE LOCATIONS WHERE CRACKS EXISTS AND CLEAN THE CRACK THOROUGHLY. THEN PRESSURE INJECT CONCRESE LPL MANUFACTURED BY BASF OR EQUIVALENT. APPLY STUCCO UPON CURING AND PAINT THE SURFACE TO MATCH EXISTING. SEE PROJECT MANUAL FOR STUCCO REPAIR SPECIFICATION

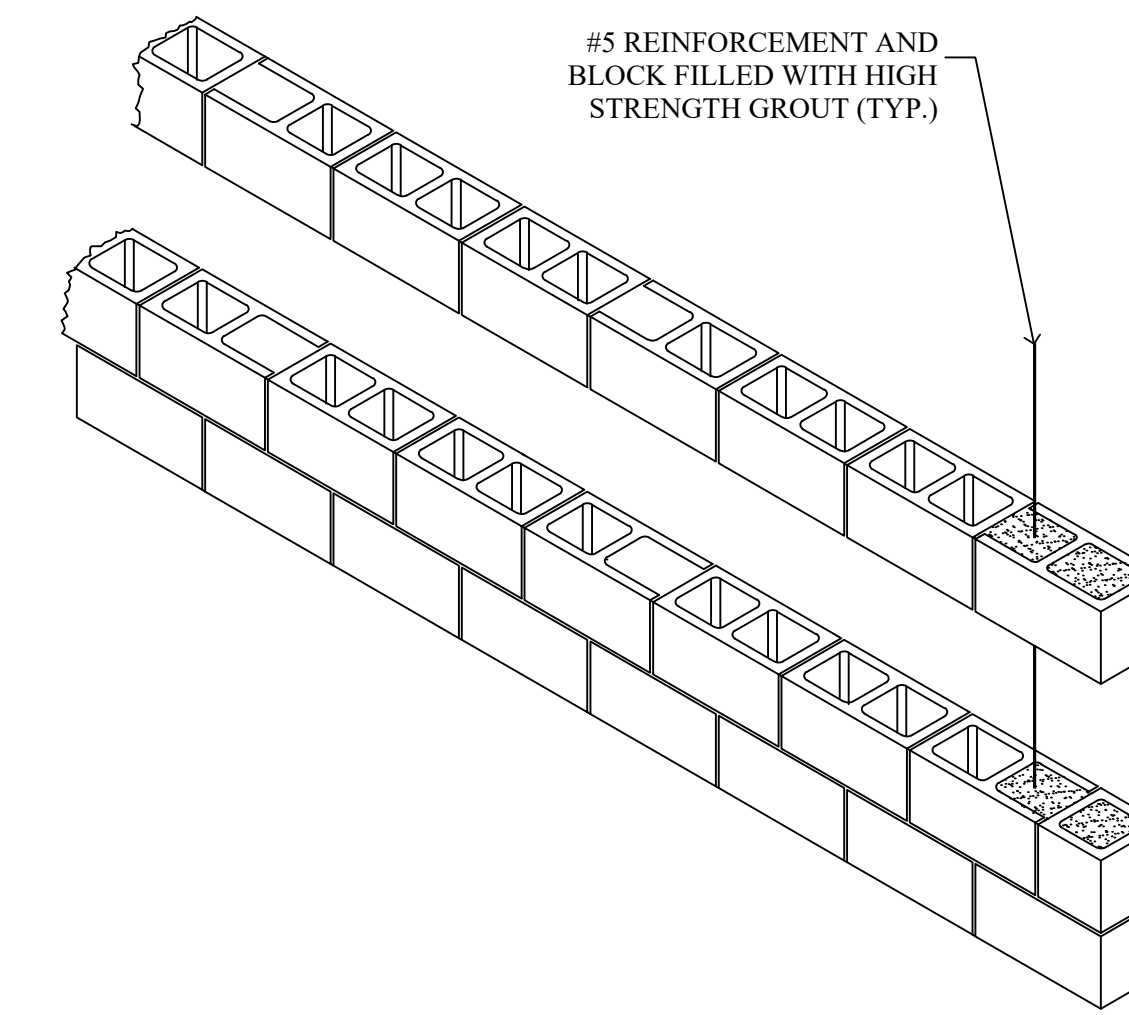
7 S-4 POURED WALL REPAIR DETAIL  
SCALE: N.T.S.



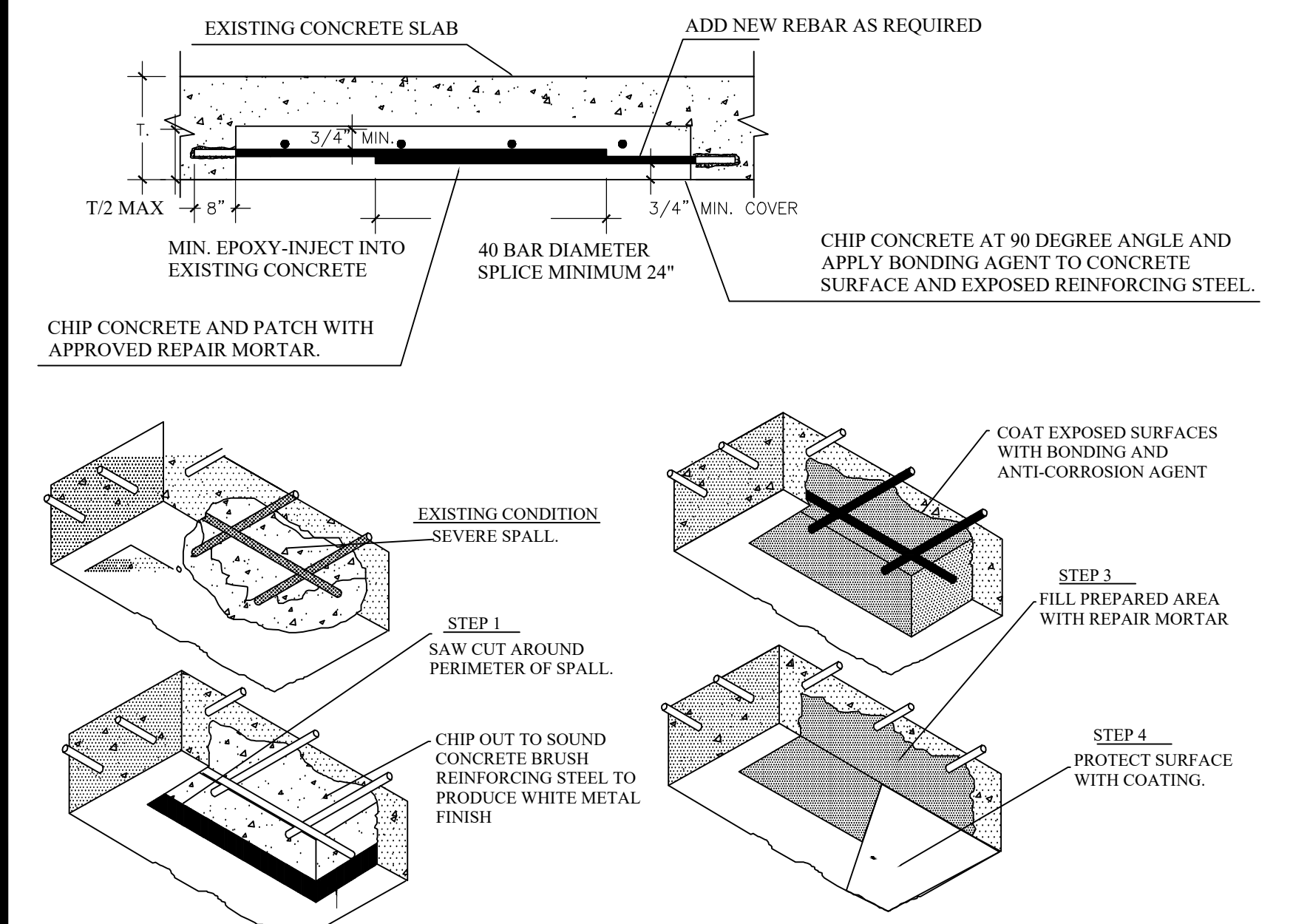
3 S-4 SLAB EDGE REINFORCING DETAIL  
SCALE: N.T.S.



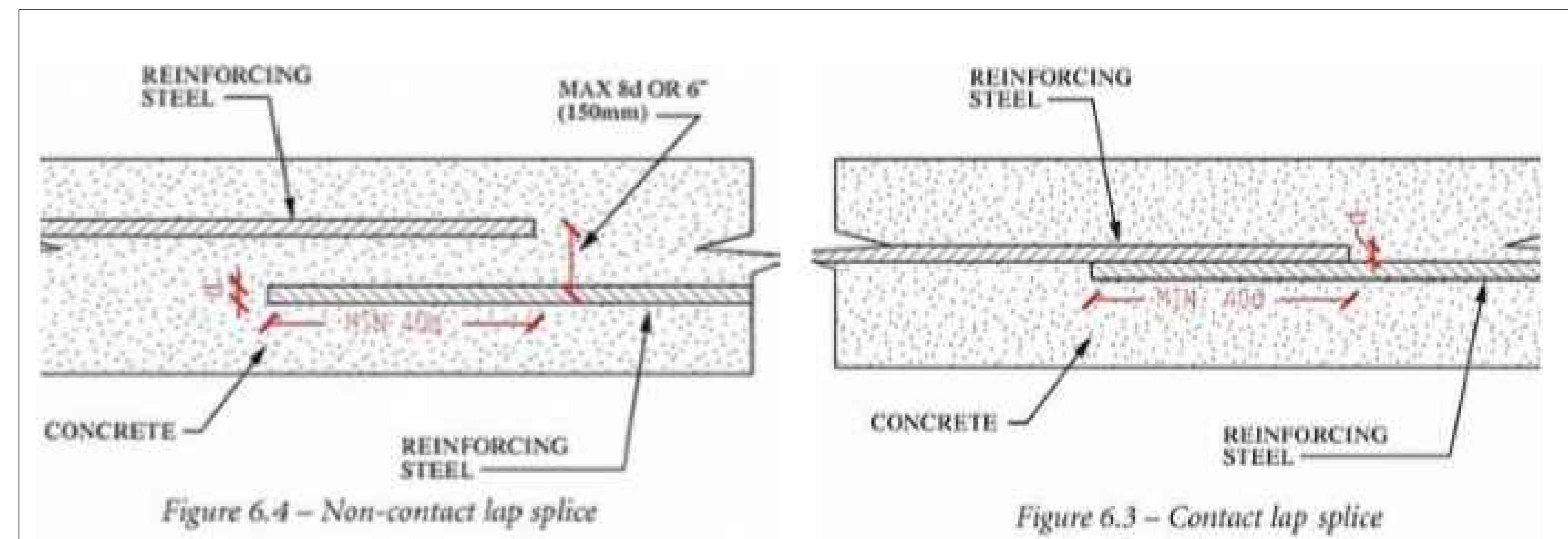
5 S-4 WINDOW SILL REPAIR  
SCALE: N.T.S.



4 S-4 TYP. POURED CELL DETAIL  
SCALE: N.T.S.

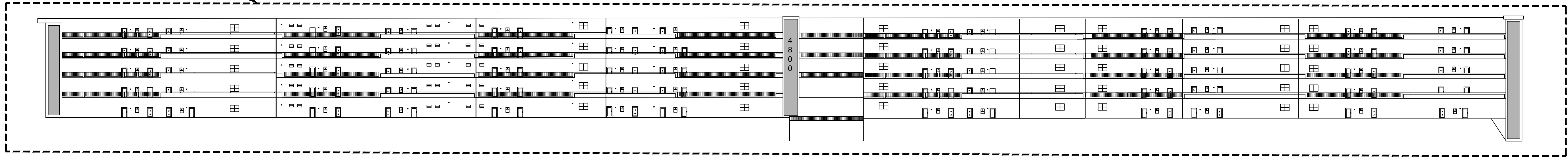


6 S-4 SLAB SOFFIT TYP. PARTIAL DEPTH  
SCALE: N.T.S.



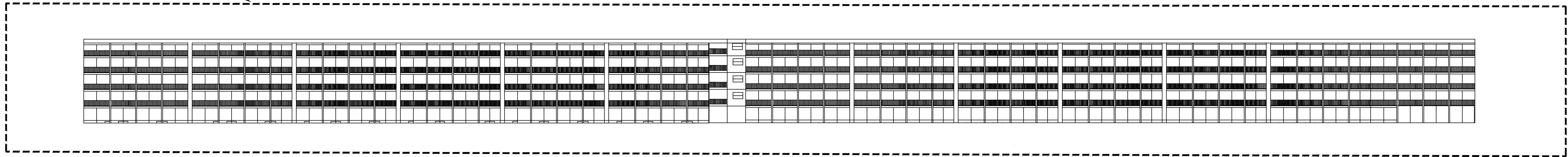
8 S-4 BAR SPLICE DETAIL  
SCALE: N.T.S.

AREA OF WORK



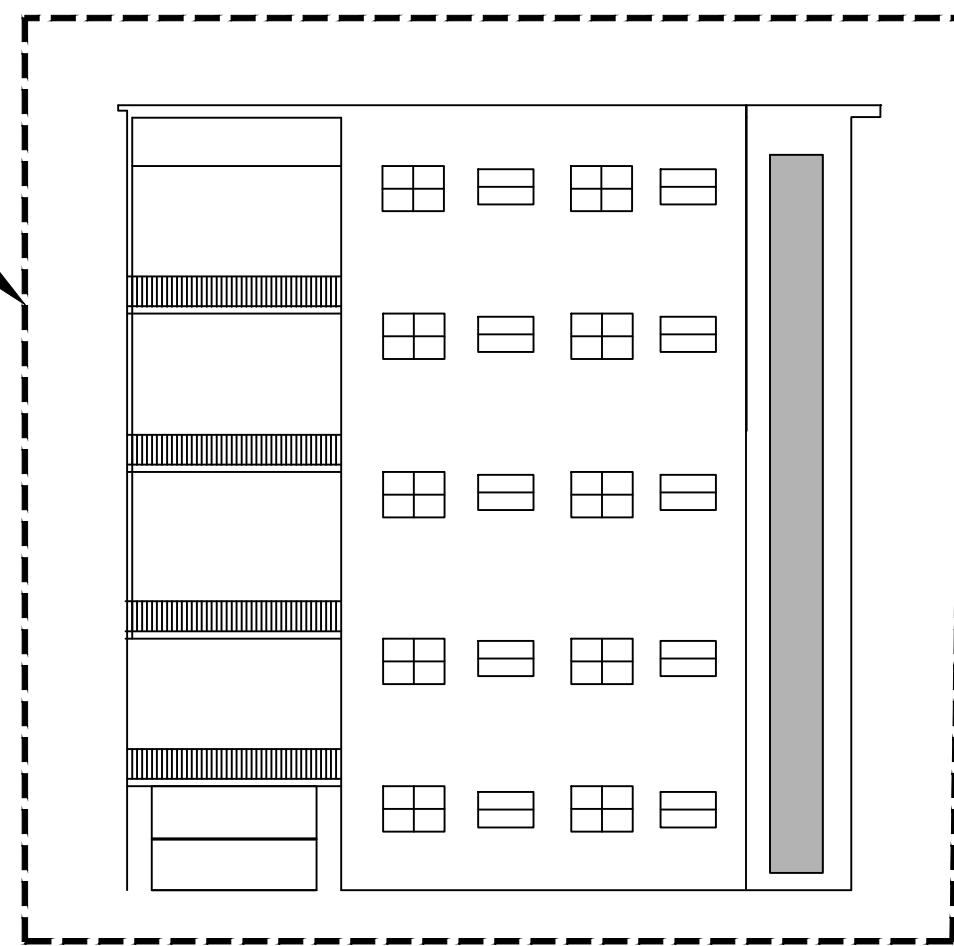
NORTH ELEVATION  
SCALE: N.T.S.

AREA OF WORK



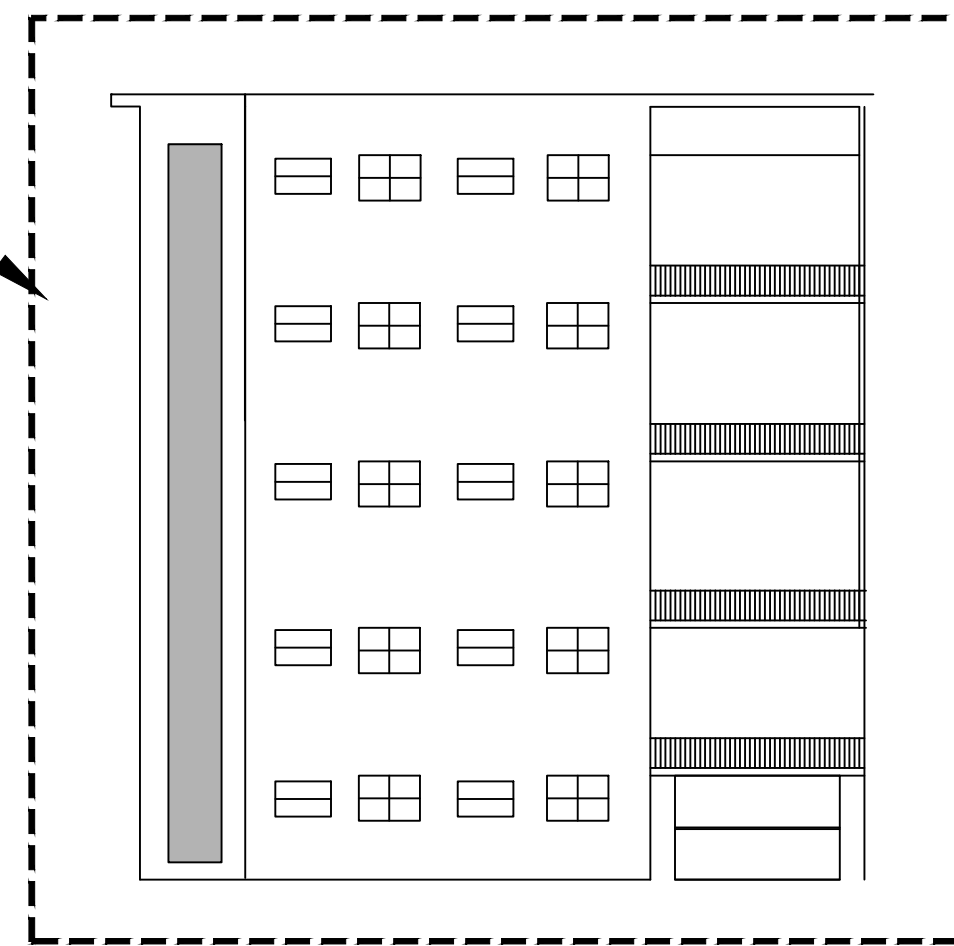
SOUTH ELEVATION  
SCALE: N.T.S.

AREA OF WORK



EAST ELEVATION  
SCALE: N.T.S.

AREA OF WORK



WEST ELEVATION  
SCALE: N.T.S.

Seal

FARRUKH SAYEED  
PE# 64701

Date: 08/15/2023  
Drawn BY: A.Z  
Revised: FS  
REVISIONS:

Job No.  
22158

Drawing No.

S-5

**SHORING NOTES:**

POST SHORE AS-550 SHOULD BE INSTALLED AS PER THE SPECIFICATIONS GIVEN BY THE ENGINEER.

ALL POST SHORES SHOULD BE FREE OF ANY DEFECTS

ALL POST SHORES TO BE SNUG TIGHT AND USE TAPCONS TOP & BOTTOM TO SECURE EACH POST SHORES

ALL INSTALLED POST SHORES SHOULD BE AT 90 DEGREES

CONTRACTOR TO PERFORM REPLACING OF ONE COLUMN.

CONTRACTOR TO GET AN APPROVAL FOR INSTALLED SHORING FROM ENGINEER ON RECORD PRIOR TO PERFORMING ANY DEMOLITION.

IT IS CONTRACTOR'S RESPONSIBILITY TO PLACE THE POST SHORES BELOW THE EXISTING CONCRETE BEAMS & SLAB.

ALL POST SHORES ARE TO BE PLACED PRECISELY UNDER THE POST SHORE ON THE FLOOR ABOVE WHEN POST SHORING TWO CONSECUTIVE FLOORS.

NOTE: All scaffolds shall be erected, modified and dismantled only under the supervision of a Competent Person. Erection, use, maintenance and disassembly must conform to current manufacturer's instructions as well as all federal, state, provincial and local regulations. Copies of complete Safety Guidelines for these and other products are available from BrandSafway without charge.

## Post Shores 350 DB and AS 550

### Post Shore 350 DB

Part No.	Height	Weight
VFTP552147	6' 6" – 11' 6"	46.4 lbs.

#### 350 DB Load Capacities\*

Height (ft.)	6' 6"	7' 0"	7' 6"	8' 0"	8' 6"	9' 0"	9' 6"	10' 0"	10' 6"	11' 0"	11' 6"
Load (lbs.)	6445	6445	6445	6445	6445	6445	5600	5170	4400	3860	

### Post Shore AS 550

Part No.	Height	Weight
VFTP463087	10' – 18'	74.0 lbs.

#### AS 550 Load Capacities\*

Height (ft.)	10' 0"	10' 6"	11' 0"	11' 6"	12' 0"	12' 6"	13' 0"	13' 6"	14' 0"	14' 6"	15' 0"
Load (lbs.)	9367	8800	8176	7475	6903	6353	5815	5316	4880	4490	4160

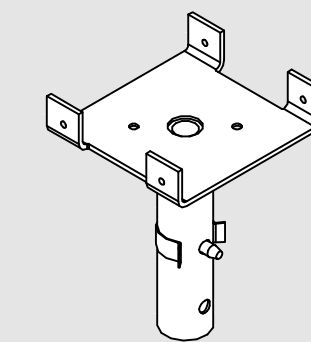
Height (ft.)	15' 6"	16' 0"	16' 6"	17' 0"	17' 5"	18' 0"
Load (lbs.)	3859	3575	3340	3133	2924	2732

Both post shores have a 3" O.D. base and a 2.5" O.D. staff.

\* Post shores must be braced or restrained from lateral movement by other means. Capacities indicated are at 3:1 safety factor.

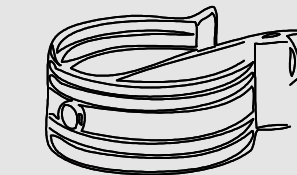
### Components

Part No.	Description	Weight
PSU88TW	U-Head 8x8 2-Way	8.1 lbs
VFTA470804	T-Spring Bolt	0.3 lbs.
VFTA002547	Swivel Clamp	4.2 lbs.



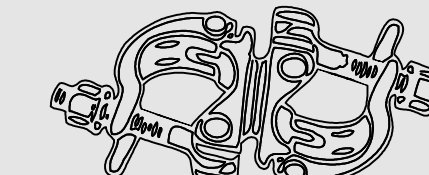
**PSU88TW**

For single 4" wide beams (butted) or bypassing 4" beams



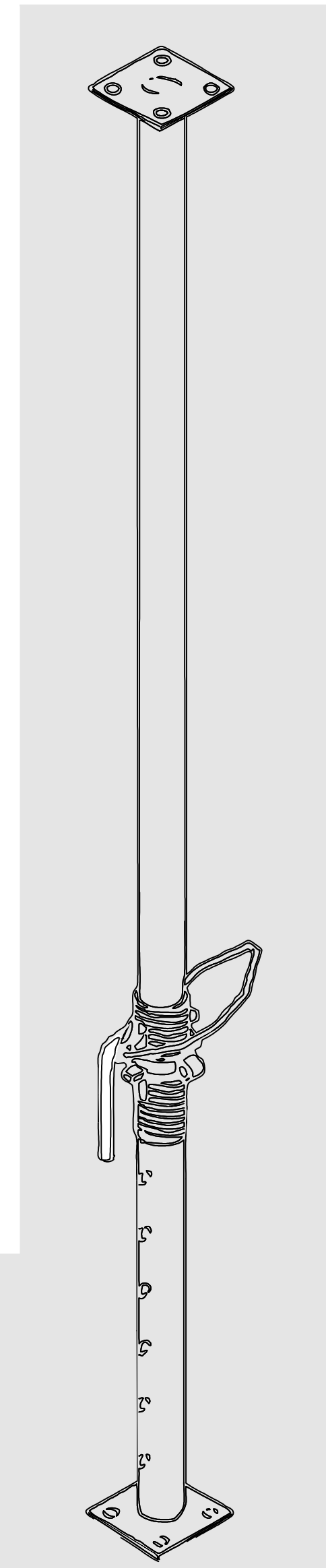
**VFTA470804**

Required to attach U-Head PSU88TW



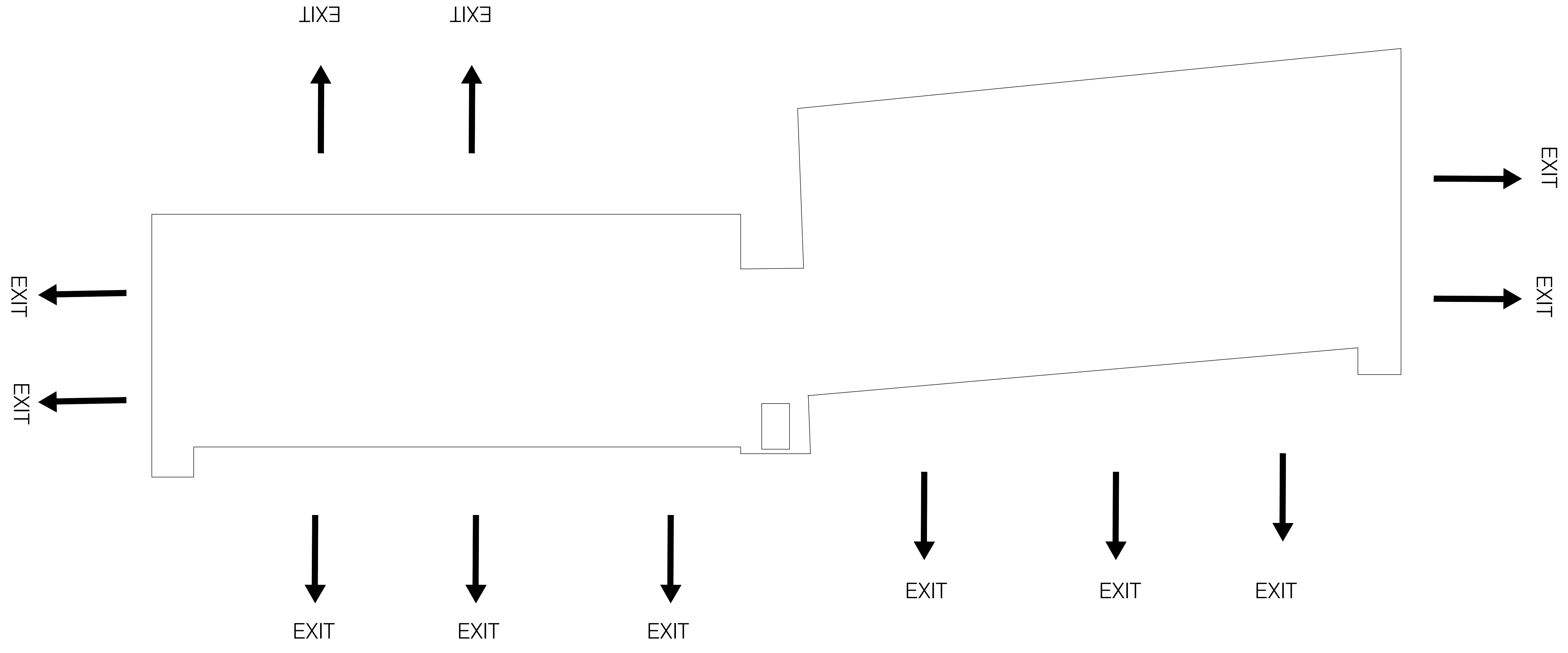
**VFTA002547**

1.9" x 3.0" Required to attach 1.9" tubes to post shore base



**VFTP463087**

AS 550 may be used upside-down for easier adjustment.



**FIRE SAFETY EXIT PLAN**  
SCALE: N.T.S

**NOTE:**  
BUILDING SHOWN IS FOR INFORMATION PURPOSES ONLY.

**NOTES:**

1. FIRE EXIT WILL NOT BE BLOCKED/CLOSED.
2. FIRE ALARMS/FIRE SPRINKLER SYSTEM ARE TO REMAIN FUNCTIONAL AT ALL TIMES.
3. ALL FIRE LANES, FIRE DEPARTMENT ACCESS, FIRE HYDRANTS, FDC LOCATION & BUILDING EXITS ARE TO REMAIN CLEAR AND ACCESSIBLE.

**PLAN NOTES**

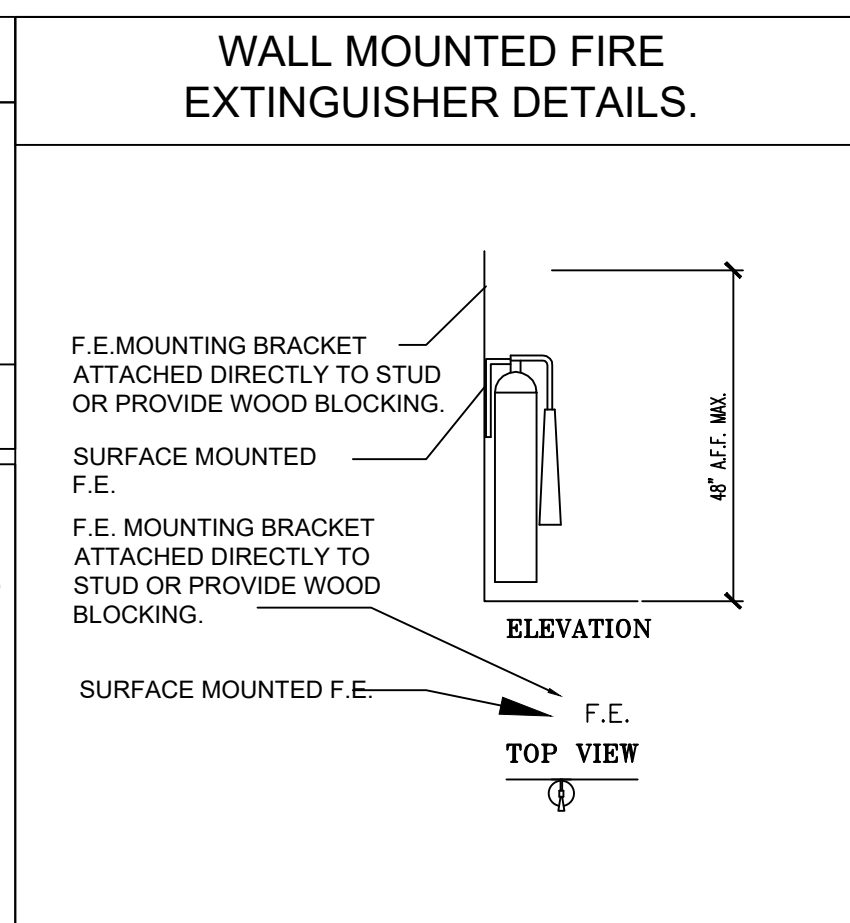
- DURING REPAIRS THE ACCESS TO THE BALCONIES WILL BE CLOSED.
- DURING REPAIRS ALL UNIT OWNERS WILL HAVE AN ACCESS TO THE 2 EXITS. ALL TWO (2) EXITS WILL BE OPEN.

**NOTE:**  
BUILDING SHOWN IS FOR INFORMATION PURPOSES ONLY.

**NOTE:**  
EXISTING BUILDING LAYOUT SHOWN ONLY FOR INFORMATION PURPOSES

**NOTES:**

- 1- PEDESTRIANS SHALL BE PROTECTED DURING CONSTRUCTION, REMODELING AND DEMOLITION ACTIVITIES AS REQUIRED.
- 2- SIGNS SHALL BE PROVIDED TO DIRECT PEDESTRIAN TRAFFIC.



**LEGEND**

	HATCH INDICATES AREA OF WORK
	TRAVEL DISTANCE
	COMMON PATH OF EGRESS
	MEANS OF EGRESS
	EXIT NUMBER
	F.E. FIRE EXTINGUISHER
	MEANS OF EGRESS ROUTE
	EMERGENCY LIGHT WITH BATTERY BACK UP
	COMBO EMERGENCY/EXIT LIGHT WITH LESS THAN 5W PER BATTERY BACK UP FACE.
	EXIT LIGHT WITH BATTERY BACK UP LESS THAN 5W PER FACE.

**PROTECTION OF PEDESTRIANS**

HEIGHT OF CONSTRUCTION	DISTANCE FROM CONSTRUCTION TO LOT LINE	TYPE OF PROTECTION REQUIRED
8 feet or less	Less than 5 feet	Construction railings
	5 feet or more	None
More than 8 feet	Less than 5 feet	Barrier and covered walkway
	5 feet or more, but not more than one-fourth the height of construction	Barrier and covered walkway
	5 feet or more, but between one-fourth and one-half the height of construction	Barrier
	5 feet or more, but exceeding one-half the height of construction	None

**FIRE SAFETY EXIT NOTES**  
SCALE: N.T.S