

CITY OF FLINT FLINT WPC GRIT BAT "B" SYSTEM & PRIMARY TANKS IMPROVEMENTS

SRF NO. 5709-01

3497 COOLIDGE RD
EAST LANSING, MI, 48823
PHONE: (517) 316-3930 FAX (517) 484-8140

www.tetrattech.com



TETRA TECH

PROJECT LOCATION:
CITY OF FLINT WATER POLLUTION CONTROL FACILITY
4652 BEECHER RD, FLINT MI 48532

CLIENT INFORMATION:
CITY OF FLINT

Tt PROJECT No.:
200-156238-21001 SRF NO. 5709-01

CLIENT PROJECT No.:

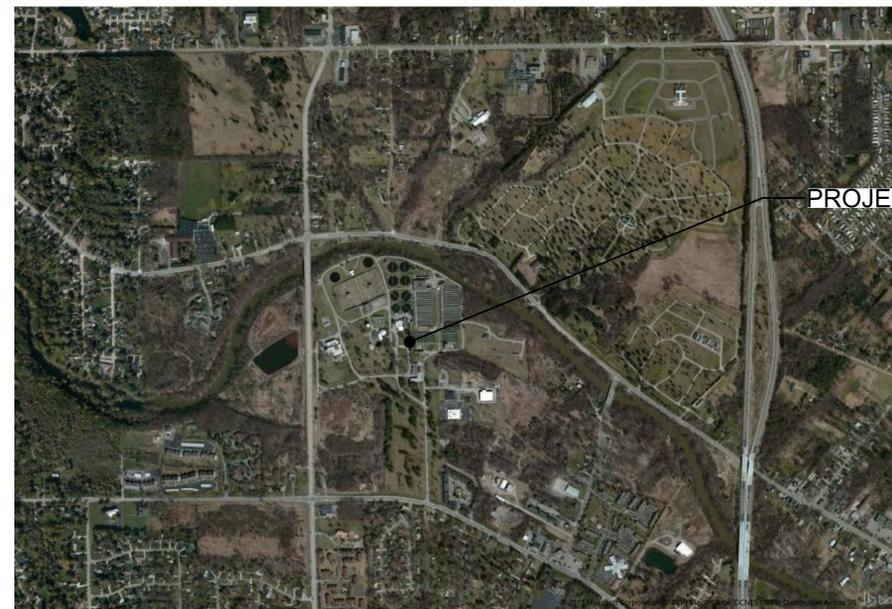
PROJECT DESCRIPTION / NOTES:

MODIFICATIONS TO EXISTING
GRIT BATTERY B AND PRIMARY TANK SYSTEMS

ISSUED:

1 6/22/21 ISSUED FOR BIDS

VICINITY MAP:



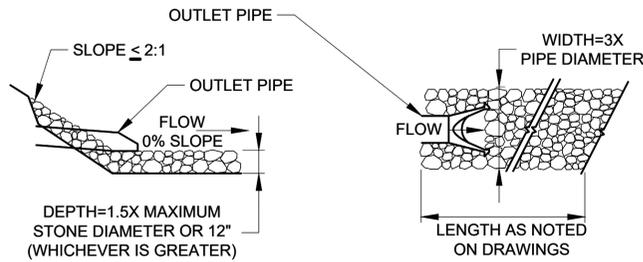
PROJECT LOCATION

LOCATION MAP
SCALE: NONE



CALL MISS DIG
(800) 482-7171

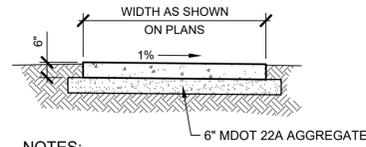
FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 53, 1974, THE CONTRACTOR SHALL CALL (800) 482-7171 A MINIMUM OF THREE (3) FULL WORKING DAYS (EXCLUDING SATURDAYS, SUNDAYS AND HOLIDAYS) PRIOR TO EXCAVATING IN THE VICINITY OF UTILITY LINES. ALL "MISS DIG" PARTICIPATING MEMBERS WILL BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.



- NOTES:**
1. REVIEW SUBJECT SITE TO IDENTIFY AREAS SUBJECT TO CONCENTRATED FLOWS.
 2. THE APPROPRIATENESS AND EXTENT OF RIPRAP PLACEMENT IS SITE SPECIFIC AND SHOULD BE DETERMINED IN THE FIELD.
 3. THE AREA UNDER REVIEW FOR RIPRAP PLACEMENT MUST BE SHAPED AND CONTOURED APPROPRIATELY BY GRADING PRIOR TO MATERIAL PLACEMENT.
 4. NON-WOVEN GEOTEXTILE FABRIC SHOULD BE INSTALLED PRIOR TO RIPRAP PLACEMENT, WITH UPPER END AND TOE END OF FABRIC BURIED OR ANCHORED TO PREVENT MOVEMENT.
 5. RIPRAP PLACEMENT SHOULD BE STARTED AT A STABILIZED LOCATION AND ENDED AT A STABILIZED OR CONTOURED POINT.
 6. MATERIAL SELECTED FOR RIPRAP SHOULD BE HARD, ANGULAR, AND RESISTANT TO WEATHERING. APPROPRIATE MATERIAL SIZE DEPENDS ON EXPECTED WATER ENERGY AND INTENDED FUNCTION OF THE MATERIAL.
 7. RIPRAP MIXTURE SHOULD BE AN EVEN MIXTURE OF STONE SIZES BASED ON THE AVERAGE, OR D_{50} . THIS MEANS 50% OF THE STONE, BY SIZE, WILL BE LARGER THAN THE DIAMETER SPECIFIED, AND 50% WILL BE SMALLER THAN THE SIZE SPECIFIED. THE DIAMETER OF THE LARGEST STONE SHOULD NOT BE MORE THAN 1.5 TIMES THE D_{50} STONE SIZE.
 8. SEE GRADING PLAN FOR REQUIRED RIPRAP STONE SIZES.
 9. ROCK SHALL BE PLACED SO THAT LARGER ROCKS ARE UNIFORMLY DISTRIBUTED AND IN CONTACT WITH ONE ANOTHER. SMALLER ROCKS SHOULD FILL THE VOIDS.

RIP RAP DETAIL

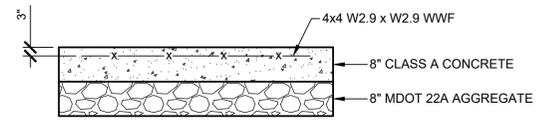
NO SCALE



- NOTES:**
1. PROVIDE JOINTS AS SHOWN ON MDOT STANDARD PLAN R-29-H, SHEET 1.
 2. PROVIDE 1/2" EXPANSION JOINTS BETWEEN WALKS AND OTHER CONCRETE OR RIGID STRUCTURES.
 3. INSTALL WWF IN SIDEWALK. 4X4 W2.9XW2.9 PLACED IN TOP 1/3 OF CONCRETE

CONCRETE WALK DETAIL

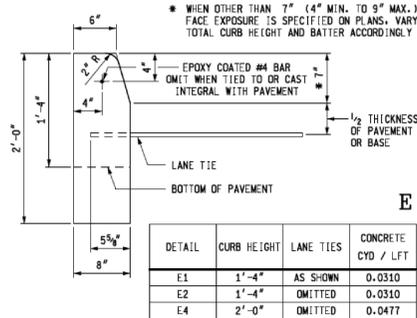
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- NOTES:**
1. PROVIDE SAW CUT JOINTS 12'-6" O.C. MAX.

CONCRETE APPROACH DETAIL

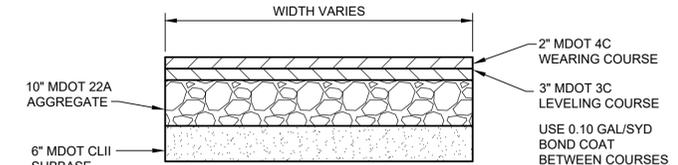
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DETAIL	CURB HEIGHT	LANE TIES	CONCRETE CYD / LFT
E1	1'-4"	AS SHOWN	0.0310
E2	1'-4"	OMITTED	0.0310
E4	2'-0"	OMITTED	0.0477

CONCRETE CURB DETAIL

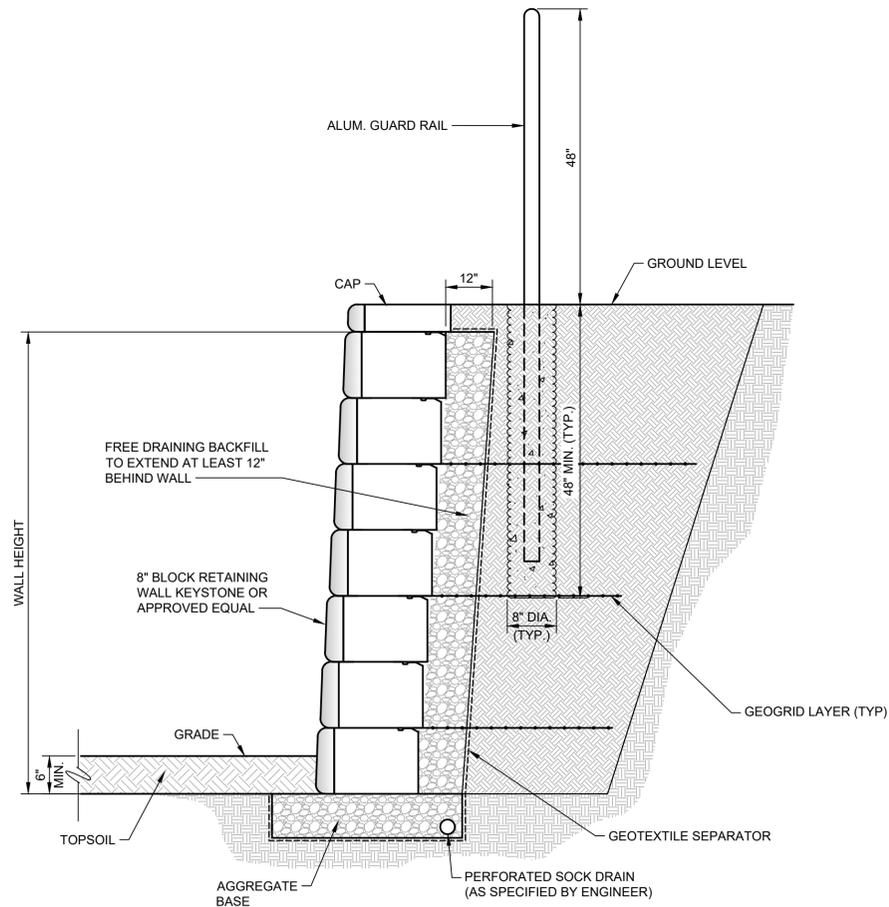
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HMA PAVEMENT SECTION

NO SCALE

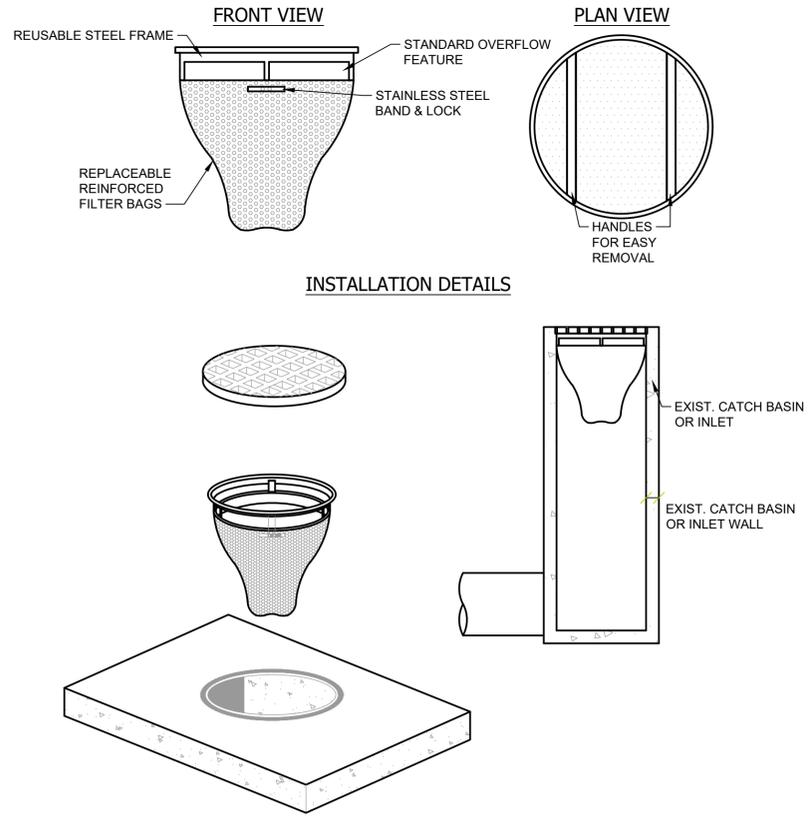
- NOTES:**
1. EX. PAVEMENT REMOVALS MAY INCLUDE SOME AREAS WITH AN AGGREGATE BASE AND OTHER AREAS WHERE THE PAVEMENT IS DIRECTLY APPLIED TO THE TOP OF THE STRUCTURE. EXISTING STRUCTURES ARE NOT TO BE DAMAGED IN PAVEMENT REMOVAL. CONTRACTOR RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH REPAIRING ANY CONTRACTOR DAMAGE TO STRUCTURES.
 2. ANY EXISTING WATER PROOFING ON STRUCTURES SHALL BE REPAIRED OR REPLACED AS PART OF THIS CONTRACT.



BLOCK WALL SECTION

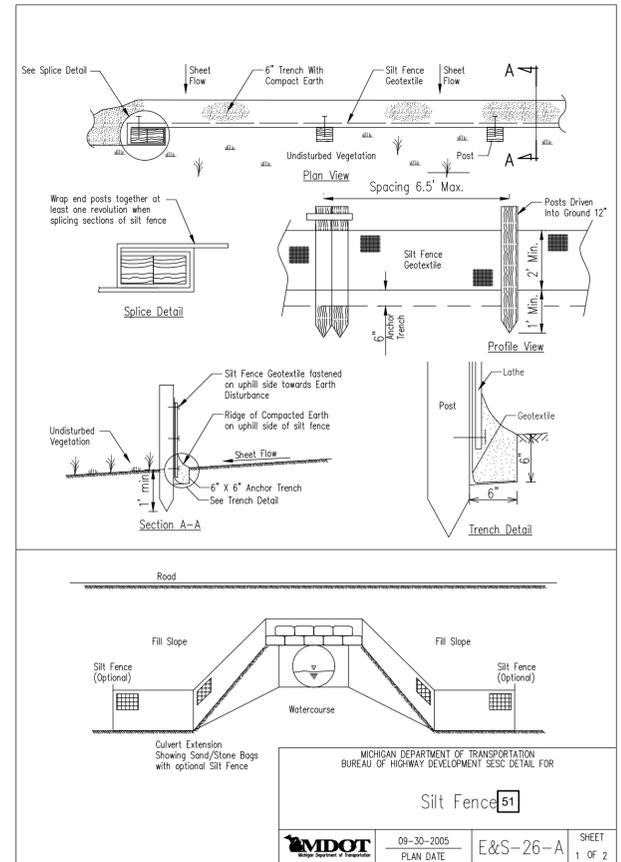
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- NOTE:** FREE DRAINING BACKFILL AND GEOTEXTILE SEPARATOR SHOULD BE EXTENDED A MINIMUM OF 2 FEET BEHIND THE EXISTING RETAINING WALL.



INSTALLATION DETAILS

BAG & FRAME INLET PROTECTION



MARK	DATE	DESCRIPTION	BY
1	6/22/21	ISSUED FOR BIDS	

**CITY OF FLINT, MICHIGAN
FLINT WPC GRIT BAT "B" SYSTEM &
PRIMARY TANKS IMPROVEMENTS
STANDARD DETAILS**

PROJ:	200-156238-21001
DESN:	BGB
DRWN:	TAH
CHKD:	BGB

C-501

ABBREVIATIONS

A	-----	CFS	CUBIC FEET PER SECOND	FFE	FINISH FLOOR ELEVATION	LF	LINEAR FOOT (FEET)	PLYWD	PLYWOOD	SSMR	STANDING SEAM METAL ROOF
A LABEL	A LABEL CLASS DOOR	CFT	CERAMIC FLOOR TILE	FG	FINISH GRADE	LG	LONG	PNL	PANEL	ST	STAIRS
A/C	AIR CONDITIONING UNIT	CG	CORNER GUARD	FGL	FIBERGLASS	LIB	LIBRARY	POC	POINT OF CONTACT	STC	SOUND TRANSMISSION CLASS
AB	ANCHOR BOLT	CJ	CAST IRON	FH	FIRE HOSE	LKR	LOCKER	PP PL	PUSH/PULL PLATE		
ABDN	ABANDON	CI	CONTROL JOINT	FIG	FIGURE	LLH	LONG LEG HORIZONTAL	PR	PAIR	STD	STANDARD
ACC	ACCESSIBLE	CL	CENTER LINE	FIN	FINISH (ED)	LLV	LONG LEG VERTICAL	PRCST	PRECAST	STL	STEEL
ACI	AMERICAN CONCRETE INSTITUTE	CLG	CEILING	FIXT	FIXTURE	LNT	LINEAL	PREFAB	PREFABRICATED	STL JST	STEEL JOIST
ACOUST	ACOUSTIC(AL)	CLG DIFF	CEILING DIFFUSER	FL	FLOOR	LNG	LONG	PRKG	PARKING	STL RF DK	STEEL ROOF DECK
ACP	ACOUSTICAL CEILING PANEL	CLG HT	CEILING HEIGHT	FLDG	FOLDING	LOC	LOCATION	PRESTRES	PRESTRESSED CONCRETE	STOR	STORAGE
ACS	AUTOMATIC CONTROL SYSTEM	CLL	COLUMN LINE	FLEX	FLEXIBLE	LP	LIGHT POLE	PS CONC	PRECAST CONCRETE	STR	STRINGER
ACT	ACOUSTICAL CEILING TILE	CLO	CLOSET	FLMT	FLUSH MOUNTED	LS	LABORATORY SINK	PSF	POUNDS PER SQUARE FOOT	STRB/HRN	STROBE / HORN
ACU	AIR CONDITIONING UNIT	CLR	CLEAR	FLR	FLOOR	LT	LIGHT	PSI	POUNDS PER SQUARE INCH	STRUCT	STRUCTURE(AL)
ADA	AMERICANS WITH DISABILITIES ACT	CLRM	CLASSROOM	FLUOR	FLUORESCENT	LVR	LOUVER DOOR	PT	PRESSURE TREATED	SUB FL	SUB FLOOR
ADD	ADDITIONAL	CMU	CONCRETE MASONRY UNIT	FM	FACTORY MUTUAL	LVR	LOUVER	PTD	PAPER TOWEL DISPENSER	SUSP	SUSPENDED
ADMIN	ADMINISTRATION	FOC	FACE OF CONCRETE	FOF	FACE OF MASONRY	M	METERS	PTDR	PAPER TOWEL DISPENSER AND RECEPTACLE	SV	SHEET VINYL
AESS	ARCH EXPOSED STRUCTURAL STEEL	FR	FIRE RESISTANT	FOS	FACE OF STEEL	MATL	MATERIAL			SYM	SYMMETRICAL
AFF	ABOVE FINISH FLOOR	FRG	FIBER REINFORCED GYPSUM	FRM	FRAMING	MB	MOISTURE BARRIER	PTN	PARTITION	T	TREAD
AFG	ABOVE FINISH GRADE	FRMG	FRAMING	FRP	FIBERGLASS REINFORCED PLASTIC	MD	METAL DECK	PWR	POWER	T&G	TONGUE AND GROOVE
AHU	AIR HANDLING UNIT	MECH	MECHANICAL (ROOM)	FRT	FIRE RETARDANT TREATED	MEMB	MEMBRANE	Q	QUARRY TILE	T/S	TUB / SHOWER
AIB	AIR INFILTRATION BARRIER	MFR	MANUFACTURER	FT	FOOT	MF	MILL FINISH	QTY	QUANTITY	TC	TOWEL BAR
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	FTG	FOOTING	FT	FOOT	MFR	MANUFACTURER	R	RISER	TD	TRAVEL DISTANCE
ALT	ALTERNATE	FTG	FOOTING	FT	FOOT	MFR	MANUFACTURER	R	RISER	TEL	TELEPHONE
ALUM	ALUMINUM	FUR	FURRING	FTG	FOOTING	FTG	FOOTING	R	RISER	TEMP	TEMPORARY
ANOD	ANODIZE	FUR	FURRING	FTG	FOOTING	FTG	FOOTING	R	RISER	TER	TERRAZZO
APPROX	APPROXIMATE(LY)	FWC	FABRIC WALLCOVERING	FTG	FOOTING	FTG	FOOTING	R	RISER	TFF	TOP OF FINISH FLOOR
APVD	APPROVED	G	GAUGE	FTG	FOOTING	FTG	FOOTING	R	RISER	THK	THICKNESS
AR	AS REQUIRED	GA	GAUGE	FTG	FOOTING	FTG	FOOTING	R	RISER	TK BD	TACK BOARD
ARCH	ARCHITECT(URAL)	GAL	GALLON	FTG	FOOTING	FTG	FOOTING	R	RISER	TLT	TOILET
ASC	ABOVE SUSPENDED CEILING	GALV	GALVANIZED	FTG	FOOTING	FTG	FOOTING	R	RISER	TMPD GL	TEMPERED GLASS
ASSY	ASSEMBLY	GALV	GALVANIZED	FTG	FOOTING	FTG	FOOTING	R	RISER	TN	TRUE NORTH
ATFP	ANTI-TERRORISM / FORCE PROTECTION	GB	GRAB BAR	FTG	FOOTING	FTG	FOOTING	R	RISER	TOF	TOP OF FOOTING
AVG	AVERAGE	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	FTG	FOOTING	FTG	FOOTING	R	RISER	TOM	TOP OF MASONRY
AW	ARCHITECTURAL WOODWORK	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	FTG	FOOTING	FTG	FOOTING	R	RISER	TOP	TOP OF PARAPET
AWT	ACOUSTICAL WALL TREATMENT	GFCMU	GROUND FACE CONCRETE MASONRY UNIT	FTG	FOOTING	FTG	FOOTING	R	RISER	TOPO	TOPOGRAPHY
B	-----	GL	GRID LINE	FTG	FOOTING	FTG	FOOTING	R	RISER	TOS	TOP OF SLAB
B LABEL	B LABEL CLASS DOOR	GLZ	GLAZING	FTG	FOOTING	FTG	FOOTING	R	RISER	TRANS	TRANSOM
BALC	BALCONY	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	TRTD	TREATED
BB	BASEBOARD	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	TS	TUBE STEEL
BD	BOARD	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	TV	TELEVISION
BFF	BELOW FINISH FLOOR	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	TYP	TYPICAL
BHMA	BUILDER'S HARDWARE MANUFACTURER'S ASSOCIATION	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	U	UNFINISHED
BL	BASELINE	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	UNF	UNFINISHED
BLDG	BUILDING	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	UNO	UNLESS NOTED OTHERWISE
BLKG	BLOCKING	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	UR	URINAL
BLT IN	BUILT-IN	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	V	VAPOR BARRIER
BM	BEAM	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	VCT	VINYL COMPOSITION TILE
BN	BULLNOSE	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	VERT	VERTICAL
BOF	BOTTOM OF FOOTING	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	VR	VAPOR RETARDER
BOS	BOTTOM OF STEEL	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	VTC	VIDEO TELECONFERENCE
BOT	BOTTOM	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	VTR	VENT THROUGH ROOF
BP	BUILDING PAPER	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	W	WEST
BRG	BEARING	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	W/	WITH
BRKT	BRACKET	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	W/O	WITHOUT
BSMT	BASEMENT	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	WC	WATER CLOSET
BTWN	BETWEEN	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	WD	WOOD
BUR	BUILT UP ROOF	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	WG	WIRE GLASS
C	-----	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	WOM	WALK OFF MAT
C	CENTER POINT	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	WR	WASTE RECEPTACLE
C CONC	CAST CONCRETE	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	WRB	WEATHER RESISTANT BARRIER
C LABEL	C LABEL CLASS DOOR	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	WRGWB	WATER RESISTANT GYPSUM WALLBOARD
C-C	CENTER TO CENTER	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	WWS	WATER STOP
CAB	CABLE	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	WTP	WATER TREATMENT PLANT
CATW	CATWALK	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER	WWTP	WASTE WATER TREATMENT PLANT
CAV	CAVITY	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER		
CB	CEMENTITIOUS (BACKER) BOARD	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER		
CBB	CEMENTITIOUS BACKER BOARD	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER		
CD	CONSTRUCTION DOCUMENT(S)	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER		
CDW	CHILLED DRINKING WATER	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER		
CEM PLAS	CEMENT PLASTER	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER		
CER	CERAMIC	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER		
CF	CONTRACTOR FURNISHED	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER		
CF/CI	CONTRACTOR FURNISHED/ CONTRACTOR INSTALLED	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER		
CFE	CONTRACTOR FURNISHED EQUIPMENT	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER		
CFLG	COUNTER FLASHING	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER		
CFM	CUBIC FEET PER MINUTE	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER		
CFMF	COLD FORM METAL FRAMING	GR FL	GROUND FLOOR	FTG	FOOTING	FTG	FOOTING	R	RISER		

GENERAL NOTES

- THE DRAWINGS INDICATE THE GENERAL EXTENT OF WORK. THE DRAWINGS ARE NOT INTENDED TO INDICATE OR DESCRIBE ALL WORK REQUIRED FOR THE FULL PERFORMANCE AND COMPLETION OF THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. REPETITIVE FEATURES NOT NOTED ON THE DRAWINGS SHALL BE COMPLETELY PROVIDED AS IF DRAWN IN FULL.
- GRID LINES INDICATE THE CENTER LINE OF PRIMARY COLUMNS ONLY, SEE STRUCTURAL PLANS FOR EXACT LOCATION AND SIZES OF INDIVIDUAL COLUMNS.
- ROOM AND DOOR NUMBERS SHOWN ON DRAWINGS ARE FOR CONSTRUCTION PURPOSES ONLY.
- DIMENSIONS ON DRAWINGS ARE TAKEN FROM THE LOCATIONS LISTED BELOW:
FACE OF CMU WALLS
ROUGH OPENING OF DOORS
ROUGH OPENING OF WINDOWS
GRID LINES
MASONRY OPENINGS
- ALL WORK SHALL COMPLY WITH APPLICABLE BUILDING CODES, ORDINANCES AND REGULATORY AGENCIES.
- NFPA 241, STANDARD FOR SAFEGUARDING CONSTRUCTION, AND ALTERATION OPERATIONS SHALL BE APPLIED TO THIS PROJECT.
- BUILDING HEIGHTS AND ELEVATIONS ARE BASED UPON PROJECT FINISH ELEVATION OF 0'-0" AT THE FIRST FLOOR. REFERENCE CIVIL DRAWINGS FOR FIRST FLOOR ELEVATIONS RELATIVE TO SEA LEVEL.
- CONFIRM QUANTITY, TYPE AND PLACEMENT OF ALL FIRE EXTINGUISHERS WITH THE FIRE MARSHAL OR USACE JURISDICTION REPRESENTATIVE. COORDINATE FINAL LOCATIONS WITH THE ARCHITECT PRIOR TO PLACEMENT. FIRE EXTINGUISHER BASIS OF DESIGN: LARSEN SURFACE MOUNTED OR APPROVED EQUAL.
- REFER TO LIFE SAFETY DRAWINGS FOR FIRE-RATED FLOOR, WALL, CEILING AND ROOF LOCATIONS. INSTALL FIRESTOPPING AT PENETRATIONS IN RATED CONSTRUCTION AND AT TOPS OF RAFTED WALLS.
- DO NOT BEGIN WORK THAT MAY REQUIRE COORDINATION, RESOLUTION AND APPROVAL OF COORDINATION ISSUES.
- WORK SHALL CONFORM TO APPLICABLE INDUSTRY AND MANUFACTURER'S PUBLISHED STANDARDS FOR QUALITY OF MATERIALS AND WORKMANSHIP, AS WELL AS REQUIREMENTS IN THESE DRAWINGS AND SPECIFICATIONS. ANY CONFLICTING REQUIREMENTS OF THE SOURCES LISTED ABOVE SHALL BE BROUGHT TO THE ARCHITECTS ATTENTION PRIOR TO PROCEEDING WITH THE WORK.
- PROTECT EXISTING, IN-PLACE AND NEW WORK.
- VERIFY DIMENSIONS AND SHALL VERIFY EXISTING CONDITIONS, SHOWN ON THESE DRAWINGS AND, AT THE SITE, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES, OMISSIONS AND OR CONFLICTS BEFORE COMMENCEMENT OF WORK. COMMENCEMENT OF WORK SHALL CONSTITUTE CONTRACTOR'S ACCEPTANCE OF ALL NEW OR EXISTING CONDITIONS.
- VERIFY MOUNTING HEIGHTS OF ACCESSORIES, EQUIPMENT, DOOR HARDWARE, CASEWORK, ETC., AND PROVIDE SOLID BLOCKING BEHIND ITEMS REQUIRING ANCHORAGE. PROVIDE FIRE-TREATED WOOD BLOCKING OR METAL STRAPS BETWEEN FRAMING MEMBERS AS REQUIRED TO SUPPORT WEIGHT AND USE OF ITEMS TO BE SUPPORTED. WHERE MOUNTING HEIGHTS ARE NOT INDICATED, MOUNT ITEMS IN ACCORDANCE WITH RECOGNIZED INDUSTRY STANDARDS, COORDINATE LOCATIONS WITH MANUFACTURER OR SUPPLIER AND REFER MOUNTING HEIGHT QUESTIONS TO ARCHITECT FOR INTERPRETATION.
- AT EXTERIOR MASONRY WALLS, CMU SHALL BE EXTENDED TIGHT TO FLOOR AND / OR ROOF DECKS, INCLUDING AROUND ALL PENETRATIONS SUCH AS BEAMS, JOIST ENDS, AND ETC. FILLING VOIDS IN EXT. CMU BACK-UP WITH INSULATION IN LIEU OF A SOLID MASONRY ENCLOSURE SHALL NOT BE PERMITTED.
- VERTICAL COURSING FOR NEW MASONRY WALL CONSTRUCTION SHALL EQUAL EIGHT INCHES (8") FOR ONE CONCRETE MASONRY UNIT PLUS ONE MORTAR JOINT AND THREE BRICK COURSES PLUS THREE MORTAR JOINTS, UNLESS NOTED OTHERWISE.
- PROVIDE CONTROL JOINTS (C.J.) IN MASONRY WALL CONSTRUCTION AS INDICATED. WHERE NOT SHOWN, PROVIDE MAXIMUM SPACING BETWEEN JOINTS OF 40'-0" AND MAXIMUM DISTANCE BETWEEN OUTSIDE CORNERS AND JOINTS OF 10'-0". PROVIDE JOINTS BETWEEN INTERIOR LOAD BEARING AND NON-LOAD BEARING PARTITIONS, AT ALL ABRUPT CHANGES IN WALL HEIGHT, AT CHANGES IN PARTITION THICKNESS AND AT PLASTER LOCATIONS. VERIFY FINAL CONTROL JOINT LOCATIONS WHETHER OR NOT INDICATED ON THE DRAWINGS WITH ARCHITECT PRIOR TO STARTING WORK.
- PROVIDE SEALANT BETWEEN HOLLOW METAL FRAME PERIMETERS AND SURROUNDING WALL CONSTRUCTION UNLESS OTHERWISE INDICATED.
- PROVIDE SEALANT BETWEEN DISSIMILAR MATERIALS SUCH AS GYPSUM BOARD AND MASONRY, MASONRY AND CONCRETE, COUNTERTOPS AND WALLS, ETC.
- MANUFACTURERS ARE REFERENCED TO ESTABLISH STYLE, SIZE, COLOR AND MATERIAL CHARACTERISTICS AND ARE NOT INTENDED TO LIMIT SELECTIONS FROM OTHER MANUFACTURERS. WHEN AN ALTERNATE SELECTION IS SUBMITTED, SUBMITTALS SHALL HAVE INCLUDED THE MATERIAL LISTED FOR COMPARISON.
- CHAMFER EXTERNAL CORNERS OF EXPOSED CONCRETE WALLS 1" TYPICAL. UNLESS OTHERWISE NOTED, COORDINATE WITH STRUCTURAL.
- ALL DOORS IN STUD WALLS NOT LOCATED BY DIMENSION ON PLANS OR DETAILS SHALL BE 4" (100mm) FROM FRAMING TO ADJACENT PERPENDICULAR WALL TO EDGE OF DOOR OPENING.
- ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESERVATIVE TREATED WOOD.
- ALL DISSIMILAR MATERIALS SHALL BE ISOLATED FROM EACH OTHER TO AVOID GALVANIC CORROSION.
- "ALIGN" AS USED IN THESE DOCUMENTS SHALL MEAN TO ACCURATELY LOCATE FINISHED FACES IN THE SAME PLAN AND/OR TO INSTALL NEW CONSTRUCTION ADJACENT TO EXISTING CONSTRUCTION WITHOUT ANY VISIBLE JOINTS OR SURFACE IRREGULARITIES.
- "CLEAR" AS USED IN THESE DOCUMENTS SHALL MEAN THAT THE CONDITION IS NOT ADJUSTABLE WITHOUT APPROVAL OF THE ARCHITECT. CLEAR DIMENSIONS ARE TYPICAL.
- "MAXIMUM" OR "MAX" AS USED IN THESE DOCUMENTS SHALL MEAN THAT THE CONDITION IS SLIGHTLY ADJUSTABLE BUT MAY NOT VARY TO A DIMENSION OR QUANTITY GREATER THAN THAT SHOWN WITHOUT APPROVAL OF THE ARCHITECT.
- "MINIMUM" OR "MIN" AS USED IN THESE DOCUMENTS SHALL MEAN THAT THE CONDITION IS SLIGHTLY ADJUSTABLE BUT MAY NOT VARY TO A DIMENSION OR QUANTITY LESS THAN THAT SHOWN WITHOUT APPROVAL OF THE ARCHITECT.
- "TYPICAL" AS USED IN THESE DOCUMENTS SHALL MEAN THAT THE CONDITION OR DIMENSION IS THE SAME OR REPRESENTATIVE FOR SIMILAR CONDITIONS THROUGHOUT.
- "+/-" AS USED IN THESE DOCUMENTS SHALL MEAN THAT THE DIMENSION OR QUALITY IS SLIGHTLY ADJUSTABLE TO ACCOMMODATE ACTUAL CONDITIONS, FIELD VERIFICATION AND COORDINATION WITH OTHER ELEMENTS AS MIGHT BE NECESSARY.

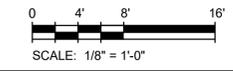
TETRA TECH
www.tetra.tech.com
3487 COOLIDGE ROAD
EAST LANSING, MI 48823
TEL: (517) 316-3980 FAX: (517) 484-8140

MARK	DATE	DESCRIPTION
1	06/22/21	ISSUED FOR BIDS

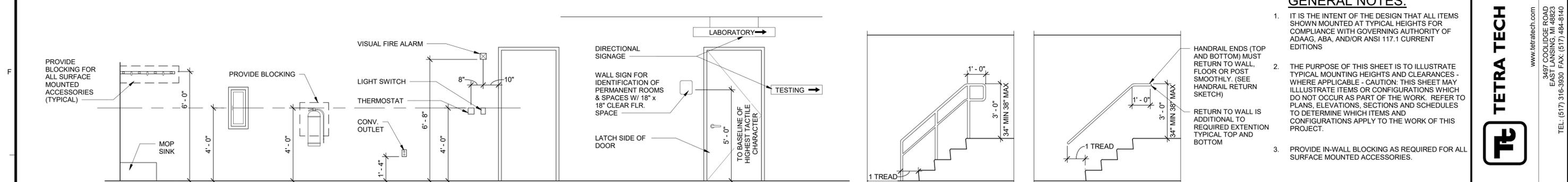
CITY OF FLINT, MICHIGAN
FLINT WPC GRIT BAT "B" SYSTEM & PRIMARY TANKS IMPROVEMENTS
ARCHITECTURAL ABBREVIATIONS AND GENERAL NOTES

PROJ:	200-156238-21001
DESIN:	LD
DRWN:	RY
CHKD:	QB

A-001

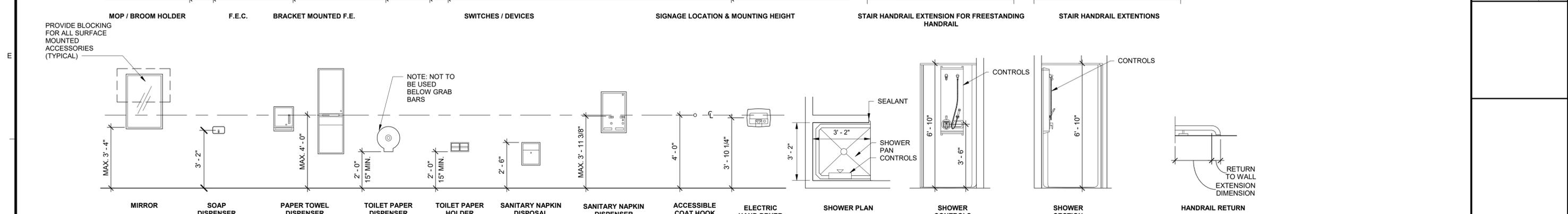


Bar measures 1 inch, otherwise drawing is not to scale

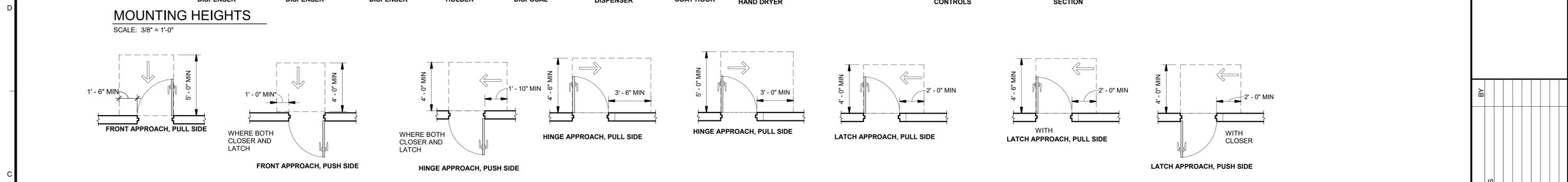


- GENERAL NOTES:**
- IT IS THE INTENT OF THE DESIGN THAT ALL ITEMS SHOWN MOUNTED AT TYPICAL HEIGHTS FOR COMPLIANCE WITH GOVERNING AUTHORITY OF ADAAG, ABA, AND/OR ANSI 117.1 CURRENT EDITIONS
 - THE PURPOSE OF THIS SHEET IS TO ILLUSTRATE TYPICAL MOUNTING HEIGHTS AND CLEARANCES - WHERE APPLICABLE - CAUTION: THIS SHEET MAY ILLUSTRATE ITEMS OR CONFIGURATIONS WHICH DO NOT OCCUR AS PART OF THE WORK. REFER TO PLANS, ELEVATIONS, SECTIONS AND SCHEDULES TO DETERMINE WHICH ITEMS AND CONFIGURATIONS APPLY TO THE WORK OF THIS PROJECT.
 - PROVIDE IN-WALL BLOCKING AS REQUIRED FOR ALL SURFACE MOUNTED ACCESSORIES.

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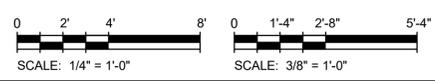
MOUNTING HEIGHTS
 SCALE: 3/8" = 1'-0"



MANEUVERING CLEARANCE
 SCALE: 1/4" = 1'-0"

ANNOTATION CALLOUTS/DRAWING SYMBOLS

<p>INTERIOR ELEVATION</p>	<p>SPOT ELEVATION</p>	<p>View Name SCALE: 1/8" = 1'-0"</p>	<p>VIEW TITLE FOR ALL VIEWS BEING REFERENCED (SECTIONS, DETAILS, ENLARGED PLANS, ELEVATIONS, ETC.)</p>
<p>EXTERIOR ELEVATION</p>	<p>SHEET KEYNOTE</p>	<p>View Name SCALE: 1/8" = 1'-0"</p>	<p>VIEW TITLE FOR PLANS</p>
<p>SECTION</p>	<p>WALL TYPE</p>	<p>NORTH ARROW</p>	<p>CONCRETE</p>
<p>PLAN, BLOW-UP DETAIL</p>	<p>KITCHEN APPLIANCE</p>	<p>GRAPHIC SCALE SCALE: 1/8" = 1'-0"</p>	<p>MASONRY</p>
<p>Room Name 1000 150 SF</p>	<p>TOILET ACCESSORY</p>	<p>CONCRETE, MASONRY, CMU, GROUT, WOOD STUDS, BLOCKING, EARTHWORK, GRAVEL, STEEL, SAND, RIGID INSULATION, ACUSTICAL TILE, FINISH LUMBER, PLYWOOD, BATT INSULATION, SPRAYED FOAM INSULATION</p>	<p>DEMOLITION</p> <p>INDICATES AREA OF DEMOLITION</p>
<p>REVISION TAG</p>	<p>DOOR NUMBER</p>	<p>DEMOLITION, EXISTING, AND NEW WORK</p> <p>DEMOLITION EXISTING WALL AND DOOR TO BE REMOVED</p> <p>EXISTING EXISTING WALL AND DOOR TO REMAIN</p> <p>NEW WORK NEW WALL AND DOOR</p>	<p>PHASES LEGEND</p>



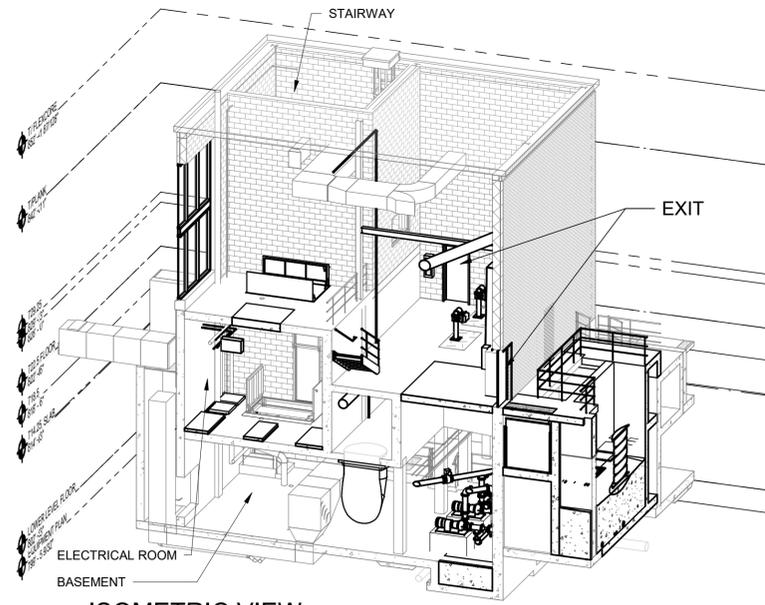
CITY OF FLINT, MICHIGAN
 FLINT WPC GRIT BAT "B" SYSTEM & PRIMARY TANKS IMPROVEMENTS
 ARCHITECTURAL STANDARDS

MARK	DATE	DESCRIPTION
1	06/22/21	ISSUED FOR BIDS

PROJ: 200-156238-21001
 DESN: LD
 DRWN: RY
 CHKD: QB

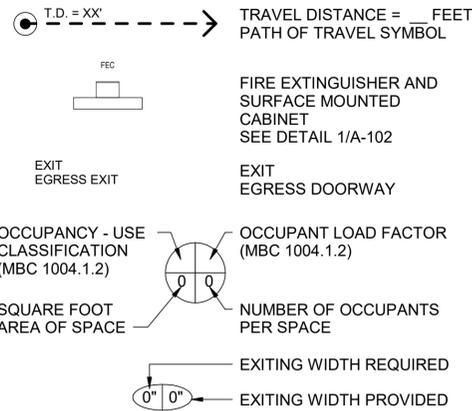
A-002

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ISOMETRIC VIEW
SCALE:

LIFE SAFETY LEGEND



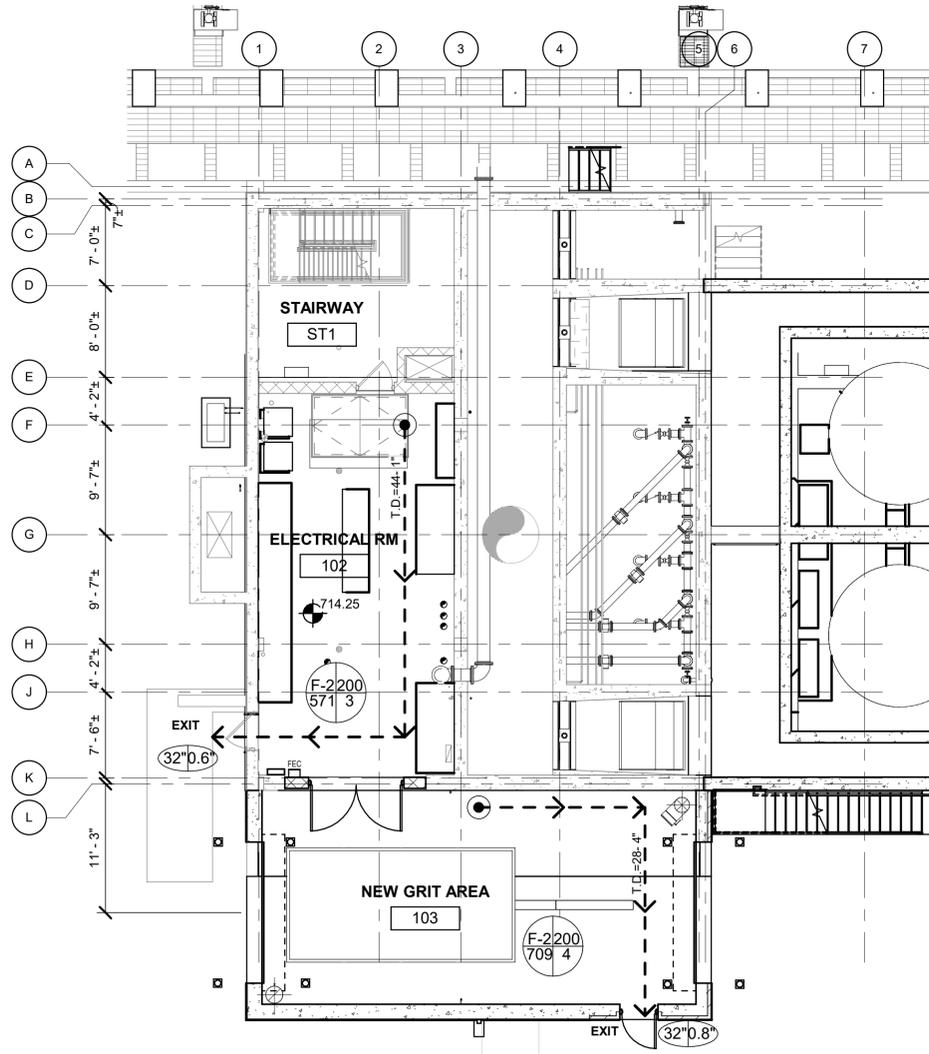
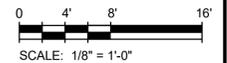
BUILDING CODE AND LIFE SAFETY ANALYSIS

SUMMARY		
"F-2" GROUP USE OCCUPANCY, EXISTING TWO-STORY BUILDING AND NEW ADDITION		(MBC 304.1)
GENERAL BUILDING LIMITATIONS		
AREAS BASED ON USE GROUP "F-2"		(MBC TABLE 503)
NUMBER OF STORIES PERMITTED	2 STORIES	(MBC TABLE 503)
BUILDING STORIES	2 STORIES	
TOTAL AREA PERMITTED	8,500 SF	(MBC TABLE 506.2)
EXISTING BUILDING AREA	1,909 SF	
NEW ADDITION AREA	709 SF	(TOTAL: 2,618 SF)
BUILDING HEIGHT PERMITTED	55 FT	(MBC TABLE 504.3)
EXISTING BUILDING HEIGHT	38 FT	
NEW ADDITION BUILDING HEIGHT	32 SF	
SEPARATION OF OCCUPANCIES	N/A	(MBC TABLE 508.4)
INCIDENTAL USE	N/A	(MBC 509)
TYPE OF CONSTRUCTION		
TYPE "IIB" NON-COMBUSTIBLE		(MBC 601)
FIRE-RESISTANT CONSTRUCTION		
ROOF CONSTRUCTION AND ASS. SECONDARY	0 HR	
FIRE SEPARATION DISTANCE	X > 30 FT	(MBC TABLE 602)
INTERIOR WALL & CEILING FINISHES - ROOMS	CLASS X	(MBC TABLE 803.13)
FLOOR FINISHES	CLASS II	(MBC 804)
FIRE PROTECTION SYSTEMS		
FIRE EXTINGUISHERS	CLASS A, 4A-60B-C	(MBC 906.3, NFPA 10)
FIRE ALARM & DETECTION SYSTEM	REQUIRED, PROVIDED MANUAL	(MBC 907.2.2, NFPA 101)
FIRE-RESISTANT CONSTRUCTION		
BUILDING ELEMENTS - FIRE-RESISTANCE RATING		(MBC TABLE 601)
PRIMARY STRUCTURAL FRAMING	0 HR	
BEARING WALLS - EXTERIOR	0 HR	
NON-BEARING WALLS AND PARTITIONS - INTERIOR	0 HR	
MEANS OF EGRESS / EXITS		
REQUIRED EXIT WIDTH / OCCUPANTS - DOORS, OTHER (#OCC. X .2 INCHES)	REFER TO LIFE SAFETY PLAN	(MBC 1005)
MAX. COMMON PATH OF EGRESS	100 FEET	(MBC TABLE 1006.2.1)
MAX. EXIT ACCESS TRAVEL DISTANCE	300 FEET	(MBC TABLE 1017.2)
MIN. CORRIDOR WIDTH	44 INCHES	(MBC TABLE 1020.2)
MAX. CORRIDOR DEAD END	20 FEET	(MBC 1020.4)
EXITS	2 REQUIRED / 2 PROVIDED	(MBC TABLE 1006.2.1)
PLUMBING FIXTURES		
WATER CLOSETS	0 REQUIRED / 0 PROVIDED	(MBC TABLE 2902.1)
LAVATORIES	0 REQUIRED / 0 PROVIDED	(MBC TABLE 2902.1)
DRINKING FOUNTAINS	0 REQUIRED / 0 PROVIDED	(MBC TABLE 2902.1)
MOP BASINS	0 REQUIRED / 0 PROVIDED	(MBC TABLE 2902.1)

APPLICABLE BUILDING CODES

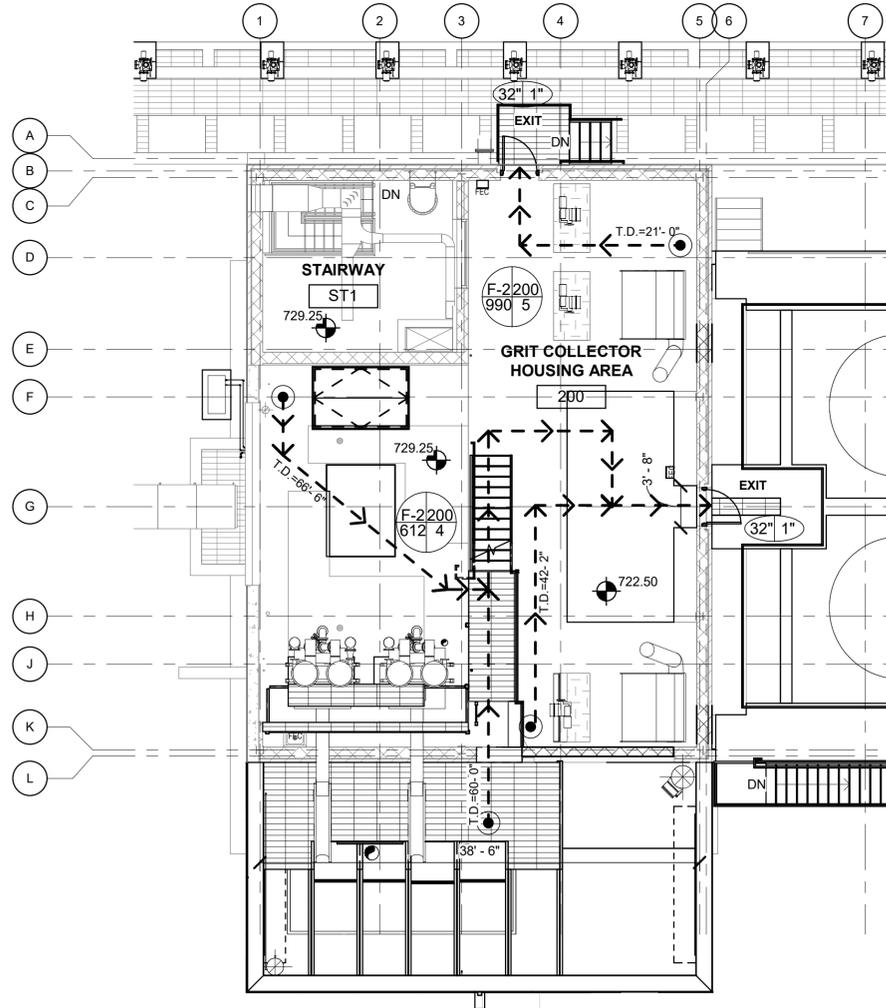
2015 MICHIGAN BUILDING CODE
2015 MICHIGAN PLUMBING CODE
2015 MICHIGAN MECHANICAL CODE
2015 MICHIGAN ENERGY CODE
MICHIGAN ELECTRICAL CODE RULES PART 8 INCLUDING NEC 2017
NFPA 1 FIRE CODE
NFPA 70 (2011) NATIONAL ELECTRICAL CODE
NFPA 72 NATIONAL FIRE ALARM & SIGNALING CODE
NFPA 80 STANDARD FOR FIRE DOORS & OTHER OPENING PROTECTIVES
2014 NFPA 101 SAFETY CODE
29 CFR (OSHA)
ASME A17.1

PLAN NORTH



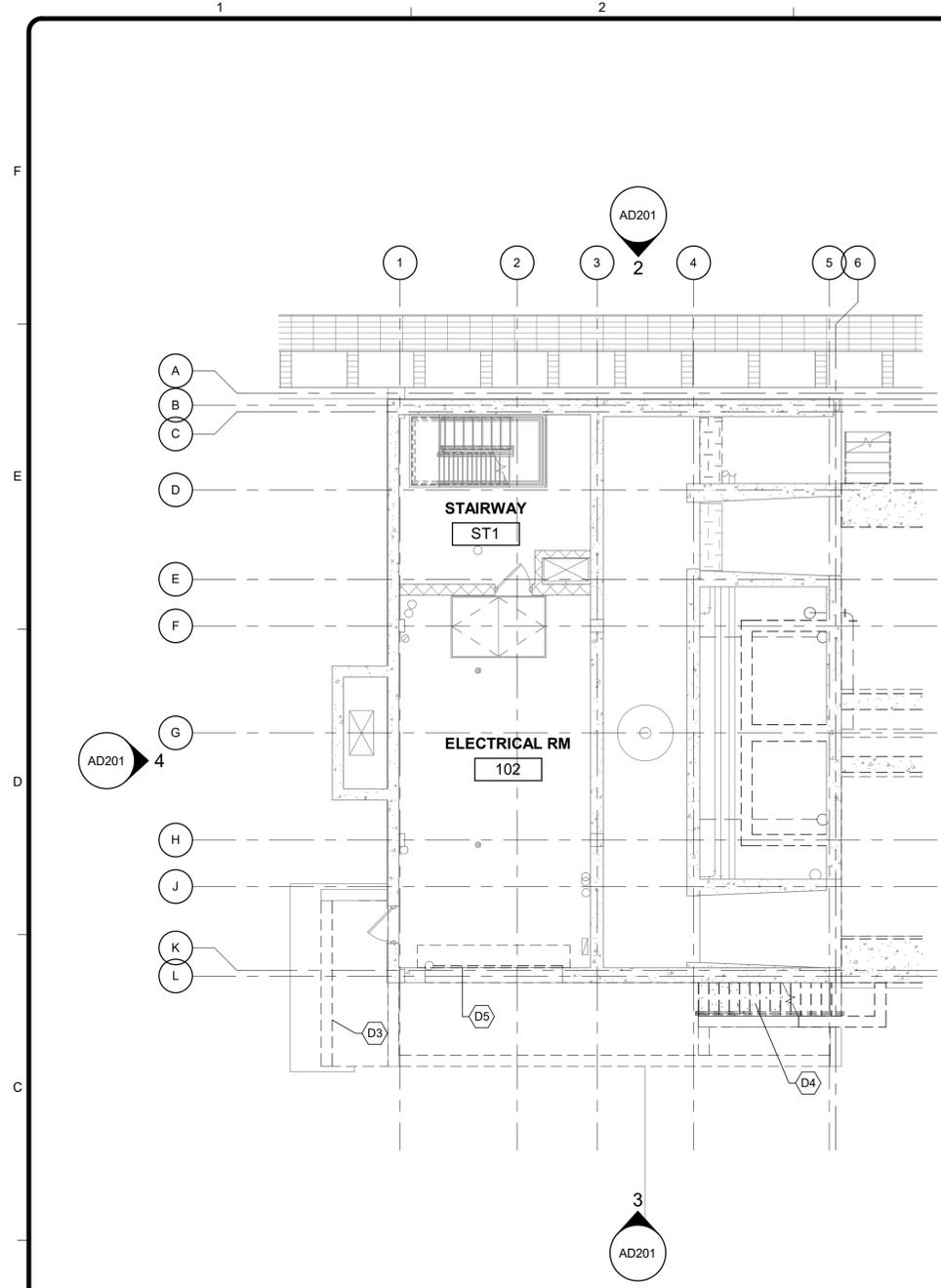
LOWER LEVEL - LIFE SAFETY PLAN

SCALE: 1/8" = 1'-0"



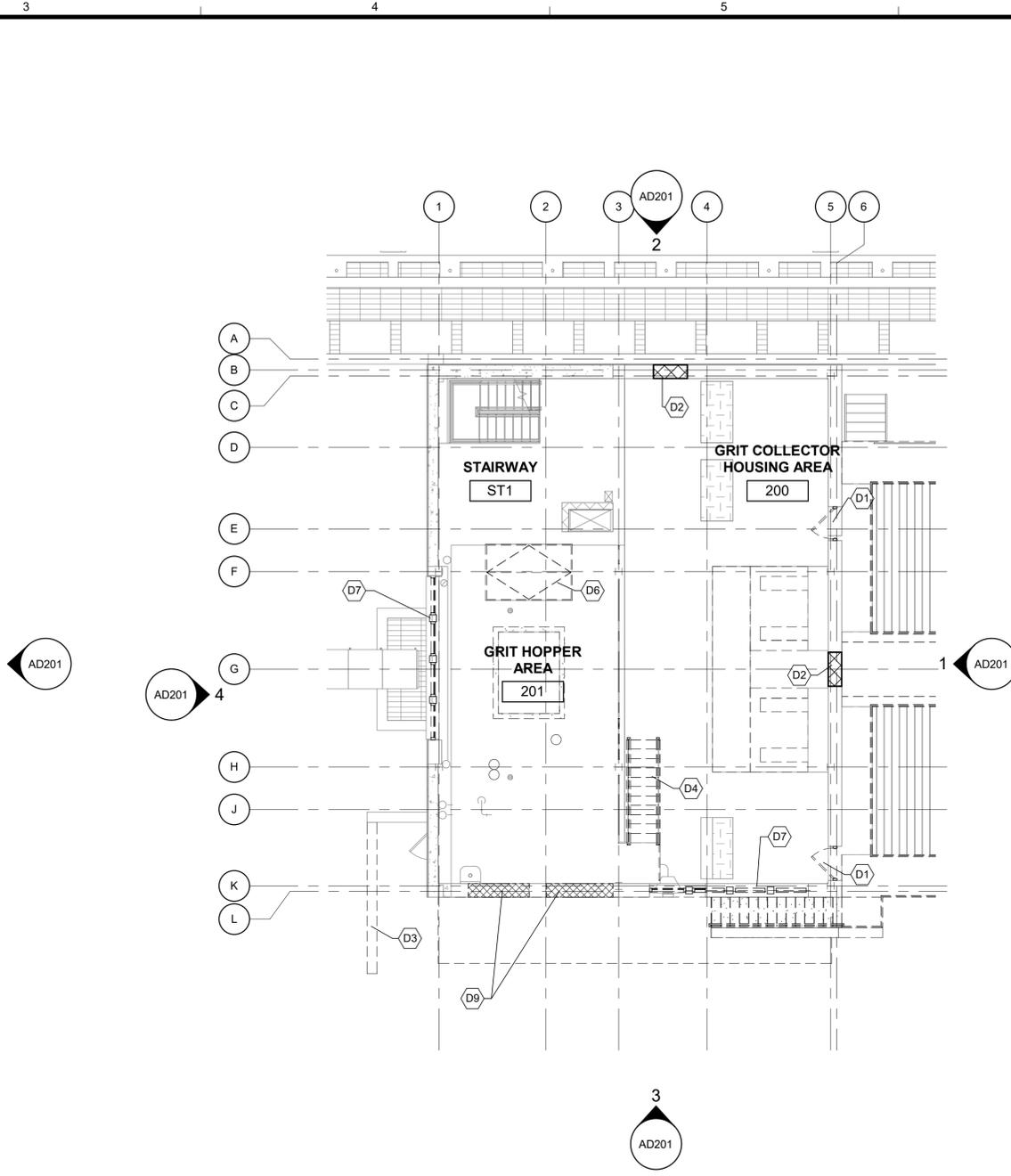
MAIN LEVEL - LIFE SAFETY PLAN

SCALE: 1/8" = 1'-0"



FLOOR PLAN - LOWER LEVEL - SELECTIVE DEMOLITION

SCALE: 1/8" = 1'-0"



FLOOR PLAN - MAIN LEVEL - SELECTIVE DEMOLITION

SCALE: 1/8" = 1'-0"

GENERAL NOTES - DEMOLITION

1. ALL AREAS DESIGNATED BY DASHED LINES ARE TO BE REMOVED.
2. ALL AREAS AND PARTITIONS NOT DASHED OR NOTED TO BE REMOVED SHALL REMAIN INTACT. PATCH AND REPAIR EXISTING ADJACENT SURFACES AS REQUIRED AFTER DEMOLITION TO MATCH EXISTING OR IN ACCORDANCE WITH PROPOSED RENOVATIONS.
3. PROVIDE INTERIOR AND EXTERIOR SHORING, BRACING, OR OTHER SUPPORT TO PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF ELEMENTS TO BE DEMOLISHED AND ADJACENT EXISTING ELEMENTS TO REMAIN.
4. LOCATE AND IDENTIFY EXISTING UTILITIES, INCLUDING SANITARY SEWER SYSTEM, AND ASCERTAIN THEIR CONDITION TO ENSURE ADEQUATE PERFORMANCE OF ALL UTILITIES IN NEW CONSTRUCTION. PROTECT UTILITY LINES AND HARDWARE DURING DEMOLITION AND CONSTRUCTION PHASES.
5. ALL HAZARDOUS MATERIALS HAVE BEEN ADDRESSED BY OWNER. IF HAZARDOUS MATERIALS ARE ENCOUNTERED DURING DEMOLITION OPERATIONS IT SHALL BE BROUGHT TO OWNER ATTENTION.
6. CONTRACTOR IS RESPONSIBLE TO REMOVE FROM BUILDING SITE DEBRIS, TRASH, AND OTHER DISCARDED MATERIALS AND/OR EQUIPMENT RESULTING FROM DEMOLITION OPERATIONS. TRANSPORT AND LEGALLY DISPOSE OFF SITE.
7. BURNING OF REMOVED MATERIALS IS NOT PERMITTED ON THE PROJECT SITE.
8. VERIFY DIMENSIONS AND LOCATIONS. IT IS ANTICIPATED THAT EXISTING CONDITIONS SHALL REQUIRE SLIGHT ADJUSTMENTS.
9. THE EXTENT OF WORK OF TANK AND GRIT TANK AREA AROUND THE BUILDING IS SHOWN ON THE STRUCTURAL SET.
10. EXISTING GRID LINES ARE FOR REFERENCE ONLY.

KEYNOTES

- | # | DESCRIPTION |
|----|---|
| D1 | EXISTING DOOR SYSTEM TO BE REMOVED IN ITS ENTIRETY. PATCH AND REPAIR REMAINING SURFACES FOR NEW DOOR, TYP |
| D2 | REMOVE WALL. TEMPORARY SHORE AS NEEDED FOR NEW DOOR OPENING. PROVIDE LINTEL. |
| D3 | EXISTING CONCRETE WALL TO BE REMOVED. REFER TO STRUCTURAL DRAWING FOR ADDITIONAL INFORMATION. |
| D4 | EXISTING CONCRETE STAIR TO BE REMOVED IN ITS ENTIRETY. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION. |
| D5 | EXISTING OVERHEAD DOOR SYSTEM TO BE REMOVED IN ITS ENTIRETY. |
| D6 | REMOVE EXISTING FLOOR DOOR. PREPARE THE OPENING FOR NEW GAS TIGHT FLOOR DOOR. REFER TO STRUCT. DWGS AND SPECS. |
| D7 | REMOVE WINDOW SYSTEM IN ITS ENTIRETY AND STEEL TUBES. |
| D8 | REMOVE 3 COURSES MINIMUM OF EXISTING BRICK VENEER AS REQUIRED TO INSTALL NEW LINTEL AND REBUILD WITH SALVAGED BRICK. TOOTH IN SALVAGED BRICK. |
| D9 | DEMO EXISTING WALL FOR NEW OPENING FOR EQUIPMENT. REFER TO STRUCT DWGS FOR EXTENT OF WORK. COORDINATE WITH PROCESS ENGINEER DWGS FOR EXACT LOCATIONS OF ALL REQUIRED WALL PENETRATIONS. |

PLAN NORTH



SCALE: 1/8" = 1'-0"

Bar measures 1 inch, otherwise drawing is not to scale



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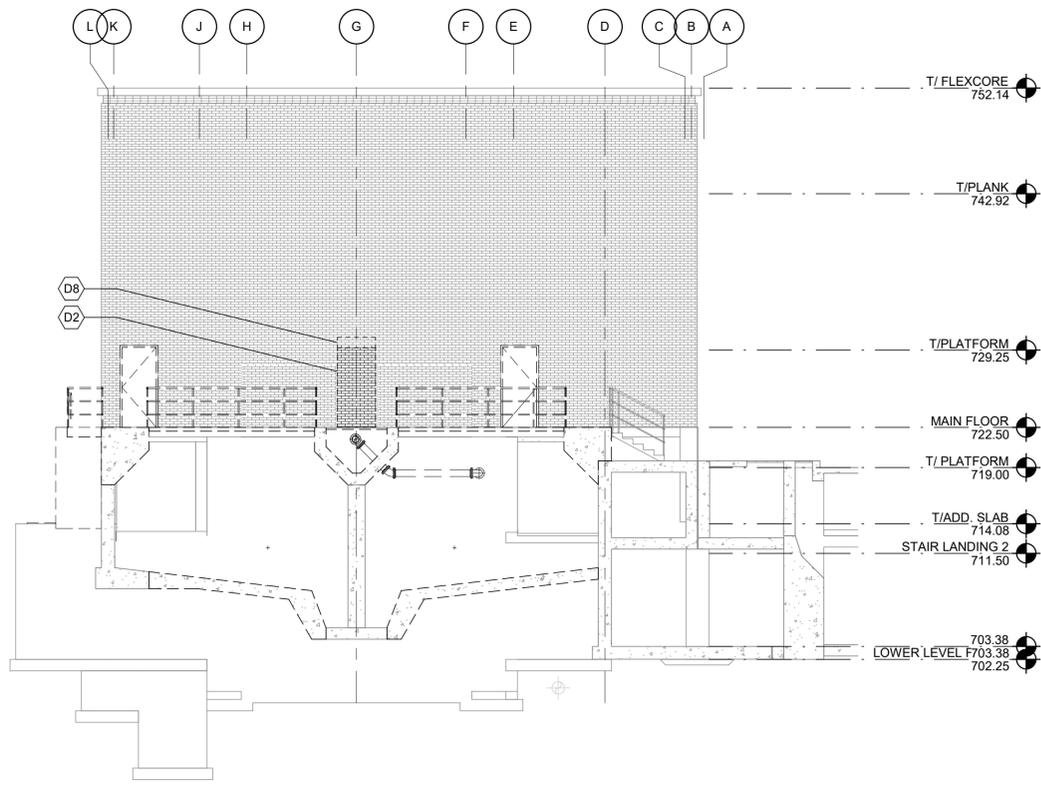
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CITY OF FLINT, MICHIGAN
FLINT WPC GRIT BAT "B" SYSTEM & PRIMARY TANKS IMPROVEMENTS
SELECTIVE DEMOLITION - FLOOR PLANS

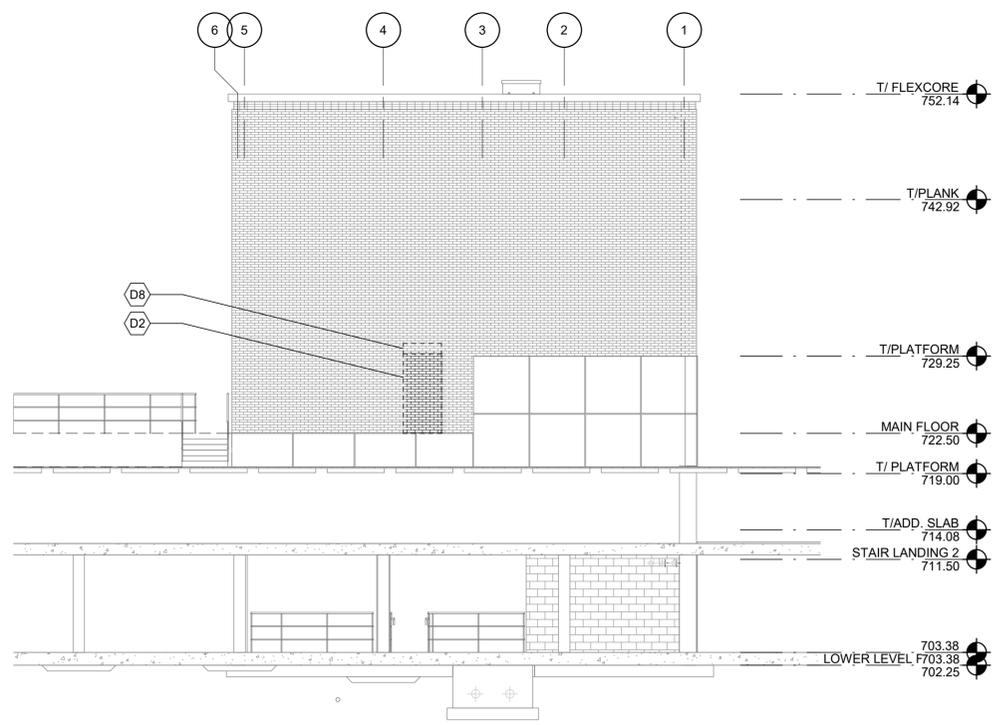
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DESN: LD
DRWN: RY
CHKD: QB

AD101

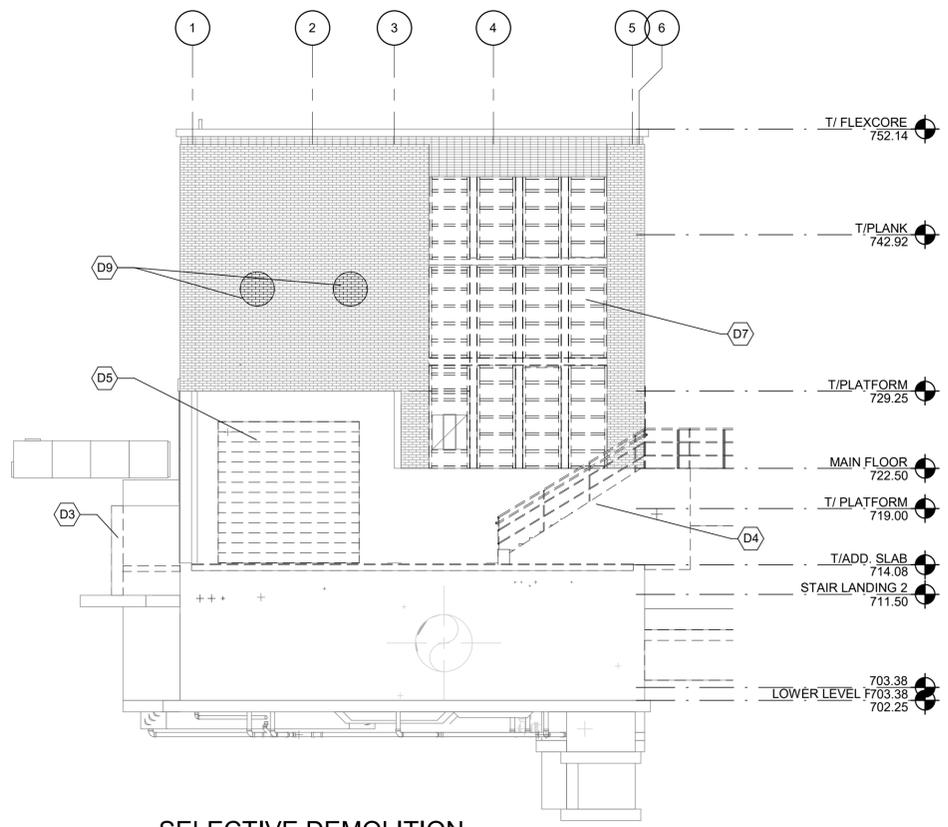
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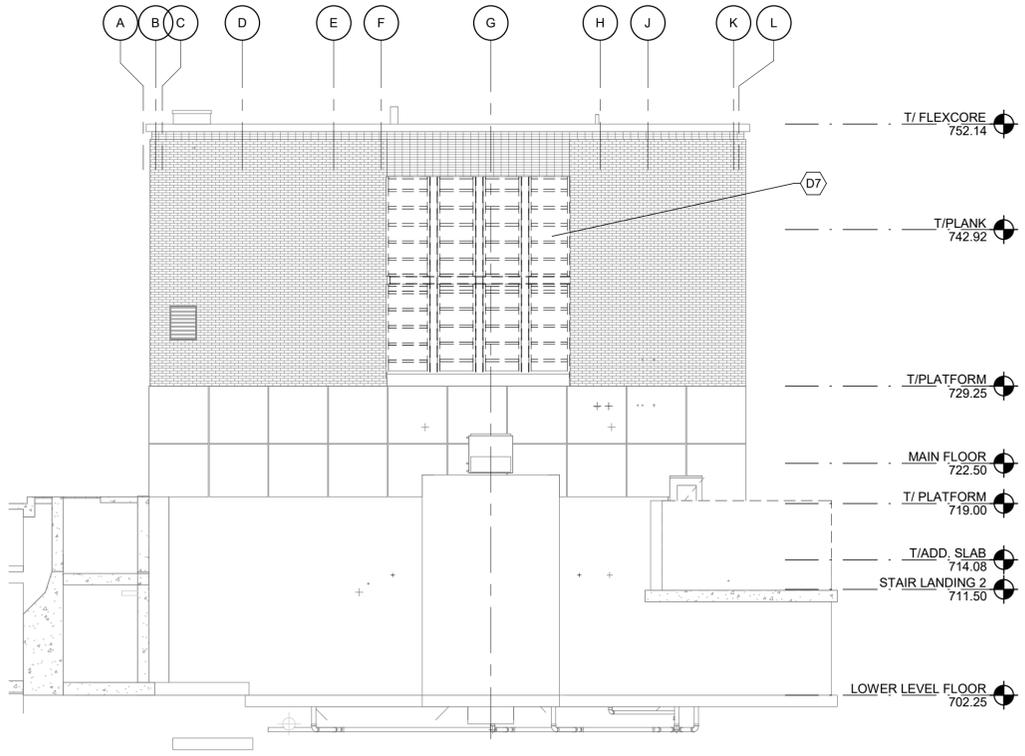
1 SELECTIVE DEMOLITION - EAST ELEVATION
AD201 SCALE: 1/8" = 1'-0"



2 SELECTIVE DEMOLITION - NORTH ELEVATION
AD201 SCALE: 1/8" = 1'-0"

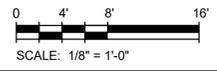


3 SELECTIVE DEMOLITION - SOUTH ELEVATION
AD201 SCALE: 1/8" = 1'-0"



4 SELECTIVE DEMOLITION - WEST ELEVATION
AD201 SCALE: 1/8" = 1'-0"

- KEYNOTES**
- D1 EXISTING DOOR SYSTEM TO BE REMOVED IN ITS ENTIRETY. PATCH AND REPAIR REMAINING SURFACES FOR NEW DOOR, TYP
 - D2 REMOVE WALL. TEMPORARY SHORE AS NEEDED FOR NEW DOOR OPENING. PROVIDE LINTEL.
 - D3 EXISTING CONCRETE WALL TO BE REMOVED. REFER TO STRUCTURAL DRAWING FOR ADDITIONAL INFORMATION.
 - D4 EXISTING CONCRETE STAIR TO BE REMOVED IN ITS ENTIRETY. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
 - D5 EXISTING OVERHEAD DOOR SYSTEM TO BE REMOVED IN ITS ENTIRETY.
 - D6 REMOVE EXISTING FLOOR DOOR. PREPARE THE OPENING FOR NEW GAS TIGHT FLOOR DOOR. REFER TO STRUCT. DWGS AND SPECS.
 - D7 REMOVE WINDOW SYSTEM IN ITS ENTIRETY AND STEEL TUBES.
 - D8 REMOVE 3 COURSES MINIMUM OF EXISTING BRICK VENEER AS REQUIRED TO INSTALL NEW LINTEL AND REBUILD WITH SALVAGED BRICK. TOOTH IN SALVAGED BRICK.
 - D9 DEMO EXISTING WALL FOR NEW OPENING FOR EQUIPMENT. REFER TO STRUCT DWGS FOR EXTENT OF WORK. COORDINATE WITH PROCESS ENGINEER DWGS FOR EXACT LOCATIONS OF ALL REQUIRED WALL PENETRATIONS.



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SELECTIVE DEMOLITION - EXTERIOR ELEVATIONS

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AD201

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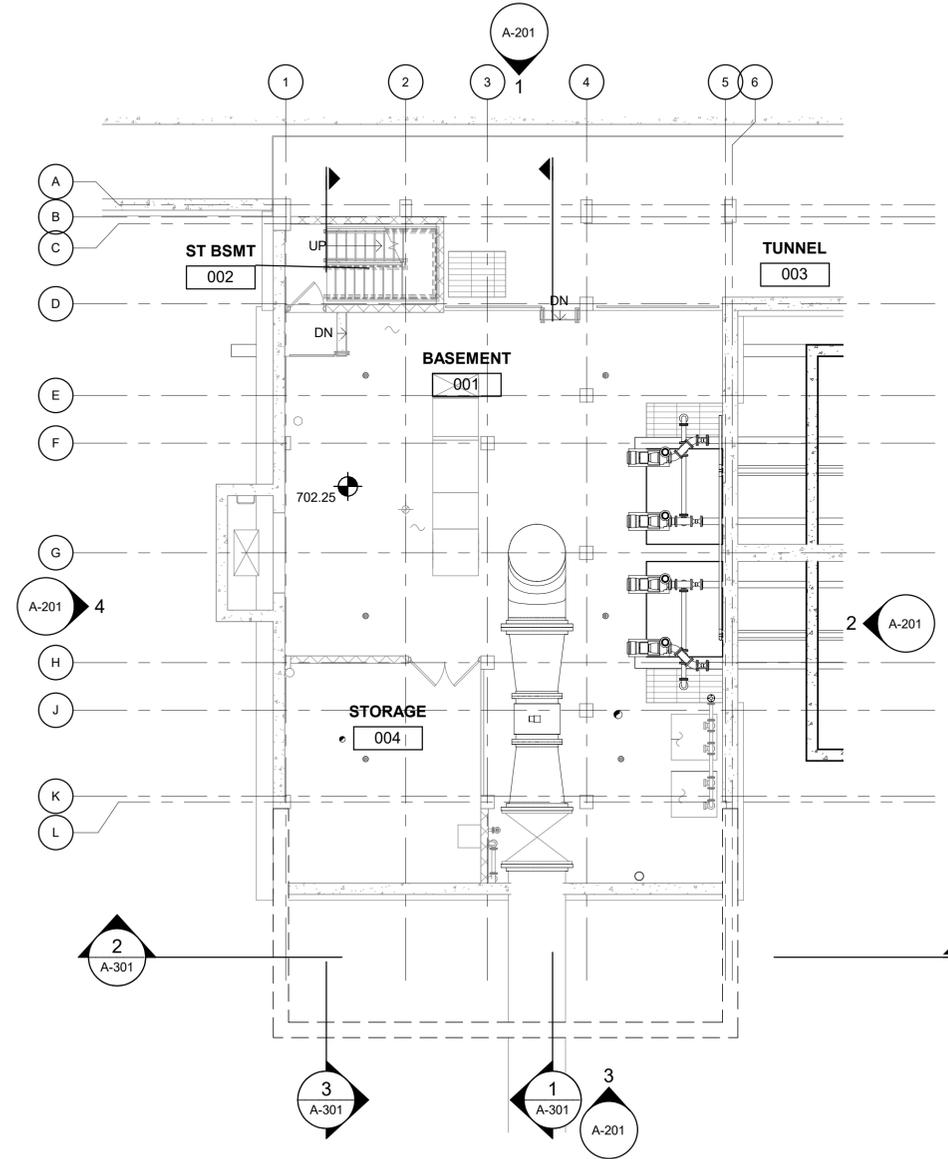
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GENERAL NOTES

- REFER TO GENERAL NOTES, SYMBOLS, LEGENDS, STANDARDS, AND TYPICAL MOUNTING HEIGHTS.



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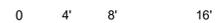


BASEMENT FLOOR PLAN

SCALE: 1/8" = 1'-0"

NOTE:
NO ARCHITECTURAL WORK AT THIS LEVEL. FOR REFERENCE ONLY.

PLAN NORTH



SCALE: 1/8" = 1'-0"

Bar measures 1 inch, otherwise drawing is not to scale

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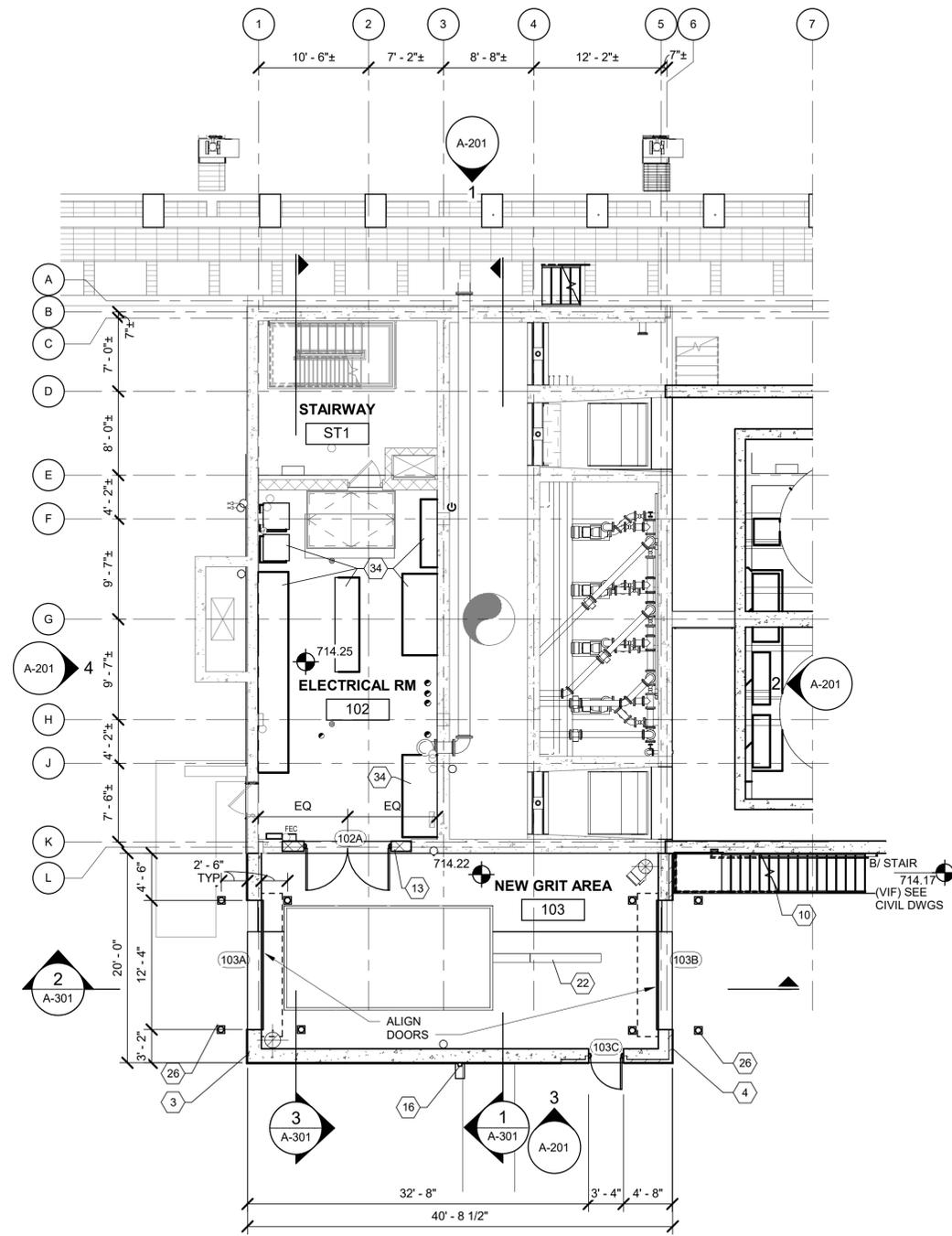
CITY OF FLINT, MICHIGAN
 FLINT WPC GRIT BAT "B" SYSTEM &
 PRIMARY TANKS IMPROVEMENTS
**BASEMENT FLOOR PLAN -
 FOR REFERENCE ONLY**

PROJ: 200-156238-21001
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 DRWN: RY
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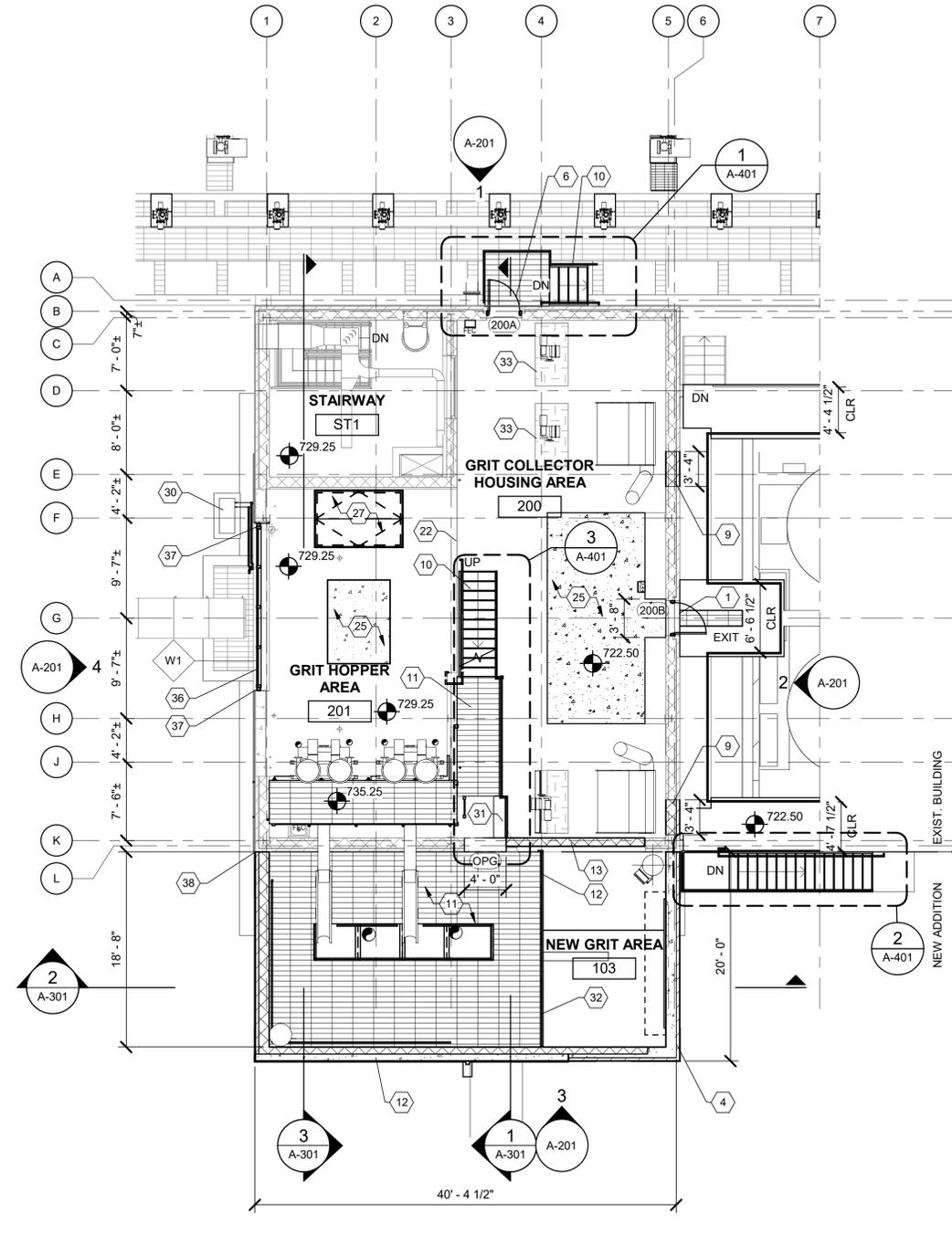
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FLOOR PLAN - LOWER LEVEL - NEW WORK

SCALE: 1/8" = 1'-0"



FLOOR PLAN - MAIN LEVEL - NEW WORK

SCALE: 1/8" = 1'-0"

GENERAL NOTES

- REFER TO GENERAL NOTES, SYMBOLS, LEGENDS, STANDARDS, AND TYPICAL MOUNTING HEIGHTS.

KEYNOTES

- EXISTING BUILDING.
- NEW ADDITION.
- EXTERIOR WALL ASSEMBLY EW-1. EXPOSED CONCRETE SCORED HORIZ. AND VERT.
- EXTERIOR WALL ASSEMBLY EW-2. BRICK VENEER ON CONCRETE BACK-UP WALL.
- EXTERIOR WALL ASSEMBLY EW-3. BRICK VENEER ON CMU BACKUP WALL.
- NEW MAN DOOR.
- NEW OVERHEAD ROLL-UP DOOR.
- EXISTING LOUVER TO REMAIN.
- INFILL OPENING IN EXISTING EXTERIOR WALL. MATCH EXISTING WALL ASSEMBLY.
- NEW ALUMINUM STAIR BY OTHERS.
- ALUMINUM GRATING PLATFORM.
- NEW ALUMINUM GUARDRAIL.
- INFILL EXISTING WALL OPENING WITH NEW 10" CMU WALL.
- FINISH GRADE. REFER TO CIVIL DWGS.
- SCUPPER AND CONDUCTOR HEAD.
- 3"x4" ALUMINUM PREFINISHED DOWNSPOUT.
- OVERFLOW SCUPPER.
- PREFINISHED ALUMINUM COPING.
- MASONRY CONTROL JOINT.
- NEW ADDITION - CONCRETE FOUNDATION WALL AND FOOTING.
- NEW CONCRETE SLAB ON GRADE.
- TRENCH DRAIN.
- EXISTING VIEW WINDOW TO REMAIN.
- EXISTING ALUMINUM GUARDRAIL TO REMAIN.
- CONCRETE SLAB INFILL.
- 6" DIA 3'-6" H BOLLARD.
- GAS TIGHT FLOOR DOOR REPLACEMENT.
- LADDER.
- MECHANICAL EQUIPMENT. REFER TO MECH. DWGS.
- CONDENSING UNIT WITH CONC EQUIPMENT PAD.
- EXTEND CONCRETE SLAB.
- STEEL BEAMS POCKETED IN CONCRETE WALL.
- EXISTING STEEL FLOOR PLATE CLOSURE.
- ELECTRICAL EQUIPMENT CONCRETE PAD. REFRE TO STRUCT DWGS.
- EXISTING STACK BOND BRICK.
- NEW ALUMINUM STOREFRONT.
- STEEL TUBE POST EACH SIDE OF WINDOW.
- EXPANSION JOINT.
- REQUIRED WALL PENETRATIONS FOR NEW EQUIPMENT - COORDINATE WITH THE OTHER DISCIPLINES FOR EXACT LOCATIONS AND DIMENSIONS.



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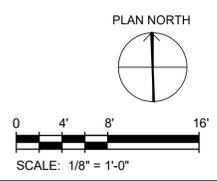
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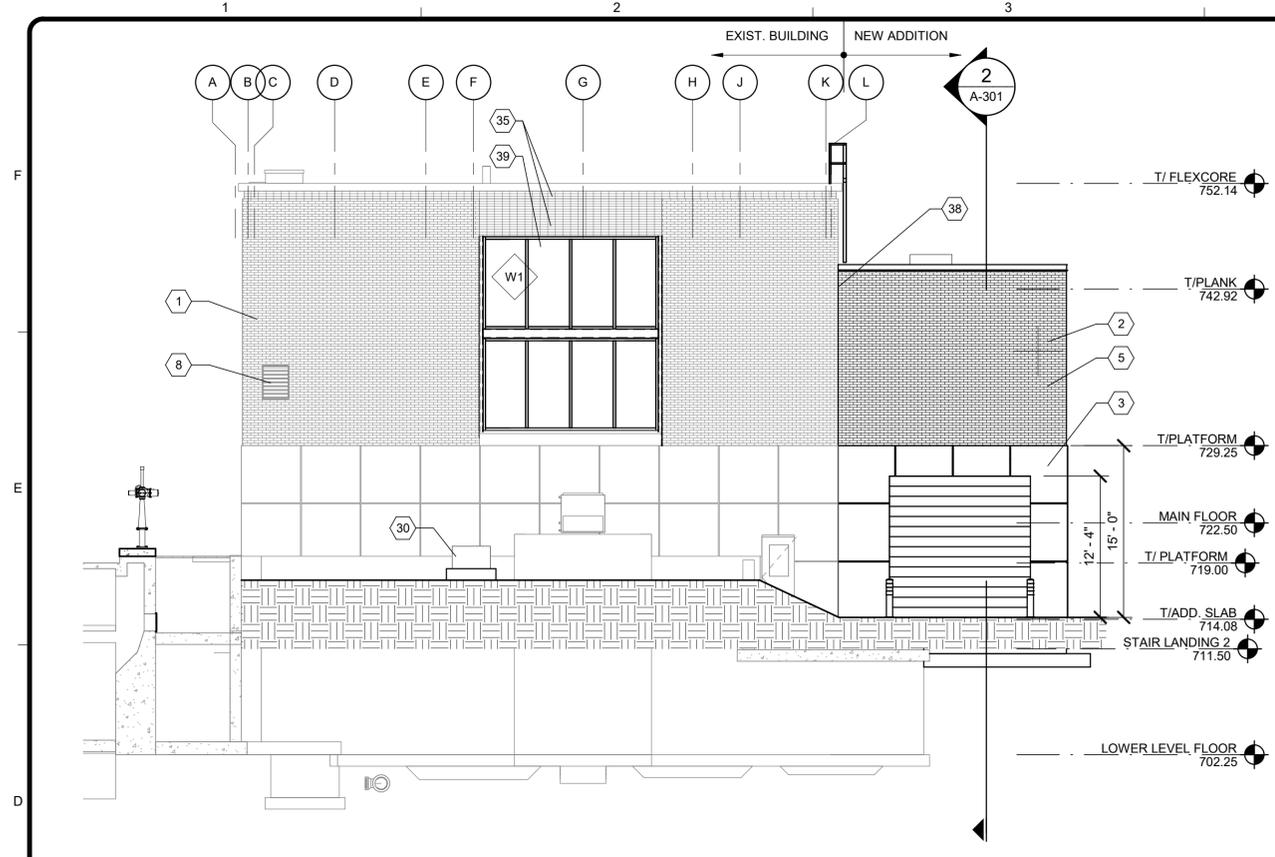
CITY OF FLINT, MICHIGAN
FLINT WPC GRIT BAT "B" SYSTEM &
PRIMARY TANKS IMPROVEMENTS
FLOOR PLAN - LOWER AND
MAIN LEVEL - NEW WORK

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DESN: LD
DRWN: RY
CHKD: QB

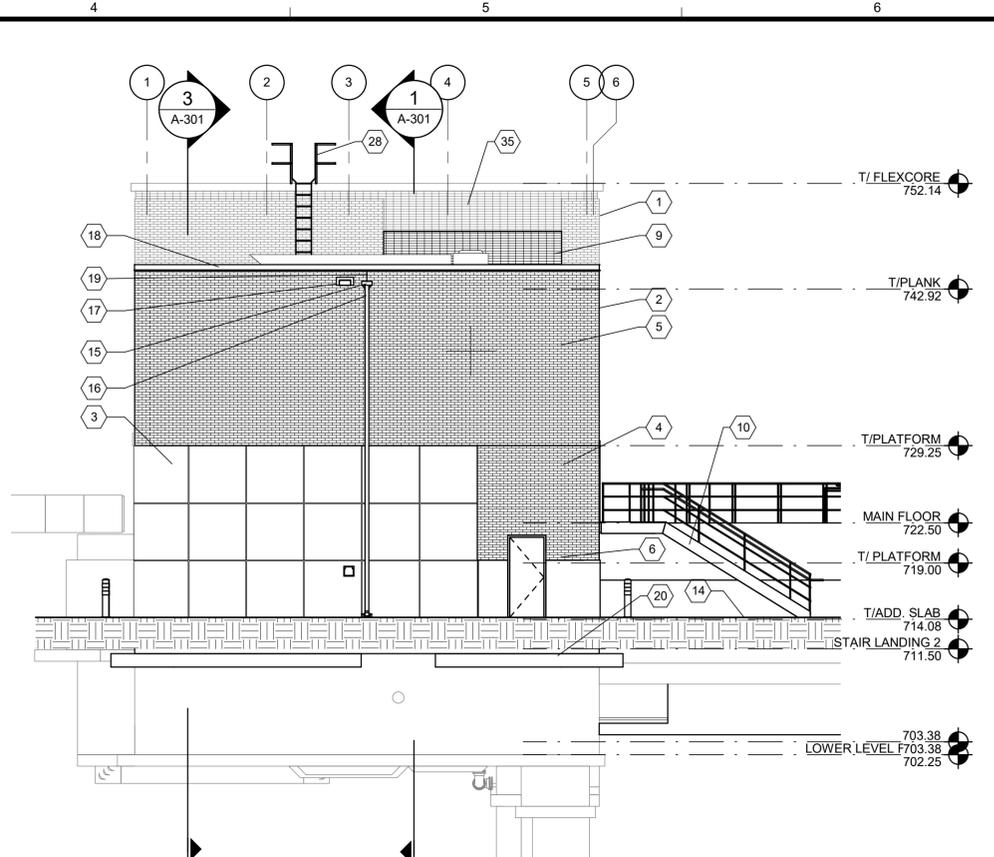
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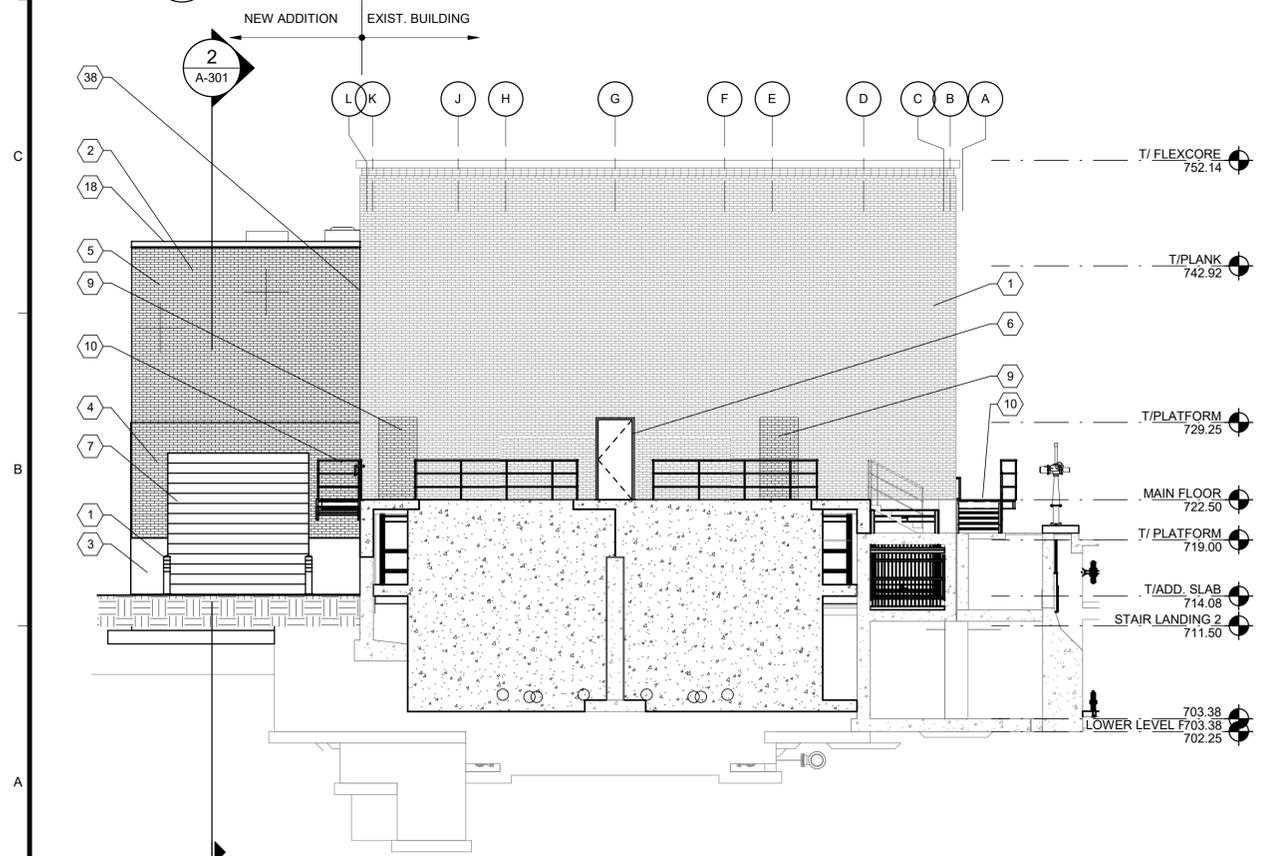
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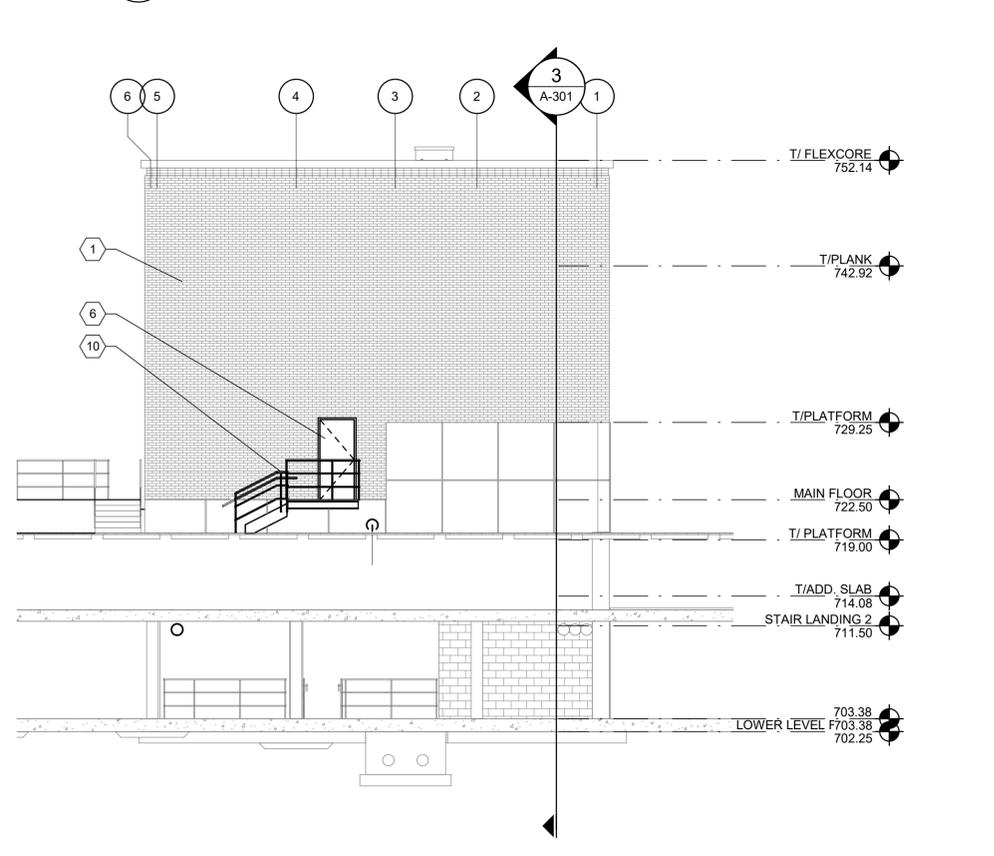
4 WEST ELEVATION
A-201 SCALE: 1/8" = 1'-0"



3 SOUTH ELEVATION
A-201 SCALE: 1/8" = 1'-0"



2 EAST ELEVATION
A-201 SCALE: 1/8" = 1'-0"



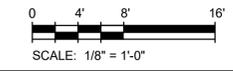
1 NORTH ELEVATION
A-201 SCALE: 1/8" = 1'-0"

GENERAL NOTES

- REVIEW FIELD CONDITIONS AND NOTIFY ARCHITECT, VERBALLY AND IN WRITING, OF ALL DISCREPANCIES BEFORE PROCEEDING.
- NEW BRICK VENEER TO MATCH COURSING OF THE EXISTING BUILDING.

KEYNOTES

- EXISTING BUILDING.
- NEW ADDITION.
- EXTERIOR WALL ASSEMBLY EW-1. EXPOSED CONCRETE SCORED HORIZ. AND VERT.
- EXTERIOR WALL ASSEMBLY EW-2. BRICK VENEER ON CONCRETE BACK-UP WALL
- EXTERIOR WALL ASSEMBLY EW-3. BRICK VENEER ON CMU BACKUP WALL.
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- NEW OVERHEAD ROLL-UP DOOR.
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- INFILL OPENING IN EXISTING EXTERIOR WALL. MATCH EXISTING WALL ASSEMBLY.
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- PREFINISHED ALUMINUM COPING.
- MASONRY CONTROL JOINT.
- NEW ADDITION - CONCRETE FOUNDATION WALL AND FOOTING.
- NEW CONCRETE SLAB ON GRADE.
- TRENCH DRAIN.
- EXISTING VIEW WINDOW TO REMAIN.
- EXISTING ALUMINIM GUARDRAIL TO REMAIN.
- CONCRETE SLAB INFILL.
- 6" DIA 3'-6" H BOLLARD.
- GAS TIGHT FLOOR DOOR REPLACEMENT.
- LADDER.
- MECHANICAL EQUIPMENT. REFER TO MECH. DWGS.
- CONDENSING UNIT WITH CONC EQUIPMENT PAD.
- EXTEND CONCRETE SLAB.
- STEEL BEAMS POCKETED IN CONCRETE WALL.
- EXISTING STEEL FLOOR PLATE CLOSURE.
- ELECTRICAL EQUIPMENT CONCRETE PAD. REFRE TO STRUCT DWGS.
- EXISTING STACK BOND BRICK.
- NEW ALUMINUM STOREFRONT.
- STEEL TUBE POST EACH SIDE OF WINDOW.
- EXPANSION JOINT.
- REQUIRED WALL PENETRATIONS FOR NEW EQUIPMENT - COORDINATE WITH THE OTHER DISCIPLINES FOR EXACT LOCATIONS AND DIMENSIONS.



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1	06/22/21	ISSUED FOR BIDS

CITY OF FLINT, MICHIGAN
FLINT WPC GRIT BAT "B" SYSTEM & PRIMARY TANKS IMPROVEMENTS
EXTERIOR ELEVATIONS

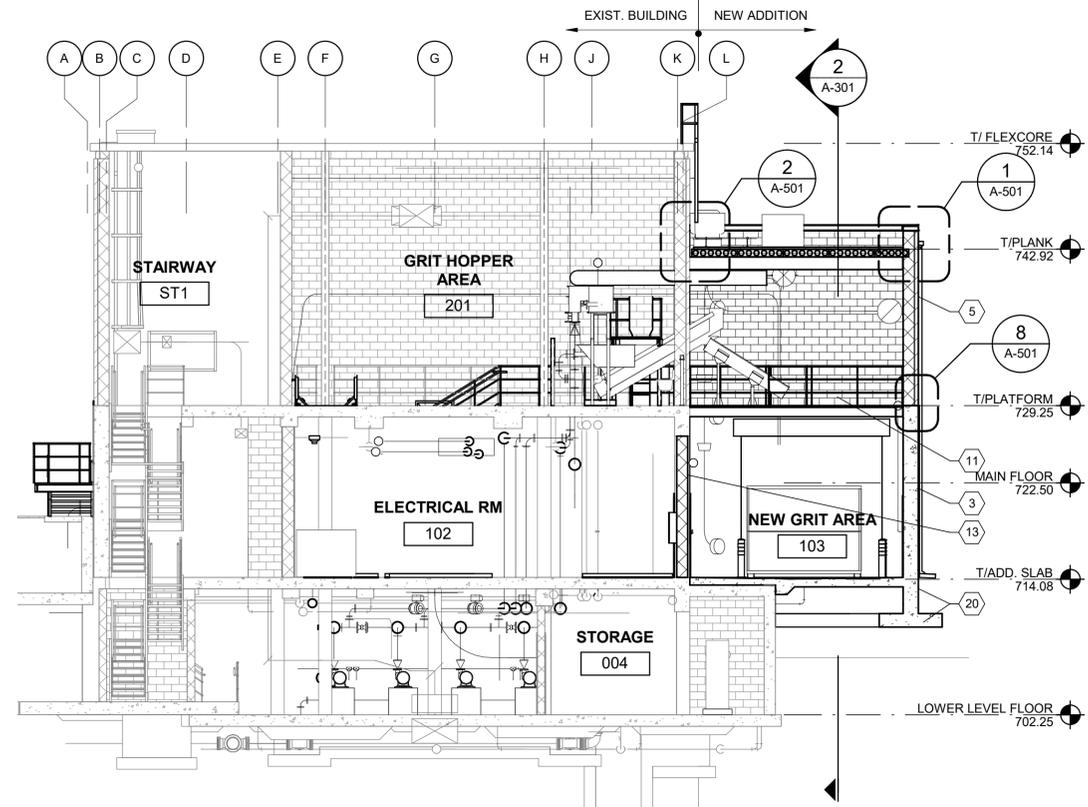
PROJ:	200-156238-21001
DESN:	LD
DRWN:	RY
CHKD:	QB

A-201

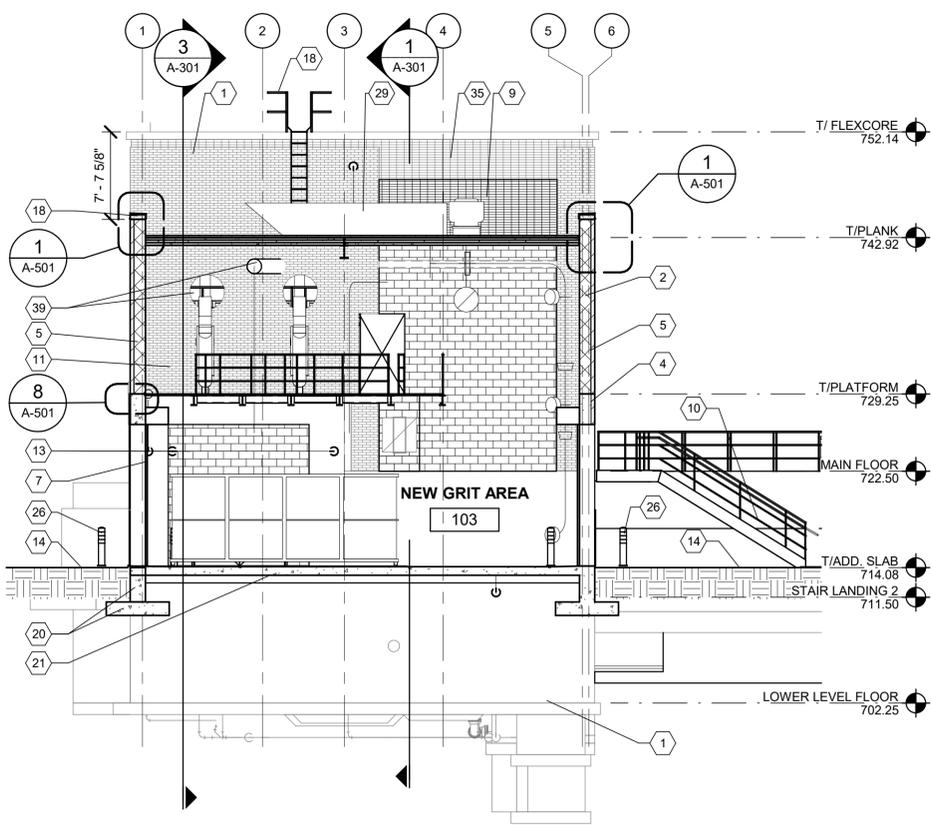
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Copyright: Tetra Tech

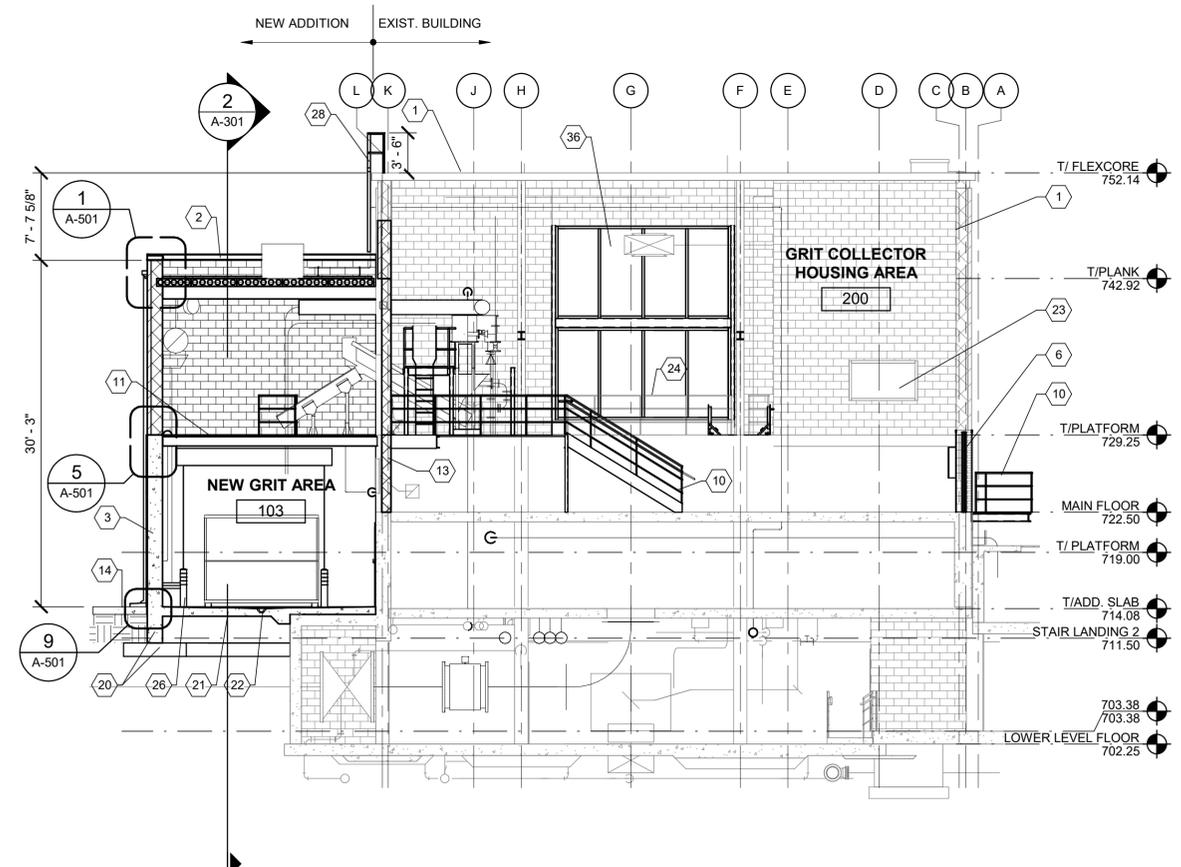
1 2 3 4 5 6 7



3 SECTION
A-301 SCALE: 1/8" = 1'-0"

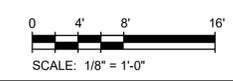


2 SECTION
A-301 SCALE: 1/8" = 1'-0"



1 SECTION
A-301 SCALE: 1/8" = 1'-0"

- KEYNOTES**
- 1 EXISTING BUILDING.
 - 2 NEW ADDITION.
 - 3 EXTERIOR WALL ASSEMBLY EW-1. EXPOSED CONCRETE SCORED HORIZ. AND VERT.
 - 4 EXTERIOR WALL ASSEMBLY EW-2. BRICK VENEER ON CONCRETE BACK-UP WALL.
 - 5 EXTERIOR WALL ASSEMBLY EW-3. BRICK VENEER ON CMU BACKUP WALL.
 - 6 NEW MAN DOOR.
 - 7 NEW OVERHEAD ROLL-UP DOOR.
 - 8 EXISTING LOUVER TO REMAIN.
 - 9 INFILL OPENING IN EXISTING EXTERIOR WALL. MATCH EXITING WALL ASSEMBLY.
 - 10 NEW ALUMINUM STAIR BY OTHERS.
 - 11 ALUMINUM GRATING PLATFORM.
 - 12 NEW ALUMINUM GUARDRAIL.
 - 13 INFILL EXISTING WALL OPENING WITH NEW 10" CMU WALL.
 - 14 FINISH GRADE. REFER TO CIVIL DWGS.
 - 15 SCUPPER AND CONDUCTOR HEAD.
 - 16 3"x4" ALUMINUM PREFINISHED DOWNSPOUT.
 - 17 OVERFLOW SCUPPER.
 - 18 PREFINISHED ALUMINUM COPING.
 - 19 MASONRY CONTROL JOINT.
 - 20 NEW ADDITION - CONCRETE FOUNDATION WALL AND FOOTING.
 - 21 NEW CONCRETE SLAB ON GRADE.
 - 22 TRENCH DRAIN.
 - 23 EXISTING VIEW WINDOW TO REMAIN.
 - 24 EXISTING ALUMINUM GUARDRAIL TO REMAIN.
 - 25 CONCRETE SLAB INFILL.
 - 26 6" DIA 3'-6" H BOLLARD.
 - 27 GAS TIGHT FLOOR DOOR REPLACEMENT.
 - 28 LADDER.
 - 29 MECHANICAL EQUIPMENT. REFER TO MECH. DWGS.
 - 30 CONDENSING UNIT WITH CONC EQUIPMENT PAD.
 - 31 EXTEND CONCRETE SLAB.
 - 32 STEEL BEAMS POCKETED IN CONCRETE WALL.
 - 33 EXISTING STEEL FLOOR PLATE CLOSURE.
 - 34 ELECTRICAL EQUIPMENT CONCRETE PAD. REFRE TO STRUCT DWGS.
 - 35 EXISTING STACK BOND BRICK.
 - 36 NEW ALUMINUM STOREFRONT.
 - 37 STEEL TUBE POST EACH SIDE OF WINDOW.
 - 38 EXPANSION JOINT.
 - 39 REQUIRED WALL PENETRATIONS FOR NEW EQUIPMENT - COORDINATE WITH THE OTHER DISCIPLINES FOR EXACT LOCATIONS AND DIMENSIONS.



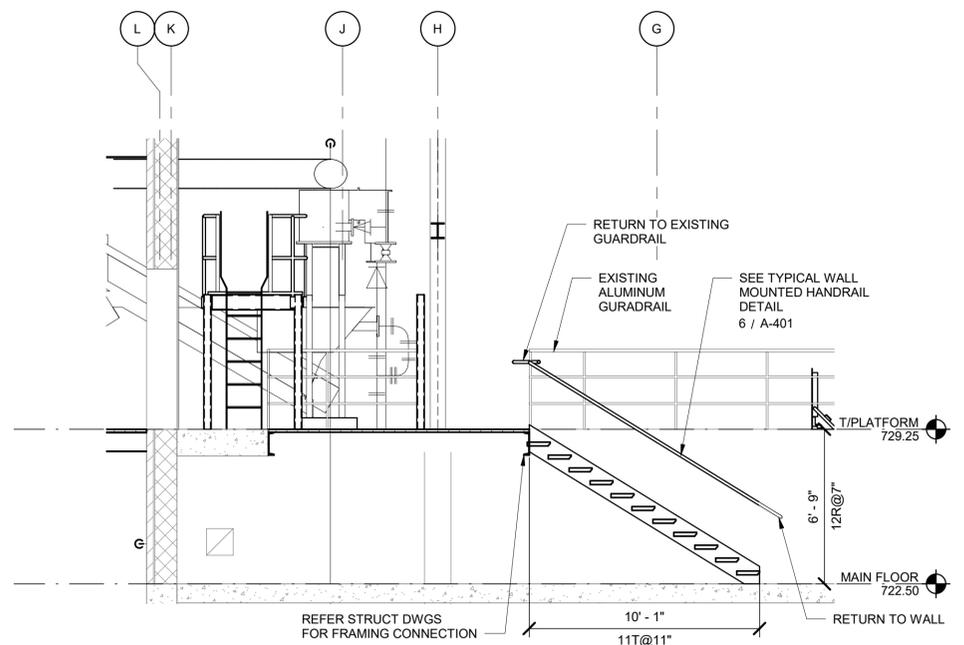
MARK	DATE	DESCRIPTION	BY
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CITY OF FLINT, MICHIGAN
FLINT WPC GRIT BAT "B" SYSTEM &
PRIMARY TANKS IMPROVEMENTS
BUILDING SECTIONS

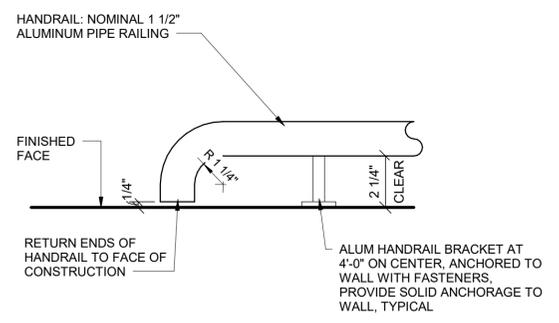
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DESN: LD
DRWN: RY
CHKD: QB

A-301

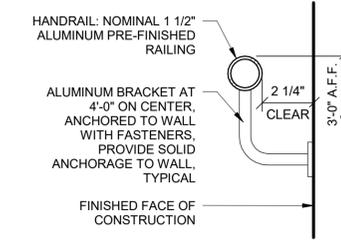
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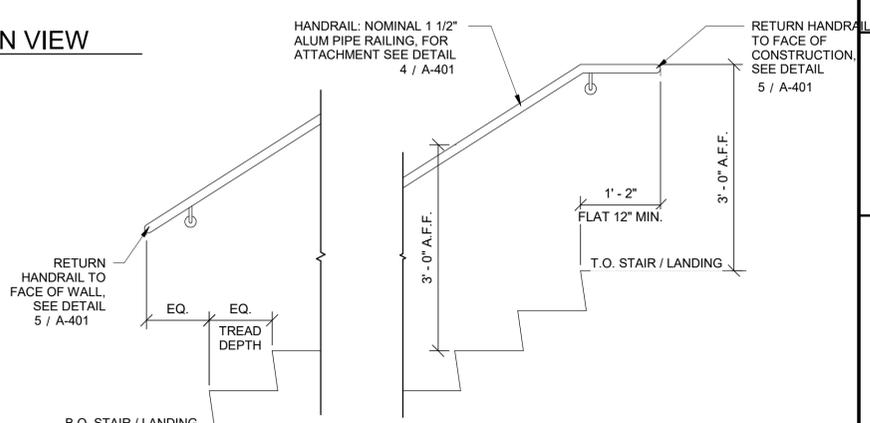
9 SECTION - STAIR #3
A-401 SCALE: 1/4" = 1'-0"



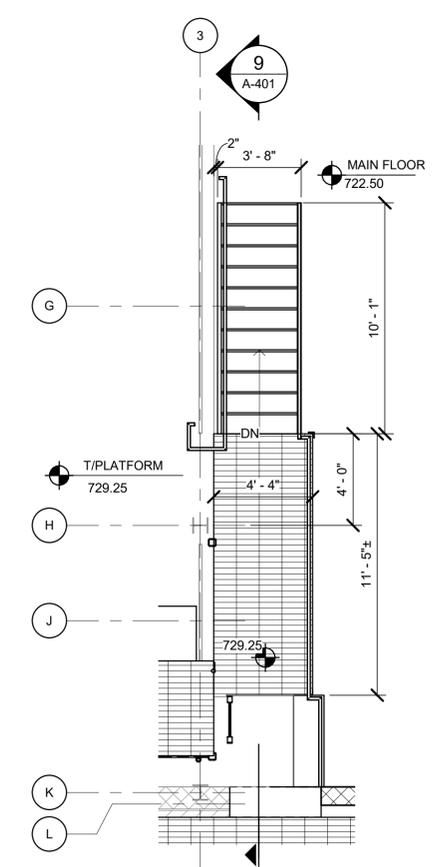
5 HANDRAIL - WALL MOUNT - PLAN VIEW
A-401 SCALE: NTS



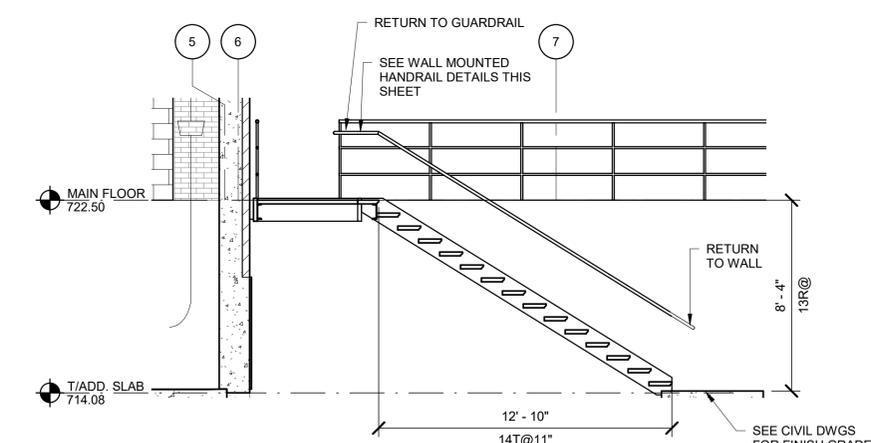
4 HANDRAIL - WALL MOUNT
A-401 SCALE: NTS



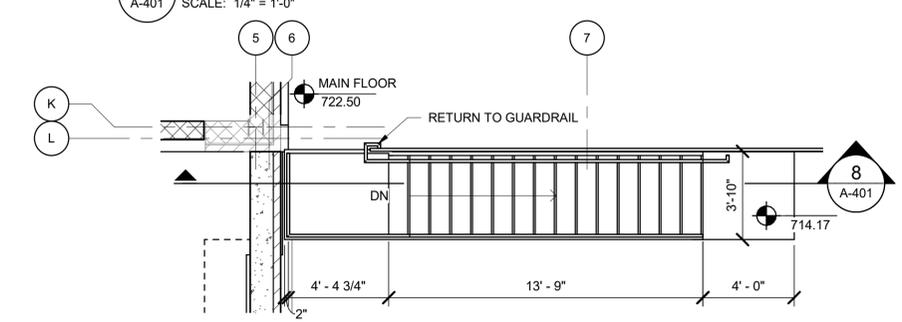
6 HANDRAIL - WALL MOUNT - ELEVATION
A-401 SCALE: NTS



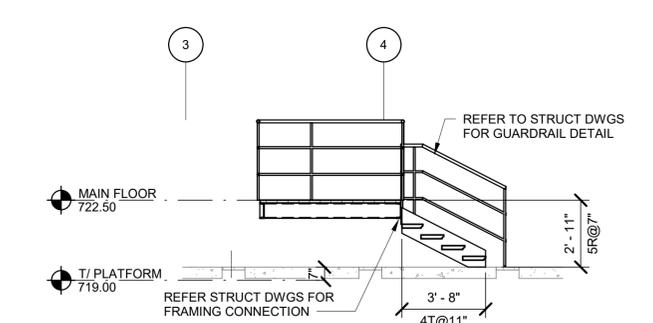
3 ENLARGED FLOOR PLAN - NEW STAIR #3
A-401 SCALE: 1/4" = 1'-0"



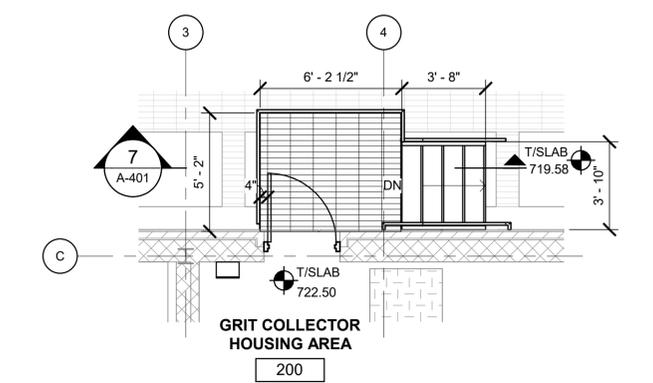
8 SECTION - STAIR #2
A-401 SCALE: 1/4" = 1'-0"



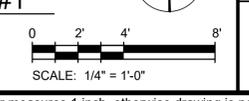
2 ENLARGED FLOOR PLAN - NEW STAIR #2
A-401 SCALE: 1/4" = 1'-0"



7 SECTION - STAIR #1
A-401 SCALE: 1/4" = 1'-0"



1 ENLARGED FLOOR PLAN - NEW STAIR #1
A-401 SCALE: 1/4" = 1'-0"

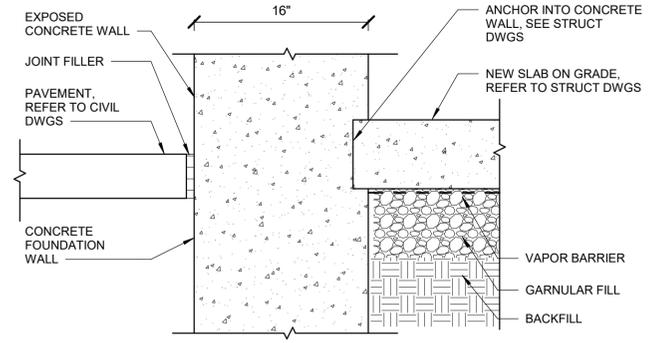


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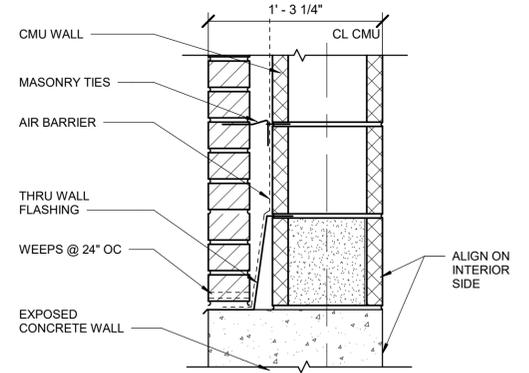
CITY OF FLINT, MICHIGAN
FLINT WPC GRIT BAT "B" SYSTEM &
PRIMARY TANKS IMPROVEMENTS
**STAIR PLANS, SECTIONS,
AND DETAILS**

PROJ:	200-156238-21001
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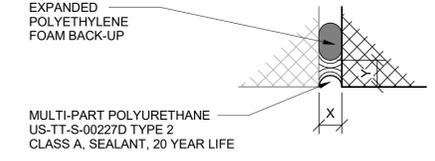
A-401



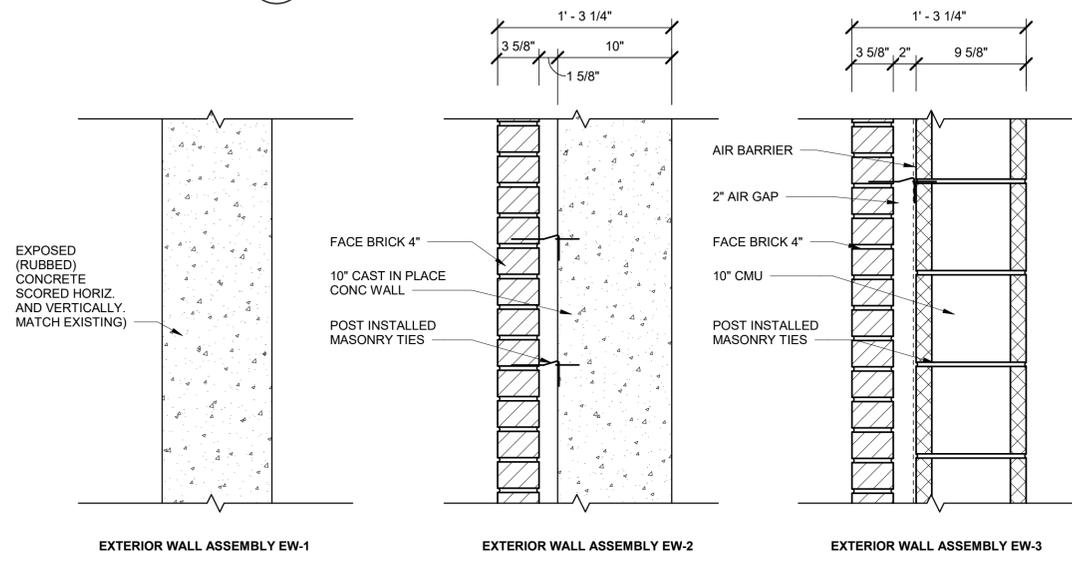
9 WALL BASE DETAIL
A-501 SCALE: 1 1/2" = 1'-0"



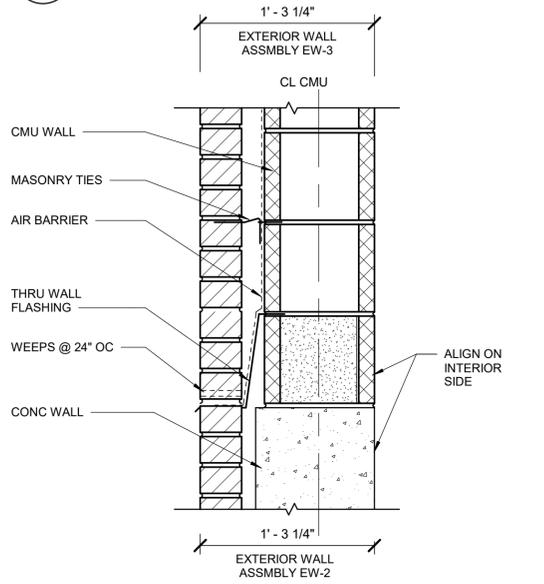
8 THRU WALL FLASHING DETAIL
A-501 SCALE: 1 1/2" = 1'-0"



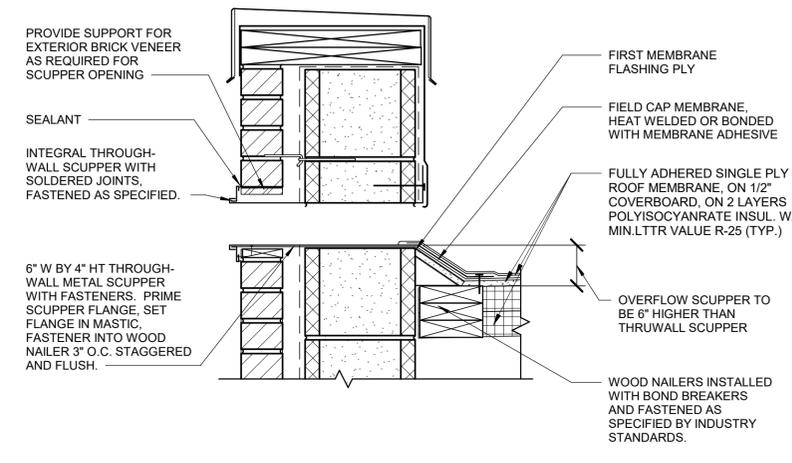
7 EXPANSION JOINT DETAIL
A-501 SCALE: 6" = 1'-0"



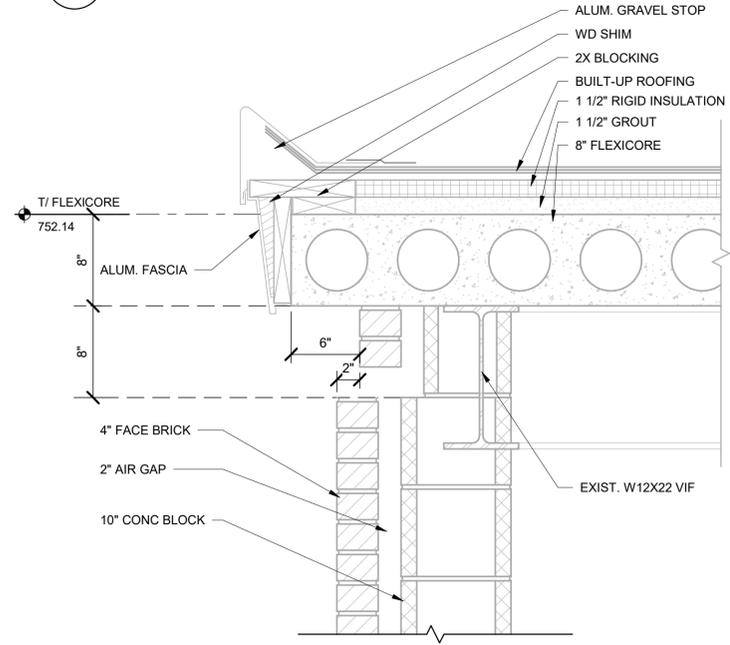
6 EXTERIOR WALL ASSEMBLIES
A-501 SCALE: 1 1/2" = 1'-0"



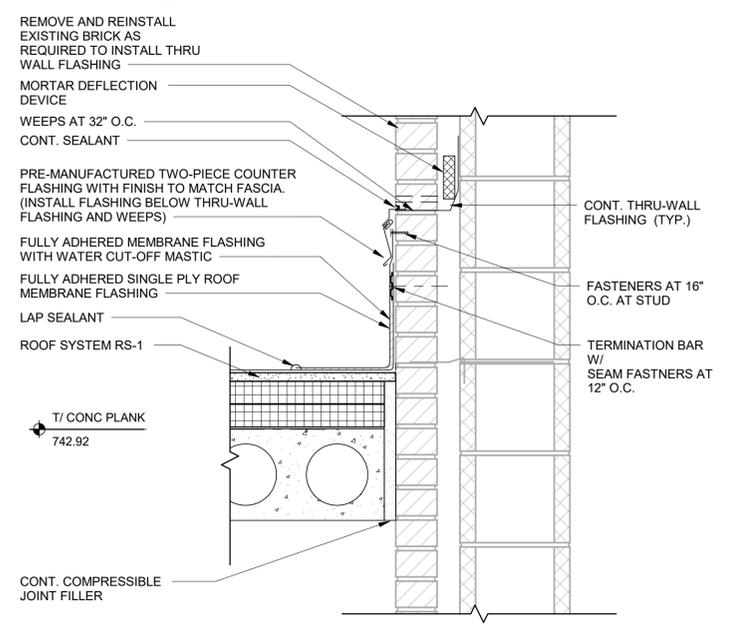
5 THRU WALL FLASHING DETAIL
A-501 SCALE: 1 1/2" = 1'-0"



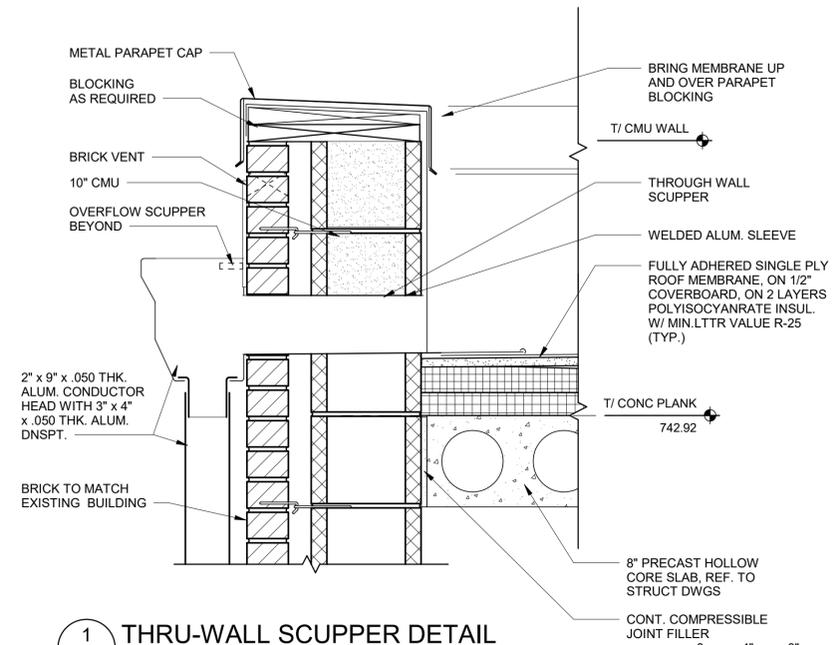
4 TYPICAL DETAIL AT OVERFLOW SCUPPER
A-501 SCALE: 1 1/2" = 1'-0"



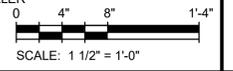
3 EXISTING ROOF FASCIA DETAIL - FOR REFERENCE ONLY
A-501 SCALE: 1 1/2" = 1'-0"



2 ROOF COUNTERFLASHING DETAIL
A-501 SCALE: 1 1/2" = 1'-0"



1 THRU-WALL SCUPPER DETAIL
A-501 SCALE: 1 1/2" = 1'-0"



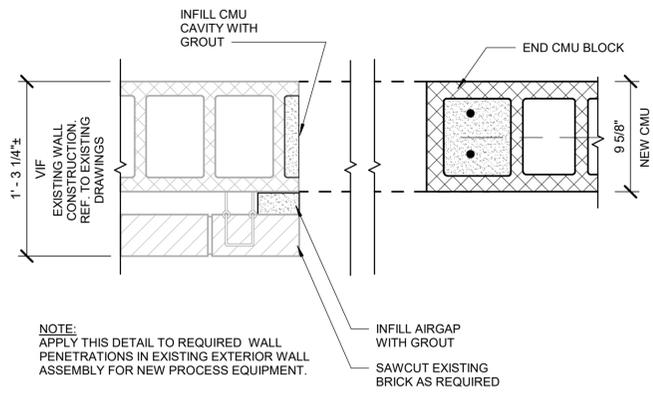
MARK	DATE	DESCRIPTION
1	06/22/21	ISSUED FOR BIDS

CITY OF FLINT, MICHIGAN
FLINT WPC GRIT BAT "B" SYSTEM & PRIMARY TANKS IMPROVEMENTS
ARCHITECTURAL DETAILS

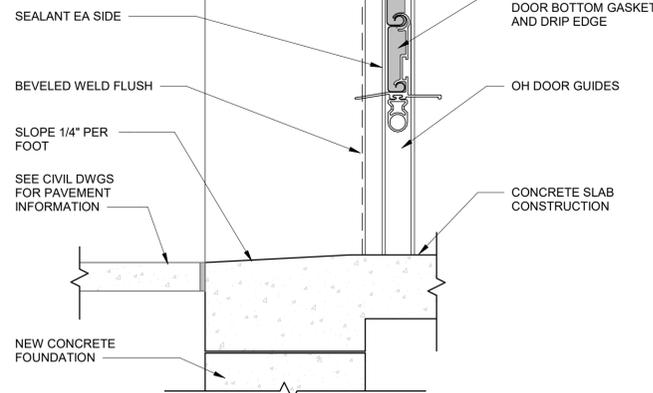
PROJ:	200-156238-21001
DESN:	LD
DRWN:	RY
CHKD:	QB

A-501

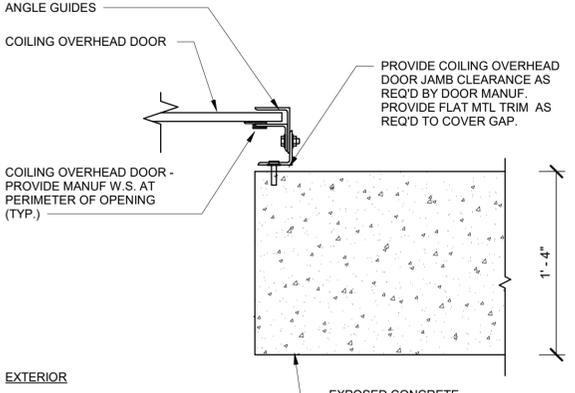
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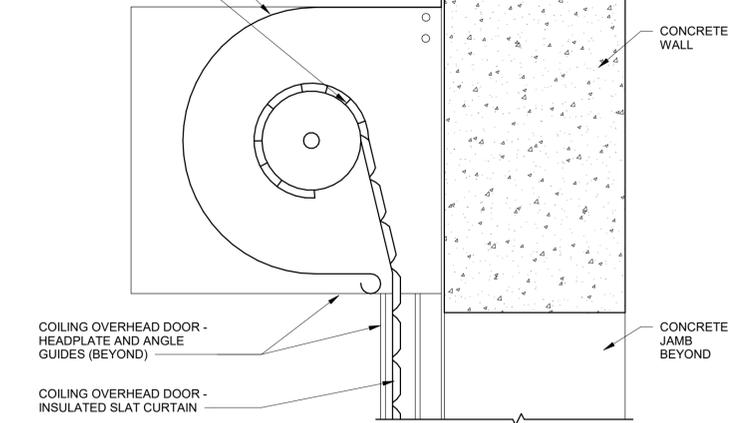
11 DOOR JAMB AT EXISTING WALL
A-502 SCALE: 1 1/2" = 1'-0"



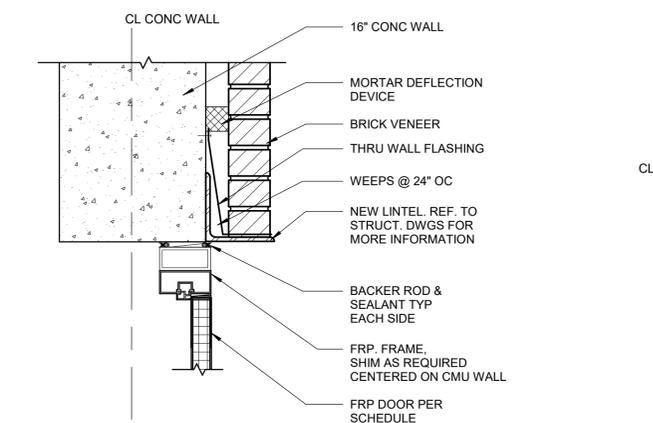
10 OH COILING DOOR SILL
A-502 SCALE: 1 1/2" = 1'-0"



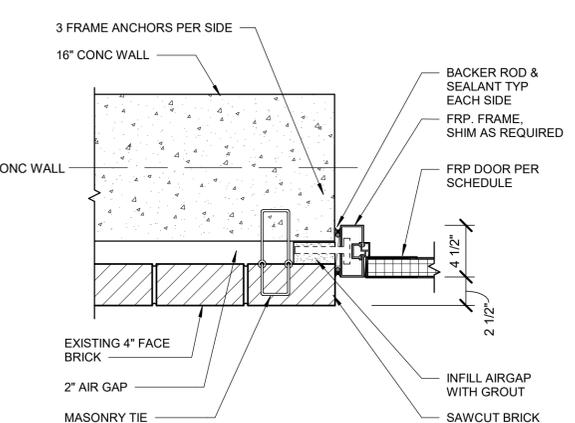
9 OH COILING DOOR JAMB
A-502 SCALE: 1 1/2" = 1'-0"



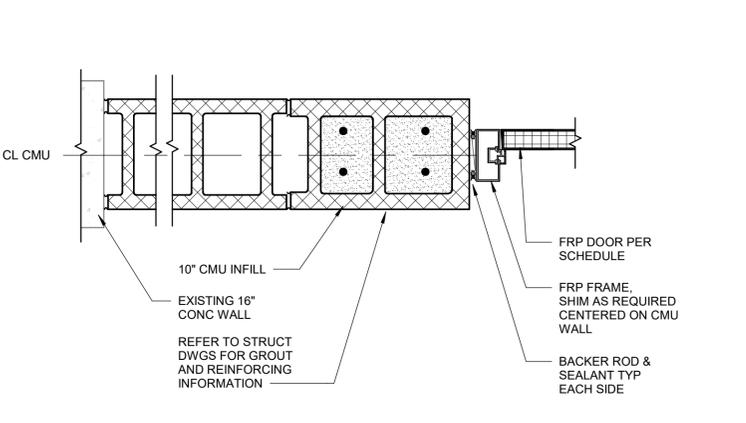
8 OH COILING DOOR HEAD
A-502 SCALE: 1 1/2" = 1'-0"



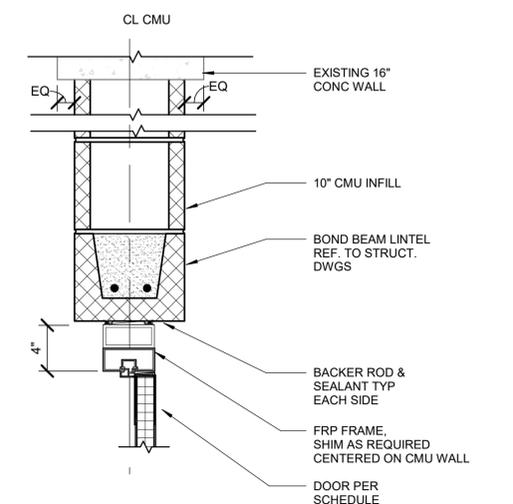
7 DOOR HEAD AT CONC WALL
A-502 SCALE: 1 1/2" = 1'-0"



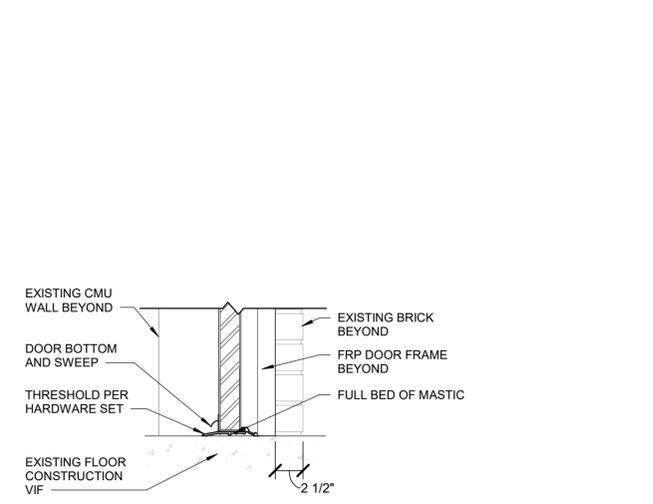
6 DOOR JAMB AT EXISTING WALL
A-502 SCALE: 1 1/2" = 1'-0"



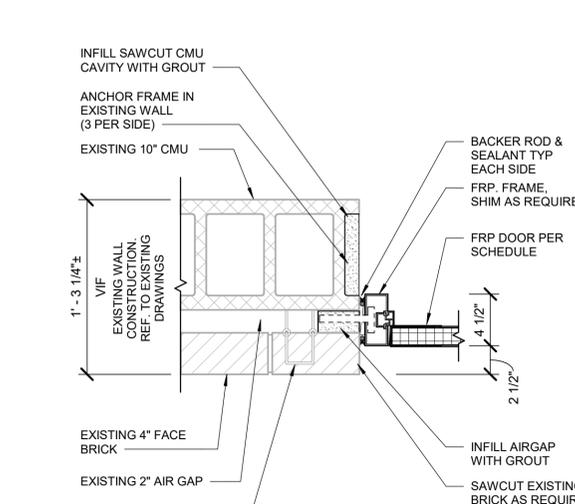
5 DOOR JAMB AT INTERIOR CMU WALL
A-502 SCALE: 1 1/2" = 1'-0"



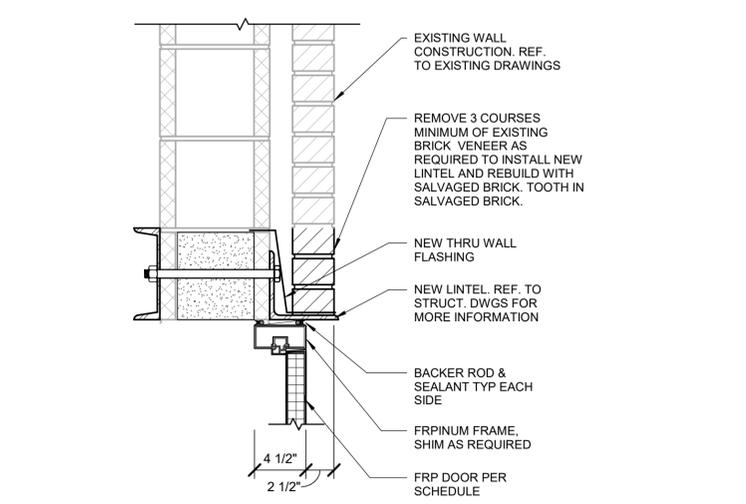
4 DOOR HEAD AT INTERIOR CMU WALL
A-502 SCALE: 1 1/2" = 1'-0"



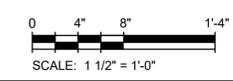
3 DOOR SILL
A-502 SCALE: 1 1/2" = 1'-0"



2 DOOR JAMB AT EXISTING WALL
A-502 SCALE: 1 1/2" = 1'-0"



1 DOOR HEAD AT EXISTING WALL
A-502 SCALE: 1 1/2" = 1'-0"



MARK	DATE	DESCRIPTION
1	06/22/21	ISSUED FOR BIDS

CITY OF FLINT, MICHIGAN
FLINT WPC GRIT BAT "B" SYSTEM & PRIMARY TANKS IMPROVEMENTS
OPENING DETAILS

PROJ:	200-156238-21001
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DRWN:	RY
CHKD:	QB

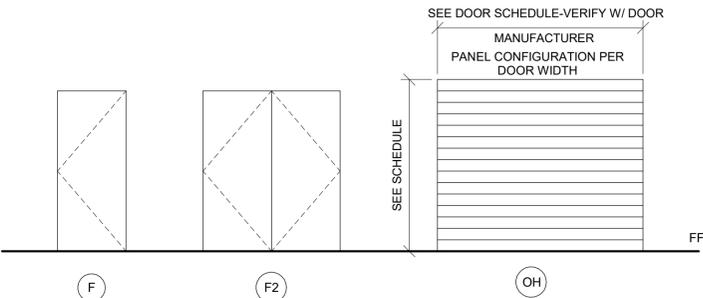
A-502

#	NO.	PANIC DEVICE	DOOR		DOOR					FRAME			DETAILS			HARDWARE SET	COMMENTS
			TYPE	DOUBLE DOOR	SIZE			MATERIAL	FINISH	TYPE	MATERIAL	FINISH	HEAD	JAMB	SILL		
					WIDTH	HEIGHT	THICKNESS										
	102A	•	F2	(2)	4'-0"	7'-0"	1 3/4"	FRP	FF	F1	FRP	FF	4/A-502	5/A-502	3/A502 SIM	SET 2	GAS TIGHT DOOR. REFER TO MANUFACTURER'S DETAILS
	103A		OH		12'-4"	12'-4"	2"	STEEL	FF		STEEL	FF	8/A-502	9/A-502	10/A-502		
	103B		OH		12'-4"	12'-4"	2"	STEEL	FF		STEEL	FF	8/A-502	9/A-502	10/A-502		
	103C	•	F		3'-0"	7'-0"	1 3/4"	FRP	FF	F1	FRP	FF	7/A-502	6/A-502	3/A-502 SIM	SET 1	
	200A	•	F		3'-0"	7'-0"	1 3/4"	FRP	FF	F1	FRP	FF	1/A-502	2/A-502	3/A-502	SET 1	
	200B	•	F		3'-0"	7'-0"	1 3/4"	FRP	FF	F1	FRP	FF	1/A-502	2/A-502	3/A-502	SET 1	
	OPG				4'-0"	7'-0"							REF STRUCT DWGS	11/A-502			DOOR OPENING WITHOUT FRAME

NOTE:
1. ALL EXISTING DOORS TO REMAIN. NOT IN SCOPE OF WORK.

ROOM NO	ROOM NAME	FLOOR				CEILING			COMMENTS
		MAT.	FINISH	BASE	WALL	MAT.	FINISH	HEIGHT	
001	BASEMENT	EXIST CONC	-	-	-	-	-	-	
002	ST BSMT	EXIST CONC	-	-	-	-	-	-	
003	TUNNEL	EXIST CONC	-	-	-	-	-	-	
004	STORAGE	EXIST CONC	-	-	-	-	-	-	
102	ELECTRICAL RM	EXIST CONC	SEALED	N/A	PAINT	OPEN TO STRUCT			SEE NOTE 1 AND 3
103	NEW GRIT AREA	CONC	SEALED	N/A	PAINT	OPEN TO STRUCT	PAINT	31'-0"	SEE NOTE 1 AND 3
200	GRIT COLLECTOR HOUSING AREA	EXIST CONC	SEALED	N/A	PAINT	OPEN TO STRUCT			SEE NOTE 1 AND 3
201	GRIT HOPPER AREA	EXIST CONC	SEALED	N/A	PAINT	OPEN TO STRUCT			SEE NOTE 1 AND 3
ST1	STAIRWAY	EXIST CONC	SEALED	N/A	-	OPEN TO STRUCT			SEE NOTE 1

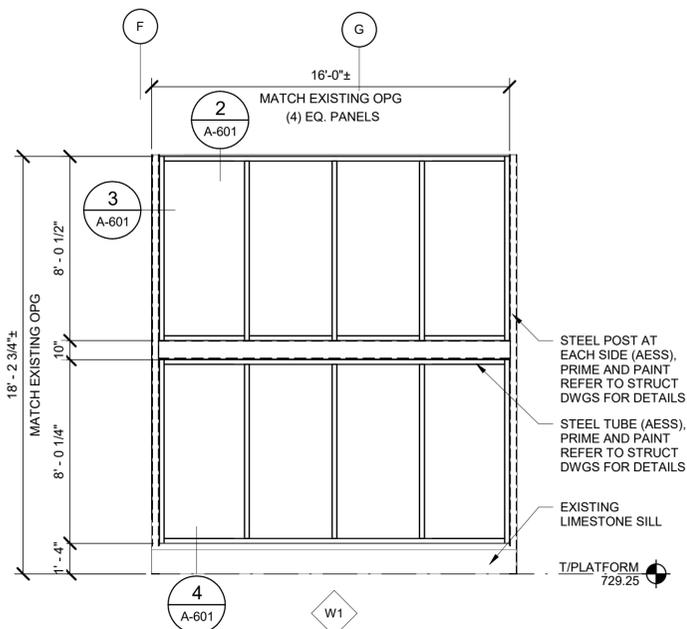
NOTE:
1. PREPARE FLOOR FOR SEALANT PER SPECS. SEALANT TO INCLUDE NON-SLIP GRIP.
2. ALL EXPOSED EXISTING STRUCTURE IS TO BE PAINTED.
3. OWNER TO SELECT COLOR.
4. ROOF STEEL FRAMING OF NEW ADDITION IS TO BE PAINTED.
5. "-" INDICATES NOT IN SCOPE OF WORK.



NOTES:
1. FOR DOOR WIDTH AND HEIGHT, SEE DOOR SCHEDULE.
2. PROVIDE INSULATED GLAZING AT ALL EXTERIOR WALL LOCATIONS, U.N.O.

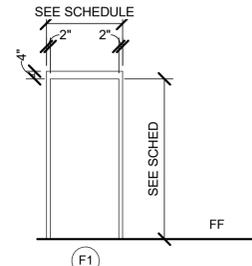
DOOR TYPES

SCALE: 1/4" = 1'-0"



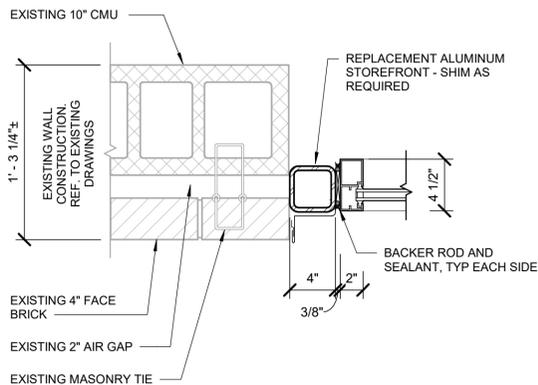
WINDOW ELEVATION - W1

SCALE: 1/4" = 1'-0"



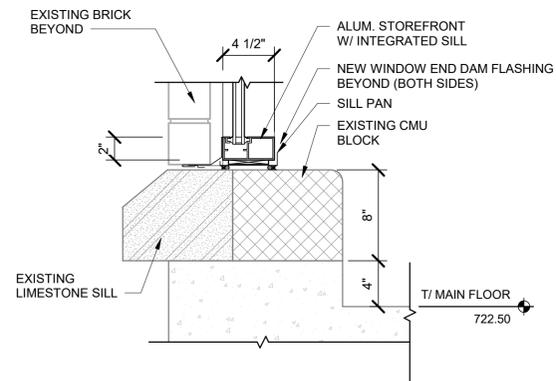
FRAME TYPES

SCALE: 1/4" = 1'-0"



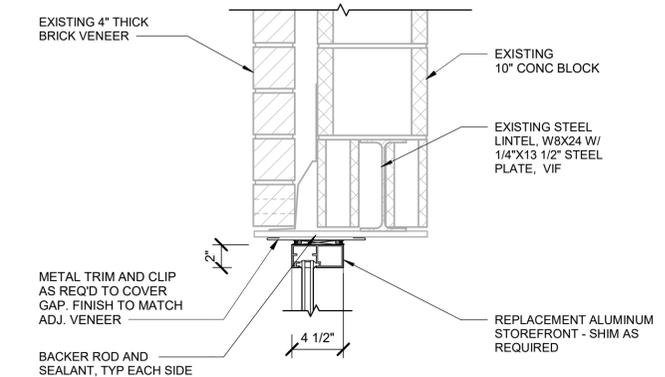
3 ALUM WINDOW JAMB

A-601 SCALE: 1 1/2" = 1'-0"



4 ALUM WINDOW SILL

A-601 SCALE: 1 1/2" = 1'-0"



2 ALUM WINDOW HEAD

A-601 SCALE: 1 1/2" = 1'-0"

FINISHES GENERAL NOTES

- REVIEW FIELD CONDITIONS AND NOTIFY ARCHITECT, VERBALLY AND IN WRITING, OF ALL DISCREPANCIES BEFORE PROCEEDING.
- COMPLY WITH MANUFACTURER'S RECOMMENDED SPECIFICATIONS AND INSTALLATION.
- LOCATE FLOOR FINISH TRANSITIONS AT CENTERLINE OF DOOR, UNLESS OTHERWISE NOTED.
- WHERE DISCREPANCIES OCCUR, NOTIFY ARCHITECT FOR CLARIFICATION PRIOR TO PROCEEDING.
- PAINT AND FINISH EXPOSED SURFACES UNLESS OTHERWISE NOTED. PAINT SURFACES BEHIND REMOVABLE EQUIPMENT/ FURNITURE. PAINT BEHIND NON-REMOVABLE ITEMS WITH PRIME COAT ONLY.

ABBREVIATIONS:

HM	HOLLOW METAL	PTD	PAINT(ED)
FF	FACTORY FINISH	SS	STAINLESS STEEL
INSUL	INSULATED	STL	STEEL
LAM	LAMINATED	STN	STAIN(ED)
MTL	METAL		



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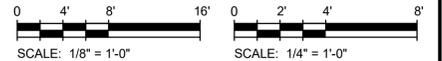
BY

MARK DATE DESCRIPTION
1 06/22/21 ISSUED FOR BIDS

CITY OF FLINT, MICHIGAN
FLINT WPC GRIT BAT "B" SYSTEM & PRIMARY TANKS IMPROVEMENTS
SCHEDULES AND DETAILS

PROJ: 200-156238-21001
DESN: LD
DRWN: RY
CHKD: QB

A-601



Bar measures 1 inch, otherwise drawing is not to scale

STRUCTURAL GENERAL NOTES

- THESE GENERAL NOTES PRESENT AND/OR SUMMARIZE KEY PROJECT INFORMATION FOR THE DRAWING READER'S CONVENIENCE. SEE ALSO INDIVIDUAL DRAWING NOTES AND PROJECT SPECIFICATIONS FOR FURTHER DETAILS AND REQUIREMENTS.
- ALL REFERENCED STANDARDS HEREIN ARE TO MOST RECENT ISSUE IN EFFECT AS OF THE DATE OF THESE DOCUMENTS, UNLESS NOTED OTHERWISE IN PROJECT SPECIFICATIONS OR ON THE DRAWING.
- ALL EXISTING DIMENSIONS SHOWN WITH THE ± SYMBOL ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR BEFORE FABRICATION AND CONSTRUCTION.
- DIMENSIONS MARKED WITH A "X" SHALL BE DETERMINED BY EQUIPMENT MANUFACTURER AND COORDINATED BY CONTRACTOR
- SUBMIT SHOP DRAWINGS, PROJECT DATA AND SAMPLES AS SPECIFIED IN PROJECT SPECIFICATIONS.
- ABBREVIATIONS

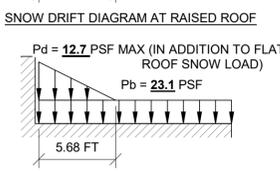
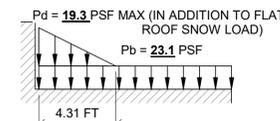
ADD'L	ADDITIONAL	FIN	FINISH (ED)	PERP	PERPENDICULAR
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	FLG.	FLANGE	PL	PLATE
ALUM.	ALUMINUM	FLR	FLOOR	PLF	POUNDS PER LINEAR FOOT
APPROX.	APPROXIMATE	FND.	FOUNDATION	PRCST	PRECAST
ARCH.	ARCHITECT(URAL)	FRMG	FRAMING	PREFAB	PREFABRICATED
B.M.	BEAM	FT	FOOT	PSF	POUNDS PER SQUARE FOOT
B.O.F	BOTTOM OF FOOTING	FTG	FOOTING	PSI	POUNDS PER SQUARE INCH
B.O.S.	BOTTOM OF STEEL	GA	GAGE, GAUGE	PT	PRESSURE TREATED
BLDG.	BUILDING	GALV	GALVANIZED	QTY	QUANTITY
BOT.	BOTTOM	GR.	GRADE	R	RISER
BRG.	BEARING	GRTG	GRATING	RAD.	RADIUS
BTWN	BETWEEN	H.P.	HIGH POINT	RD	ROOF DRAIN
CCJ	CRACK CONTROL JOINT	H.R.	HAND RAIL	REF	REFERENCE
CFS	COLD FORMED STEEL	HK	HOOK	REINF.	REINFORCEMENT
CJ	CONSTRUCTION JOINT	HORIZ	HORIZONTAL	REQ/REQ'	REQUIRED
CL	CENTER LINE	HT	HEIGHT	REV	REVISION
CLR	CLEAR	HVAC	HEATING VENTILATION AND AIR CONDITIONING	RO	ROUGH OPENING
CMU	CONCRETE MASONRY UNIT	I.D.	INSIDE DIAMETER	SCHED	SCHEDULE
COL	COLUMN	I.F.	INSIDE FACE	IN.	INCH
CONC	CONCRETE	I.J.	ISOLATION JOINT	INSUL	INSULATION
CONST	CONSTRUCTION	IN.	INCH	L	ANGLE
CONT	CONTINUOUS	INSUL	INSULATION	L.P.	LOW POINT
COORD	COORDINATE	L	LINEAR FOOT (FEET)	LBS	POUNDS
CTR	CENTER	LLH	LONG LEG HORIZONTAL	LLV	LONG LEG VERTICAL
DBA	DEFORMED BAR ANCHOR	LLV	LONG LEG VERTICAL	LOC	LOCATION
DEMO	DEMOLISH	LLH	LONG LEG HORIZONTAL	MATL	MATERIAL
DIA	DIAMETER	LLV	LONG LEG VERTICAL	MAX	MAXIMUM
DIM	DIMENSION	LOC	LOCATION	MECH	MECHANICAL
DIST	DISTANCE	MATL	MATERIAL	MFR	MANUFACTURER
DN	DOWN	MAX	MAXIMUM	MID	MIDDLE / MIDPOINT
DTL	DETAIL	MECH	MECHANICAL	MIN	MINIMUM, MINUTE
DWG(S)	DRAWING(S)	MFR	MANUFACTURER	MISC.	MISCELLANEOUS
DWL	DOWEL	MID	MIDDLE / MIDPOINT	MTL	METAL
E/EXIST.	EXISTING	MIN	MINIMUM, MINUTE	N	NEW
EA	EACH	MISC.	MISCELLANEOUS	N.S.	NEAR SIDE
EF	EACH FACE	MTL	METAL	N.T.S.	NOT TO SCALE
EJ	EXPANSION JOINT	N	NEW	NA	NOT APPLICABLE
EL / ELEV.	ELEVATION	N.S.	NEAR SIDE	NO	NUMBER
ELEC	ELECTRIC(AL)	N.T.S.	NOT TO SCALE	NOM	NOMINAL
ENGR	ENGINEER	NA	NOT APPLICABLE	O.C.	ON CENTER
EQ	EQUAL	NO	NUMBER	O.D.	OUTSIDE DIAMETER
EQUIP	EQUIPMENT	NOM	NOMINAL	OPH	OPPOSITE HAND
ESES	ANCHOR BOLT	O.C.	ON CENTER	OPNG	OPENING
EW	EACH WAY	O.D.	OUTSIDE DIAMETER	OPP	OPPOSITE
EXIST	EXISTING	OPH	OPPOSITE HAND	ORIG	ORIGINAL
EXP	EXPANSION	OPNG	OPENING	PEMB	PRE-ENGINEERED METAL BUILDING
F.S.	FAR SIDE	OPP	OPPOSITE	PERF	PERFORATED
F.V.	FIELD VERIFY	ORIG	ORIGINAL		
FD	FLOOR DRAIN	PEMB	PRE-ENGINEERED METAL BUILDING		
FFE	FINISH FLOOR ELEVATION	PERF	PERFORATED		

FOUNDATIONS

- NO GEOTECHNICAL/SUBSURFACE INVESTIGATION WAS PREVIOUSLY PERFORMED FOR THIS PROJECT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTRACT A GEOTECHNICAL ENGINEER TO CONFIRM ASSUMED ALLOWABLE BEARING STATED BELOW. GEOTECHNICAL REPORTS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER.
- ALLOWABLE BEARING PRESSURES AS FOLLOWS:
 - A. CONTINUOUS WALL FOUNDATIONS: **2000** PSF
- GEOTECHNICAL ENGINEER SHALL BE RETAINED BY OWNER TO PROVIDE OBSERVATION AND TESTING SERVICES DURING THE GRADING AND FOUNDATION PHASE OF CONSTRUCTION. INSPECTION AND TESTING REPORTS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER.
- PRIOR TO PLACING ENGINEERED FILL, THE SITE SHALL BE STRIPPED AND PROOF ROLLED. ANY SOFT SPOTS ENCOUNTERED SHALL BE REMOVED AND REPLACED WITH ENGINEERED FILL. REFER TO EARTHWORK SPECIFICATION FOR ADDITIONAL INFORMATION.
- FOR STRUCTURES WITH CONCRETE TOP SLABS, THERE SHALL BE NO BACKFILLING OPERATIONS UNTIL THE TOP SLAB IS IN PLACE, HAS BEEN CURED A MINIMUM OF 7 DAYS, AND HAS REACHED 70% OF ITS 28 DAY DESIGN STRENGTH, UNLESS NOTED OTHERWISE OR APPROVED BY THE ENGINEER.
- HEAVY EQUIPMENT OR WHEELED/TRACKED VEHICLES EXCEEDING 20 PSF CONTACT PRESSURE ARE NOT ALLOWED ON ELEVATED SLABS, ROOFS, OR WITHIN 10FT OF EARTH RETAINING WALLS UNLESS NOTED OTHERWISE ON PLANS OR APPROVED BY STRUCTURAL ENGINEER OF RECORD PRIOR TO CONSTRUCTION.

DESIGN CRITERIA

- REFERENCES:
 - A. ICC INTERNATIONAL BUILDING CODE, 2015 EDITION, RISK CATEGORY III IN ACCORDANCE WITH TABLE 1604.5
 - B. STATE BUILDING CODE: MICHIGAN
 - C. ASCE/SEI 7-10 - MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
- DEAD LOADS:
 - FLOOR DEAD LOAD = (SELF WEIGHT)
 - FLOOR COLLATERAL* LOAD = 10 PSF
 - ROOF DEAD LOAD = (SELF WEIGHT)
 - ROOF COLLATERAL* LOAD = 5 PSF
- LIVE LOADS (U.N.O.):
 - * COLLATERAL LOAD INCLUDES PROVISION FOR HANGING LOADS INCLUDING LIGHTS AND PIPING. REFER TO DRAWINGS FOR CONCENTRATED LOADING.
 - TYPICAL GROUND FLOORS = 100 PSF
 - STAIRS, WALKWAYS, OR PLATFORMS = 100 PSF
 - GRIT ROOM MAIN FLOORS = 200 PSF
 - ROOF = 20 PSF
- ROOF SNOW LOAD
 - GROUND SNOW LOAD, P_g = 30 PSF
 - FLAT ROOF SNOW LOAD, P_f = 23.1 PSF
 - SNOW EXPOSURE FACTOR, C_e = 1.0
 - SNOW LOAD IMPORTANCE FACTOR, I = 1.1
 - THERMAL FACTOR, C_t = 1.0
 - DRIFT SURCHARGE LOAD, P_d = 19.3 PSF
 - WIDTH OF SNOW DRIFT, w = 4.31 FT
- WIND LOAD (GRIT BUILDING):
 - ULTIMATE DESIGN WIND SPEED, V_{ult} = 120 MPH
 - NOMINAL DESIGN WIND SPEED, V_{asd} = 93 (V_{ult}^{0.6}) MPH
 - RISK CATEGORY = III
 - WIND EXPOSURE CATEGORY = C
 - DIRECTIONALITY FACTOR, K_d = 0.85
 - TOPOGRAPHY = 1.0
 - INTERNAL PRESSURE COEFFICIENT, G_{cpi} = ± 0.18
 - BUILDING ENCLOSURE CLASSIFICATION = ENCLOSED
- SEISMIC DESIGN DATA:
 - RISK CATEGORY = III
 - SEISMIC IMPORTANCE FACTOR, I_e = 1.25
 - SDS = 0.078
 - SD1 = 0.067
 - SS = 0.073
 - S1 = 0.042
 - S1 = 0.042
 - SITE CLASS = D
 - SEISMIC DESIGN CATEGORY = B
 - RESPONSE MODIFICATION FACTOR, R = 2
 - BASIC SEISMIC FORCE RESISTING SYSTEM = ORDINARY REINFORCED MASONRY SHEAR WALLS
 - DESIGN BASE SHEAR = 0.049W
 - ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE

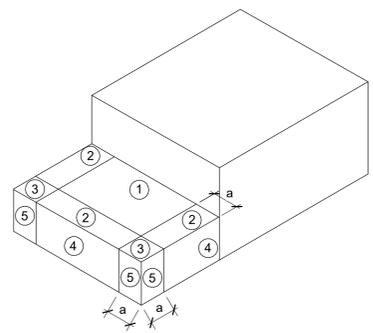


FACTORED (ULTIMATE) COMPONENTS & CLADDING WIND PRESSURES (PSF)			
ROOF			
ROOF ZONES	EFFECTIVE TRIBUTARY AREA*		
	10 SF	50 SF	100 SF
NEGATIVE ZONE 1	-36.0	-33.9	-33.0
NEGATIVE ZONE 2	-60.4	-45.5	-39.1
NEGATIVE ZONE 3	-91.0	-54.7	-39.1
POSITIVE ALL ZONES	16.0	16.0	16.0

WALLS			
WALL ZONES	EFFECTIVE TRIBUTARY AREA*		
	10 SF	100 SF	500 SF
NEGATIVE ZONE 4	-35.7	-30.9	-27.5
NEGATIVE ZONE 5	-44.0	-34.2	-27.5
POSITIVE ZONE 4 & 5	33.0	28.1	24.7

- NOTES:**
- EDGE DISTANCE: 'a' = **3'-0"**
 - * EFFECTIVE TRIBUTARY AREA: SPAN LENGTH MULTIPLIED BY AN EFFECTIVE WIDTH THAT NEED NOT BE LESS THAN 1/3 THE SPAN LENGTH
 - NEGATIVE VALUE DENOTES PRESSURE ACTING AWAY FROM THE SURFACE
 - UNFACTORED (NOMINAL) COMPONENTS AND CLADDING PRESSURES MAY BE OBTAINED BY MULTIPLYING THE VALUES IN THE TABLE BY 0.60

LOCATION OF WIND PRESSURE ZONES



ENCLOSED STRUCTURE - WALLS & ROOF

CONCRETE POST-INSTALLED ANCHORS

- MECHANICAL (TORQUE-CONTROLLED) ANCHORS
 - A. APPROVED SYSTEMS INCLUDE HILTI KWIK BOLT TZ (ICC ESR 1917) OR HILTI KWIK HUS-EZ (ICC ESR 3027) OR EQUAL CONSIDERING LOAD RESISTANCE. MECHANICAL ANCHORS SHALL BE APPROVED FOR USE WITH CRACKED CONCRETE PER AC 193. CURRENT ICC-ESR SHALL BE SUBMITTED. ALL PERSONNEL INSTALLING ANCHORS SHALL BE TRAINED BY THE MANUFACTURER ON PROPER INSTALLATION TECHNIQUE. TRAINING DOCUMENTATION FROM THE MANUFACTURER SHALL BE AVAILABLE ON REQUEST
- ADHESIVE ANCHORS
 - A. APPROVED SYSTEMS INCLUDE HILTI HIT-RE 500 V3 (ICC ESR 3814) OR HILTI HIT-HY 200 ADHESIVE WITH HAS/HIT-V THREADED ROD WITH SAFESIT TECHNOLOGY (ICC ESR 3187) OR EQUAL CONSIDERING LOAD RESISTANCE, IN-SERVICE AND INSTALLATION TEMPERATURE, AVAILABILITY OR COMPREHENSIVE INSTALLATION INSTRUCTIONS, AND CREEP. ADHESIVE ANCHORS SHALL BE APPROVED FOR USE WITH CRACKED CONCRETE PER AC 308. CURRENT ICC-ESR SHALL BE SUBMITTED.
 - B. ALL PERSONNEL INSTALLING ANCHORS SHALL BE TRAINED BY THE MANUFACTURER ON PROPER INSTALLATION TECHNIQUE. TRAINING DOCUMENTATION FROM THE MANUFACTURER SHALL BE AVAILABLE ON REQUEST.
 - C. HOLE SIZES AND INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII)
 - D. ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 308.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH SHALL BE BASED ON ACI 308.4 TEMPERATURE CATEGORY A WITH INSTALLATIONS INTO WATER SATURATED HOLES DRILLED USING A CARBIDE DRILL BIT INTO CONCRETE THAT HAS BEEN CURED FOR AT LEAST 21 DAYS.
 - E. ANY ADHESIVE ANCHOR INSTALLED HORIZONTALLY OR IN A VERTICALLY INCLINED PLANE SHALL BE INSTALLED BY CERTIFIED ADHESIVE ANCHOR INSTALLER, PER ACI 318-14 17.8.2.2, AND SHALL BE INSPECTED PER ACI 318-14 17.8.2.4. FILL IN ALL ABANDONED HOLES WITHIN 2" OF NEW ANCHOR LOCATIONS.
 - F. WHERE REQUIRED, A PROGRAM FOR ON-SITE PROOF LOADING, THAT IS, PROOF LOADING PROGRAM, TO BE CONDUCTED AS PART OF THE SPECIAL INSPECTION AND SHALL BE ESTABLISHED BY THE ENGINEER OR DESIGN PROFESSIONAL OF RECORD AND SHALL CONFORM TO THE FOLLOWING MINIMUM REQUIREMENTS:
 - a. FREQUENCY OF PROOF LOADING BASED ON ANCHOR TYPE, DIAMETER, AND EMBEDMENT.
 - b. PROOF LOADS BY ANCHOR TYPE, DIAMETER, EMBEDMENT, AND LOCATION.
 - c. ACCEPTABLE DISPLACEMENTS AT PROOF LOAD.
 - d. REMEDIAL ACTION IN THE EVENT OF FAILURE TO ACHIEVE PROOF LOAD OR EXCESSIVE DISPLACEMENT.

UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR DESIGN PROFESSIONAL OF RECORD, PROOF LOADS SHALL BE APPLIED AS CONFIRMED TENSION TESTS (4.7.2.3). PROOF LOADS LEVELS SHALL NOT EXCEED THE LESSER OF 50 PERCENT OF THE EXPECTED PEAK LOAD BASED ON ADHESIVE BOND STRENGTH OR 80 PERCENT OF THE ANCHOR YIELD STRENGTH. MAINTAIN THE PROOF LOAD AT THE REQUIRED LOAD LEVEL FOR A MINIMUM OF 10 SECONDS.

DEFERRED SUBMITTALS

- IN ACCORDANCE WITH THE SPECIFICATIONS DESIGNS FOR THE ITEMS LISTED BELOW ARE NOT INCLUDED IN THE CONTRACT DOCUMENTS. DESIGN OF THESE ELEMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE DESIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MICHIGAN:
 - A. ALUM. GUARDRAIL AND HANDRAIL SYSTEMS AND THEIR CONNECTIONS
 - B. ALUM. STAIR FRAMING, LADDER AND PLATFORM DETAILS AND ATTACHMENT
- DESIGN OF THE ITEMS LISTED ABOVE SHALL BE IN ACCORDANCE WITH THE ICC INTERNATIONAL BUILDING CODE, 2015 EDITION, MICHIGAN BUILDING CODE, 2015 EDITION, OSHA AND SHALL INCLUDE ALL ATTACHMENTS TO THE STRUCTURE

FIBERGLASS REINFORCED PLASTIC GRATING

- FIBERGLASS REINFORCEMENT SHALL BE CONTINUOUS ROVING IN SUFFICIENT QUANTITIES AS NEEDED BY THE APPLICATION AND/OR PHYSICAL PROPERTIES REQUIRED.
- RESIN SHALL BE VINYL ESTER, WITH CHEMICAL FORMULATIONS AS NECESSARY TO PROVIDE THE CORROSION RESISTANCE, STRENGTH AND OTHER PHYSICAL PROPERTIES AS REQUIRED. THE RESIN USED IN THE MANUFACTURE OF THE GRATING SHALL BE VI-CORR.
- GRATING SHALL BE FIRE RETARDANT WITH A FLAME SPREAD RATING OF 25 OR LESS PER ASTM E84 TUNNEL TEST.
- GRATING SHALL BE MADE OF PULTRUDED MEMBERS..
- NON-SLIP SURFACING: GRATING SHALL BE MANUFACTURED WITH A CONCAVE, MENISCUS PROFILE ON THE TOP OF EACH BAR PROVIDING MAXIMUM SLIP RESISTANCE.
- COLOR: DARK GRAY.
- DEPTH: ONE AND A HALF INCHES (1 1/2") ±1/16"
- LOAD/DEFLECTION: FOR THE SPANS SHOWN ON THE DRAWINGS, GRATING SHALL SUPPORT A UNIFORM DISTRIBUTED LOAD OF 100 PSF OR A CONCENTRATED MIDSPAN LINE LOAD OF 300 LB/FT, WITH A MAXIMUM DEFLECTION OF 3/8" OR SPAN (INCHES)/120, WHICHEVER IS LESS.
- LAYOUT: EACH GRATING SECTION SHALL BE READILY REMOVABLE, UNLESS NOTED OTHERWISE. MANUFACTURER TO PROVIDE OPENINGS AND HOLES WHERE LOCATED ON THE DRAWINGS. GRATING OPENINGS THAT FIT AROUND PROTRUSIONS SHALL BE DISCONTINUOUS AT APPROXIMATELY THE CENTERLINE OF OPENING SO THAT EACH SECTION IS READILY REMOVABLE.
- ALL MECHANICAL GRATING CLIPS SHALL BE MANUFACTURED OF TYPE 316 STAINLESS STEEL. GRATING CLIPS SHALL BE PROVIDED AT A MAXIMUM SPACING OF 48", WITH A MINIMUM OF FOUR CLIPS PER PIECE OF GRATING.
- WHEN REQUIRED, FIELD CUT AND DRILL FRP GRATING WITH CARBIDE OR DIAMOND TIPPED BITS AND BLADES. CUT OR DRILLED SURFACES SHALL BE SEALED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

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MARK	DATE	DESCRIPTION	BY
1	06/22/21	ISSUED FOR BIDS	

CITY OF FLINT, MICHIGAN
FLINT WPC GRIT BAT "B" SYSTEM & PRIMARY TANKS IMPROVEMENTS
GENERAL NOTES

PROJ:	200-156238-21001
DESN:	AJF
DRWN:	JAT
CHKD:	PCP

S-001

CONCRETE

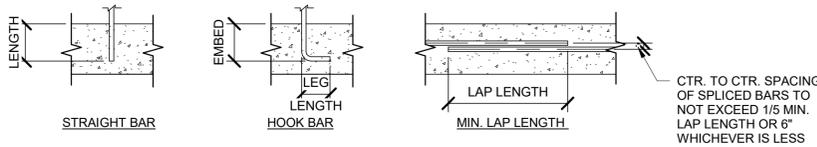
- REFERENCES
 - ACI 318-14 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
 - ACI 350-06 CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES
 - ACI SP-86 ACI DETAILING MANUAL
 - ACI 301-16 SPECIFICATION FOR STRUCTURAL CONCRETE
 - ACI 117-10 SPECIFICATION FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS
 - CRSI MSP-2-01 MANUAL OF STANDARD PRACTICE
 - CRSI REINFORCING BAR DETAILING
 - CRSI PLACING REINFORCING BARS
- MATERIALS
 - STRUCTURAL CONCRETE
 - MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS (f_c): 4500 PSI
 - ALL CONCRETE EXPOSED TO THE ELEMENTS SHALL BE AIR-ENTRAINED IN ACCORDANCE WITH ASTM C260. SEE SPECIFICATIONS.
 - REINFORCEMENT
 - REINFORCING BARS: ASTM A615, GRADE 60
 - WELDED SMOOTH WIRE FABRIC - ASTM A185 (SHEETS ONLY, ROLL FABRIC NOT ALLOWED)
 - ACCESSORIES
 - BAR SUPPORTS CLASS 1, MAXIMUM PROTECTION (CRSI MANUAL OF STANDARD PRACTICE) FOR ALL SLABS AND BEAMS WITH SOFFITS EXPOSED TO VIEW
 - CAST-IN-PLACE ANCHOR RODS
 - SHALL BE GALVANIZED, FURNISHED WITH CHAMFERED ENDS, AND SHALL MEET STRENGTH AND DUCTILITY REQUIREMENTS EQUIVALENT ASTM F1554, GR 55 WELDABLE MATERIAL.
 - GROUT: HIGH STRENGTH, NON-SHRINK STRUCTURAL GROUT. SEE SPECIFICATIONS.
- REINFORCEMENT DETAILING
 - ALL REINFORCING STEEL DETAILS SHALL BE IN ACCORDANCE WITH THE ACI CODE REQUIREMENTS (ACI 318 OR 350 - CURRENT EDITIONS).
 - REINFORCING STEEL PLACING DRAWINGS AND BAR LISTS SHALL CONFORM TO THE ACI OR CRSI DETAILING MANUALS. ALL BAR AND MESH SUPPORTS MUST BE CLEARLY DETAILED
 - CONCRETE COVER FOR REINFORCING SHALL BE INDICATED ON THE APPLICABLE REINFORCING STEEL SHOP DRAWINGS. HOWEVER, NO REINFORCING IN AREAS EXPOSED TO EARTH, WEATHER, SEWAGE OR WATER SHALL HAVE COVER LESS THAN TWO INCHES.
 - SPECIFIED COVER FOR REINFORCING PER ACI 350 (WATER CONTAINMENT STRUCTURES):

FOOTINGS (BOTTOM)	3.0"
FOOTINGS (TOP)	2.0"
COLUMNS/BEAMS (PRIMARY REINF)	2.5"
COLUMNS/BEAMS (STIRRUPS/ TIES)	2.0"
WALLS	2.0"
SUSPENDED SLABS (BOTTOM)	2.0"
SUSPENDED SLABS (TOP)	2.0"
SLAB-ON-GRADE (WWF)	1/3 x DEPTH FROM TOP OF SLAB
SLAB-ON-GRADE (REBAR)	2" FROM TOP OF SLAB (U.N.O.)
 - REINFORCEMENT IN WALLS AND STRIP FOOTINGS SHALL BE CONTINUOUS. HORIZONTAL BAR LAP SPLICES SHALL BE STAGGERED
 - PROVIDE CORNER BARS AT ALL WALL AND FOUNDATION CORNERS, AND LAP WITH THE HORIZONTAL BARS. CORNER BARS ARE TO MATCH THE HORIZONTAL BARS IN SIZE, GRADE AND SPACING UNLESS OTHERWISE SHOWN.
 - HOOKS AND BENDS SHALL MEET ACI STANDARD UNLESS OTHERWISE INDICATED.
 - SPLICES: CONTINUOUS REINFORCING BARS SHALL BE FURNISHED WITH CLASS 'B' TENSION LAPS SPLICES INCLUDING CORNER BARS, UNLESS NOTED OTHERWISE.
 - MECHANICAL SPLICES SHALL NOT BE PERMITTED UNLESS SHOWN ON THE DRAWINGS OR APPROVED BY THE ENGINEER
 - REINFORCING STEEL FABRICATION AND PLACEMENT SHALL BE IN ACCORDANCE WITH CRSI MANUAL OF STANDARD PRACTICE AND CRSI PLACING REINFORCING BARS (LATEST EDITIONS).
 - REINFORCING STEEL IN FOOTINGS SHALL BE ASSEMBLED IN MAT GRILLES EQUALLY SPACED AND SECURELY WIRED TOGETHER BEFORE THE CONCRETE IS POURED.
 - WALL FOOTING DOWELS ARE TO HAVE A FULL TENSION LAP SPlice WITH THE WALL STEEL UNLESS NOTED OTHERWISE.
 - SPREAD BARS AROUND SMALL OPENINGS AND SLEEVES IN SLABS AND WALLS WHERE POSSIBLE AND WHERE BAR SPACING WILL NOT EXCEED 1.5 TIMES THE NORMAL SPACING. DISCONTINUE BARS AT LARGE OPENINGS WHERE NECESSARY AND PROVIDE AN AREA OF REINFORCEMENT EQUAL TO THE INTERRUPTED REINFORCEMENT DISTRIBUTING ONE-HALF OF THIS REINFORCEMENT EACH SIDE OF THE OPENING (TENSION LAP SPLICE). HOLES LARGER THAN 12 INCHES IN ANY DIRECTION SHALL HAVE (2) #6 X 4'-0" DIAGONAL BARS IN BOTH FACES AT EACH CORNER.
 - WELDING, INCLUDING TACK WELDING, FOR REINFORCING STEEL IS PROHIBITED. WELDING OF REINFORCING STEEL AND HIGH STRENGTH BOLTS, IE. A36, F1554, WILL BE PERMITTED ONLY BY WRITTEN APPROVAL OF THE ENGINEER.
 - ALL OPENINGS THROUGH WALLS, SLABS OR OTHER STRUCTURAL ELEMENTS NOT DETAILED ON THE STRUCTURAL DRAWINGS MUST BE LOCATED BY THE CONTRACTOR AND SHOWN ON THE APPLICABLE REINFORCING STEEL SHOP DRAWINGS. THE FINAL LOCATION OF ALL OPENINGS MUST BE REVIEWED BY THE ENGINEER BEFORE THE CONCRETE IS POURED.
- FOOTINGS
 - CENTER ALL FOOTINGS ON WALL, PIER OR COLUMN ABOVE UNLESS OTHERWISE INDICATED.
- FORMWORK
 - SEE SPECIFICATIONS
 - CAMBER: PROVIDE CAMBER TO COMPENSATE FOR DISPLACEMENT OF FORMS (SEE ALSO SPECS.) AND TO PROVIDE AS-CAST MEMBER CAMBER AS NOTED ON DRAWINGS.
 - RUSTICATION STRIPS, CHAMFERS, DRIPS, MISC. EMBEDS, ETC. SEE DRAWINGS AND/OR ARCHITECTURAL DRAWINGS.
 - PROVIDE 3/4" CHAMFER AT ALL EXPOSED CORNERS OF BEAMS, WALLS ETC. UNLESS OTHERWISE NOTED.
- CONCRETE FINISHES: SEE SPECIFICATIONS
 - FORMED SURFACES:
 - EXPOSED TO VIEW: GROUT CLEANED FINISH.
 - COVERED OR AS NOTED ON PLANS: AS-CAST
 - FLATWORK:
 - EXPOSED TO VIEW: TROWELED
 - STAIRS OR RAMPS: BROOMED
 - SIDEWALKS, DRIVEWAYS: BROOMED
- CURING AND PROTECTION: SEE SPECIFICATIONS

CONCRETE - (CONTINUED)

- SEE THE MECHANICAL, ELECTRICAL AND SUPPLIERS DRAWINGS AND THE SPECIFICATIONS FOR THE LOCATIONS OF SPECIAL ANCHORS, CHAMFERS, SLEEVES, PIPES, CONDUITS AND OTHER DETAILS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
- EMBEDDED PIPES OR CONDUIT. MAXIMUM DIAMETER ONE THIRD x SLAB OR WALL THICKNESS. SPACED MINIMUM OF 3 TIMES DIAMETER ON CENTER. ALL EMBEDDED PIPES OR CONDUITS SHALL BE APPROVED BY ENGINEER OF RECORD PRIOR TO INSTALLING
- SIZE AND LOCATION OF EQUIPMENT PADS AND ANCHOR BOLTS SHALL BE AS REQUIRED BY THE EQUIPMENT MANUFACTURER. ALL CONDUIT PLACED IN SLAB SHALL BE APPROVED BY STRUCTURAL ENGINEER OF RECORD PRIOR TO INSTALLING CONDUIT AND POURING SLAB.
- ANY CONSTRUCTION JOINTS IN STRUCTURES WHERE WATERSTOPS ARE USED SHALL BE PROTECTED BY WATERSTOP UNLESS OTHERWISE NOTED. CONTRACTOR SHALL SUBMIT A CONSTRUCTION JOINT LAYOUT PLAN FOR APPROVAL BY THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL DESIGN, FURNISH, INSTALL, TEST, OPERATE, MONITOR, AND MAINTAIN A DEWATERING SYSTEM TO CONTROL HYDROSTATIC PRESSURE AND GROUND WATER ENTERING THE EXCAVATION.
- SUBMITTALS
 - CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING THE FOLLOWING DOCUMENTS TO THE ENGINEER OF RECORD:
 - CONCRETE MIX DESIGN
 - CONCRETE REINFORCING DRAWINGS

TENSION DEVELOPMENT / LAP SPlice SCHEDULE (UNCOATED BARS)							
DEVELOPMENT / LAP SPlice LENGTH IN CONCRETE ($f_c = 4500$ PSI)							
BAR SIZE	DEVELOPMENT LENGTH (IN)		CLASS 'B' LAP SPlice LENGTH (IN)		STD 90 DEG. HOOK (IN)		
	BAR TYPE 1	BAR TYPE 2	BAR TYPE 1	BAR TYPE 2	EMBED	LEG LENGTH	BEND DIA.
4	18	27	24	35	7	8	3
5	23	34	30	44	9	10	3 3/4
6	27	41	35	53	10	12	4 1/2
7	40	59	51	77	12	14	5 1/4
8	45	67	59	88	14	16	6
9	51	76	66	99	15	19	9 1/2
10	57	86	74	111	17	22	10 3/4



BAR TYPE 1 - CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN d_b , CLEAR COVER NOT LESS THAN d_b , AND STIRRUPS OR TIES THROUGHOUT L_d NOT LESS THAN CODE MINIMUM
 OR
 CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN $2d_b$ AND CLEAR COVER NOT LESS THAN d_b .

BAR TYPE 2 - TOP BARS WITH MORE THAN 12" OF FRESH CONCRETE CAST BELOW AND OTHER CASES

CLASSES OF CONCRETE MATRIX			
CONCRETE USAGE	MINIMUM COMPRESSIVE STRENGTH [f_c]	CONCRETE TYPE	EXPOSURE
FOUNDATIONS			
WATER CONTAINING STRUCTURES	4,500 PSI AT 28 DAYS	NWT	F2,S1,W1,C1
WALLS			
WATER CONTAINING STRUCTURES	4,500 PSI AT 28 DAYS	NWT	F2,S1,W1,C1
SLABS			
WATER CONTAINING STRUCTURES	4,500 PSI AT 28 DAYS	NWT	F2,S1,W1,C1
FLOORS			
ELEVATED INTERIOR FLOOR SYSTEMS	4,500 PSI AT 28 DAYS	NWT	F0,S0,W0,C0

- NOTES:
- FOR STEEL TROWEL SLAB FINISH AIR ENTRAINMENT SHALL BE LIMITED TO 3%.

PRECAST CONCRETE

- REFERENCES:
 - PCI DESIGN HANDBOOK, 7TH EDITION
 - PCI HOLLOW-CORE MANUAL
 - PCI MANUAL FOR QUALITY CONTROL
 - PCI RECTOR'S MANUAL
- HOLLOW CORE PLANK
 - PLANK SHALL BE PROVIDED BY A PRECAST MANUFACTURER AND SHALL CONSIST OF PRESTRESSED, PRECAST CONCRETE HOLLOW CORE UNITS. THE SYSTEM SHALL BE DESIGNED TO ACCOMMODATE THE SUPERIMPOSED LOADS AS STATED IN THE DESIGN CRITERIA.
 - SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR REVIEW PRIOR TO FABRICATION OR CONSTRUCTION. SHOP DRAWINGS SHALL BEAR THE ORIGINAL SIGNATURE AND SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PRECAST CONCRETE WILL BE INSTALLED.
- PRECAST BUILDING: SEE SPECIFICATIONS
 - SHALL BE PROVIDED BY A PRECAST MANUFACTURER AND THE SYSTEM SHALL BE DESIGNED TO ACCOMMODATE THE SUPERIMPOSED LOADS AS STATED IN THE DESIGN CRITERIA. SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR REVIEW BEFORE FABRICATION OR CONSTRUCTION. SHOP DRAWINGS SHALL BEAR THE ORIGINAL SIGNATURE AND SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PRECAST CONCRETE WILL BE INSTALLED.
 - ROOF, FLOOR AND WALL PANELS MUST EACH BE PRODUCED AS SINGLE COMPONENT MONOUTHIC PANELS. NO ROOF, FLOOR, OR VERTICAL WALL JOINTS WILL BE ALLOWED EXCEPT AT CORNERS.
 - PRECAST BUILDING SHOP DRAWINGS AND DESIGN CRITERIA SHALL BE SUBMITTED TO THE LOCAL BUILDING DEPARTMENT FOR REVIEW AND APPROVAL AS REQUIRED FOR OBTAINING THE BUILDING PERMIT PER THE MICHIGAN BUILDING CODE.
 - THE ENTIRE PRECAST CONCRETE ROOF PANEL SURFACE MUST BE CLEANED AND PRIMED WITH A MATERIAL THAT PREPARES THE CONCRETE SURFACE FOR PROPER ADHERENCE TO THE COATING MATERIAL.
 - JOINT BETWEEN THE BUILDING AND FLOOR SLAB SHALL BE CAULKED ON THE EXTERIOR AND INTERIOR SURFACE OF THE JOINTS. CAULKING SHALL BE SIKAFLEX-1A ELASTIC SEALANT OR EQUAL EXTERIOR CAULK JOINT TO BE 3/8" x 3/8" SQUARE SO THAT SIDES OF JOINT ARE PARALLEL FOR CORRECT CAULK ADHESION. BACK OF JOINT TO BE TAPED WITH BOND BREAKING TAPE TO ENSURE ADHESION OF CAULK TO PARALLEL SIDES OF JOINT AND NOT THE BACK.
 - PANEL CONNECTIONS: ALL PANELS SHALL BE SECURELY FASTENED TOGETHER WITH 3/8" THICK STEEL BRACKETS. STEEL IS TO BE OF STRUCTURAL QUALITY. HOT-ROLLED CARBON, COMPLYING WITH A STM A263, GRADE C AND HOT DIPPED GALVANIZED AFTER FABRICATION. ALL FASTENERS SHALL BE 1/2" DIAMETER BOLTS COMPLYING WITH ASTM A307.

CONCRETE MASONRY

- REFERENCES:
 - TMS 402/ACI 530-08/ASCE 5-08 BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY STRUCTURES.
- MATERIALS
 - MASONRY WALLS SHALL CONSIST OF ASTM C-90, GRADE N-1, HOLLOW CONCRETE MASONRY UNIT
 - MASONRY SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH $f_m = 1500$ PSI.
 - MORTAR SHALL COMPLY WITH ASTM C-270, AND SHALL BE TYPE S (1800 PSI)
 - CORE FILL GROUT SHALL COMPLY WITH ASTM C-476, WITH A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI.
- MASONRY SHALL BE LAID IN A RUNNING BOND PATTERN UNLESS OTHERWISE NOTED. NO CONTINUOUS VERTICAL JOINTS ARE PERMITTED AT WALL CORNERS, INTERSECTIONS, AND OPENING EDGES. SAW TOOTH BLOCK EACH ALTERNATE COURSE AT THESE LOCATIONS TO ACHIEVE MONOLITHIC CONSTRUCTION.
- VERTICAL REINFORCEMENT: LOCATION, SIZE AND SPACING SHALL BE AS INDICATED ON THE STRUCTURAL DRAWINGS. WALLS SHALL BE REINFORCED FULL HEIGHT IN GROUT FILLED CELLS AT ALL WALL CORNERS, INTERSECTIONS, ENDS, AND ADJACENT TO OPENINGS.
- PROVIDE REINFORCING STEEL DOWELS INTO STRUCTURE ABOVE AND BELOW WITH SIZE AND SPACING TO MATCH VERTICAL REINFORCEMENT, UNLESS OTHERWISE NOTED.
- PROVIDE DOWELS TO THE FOUNDATIONS WITH SIZE AND SPACING TO MATCH VERTICAL REINFORCING. LAP SPLICES SHALL BE MEASURED ABOVE THE STEM WALL.
- VERTICAL REINFORCEMENT SHALL BE CENTERED IN GROUT FILLED CELLS UNLESS NOTED OTHERWISE. REINFORCEMENT SHALL BE HELD SECURELY IN POSITION AT THE TOP AND BOTTOM OF WALL.
- HORIZONTAL JOINT REINFORCEMENT SHALL BE 9 GAGE GALVANIZED DUR-O-WAL LADDER TYPE OR ENGINEER APPROVED SUBSTITUTE, LOCATED AT SIXTEEN (16) INCHES VERTICALLY.
- PROVIDE HORIZONTAL JOINT REINFORCING IN PARAPETS AND FREE STANDING WALLS AT EIGHT (8) INCHES VERTICALLY.
- CONTROL JOINTS SHALL BE PROVIDED AS SPECIFIED ON PLAN AND COORDINATED WITH ARCHITECT. TERMINATE LADDER JOINT REINFORCEMENT EACH SIDE OF CONTROL JOINTS. SEE ARCHITECTURAL DRAWINGS FOR SEALANT REQUIREMENTS AT CONTROL JOINTS.
- MASONRY CONTROL JOINTS SHALL BE LOCATED A MINIMUM OF 2'-0" FROM ALL WALL OPENINGS, INTERSECTIONS, AND CORNERS, UNLESS NOTED OTHERWISE.
- MASONRY CONTROL JOINTS SHALL NOT BE LOCATED ABOVE OR BELOW ANY WALL OPENING.
- GROUTING: CONTRACTOR SHALL SUBMIT PROPOSED GROUT MIX DESIGN FOR ENGINEER REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. GROUT SLUMP SHALL BE BETWEEN 8 AND 11 INCHES. USE OF SUPERPLASTICIZER IS PROHIBITED. CELLS WHICH ARE TO RECEIVE GROUT SHALL BE VERTICALLY ALIGNED WITH A CLEAR, UNOBSTRUCTED AND CONTINUOUS VERTICAL SPACE. CELLS SHALL BE FILLED COMPLETELY AND VIBRATION CONSOLIDATED. GROUTING OPERATIONS SHALL BE CONTINUOUS AND SHALL NOT BE STOPPED FOR A PERIOD EXCEEDING ONE HOUR. WALL SHALL BE CONSTRUCTED IN MAXIMUM 5'-0" LIFTS BETWEEN GROUT POURS
- GROUTING AND REINFORCING: ALL MASONRY AND GROUTING AND REINFORCING WORK SHALL BE PERFORMED BY MASONRY CRAFTWORKERS WHO HAVE SUCCESSFULLY COMPLETED THE INTERNATIONAL MASONRY INSTITUTE (1-800-IMI-0988) TRAINING COURSE FOR GROUTING AND REINFORCED MASONRY CONSTRUCTION, OR EQUAL."
- ELECTRICAL CONDUITS NOT PERMITTED IN GROUT FILLED CELLS OF CMU WALL UNLESS APPROVED BY EOR PRIOR TO PLACEMENT. CONTRACTOR TO COORDINATE WITH ELECTRICAL DRAWINGS. VERTICAL CONDUITS, PIPES OR SLEEVES PLACED IN MASONRY COLUMNS OR PILASTERS SHALL NOT DISPLACE MORE THAN 2 PERCENT OF THE NEW CROSS SECTION.
- CONDUITS, PIPES AND SLEEVES IN HOLLOW MASONRY SHALL BE SPACED NO CLOSER THAN 3x THEIR DIAMETER ON CENTER. MINIMUM SPACING OF CONDUITS, PIPES OR SLEEVES OF DIFFERENT DIAMETER SHALL BE DETERMINED USING LARGER DIAMETER.

TENSION DEVELOPMENT / LAP SPlice LENGTH IN MASONRY (INCHES)				
BAR #	MIN. CLEAR COVER TO FACE OF CMU:			
	1 1/2"	2"	> 3 1/4"	> 5 1/4"
3	19	18	18	18
4	34	26	24	24
5	45	40	30	30
6	54	54	46	36
7	63	63	62	42
8	72	72	72	58

Bar measures 1 inch, otherwise drawing is not to scale

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MARK	DATE	DESCRIPTION	BY
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CITY OF FLINT, MICHIGAN
 FLINT WPC GRIT BAT "B" SYSTEM & PRIMARY TANKS IMPROVEMENTS
 GENERAL NOTES

PROJ: 200-156238-21001
 DESN: AJF
 DRWN: AJF
 CHKD: PCP

S-002

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STRUCTURAL ALUMINUM

- REFERENCES:
 - AA ALUMINUM DESIGN MANUAL
 - AA ALUMINUM STANDARDS AND DATA
 - ANSI/DWS D1.2 ALUMINUM WELDING CODE
- MATERIALS:
 - PLATES AND ROLLED SHAPES: 6061-T6
 - STRUCTURAL BOLTS: 316 STAINLESS STEEL
- THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER CONSTRUCTION IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIE DOWNS WHICH MIGHT BE NECESSARY. SUCH MATERIAL SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER THE COMPLETION OF THE PROJECT.
- PROVIDE MIN. (2) 3/4" STAINLESS STEEL BOLTS (316), WASHERS, AND NUTS FOR ALL CONNECTIONS, UNLESS NOTED OTHERWISE. ALL SS BOLTS SHALL HAVE CORROSION INHIBITING GREASE AND SHALL BE SEPARATED FROM DISSIMILAR METALS TO PREVENT CORROSION.
- ALL WELDING SHALL CONFORM TO AWS D1.2. SHOP DRAWINGS SHALL SHOW ALL SHOP AND ERECTION DETAILS INCLUDING CUTS, COPE CONNECTIONS, HOLES, THREADED FASTENERS, RIVETS, AND WELDS. GRIND ALL WELDS FOR SMOOTH TRANSITIONS.
- THE APPROVAL OF THE SHOP DRAWINGS WILL BE FOR SIZE AND ARRANGEMENT OF PRINCIPAL AND AUXILIARY MEMBERS AND STRENGTH OF CONNECTIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DIMENSIONS SHOWN ON THE SHOP DRAWINGS.
- LAYOUT AND DESIGN FOR GUARDRAIL, HANDRAIL AND THEIR COMPONENTS SHALL ADHERE TO THE APPLICABLE BUILDING CODES.
- BURNING OF HOLES IN ALUMINUM IS NOT PERMITTED WITHOUT PRIOR APPROVAL OF THE ENGINEER
- ALL ALUMINUM IN CONTACT WITH CONCRETE SHALL BE COATED WITH BITUMINOUS PAINT.

STRUCTURAL STEEL

- REFERENCES
 - AISC STEEL CONSTRUCTION MANUAL, 14TH EDITION
 - AWS D1.1 STRUCTURAL WELDING CODE - STEEL
- MATERIALS
 - GRADE STEEL

WIDE FLANGES	ASTM A992, GRADE 50
CHANNELS, ANGLES, AND PLATES	ASTM A36
SHEAR CONNECTOR PLATES	ASTM A572, GRADE 50
STRUCTURAL PIPE	ASTM A53, GRADE B, Fy=35 KSI
ROUND HSS	ASTM A500, GRADE B, Fy=42 KSI
SQUARE OR RECTANGLE HSS	ASTM A500, GRADE C, Fy=50 KSI
 - WELDED STUDS: ASTM A108, GRADE 60
 - ANCHOR BOLTS: ASTM F1554, GRADE 55, WELDABLE.
 - STRUCTURAL BOLTS: ASTM A325-N
 - WELDS: E70XX ELECTRODES
- CONNECTIONS
 - AISC MANUAL STANDARD CONNECTIONS UNLESS NOTED OTHERWISE. HIGH-STRENGTH BOLTS: ASTM A325-N, 3/4" UNLESS NOTED OTHERWISE. BEARING TYPE INSTALLED IN CONFORMANCE WITH "SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS". RESEARCH COUNCIL ON RIVETED AND BOLTED STRUCTURAL JOINTS. UNLESS NOTED OTHERWISE, STANDARD AISC "USUAL GAGE" DIMENSIONS SHALL BE USED FOR LOCATING HOLES FOR BOLTS, EXPANSION ANCHORS, ETC. IN ALL ANGLES, BEAM FLANGES, ETC.
 - THE ASSEMBLY SURFACE, INCLUDING THOSE ADJACENT TO THE WASHER, SHALL BE FREE OF MILL SCALE, OIL, PAINT OR OTHER COATINGS.
 - ALL HIGH STRENGTH BOLTS SHALL BE TIGHTENED TO A BOLT TENSION NOT LESS THAN THAT SPECIFIED IN THE AISC MANUAL. FULL TENSIONING SHALL BE BY THE TURN OF NUT METHOD, BY A DIRECT TENSION INDICATOR, OR BY PROPERLY CALIBRATED WRENCHES. PROVIDE HARDENED WASHERS UNDER THE NUT OR BOLT HEAD, WHICHEVER IS THE ELEMENT TURNED IN TIGHTENING.
 - WELDING - PERFORM ALL WELDING IN ACCORDANCE WITH AWS D1.1 CODE, LATEST EDITION, WELDS SHALL BE MADE ONLY BY OPERATORS CERTIFIED BY AWS IN PERFORMING THE TYPE OF WORK INDICATED.
- TOLERANCES: AISC CODE OF STANDARD PRACTICE (LATEST EDITION)
- CAMBER: PROVIDE POSITIVE CAMBER AS NOTED ON DRAWINGS. WHERE NO CAMBER IS NOTED, RESIDUAL MILL CAMBER IS TO BE UPWARDS.
- SHOP DRAWINGS
 - SUBMIT ERECTION AND FABRICATION SHOP DRAWINGS, SEE SPECS.
 - SUBMIT ERECTION PROCEDURES AND TEMPORARY BRACING PLAN FOR A/E REVIEW.
 - SUBMIT CONNECTION CALCULATIONS FOR ALL BEAM TO BEAM AND BEAM TO COLUMN CONNECTIONS
 - SHOP DRAWINGS AND CALCULATIONS MUST BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE STRUCTURAL STEEL WILL BE INSTALLED.
- ALL EXPOSED ANGLE AND PLATE LINTELS FOR BLOCK/BRICK SUPPORT SHALL BE HOT DIPPED GALVANIZED.
- PAINTING: AFTER MATERIAL HAS BEEN PROPERLY CLEANED AND TREATED, APPLY SHOP PRIME COAT TO ALL SURFACES, EXCEPT THOSE INTENDED FOR EMBEDMENT INTO CONCRETE OR TO RECEIVE FIELD WELDING, SLIP CRITICAL BOLTS, OR CEMENTITIOUS FIREPROOFING.

INSPECTION DEFINITIONS

PERFORM: PERFORM TASKS FOR THE NOTED LINE ITEM.

OBSERVE: OBSERVE THESE ITEMS RANDOMLY DURING THE COURSE OF EACH WORK DAY TO ENSURE THAT APPLICABLE REQUIREMENTS ARE BEING MET. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS AT CONTRACTOR'S RISK.

DOCUMENT: DOCUMENT, WITH A REPORT, THAT THE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

CONTINUOUS: CONSTANT MONITORING OF IDENTIFIED TASKS BY A SPECIAL INSPECTOR OVER THE DURATION OF PERFORMANCE OF SAID TASKS.

CONCRETE CONSTRUCTION, INCLUDING COMPOSITE DECK - VERIFY THE FOLLOWING ARE IN COMPLIANCE IBC TABLE 1705.3 (ACI 318 REFERENCES NOTED IN IBC TABLE)

TASK	INSPECTION TYPE	DESCRIPTION
1. INSPECT REINFORCEMENT AND VERIFY PLACEMENT	OBSERVE	VERIFY PRIOR TO PLACING CONCRETE THAT REINFORCING IS OF SPECIFIED TYPE, GRADE AND SIZE; THAT IS FREE OF OIL, DIRT, AND UNACCEPTABLE RUST; THAT IT IS LOCATED AND SPACED PROPERLY; THAT HOOKS, BENDS, TIES, STIRRUPS, AND SUPPLEMENTAL REINFORCEMENT ARE PLACED CORRECTLY; THAT LAP LENGTHS, STAGGER AND OFFSETS ARE PROVIDED; AND THAT ALL MECHANICAL CONNECTIONS ARE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS AND/OR EVALUATION REPORT.
2. CAST IN PLACE ANCHORS AND POST INSTALLED DRILLED ANCHORS (DOWNWARD INCLINED)	OBSERVE	VERIFY PRIOR TO PLACING CONCRETE THAT CAST IN PLACE ANCHORS AND POST INSTALLED DRILLED ANCHORS HAVE PROPER EMBEDMENT, SPACING AND EDGE DISTANCE.
3. POST-INSTALLED ADHESIVE ANCHORS IN HORIZONTAL OR UPWARD INCLINED ORIENTATIONS	CONTINUOUS AND DOCUMENT	INSPECT AS REQUIRED PER APPROVED ICC-ES REPORT; VERIFY THAT INSTALLER IS CERTIFIED FOR INSTALLATION OF HORIZONTAL AND OVERHEAD INSTALLATION APPLICATIONS; INSPECT PROOF LOADING AS REQUIRED BY THE CONTRACT DOCUMENTS
4. VERIFY USE OF REQUIRED MIX DESIGN	OBSERVE	VERIFY THAT ALL MIXES USED COMPLY WITH THE APPROVED CONSTRUCTION DOCUMENTS.
5. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	CONTINUOUS	AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TEST VERIFY THESE TESTS ARE PERFORMED BY QUALIFIED TECHNICIANS.
6. INSPECT CONCRETE AND/OR SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	CONTINUOUS	VERIFY PROPER APPLICATION TECHNIQUES ARE USED DURING CONCRETE CONVEYANCE AND DEPOSITING AVOIDS SEGREGATION OR CONTAMINATION. VERIFY THAT CONCRETE IS PROPERLY CONSOLIDATED.
7. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUE	OBSERVE	INSPECT CURING, COLD WEATHER PROTECTION, AND HOT WEATHER PROTECTION PROCEDURES
8. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	OBSERVE	
9. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	OBSERVE	
NOTES:		

SOILS INSPECTION - VERIFY THE FOLLOWING ARE IN COMPLIANCE IBC 1705.6

TASK	INSPECTION TYPE	DESCRIPTION
1. MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	OBSERVE	
2. EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	OBSERVE	
3. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	CONTINUOUS	
4. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	OBSERVE	DURING FILL PLACEMENT, THE SPECIAL INSPECTOR SHALL VERIFY THAT PROPER MATERIALS AND PROCEDURES ARE USED IN ACCORDANCE WITH THE PROVISIONS OF THE APPROVED GEOTECHNICAL REPORT.
NOTES:		

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CITY OF FLINT, MICHIGAN
FLINT WPC GRIT BAT "B" SYSTEM & PRIMARY TANKS IMPROVEMENTS
GENERAL NOTES AND SPECIAL INSPECTIONS

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DRWN: JAT
CHKD: PCP

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2015 INSPECTION TASKS PRIOR TO BOLTING - VERIFY THE FOLLOWING ARE IN COMPLIANCE IBC 1705.2.1, AISC 341-10-TABLE J7-1		
TASK	INSPECTION TYPE	DESCRIPTION
1. PROPER FASTENERS SELECTED FOR THE JOINT DETAIL	OBSERVE	
2. PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	OBSERVE	
3. CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	OBSERVE	CRACK PROHIBITION, WELD/BASE METAL FUSION, CRATER CROSS SECTION, WELD PROFILES AND SIZE, UNDERCUT, POROSITY
4. PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED FOR FASTENER ASSEMBLIES AND METHODS USED	OBSERVE/DOCUMENT	
5. PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	OBSERVE	
NOTES:		

2015 INSPECTION TASKS DURING BOLTING - VERIFY THE FOLLOWING ARE IN COMPLIANCE IBC 1705.2.1, AISC 341-10-TABLE J7-2		
TASK	INSPECTION TYPE	DESCRIPTION
1. FASTENER ASSEMBLIES PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	OBSERVE	
2. JOINT BROUGHT TO THE SNUG TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	OBSERVE	
3. FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	OBSERVE	
4. BOLTS ARE PRETENSIONED PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	OBSERVE	
NOTES:		

2015 INSPECTION TASKS AFTER BOLTING - VERIFY THE FOLLOWING ARE IN COMPLIANCE IBC 1705.2.1, AISC 341-10-TABLE J7-3		
TASK	INSPECTION TYPE	DESCRIPTION
1. DOCUMENT ACCEPTED AND REJECTED CONNECTIONS	PERFORM/DOCUMENT	
NOTES:		

2015 MASONRY CONSTRUCTION - VERIFY THE FOLLOWING ARE IN COMPLIANCE WITH IBC 1705.4 (ACI 530-13 TABLE 3.1.2 & 3.1.3)		
TASK	INSPECTION TYPE	DESCRIPTION
1. VERIFY COMPLIANCE WITH THE APPROVED SUBMITTALS PRIOR TO START	OBSERVE	
AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:		
2. PROPORTIONS OF SITE-PREPARED MORTAR	OBSERVE	
3. CONSTRUCTION OF MORTAR JOINTS	OBSERVE	
4. GRADE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGES	OBSERVE	
5. LOCATION OF REINFORCEMENT, CONNECTORS, AND PRESTRESSING TENDONS AND ANCHORAGES	OBSERVE	
6. PRESTRESSING TECHNIQUES	OBSERVE	
7. PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY	CONTINUOUS/OBSERVE	CONTINUOUS FOR THE FIRST 5000 SQUARE FEET (465 SQUARE METERS) THEN OBSERVE THEREAFTER.
PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:		
TASK	INSPECTION TYPE	DESCRIPTION
8. GROUT SPACE	OBSERVE	(NOTE: EOR MUST EITHER DELEGATE 'OBSERVE' FOR RISK CATEGORY IV/V, OR DELETE 'CONTINUOUS' FOR RISK CATEGORIES I/II/III)
9. GRADE, TYPE, AND SIZE OF REINFORCEMENT AND ANCHOR BOLTS, AND PRESTRESSING TENDONS AND ANCHORAGES	OBSERVE	
10. PLACEMENT OF REINFORCEMENT, CONNECTORS, AND PRESTRESSING TENDONS AND ANCHORAGES	OBSERVE	
11. PROPORTION OF SITE PREPARED GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS	OBSERVE	
12. CONSTRUCTION OF MORTAR JOINTS	OBSERVE	
DURING CONSTRUCTION, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:		
TASK	INSPECTION TYPE	DESCRIPTION
13. SIZE AND LOCATION OF STRUCTURAL ELEMENTS	OBSERVE	
14. TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL ELEMENTS, FRAMES, OR OTHER CONSTRUCTION	OBSERVE	
15. WELDING OF REINFORCEMENT	CONTINUOUS	
16. PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F (4.4°C)) OR HOT WEATHER (TEMPERATURE ABOVE 90°F (32.2°C))	OBSERVE	
17. APPLICATION AND MEASUREMENT OF PRESTRESSING FORCE	CONTINUOUS	
18. PLACEMENT OF GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS IS IN COMPLIANCE	CONTINUOUS	
19. PLACEMENT OF AAC MASONRY UNITS AND CONSTRUCTION OF THIN-BED MORTAR JOINTS	CONTINUOUS/OBSERVE	CONTINUOUS FOR THE FIRST 5000 SQUARE FEET (465 SQUARE METERS) THEN OBSERVE THEREAFTER.
20. OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS	OBSERVE	
NOTES: FOR LEVEL B QUALITY ASSURANCE ONLY: MINIMUM QUALITY ASSURANCE PROGRAM FOR MASONRY IN RISK CATEGORY I, II, OR III STRUCTURES.		



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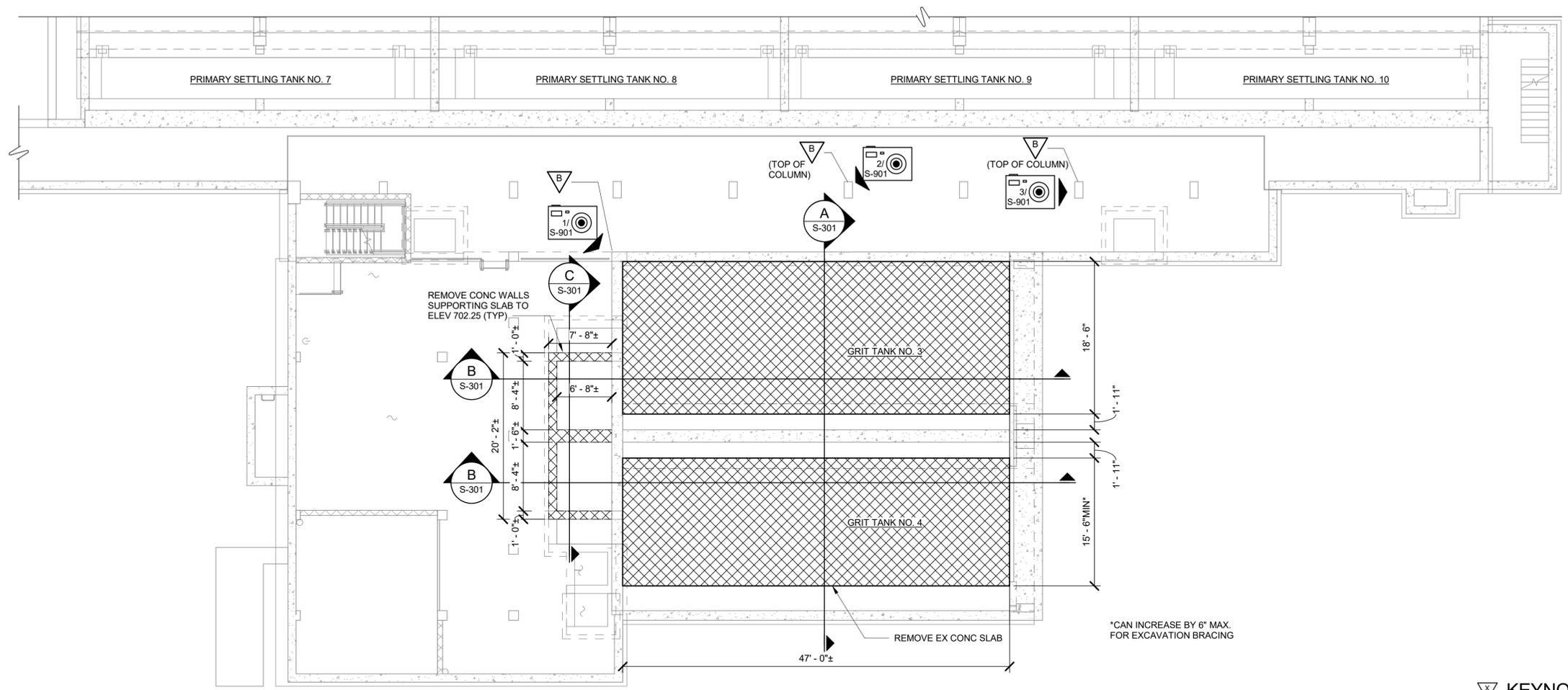
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S-004

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F
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B
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GRIT BUILDING B AND TANKS FOUNDATION REMOVAL PLAN
SCALE: 1/8" = 1'-0"

KEYNOTES

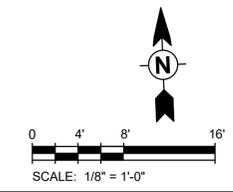
- A CONCRETE CRACK REPAIR (SEE DETAIL 1/S-502)
- B CONCRETE SHALLOW SPALL REPAIR (SEE DETAIL 2/S-502)
- C CONCRETE DEEP SPALL REPAIR (SEE DETAIL 3/S-502)

NOTES:

1. SEE S-001 THROUGH S-002 FOR GENERAL NOTES
2. COORDINATE ALL NEW WALL AND SLAB OPENINGS WITH PROCESS.
3. FILL IN ABANDONED WALL OPENINGS PER DETAIL 8 S-502

REMOVAL LEGEND

- COMPLETE REMOVAL
- CONCRETE REPAIR



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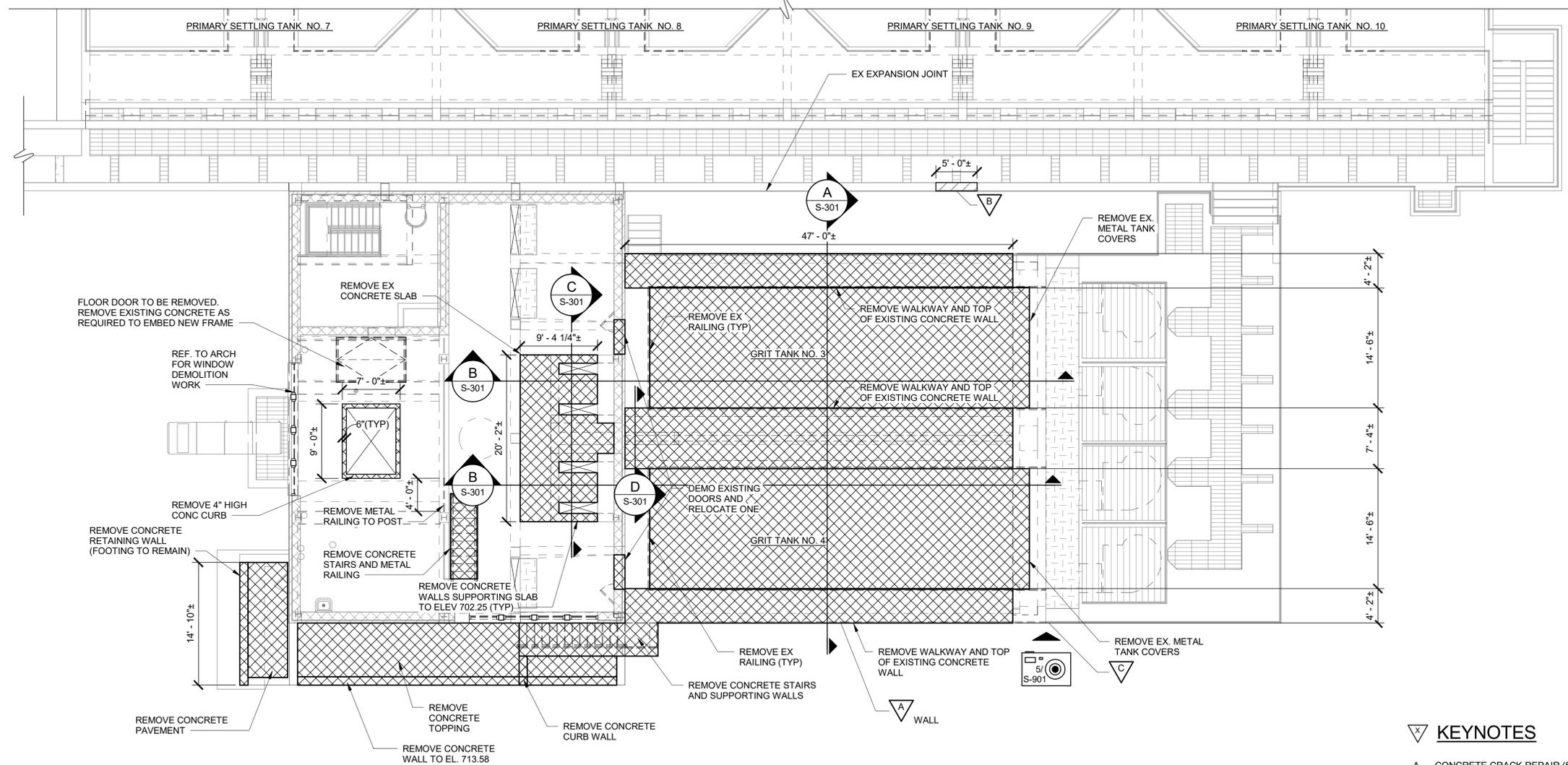
MARK	DATE	DESCRIPTION	BY
1	06/22/21	ISSUED FOR BIDS	

CITY OF FLINT, MICHIGAN
FLINT WPC GRIT BAT "B" SYSTEM & PRIMARY TANKS IMPROVEMENTS
GRIT BLDG B AND TANKS FOUNDATION REMOVAL AND REPAIR PLAN

PROJ:	200-156238-21001
DESN:	AJF
DRWN:	JAT
CHKD:	PCP

S-101

6/22/2021 6:06:02 AM BIM 360/200-156238-21001 Flint WWTP GIS/FLINT GRIT BLDG B-2021.rvt



GRIT BUILDING B MAIN FLOOR REMOVAL PLAN

SCALE: 1/8" = 1'-0"

KEYNOTES

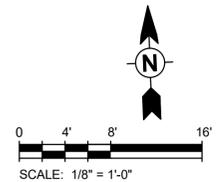
- A CONCRETE CRACK REPAIR (SEE DETAIL 1/S-502)
- B CONCRETE SHALLOW SPALL REPAIR (SEE DETAIL 2/S-502)
- C CONCRETE DEEP SPALL REPAIR (SEE DETAIL 3/S-502)

NOTES:

1. SEE S-001 THROUGH S-002 FOR GENERAL NOTES
2. COORDINATE ALL NEW WALL AND SLAB OPENINGS WITH PROCESS.
3. FILL IN ABANDONED WALL OPENINGS PER DETAIL 8 S-502

REMOVAL LEGEND

- COMPLETE REMOVAL
- CONCRETE REPAIR



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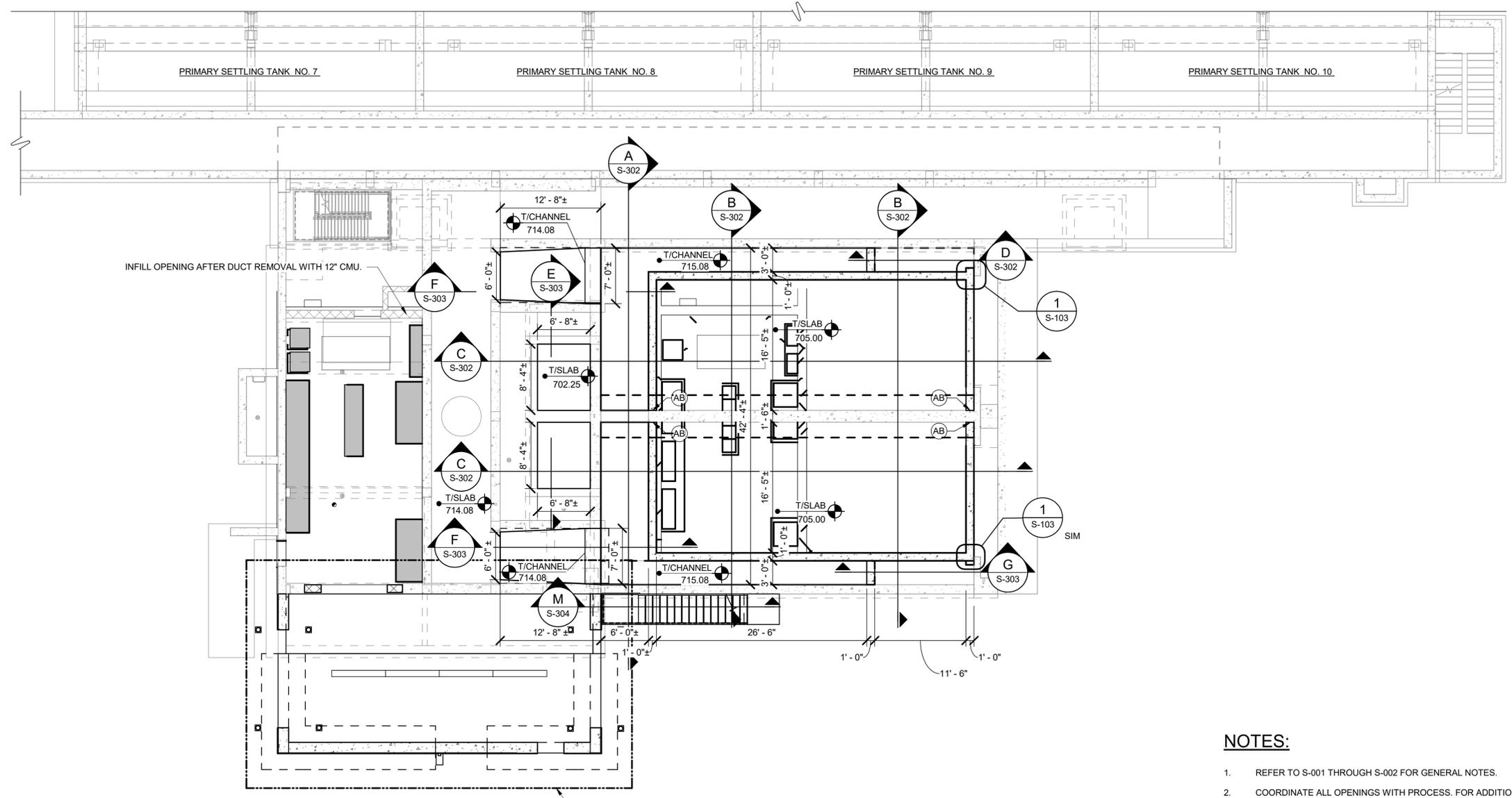
CITY OF FLINT, MICHIGAN
FLINT WPC GRIT BAT "B" SYSTEM &
PRIMARY TANKS IMPROVEMENTS
**GRIT BLDG B AND TANKS
MAIN FLOOR REMOVAL AND
REPAIR PLAN**

PROJ: 200-156238-21001
DESN: AJF
DRWN: JAT
CHKD: PCP

S-102

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Bar measures 1 inch, otherwise drawing is not to scale



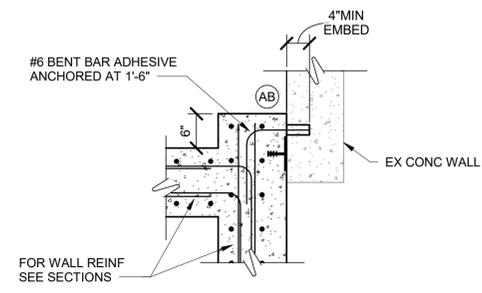
GRIT BUILDING B AND TANKS FOUNDATION PLAN
SCALE: 1/8" = 1'-0"

NOTES:

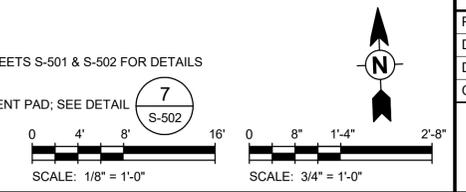
- REFER TO S-001 THROUGH S-002 FOR GENERAL NOTES.
- COORDINATE ALL OPENINGS WITH PROCESS. FOR ADDITIONAL REINF AROUND OPENINGS IN NEW CONCRETE, SEE DETAIL 2 S-501
- ALL EXPOSED CONCRETE EDGES TO BE CHAMFERED. SEE DETAIL 1 S-501
- FOR ALL NEW OPENINGS, CLEAN UP CONCRETE EDGES PER DETAIL 9 S-502
- FOR WALL CORNER BARS FOR THIS STRUCTURE SEE DETAIL 6 S-501
- FOR ALL EXISTING WALL OPENINGS TO BE FILLED SEE DETAIL 8 S-502
- L-1 DENOTES WALL LINTEL, SEE DETAIL 1 S-505

LEGEND

- X DENOTES JOINT TYPE, SEE SHEETS S-501 & S-502 FOR DETAILS
- DENOTES CONCRETE EQUIPMENT PAD, SEE DETAIL 7 S-502



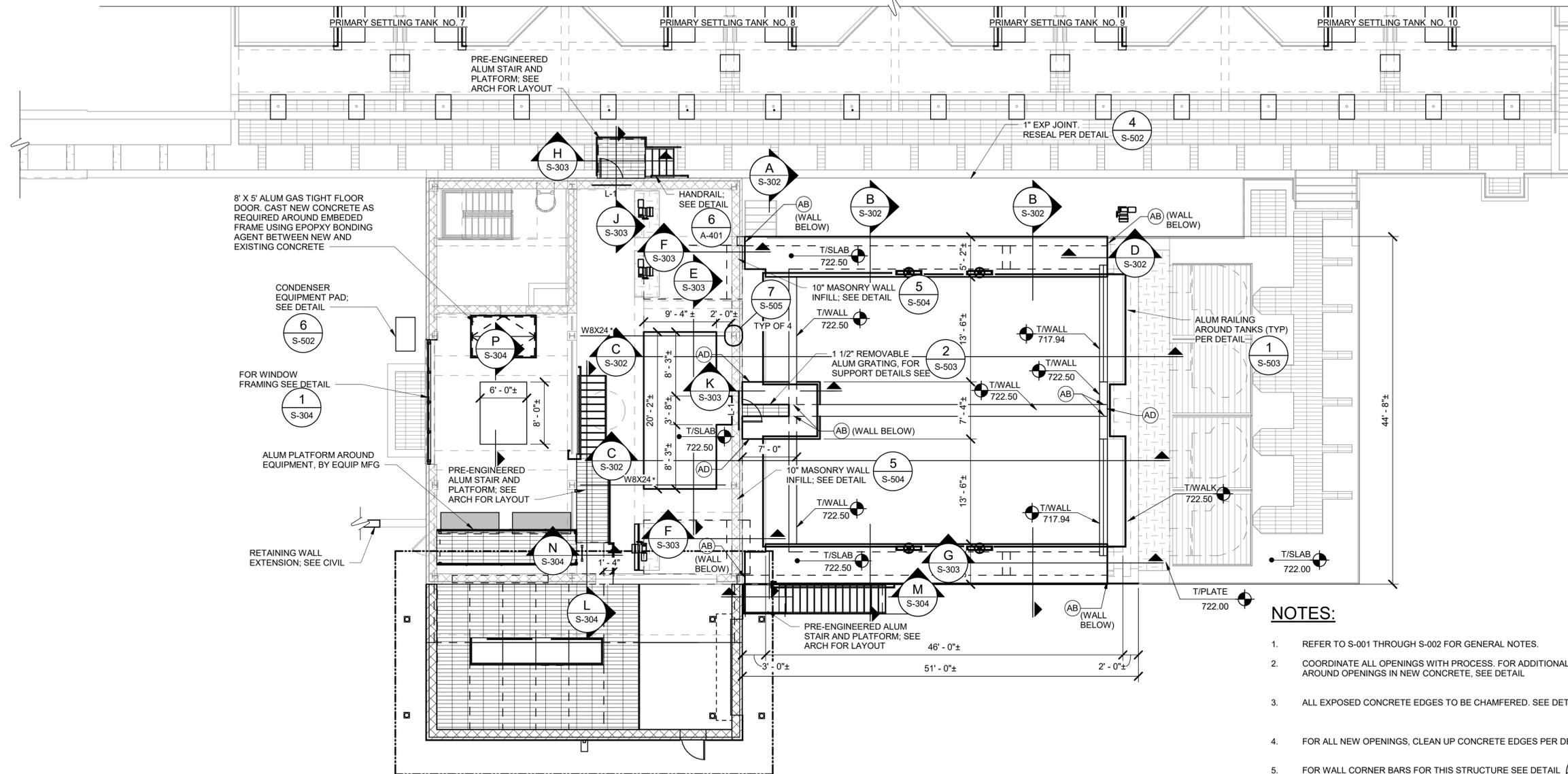
1 WALL CONNECTION DETAIL
S-103 SCALE: 3/4" = 1'-0"



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PRIMARY TANKS IMPROVEMENTS
**GRIT BUILDING B AND
TANKS FOUNDATION PLAN**

PROJ: 200-156238-21001
DESN: AJF
DRWN: JAT
CHKD: PCP



GRIT B BUILDING MAIN LEVEL PLAN

SCALE: 1/8" = 1'-0"

NOTES:

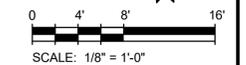
- REFER TO S-001 THROUGH S-002 FOR GENERAL NOTES.
- COORDINATE ALL OPENINGS WITH PROCESS. FOR ADDITIONAL REINF AROUND OPENINGS IN NEW CONCRETE, SEE DETAIL
- ALL EXPOSED CONCRETE EDGES TO BE CHAMFERED. SEE DETAIL
- FOR ALL NEW OPENINGS, CLEAN UP CONCRETE EDGES PER DETAIL
- FOR WALL CORNER BARS FOR THIS STRUCTURE SEE DETAIL
- FOR ALL EXISTING WALL OPENINGS TO BE FILLED SEE DETAIL
- L-1 DENOTES WALL LINTEL, SEE DETAIL

LEGEND

- (X) DENOTES JOINT TYPE, SEE SHEETS S-501 & S-502 FOR DETAILS
- DENOTES CONCRETE EQUIPMENT PAD; SEE DETAIL

KEYNOTES

- A CONCRETE CRACK REPAIR (SEE DETAIL 1/S-502)
- B CONCRETE SHALLOW SPALL REPAIR (SEE DETAIL 2/S-502)
- C CONCRETE DEEP SPALL REPAIR (SEE DETAIL 3/S-502)



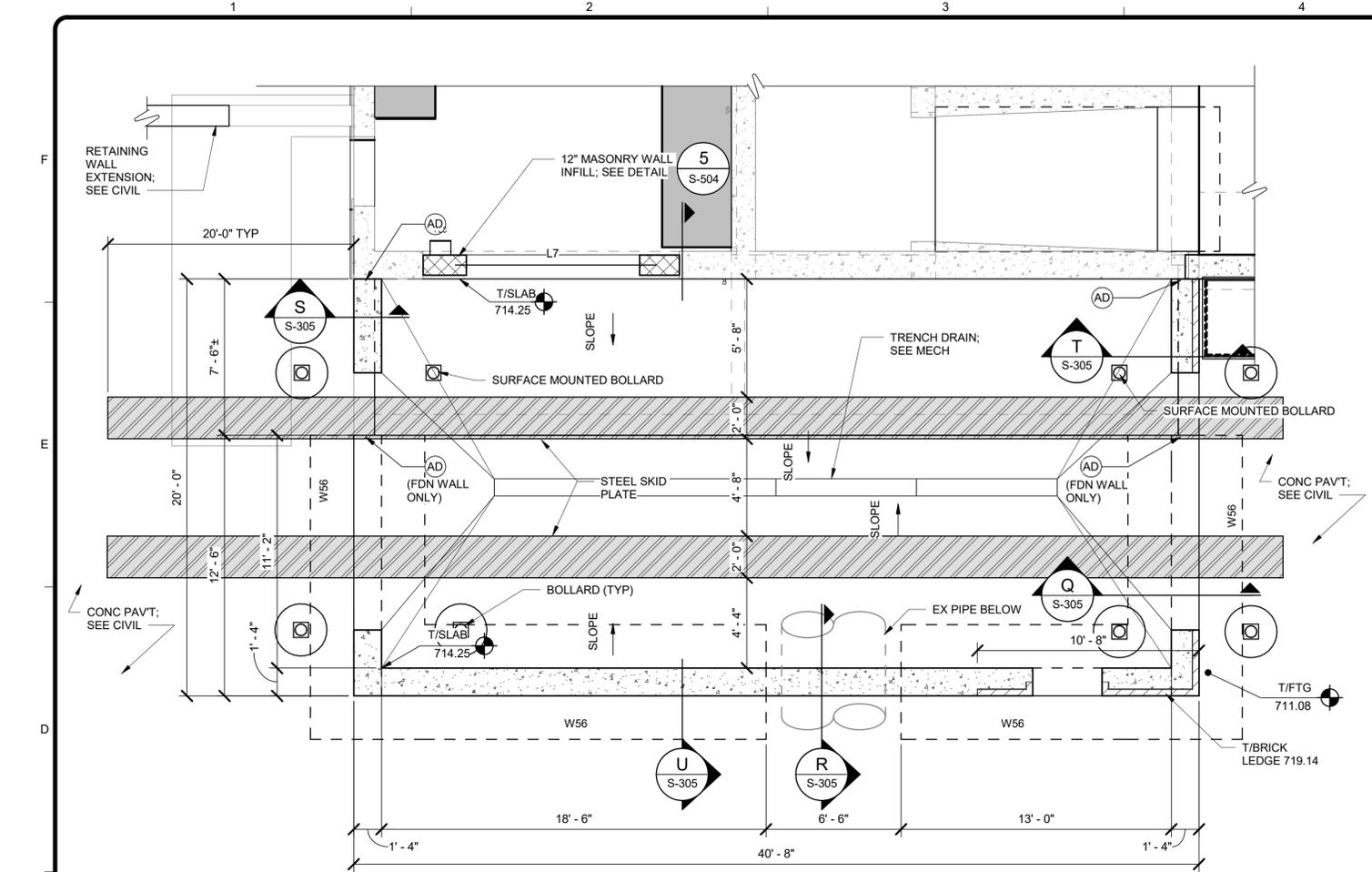
BY

MARK DATE DESCRIPTION
1 06/22/21 ISSUED FOR BIDS

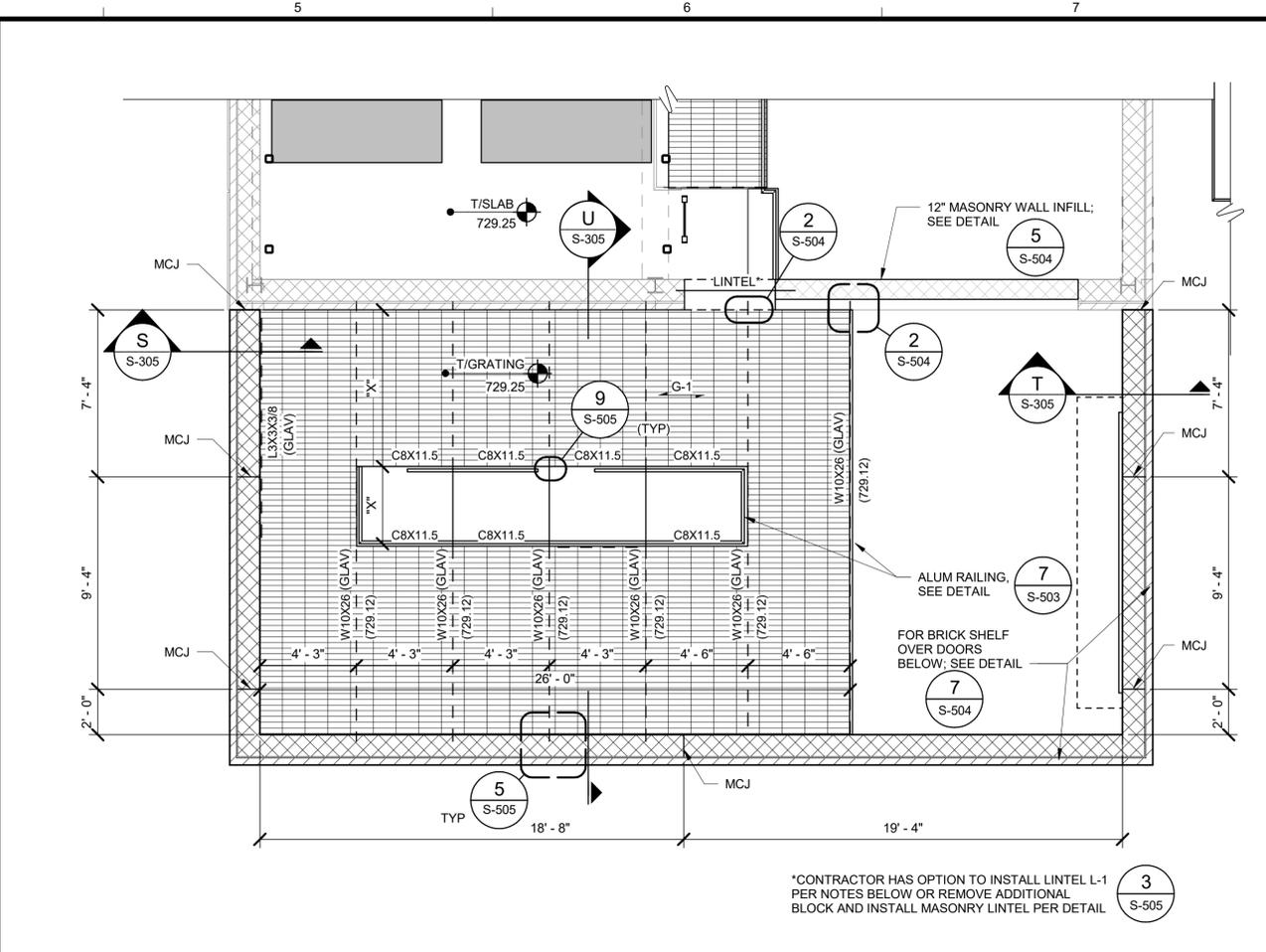
CITY OF FLINT, MICHIGAN
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**GRIT BUILDING B AND
TANKS MAIN LEVEL PLAN**

PROJ: 200-156238-21001
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CHKD: PCP

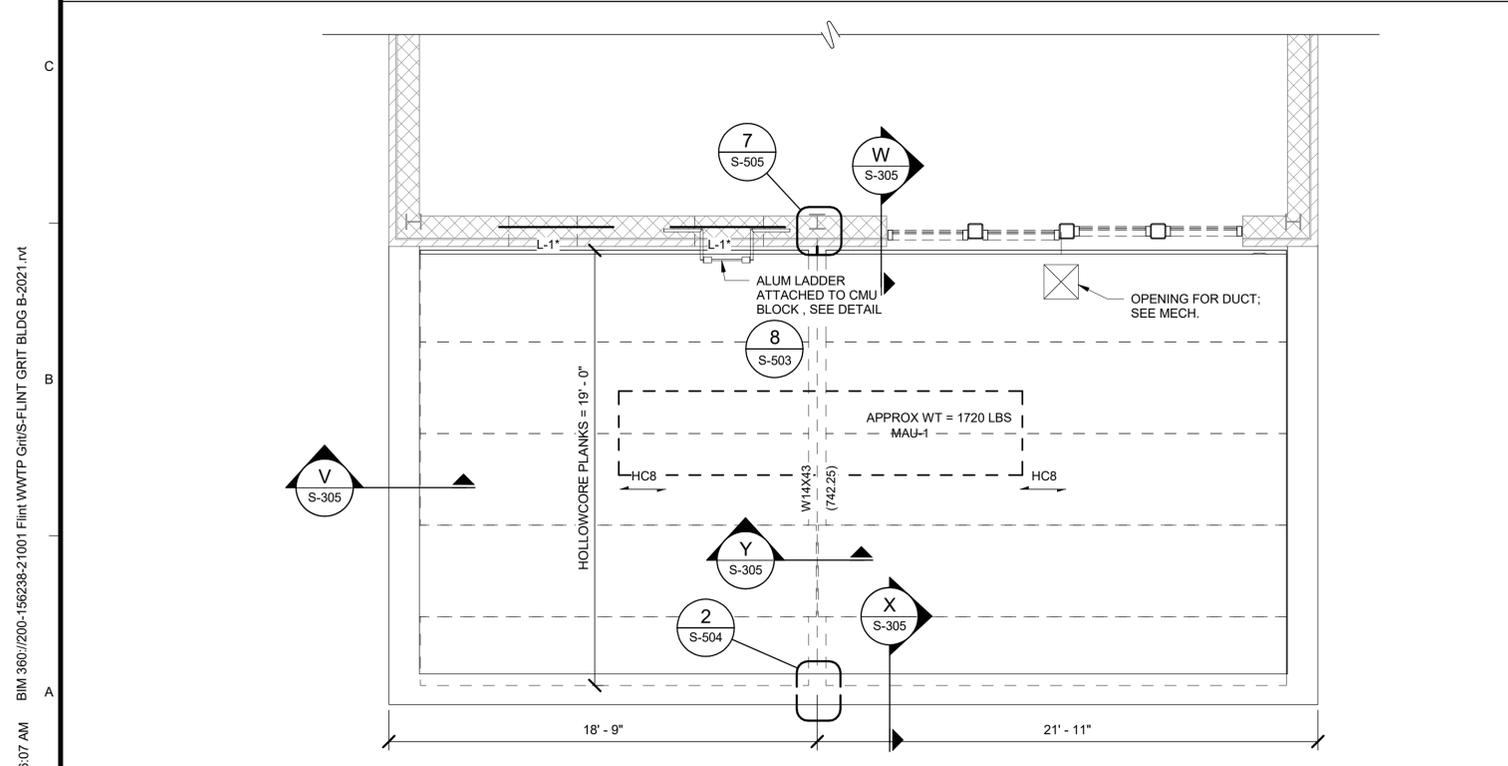
S-104



GRIT BUILDING B ADDITION FOUNDATION AND SLAB PLAN
SCALE: 1/4" = 1'-0"



GRIT B BUILDING ADDITION EL. 729.25
SCALE: 1/4" = 1'-0"



GRIT BUILDING B ADDITION ROOF PLAN
SCALE: 1/4" = 1'-0"

*LOCATIONS AND SIZES OF WALL OPENINGS AT CLASSIFIERS AND COMPACTOR PIPING TO BE COORDINATED WITH EQUIPMENT MANUFACTURER.

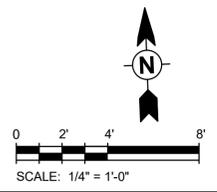
NOTES:

- REFER TO S-001 THROUGH S-002 FOR GENERAL NOTES.
- COORDINATE ALL OPENINGS WITH PROCESS, ELECTRICAL, AND MECHANICAL. FOR ADDITIONAL REINF AROUND OPENINGS IN NEW CONCRETE, SEE DETAIL.
- DO NOT CHAMFER CONCRETE EDGES FOR TOP OF FOUNDATION WALLS. ALL OTHER EXPOSED CONCRETE EDGES TO BE CHAMFERED, SEE DETAIL.
- FOR WALL CORNER BARS FOR THIS STRUCTURE SEE DETAIL.
- FOR ADDITIONAL REINFORCEMENT IN THE MASONRY WALL AROUND OPENINGS, SEE DETAIL.
- FOR JAMB REINFORCEMENT AT OPENINGS SEE DETAIL.
- FOR BOND BEAM REINFORCEMENT AT WALL CORNERS, SEE DETAIL.
- L-1 DENOTES WALL LINTEL, SEE DETAIL.
- L-2 DENOTES WALL LINTEL, SEE DETAIL.
- FOR BOLLARD LOCATIONS SEE ARCH. FOR BOLLARD DETAILS SEE

LEGEND

- (X) DENOTES JOINT TYPE, SEE SHEETS S-501 & S-502 FOR DETAILS
- (7) DENOTES CONCRETE EQUIPMENT PAD; SEE DETAIL
- (4) DENOTES 12" CMU W/#5 VERT. BARS (CENTERED) IN GROUT FILLED CELLS @ 24" O.C. MAX. AND AT CORNERS. FOR CORNER REINFORCEMENT, SEE DETAIL
- (3) DENOTES MASONRY CONTROL JOINTS, SEE DETAIL
- (6) DENOTES SPAN DIRECTION OF PRECAST HOLLOWCORE CONC. PLANK. HC# DENOTES CONC. HOLLOWCORE (HC) PLANK THICKNESS IN INCHES. FOR OPENINGS IN HC ROOF SEE DETAIL
- (XXX.XX) DENOTES TOP OF BEAM ELEVATION
- W## DENOTES WALL FOOTING, REFER TO SCHEDULE
- G# DENOTES SPAN DIRECTION OF 1 1/2" FRP PULTRUDED GRATING DESIGNED FOR 100 PSF LIVE LOAD AND 1/4" MAX DEFLECTION
- L# DENOTES LINTEL, EXCEPT AS NOTED IN NOTES ON SHEET, PER DETAIL

FOUNDATION SCHEDULE				
TYPE	LENGTH	WIDTH	THICKNESS	REINFORCEMENT
W56	CONT.	5'-6"	1'-2"	(6) #5 CONT W/#5@12" O.C. TRANS (BOT)



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MARK

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DATE

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DESCRIPTION

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FLINT WPC GRIT BAT "B" SYSTEM & PRIMARY TANKS IMPROVEMENTS

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GRIT BUILDING B ADDITION PLANS

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PROJ:

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DESIGN:

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DRAWN:

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CHKD:

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A/JF

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PCP

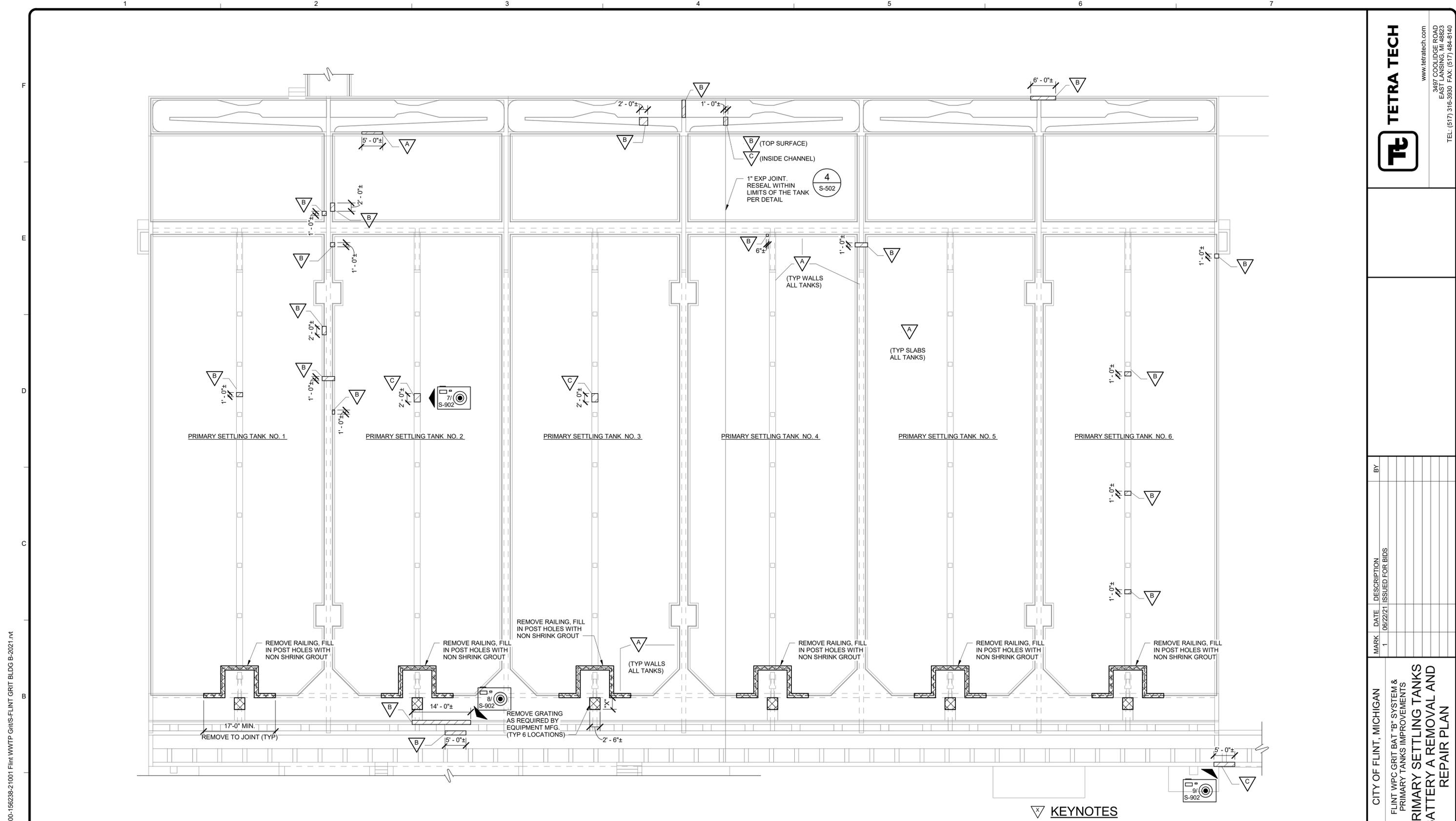
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S-105

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PRIMARY SETTLING TANKS BATTERY A REMOVAL AND REPAIR PLAN

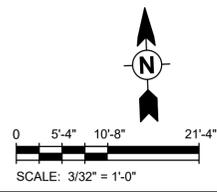
SCALE: 3/32" = 1'-0"

KEYNOTES

- A CONCRETE CRACK REPAIR (SEE DETAIL 1/S-502)
- B CONCRETE SHALLOW SPALL REPAIR (SEE DETAIL 2/S-502)
- C CONCRETE DEEP SPALL REPAIR (SEE DETAIL 3/S-502)

REMOVAL LEGEND

- COMPLETE REMOVAL
- CONCRETE REPAIR



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PRIMARY TANKS IMPROVEMENTS
**PRIMARY SETTLING TANKS
BATTERY A REMOVAL AND
REPAIR PLAN**

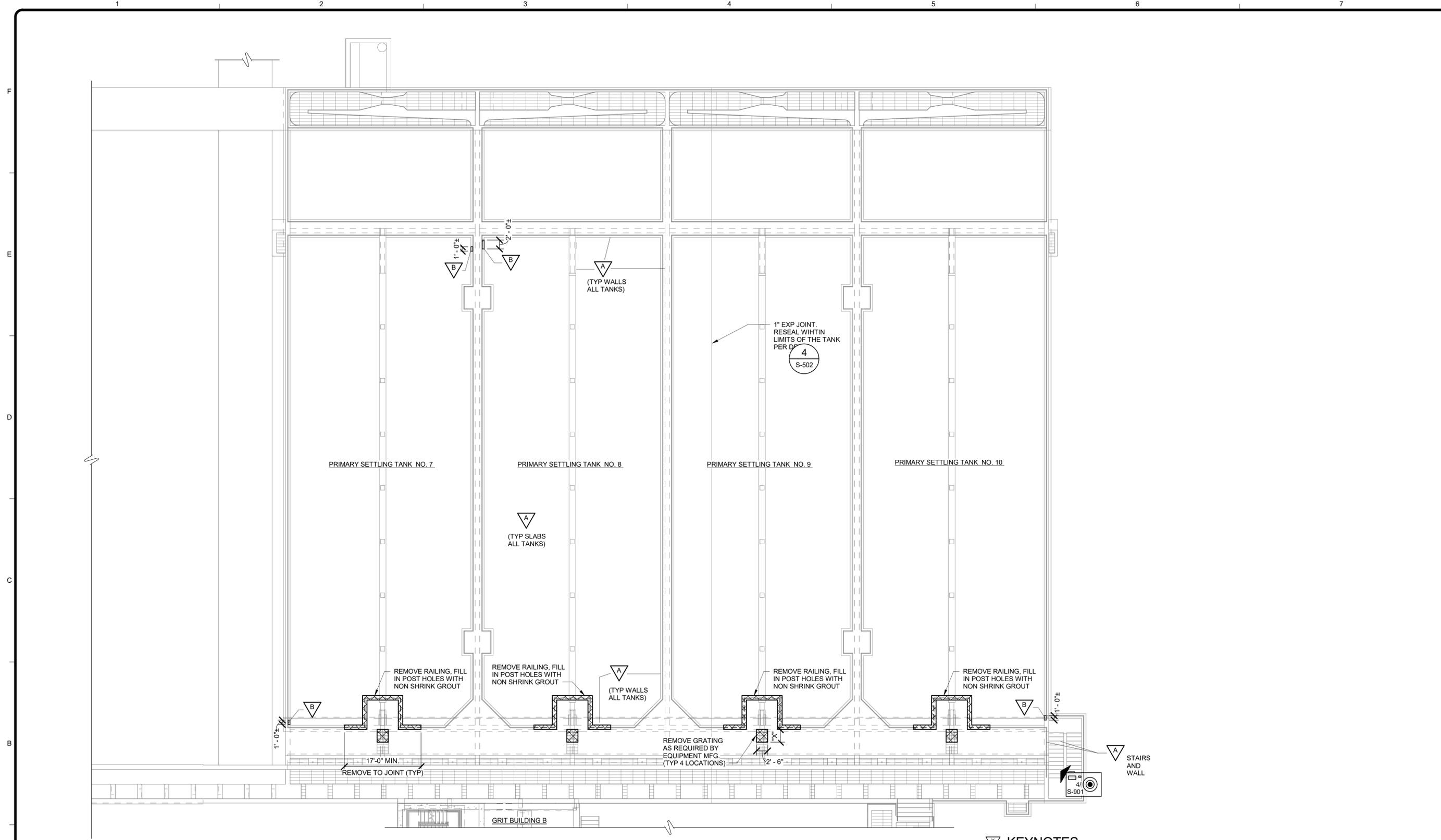
PROJ:	200-156238-21001
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CHKD:	PCP

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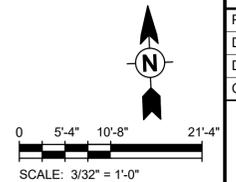
PRIMARY SETTLING TANKS BATTERY B REMOVAL AND REPAIR PLAN
 SCALE: 3/32" = 1'-0"

KEYNOTES

- A CONCRETE CRACK REPAIR (SEE DETAIL 1/S-502)
- B CONCRETE SHALLOW SPALL REPAIR (SEE DETAIL 2/S-502)
- C CONCRETE DEEP SPALL REPAIR (SEE DETAIL 3/S-502)

REMOVAL LEGEND

- COMPLETE REMOVAL
- CONCRETE REPAIR



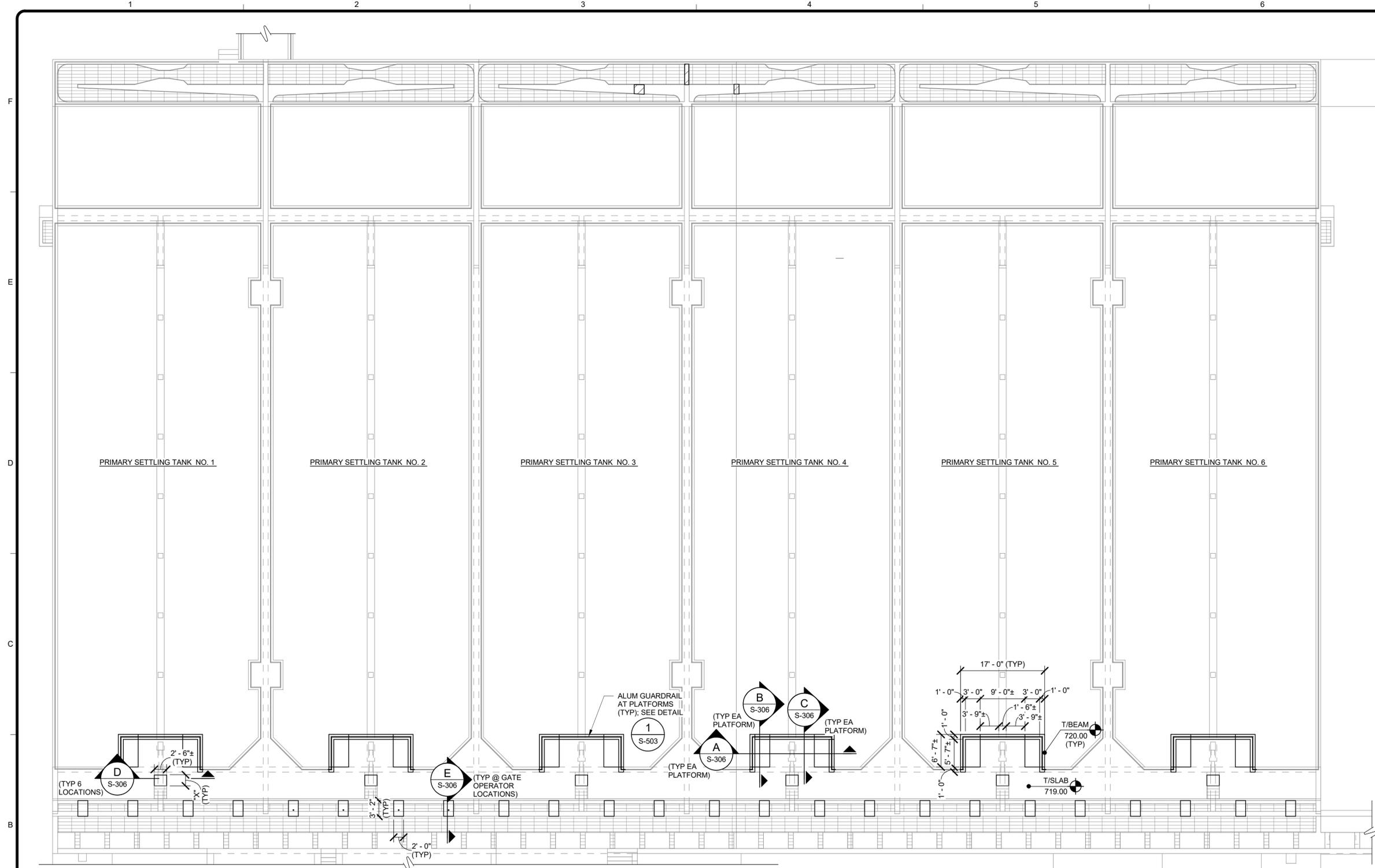
MARK	DATE	DESCRIPTION	BY
1	06/22/21	ISSUED FOR BIDS	

CITY OF FLINT, MICHIGAN
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**PRIMARY SETTLING TANKS
 BATTERY B REMOVAL AND
 REPAIR PLAN**

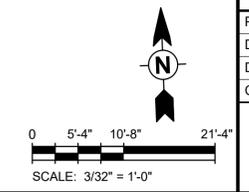
PROJ:	200-156238-21001
DESN:	AJF
DRWN:	JAT
CHKD:	PCP

S-107

6/22/2021 6:06:10 AM BIM 360://200-156238-21001 Flint WWTP GHUS-FLINT GRIT BLDG B-2021.rvt



PRIMARY SETTLING TANKS BATTERY A PLAN VIEW
 SCALE: 3/32" = 1'-0"



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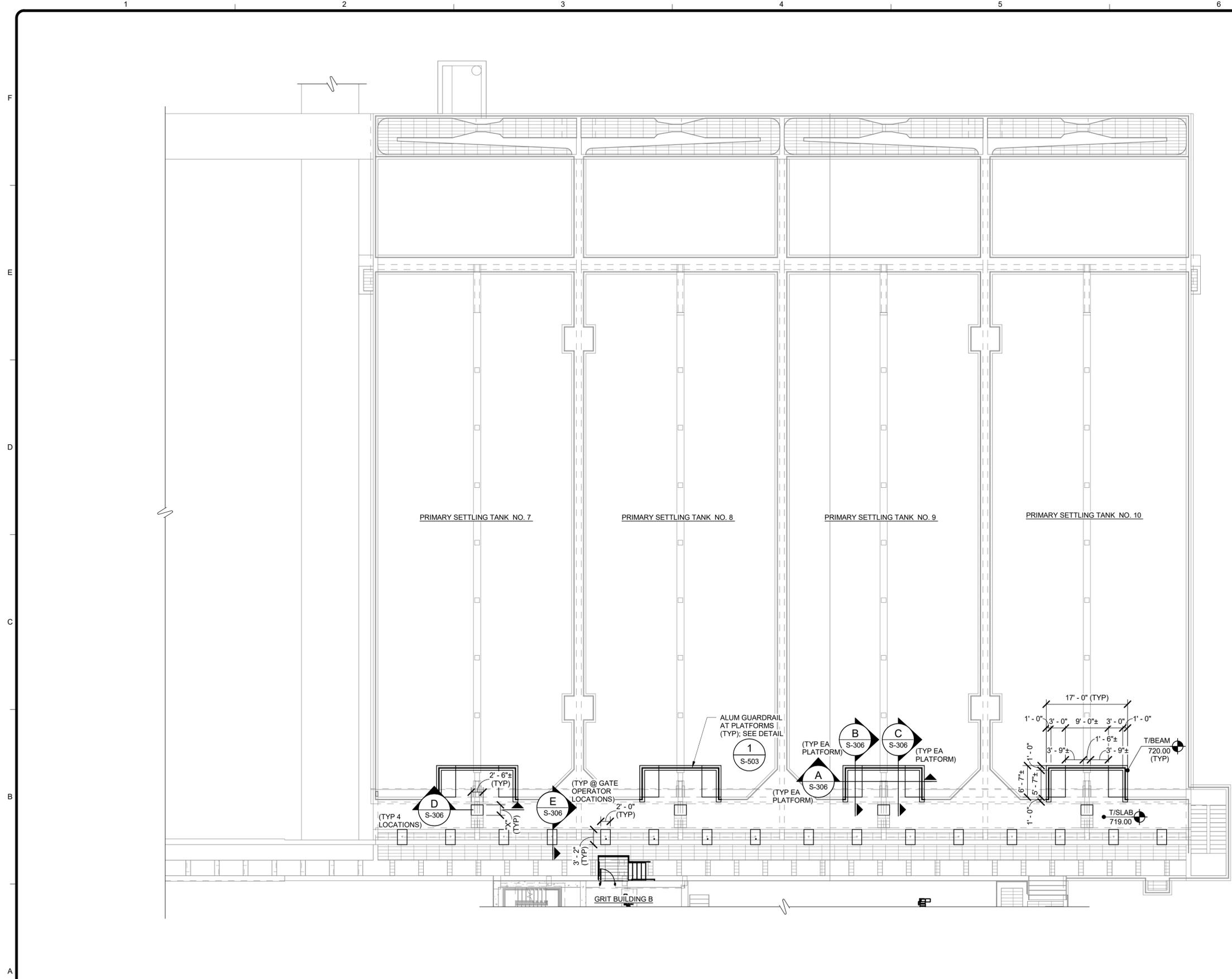
CITY OF FLINT, MICHIGAN
 FLINT WPC GRIT BAT "B" SYSTEM &
 PRIMARY TANKS IMPROVEMENTS
**PRIMARY SETTLING TANKS
 BATTERY A PLAN**

PROJ:	200-156238-21001
DESN:	AJF
DRWN:	JAT
CHKD:	PCP

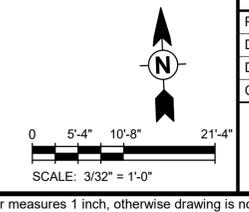
S-108

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PRIMARY SETTLING TANKS BATTERY B PLAN VIEW
 SCALE: 3/32" = 1'-0"



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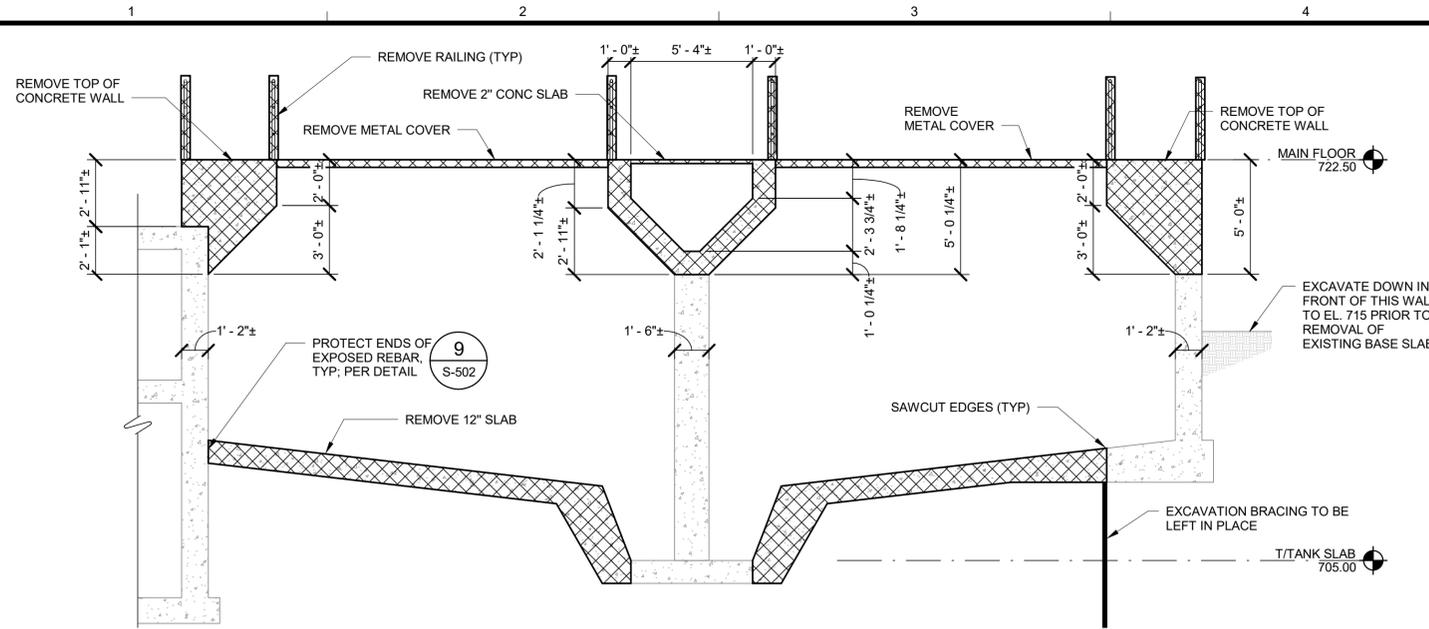
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CITY OF FLINT, MICHIGAN
 FLINT WPC GRIT BAT "B" SYSTEM &
 PRIMARY TANKS IMPROVEMENTS
**PRIMARY SETTLING TANKS
 BATTERY B PLAN**

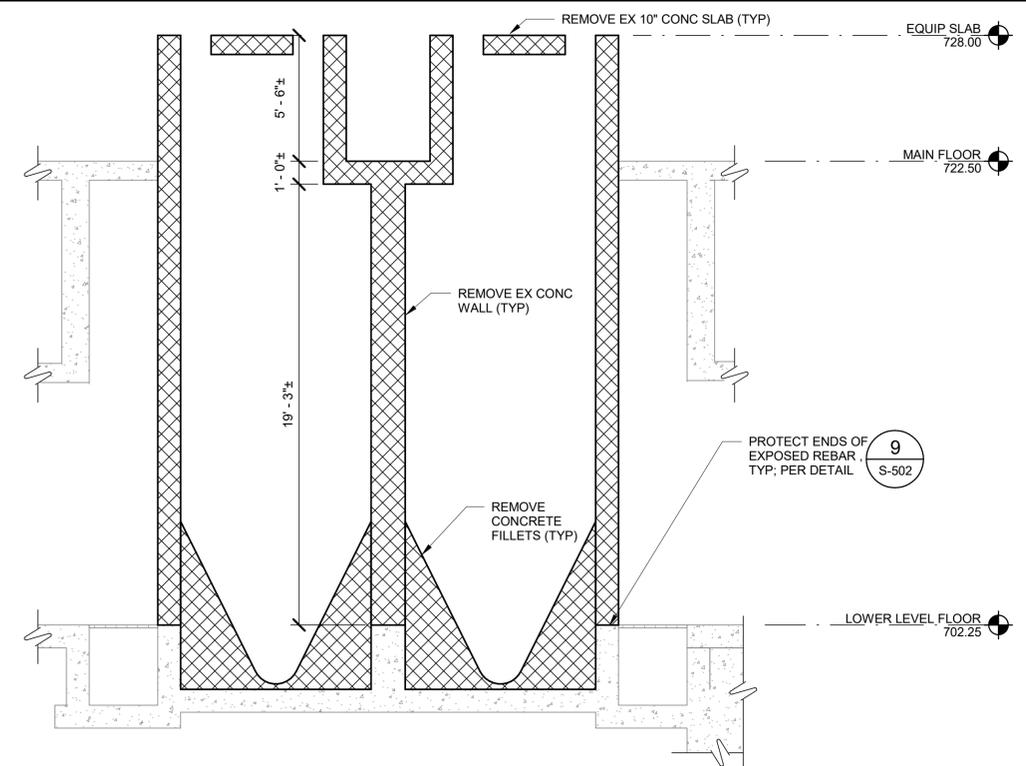
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DESN:	AJF
DRWN:	JAT
CHKD:	PCP

S-109

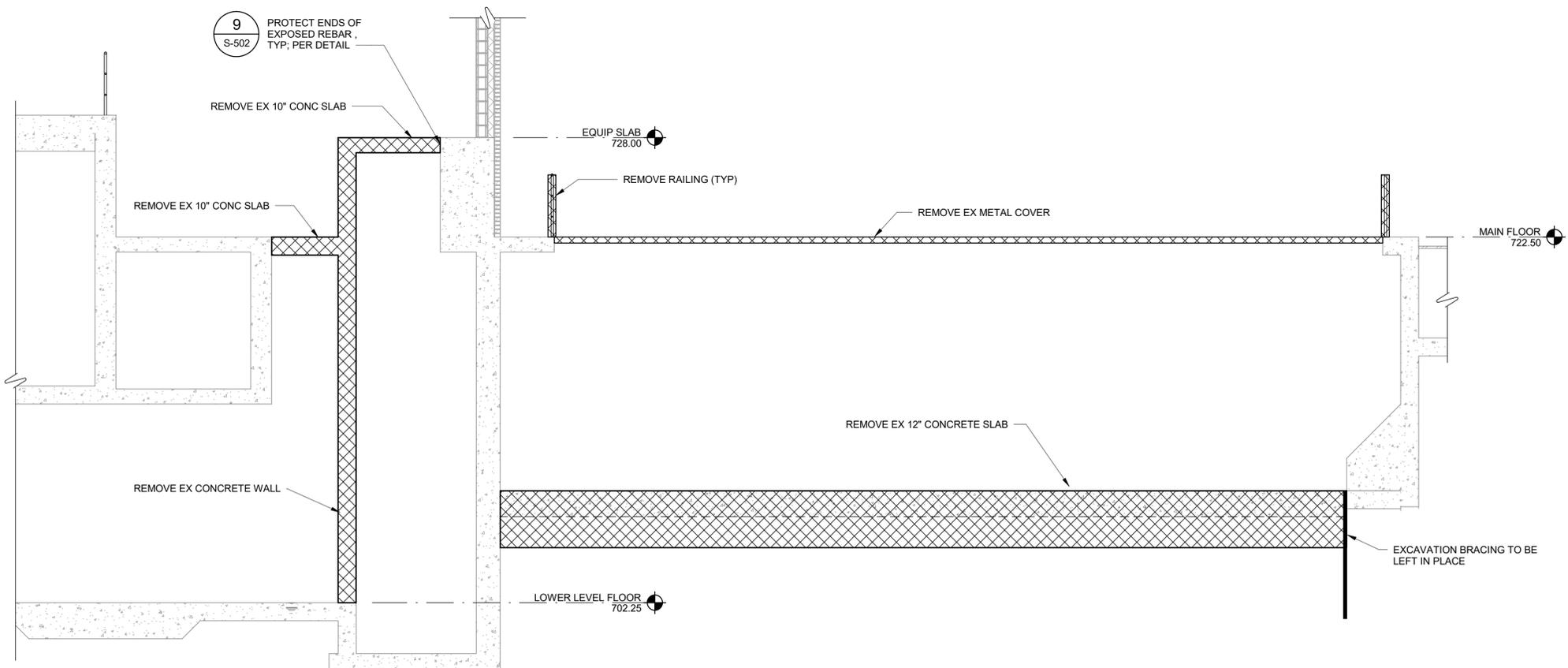
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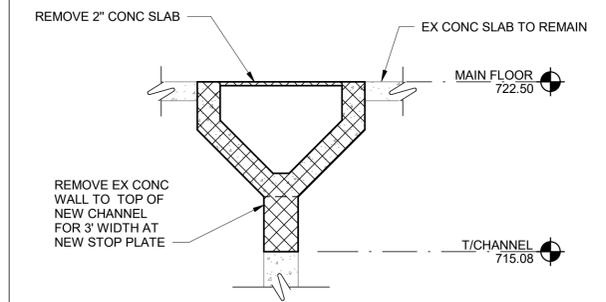
A TRANSVERSE DEMO SECTION
S-301 SCALE: 1/4" = 1'-0"



C EQUIPMENT SUPPORT DEMO SECTION
S-301 SCALE: 1/4" = 1'-0"



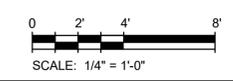
B LONGITUDINAL DEMO SECTION
S-301 SCALE: 1/4" = 1'-0"



D WALL DEMO SECTION AT NEW CHANNEL
S-301 SCALE: 1/4" = 1'-0"

REMOVAL LEGEND

- COMPLETE REMOVAL
- CONCRETE REPAIR



MARK	DATE	DESCRIPTION
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FLINT WPC GRIT BAT "B" SYSTEM &
PRIMARY TANKS IMPROVEMENTS
**GRIT TANK AND BUILDING B
DEMO SECTIONS**

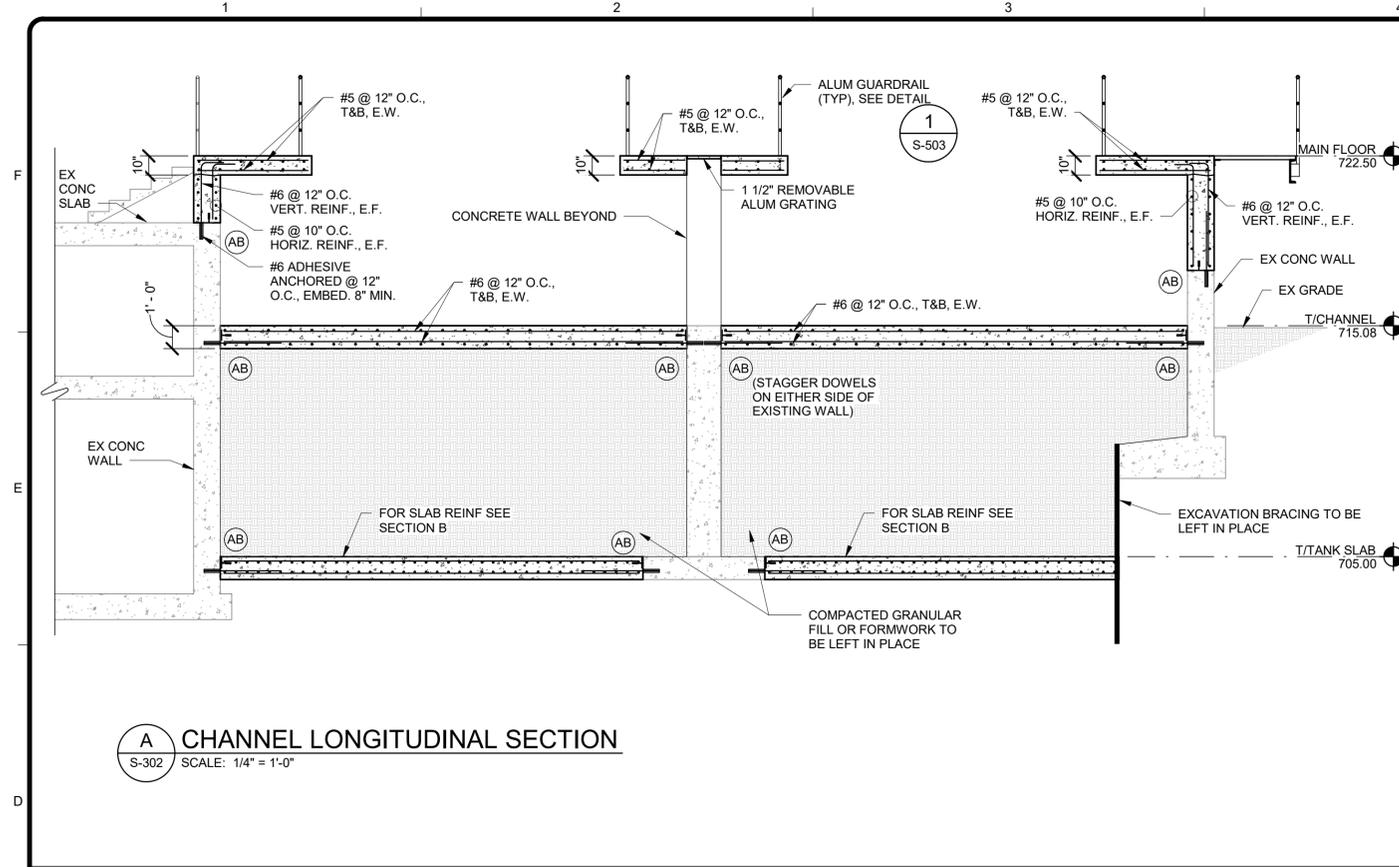
PROJ: 200-156238-21001
DESN: AJF
DRWN: JAT
CHKD: PCP

S-301

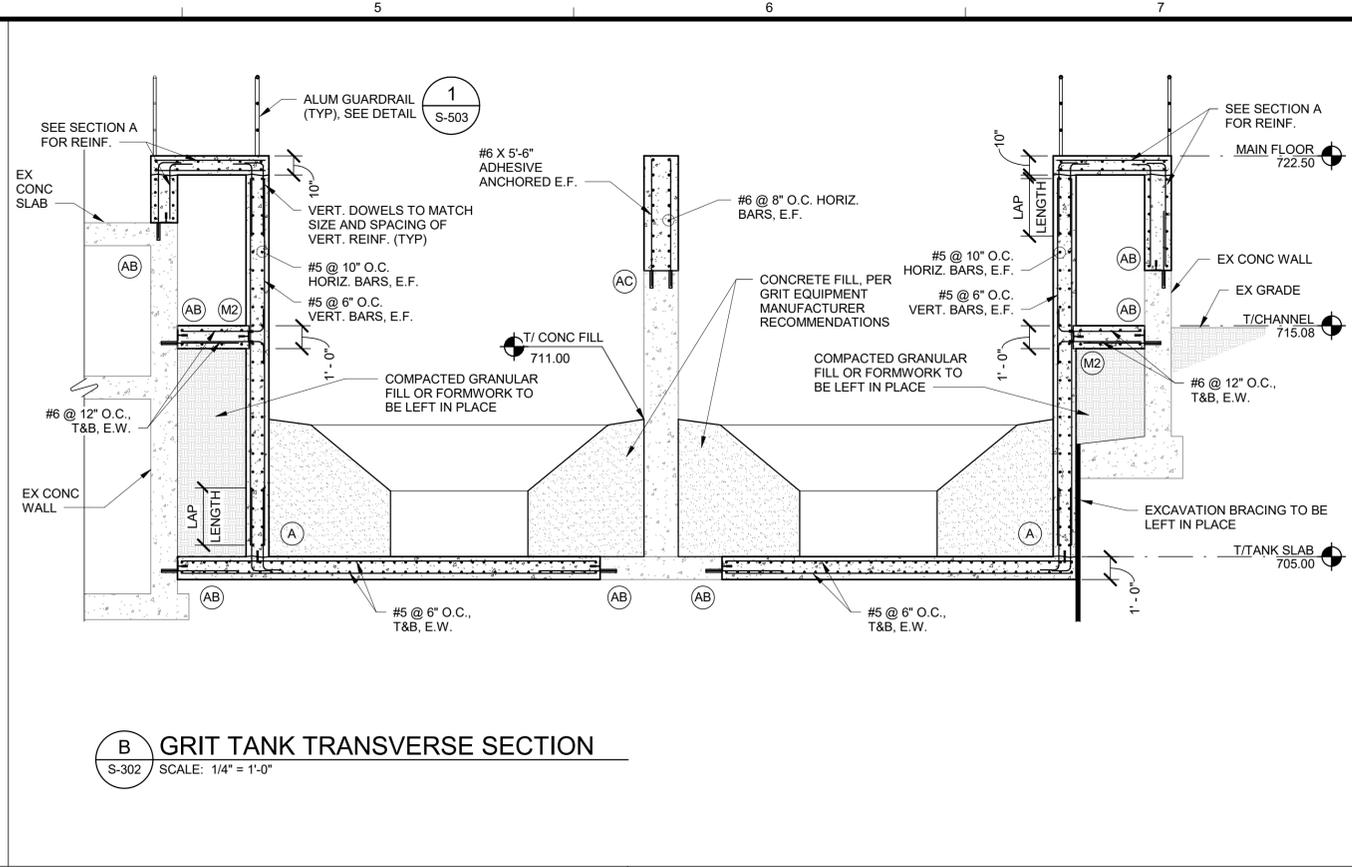
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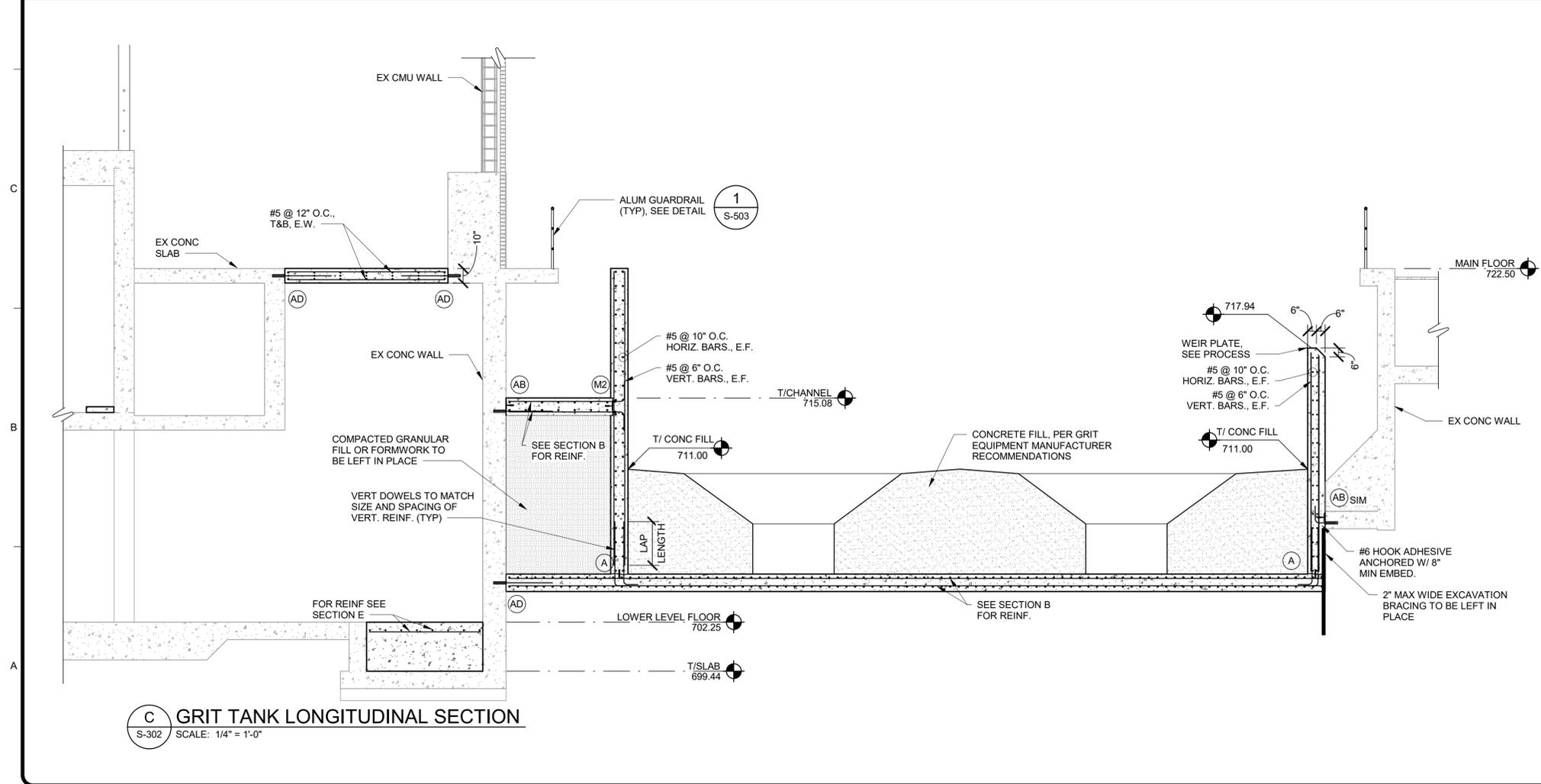
Bar measures 1 inch, otherwise drawing is not to scale



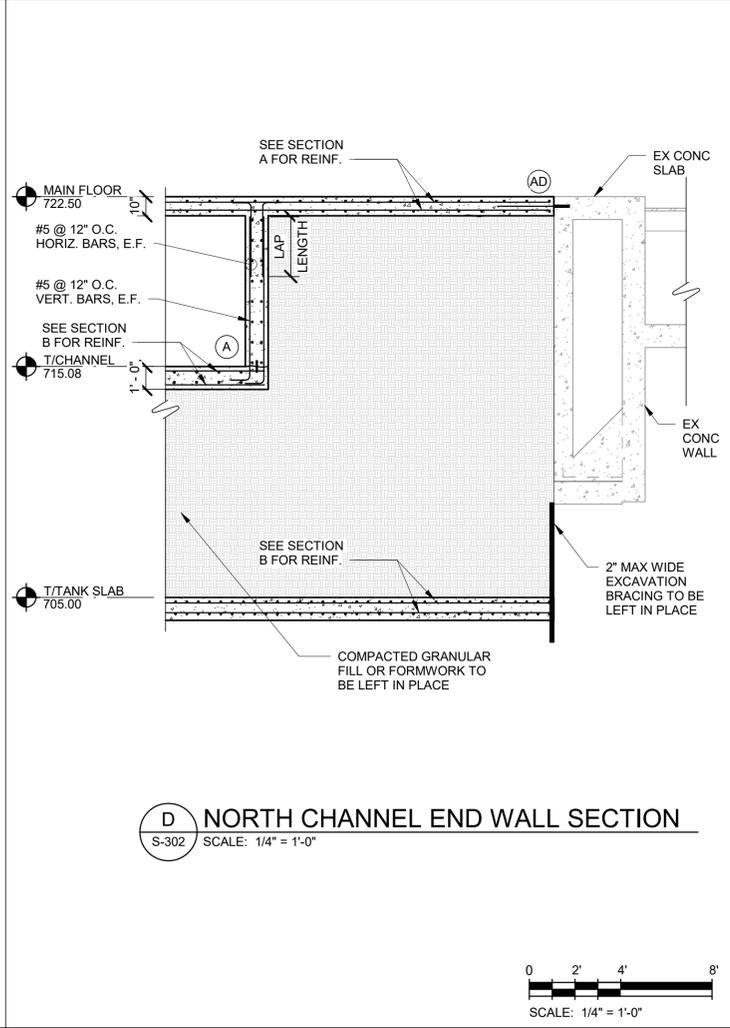
A CHANNEL LONGITUDINAL SECTION
S-302 SCALE: 1/4" = 1'-0"



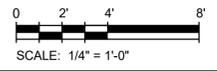
B GRIT TANK TRANSVERSE SECTION
S-302 SCALE: 1/4" = 1'-0"



C GRIT TANK LONGITUDINAL SECTION
S-302 SCALE: 1/4" = 1'-0"



D NORTH CHANNEL END WALL SECTION
S-302 SCALE: 1/4" = 1'-0"



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FLINT WPC GRIT BAT "B" SYSTEM & PRIMARY TANKS IMPROVEMENTS

GRIT TANK AND BUILDING B SECTIONS

BY

PROJ: 200-156238-21001

DESN: AJF

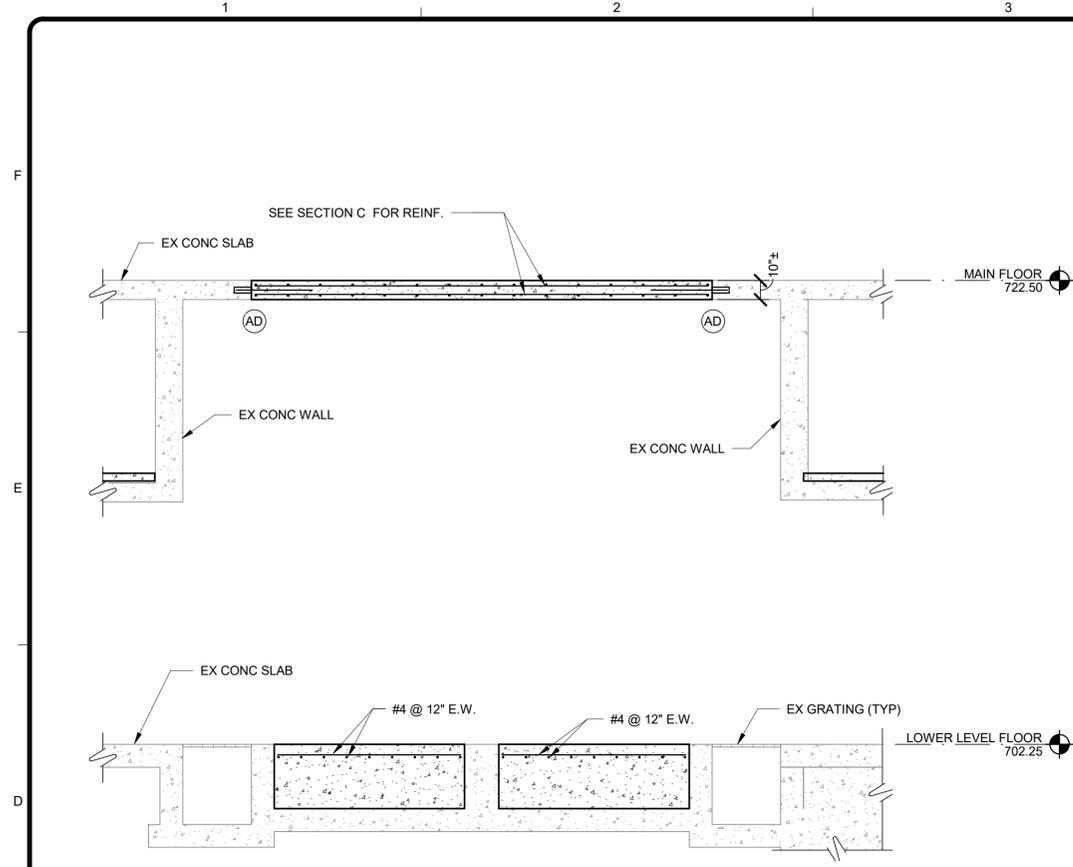
DRWN: JAT

CHKD: PCP

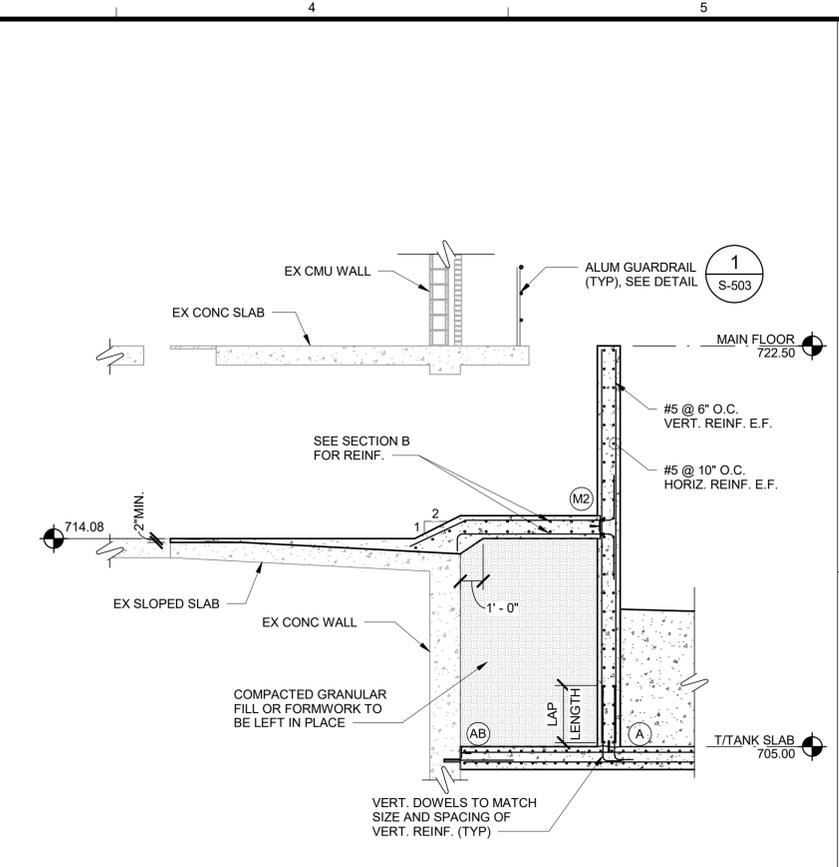
S-302

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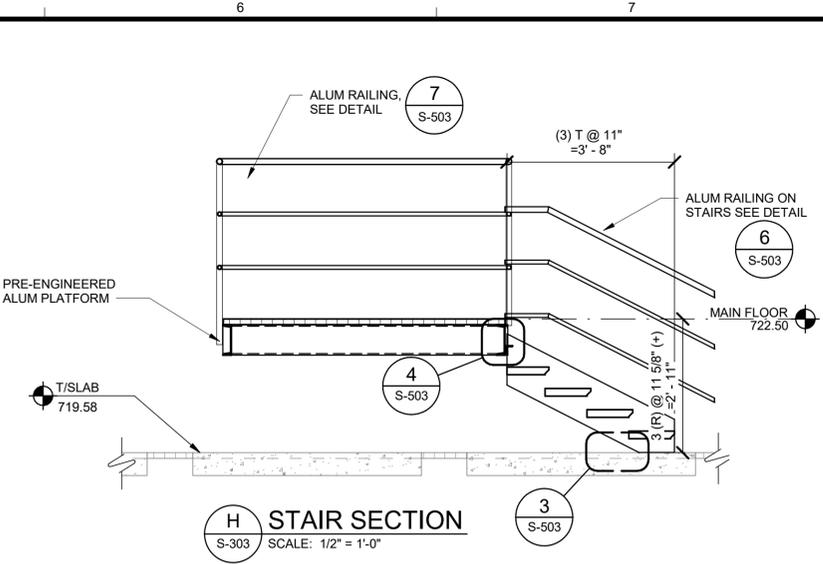
6/22/2021 6:06:14 AM BIM 360://200-156238-21001 Flint WWP GHS-FLINT GRIT BLDG B-2021.rvt



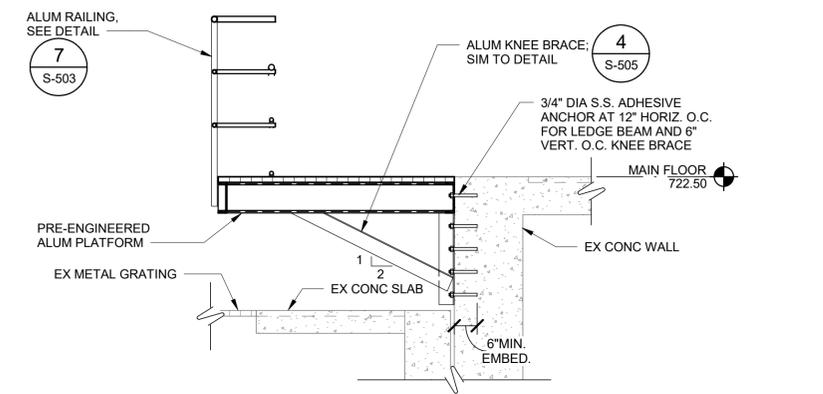
E BUILDING FLOOR INFILL SECTION
S-303 SCALE: 1/4" = 1'-0"



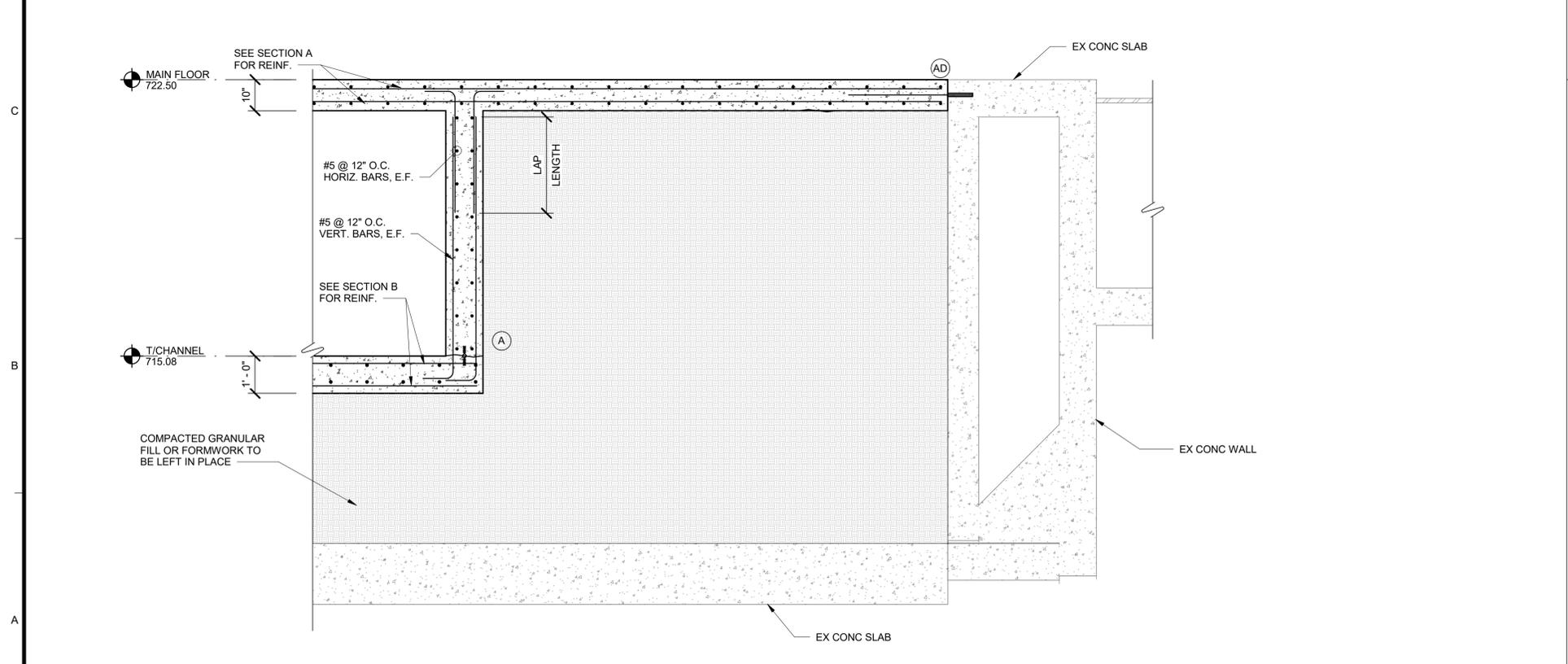
F CHANNEL TRANSITION SECTION
S-303 SCALE: 1/4" = 1'-0"



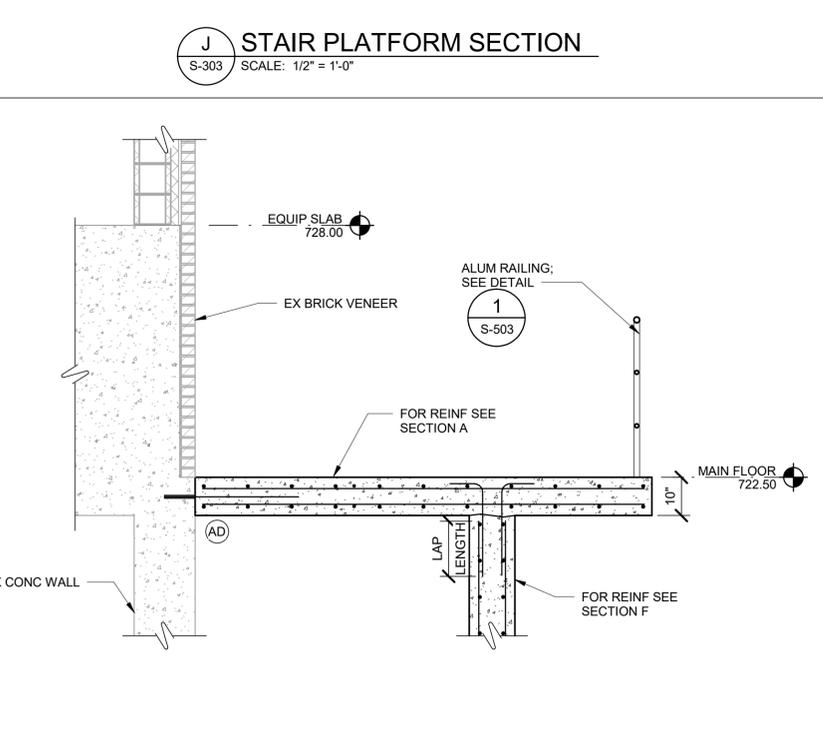
H STAIR SECTION
S-303 SCALE: 1/2" = 1'-0"



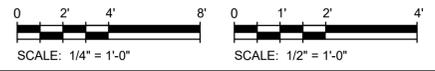
J STAIR PLATFORM SECTION
S-303 SCALE: 1/2" = 1'-0"



G SOUTH CHANNEL END WALL SECTION
S-303 SCALE: 1/2" = 1'-0"



K WALKWAY SECTION
S-303 SCALE: 1/2" = 1'-0"



Bar measures 1 inch, otherwise drawing is not to scale

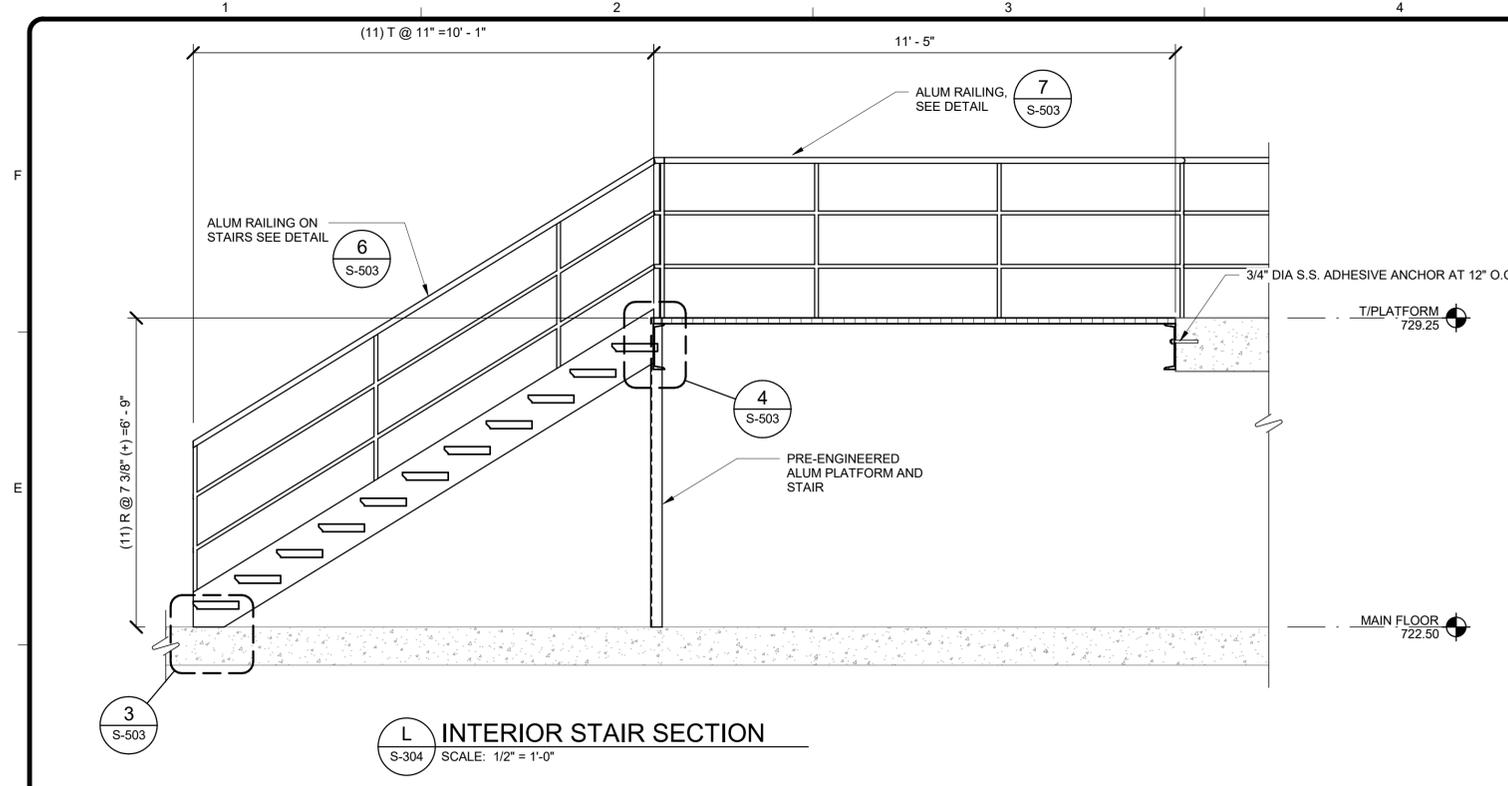
MARK	DATE	DESCRIPTION
1	06/22/21	ISSUED FOR BIDS

CITY OF FLINT, MICHIGAN
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**GRIT TANK AND BUILDING B
SECTIONS**

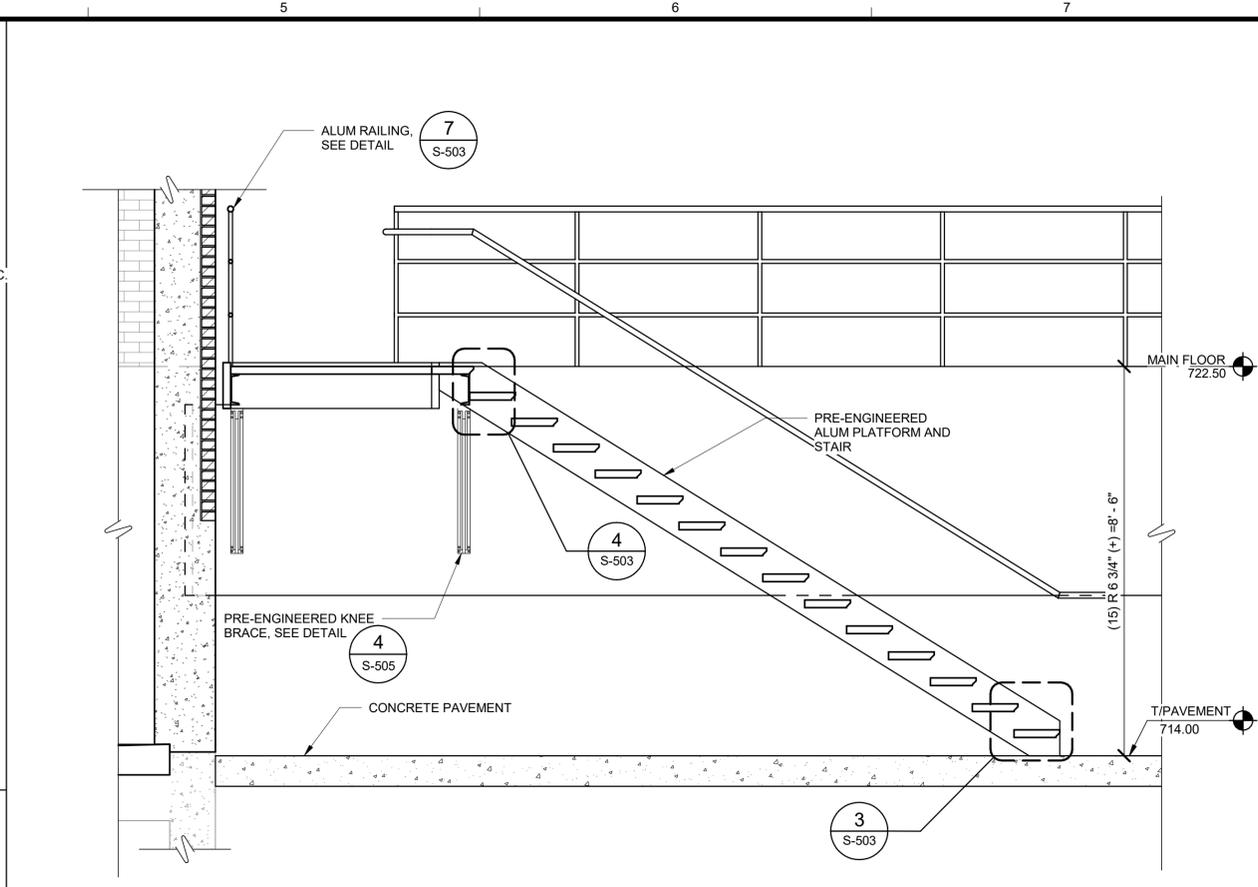
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DESN:	AJF
DRWN:	JAT
CHKD:	PCP

S-303

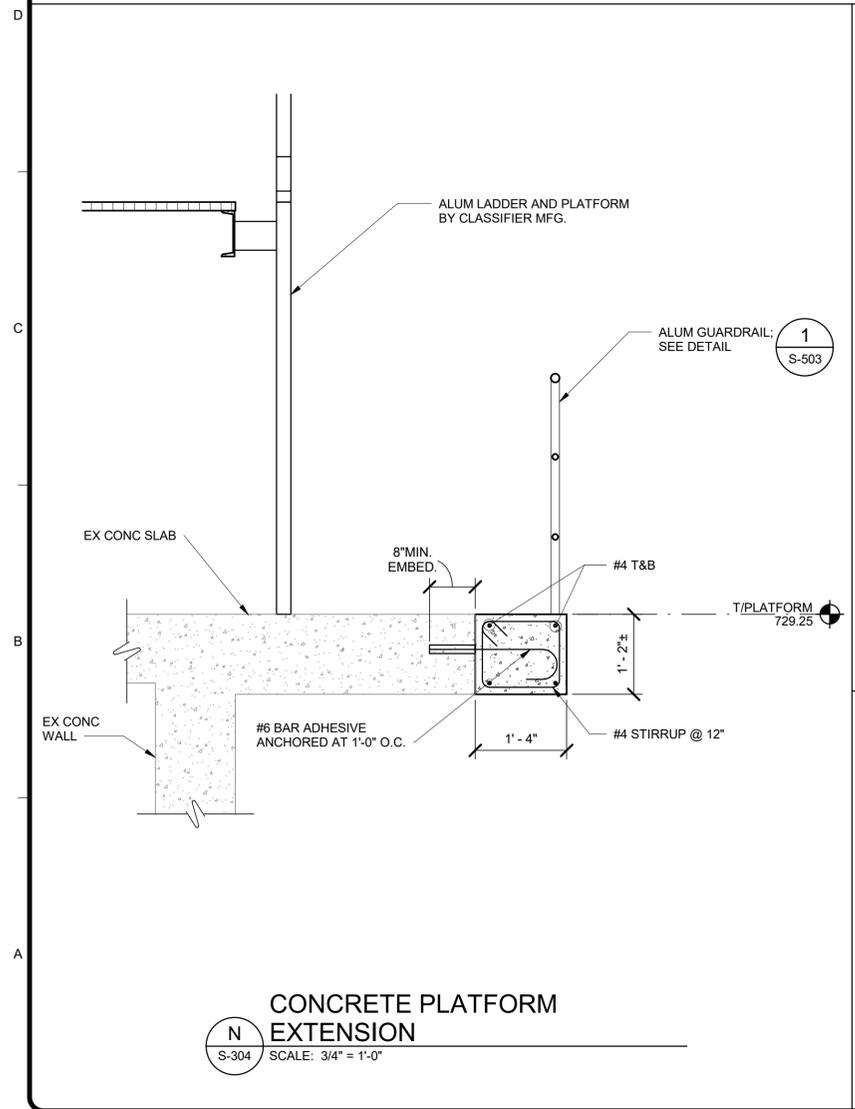
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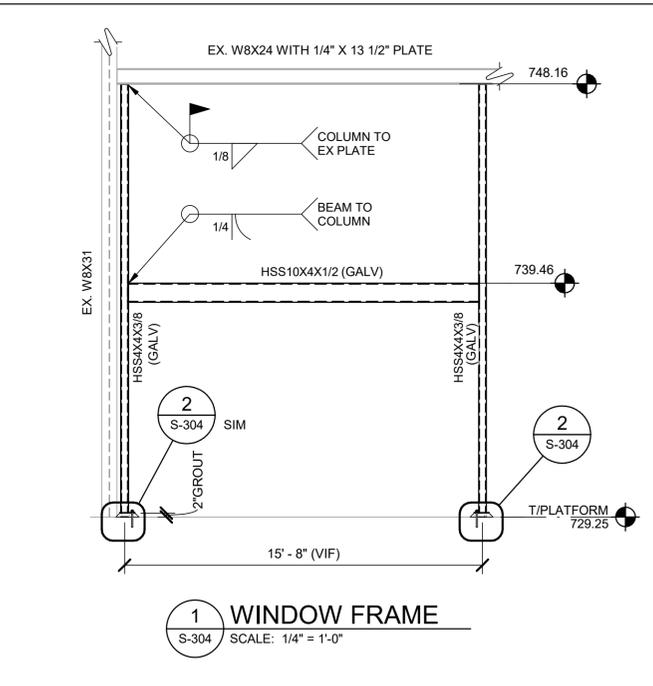
L INTERIOR STAIR SECTION
S-304 SCALE: 1/2" = 1'-0"



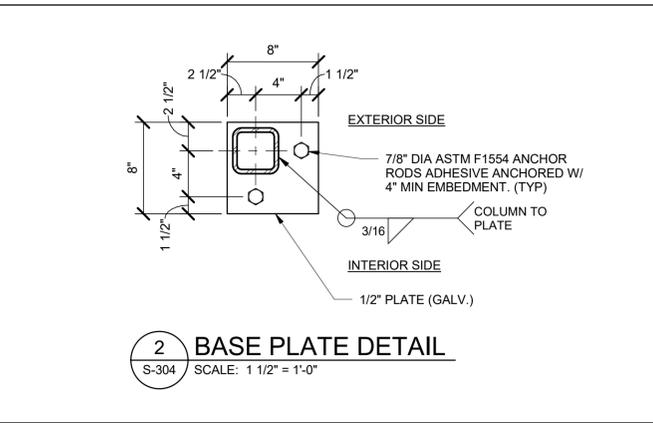
M EXTERIOR STAIR SECTION TO GRIT TANKS
S-304 SCALE: 1/2" = 1'-0"



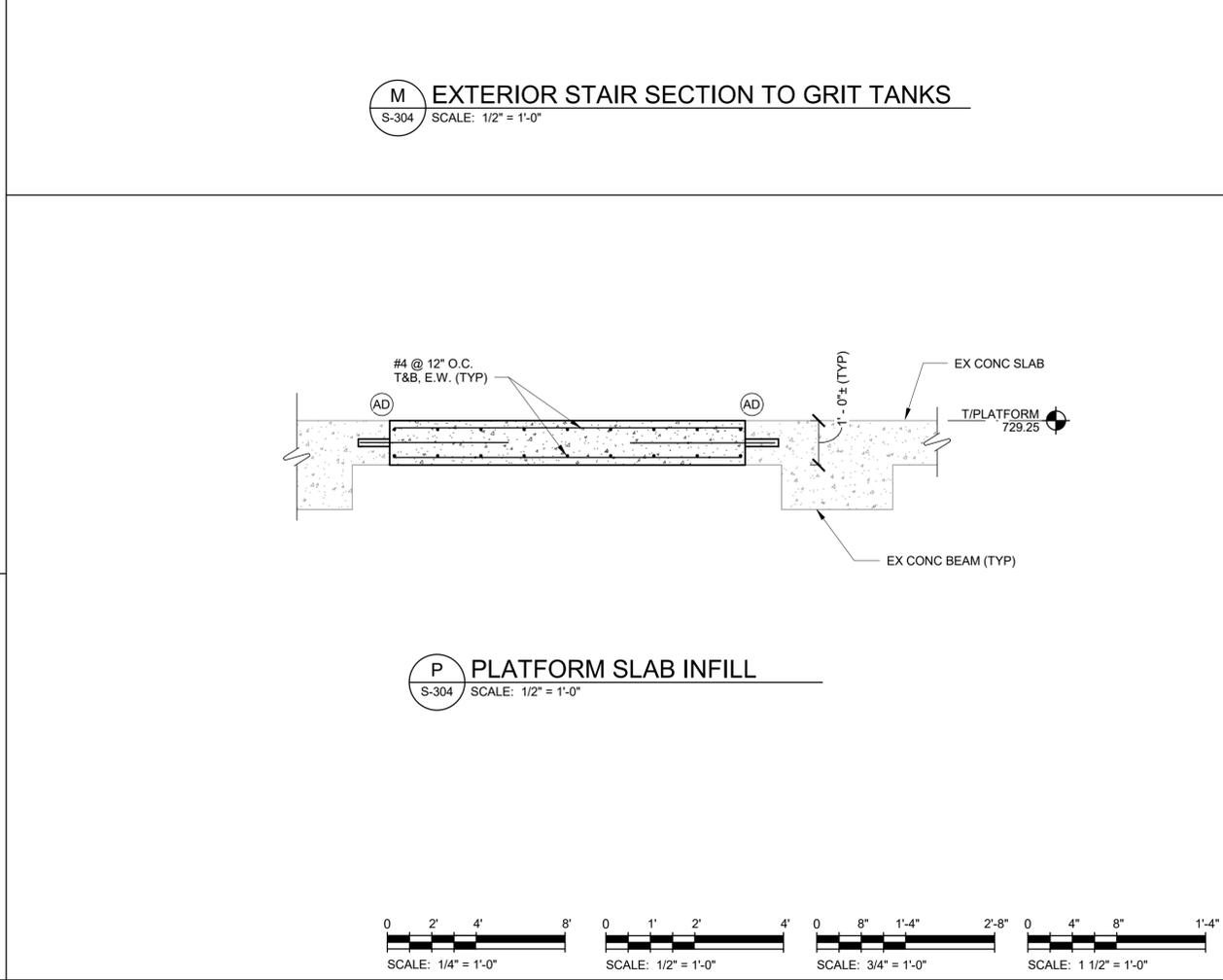
N CONCRETE PLATFORM EXTENSION
S-304 SCALE: 3/4" = 1'-0"



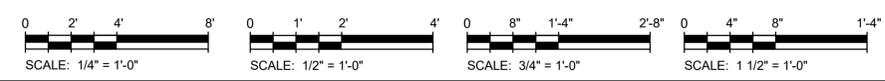
1 WINDOW FRAME
S-304 SCALE: 1/4" = 1'-0"



2 BASE PLATE DETAIL
S-304 SCALE: 1 1/2" = 1'-0"



P PLATFORM SLAB INFILL
S-304 SCALE: 1/2" = 1'-0"



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CITY OF FLINT, MICHIGAN
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GRIT TANK AND BUILDING B
SECTIONS

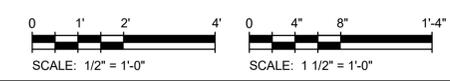
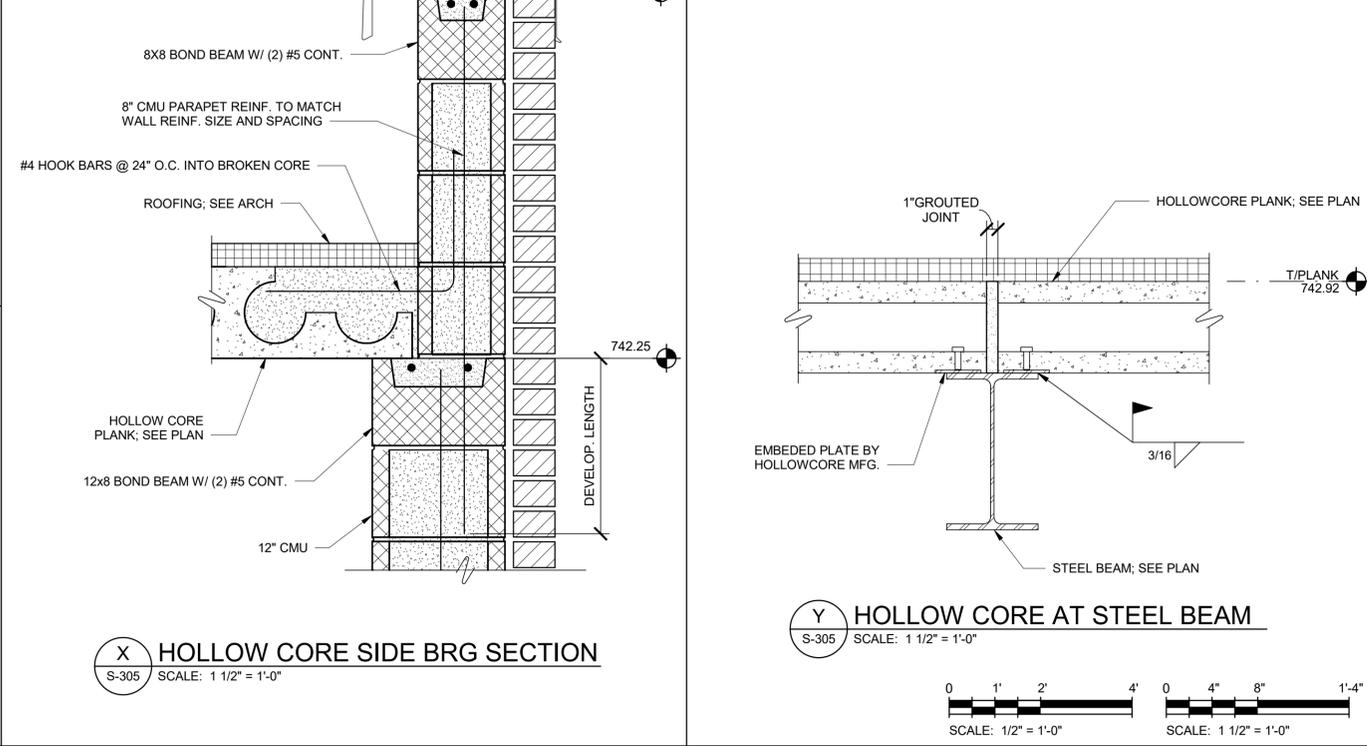
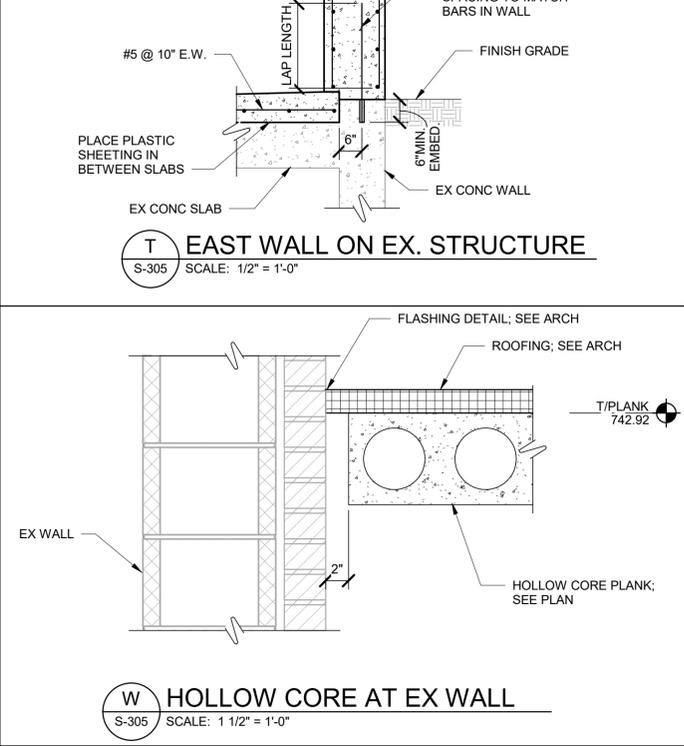
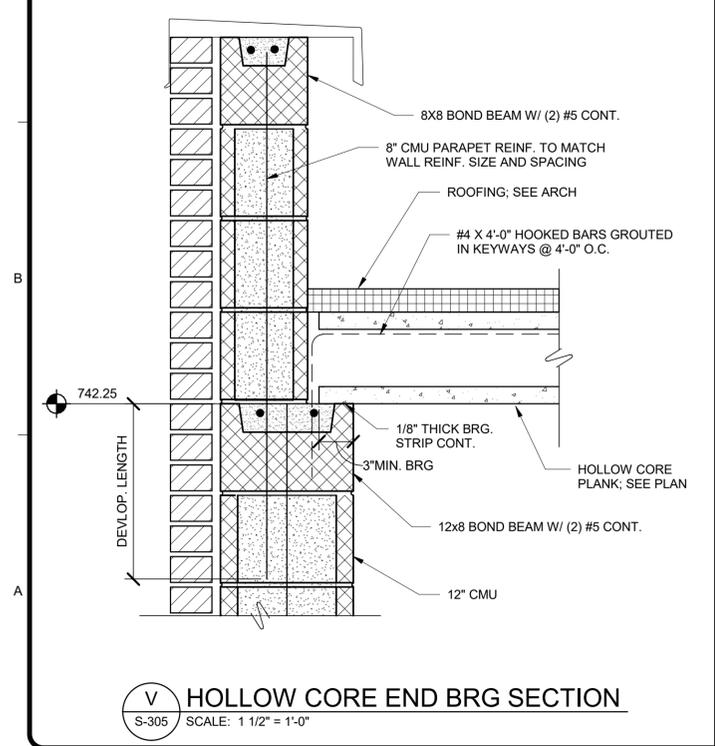
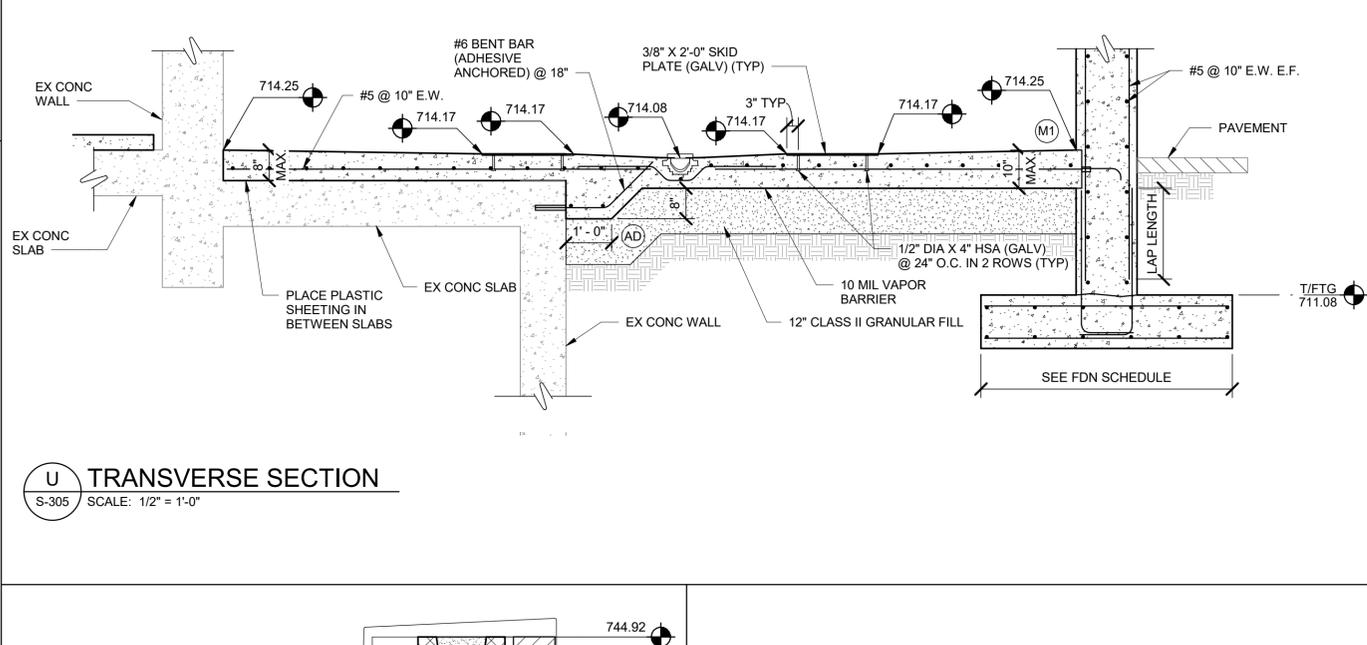
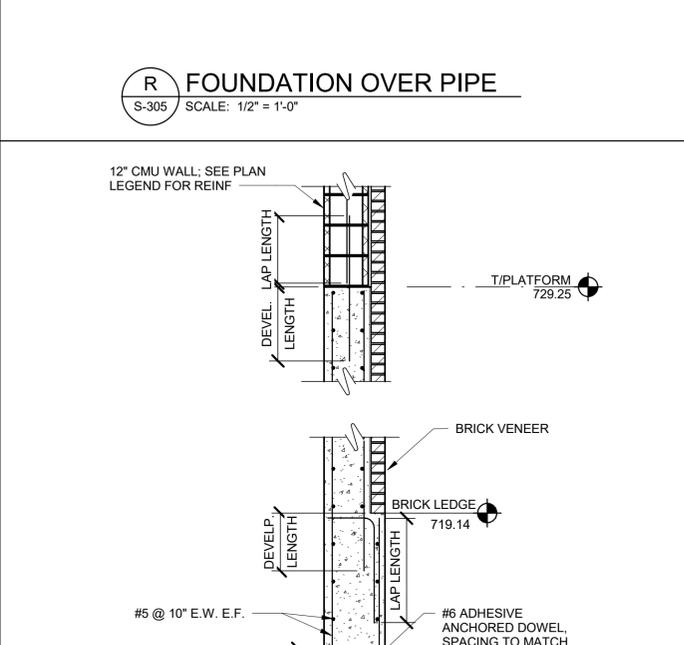
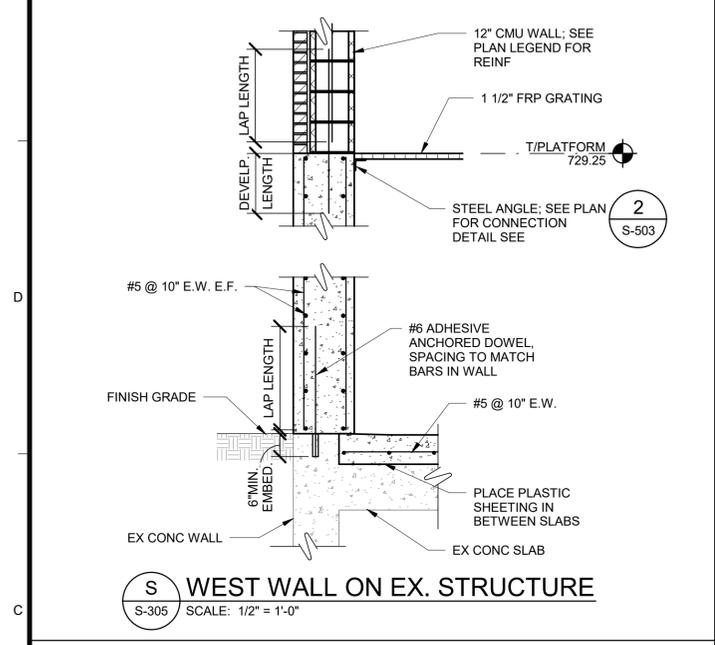
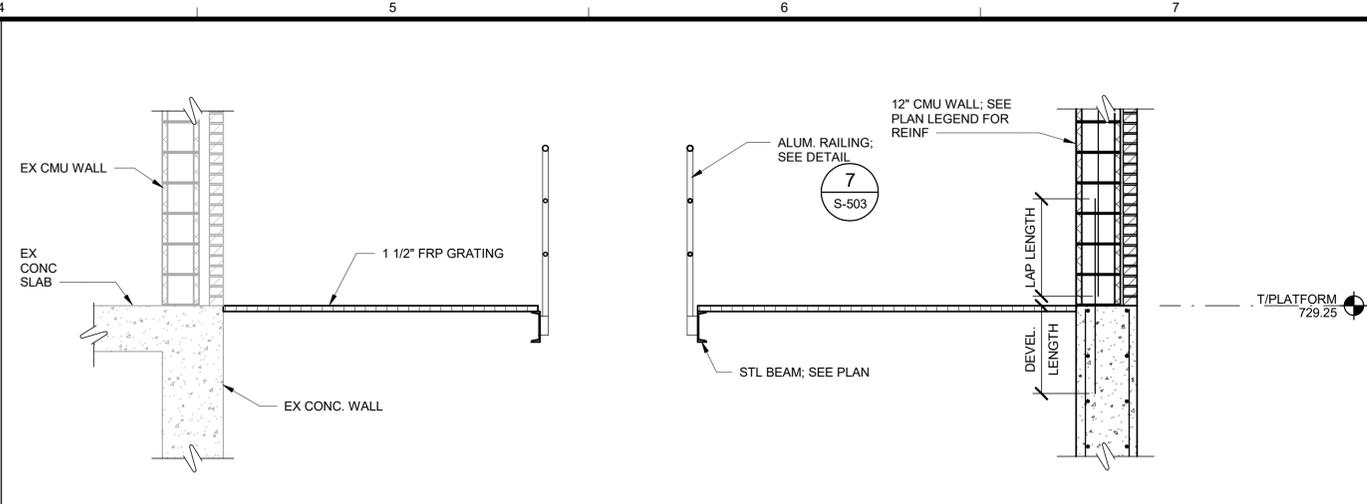
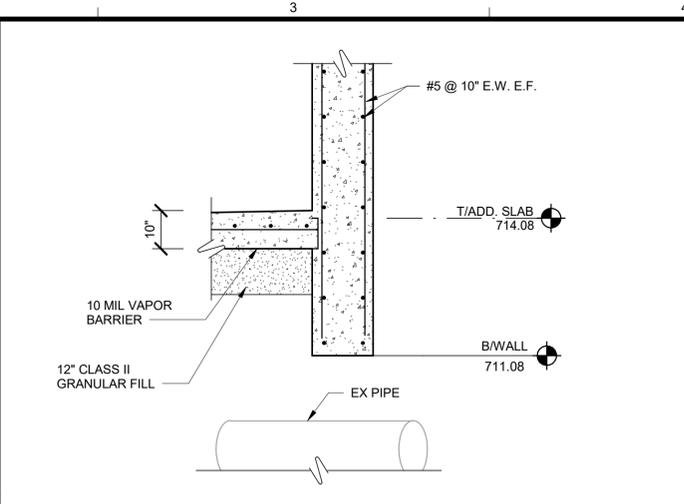
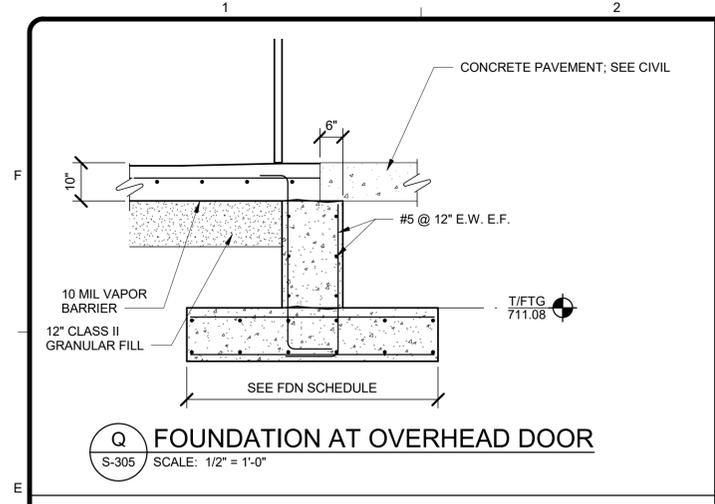
PROJ: 200-156238-21001
DESN: AJF
DRWN: AJF
CHKD: PCP

S-304

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Bar measures 1 inch, otherwise drawing is not to scale

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GRIT BUILDING B ADDITION SECTIONS

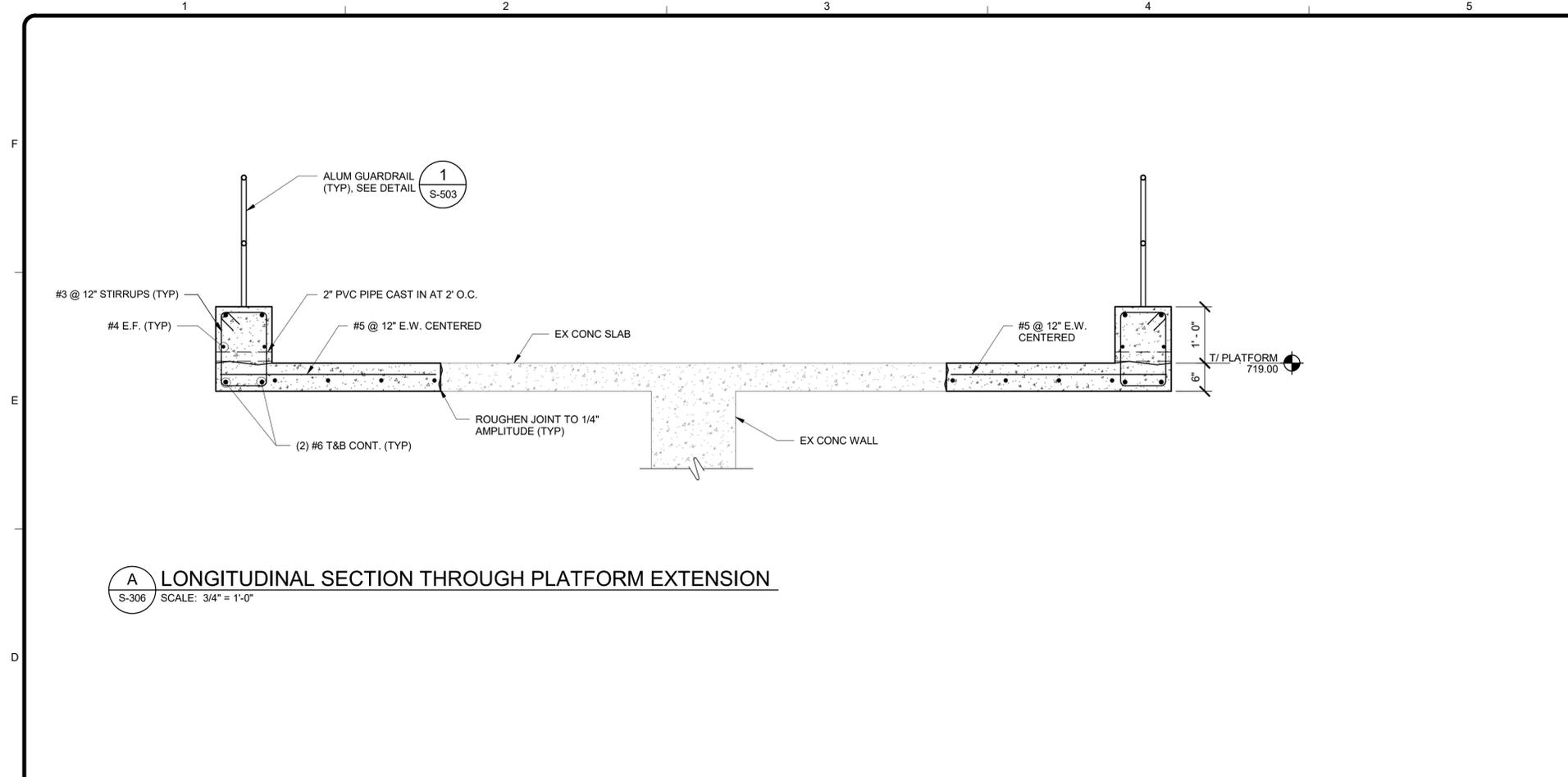
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S-305

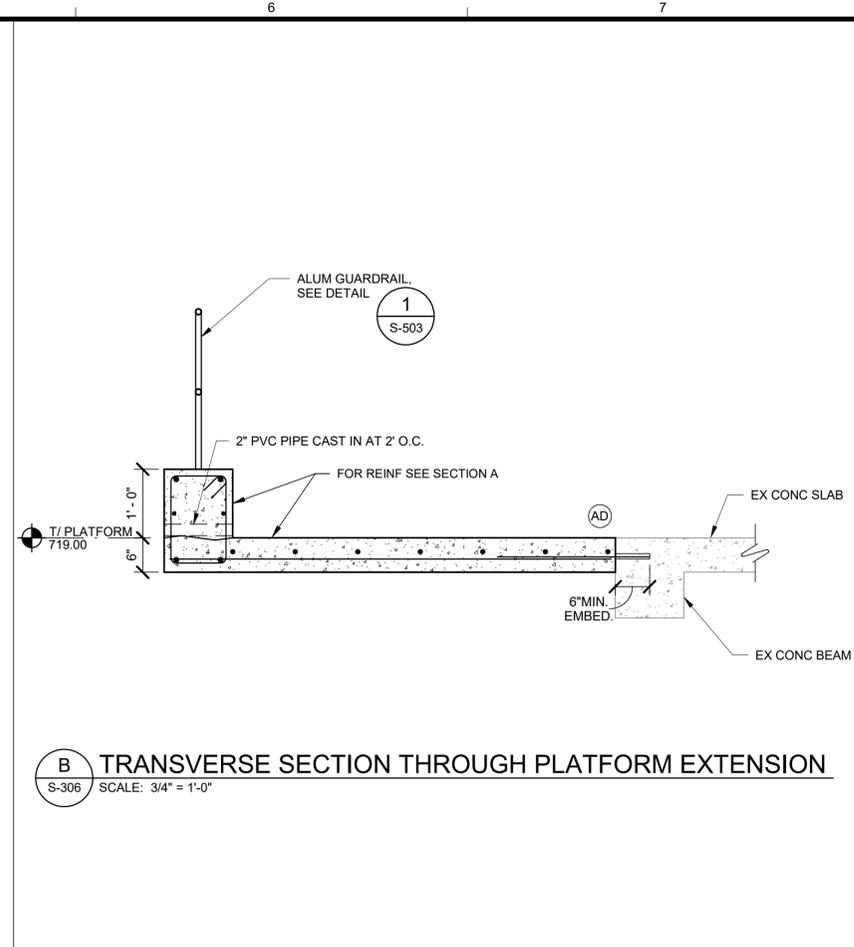
Copyright: Tetra Tech

Bar measures 1 inch, otherwise drawing is not to scale

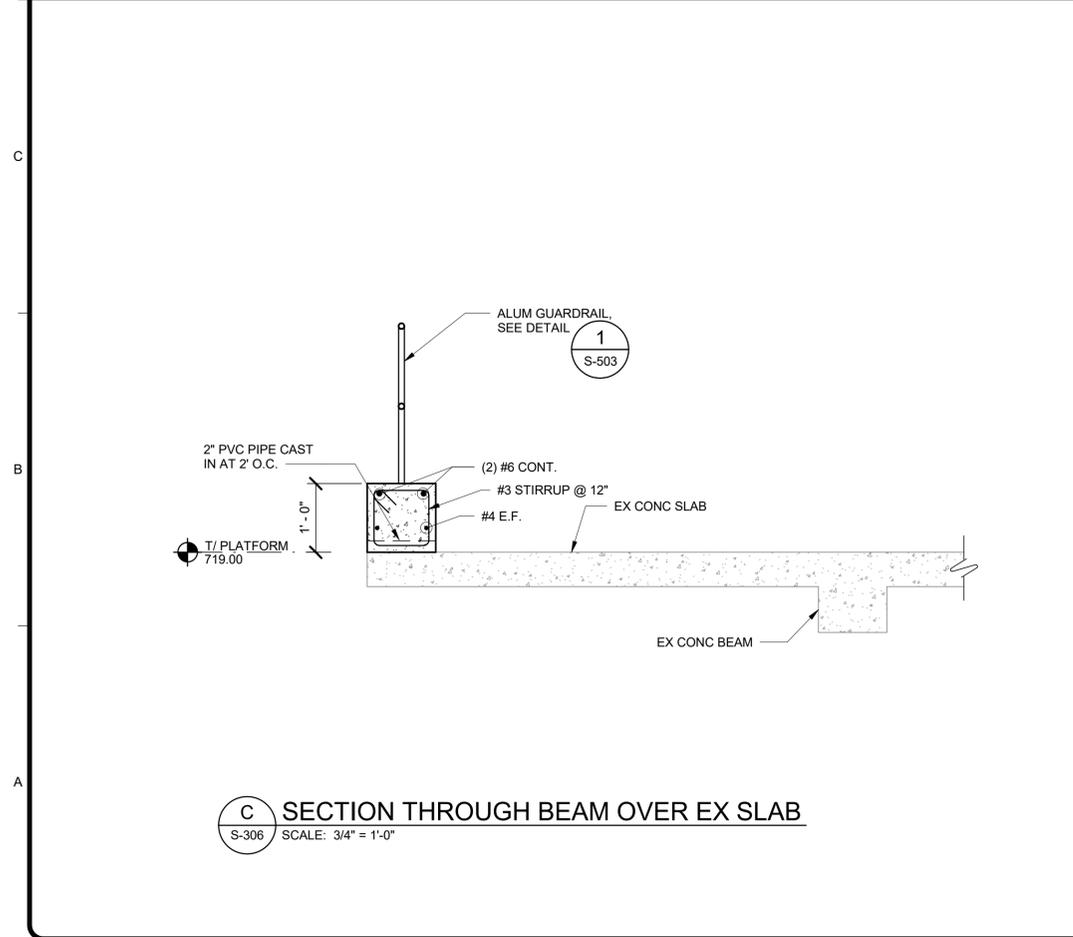
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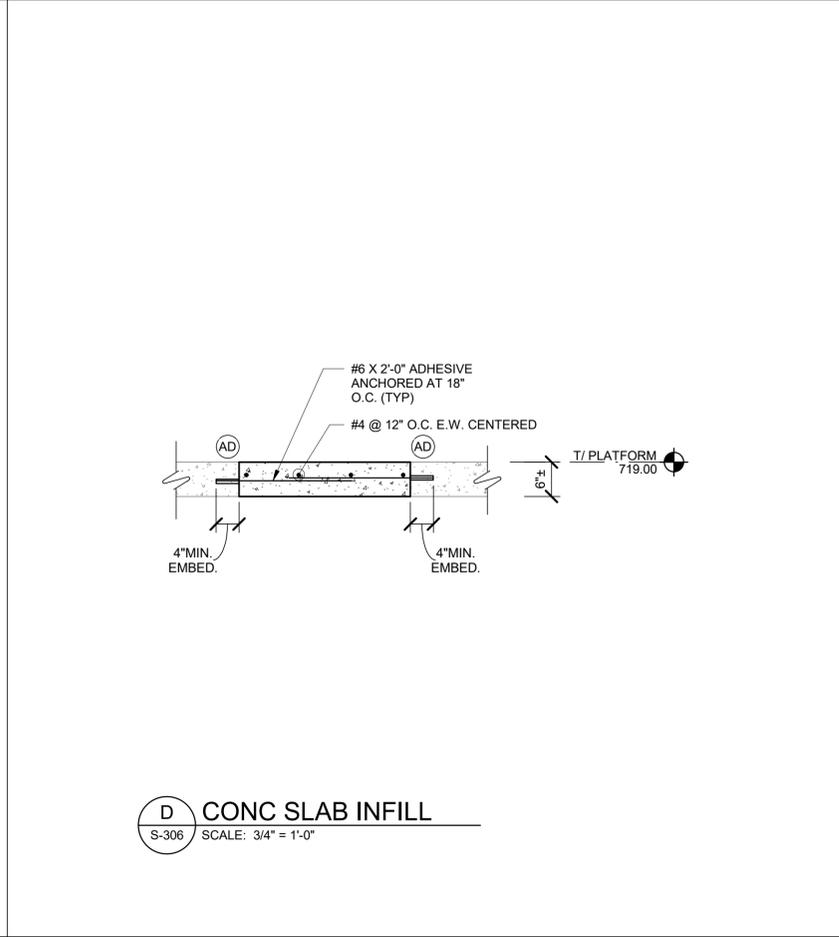
A LONGITUDINAL SECTION THROUGH PLATFORM EXTENSION
S-306 SCALE: 3/4" = 1'-0"



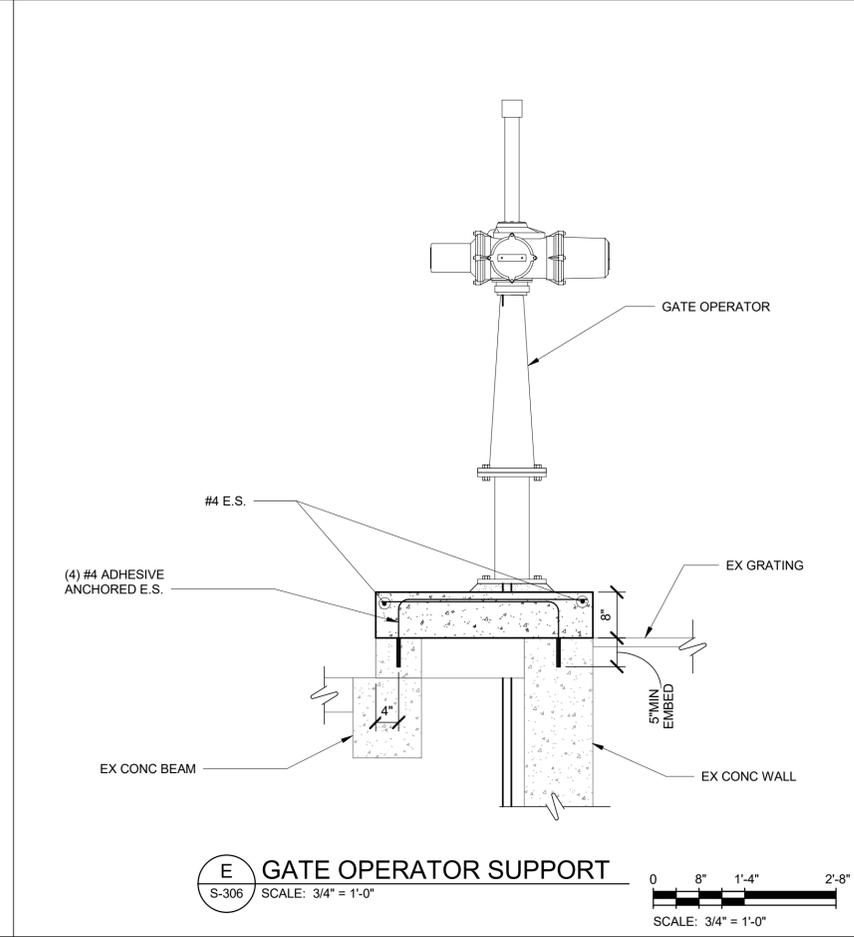
B TRANSVERSE SECTION THROUGH PLATFORM EXTENSION
S-306 SCALE: 3/4" = 1'-0"



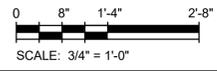
C SECTION THROUGH BEAM OVER EX SLAB
S-306 SCALE: 3/4" = 1'-0"



D CONC SLAB INFILL
S-306 SCALE: 3/4" = 1'-0"



E GATE OPERATOR SUPPORT
S-306 SCALE: 3/4" = 1'-0"



Bar measures 1 inch, otherwise drawing is not to scale

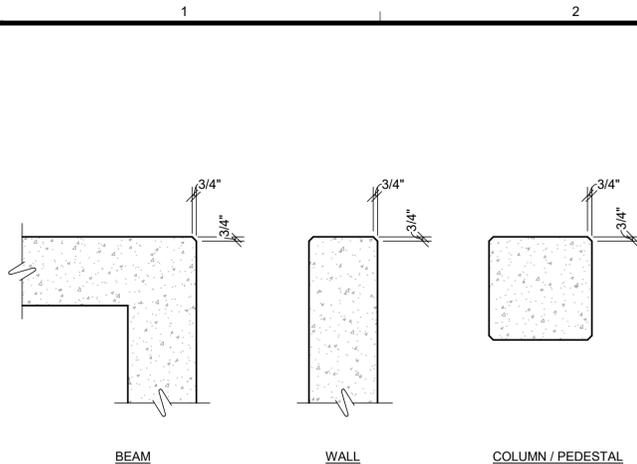
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**PRIMARY SETTLING TANK
SECTIONS**

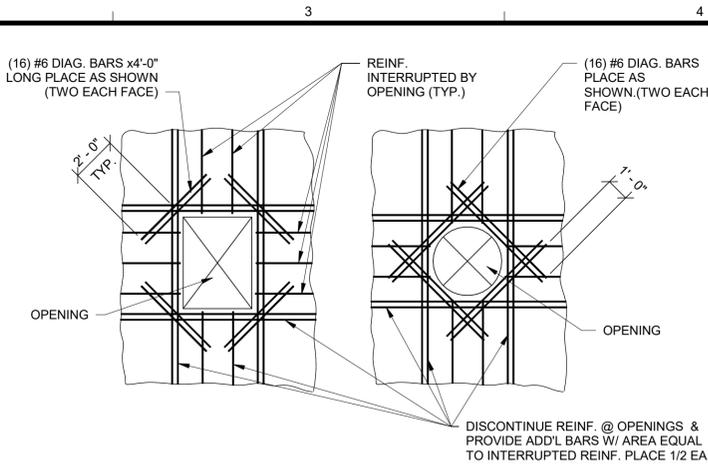
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DESN:	AJF
DRWN:	JAT
CHKD:	PCP

S-306

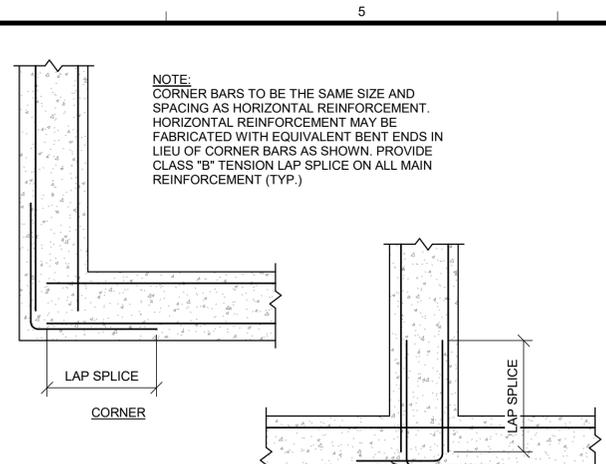
Copyright: Tetra Tech



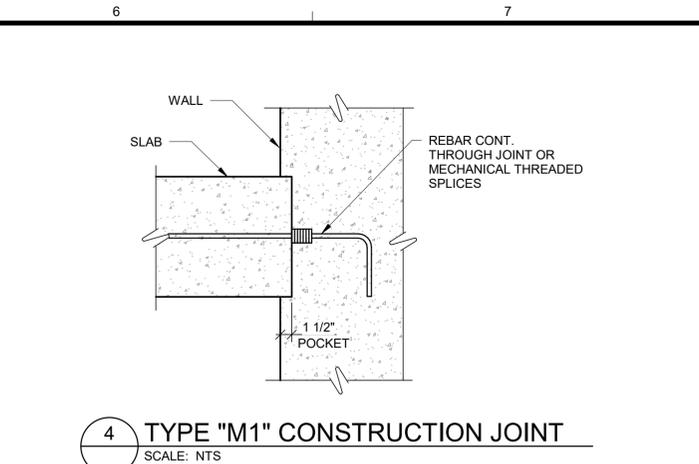
1 CHAMFER DETAILS
SCALE: NTS



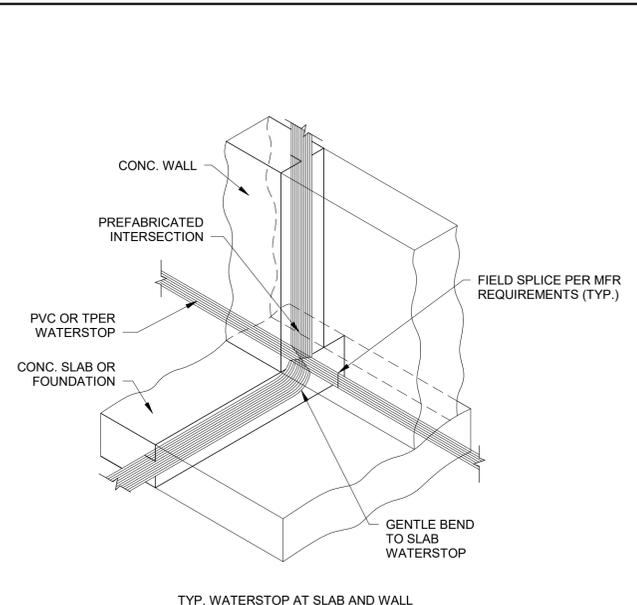
2 REINF. STEEL @ OPENING
SCALE: NTS



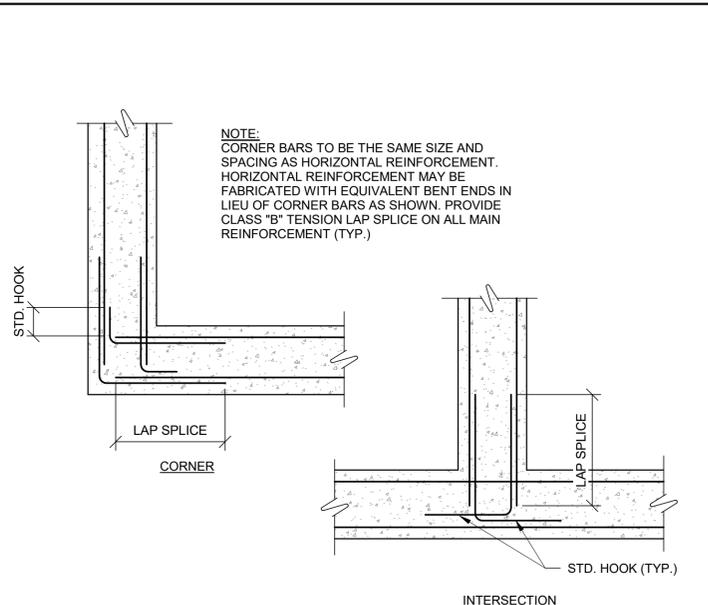
3 WALL CORNERS @ BLDG WALLS
SCALE: NTS



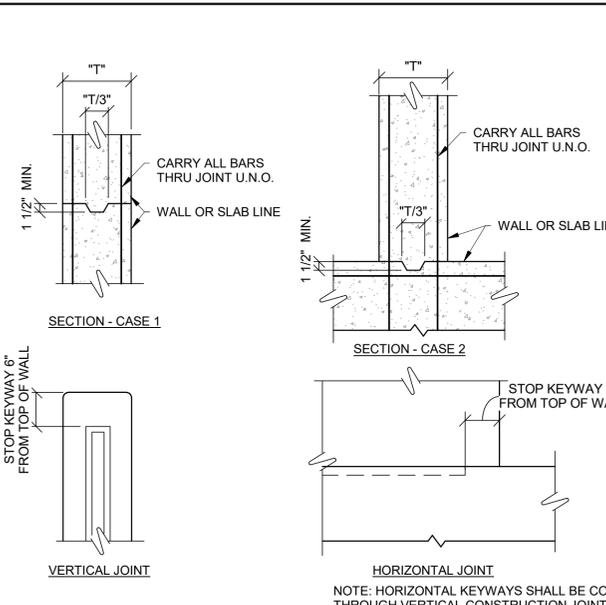
4 TYPE "M1" CONSTRUCTION JOINT
SCALE: NTS



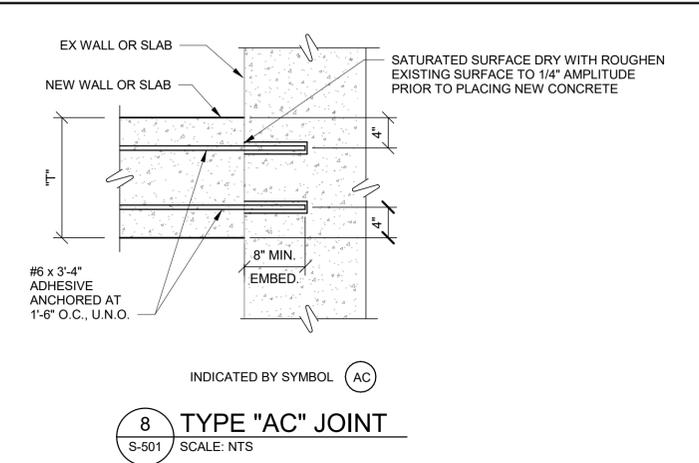
5 WATERSTOP AT SLAB & WALL
SCALE: NTS



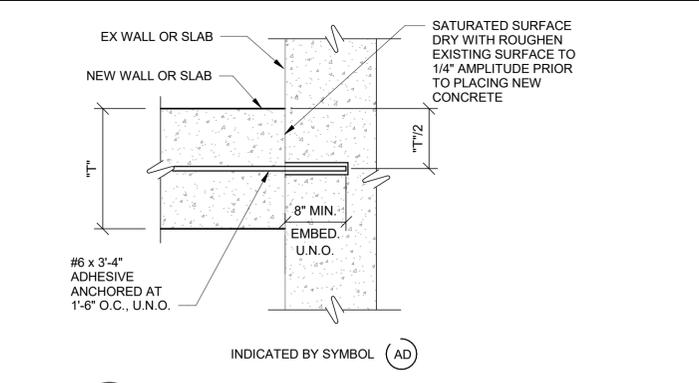
6 WALL CORNERS @ TANKS
SCALE: NTS



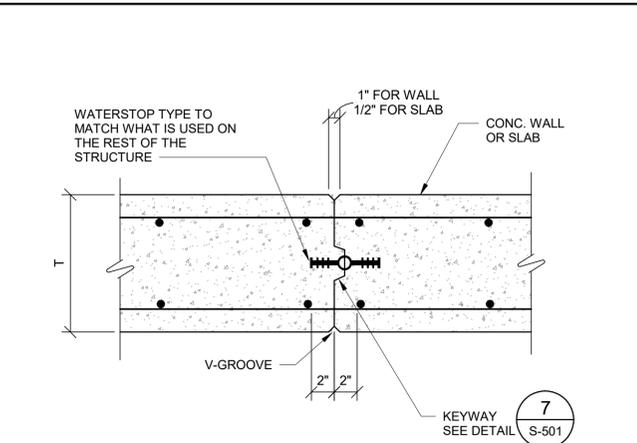
7 STANDARD CONSTRUCTION JOINT
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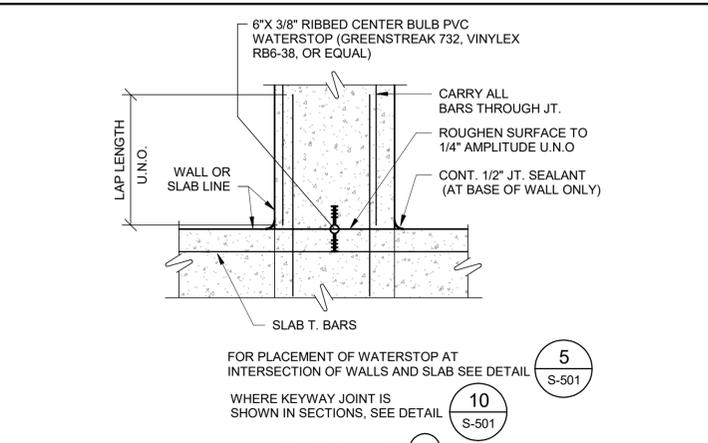
8 TYPE "AC" JOINT
SCALE: NTS



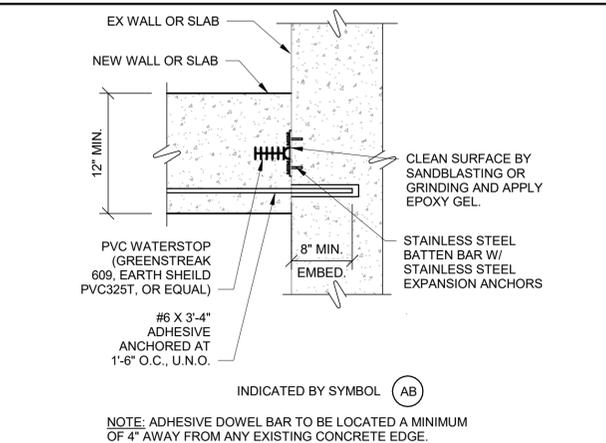
9 TYPE "AD" JOINT
SCALE: NTS



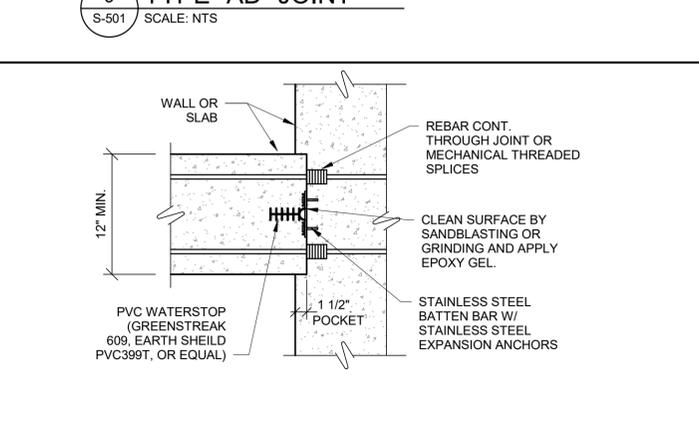
10 WATERTIGHT CONSTRUCTION JOINT
SCALE: NTS



11 TYPE "A" WATERTIGHT CONSTRUCTION JOINT
SCALE: NTS



12 TYPE "AB" WATERTIGHT JOINT
SCALE: NTS



13 TYPE "M2" WATERTIGHT JOINT
SCALE: NTS

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STANDARD DETAILS

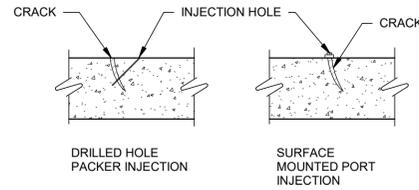
PROJ: 200-156238-21001
DESN: AJF
DRWN: JAT
CHKD: PCP

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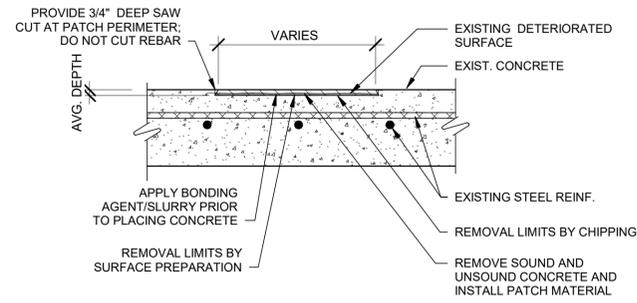
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Bar measures 1 inch, otherwise drawing is not to scale



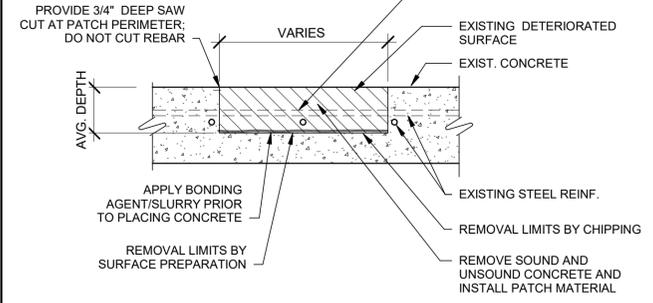
1. IDENTIFY CRACKS TO BE INJECTED. LOCATION OF CRACKS TO INJECTED ARE TO BE CONFIRMED AND APPROVED BY THE ENGINEER.
2. LOCATE REINFORCING STEEL IN CONCRETE STRUCTURE. LOCATE INJECTION HOLE POSITION AND WORK WITH CARE TO AVOID DAMAGE TO EXISTING REINFORCING STEEL. DRILL HOLE SIZED AS RECOMMENDED BY THE INJECTION MATERIAL MANUFACTURER, AT A 45 DEGREE ANGLE TO THE SURFACE, AND BEGINNING AT A DISTANCE AWAY FROM THE CRACK SO THAT THE DRILLED HOLE INTERCEPTS THE CRACK AT APPROXIMATELY ONE-HALF THE CONCRETE DEPTH.
3. INSERT INJECTION PACKERS AS RECOMMENDED BY THE INJECTION MATERIAL MANUFACTURER, INTO THE DRILLED HOLES AND TIGHTEN.
4. CLEAN CONCRETE SURFACE IN ACCORDANCE WITH SECTION 03930
5. PUMP INJECTOR MATERIAL THROUGH THE INJECTION PACKER UNTIL THE HOLE WILL NOT TAKE MORE MATERIAL, OR THE MATERIAL IS NO LONGER VISIBLE SEEPING OUT OF THE CRACKS.
6. INJECTION MAY BE HORIZONTAL, VERTICAL OR OVERHEAD
7. AFTER EPOXY ADHESIVE HAS SET, REMOVE INJECTION PORTS AND GRIND SURFACES SMOOTH.

1 CONCRETE CRACK INJECTION
SCALE: NTS



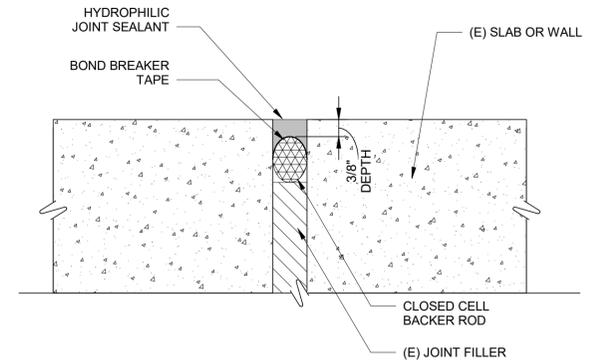
1. THIS DETAIL APPLIES TO DETERIORATED AREAS THAT ARE NOT DEEP ENOUGH TO IMPACT STEEL REINFORCEMENT AND ARE LOCATED AT THE TOP SIDE HORIZONTAL SURFACE WHERE A TRAFFIC MEMBRANE WILL BE APPLIED, OVERHEAD OR VERTICAL SURFACES.
2. REMOVE ALL DETERIORATED SOUND AND UNSOUND CONCRETE IN HATCHED AREA PER SECTION 03930 TO FORM RECTANGULAR AREA
3. PREPARE PATCH AREA PER SECTION 03930
4. PATCH MATERIAL SHALL BE AS SPECIFIED IN SECTION 03930 AS APPROVED BY ENGINEER

2 CONCRETE SHALLOW SPALL REPAIR
SCALE: NTS



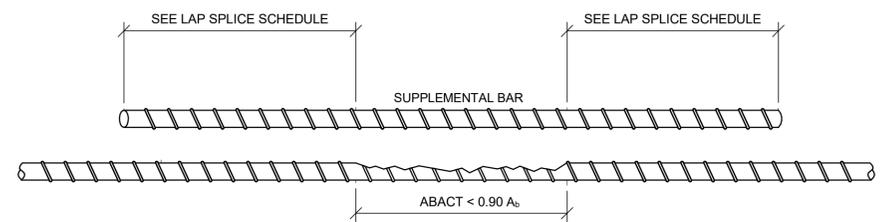
1. THIS DETAIL APPLIES TO DETERIORATED AREAS THAT ARE DEEP ENOUGH TO IMPACT STEEL REINFORCEMENT AND ARE LOCATED AT THE TOP SIDE HORIZONTAL SURFACE WHERE A TRAFFIC MEMBRANE WILL BE APPLIED, OVERHEAD OR VERTICAL SURFACES.
2. REMOVE ALL DETERIORATED SOUND AND UNSOUND CONCRETE IN HATCHED AREA PER SECTION 03930 TO FORM RECTANGULAR AREA
3. PREPARE PATCH AREA PER SECTION 03930, INCLUDING CLEANING AND COATING OF REINFORCEMENT.
4. MINIMUM CLEAR DISTANCE BETWEEN REBAR AND CONCRETE DEMOS SHALL BE 3/4".
5. PATCH MATERIAL SHALL BE AS SPECIFIED IN SECTION 03930 AS APPROVED BY ENGINEER
6. CHECK EXISTING REINFORCEMENT FOR DETERIORATION AND ADD ADDITIONAL REINFORCEMENT AS REQUIRED PER DETAIL

3 CONCRETE DEEP SPALL REPAIR
SCALE: NTS



- NOTES:
1. REMOVE EXISTING SEALANT AND BACKER ROD. CLEAN AND PREPARE JOINT OPENING PER MANUFACTURER'S RECOMMENDATIONS
 2. PERFORM CONCRETE REPAIRS.
 3. INSTALL NEW BACKER ROD AND SEALANT.

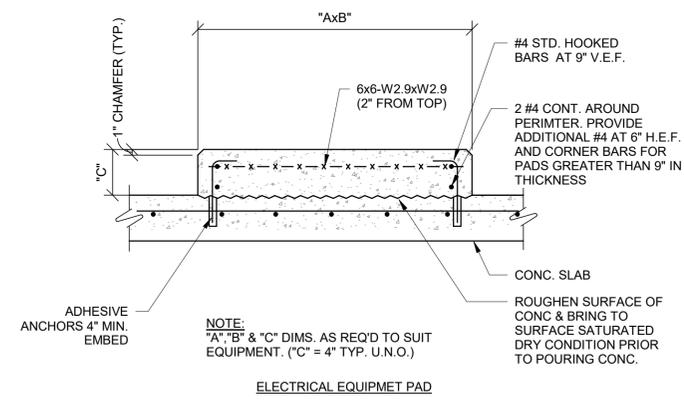
4 EXP. JOINT REPAIR
SCALE: NTS



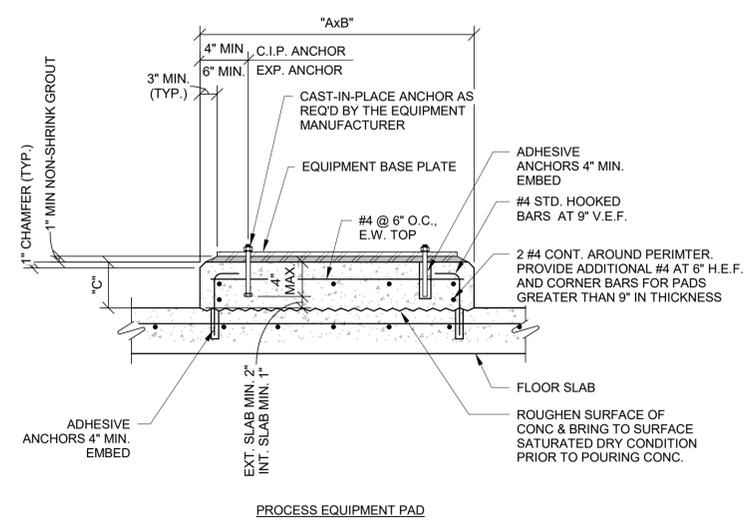
- NOTES:
1. SUPPLEMENTAL BAR SHALL BE TIED TO EXISTING BAR (TYP.)
 2. ABACT = EXISTING CROSS SECTIONAL AREA OF REBAR.
 3. A_b = ORIGINAL CROSS SECTIONAL AREA OF REBAR
 4. CLASS B LAP SPLICE LENGTH BASED ON ACI 318
 5. CONTRACTOR TO USE MECHANICAL SPLICE CONNECTORS AS DIRECTED BY ENGINEER IN LIEU OF LAP SPLICE

NOMINAL BAR #	DIAMETER OF BAR d_b (IN.)	LAP SPLICE SCHEDULE LENGTH (IN)				
		C_b < 1"	1" ≤ C_b < 1.25"	1.25" ≤ C_b < 1.5"	1.5" ≤ C_b < 1.75"	1.75" ≤ C_b < 2"
4	0.5	11	10	9	8	8
5	0.625	17	15	14	12	12
6	0.75	25	22	20	18	17
7	0.875	34	30	27	24	22
8	1	44	39	35	32	30

5 REPAIR OF DAMAGED OR DETERIORATED REINFORCEMENT
SCALE: NTS

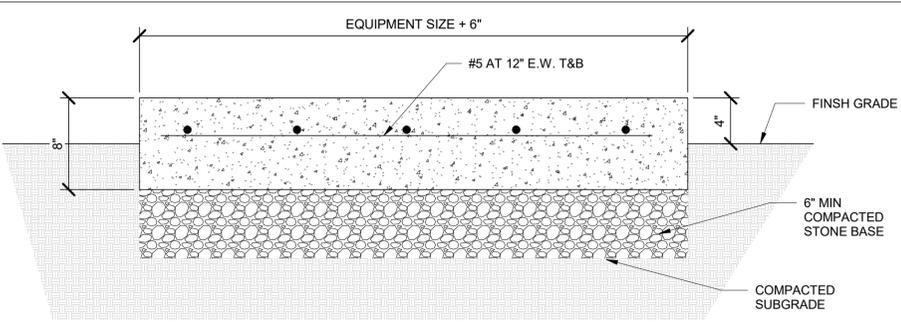


- NOTE: "A", "B" & "C" DIMS. AS REQ'D TO SUIT EQUIPMENT. ("C" = 4" TYP. U.N.O.)

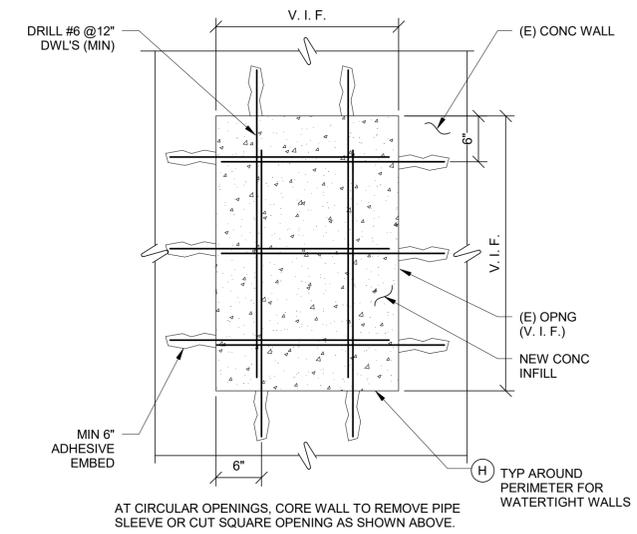


- NOTE: "A", "B" & "C" DIMS. AS REQ'D TO SUIT EQUIPMENT. ("C" = 6" TYP. U.N.O.)

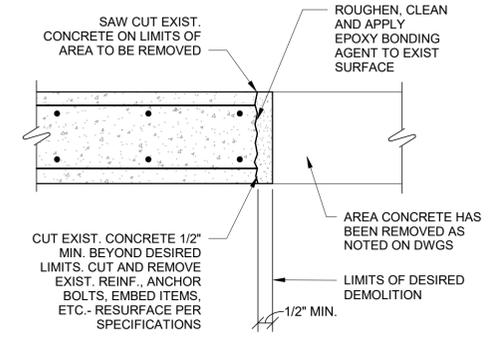
7 TYP. EQUIPMENT PAD
SCALE: NTS



6 EXTERIOR CONDENSING UNIT PAD DETAIL
SCALE: NTS



8 EXISTING WALL OPENING INFILL
SCALE: NTS



9 RESURFACING DEMO CONCRETE
SCALE: NTS

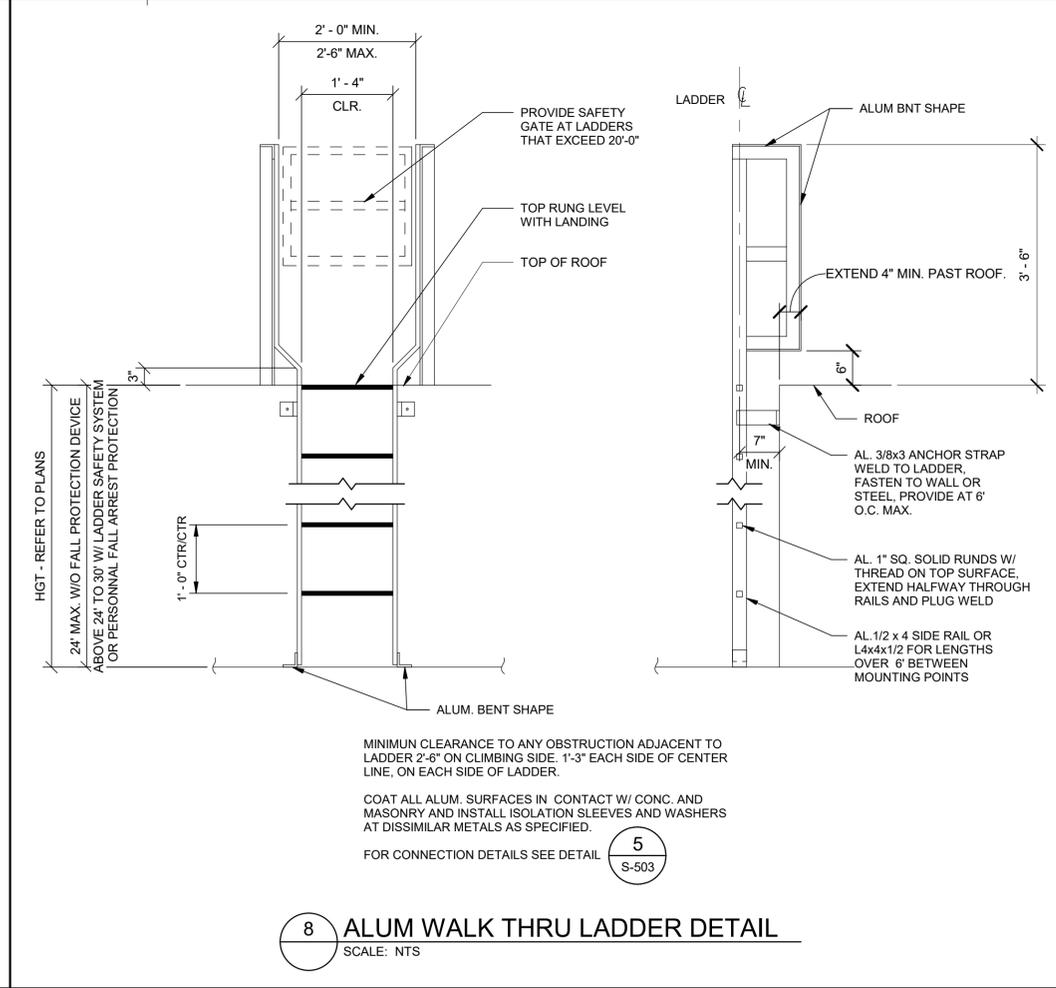
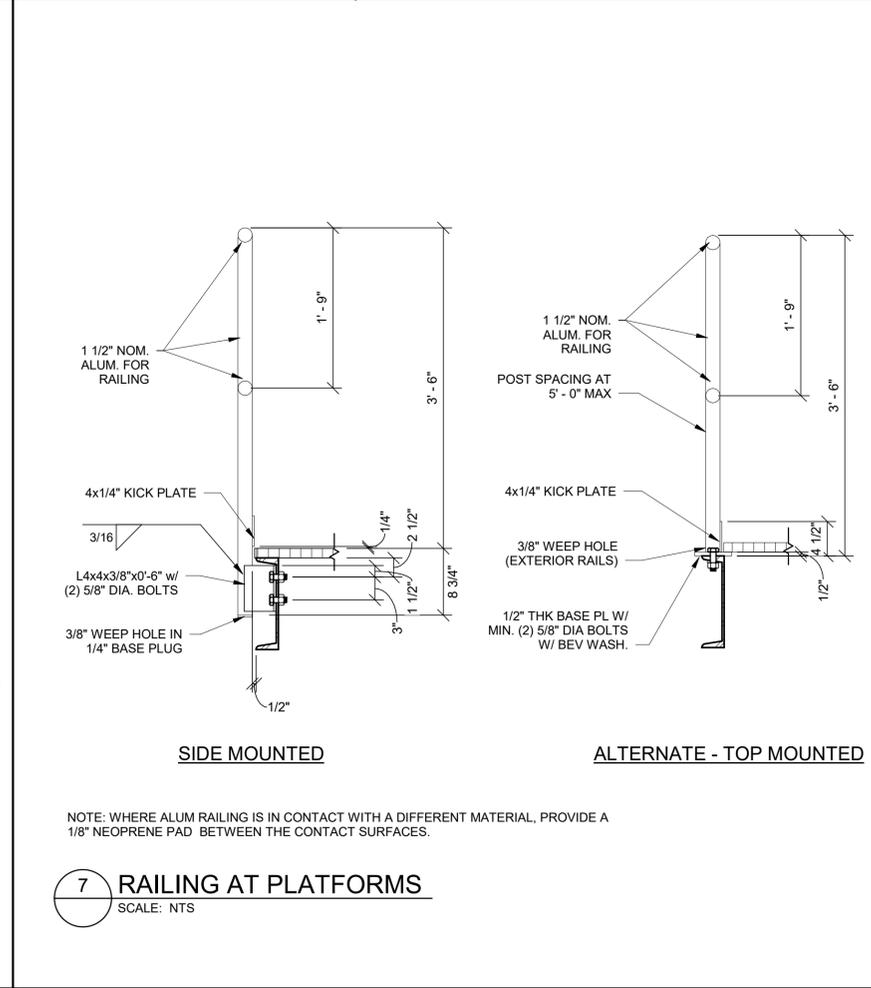
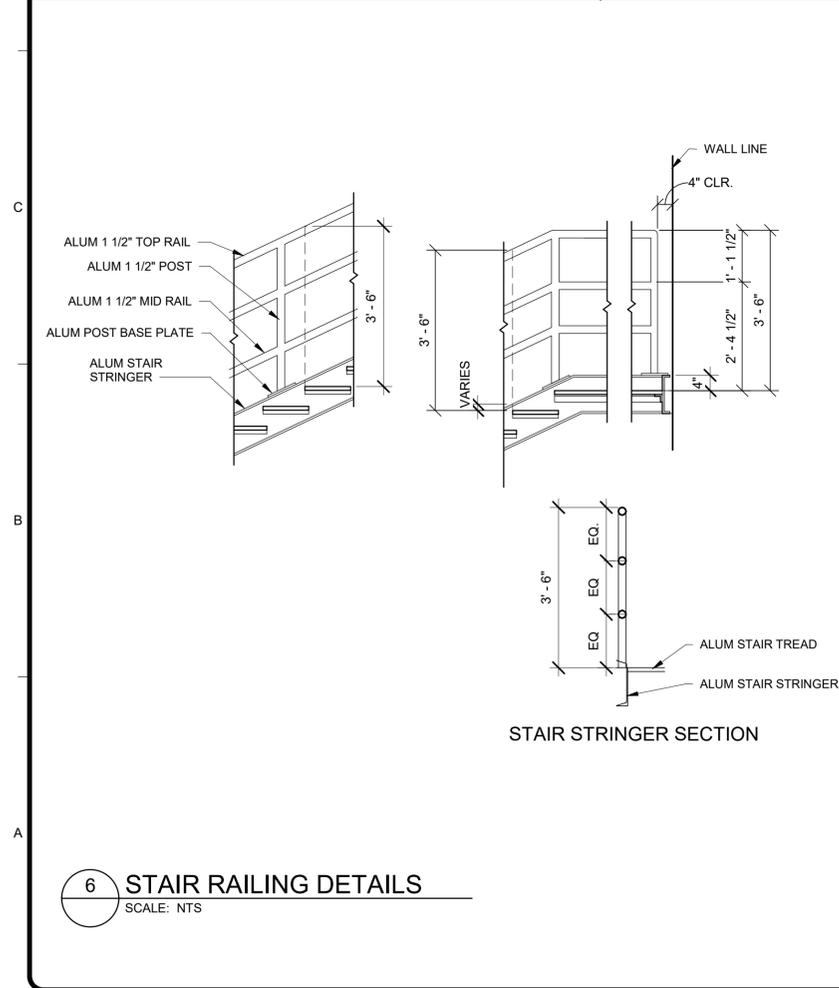
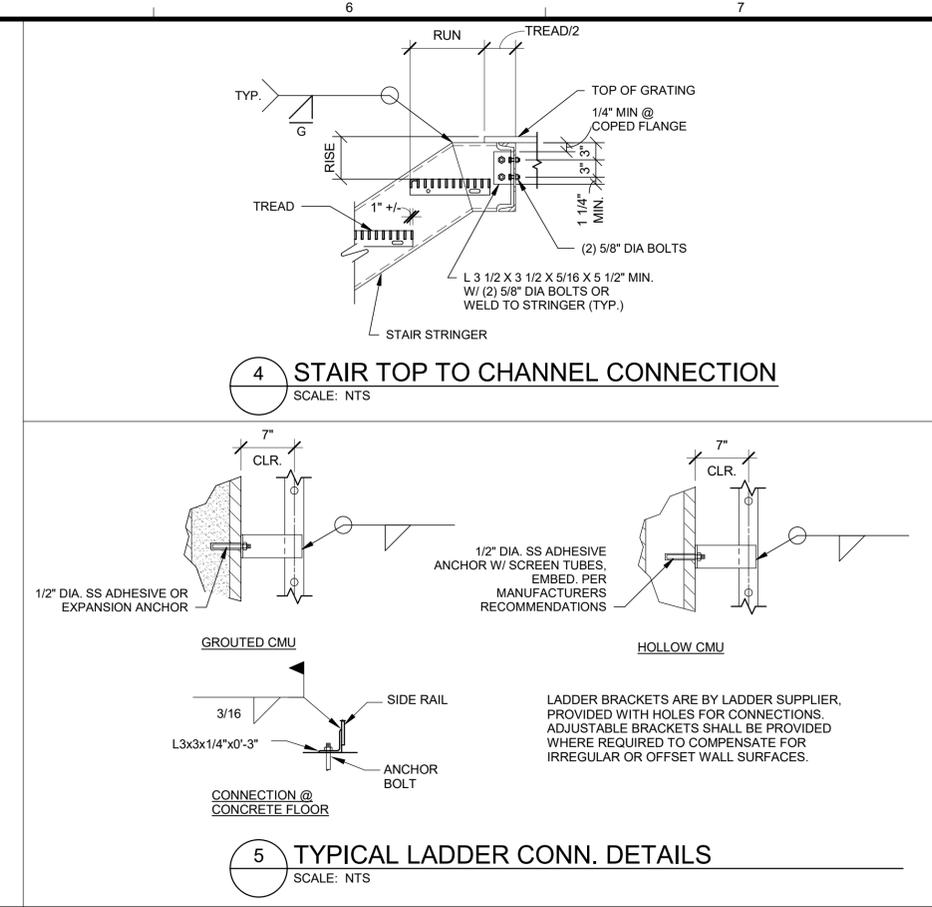
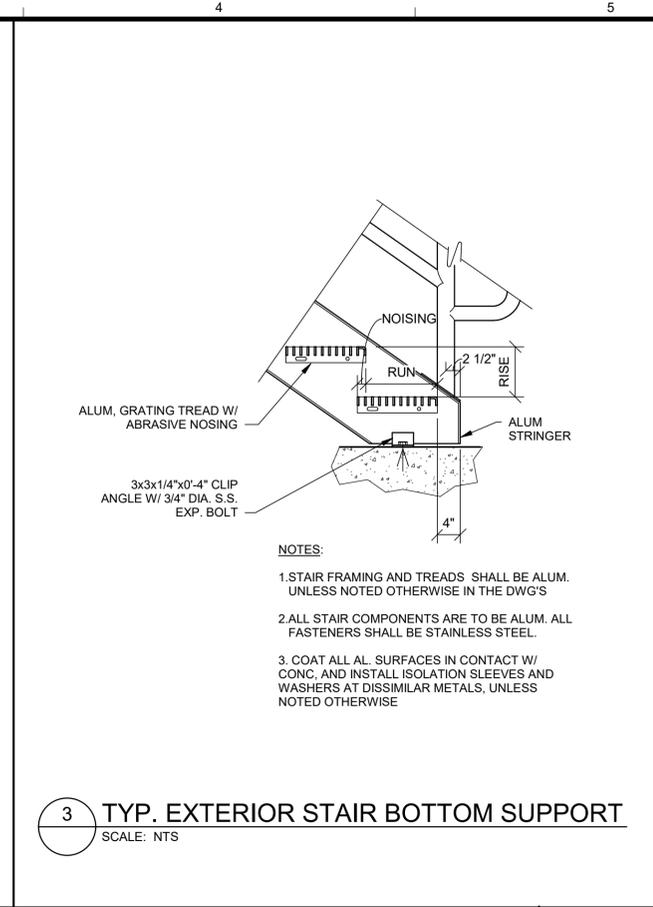
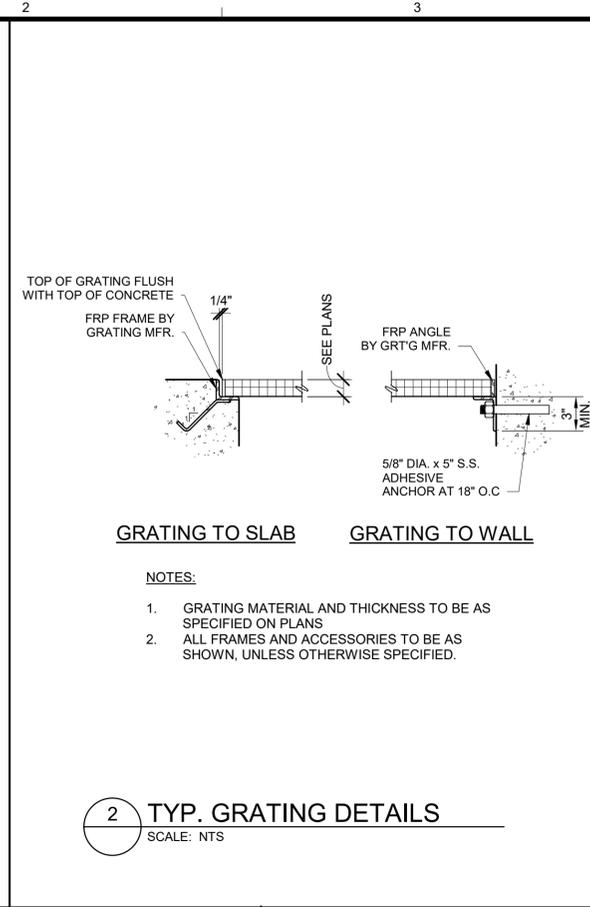
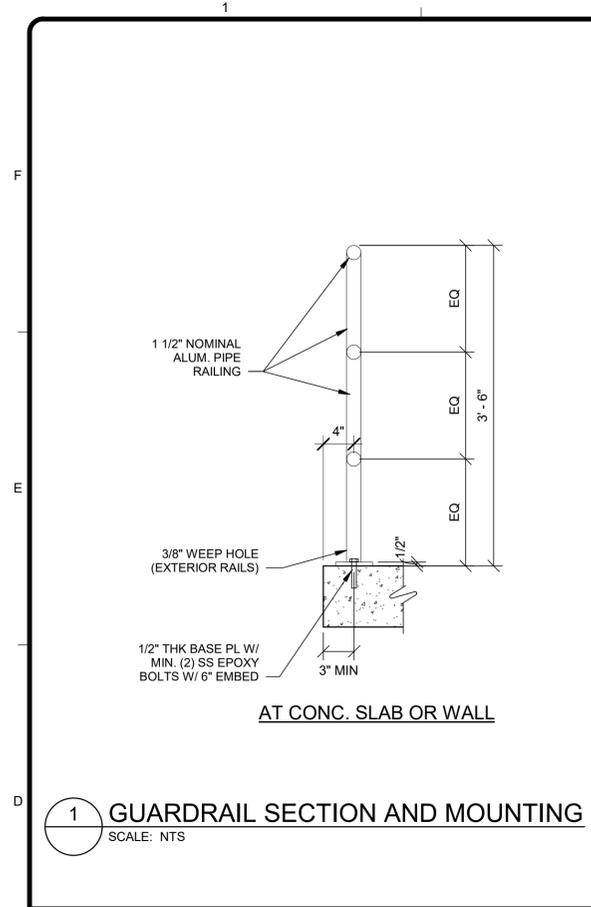
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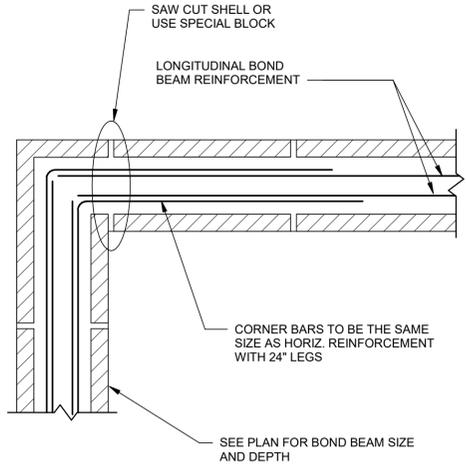
CITY OF FLINT, MICHIGAN
FLINT WPC GRIT BAT "B" SYSTEM & PRIMARY TANKS IMPROVEMENTS

PROJ: 200-156238-21001
DESN: AJF

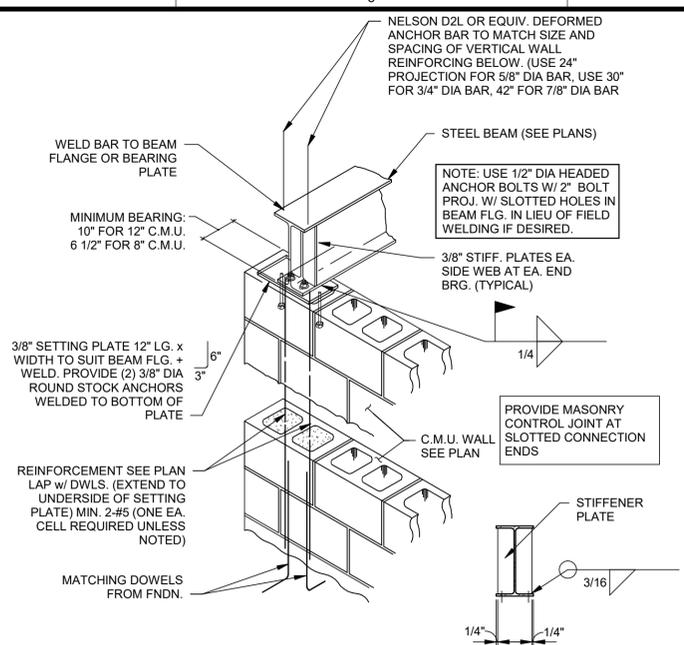
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CHKD: PCP

S-503

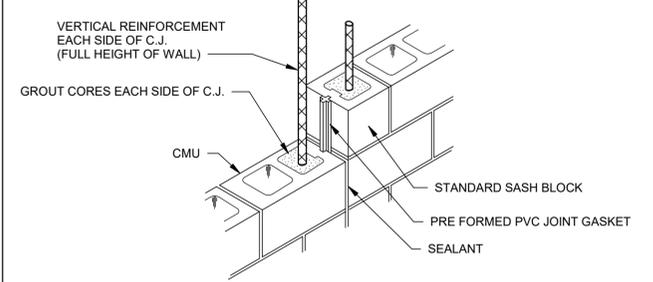
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1 BOND BEAM CORNER BARS
SCALE: NTS

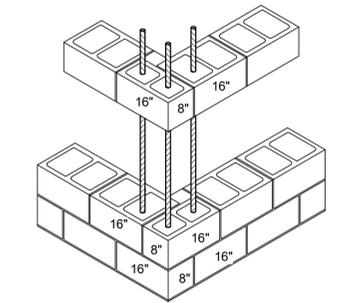


2 BEAM POCKET PERPENDICULAR TO WALL
SCALE: NTS

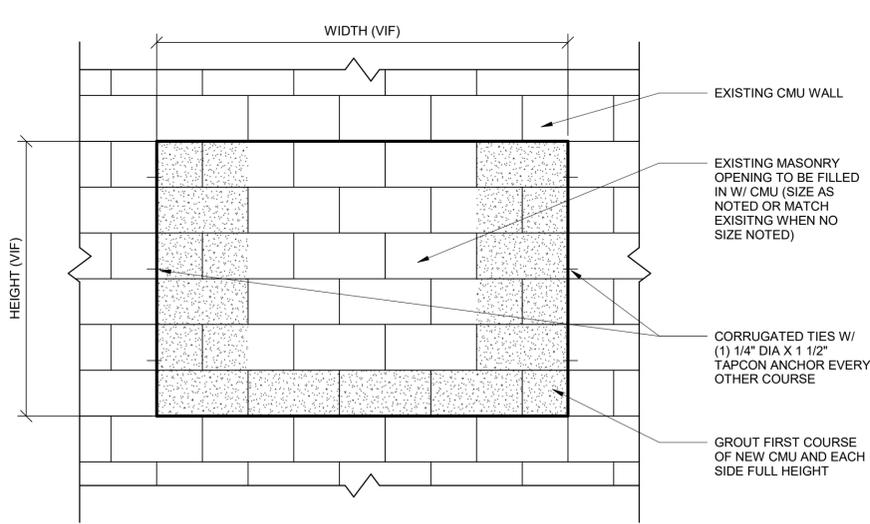


- NOTE:**
1. MAXIMUM MASONRY CONTROL JOINT SPACING 25'-0" o/c
 2. BOND BEAM HORIZONTAL REINFORCEMENT RUNS CONTINUOUS THROUGH CONTROL JOINT
 3. COORDINATE CONTROL JOINT LOCATIONS WITH ARCHITECT.
 4. PROVIDE DOWELS IN FOUNDATION TO MATCH VERTICAL BARS

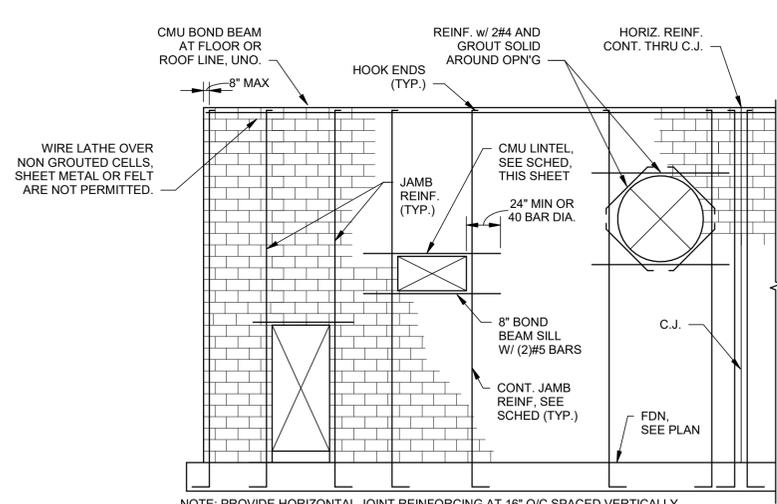
3 MASONRY CONTROL JOINT
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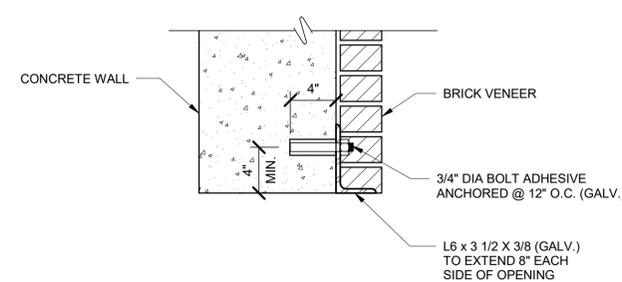
4 12" CMU WALL CORNER
SCALE: NTS



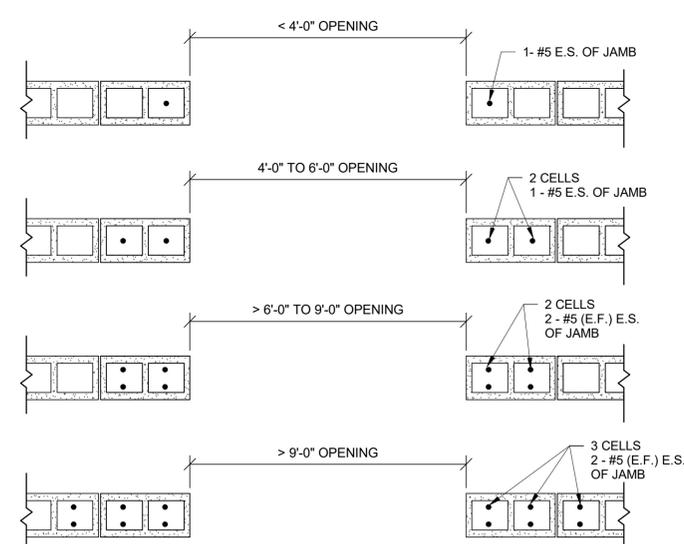
5 TYPICAL CMU INFILL DETAIL
SCALE: NTS



6 TYPICAL CMU WALL REINFORCING
SCALE: NTS



7 BRICK SHELF ANGLE
SCALE: NTS



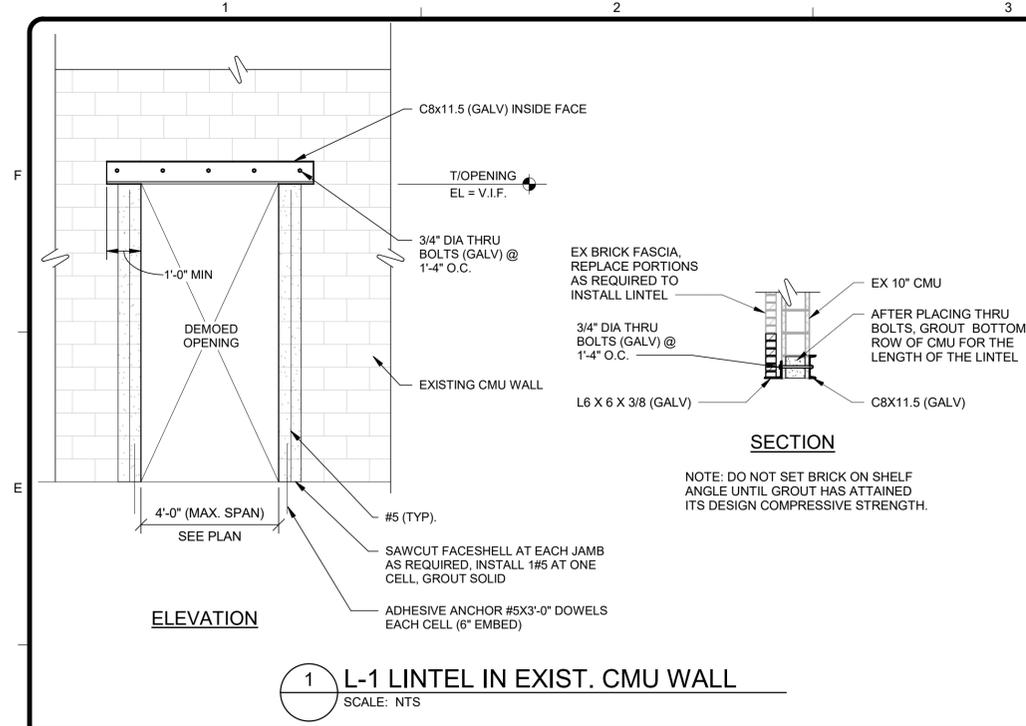
8 TYPICAL CMU JAMB DETAILS
SCALE: NTS

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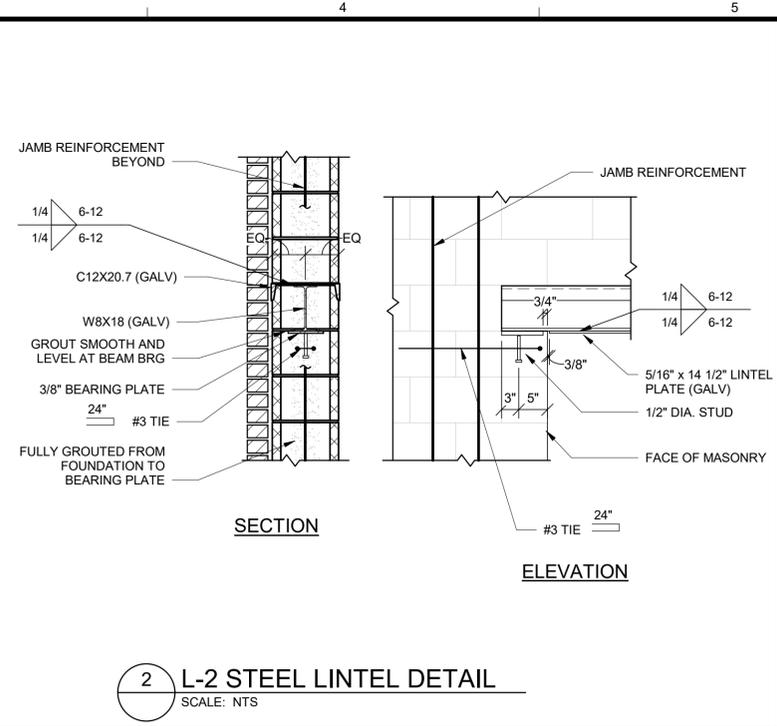
CITY OF FLINT, MICHIGAN
FLINT WPC GRIT BAT "B" SYSTEM & PRIMARY TANKS IMPROVEMENTS
STANDARD DETAILS

PROJ:	200-156238-21001
DESN:	AJF
DRWN:	AJF
CHKD:	PCP

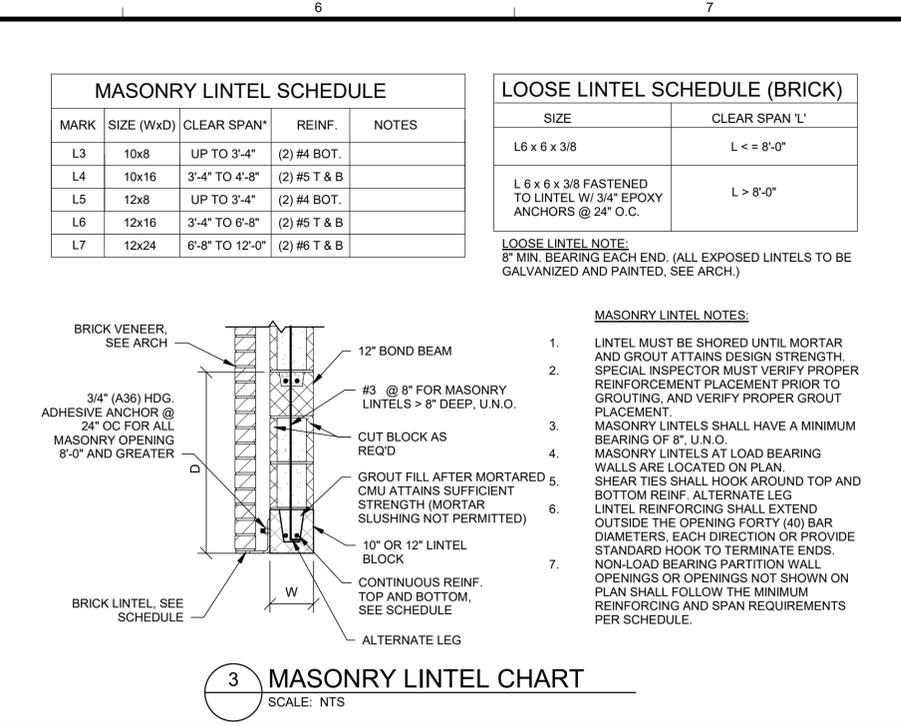
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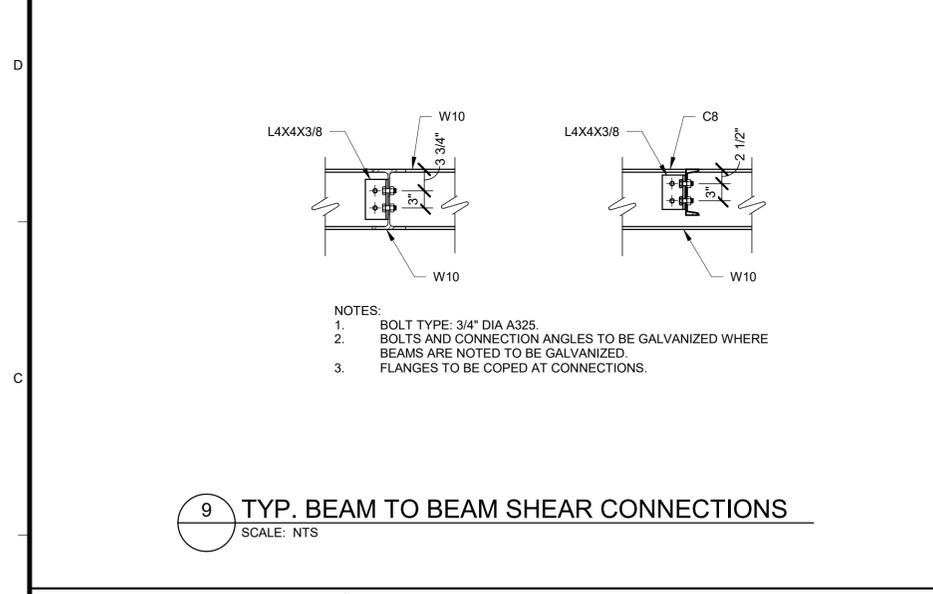
1 L-1 LINTEL IN EXIST. CMU WALL
SCALE: NTS



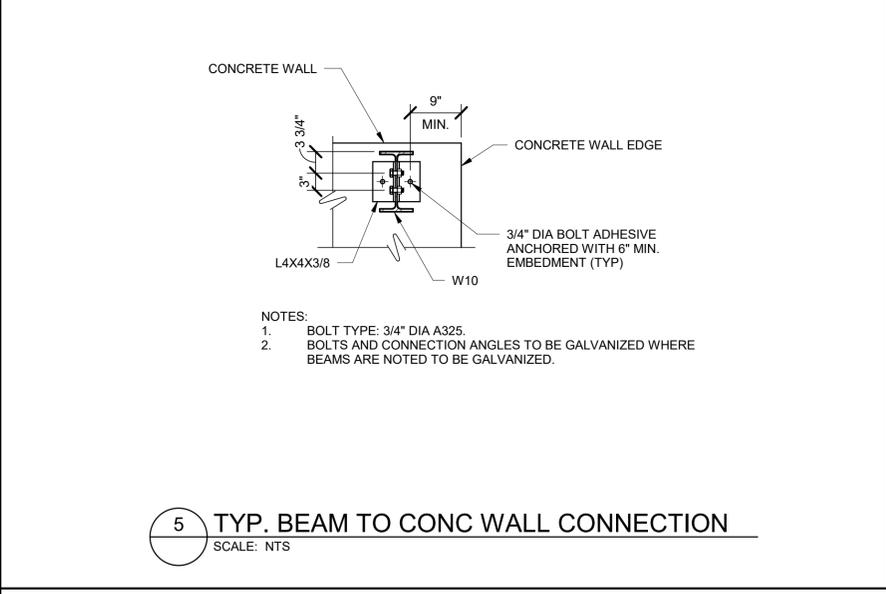
2 L-2 STEEL LINTEL DETAIL
SCALE: NTS



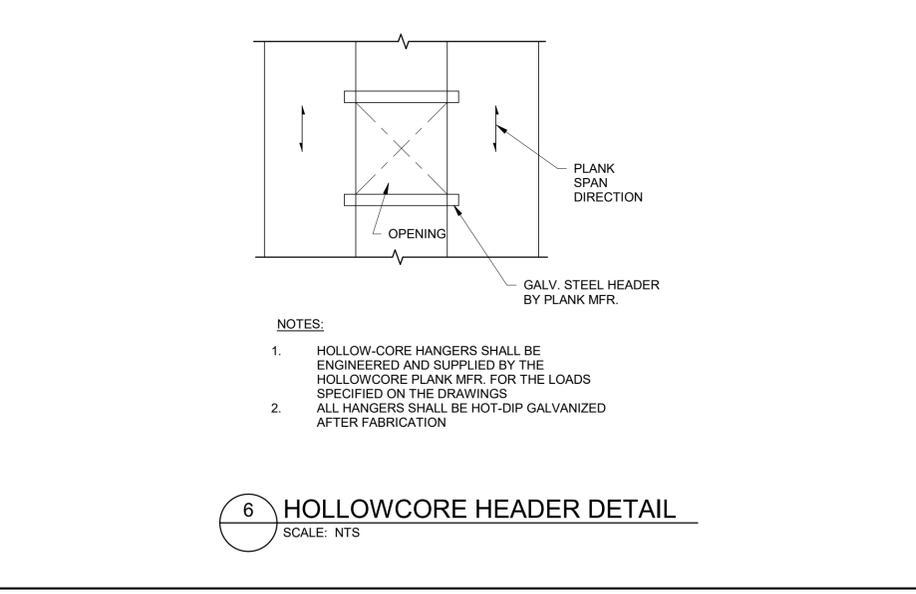
3 MASONRY LINTEL CHART
SCALE: NTS



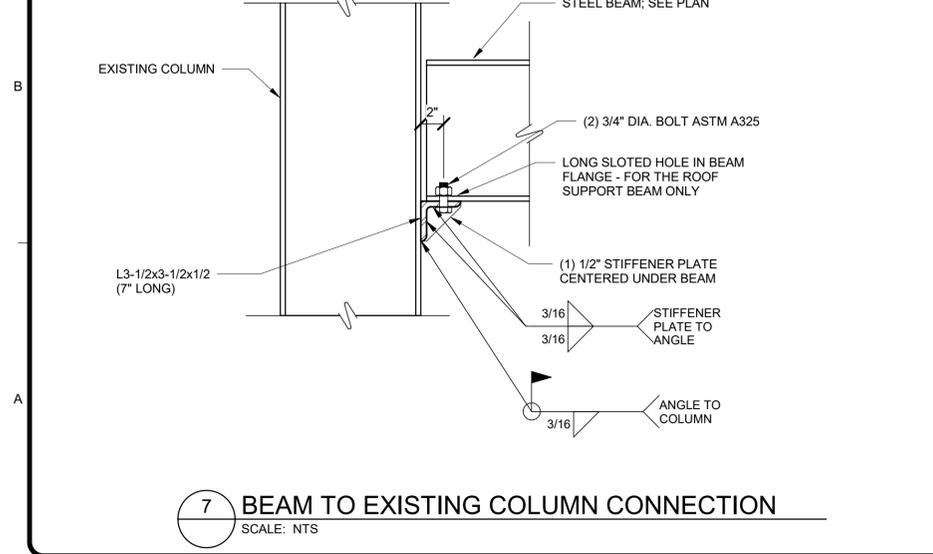
9 TYP. BEAM TO BEAM SHEAR CONNECTIONS
SCALE: NTS



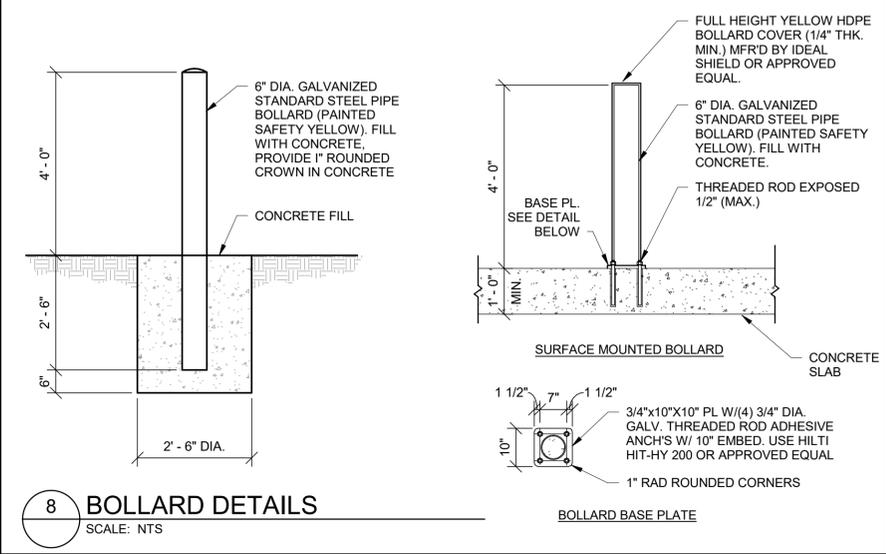
5 TYP. BEAM TO CONC WALL CONNECTION
SCALE: NTS



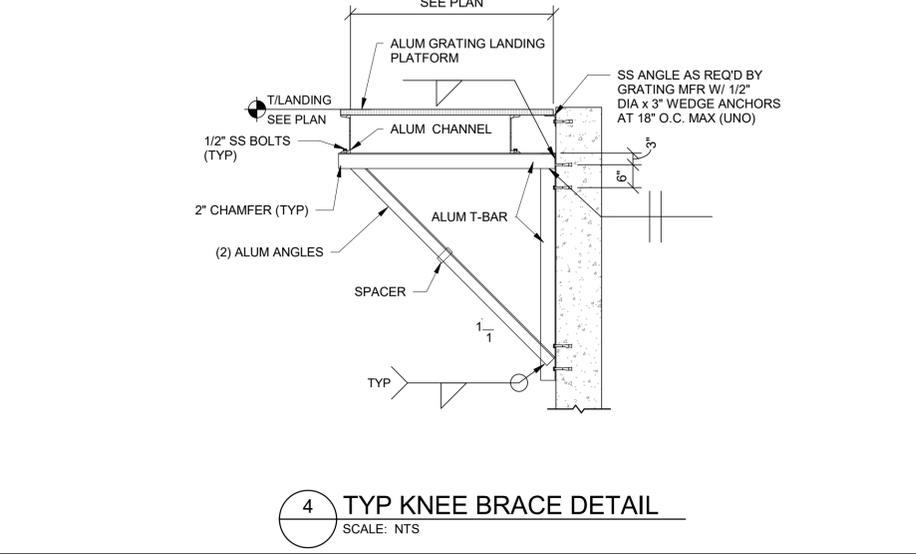
6 HOLLOWCORE HEADER DETAIL
SCALE: NTS



7 BEAM TO EXISTING COLUMN CONNECTION
SCALE: NTS



8 BOLLARD DETAILS
SCALE: NTS



4 TYP. KNEE BRACE DETAIL
SCALE: NTS

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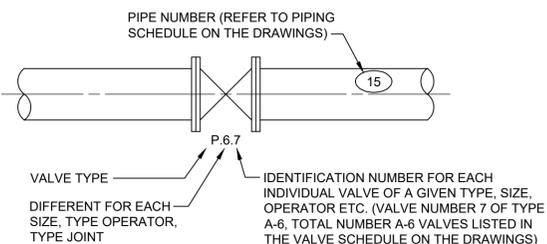
VALVE DESIGNATIONS

SYMBOLS	MARK	TYPE
		A GATE VALVE
		B BUTTERFLY VALVE
		BV BALL VALVE
		BW BACKWATER CHECK VALVE
		C STANDARD CHECK VALVE
		CC CUSHION CHECK VALVE
		DC DOUBLE VANE CHECK VALVE
		G GLOBE VALVE
		IB INDUSTRIAL BUTTERFLY VALVE
		K KNIFE GATE VALVE
		P PLUG VALVE
		PD PLUG DRAIN VALVE
		RA RESILIENT SEATED GATE VALVE
		SC SILENT CHECK VALVE
		SEC ELECTRIC CHECK VALVE (SEWAGE)
		WEC (ANGLE OR GLOBE VALVE) (WATER)
		SV SURGE OR PRESSURE RELIEF VALVE
		TPSV TAPPING SLEEVE AND VALVE
		PRV PRESSURE REDUCING VALVE

OPERATOR SYMBOLS (SCHEMATICS ONLY)

THROTTLING SERVICE	OPEN - SHUT SERVICE

VALVE & PIPE IDENTIFICATION



JOINT DESIGNATIONS

SYMBOLS	MARK	TYPE
	FJ	FLANGED JOINT
	MJ	MECHANICAL JOINT
	SJ	SCREWED JOINT
	POJ	PUSH ON JOINT
	BFC	BOLTED FLEXIBLE COUPLING
	GC	GROOVED COUPLING
	WJ	SHOP WELDED JOINT (STEEL PIPE)
	FWJ	FIELD WELDED JOINT (STEEL PIPE)
	STJ	SOCKET TYPE JOINT (FRP OR PVC PIPE)
	EJ	EXPANSION JOINT
	BF	BLIND FLANGE
	AFC	ADAPTER FLANGE COUPLING

GATE DESIGNATIONS

SYMBOLS	MARK	TYPE
	S	SLUICE GATE (WITH STANDARD WALL THIMBLE)
	S	SLUICE GATE (WITH FLANGE & MECHANICAL JOINT WALL THIMBLE)
	F	FABRICATED SLIDE GATE
	SP	STOP PLATE (SPECIFIED UNDER SLIDE GATES)
	SH	SHEAR GATE
	FG	FLUSHING GATE
	LG	FLAP GATE
	SL	STOP LOGS

SLEEVE AND WALL PIPE DESIGNATIONS

SYMBOL	DESCRIPTION
	CORED HOLE IN EXISTING WALL
	WALL SLEEVE W/WATER COLLAR (STANDARD)
	FLANGE X PLAIN END WALL PIPE
	FLANGE X PLAIN END WALL PIPE
	FLANGE X FLANGE WALL PIPE
	MECHANICAL JOINT X MECHANICAL JOINT WALL PIPE
	MECHANICAL JOINT X PLAIN END WALL PIPE
	PUSH ON BELL JOINT X PLAIN END WALL PIPE

PIPING AND EQUIPMENT SYMBOLS (SCHEMATICS ONLY)

	VTR VENT TO ROOF
	PH CHEMICAL SEAL W/PRESS GAUGE RANGE
	PI PRESSURE GAUGE
	PI PULSATION DAMPENER W/PRESS GAUGE
	ELBOW UP
	ELBOW DOWN
	TEE UP
	TEE DOWN
	REDUCER-CONCENTRIC
	WYE STRAINER
	UNION
	M FLOW METER
	FD FLOOR DRAIN
	ED EQUIPMENT DRAIN
	CO CLEANOUT-FLOOR
	CO CLEANOUT-HORIZONTAL
	D PIPE TO DRAIN
	BFP BACKFLOW PREVENTER
	PRV XX PSI PRESSURE RELIEF VALVE SET POINT
	BPV XX PSI BACK PRESSURE VALVE SET POINT
	PET COCK
	PLUG VALVE - GAS
	PRESSURE RELIEF VALVE
	TEMPERING VALVE
	HB HOSE BIBB (3/4")
	FHB FLUSHING HOSE BIBB (1-1/2")
	FC FLUSHING CONNECTION (1-1/2")
	S SOLENOID VALVE
	MANUAL AIR RELIEF
	BLOWER
	SUBMERSIBLE PUMP
	VERTICAL TURBINE PUMP
	CONNECT TO EXISTING

FEED AND MONITORING SYMBOLS

	DP DIFFERENTIAL PRESSURE MEASUREMENT / SWITCH		PH PH PROBE
	DO DO PROBE		PIT PRESSURE ELEMENT / TRANSMITTER
	FLS FLOAT SWITCH		SAM SAMPLE
	FS FLOW SWITCH		TIT TURBIDITY INDICATOR TRANSMITTER
	LIT LEVEL ELEMENT / TRANSMITTER		ZS ZERO SPEED SWITCH
	NPW NON POTABLE WATER		

PIPING ABBREVIATIONS

AI	AERATION INFLUENT
AIR	LOW PRESSURE AIR
AFC	ADAPTER FLANGE COUPLING
B	BOTTOM
BF	BLIND FLANGE
BFC	BOLTED FLEXIBLE COUPLING
BP	BYPASS
BW	BACKWASH WATER
C	CENTRATE
CC	CROSS COLLECTOR
CE	CHLORINATED EFFLUENT
CH	CHLORINE SOLUTION
CI	CAST IRON
CIP	CLEAN IN PLACE
CL	CENTERLINE (LOCATION)
CL	CHLORINE (PROCESS)
CO	CLEANOUT
CONC	CONCENTRATE
D	DRAIN
DIP	DUCTILE IRON PIPE
DS	DIGESTED SLUDGE
DWW	DIRTY WASH WATER
ED	EQUIPMENT DRAIN
EFF	EFFLUENT
EFS	EFFLUENT SAMPLE
FHB	FLUSHING HOSE BIBB
EL	ELEVATION
EX	EXISTING
F	FILTRATE
FC	FLUSHING CONNECTION
FD	FLOOR DRAIN
FE	FILTER EFFLUENT
FI	FILTER INFLUENT
FS	FINAL TANK SLUDGE
FT	FINAL TANK
GR	GRIT
HB	HOSE BIBB
HVL	HIGH WATER LEVEL
IE	INVERT ELEVATION
INF	INFLUENT
IPW	INDUSTRIAL PLANT WATER
IW	INDUSTRIAL WASTE
LC	LONGITUDINAL COLLECTOR
LWCO	LOW WATER CUT-OFF
NaOCl	SODIUM HYPOCHLORITE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NPW	NON POTABLE WATER
ODI	OXIDATION DITCH INFLUENT
OF	OVERFLOW
PEW	PLANT EFFLUENT WATER
PE	PRIMARY EFFLUENT
PI	PRIMARY INFLUENT
POLY	POLYMER
PST	PRIMARY SETTLING TANK
PW	POTABLE WATER
RAS	RETURN ACTIVATED SLUDGE
RC	RECYCLED
RCS	RECIRCULATED SLUDGE
RS	RAW SEWAGE
RW	RAW WATER
SAM	SAMPLE
SAN	SANITARY SEWER
SBD	SLUDGE BED DRAIN
SC	SCUM
SFE	SECONDARY EFFLUENT
SN	SUPERNATANT
SPD	SUMP PUMP DISCHARGE
SW	SERVICE WATER
T	TOP
TE	TERTIARY EFFLUENT
TO	THICKENER OVERFLOW
TR	TROUGH
TS	TRANSFER SLUDGE
TWAS	THICKENED WASTE ACTIVATED SLUDGE
TYP	TYPICAL
V	VENT
VERT	VERTICAL
VTR	VENT TO ROOF
WAS	WASTE ACTIVATED SLUDGE
W	WATER MAIN OR WEIR
WS	WASTE SLUDGE

PIPING AND VALVE GENERAL NOTES

- INSTALL ALL PIPING SUPPORTS AND PIPING IN ACCORDANCE WITH THE LATEST EDITION OF THE ASME ANSI POWER PIPING CODE B 31.1.
- LOCATE PRESSURE TAPS ON THE TOP OF PROCESS PIPES.
- LOCATE SAMPLE TAPS ON THE SIDE OF PROCESS PIPES.
- LOCATE DRAIN TAPS ON THE BOTTOM OF PROCESS PIPES.
- UNLESS OTHERWISE NOTED PIPE ELEVATIONS SHOWN ON PIPING DRAWINGS REFER TO CENTERLINE OF THE PIPE.
- INSTALL ALL PLUG, BUTTERFLY AND BALL VALVES WITH THE SHAFT IN THE HORIZONTAL POSITION, UNLESS OTHERWISE DIRECTED.
- ALL HARDWARE TO BE 304 OR 316 STAINLESS STEEL INCLUDING NUTS, BOLTS, WASHERS, ANCHORS, STRUT, HANGERS, ETC.
- ALL NEW PIPING AND VALVES SHALL BE PAINTED. EX. RAW SEWAGE IN GRIT BUILDING B AND PRIMARY GALLERIES SHALL BE CLEANED AND REPAINTED. PIPING COLORS PER SPEC.
- WORK INDICATED TO BE PERFORMED ON ENLARGED PLANS AND SECTIONS SHALL BE TYPICAL OF ALL TANKS AND GALLERIES IN BOTH BATTERY A AND B. COORDINATE WITH SHEETS D-003 AND 004.
- CONTRACTOR SHALL MODIFY EXISTING SUPPORTS AND ADD ADDITIONAL PIPE SUPPORTS AND HANGERS TO SUPPORT MODIFIED PIPING AND VALVE INSTALLATION
- FM-X CALL OUTS TO BE FIELD MEASURED

GENERAL DEMOLITION NOTES

GENERAL DEMOLITION NOTES FOR ALL SHEETS AND ALL DISCIPLINES:

- DEMOLITION DRAWINGS MAY NOT SHOW ALL DEMOLITION WORK REQUIRED UNDER THIS CONTRACT. OTHER CONTRACT DRAWINGS MAY ALSO SHOW DEMOLITION WORK. COORDINATE DEMOLITION WITH REQUIREMENTS LISTED IN SECTION 01110 OF THE PROJECT MANUAL.
- SITE INVESTIGATION PRIOR TO BIDS IS RECOMMENDED TO DETERMINE THE COMPLETE EXTENT OF DEMOLITION REQUIRED.
- WHEN EQUIPMENT ITEMS ARE INDICATED FOR DEMOLITION, ALL ANCILLARY UTILITIES, ELECTRICAL ITEMS, CONCRETE SUPPORTS AND STRUCTURAL STEEL SUPPORTS SHALL BE COMPLETELY REMOVED UNLESS INDICATED OTHERWISE. ALL THE ABOVE MENTIONED ITEMS MAY NOT BE INDICATED ON THE DRAWINGS. SITE VISIT PRIOR TO BID DATE IS RECOMMENDED TO QUANTIFY COMPLETE EXTENT OF EQUIPMENT DEMOLITION.
- CONCRETE FLOOR SLABS UNDER DEMOLISHED CONCRETE EQUIPMENT PADS, THAT WILL BE EXPOSED IN THE FINISHED CONSTRUCTION SHALL BE PATCHED SMOOTH AND ANY DOWELS OR ANCHORS SHALL BE CUT OFF 2" BELOW THE SURFACE AND PATCHED SMOOTH. IF REQUIRED, EXISTING FLOOR SURFACE SHALL BE CHIPPED OR ROUGHENED AND PATCH APPLIED OVER BONDING AGENT.
- ALL PIPING SHOWN AS BEING DEMOLISHED SHALL BE COMPLETELY REMOVED INCLUDING INSULATION, HANGERS, EXPANSION AND ANCHOR BOLTS AND PIPE SUPPORTS. CAP PIPES LEFT IN PLACE AT NEAREST VALVE. REVIEW WITH ENGINEER PRIOR TO DEMO.
- EXPANSION AND ANCHOR BOLTS REMAINING IN WALL, CEILINGS OR FLOORS SHALL BE POUNDED OR CUT FLUSH WITH THE SURFACE. IN FINISHED AREAS THEY SHALL BE RECESSED AND PATCHED TO MATCH THE EXISTING FINISH.
- ALL OPENINGS REMAINING IN FLOORS, WALLS OR CEILINGS, INCLUDING SLEEVES, AFTER PIPE OR CONDUIT DEMOLITION SHALL BE PATCHED TO MATCH THE EXISTING FINISH AND AS DETAILED ON THE DRAWINGS. PENETRATIONS BETWEEN AREAS LABELED NEMA 4 AND NEMA 7 SHALL BE SEALED GAS TIGHT.
- PAINTED PIPING MAY CONTAIN LEAD PAINT. THEREFORE REMOVAL OF PAINT MAY ONLY BE DONE BY HAND TOOL SCRAPING OR CHEMICAL MEANS. THE USE OF MECHANICAL GRINDERS, SANDING OR USE OF TORCHES TO CUT IS NOT PERMITTED.
- FLOOR DRAINS SHALL BE PROTECTED FROM DIRT AND DEBRIS.
- PIPE TO BE REMOVED AND REPLACED IS TO BE REPLACED IN KIND UNLESS NOTED OTHERWISE.
- COORDINATE WITH OWNER DURING ANY INTERRUPTION OF SW PIPING, SO THAT THAT OPERATION OF THE PROCESS EQUIPMENT IS NOT EFFECTED.
- REVIEW WORK ITEMS WITH ENGINEER PRIOR TO PERFORMING WORK.
- CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL MATERIALS GENERATED DURING DEMOLITION WORK.
- FLINT WPC STAFF WILL ATTEMPT TO FLUSH RESIDUAL MATERIAL FROM GRIT AND PRIMARY CHANNELS PRIOR TO CONTRACTOR PERFORMING WORK. CONTRACTOR SHALL BE PREPARE TO HANDLE 6-12" OF RESIDUAL MATERIAL IN TANKS AND CHANNELS.

GENERAL NOTES

GENERAL NOTES FOR ALL SHEETS AND ALL DISCIPLINES:

- FIELD VERIFY ALL DIMENSIONS PRIOR TO SHOP DRAWING SUBMITTAL.
- CONSTRUCTION SEQUENCING SHALL BE PER SPECIFICATION SECTION 01110. WPC FLOW SHALL BE MAINTAINED AT ALL TIME. CONTRACTOR SHALL INSTALL TEMPORARY BULKHEADS OR TEMPORARY PUMPING AS NECESSARY TO PERFORM WORK WHILE MAINTAINING FLOW. AVERAGE DAILY WRRF FLOW IS 17 MGD.
- ALL DRAWINGS INDICATE MINIMUM REQUIREMENTS AND SHOW SUGGESTED LAYOUTS OF MAJOR SYSTEMS AND EQUIPMENT. FINAL LAYOUT IS DEPENDENT ON CONTRACTOR SELECTED EQUIPMENT AND SYSTEMS.
- CONTRACTOR SHALL MAKE PROVISIONS IN THE BID TO FURNISH MISCELLANEOUS DETAILS NOT SHOWN, MODIFICATIONS TO COMPONENT LOCATIONS, ELECTRICAL POWER AND CONTROL WIRING, GRATING, SUPPORTS AND STAIRS.
- PIPE SUPPORTS ARE GRAPHICAL, IN NATURE AND INTENDED TO INDICATE THE GENERAL TYPE REQUIRED. THE PROPER SUPPORT OF THE PIPING SYSTEMS IS THE CONTRACTOR'S RESPONSIBILITY INCLUDING THE EXACT QUANTITY AND SPACING OF SUPPORTS, ADEQUATE BRACING, THRUST RESTRAINTS, AND OTHER REQUIREMENTS.

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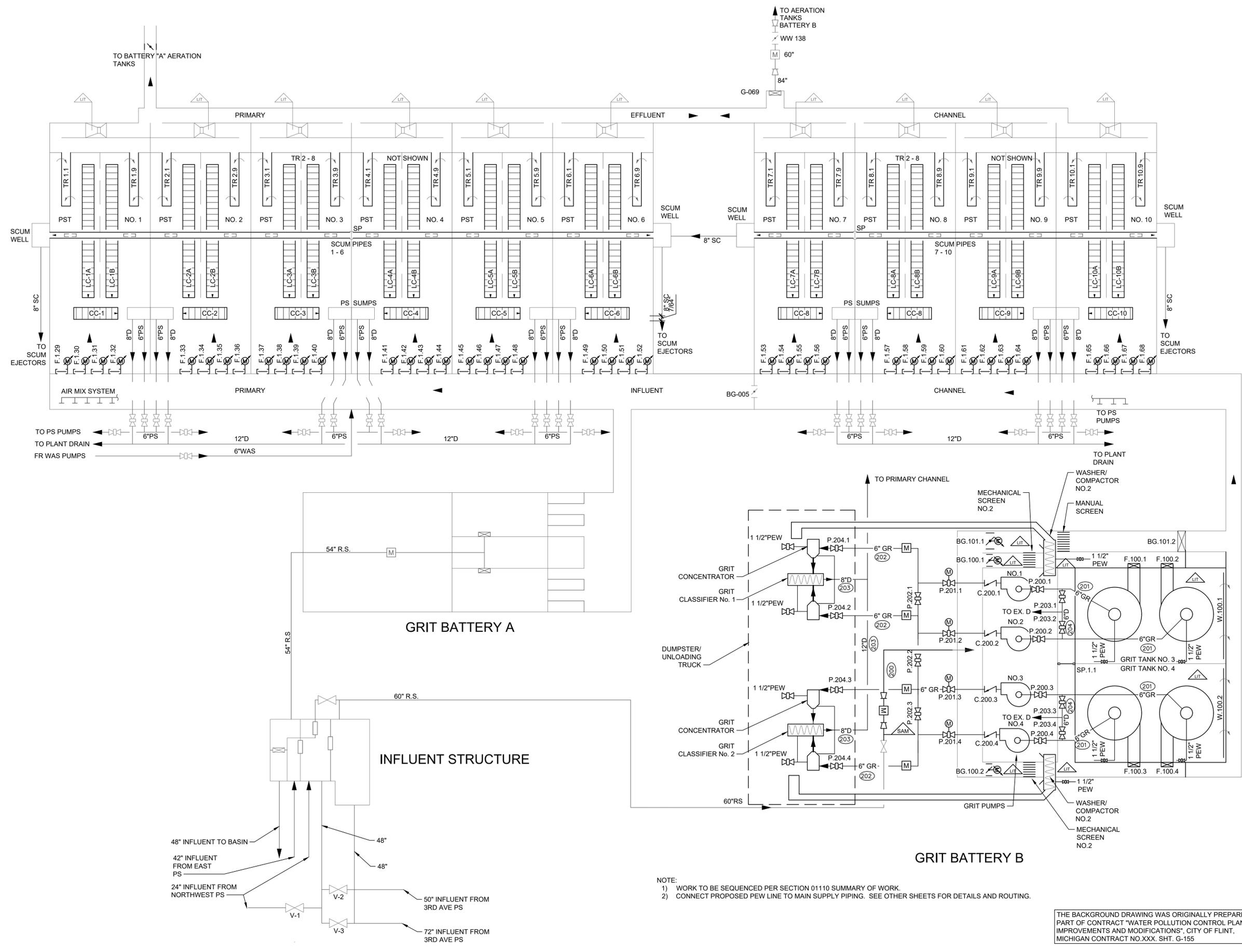
CITY OF FLINT, MICHIGAN
FLINT WPC GRIT BAT "B" SYSTEM &
PRIMARY TANKS IMPROVEMENTS
PROCESS LEGEND
AND GENERAL NOTES

PROJ: 200-156238-21001
DESN: BCB
DRWN: T.JL
CHKD: MAT

D-001

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6/22/2021 1:41:00 PM - C:\PROJECTS\LANSHING\156238\2100\CAD\SHETS\FILES\D-002 FLOW DIAGRAM GRIT&PRIM.DWG - LORTZ, JASON



NOTE:
 1) WORK TO BE SEQUENCED PER SECTION 01110 SUMMARY OF WORK.
 2) CONNECT PROPOSED PEW LINE TO MAIN SUPPLY PIPING. SEE OTHER SHEETS FOR DETAILS AND ROUTING.

THE BACKGROUND DRAWING WAS ORIGINALLY PREPARED AS PART OF CONTRACT "WATER POLLUTION CONTROL PLANT IMPROVEMENTS AND MODIFICATIONS", CITY OF FLINT, MICHIGAN CONTRACT NO. XXX. SHT. G-155

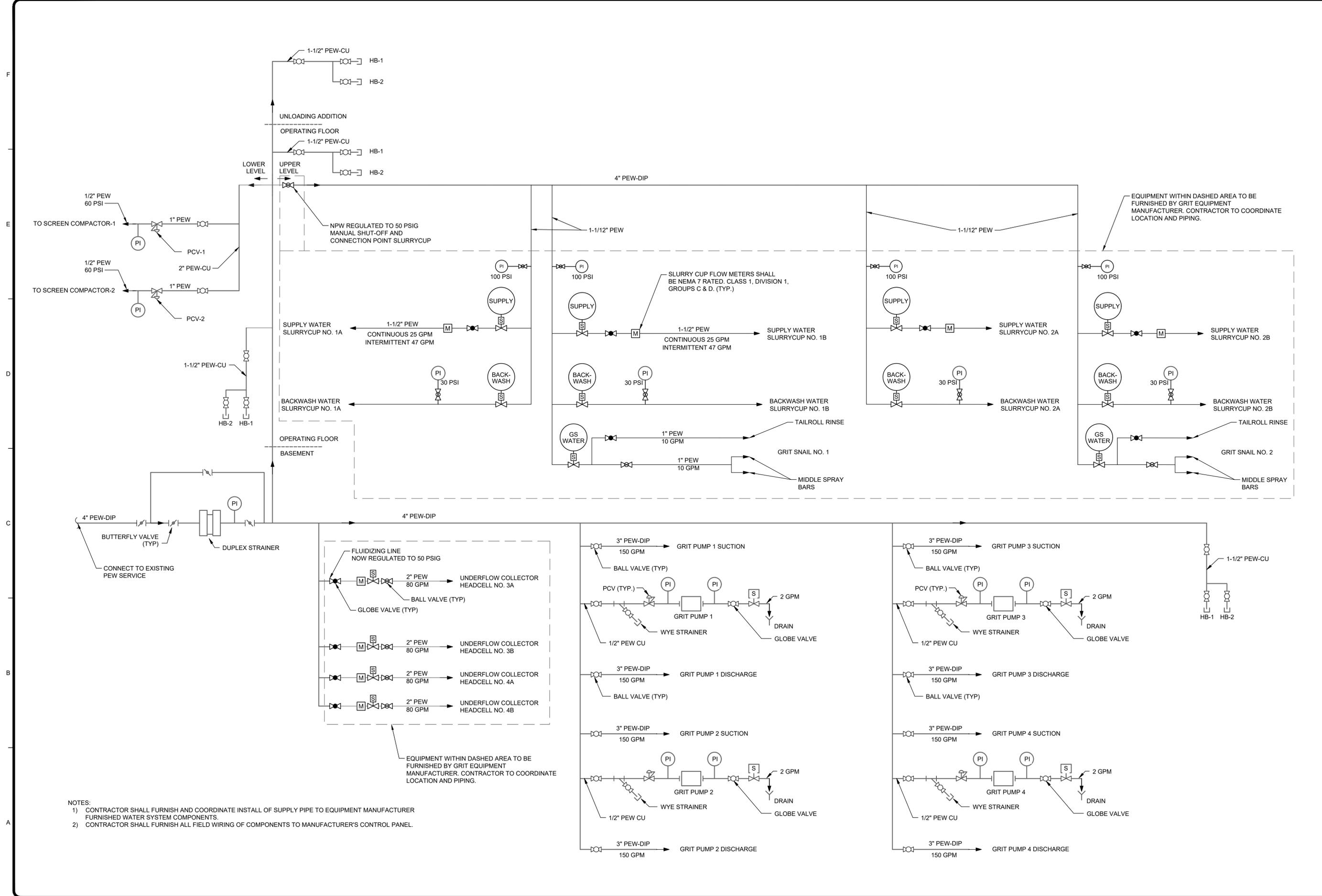
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**GRIT AND PRIMARY TANK
 PROCESS FLOW DIAGRAM**

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 DESN: BCB
 DRWN: MCH
 CHKD: MAT

D-002

6/21/2021 3:21:59 PM - C:\PROJECTS\LANGING\ENR\156238\2100\CAD\SHETS\FILESD-003 PLANT WATER SCHEMATIC.DWG - LORTZ, JASON



- NOTES:
- 1) CONTRACTOR SHALL FURNISH AND COORDINATE INSTALL OF SUPPLY PIPE TO EQUIPMENT MANUFACTURER FURNISHED WATER SYSTEM COMPONENTS.
 - 2) CONTRACTOR SHALL FURNISH ALL FIELD WIRING OF COMPONENTS TO MANUFACTURER'S CONTROL PANEL.

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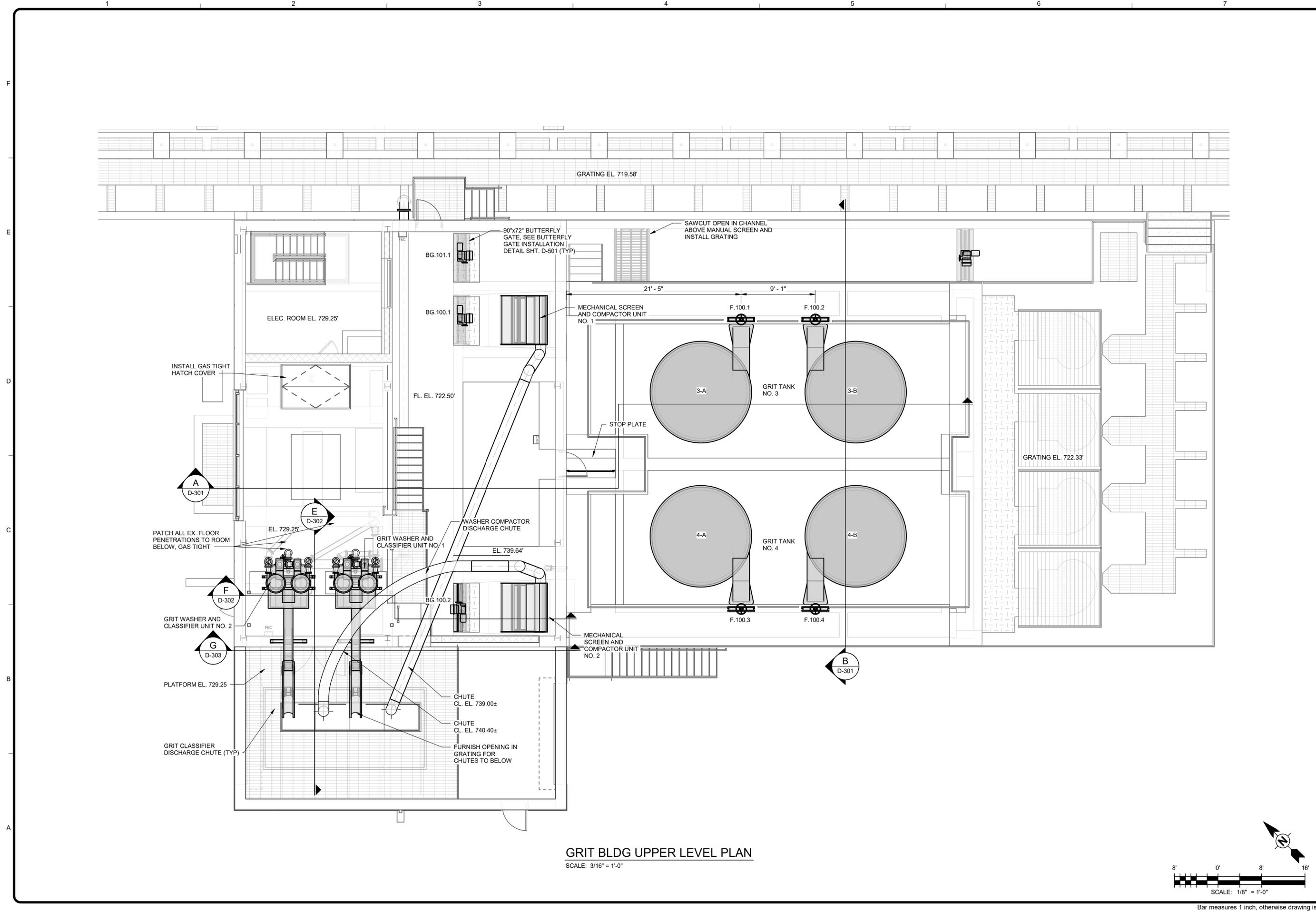
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CITY OF FLINT, MICHIGAN
 FLINT WPC GRIT BAT "B" SYSTEM &
 PRIMARY TANKS IMPROVEMENTS
PLANT WATER SCHEMATIC

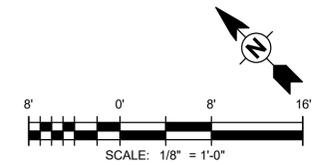
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GRIT BLDG UPPER LEVEL PLAN
 SCALE: 3/16" = 1'-0"



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CITY OF FLINT, MICHIGAN
 FLINT WPC GRIT BAT "B" SYSTEM &
 PRIMARY TANKS IMPROVEMENTS
**GRIT BUILDING UPPER
 LEVEL PLAN**

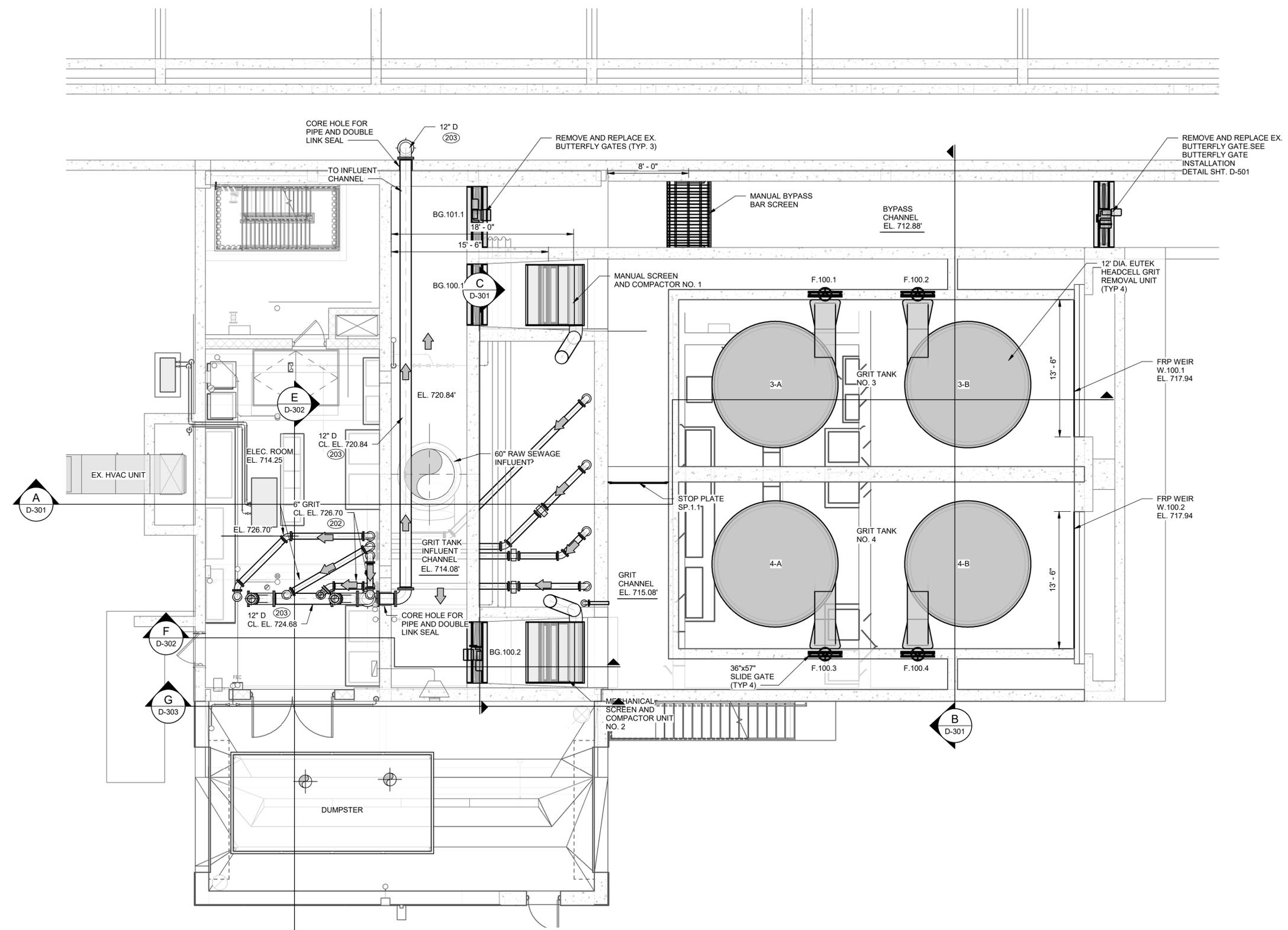
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D-101

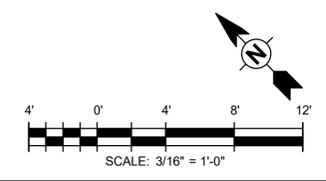
Bar measures 1 inch, otherwise drawing is not to scale

1 2 3 4 5 6 7

F
E
D
C
B
A



GRIT BLDG GRADE PLAN
SCALE: 3/16" = 1'-0"



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CITY OF FLINT, MICHIGAN
FLINT WPC GRIT BAT "B" SYSTEM &
PRIMARY TANKS IMPROVEMENTS
**GRIT BUILDING
GRADE PLAN**

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DESN:	BGB
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CHKD:	MAT

D-102

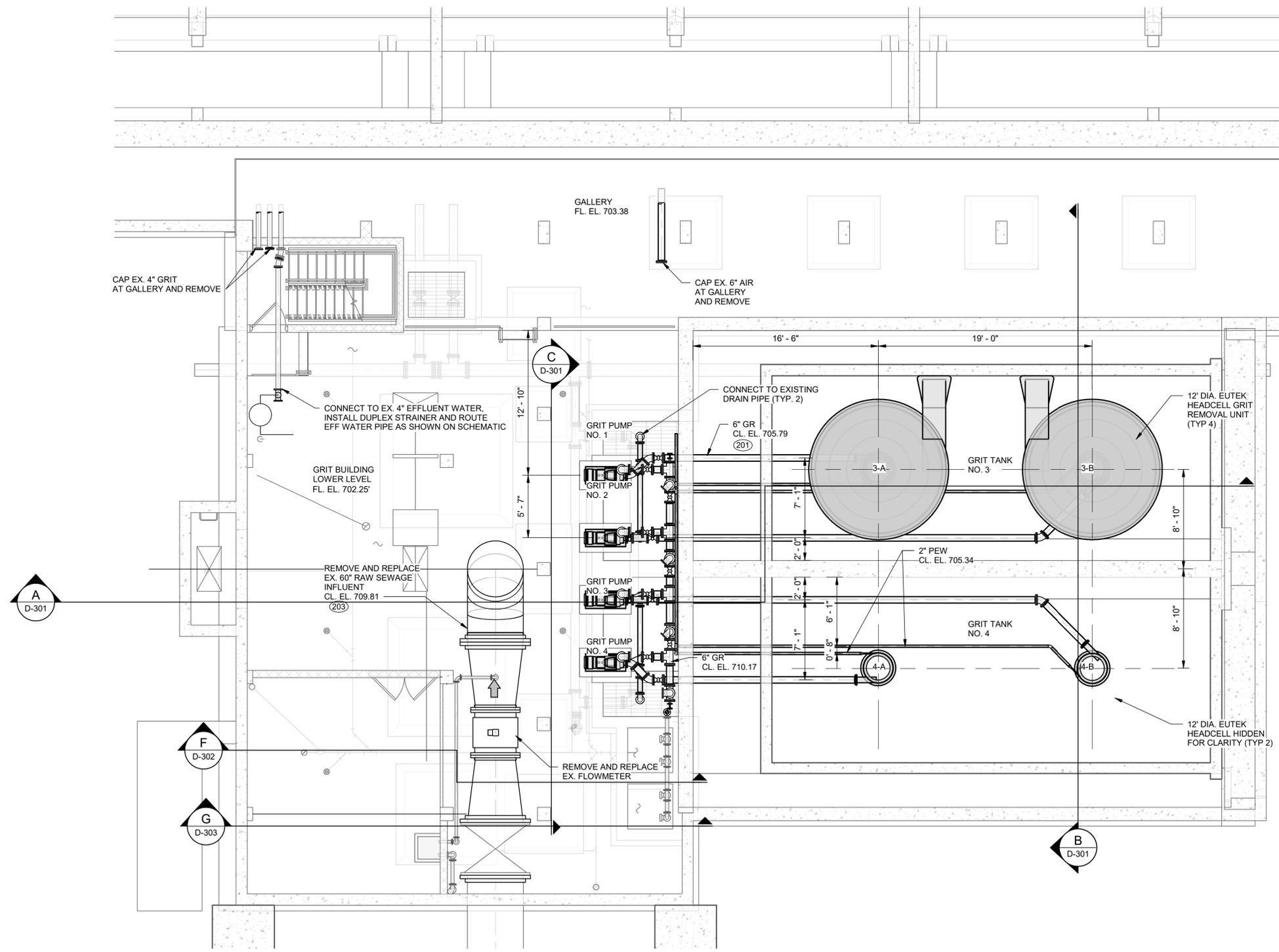
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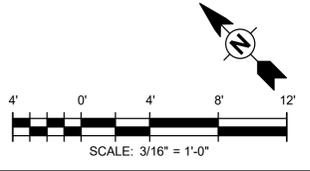
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1 2 3 4 5 6 7

F
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D
C
B
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GRIT BLDG LOW LEVEL PLAN
SCALE: 3/16" = 1'-0"



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GRIT BLDG LOW LEVEL PLAN

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CHKD:	MAT

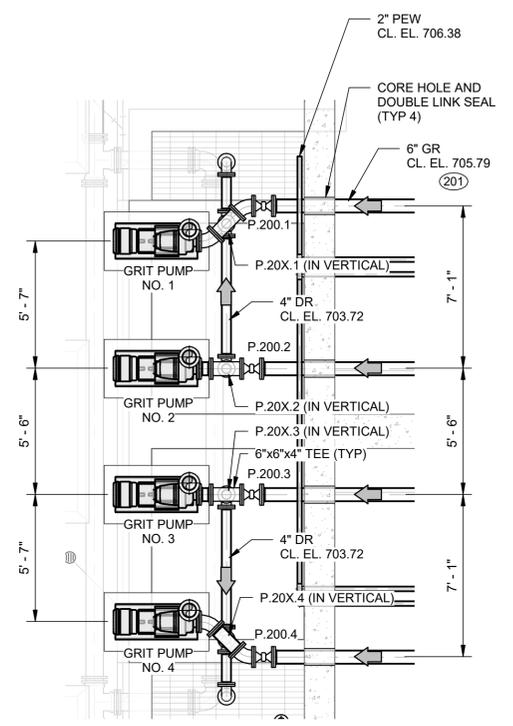
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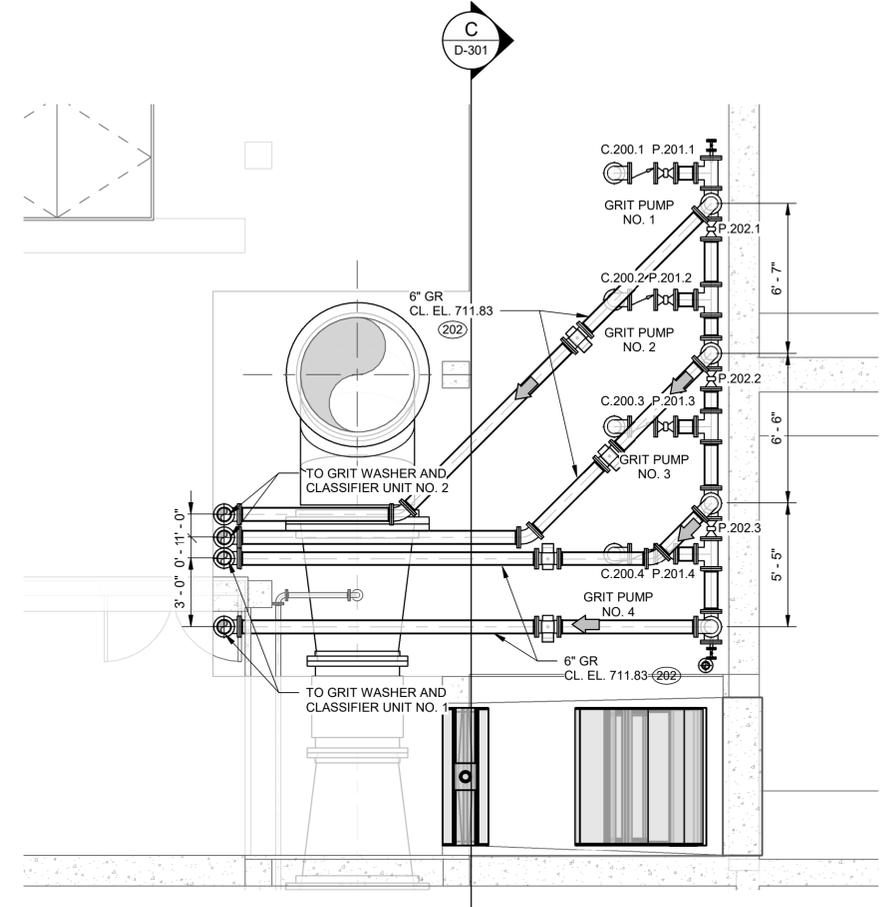
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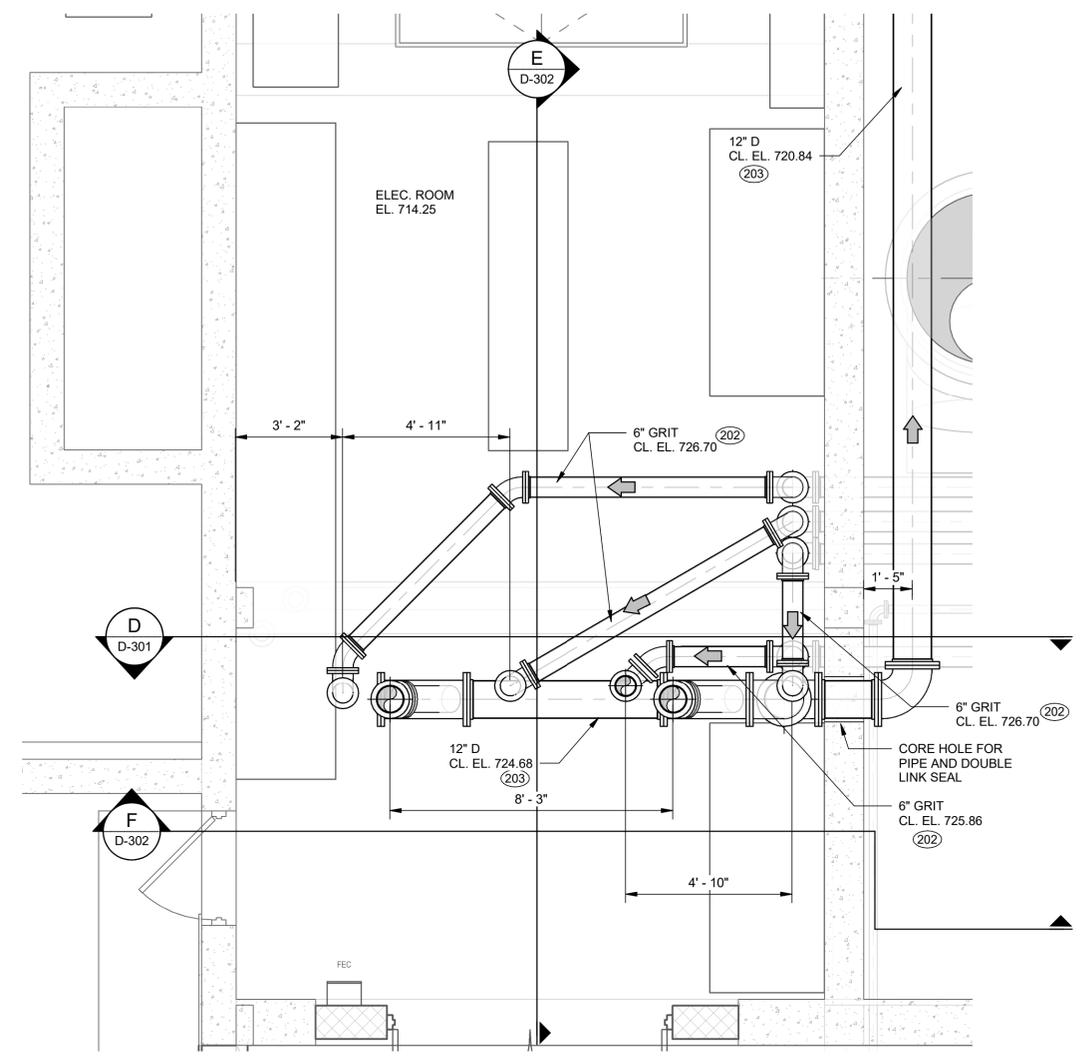
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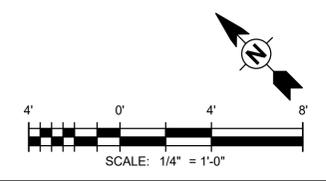
GRIT PUMPS SUCTION PIPING PLAN
SCALE: 1/4" = 1'-0"



GRIT PUMPS DISCHARGE PLAN
SCALE: 1/4" = 1'-0"



GRIT PUMPS DISCHARGE PLAN
SCALE: 3/8" = 1'-0"



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BY

MARK

DATE

DESCRIPTION

1	6/22/21	ISSUED FOR BIDS
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CITY OF FLINT, MICHIGAN

FLINT WPC GRIT BAT "B" SYSTEM & PRIMARY TANKS IMPROVMENTS

GRIT DISCHARGE PIPING PLAN

PROJ: 200-156238-21001

DESN: BGB

DRWN: T.JL

CHKD: MAT

D-104

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Bar measures 1 inch, otherwise drawing is not to scale