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GENERAL NOTES

- A. ALL CONTRACTORS ARE RESPONSIBLE FOR PROVIDING COMPLETE INSTALLATION OF ALL COMPONENTS AND SHALL COORDINATE THEIR SCOPE OF WORK WITH ALL OTHER TRADES PRIOR TO SUBMITTING BIDS TO ENSURE THERE ARE NO MISSING OR DUPLICATE COMPONENTS WITH-IN THEIR SCOPE
- B. DO NOT SCALE DRAWINGS. USE INDICATED DIMENSIONS ONLY.
- C. SHOULD A CONTRACTOR FIND DISCREPANCIES OR AMBIGUITIES IN OR OMISSIONS FROM THE DRAWINGS OR SPECIFICATIONS, OR BE IN DOUBT ABOUT THEIR MEANING, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY.
- D. CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON THE JOB DURING CONSTRUCTION LAYOUT AND ADVISE THE ARCHITECT OF ANY DISCREPANCIES PRIOR TO PERFORMING ANY WORK.
- E. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS ON-SITE AND ADVISING ARCHITECT OF ANY DISCREPANCIES WITH DEMOLITION OR NEW WORK PLANS PRIOR TO PERFORMING ANY WORK.
- F. CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY IF ANY UNFORESEEN STRUCTURAL OR UTILITY RELATED ISSUES ARISE DURING DEMOLITION OR EXCAVATION.
- G. ALL SPECIFIED ITEMS SHALL BE PROVIDED AND INSTALLED PER MANUFACTURERS WRITTEN REQUIREMENT.

BUILDING CODE INFORMATION		PROJECT INFORMATION	
BUILDING CODE	2015 MICHIGAN BUILDING CODE	OCCUPANCY	U
ENERGY CODE	2015 MICHIGAN ENERGY CODE	TYPE OF CONSTRUCTION	II-B
PLUMBING CODE	2015 MICHIGAN BUILDING CODE	SQUARE FOOTAGE	N/A
MECHANICAL CODE	2015 MICHIGAN BUILDING CODE	BUILDING FIRE SPRINKLED	___ NS
ELECTRICAL CODE	2017 MICHIGAN ELECTRICAL CODE	THERMAL	
ADA	2010 MICHIGAN BUILDING CODE		
DESIGN CRITERIA			
SEE STRUCTURAL DRAWINGS FOR STRUCTURAL DESIGN CRITERIA		ASHRAE 90.1 2007 TABLE 5.5-5	
		ROOF STRUCTURE	
		MIN. R-VALUE REQ.	R-20.0 ci
		EXISTING TO REMAIN	R-20.0 ci
		WINDOWS U-FACTOR	
		MAX ALLOWED	0.32
		MAX ALLOWED SHGC	0.40
		DOOR U-FACTOR	
		REQUIRED	2.83
		PROVIDED	0.29

ENERGY CODE REQUIRED

PART 10A MICHIGAN ENERGY CODE

ROOF STRUCTURE
R 408.31098 (C506.1) ENVELOPE ALTERATIONS.
RULE 1098. SECTION 5.1.3 OF THE STANDARD IS AMENDED TO READ AS FOLLOWS:
(5.1.3). ALTERATIONS TO THE BUILDING ENVELOPE SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 5 FOR INSULATION, AIR LEAKAGE, AND FENESTRATION APPLICABLE TO THOSE SPECIFIC PORTIONS OF THE BUILDING THAT ARE BEING ALTERED.

EXCEPTIONS:

5. ROOF RECOVERING.
6.REMOVAL AND REPLACEMENT OF A ROOF MEMBRANE WHERE THERE IS EXISTING ROOF INSULATION INTEGRAL TO OR BELOW THE ROOF DECK.
7.REMOVAL AND REPLACEMENT OF A ROOF MEMBRANE WHERE THE INSULATION IS INSTALLED ENTIRELY ABOVE THE ROOF DECK. A MINIMUM OF R-20 INSULATION SHALL BE PERMITTED WHERE THE PLACEMENT OF ADDITIONAL INSULATION GREATER THAN R-20 INSULATION WOULD REQUIRE EITHER OF THE FOLLOWING:

A. RAISING THE HEIGHT OF PARAPETS, WEEP SYSTEMS, OR THROUGH WALL FLASHINGS WHERE ROOF ABUTS ADJOINING WALLS OR PARAPETS.

B. RAISING THE HEIGHT OF MECHANICAL OR ELECTRICAL EQUIPMENT, MECHANICAL CURBS, ROOF HATCHES, SKYLIGHT CURBS, SERVICE EQUIPMENT, PIPING, CONDUIT, DUCT WORK, ROOF PLATFORMS, LADDERS, STAIRS, GUARD RAILS, EXPANSION JOINTS, ROOF DAVITS, OR DOOR THRESHOLDS.

REROOFING CODE

2015 INTERNATIONAL BUILDING CODE

SECTION 1511

REROOFING

1511.1 GENERAL

MATERIALS AND METHODS OF APPLICATION USED FOR RECOVERING OR REPLACING AN EXISTING ROOF COVERING SHALL COMPLY WITH THE REQUIREMENTS OF CHAPTER 15.

EXCEPTIONS:

1. ROOF REPLACEMENT OR ROOF RECOVER OF EXISTING LOW-SLOPE ROOF COVERINGS SHALL NOT BE REQUIRED TO MEET THE MINIMUM DESIGN SLOPE REQUIREMENT OF ONE-QUARTER UNIT VERTICAL IN 12 UNITS HORIZONTAL (2-PERCENT SLOPE) IN SECTION 1507 FOR ROOFS THAT PROVIDE POSITIVE ROOF DRAINAGE.

2. RECOVERING OR REPLACING AN EXISTING ROOF COVERING SHALL NOT BE REQUIRED TO MEET THE REQUIREMENT FOR SECONDARY (EMERGENCY OVERFLOW) DRAINS OR SCUPPERS IN SECTION 1503.4 FOR ROOFS THAT PROVIDE FOR POSITIVE ROOF DRAINAGE. FOR THE PURPOSES OF THIS EXCEPTION, EXISTING SECONDARY DRAINAGE OR SCUPPER SYSTEMS REQUIRED IN ACCORDANCE WITH THIS CODE SHALL NOT BE REMOVED UNLESS THEY ARE REPLACED BY SECONDARY DRAINS OR SCUPPERS DESIGNED AND INSTALLED IN ACCORDANCE WITH SECTION 1503.4.

ROOF & WINDOW REPLACEMENT

WATER FILTRATION PLANT

MUSKEGON, MI

PROJECT ADDRESS

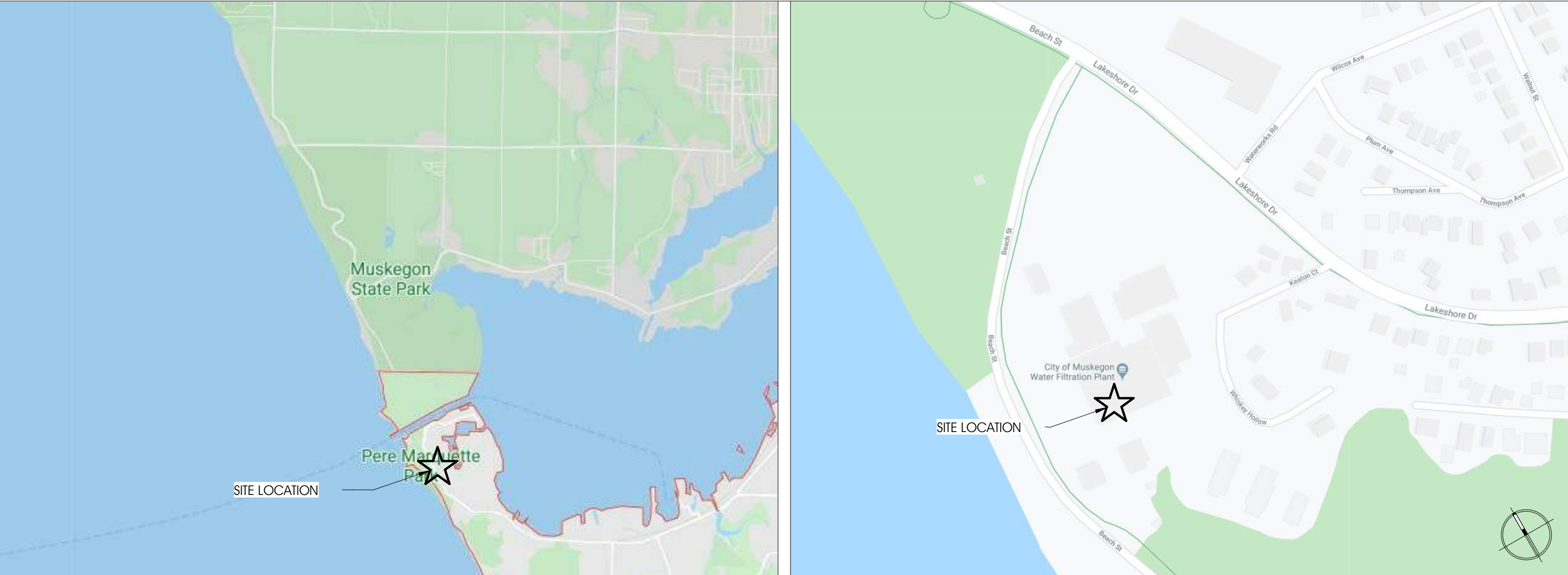
1900 BEACH STREET

MUSKEGON,MI 49441

PERSPECTIVE VIEW



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PROJECT SCOPE

- CLARIFIER BUILDING (BUILDING 11)**
- REMOVE EXISTING ROOF AND REPLACE
 - REPLACE ALL WINDOWS AND LINTELS ABOVE WINDOWS
 - BRICK RESTORATION AND REPLACEMENT
 - INTERIOR STRUCTURAL REPAIRS
- NORTH FILTER BUILDING (BUILDING 3)**
- REMOVE EXISTING ROOF AND REPLACE
 - REPLACE MAIN LEVEL WINDOWS
 - REPLACE ALL EXISTING GLASS BLOCK WINDOWS WITH CLEAR GLASS WINDOWS
 - REPLACE LINTELS ABOVE EXISTING WINDOWS
 - BRICK RESTORATION/REPLACEMENT AND LINTEL REPLACEMENT
 - INTERIOR STRUCTURAL REPAIRS
- SOUTH FILTER (BUILDING 5)**
- REPLACE HIGH CLERESTORY WINDOWS
 - REPLACE LINTELS ABOVE EXISTING WINDOWS
- HIGH SERVICE (BUILDING 1)**
- REPLACE HIGH WINDOWS
- STEEL LINTELS** - FOLLOWING OUR STRUCTURAL REVIEW A MAJORITY OF THE STEEL LINTELS NEED TO BE REPLACED. THIS INCLUDES THE STEEL ANGLES ABOVE THE STONE PANELS. TO REMOVE AND REPLACE THE LINTELS AND ANGLES THE BRICK ABOVE WILL EITHER HAVE TO BE SUPPORTED WITH PINS OR REMOVED AND REPLACED.
- WATER FILTRATION PLANT**
- CLARIFIER & NORTH FILTER BUILDING:** REMOVE & REPLACE EXISTING ROOF
 - CLARIFIER, NORTH FILTER, SOUTH FILTER AND HIGH SERVICE BUILDING:** MASONRY TUCK POINTING OR REPLACEMENT, STONE PANEL REPAIRS, REPLACEMENT OF LINTELS,SUPPORT ANGLES, AND REPLACEMENT OF EXISTING WINDOWS.
 - CLARIFIER & NORTH FILTER BUILDING:** INTERIOR STRUCTURAL REPAIRS
 - CLARIFIER, NORTH FILTER, AND SOUTH FILTER BUILDING:** MECHANICAL AND PLUMBING
- EPDM ROOFING ALTERNATE:**
FULLY ADHERED SYSTEM FOR INSULATION AND MEMBRANE. NO MECHANICAL ATTACHMENT OF INSULATION TO CONC. DECKING. 60 MIL MEMBRANE THICKNESS. TAPERED INSULATION SYSTEM OVER THE ENTIRE ROOF - PROVIDE A MINIMUM OF 15 YEAR TOTAL SYSTEM WARRANTY. IF TAPERED INSULATION ADDS HEIGHT TO ROOF INSULATION SYSTEM THICKNESS, PROVIDE ADDITIONAL TREATED WOOD BLOCKING AT ROOF EDGE AS REQUIRED, ADD INCREASED HEIGHT OF FASCIA SYSTEM TO CONCEAL BLOKING.

PROJECT TEAM



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South Haven
Valparaiso

Engineering, Architecture, Land Surveying

CITY OF MUSKEGON
WATER FILTRATION PLANT
1900 BEACH STREET
MUSKEGON,MI 49441

PROJECT:

TITLE SHEET

SHEET TITLE:

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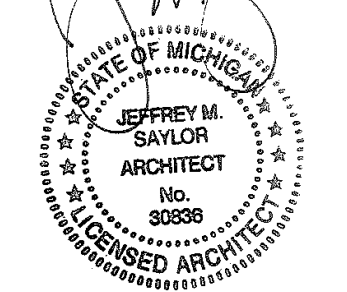
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ACI JOB # 19-1436B

SHEET NO.

T1.1

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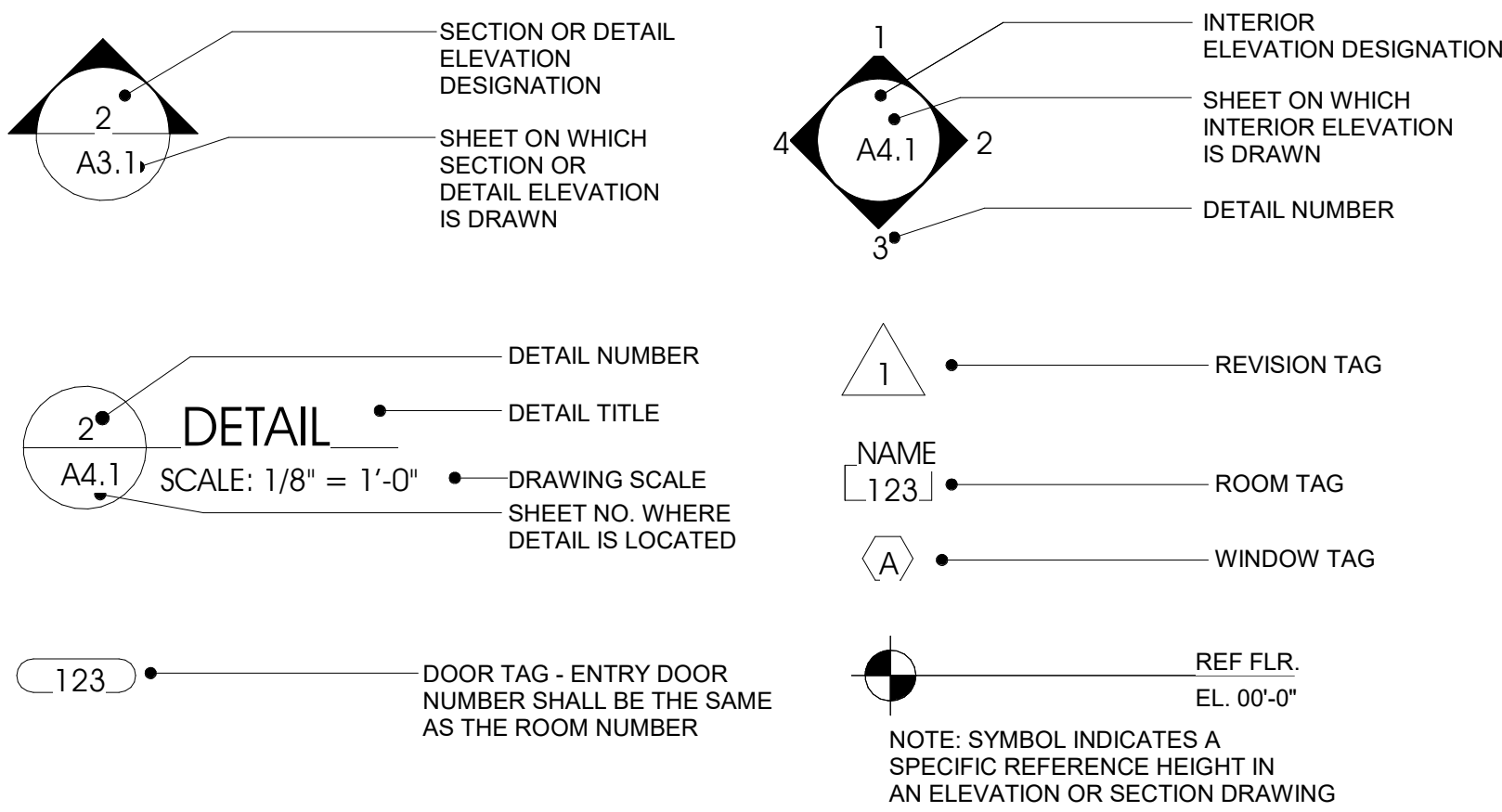
PLAN ABBREVIATIONS

A.C.	AIR CONDITIONING	FIN.	FINISH	PLYW.	PLYWOOD
ADJ.	ADJACENT	F.D.	FLOOR DRAIN	P.L.	PROPERTY LINE
A.F.F.	ABOVE FIN. FLOOR	FT.	FOOT/FEET	PNL.	PANEL
AL.	ALUMINUM	FTG.	FOOTING	PR.	PAIR
APPROX.	APPROXIMATE	FDN.	FOUNDATION	P.S.F.	POUNDS PER S.F.
ARCH. &	ARCHITECT	FURN.	FURNACE	P.S.I.	POUNDS PER S.I.
BM.	BEAM	GALV.	GALVANIZED	P.T.	PRESSURE TREATED
B.M.	BENCH MARK	GA	GAUGE	P.V.C.	POLYVINYL CHLORIDE
BRG.	BEARING	G.C.	GENERAL CONTRACTOR	PVMT.	PAVEMENT
BTUM.	BITUMINOUS	GL.	GLASS	Q.T.	QUARRY TILE
BLKG.	BLOCKING	GR.	GRADE	RAD.	RADIUS
BD.	BOARD	GYP.	GYPSUM	R.A.	RETURN AIR
BOT.	BOTTOM	H.C.	HOLLOW CORE	R. & G.	ROD & GROUT
B.O.F.	BOTTOM OF FOOTING	HDWE.	HARDWARE	R.D.	ROOF DRAIN
BLDG.	BUILDING	H.M.	HOLLOW METAL	REINF.	REINFORCING
C/C	CENTER TO CENTER	HORIZ.	HORIZONTAL	REQD.	REQUIRED
C.B.	CATCH BASIN	H.P.	HIGH POINT	R.H.	RIGHT HAND
CEM.	CEMENT	HVAC	HEATING/VENTING/AIR COND.	RM.	ROOM
CER.	CERAMIC	HT., H.	HEIGHT/HIGH	R.O.	ROUGH OPENING
C.I.	CAST IRON	HW.	HARDWOOD	RND.	ROUND
C.I.P.	CAST IN PLACE	I.D.	INSIDE DIAMETER	S.A.	SUPPLY AIR
C.J.	CONTROL JOINT	INSUL.	INSULATION	S.C.	SOLID CORE
CLG.	CEILING	INT.	INTERIOR	SCHED.	SCHEDULE
CL	CENTERLINE	INV.	INVERT	SEC.	SECTION
CLO.	CLOSET	LAM.	LAMINATED	S.F.	SQUARE FOOT
C.M.U.	CONCRETE MASONRY UNIT	L.H.	LEFT HAND	SHT., SH.	SHEET
C.O.	CLEAN OUT	LN.	LINEAR	S.I.	SQUARE INCH
COL.	COLUMN	L.L.	LIVE LOAD	SIM.	SIMILAR
CONTR.	CONTRACTOR	L.P.	LOW POINT	SPEC.	SPECIFICATIONS
CONC.	CONCRETE	MAS.	MASONRY	SQ.	SQUARE
CONN.	CONNECTION	MAT.	MATERIAL	STOR.	STORAGE
CONT.	CONTINUOUS	MAX.	MAXIMUM	STL.	STEEL
CPT.	CARPET	MET.	METAL	STRUCT.	STRUCTURAL
C.S.	CARPET STRIP	M.T.	MARBLE THRESHOLD	SUSP.	SUSPEND(ED)
C.T.	CERAMIC TILE	MTD.	MOUNTED	T & B	TOP & BOTTOM
D.	DEAD LOAD	MECH.	MECHANICAL	TEL.	TELEPHONE
D.L.	DEEP/DEPTH	MFR.	MANUFACTURER	TG.	TEMPERED GLASS
DET.	DETAIL	M.H.	MANHOLE	T & G	TONGUE & GROOVE
DIA.	DIAMETER	MIN.	MINIMUM	THK.	THICKNESS
DIM.	DIMENSION	MISC.	MISCELLANEOUS	T.O.	TOP OF
DN.	DOWN	M.O.	MASONRY OPENING	T.O.C.	TOP OF CONCRETE
DWG.	DRAWING	MR.	MIRROR	T.O.F.	TOP OF FOOTING
EA.	EACH	N.I.C.	NOT IN CONTRACT	T.O.S.	TOP OF STEEL
ELEC.	ELECTRIC(AL)	NO., #	NUMBER	T.O.W.	TOP OF WALL
ELEV., EL.	ELEVATION	NOM.	NOMINAL	TYP.	TYPICAL
E.W.	EACH WAY	N.T.S.	NOT TO SCALE	U.N.O.	UNLESS NOTED OTHERWISE
E.Q.	EQUAL	#	NUMBER/POUND	VERT.	VERTICAL
EXP.	EXPANSION	O.A.	OVERALL	VCT.	VINYL COMPOSITION TILE
E.J.	EXPANSION JOINT	O.C.	ON CENTER	VWC.	VINYL WALL COVERING
EXIST.	EXISTING	O.D.	OUTSIDE DIAMETER	W.C.	WATER CLOSET
EXT.	EXTERIOR	O.H.	OVERHEAD	WCT.	WAINSCOAT
EQUIP.	EQUIPMENT	OPNG.	OPENING	WH.	WATER HEATER
F.O.B.	FACE OF BRICK	OPP. HD.	OPPOSITE HAND	WD.	WOOD
F.O.C.	FACE OF CONCRETE	PTN.	PARTITION	WWF.	WELDED WIRE FABRIC
F.O.M.	FACE OF MASONRY	P.C.	PRECAST	W/	WITH
F.O.S.	FACE OF STUD	PLAM.	PLASTIC LAMINATE	W/O	WITHOUT
		PLAS.	PLASTER	XFMR.	TRANSFORMER

MATERIAL LEGEND

EARTH OR GRADE	
COMPACT FILL	
CONCRETE	
CONCRETE BLOCK	
PLYWOOD	
MASONRY BRICK	
STONE	
STEEL	
FINISH WOOD	
ROUGH WOOD	
WOOD BLOCKING	
RIGID INSULATION	
BATT/LOOSE INSULATION	
GYPSUM BOARD	
CERAMIC TILE	
FACE BRICK	

GENERAL GRAPHIC REFERENCE SYMBOLS



PROJECT:

CITY OF MUSKEGON
WATER FILTRATION PLANT
1900 BEACH STREET
MUSKEGON, MI 49441

SHEET TITLE:

REFERENCE SHEET

MODELED BY: JLF

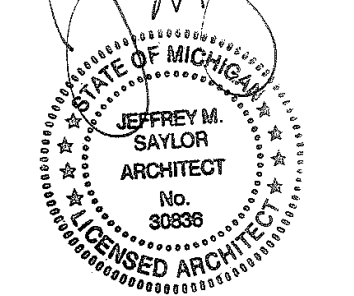
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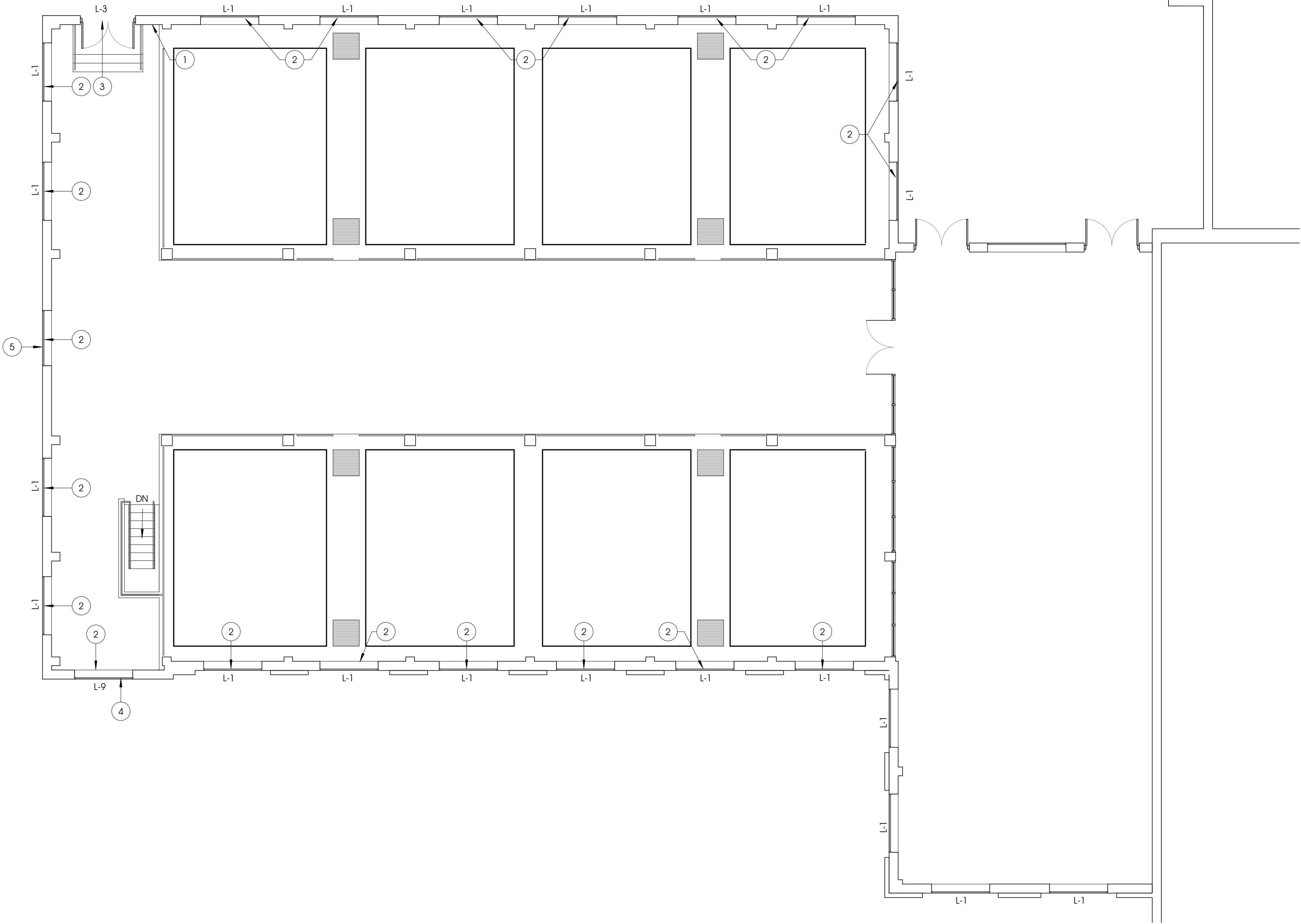
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1 NORTH FILTER BUILDING - MAIN FLOOR PLAN
S1.1 1/8" = 1'-0"

LINTEL SCHEDULE			
MARK	SIZE	CROSS-SECTION	REMARKS
L1	L6x4x5/16" (GALVANIZED)		REMOVE EXISTING ANGLE. REPLACE WITH NEW ANGLE. ATTACH TO EXISTING BEAM WITH EXISTING WEDGE ANCHORS. CONTACT ARCHITECT IF ANCHORS ARE CORRODED
L2	L5x3 1/2x5/16" (GALVANIZED)		REMOVE EXISTING ANGLE. REPLACE WITH NEW ANGLE. ATTACH TO EXISTING BEAM WITH EXISTING WEDGE ANCHORS. CONTACT ARCHITECT IF ANCHORS ARE CORRODED
L3	EXTERIOR: L4x3 1/2x5/16 (GALVANIZED) INTERIOR: L7x4x3/8		INTERIOR ANGLE TO REMAIN. CLEAN AND PAINT INTERIOR ANGLE. REPLACE EXTERIOR ANGLE
L4	EXTERIOR: L6x3 1/2x5/16 (GALVANIZED) EXISTING INTERIOR ANGLE		INTERIOR ANGLE TO REMAIN. CLEAN AND PAINT INTERIOR ANGLE. REPLACE EXTERIOR ANGLE. CONTACT ARCHITECT IF EXISTING LINTEL IS NOT A DOUBLE ANGLE SECTION
L5	(2)-L6x4x5/16 (GALVANIZED)		REPLACE EXISTING WHEN REPLACING WINDOWS
L6	(2)-L6x6x3/8 w/ WELDED 5/16 PLATE (GALVANIZED)		REPLACE EXISTING WHEN REPLACING WINDOWS
L7	(2)-L6x6x5/16 (GALVANIZED)		REPLACE EXISTING WHEN REPLACING WINDOWS
OPTIONAL LINTEL FOR L6 & L7	HHS 5X4X1/4 W/ 5/16X12 PLATE		REPLACE EXISTING WHEN REPLACING WINDOWS

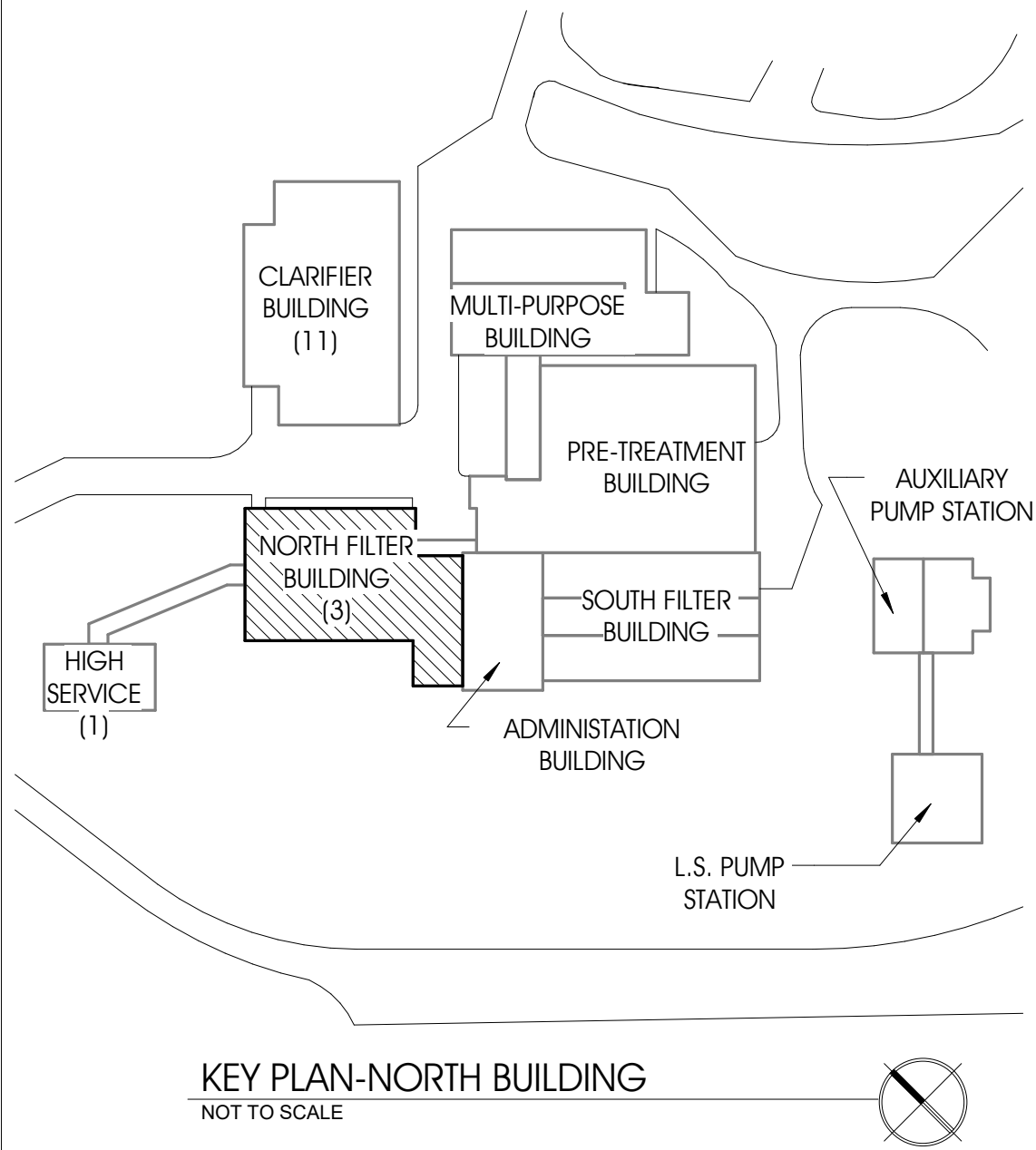
- NOTES:
1. PROVIDE MIN. 8" OF BEARING FOR EACH END OF ALL LINTELS
 2. IF LINTEL BEARING IS ADJACENT TO A VERTICAL BRICK CONTROL JOINT, PROVIDE METAL FLASHING ABOVE AND BELOW LINTEL BEARING AND PROVIDE COMPRESSIBLE FILLER AT END OF BEARING PER THE BRICK INDUSTRY ASSOCIATION TECHNICAL NOTE 1-8A.
 3. ALL LINTELS LABELED AS GALVANIZED MUST BE HOT-DIP GALVANIZED PER ASTM A153 SPECIFICATIONS.
 4. ALL ANGLES MUST MEET ASTM A36 STEEL SPECIFICATIONS. (MIN. F = 36 KSI)
 5. LINTEL IS ASSUMED SIZE BASED UPON FIELD OBSERVATION. THE CONTRACTOR TO ENGINEER OF RECORD/ARCHITECT ONCE THE EXISTING VEENER IS REMOVED AND THE LINTEL IS UNCOVERED.
 6. GALVINIZED STEEL DRIP ANGLE TYP. ON EXTERIOR

GENERAL NOTES - N. FILTER BUILDING INT.

- A. REBAR CHAIRS & TIES CORRODING AT CONCRETE BEAMS TYP. CLEAN, REPAIR & RE-PAINT
- a. REPAIR CONCRETE w/ EUCLID CHEMICAL EUCO REPAIR V100 LOW SHRINKAGE, FIBER REINFORCED, NSF/ANSI STANDARD 61 CERTIFIED VERTICAL & OVERHEAD REPAIR MORTAR
- b. COATING FOR EXPOSED REINFORCING STEEL. EUCLID CHEMICAL DURALPREP A.C. BONDING AGENT AND ANTI-CORROSION COATING
- B. CLEAN & RE-PAINT PEELING PAINT ON FLOOR
- C. BROKEN GROUT JOINTS AT SOUTH END BETWEEN PRECAST CEILING PLANKS - REMOVE EXISTING GROUT AND RE-GROUT AS REQUIRED
- D. CLEAN SEAL & RE-PAINT EXISTING CORRODED PIPE HANGERS
- E. CLEAN & RE-PAINT CORRODED FAN COILS/FRAMES AT CEILING/ROOF
- F. TUCK POINT OF CMU MORTAR JOINTS ITO BE N ACCORDANCE NCMA NOTES TEK 8-1A
- G. SEE DEMOLITION ELEVATIONS PLANS FOR LINTEL DETAILS ON OTHER BUILDING AREAS
- H. SEE SHEET S2.1 FOR LINTEL SCHEDULE

KEYNOTE- N. FILTER INTERIOR

- 1 REPLACE CRACKED & DAMAGED CMU BLOCKS, MATCH EXISTING CMU BLOCKS, TUCKPOINT DETERIORATED MORTAR JOINTS.
- 2 TUCKPOINT DETERIORATED MORTAR JOINTS AROUND WINDOWS, REPLACE CRACKED/DAMAGED CMU BLOCK, MATCH EXISTING CMU BLOCKS.
- 3 CLEAN CORRODED STEEL LINTEL AT INTERIOR, SEAL & RE-PAINT
- 4 EXISTING LINTEL SIZE UNKNOWN, UNCOVER EXISTING LINTEL AND CONTACT ARCHITECT W/ EXISTING SIZE
- 5 REMOVE BRICK TO EXPOSE STEEL BOTTOM PLATE ATTACHED TO 20" LONG W14 BEAM. CLEAN SEAL & REPAINT EXISTING BRICK SUPPORT PLATE AND REPLACE THRU-WALL FLASHING, REPLACE REMOVED BRICK WITH MATCHING BRICK



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Engineering Architecture Land Surveying

CITY OF MUSKEGON
WATER FILTRATION PLANT
1900 BEACH STREET
MUSKEGON, MI 49441

PROJECT:

NORTH FILTER - MAIN FLOOR
PLAN

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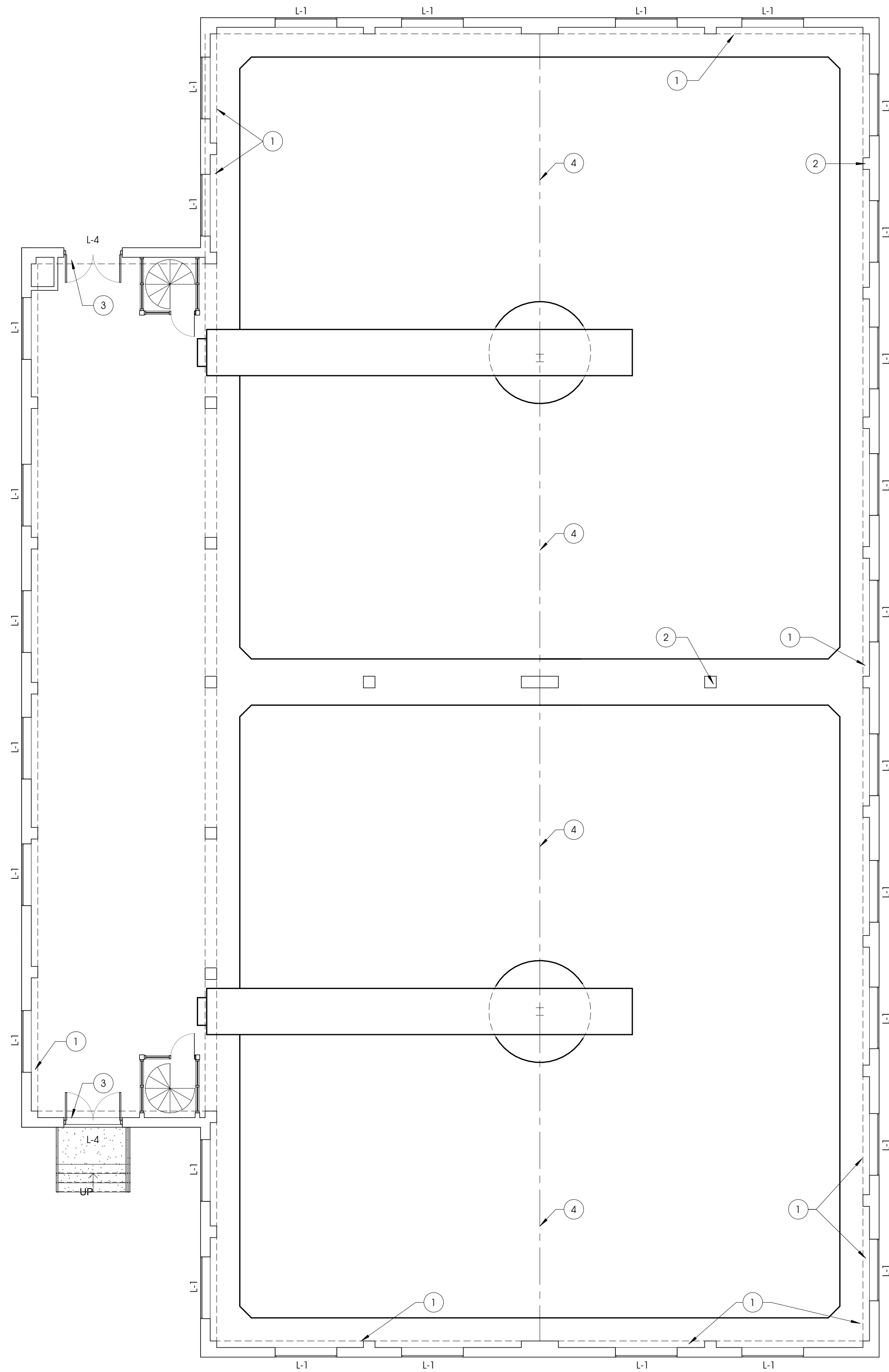
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1 CLARIFIER BUILDING - MAIN FLOOR PLAN
S2.1 1/8" = 1'-0"

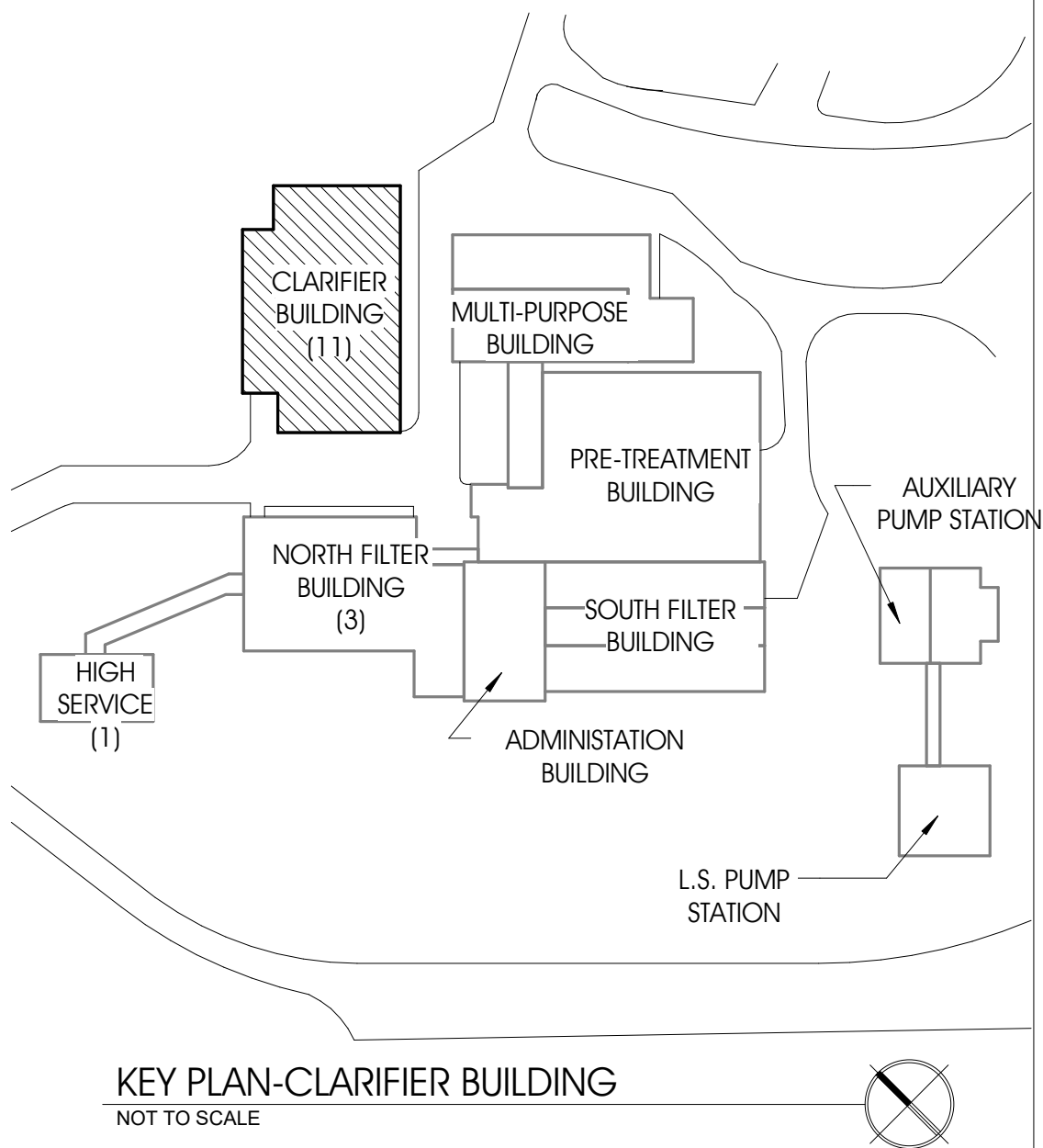
LINTEL SCHEDULE			
MARK	SIZE	CROSS-SECTION	REMARKS
L1	L6x4x5/16" (GALVANIZED)		REMOVE EXISTING ANGLE. REPLACE WITH NEW ANGLE. ATTACH TO EXISTING BEAM WITH EXISTING WEDGE ANCHORS. CONTACT ARCHITECT IF ANCHORS ARE CORRODED
L2	L5x3 1/2x5/16" (GALVANIZED)		REMOVE EXISTING ANGLE. REPLACE WITH NEW ANGLE. ATTACH TO EXISTING BEAM WITH EXISTING WEDGE ANCHORS. CONTACT ARCHITECT IF ANCHORS ARE CORRODED
L3	EXTERIOR: L4x3 1/2x5/16 (GALVANIZED) INTERIOR: L7x4x3/8		INTERIOR ANGLE TO REMAIN. CLEAN AND PAINT INTERIOR ANGLE. REPLACE EXTERIOR ANGLE
L4	EXTERIOR: L6x3 1/2x5/16 (GALVANIZED) EXISTING INTERIOR ANGLE		INTERIOR ANGLE TO REMAIN. CLEAN AND PAINT INTERIOR ANGLE. REPLACE EXTERIOR ANGLE. CONTACT ARCHITECT IF EXISTING LINTEL IS NOT A DOUBLE ANGLE SECTION
L5	(2)-L6x4x5/16 (GALVANIZED)		REPLACE EXISTING WHEN REPLACING WINDOWS
L6	(2)-L6x6x3/8 w/ WELDED 5/16 PLATE (GALVANIZED)		REPLACE EXISTING WHEN REPLACING WINDOWS
L7	(2)-L6x6x5/16 (GALVANIZED)		REPLACE EXISTING WHEN REPLACING WINDOWS
OPTIONAL LINTEL FOR L6 & L7	HHS 5X4X1/4 W/ 5/16X12 PLATE		REPLACE EXISTING WHEN REPLACING WINDOWS
NOTES: 1. PROVIDE MIN. 8" OF BEARING FOR EACH END OF ALL LINTELS 2. IF LINTEL BEARING IS ADJACENT TO A VERTICAL BRICK CONTROL JOINT, PROVIDE METAL FLASHING ABOVE AND BELOW LINTEL BEARING AND PROVIDE COMPRESSIBLE FILLER AT END OF BEARING PER THE BRICK INDUSTRY ASSOCIATION TECHNICAL NOTE 18A. 3. ALL LINTELS LABELED AS GALVANIZED MUST BE HOT-DIP GALVANIZED PER ASTM A153 SPECIFICATIONS. 4. ALL ANGLES MUST MEET ASTM A36 STEEL SPECIFICATIONS. (MIN. F = 36 KSI) 5. LINTEL IS ASSUMED SIZE BASED UPON FIELD OBSERVATION. THE CONTRACTOR TO ENGINEER OF RECORD/ARCHITECT ONCE THE EXISTING VEENER IS REMOVED AND THE LINTEL IS UNCOVERED. 6. GALVINIZED STEEL DRIP ANGLE TYP. ON EXTERIOR			

GENERAL NOTES - CLARIFIER INTERIOR

- A. REBAR CHAIRS & TIES CORRODING AT CONCRETE BEAMS TYP. CLEAN, REPAIR & RE-PAINT
- a. REPAIR COONCRETE w/ EUCLID CHEMICAL EUCO REPAIR V100 LOW SHRINKAGE, FIBER REINFORCED, NSF/ANSI STANDARD 61 CERTIFIED VERTICAL & OVERHEAD REPAIR MORTAR
- b. COATING FOR EXPOSED REINFORCING STEEL. EUCLID CHEMICAL DURALPREP A.C. BONDING AGENT AND ANTI-CORROSION COATING
- B. CLEAN & RE-PAINT PEELING PAINT ON FLOOR
- C. BROKEN GROUT JOINTS AT EAST/WEST END BETWEEN PRECAST CEILING PLANKS - REMOVE EXISTING GROUT AND RE-GROUT AS REQUIRED FROM APPROVED
- D. CLEAN SEAL & RE-PAINT EXISTING CORRODED PIPE HANGERS
- E. CLEAN & RE-PAINT CORRODED FAN COILS/FRAMES AT CEILING/ROOF

KEYNOTES - CLARIFIER INTERIOR

- 1 EXISTING STRUCTURAL BEAM SPALLING (ABOVE). REMOVE DETERIORATED CONCRETE. CLEAN ALL EXPOSED REINFORCING STEEL & COAT WITH DURALAPPED A.C., PATCH SPALLED AREA WITH EUCLID CHEMICAL EUCO. REPAIR V100 OVERHEAD REPAIR MORTAR, INSTALL BONDING AGENT & REPAIR MORTAR PER MANUFACTURER'S SPECIFICATIONS. CONTACT ARCHITECT IF ANY REINFORCING HAS LOST MORE THAN 20% OF CROSS SECTIONAL AREA.
- 2 EXISTING STRUCTURAL COLUMNS SPALLING AT BASE. REMOVE DETERIORATED CONCRETE. CLEAN ALL EXPOSED REINFORCING STEEL & COAT WITH DURALAPPED A.C., PATCH SPALLED AREA WITH EUCLID CHEMICAL EUCO. REPAIR V100 OVERHEAD REPAIR MORTAR, INSTALL BONDING AGENT & REPAIR MORTAR PER MANUFACTURER'S SPECIFICATIONS. CONTACT ARCHITECT IF ANY REINFORCING HAS LOST MORE THAN 20% OF CROSS SECTIONAL AREA.
- 3 EXISTING INTERIOR LINTEL ABOVE EXISTING DOOR TO BE CLEANED, RE-PAINTED AND RE-SEAL EXPOSED INTERIOR LINTEL
- 4 CLEAN SEAL & RE-PAINT STEEL BEAMS.



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PROJECT:

CITY OF MUSKEGON
WATER FILTRATION PLANT
1900 BEACH STREET
MUSKEGON, MI 49441

CLARIFIER - MAIN FLOOR PLAN

SHEET TITLE:

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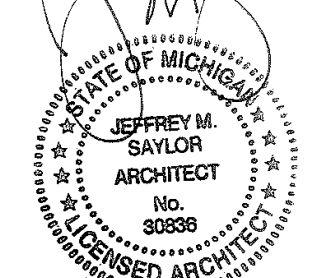
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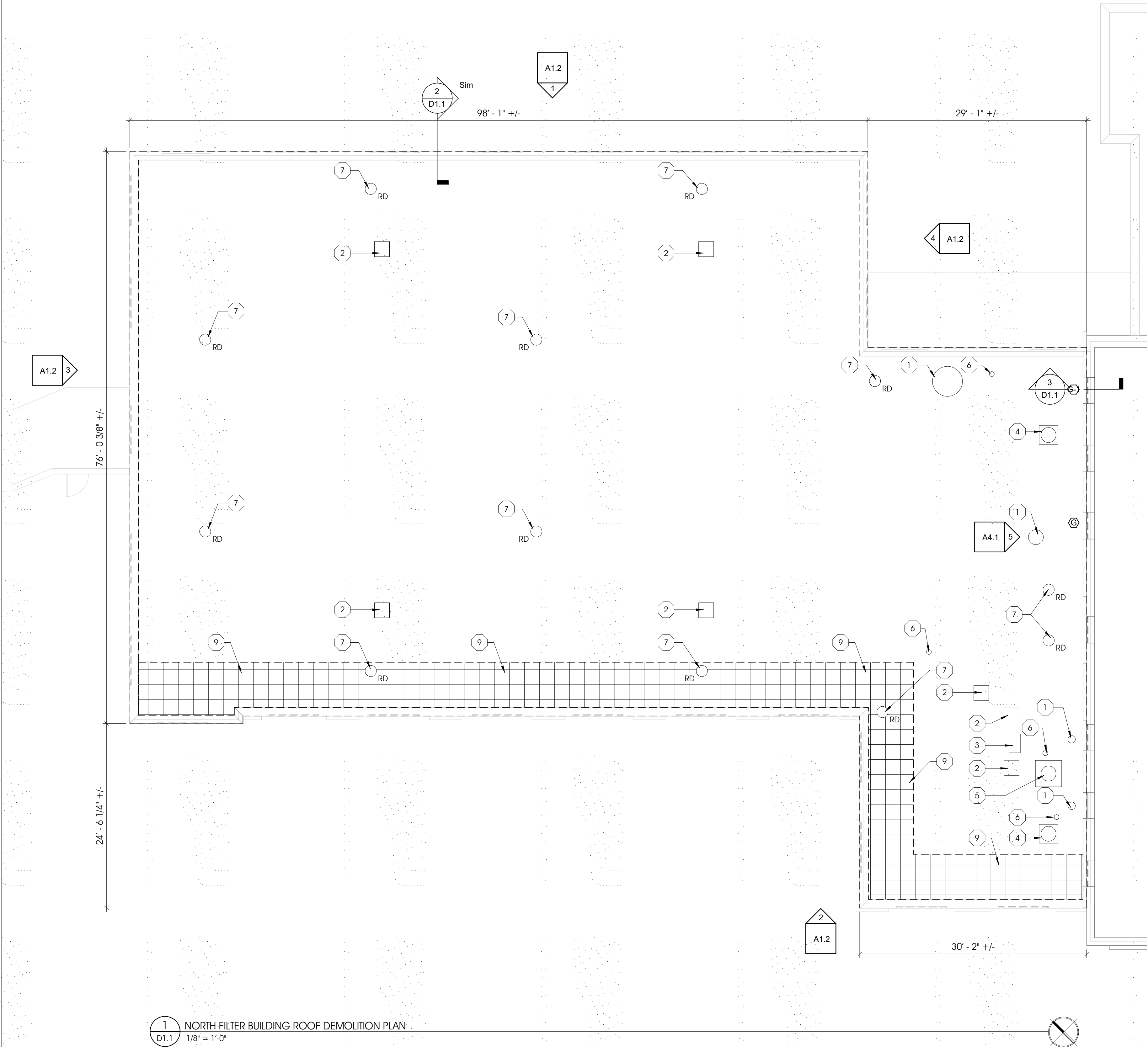
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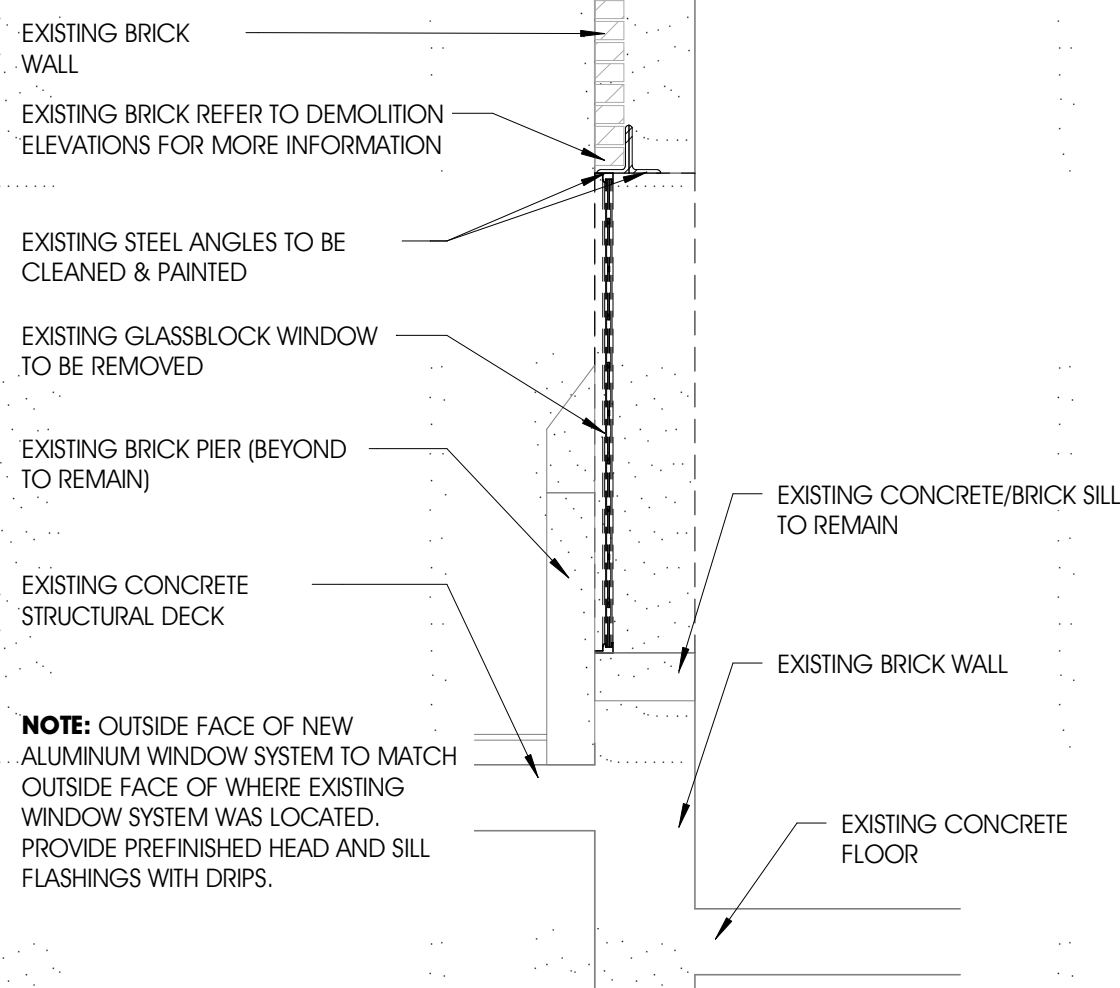
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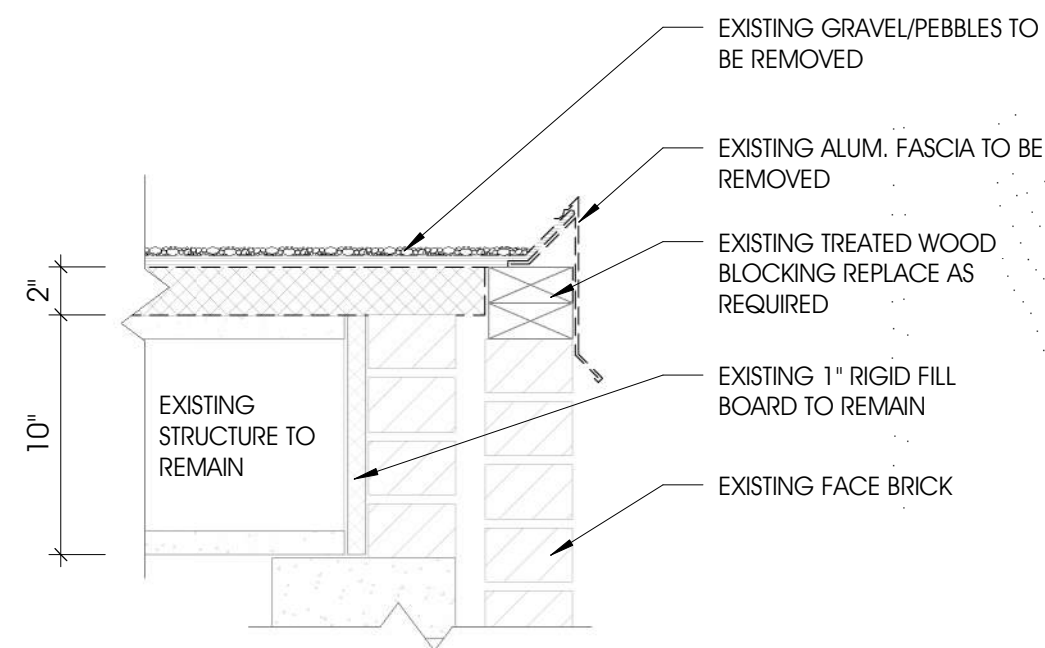
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1 NORTH FILTER BUILDING ROOF DEMOLITION PLAN
1/8" = 1'-0"



3 SECTION @ GLASSBLOCK WINDOW
1/2" = 1'-0"



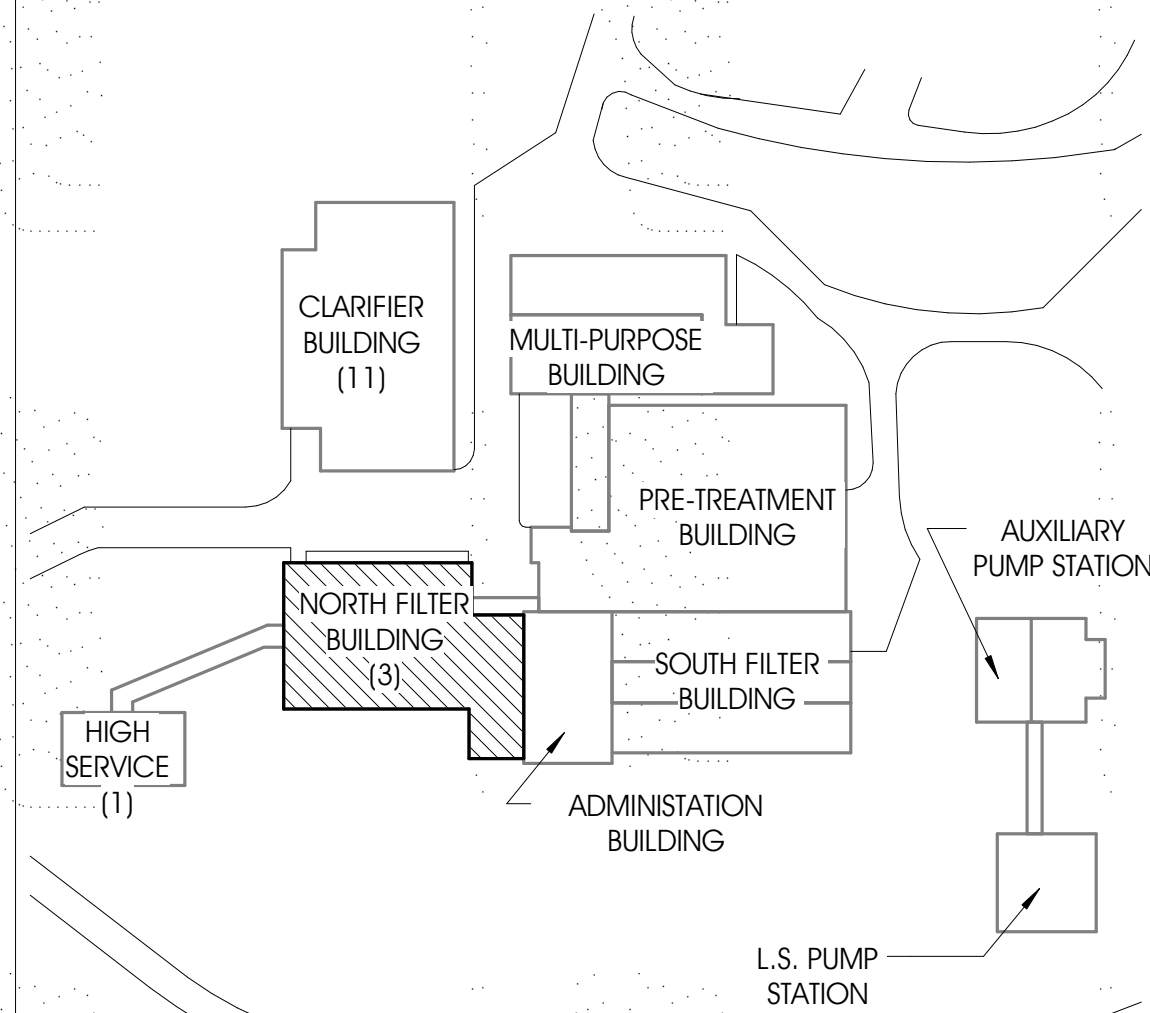
2 SECTION @ EXISTING FASCIA DETAIL
1 1/2" = 1'-0"

GENERAL NOTE - ROOF DEMOLITION

- REMOVE EXISTING ROOF BALLAST & DISPOSE OF OFF-SITE. STAGE REMOVAL TO AVOID OVER-LOADING ROOF STRUCTURE IN ANY ONE AREA
- SITE TO BE CLEAN & MAINTAIN DAILY TO ENSURE DAY-TO-DAY OPERATIONS OF THE WATER PLANT CAN CONTINUE TO OPERATED DURING CONSTRUCTION
- CUT EXISTING ROOFING & INSULATION INTO SECTIONS FOR REMOVAL DOWN TO EXISTING DECK & DISPOSE OF OFF-SITE. CUT ONLY THE AREAS THAT CAN BE REMOVED DURING ONE WORK DAY. PROTECT AREAS THAT ARE LEFT EXPOSED FROM THE WEATHER AS REQUIRED.
- CAREFULLY REMOVE EXISTING PERIMETER FLASHING FROM AREAS OF ROOF WORK - TAKE CARE TO NOT DAMAGE THE EXISTING ADJACENT MATERIALS
- PROTECT EXISTING ROOF TOP EQUIPMENT OR ACCESSORIES DURING ROOFING REMOVAL, INCLUDING MECH. UNITS, FANS, DRAINS, VENTS, CURBS, ETC.
- VERIFY CONDITION OF EXISTING DECK - NOTIFY ARCHITECT OF ANY DAMAGED DECK AREAS THAT REQUIRE REPAIR OR REPLACEMENT. DAMAGED AREAS OF DECK TO BE REVIEWED BY ARCHITECT OR STRUCTURAL ENGINEER PRIOR TO ANY NEW WORK. REPAIRS TO DAMAGED DECK AREAS TO BE PERFORMED ON A CASE BY CASE BASIS PER ARCHITECT OR ENGINEERS DIRECTION
- VERIFY CONDITION OF EXISTING PERIMETER BLOCKING - NOTIFY ARCHITECT OF ANY DAMAGED OR DETERIORATED BLOCKING THAT REQUIRES REPAIR OR REPLACEMENT. BLOCKING REPLACEMENT SHALL BE PERFORMED PER LINEAL FOOT COST PROVIDED IN BID
- VERIFY CONDITION OF EXISTING WOOD ROOF CURBS EXPOSED DURING ROOF WORK - NOTIFY ARCHITECT OF ANY DAMAGED OR DETERIORATED WOOD THAT REQUIRES REPAIR OR REPLACEMENT - CURB REPLACEMENT SHALL BE PERFORMED PER LINEAL FOOT COST PROVIDED IN BID
- VERIFY CONDITION OF EXISTING WOOD SLEEPERS SUPPORTING MECH. EQUIPMENT. NOTIFY ARCHITECT OF ANY DAMAGED OR DETERIORATED WOOD THAT REQUIRES REPAIR OR REPLACEMENT - SLEEPER REPLACEMENT SHALL BE PERFORMED PER LINEAL FOOT COST PROVIDED IN BID
- VERIFY CONDITION OF EXISTING ROOF DRAINS, SCREENS & PIPING. NOTIFY ARCHITECT OF ANY DAMAGED OR DETERIORATED WOOD THAT REQUIRES REPAIR OR REPLACEMENT - ROOF DRAIN REPLACEMENT SHALL BE PERFORMED PER UNIT COST PROVIDED IN BID

KEYNOTES - DEMO. N. FILTER ROOF

- EXISTING AIR EXHAUST
- EXISTING CAPPED OPENING TO REMAIN (REPAIR AS REQUIRED)
- EXISTING MECHANICAL UNIT ON STAND-OFF TO REMAIN
- EXISTING CONDENSING ON CONCRETE PAD TO REMAIN
- CONDENSING UNIT ON TREATED WOOD SLEEPERS TO REMAIN REPLACE WOOD SLEEPER AS REQUIRED
- EXISTING VENT STACK TO REMAIN
- EXISTING ROOF DRAIN REMAIN
- EXISTING CONCRETE PAVERS TO BE REMOVED



KEY PLAN-NORTH BUILDING
NOT TO SCALE

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PROJECT:

CITY OF MUSKEGON
WATER FILTRATION PLANT
1900 BEACH STREET
MUSKEGON, MI 49441

SHEET TITLE:

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QA/QC REVIEW: JMS
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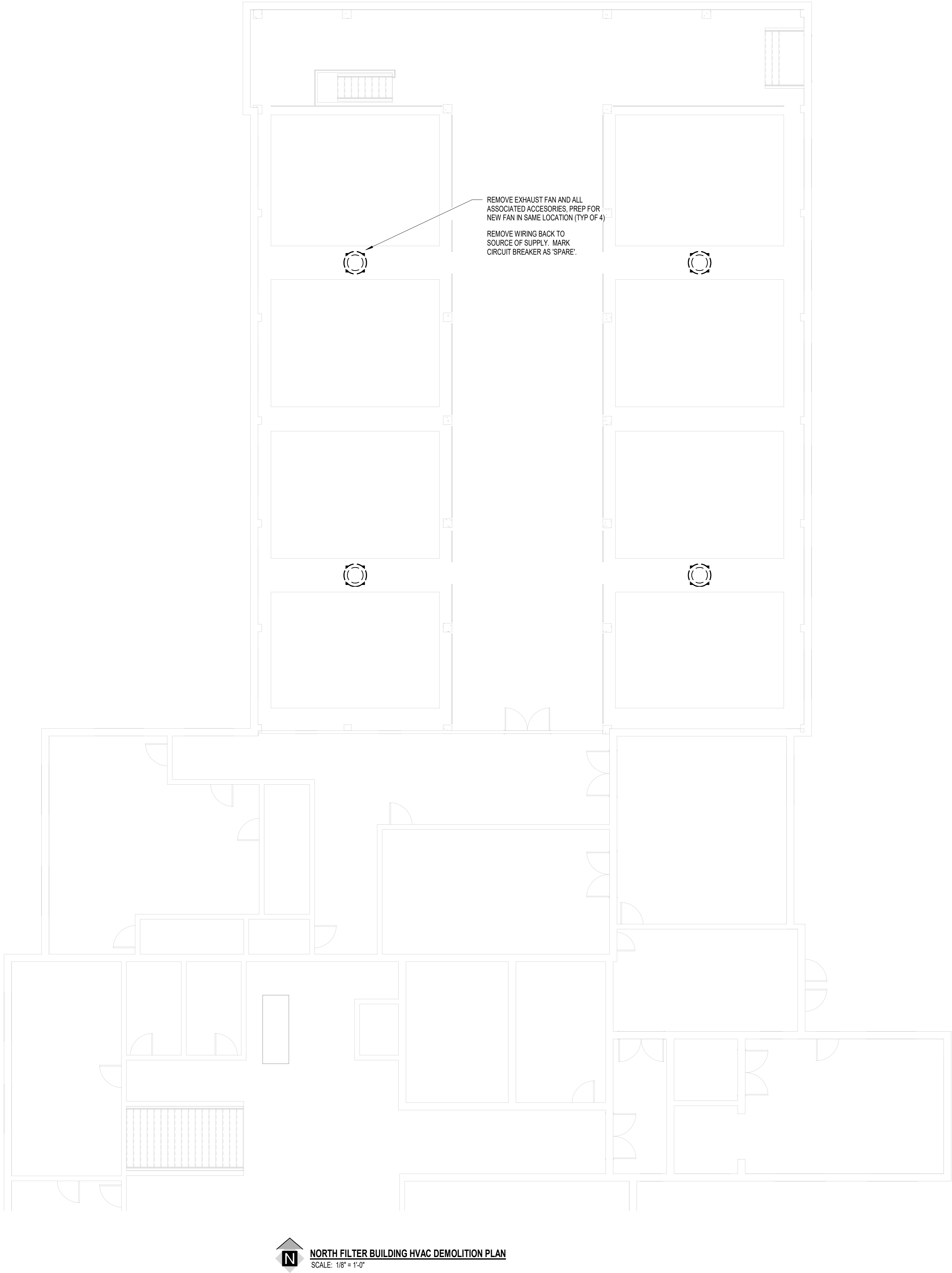
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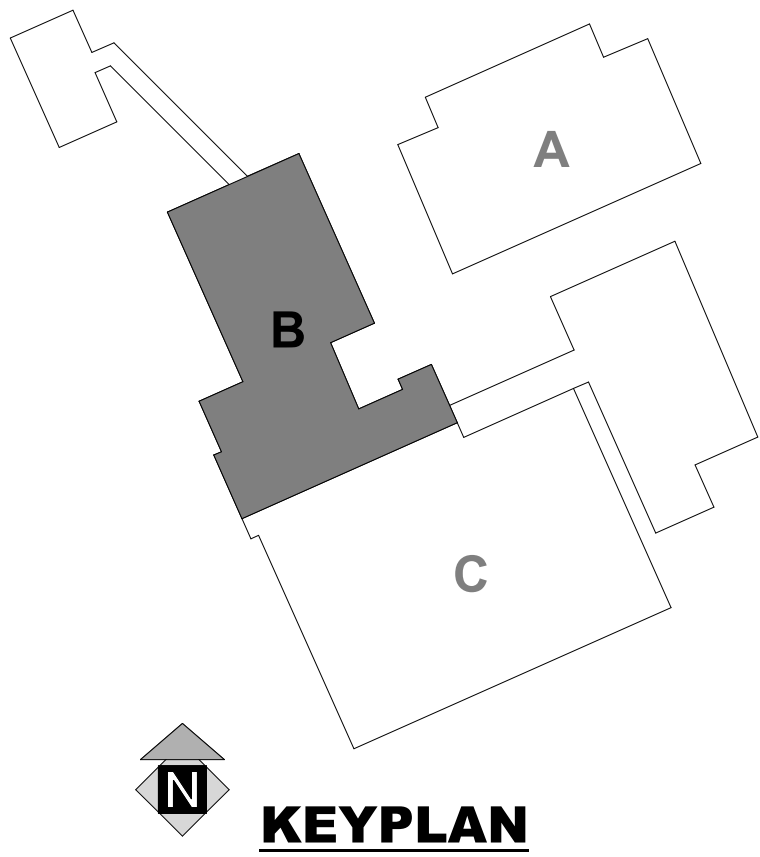
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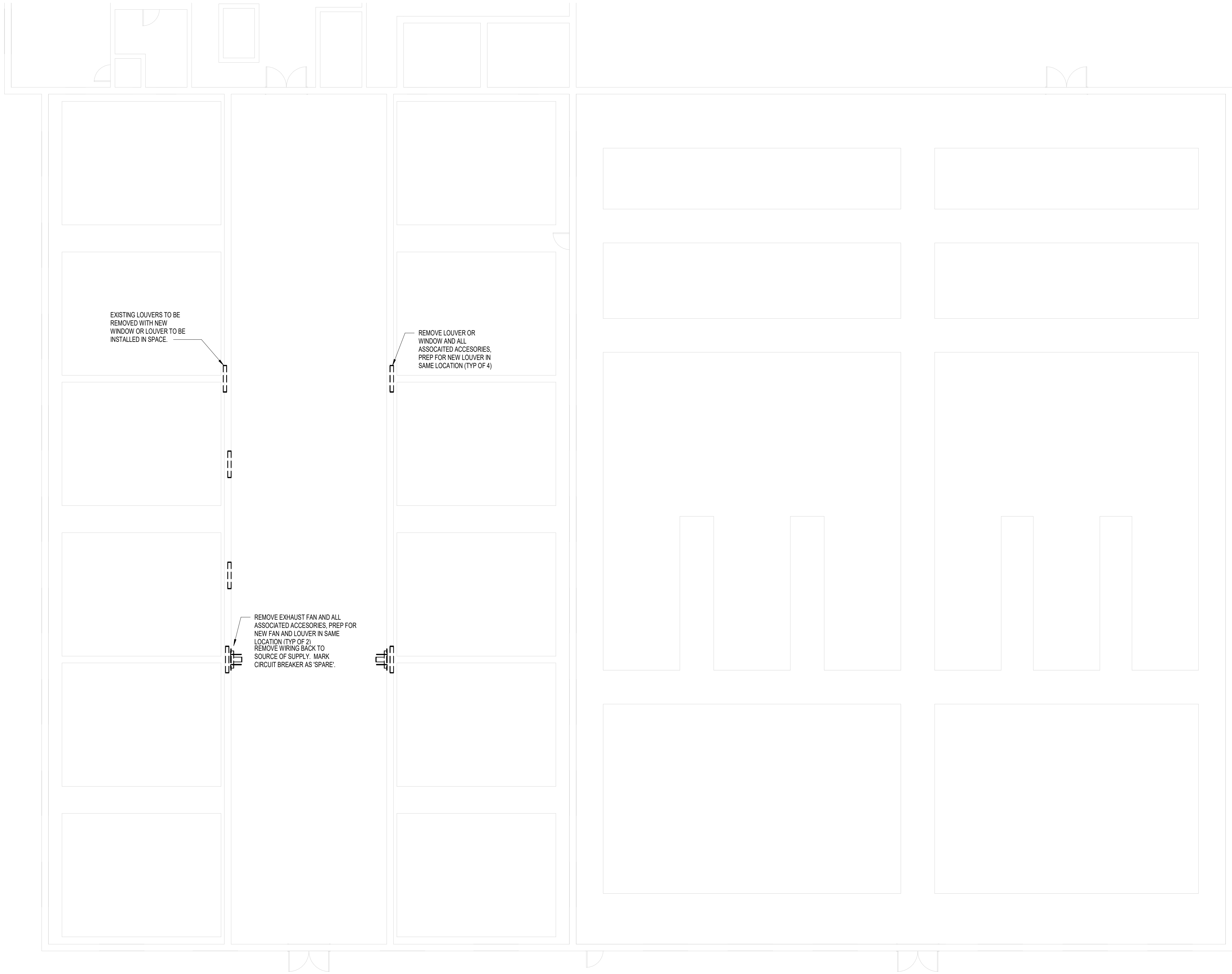
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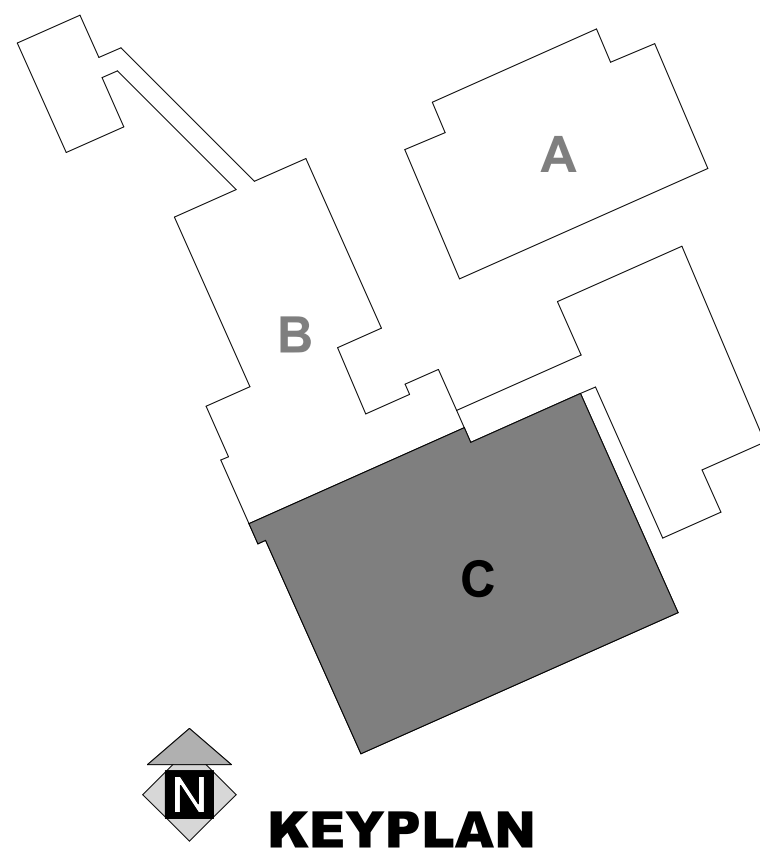
NORTH FILTER BUILDING HVAC DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



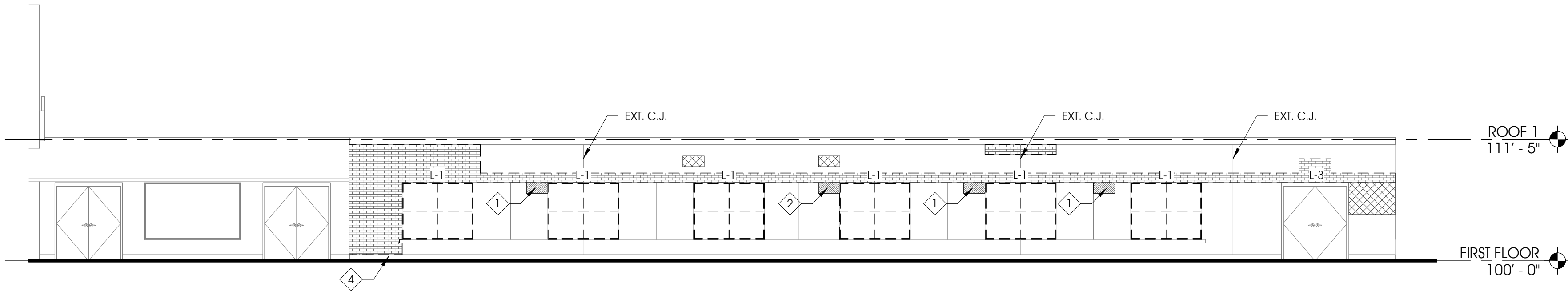
KEYPLAN



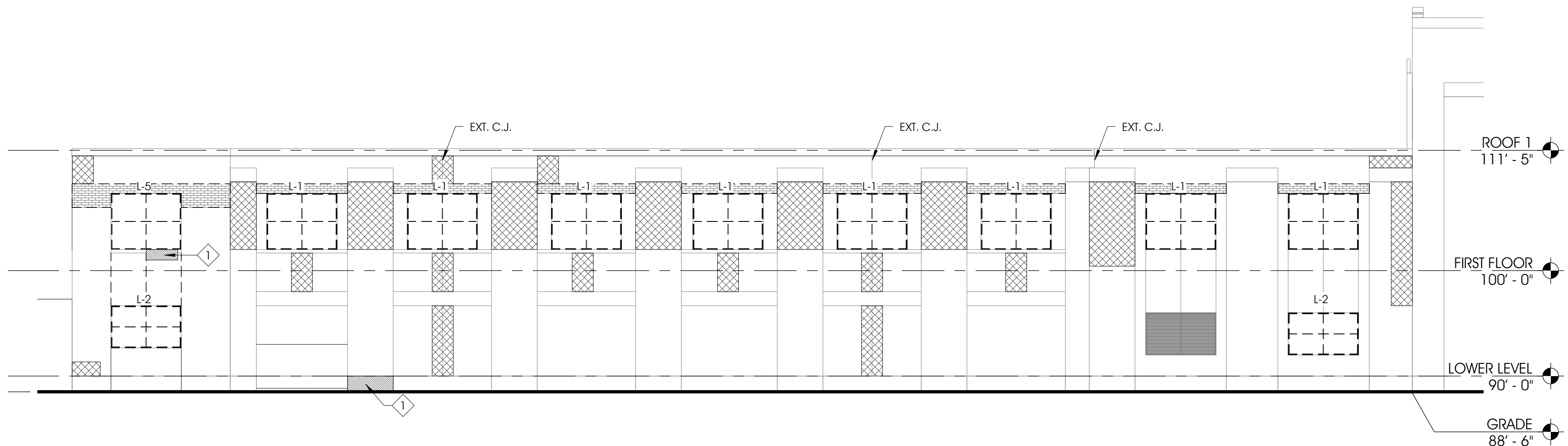
SOUTH FILTER BUILDING HVAC DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



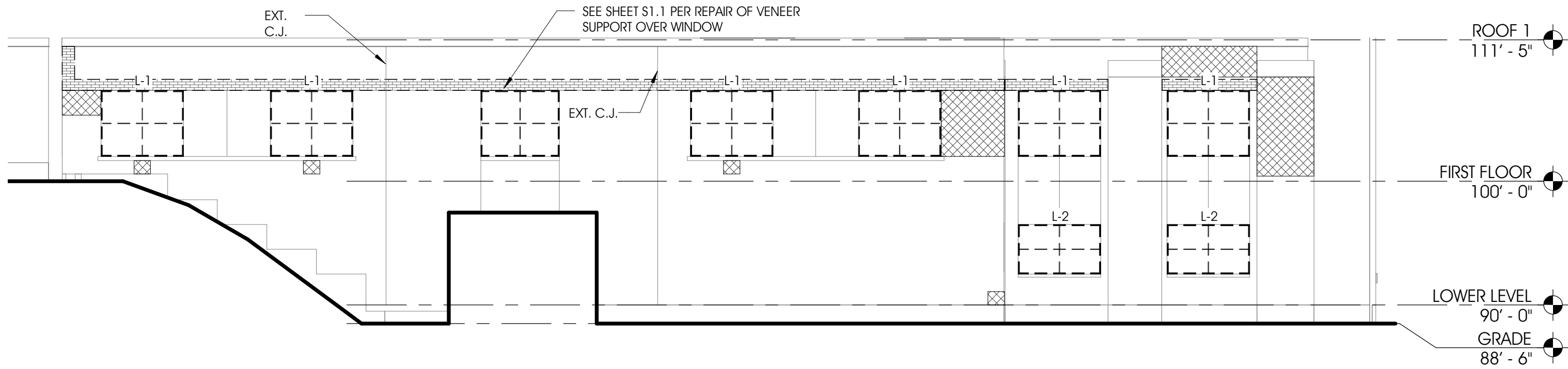
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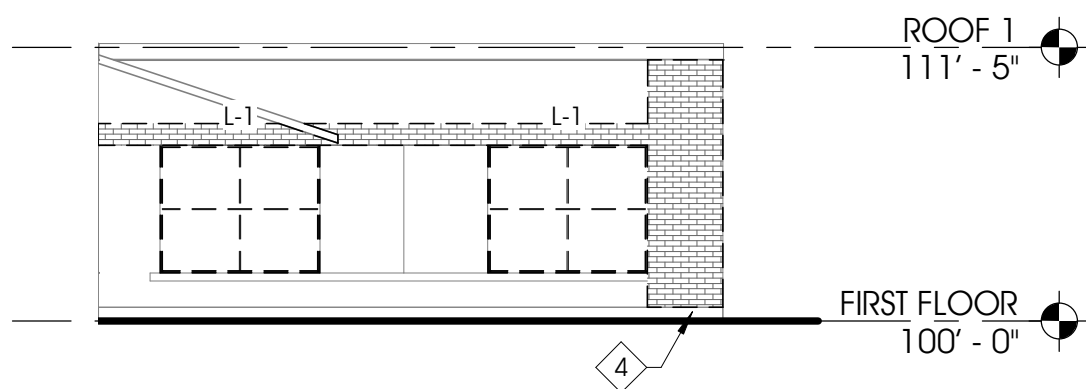
1 DEMOLITION - NORTH FILTER EAST ELEVATION
1/8" = 1'-0"



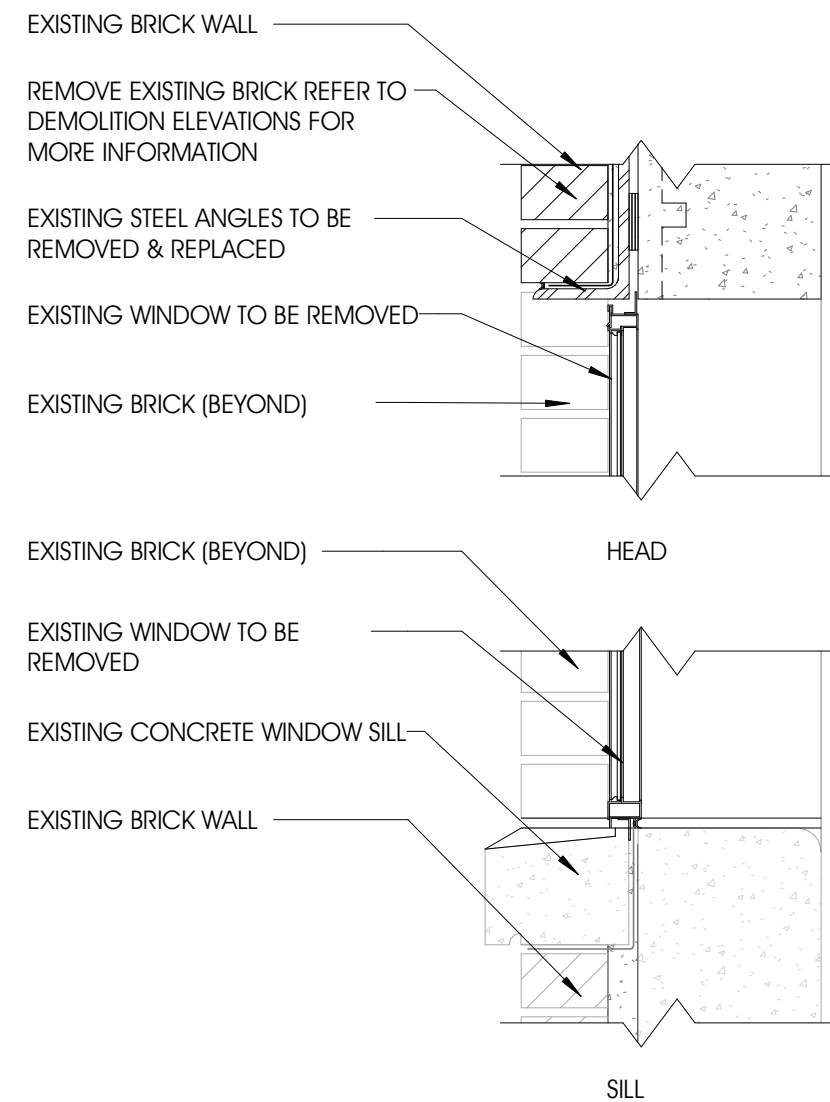
2 DEMOLITION - NORTH FILTER WEST ELEVATION
1/8" = 1'-0"



4 DEMOLITION - NORTH FILTER NORTH ELEVATION
1/8" = 1'-0"



3 DEMOLITION - NORTH FILTER SOUTH ELEVATION
1/8" = 1'-0"



5 EXISTING HEAD & SILL
1 1/2" = 1'-0"

GENERAL MASONRY REMOVAL NOTES

REFER TO SPIRA-LOK INSTALLATION PROCEDURE LINTEL OR SHELF ANGLE REPLACEMENT IN WALLS WITH BRICK VENEER AND BLOCK BACK-UP

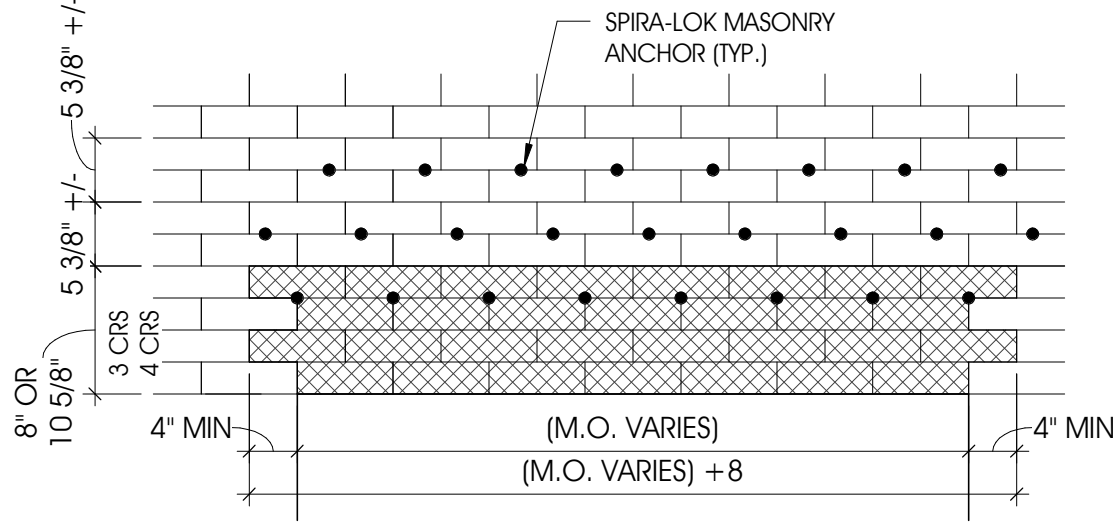
A. 10 MM. "SPIRA-LOK" MASONRY ANCHORS INSTALLED CONTINUOUS ALONG TOP OF WINDOWS AT 8" O.C. MAX. IN STAGGERED ROWS - (3 ROWS HIGH EVERY 2ND BRICK COURSE ABOVE WALL CUT-OUT).

B. NEW 10 MM. "SPIRA-LOK" ANCHORS. - 8" O.C. - INSTALLED AFTER SAW-CUT IN FACE BRICK HAS BEEN MADE.

C. DESIGN IS CONCEPTUAL ONLY. CONTRACTOR TO SUBMIT STAMPED FINAL DESIGN TO ARCHITECT PRIOR TO CONSTRUCTION.

D. REMOVE 3 COURSES (VERTICAL) AT NEW LINTEL LOCATIONS 5" IN HEIGHT OR LESS. REMOVE 4 COURSES AT LINTEL LOCATION 6" HIGH OR GREATER.

E. PROVIDE CONTINUOUS SUPPORT OF BRICK VENEER ABOVE REMOVAL AREAS AT NORTH AND WEST WALL OF CLARIFIER BUILDING WITH WINDOWS AND CONCRETE PANELS BETWEEN.



MASONRY REMOVAL ELEVATION - TYP @ LINTELS

SCALE: 3/4" = 1'-0"

GENERAL NOTE-ELEVATION DEMOLITION

A. CAREFULLY REMOVE EXISTING BRICK AND REMOVE EXISTING METAL LINTEL. INSTALL NEW METAL. VERIFY & INSTALL NEW FLASHING. CLEAN EXISTING BRICK & RE-INSTALL NEW LINTEL IN OPENING.

B. FILL ALL EXISTING BRICK PENETRATION WITH JOINT SEALANT. COLOR TO MATCH.

C. REMOVE EXISTING SEALANT AT PERIMETER OF EXISTING STONE SILL WHERE WINDOW/LINTEL ARE TO BE REPLACED. REPLACE SEALANT JOINT AT PERIMETER WITH NEW SEALANT. COLOR TO MATCH.

D. REMOVE EXISTING SEALANT JOINT AT LOCATIONS WHERE SEALANT IS HARD OR PULLING AWAY FROM EXISTING BRICK OR STONE. REPLACE JOINTS WITH NEW SEALANT. COLOR TO MATCH EXISTING.

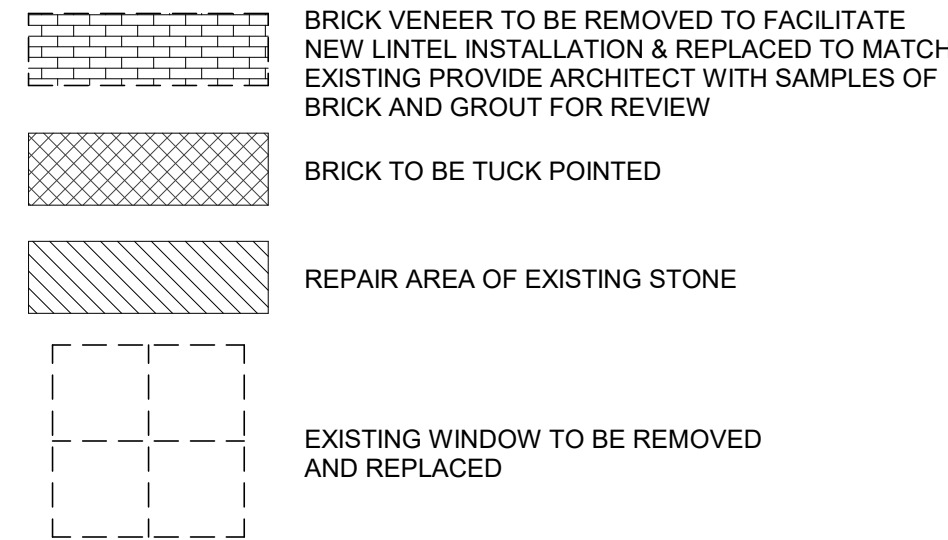
E. TUCK-POINT EXISTING BRICKWALL SURFACE & REMOVE BRICK THAT ARE DAMAGED, SPALLED, OR CRACKED IN HALF AND BEGINNING TO FALL OUT OF MORTAR JOINT. TUCKPOINT CLAY BRICK MORTAR JOINT IN ACCORDANCE WITH BRICK INDUSTRY ASSOCIATION TECHNICAL NOTE NO. 46 WITH TYPE O MASONRY MORTAR (MATCH COLOR OF EXISTING MORTAR. ASSIGN 50% MORTAR REPLACEMENT FOR THIS AREA BASED UPON TOTAL SQUARE FOOTAGE OF AREA SHOWN.

F. SUPPORT BRICK ABOVE AREAS WHERE BRICK/LINTELS ARE REQUIRED TO BE REPLACED PER MASONRY REMOVAL NOTES SHEET D1.2

G. SECURE NEW BRICK VENEER TO EXISTING SUBSTRATE w/ HOHMAN BARNARD DW-10HS VENEER 14GA. ANCHORS, STAINLESS STEEL PLATE AND 4" WIRE TIE 16" O.C. HORIZONTAL AND VERTICAL w/ STAINLESS STEEL ANCHOR SCREWS, REQUIRED WHERE 3 OR MORE COURSE VERTICAL ARE INSTALLED.

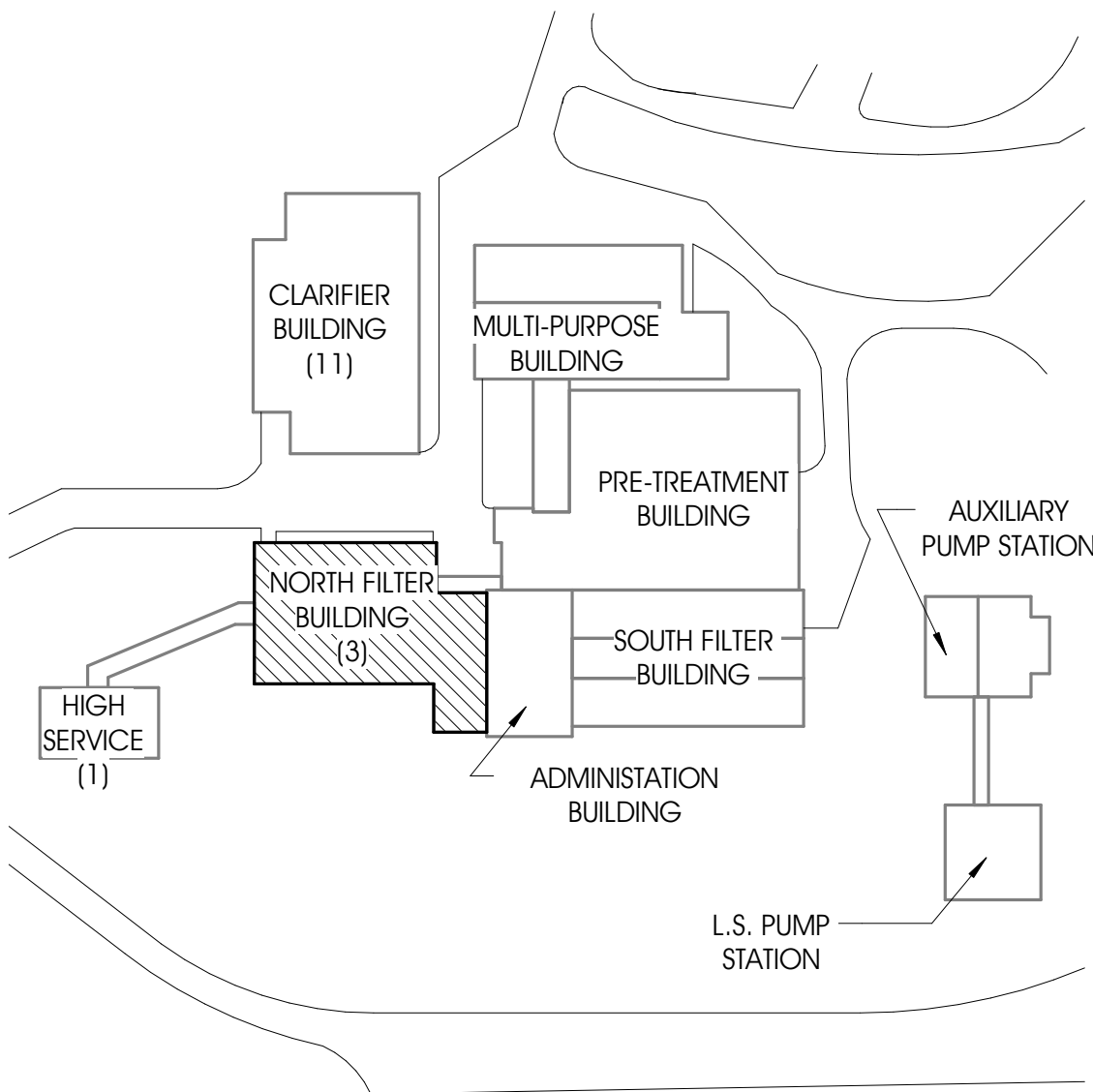
H. WINDOW OPENINGS MUST BE TEMPORARILY ENCLOSED/SECURED AFTER WINDOW REMOVAL UNTIL NEW WINDOWS ARE INSTALLED.

MASONRY RESTORATION LEGEND



MASONRY, LIMESTONE SILLS & PANELS

- PATCH LIMESTONE PANEL WHERE STONE IS MISSING WITH RESTORATION MORTAR, SEE SPECIFICATIONS
- AT EXISTING LIMESTONE PANELS WITH FRACTURES, SEAL IN PLACE, SECURE FRACTURED STONE WITH CLEAR EPOXY INJECTED, SEE SPECIFICATIONS
- REMOVE AND REINSTALL EXISTING LIMESTONE PANEL
- AT FULL HEIGHT BRICK VENEER REPLACEMENT, INSTALL CONTINUOUS FLASHING BEHIND VENEER AND WEEP HOLES AT BASE COURSE PER SPECIFICATIONS SECTION 04 2000



KEY PLAN-NORTH BUILDING

NOT TO SCALE

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PROJECT:

CITY OF MUSKEGON
WATER FILTRATION PLANT
1900 BEACH STREET
MUSKEGON, MI 49441

SHEET TITLE:

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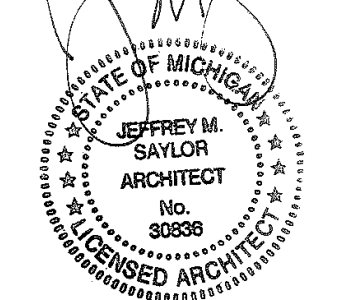
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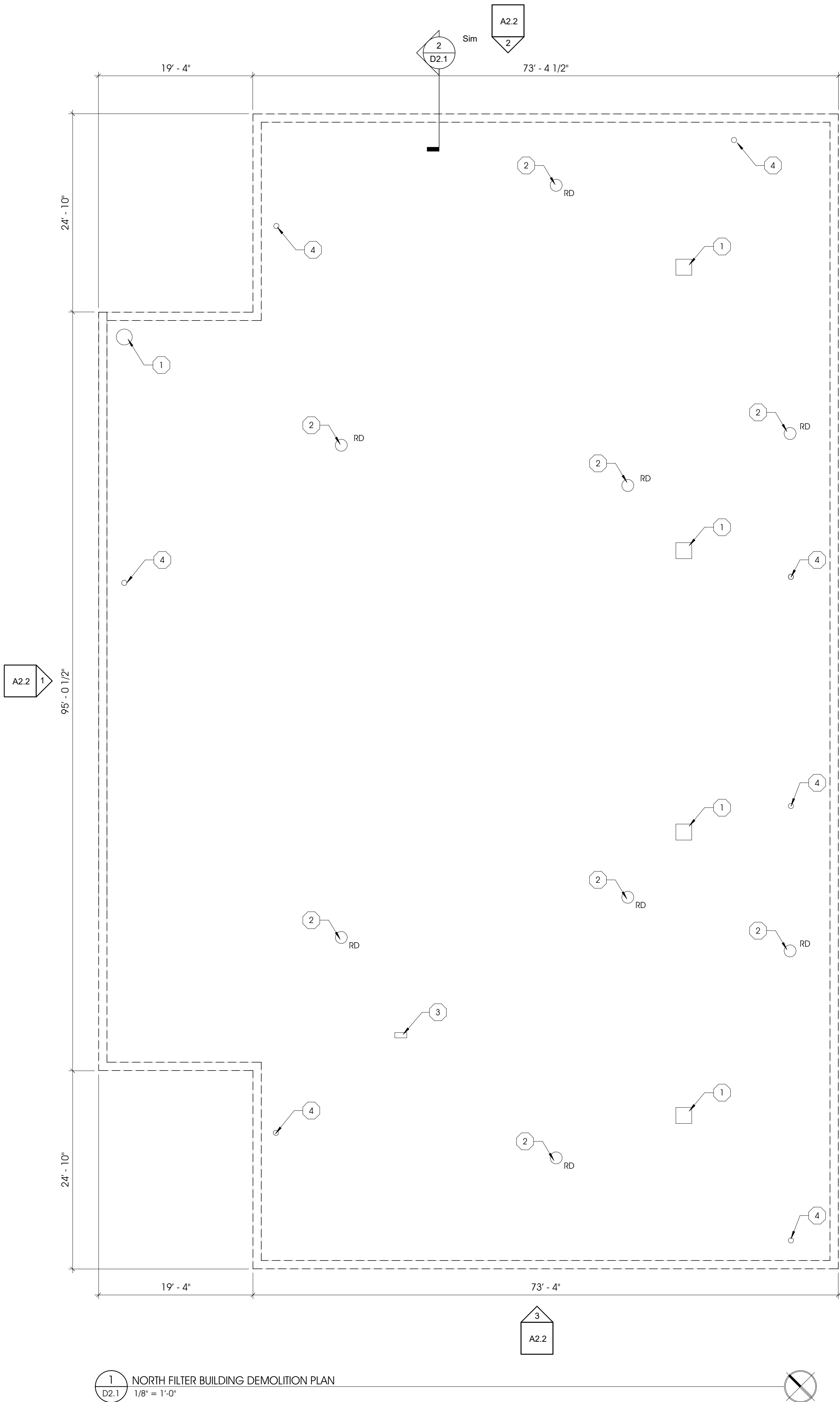
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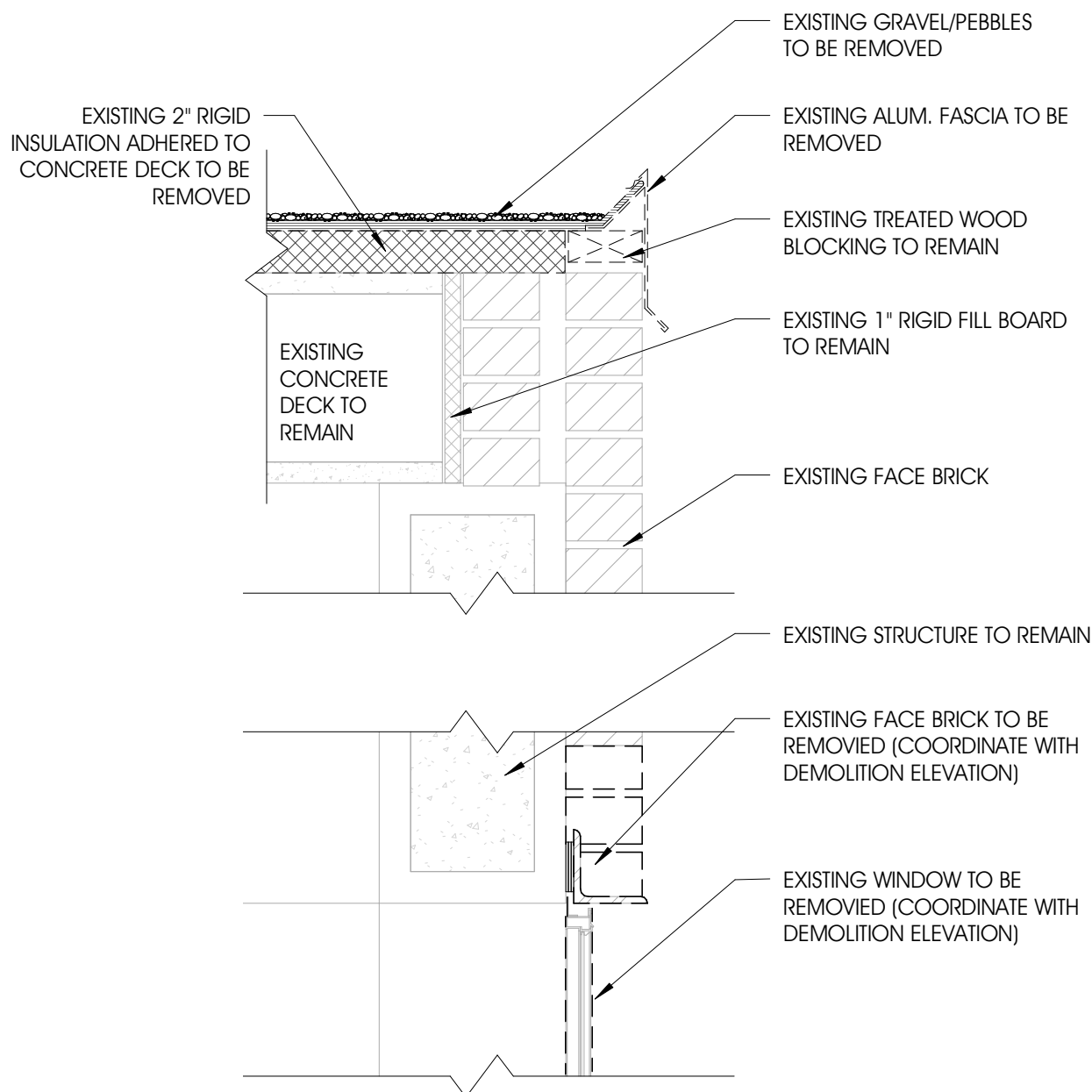
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1 NORTH FILTER BUILDING DEMOLITION PLAN
D2.1 1/8" = 1'-0"



2 SECTION @ EXISTING FASCIA & WINDOW
D2.1 1 1/2" = 1'-0"

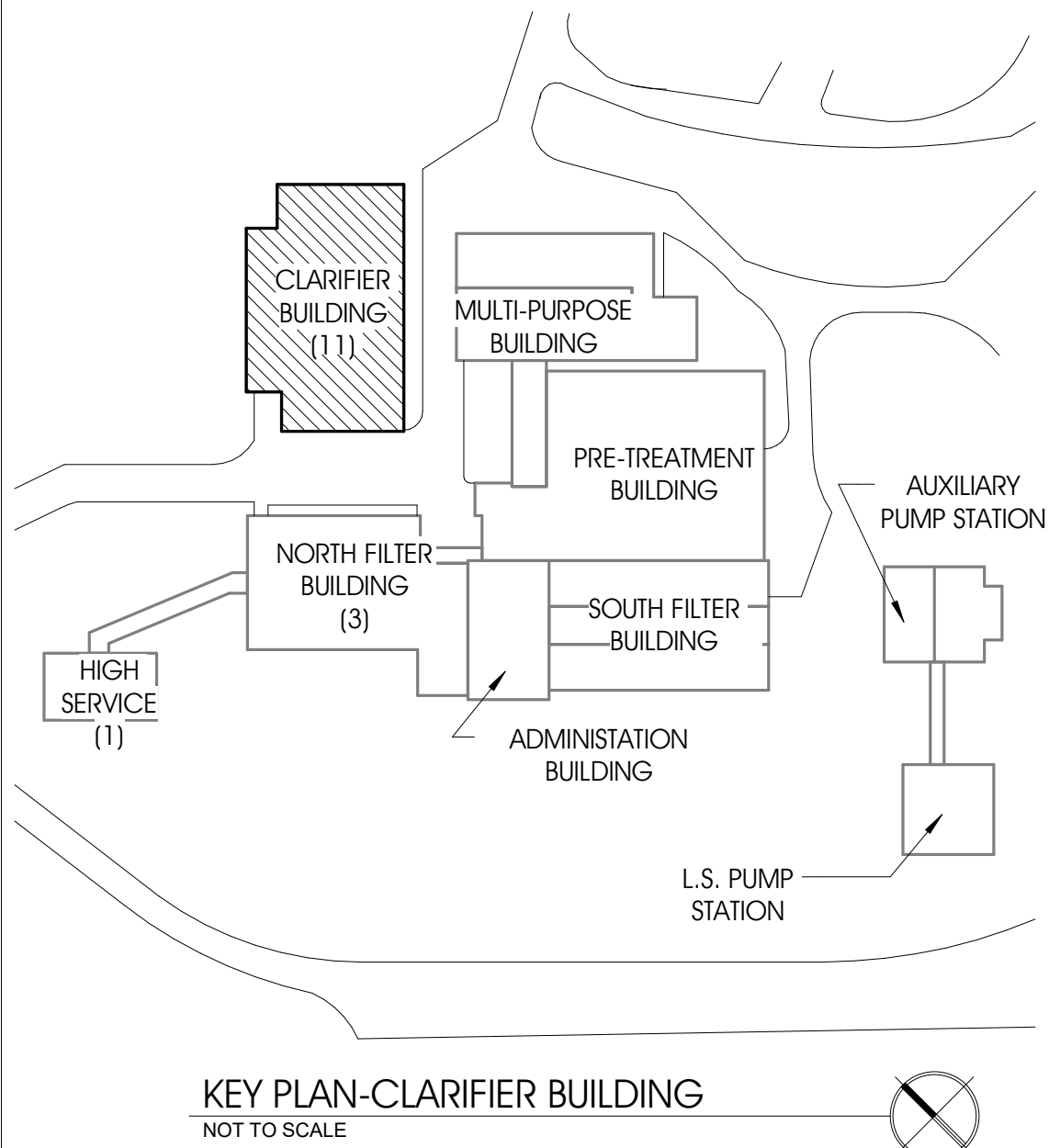
4 A2.2

GENERAL NOTE - ROOF DEMOLITION

- REMOVE EXISTING ROOF BALLAST & DISPOSE OF OFF-SITE. STAGE REMOVAL TO AVOID OVER-LOADING ROOF STRUCTURE IN ANY ONE AREA
- SITE TO BE CLEAN & MAINTAIN DAILY TO ENSURE DAY-TO-DAY OPERATIONS OF THE WATER PLANT CAN CONTINUE TO OPERATED DURING CONSTRUCTION
- CUT EXISTING ROOFING & INSULATION INTO SECTIONS FOR REMOVAL DOWN TO EXISTING DECK & DISPOSE OF OFF-SITE. CUT ONLY THE AREAS THAT CAN BE REMOVED DURING ONE WORK DAY. PROTECT AREAS THAT ARE LEFT EXPOSED FROM THE WEATHER AS REQUIRED.
- CAREFULLY REMOVE EXISTING PERIMETER FLASHING FROM AREAS OF ROOF WORK - TAKE CARE TO NOT DAMAGE THE EXISTING ADJACENT MATERIALS
- PROTECT EXISTING ROOF TOP EQUIPMENT OR ACCESSORIES DURING ROOFING REMOVAL. INCLUDING MECH. UNITS, FANS, DRAINS, VENTS, CURBS, ETC.
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- VERIFY CONDITION OF EXISTING WOOD ROOF CURBS EXPOSED DURING ROOF WORK - NOTIFY ARCHITECT OF ANY DAMAGED OR DETERIORATED WOOD THAT REQUIRES REPAIR OR REPLACEMENT - CURB REPLACEMENT SHALL BE PERFORMED PER LINEAL FOOT COST PROVIDED IN BID
- VERIFY CONDITION OF EXISTING WOOD SLEEPERS SUPPORTING MECH. EQUIPMENT. NOTIFY ARCHITECT OF ANY DAMAGED OR DETERIORATED WOOD THAT REQUIRES REPAIR OR REPLACEMENT - SLEEPER REPLACEMENT SHALL BE PERFORMED PER LINEAL FOOT COST PROVIDED IN BID
- VERIFY CONDITION OF EXISTING ROOF DRAINS, SCREENS & PIPING. NOTIFY ARCHITECT OF ANY DAMAGED OR DETERIORATED WOOD THAT REQUIRES REPAIR OR REPLACEMENT - ROOF DRAIN REPLACEMENT SHALL BE PERFORMED PER UNIT COST PROVIDED IN BID

KEYNOTES - EXISTING/DEMOLITION

- EXISTING AIR EXHAUST
- EXISTING ROOF DRAIN REMAIN
- REMOVE EXISTING BLOCK AND CABLE CONNECTION TO REMAIN
- EXISTING VENT STACK TO BE REMOVED AND ROOF DECK TO BE REPAIRED AS REQUIRED



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CITY OF MUSKEGON
WATER FILTRATION PLANT
1900 BEACH STREET
MUSKEGON, MI 49441

CLARIFIER - DEMOLITION ROOF
PLAN

SHEET TITLE:

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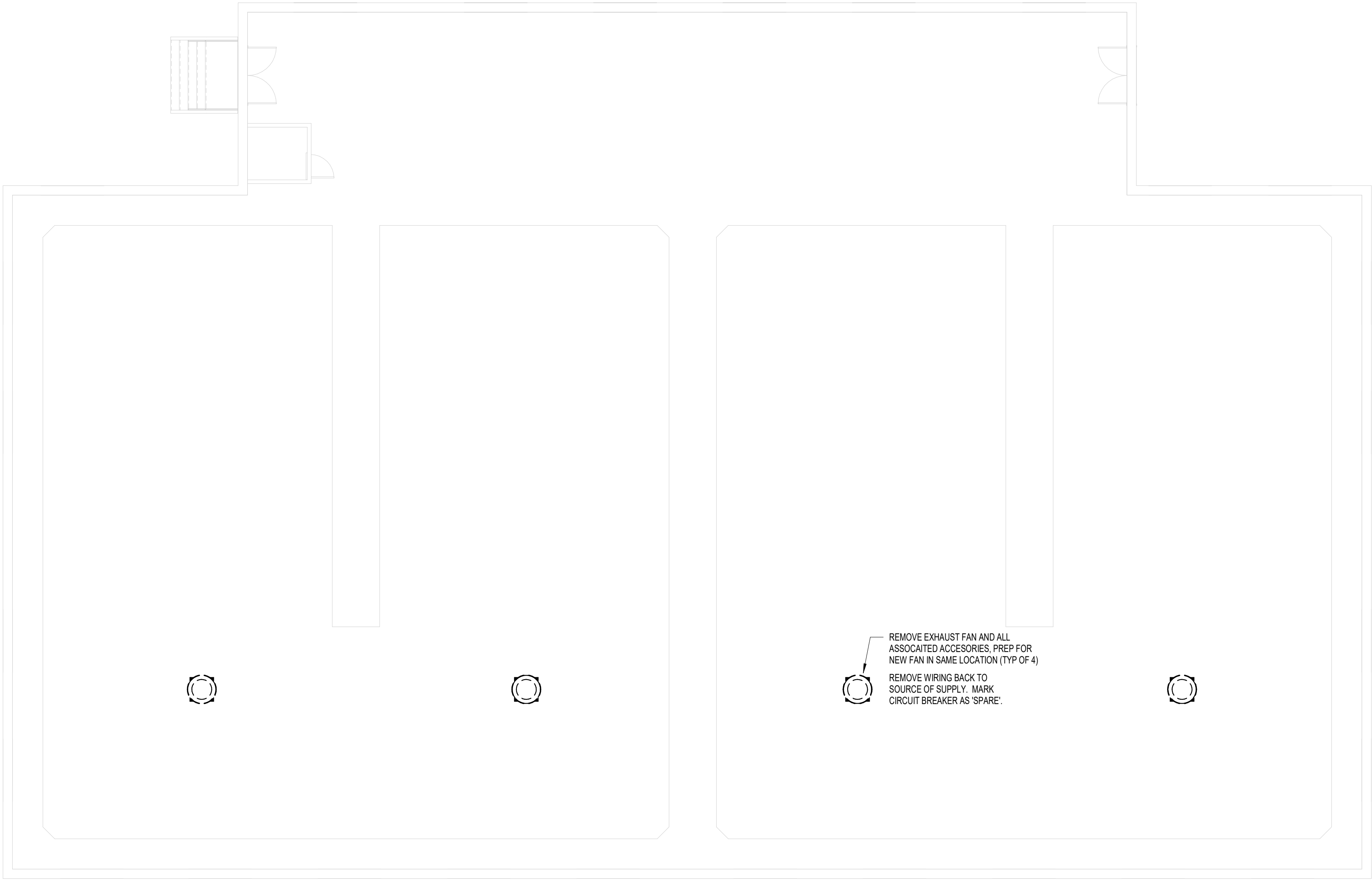
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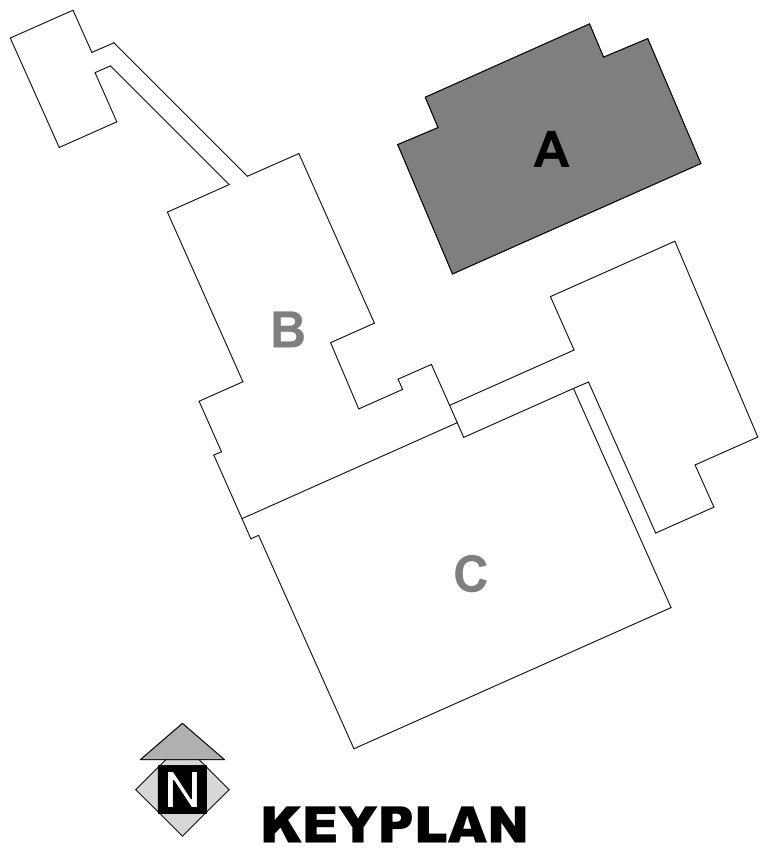
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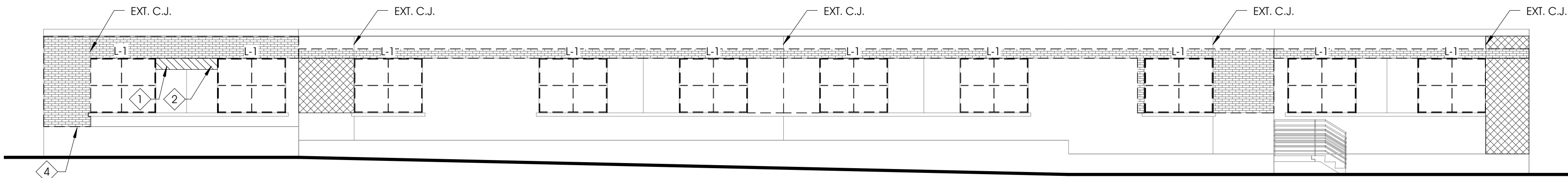
CLARIFIER BUILDING HVAC DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



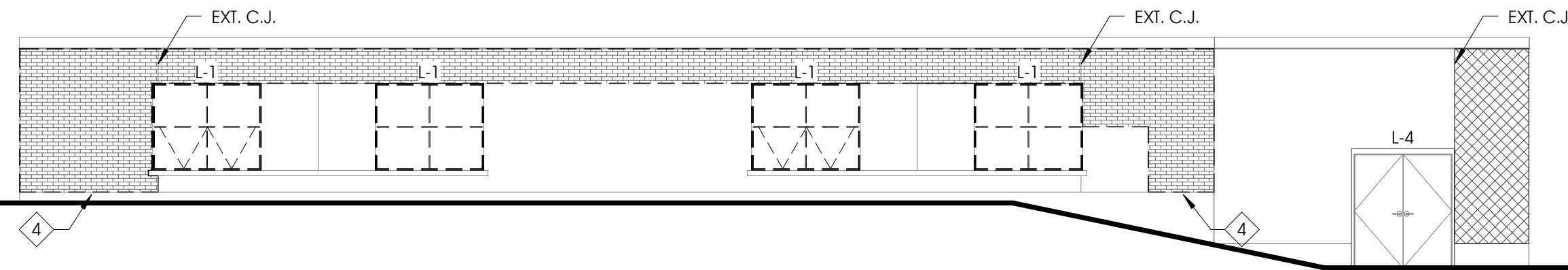
New Ventilation Fans for:
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20100181
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2023.01.13 REVIEW SET
CLARIFIER BUILDING DEMOLITION PLAN

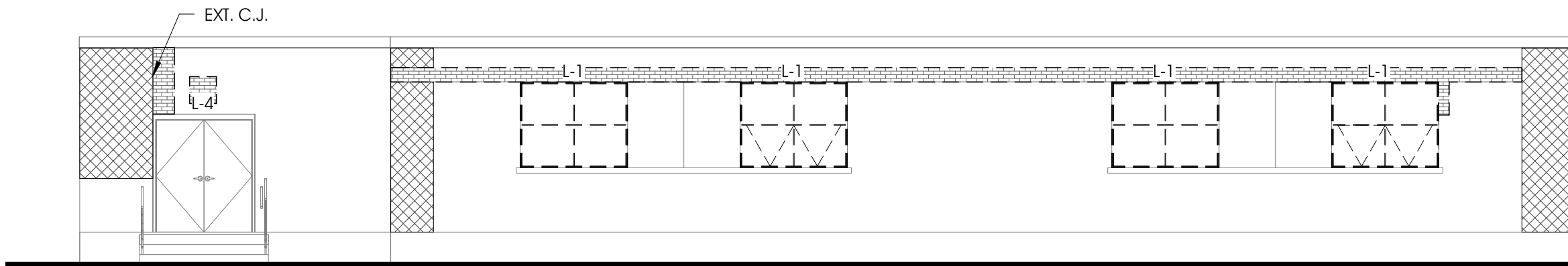
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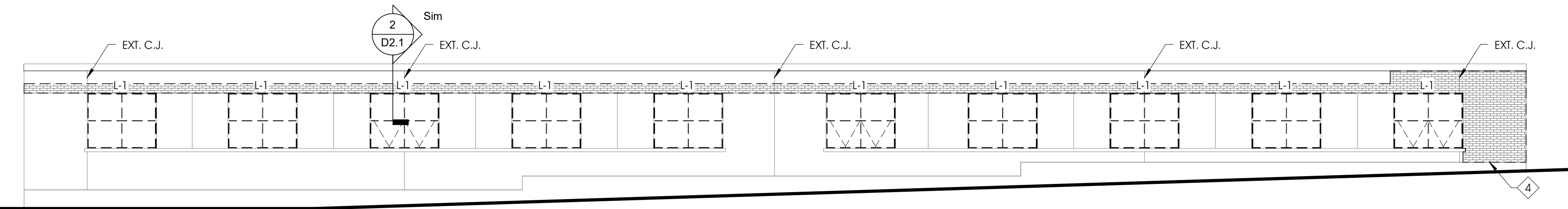
1 DEMOLITION - CLARIFIER NORTH ELEVATION
D2.2 1/8" = 1'-0"



2 DEMOLITION - CLARIFIER EAST ELEVATION
D2.2 1/8" = 1'-0"



3 DEMOLITION - CLARIFIER WEST ELEVATION
D2.2 1/8" = 1'-0"



4 DEMOLITION - CLARIFIER SOUTH ELEVATION
D2.2 1/8" = 1'-0"

GENERAL NOTE-ELEVATION DEMOLITION

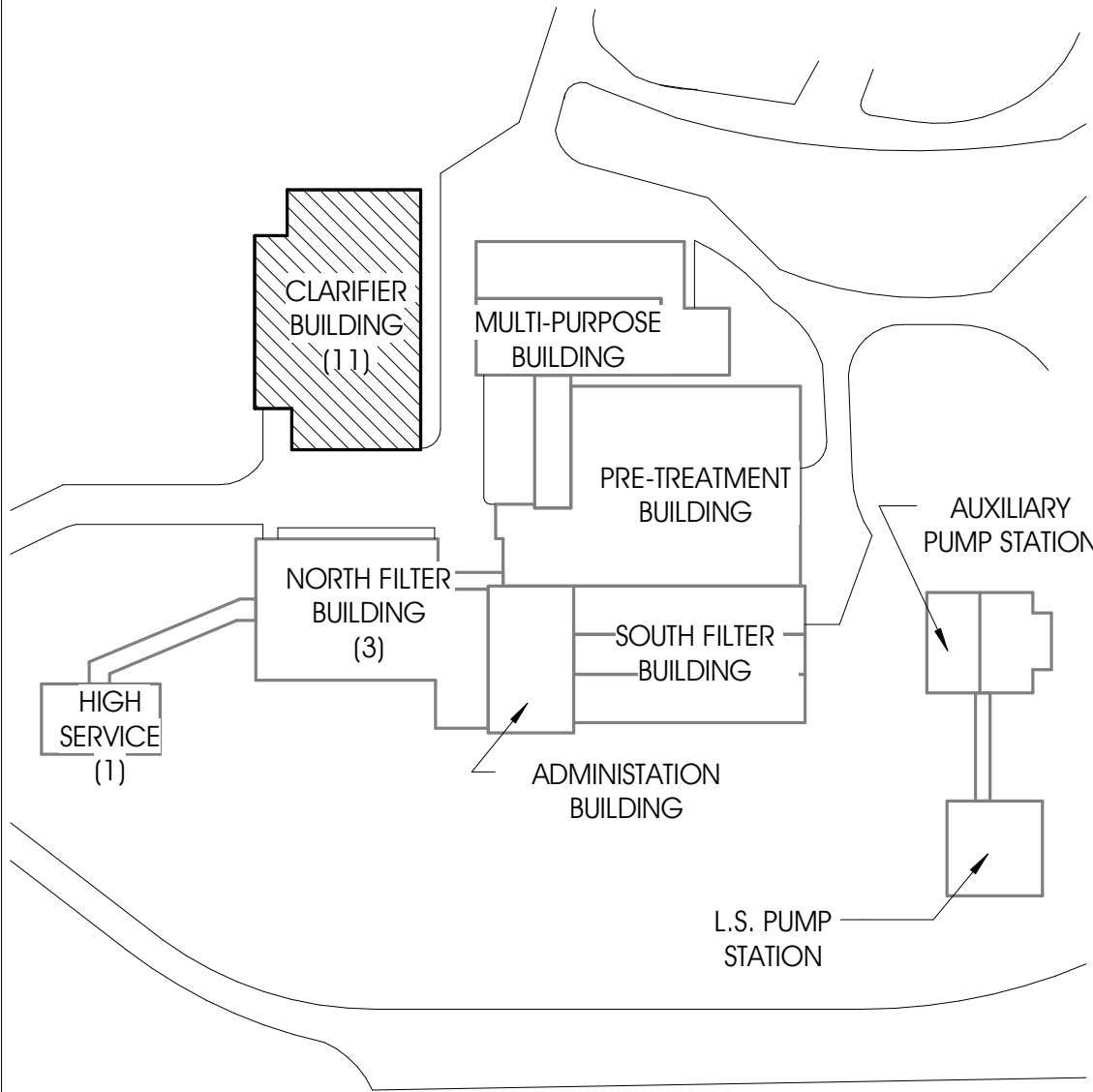
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- B. FILL ALL EXISTING BRICK PENETRATION WITH JOINT SEALANT. COLOR TO MATCH.
- C. REMOVE EXISTING SEALANT AT PERIMETER OF EXISTING STONE SILL WHERE WINDOW/LINTEL ARE TO BE REPLACED. REPLACE SEALANT JOINT AT PERIMETER WITH NEW SEALANT. COLOR TO MATCH.
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- E. TUCK-POINT EXISTING BRICKWALL SURFACE & REMOVE BRICK THAT ARE DAMAGED SPALLED, OR CRACKED IN HALF AND BEGINNING TO FALL OUT OF MORTAR JOINT. TUCKPOINT CLAY BRICK MORTAR JOINT IN ACCORDANCE WITH BRICK INDUSTRY ASSOCIATION TECHNICAL NOTE NO. 46 WITH TYPE O MASONRY MORTAR (MATCH COLOR OF EXISTING MORTAR. ASSIGN 50% MORTAR REPLACEMENT FOR THIS AREA BASED UPON TOTAL SQUARE FOOTAGE OF AREA SHOWN.
- F. SUPPORT BRICK ABOVE AREAS WHERE BRICK/LINTELS ARE REQUIRED TO BE REPLACED PER MASONRY REMOVAL NOTES SHEET D1.2
- G. SECURE NEW BRICK VENEER TO EXISTING SUBSTRATE w/ HOHMAN BARNARD DW-10HS VENEER 14GA. ANCHORS, STAINLESS STEEL PLATE AND 4" WIRE TIE 16" O.C. HORIZONTAL AND VERTICAL w/ STAINLESS STEEL ANCHOR SCREWS. REQUIRED WHERE 3 OR MORE COURSE VERTICAL ARE INSTALLED.
- H. WINDOW OPENINGS MUST BE TEMPORARILY ENCLOSED/SECURED AFTER WINDOW REMOVAL UNTIL NEW WINDOWS ARE INSTALLED.

MASONRY RESTORATION LEGEND

- BRICK VENEER TO BE REMOVED TO FACILITATE NEW LINTEL INSTALLATION & REPLACED TO MATCH EXISTING PROVIDE ARCHITECT WITH SAMPLES OF BRICK AND GROUT FOR REVIEW
- BRICK TO BE TUCK POINTED
- REPAIR AREA OF EXISTING STONE
- EXISTING WINDOW TO BE REMOVED AND REPLACED

MASONRY, LIMESTONE SILLS & PANELS

- 1 PATCH LIMESTONE PANEL WHERE STONE IS MISSING WITH RESTORATION MORTAR, SEE SPECIFICATIONS
- 2 AT EXISTING LIMESTONE PANELS WITH FACTURES. SEAL IN PLACE. SECURE FRACTURED STONE WITH CLEAR EPOXY INJECTED, SEE SPECIFICATIONS
- 3 REMOVE AND REINSTALL EXISTING LIMESTONE PANEL
- 4 AT FULL HEIGHT BRICK VENEER REPLACEMENT. INSTALL CONTINUOUS FLASHING BEHIND VENEER AND WEEP HOLES AT BASE COURSE PER SPECIFICATIONS SECTION 04 2000



KEY PLAN-CLARIFIER BUILDING
NOT TO SCALE

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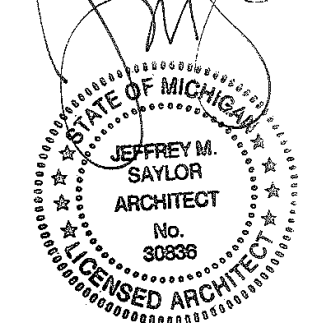
PROJECT:

CITY OF MUSKEGON
WATER FILTRATION PLANT
1900 BEACH STREET
MUSKEGON, MI 49441

SHEET TITLE:

MODELED BY:	JLF
DESIGNED BY:	JLF
PM REVIEW:	EML
QA/QC REVIEW:	JMS
DATE:	03-17-2021

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DATE:

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SHEET NO.

D2.2



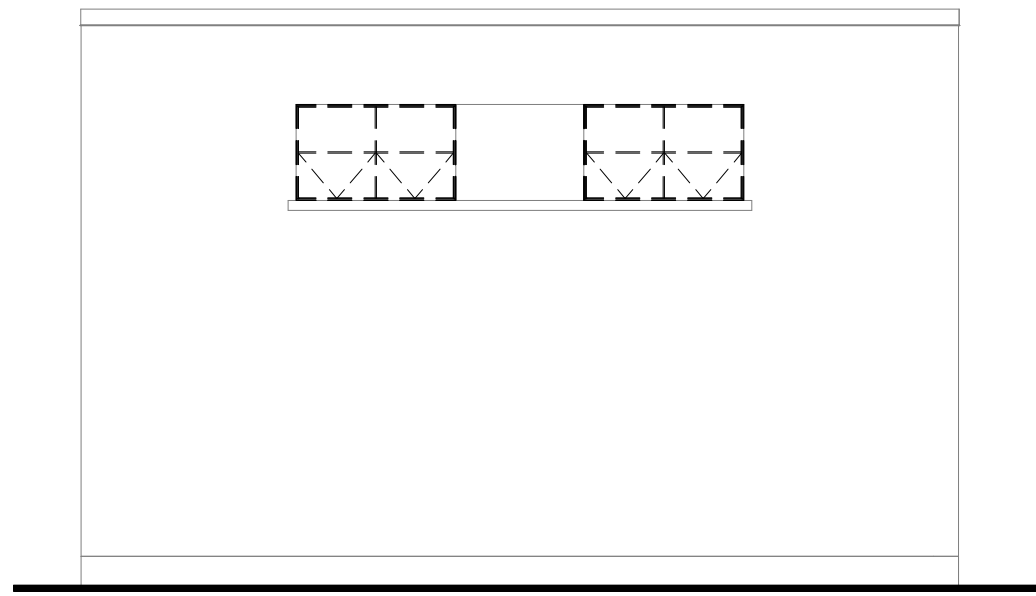
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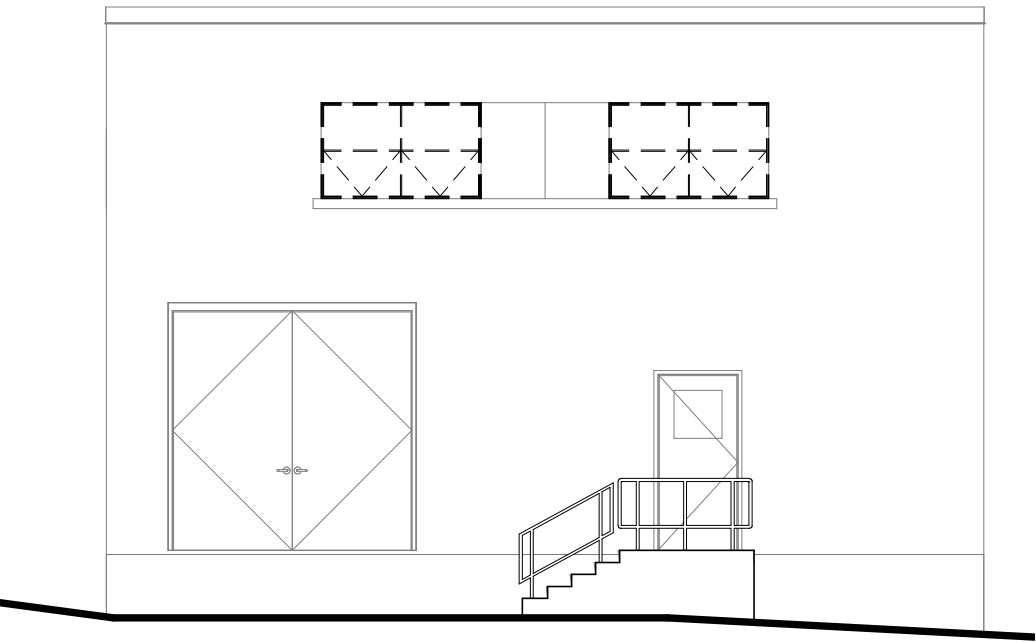
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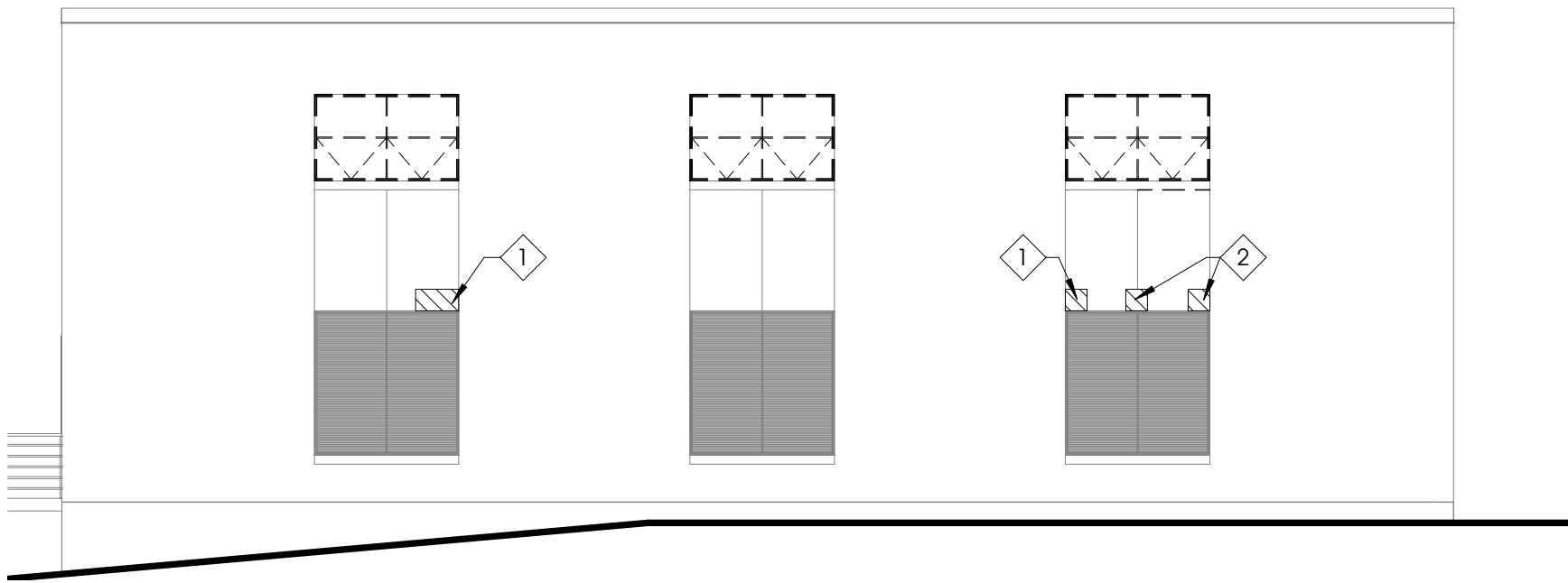
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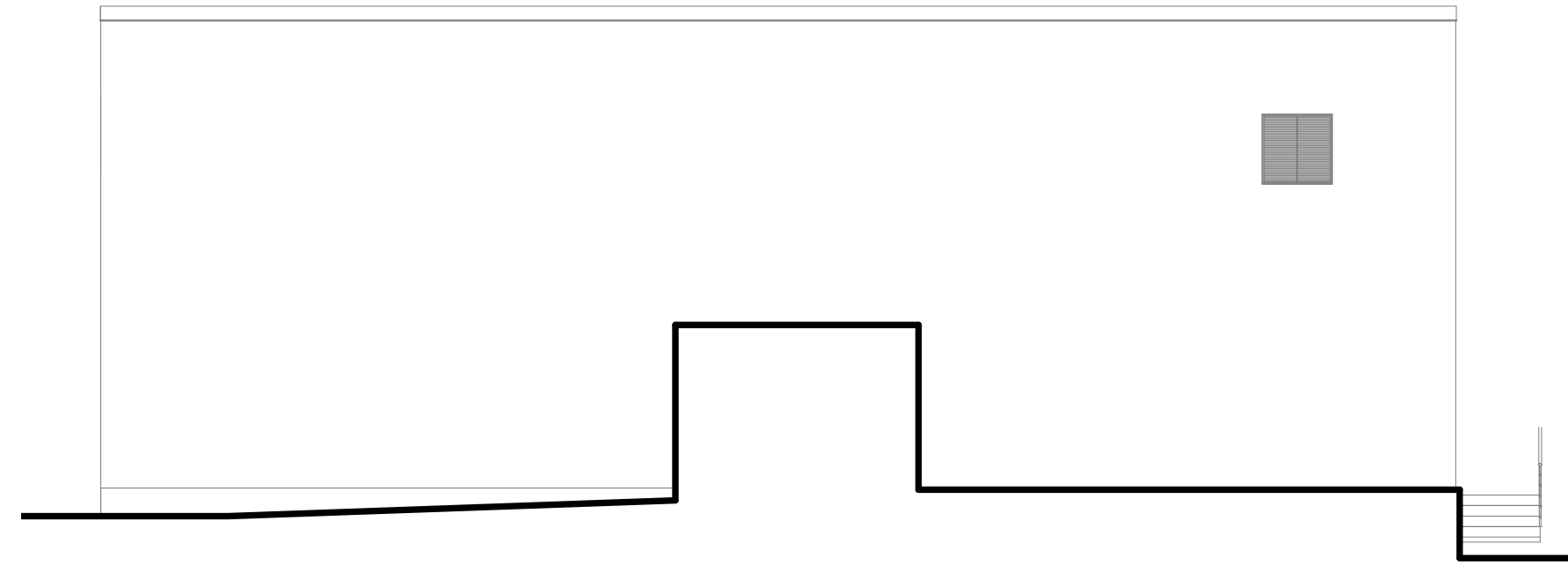
1 DEMOLITION - HIGH SERVICE SOUTH ELEVATION
D3.1 1/8" = 1'-0"



3 DEMOLITION - HIGH SERVICE NORTH ELEVATION
D3.1 1/8" = 1'-0"



2 DEMOLITION - HIGH SERVICE WEST ELEVATION
D3.1 1/8" = 1'-0"



4 DEMOLITION - HIGH SERVICE EAST ELEVATION
D3.1 1/8" = 1'-0"

GENERAL NOTE-ELEVATION DEMOLITION

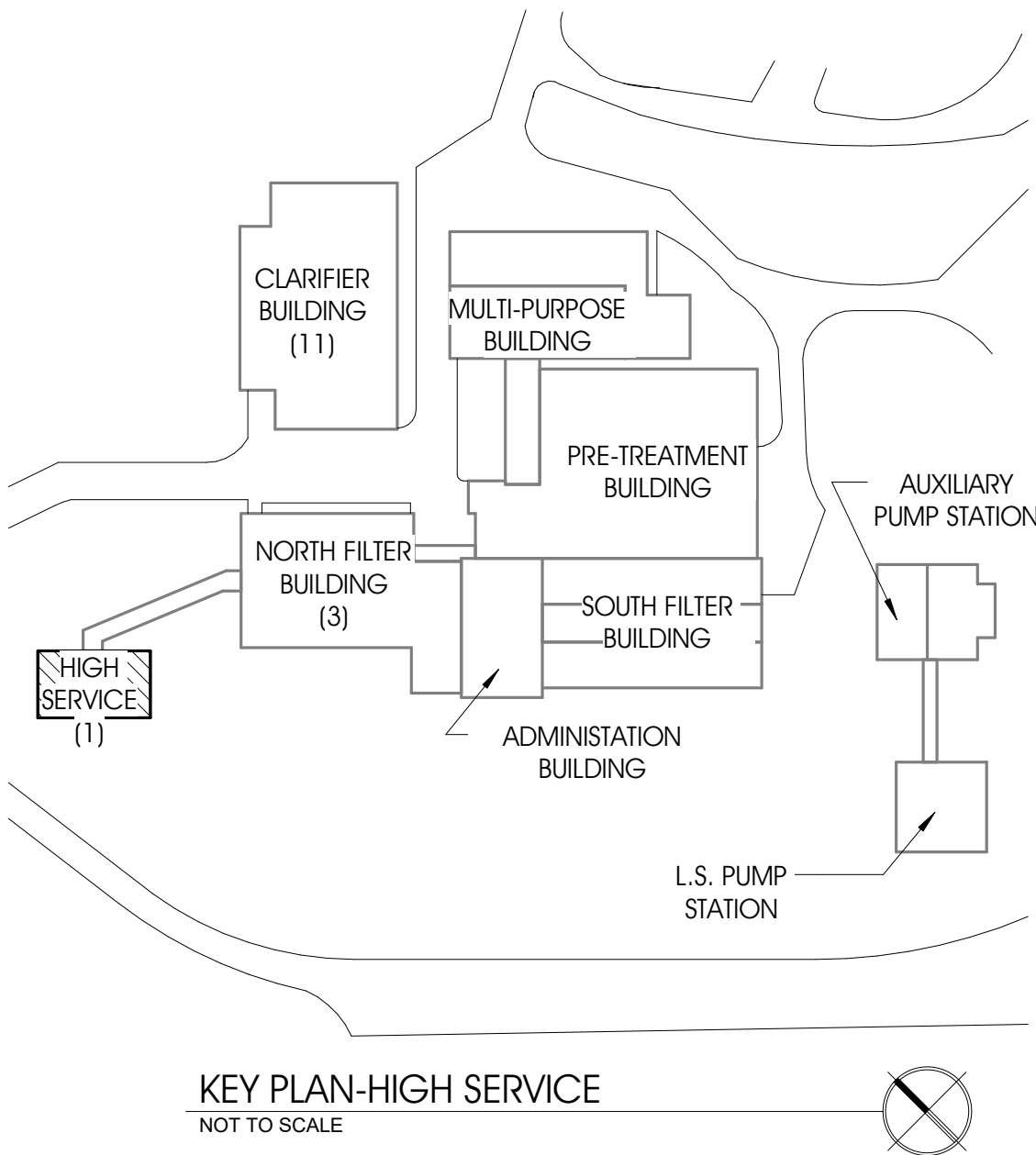
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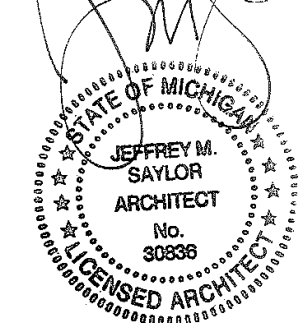
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1900 BEACH STREET
MUSKEGON, MI 49441

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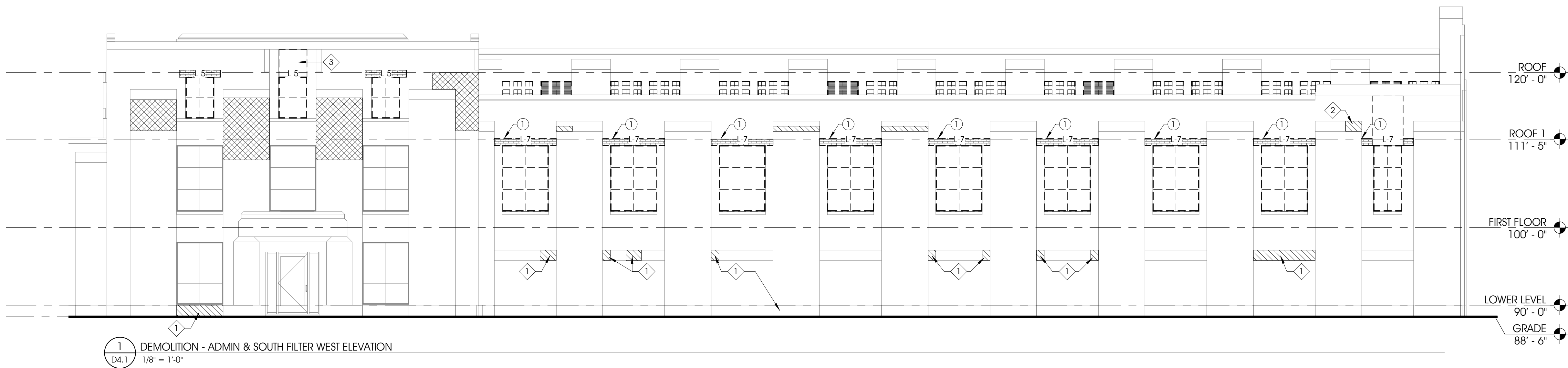
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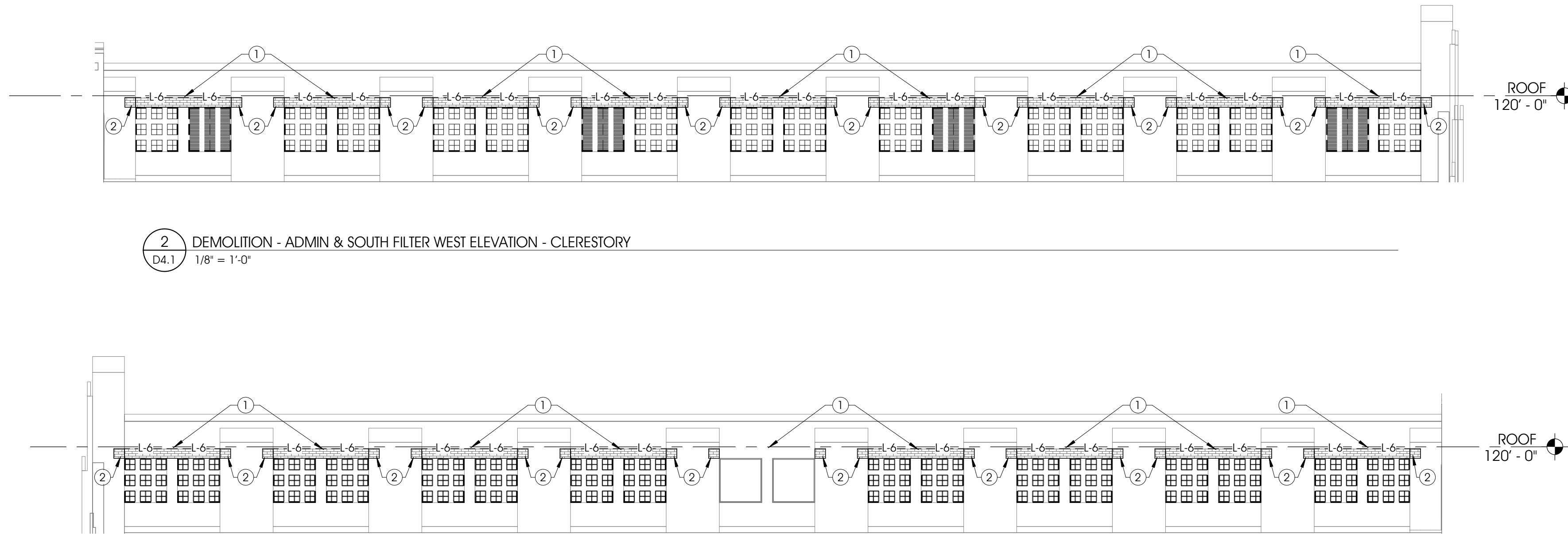
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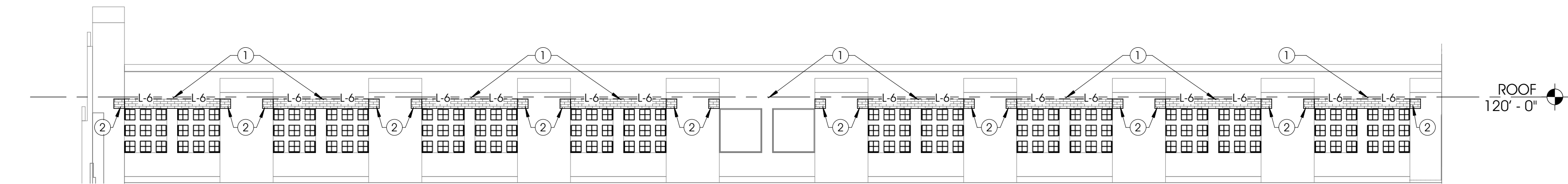
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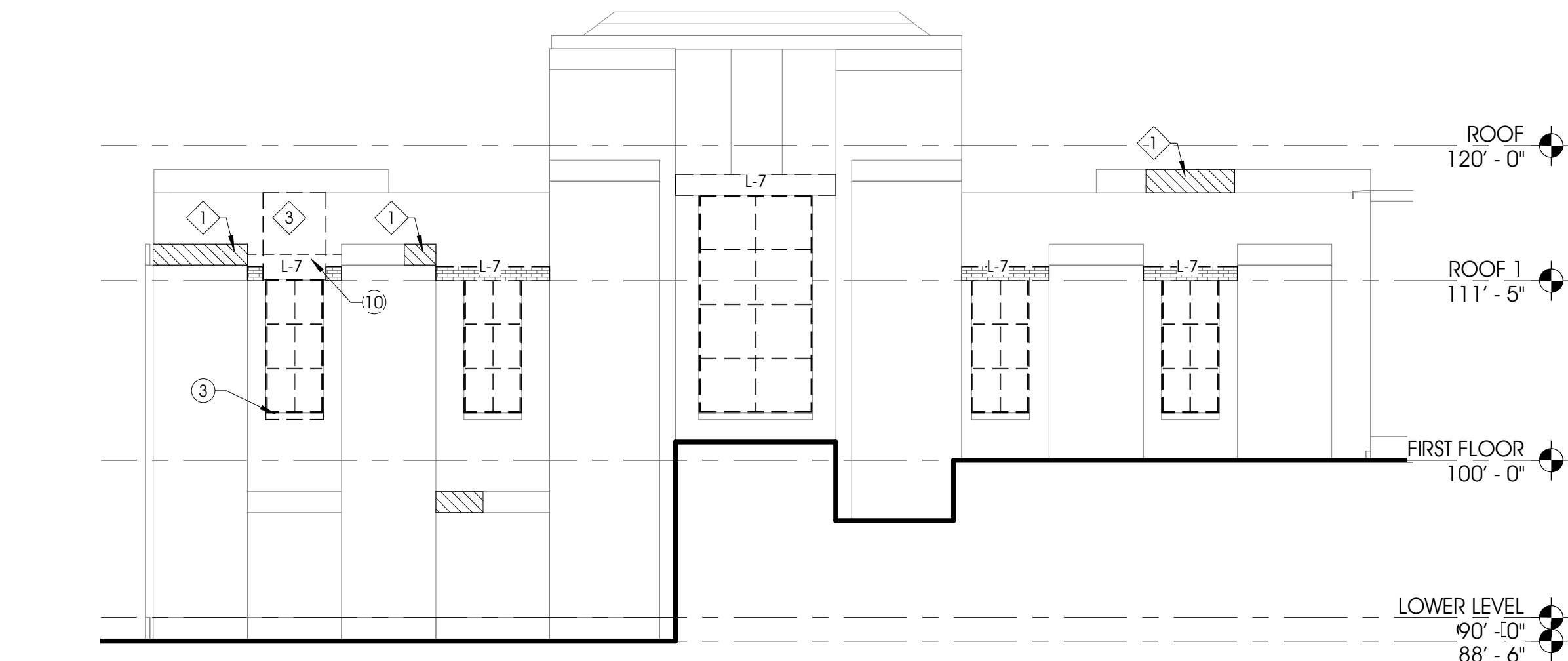
1 DEMOLITION - ADMIN & SOUTH FILTER WEST ELEVATION
D4.1 1/8" = 1'-0"



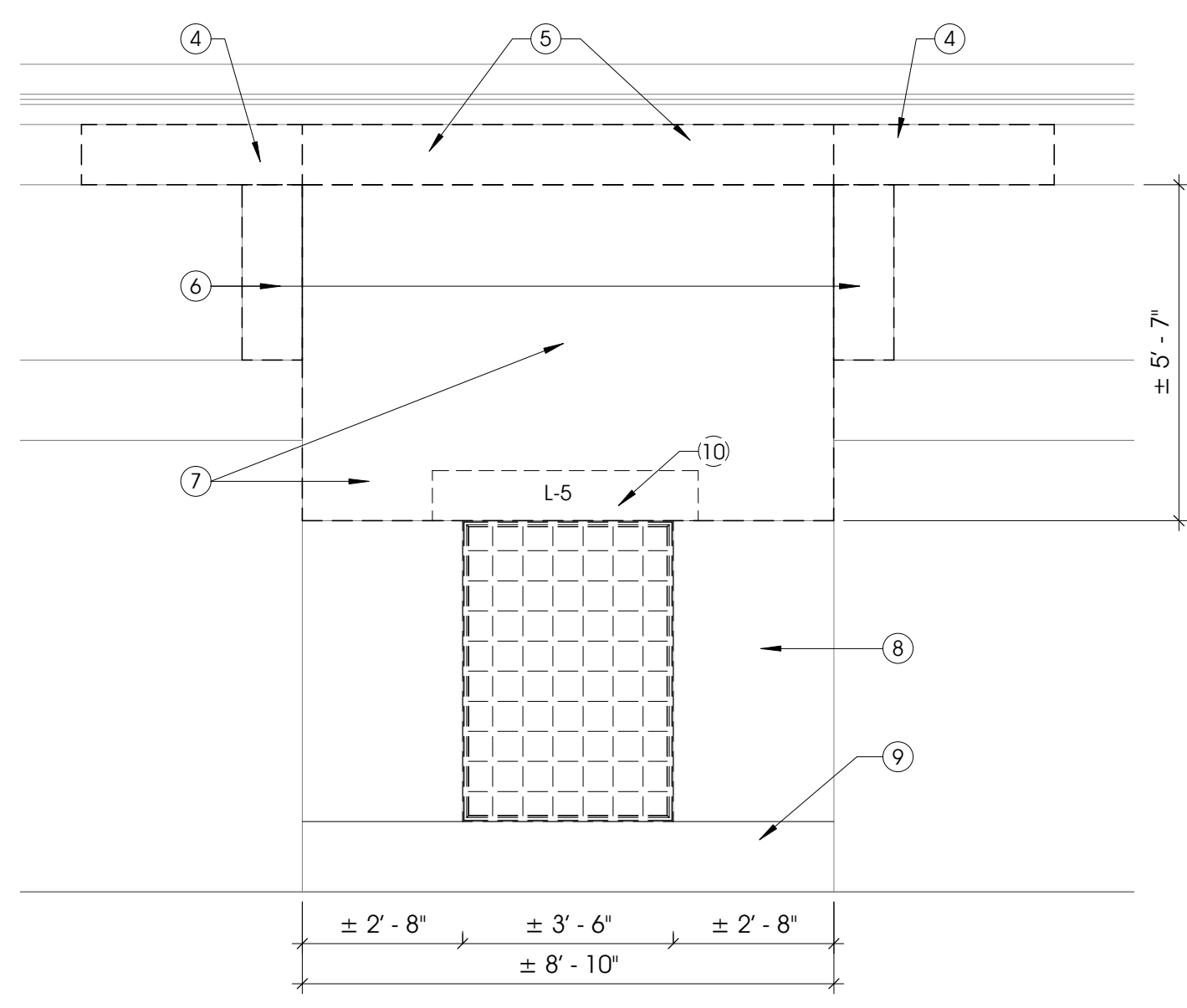
2 DEMOLITION - ADMIN & SOUTH FILTER WEST ELEVATION - CLERESTORY
D4.1 1/8" = 1'-0"



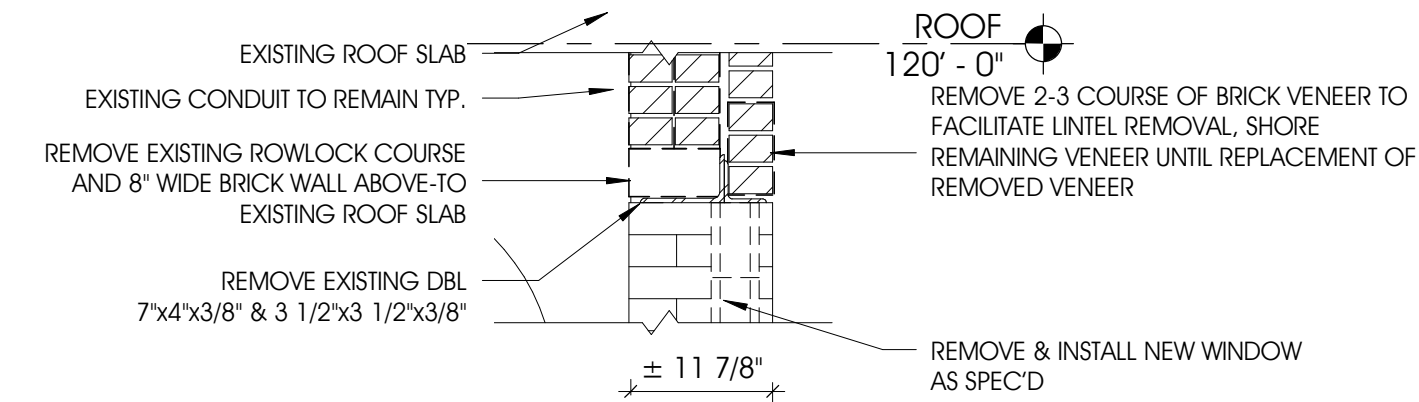
3 DEMOLITION - ADMIN & SOUTH FILTER EAST ELEVATION - CLERESTORY
D4.1 1/8" = 1'-0"



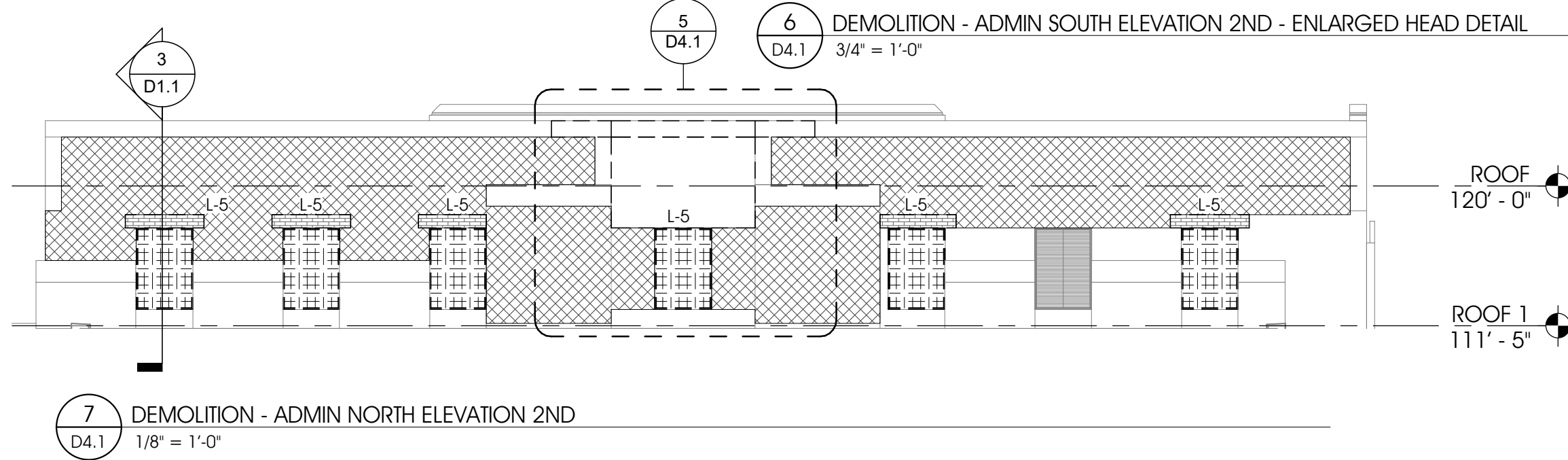
4 DEMOLITION - ADMIN & SOUTH FILTER SOUTH ELEVATION
D4.1 1/8" = 1'-0"



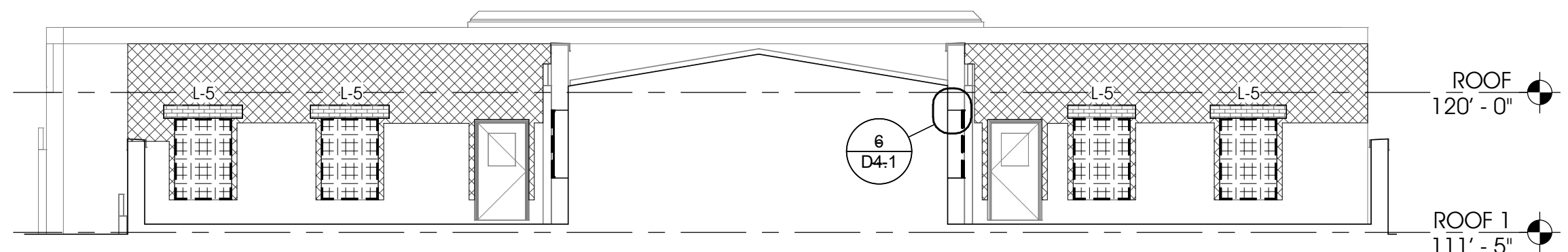
5 MASONRY REPAIRS - ADMIN ENLARGED NORTH ELEVATION 2ND
D4.1 3/8" = 1'-0"



6 DEMOLITION - ADMIN SOUTH ELEVATION 2ND - ENLARGED HEAD DETAIL
D4.1 3/4" = 1'-0"



7 DEMOLITION - ADMIN NORTH ELEVATION 2ND
D4.1 1/8" = 1'-0"



8 DEMOLITION - ADMIN SOUTH ELEVATION 2ND
D4.1 1/8" = 1'-0"

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MASONRY RESTORATION LEGEND

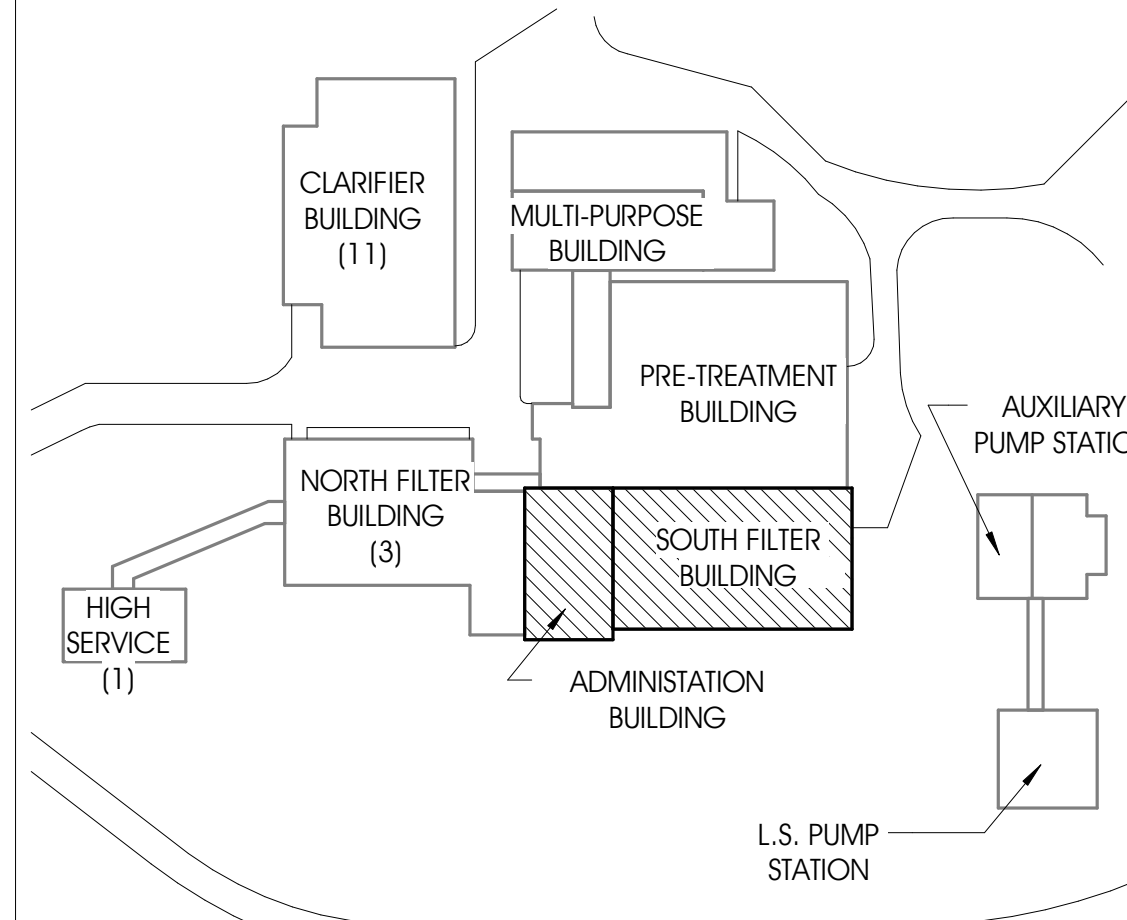
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- EXISTING WINDOW TO BE REMOVED AND REPLACED

KEYNOTES - ADMIN & S. FILTER BUILDING

- 1 REMOVE 3 COURSES OF BRICK VENEER ABOVE WINDOWS FULL WIDTH BETWEEN PILASTERS. SUPPORT BRICK TO REMAIN ABOVE. SEE SHEET D1.3 MASONRY REMOVAL NOTE
- 2 REMOVE ±8" WIDTH 3 COURSES HIGH AT PILASTER CORNERS TO FACILITATE REMOVAL AND REPLACEMENT OF EXISTING LINTELS BEARING ON PILASTER
- 3 REMOVE AND REPLACE STONE SILL TO MATCH EXISTING
- 4 REMOVE & REPLACE ± 3'-8"W x 12"H x 4"D STONE CAP (VERIFY), MATCH EXISTING PROFILE
- 5 REMOVE & REPLACE ± 12"H x 4"D STONE BAND, ± 8'-10" LONG (VERIFY) MATCH EXISTING JOINT LOCATIONS AND PROFILE
- 6 REMOVE & REPLACE 12"H x 12"W x 4"D STONE TRIM AT EACH SIDE, MATCH EXISTING PROFILE
- 7 REMOVE & REPLACE STONE PANELS. REPLACE WITH BACK VENEER MATCH EXISTING. ASSUME 4" D (VERIFY)
- 8 TUCK POINT ALL PREVIOUSLY REPAIRED JOINTS AT EACH SIDE OF MASONRY OPENING
- 9 EXISTING STONE SILL TO REMAIN
- 10 REMOVE 2 COURSE OF BRICK VENEER ABOVE LINTEL BEHIND STONE PANEL TO FACILITATE LINTEL REPLACEMENT. REPLACE BRICK AFTER INSTALL

MASONRY, LIMESTONE SILLS & PANELS

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KEY PLAN-ADMIN & SOUTH FILTER BUILDING
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PROJECT:

CITY OF MUSKEGON
WATER FILTRATION PLANT
1900 BEACH STREET
MUSKEGON, MI 49441

SHEET TITLE:

MODELED BY: JLF

DESIGNED BY: JLF

PM REVIEW: EML

QA/QC REVIEW: JMS

DATE: 03-17-2021

SEAL: JEFFREY M. SAYLOR ARCHITECT No. 80398

SIGNATURE:

DATE:

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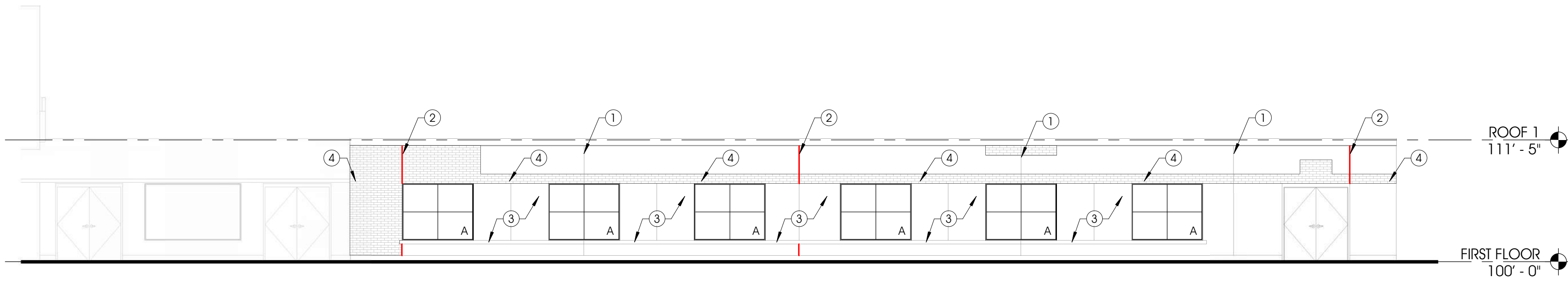
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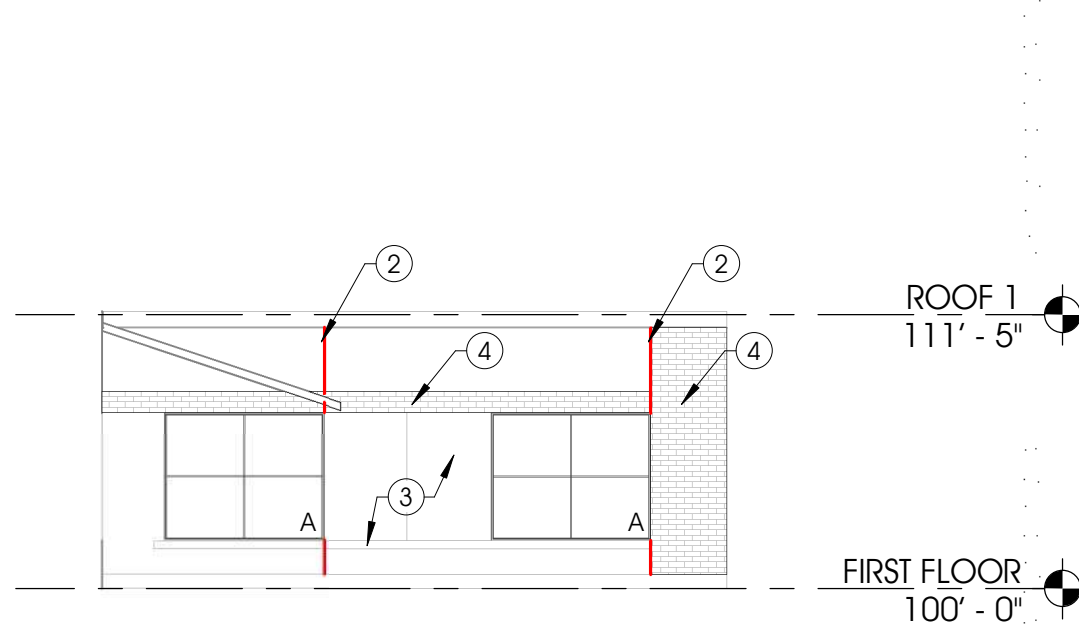
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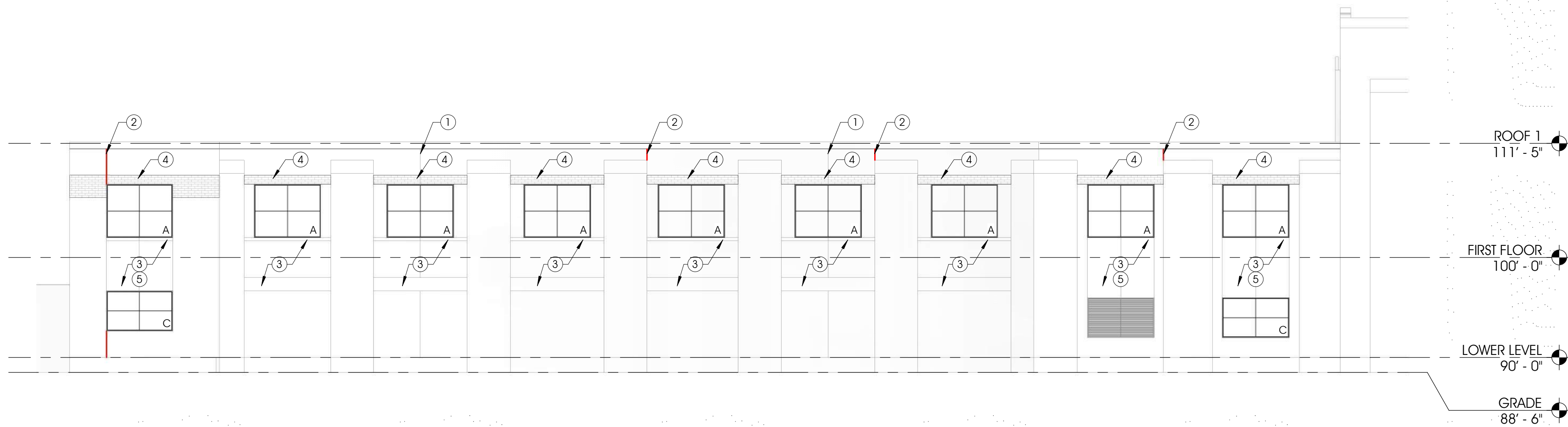
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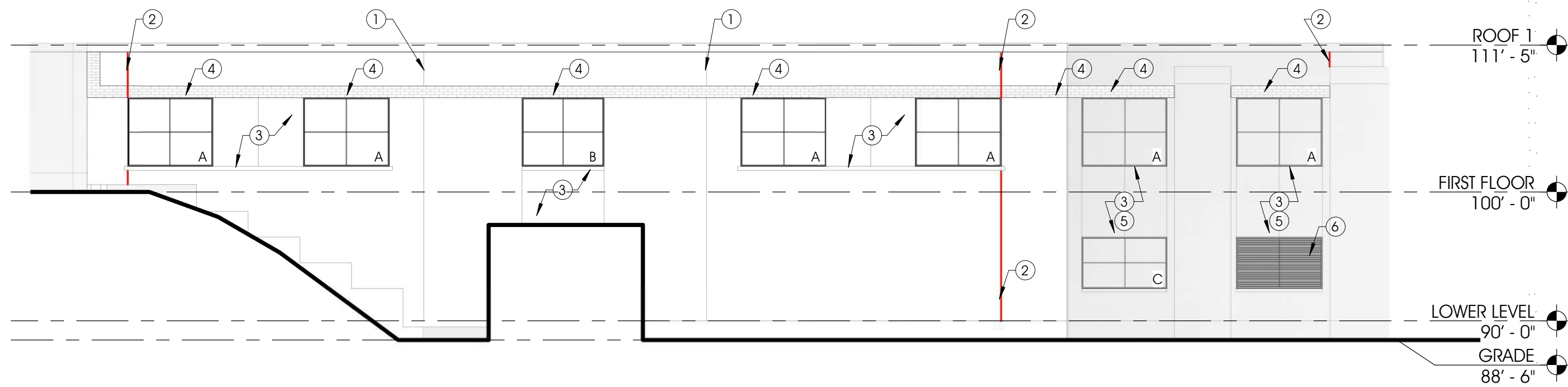
1 NEW WORK - NORTH FILTER EAST ELEVATION
A1.2 1/8" = 1'-0"



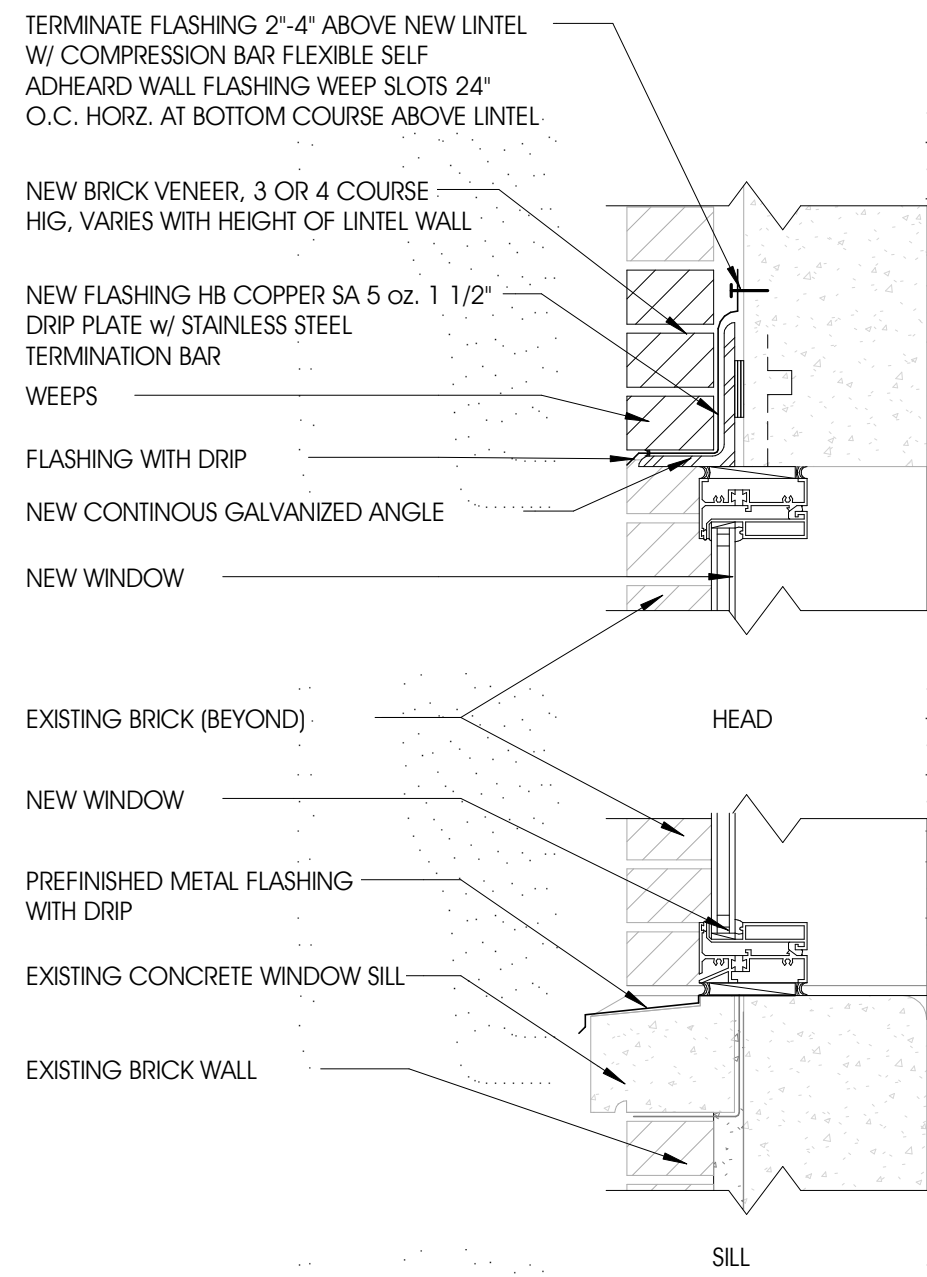
4 NEW WORK - NORTH FILTER SOUTH ELEVATION
A1.2 1/8" = 1'-0"



2 NEW WORK - NORTH FILTER WEST ELEVATION
A1.2 1/8" = 1'-0"



3 NEW WORK - NORTH FILTER NORTH ELEVATION
A1.2 1/8" = 1'-0"



5 NEW HEAD & SILL
A1.2 1 1/2" = 1'-0"

MATERIAL SPECIFICATION

A. COPPER FLASHING AND ACCESSORIES

- 3 OZ. COPPER FLASHING BONDED ON BOTH SIDES TO ASPHALT COATED GLASS FABRIC WITH A DUCTILE ASPHALT.
- FLASHING SHALL BE EQUIVALENT TO MANUFACTURER - ADVANCED BUILDING PRODUCTS INC. OR EQUAL.
- PROVIDE A 12" WIDE FLASHING TO BE INSTALLED IN CAVITY WALL ON WEST AND SOUTH ELEVATIONS.
- INSTALL FLASHING IN LAID BED OF FRESH MORTAR SLURRY AND TOPPED WITH A BED OF FULL MORTAR. FLASHING SHALL BE LEFT FLUSH WITH EXTERIOR FACE OF MASONRY AND CARRIED UP THE WALL 6" MIN. SECURE FLASHING TO BACK OF WALL WITH ALUMINUM TERMINATION BAR (1" X 10") ANCHOR WITH 1/8" DIA. EXPANSION ANCHORS AT 8" O.C.
- ACCESSORY: FURNISH WEEP VENTS OF CELLULAR, HONEYCOMB DESIGN, POLYPROPYLENE WEEP VENTS FOR EMBEDDING IN MASONRY WALL HEAD JOINTS. AT 24" O.C. WEEP VENTS ARE MANUFACTURED BY ADVANCED BUILDING PRODUCTS, INC.

B. MORTARS

- PROVIDE TYPE N MORTAR WITH A RATIO OF THE FOLLOWING: 1 PART CEMENT, 1 PART HYDRATED LIME OR LIME PUTTY AND 5 TO 6 PARTS SAND. PORTLAND CEMENT SHALL CONFORM TO ASTM C 150 TYPE II. LIME SHALL CONFORM TO ASTM C 207 TYPE S - SERVES AS THE BINDER AND WILL RESIST SHRINKAGE AND DRYING TIME DURING CURING. (NO ADDITIVES PERMITTED TO MORTAR MIX)

- CONTRACTOR FIELD VERIFY THE EXISTING SAND AGGREGATE CONDITION OF EXISTING MORTAR. CONFORM TO ASTM C 144.

C. CAULK/ SEALANTS

- PROVIDE EXTERIOR GRADE POLYURETHANE CAULK, ASTM C 920, GRADE NS, CLASS 25, SINGLE COMPONENT
- COLOR SELECTED BY ARCHITECT.
- ACCESSORIES - BOND BREAKER TAPE AS FURNISHED BY MANUFACTURER.
- INSTALL CAULK AT ALL JOINTS OF LIMESTONE - HEAD AND BED JOINTS.

GENERAL NOTES

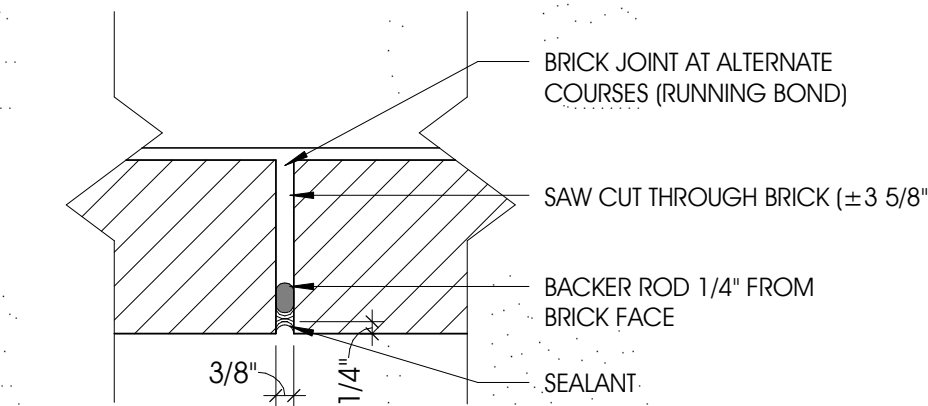
- ALL CONTRACTORS ARE RESPONSIBLE FOR PROVIDING COMPLETE INSTALLATION OF ALL COMPONENTS AND SHALL COORDINATE THEIR SCOPE OF WORK WITH ALL OTHER TRADES PRIOR TO SUBMITTING BIDS TO ENSURE THERE ARE NO MISSING OR DUPLICATE COMPONENTS WITH-IN THEIR SCOPE
- DO NOT SCALE DRAWINGS. USE INDICATED DIMENSIONS ONLY.
- SHOULD A CONTRACTOR FIND DISCREPANCIES OR AMBIGUITIES IN OR OMISSIONS FROM THE DRAWINGS OR SPECIFICATIONS, OR BE IN DOUBT ABOUT THEIR MEANING, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON THE JOB DURING CONSTRUCTION LAYOUT AND ADVISE THE ARCHITECT OF ANY DISCREPANCIES PRIOR TO PERFORMING ANY WORK.
- CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS ON-SITE AND ADVISING ARCHITECT OF ANY DISCREPANCIES WITH DEMOLITION OR NEW WORK PLANS PRIOR TO PERFORMING ANY WORK.
- CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY IF ANY UNFORESEEN STRUCTURAL OR UTILITY RELATED ISSUES ARISE DURING DEMOLITION OR EXCAVATION.
- ALL SPECIFIED ITEMS SHALL BE PROVIDED AND INSTALLED PER MANUFACTURERS WRITTEN REQUIREMENTS CLEANING
- CLEAN NEW MASONRY BRICK OR STONE SURFACE ON COMPLETION. PROTECT EXISTING SURROUNDING BRICK AREAS, INCLUDING DOORS, WINDOWS, STONE WORK, AND METAL SURFACES FROM STAINING.
- REMOVE MORTAR DROPPINGS AND OTHER FOREIGN SUBSTANCES FROM WALL SURFACES.
- FIRST WET SURFACES WITH CLEAN WATER, THEN WASH DOWN WITH A SOLUTION OF SOAPLESS DETERGENT SPECIALLY PREPARED FOR CLEANING BRICK. USE PROSOCO 766 LIMESTONE AND MASONRY PREWASH WITH NEUTRALIZER. FLOOD COAT SURFACE TO AVOID STAINING MASONRY BELOW SURFACE.
- BRUSH WITH STIFF NYLON FIBER BRUSH WHILE WASHING. DO NOT USE METAL WIRE BRUSHES. IMMEDIATELY THEREAFTER APPLYING DETERGENT, HOSE DOWN ENTIRE SURFACE WITH CLEAN WATER.
- FREE CLEAN SURFACES FROM TRACES OF DETERGENT, FOREIGN STREAKS OR STAINS. PROTECT MATERIALS DURING CLEANING OPERATIONS INCLUDING ADJOINING CONSTRUCTION.
- USE OF MURATIC ACID FOR CLEANING IS STRICTLY PROHIBITED.
- CLARIFIER, ADMIN, NORTH FILTER & SOUTH FILTER BUILDINGS: REPLACE DAMAGED ROUND NOSED GLAZED BLOCK AT SILL OF WINDOWS & MATCH EXISTING GLAZED BLOCK AT HEAD OF WINDOWS AS REQUIRED. SITE VERIFICATION REQUIRED. COLOR TO MATCH EXISTING

GENERAL NOTES - EXTERIOR ELEVATIONS

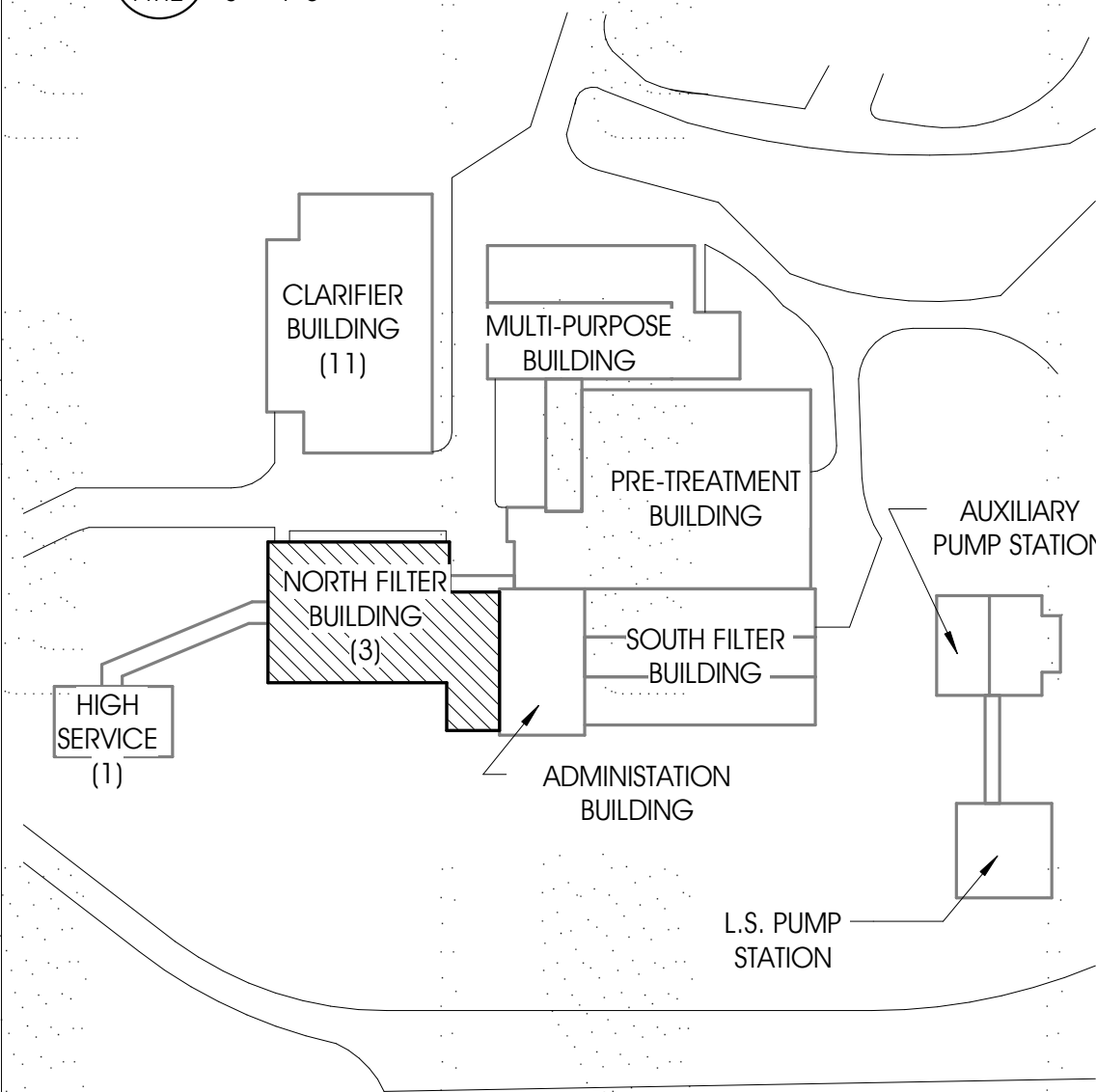
- PROVIDE SEALANT AND BACKER ROD BETWEEN ALL DISSIMILAR MATERIALS

KEYNOTES - NEW ELEVATION

- EXISTING CONTROL JOINT. CLEAN & RE-SEAL
- NEW CONTROL JOINT. CUT INTO EXISTING BRICK, ALIGN w/ AN EXISTING HEAD JOINT. SEAL JOINT w/ SEALANT & BACKER ROD. SEE DETAIL 6/A1.2
- CLEAN AND SEAL EXISTING STONE PANELS & CONTINUOUS SILLS PER SPEC TYP.
- REPLACE BRICK INFILL AT NEW STEEL LINTELS. MATCH EXISTING BRICK, COURSING, AND MOTAL. SEE DEMOLITION PLANS FOR REMOVAL OF BRICK AT EXISTING LINTELS AND SUPPORTING BRICK TO REMAIN DURING REPLACEMENT
- CLEAN & RE-INSTALL EXISTING STONE PANEL TYP.
- NEW LOUVER, REFER TO BYCE DRAWINGS FOR ADDITIONAL INFORMATION



6 CONTROL JOINT DETAIL
A1.2 3" = 1'-0"



KEY PLAN-NORTH BUILDING

SCALE 1" = 100'-0"

NO.	REVISION DESCRIPTION	BY	DATE
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PROJECT:

CITY OF MUSKEGON
WATER FILTRATION PLANT
1900 BEACH STREET
MUSKEGON, MI 49441

NORTH FILTER ELEVATIONS

SHEET TITLE:

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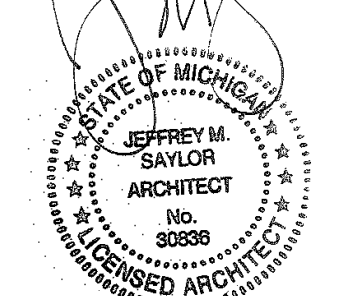
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PM REVIEW: EML

QA/QC REVIEW: JMS

DATE: 03-17-2021

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SHEET NO.

A1.2

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abonmarche.com

Coshen
Lafayette
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Valparaiso

Engineering, Architecture, Land Surveying

GENERAL NOTES - ROOFING

A. DO NOT SCALE DRAWINGS - USE WRITTEN DIMENSIONS PROVIDED ONLY

B. ALL SPECIFIED ITEMS SHALL BE PROVIDED BY THE GENERAL CONTRACTOR AS COMPLETE SYSTEMS WITH ALL ACCESSORY ITEMS REQUIRED FOR A COMPLETE INSTALLATION. GENERAL CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH ALL TRADES, CONSTRUCTION TYPES, ETC...TO PREVENT EXCLUSION OR DUPLICATION. GENERAL CONTRACTORS BIDS SHALL BE ALL INCLUSIVE.

C. STORE AND HANDLE ROOFING SHEETS IN A DRY, WELL-VENTILATED, WEATHER-TIGHT PLACE. STORE ROLLS OF FELT AND OTHER SHEET MATERIALS ON RAISED SURFACE. STAND ALL ROLL MATERIALS ON END. COVER ROLL GOODS WITH A CANVAS TARPULING OR OTHER BREATHABLE MATERIAL (NOT POLYETHYLENE).

D. DO NOT LEAVE UNUSED MATERIAL ON THE ROOF WHEN ROOFING WORK IS NOT IN PROGRESS UNLESS PROTECTED FROM WEATHER AND OTHER MOISTURE SOURCES.

E. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SECURE ALL MATERIAL AND EQUIPMENT ON THE JOB SITE. IF ANY MATERIAL OR EQUIPMENT IS STORED ON THE ROOF, THE CONTRACTOR MUST MAKE SURE THAT THE INTEGRITY OF THE DECK IS NOT COMPROMISED AT ANYTIME.

F. DO NOT APPLY ROOF INSULATION OR MEMBRANE TO DAMP DECK SURFACE

G. FULLY COMPLETE ALL. MODIFIED BITUMINOUS MEMBRANE ROOFING FIELD ASSEMBLY WORK EACH DAY.

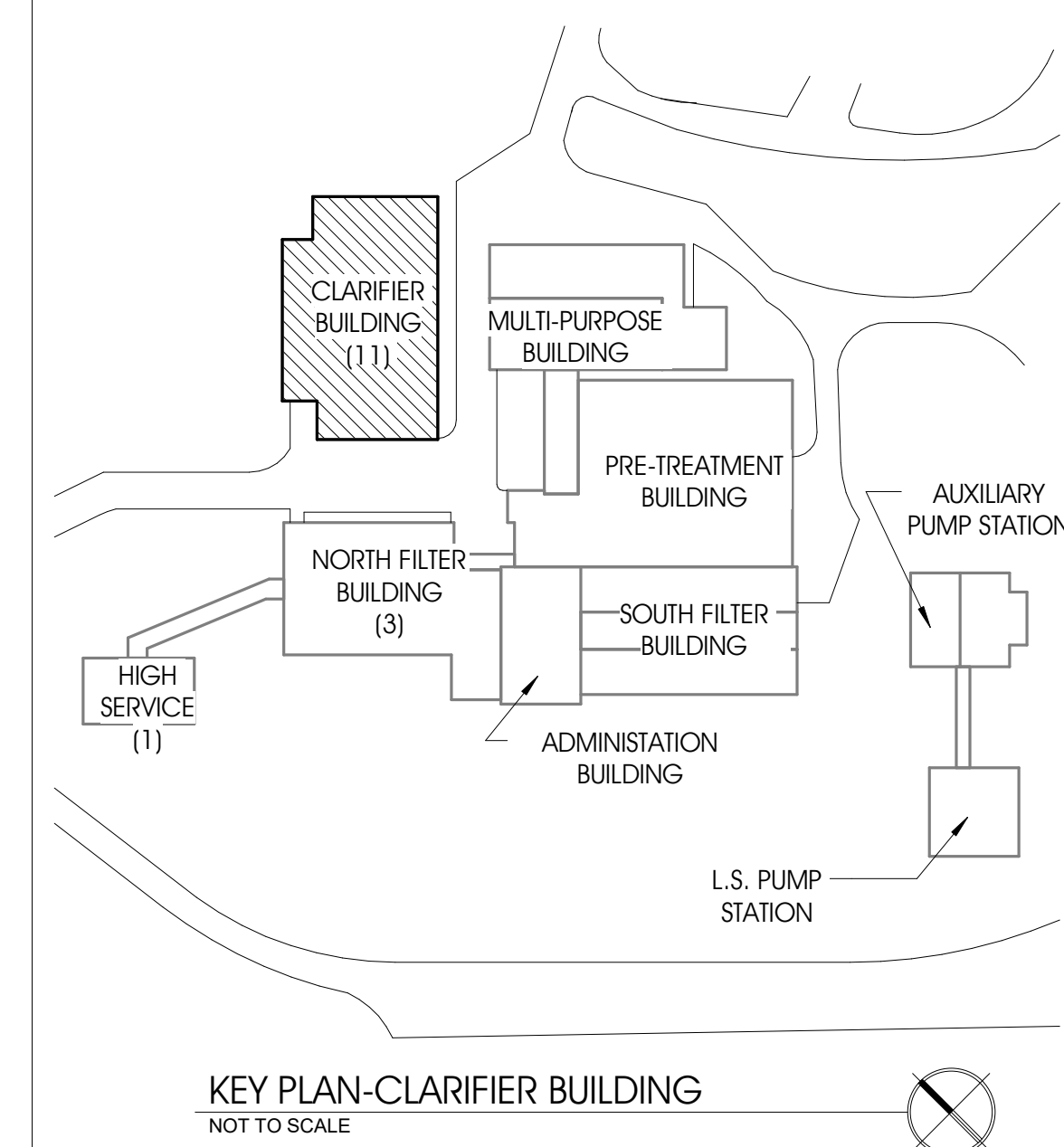
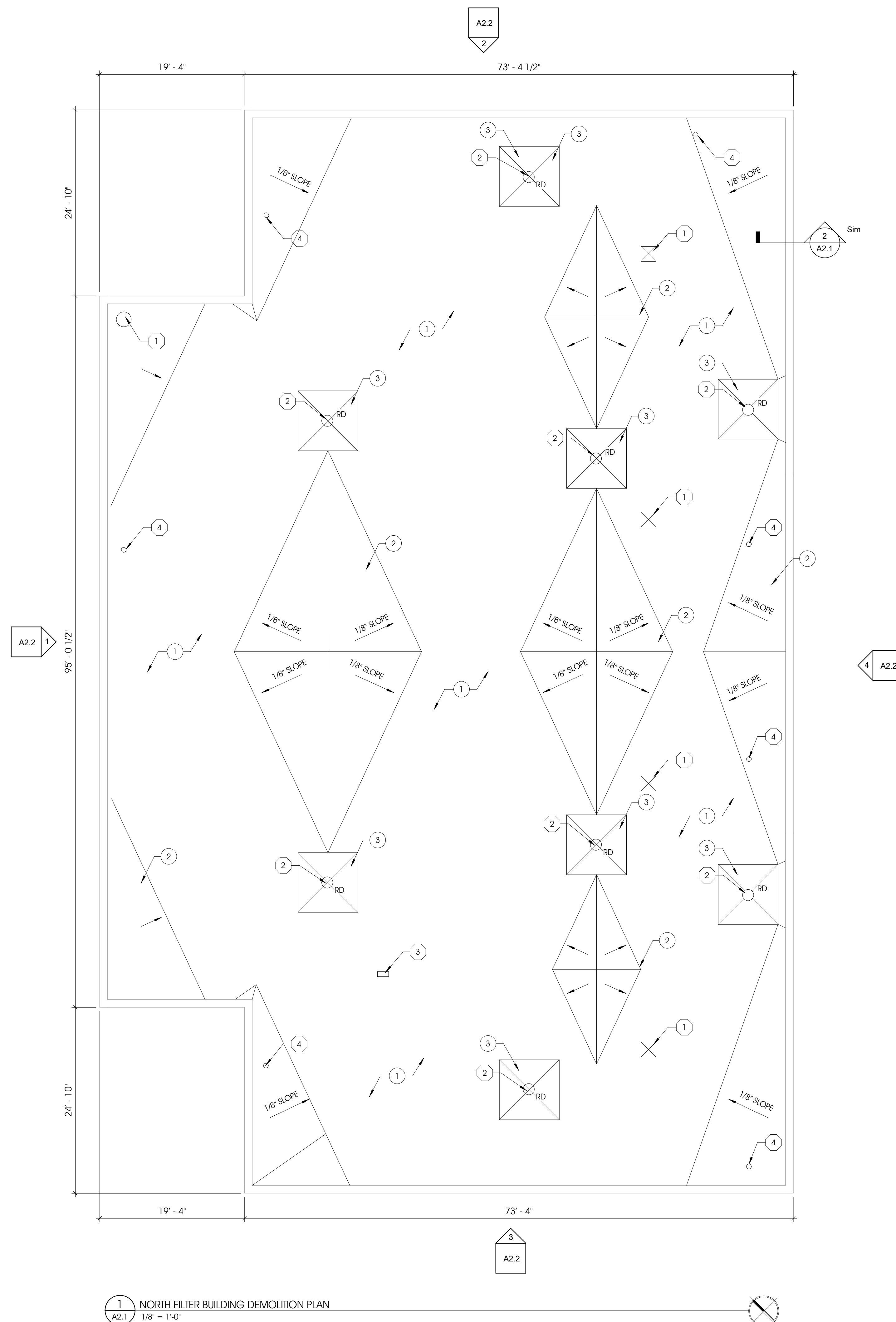
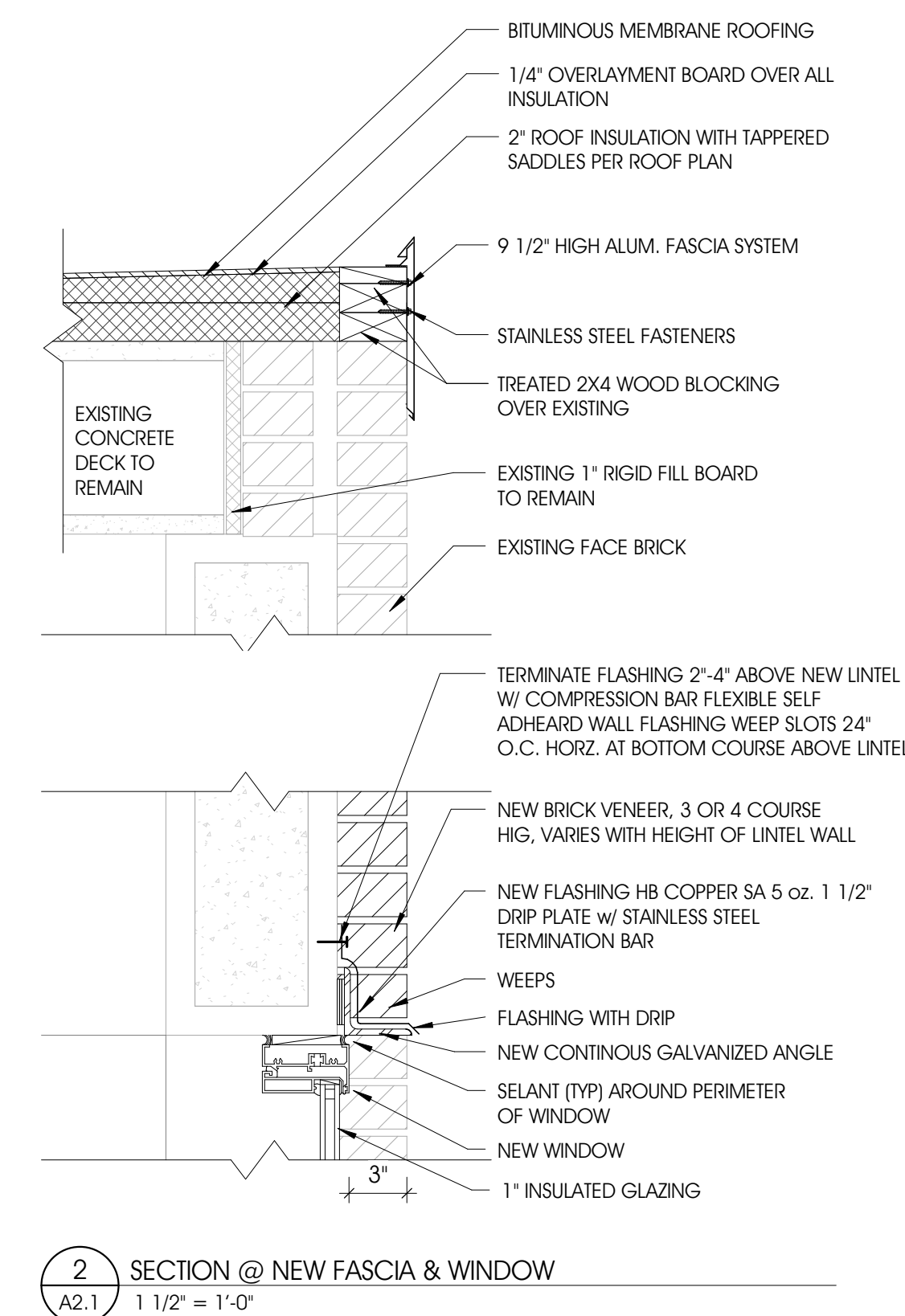
H. REFER TO DRAWING & SPECIFICATIONS FOR ADDITIONAL INFORMATION

KEYNOTES - EXISTING/DEMOLITION

- 1 EXISTING AIR EXHAUST
- 2 EXISTING ROOF DRAIN REMAIN
- 3 REMOVE EXISTING BLOCK AND CABLE CONNECTION TO REMAIN
- 4 EXISTING VENT STACK TO BE REMOVED AND ROOF DECK TO BE REPAIRED
AS REQUIRED

KEYNOTES - CLARIFIER NEW ROOF

- 1 BITUMINOUS MEMBRANE ROOFING SYSTEM: 2" RIGID INSULATION OVER CONCRETE DECK. TAPPED INSULATION WHERE SHOWN ON PLANS. 1/4" OVERLAYMENT BOARD OVER ALL INSULATION. BITUMINOUS ROOFING MEMBRANE OVER OVERLAYMENT BOARD.
- 2 TAPPED INSULATION SADDLES OVER NEW 2" RIGID INSULATION. 1/8" PER FT SLOPE 2" MAX HEIGHT.
- 3 8'X8' OR 4'X4' TAPPER INSULATION DRAIN SUMP AS SHOWN, 1" INSULATION AT DRAIN, 2" THICKNESS AT EDGE.



SHEET TITLE:


MODELED BY:

DESIGNED BY:

PM REVIEW:

QA/QC REVIEW:

DATE: 03-17-2021

SEAL: 

WV

STATE OF MICHIGAN
JEFFREY M.
SAYLOR
ARCHITECT
No.
30836
LICENSED ARCHITECT

SIGNATURE:

DATE: _____

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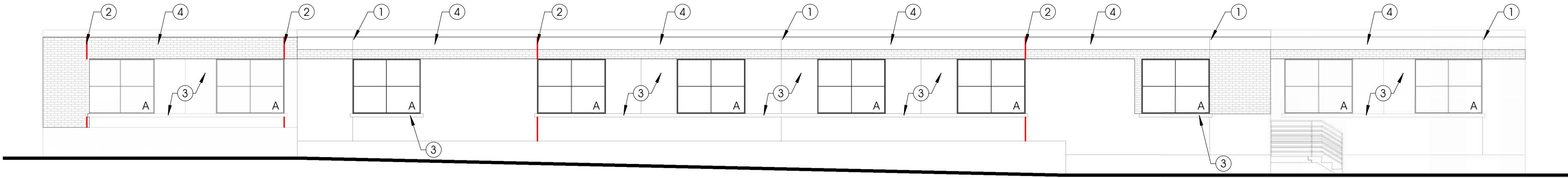
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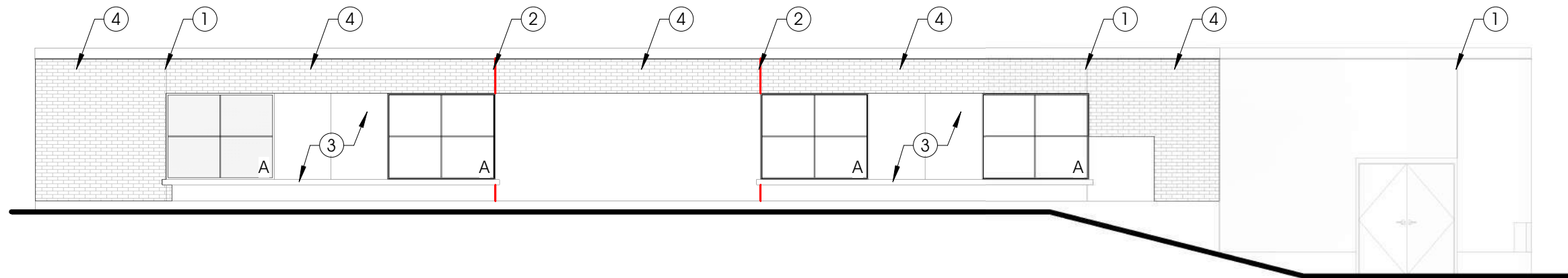
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A2.1

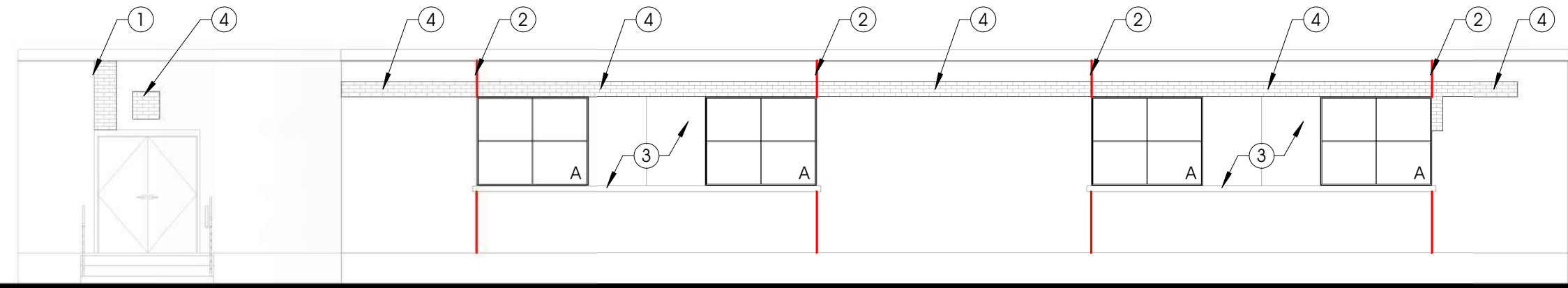
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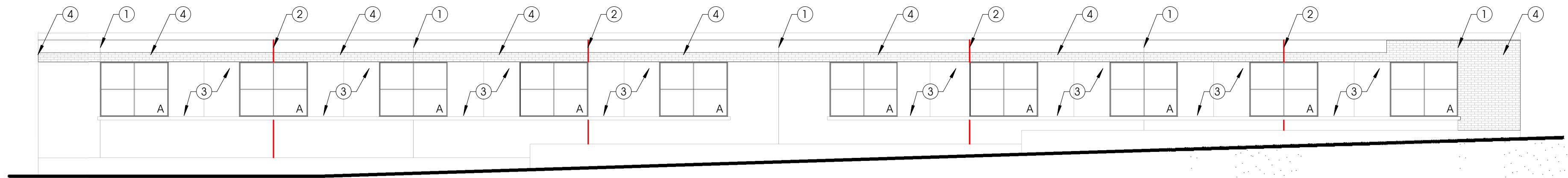
1 NEW WORK - CLARIFIER NORTH ELEVATION
A2.2 1/8" = 1'-0"



2 NEW WORK - CLARIFIER EAST ELEVATION
A2.2 1/8" = 1'-0"



3 NEW WORK - CLARIFIER WEST ELEVATION
A2.2 1/8" = 1'-0"



4 NEW WORK - CLARIFIER SOUTH ELEVATION
A2.2 1/8" = 1'-0"

GENERAL NOTES

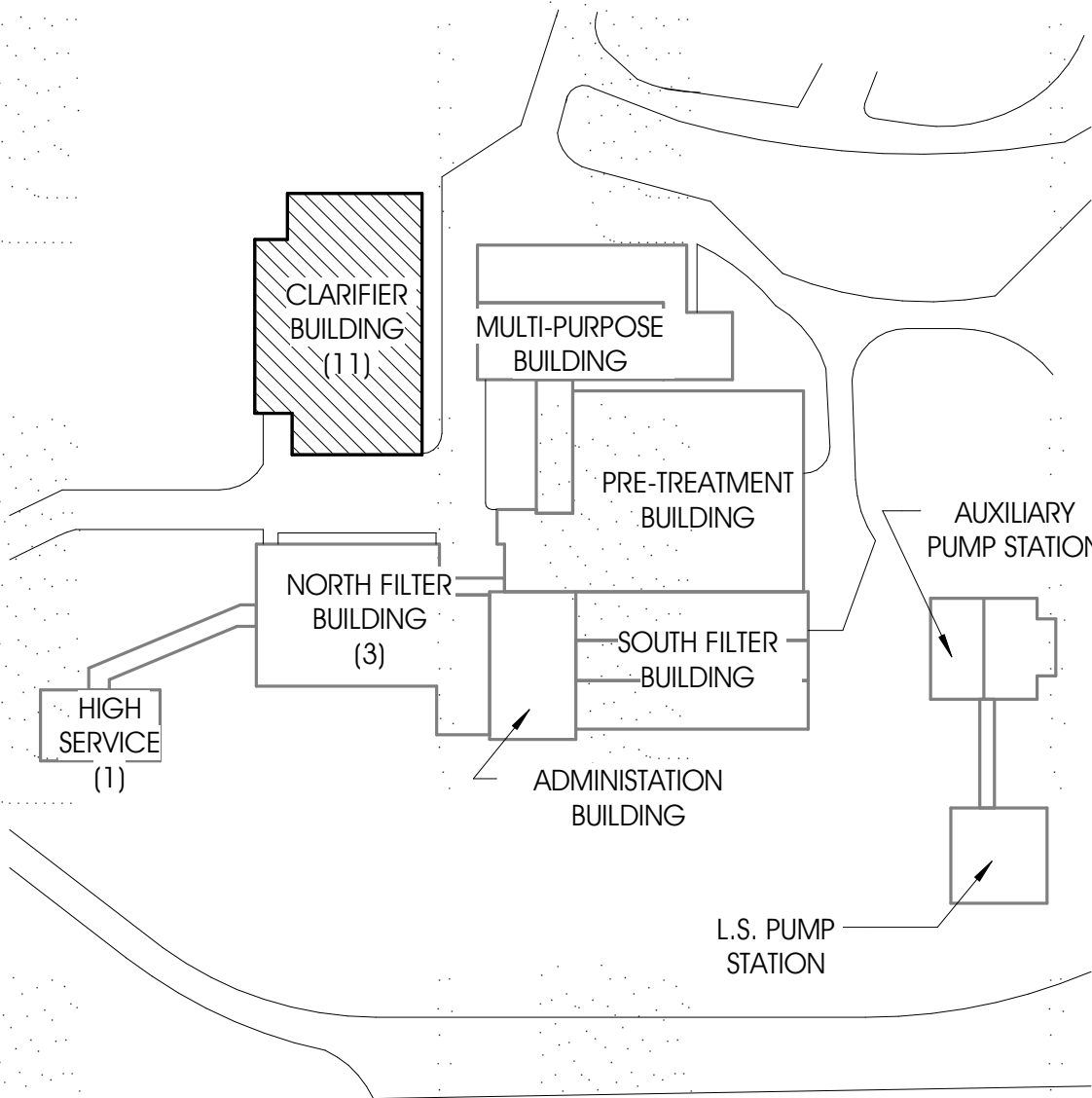
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- E. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS ON-SITE AND ADVISING ARCHITECT OF ANY DISCREPANCIES WITH DEMOLITION OR NEW WORK PLANS PRIOR TO PERFORMING ANY WORK.
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- G. ALL SPECIFIED ITEMS SHALL BE PROVIDED AND INSTALLED PER MANUFACTURERS WRITTEN REQUIREMENTS CLEANING
- H. CLEAN NEW MASONRY BRICK OR STONE SURFACE ON COMPLETION. PROTECT EXISTING SURROUNDING BRICK AREAS, INCLUDING DOORS, WINDOWS, STONE WORK, AND METAL SURFACES FROM STAINING.
- I. REMOVE MORTAR DROPPINGS AND OTHER FOREIGN SUBSTANCES FROM WALL SURFACES.
- J. FIRST WET SURFACES WITH CLEAN WATER. THEN WASH DOWN WITH A SOLUTION OF SOAPLESS DETERGENT SPECIALLY PREPARED FOR CLEANING BRICK. USE PROSOCO 766 LIMESTONE AND MASONRY PREWASH WITH NEUTRALIZER. FLOOD COAT SURFACE TO AVOID STAINING MASONRY BELOW SURFACE.
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GENERAL NOTES - EXTERIOR ELEVATIONS

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KEYNOTES - NEW ELEVATION

- EXISTING CONTROL JOINT, CLEAN & RE-SEAL
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KEY PLAN-CLARIFIER BUILDING
NOT TO SCALE

NO.	REVISION DESCRIPTION	BY	DATE
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PROJECT:

CITY OF MUSKEGON
WATER FILTRATION PLANT
1900 BEACH STREET
MUSKEGON, MI 49441

SHEET TITLE:

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SHEET NO.

A2.2

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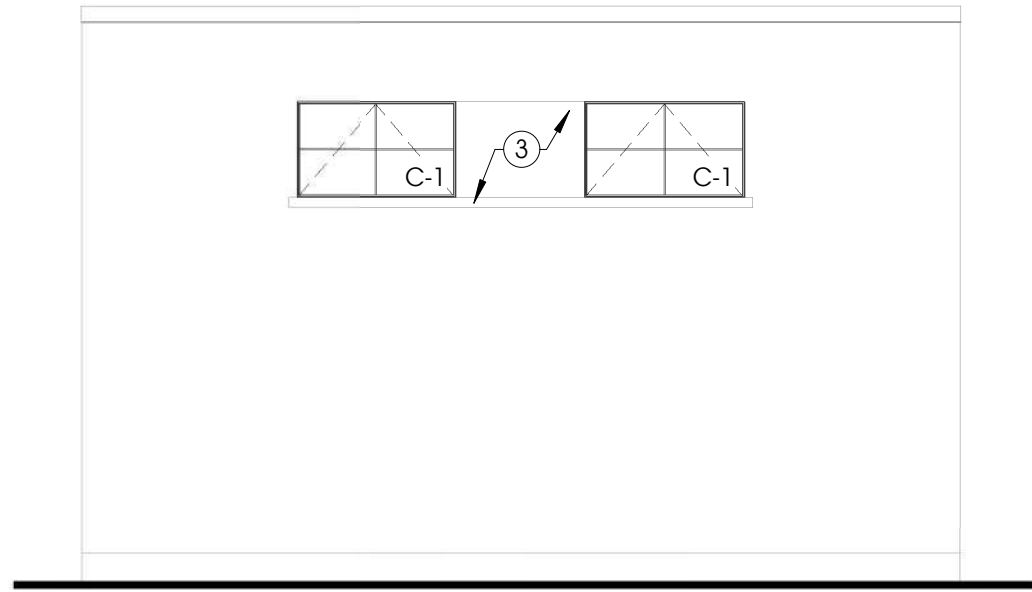
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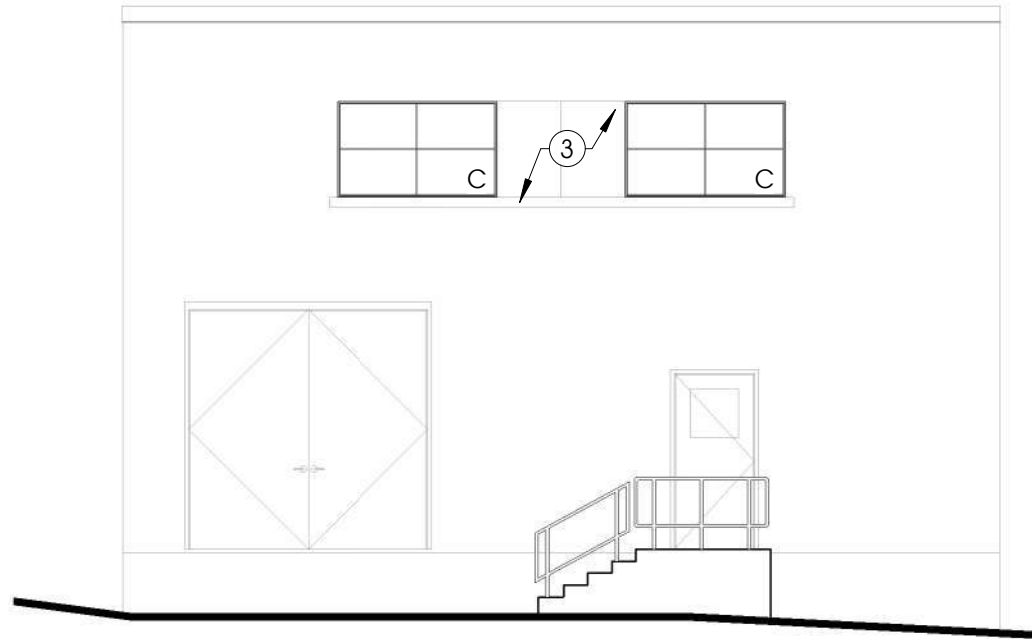
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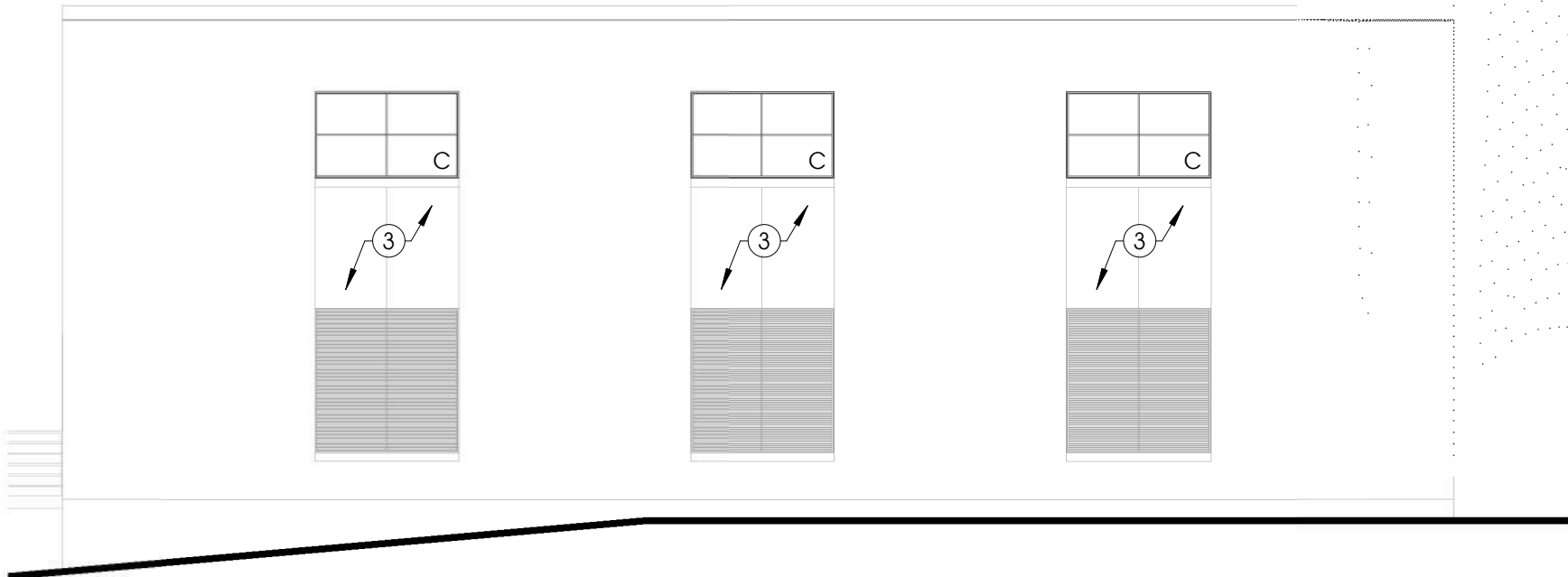
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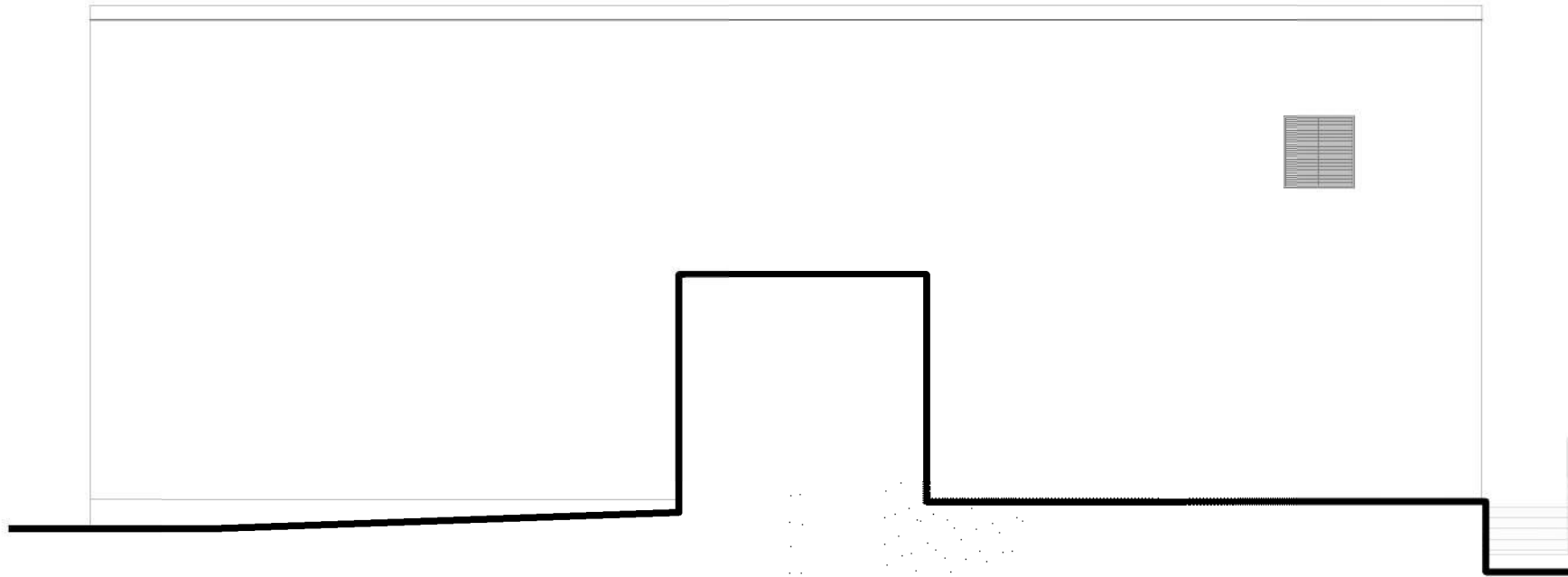
1 NEW WORK - HIGH SERVICE SOUTH ELEVATION
A3.1 1/8" = 1'-0"



3 NEW WORK - HIGH SERVICE NORTH ELEVATION
A3.1 1/8" = 1'-0"



2 NEW WORK - HIGH SERVICE WEST ELEVATION
A3.1 1/8" = 1'-0"



4 NEW WORK - HIGH SERVICE EAST ELEVATION
A3.1 1/8" = 1'-0"

GENERAL NOTES

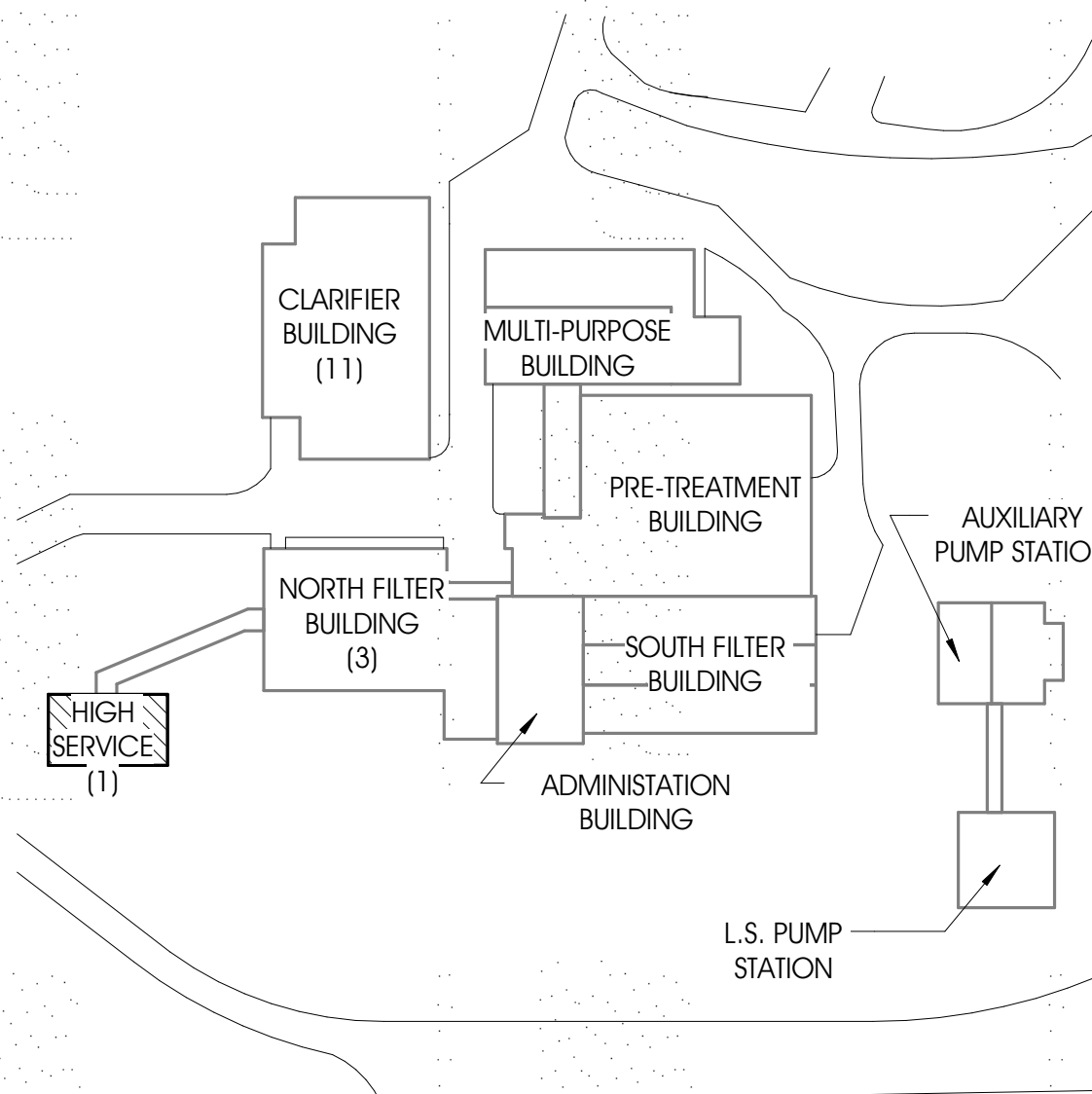
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GENERAL NOTES - EXTERIOR ELEVATIONS

- A. PROVIDE SEALANT AND BACKER ROD BETWEEN ALL DISSIMILAR MATERIALS

KEYNOTES - NEW ELEVATION

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- 6 NEW LOUVER, REFER TO BYCE DRAWINGS FOR ADDITIONAL INFORMATION



KEY PLAN-HIGH SERVICE
NOT TO SCALE

NO.	REVISION DESCRIPTION	BY	DATE
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PROJECT:

CITY OF MUSKEGON
WATER FILTRATION PLANT
1900 BEACH STREET
MUSKEGON, MI 49441

SHEET TITLE:

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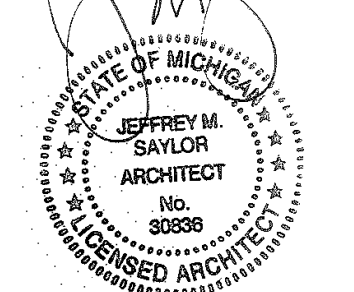
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SHEET NO.

A3.1

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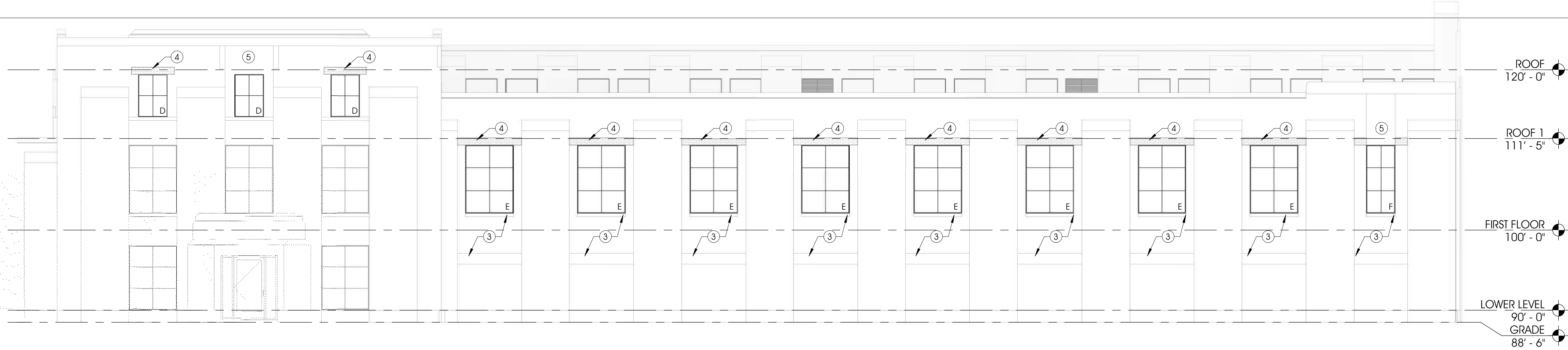
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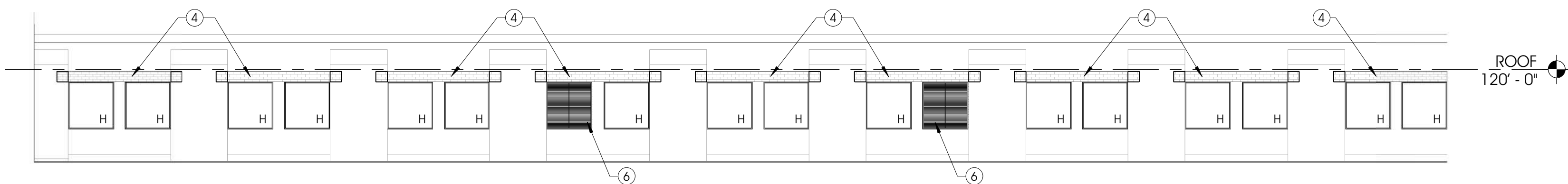
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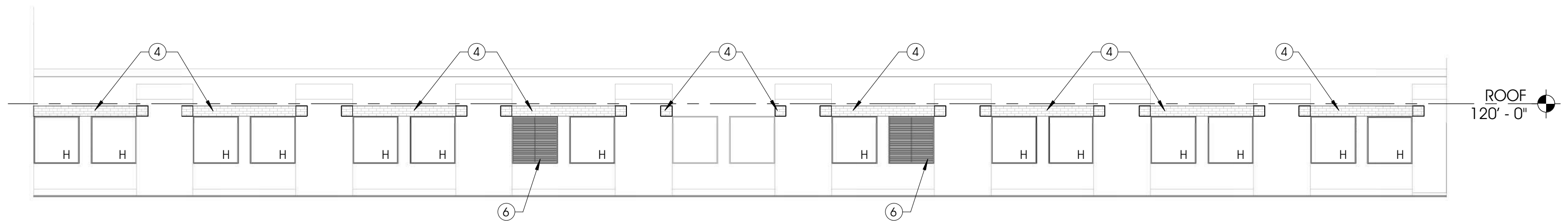
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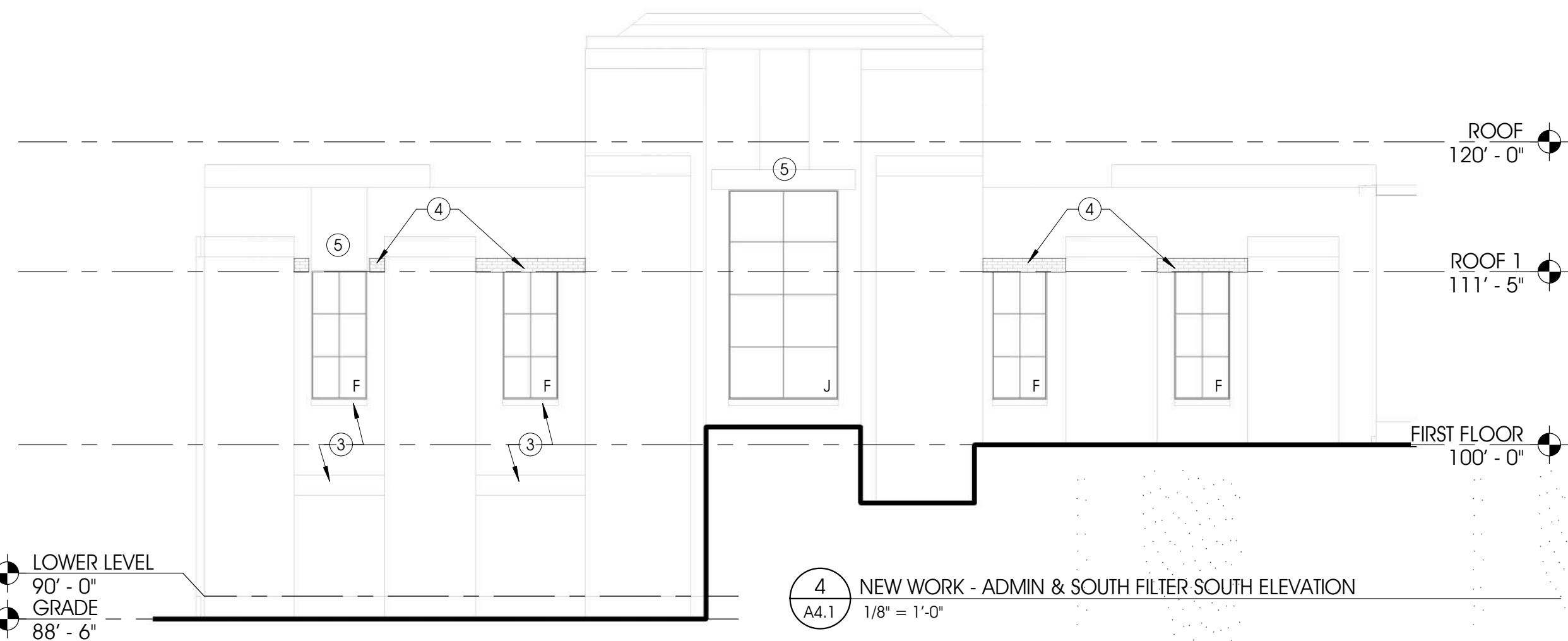
3 NEW WORK - ADMIN & SOUTH FILTER WEST ELEVATION
A4.1 1/8" = 1'-0"



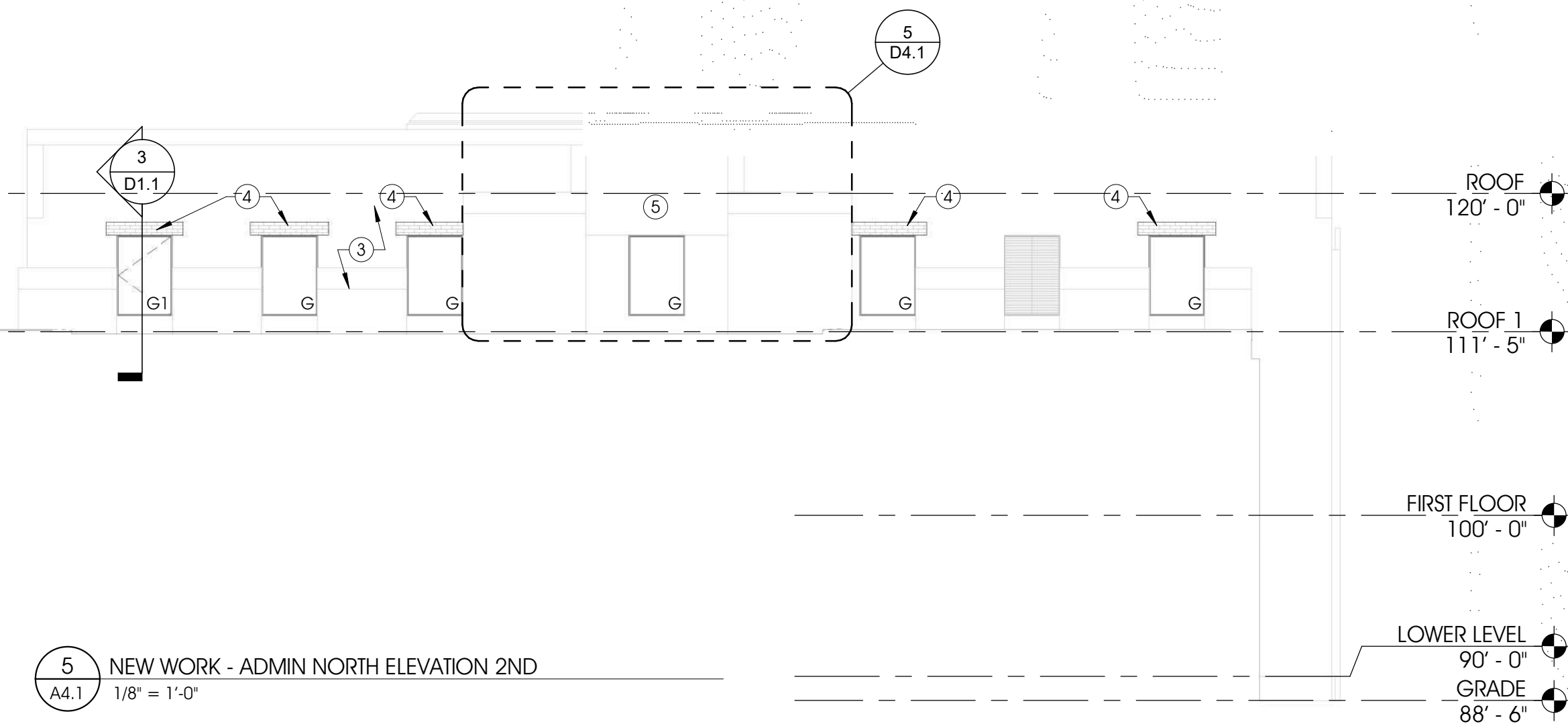
2 NEW WORK - ADMIN & SOUTH FILTER WEST ELEVATION 2ND
A4.1 1/8" = 1'-0"



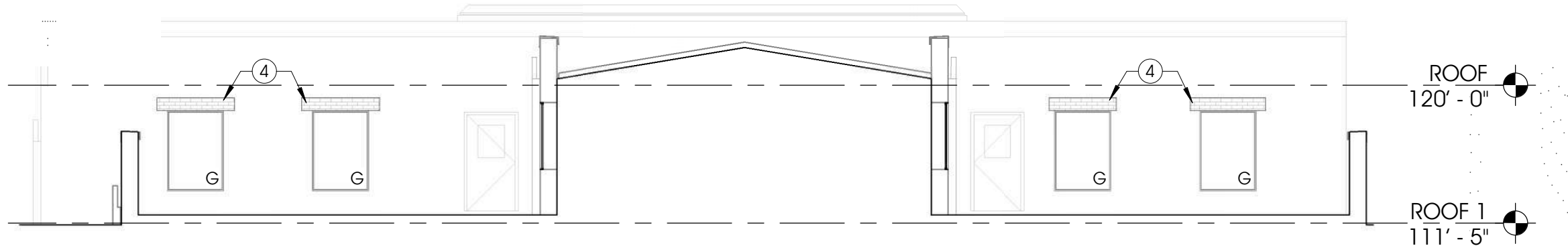
1 NEW WORK - ADMIN & SOUTH FILTER EAST ELEVATION 2ND
A4.1 1/8" = 1'-0"



4 NEW WORK - ADMIN & SOUTH FILTER SOUTH ELEVATION
A4.1 1/8" = 1'-0"



5 NEW WORK - ADMIN NORTH ELEVATION 2ND
A4.1 1/8" = 1'-0"



6 NEW WORK - ADMIN SOUTH ELEVATION 2ND
A4.1 1/8" = 1'-0"

GENERAL NOTES

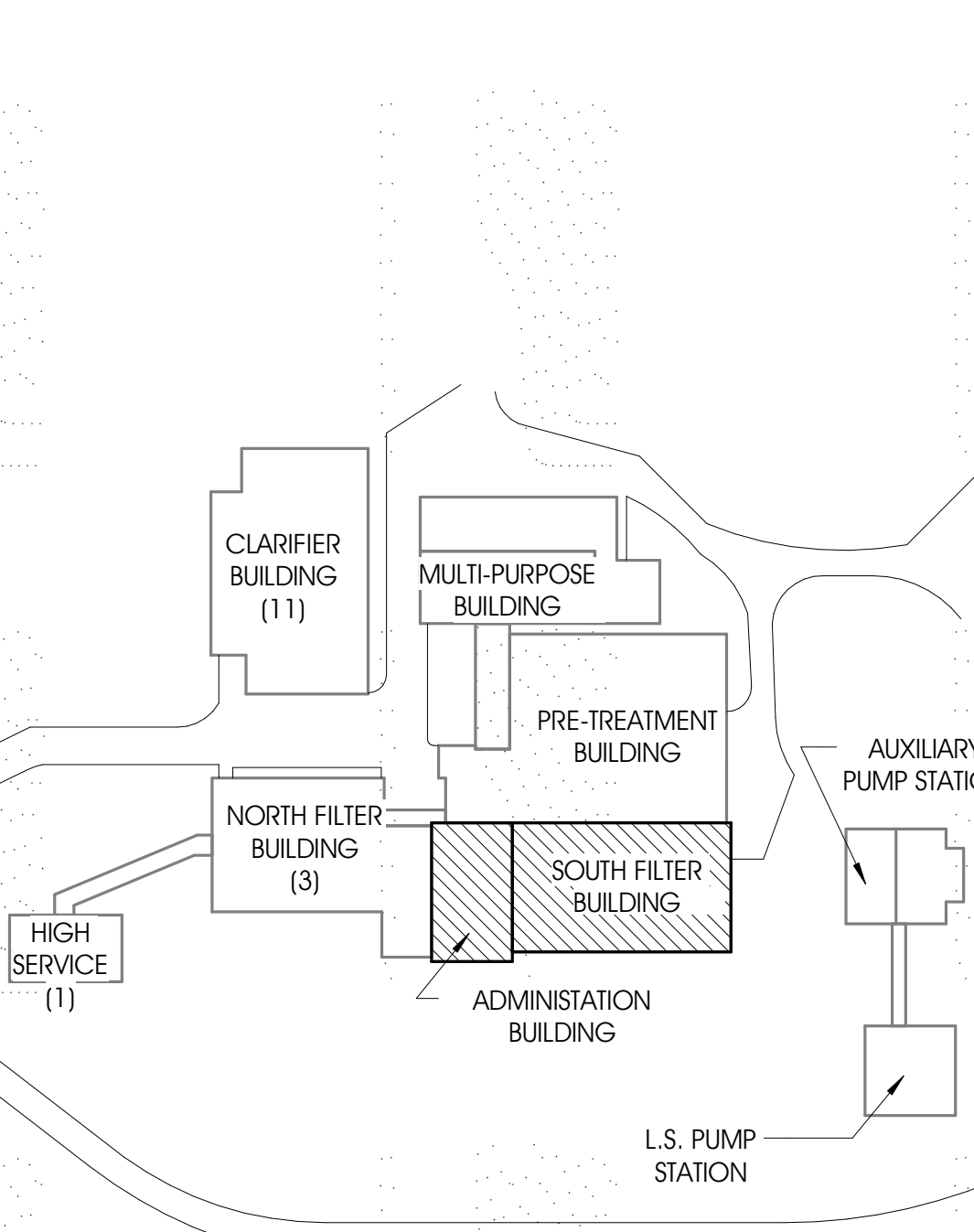
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KEY PLAN-ADMIN & SOUTH FILTER BUILDING
NOT TO SCALE

NO.	REVISION DESCRIPTION	BY	DATE
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PROJECT:

CITY OF MUSKEGON
WATER FILTRATION PLANT
1900 BEACH STREET
MUSKEGON, MI 49441

SHEET TITLE:

MODELED BY: JLF
DESIGNED BY: JLF
PM REVIEW: EML
QA/QC REVIEW: JMS
DATE: 03-17-2021

SEAL:

SIGNATURE:

DATE:

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ACI JOB #

19-1436B

SHEET NO.

A4.1

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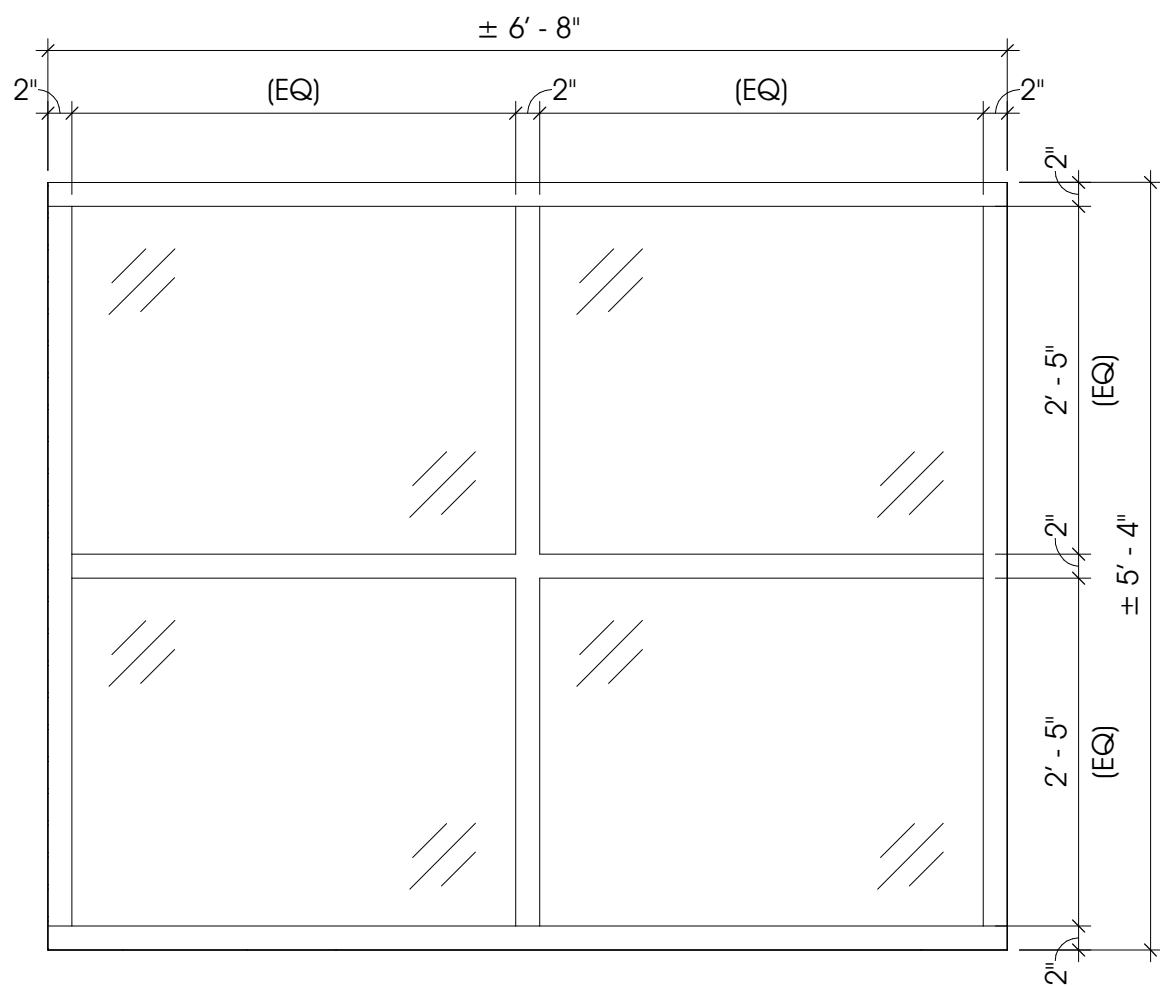
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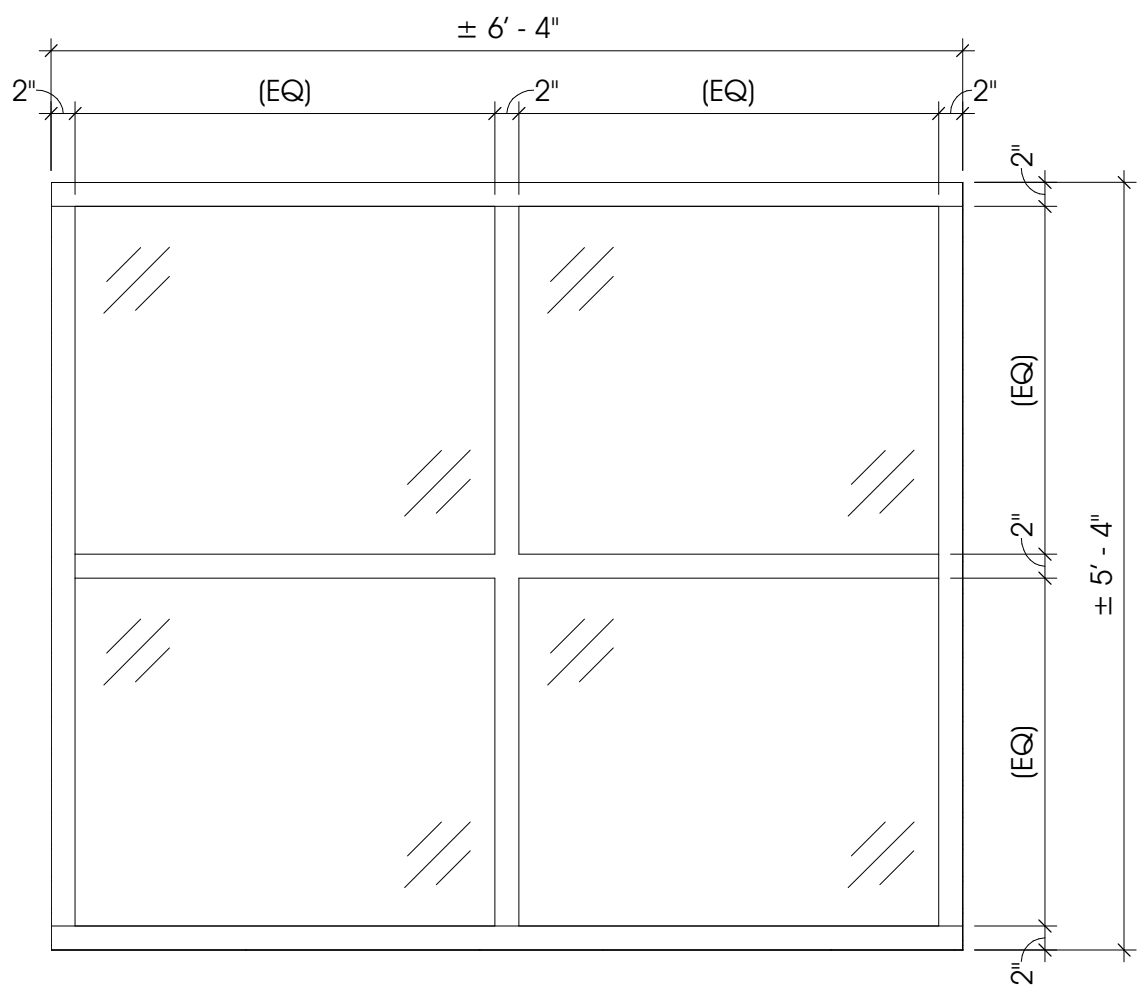
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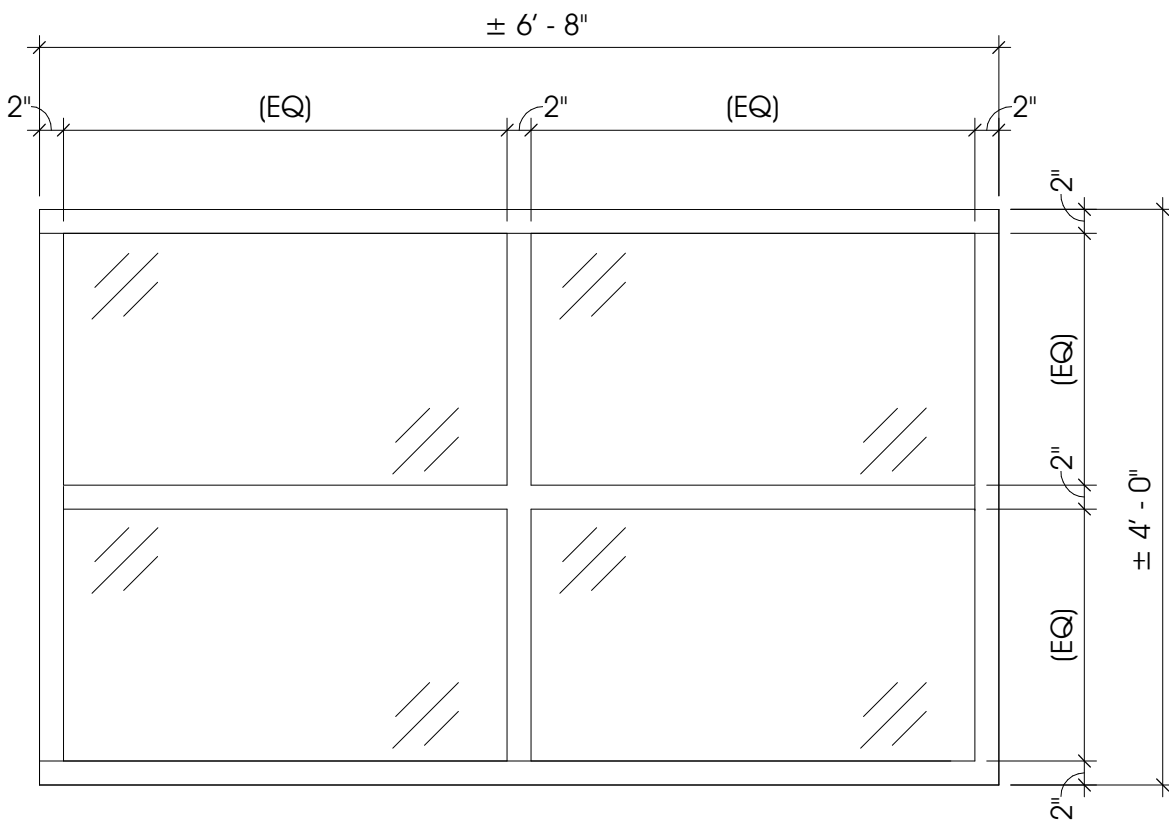
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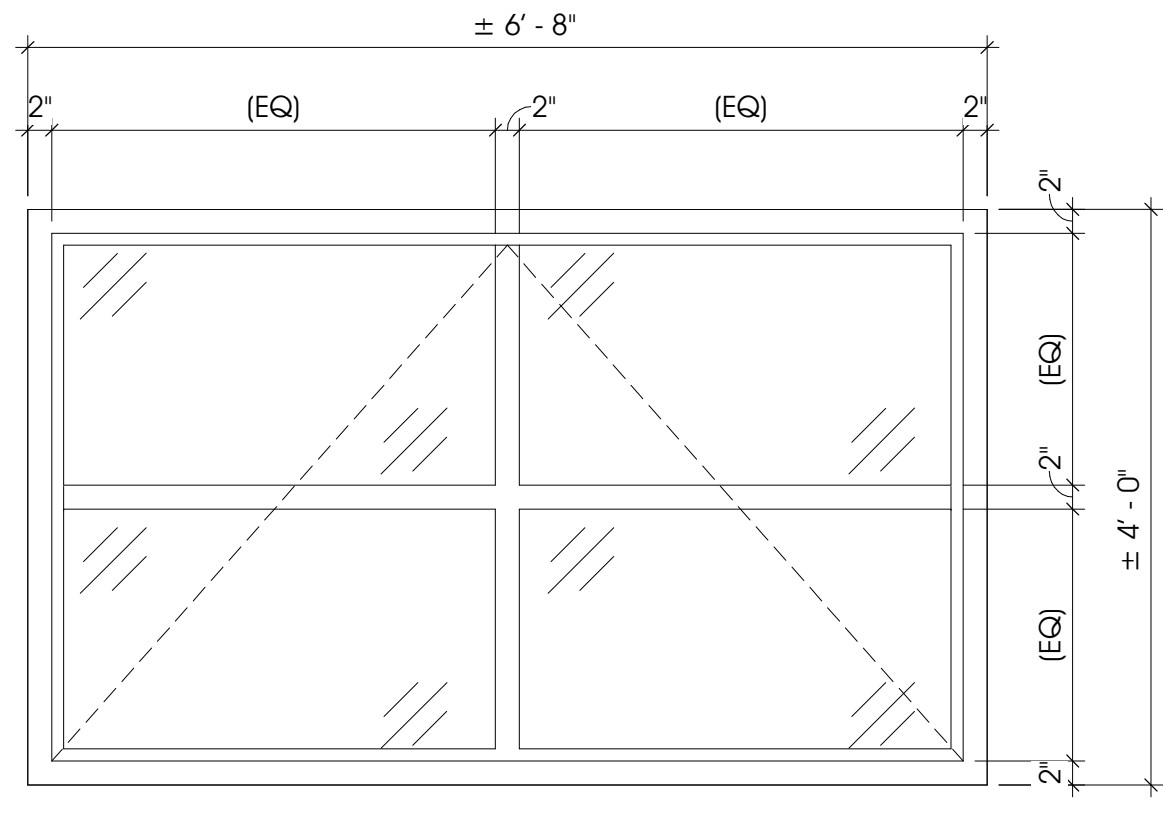
A WINDOW ELEVATION "A"
A5.1 3/4" = 1'-0"



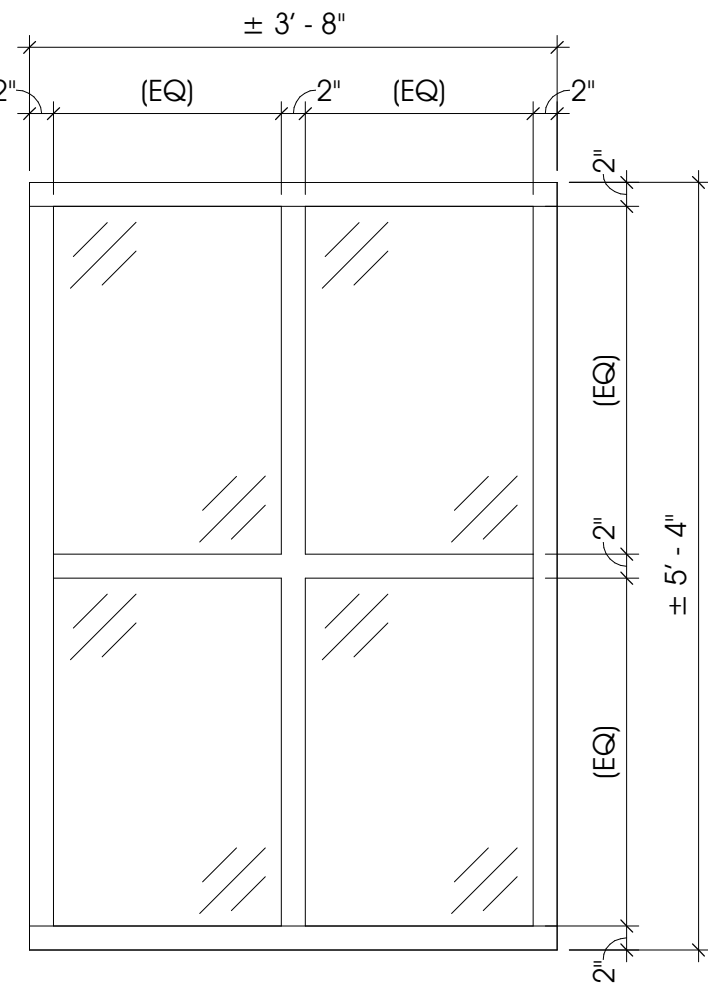
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A5.1 3/4" = 1'-0"



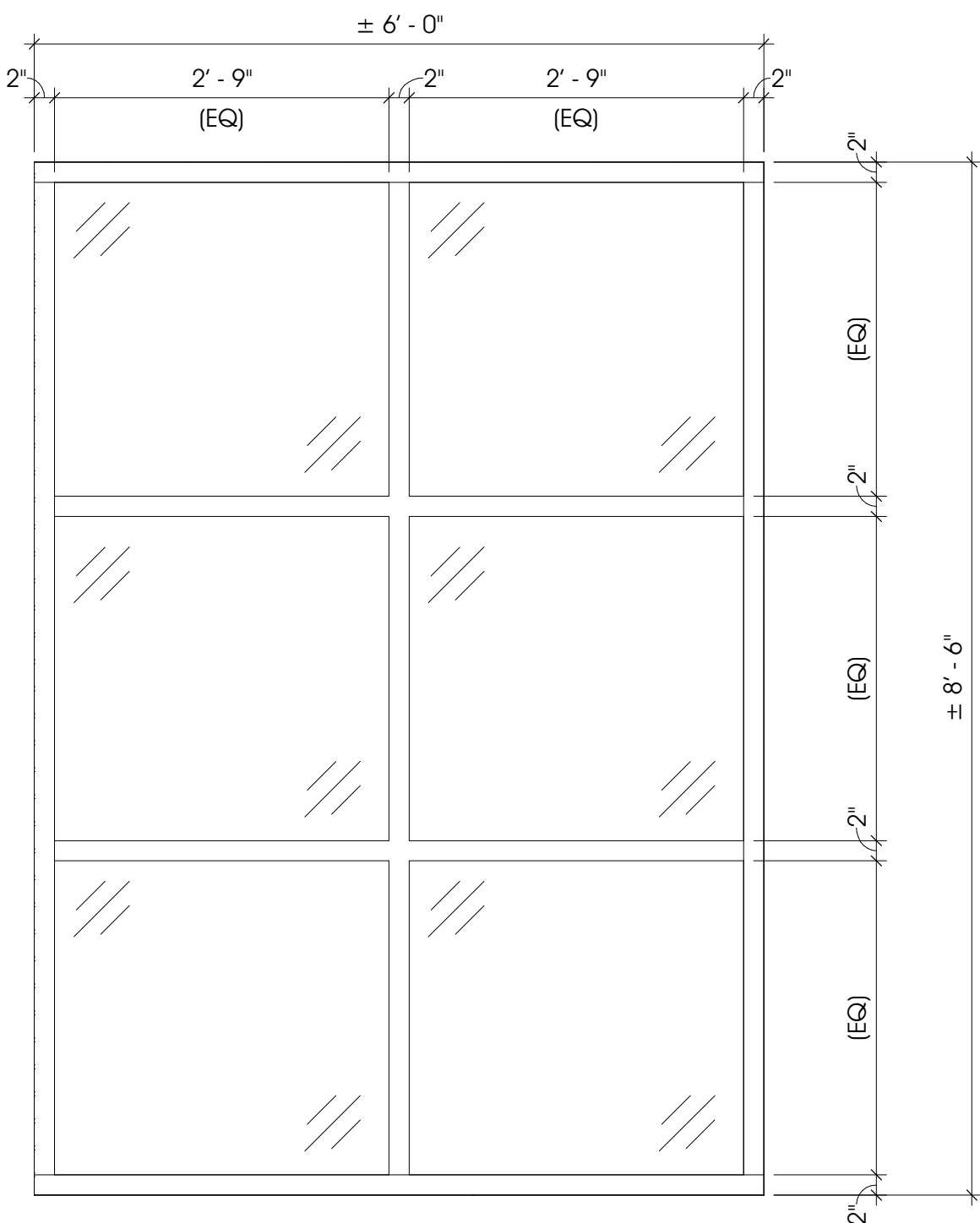
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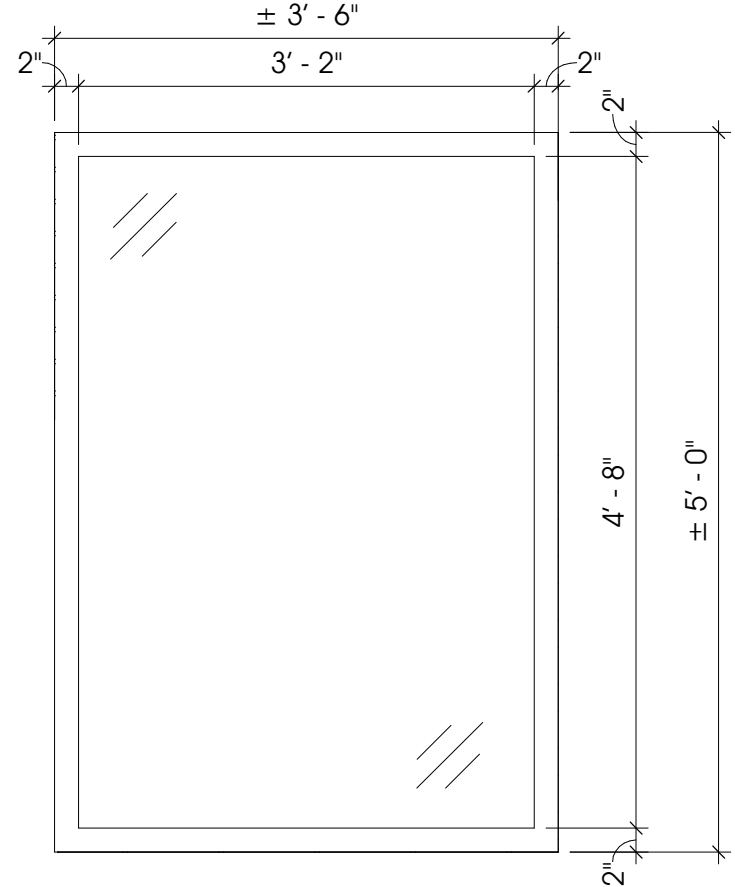
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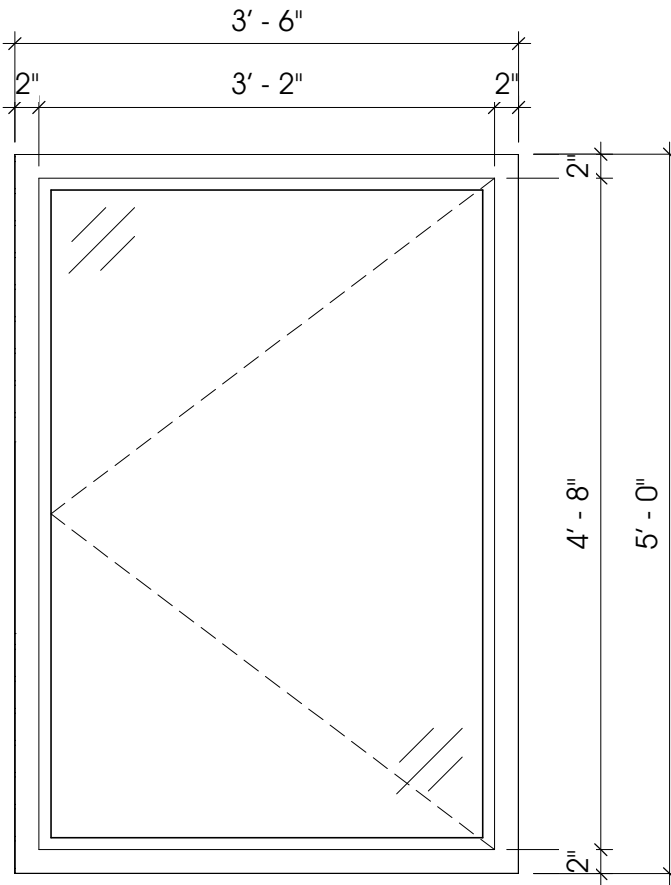
D WINDOW ELEVATION "D"
A5.1 3/4" = 1'-0"



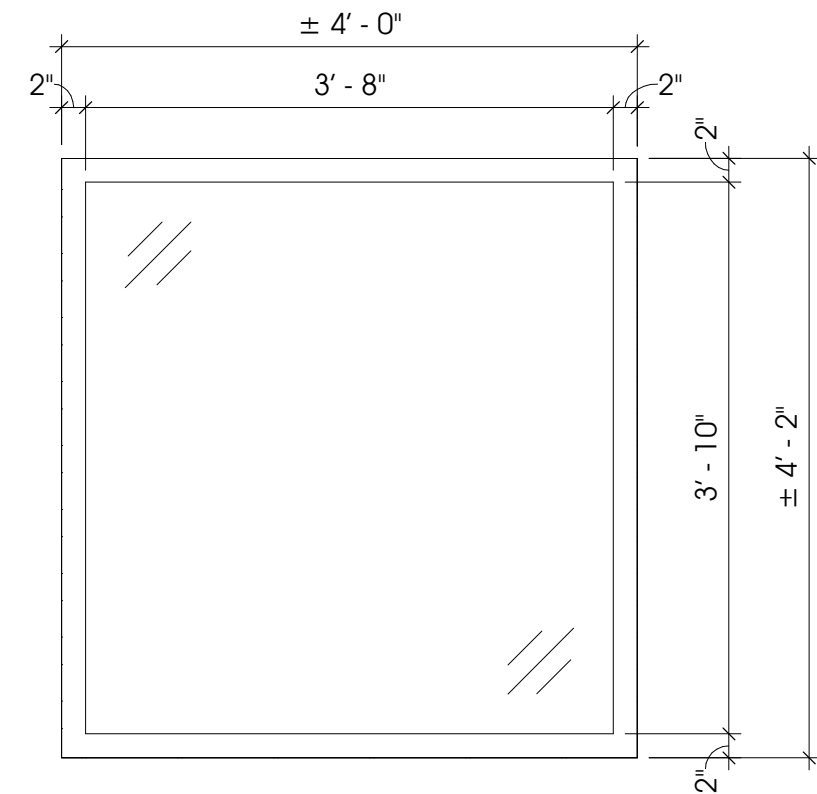
E WINDOW ELEVATION "E"
A5.1 3/4" = 1'-0"



G WINDOW ELEVATION "G"
A5.1 3/4" = 1'-0"



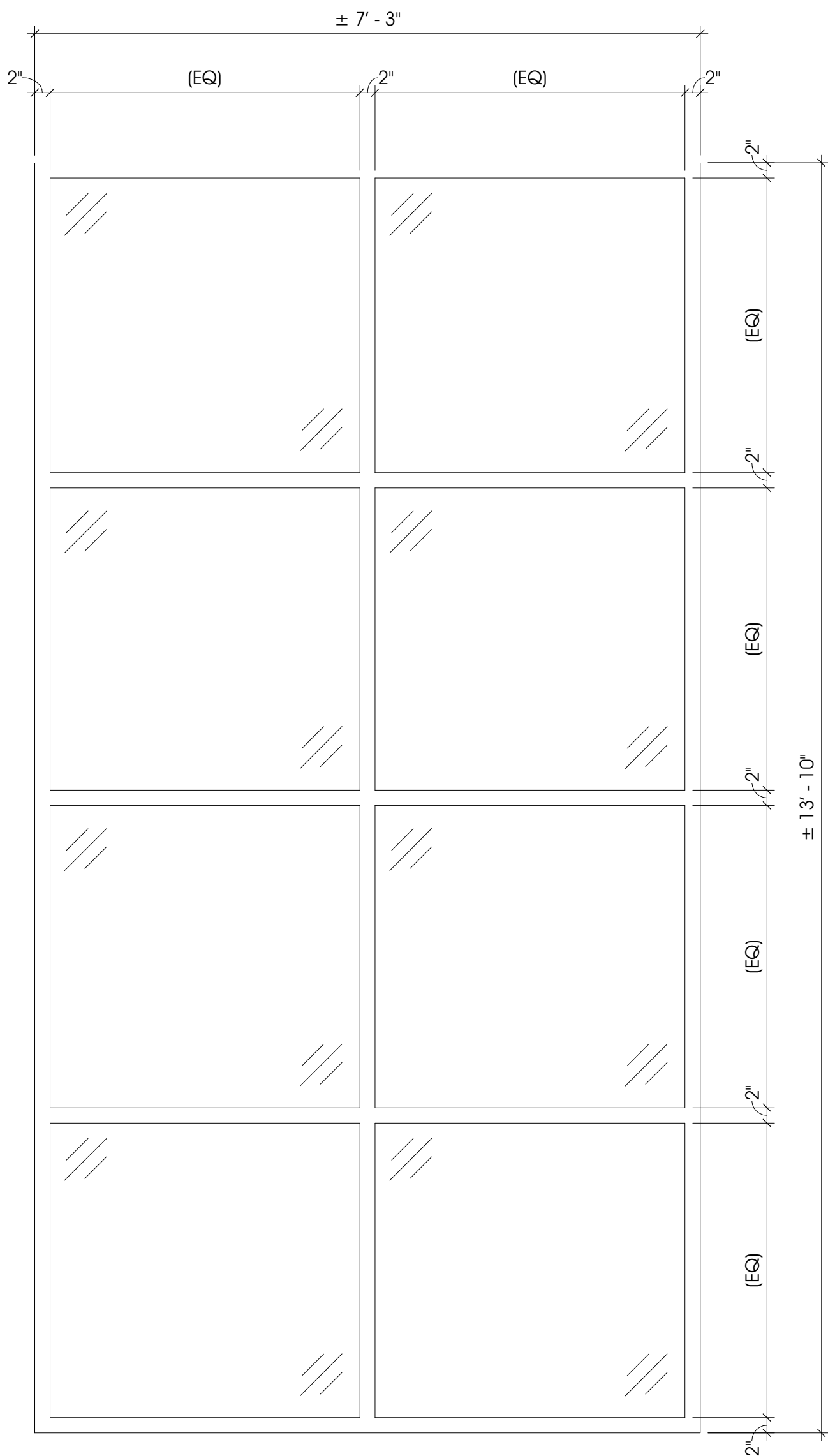
G-1 WINDOW ELEVATION "G1"
A5.1 3/4" = 1'-0"



H WINDOW ELEVATION "H"
A5.1 3/4" = 1'-0"

EXTERIOR ALUMINUM WINDOW NOTE

1. FIELD VERIFY ALL EXISTING WINDOW OPENING DIMENSIONS PRIOR TO ORDERING ALUMINUM WINDOW SYSTEM
2. WINDOW ELEVATIONS SHOWN BELOW ARE CLARIFIER, NORTH FILTER, SOUTH FILTER, HIGH SERVICE AND ADMINISTRATION BUILDING
3. ALL WINDOW SYSTEMS TO BE THERMALLY BROKEN WITH INSULATED GLAZING. INSTALL PER MANUFACTURERS RECOMMENDATIONS. SEE SPECIFICATIONS
4. ALL OPERATIONAL WINDOWS SHALL BE EQUIPED WITH HEAVY DUTY HARDWARE

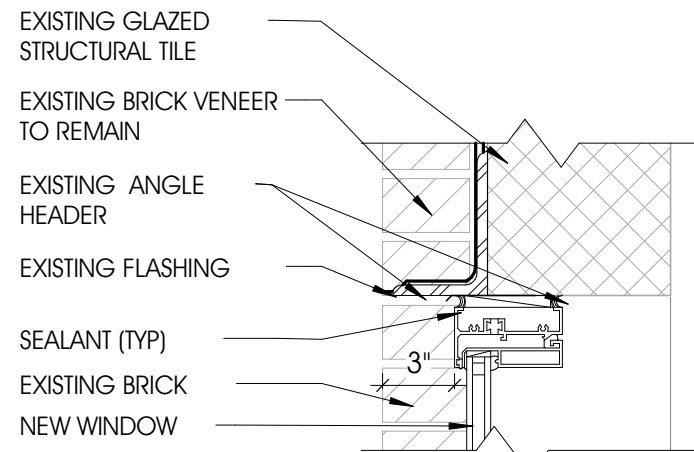


J WINDOW ELEVATION "J"
A5.1 3/4" = 1'-0"

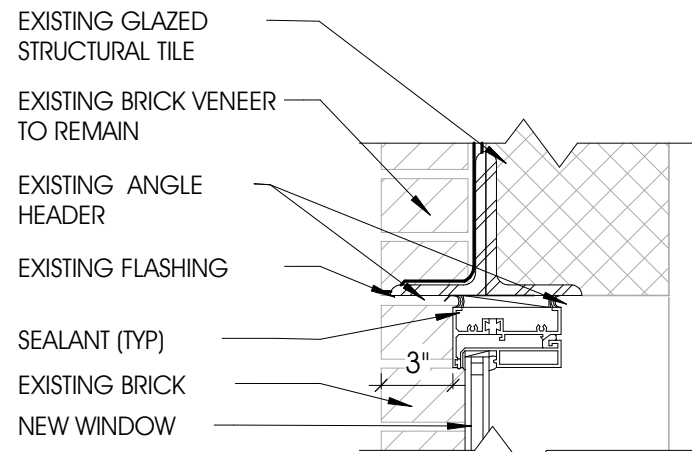
WINDOW SCHEDULE

MK.	R.O.		FRAME DEPTH	GLAZING		REMARKS
	WIDTH	HEIGHT		THICKNESS	TYPE	
A	6' - 8"	5' - 4"	4 1/2"	1"	TEMP	REFER TO WINDOW ELEVATION SHEET FOR WINDOW CONFIGURATION
B	6' - 4"	5' - 4"	4 1/2"	1"	TEMP	REFER TO WINDOW ELEVATION SHEET FOR WINDOW CONFIGURATION
C	6' - 8"	4' - 0"	4 1/2"	1"	TEMP	REFER TO WINDOW ELEVATION SHEET FOR WINDOW CONFIGURATION
C-1	6' - 8"	4' - 0"	4 1/2"	1"	TEMP	REFER TO WINDOW ELEVATION SHEET FOR WINDOW CONFIGURATION
D	3' - 8"	5' - 4"	4 1/2"	1"	TEMP	REFER TO WINDOW ELEVATION SHEET FOR WINDOW CONFIGURATION
E	6' - 0"	8' - 6"	4 1/2"	1"	TEMP	REFER TO WINDOW ELEVATION SHEET FOR WINDOW CONFIGURATION
F	3' - 8"	8' - 6"	4 1/2"	1"	TEMP	REFER TO WINDOW ELEVATION SHEET FOR WINDOW CONFIGURATION
G	3' - 6"	5' - 0"	4 1/2"	1"	TEMP	REFER TO WINDOW ELEVATION SHEET FOR WINDOW CONFIGURATION
H	4' - 0"	4' - 2"	4 1/2"	1"	TEMP	REFER TO WINDOW ELEVATION SHEET FOR WINDOW CONFIGURATION
J	7' - 3"	13' - 10"	6 1/2"	1"	TEMP	REFER TO WINDOW ELEVATION SHEET FOR WINDOW CONFIGURATION

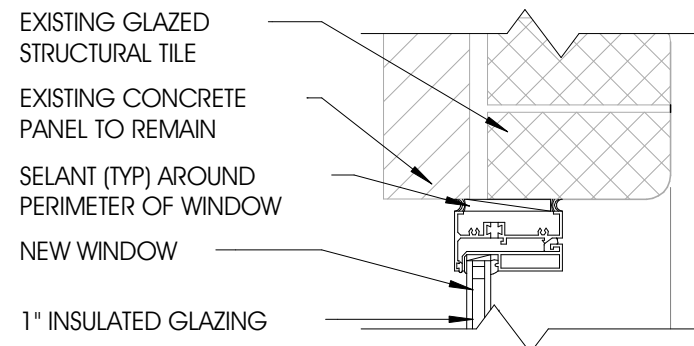
NOTE: THERMALLY BROKEN ALUMINUM WINDOW SYSTEM WITH 1" INSULATED & TEMPERED



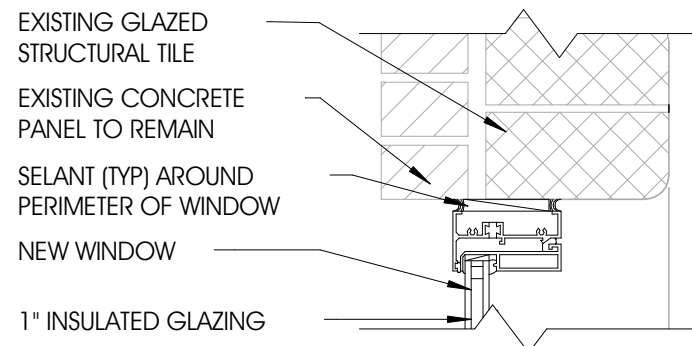
HEAD B



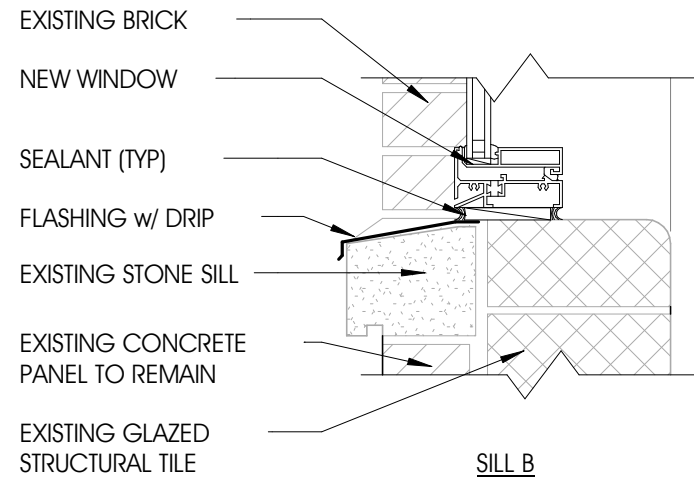
HEAD B



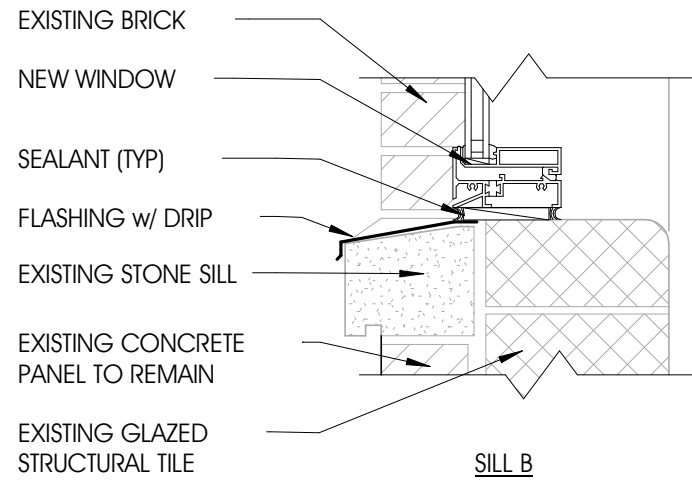
JAMB B



JAMB B



SILL B



SILL B

WINDOW FRAME DETAILS

WINDOW HEAD, JAMB & SILL CONFIGURATION MAY VARY. REFER TO SHEET S1.1. REFER TO ELEVATIONS FOR MASONRY RESTORATION INSTRUCTIONS

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1900 BEACH STREET
MUSKEGON, MI 49441

WINDOW ELEVATIONS & SCHEDULE

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QA/QC REVIEW: JMS

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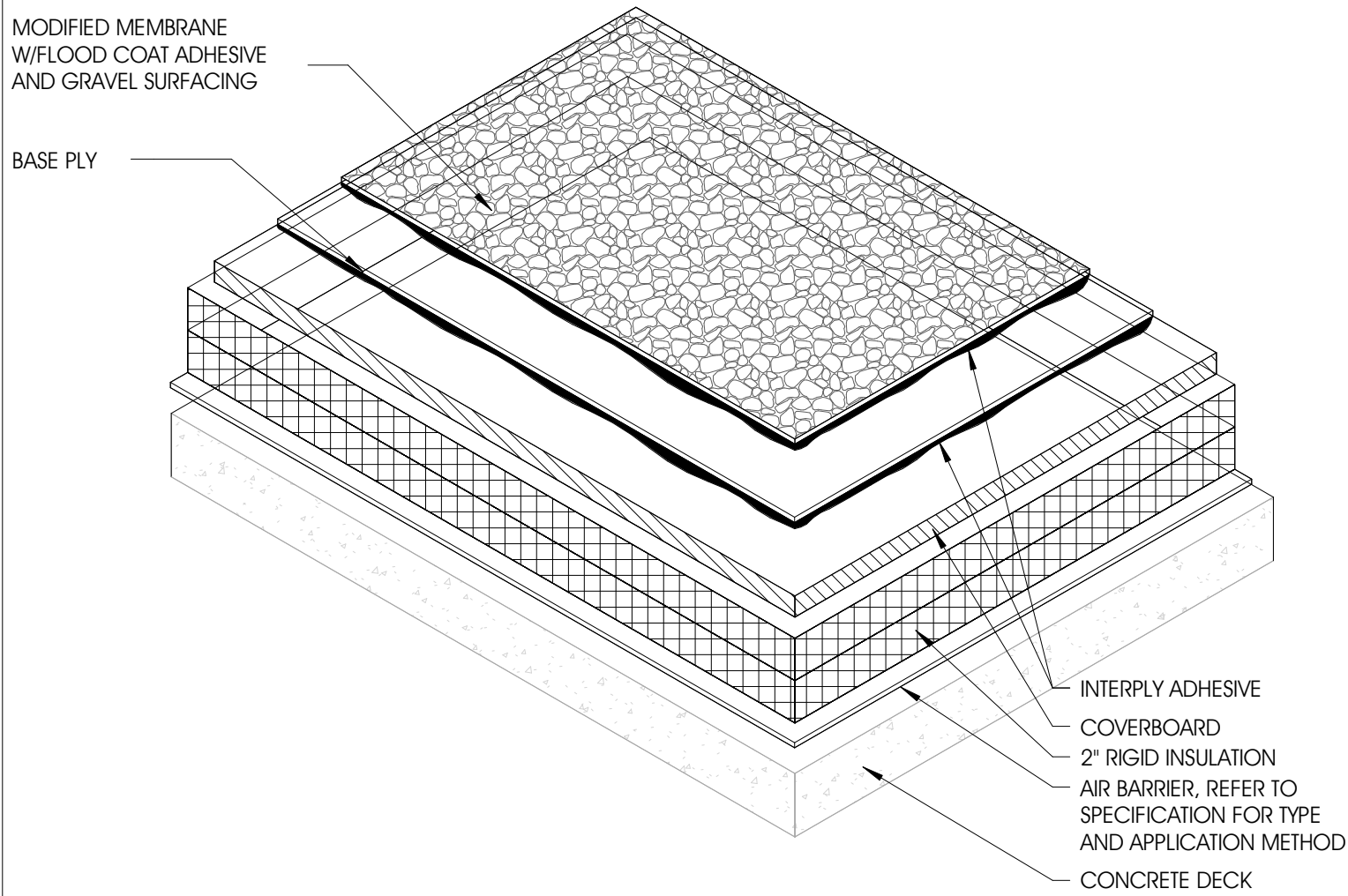
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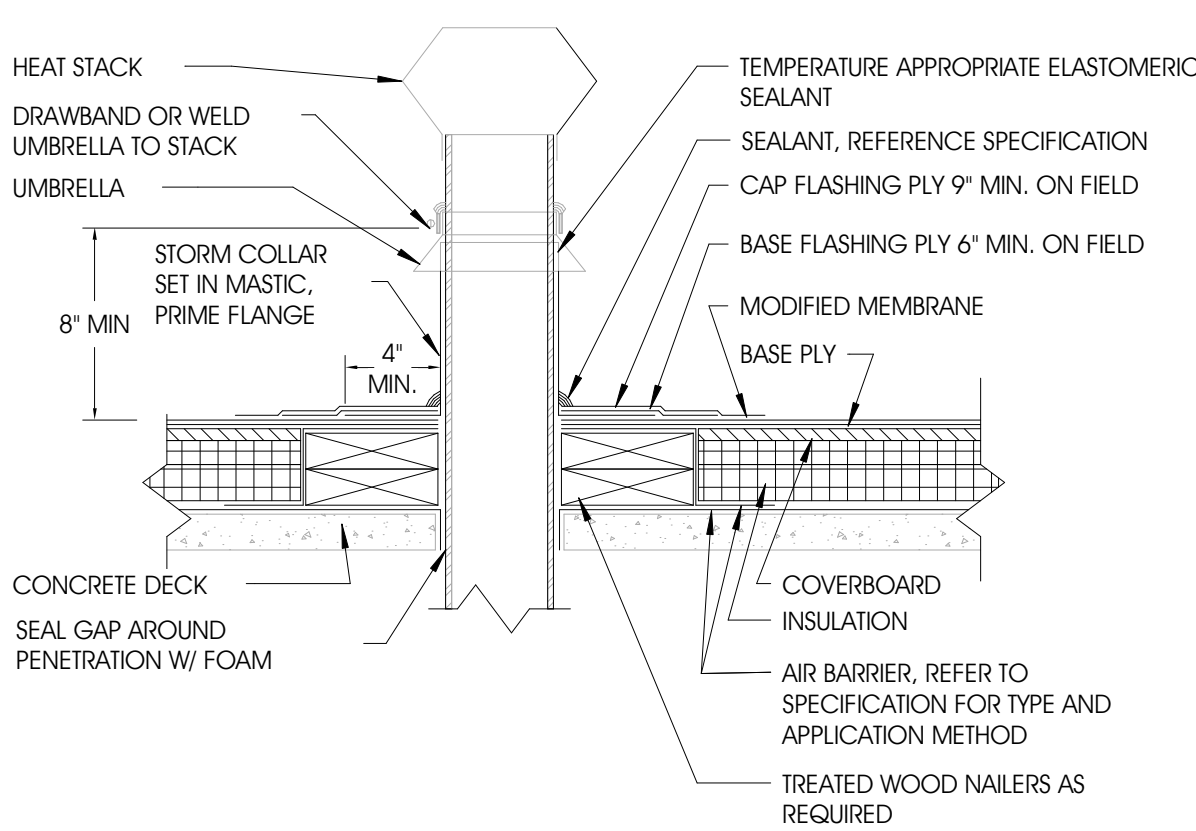
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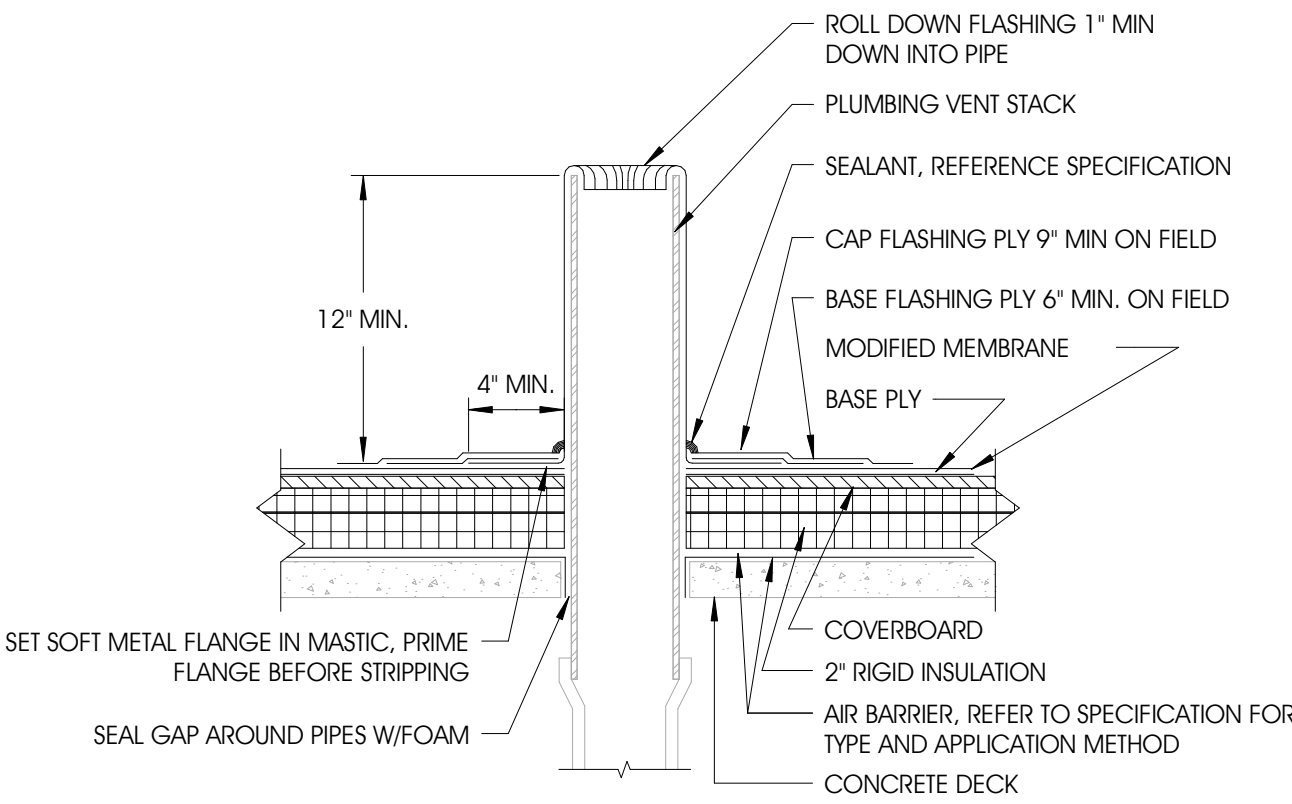
C:\Users\jicklen\Documents\19-1436 Water Filtration Plant Central_jicklen.rvt



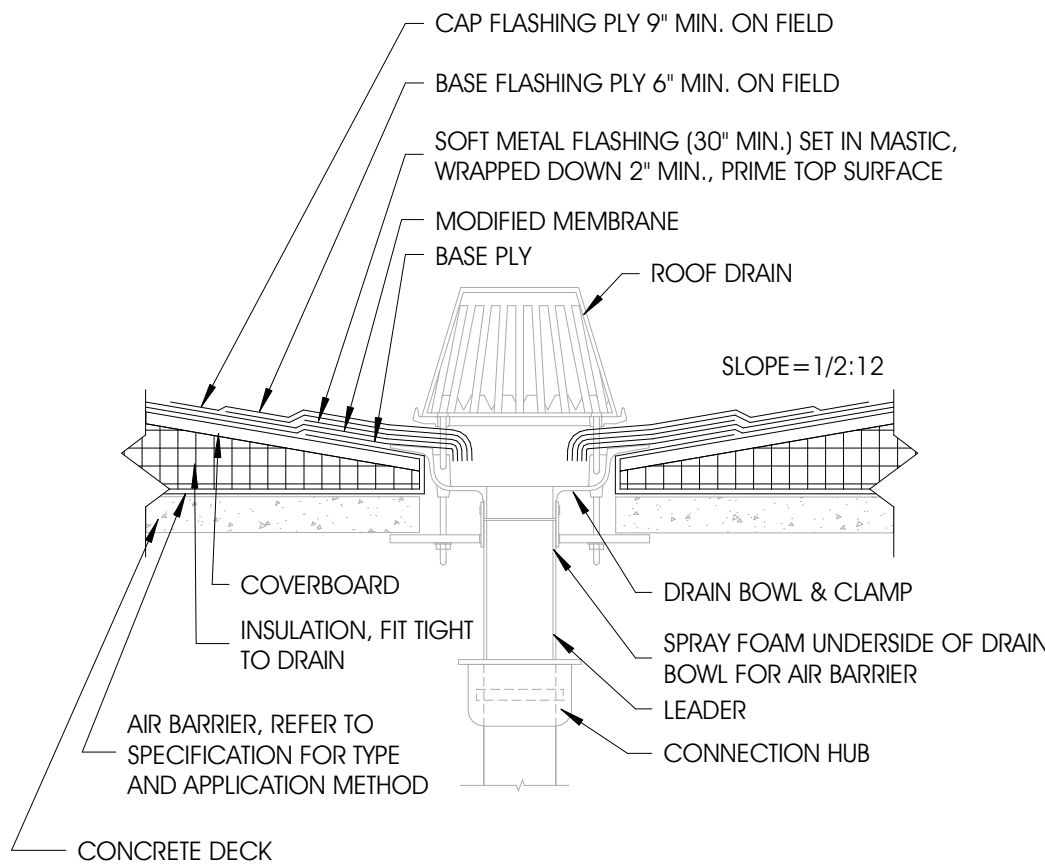
COATING DETAIL
SCAL 3\"/>



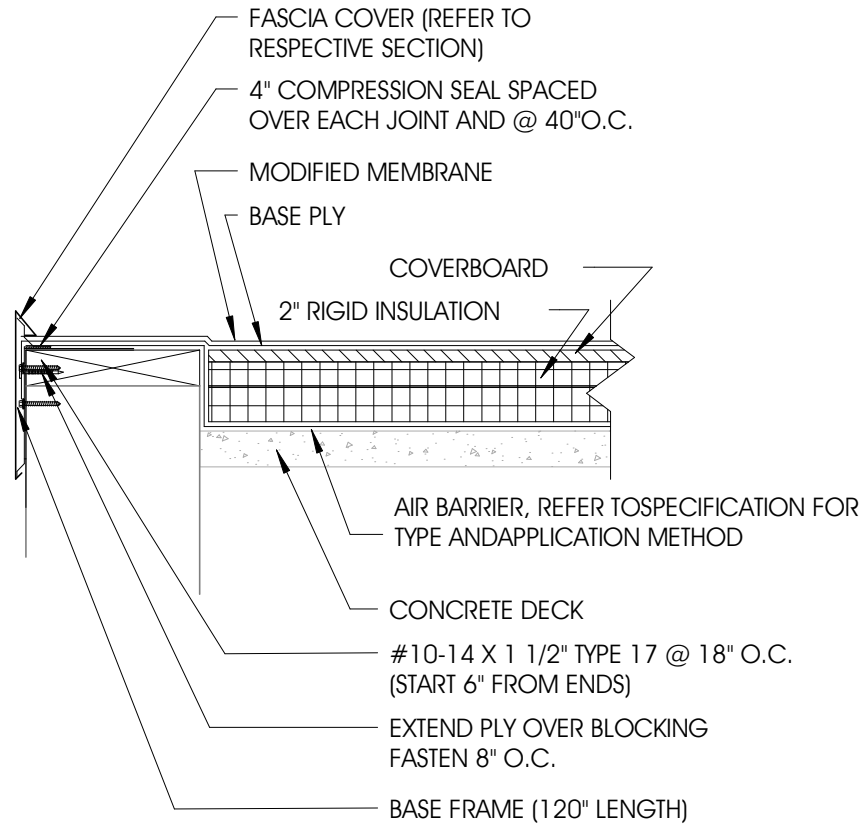
HEAT STACK
SCAL 1 1/2\"/>



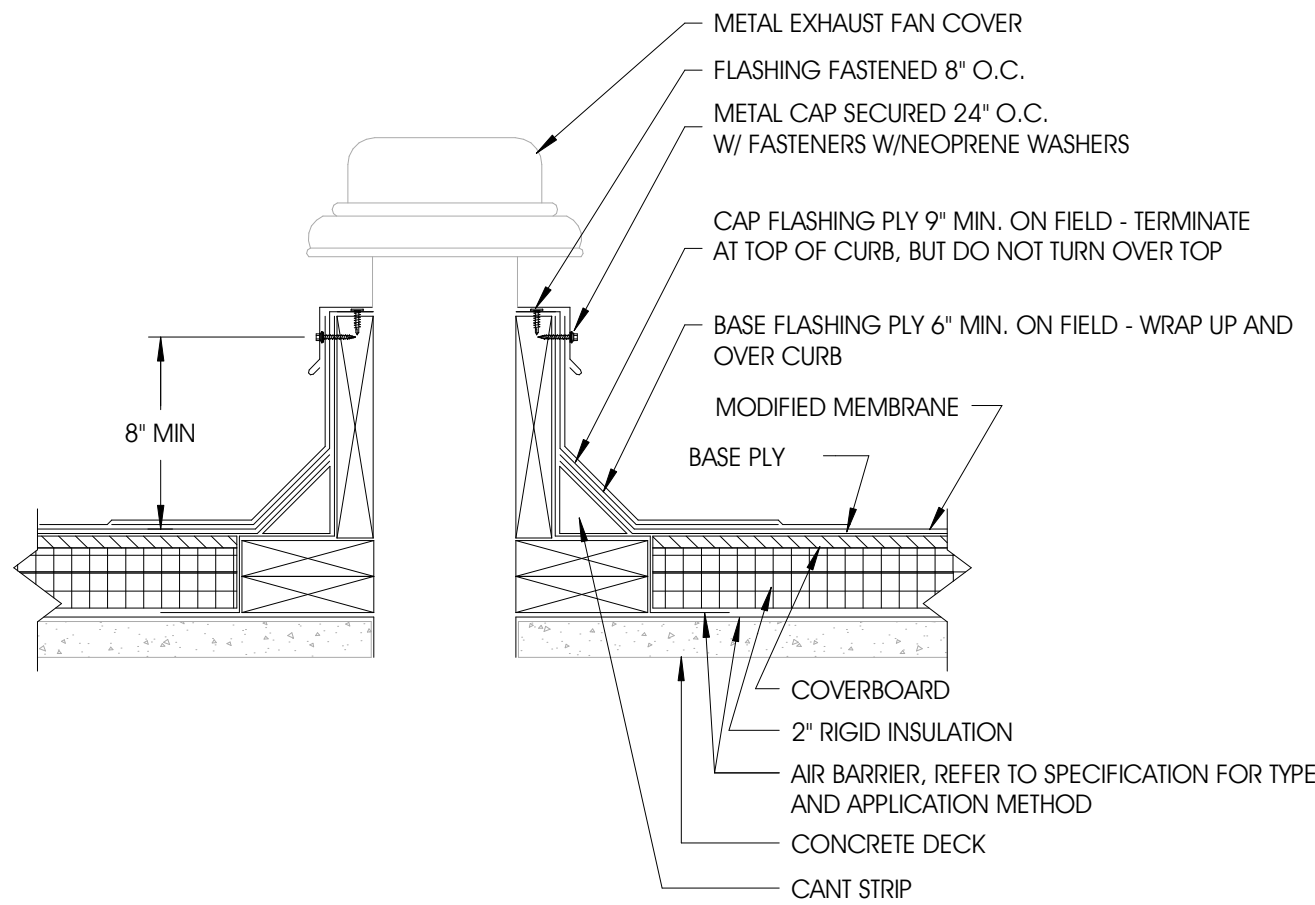
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SCAL 1 1/2\"/>



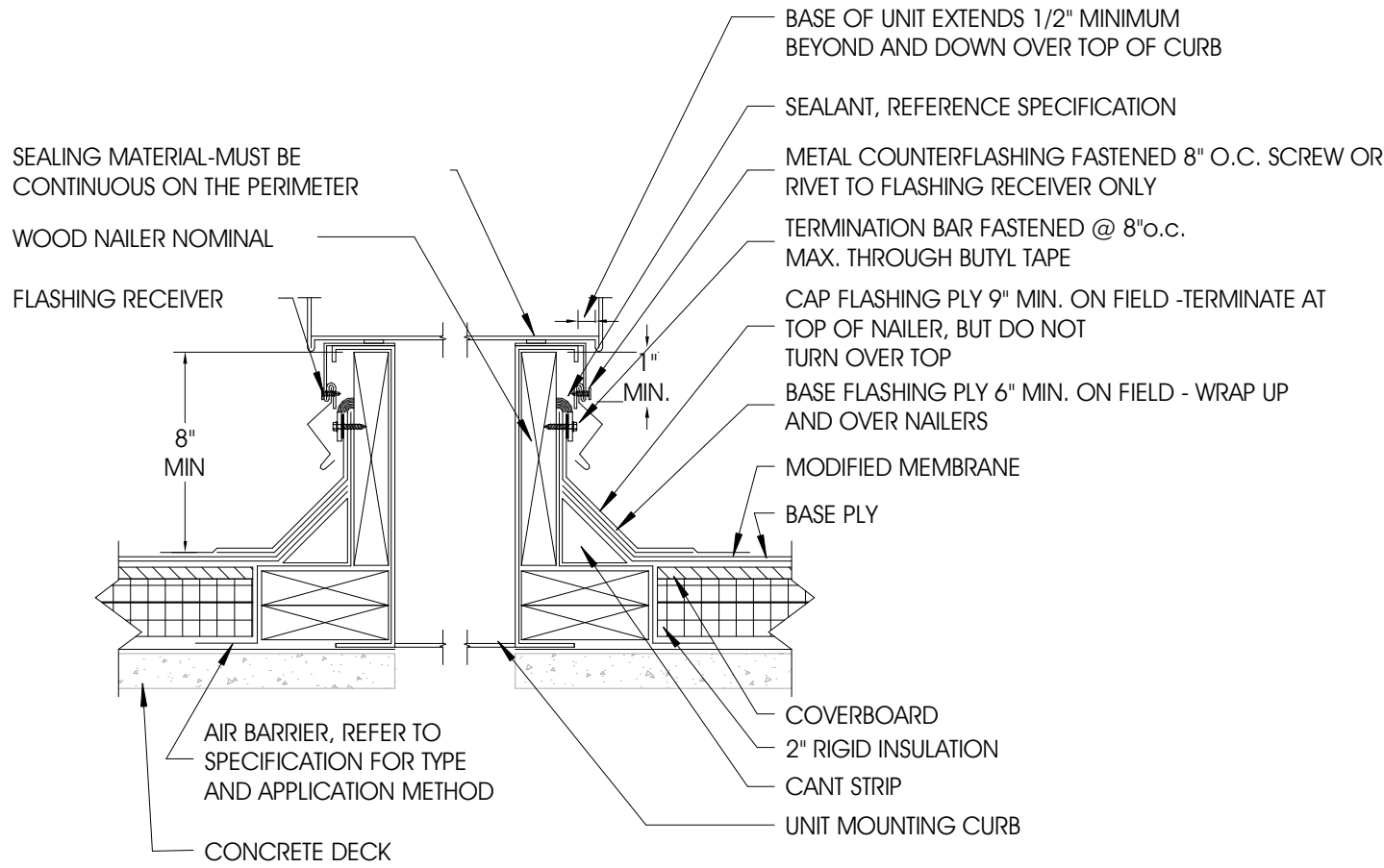
ROOF DRAIN
SCAL 1 1/2\"/>



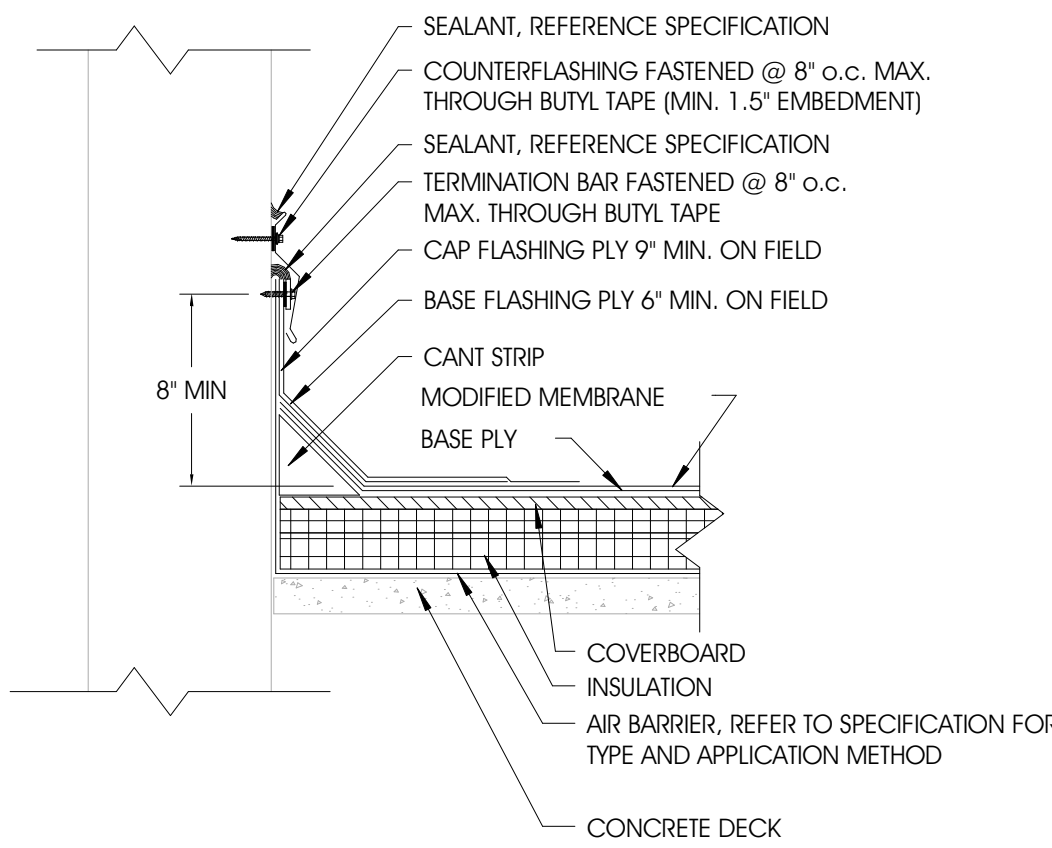
METAL EDGE FASCIA
SCAL 1 1/2\"/>



EXHAUST FAN
SCAL 1 1/2\"/>



CURB DETAIL
SCAL 1 1/2\"/>



WALL FLASHING
SCAL 1 1/2\"/>

GENERAL NOTES - ROOF DETAILS

- A. DETAILS SHOWN ARE REPRESENTATIVE OF FINISHED DETAILS. CONTRACTORS SHALL TAKE INTO ACCOUNT EXISTING INSULATION, NEW INSULATION, AND THE NEW ROOF SYSTEM. WOOD BLOCKING SHALL BE ADDED TO ACHIEVE THE MINIMUM FLASHING HEIGHTS SHOWN.
- B. DECK TYPES VARY BETWEEN ROOF AREAS AND BUILDINGS. CONTRACTOR MUST VERIFY ROOF DECKS AND APPLY DETAILS ACCORDINGLY.
- C. REFERENCE SPECIFICATION FOR SURFACING, MEMBRANE ADHESIVE TYPE, AND INSULATION/COVER BOARD TYPE AND ATTACHMENT METHOD.
- D. ASSURE ROOF AIR BARRIER PROPERLY TIES INTO WALL SYSTEM AIR BARRIER, IF PRESENT.

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1900 BEACH STREET
MUSKEGON, MI 49441

SHEET TITLE:

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PM REVIEW: EML
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DATE: 03-17-2021
SIGNATURE: [Signature]
[Professional Seal: JEFFREY M. SAYLOR, ARCHITECT, No. 90398, LICENSED ARCHITECT]

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SPECIFICATIONS:

I. GENERAL:

- A. ALL WORK INSTALLED UNDER THE REQUIREMENTS OF THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE CODES, STANDARDS, AND REFERENCES. IF IT IS DETERMINED THAT EXISTING SYSTEMS PREVENT ACCORDANCE TO ANY CODE, STANDARD, OR REFERENCE, THE DISCREPANCY SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE GC/ARCHITECT/OWNER/ENGINEER IMMEDIATELY.
- B. WORK SHALL BE DONE COMPLETE IN ALL RESPECTS, INCLUDING THE FOLLOWING ITEMS: BRIEFLY MENTIONED AND ALL OTHER ITEMS WHICH ARE INDICATED, SPECIFIED OR NECESSARY FOR A COMPLETE AND SATISFACTORY MECHANICAL SYSTEM.
- C. ALL WORK AND MATERIALS SHALL BE GUARANTEED IN WRITING FOR ONE YEAR FROM PROJECT COMPLETION.
- D. MODEL NUMBERS LISTED ON DRAWINGS ARE BASED ON MANUFACTURERS LISTED. THE CONTRACTOR MAY AT HIS OPTION PROVIDE AN "OR EQUAL" MANUFACTURED PRODUCT. THE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL COST ADDITIONS REQUIRED TO THE SYSTEM SHOULD AN "OR EQUAL" MANUFACTURER BE SELECTED.
- E. COORDINATE THE INSTALLATION OF THE WORK WITH ALL OTHER TRADES BEFORE INSTALLATION TO ELIMINATE CONFLICTS OVER AVAILABLE SPACE.
- F. ARRANGE WITH OTHER TRADES FOR THE PROVISION OF ALL CHASES, SLOTS, AND OPENINGS NECESSARY FOR THE PROPER INSTALLATION OF THE MECHANICAL WORK.
- G. COORDINATE THE INSTALLATION OF ALL REQUIRED SUPPORTING DEVICES.
- H. MAINTAIN A "CLEAN" SET OF PROJECT DRAWINGS FOR THE SOLE PURPOSE OF RECORDING DEVIATIONS FROM THE DESIGN. THIS SET OF DRAWINGS SHALL BE MAINTAINED WITH ALL MODIFICATIONS MARKED-UP AS WORK PROGRESSES. DRAWINGS TO BE TURNED OVER TO THE OWNER FOR FUTURE REFERENCE.
- I. ALL OPENINGS IN PIPING AND DUCT WORK SYSTEMS SHALL BE PROTECTED DURING CONSTRUCTION TO PREVENT THE ENTRANCE OF FOREIGN MATERIALS.
- J. ALL SYSTEMS FABRICATED ON SITE SHALL BE TESTED BY THE CONTRACTOR; TESTING SHALL INCLUDE THE PROVISION OF ALL NECESSARY EQUIPMENT, LABOR, AND FLUIDS..

V. INSULATION:

- A. OUTSIDE AIR INTAKE DUCTS:
1. MAN MADE MINERAL FIBER INSULATION: THICKNESS: 3 INCH
- B. SUPPLY AND RETURN DUCTS:
1. MAN MADE MINERAL FIBER INSULATION: THICKNESS: 1 1/2 INCH
2. NO INSULATION REQUIRED ON SUPPLY & RETURN DUCTWORK LOCATED IN EXPOSED, INTERIOR, AMBIENT CONDITIONS.
- VIII. HVAC DUCT:
A. INSTALL ALL DUCTWORK PER SMACNA STANDARDS. USING METAL DUCT ADEQUATELY SUPPORTED TO AVOID DEFLECTION IN DUCT.
B. GALVANIZED STEEL DUCTS: ASTM A653/A653M GALVANIZED STEEL SHEET, LOCK-FORMING QUALITY, HAVING G60 ZINC COATING OF IN CONFORMANCE WITH ASTM A90/A90M.
C. FASTENERS: RIVETS, BOLTS, OR SHEET METAL SCREWS.
D. HANGER ROD: ASTM A309/A309M, STEEL, GALVANIZED; THREADED BOTH ENDS, THREADED ONE END, OR CONTINUOUSLY THREADED.
E. INSULATED FLEXIBLE DUCTS: UL 181, CLASS 1, ALUMINUM LAMINATE AND POLYESTER FILM WITH LATEX ADHESIVE SUPPORTED BY HELICAL WOUND SPRING STEEL WIRE, FIBERGLASS INSULATION; ALUMINIZED VAPOR BARRIER FILM; PRESSURE RATING: 10 INCHES WG POSITIVE AND 1.0 INCHES WG NEGATIVE; MAXIMUM VELOCITY: 4000 FPM; TEMPERATURE RANGE: -20 DEGREES F TO 210 DEGREES F; THERMAL RESISTANCE: 4.2 SQUARE FEET-HOUR-DEGREE F PER BTU.
F. SINGLE WALL SPIRAL ROUND DUCTS: PRODUCT DESCRIPTION: UL 181, CLASS 1, ROUND SPIRAL LOCKSEAM DUCT CONSTRUCTED OF GALVANIZED STEEL.
G. MATERIALS:
SUPPLY DUCTWORK: STEEL
RETURN AND RELIEF: STEEL
OUTDOOR AIR INTAKE: STEEL

IX. HVAC INSTALLATION:

- A. FOR ALL ROOF AND SIDE WALL MOUNTED EQUIPMENT SUPPORTS, CURBS, PENETRATIONS, FLASHING AND SEALING, MAKE OPENINGS WATER TIGHT. IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO COORDINATE ALL EQUIPMENT OPENINGS WITH THE GENERAL CONTRACTOR.
- B. PROVIDE ALL NECESSARY DUCT FITTINGS AND TRANSITIONS FOR A COMPLETE SYSTEM.
- C. MAXIMUM LENGTH OF FLEX DUCT 5 FEET.
- D. PROVIDE BALANCING DAMPERS ON DUCT TAKE-OFFS TO DIFFUSERS, GRILLES, AND REGISTERS, DESPITE WHETHER DAMPERS ARE SPECIFIED AS PART OF THE DIFFUSER, GRILLE, REGISTER OR NOT.
- E. PAINT DUCT VISIBLE BEHIND AIR OUTLETS AND INLETS MATTE BLACK.
- F. INSTALL ACCESS DOORS BEFORE AND AFTER EACH FIRE DAMPER. ACCESS DOORS TO BE MINIMUM 8X8 INCH SIZE.
- X. TESTING AND BALANCING:
A. VERIFY SYSTEMS ARE COMPLETE AND OPERABLE BEFORE COMMENCING WORK. VERIFY THE FOLLOWING:
1. SYSTEMS ARE STARTED AND OPERATING IN SAFE AND NORMAL CONDITION.
2. TEMPERATURE CONTROL SYSTEMS ARE INSTALLED COMPLETE AND OPERABLE.
3. PROPER THERMAL OVERLOAD PROTECTION IS IN PLACE FOR ELECTRICAL EQUIPMENT.
4. PROPER STRAINER BASKETS ARE CLEAN AND IN PLACE OR IN NORMAL POSITION.
5. SERVICE AND BALANCING VALVES ARE OPEN.
- B. TEST AND BALANCE AIR DISTRIBUTION SYSTEM WITHIN 10% OF CFM SHOWN ON PLAN. PROVIDE BALANCE REPORT TO ENGINEER FOR REVIEW AT PROJECT COMPLETION.

LEGEND:

- POINT OF NEW CONNECTION TO EXISTING
VOLUME CONTROL DAMPER IN DUCT
FIRE DAMPER IN HORIZONTAL DUCT
FIRE DAMPER IN VERTICAL DUCT
THERMOSTAT
SENSOR
SUPPLY AIR (SECTION)
RETURN / EXHAUST AIR (SECTION)
AIR FLOW DIRECTION
DUCT TRANSITION

EQUIPMENT LIST:

LV-1 LOUVER

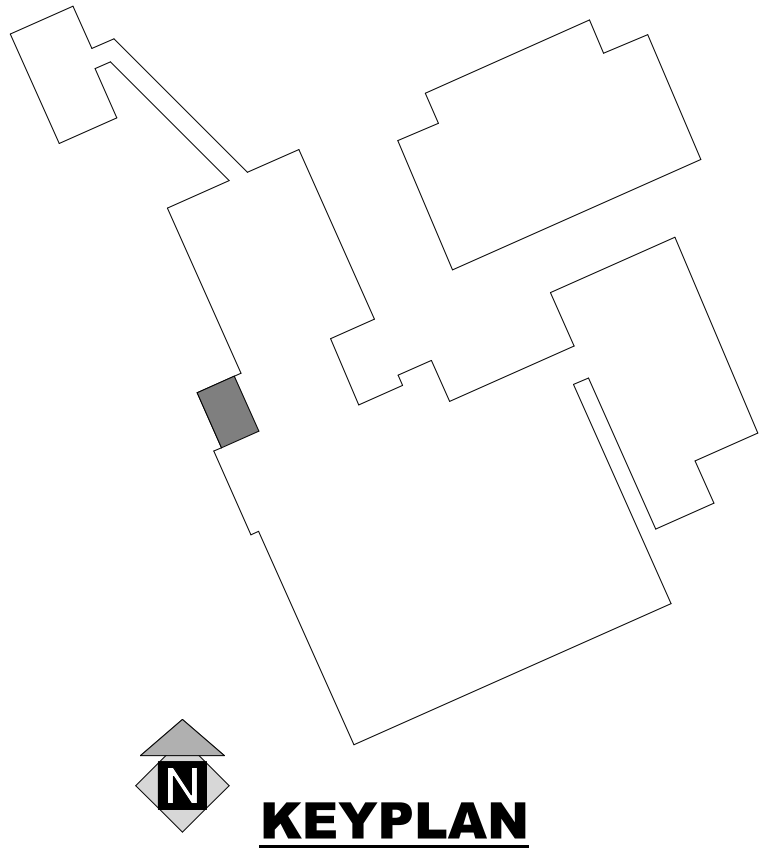
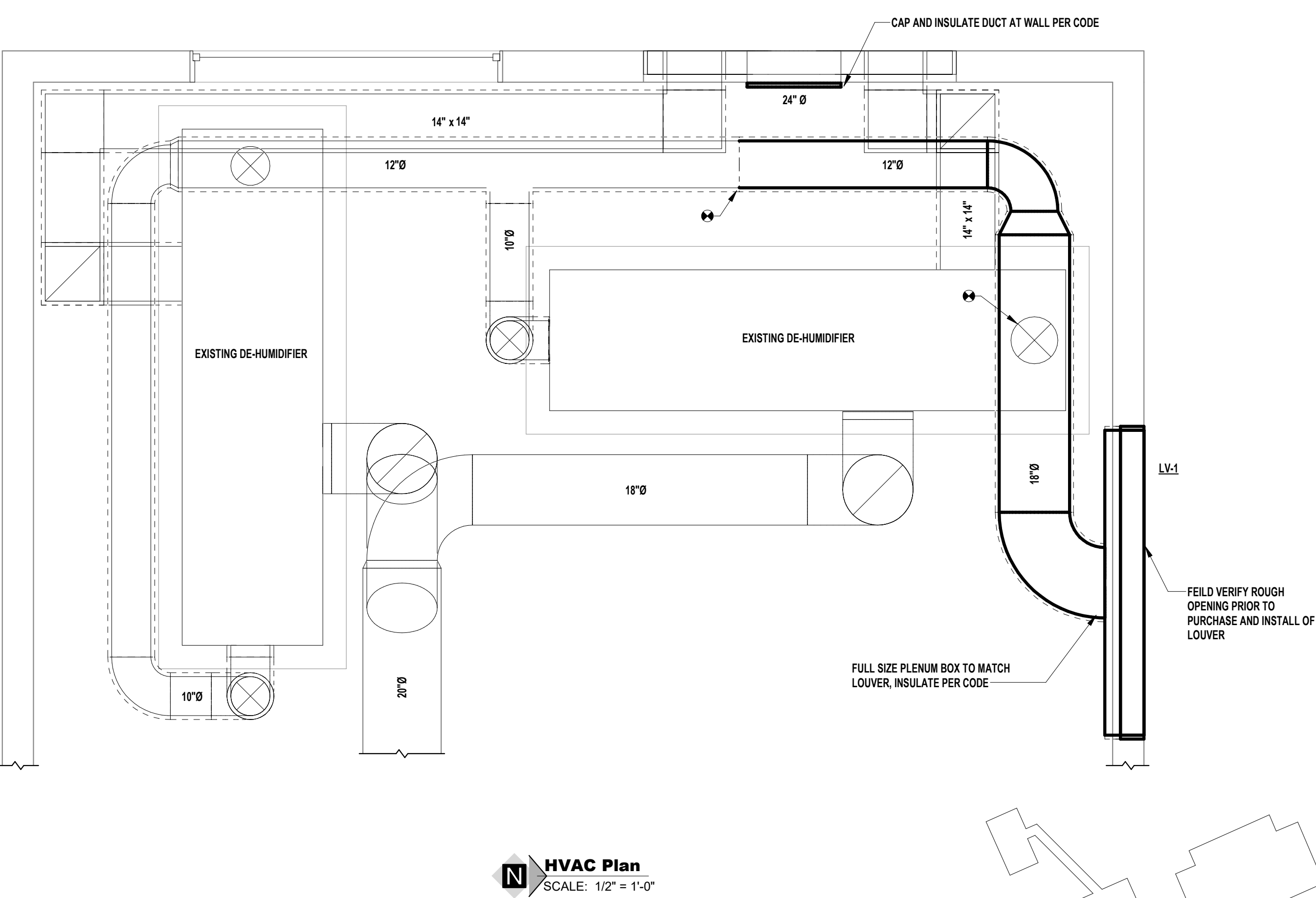
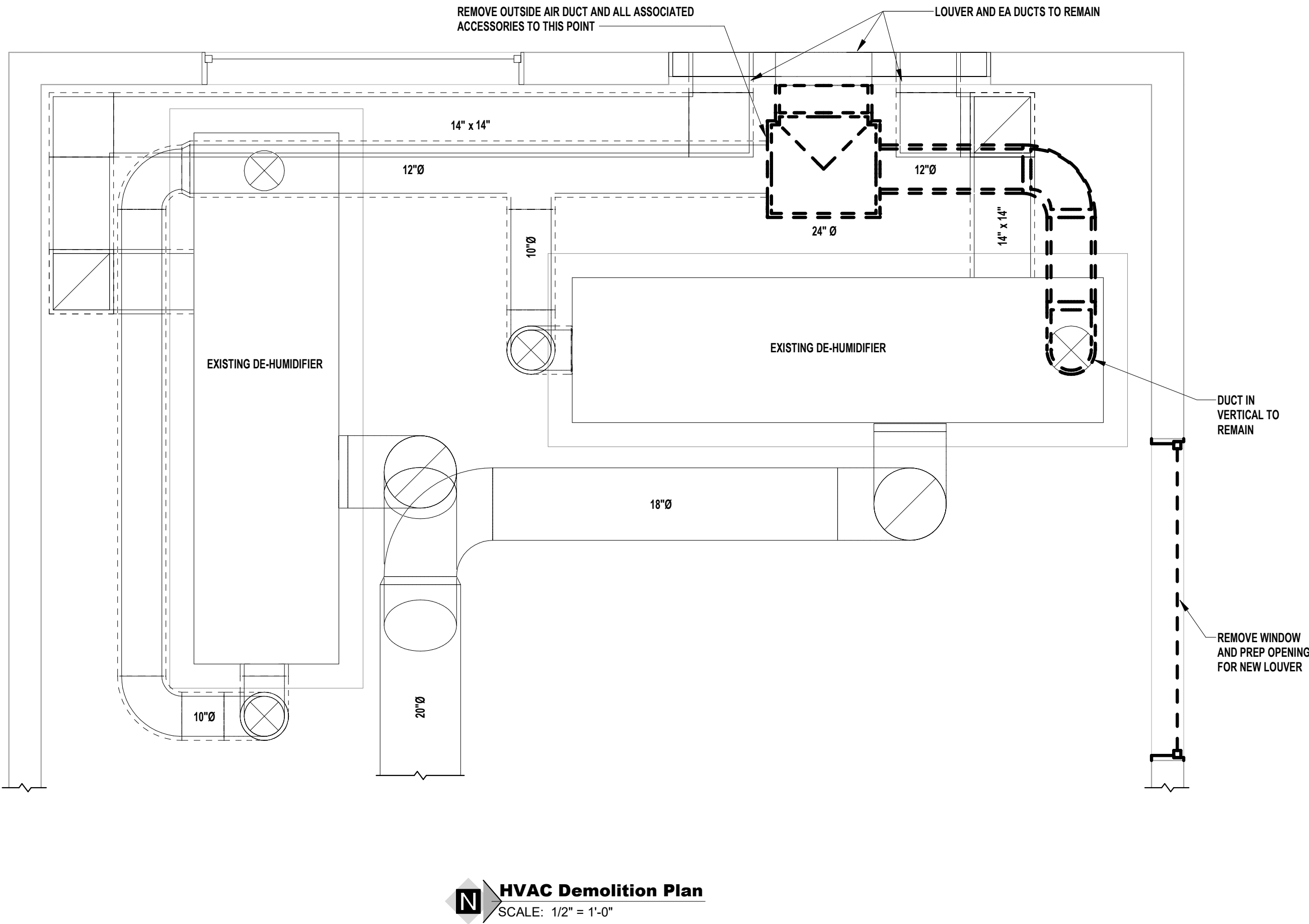
MANUFACTURER: GREENHECK
MODEL: ESD-635
SIZE: 80" x 48"
MIN FREE AREA: 15.7 SF
DESCRIPTION: 6" ALUMINUM FRAME WEATEHR LOUVER, 35 DEG. HORIZONTAL BLADES WITH DRAIN GUTTERS, DRAIN GUTTERS IN HEAD MEMBER, VERTICAL DOWNSPOUTS AND SLOPED SILL, PROVIDE WITH BIRDSCREEN FROM MANUFACTURER. COLOR AND FINISH BY OWNER

GENERAL CONTRACTOR REQUIREMENTS:

1. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES, ORDINANCES, AND LAWS.
2. ARRANGE AND PAY FOR ALL PERMITS AND INSPECTIONS AS REQUIRED.
3. MAKE ARRANGEMENTS WITH AND PAY ALL CHARGES REQUIRED BY UTILITY COMPANIES FOR, WATER, AND SEWER SERVICES.
4. ALL WORK SHALL BE PERFORMED TO FACILITATE EXPEDITIOUS PROGRESS ON THE WHOLE PROJECT. COORDINATE WORK WITH OTHER TRADES TO MINIMIZE AND RESOLVE POTENTIAL CONFLICTS.
5. COMPLETED SYSTEM SHALL BE TESTED, BALANCED, AND GUARANTEED.
6. THE DRAWINGS ARE DIAGRAMMATIC IN NATURE. THE CONTRACTOR SHALL PROVIDE FITTINGS, OFFSETS, ETC., AS NECESSARY TO PROPERLY COMPLETE THE INSTALLATION OF THE SYSTEMS.
7. IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY DETAIL OF CONSTRUCTION. CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS NECESSARY FOR A COMPLETE CODE COMPLYING MECHANICAL SYSTEM TO BE IN PROPER WORKING ORDER.
8. MATERIALS EXPOSED WITHIN A PLENUM SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84. EXISTING AND NEW PVC PIPING WILL REQUIRE 1/2 INCH MINERAL FIBER INSULATION WITH VAPOR RETARDER FACING THAT MEETS ASTM E84.
9. COORDINATE ALL DUCT AND PIPING PENETRATIONS AND HANGERS WITH FIRE PROTECTION AN RATINGS.

ABBREVIATIONS:

- AFF ABOVE FINISH FLOOR
ATR AIR TEMPERATURE RISE
BF BELOW FLOOR
BOD BOTTOM OF DUCT
BOS BOTTOM OF STEEL
BTUH BRITISH THERM UNIT PER HOUR
CFH CUBIC FEET PER HOUR
CFM CUBIC FEET PER MINUTE
CONC CONCRETE
DB DECIBELS, SOUND PRESSURE LEVEL
DN DOWN
EA EXHAUST AIR/ EACH
EAT ENTERING AIR TEMPERATURE
EDB ENTERING DRY BULB
ESP EXTERNAL STATIC PRESSURE
EWB ENTERING WET BULB
EXIST EXISTING
HP HORSEPOWER
LAT LEAVING AIR TEMPERATURE/LATENT
HEAT
LDB LEAVING DRY BULB
- LV LOUVER
LWB LEAVING WET BULB
MAT MIXED AIR TEMPERATURE
MBH 1000 BRITISH THERMAL UNITS PER HOUR
MIN MINIMUM
MFG MANUFACTURER
NC NORMALLY CLOSED
NO NORMALLY OPEN
OA OUTSIDE AIR
OFCI OWNER FURNISHED - CONTRACTOR INSTALLED
RH RELATIVE HUMIDITY/REHEAT
RPM REVOLUTIONS PER MINUTE
SA SUPPLY AIR
SAN SANITARY
SP STATIC PRESSURE
TEMP TEMPERATURE
TOD TOP OF DUCT
TOS TOP OF STEEL
TSP TOTAL STATIC PRESSURE
WTW WALL TO WALL



LEGEND:

--- V ---	PLUMBING SYSTEM VENT	○	CAP
— CW —	DOMESTIC COLD WATER	○	DROP
— SCW —	SOFT COLD WATER	○	RISE
— TW —	TEPID WATER	△	REDUCER
— HW —	DOMESTIC HOT WATER	— —	UNION
— HWR —	DOMESTIC HOT WATER RETURN	⊗	THREE-WAY CONTROL VALVE
— SAN —	SANITARY SEWER	⊗	CONTROL VALVE
— ST —	STORM	⊗	GATE VALVE
— CA —	COMPRESSED AIR	⊗	GLOBE VALVE
— DCA —	DRY COMPRESSED AIR	⊗	BALL VALVE
— G —	GAS	⊗	CHECK VALVE
— HS —	HEATING WATER SUPPLY	⊗	CALIBRATED BALANCING VALVE
— HR —	HEATING WATER RETURN	— —	BUTTERFLY VALVE
— CS —	CHILLED WATER SUPPLY	⊗	PLUG VALVE, GAS COCK
— CR —	CHILLED WATER RETURN	⊗	PRESSURE REDUCING VALVE
— RS —	REFRIGERANT SUCTION	△	RELIEF VALVE
— RL —	REFRIGERANT LIQUID	△	STRAINER WITH FULL SIZE BLOWDOWN VALVE WITH HOSE END AND CAP
→	DIRECTION OF FLOW	△	MANUAL AIR VENT
○	DROP TEE IN-LINE	▶	PUMP

ABBREVIATIONS:

○	PRESSURE GAUGE	AFF	ABOVE FINISH FLOOR	LWT	LEAVING WATER TEMPERATURE
— —	COMBINATION PRESSURE AND TEMPERATURE TEST PLUG WITH EXTENDED NECK AND CAP	ATR	AIR TEMPERATURE RISE	MAT	MIXED AIR TEMPERATURE
— —	THERMOMETER	BF	BELOW FLOOR	MBH	1000 BRITISH THERMAL UNITS PER HOUR
— —	TEMPERATURE WELL	BOD	BOTTOM OF DUCT	MIN	MINIMUM
— —	FLEXIBLE CONNECTION	BOS	BOTTOM OF STEEL	MFG	MANUFACTURER
— —	THROUGH WALL SLEEVE	BTUH	BRITISH THERAM UNIT PER HOUR	NC	NORMALLY CLOSED
— —	POINT OF NEW CONNECTION TO EXISTING	BV	BALANCE VALVE	NO	NORMALLY OPEN
— —	VOLUME CONTROL DAMPER IN DUCT	CEF	CEILING EXHAUST FAN	OA	OUTSIDE AIR
— —	FIRE DAMPER IN HORIZONTAL DUCT	CFH	CUBIC FEET PER HOUR	OAL	OUTSIDE AIR LOUVER
— —	FIRE DAMPER IN VERTICAL DUCT	CFM	CUBIC FEET PER MINUTE	OD	OVERFLOW DRAIN
— —	MOTORIZED DAMPER	CH	CABINET HEATER	OF	OVERFLOW
— —	THERMOSTAT	CO	CLEAN OUT	OF	OWNER FURNISHED - CONTRACTOR
— —	SENSOR	CONC	CONCRETE	PD	PRESSURE DROP
— —	SUPPLY AIR (SECTION)	CW	DOMESTIC COLD WATER	PT	PRESSURE/TEMPERATURE PLUG
— —	RETURN / EXHAUST AIR(SECTION)	DB	DECIBELS, SOUND PRESSURE	RD	ROOF DRAIN
— —	AIR FLOW DIRECTION	DN	DOWN	RH	RELATIVE HUMIDITY/REHEAT
— —	DUCT TRANSITION	EA	EXHAUST AIR/ EACH	RPM	REVOLUTIONS PER MINUTE
— —	FLEXIBLE DUCT	EAL	EXHAUST/RELIEF AIR LOUVER	BFP	BACKFLOW PREVENTER
		EAT	ENTERING AIR TEMPERATURE	S	SINK
		EDB	ENTERING DRY BULB	SA	SUPPLY AIR
		EF	EXHAUST FAN	SAN	SANITARY
		ESP	EXTERNAL STATIC PRESSURE	SP	STATIC PRESSURE
		EWB	ENTERING WET BULB	S.S.	STAINLESS STEEL
		EWT	ENTERING WATER TEMPERATURE	ST	STORM
		EXIST	EXISTING	TEMP	TEMPERATURE
		FS	FLOOR SWITCH	TOD	TOP OF DUCT
		GPM	GALLONS PER MINUTE	TOS	TOP OF STEEL
		HB	HOSE BIB	TSP	TOTAL STATIC PRESSURE
		HO	HUB OUTLET	V	VENT
		HP	HORSEPOWER	VTR	VENT THROUGH ROOF
		HW	DOMESTIC HOT WATER	WC	WATER CLOSET
		HWR	DOMESTIC HOT WATER RETURN	WH	WATER HEATER
		LAV/L	LAVATORY	WPD	WATER PRESSURE DROP
		LAT	LEAVING AIR TEMPEATURE/LATENT	WTW	WALL TO WALL
			HEAT		
		LDB	LEAVING DRY BULB		
		LWB	LEAVING WET BULB		

GENERAL CONTRACTOR REQUIREMENTS:

- ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES, ORDINANCES, AND LAWS.
- ARRANGE AND PAY FOR ALL PERMITS AND INSPECTIONS AS REQUIRED.
- MAKE ARRANGEMENTS WITH AND PAY ALL CHARGES REQUIRED BY UTILITY COMPANIES FOR WATER, AND SEWER SERVICES.
- ALL WORK SHALL BE PERFORMED TO FACILITATE EXPEDITIOUS PROGRESS ON THE WHOLE PROJECT. COORDINATE WORK WITH OTHER TRADES TO MINIMIZE AND RESOLVE POTENTIAL CONFLICTS.
- COMPLETED SYSTEM SHALL BE TESTED, BALANCED, AND GUARANTEED.
- PROVIDE A GAS SHUTOFF VALVE AND DIRT LEG AT EACH PIECE OF GAS FIRED EQUIPMENT.
- THE DRAWINGS ARE DIAGRAMMATIC IN NATURE. THE CONTRACTOR SHALL PROVIDE FITTINGS, OFFSETS, ETC., AS NECESSARY TO PROPERLY COMPLETE THE INSTALLATION OF THE SYSTEMS.
- CONTRACTOR TO FURNISH AND INSTALL WATER HAMMER ARRESTERS AT EACH VALVED FIXTURE.
- ALL PIPES PASSING THRU FINISHED WALLS, PARTITIONS AND FLOORS SHALL BE FITTED WITH ADJUSTABLE ESCUTCHEONS, AND APPROPRIATE FIRE TOPPING WHERE REQUIRED.
- FURNISH AND INSTALL ALL VALVING FOR THE PROPER SECTIONALIZING AND OPERATION OF THE PIPING SYSTEM.
- LAYOUT PLUMBING WORK TO AVOID CONFLICTS WITH OTHER BUILDING COMPONENTS. ESTABLISH ELEVATION OF PUBLIC SEWER SYSTEM.
- WHERE FIXTURES ARE MOUNTED TO WALLS SEAL ALL INTERSECTIONS WITH SILICONE CAULK.
- IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY DETAIL OF CONSTRUCTION. CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS NECESSARY FOR A COMPLETE CODE COMPLYING MECHANICAL SYSTEM TO BE IN PROPER WORKING ORDER.
- PROVIDE APPROPRIATE FIRE STOPPING MATERIALS WHERE FIRE RATED ASSEMBLIES ARE PENETRATED.
- MATERIALS EXPOSED WITHIN A PLENUM SHALL BE NONCOMUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84. EXISTING AND NEW PVC PIPING WILL REQUIRE 1/2 INCH MINERAL FIBER INSULATION WITH VAPOR RETARDER FACING THAT MEETS ASTM E84.

Panel CLARIFIER									
Location: TRANSFORMER			Voltage: 120/240V			A.I.C. Rating: 100 A			
Supply From: TRANSFORMER			Phases: 1			Mains Rating: 100 A			
Mounting: SURFACE			Wires: 3			Mains Type: MAIN CIRCUIT BREAKER			
CKT	Description	Trip	Poles	A	B	Poles	Trip	Description	CKT
1	(EX) W. LOWER LIGHTS	25 A	1	0 VA	0 VA		1	20 A (EX) LOWER RECEPTS	2
3	(EX) E. LOWER LIGHTS	25 A	1		0 VA	0 VA	1	20 A (EX) PCP PANEL	4
5	(EX) RADIO PANEL - N...	20 A	1	0 VA	0 VA		1	20 A (EX) SERVICE WATER METER	6
7	(EX) LOWER RECEPTS	20 A	1		0 VA	0 VA	1	20 A (EX) UPPER RECEPTS	8
9	(EX) E. CAT WALK LIGHTS	20 A	1	0 VA	0 VA		1	20 A (EX) SPARE	10
11	(EX) LOWER HEATERS	20 A	1		0 VA	0 VA	1	20 A (EX) E. FLOOD LIGHTS	12
13	(EX) UPPER HEATERS	20 A	1	0 VA	0 VA		1	20 A (EX) W. FLOOD LIGHTS	14
15	(EX) E. FLOOD LIGHTS	20 A	1		0 VA	0 VA	1	20 A (EX) W. FLOOD LIGHTS	16
17	(EX) UPPER RECEPTS	20 A	1	0 VA	0 VA		1	20 A (EX) E. GATE LIGHT	18
19	(EX) W. CAT WALK LIGHTS	20 A	1		0 VA	0 VA	1	20 A (EX) UPPER N. LIGHTS	20
21	(EX) UPPER HEATERS	20 A	1	0 VA	0 VA		1	20 A (EX) OUTSIDE LIGHTS	22
23	(EX) LOWER RECEPTS	20 A	1		0 VA	0 VA	1	20 A (EX) ACCESS PANEL	24
25	(EX) ??	20 A	1	0 VA	0 VA		1	20 A (EX) E. CATHODIC PROT.	26
27	(EX) UPPER HEATERS	20 A	1		0 VA	0 VA	1	20 A (EX) W. CATHODIC PROT.	28
29	(EX) UPPER HEATERS	20 A	1	0 VA	0 VA		1	20 A (EX) ??	30
31	(EX) SPARE	20 A	1		0 VA	0 VA	1	20 A (EX) SAMPLE PUMPS	32
33	(EX) SPARE	20 A	1	0 VA	960 VA		2	20 A SF-2	34
35	(EX) SPARE	20 A	1		0 VA	960 VA			36
37	(EX) SPARE	45 A	2	0 VA	960 VA		2	20 A SF-2	38
39					0 VA	960 VA			40
41	EF-2	20 A	2	1200 VA	1200 VA		2	20 A EF-2	42
43					1200 VA	1200 VA			44
Load Classification				Connected Load	Demand Factor	Demand Load	Panel Totals		
Lighting				0 VA	0.00%	0 VA	Total Connected Load: 8640 VA		
Receptacle				0 VA	0.00%	0 VA	Total Demand Load: 8640 VA		
Motor				8640 VA	100.00%	8640 VA	Total Connected Current: 36 A		
Other				0 VA	0.00%	0 VA	Total Demand Current: 36 A		

Panel LPAA									
Location: TRANSFORMER			Voltage: 208Y/120V			A.I.C. Rating: 150A			
Supply From: TRANSFORMER			Phases: 3			Panel Rating: 150A			
Mounting: SURFACE			Wires: 4			Mains Type: MAIN CIRCUIT BREAKER			
CKT	Description	Trip	Poles	A	B	C	Poles	Description	CKT
1	(EX) PT BLDG LIGHTS	20 A	1	0 VA	0 VA		1	20 A (EX) PT BLDG LIGHTS	2
3	(EX) PT BLDG LIGHTS	20 A	1		0 VA	0 VA	1	20 A (EX) PT BLDG LIGHTS	4
5	(EX) PT BLDG LIGHTS	20 A	1		0 VA	0 VA	1	20 A (EX) PT BLDG RECEPTS	6
7	(EX) PT BLDG LIGHTS	20 A	1	0 VA	0 VA		1	20 A (EX) PT BLDG RECEPTS	8
9	(EX) EXIT LIGHTS	20 A	1		0 VA	0 VA	1	20 A (EX) VENT. CONTROL...	10
11	(EX) NIGHT LIGHTS	20 A	1		0 VA	0 VA	1	20 A (EX) CAMERAS - PT, S...	12
13	(EX) SPARE	20 A	1	0 VA	0 VA		1	20 A (EX) SPARE	14
15	(EX) PT BLDG LIGHTS	20 A	1		0 VA	0 VA	1	20 A (EX) FLOC. LIGHTS	16
17	(EX) PT EXTERIOR LIGHTS	20 A	1		0 VA	0 VA	1	20 A (EX) FLOC. LIGHTS	18
19	(EX) PT BLDG LIGHTS	20 A	1	0 VA	0 VA		1	20 A (EX) PT BLDG LIGHTS	20
21	(EX) PT HEATERS - WEST	20 A	1		0 VA	0 VA	1	20 A (EX) PT HEATERS - EAST	22
23	(EX) PT SAMPLE PUMP ...	20 A	1		0 VA	0 VA	1	20 A (EX) PT SAMPLE PUMP ...	24
25	(EX) SPARE	20 A	1	0 VA	0 VA		1	20 A (EX) SPARE	26
27	(EX) PT BLDG LIGHTS	20 A	1		0 VA	588 VA	1	20 A EF-2	28
29	(EX) SPARE	20 A	1		0 VA	588 VA	2	20 A EF-2	30
31	(EX) SPARE	20 A	1	0 VA	588 VA		2	20 A EF-2	32
33	(EX) SPARE	20 A	1		0 VA	588 VA			34
35	SF-1, EF-1	20 A	2	1176 VA	588 VA		2	20 A SF-2	36
37						1176 VA	2	20 A SF-2	38
39	SF-1, EF-1	20 A	2		1176 VA	588 VA	2	20 A SF-2	40
41						1176 VA	2	20 A SF-2	42
Load Classification				Connected Load	Demand Factor	Demand Load	Panel Totals		
Lighting				0 VA	0.00%	0 VA	Total Connected Load: 9408 VA		
Receptacle				0 VA	0.00%	0 VA	Total Demand Load: 9408 VA		
Motor				9408 VA	100.00%	9408 VA	Total Connected Current: 26 A		
Other				0 VA	0.00%	0 VA	Total Demand Current: 26 A		

EXHAUST FANS									
MARK	MODEL	CFM	ESP	HP	BHP	RPM	VP	REMARKS	
EF-1	SBS-3H30-S	5000	0.25	1/2	0.42	665	208/1	1.2	
EF-2	CUBE-200-15	5000	0.25	1-1/2	1.09	969	208/1	12.3	

- BASED ON "GREENHECK"
- PROVIDE DISCONNECT AND GRAVITY BACKDRAFT DAMPER, INTERLOCK WITH COORESPONDING SUPPLY FAN
- PROVIDE 24" CURB AND CURB ADAPTER BY MANUFACTURER

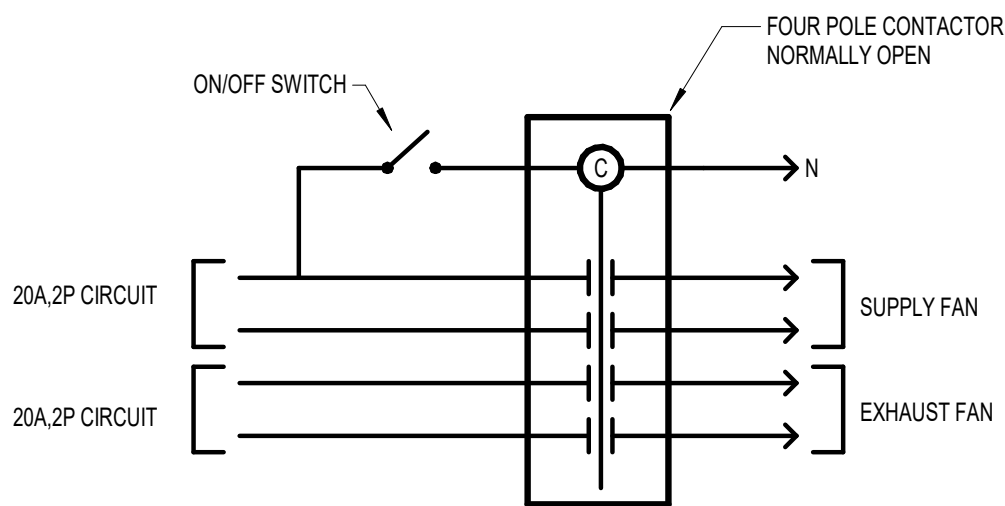
SUPPLY FANS									
MARK	MODEL	CFM	ESP	HP	BHP	RPM	VP	REMARKS	
SF-1	SBS-3H30-S	5000	0.25	1/2	0.42	665	208/1	1.2	
SF-2	RBS-2L20-7	5000	0.2	1	0.85	1174	208/1	12.3	

- BASED ON "GREENHECK"
- PROVIDE DISCONNECT AND MOTORIZED DAMPER, INTERLOCK WITH COORESPONDING EXHAUST FAN
- PROVIDE 24" CURB AND CURB ADAPTER BY MANUFACTURER

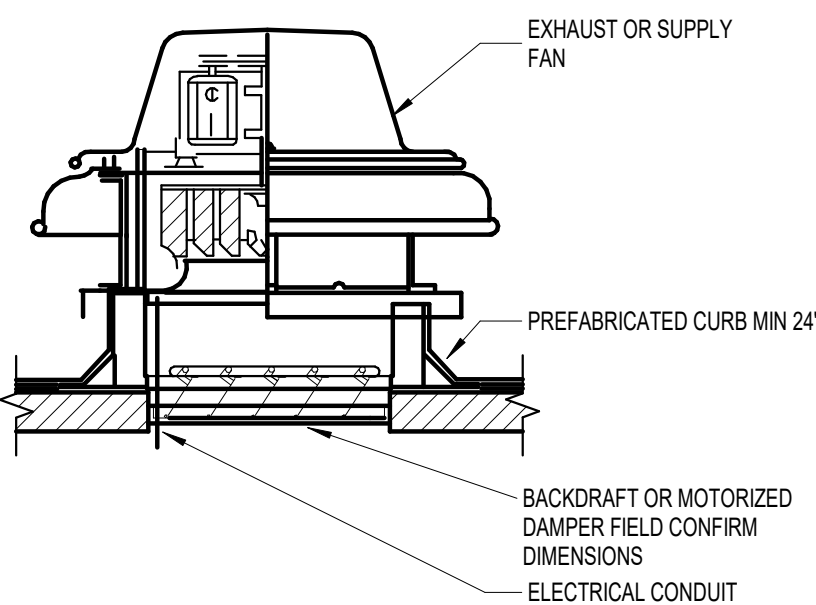
EQUIPMENT LIST

LV-1

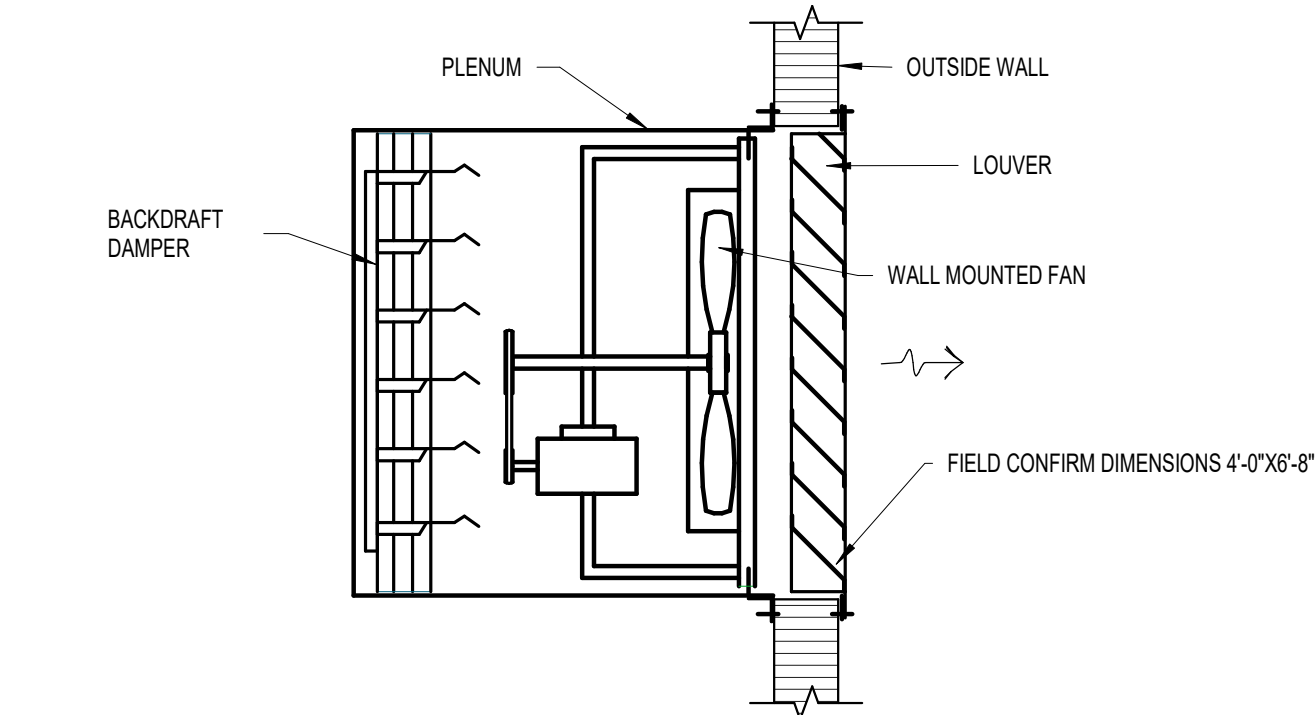
LOUVER
MANUFACTURER: GREENHECK
MODEL: ESD-635
SIZE: 50" x 40"
FREE AREA: 7.82 SF
VELOCITY: 642 FPM
MAX PD: 0.06 IN. W.G.
DESCRIPTION: 8" ALUMINUM CONSTRUCTION WEATHER LOUVER, 35 DEG. HORIZONTAL BLADES WITH DRAIN GUTTERS, VERTICAL DOWNSPOUTS WITH SLOPED SILL. PROVIDE WITH GALVANIZED BIRDSCREEN.



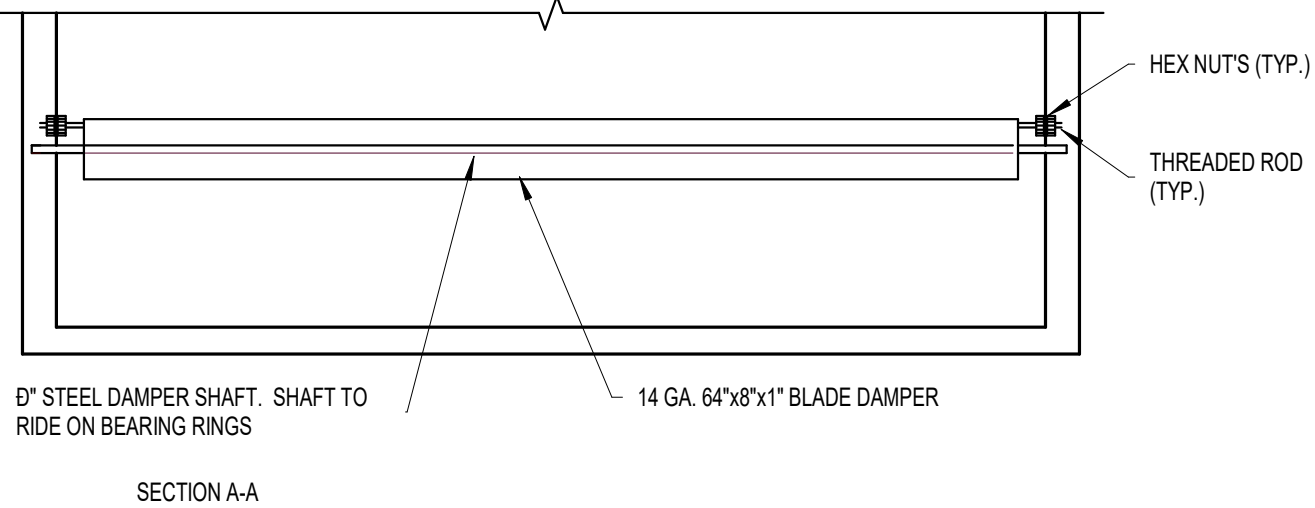
4 FAN CONTROL CONTACTOR DETAIL
SCALE: NONE



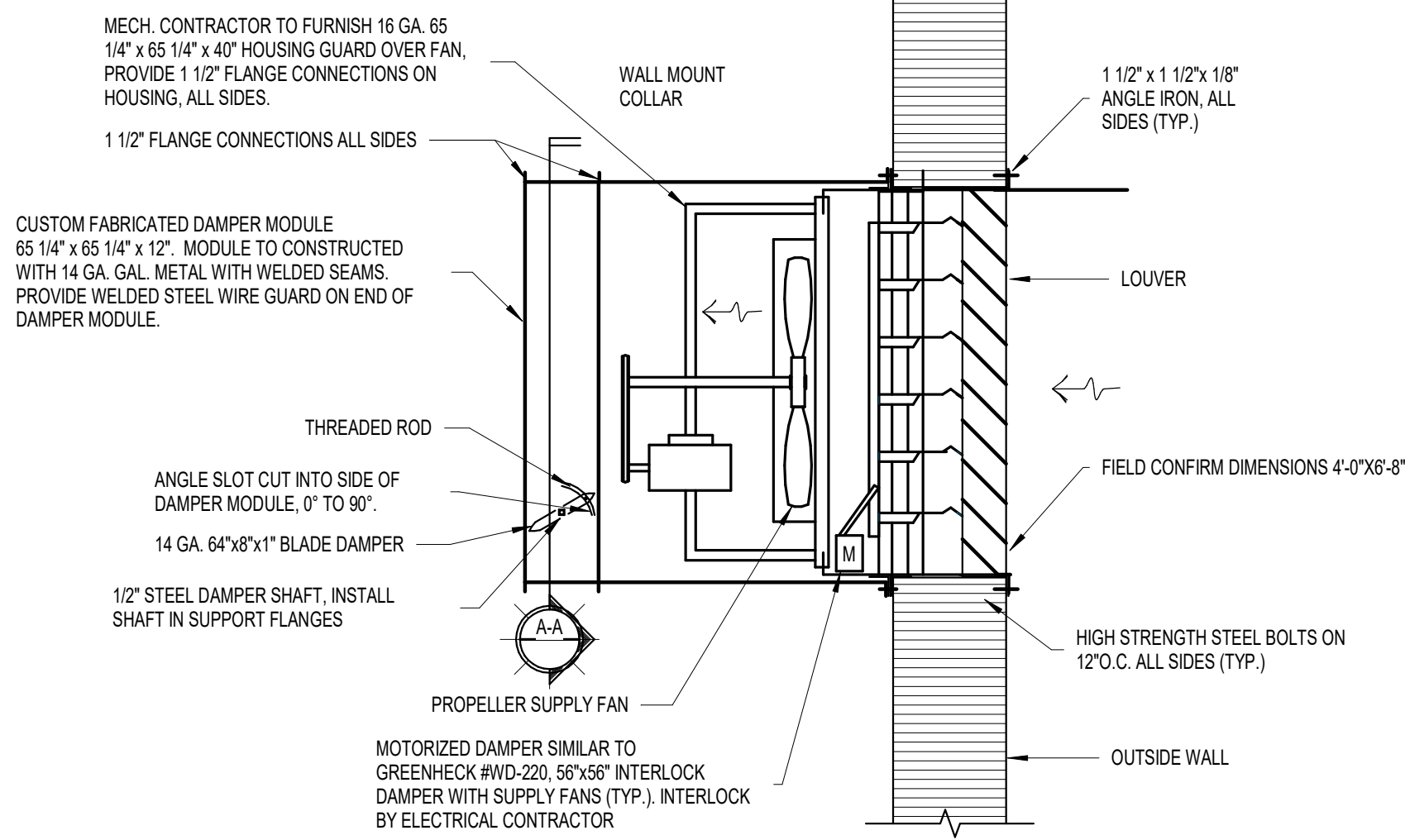
3 ROOF FAN DETAIL
SCALE: NONE



2 WALL MOUNTED EXHAUST FAN
SCALE: 1/2" = 1'-0"



SECTION A-A

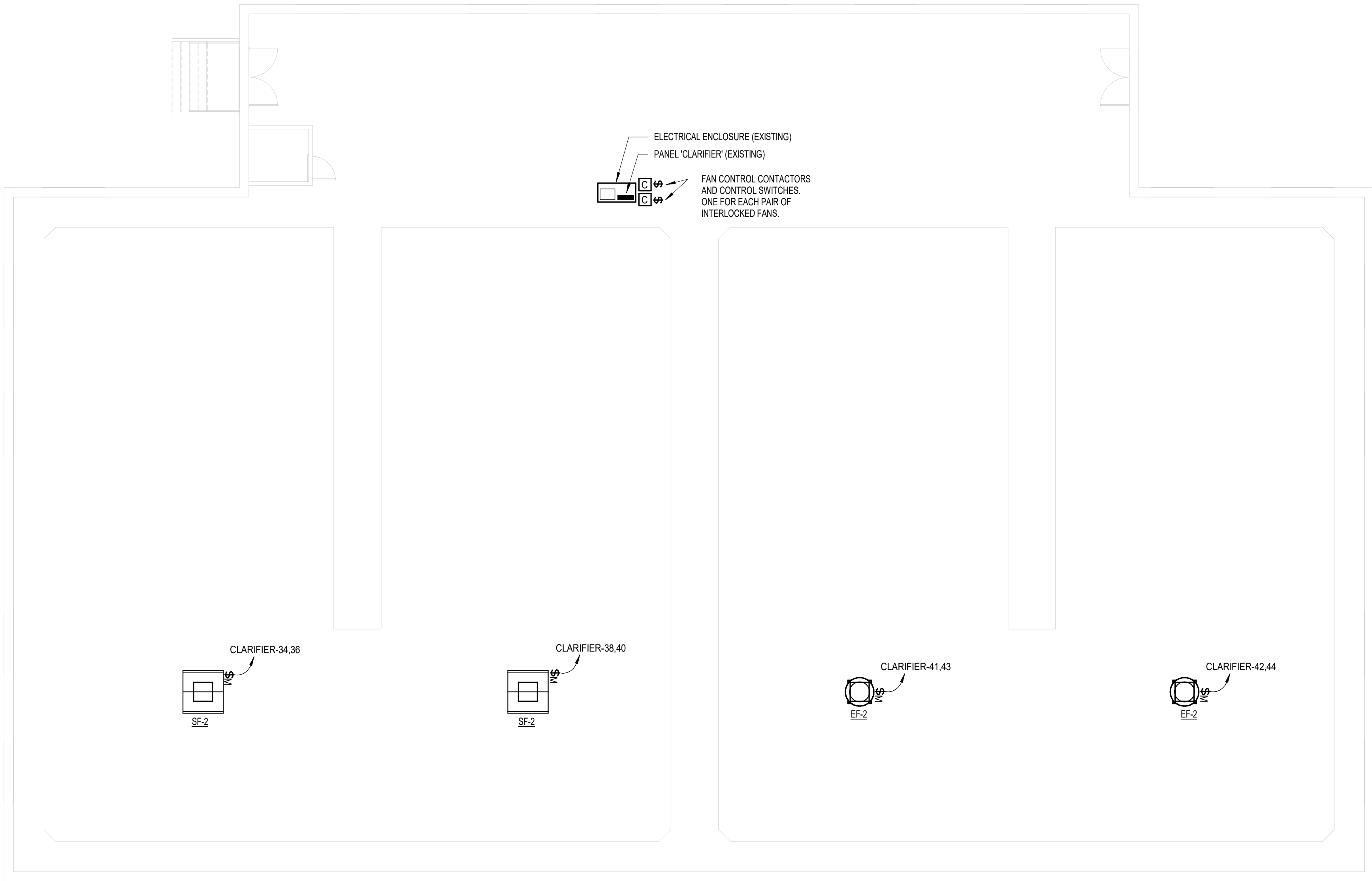


1 VENTILATION SUPPLY FAN
SCALE: 1/2" = 1'-0"

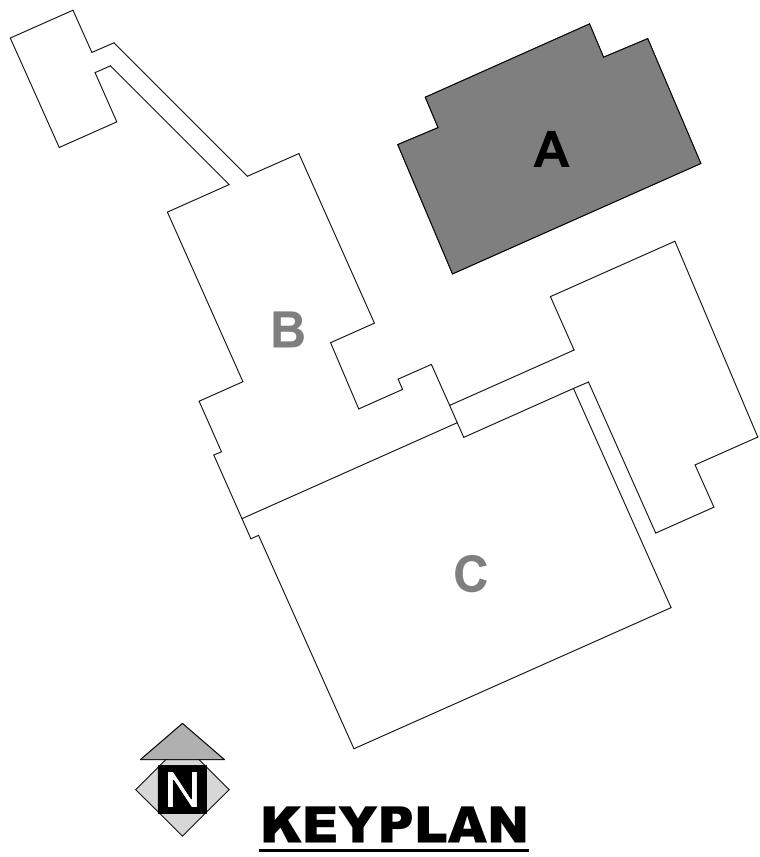
New Ventiltion Fans for:
Muskegon Water Filtration Plant
1900 Beach St. Muskegon, Michigan 49441

BIM 360://20100181 Muskegon Water Filtration Plant and Harvey Booster Station (Abomarche)(20100181 Muskegon Water Filtration Plan and Harvey Booster Station) - 2020.01.14 4:05 PM By: 20100181

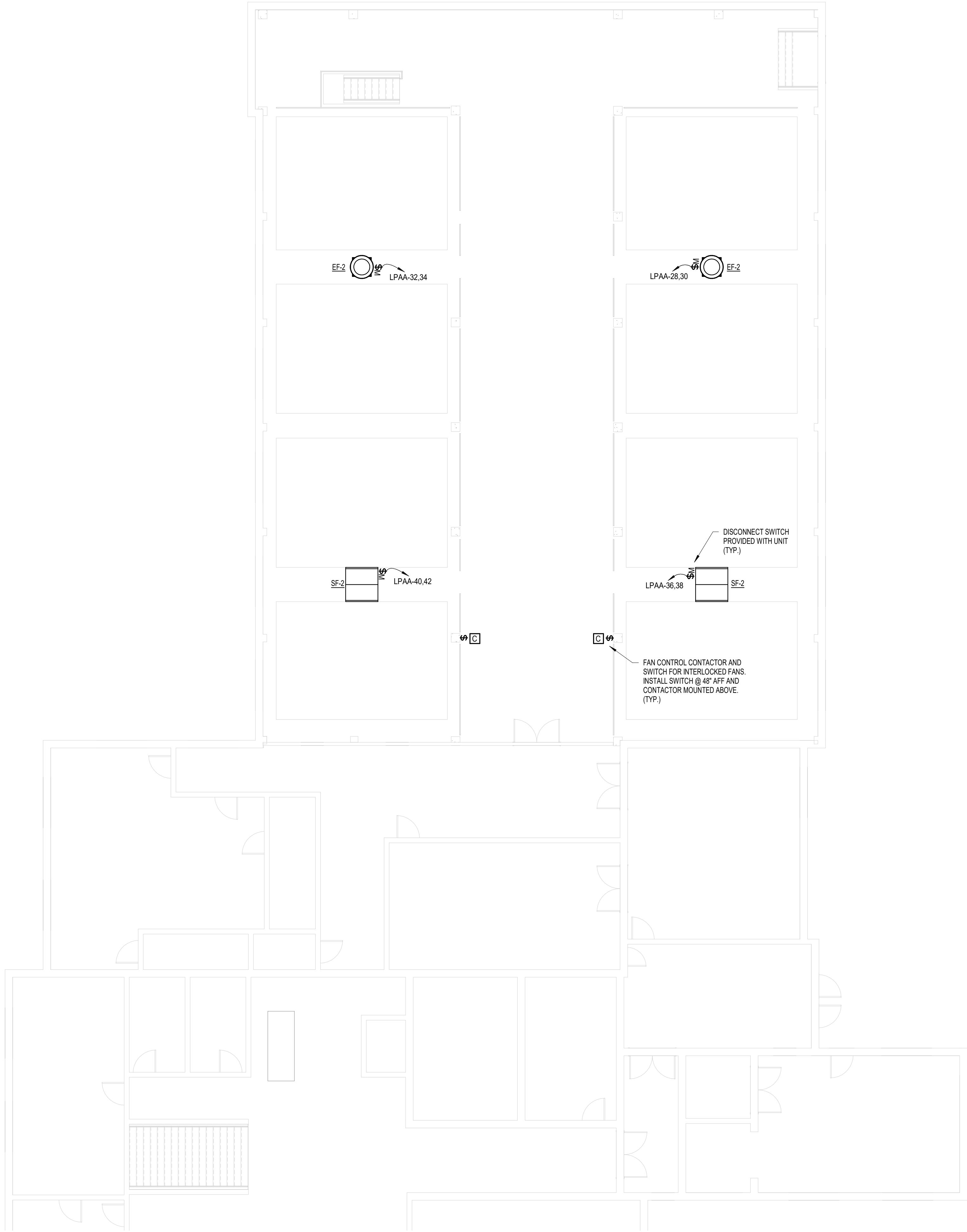
BIM 360/20100181 Muskegon Water Filtration Plant and Harvey Booster Station (Abonmarche)/20100181 Muskegon Water Filtration Plan and Harvey Booster Station - Mechanical
By: 20100181



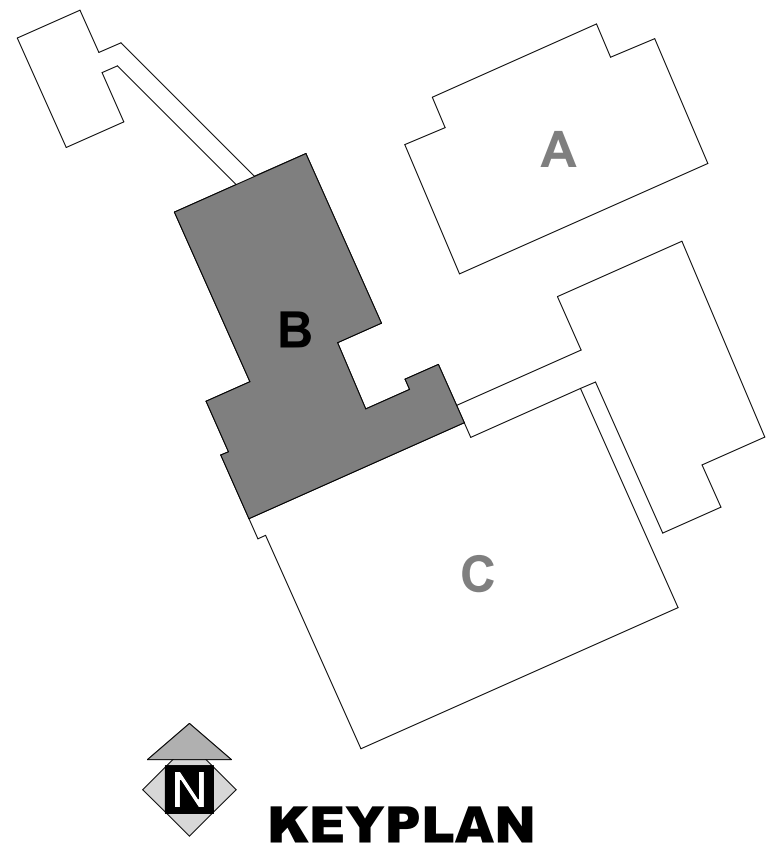
CLARIFIER BUILDING MECHANICAL AND ELECTRICAL PLAN
SCALE: 1/8" = 1'-0"



BIM 360/20100181 Muskegon Water Filtration Plant and Harvey Booster Station (Abonmarche)/20100181 Muskegon Water Filtration Plan and Harvey Booster Station - Mechanical - 4:04:18 PM By: [redacted]

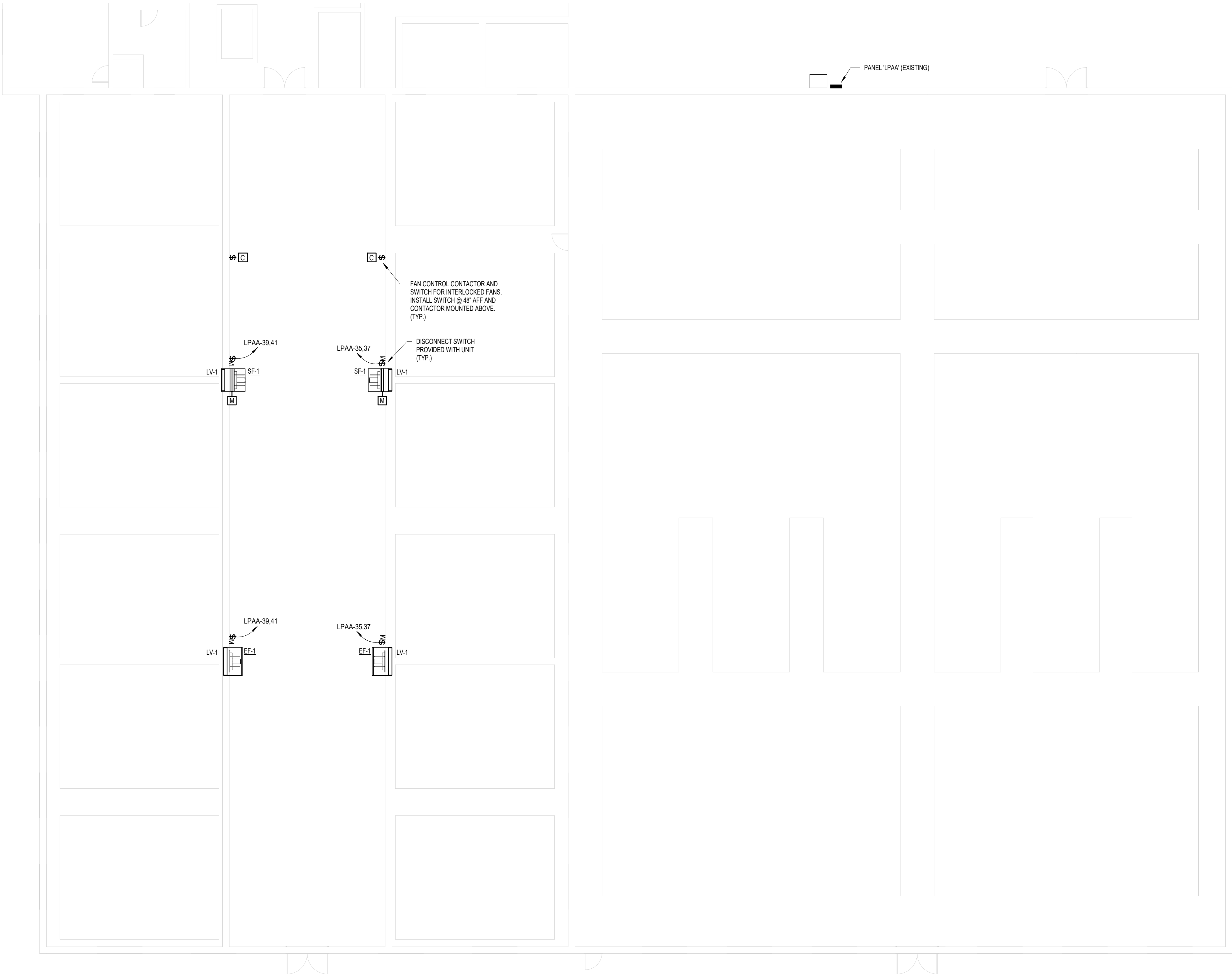


 **NORTH FILTER BUILDING MECHANICAL AND ELECTRICAL PLAN**
SCALE: 1/8" = 1'-0"



KEYPLAN

BIM 360/20100181 Muskegon Water Filtration Plant and Harvey Booster Station (Abonmarche)/20100181 Muskegon Water Filtration Plan and Harvey Booster Station - 1/23/2023 4:04:19 PM By: [redacted]



 **SOUTH FILTER BUILDING MECHANICAL AND ELECTRICAL PLAN**
SCALE: 1/8" = 1'-0"

