Angle Air Entrainment Anchor Bolt ADDL Additional ADH Adhesive ΔΙΤ Alternate ARCH Architectural B or BOT Bottom Bottom Of B/ BLDG Building BLKG Blocking BMU Brick Masonry Unit BP Baseplate BRBF Buckling Restrained Braced Frame BRG Bearing BTWN Between Camber CANT Cantilever СВ Castellated Beam C'BORE Counterbore CFMF Cold Formed Metal Framing CL or € Centerline Cross-Laminated Timber IBC CLT CIP Cast in Place Construction or Control Joint CJP Complete Joint Penetration CLR Clear Ceiling CLG Concrete Masonry Unit LL CMU COL CONC CONN Column Concrete Connection CONST Construction CONT Continuous C'SINK Countersink CTRD Centered DB Drop Beam Deformed Bar Anchor MAS Double MAX DBA DBL DEMO Double Demolish DEV Development DF Douglas Fir Diameter/Ø DIA DIAG Diagonal DIST Distributed Dead Load DL Down DN Ditto DO Depth/Deep DΡ DWG Drawing Existing Each EA Each Face EF Elevation ELEC Electrical FLEV Elevator EMBED Embedment ENGR Engineer Engineer Equal FO EQUIP Equipment EW Each Way EXP Expansion

ABBREVIATIONS EXP JT Expansion Joint PERP Perpendicular EXT Exterior PLWD Factory-Built PJP FB PREF/ FD Floor Drain PSF FDN Foundation FIN Finish PSI FLR FRP FRT Floor PSL Fiberglass Reinforced Plastic P-T Fire Retardant Treated PT FTG Footing

HORIZ Horizontal

LLV LP

LONGIT LSL

	EXT	Exterior	PLWD	Plywood
	FB	Factory-Built	PJP	Partial Joint Penetration
	FD	Floor Drain	PREFAB	Pretabricated
	FDN	Foundation	PSF	Pounds per Square Foot
	FIN	Finish	PSI	Pounds Per Square Inch
	FLR	Floor	PSL	Parallel Strand Lumber
	FRP	Fiberglass Reinforced Plastic	P-T	Post-Tensioned
	FRT	Fire Retardant Treated	PT	Pressure Treated
	FTG	Footing	R	Radius
	F/	Face of	RD	Roof Drain
	GA	Gage	REF	Refer/Reference
	GALV	Galvanized	REINF	Reinforcing
	GEOTECH	Geotechnical	REQD	Required
	GL	Glue Laminated Timber	RET	Retaining
	GWB	Gypsum Wall Board	SB	Site-Built
	HDR	Header	SCBF	Special Concentric
	HF	Hem-Fir		Braced Frame
	HGR	Hanger	SCHED	Schedule
	HD	Hold-down	SER	Structural Engineer of
	HEF	Horizontal Each Face		Record
	HORIZ	Horizontal	SFRS	Seismic Force-
	HP	High Point		Resisting System
	HSS = TS	(Hollow Structural Section)	SHTHG	Sheathing
r	IBC	International Building Code	SIM	Similar
I		Inside Diameter	SL	Slope/ Sloped
	IF	Invert Elevation	SLBB	Short Leg Back-to-Back
	IE	Inside Face	SME	Special Moment Frame
		Interior	SOG	Slab on Grade
	k	Kins	SP	Southern Pine
	KCE	Kips Kips Per Square Foot	SPEC	Specification
		Lipeal Foot	SO	Square
			SB	Studrail
		Live Ludu	SE	Square Foot
		Long Log Horizontal	T22	Stainless Steel
			STAGG	Stanger/Stangered
			STAGG	Stagger/Staggered
		LOW POINt	STEE	Stanuaru
	LUNGI		STIFF	Stool
	LSL		STRUCT	Steel
			S1110C1	Sciucial Solid Web Wead Joint
		Light Weight	SVVVJ	Solid Web Wood Joist
	MAS	Iviasonry		Symmetrical
		Iviaximum		Top Top Of
	MECH	Mechanical		
	MEP	Mechanical, Electrical,		
		Plumbing	TC AX LD	Top Chord Axial Load
	MEZZ	Mezzanine		Top Chord Extension
	MFR	Manufacturer	TUSE	Turned Down Slab Edge
	MIN	Minimum	IQG	
	MISC	Miscellaneous	THKND	Inickened
	NIC	Not In Contract	THRD	Inreaded
	NLT	Nail-Laminated Timber	THRU	Through
	NTS	Not To Scale	TRANSV	Iransverse
	NW	Normal Weight	IS	Thickened Slab
	OC	On Center	ТҮР	Typical
	OCBF	Ordinary Concentric Braced	UNO	Unless Noted Otherwise
		Frame	UKM	Unreinforced Masonry
	OD	Outside Diameter		Unit
	OF	Outside Face	VEF	Vertical Each Face
	OPNG	Opening	VERT	Vertical
	OPP	Opposite	W	Wide
	OWSJ	Open Web Steel Joist	W/	With
	OWWJ	Open Web Wood Joist	W/O	Without
	PL	Plate	WHS	Welded Headed Stud
	PAF	Powder Actuated Fastener	WP	Working Point
	PC	Precast	WWF	Welded Wire Fabric

STRUCTURAL SHEET LIST

SHEET NUMBER		SHEET TITLE
S001	COVER SHEET	
S002	GENERAL NOTES	
S101	EXHIBIT HALL A - OVERALL PLAN	
S102	PARTIAL EXHIBIT HALL A PLAN - AREA A	
S103	PARTIAL EXHIBIT HALL A PLAN - AREA B	
S104	PARTIAL EXHIBIT HALL A PLAN - AREA C	
S105	PARTIAL EXHIBIT HALL A PLAN - AREA D	
S501	TYPICAL DETAILS	
Sheet Total: 8		





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GENERAL				
PARAGRAPH	NOTES			
G1	ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH ALL DRAWINGS AND SPECIFICATIONS CONTAINED HEREIN.			
G2	ALL WORK RELATED TO THE STAGING, CONSTRUCTION PRACTICES, AND SAFETY OF THE PROJECTS WORKERS AND PROPERTY SHALL BE CONSIDERED MEANS AND METHODS AND SHALL BE COMPLETED BY THE CONTRACTOR IN ACCORDANCE WITH STANDARD INDUSTRY PRACTICE AND ALL CODES AND STANDARDS. VISITS TO THE SITE MADE BY THE ENGINEER ARE FOR THE REVIEW OF THE STRUCTURAL WORK FOR GENERAL CONFORMANCE WITH THE DRAWINGS AND SPECIFICATIONS AND ARE NOT FOR THE REVIEW OF CONTRACTOR RESPONSIBILITIES, INCLUDING BUT NOT LIMITED TO PROJECT SAFETY AND MEANS AND METHODS OF CONSTRUCTION.			
G3	ALL DRAWINGS HAVE BEEN PREPARED IN ACCORDANCE WITH THE 2018 INTERNATIONAL BUILDING CODE, PENNSYLVANIA UNIFORM CONSTRUCTION CODE, AS WELL AS ALL REFERENCED STANDARDS CONTAINED THEREIN.			
G4	EVALUATION AND COMPLIANCE WITH LOADING RESTRICTIONS FOR MEANS AND METHODS OF CONSTRUCTION AS WELL AS STAGING FOR OTHER TRADES ARE THE RESPONSIBILITY OF THE CONTRACTOR.			
G5	ALL WORK SHALL BE INSPECTED IN ACCORDANCE WITH CHAPTER 17 OF THE REFERENCED BUILDING CODE. SUBMIT ALL REPORTS TO THE ENGINEER OF RECORD FOR REVIEW. AT THE COMPLETION OF THE PROJECT, THE SPECIAL INSPECTION REPORT SHALL BE COMPLETED, SIGNED BY THE SPECIAL INSPECTOR, AND SUBMITTED TO THE ENGINEER OF RECORD FOR RECORD PURPOSES.			
G6	SCALING OF DRAWINGS TO DETERMINE DIMENSIONS OF ELEMENTS IS NOT PERMITTED.			
G7	STRUCTURAL DRAWINGS SHALL NOT BE REPRODUCED TO CREATE SHOP DRAWINGS OR SHORING DOCUMENTATION WITHOUT THE EXPRESS WRITTEN CONSENT OF MACINTOSH ENGINEERING.			
G8	ALL HORIZONTAL AND VERTICAL DIMENSIONS CONTAINED ON THE STRUCTURAL DRAWINGS WERE DEVELOPED BY OTHER DISCIPLINES FOR THE PURPOSE OF THIS PROJECT. ANY DIMENSIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS SHOULD BE COORDINATED WITH THE OTHER DISCIPLINE DRAWINGS.			
G9	THE STRUCTURAL DOCUMENTS ARE TO BE USED IN COORDINATION WITH THE ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS AND SPECIFICATIONS AS WELL AS THOSE OF ALL OTHER DISCIPLINES. ANY DISCREPANCIES SHOULD BE BROUGHT TO THE ATTENTION OF THE DESIGN TEAM PRIOR TO THE COMMENCEMENT OF WORK.			
G10	ALL REQUESTED CHANGES IN WORK BY THE CONTRACTOR ARE SUBJECT TO THE APPROVAL OF THE DESIGN TEAM AND OWNER AND ARE CONSIDERED TO BE COMPLETED AT NO ADDITIONAL COST UNLESS SPECIFICALLY APPROVED. APPROVAL OF REQUESTED CHANGES DOES NOT CONSTITUTE APPROVAL OF AN INCREASE IN PROJECT COSTS			

SHOP DRAWING REQUIREMENTS

PARAGRAPH	NOTES
SD1	SHOP DRAWINGS SHALL BE SUBMITTED FOR THE FOLLOWING ITEMS FOR THIS THE PROJECT:
SD1.1	CONCRETE MIX DESIGNS INCLUDING ALL LABORATORY TESTING, MATERIALS, ETC.
SD1.2	ALL ADMIXTURES, SEALANTS, HARDENERS, COATINGS, MORTARS.
SD1.3	EXPANSION JOINTS AND PERIMETER JOINTS.
SD2	ALL SHOP DRAWINGS NOTED ABOVE SHALL BE SUBMITTED IN A TIMELY MANNER TO ALLOW FOR A 10 BUSINESS DAY REVIEW PERIOD BY THE DESIGN TEAM. ALL SUBMITTED DRAWINGS SHALL CONTAIN THE CONSTRUCTION MANAGER REVIEW STAMP.
SD3	SHOP DRAWINGS MAY BE SUBMITTED ELECTRONICALLY, HOWEVER, A MINIMUM OF ONE (1) HARD COPY SHALL BE PROVIDED FOR ALL SHOP DRAWINGS. IF NO HARD COPY IS PROVIDED, PRINTING AND TIME COSTS WILL BE CHARGED TO ORGANIZE AND PRINT SHOP DRAWINGS.
SD4	ELECTRONIC SHOP DRAWINGS SHALL BE SUBMITTED AS AN ORGANIZED SINGLE FILE DOCUMENT. DRAWINGS SHALL BE ORGANIZED IN NUMERIC ORDER WITH ALL REFERENCED PLANS LOCATED FIRST IN THE SUBMITTAL.
SD5	SHOP DRAWINGS WILL BE MARKED AS NOTED ON THE REVIEW STAMP. SHOP DRAWINGS MARKED "MAKE CORRECTIONS NOTED" ARE TO BE RE-SUBMITTED FOR RECORD PURPOSES AND WILL NOT BE RE-REVIEWED AS AN ADDITIONAL SUBMITTAL. REVIEW OF "MAKE CORRECTIONS NOTED" SHOP DRAWINGS BEYOND ONE RE-SUBMITTAL WILL REQUIRE ADDITIONAL FEE.
SD6	CONTRACTOR SHALL PROVIDE DESIGN TEAM WITH A SHOP DRAWING SUBMITTAL SCHEDULE TO ALLOW THE ENGINEERING TEAM APPROPRIATE NOTICE OF SUBMITTALS, DUE DATES, AND ALLOW FOR APPROPRIATE STAFFING. SCHEDULE SHALL BE PROVIDED PRIOR THE FIRST SUBMITTAL.

	EXISTING CONSTRUCTION		
PARAGRAPH	NOTES		
E1	THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, COORDINATION, AND INSTALLATION OF SHORING AND STABILIZATION OF EXISTING CONSTRUCTION AS REQUIRED TO PERFORM THE WORK CONTAINED IN THE DRAWINGS AND SPECIFICATIONS.		
E2	DIMENSIONS SHOWN REFERRING TO EXISTING STRUCTURES ARE FOR REFERENCE ONLY. ALL DIMENSIONS RELATED TO EXISTING BUILDINGS AND FRAMING SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.		
E3	THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY INFORMATION RELATING TO THE EXISTING STRUCTURE THAT HAS BEEN UNCOVERED DUE TO DEMOLITION AND REMOVAL OF FINISHES.		

STRUCTURAL — REMEDIATION SPECIFICATIONS

PART 1 — PRODUCTS

1.1 MANUFACTURERS

- A. SOURCE LIMITATIONS: FOR REPAIR PRODUCTS, OBTAIN EACH COLOR, GRADE, FINISH, TYPE, AND VARIETY OF PRODUCT FROM SINGLE SOURCE AND FROM SINGLE MANUFACTURER WITH RESOURCES TO PROVIDE PRODUCTS OF CONSISTENT QUALITY IN APPEARANCE AND PHYSICAL PROPERTIES.
- 1.2 BONDING/ANTI-CORROSION AGENTS
- A. EPOXY-MODIFIED, CEMENTITIOUS BONDING AND ANTICORROSION AGENT: MANUFACTURED PRODUCT THAT CONSISTS OF WATER-INSENSITIVE EPOXY ADHESIVE, PORTLAND CEMENT, AND WATER-BASED SOLUTION OF CORROSION-INHIBITING CHEMICALS THAT FORMS A PROTECTIVE FILM ON STEEL REINFORCEMENT.
- 1. <u>PRODUCTS:</u> SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING: A) BASE CORPORATION; CONSTRUCTION SYSTEMS; EMACO P 124
- B) EUCLID CHEMICAL COMPANY (THE); AN RPM COMPANY; DURAL 335
- C) IPA; IPANOL C
- B. MORTAR SCRUB COAT: MIX CONSISTING OF 1 PART PORTLAND CEMENT AND 1 PART FINE AGGREGATE COMPLYING WITH ASTM C 144 EXCEPT 100 PERCENT PASSING A NO. 16 SIEVE.

1.3 PATCHING MORTAR

- A. PATCHING MORTAR REQUIREMENTS: 1. ONLY USE PATCHING MORTARS THAT ARE RECOMMENDED BY MANUFACTURER FOR EACH APPLICABLE HORIZONTAL, VERTICAL, OR OVERHEAD USE ORIENTATION.
- 2. COLOR AND AGGREGATE TEXTURE: PROVIDE PATCHING MORTAR AND AGGREGATES OF COLORS AND SIZES NECESSARY TO PRODUCE PATCHING MORTAR WHERE INDICATED THAT MATCHES EXISTING, ADJACENT, EXPOSED CONCRETE. BLEND SEVERAL AGGREGATES IF NECESSARY TO ACHIEVE SUITABLE MATCHES.
- 3. COARSE AGGREGATE FOR PATCHING MORTAR: ASTM C 33/C 33M, WASHED AGGREGATE, SIZE NO. 8, CLASS 5S. ADD TO PATCHING-MORTAR MIX ONLY AS PERMITTED BY PATCHING-MORTAR MANUFACTURER.
- B. JOB-MIXED PATCHING MORTAR: 1 PART PORTLAND CEMENT AND 2-1/2 PARTS FINE AGGREGATE COMPLYING WITH ASTM C 144, EXCEPT 100 PERCENT PASSING A NO. 16 SIEVE.
- C. RAPID-STRENGTHENING, CEMENTITIOUS PATCHING MORTAR: PACKAGED, DRY MIX, ASTM C 928/C 928M FOR REPAIR OF CONCRETE.
- 1. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING: A) BASE CORPORATION; CONSTRUCTION SYSTEMS; MASTEREMACO N 400 RS MASTEREMACO T 1060 MASTEREMACO
- B) EUCLID CHEMICAL COMPANY; SPEED CRETE RED LINE.
- C) IPA; IPATOP HES
- 2. COMPRESSIVE STRENGTH: NOT LESS THAN 4000 PSI AT 28 DAYS WHEN TESTED ACCORDING TO ASTM C 109/C 109M. D. POLYMER-MODIFIED, CEMENTITIOUS PATCHING MORTAR: PACKAGED, DRY MIX FOR REPAIR OF CONCRETE AND THAT
- CONTAINS A LATEX ADDITIVE AS EITHER A DRY POWDER OR A SEPARATE LIQUID THAT IS ADDED DURING MIXING. 1. <u>PRODUCTS:</u> SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:
- A. BASE CORPORATION; CONSTRUCTION SYSTEMS; MASTEREMACO N 423 RS, MASTEREMACO N 400, MASTEREMACO N 400 RS, MASTEREMACO S 440 CI MASTEREMACO T 302. B. EUCLID CHEMICAL COMPANY; DURALTOP FLOWABLE MORTAR.
- C. IPA; IPATOP VO
- 2. COMPRESSIVE STRENGTH: NOT LESS THAN 4000 PSI AT 28 DAYS WHEN TESTED ACCORDING TO ASTM C 109/C 109M.

1.4 JOINT SEALANT

- A. ONE-COMPONENT, ELASTOMERIC POLYURETHANE SEALANT..
- 1. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING UNLESS NOTED THERWISE ON THE DRAWINGS:
- A) BASE CORPORATION; CONSTRUCTION SYSTEMS; MASTERSEAL NP1
- B) <u>EUCLID CHEMICAL COMPANY (THE); AN RPM COMPANY</u>; ECOLASTIC 1SL/1NS. B. POLYUREA JOINT FILLER: TWO-COMPONENT, SEMI-RIGID, 100 PERCENT SOLIDS, POLYUREA RESIN WITH A TYPE A SHORE
- DUROMETER HARDNESS OF AT LEAST 80 ACCORDING TO ASTM D 2240. 1. <u>PRODUCTS:</u> SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:
- A) BASE CORPORATION; CONSTRUCTION SYSTEMS; MASTERSEAL CR 100.
- C. COLOR: MATCHING EXISTING JOINT.

1.5 EPOXY CRACK-INJECTION MATERIALS

- A. EPOXY CRACK-INJECTION ADHESIVE: ASTM C 881/C 881M, BONDING SYSTEM TYPE I FREE OF VOCS.
- PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING: A) BASE CORPORATION; CONSTRUCTION SYSTEMS; MASTERINJECT 1380, MASTERINJECT 1500. B) EUCLID CHEMICAL COMPANY; DURAL INJECTION GEL
- C) IPA; IPANOL LV 2. CAPPING ADHESIVE: PRODUCT MANUFACTURED FOR USE WITH CRACK-INJECTION ADHESIVE BY SAME
- MANUFACTURER. 3. COLOR: PROVIDE EPOXY CRACK-INJECTION ADHESIVE AND CAPPING ADHESIVE THAT BLEND WITH EXISTING, ADJACENT CONCRETE AND DO NOT STAIN CONCRETE SURFACE.

PART 2 — EXECUTION

2.1 EXAMINATION

- A. NOTIFY ARCHITECT SEVEN DAYS IN ADVANCE OF DATES WHEN AREAS OF DETERIORATED OR DELAMINA
- TED CONCRETE AND DETERIORATED REINFORCING BARS WILL BE LOCATED.
- B. PERFORM SURVEYS AS THE WORK PROGRESSES TO DETECT HAZARDS RESULTING FROM CONCRETE-MAINTENANCE WORK.

2.2 PREPARATION

A. ENSURE THAT SUPERVISORY PERSONNEL ARE ON-SITE AND ON DUTY WHEN CONCRETE MAINTENANCE WORK BEGINS AND DURING ITS PROGRESS.

- B. PROTECT PERSONS, MOTOR VEHICLES, SURROUNDING SURFACES OF BUILDING BEING REPAIRED, BUILDING SITE, PLANTS, AND SURROUNDING BUILDINGS FROM HARM RESULTING FROM CONCRETE MAINTENANCE WORK. 1. COMPLY WITH EACH PRODUCT MANUFACTURER'S WRITTEN INSTRUCTIONS FOR PROTECTIONS AND PRECAUTIONS.
- PROTECT AGAINST ADVERSE EFFECTS OF PRODUCTS AND PROCEDURES ON PEOPLE AND ADJACENT MATERIALS, COMPONENTS, AND VEGETATION.
- 2. USE ONLY PROVEN PROTECTION METHODS APPROPRIATE TO EACH AREA AND SURFACE BEING PROTECTED. 3. CONTAIN DUST AND DEBRIS GENERATED BY CONCRETE MAINTENANCE WORK AND PREVENT IT FROM REACHING THE
- PUBLIC OR ADJACENT SURFACES. 4. USE WATER-MIST SPRINKLING AND OTHER WET METHODS TO CONTROL DUST ONLY WITH ADEQUATE, APPROVED PROCEDURES AND EQUIPMENT THAT ENSURE THAT SUCH WATER WILL NOT CREATE A HAZARD OR ADVERSELY AFFECT OTHER BUILDING AREAS OR MATERIALS.
- 5. PROTECT FLOORS AND OTHER SURFACES ALONG HAUL ROUTES FROM DAMAGE, WEAR, AND STAINING. 6. PROTECT ADJACENT SURFACES AND EQUIPMENT BY COVERING THEM WITH HEAVY POLYETHYLENE FILM AND WATERPROOF MASKING TAP OR A LIQUID STRIPPABLE MASKING AGENT. IF PRACTICAL, REMOVE ITEMS, STORE, AND REINSTALL AFTER POTENTIALLY DAMAGING OPERATIONS ARE COMPLETE.
- 7. NEUTRALIZE AND COLLECT ALKALINE AND ACID WASTES FOR DISPOSAL OFF OWNER'S PROPERTY. 8. DISPOSE OF DEBRIS AND RUNOFF FROM OPERATIONS BY LEGAL MEANS AND IN A MANNER THAT PREVENTS SOIL EROSION, UNDERMINING OF PAVING AND FOUNDATIONS, DAMAGE TO LANDSCAPING, AND WATER PENETRATION INTO BUILDING INTERIORS.
- C. PREPARATION FOR CONCRETE REMOVAL: EXAMINE CONSTRUCTION TO BE REPAIRED TO DETERMINE BEST METHODS TO SAFELY AND EFFECTIVELY PERFORM CONCRETE MAINTENANCE WORK. EXAMINE ADJACENT WORK TO DETERMINE WHAT PROTECTIVE MEASURES WILL BE NECESSARY. MAKE EXPLORATIONS, PROBES, AND INQUIRIES AS NECESSARY TO DETERMINE CONDITION OF CONSTRUCTION TO BE REMOVED IN THE COURSE OF REPAIR.
- D. PREPARATION FOR CRACK REPAIR: SAW-CUT JOINTS FULL WIDTH TO EDGES AND DEPTH OF SPALLS. BUT NOT LESS THAN 3/4 INCH DEEP. CLEAN OUT DEBRIS AND LOOSE CONCRETE; VACUUM OR BLOW CLEAR WITH COMPRESSED AIR. E. SURFACE PREPARATION FOR OVERLAYS:
- 1. REMOVE DELAMINATED MATERIAL AND DETERIORATED CONCRETE SURFACE MATERIAL
- 2. ROUGHEN SURFACE OF CONCRETE TO PRODUCE A SURFACE PROFILE MATCHING CSP 3 ACCORDING TO ICRI 310.2. 3. USE SAND BLASTING OR SHOT BLASTING.
- 4. SWEEP AND VACUUM ROUGHENED SURFACE TO REMOVE DEBRIS FOLLOWED BY LOW-PRESSURE WATER CLEANING. F. NONACIDIC SURFACE PREPARATION FOR SEALERS: CLEAN CONCRETE TO REMOVE DIRT, OILS, FILMS, AND OTHER
- MATERIALS DETRIMENTAL TO SEALER APPLICATION. 1. USE SHOT BLASTING.

2.3 CONCRETE REMOVAL

- REMOVAL AREA.
- UNTIL UNSOUND AND DEBONDED CONCRETE IS COMPLETELY REMOVED.
- UNLESS OTHERWISE DIRECTED.

2.4 BONDING AGENT APPLICATION

- BEFORE PLACING PATCHING MORTAR OR CONCRETE.

- PATCHING MORTAR OR CONCRETE.
- PLACING PATCHING MORTAR OR CONCRETE. PORES AND VOIDS.

2.5 PATCHING MORTAR APPLICATION

- MANUFACTURER.
- 2. WET SUBSTRATE AND FORMS THOROUGHLY AND THEN REMOVE STANDING WATER.
- EDGE.
- FEATHER EDGE.

- SURFACE MATCHING ADJACENT CONCRETE.

2.6 FLOOR-JOINT REPAIR

2.7 EPOXY CRACK INJECTION

- BOND.

 - THAN CRACK.
 - E. INJECT CRACKS WIDER THAN 0.003 INCH TO A DEPTH OF 8 INCHES.

A. DO NOT OVERLOAD STRUCTURAL ELEMENTS WITH DEBRIS.

B. SAW-CUT PERIMETER OF AREAS INDICATED FOR REMOVAL TO A DEPTH OF AT LEAST 1/2 INCH. MAKE CUTS PERPENDICULAR TO CONCRETE SURFACES AND NO DEEPER THAN COVER ON REINFORCEMENT. C. REMOVE DETERIORATED AND DELAMINATED CONCRETE BY BREAKING UP AND DISLODGING FROM REINFORCEMENT.

D. REMOVE ADDITIONAL CONCRETE IF NECESSARY TO PROVIDE A DEPTH OF REMOVAL OF AT LEAST 1/2 INCH OVER ENTIRE E. TEST AREAS WHERE CONCRETE HAS BEEN REMOVED BY TAPPING WITH HAMMER, AND REMOVE ADDITIONAL CONCRETE

F. PROVIDE SURFACES WITH A FRACTURED PROFILE OF AT LEAST 1/8 INCH THAT ARE APPROXIMATELY PERPENDICULAR OR PARALLEL TO ORIGINAL CONCRETE SURFACES. AT COLUMNS AND WALLS, MAKE TOP AND BOTTOM SURFACES LEVEL

G. THOROUGHLY CLEAN REMOVAL AREAS OF LOOSE CONCRETE, DUST, AND DEBRIS.

A. EPOXY-MODIFIED, CEMENTITIOUS BONDING AND ANTICORROSION AGENT: APPLY CONCRETE BY STIFF BRUSH OR HOPPER SPRAY ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. APPLY TO REINFORCING BARS IN TWO COATS, ALLOWING FIRST COAT TO DRY TWO TO THREE HOURS BEFORE APPLYING SECOND COAT. ALLOW TO DRY

B. EPOXY BONDING AGENT: APPLY TO CONCRETE BY BRUSH, ROLLER, OR SPRAY ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS, LEAVING NO PINHOLES OR OTHER UNCOATED AREAS. APPLY TO REINFORCING BARS IN AT LEAST TWO COATS, ALLOWING FIRST COAT TO DRY BEFORE APPLYING SECOND COAT. PLACE PATCHING MORTAR OR CONCRETE WHILE EPOXY IS STILL TACKY. IF EPOXY DRIES. RECOAT BEFORE PLACING PATCHING MORTAR OR CONCRETE

C. LATEX BONDING AGENT, TYPE I: APPLY TO CONCRETE BY BRUSH ROLLER OR SPRAY. ALLOW TO DRY BEFORE PLACING

D. LATEX BONDING AGENT, TYPE II: MIX WITH PORTLAND CEMENT AND SCRUB INTO CONCRETE SURFACE ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. PLACE PATCHING MORTAR OR CONCRETE WHILE BONDING AGENT IS STILL WET. IF BONDING AGENT DRIES, RECOAT BEFORE PLACING PATCHING MORTAR OR CONCRETE. E. MORTAR SCRUB COAT FOR JOB-MIXED PATCHING MORTAR AND CONCRETE: DAMPEN REPAIR AREA AND SURROUNDING CONCRETE 6 INCHES BEYOND REPAIR AREA. REMOVE STANDING WATER AND APPLY SCRUB COAT WITH A BRUSH, SCRUBBING IT INTO SURFACE AND THOROUGHLY COATING REPAIR AREA. IF SCRUB COAT DRIES. RECOAT BEFORE

F. SLURRY COAT FOR CEMENTITIOUS PATCHING MORTAR: WET SUBSTRATE THOROUGHLY AND THEN REMOVE STANDING WATER. SCRUB A SLURRY OF NEAT PATCHING MORTAR MIXED WITH LATEX BONDING AGENT INTO SUBSTRATE, FILLING

A. PLACE PATCHING MORTAR AS SPECIFIED IN THIS ARTICLE UNLESS OTHERWISE RECOMMENDED IN WRITING BY

1. PROVIDE FORMS WHERE NECESSARY TO CONFINE PATCH TO REQUIRED SHAPE.

B. PRETREATMENT: APPLY SPECIFIED BONDING AGENT, MORTAR SCRUB COAT, AND/OR SLURRY COAT

C. GENERAL PLACEMENT: PLACE PATCHING MORTAR BY TROWELING TOWARD EDGES OF PATCH TO FORCE INTIMATE CONTACT WITH EDGE SURFACES. FOR LARGE PATCHES, FILL EDGES FIRST AND THEN WORK TOWARD CENTER, ALWAYS TROWELING TOWARD EDGES OF PATCH. AT FULLY EXPOSED REINFORCING BARS, FORCE PATCHING MORTAR TO FILL SPACE BEHIND BARS BY COMPACTING WITH TROWEL FROM SIDES OF BARS.

D. VERTICAL PATCHING: PLACE MATERIAL IN LIFTS OF NOT MORE THAN 3 INCHES OR LESS THAN 1/4 INCH. DO NOT FEATHER E. OVERHEAD PATCHING: PLACE MATERIAL IN LIFTS OF NOT MORE THAN 2 INCHES OR LESS THAN 1/4 INCH. DO NOT

F. CONSOLIDATION: AFTER EACH LIFT IS PLACED, CONSOLIDATE MATERIAL AND SCREED SURFACE.

G. MULTIPLE LIFTS: WHERE MULTIPLE LIFTS ARE USED, SCORE SURFACE OF LIFTS TO PROVIDE A ROUGH SURFACE FOR PLACING SUBSEQUENT LIFTS. ALLOW EACH LIFT TO REACH FINAL SET BEFORE PLACING SUBSEQUENT LIFTS. H. FINISHING: ALLOW SURFACES OF LIFTS THAT ARE TO REMAIN EXPOSED TO BECOME FIRM AND THEN FINISH TO A

I. CURING: WET-CURE CEMENTITIOUS PATCHING MATERIALS, INCLUDING POLYMER-MODIFIED CEMENTITIOUS PATCHING MATERIALS, FOR NOT LESS THAN SEVEN DAYS BY WATER-FOG SPRAY OR WATER-SATURATED ABSORPTIVE COVER.

A. CUT OUT DETERIORATED CONCRETE AND RECONSTRUCT SIDES OF JOINT WITH PATCHING MORTAR AS INDICATED ON DRAWINGS. INSTALL JOINT FILLER IN NONMOVING FLOOR JOINTS WHERE INDICATED AND AS SPECIFIED IN THIS ARTICLE. B. DEPTH: INSTALL JOINT FILLER TO A DEPTH OF AT LEAST 1 INCH. USE FINE SILICA SAND NO MORE THAN 1/4-INCH-DEEP TO CLOSE BASE OF JOINT. DO NOT USE SEALANT BACKER RODS OR COMPRESSIBLE FILLERS BELOW JOINT FILLER. C. TOP SURFACE: INSTALL JOINT FILLER SO THAT WHEN CURED, IT IS FLUSH AT TOP SURFACE OF ADJACENT CONCRETE. IF NECESSARY, OVERFILL JOINT AND REMOVE EXCESS WHEN FILLER HAS CURED.

A. CLEAN CRACKS WITH OIL-FREE COMPRESSED AIR OR LOW-PRESSURE WATER TO REMOVE LOOSE PARTICLES. B. CLEAN AREAS TO RECEIVE CAPPING ADHESIVE OF OIL, DIRT, AND OTHER SUBSTANCES THAT WOULD INTERFERE WITH

C. PLACE INJECTION PORTS AS RECOMMENDED BY EPOXY MANUFACTURER, SPACING NO FARTHER APART THAN THICKNESS OF MEMBER BEING INJECTED. SEAL INJECTION PORTS IN PLACE WITH CAPPING ADHESIVE. D. SEAL CRACKS AT EXPOSED SURFACES WITH A RIBBON OF CAPPING ADHESIVE AT LEAST 1/4-INCH-THICK BY 1 INCH WIDER

F. INJECT EPOXY ADHESIVE, BEGINNING AT WIDEST PART OF CRACK AND WORKING TOWARD NARROWER PARTS. INJECT ADHESIVE INTO PORTS TO REFUSAL, CAPPING ADJACENT PORTS WHEN THEY EXTRUDE EPOXY. CAP INJECTED PORTS AND INJECT THROUGH ADJACENT PORTS UNTIL CRACK IS FILLED.

G. AFTER EPOXY ADHESIVE HAS SET, REMOVE INJECTION PORTS AND GRIND SURFACES SMOOTH.













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PARTIAL PLAN NOTES:

- 1. CONCRETE CRACKS AND SPALLS SHOWN INDICATE GENERAL LOCATION AND SIZE. CONTRACTOR TO VERIFY IN FIELD AS NEEDED.
- 2. SEE ARCHITECTURAL SPECIFICATIONS FOR CLEANING AND SURFACE APPLICATION OF A PROTECTIVE COATING.

	R	EPAIR KEY	SCHEDUL	.E	
MARK	MC	SP	PJ	MR	
REPAIR TYPE	MODERATE CRACK REPAIR	SPALL REPAIR	PERIMETER JOINT REPAIR	MASONRY BLOCK REPAIR	EXI
DETAIL(S)	REF DETAIL 3/S501	REF DETAIL 1/S501		REF DETAIL 4/S501	REF
REPAIR METHODOLGY (ABRIDGED) SEE SHEET S002 FOR FULL SPECS	ROUTE OUT CRACKS TO MINIMUM 1/4" AND SEAL WITH APPROVED SEALANT PER SPEC SECTIONS 1.5 & 2.7 AND MFR REQUIREMENTS	REMOVE LOOSE MATERIAL BACK TO SOUND CONCRETE AND PATCH WITH A POLYMER-MODIFIED CEMENTITIOUS PATCH MORTAR AS PER SPEC SECTIONS 1.3, 2.4, & 2.5	REMOVE AND REPLACE W/ SIKA EMSEAL DSM PER MFR REQUIRMENTS. MATCH EXISTING CONSTRUCTION IN FIELD, VIF	REMOVE ALL DAMAGED BLOCK AND INSTALL NEW CMU (GROUTED SOLID) TO MATCH EXISTING CONDITIONS	REP/ DETI EXP/ W/AI SEAI SEC ⁻ AND REQ

	LEGEND
\bigotimes	INDICATES SPALLIN
	INDICATES MODERA
	INDICATES SEVERE
	INDICATES DETERIC JOINT SEALANT







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PARTIAL EXHIBIT HALL A PLAN - AREA D SCALE: 1/8" = 1'-0"

TYPICAL MASONRY WALL INFILL DETAIL SCALE: 1" = 1'-0" (FRM-REM-9_M_MID)

1 125 202 A 1 125 255 A 3:56:55 <u>DCI PROJECT:</u> 23181-0285 <u>CONTACT:</u> R. SAVONA