

# LAKEWOOD BUSINESS CENTER, LOT 1 (46)

## UPDATED PERMIT SET

### FEBRUARY 08, 2024

#### GENERAL NOTES:

- THE CONTRACTOR SHALL SECURE AND PAY FOR GOVERNMENT LICENSES, INSPECTIONS, TESTING, TEMPORARY UTILITIES AND PERMITS AS REQUIRED BY THE CONSTRUCTION DOCUMENTS AND/OR REGULATORY BODY HAVING AUTHORITY.
- CONTRACTORS SHALL VISIT THE SITE WHILE BIDDING AND SHALL FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND THE REQUIREMENTS OF THE PROJECT AND CONSTRUCTION DOCUMENTS PRIOR TO DEVELOPING THEIR BID, FABRICATION / CONSTRUCTION, AND PURCHASING. MATERIAL QUANTITIES SHALL BE BASED ON ACTUAL FIELD CONDITIONS AND MEASUREMENTS. DO NOT RELY ON SCALING DRAWINGS FOR ACCURATE DIMENSIONS. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT OR OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES, CONFLICTS OR OMISSIONS DISCOVERED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTIONS AND/OR REPAIRS REQUIRED FOR FAILING TO DO SO.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL CONSTRUCTION DOCUMENTS TO THEIR SUBCONTRACTORS AS REQUIRED FOR THEM TO DEVELOP A COMPLETE BID FOR THEIR WORK AND TO HAVE A COMPLETE UNDERSTANDING OF COORDINATION NEEDED WITH OTHER SUBCONTRACTORS FOR RELATED HIDDEN OR EXPOSED WORK TO ENSURE EFFICIENT AND ORDERLY INSTALLATION.
- THE ARCHITECT ASSUMES NO LIABILITY FOR THE SERVICES AND/OR CONSTRUCTION DOCUMENTS OF DESIGN SUB-CONSULTANTS COMPILED INTO THE SET OF DOCUMENTS ISSUED BY THE ARCHITECT. THESE DESIGN SERVICES MAY INCLUDE, BUT ARE NOT LIMITED TO: CIVIL, LANDSCAPE, STRUCTURAL, MECHANICAL, PLUMBING, ELECTRICAL, PRE-ENGINEERED METAL BUILDING DESIGN, TILT-UP DESIGN, TRUSS SYSTEM DESIGN, AUTOMATIC FIRE SPRINKLER AND/OR ALARM SYSTEMS, LOW-VOLTAGE ELECTRICAL TELECOMMUNICATION AND SECURITY SYSTEMS AND GUTTER / DOWNSPOUT DESIGN.
- UNLESS SPECIFICALLY NOTED OTHERWISE, THE CONTRACTOR SHALL PROVIDE AND PAY FOR LABOR, MATERIALS, EQUIPMENT, MACHINERY, SCAFFOLDING, SHORING, TOOLS, LAYOUT, ON-SITE DIMENSIONING, TRANSPORTATION, UTILITIES, AND OTHER FACILITIES AND SERVICES NECESSARY FOR PROPER EXECUTION AND COMPLETION OF THE WORK AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS. THIS SHALL ALSO INCLUDE NECESSARY CUTTING, PATCHING AND REPAIRING OF EXISTING CONSTRUCTION MATERIALS IN PLACE. ALL WORK AND MATERIAL SHALL COMPLY WITH THE APPLICABLE GOVERNING CODES LISTED.
- EACH SUBCONTRACTOR SHALL PROVIDE THEIR OWN LIFTING EQUIPMENT AS REQUIRED TO COMPLETE THEIR SPECIFIC SCOPE OF WORK.
- WHERE DETAILS AND DESIGN INTENT ARE NOT CLEAR, THE CONTRACTOR SHALL CONSULT THE ARCHITECT FOR CLARIFICATION PRIOR TO PROCEEDING WITH THE WORK.
- THE CONTRACTOR SHALL DESIGN AND INSTALL ADEQUATE SHORING AND BRACING FOR STRUCTURAL MODIFICATIONS, INSTALLATIONS AND ERECTION.
- CONTRACTORS SHALL TAKE CARE TO PROTECT ADJACENT AREAS FROM DUST AND DAMAGE DURING THE CONSTRUCTION PROCESS AND SHALL CLEAN UP AFTER THEMSELVES AT THE END OF EACH WORKING DAY. ANY DAMAGE DONE TO ADJACENT AREAS MUST BE REPAIRED TO MATCH ORIGINAL CONDITIONS OR TO THE OWNER'S SATISFACTION. REPAIRS ARE TO BE PAID FOR BY THE CONTRACTOR RESPONSIBLE.
- THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY ADDITIONAL WORK OR REVISIONS REQUIRED DUE TO SITE CONDITIONS OR ADDITIONAL REQUIREMENTS OF ANY REGULATORY BODIES HAVING AUTHORITY.
- FOR THE DURATION OF THE PROJECT AND AT ALL TIMES OF EACH DAY, THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE CONDITIONS, SECURITY AND SAFETY FOR WORKERS AND THE GENERAL PUBLIC, AS REQUIRED BY THE REGULATORY BODY HAVING AUTHORITY.
- THE GENERAL CONTRACTOR SHALL PURCHASE AND MAINTAIN INSURANCE COVERAGE IN ACCORDANCE WITH THE REQUIREMENTS OF THE OWNER. VERIFY AND COORDINATE WITH THE OWNER'S REPRESENTATIVE FOR ANY ADDITIONAL REQUIREMENTS.
- THE OWNER OR THE OWNER'S SUBCONTRACTORS MAY OCCUPY PORTIONS OF THE PROJECT DURING THE FINAL STAGE OF CONSTRUCTION. COORDINATE AND COOPERATE WITH THE OWNER TO MINIMIZE CONFLICT AND FACILITATE THE OWNER'S OPERATION.
- THE CONTRACTOR SHALL PROVIDE SECURITY OF THE WORK, INCLUDING TOOLS AND UNINSTALLED MATERIALS. PROTECT THE WORK, STORED PRODUCTS, CONSTRUCTION EQUIPMENT, AND OWNER'S PROPERTY FROM THEFT AND VANDALISM, AND PROTECT THE PREMISES FROM ENTRY BY UNAUTHORIZED PERSONNEL UNTIL FINAL ACCEPTANCE BY THE OWNER.
- CONTRACTOR SHALL COORDINATE STAGING AREAS AS REQUIRED BY THE LANDLORD / OWNER.
- THE CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF ALL EXISTING UTILITIES.
- THE STRUCTURAL ENGINEER AND ARCHITECT MUST BE NOTIFIED AND MUST GIVE APPROVAL PRIOR TO ANY STRUCTURAL MEMBER(S) BEING CUT OR MODIFIED TO ACCOMMODATE THE INSTALLATION OF ANY PIPES, DUCTS OR OTHER CONSTRUCTION.
- THE STRUCTURAL ENGINEER AND ARCHITECT MUST BE NOTIFIED AND MUST GIVE APPROVAL PRIOR TO ANY MODIFICATION TO THE ROOF SYSTEM OR ADDING ANY ADDITIONAL ROOF-MOUNTED EQUIPMENT.

#### CONSTRUCTION NOTES:

- PERFORM ALL WORK IN ACCORDANCE WITH ACCEPTABLE TRADE PRACTICE TO ENSURE THE HIGHEST QUALITY FINISHED PRODUCT - EXPRESSED OR IMPLIED. PERFORM ALL WORK BY SKILLED MECHANICS IN ACCORDANCE WITH ESTABLISHED STANDARDS OF WORKMANSHIP IN EACH OF THE VARIOUS TRADES.
- WHEN THE PROJECT REQUIREMENTS REQUIRE THAT THE INSTALLATION OF WORK SHALL COMPLY WITH MANUFACTURER'S INSTRUCTIONS, PERFORM THE WORK IN STRICT ACCORDANCE WITH THE MOST CURRENT WRITTEN MANUFACTURER'S INSTRUCTIONS.
- ALL PRODUCTS AND EQUIPMENT SHALL BE DELIVERED IN UNDAMAGED CONDITION AND STORED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS TO AVOID DISRUPTION OF THE WORK OR DAMAGE TO THE ITEMS. REPLACE DAMAGED OR UNFIT MATERIALS, AT NO COST TO THE OWNER.
- COORDINATE BLOCKING REQUIREMENTS WITH ADJACENT OR RELATED TRADES, ACCESSORIES, EQUIPMENT AND FIXTURES. INSTALL REQUIRED BLOCKING AT NO ADDITIONAL COST TO THE CONTRACT.
- ALL WEATHER-EXPOSED SURFACES SHALL HAVE A WEATHER-RESISTIVE BARRIER. EXTERIOR OPENINGS SHALL BE FLASHED IN SUCH A MANNER AS TO MAKE THEM WATERPROOF.
- REPAIR PROPERTY DAMAGE BY THE INSTALLERS TO A LIKE NEW CONDITION, OR REPLACE DAMAGED SURFACES AND MATERIALS OF THE PREVIOUSLY INSTALLED WORK BY OTHER TRADES, INSTALLERS, AND SUBCONTRACTORS.
- ALLOWABLE TOLERANCES - UNLESS OTHERWISE NOTED OR INDICATED, THE FOLLOWING TOLERANCES SHALL APPLY TO ALL WORK:
  - ALL VERTICAL SURFACES SHALL BE PLUMB OR CONSTRUCTED TO THE EXACT SLOPES OR ANGLES INDICATED.
  - ALL HORIZONTAL SURFACES SHALL BE LEVEL OR CONSTRUCTED TO THE EXACT ANGLE INDICATED OR INTENDED.
  - WALL AND SOFFIT INTERSECTIONS SHALL BE 90° OR THE EXACT ANGLE INDICATED OR INTENDED.
  - ALL CORNERS AND EDGES SHALL BE STRAIGHT AND TRUE WITHOUT DENTS, WAVES, BULGES OR OTHER BLEMISHES.
  - ALL JOINTS SHALL BE TIGHT, STRAIGHT, EVEN, AND SMOOTH.
  - ALL OPERABLE ITEMS SHALL OPERATE SMOOTHLY WITHOUT STICKING OR BINDING AND WITHOUT EXCESSIVE
- THE CONTRACTOR SHALL NOTIFY THE OWNER WHEN THE WORK IS SUBSTANTIALLY COMPLETE AND READY FOR INSPECTION. UPON INSPECTION, PROVIDE WRITTEN OPERATION AND MAINTENANCE INSTRUCTIONS AND GUARANTEES FOR ALL EQUIPMENT AND MATERIALS INSTALLED. PROVIDE WRITTEN GUARANTEES FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK.

#### ARCHITECTURAL ABBREVIATIONS:\*

\*NOTE: THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY ABBREVIATIONS NOT NOTED AND REQUEST CLARIFICATIONS.

@	AT	JT	JOINT
ACT	ACOUSTIC CEILING TILE	KS	KNEE SPACE
ADJ	ADJUSTABLE		
AF	ABOVE FINISHED FLOOR	L	LONG
ALUM	ALUMINUM	LB (#)	POUND
ANOD	ANODIZED	LVL	LAMINATED VENEER LUMBER
ATT	ATTENUATION		
BD	BOARD	MAX	MAXIMUM
BET	BETWEEN	MDO	MEDIUM DENSITY OVERLAY
BF	BARRIER FREE	MECH	MECHANICAL
BIT	BITUMINOUS	MFR	MANUFACTURER
BLDG	BUILDING	MICRO	MICROWAVE
BO	BOTTOM OF	MIN	MINIMUM
BTM	BOTTOM	MO	MASONRY OPENING
		MR	MOISTURE RESISTANT
CPT	CARPET	MTD	MOUNTED
CJ	CERAMIC TILE	MTL	METAL
CT	CONTROL JOINT		
CL	CENTER LINE	NIC	NOT IN CONTRACT
CLG	CEILING	NO	NUMBER
CLR	CLEAR	NOM	NOMINAL
CMU	CONCRETE MASONRY UNIT	O.C.	ON CENTER
COMP	COMPRESSIBLE	O.D.	OUTSIDE DIAMETER
CONC	CONCRETE	O.H.	OVERHEAD or OPPOSITE HAND
CONT	CONTINUOUS	OSB	ORIENTED STRAND BOARD
		OZ	OUNCE
D	DRYER	PREFAB	PREFABRICATED
DEG	DEGREE	PLAM	PLASTIC LAMINATE
DEMO	DEMOLITION	PLYWD	PLYWOOD
DF	DRINKING FOUNTAIN	PR	PAIR
DH	DOUBLE-HUNG	PNT	PRESSURE TREATED
DIA	DIAMETER	DP	DEEP
DN	DOWN	PEMB	PRE-ENGINEERED MTL BLDG
DS	DOWN SPOUT		
DW	DISHWASHER	QTY	QUANTITY
EA	EACH	R	RISER
EJ	EXPANSION JOINT	RCP	REFLECTED CEILING PLAN
EQ	EQUAL	REF	REFRIGERATOR, REFERENCE
ETR	EXISTING TO REMAIN	REIN	REINFORCED
EXG	EXPOSED TO STRUCTURE	REQD	REQUIRED
EXP		RM	ROOM
FD	FLOOR DRAIN	RO	ROUGH OPENING
FE	FIRE EXTINGUISHER, FINISHED	RCB	RUBBER COVE BASE
	END	SC	SEALED CONCRETE
FF	FINISHED FLOOR	SF	SQUARE FEET
FBI	FURNISH AND INSTALL	SIM	SIMILAR
FLR	FLOOR	SQ	SQUARE
FR	FIRE RETARDANT	SS	STAINLESS STEEL
FRP	FIBER-REINFORCED PLASTIC	ST	STAIN
FV	FIELD VERIFY		
GA	GAUGE	T	TREAD
GALV	GALVANIZED	TBD	TO BE DETERMINED
GC	GENERAL CONTRACTOR	TI	TENANT IMPROVEMENT
GFI	GROUND FAULT CIRCUIT	TO	TOP OF
INT	INTERRUPTER	TYP	TYPICAL
GL	GLASS		
GYP	GYPSUM BOARD	UNO	UNLESS NOTED OTHERWISE
H	HIGH	VCT	VINYL COMPOSITION TILE
HB	HOSE BIB	VERT	VERTICAL
HT	HEIGHT		
HDW	HARDWARE	W	WASHER, WIDE
HRDWD	HARDWOOD	WTH	WITH
HM	HOLLOW METAL	WD	WOOD
HR	HOUR	WH	WATER HEATER
		WIC	WALK-IN CLOSET
IN	INCH	WWF	WELDED WIRE FABRIC
INSUL	INSULATION		

#### DISCLAIMER:

THESE DRAWINGS ARE CONSIDERED A "BUILDER'S SET," AND BY BEGINNING CONSTRUCTION, THE CONTRACTOR GUARANTEES TO THE ARCHITECT, THAT THE CONTRACTOR HAS THE COMPETENCE AND SKILL IN CONSTRUCTION NECESSARY TO BUILD THE PROJECT WITH THESE DRAWINGS. THE CONTRACTOR WILL BE REQUIRED TO ADAPT THE DRAWINGS TO ACTUAL FIELD CONDITIONS AND MAKE LOGICAL ADJUSTMENTS IN FIT, FORM, DIMENSION AND QUANTITY. IN THE EVENT ADDITIONAL DETAIL OR GUIDANCE IS NEEDED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT. FAILURE TO GIVE NOTICE SHALL RELIEVE THE ARCHITECT OF RESPONSIBILITY FOR ANY RESULTANT EXPENSES, REPAIRS OR ADDITIONAL WORK. IT IS UNDERSTOOD AND AGREED THAT IF THE ARCHITECT IS NOT HIRED TO DO CONSTRUCTION OBSERVATION OR ANY OTHER CONSTRUCTION PHASE SERVICES, THAT THE ARCHITECT IS NOT LIABLE FOR ANY CLAIMS THAT MAY BE IN ANY WAY CONNECTED THERE TO.

#### ARCHITECTURAL SYMBOL LEGEND:

SYMBOL:	DESCRIPTION:
ROOM NAME	ROOM TAG
RM. #	
XX/XX.XX Typ	ELEVATION TAG
XX/XX.XX Typ	SECTION TAG
ELEV. 000'-0"	SPOT ELEVATION TAG
A-1	PARTITION TYPE
A	WINDOW TYPE
101.1A	DOOR NUMBER
XX / A-XXX	
	DETAIL BUBBLE

GENERAL DIMENSIONING NOTE: ALL DIMENSIONS ARE TO THE FACE OF GYPSUM BOARD AT INTERIOR PARTITIONS AND TO THE FACE OF STEEL STRUCTURE (OR BUILDING GRID LINES) AT EXTERIOR AND DEMISING WALLS.



#### H4 VICINITY MAP

SCALE: =

#### PROJECT LOCATION

#### SHEET INDEX

#### GENERAL:

G-100 COVER SHEET

#### CIVIL:

- C.001 CIVIL PLANS COVER SHEET
- C.050 ESC PHASE 1 - PRE CLEARING PLAN
- C.051 ESC PHASE 2 - INACTIVE AREA STABILIZATION PLAN
- C.052 ESC PHASE 3 - FINAL RESTORATION PLAN
- C.053 ESC - STANDARD DETAILS
- C.100 SITE PLAN
- C.101 DIMENSION PLAN
- C.200 GRADING PLAN
- C.201 SPOT ELEVATIONS
- C.202 DRAINAGE MAP
- C.203 ADA RAMP DETAILS
- C.204 SIDEWALK AND INTERSECTION PLAN
- C.300 STORM SEWER GENERAL LAYOUT
- C.301 STORM SEWER PLAN AND PROFILE
- C.400 SANITARY SERVICE PLAN
- C.500 WATER SERVICE PLAN
- C.600 STANDARD DETAILS
- C.601 STANDARD DETAILS
- C.602 STANDARD DETAILS

- L.100 LANDSCAPE PLAN
- L.101 LANDSCAPE PLAN DETAILS

#### ARCHITECTURAL:

- A-001 LIFE SAFETY PLAN, ROOF PLAN, CODE INFORMATION
- A-002 DOOR, WINDOW, & FINISH SCHEDULES
- A-003 DOOR AND WINDOW DETAILS, PARTITION TYPES
- A-110 AREA PLAN - WEST, ENLARGED PLAN
- A-111 AREA PLAN - EAST, ENLARGED PLAN, CEILING PLAN
- A-200 EXTERIOR ELEVATIONS
- A-201 ENLARGED EXTERIOR ELEVATIONS

- A-300 WALL SECTIONS AND PLAN DETAIL
- A-500 DOCK STAIR, BOLLARD, DUMPSTER ENCLOSURE DETAILS

#### STRUCTURAL:

- S0 NOTES AND DETAILS
- S1 SLAB PLAN
- S2 FOUNDATION PLAN
- S3 FOUNDATION PLAN
- S4 FOUNDATION PLAN
- S5 FOUNDATION PLAN
- S6 FOUNDATION DETAILS
- S7 FOUNDATION DETAILS

#### MECHANICAL:

- M-001 MECHANICAL SPECIFICATIONS AND SYMBOLS
- M-002 MECHANICAL SCHEDULES AND DETAILS
- M-101 PARTIAL MECHANICAL PLAN - WEST
- M-102 PARTIAL MECHANICAL PLAN - CENTER
- M-103 PARTIAL MECHANICAL PLAN - EAST
- M-104 ENLARGED MECHANICAL PLAN

#### PLUMBING:

- P-001 PLUMBING SPECIFICATIONS AND SYMBOLS
- P-002 PLUMBING SCHEDULES AND DETAILS
- P-101 PARTIAL PLUMBING PLAN - WEST
- P-102 PARTIAL PLUMBING PLAN - CENTER
- P-103 PARTIAL PLUMBING PLAN - EAST
- P-104 ENLARGED PLUMBING PLAN

#### ELECTRICAL:

- E-001 ELECTRICAL SPECIFICATIONS, SYMBOLS, & NOTES
- E-002 SITE LIGHTING PHOTOMETRIC
- E-003 SITE LIGHTING PHOTOMETRIC
- E-100 SITE ELECTRICAL PLAN
- E-101 PARTIAL ELECTRICAL PLAN - WEST
- E-102 PARTIAL ELECTRICAL PLAN - CENTER
- E-103 PARTIAL ELECTRICAL PLAN - EAST
- E-104 ENLARGED ELECTRICAL PLANS
- E-201 ELECTRICAL SCHEDULES AND DIAGRAMS
- E-202 ELECTRICAL SCHEDULES

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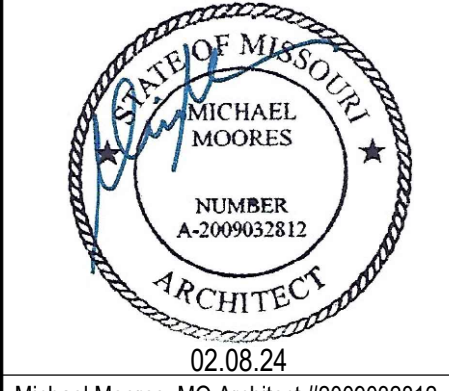
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Seal:



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Project Number: 2307

Project Type: NEW CONSTRUCTION

Project Name and Address:

LAKEWOOD BUSINESS CENTER,  
LOT 1 (46)  
NE Maguire Blvd  
Lee's Summit, Missouri 64064

Issue:	Date:
Permit Set	08.31.23
Plan Review Comments	12.07.23
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Updated Permit Set	02.08.24

Sheet Title:

COVER SHEET  
GENERAL  
INFORMATION  
G-100







## HARDWARE SETS

- 1 1/2 PAIR BUTT HINGES, 1" PUSH / PULL SET, KEVED CYLINDER LOCK, SURFACE-MOUNTED CLOSER, ALUMINUM THRESHOLD, SWEEP AND PILE WEATHERSEAL SET
- 1 1/2 PAIR BUTT HINGES, LEVER-HANDLE CLASSROOM FUNCTION LOCKSET, WALL STOP
- 1 1/2 PAIR BUTT HINGES, LEVER-HANDLE PRIVACY FUNCTION LOCKSET, WALL STOP
- 1 1/2 PAIR BUTT HINGES, LEVER-HANDLE ENTRY FUNCTION LOCKSET, SURFACE-MOUNTED CLOSER, ALUMINUM THRESHOLD, SWEEP AND WEATHERSEAL SET
- BY MANUFACTURER
- BY MANUFACTURER (INCLUDE A REMOTE OPERATOR)

## DOOR NOTES

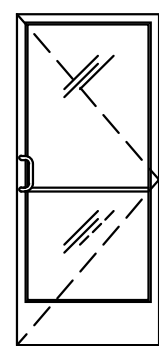
### DOORS SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:

- ALL DOOR HANDLES TO BE LEVER TYPE.
- EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT.
- PROVIDE DOOR STOPS OF APPROPRIATE TYPE FOR ALL INTERIOR DOORS, MATCH ADJACENT HARDWARE FINISH.
- DOOR CLOSERS SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 90 DEGREES, THE TIME REQUIRED TO MOVE THE DOOR TO AN OPEN POSITION OF 12 DEGREES WILL BE 5 SECONDS MINIMUM.
- MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED 8 1/2 POUNDS FOR EXTERIOR DOORS AND 5 POUNDS FOR INTERIOR DOORS. SUCH PULL OR PUSH EFFORT BEING APPLIED AT RIGHT ANGLES TO HINGED DOORS AND AT THE CENTER PLANE OF SLIDING OR FOLDING DOORS. COMPENSATING DEVICES OR AUTOMATIC DOOR OPERATORS MAY BE UTILIZED TO MEET THE ABOVE STANDARDS. WHEN FIRE DOORS ARE REQUIRED, THE MAXIMUM EFFORT TO OPERATE THE DOOR MAY BE INCREASED TO THE MAXIMUM ALLOWABLE BY THE APPROPRIATE ADMINISTRATIVE AUTHORITY, NOT TO EXCEED 15 POUNDS.
- THE BOTTOM 10" OF ALL DOORS EXCEPT AUTOMATIC DOORS, POWER ASSISTED DOORS, AND SLIDING DOORS SHALL HAVE A SMOOTH, UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION.
- EXIT DOORS IN ASSEMBLY AND EDUCATION OCCUPANCIES SERVING AN OCCUPANT LOAD OF 50 OR MORE SHALL BE EQUIPPED WITH PANIC HARDWARE, WITH THE EXCEPTION BELOW (NOTE 7).
- MAIN EXIT DOORS HAVING KEY-OPERATED LOCKING DEVICES ON THE EGRESS SIDE IN GROUP A OCCUPANCIES (SERVING 300 OCCUPANTS OR LESS), GROUPS B, F, M, S, AND PLACES OF RELIGIOUS WORSHIP SHALL HAVE DURABLE SIGNAGE ABOVE THE DOOR IN 1" HIGH LETTERS ON CONTRASTING BACKGROUND STATING: "THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED". LOCKING DEVICES SHALL BE READILY DISTINGUISHABLE AS LOCKED.
- LATCHING AND LOCKING DOORS THAT ARE HAND ACTIVATED AND WHICH ARE IN THE PATH OF TRAVEL SHALL BE OPERABLE WITH A SINGLE EFFORT BY LEVER TYPE HARDWARE, PANIC BARS, PUSH-PULL ACTIVATING BARS OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP THE OPENING HARDWARE. LOCKABLE EXIT DOORS SHALL OPERATE AS ABOVE IN EGRESS DIRECTION.
- HAND-ACTIVATED DOOR OPENING HARDWARE TO BE CENTERED BETWEEN 34" AND 44" ABOVE THE FLOOR.
- EVERY DOORWAY WHICH IS LOCATED WITHIN AN ACCESSIBLE PATH OF TRAVEL SHALL BE OF A SIZE AS TO PERMIT THE INSTALLATION OF A DOOR NOT LESS THAN 3'-0" IN WIDTH AND NOT LESS THAN 6'-8" IN HEIGHT. WHEN INSTALLED, EXIT DOORS SHALL BE CAPABLE OF OPENING SO THAT THE CLEAR WIDTH OF THE EXIT IS NOT LESS THAN 32", MEASURED BETWEEN THE FACE OF THE OPENED DOOR AND THE OPPOSITE STOP.
- MINIMUM MANEUVERING CLEARANCES AT DOORS SHALL BE AS REQUIRED BY THE ICC/ANSI A117.1 ACCESSIBILITY CODE. THE FLOOR OR GROUND AREA WITHIN THE REQUIRED CLEARANCES SHALL BE LEVEL AND CLEAR. THE FLOOR OR LANDING SHALL BE NOT MORE THAN 1/2" LOWER THAN THE THRESHOLD OF THE DOORWAY.
- DOORS SHALL NOT PROJECT MORE THAN 7" INTO THE REQUIRED CORRIDOR WIDTH WHEN FULLY OPENED OR MORE THAN ONE HALF INTO THE REQUIRED WIDTH WHEN IN ANY POSITION.
- WHERE A PAIR OF DOORS IS UTILIZED, AT LEAST ONE OF THE DOORS SHALL PROVIDE A CLEAR, UNOBSTRUCTED OPENING WIDTH OF 32" WITH THE LEAF POSITIONED AT AN ANGLE OF 90° FROM ITS CLOSED POSITION.
- EXIT DOORS SHALL SWING IN THE DIRECTION OF EXIT TRAVEL WHEN SERVING 50 OR MORE OCCUPANTS.

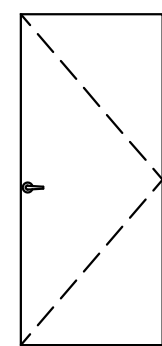
## DOOR SCHEDULE

DOOR NO.	DOOR					FRAME			DETAILS - (SEE SHEET A-003)			HARD-WARE	COMMENTS
	TYPE	SIZE	MATERIAL	PUSH FINISH	PULL FINISH	MATERIAL	PUSH FINISH	PULL FINISH	HEAD	JAMB	THRESHOLD		
101.0A	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	④	MATCH ADJACENT EXTERIOR WALL COLOR
101.0B	D	9'-0" WIDE X 10'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑤	COLOR: CLOPAY 'STANDARD WHITE'
101.0C	C	12'-0" WIDE X 14'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑥	COLOR: CLOPAY 'GRAY'
101.1A	A	1 3/4" X 3'-0" X 7'-0"	AL	ANOD	ANOD	AL	ANOD	ANOD	-	-	-	①	COLOR: BLACK
101.1B	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	②	INCLUDE IN T.I. ADD-ALTERNATE
101.2	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	③	INCLUDE IN T.I. ADD-ALTERNATE
102.0A	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	④	MATCH ADJACENT EXTERIOR WALL COLOR
102.0B	D	9'-0" WIDE X 10'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑤	COLOR: CLOPAY 'STANDARD WHITE'
102.0C	C	12'-0" WIDE X 14'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑥	COLOR: CLOPAY 'GRAY'
102.1A	A	1 3/4" X 3'-0" X 7'-0"	AL	ANOD	ANOD	AL	ANOD	ANOD	-	-	-	①	COLOR: BLACK
102.1B	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	②	INCLUDE IN T.I. ADD-ALTERNATE
102.2	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	③	INCLUDE IN T.I. ADD-ALTERNATE
103.0A	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	④	MATCH ADJACENT EXTERIOR WALL COLOR
103.0B	D	9'-0" WIDE X 10'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑤	COLOR: CLOPAY 'STANDARD WHITE'
103.0C	C	12'-0" WIDE X 14'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑥	COLOR: CLOPAY 'GRAY'
103.1A	A	1 3/4" X 3'-0" X 7'-0"	AL	ANOD	ANOD	AL	ANOD	ANOD	-	-	-	①	COLOR: BLACK
103.1B	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	②	INCLUDE IN T.I. ADD-ALTERNATE
103.2	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	③	INCLUDE IN T.I. ADD-ALTERNATE
104.0A	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	④	MATCH ADJACENT EXTERIOR WALL COLOR
104.0B	D	9'-0" WIDE X 10'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑤	COLOR: CLOPAY 'STANDARD WHITE'
104.0C	C	12'-0" WIDE X 14'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑥	COLOR: CLOPAY 'GRAY'
104.1A	A	1 3/4" X 3'-0" X 7'-0"	AL	ANOD	ANOD	AL	ANOD	ANOD	-	-	-	①	COLOR: BLACK
104.1B	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	②	INCLUDE IN T.I. ADD-ALTERNATE
104.2	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	③	INCLUDE IN T.I. ADD-ALTERNATE
105.0A	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	④	MATCH ADJACENT EXTERIOR WALL COLOR
105.0B	D	9'-0" WIDE X 10'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑤	COLOR: CLOPAY 'STANDARD WHITE'
105.0C	C	12'-0" WIDE X 14'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑥	COLOR: CLOPAY 'GRAY'
105.1A	A	1 3/4" X 3'-0" X 7'-0"	AL	ANOD	ANOD	AL	ANOD	ANOD	-	-	-	①	COLOR: BLACK
105.1B	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	②	INCLUDE IN T.I. ADD-ALTERNATE
105.2	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	③	INCLUDE IN T.I. ADD-ALTERNATE
106.0A	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	④	MATCH ADJACENT EXTERIOR WALL COLOR
106.0B	D	9'-0" WIDE X 10'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑤	COLOR: CLOPAY 'STANDARD WHITE'
106.0C	C	12'-0" WIDE X 14'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑥	COLOR: CLOPAY 'GRAY'
106.1A	A	1 3/4" X 3'-0" X 7'-0"	AL	ANOD	ANOD	AL	ANOD	ANOD	-	-	-	①	COLOR: BLACK
106.1B	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	②	INCLUDE IN T.I. ADD-ALTERNATE
106.2	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	③	INCLUDE IN T.I. ADD-ALTERNATE
107.0A	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	④	MATCH ADJACENT EXTERIOR WALL COLOR
107.0B	D	9'-0" WIDE X 10'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑤	COLOR: CLOPAY 'STANDARD WHITE'
107.0C	C	12'-0" WIDE X 14'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑥	COLOR: CLOPAY 'GRAY'
107.1A	A	1 3/4" X 3'-0" X 7'-0"	AL	ANOD	ANOD	AL	ANOD	ANOD	-	-	-	①	COLOR: BLACK
107.1B	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	②	INCLUDE IN T.I. ADD-ALTERNATE
107.2	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	③	INCLUDE IN T.I. ADD-ALTERNATE
107.3	A	1 3/4" X 3'-0" X 7'-0"	AL	ANOD	ANOD	AL	ANOD	ANOD	-	-	-	①	COLOR: BLACK, OPAQUE GLASS/FILM

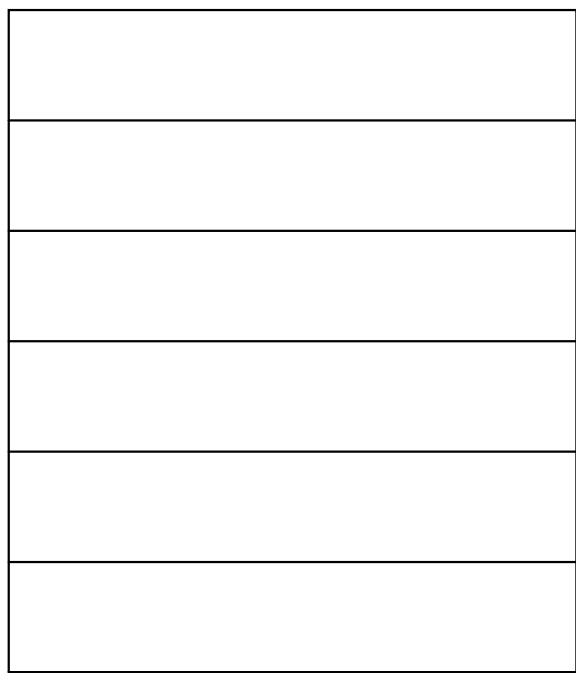
## DOOR TYPES



TYPE 'A'



TYPE 'B'

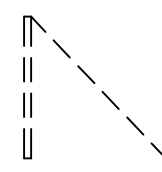


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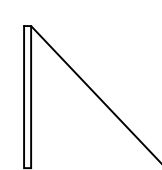


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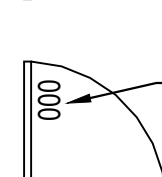
## DOOR SYMBOLS



EXISTING DOOR  
TO BE REMOVED



EXISTING DOOR  
TO REMAIN



DOOR NUMBER  
NEW DOOR

## DOOR SCHEDULE (CONTINUED)

DOOR NO.	DOOR					FRAME			DETAILS - (SEE SHEET A-003)			HARD-WARE	COMMENTS
	TYPE	SIZE	MATERIAL	PUSH FINISH	PULL FINISH	MATERIAL	PUSH FINISH	PULL FINISH	HEAD	JAMB	THRESHOLD		
108.0A	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	④	MATCH ADJACENT EXTERIOR WALL COLOR
108.0B	D	9'-0" WIDE X 10'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑤	COLOR: CLOPAY 'STANDARD WHITE'
108.0C	C	12'-0" WIDE X 14'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑥	COLOR: CLOPAY 'GRAY'
108.1A	A	1 3/4" X 3'-0" X 7'-0"	AL	ANOD	ANOD	AL	ANOD	ANOD	-	-	-	①	COLOR: BLACK
108.1B	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	②	INCLUDE IN T.I. ADD-ALTERNATE
108.2	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	③	INCLUDE IN T.I. ADD-ALTERNATE
109.0A	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	④	MATCH ADJACENT EXTERIOR WALL COLOR
109.0B	D	9'-0" WIDE X 10'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑤	COLOR: CLOPAY 'STANDARD WHITE'
109.0C	C	12'-0" WIDE X 14'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑥	COLOR: CLOPAY 'GRAY'
109.1A	A	1 3/4" X 3'-0" X 7'-0"	AL	ANOD	ANOD	AL	ANOD	ANOD	-	-	-	①	COLOR: BLACK
109.1B	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	②	INCLUDE IN T.I. ADD-ALTERNATE
109.2	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	③	INCLUDE IN T.I. ADD-ALTERNATE
110.0A	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	④	MATCH ADJACENT EXTERIOR WALL COLOR
110.0B	D	9'-0" WIDE X 10'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑤	COLOR: CLOPAY 'STANDARD WHITE'
110.0C	C	12'-0" WIDE X 14'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑥	COLOR: CLOPAY 'GRAY'
110.1A	A	1 3/4" X 3'-0" X 7'-0"	AL	ANOD	ANOD	AL	ANOD	ANOD	-	-	-	①	COLOR: BLACK
110.1B	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	②	INCLUDE IN T.I. ADD-ALTERNATE
110.2	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	③	INCLUDE IN T.I. ADD-ALTERNATE
111.0A	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	④	MATCH ADJACENT EXTERIOR WALL COLOR
111.0B	D	9'-0" WIDE X 10'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑤	COLOR: CLOPAY 'STANDARD WHITE'
111.0C	C	12'-0" WIDE X 14'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑥	COLOR: CLOPAY 'GRAY'
111.1A	A	1 3/4" X 3'-0" X 7'-0"	AL	ANOD	ANOD	AL	ANOD	ANOD	-	-	-	①	COLOR: BLACK
111.1B	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	②	INCLUDE IN T.I. ADD-ALTERNATE
111.2	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	③	INCLUDE IN T.I. ADD-ALTERNATE
112.0A	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	④	MATCH ADJACENT EXTERIOR WALL COLOR
112.0B	D	9'-0" WIDE X 10'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑤	COLOR: CLOPAY 'STANDARD WHITE'
112.0C	C	12'-0" WIDE X 14'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑥	COLOR: CLOPAY 'GRAY'
112.1A	A	1 3/4" X 3'-0" X 7'-0"	AL	ANOD	ANOD	AL	ANOD	ANOD	-	-	-	①	COLOR: BLACK
112.1B	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	②	INCLUDE IN T.I. ADD-ALTERNATE
112.2	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	③	INCLUDE IN T.I. ADD-ALTERNATE
113.0A	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	④	MATCH ADJACENT EXTERIOR WALL COLOR
113.0B	D	9'-0" WIDE X 10'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑤	COLOR: CLOPAY 'STANDARD WHITE'
113.0C	C	12'-0" WIDE X 14'-0" HIGH	STL	PNT	PNT	-	PNT	PNT	-	-	-	⑥	COLOR: CLOPAY 'GRAY'
113.1A	A	1 3/4" X 3'-0" X 7'-0"	AL	ANOD	ANOD	AL	ANOD	ANOD	-	-	-	①	COLOR: BLACK
113.1B	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	②	INCLUDE IN T.I. ADD-ALTERNATE
113.2	B	1 3/4" X 3'-0" X 7'-0"	HM	PNT	PNT	HM	PNT	PNT	-	-	-	③	INCLUDE IN T.I. ADD-ALTERNATE

## ROOM FINISH SCHEDULE (OFFICES/TOILETS IN T.I. ADD ALTERNATE)

ROOM NUMBER	QUANTITY	ROOM NAME	FLOOR MATERIAL	BASE MATERIAL	WALL FINISH (NORTH)	WALL FINISH (EAST)	WALL FINISH (SOUTH)	WALL FINISH (WEST)	CEILING		COMMENTS
									MATERIAL	FINISH	
101.0-113.0	13	WAREHOUSE	CONC	-	-	-	-	-	EXP	-	1.
101.1-113.1	13	OFFICE	CONC	RCB	PNT-1	PNT-1	PNT-1	PNT-1	ACT-1	-	



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Harrisonville, MO 64701  
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MEP Engineering:

JSC Engineers  
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made or approved by the licensee are prohibited.

Seal:



Michael Moore, MO Architect #2009032812

Project Number: 2307

Project Type: NEW CONSTRUCTION

Project Name and Address:

LAKWOOD BUSINESS CENTER,  
LOT 1 (46)

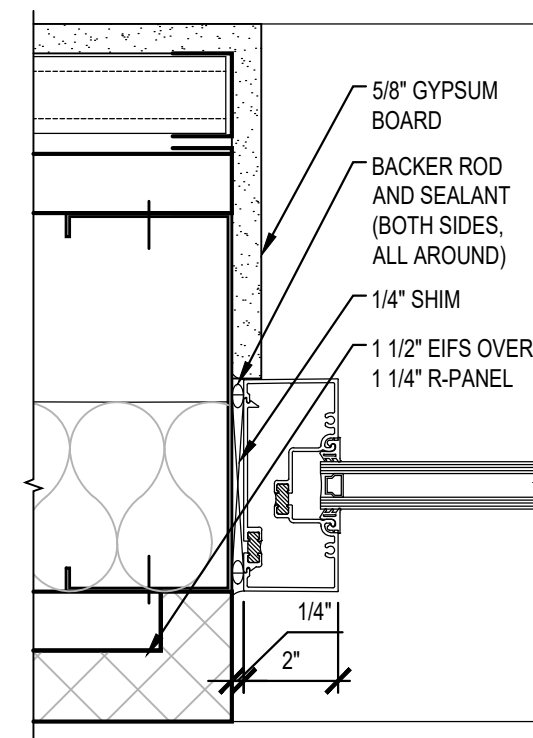
NE Maguire Blvd  
Lee's Summit, Missouri 64064

Issue:	Date:
Permit Set	08.31.23
Plan Review Comments	12.07.23
Plan Review Comments	12.21.23
Planning Comments	01.31.24
Updated Permit Set	02.08.24

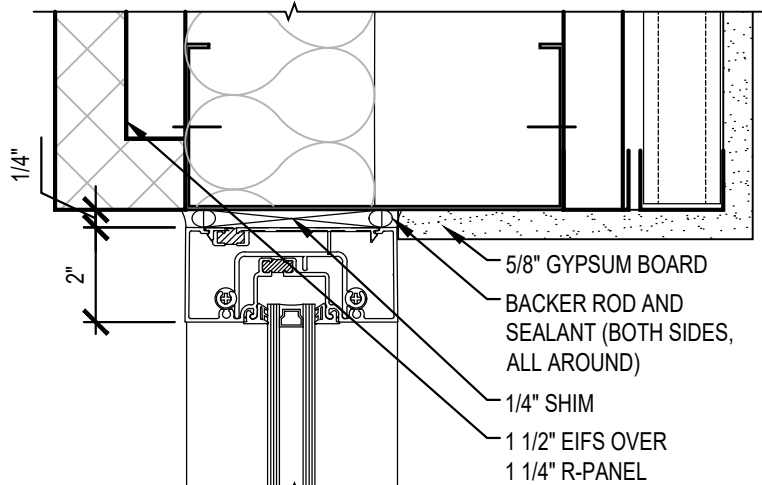
Sheet Title:

DOOR AND WINDOW  
DETAILS  
PARTITION TYPES

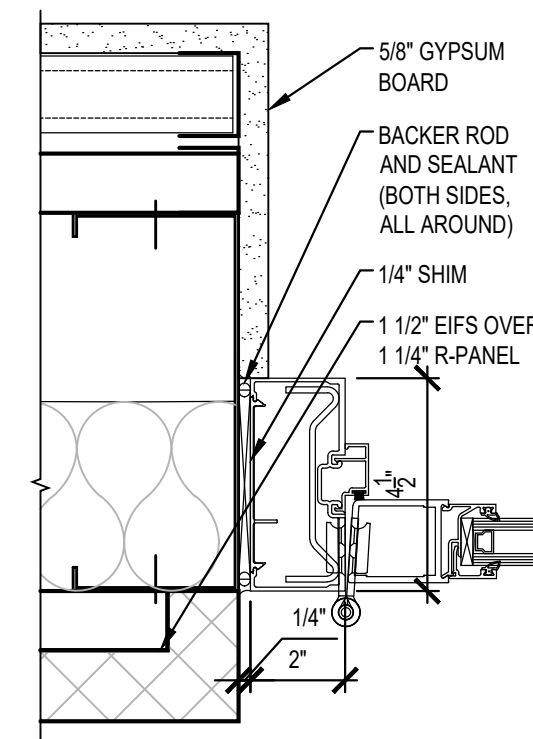
A-003



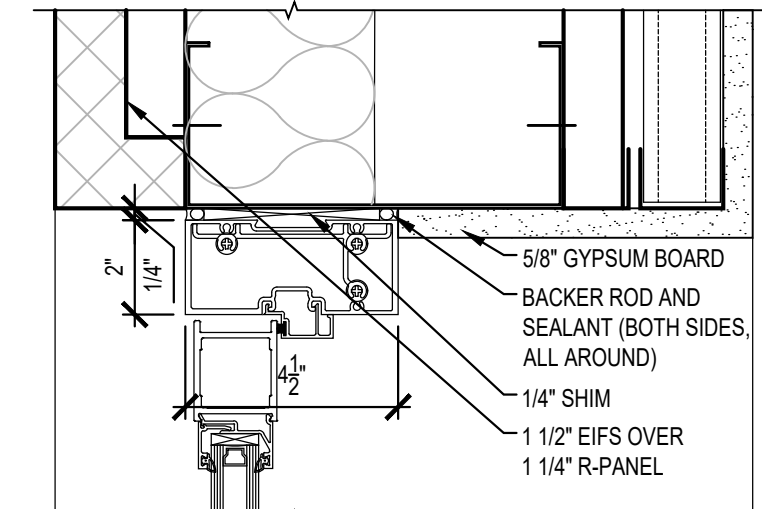
ALUMINUM STOREFRONT  
JAMB DETAIL



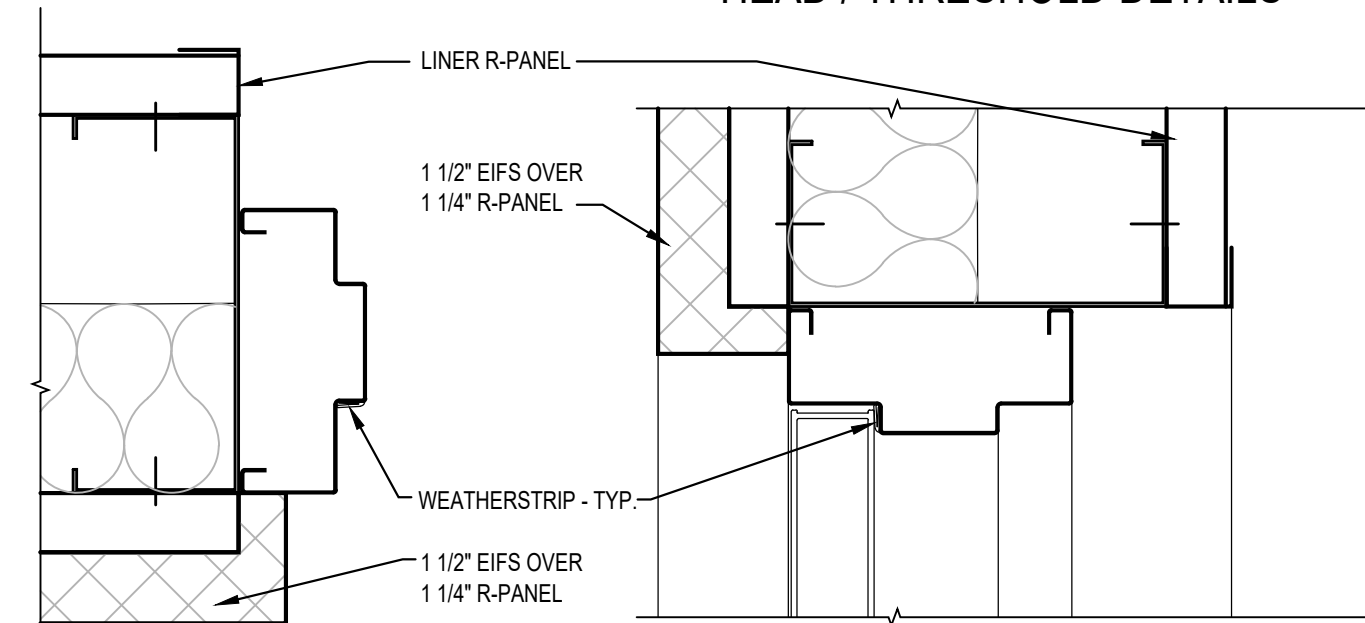
ALUMINUM STOREFRONT  
HEAD / SILL DETAILS



ALUMINUM DOOR FRAME  
JAMB DETAIL

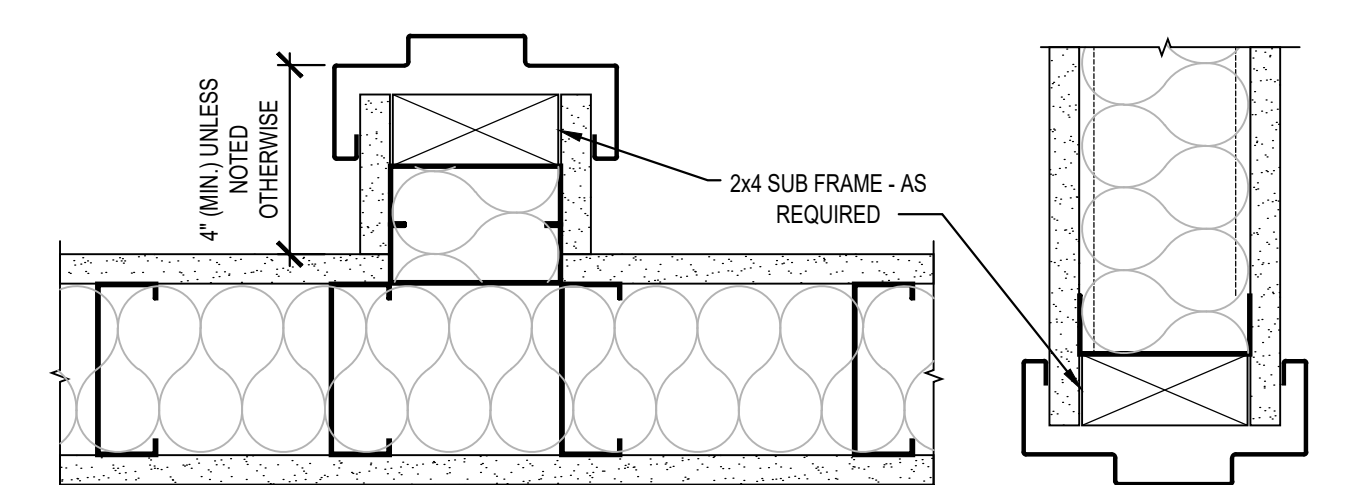


ALUMINUM DOOR FRAME  
HEAD / THRESHOLD DETAILS



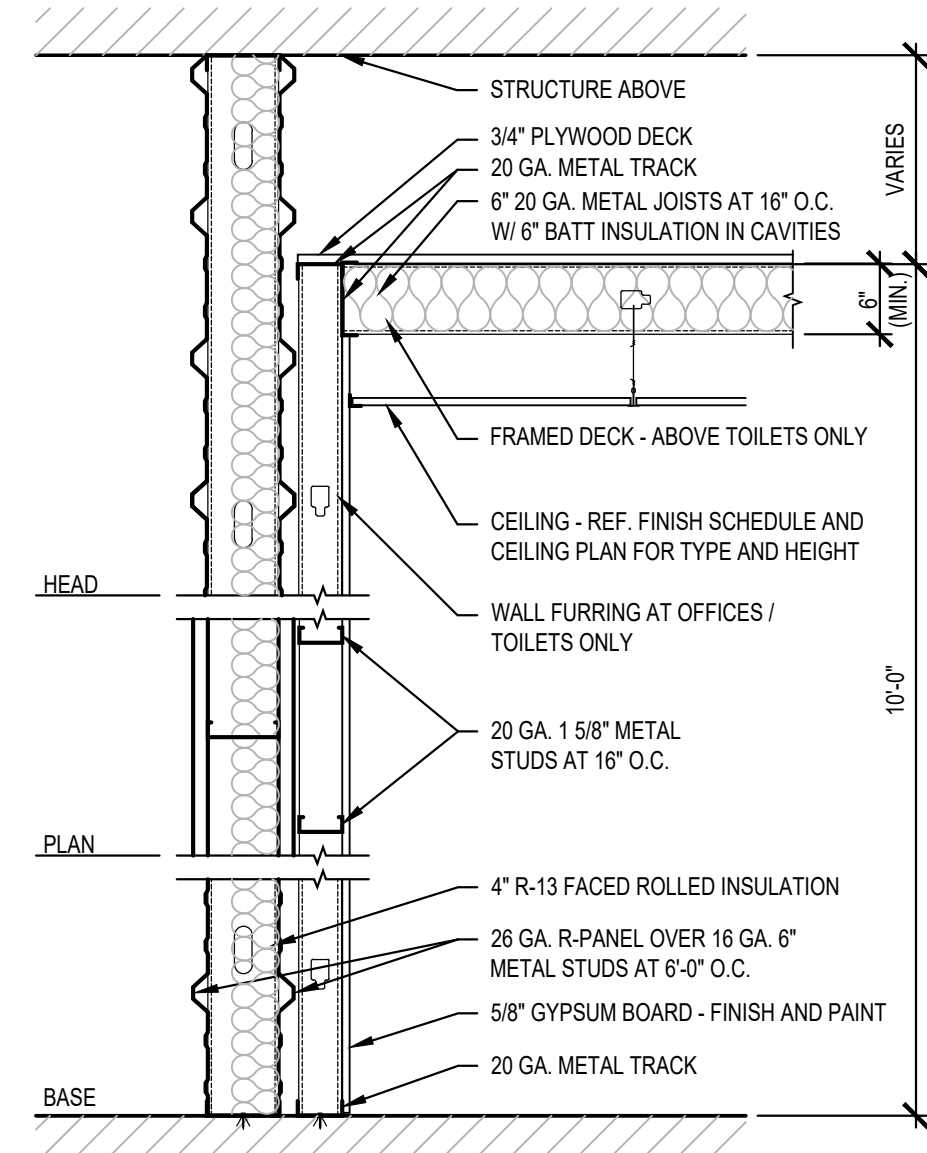
EXTERIOR HOLLOW METAL  
DOOR FRAME JAMB DETAIL

EXTERIOR HOLLOW METAL  
DOOR FRAME HEAD DETAIL

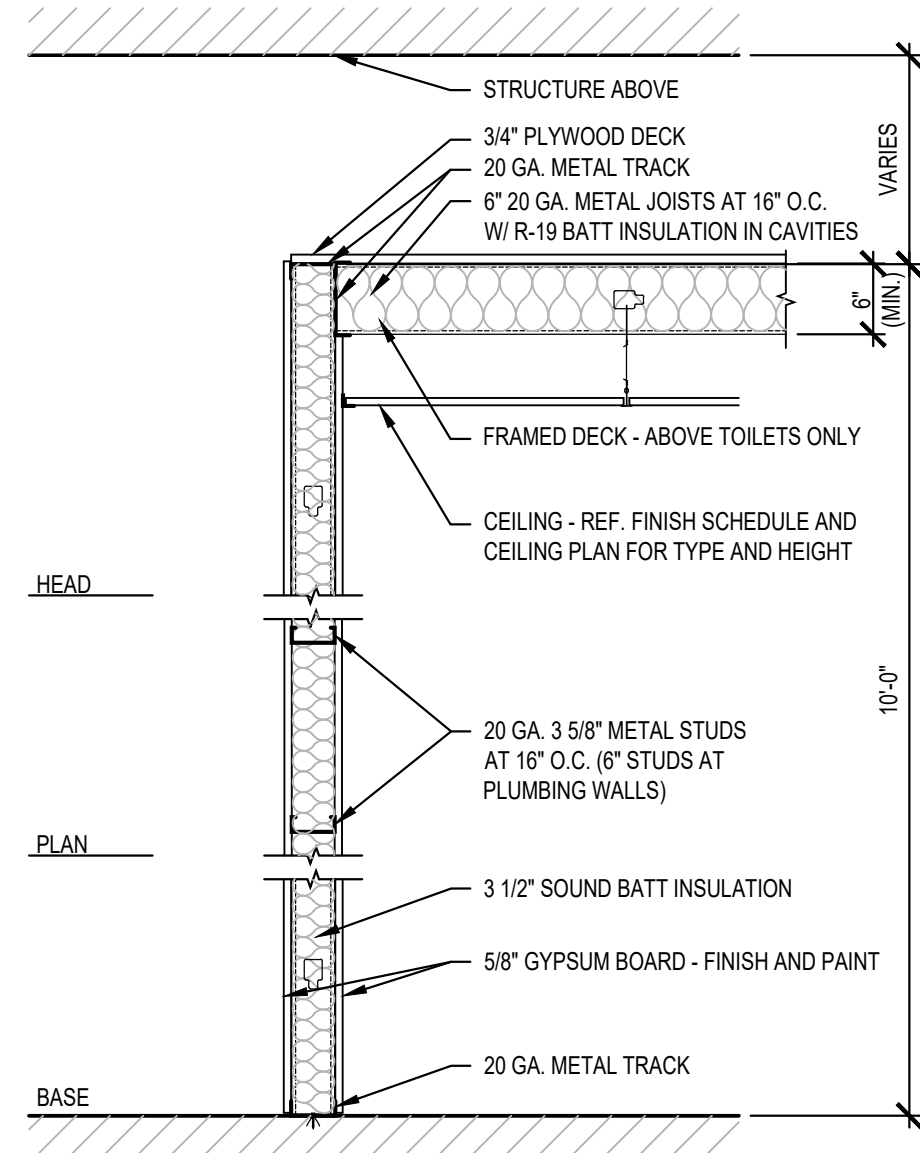


HOLLOW METAL DOOR  
FRAME JAMB DETAIL

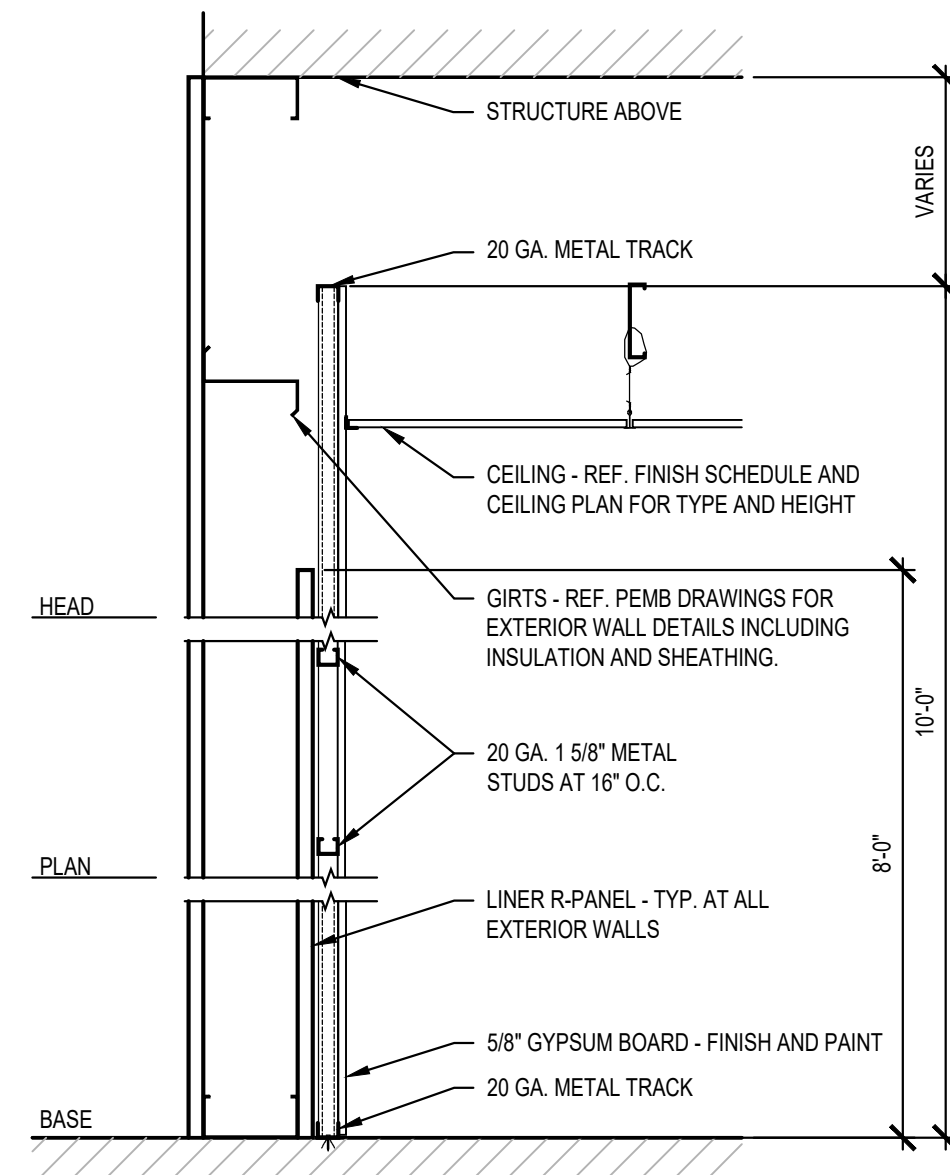
HOLLOW METAL DOOR  
FRAME HEAD DETAIL



PARTITION TYPE A-1

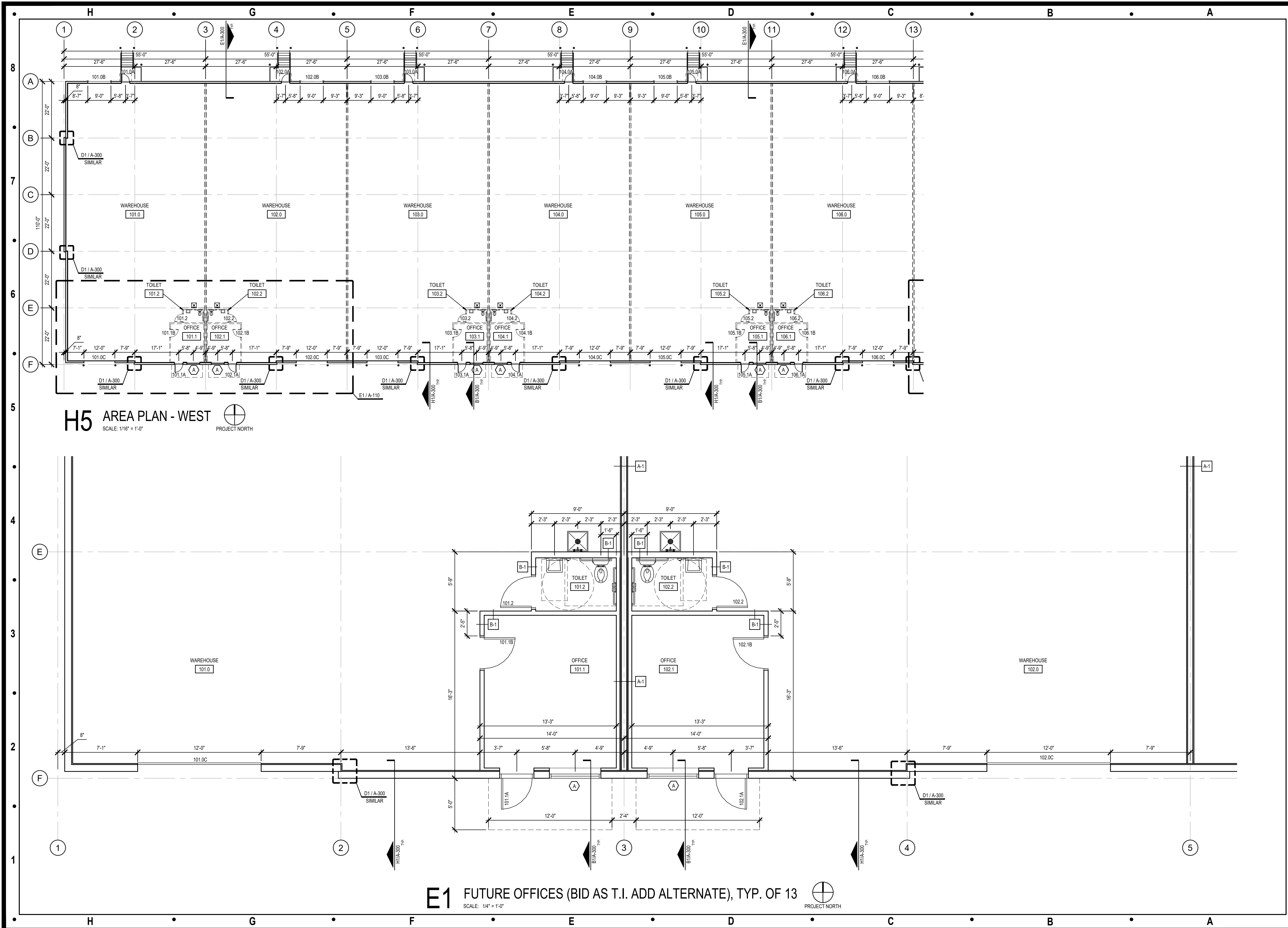


PARTITION TYPE B-1



PARTITION TYPE C-1





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MEP Engineering:  
JSC Engineers  
1925 Central Street, Suite 201  
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Seal:

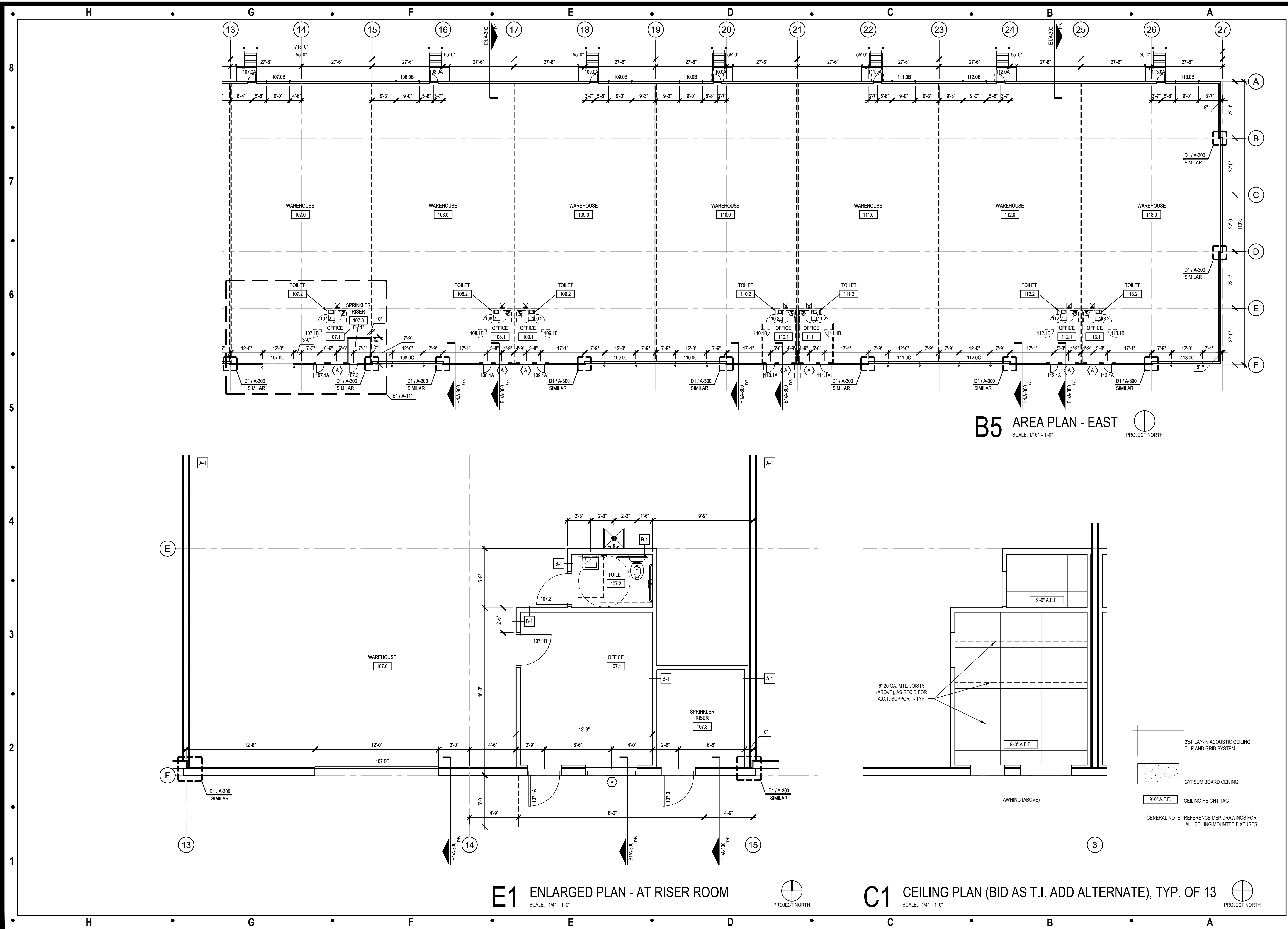
Michael Moore, MO Architect #2009032812

Project Number: 2307  
Project Type: NEW CONSTRUCTION  
Project Name and Address:  
**LAKWOOD BUSINESS CENTER,  
LOT 1 (46)  
NE Maguire Blvd  
Lee's Summit, Missouri 64064**

Issue: Date:  
Permit Set 08.31.23  
Plan Review Comments 12.07.23  
Plan Review Comments 12.21.23  
Planning Comments 01.31.24  
Updated Permit Set 02.08.24

Sheet Title:  
**AREA PLAN - WEST  
ENLARGED PLAN  
A-110**





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Seal:

Michael Moore, MO Architect #2009032812

Project Number: 2307  
Project Type: NEW CONSTRUCTION  
Project Name and Address:

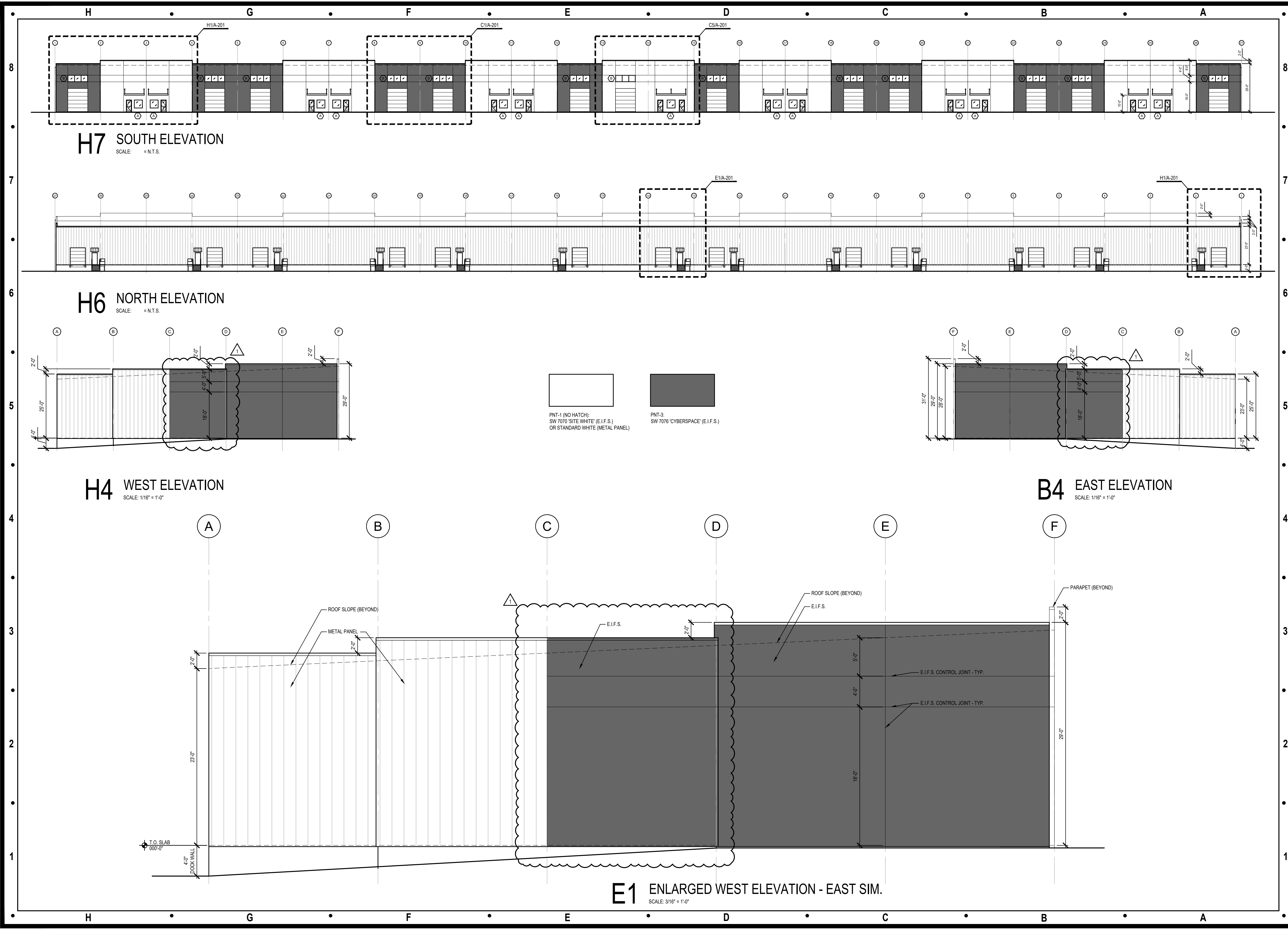
LAKWOOD BUSINESS CENTER,  
LOT 1 (46)  
NE Maguire Blvd  
Lee's Summit, Missouri 64064

Issue:	Date:
Permit Set	08.31.23
Plan Review Comments	12.07.23
Plan Review Comments	12.21.23
Planning Comments	01.31.24
Updated Permit Set	02.08.24

Sheet Title:

AREA PLAN - EAST  
ENLARGED PLAN  
CEILING PLAN  
**A-111**





Architect:

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Seal:

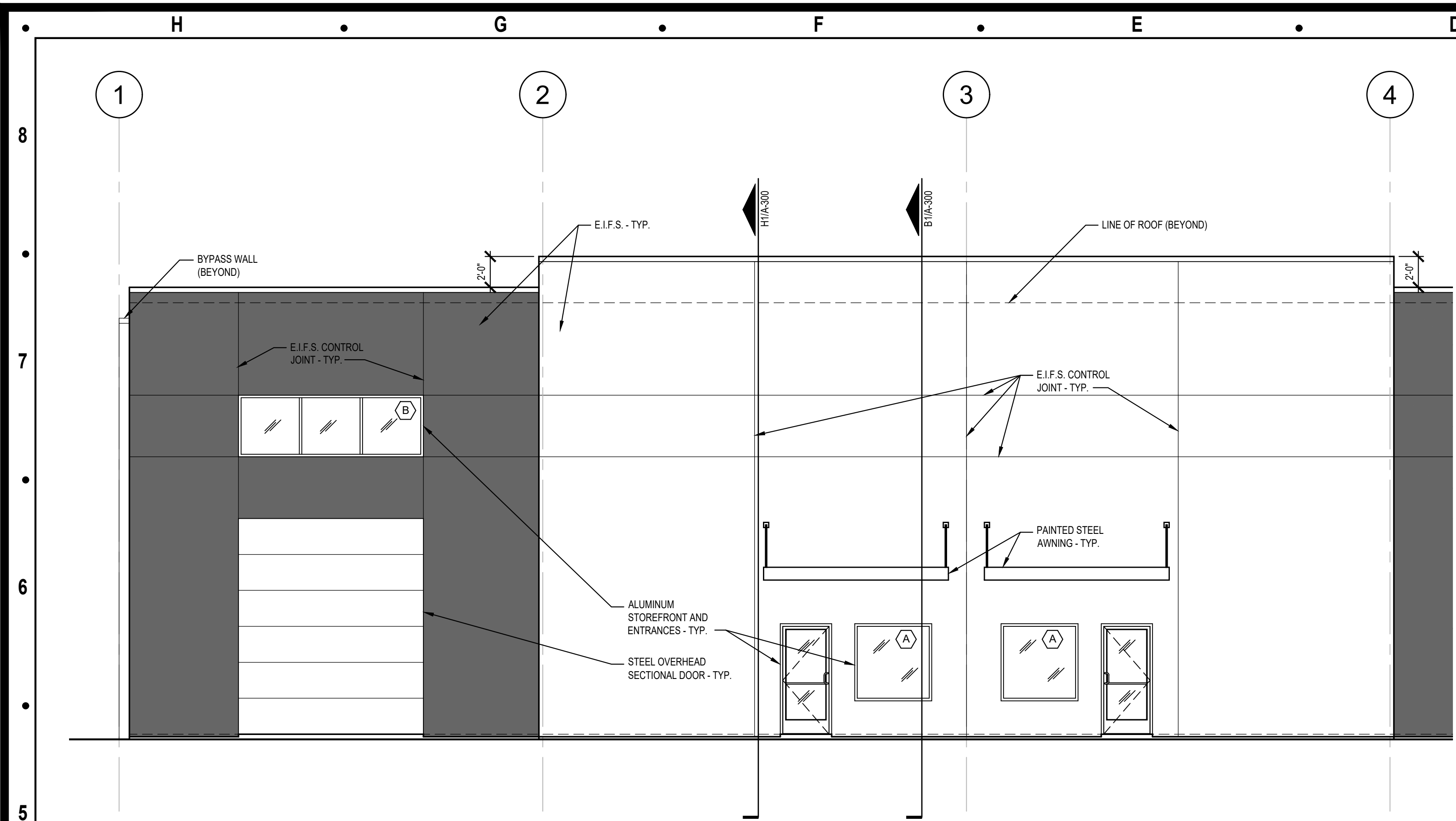
MICHAEL MOORES  
NUMBER A-2009032812  
ARCHITECT  
02.08.24  
Michael Moores, MO Architect #2009032812

Project Number: 2307  
Project Type: NEW CONSTRUCTION  
Project Name and Address:  
**LAKWOOD BUSINESS CENTER,  
LOT 1 (46)  
NE Maguire Blvd  
Lee's Summit, Missouri 64064**

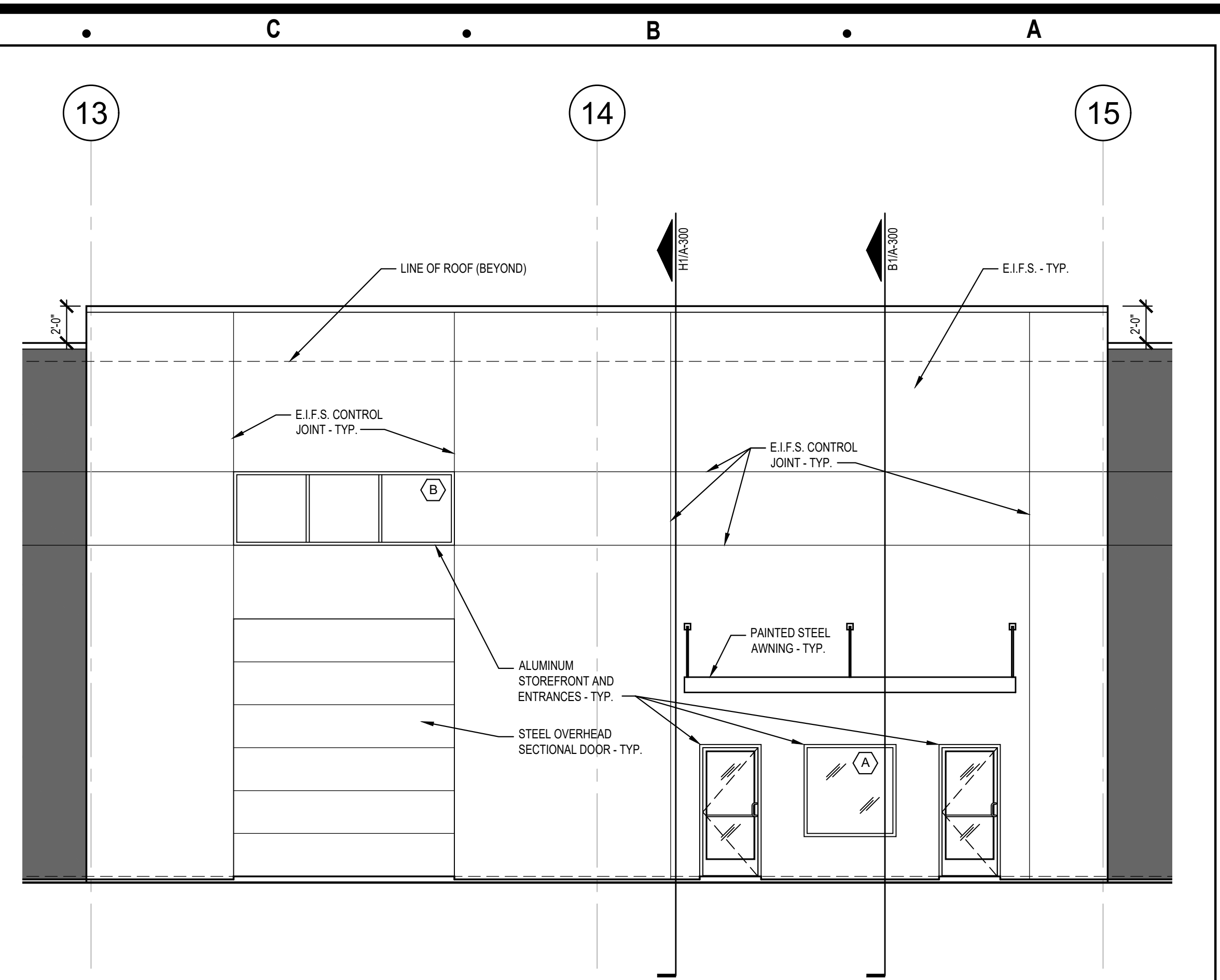
Issue: 08.31.23  
Permit Set 12.07.23  
Plan Review Comments 12.21.23  
Planning Comments 01.31.24  
Updated Permit Set 02.08.24

Sheet Title:  
**EXTERIOR  
ELEVATIONS**  
**A-200**

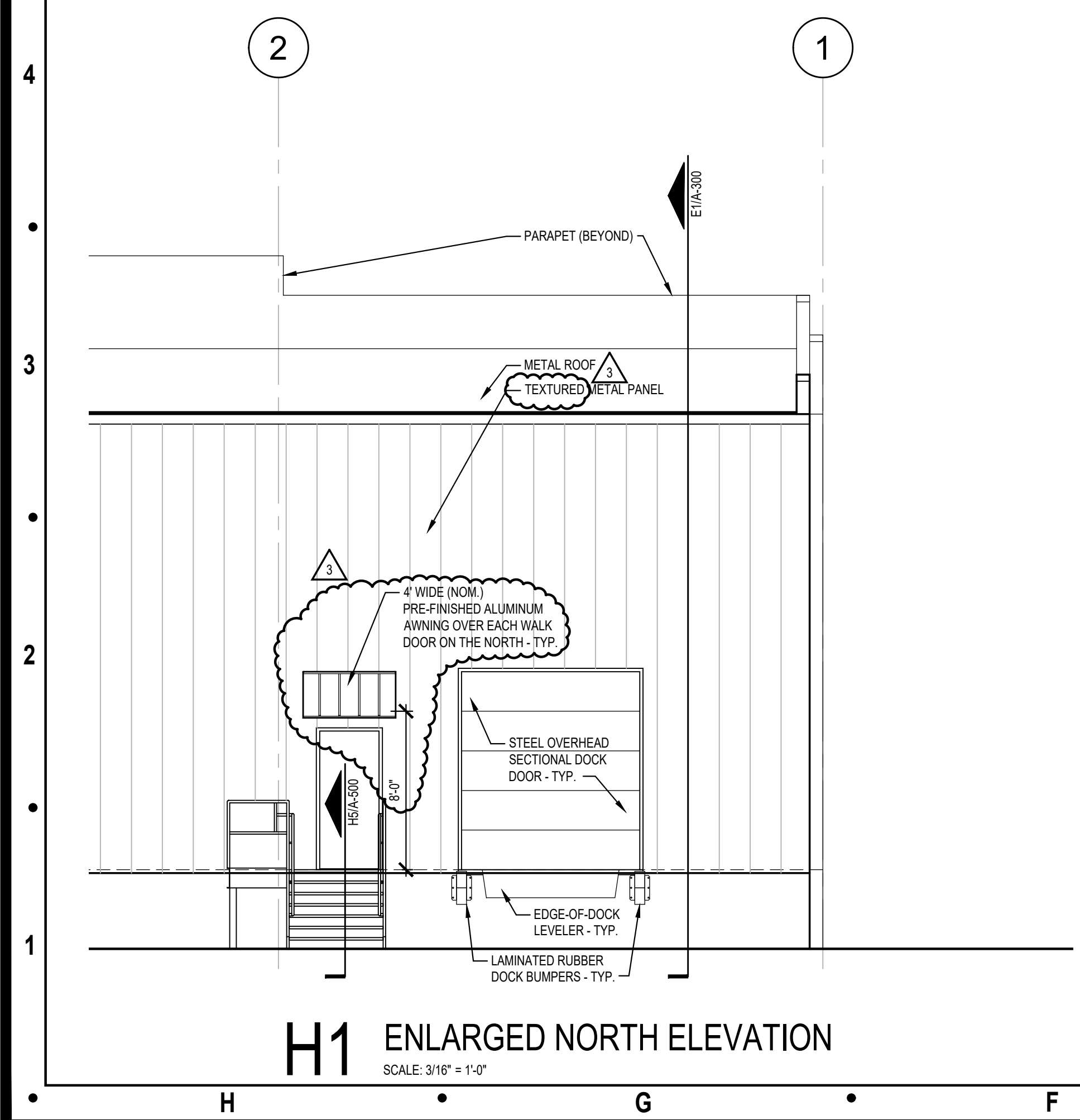




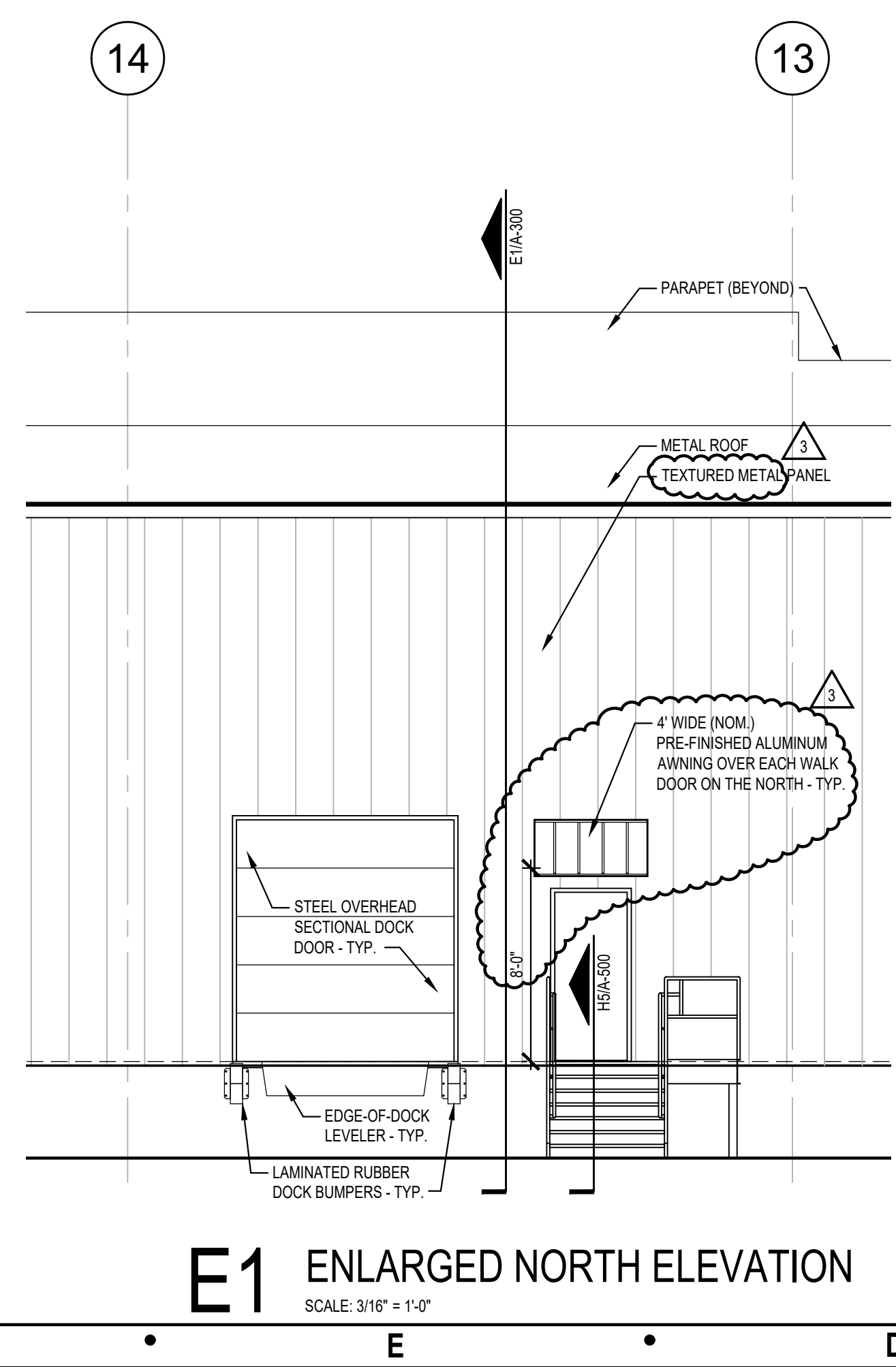
**H5** ENLARGED SOUTH ELEVATION  
SCALE: 3/16" = 1'-0"



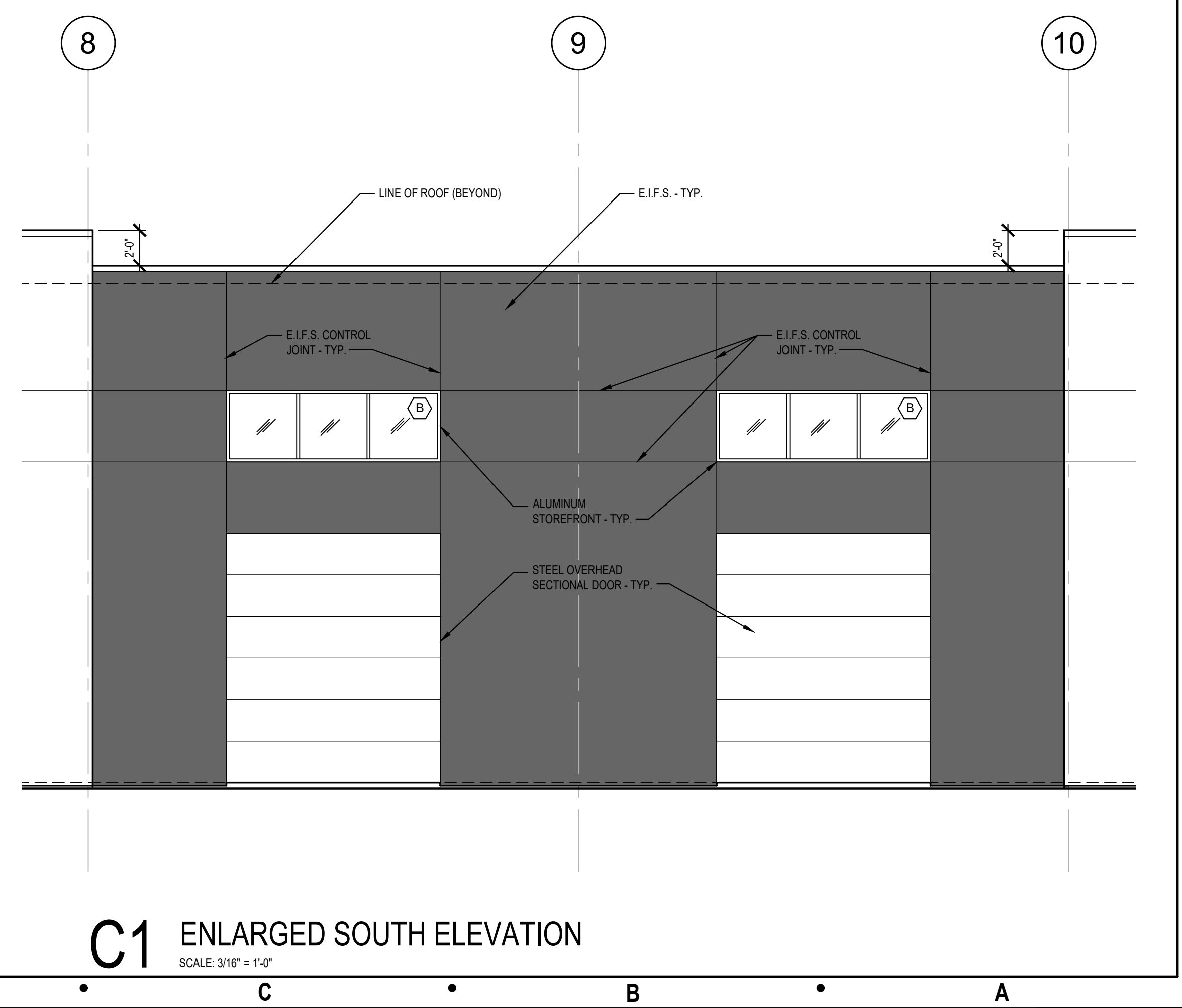
**C5** ENLARGED SOUTH ELEVATION  
SCALE: 3/16" = 1'-0"



**H1** ENLARGED NORTH ELEVATION  
SCALE: 3/16" = 1'-0"



**E1** ENLARGED NORTH ELEVATION  
SCALE: 3/16" = 1'-0"



**C1** ENLARGED SOUTH ELEVATION  
SCALE: 3/16" = 1'-0"

Architect:

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Seal:



Michael Moore, MO Architect #2009032812

Project Number: 2307  
Project Type: NEW CONSTRUCTION  
Project Name and Address:

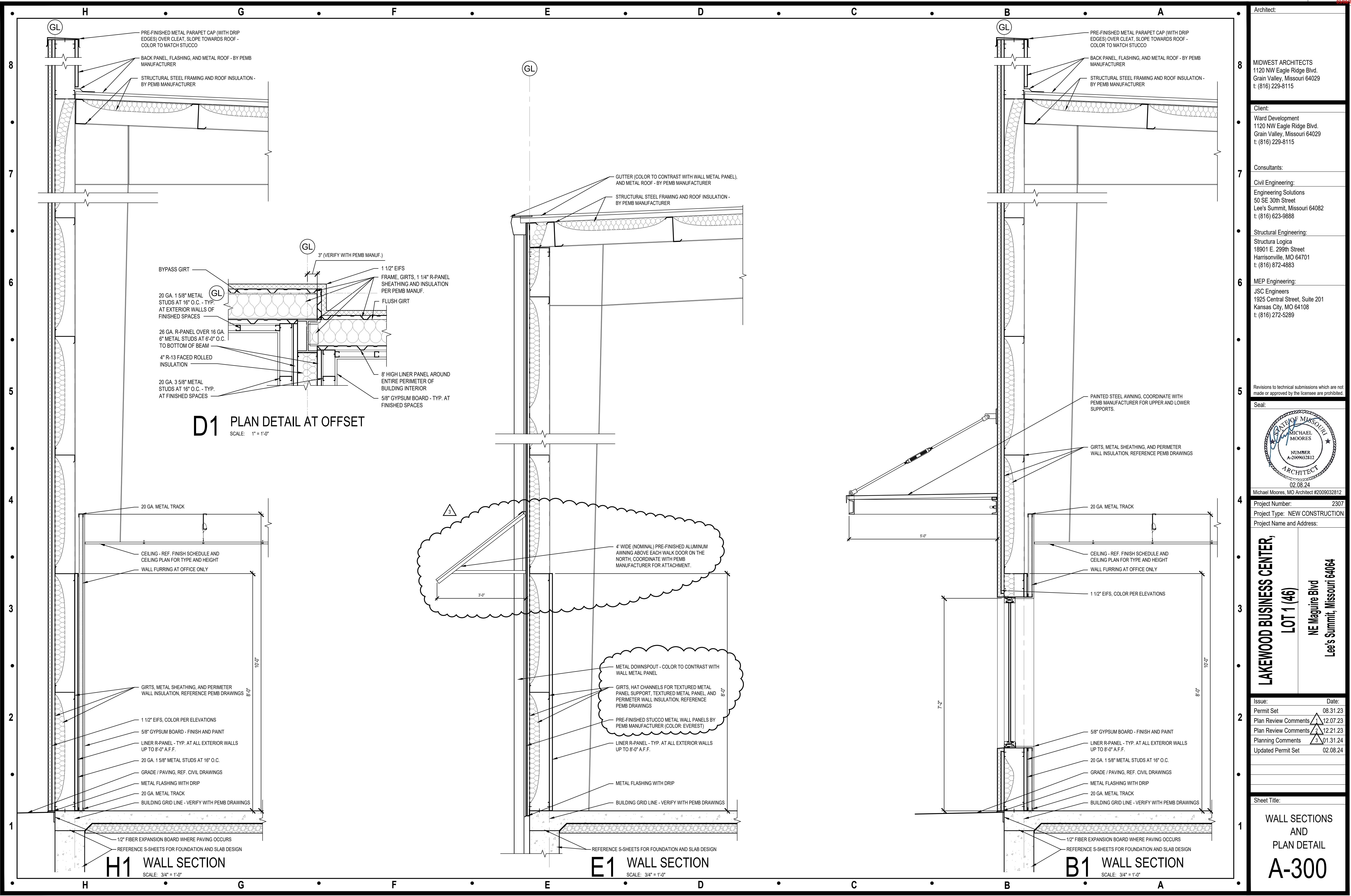
**LAKWOOD BUSINESS CENTER,  
LOT 1 (46)  
NE Maguire Blvd  
Lee's Summit, Missouri 64064**

Issue: 08.31.23  
Permit Set 12.07.23  
Plan Review Comments 12.21.23  
Planning Comments 01.31.24  
Updated Permit Set 02.08.24

Sheet Title:

**ENLARGED  
EXTERIOR  
ELEVATIONS  
A-201**





Architect:

MIDWEST ARCHITECTS  
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Sheet Title:

**WALL SECTIONS  
AND  
PLAN DETAIL  
A-300**







DESIGN STATUS:

THIS PLAN AND DETAILS IS FOR THE PURPOSE OF PLAN REVIEW AND COORDINATION. IT IS NOT SUITABLE FOR CONSTRUCTION. THE FINAL DESIGN FROM THE STEEL FABRICATOR TO BE REVIEWED WITH LOADING AND DESIGN CONFIRMED.

1. GENERAL

- A. The contractor shall verify dimensions and conditions and notify the architect/engineer of any discrepancies, inconsistencies, or difficulties affecting cost of work before proceeding.
- B. The contractor shall coordinate all disciplines, verifying size and location of all openings. All conflicts, inconsistencies, or other difficulties affecting structural work shall be called to the attention of the architect or engineer for direction before proceeding.
- C. All design and construction for this project shall conform to the requirements of the 2018 International Building Code (IBC), as adopted and amended.
- D. These drawings are for this specific project, and no other use is authorized.

2. CONCRETE:

- A. All trench footing concrete shall develop a minimum compressive design strength of 3,500 psi in 28 days.  
All formed and slab concrete to be a minimum compressive design strength of 4,000 psi in 28 days.
- B. Concrete exposed to weather shall have a 6% +/- 1% air entrainment.
- C. Contractor shall verify that all concrete inserts, reinforcing and embedded items are correctly located and rigidly secured prior to concrete placement.
- D. No aluminum items shall be embedded in any concrete.
- E. Provide concrete design submittal for approval.
- F. Anchor bolts or threaded rods per ASTM F1554 Grade 36. A.B.  $\frac{3}{8}$ " Dia.x24" Long at end walls, along gridlines 1, 27. A.B.  $\frac{3}{4}$ " Dia.x30" long at longitudinal walls, along gridlines A, F.
- G. Epoxy anchors are not acceptable as a substitute for tension loading conditions and major column bases. Anchors and fasteners smaller than  $\frac{3}{4}$ " diameter may be epoxy or Kwik bolt style fasteners. See Detail B2/S0.

3. REINFORCING STEEL:

- A. All reinforcing steel shall conform to the requirements of ASTM A615 Grade 60.
- B. Stirrups & ties shall conform to the requirements of ASTM A615 Grade 40.
- C. Clear minimum coverage of concrete over reinforcing steel shall be as follows:  
Concrete placed against earth 3"  
Formed concrete against earth 2"
- D. All dowels shall be the same size and spacing as adjoining main bars.
- E. Splice laps, hooks and bends per ACI and detailed herein.
- F. Wire tie steel prior to pour to insure steel remains in place when concrete is poured.
- G. Provide reinforcing steel submittal for approval.

4. SOIL PREPARATIONS AND CONDITIONS:

- A. Contractor to maintain OSHA safety precautions for workers.
- B. Excavate and remove all organic soil material below pad base per Geotechnical Report. Geotechnical Report dated August 28, 2023 by Alpha-Omega Geotech.
- C. Excavate and remove soft soil per Geotechnical Report. This design is based upon the soil conditions providing a minimum capacity of 2,500 psf. Individual interior pier footings may use 3,000 psf.
- D. This structural design assumes geotechnical recommendations will be incorporated into the site, slab, fill placement and building pad.

5. STEEL BUILDING

- A. Steel building plans take precedence over these plans. Contractor to verify baseplate and anchor bolt locations and projections.

6. SPECIAL INSPECTIONS

- A. High strength bolts - ASTM A325

ABBREVIATIONS: used - Not currently planned

A.B. Testing Agency: Lab testing footing, and pier concrete required.

@ At

E.W. Each Way

ELEV. Elevation (Relative Grade Height)

# Number

Sq.Ft. Square Feet

T.O.B. Top Of Beam

T.O.F. Top Of Footing

T.O.W. Top Of Wall

O.C. On Center Spacing

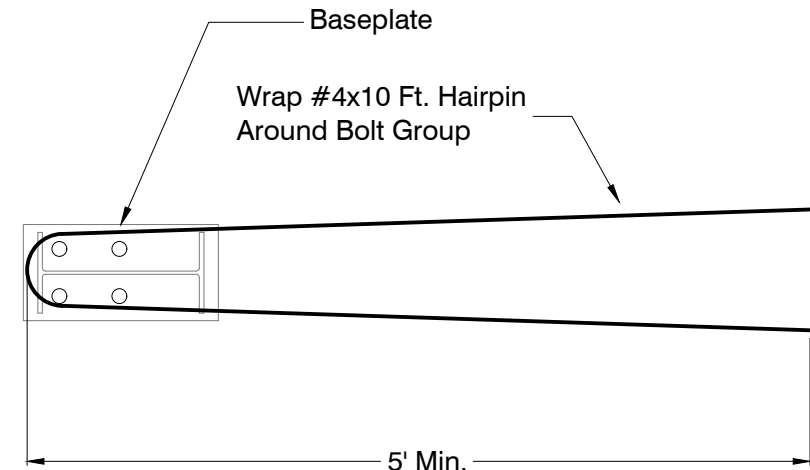
U.N.O. Unless Noted Otherwise

A5 GENERAL STRUCTURAL NOTES & ABBREVIATIONS

NO SCALE

C3 NOT USED

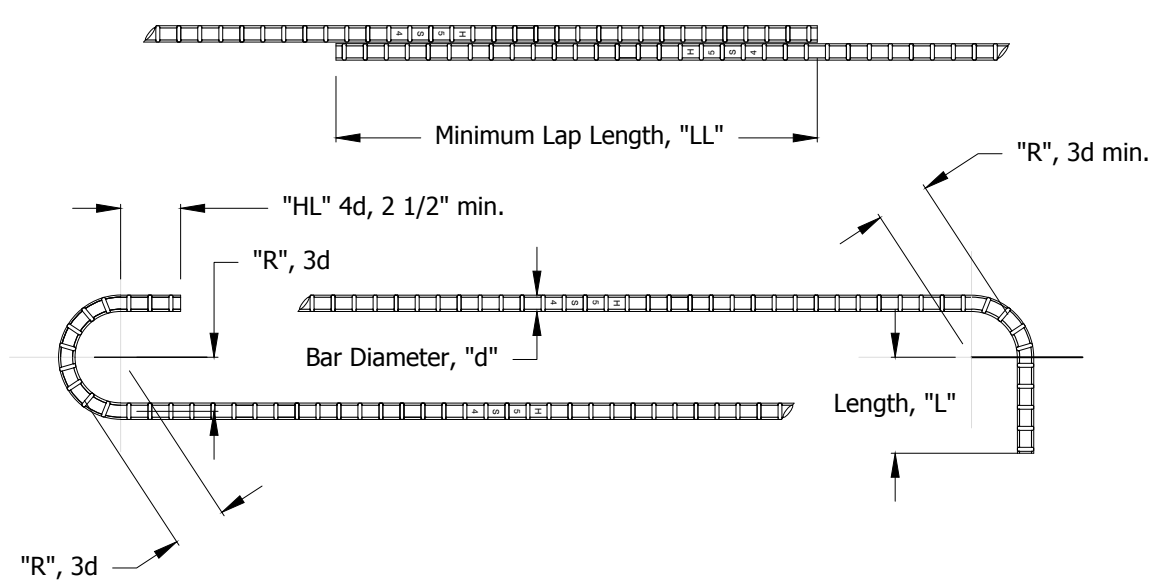
SCALE: 1 1/2" = 1'-0"



B3 HAIR PIN DETAIL (PLAN VIEW)

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

STANDARD REINFORCING LAPS, BENDS AND HOOKS				
BAR Diameter, d	LAP LENGTH, "LL"	LENGTH "L", 12d	RADIUS "R", 3d	HOOK LENGTH "HL", 4d
3	24	4 1/2	1	2 1/2
4	24	6	1 1/2	2 1/2
5	25	7 1/2	2	2 1/2

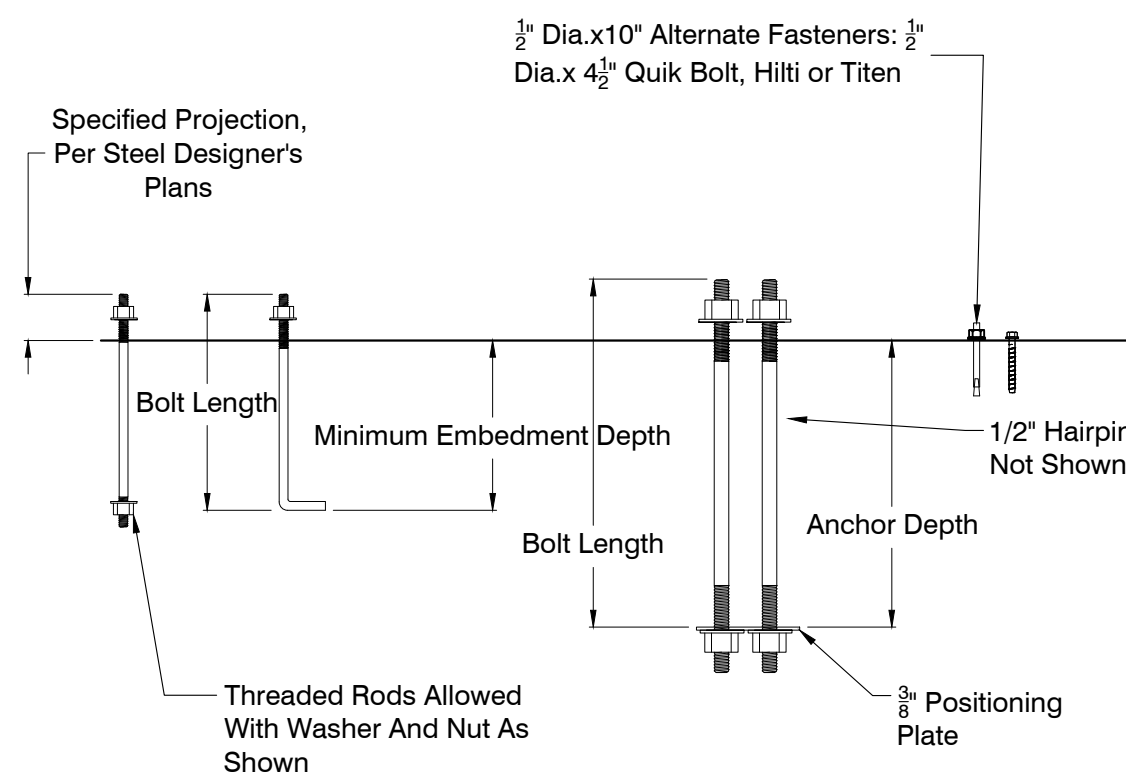


A3 LAPS & HOOK DETAILS

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

C2 CORNER BAR DETAILS - GRADE BEAM

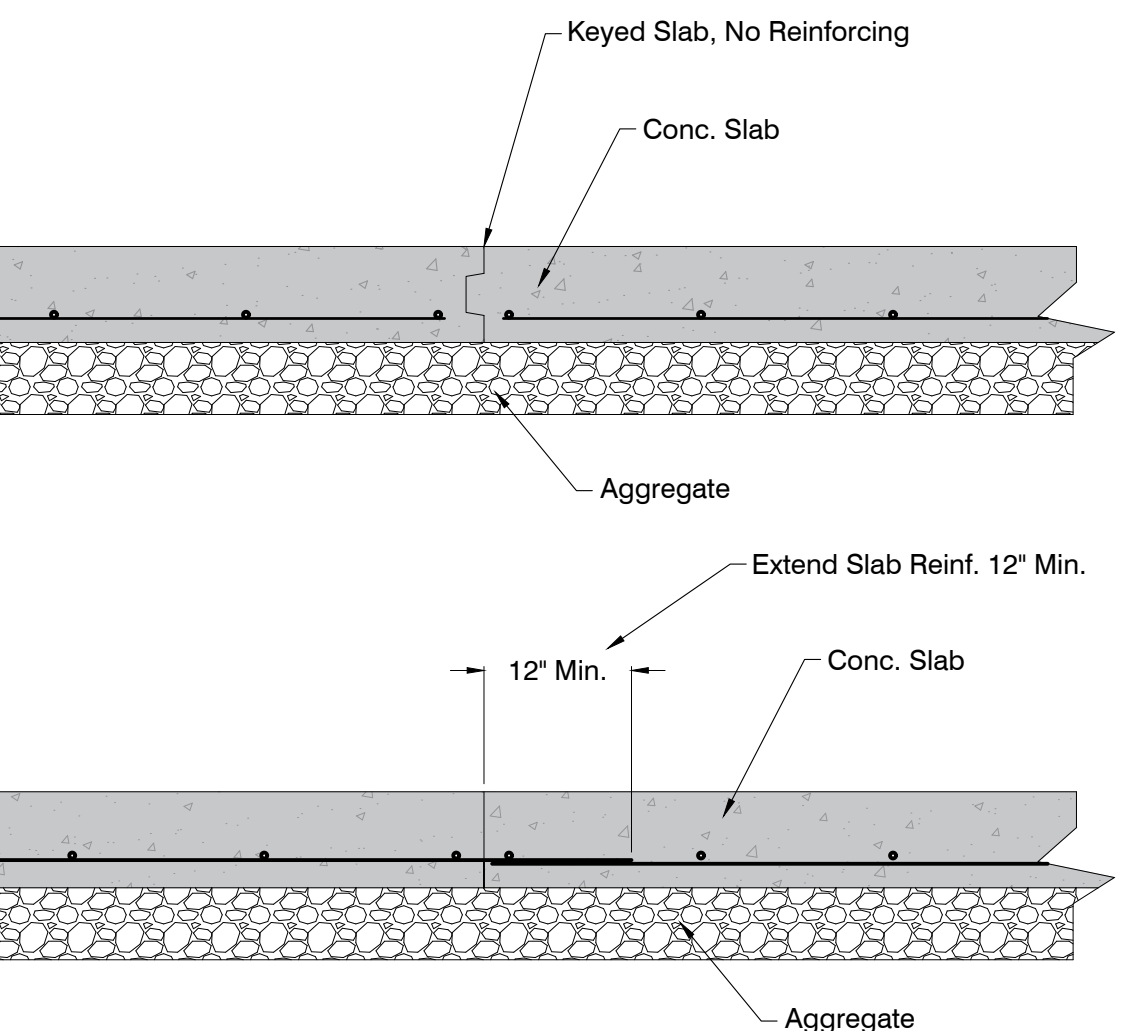
SCALE: 3/4" = 1'-0"



Notes:  
Anchor Bolts Or Threaded Rods Per ASTM F1554, Grade 36  
Post Installed Systems Such As Epoxy Anchors Are Not Allowed Except At Door Jamb's.  
Anchor Bolts & Baseplates Installed Per Steel Designer's Plans.

B2 ANCHOR BOLT SPECIFICATIONS

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

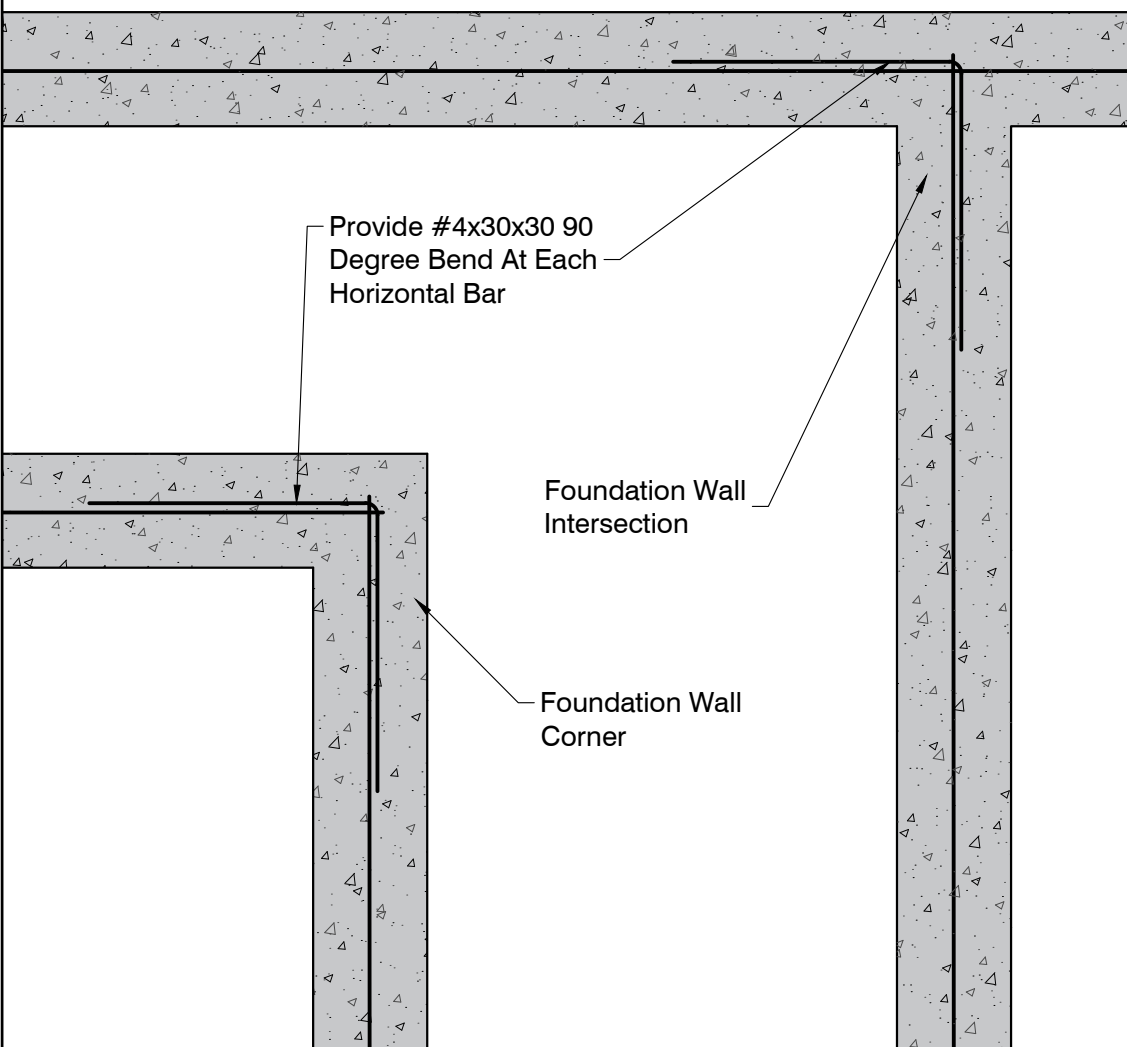


A2 TYPICAL SLAB STOP & WWF LAP

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

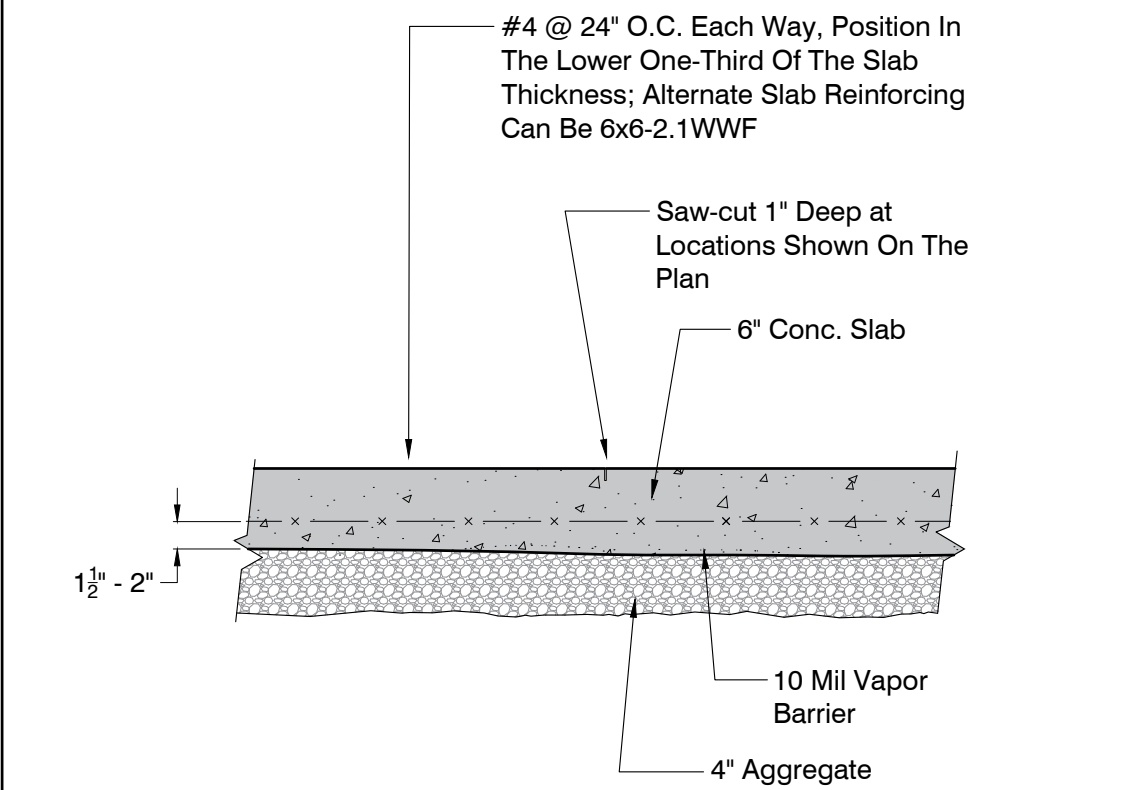
C1 CORNER BAR DETAILS - FORMED WALL

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



B1 TYPICAL DETAIL

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



A1 TYPICAL SLAB CONSTRUCTION DETAIL

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

Architect:

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Seal:



Michael Moores, MO Architect #2009032812

Project Number: 2307

Project Type: NEW CONSTRUCTION

Project Name and Address:

LAKEWOOD BUSINESS CENTER,

LOT 1

NE Maguire Blvd  
Lee's Summit, Missouri 64064

Issue: Date:

Bid Set 6.22.23

Bid Set-Contractor Comments 8.31.23

Sheet Title:

NOTES & DETAILS

S0

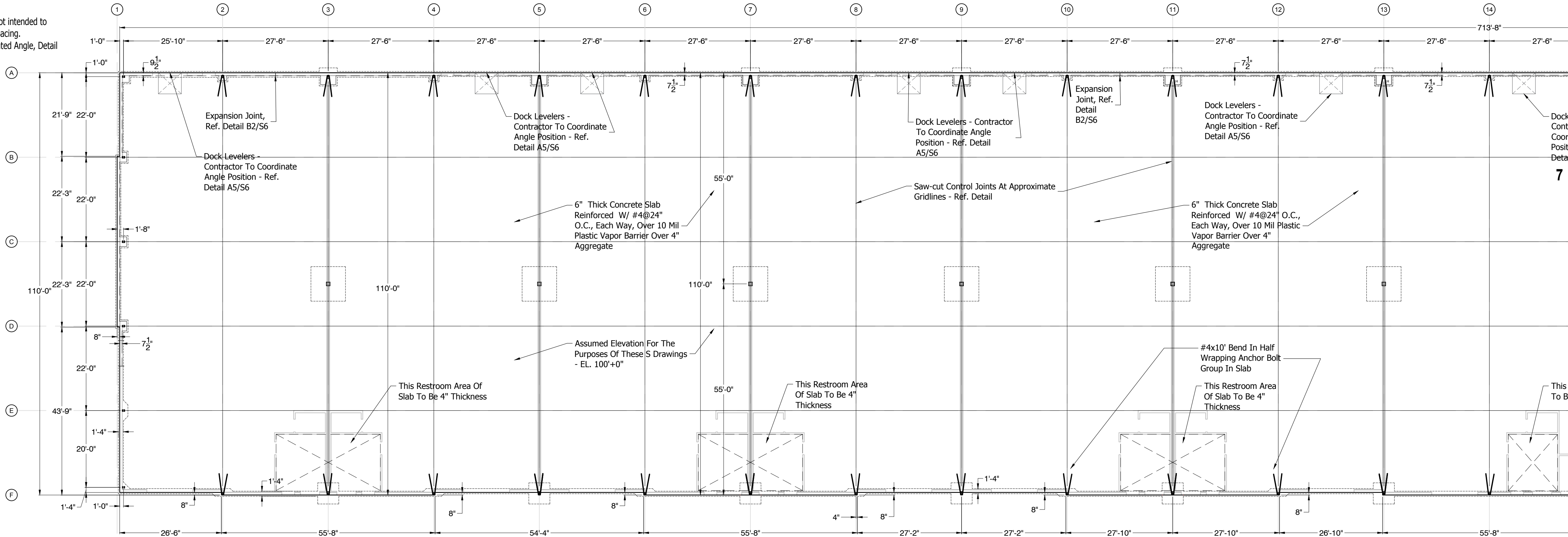


CONSTRUCTION NOTES:

1. Baseplate Size, Configuration And Location To Be In Accordance With Steel Designer's Design. Steel Designer's Design Takes Precedence Over These Drawings.
2. Provide Depressed Threshold Per Steel Designer's Design.
3. Dimensions This Sheet Edge Of Slab Locations & Footing Locations Where Indicated.
4. Expansion Joints In Formed Wall Spaced Approximately 220 Ft. Along Grid A Only. Not intended to Extend Into The Interior Slab. Contractor to Field Locate With A 220 Ft. Maximum Spacing.
5. Coordinate Installation Of Angle For Exterior Mount Dock Levelers. Reference Fabricated Angle, Detail A5/S6.

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C1 16" SCALE SLAB PLAN - GRIDS 1-14

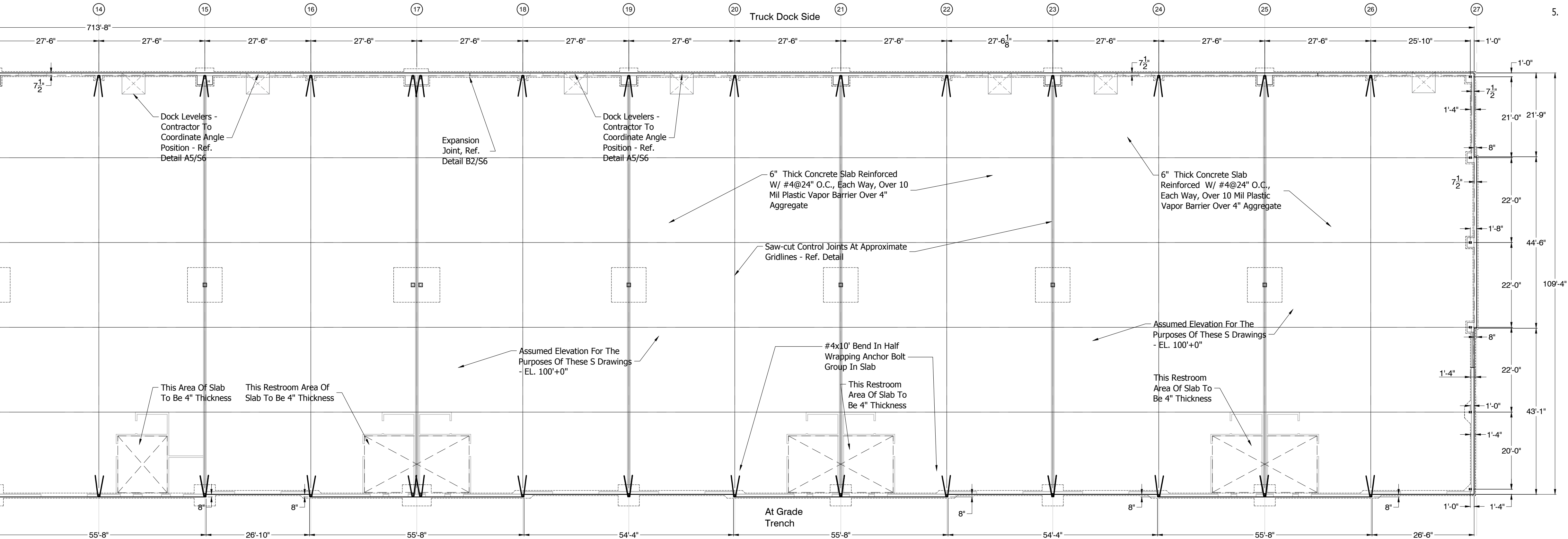
SCALE: 1/16" = 1'-0"

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A1 16" SCALE SLAB PLAN - GRIDS 15-27

SCALE: 1/16" = 1'-0"

Architect:

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Project Name and Address:

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Sheet Title:

SLAB PLAN

S1



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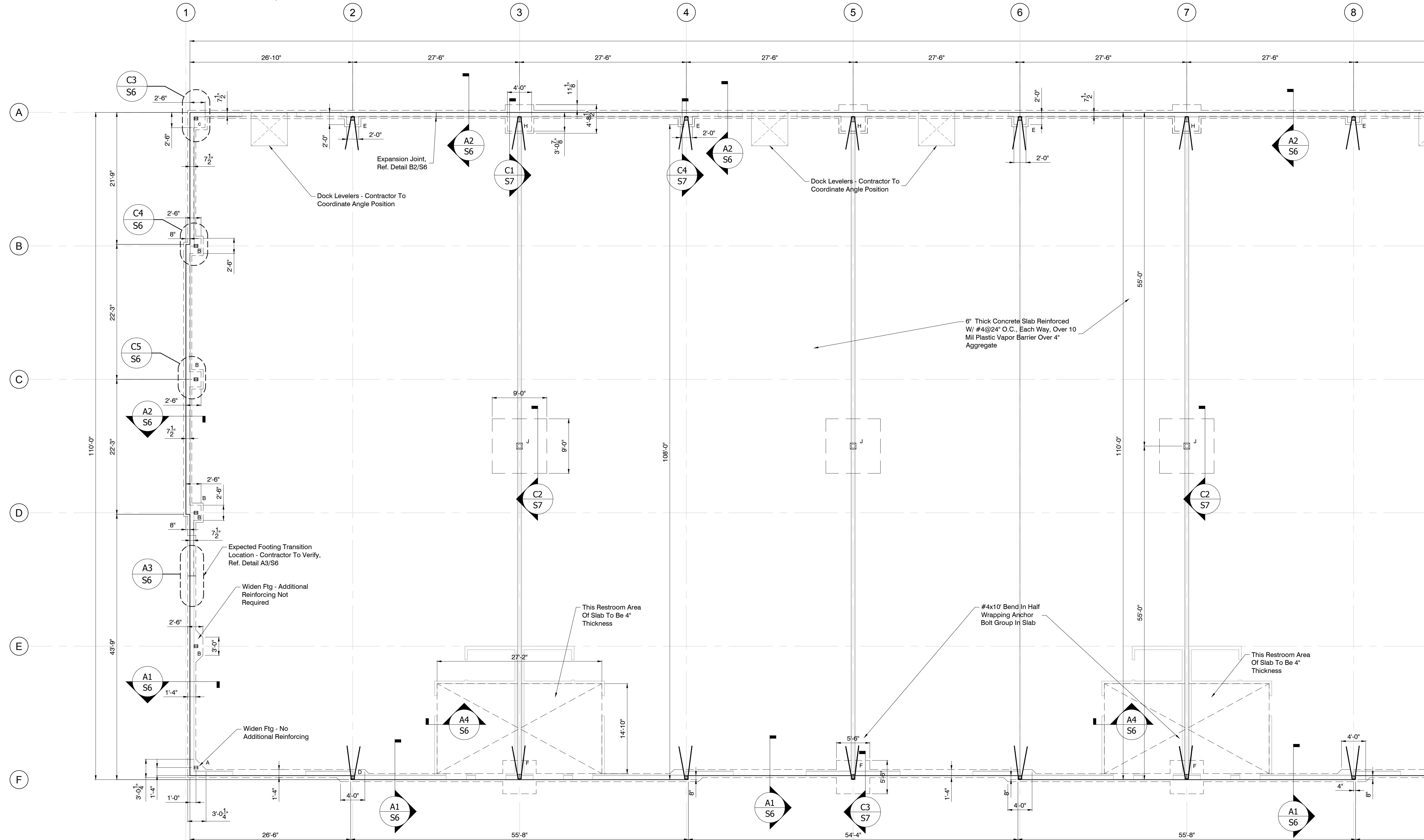
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Anchor Bolt Schedule:

Baseplates	Diameter	Length	Projection	Embedment
A-E	5/8"	18"	3"	15"
F-I	3/4"	24"	3"	21"
J	3/4"	30"	3"	27"

Anchor Bolts And All-thread Materials To Be Provided And Installed Per ASTM F1554.



Architect:

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Sheet Title:

FOUNDATION PLAN

S2



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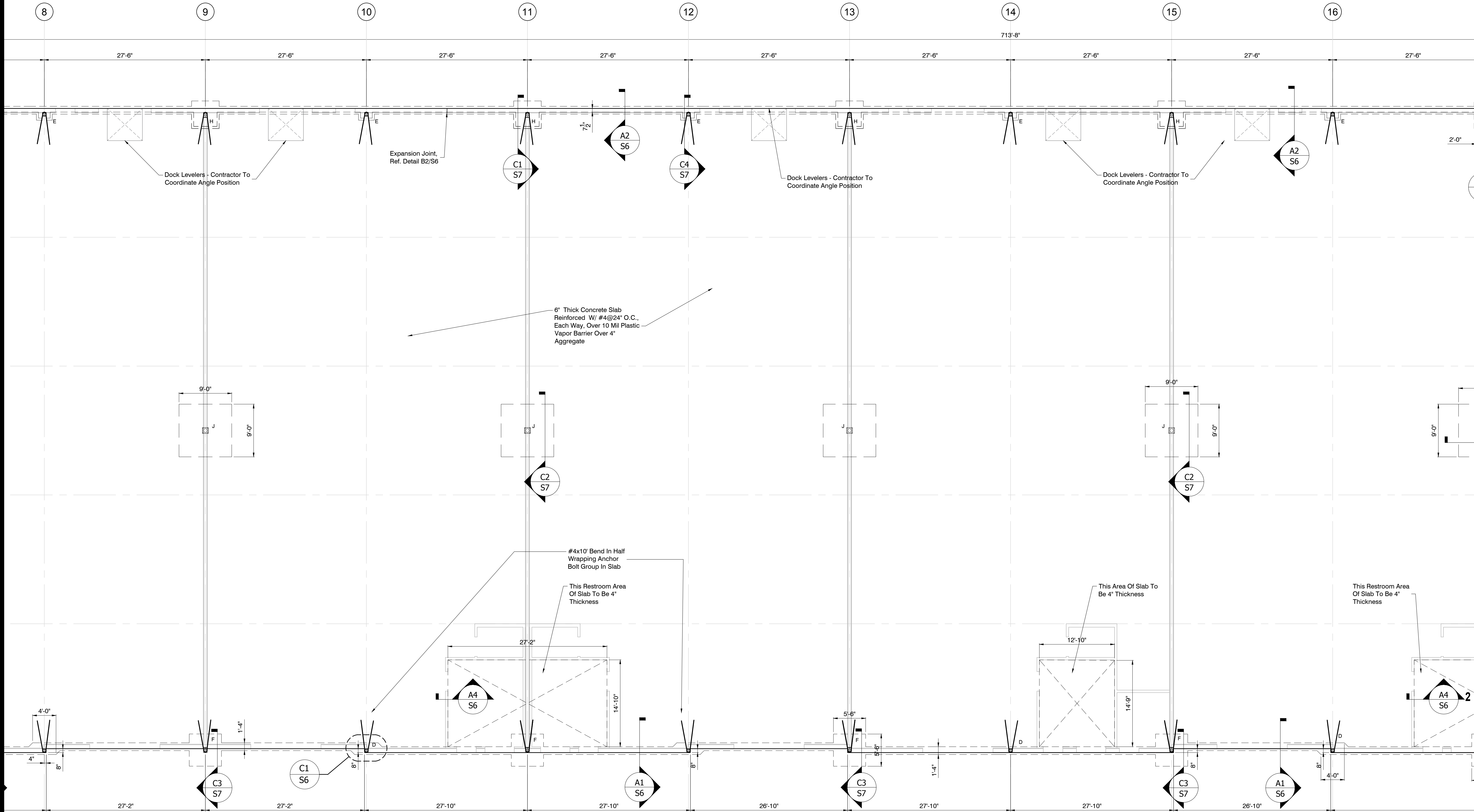
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Architect:

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FOUNDATION PLAN

S3



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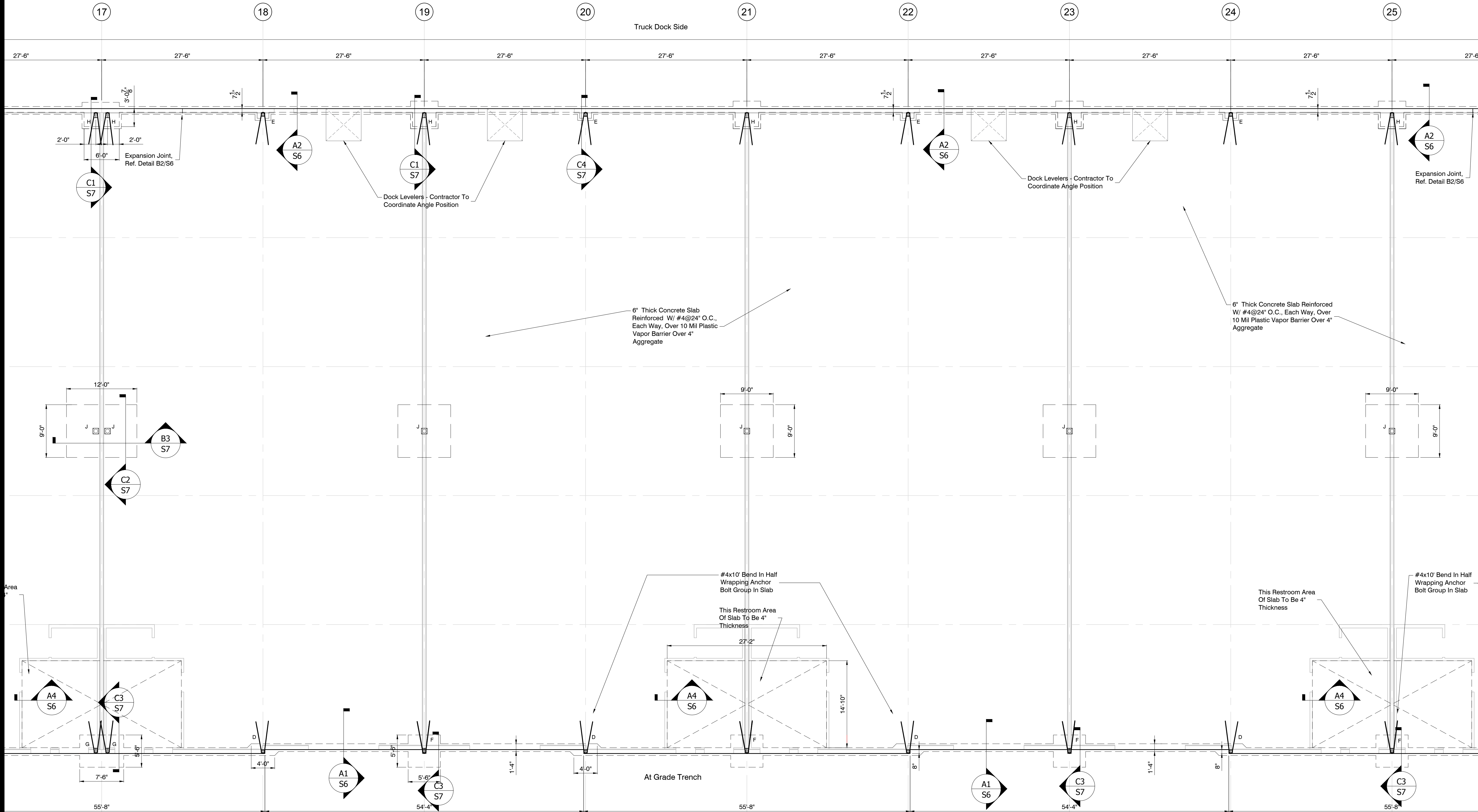
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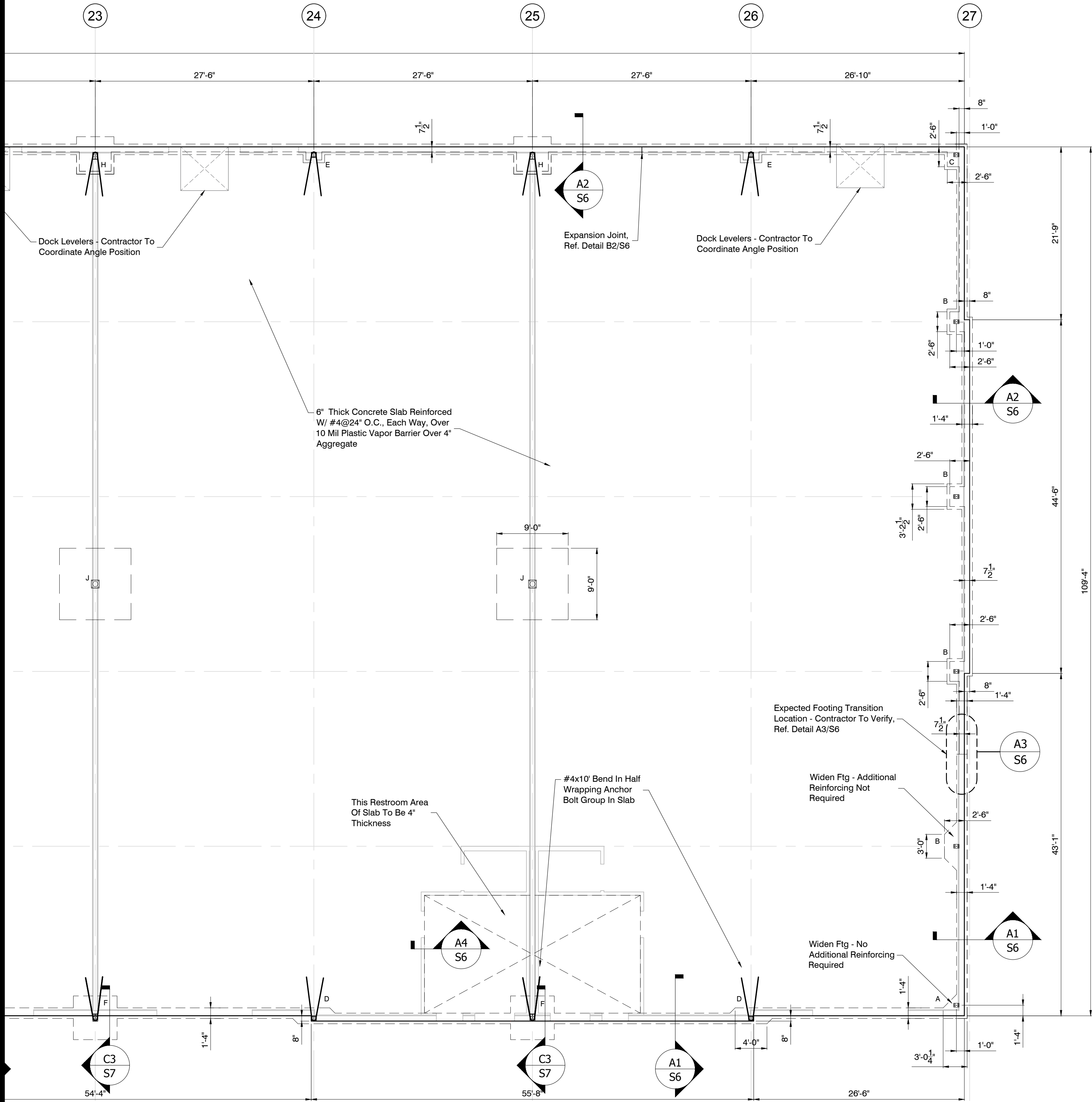
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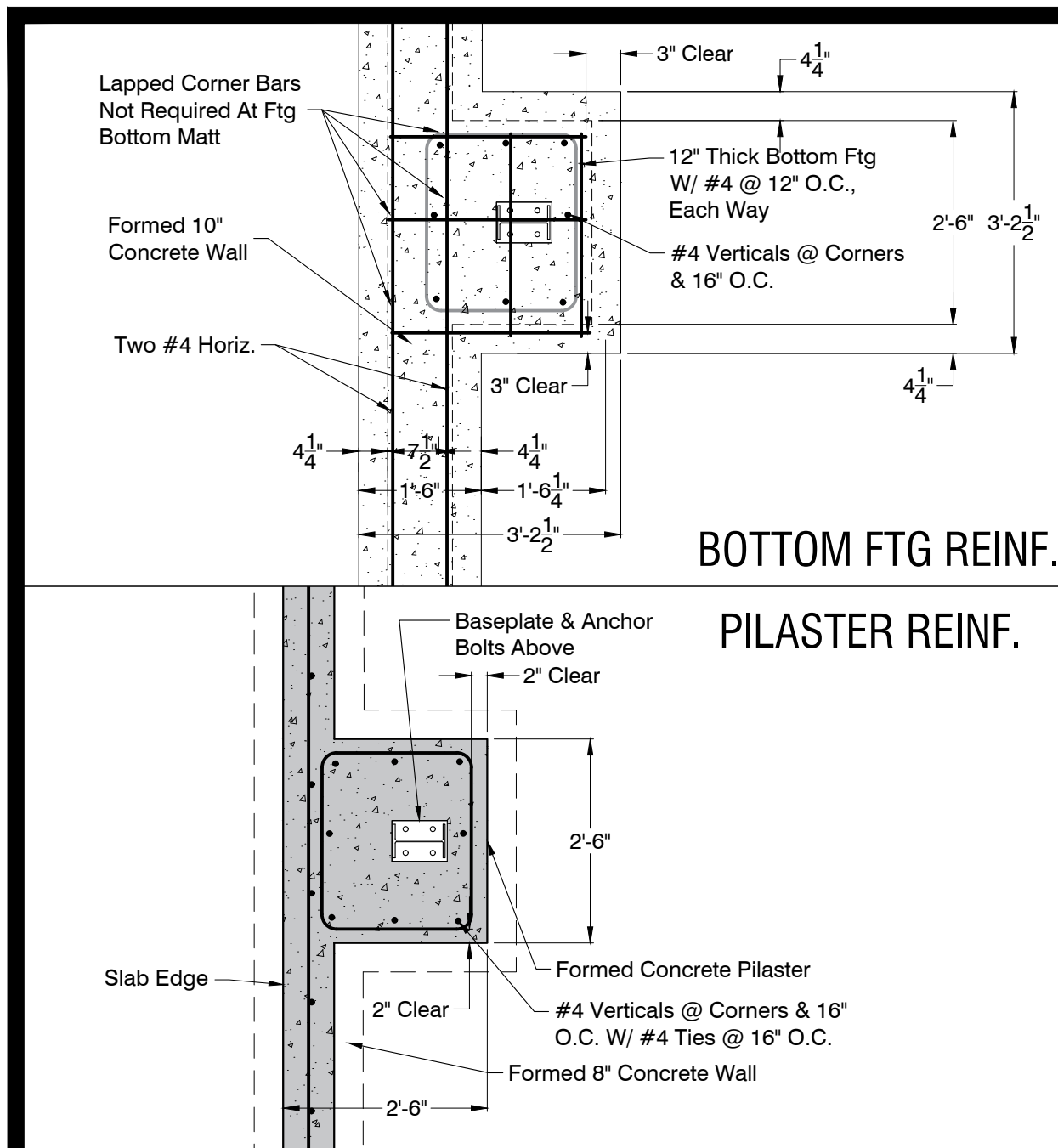
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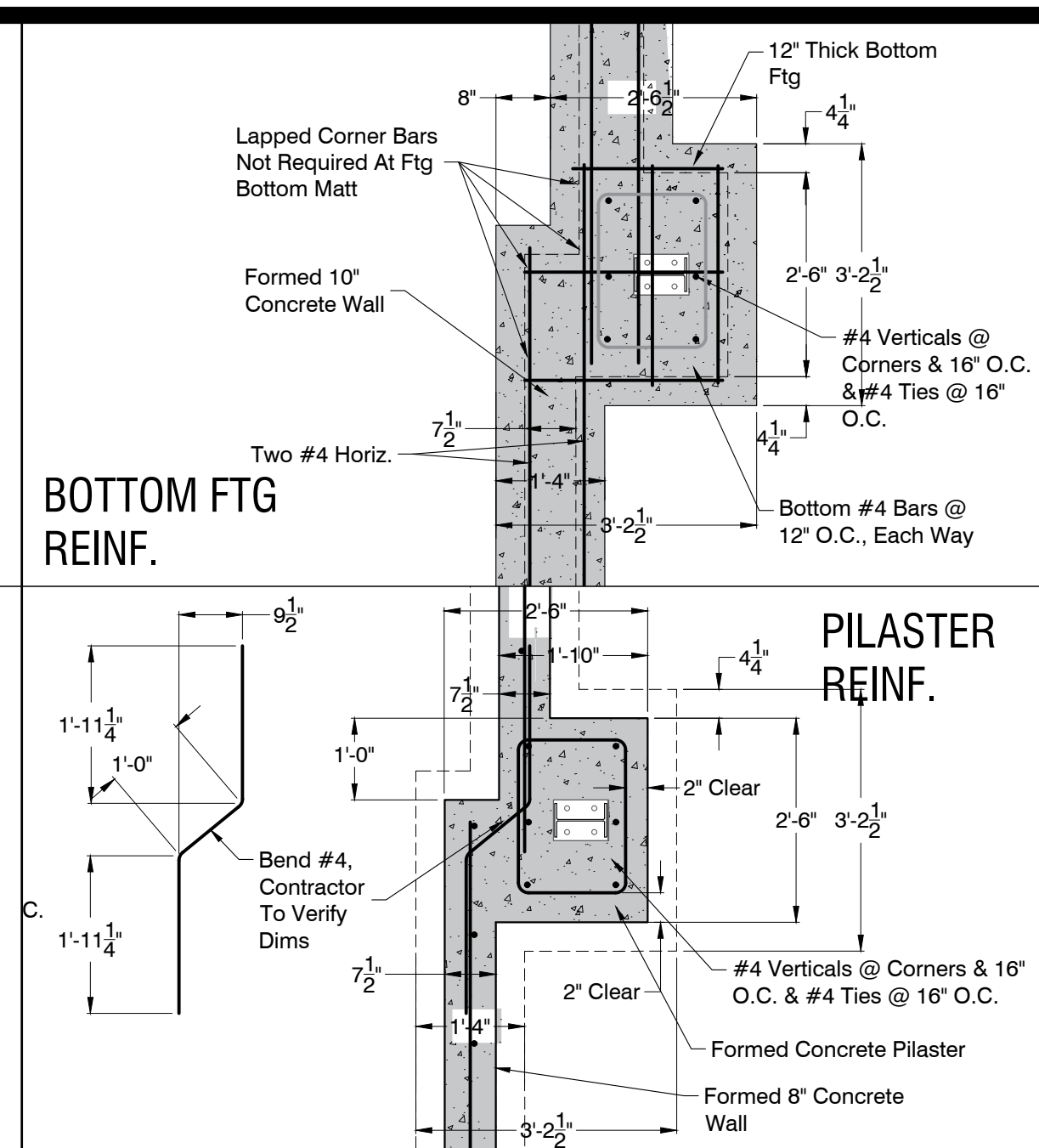
FOUNDATION PLAN

S5

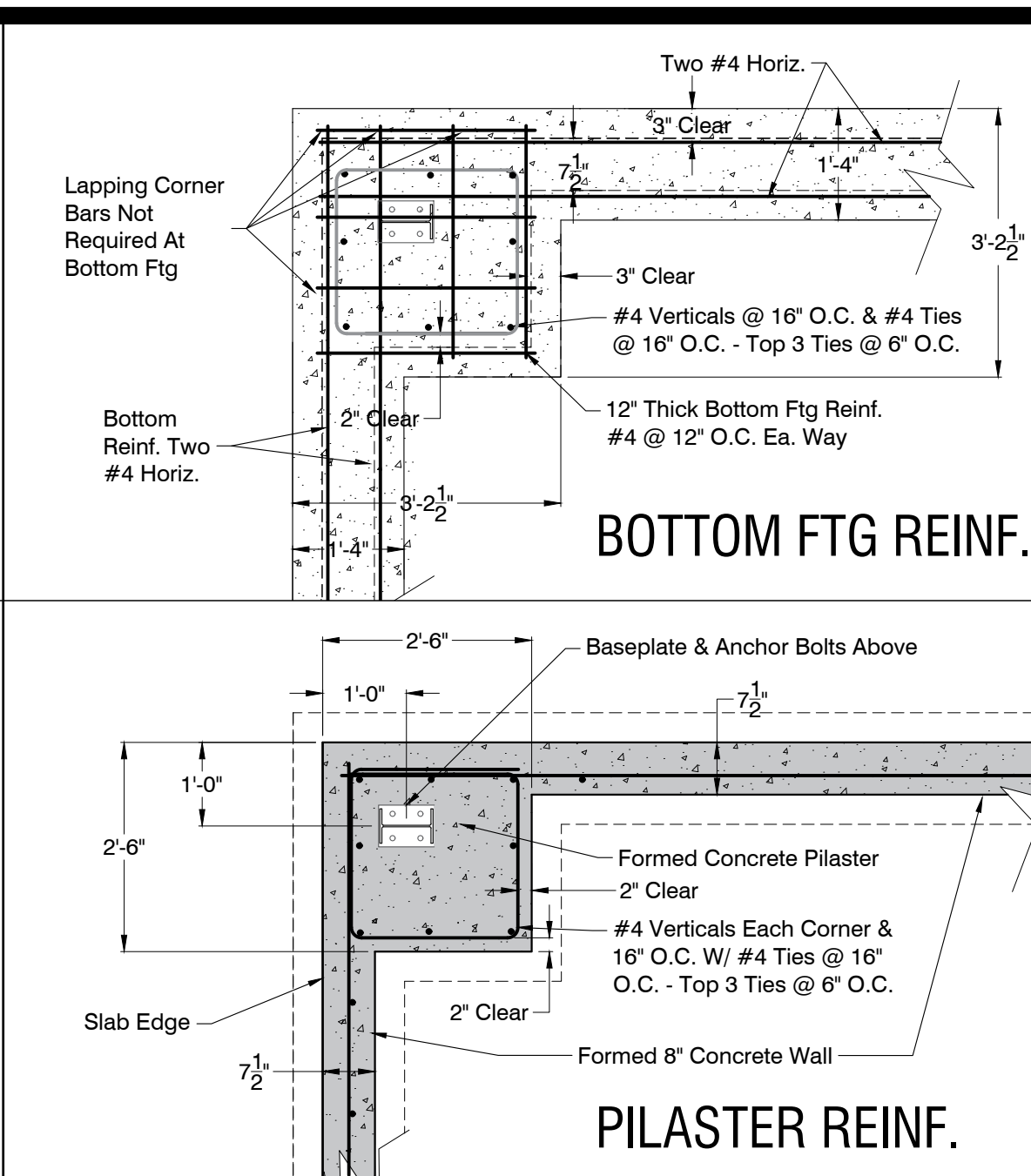




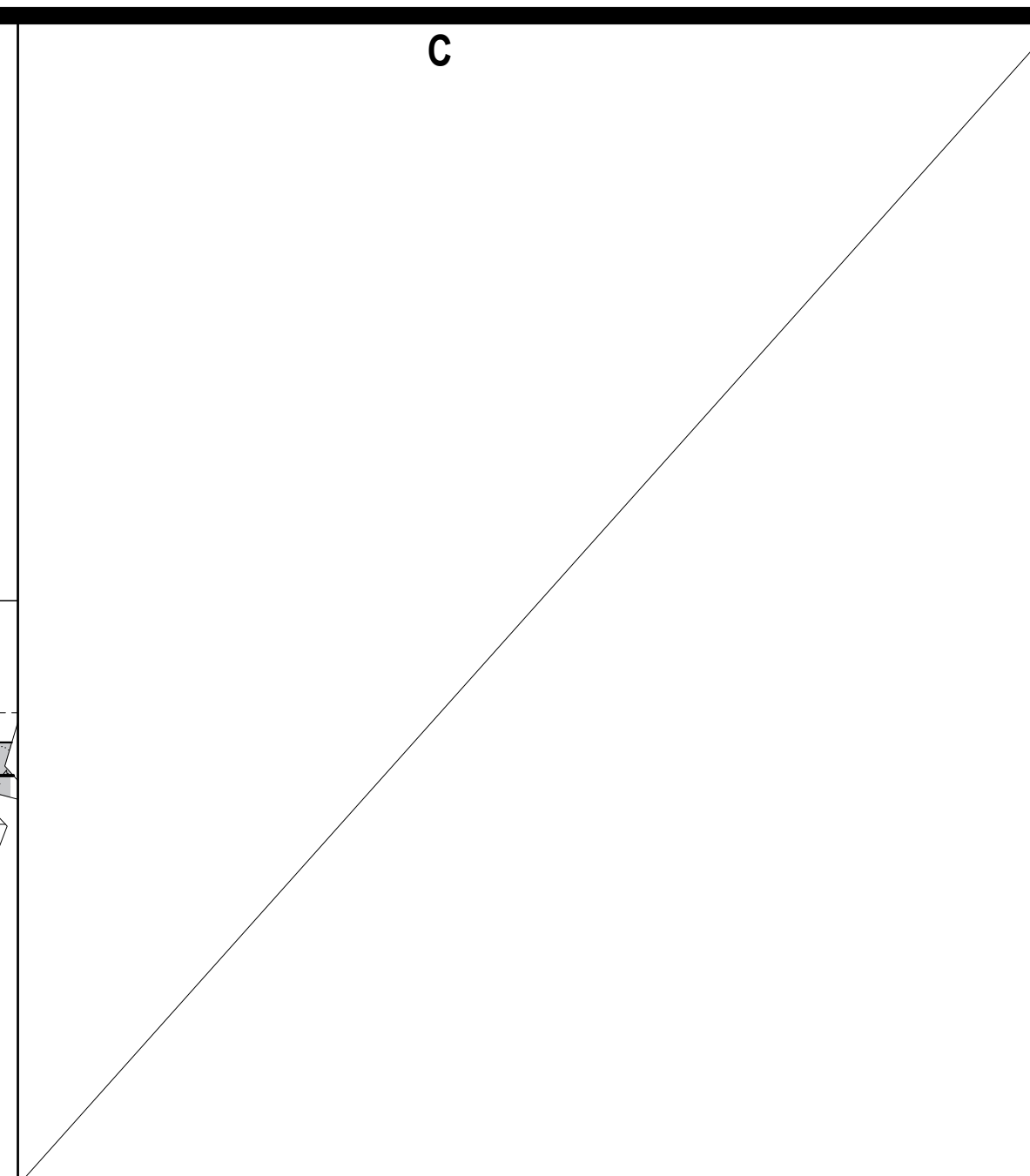
**C5** FORMED PILASTER-GRIDS C1 & C27  
SCALE: 1/2" = 1'-0"



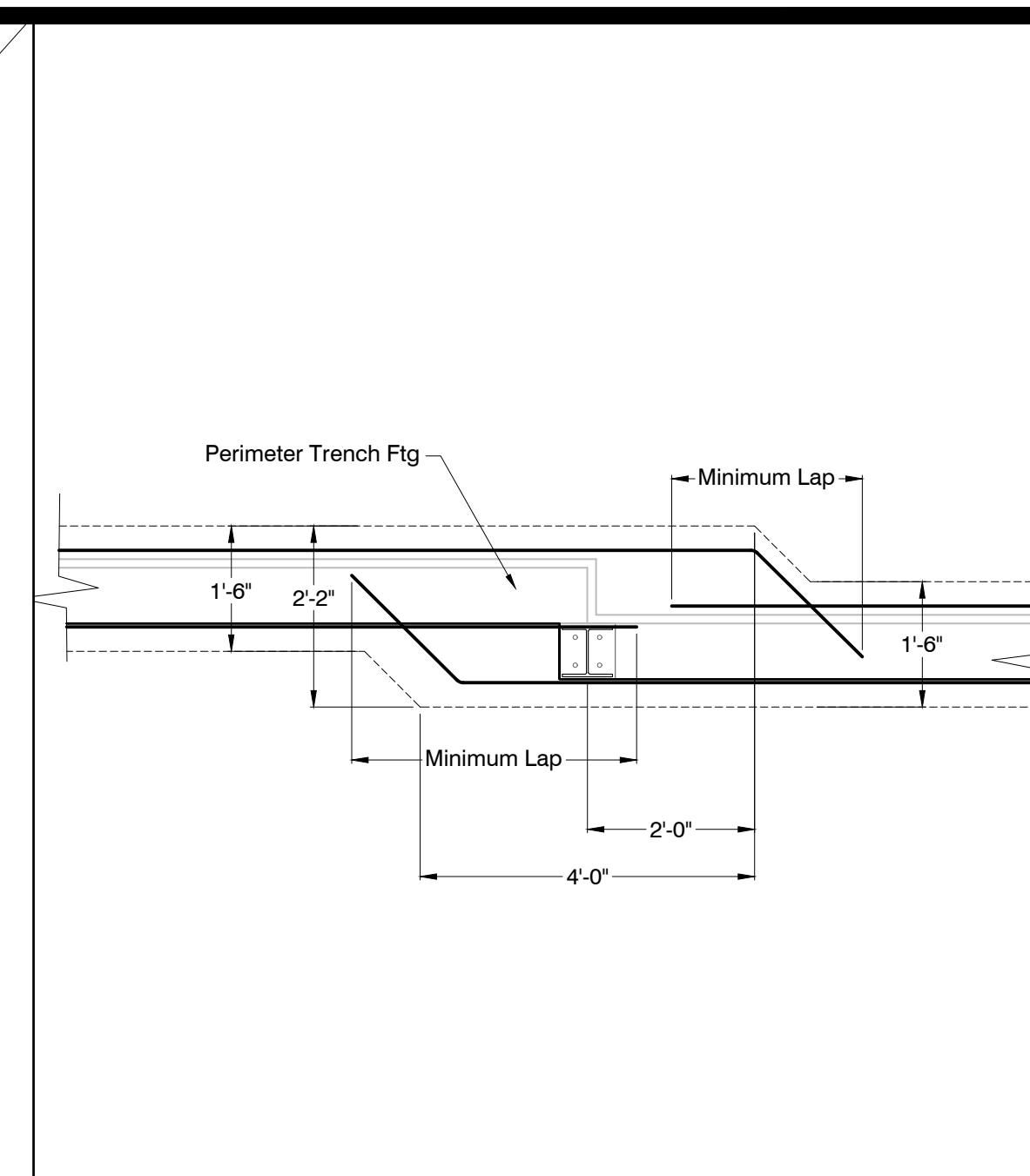
**C4** FORMED PILAS.-GRIDS B1, D1, B27 & D27  
SCALE: 1/2" = 1'-0"



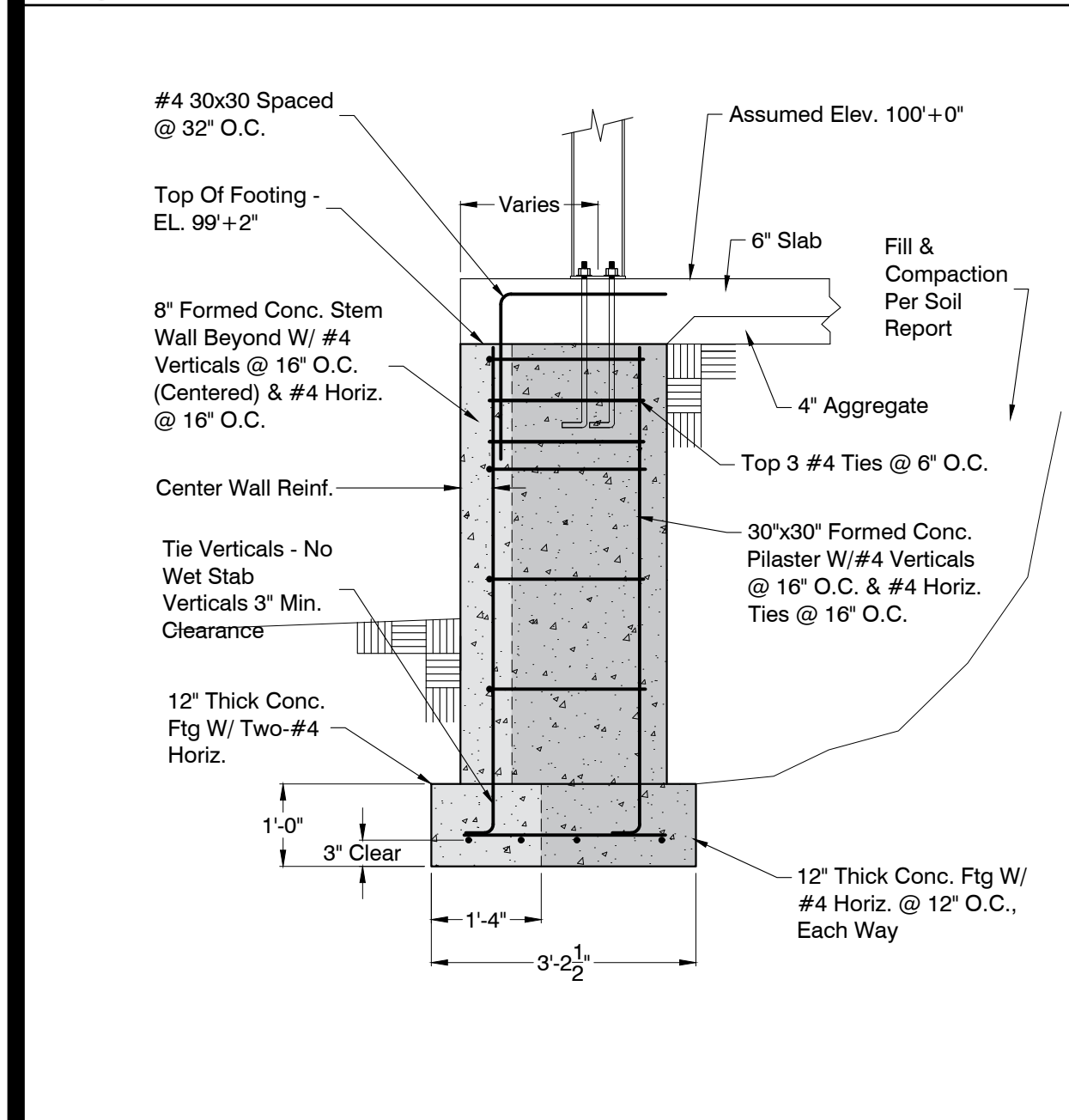
**C3 CORNER PILASTER - GRIDS A1 & A27**  
SCALE: 1/2" = 1'-0"



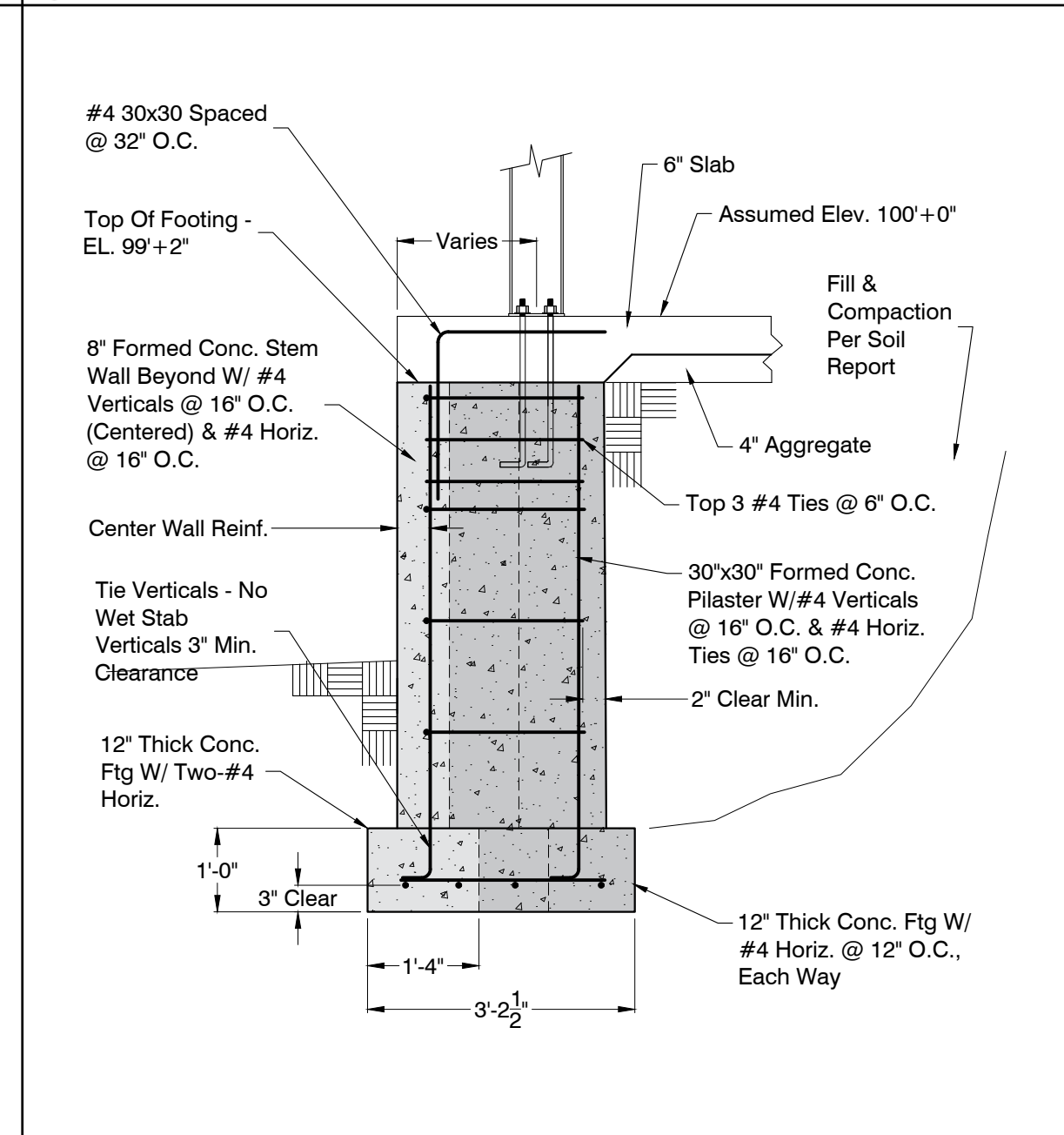
**C2** DETAIL  
SCALE: 3/4" = 1'-0"



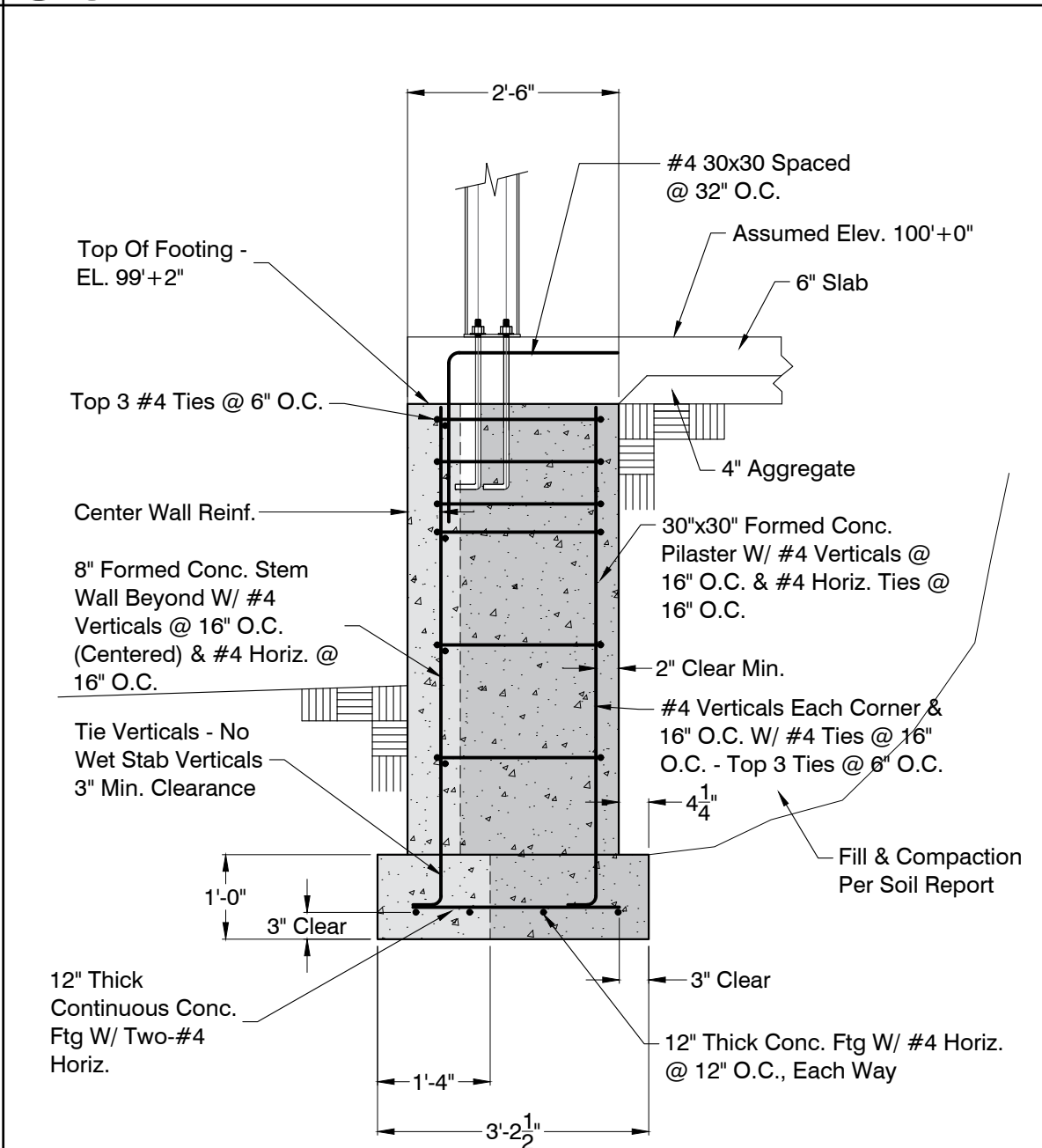
## C1 OFF-SET FOOTING DETAIL



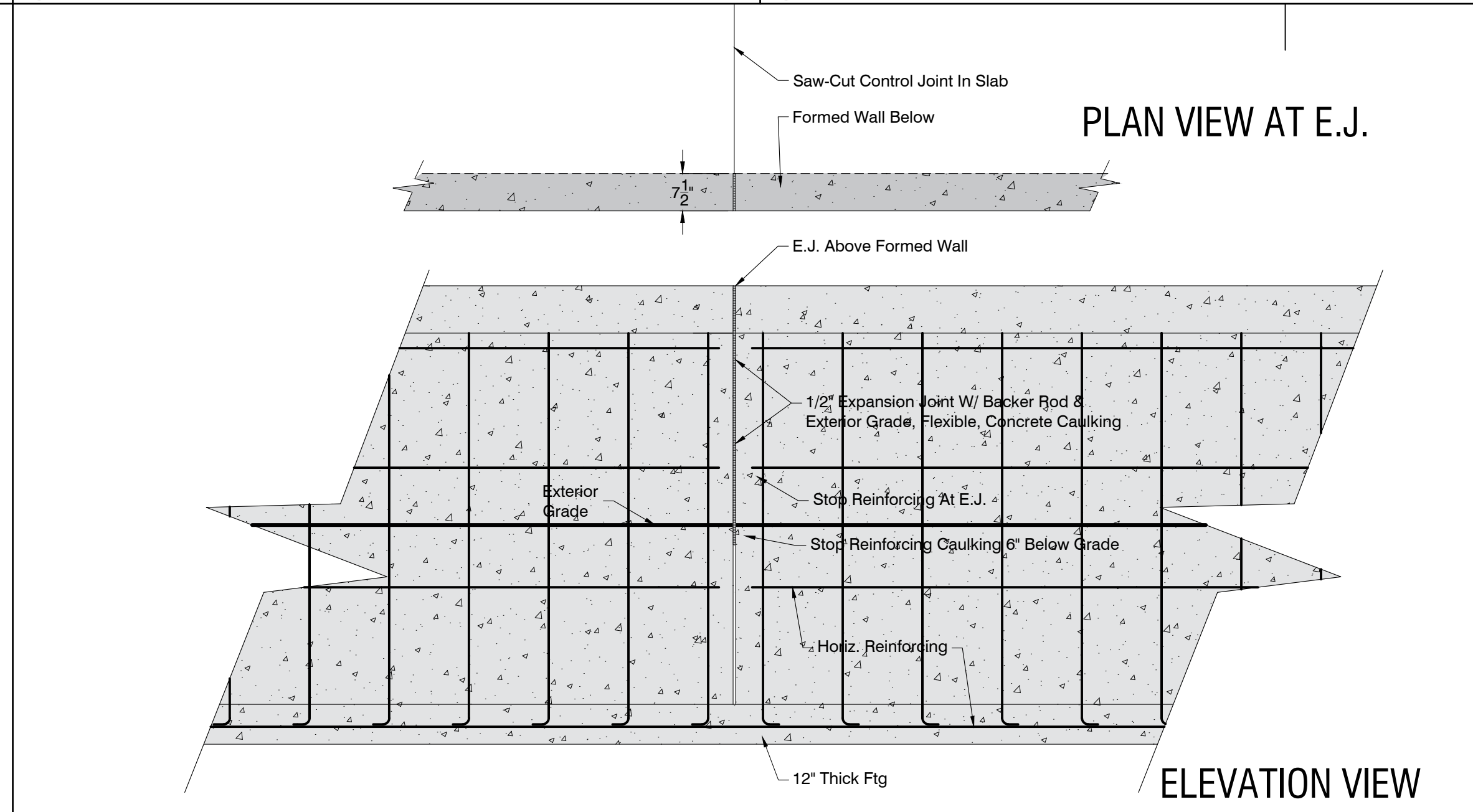
**B5** FORMED PILASTER-GRIDS C1 & C27  
SCALE: 1/2" = 1'-0"



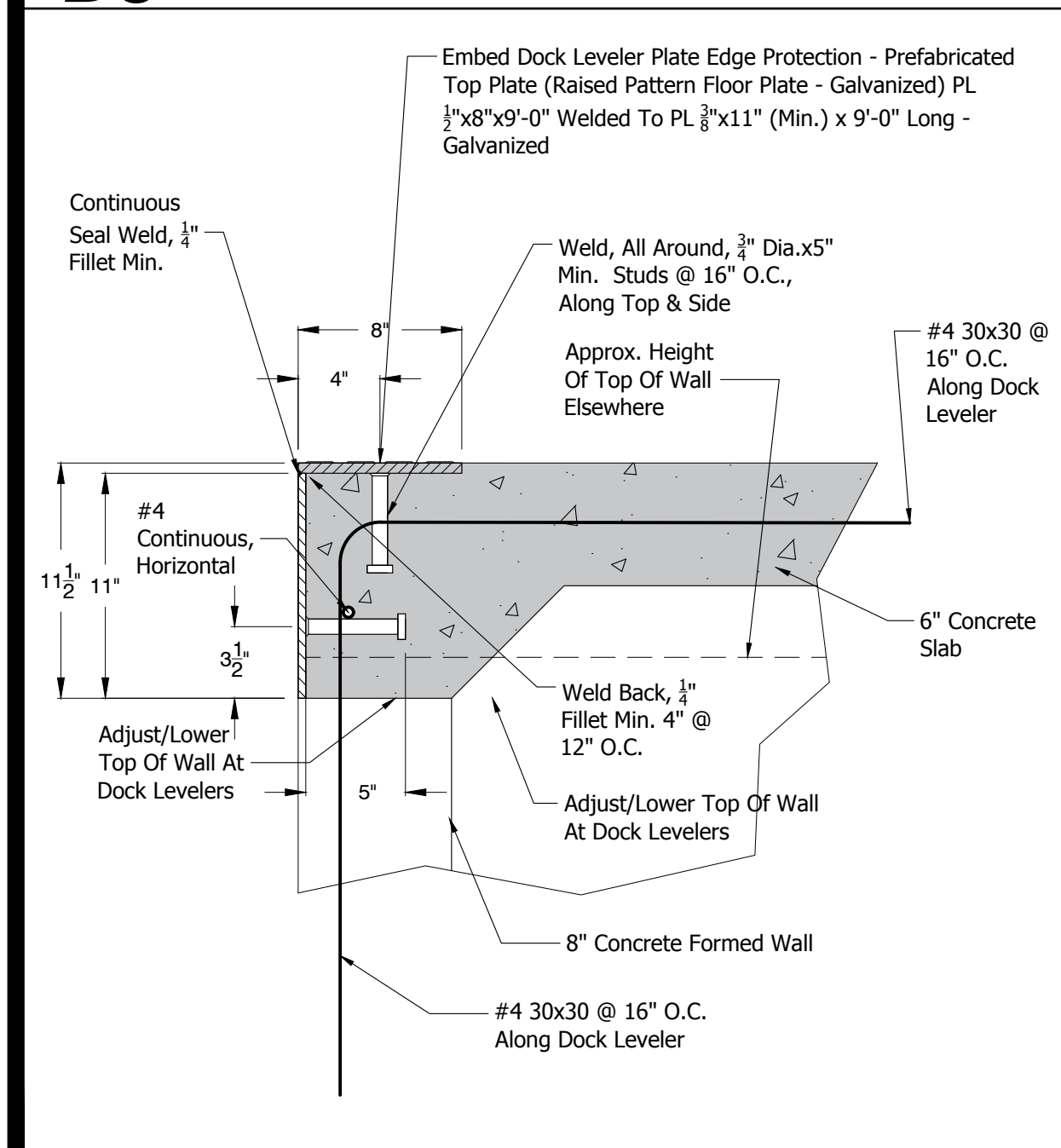
**B4** FORMED PILAS.-GRIDS B1, D1, B27 & D27  
SCALE: 1/2" = 1'-0"



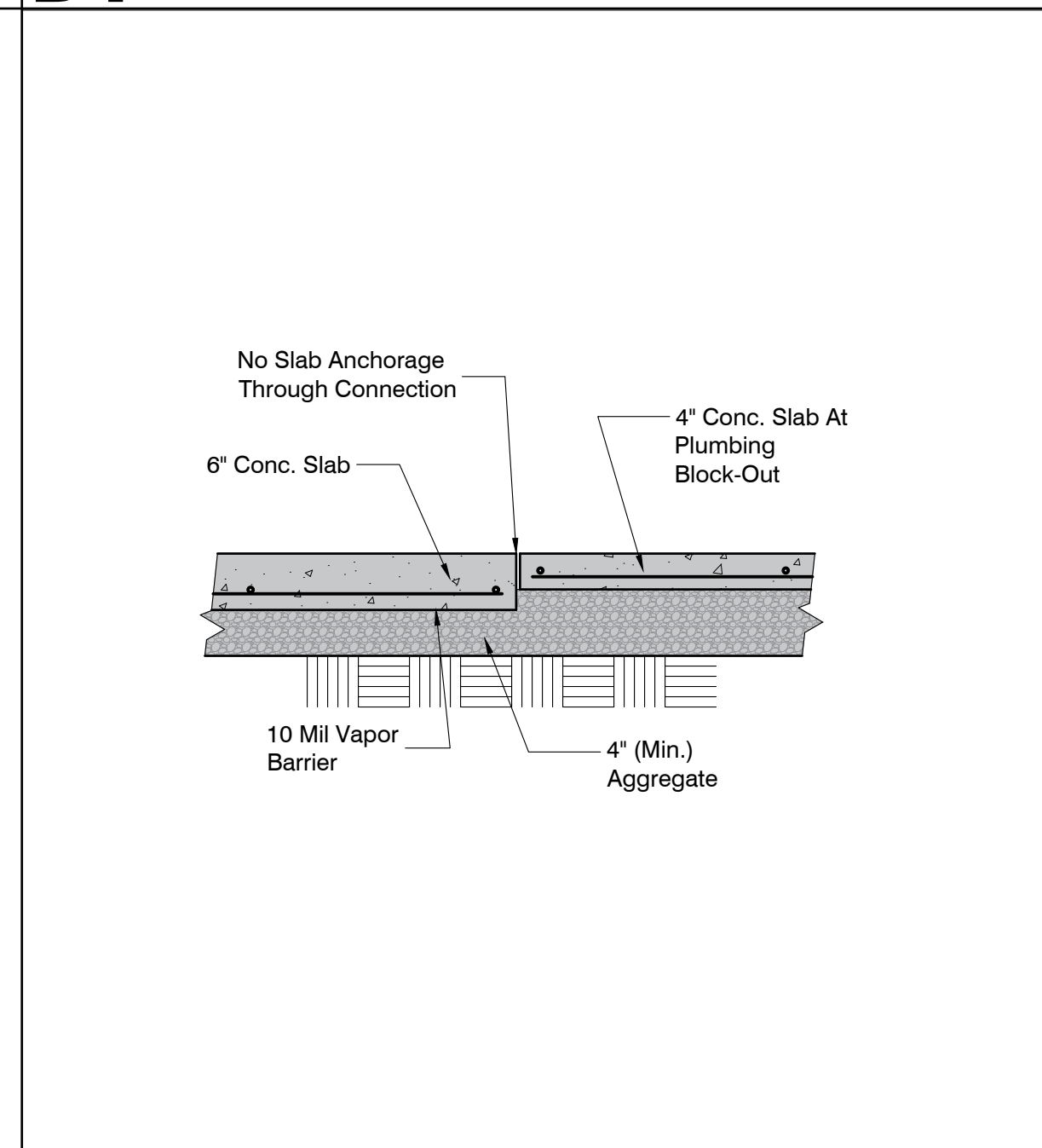
**B3** CORNER PILASTER - GRIDS A1 & A27  
SCALE: 1/2" = 1'-0"



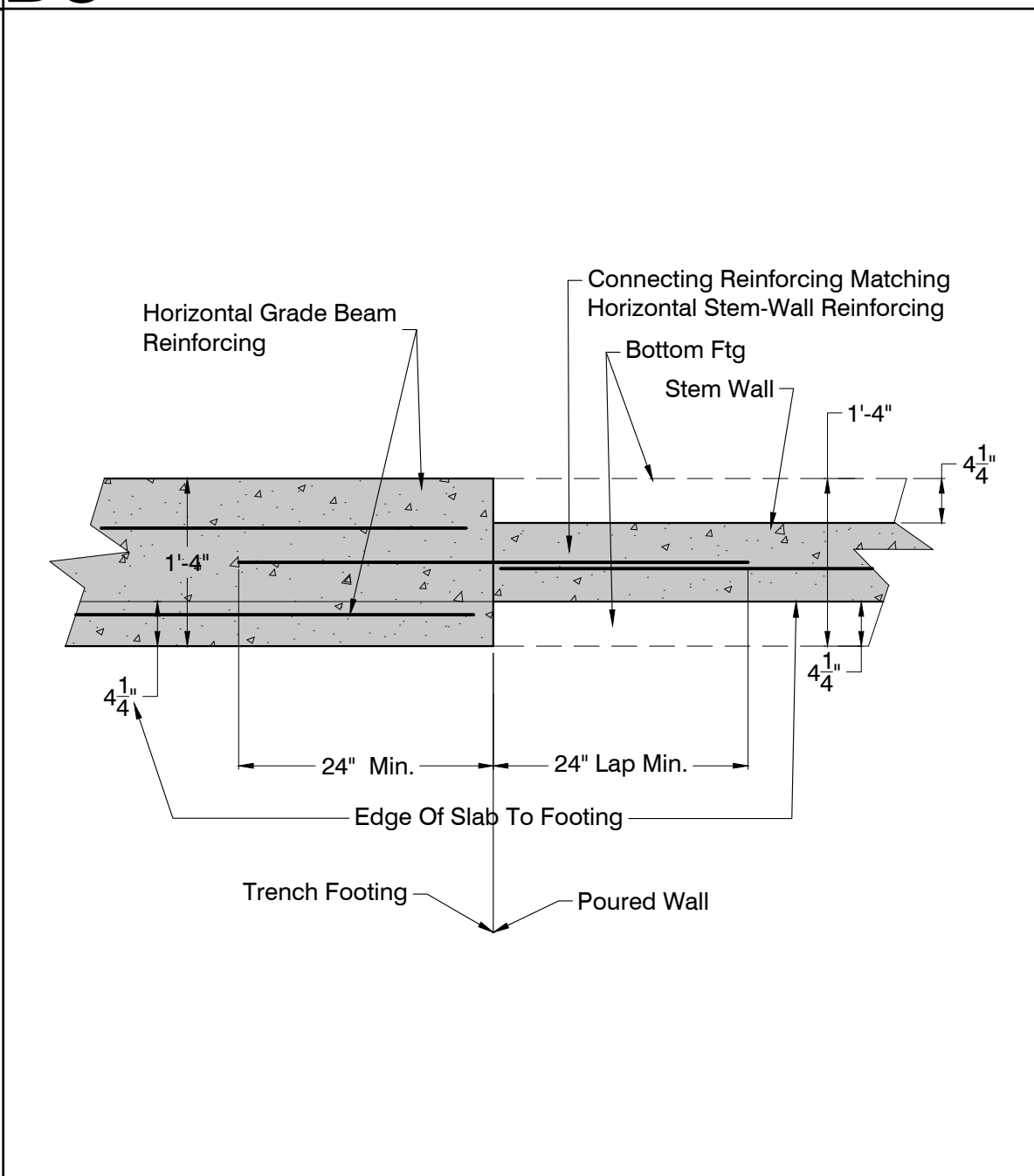
## B2 EXPANSION JOINT AT FORMED WALL DETAIL



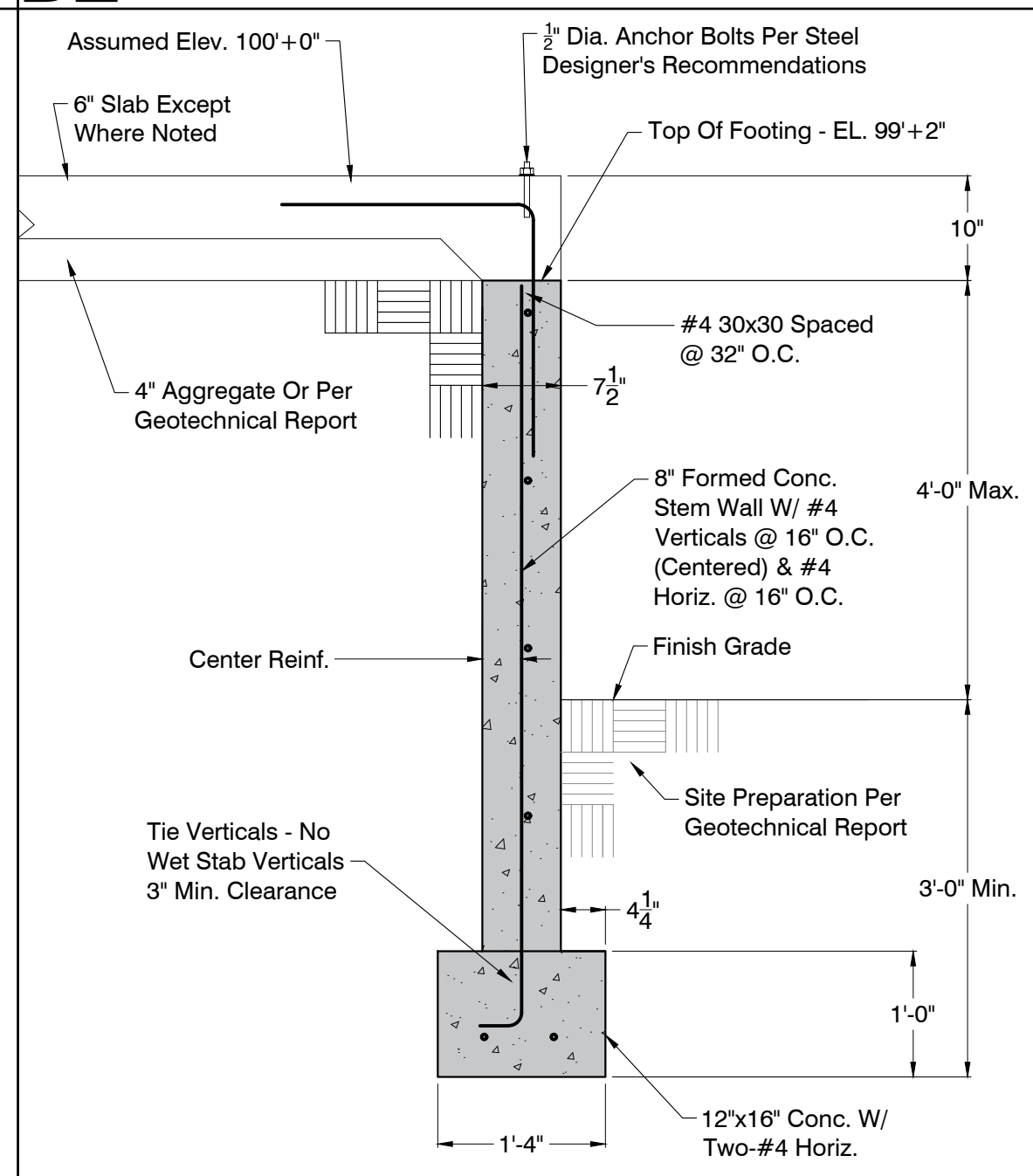
## A5 DOCK LEVELER ANGLE DETAIL



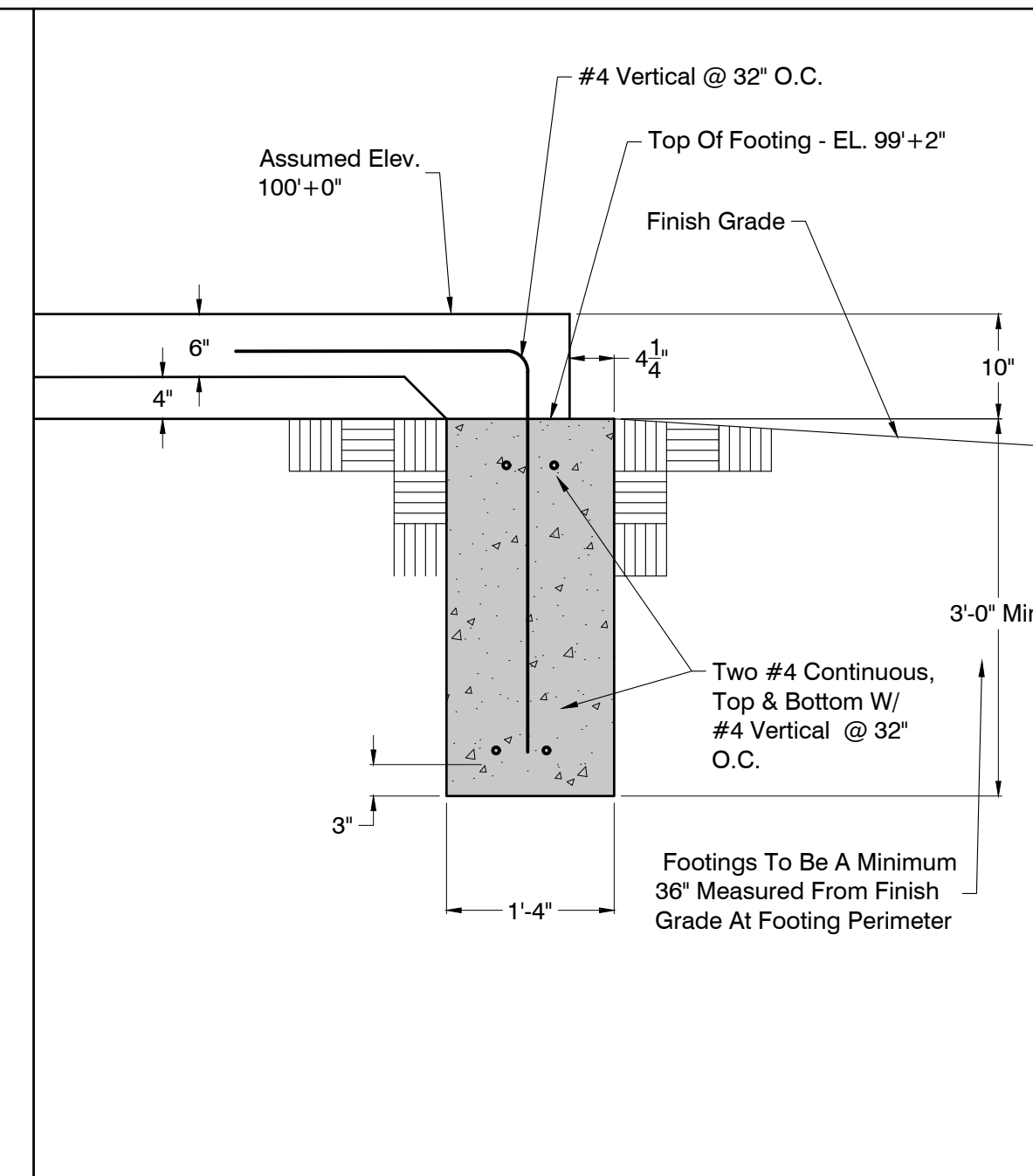
## A4 6" TO 4" SLAB TRANSITION



### A3 TRANSITION TRENCH TO FORMED WALL



## A2 TYPICAL FORMED WALL FOOTING



## A1 TYPICAL TRENCH FOOTING

Architect:	Lee's Summit, Missouri 03/08/2024
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Project Number:	2307
Project Type:	NEW CONSTRUCTION
Project Name and Address:	

**LAKEWOOD BUSINESS CENTER,  
LOT 1  
NE Maguire Blvd  
Lee's Summit, Missouri 64064**

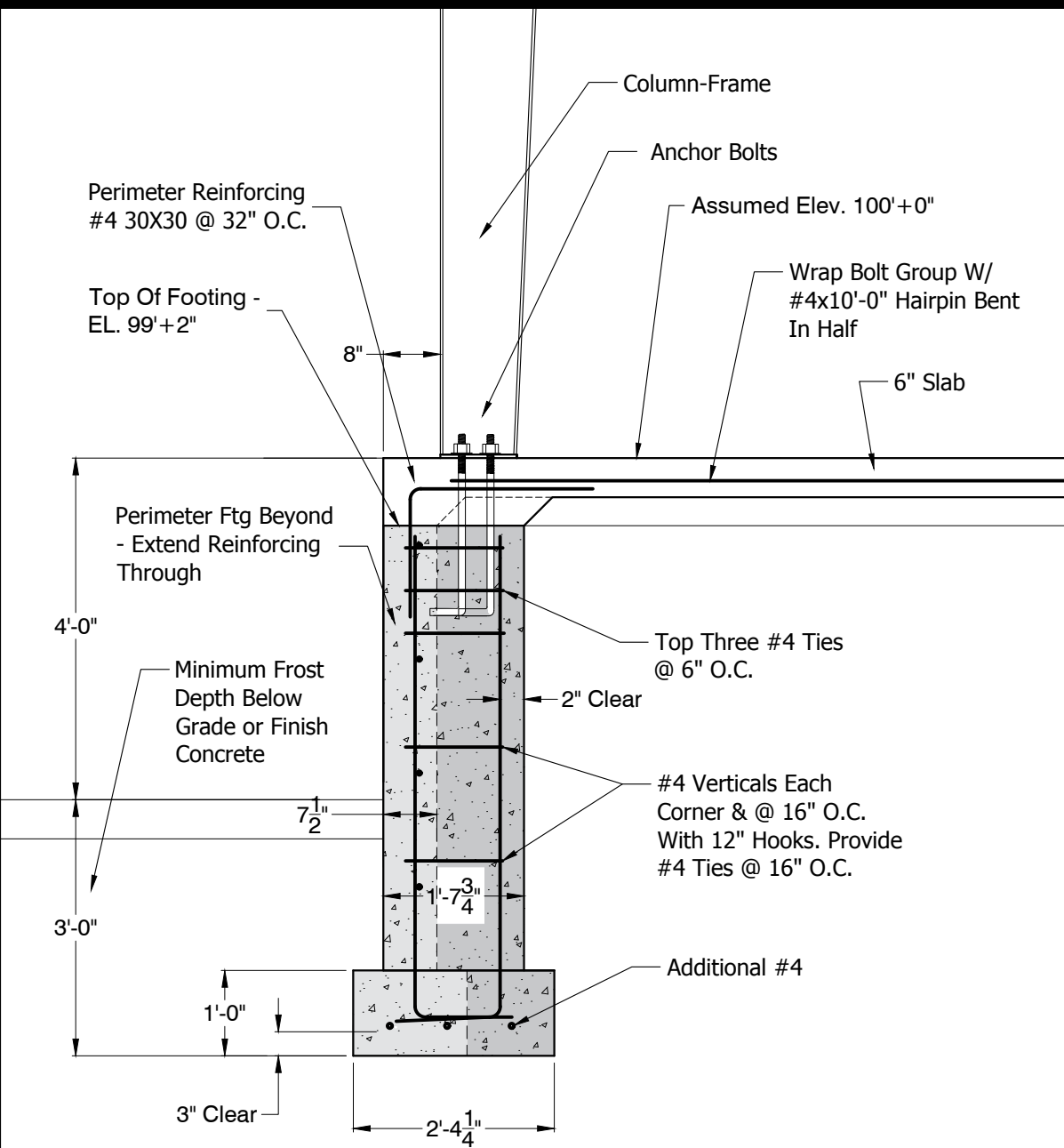
Issue:	Date:
Bid Set	6.22.23
Bid Set-Contractor Comments	8.31.23

Sheet Title:

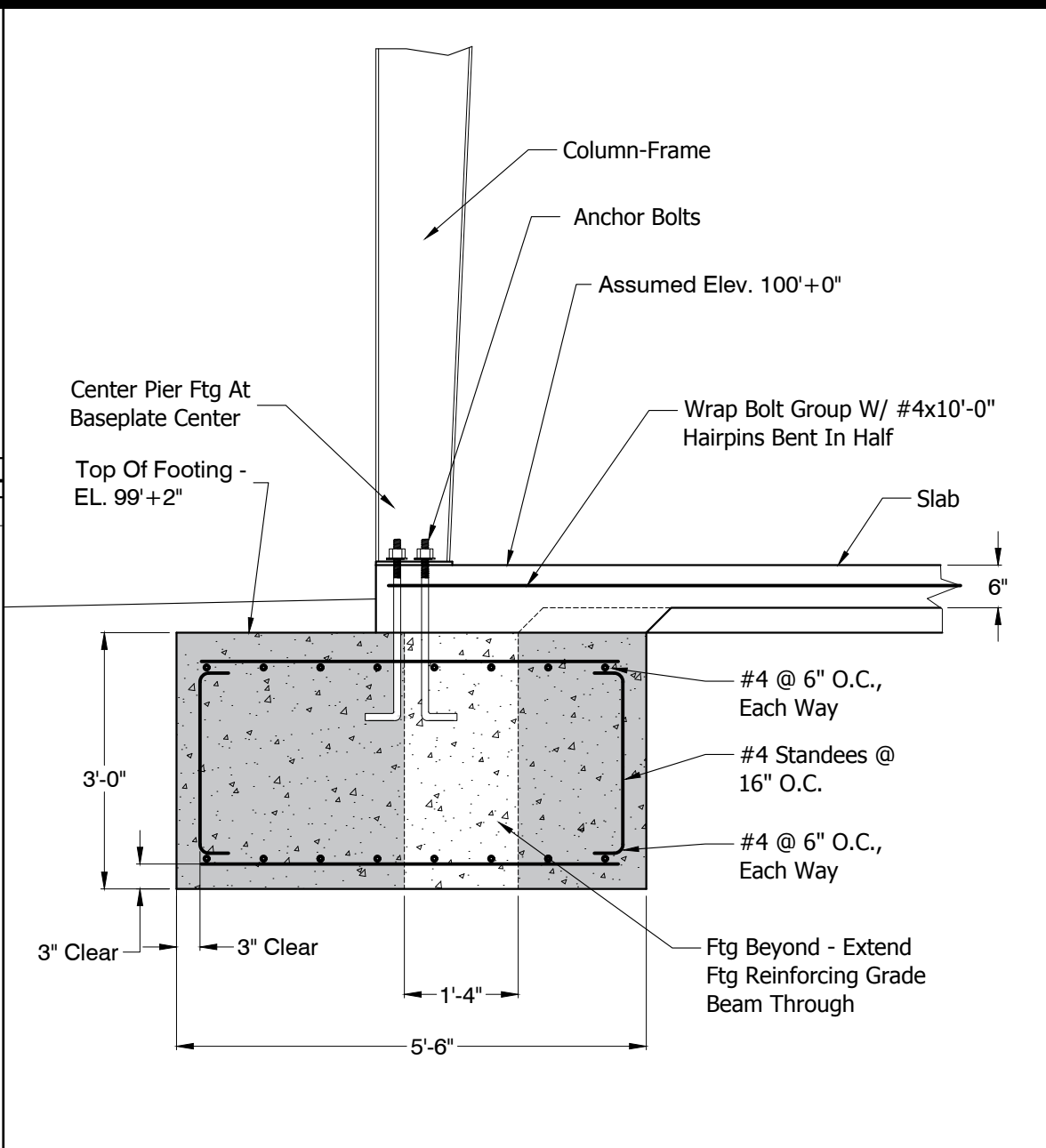
## FOUNDATION DETAILS

S6

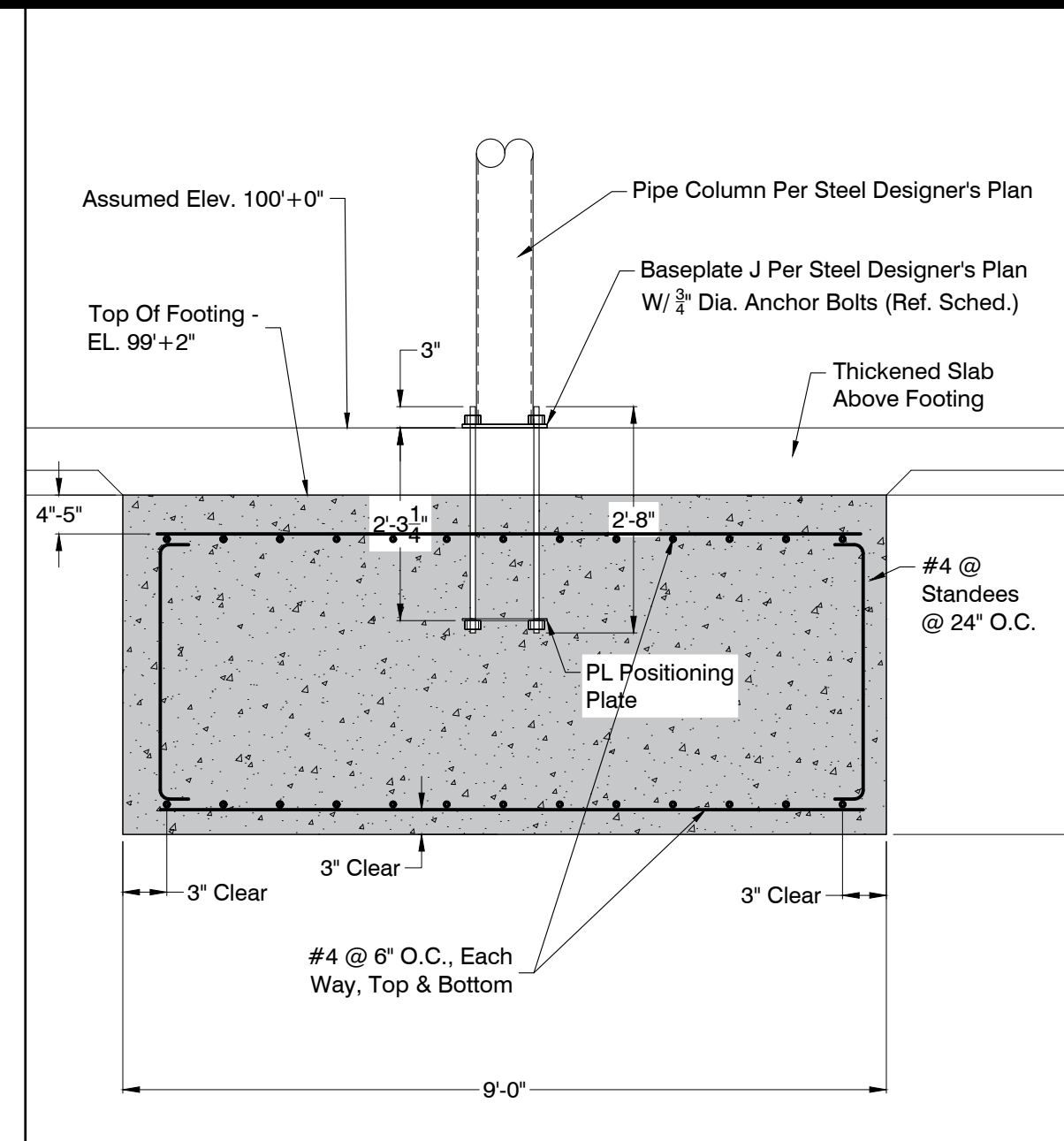




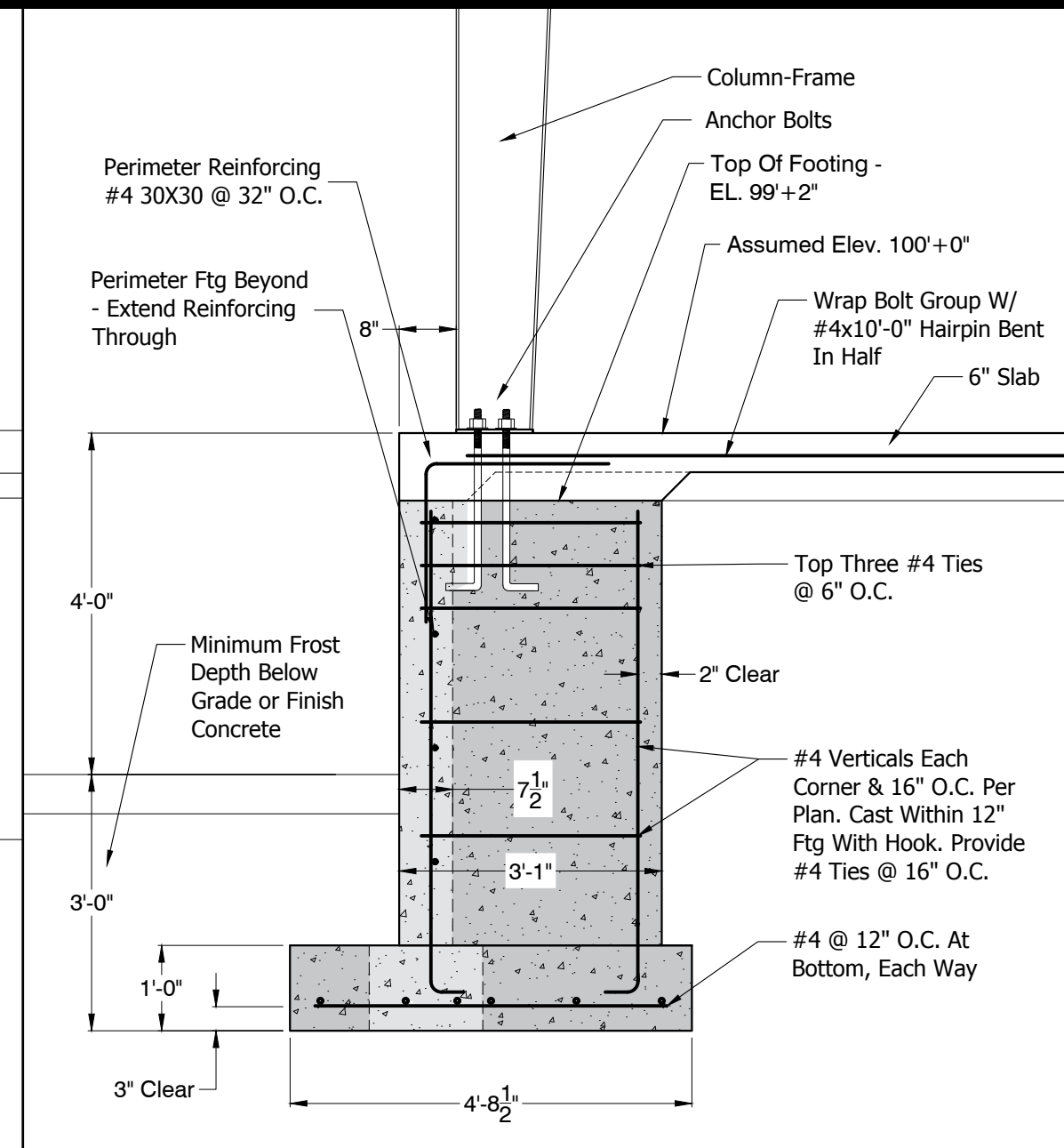
**C4** SMALL FORMED PIER AT GRID A  
SCALE: 1/2" = 1'-0"



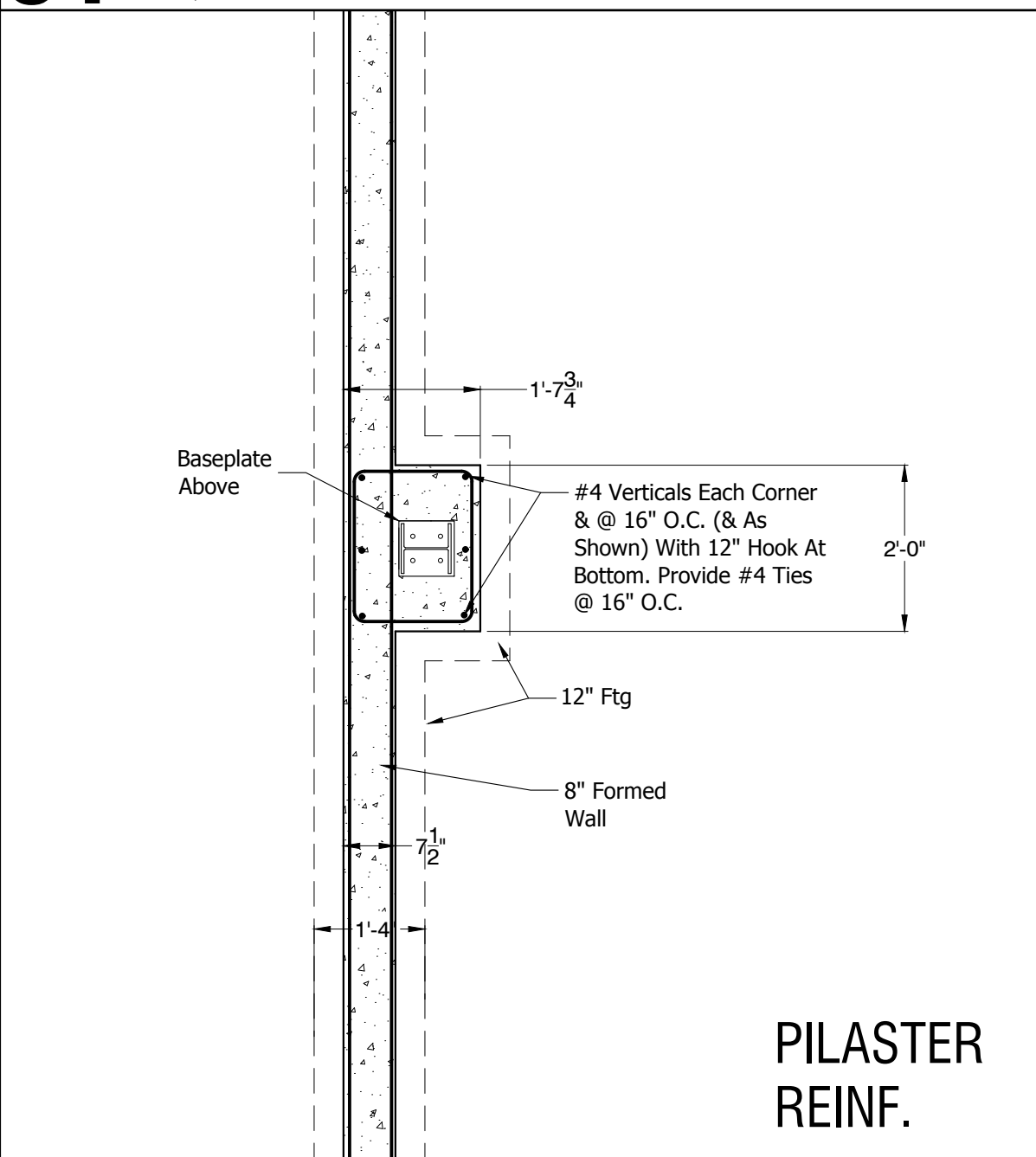
**C3** PIER FTG AT TRENCH - ALONG GRID F  
SCALE: 1/2" = 1'-0"



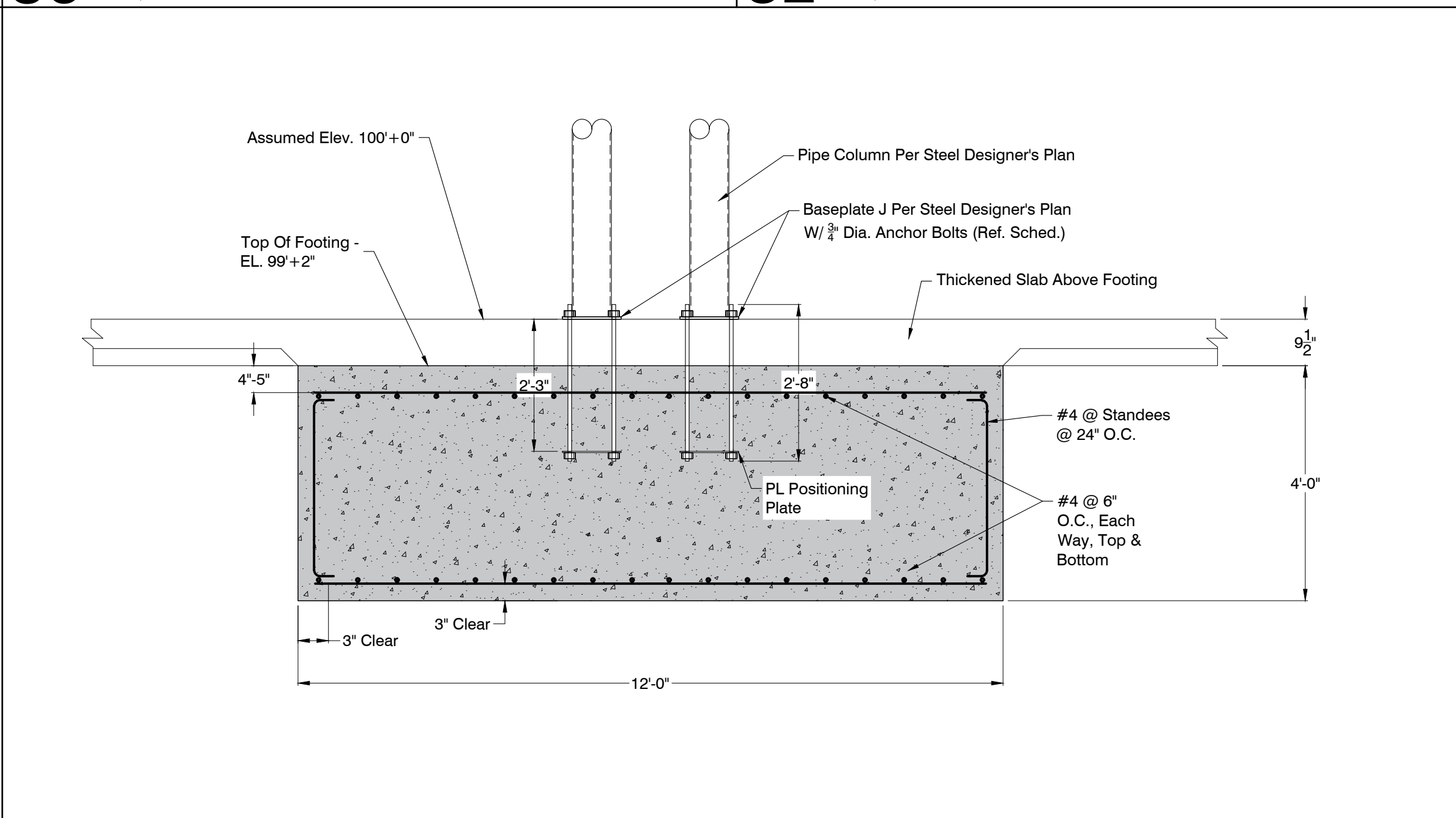
**C2** TYPICAL CENTER PIER FOOTING - GRID CD  
SCALE: 1/2" = 1'-0"



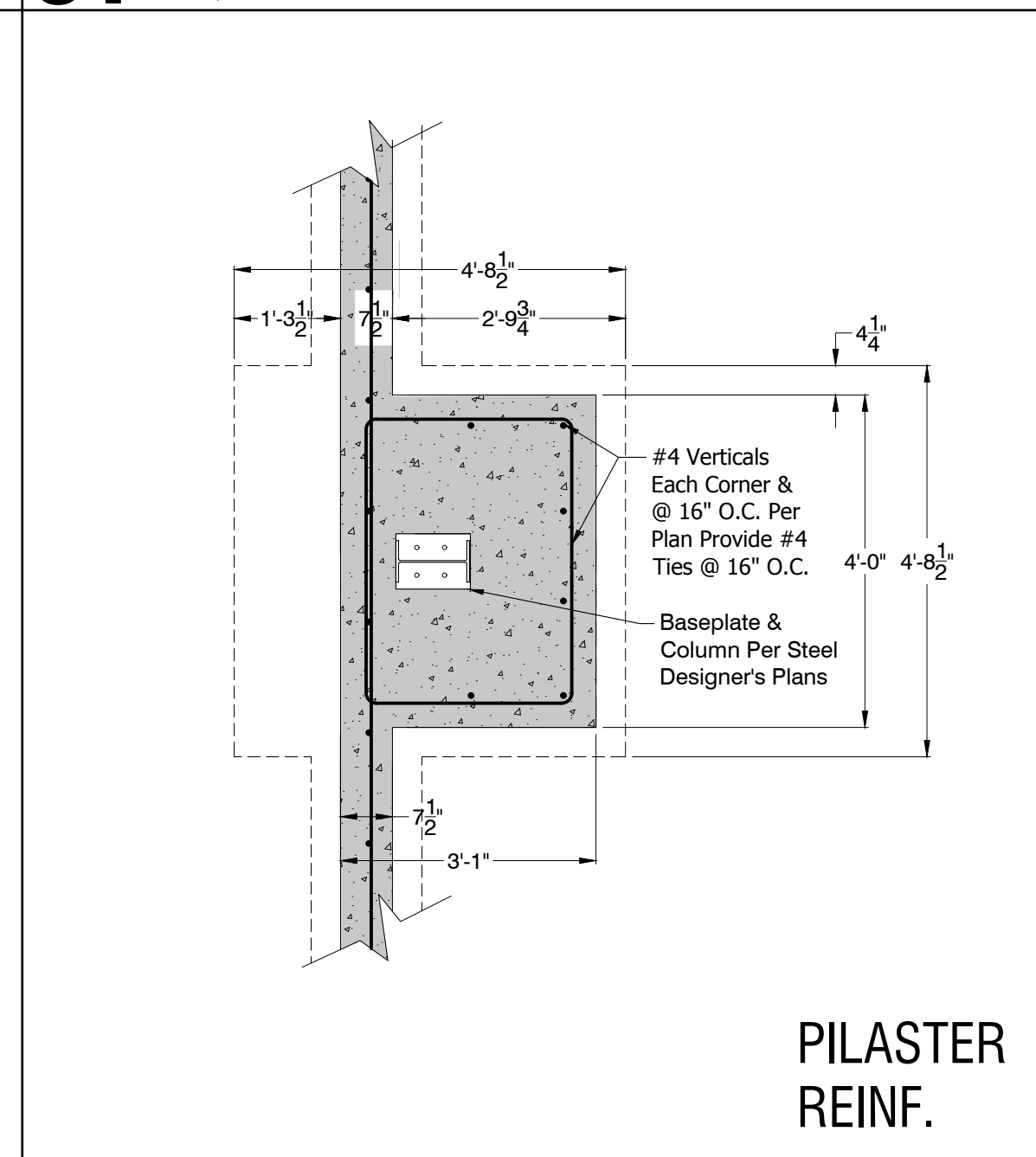
**C1** PIER FOOTING (Formed Wall) GRID A  
SCALE: 1/2" = 1'-0"



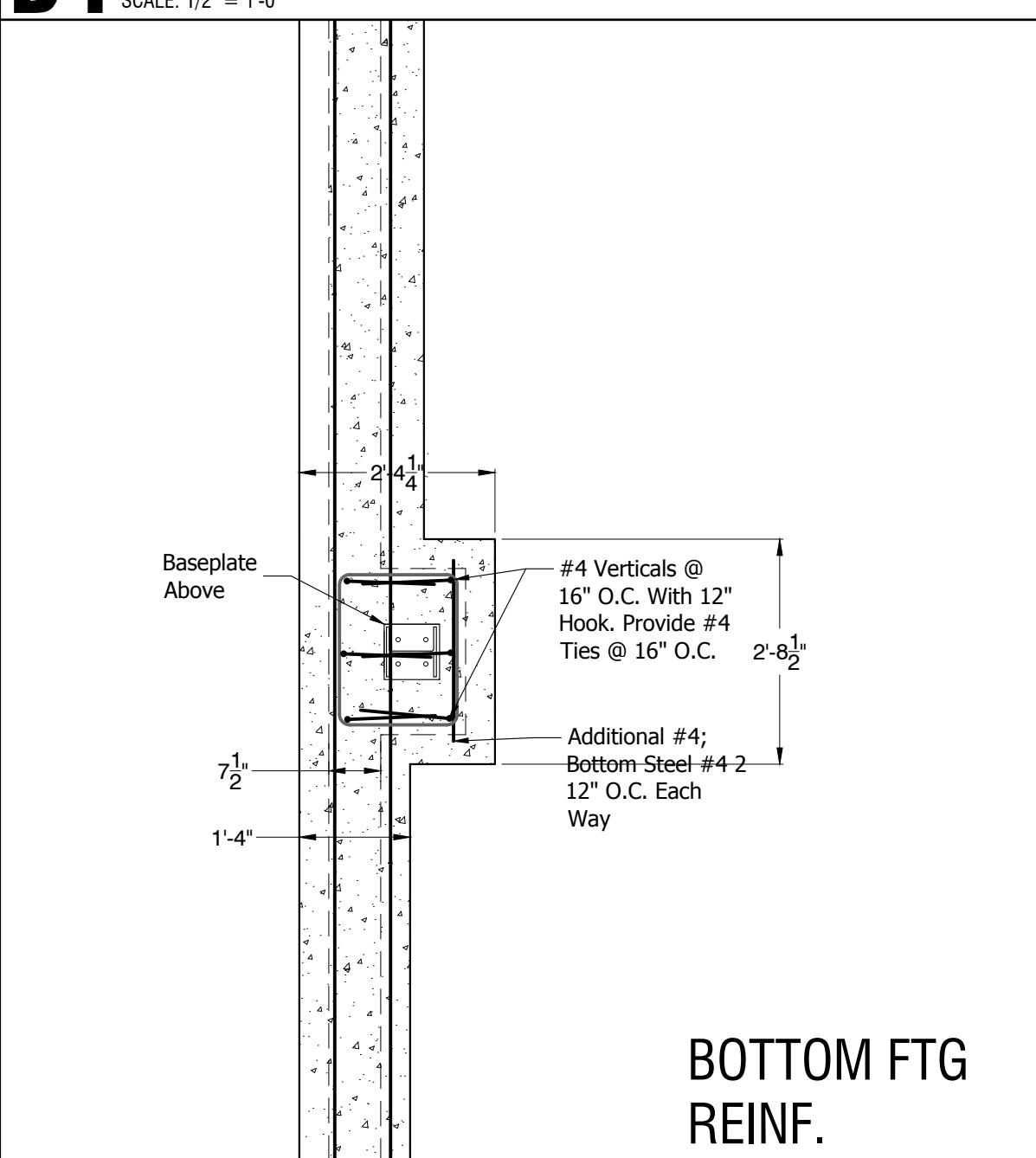
**B4** PLAN VIEW OF DET. C4/S7  
SCALE: 1/2" = 1'-0"



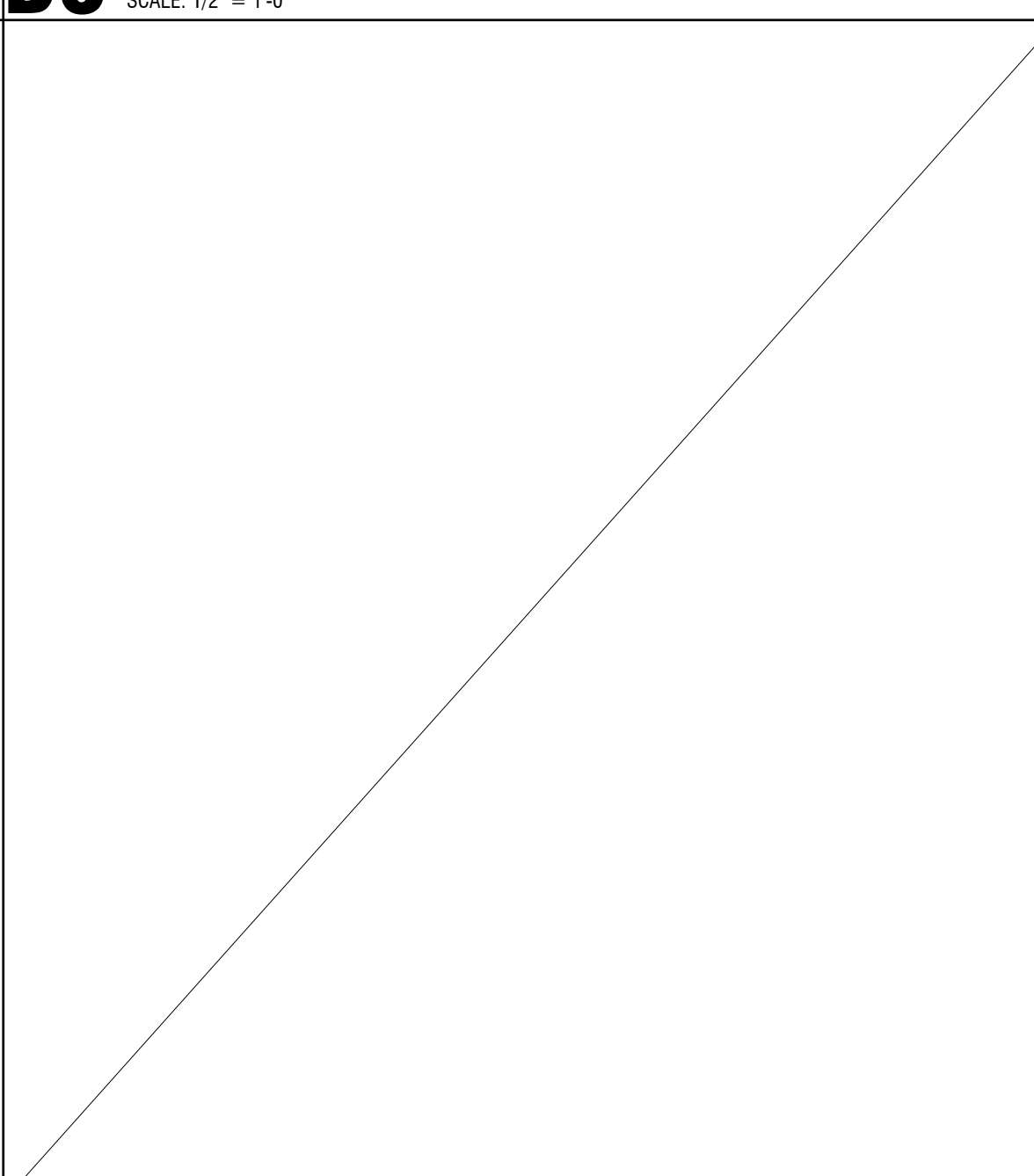
**B3** PIER AT GRIDS 17 C & D  
SCALE: 1/2" = 1'-0"



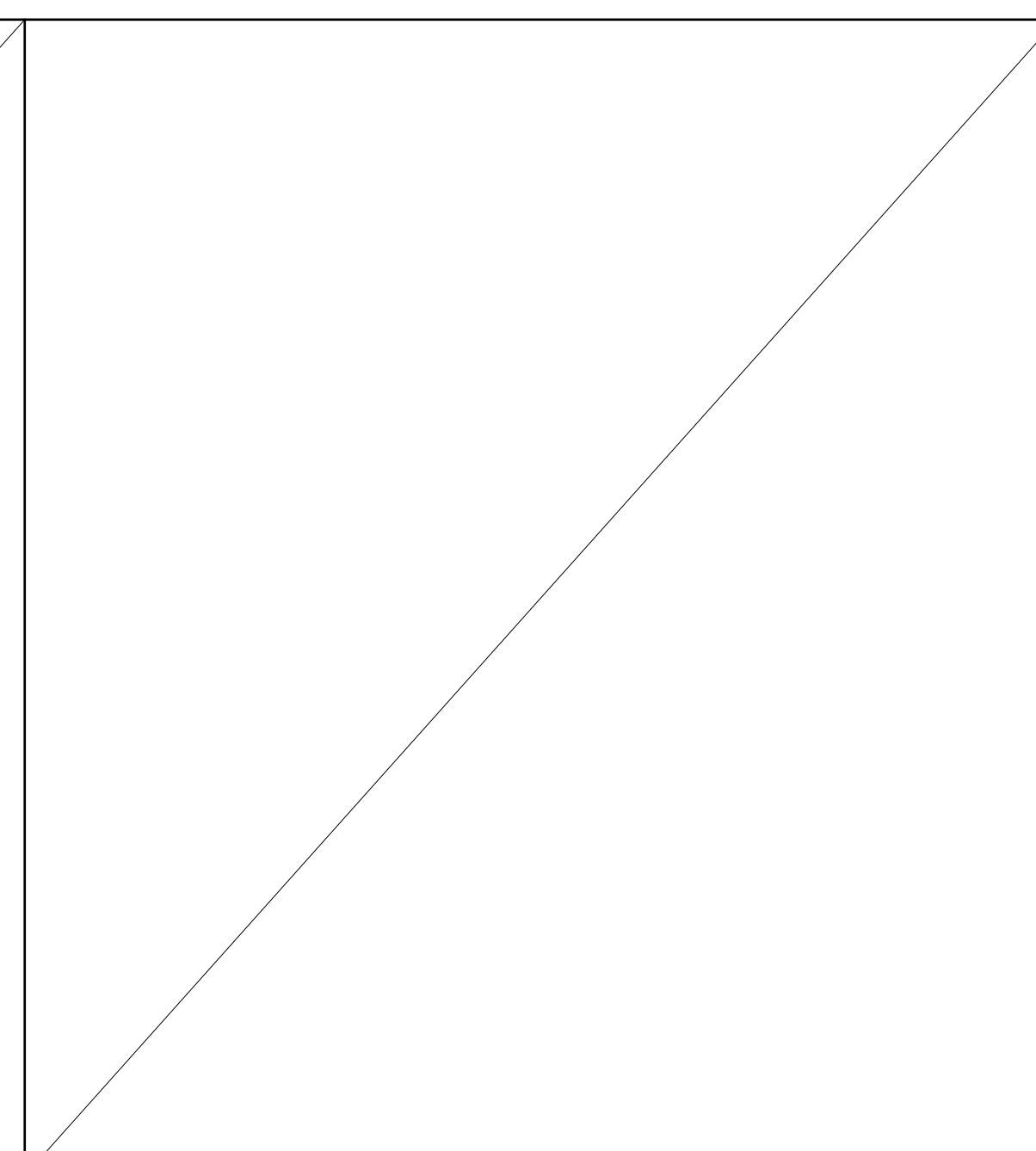
**B1** PLAN VIEW OF DETAIL C1/S7 PEDESTAL  
SCALE: 1/2" = 1'-0"



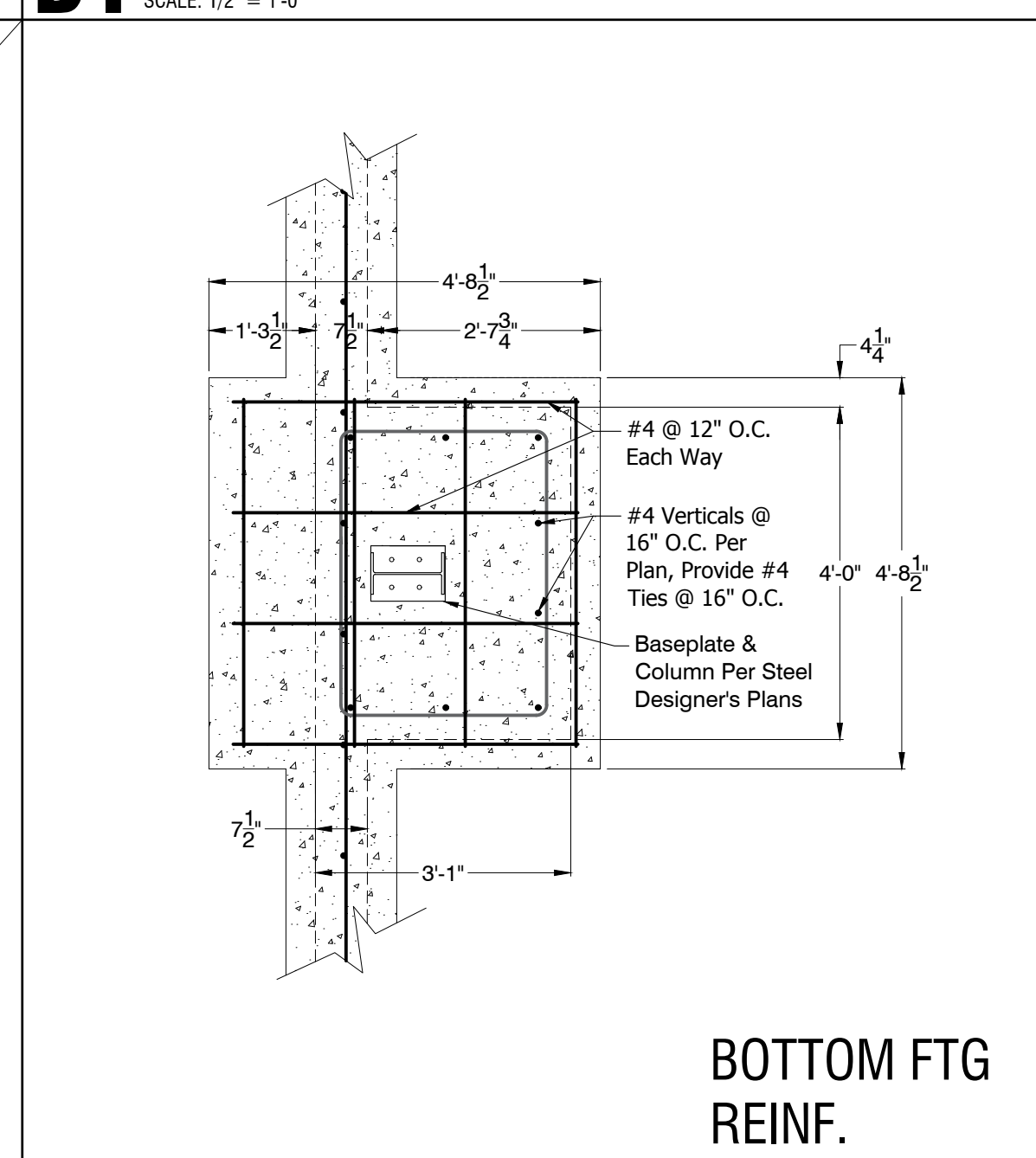
**A4** PLAN VIEW OF DET. C4/S7  
SCALE: 1/2" = 1'-0"



**A3** detail  
SCALE: 3/4" = 1'-0"



**A2** detail  
SCALE: 3/4" = 1'-0"



**A1** PLAN VIEW OF DET. C1/S7 PIER FOOTING  
SCALE: 1/2" = 1'-0"

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Seal:

Project Number: 2307  
Project Type: NEW CONSTRUCTION  
Project Name and Address: LAKEWOOD BUSINESS CENTER, LOT 1  
NE Maguire Blvd  
Lee's Summit, Missouri 64064

Issue: Date: 6.22.23  
Bid Set: 6.22.23  
Bid Set-Contractor Comments: 8.31.23

Sheet Title: FOUNDATION DETAILS

S7



## MECHANICAL SPECIFICATIONS

### 1. GENERAL PROVISIONS:

- PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE COMPLETE INSTALLATION OF THE MECHANICAL SYSTEMS OUTLINED.
- OBTAIN ALL PERMITS, FEES, LICENSES, INSPECTIONS, AND CERTIFICATIONS OF COMPLIANCE OR APPROVAL AS REQUIRED BY AUTHORITIES.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES AND REGULATIONS OF THE GOVERNMENTAL BODIES HAVING JURISDICTION OVER THE SITE.
- ALL TESTING REQUIRED BY AUTHORITIES SHALL BE CONSIDERED PART OF THIS WORK.
- DURING CONSTRUCTION, ALL FIXTURES, EQUIPMENT, PIPE, DUCT, ETC. SHALL BE COVERED, PLUGGED, OR CAPPED AS REQUIRED TO KEEP CLEAN AND UNDAMAGED. ALL DAMAGED ITEMS SHALL BE RESTORED TO ORIGINAL CONDITION OR REPLACED. ALL PROTECTIVE COVERING SHALL BE REMOVED BEFORE FINAL ACCEPTANCE.
- PROVIDE ALL NECESSARY CUTTING AND PATCHING OF WALLS, FLOORS, CEILINGS, AND ROOFS AS NECESSARY. PATCH AROUND ALL OPENINGS SHALL MATCH ADJACENT AREA. COORDINATE ALL ROOFING WORK WITH OWNER OR RESPONSIBLE PARTY, SO THAT THE EXISTING ROOFING WARRANTY WILL BE MAINTAINED.
- CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS AGAINST DEFECT FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE.
- INSPECTION OF THE SITE: THIS CONTRACTOR SHALL THOROUGHLY ACQUAINT HIMSELF WITH THE MEP DRAWINGS, SPECIFICATIONS, DETAIL, AND THE SITE. THIS CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY SPECIAL OR UNUSUAL PROBLEMS, CONFLICTS, OR OBSTRUCTIONS THAT AFFECT HIS BID.
- FOR THE PURPOSE OF CLEARNESS AND LEGIBILITY, THE MECHANICAL AND PLUMBING DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND DO NOT SHOW ALL OFFSETS AND FITTINGS REQUIRED FOR INSTALLATION. DO NOT SCALE DRAWINGS. THE SIZE AND LOCATION OF EQUIPMENT IS SHOWN TO SCALE WHEREVER POSSIBLE. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DATA AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATION SECTIONS WHERE MECHANICAL WORK INTERFACES WITH OTHER TRADES.
- IN THE EVENT OF A CONFLICT OR INCONSISTENCY BETWEEN ITEMS INDICATED ON THE PLANS OR WITH CODE REQUIREMENTS, THE NOTE OR CODE WHICH PRESCRIBES AND ESTABLISHES THE MORE COMPLETE JOB OR HIGHER STANDARD SHALL PREVAIL.
- INSTALL MATERIALS AND SYSTEMS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND APPROVED SUBMITTALS. INSTALL MATERIALS IN PROPER RELATION WITH ADJACENT CONSTRUCTION AND WITH UNIFORM APPEARANCE FOR EXPOSED WORK. COORDINATE WITH WORK OF OTHER SECTIONS. COMPLY WITH APPLICABLE REGULATIONS AND CODE REQUIREMENTS. PROVIDE PROPER CLEARANCES FOR SERVING.
- INCLUDE ALL BASIC MATERIALS AND CONSTRUCTION METHODS INCLUDING PIPES, PIPE FITTINGS, AND SPECIALTIES AND SUPPORTING DEVICES, VALVES, PIPE AND VALVE IDENTIFICATION, PUMPS, VIBRATION ISOLATION, ETC.
- FURNISH ADEQUATE ACCESS PANELS AND DOORS TO ALLOW FOR FUTURE PIPING ALTERATIONS, REPLACEMENT, AND MAINTENANCE OF PIPING. PROPERLY IDENTIFY ALL ACCESS PANELS AND DOORS.

### 2. OPERATION AND MAINTENANCE MANUALS:

- DURING THE COURSE OF CONSTRUCTION, COLLECT AND COMPILE OPERATING INSTRUCTIONS, WIRING DIAGRAMS, CATALOG CUTS, LUBRICATION AND PREVENTIVE MAINTENANCE INSTRUCTIONS, PARTS LISTS, ETC. FOR ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT.
- ALL LITERATURE AND INSTRUCTIONS SHIPPED WITH THE EQUIPMENT SHALL BE SAVED FOR INCLUSION IN THE OPERATING AND MAINTENANCE MANUALS.
- ALL LITERATURE LISTED ABOVE AND ALL PAPERS LISTING WARRANTIES, ETC. SHALL BE BOUND IN A 3-RING BINDER AND LABELED WITH THE PROJECT NAME, ADDRESS, ARCHITECT, ENGINEER AND CONTRACTORS.

### 3. MANUFACTURERS:

- MANUFACTURERS, MODEL NUMBERS, ETC. INDICATED OR SCHEDULED ON THE DRAWINGS SHALL BE INTERPRETED AS HAVING ESTABLISHED A STANDARD OF QUALITY AND SHALL NOT BE CONSTRUCTED AS LIMITING COMPETITION. ARTICLES, FIXTURES, ETC. OF EQUAL QUALITY BY MANUFACTURERS SHALL BE ACCEPTABLE, SUBJECT TO STRUCTURAL AND ELECTRICAL CONSTRAINTS OF THE PROJECT DESIGN.
- THE ELECTRICAL SYSTEM DESIGN IS BASED IN PART ON THE SPECIFIED EQUIPMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE ELECTRICAL REQUIREMENTS OF THE EQUIPMENT BEING FURNISHED. ANY CHANGES TO THE ELECTRICAL SYSTEM DUE TO HVAC EQUIPMENT OTHER THAN THE SPECIFIED EQUIPMENT BEING FURNISHED SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.

### 4. MOTORS:

- PROVIDE THERMAL OVERLOAD PROTECTION FOR EACH MOTOR PROVIDED BY THIS WORK.

### 5. PIPING

- CONDENSATE DRAIN AND INDIRECT WASTE (ABOVEGROUND)
  - PVC DWV PIPE, SCHEDULE 40, SOLVENT JOINT.
  - INSTALL AT 1/8" PER FOOT SLOPE.
- REFRIGERANT
  - ASTM B 280, TYPE ACR, HARD DRAWN STRAIGHT LENGTHS, AND SOFT-ANNEALED COILS, SEAMLESS COPPER TUBING.
  - WROUGHT COPPER, ANSI B16.22, STREAMLINED PATTERN, FITTINGS, BRAZED JOINTS, AWS A 5.8 CLASSIFICATION BAC-1 (SILVER).
  - TUBING TO BE FACTORY CLEANED, READY FOR INSTALLATION, AND HAVE ENDS CAPPED TO PROTECT CLEANLINESS OF PIPE INTERIORS PRIOR TO SHIPPING.
  - SIZE AND INSTALLATION OF PIPING SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

### 6. INSULATION AND DUCT LINING:

- ALL INSULATIONS AND ACCESSORIES SHALL HAVE A FIRE HAZARD CLASSIFICATION WITH A FLAME SPREAD RATING OF NOT OVER 25, A FUEL CONTRIBUTION RATING OF NOT OVER 50, AND A SMOKE DEVELOPMENT RATING OF NOT OVER 50, IN ACCORDANCE WITH NFPA.
- PIPE INSULATION (ABOVE GRADE):
  - THE PIPE INSULATION USED SHALL HAVE A THERMAL CONDUCTIVITY OF 0.27 BTU PER IN./HR\*SQ-FT\*F OR LESS.
  - FLEXIBLE CLOSED CELL ELASTOMERIC THERMAL INSULATION, UNSLIT OR PRESLIT WITH PRESSURE SENSITIVE ADHESIVE SYSTEM FOR CLOSURE AND VAPOR SEALING, EQUAL TO ARMSTRONG AP ARMATLEX OR ARMATLEX 2000.
- INSULATION SCHEDULE:
  - REFRIGERANT SUCTION: 1-1/2" FOR PIPING UP TO 1-1/2", 2" FOR PIPING 1-1/2" AND LARGER.
- DUCTWORK INSULATION:
  - DUCT COVERING: 3/4 LB/CF, FIBERGLASS BLANKET WITH FACTORY APPLIED VAPOR BARRIER AND FACING. THICKNESS AS SCHEDULED, INSTALLATION IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. DUCT COVERING SHALL BE MINIMUM R-6.
    - SUPPLY AIR DUCT: 2"
    - RETURN AIR DUCT: 2"

### 7. TESTING, BALANCING AND CLEANING:

- ALL PIPING SHALL BE TESTED FOR LEAKS BEFORE BEING CONCEALED IN WALL CONSTRUCTION OR COVERED WITH INSULATION.
- DUCTWORK AND PIPING SHALL BE BALANCED BY QUALIFIED BALANCING PERSONNEL WHO HAVE PREVIOUS EXPERIENCE WITH BALANCING PROCEDURES AND ARE FAMILIAR WITH TESTING AND BALANCING PROCEDURES OF THE ASSOCIATED AIR BALANCE COUNCIL (AABC) OR NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB).
  - BALANCING SHALL INCLUDE THE BALANCING OF THE EQUIPMENT AND AIR DISTRIBUTION SYSTEMS TO PROVIDE DESIGN QUANTITIES INDICATED AND VERIFICATION PERFORMANCE OF ALL EQUIPMENT AND AUTOMATIC CONTROLS.
  - WITH IN 30 DAYS OF THE COMPLETION OF THE TESTING AND BALANCING WORK, SUBMIT THE TEST AND BALANCING REPORT BEARING THE SIGNATURE OF THE TEST AND BALANCE ENGINEER. THE REPORTS SHALL BE CERTIFIED PROOF THAT THE SYSTEMS HAVE BEEN TESTED, ADJUSTED, AND BALANCED IN ACCORDANCE WITH THE REFERENCED STANDARDS; ARE AN ACCURATE REPRESENTATION OF HOW THE SYSTEMS HAVE BEEN INSTALLED AND ARE OPERATING. REPORTS SHALL BE BOUND IN A VINYL BINDER AND THE BINDER LABELLED OR MAY BE AN ELECTRONIC PDF SUBMITTAL.

### 8. DUCTWORK:

- ALL DUCTWORK UNLESS OTHERWISE INDICATED SHALL BE FABRICATED FROM GALVANIZED SHEET STEEL COMPLYING WITH ASTM A 527, LOCKFORMING QUALITY, WITH G60 ZINC COATING IN ACCORDANCE WITH ASTM A 525, AND MILL PHOSPHATIZED FOR EXPOSED LOCATIONS.
- DUCTWORK METAL GAUGES, REINFORCING, ETC SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS," LATEST EDITION FOR A 2" WATER GAUGE STATIC PRESSURE.
- ALL FITTINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS," LATEST EDITION.
- RECTANGULAR DUCT:
  - ELBOWS, UNLESS INDICATED OTHERWISE, SHALL BE CONSTRUCTED WITH CENTERLINE RADIUS OF NOT LESS THAN 1.5 DUCT WIDTH OR SQUARE ELBOWS WITH DOUBLE WALL STREAMLINE ELBOWS.
  - TAKE-OFF FITTINGS: BRANCH DUCT TAKE-OFF FITTINGS FOR SUPPLY AND EXHAUST DIFFUSER/REGISTERS SHALL INCLUDE AN INTEGRAL MANUAL VOLUME DAMPER WITH LOCKING QUADRANT, DAMPER NOT REQUIRED ON RETURN AIR. FOR RECTANGULAR TO ROUND TAKE-OFFS, UTILIZE A "BUCKLEY" MODEL 3300 & 3300D OR EQUAL.
  - RETURN AIR ACOUSTIC ELBOWS AND SOUND BOOTS SHALL BE A SQUARE ELBOW WITH NO TURNING VANES.
  - SLOPES FOR TRANSITIONS OR OTHER CHANGES IN DIMENSIONS SHALL BE A MINIMUM 1 TO 3.
- ROUND DUCT (SEE INSULATION SECTION FOR SPIRAL DUCT):
  - PROVIDE RADIUS TYPE FITTINGS FABRICATED OF MULTIPLE SECTIONS WITH MAXIMUM 15 DEGREE CHANGE OF DIRECTION PER SECTION. UNLESS SPECIFICALLY DETAILED OTHERWISE, USE 45 DEGREE LATERALS FOR BRANCH TAKEOFF CONNECTIONS. WHERE 90 DEGREE BRANCHES ARE INDICATED PROVIDE CONICAL TYPE TEES.
  - SLOPES FOR TRANSITIONS OR OTHER CHANGES IN DIMENSIONS SHALL BE MINIMUM 1 TO 3.
  - ROUND LONGITUDINAL SEAM DUCT: USE FOR RIGID METAL DUCT ON LEAVING SIDE OF DUCT IN CONCEALED LOCATIONS FOR EXTENSION TO FLEX FOR DIFFUSERS.
- SEAL ALL CONCEALED DUCTWORK JOINTS WITH NON-HARDENING, NON-MIGRATING MASTIC SEALANT, AS RECOMMENDED FOR SEALING SEAMS AND JOINTS IN DUCTWORK. OIL BASED CAULKING AND GLAZING COMPOUNDS SHALL NOT BE ACCEPTABLE. DUCTS SHALL BE SEALED TO THE CLASS LEVEL LISTED BELOW:
  - UNCONDITIONED SPACES: CLASS B CLASS C CLASS B
  - CONDITIONED SPACES (PLENUM): CLASS C CLASS B CLASS C

- G. DUCT SIZES SHOWN ON THE DRAWINGS ARE SHEET METAL SIZES. INCREASE SHEET METAL SIZES ACCORDINGLY TO ACCOUNT FOR THICKNESS OF DUCT LINER.

- WHETHER SHOWN ON PLANS OR NOT, PROVIDE MANUAL VOLUME DAMPERS IN EACH RUNOUT TO EACH SUPPLY DIFFUSER OR REGISTER. PROVIDE ACCESS PANELS TO DAMPERS LOCATED ABOVE HARD CEILINGS.
- PROVIDE AUXILIARY STEEL AS REQUIRED TO ADEQUATELY SUPPORT DUCTWORK.
- WHERE DUCTS PASS THROUGH FIRE-RATED FLOORS, WALLS, OR PARTITIONS, PROVIDE FIRESTOPPING BETWEEN DUCT AND WALL.
- WHERE DUCTS PASS THROUGH INTERIOR PARTITIONS OR EXTERIOR WALLS, AND ARE EXPOSED TO VIEW, CONCEAL SPACE BETWEEN OPENING AND DUCT OR DUCT INSULATION WITH SHEET METAL FLANGES OF SAME GAUGE AS DUCT. OVERLAP OPENING ON 4 SIDES BY AT LEAST 1-1/2". FASTEN TO DUCT AND WALL.

### 9. FLEXIBLE DUCT:

- ATCO #086 (R-6), OR EQUAL.
- FACTORY APPLIED INSULATION AND VAPOR BARRIER, 1-1/2" THICK.
- MAXIMUM LENGTH OF 6'-0".

### 10. FLUES AND ACCESSORIES:

- PROVIDE MANUFACTURER'S STANDARD ACCESSORY ITEMS INCLUDING BIRD PROOF TOP, STORM COLLAR, ROOF THIMBLE, ETC. AS REQUIRED FOR A COMPLETE INSTALLATION. ROOF THIMBLES THROUGH THE BUILDING ROOF SHALL BE SUITABLE FOR USE WITH THE ROOF PROVIDED.
- FLUES FOR HEATERS SHALL BE DOUBLE WALL TYPE B EQUAL TO METALBESTOS. PROVIDE MANUFACTURER'S STANDARD FITTING AND ACCESSORIES (ROOF THIMBLE, STORM COLLAR, COUNTER FLASHING, ETC.) AS REQUIRED FOR A COMPLETE INSTALLATION.

### 11. EXHAUST FANS:

- CENTRIFUGAL CEILING EXHAUSTERS SHALL BE ELECTRICALLY POWERED CENTRIFUGAL TYPE FAN SUITABLE FOR MOUNTING IN THE CEILING WITH A PERFORATED OFF-WHITE METAL GRILLE WITH A THUMBSCREW ATTACHMENT FOR EASY ACCESS TO FAN HOUSING. UNIT SHALL CONSIST OF A GALVANIZED STEEL INSULATED LINED WITH ACOUSTICAL INSULATION AND SHALL INCLUDE AN INTEGRAL BACKDRAFT DAMPER ON FAN DISCHARGE. MOTOR SHALL BE A PERMANENT SPLIT-CAPACITOR TYPE MOTOR, PERMANENTLY LUBRICATED WITH THERMAL OVERLOAD PROTECTION. PROVIDE DISCONNECT SWITCH OR OTHER MEANS OF DISCONNECT AT MOTOR IN FAN HOUSING.

### 12. FURNACE AND CONDENSING UNIT:

- CONDENSING FURNACES:
  - GAS FIRED FURNACE SHALL BE FACTORY ASSEMBLED, PRE-WIRED UNIT CONSISTING OF SHEETMETAL CASING, SUPPLY FAN, GAS FIRED HEAT EXCHANGER, AND CONTROLS. CAPACITY SHALL BE AS SCHEDULED.
  - THE PRIMARY HEAT EXCHANGER SHALL BE ALUMINIZED STEEL CONSTRUCTION WITH A STAINLESS STEEL SECONDARY HEAT EXCHANGER.
  - THE FURNACE SHALL BE OF THE CONDENSING TYPE, UTILIZING A SEALED COMBUSTION CHAMBER. UNIT SHALL INCLUDE FINNED CAST IRON HEAT EXCHANGER, ALUMINIZED STEEL EXHAUST DECOUPLER SECTION AND FINNED STAINLESS STEEL TUBE CONDENSER SECTION.
  - THE UNIT SHALL BE EQUIPPED WITH THE MANUFACTURER'S STANDARD CONTROLS INCLUDING 24V CONTROL TRANSFORMER, AUTOMATIC SPARK IGNITION, AUTOMATIC GAS VALVE TRAIN, HIGH TEMPERATURE LIMIT SWITCH, AND FAN TIMED DELAY RELAY.
  - RETURN AIR INLET ON UNIT SHALL BE PROVIDED WITH 1" THROWAWAY TYPE FILTER AND SLIDE IN FRAME, MOUNTED ON THE UNIT.
  - FAN SHALL BE A DIRECT DRIVE MULTI-SPEED BLOWER, RESILIENTLY MOUNTED IN THE CASING. MOTOR SHALL BE PROVIDED WITH AUTOMATIC THERMAL OVERLOAD PROTECTION.
  - FURNACE SHALL BE AGA APPROVED.
- CONDENSING UNIT SHALL BE FACTORY ASSEMBLED AND TESTED AIR-COOLED CONDENSING UNIT CONSISTING OF COMPRESSOR, CONDENSER COIL, FAN, MOTOR, REFRIGERANT RESERVOIR, OPERATING CONTROLS, ETC. CAPACITY AND ELECTRICAL CHARACTERISTICS SHALL BE AS SCHEDULED.
  - COMPRESSOR: HERMETICALLY SEALED WITH BUILT-IN OVERLOADS AND VIBRATION ISOLATION. COMPRESSOR MOTOR SHALL HAVE THERMAL AND CURRENT SENSITIVE OVERLOAD DEVICES, INTERNAL HIGH PRESSURE PROTECTION, HIGH AND LOW PRESSURE CUTOUT SWITCHES, START CAPACITOR AND RELAY, 2-POLE CONTACTOR, CRANKCASE HEATER, AND TEMPERATURE ACTUATED SWITCH AND TIMER TO PREVENT COMPRESSOR RAPID CYCLE.
  - COIL SHALL BE COPPER TUBING WITH ALUMINUM FINS. COMPLETE WITH LIQUID ACCUMULATOR AND LIQUID SUBCOOLER. UNIT SHALL INCLUDE FILTER DRYER, SIGHT GLASS, COMPRESSOR SERVICE VALVE, LIQUID LINE SERVICE VALVE, AND REFRIGERANT PIPING EXTENDED TO EXTERIOR OF CASING.

### 13. ELECTRIC WALL HEATERS

- UNIT SHALL INCLUDE ELECTRIC HEATING ELEMENTS WITH SAFETY AND DISCONNECT DEVICES AS REQUIRED BY NEC, INCLUDING RELAYS, CONTROLLERS AND REQUIRED EQUIPMENT TO FORM A COMPLETE AND FUNCTIONAL HEATER.
- ELEMENTS SHALL BE HEAVY DUTY ALUMINUM-FINNED, COPPER CLAD STEEL SHEATH. PROVIDE AUTOMATIC RESET THERMAL OVER-HEAT PROTECTION. THERMAL PROTECTOR SHALL BE LINEAR TYPE TO SENSE TEMPERATURES THE ENTIRE LENGTH OF HEATING ELEMENT.
- FANS SHALL BE DIRECT DRIVE USING PERMANENT SPLIT CAPACITOR TYPE MOTORS WITH BUILT-IN AUTOMATIC RESET MOTOR OVERLOAD PROTECTION.
- FURNISH INTEGRAL FAN DELAY SWITCH TO PREVENT DISCHARGE OF COLD AIR, BY DELAYING START-UP OF THE FAN MOTOR UNTIL HEATING ELEMENTS HAVE WARMED UP. FAN DELAY SWITCH SHALL MAINTAIN MOTOR OPERATION AFTER HEATING ELEMENTS HAVE BEEN DE-ENERGIZED TO DISSIPATE ANY RESIDUAL HEAT.

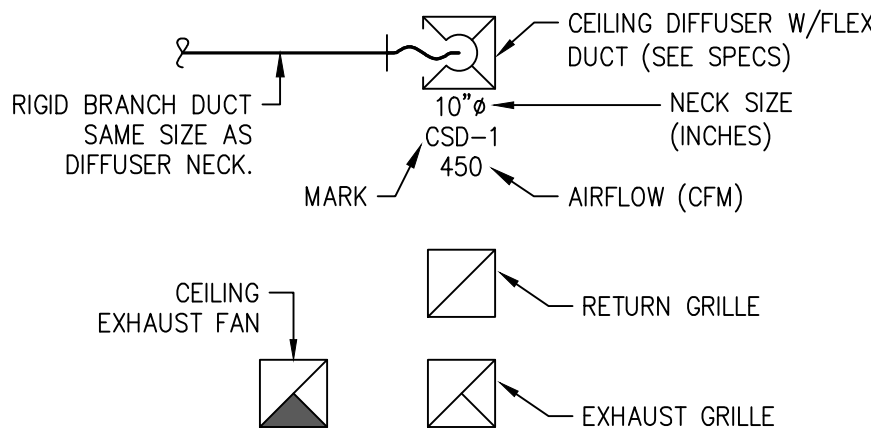
## MECHANICAL SYMBOLS

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS, ETC, ARE NECESSARILY USED ON THE DRAWINGS.

### HVAC EQUIPMENT & DUCTWORK

- |  |  |
|--|--|
|  | SPIN-IN FITTING WITH MANUAL VOLUME DAMPER                                    |
|  | BRANCH DUCT WITH 45° RECTANGLE-ROUND BRANCH FITTING AND MANUAL VOLUME DAMPER |
|  | ELBOW WITH TURNING VANES   |
|  | RETURN, EXHAUST, OR OUTSIDE AIR DUCT UP                                      |
|  | RETURN, EXHAUST, OR OUTSIDE AIR DUCT DOWN                                    |
|  | SUPPLY AIR DUCT UP   |
|  | SUPPLY AIR DUCT DOWN   |
|  | EQUIPMENT WITH FLEXIBLE DUCT CONNECTION                                      |
|  | MANUAL VOLUME DAMPER   |
|  | SQUARE TO ROUND TRANSITION   |
|  | DUCT TRANSITION  |
|  | BRANCH DUCT  |
|  | DUCT MOUNTED SMOKE DETECTOR  |

- |  |                   |  |                        |
|--|-------------------|--|------------------------|
|  | FIRE DAMPER       |  | CARBON DIOXIDE SENSOR  |
|  | FIRE SMOKE DAMPER |  | HUMIDITY SENSOR        |
|  | SMOKE DAMPER      |  | STATIC PRESSURE SENSOR |
|  | MOTORIZED DAMPER  |  | TEMPERATURE SENSOR     |
|  | BACKDRAFT DAMPER  |  | HUMIDISTAT             |
|  | VOLUME DAMPER     |  | THERMOSTAT             |



### ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	MC	MECHANICAL CONTRACTOR
BAS	BUILDING AUTOMATION SYSTEM	MIN	MINIMUM
BD	BACKDRAFT	NC	NOISE CRITERIA
CFM	CUBIC FEET PER MINUTE	OA	OUTSIDE AIR
DDC	DIRECT DIGITAL CONTROL	RA	RETURN AIR
DX	DIRECT EXPANSION	SA	SUPPLY AIR
EA	EXHAUST AIR	SD	SMOKE DUCT DETECTOR
FFA	FROM FLOOR ABOVE	TFA	TO FLOOR ABOVE
FFB	FROM FLOOR BELOW	TFB	TO FLOOR BELOW
GPM	GALLONS PER MINUTE	TYP	TYPICAL
IN WC	INCHES OF WATER COLUMN	UNO	UNLESS NOTED OTHERWISE
MAX	MAXIMUM	W/	WITH
MBH	1000 BTU PER HOUR	W/O	WITHOUT

### STANDARD MOUNTING HEIGHTS

(AFF, UNLESS NOTES OTHERWISE)	
THERMOSTATS (USER ADJUSTABLE) (TOP OF DEVICE)	48"
CONTROLS (TOP OF DEVICE)	48"

### ANNOTATION

- |  |  |
|--|--|
|  | PLAN WORK NOTE   |
|  | MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE) |
|  | CONNECTION POINT OF NEW WORK TO EXISTING   |
|  | DETAIL REFERENCE UPPER NUMBER INDICATED DETAIL NUMBER<br>LOWER NUMBER INDICATES SHEET NUMBER |
|  | SECTION CUT DESIGNATION  |

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Seal:



Project Number: 23-015

Project Type: NEW CONSTRUCTION

Project Name and Address:

LAKWOOD BUSINESS CENTER,  
LOT 1  
NE Maguire Blvd.  
Lee's Summit, Missouri 64064

Issue:	Date:
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Sheet Title:

MECHANICAL  
SPECIFICATIONS  
AND SYMBOLS

M-001



GAS FURNACE SCHEDULE																			
GENERAL DATA					HEATING					FAN DATA				ELECTRICAL					
TAG	BASIS OF DESIGN MFR/MODEL	FLOW DIRECTION	WEIGHT (LBS)	DIMENSIONS (WxDxH)	OUTSIDE AIR (CFM)	INPUT (BTUH)	OUTPUT (BTUH)	AFUE	VENT	TYPE	HP	CFM	ESP (IN WG)	VOLT	PHASE	HZ	MOCp	MCA	NOTES
F-1	LENNOX / EL296UH070XV36B	HORIZONTAL	136	29.25x33x17.5	0	66,000	62,000	96	CONCENTRIC	VARIABLE	1/2	840	0.5	120	1	60	15	7.7	A,B,C,D,E
NOTES:																			
A. EXTERNAL STATIC PRESSURE LISTED REPRESENTS STATIC PRESSURE REQUIRED FOR DUCTWORK AND DIFFUSERS OUTSIDE THE HVAC UNIT COMPLETELY INDEPENDENT OF ANY PRESSURE DROP THROUGH THE HVAC EQUIPMENT INCLUDING FILTER AND COIL.																			
B. PROVIDE UNIT WITH 7-DAY PROGRAMMABLE HEAT/COOL/AUTO CHANGEOVER MULTISTAGE THERMOSTAT.																			
C. PROVIDE MANUFACTURER'S CONCENTRIC VENT KIT. SIZE AND INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS WHILE ADHERING TO LENGTH AND FITTING LIMITATIONS.																			
D. PROVIDE END RETURN FILTER KIT.																			
E. ADJUST FACTORY DEFAULT SETTINGS TO LIMIT BLOWER SPEED TO 840 CFM.																			

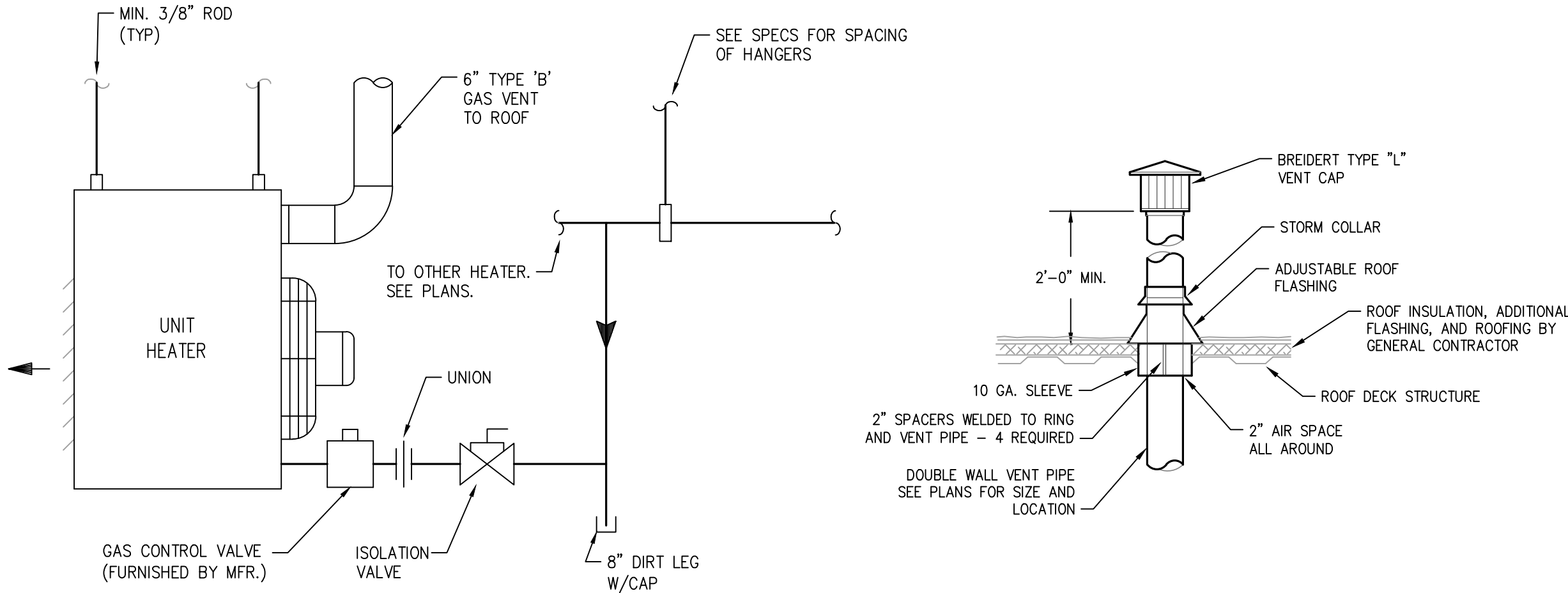
CONDENSING UNIT SCHEDULE													
GENERAL DATA						ELECTRICAL				COOLING COIL & MISC.			NOTES
TAG	BASIS OF DESIGN MFR/MODEL	LOCATION	WEIGHT (LBS)	DIMENSIONS (WxDxH) (IN.)	NOMINAL CAP. (MBH)	VOLT	PHASE	HZ	MOCp	MCA	REFR.	EVAP COIL MODEL #	
CU-1	LENNOX / XC20-024-230	ROOF	243	35.5x39.5x39	24	208	1	60	30	19.1	R410A	CH35-24B-2F	A,B,C
<b>NOTES:</b> A. PROVIDE TIME DELAY ON COMPRESSOR RE-START KIT, CRANKCASE HEATER, AND COMPRESSOR LOCK-OUT WITH AMBIENT BELOW 35F. B. MECHANICAL CONTRACTOR SHALL COORDINATE ALL UNIT MOCp'S OF ACTUAL INSTALLED EQUIPMENT WITH ELECTRICAL CONTRACTOR. C. PROVIDE MIN. 4" TALL PRE-MANUFACTURED POLYOLEFIN PAD.													

EXHAUST FAN SCHEDULE											
MARK	AREA SERVED	MANUFACTURER OR APPROVED EQUAL	MODEL	MOUNTING LOCATION	CFM	ESP (IN)	DRIVE	HP	ELECTRICAL		NOTES
EF-1	RESTROOM	PANASONIC	FV-0511VK2	CEILING / CABINET	110	0.375	DIRECT	9.9 W	VOLTS	PHASE	WEIGHT
<b>NOTES:</b> A. INSTALL EXHAUST FAN PER MANUFACTURER'S WRITTEN INSTRUCTIONS. B. INTERLOCK FAN OPERATION WITH LIGHT SWITCH. C. PROVIDE GRAVITY BACKDRAFT DAMPER AND INTERGRAL DISCONNECT.											

GAS UNIT HEATER SCHEDULE									
PLAN MARK	MANUFACTURER OR APPROVED EQUAL	MODEL	CFM	MOTOR HP	INPUT (MBH)	OUTPUT (MBH)	EFF.	ELECTRICAL	REMARKS
UH-1	MODINE	HD	1,980	1/8	125	102.5	83.00%	115V/1PH	1,2
<b>REMARKS:</b> 1. PROVIDE WITH UNIT-MOUNTED THERMOSTAT, CONTROL TRANSFORMER, 30 DEGREE DISCHARGE HOOD. 2. PROVIDE WITH INTEGRAL FUSED DISCONNECT.									

ELECTRIC UNIT HEATER SCHEDULE							
MARK	MANUFACTURER OR APPROVED EQUAL	MODEL	WEIGHT	CFM	KW	VOLTAGE/PH	REMARKS
EH-1	QMARK	MUH0371	27 LBS	350	3	277/1	1,2
<b>REMARKS:</b> 1. PROVIDE WALL MOUNT BRACKET. MOUNT 10' AFF. 2. PROVIDE WITH INTEGRAL THERMOSTAT AND DISCONNECT.							

DIFFUSER, REGISTER AND GRILLE SCHEDULE							
MARK	MANUFACTURER	MODEL	FACE TYPE	MOUNTING TYPE	FACE SIZE (IN.)	MAX NC	NOTES
<b>SUPPLY</b>							
CSD-1	TITUS	OMNI	PLAQUE FACE	LAY-IN	24x24	25	A,B,C
CSD-2	TITUS	TDC	LOUVERED	SURFACE	12.5x12.5	25	A,B,C
<b>RETURN</b>							
CRG-1	TITUS	SOF	EGGCRATE	LAY-IN	24x24	25	A,B,C,D
<b>NOTES:</b> A. NECK SIZE SHOWN ON DRAWINGS. B. BAKED ENAMEL FINISH, WHITE C. FRAME TYPE TO MATCH CEILING CONSTRUCTION, COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLAN. D. PAINT THE INSIDE OF CANS FLAT BLACK.							



## GAS FIRED UNIT HEATER

SCALE : NO SCALE

1

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Project Number: 23-015

Project Type: NEW CONSTRUCTION

Project Name and Address:

LAKWOOD BUSINESS CENTER,  
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MECHANICAL  
SCHEDULES  
AND DETAILS

M-002





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Project Type: NEW CONSTRUCTION  
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**LAKEWOOD BUSINESS CENTER,  
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Sheet Title:

PARTIAL  
MECHANICAL PLAN  
- WEST  
**M-101**



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Project Type: NEW CONSTRUCTION

Project Name and Address

LAKEWOOD BUSINESS CENTER, LOT 1	NE Maguire Blvd. Lee's Summit, Missouri 64064
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Sheet Title:

PARTIAL  
MECHANICAL PLAN  
- CENTER

M-102





# KEYED PLAN NOTES

- 6" DIA FLUE THROUGH ROOF. COORDINATE PENETRATION THROUGH ROOF AND ROOFING MEMBRANE WITH ROOFING CONTRACTOR SO NOT TO VOID ROOF WARRANTY. SEAL ROOF PENETRATION WEATHERTIGHT.
- UNIT HEATER THERMOSTAT MOUNTED AT 54" AFF. ROUTE ALL CONTROL WIRING IN 3/4" CONDUIT DOWN COLUMN. MOUNT ON NORTH/SOUTH SIDE OF COLUMN.
- GAS FIRED UNIT HEATER, LOCATED 10' FROM COLUMN. SUPPORT FROM OVERHEAD STRUCTURE AS REQUIRED. PROVIDE ANY SUPPLEMENTAL STEEL REQUIRED.

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Project Number: 23-015

Project Type: NEW CONSTRUCTION

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LOT 1  
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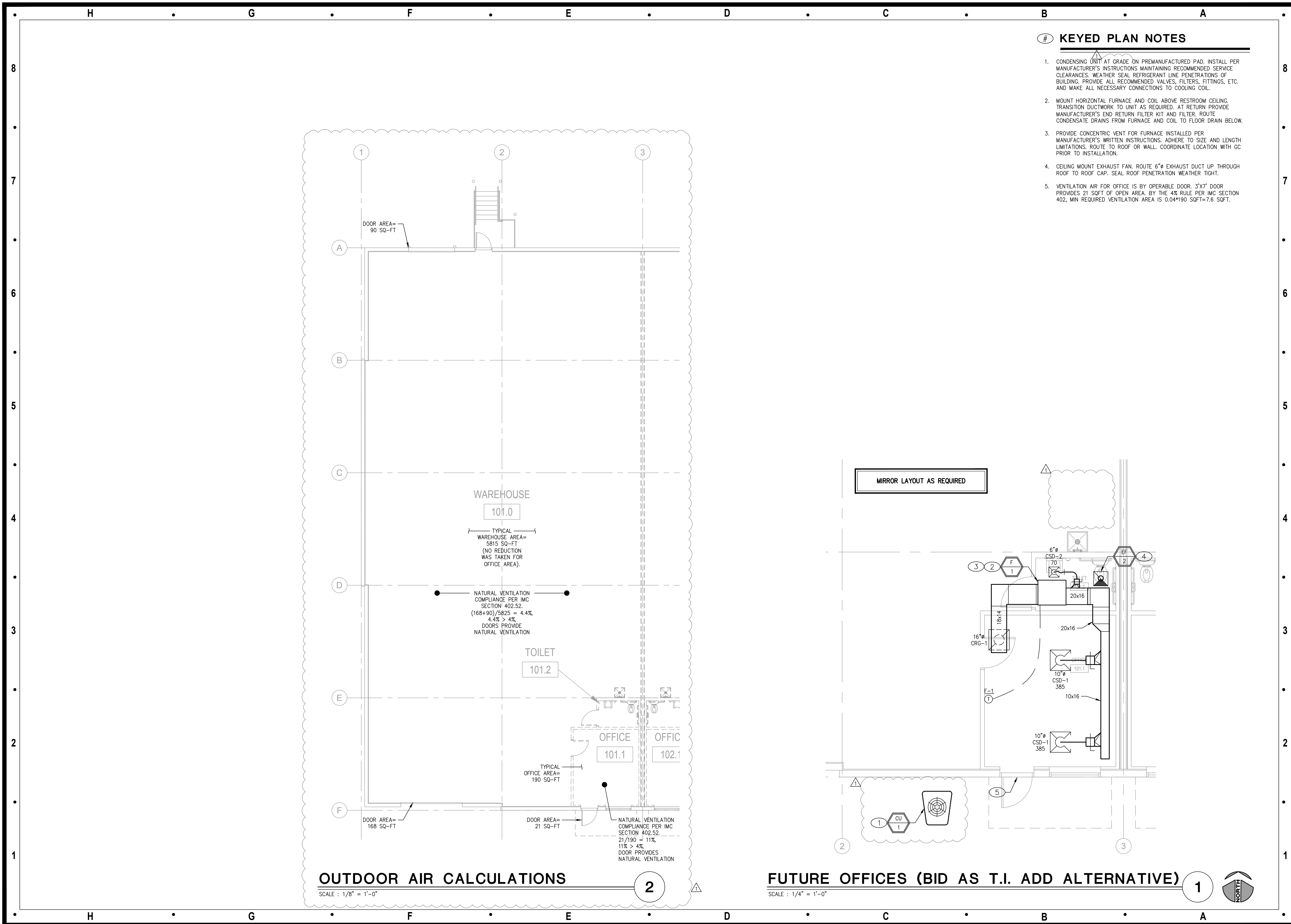
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Sheet Title:

PARTIAL  
MECHANICAL PLAN  
- EAST

M-103





# KEYED PLAN NOTES

1. CONDENSING UNIT AT GRADE ON PREMANUFACTURED PAD. INSTALL PER MANUFACTURER'S INSTRUCTIONS MAINTAINING RECOMMENDED SERVICE CLEARANCES. WEATHER SEAL REFRIGERANT LINE PENETRATIONS OF BUILDING. PROVIDE ALL RECOMMENDED VALVES, FILTERS, FITTINGS, ETC. AND MAKE ALL NECESSARY CONNECTIONS TO COOLING COIL.
2. MOUNT HORIZONTAL FURNACE AND COIL ABOVE RESTROOM CEILING. TRANSITION DUCTWORK TO UNIT AS REQUIRED. AT RETURN PROVIDE MANUFACTURER'S END RETURN FILTER KIT AND FILTER. ROUTE CONDENSATE DRAINS FROM FURNACE AND COIL TO FLOOR DRAIN BELOW.
3. PROVIDE CONCENTRIC VENT FOR FURNACE INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS. ADHERE TO SIZE AND LENGTH LIMITATIONS. ROUTE TO ROOF OR WALL. COORDINATE LOCATION WITH GC PRIOR TO INSTALLATION.
4. CEILING MOUNT EXHAUST FAN. ROUTE 6" EXHAUST DUCT UP THROUGH ROOF TO ROOF CAP. SEAL ROOF PENETRATION WEATHER TIGHT.
5. VENTILATION AIR FOR OFFICE IS BY OPERABLE DOOR. 3'X7' DOOR PROVIDES 21 SQFT OF OPEN AREA. BY THE 4% RULE PER IMC SECTION 402, MIN REQUIRED VENTILATION AREA IS 0.04\*190 SQFT=7.6 SQFT.

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02-08-2024

Project Number: 23-015  
Project Type: NEW CONSTRUCTION  
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Sheet Title:

ENLARGED  
MECHANICAL PLAN

M-104

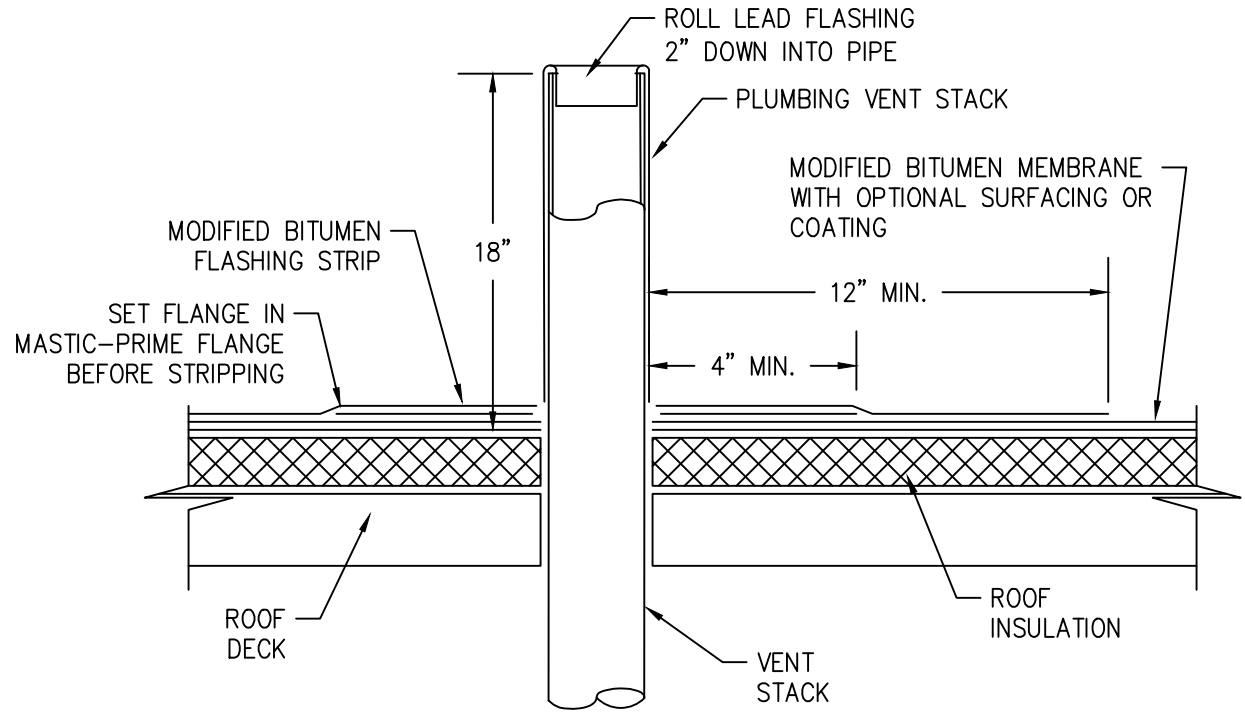


PLUMBING SPECIFICATIONS	
<p>1. GENERAL PROVISIONS:</p> <p>A. PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE COMPLETE INSTALLATION OF THE PLUMBING SYSTEMS OUTLINED.</p> <p>B. OBTAIN ALL PERMITS, FEES, LICENSES, INSPECTIONS, AND CERTIFICATIONS OF COMPLIANCE OR APPROVAL AS REQUIRED BY AUTHORITIES.</p> <p>C. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES AND REGULATIONS OF THE GOVERNMENTAL BODIES HAVING JURISDICTION OVER THE SITE.</p> <p>D. ALL TESTING REQUIRED BY AUTHORITIES SHALL BE CONSIDERED PART OF THIS WORK.</p> <p>E. DURING CONSTRUCTION, ALL FIXTURES, EQUIPMENT, PIPE, DUCT, ETC. SHALL BE COVERED, PLUGGED, OR CAPPED AS REQUIRED TO KEEP CLEAN AND UNDAMAGED. ALL DAMAGED ITEMS SHALL BE RESTORED TO ORIGINAL CONDITION OR REPLACED. ALL PROTECTIVE COVERING SHALL BE REMOVED BEFORE FINAL ACCEPTANCE.</p> <p>F. PROVIDE ALL NECESSARY CUTTING AND PATCHING OF WALLS, FLOORS, CEILINGS, AND ROOFS AS NECESSARY. PATCH AROUND ALL OPENINGS SHALL MATCH ADJACENT AREA. COORDINATE ALL ROOFING WORK WITH OWNER OR RESPONSIBLE PARTY, SO THAT THE EXISTING ROOFING WARRANTY WILL BE MAINTAINED.</p> <p>G. CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS AGAINST DEFECT FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE.</p> <p>H. INSPECTION OF THE SITE: THIS CONTRACTOR SHALL THOROUGHLY ACQUAINT HIMSELF WITH THE MEP DRAWINGS, SPECIFICATIONS, DETAIL, AND THE SITE. THIS CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY SPECIAL OR UNUSUAL PROBLEMS, CONFLICTS, OR OBSTRUCTIONS THAT AFFECT HIS BID.</p> <p>I. FOR THE PURPOSE OF CLEARNESS AND LEGIBILITY, THE MECHANICAL AND PLUMBING DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND DO NOT SHOW ALL OFFSETS AND FITTINGS REQUIRED FOR INSTALLATION. DO NOT SCALE DRAWINGS. THE SIZE AND LOCATION OF EQUIPMENT IS SHOWN TO SCALE WHEREVER POSSIBLE. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DATA AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATION SECTIONS WHERE MECHANICAL WORK INTERFACES WITH OTHER TRADES.</p> <p>J. IN THE EVENT OF A CONFLICT OR INCONSISTENCY BETWEEN ITEMS INDICATED ON THE PLANS OR WITH CODE REQUIREMENTS, THE NOTE OR CODE WHICH PRESCRIBES AND ESTABLISHES THE MORE COMPLETE JOB OR HIGHER STANDARD SHALL PREVAIL.</p> <p>K. INSTALL MATERIALS AND SYSTEMS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND APPROVED SUBMITTALS. INSTALL MATERIALS IN PROPER RELATION WITH ADJACENT CONSTRUCTION AND WITH UNIFORM APPEARANCE FOR EXPOSED WORK. COORDINATE WITH WORK OF OTHER SECTIONS. COMPLY WITH APPLICABLE REGULATIONS AND CODE REQUIREMENTS. PROVIDE PROPER CLEARANCES FOR SERVISING.</p> <p>L. INCLUDE ALL BASIC MATERIALS AND CONSTRUCTION METHODS INCLUDING PIPES, PIPE FITTINGS, AND SPECIALTIES AND SUPPORTING DEVICES, VALVES, PIPE AND VALVE IDENTIFICATION, PUMPS, VIBRATION ISOLATION, ETC.</p> <p>M. FURNISH ADEQUATE ACCESS PANELS AND DOORS TO ALLOW FOR FUTURE PIPING ALTERATIONS, REPLACEMENT, AND MAINTENANCE OF PIPING. PROPERLY IDENTIFY ALL ACCESS PANELS AND DOORS.</p>	<p>5. PIPING</p> <p>A. DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING (ABOVEGROUND).</p> <p>1. TYPE L HARD DRAWN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERED FITTINGS.</p> <p>2. GATE VALVE: CRANE #428 OR EQUAL.</p> <p>3. GLOBE VALVE: CRANE #7 OR EQUAL.</p> <p>4. BALL VALVE: CRANE #932 OR EQUAL.</p> <p>B. DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING, 1"-3" (UNDERGROUND).</p> <p>1. TYPE K HARD OR SOFT DRAWN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERING FITTINGS.</p> <p>2. HDPE, PIGMENT BLUE THROUGHOUT, CTS SIZES: 2" AWWA C901 4710 DR9 PC250, IPS SIZES: AWWA C901 4710 DR11 PC200.</p> <p>C. DOMESTIC COLD WATER AND FIRE WATER, 3" OR LARGER (UNDERGROUND).</p> <p>1. DUCTILE IRON PIPE AND FITTINGS, AWWA C151, CLASS 50, CEMENT LINING, SEALCOATED, AWWA C104, THRUST BLOCKS IN ACCORDANCE WITH NFPA 24.</p> <p>2. HDPE IPS SIZES PIGMENTED BLUE THROUGHOUT, 3" AWWA C901 4710 DR11 PC200, 4" AND LARGER AWWA C906 3408/4710 DR15.5 PC160. STIFFENERS MUST BE USED IN THE ENDS OF THE HDPE, APPROVED TRACE WIRE MUST BE USED.</p> <p>D. SANITARY SEWER AND VENTS (UNDERGROUND, INTERIOR TO BUILDING).</p> <p>1. WASTE, DRAIN AND VENT PIPE AND FITTINGS, THROUGHOUT THE BUILDING BELOW THE BASE SLAB TO THE LOCATIONS NOTED OUTSIDE OF THE BUILDING SHALL BE ASTM D2665 POLYVINYL CHLORIDE (PVC) DWV PIPE, SCHEDULE 40, SOLVENT JOINT.</p> <p>2. SEWER LINES SHALL BE LOCATED IN GENERAL AS SHOWN ON THE DRAWINGS. THE EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR IN SUCH A MANNER AS TO MAINTAIN PROPER CLEARANCES AND SUFFICIENT SLOPE TO ENSURE DRAINAGE.</p> <p>3. VENT STACKS SHALL BE EXTENDED FULL SIZE THROUGH THE ROOF AND FLASHED WITH 4 POUND LEAD SHEETS TURNED DOWN INTO THE STACK AT LEAST 2" AND EXTENDED 12" IN ALL DIRECTIONS FROM THE PIPE AT THE ROOF LINE. VENTS THROUGH ROOF SHALL NOT BE LESS THAN 3". PVC PIPING SHALL NOT BE USED FOR VENT PIPING THROUGH THE ROOF. WHERE APPLICABLE FOR ROOFING SYSTEM USED, PROVIDE FLASHING VIA PLEATED EPDM CONE IN LIEU OF LEAD. ALL VENT STACKS IN OR AT OUTSIDE WALLS SHALL BE OFFSET 1'-6" MINIMUM FROM OUTSIDE WALLS BEFORE GOING THROUGH THE ROOF, TO FACILITATE FLASHING.</p> <p>E. NATURAL GAS PIPING:</p> <p>1. SCHEDULE 40 BLACK STEEL PIPING; 2" AND SMALLER WITH SCREWED JOINTS AND 150 LB. MALLEABLE IRON SCREWED FITTINGS. PIPE 2-1/2" AND LARGER SHALL USE STANDARD WEIGHT BLACK STEEL WELDING FITTINGS WITH WELDED JOINTS.</p> <p>2. GAS VALVES SHALL BE ROCKWELL 142/143, PLUG VALVE.</p> <p>3. SUPPORT PIPING AT INTERVALS NOT TO EXCEED THOSE LISTED IN TABLE 415.1 OF THE I.F.G.C.</p> <p>4. PROVIDE A.G.A. APPROVED SHUT OFF VALVES AND DIRT LEGS AT CONNECTIONS TO ALL EQUIPMENT.</p> <p>5. ALL ELEVATED PRESSURE GAS PIPING (GREATER THAN 14" W.C.) SHALL BE LABELED EVERY 40' WITH SIGNS INDICATING "ELEVATED PRESSURE."</p> <p>F. ALL PIPE HANGERS AND SUPPORTS SHALL BE STANDARD PRODUCTS OF GRINNELL, FEE AND MASON, OR ANVIL. HANGER SPACING SHALL BE IN ACCORDANCE WITH MSS-SP-69.</p>
<p>2. OPERATION AND MAINTENANCE MANUALS:</p> <p>A. DURING THE COURSE OF CONSTRUCTION, COLLECT AND COMPILE OPERATING INSTRUCTIONS, WIRING DIAGRAMS, CATALOG CUTS, LUBRICATION AND PREVENTIVE MAINTENANCE INSTRUCTIONS, PARTS LISTS, ETC. FOR ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT.</p> <p>B. ALL LITERATURE AND INSTRUCTIONS SHIPPED WITH THE EQUIPMENT SHALL BE SAVED FOR INCLUSION IN THE OPERATING AND MAINTENANCE MANUALS.</p> <p>C. ALL LITERATURE LISTED ABOVE AND ALL PAPERS LISTING WARRANTIES, ETC. SHALL BE BOUND IN A 5-RING BINDER AND LABELED WITH THE PROJECT NAME, ADDRESS, ARCHITECT, ENGINEER AND CONTRACTORS.</p>	<p>6. TESTING, BALANCING AND CLEANING:</p> <p>A. ALL PIPING SHALL BE TESTED FOR LEAKS BEFORE BEING CONCEALED IN WALL CONSTRUCTION OR COVERED WITH INSULATION.</p> <p>B. SEWER AND VENT PIPING SHALL BE HYDROSTATICALLY TESTED WITH NO LESS THAN 10 FEET OF HEAD FOR A PERIOD OF NOT LESS THAN 15 MINUTES, PER THE LOCAL PLUMBING CODE, WITH NO LEAKS.</p> <p>C. DOMESTIC WATER PIPING SHALL BE HYDROSTATICALLY TESTED AT A PRESSURE OF NOT LESS THAN 1-1/2 TIMES THE OPERATING PRESSURE, BUT NOT LESS THAN 60 PSI, FOR A PERIOD OF NOT LESS THAN 2 HOURS, WITH NO LEAKS.</p> <p>D. NATURAL GAS SYSTEMS SHALL BE TESTED WITH COMPRESSED AIR AT A PRESSURE OF NOT LESS THAN 1-1/2 TIMES THE OPERATING PRESSURE , BUT NOT LESS THAN 50 PSIG FOR A PERIOD OF 2 HOURS WITH NO LEAKS.</p>
<p>3. MANUFACTURERS:</p> <p>A. MANUFACTURERS, MODEL NUMBERS, ETC. INDICATED OR SCHEDULED ON THE DRAWINGS SHALL BE INTERPRETED AS HAVING ESTABLISHED A STANDARD OF QUALITY AND SHALL NOT BE CONSTRUED AS LIMITING COMPETITION. ARTICLES, FIXTURES, ETC. OF EQUAL QUALITY BY MANUFACTURERS SHALL BE ACCEPTABLE, SUBJECT TO STRUCTURAL AND ELECTRICAL CONSTRAINTS OF THE PROJECT DESIGN.</p> <p>B. THE ELECTRICAL SYSTEM DESIGN IS BASED IN PART ON THE SPECIFIED EQUIPMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE ELECTRICAL REQUIREMENTS OF THE EQUIPMENT BEING FURNISHED. ANY CHANGES TO THE ELECTRICAL SYSTEM DUE TO HVAC EQUIPMENT OTHER THAN THE SPECIFIED EQUIPMENT BEING FURNISHED SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.</p>	
<p>4. PLUMBING:</p> <p>A. PROVIDE AN APPROVED WATER HAMMER ARRESTOR FOR EACH PLUMBING FIXTURE SUPPLY AS REQUIRED BY FIXTURE MANUFACTURER.</p> <p>B. ALL EXPOSED PIPE IN FINISHED AREAS SHALL BE CHROME PLATED BRASS PIPE, NO FERROUS PIPE.</p> <p>C. PROVIDE CLEANOUTS AT EACH CHANGE IN DIRECTION AND AT 100 FOOT INTERVALS IN STRAIGHT RUNS.</p> <p>D. PROVIDE ACCESS PANELS FOR ALL CONCEALED VALVES AND TRAPS.</p> <p>E. CLEANOUTS:</p> <p>1. VINYL TILE FLOOR (FCO):JR SMITH #4140, OR EQUAL.</p> <p>2. QUARRY TILE FLOOR (FCO):JR SMITH #4200, OR EQUAL.</p> <p>3. CARPETED FLOOR (FCO):JR SMITH #4020-Y, OR EQUAL.</p> <p>4. UNFINISHED FLOOR (FCO):JR SMITH #4020, OR EQUAL.</p> <p>5. WALL (WCO):JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR.</p> <p>6. GRADE (GCO):JR SMITH #4256, OR EQUAL, WITH HEAVY DUTY CAST IRON BODY AND COVER.</p> <p>F. ALL SEWER PIPING LOCATED INSIDE THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES.</p> <p>1. INSTALL 3" TO 6" PIPE AT 1/8" PER FOOT FALL.</p> <p>2. INSTALL 8" PIPE AT 1/16" PER FOOT FALL.</p> <p>3. CONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT FALL.</p> <p>G. PROVIDE DIELECTRIC UNIONS WITH APPROPRIATE END CONNECTION TO MATCH THE PIPE SYSTEM IN WHICH INSTALLED (SCREWED, SOLDERED, OR FLANGED). PROVIDE DIELECTRIC UNIONS ON ALL PIPING CONNECTIONS TO HOT WATER HEATERS AND EXPANSION JOINTS.</p> <p>H. ALL SEWER PIPING LOCATED EXTERIOR TO THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES.</p> <p>1. INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 2% SLOPE.</p> <p>2. INSTALL 6" AND LARGER PIPE AT A MINIMUM OF 1% SLOPE.</p>	

PLUMBING SYMBOLS	
SYMBOL	DESCRIPTION
	SANITARY SEWER (ABOVE GRADE)
	SANITARY SEWER (BELOW GRADE)
	GREASE WASTE (BELOW GRADE)
	CONDENSATE DRAIN
	VENT PIPING
	G = GAS PIPING LESS THAN 2 PSI
	MPG = GAS PIPING 2 PSI
	GAS PIPE ON ROOF, G OR MPG
	COLD WATER PIPING
	HOT WATER PIPING
	RECIRCULATING HOT WATER
	COMPRESSED AIR
	PIPE ELBOW DOWN
	PIPE ELBOW UP
	GATE VALVE
	BACKFLOW PREVENTER
	CHECK VALVE
	BALL VALVE
	STRAINER
	PRESSURE REDUCING VALVE
	PLUG VALVE
	CONTROL VALVE
	FLOOR CLEANOUT (FCO)
	CLEANOUT AT GRADE (GCO)
	WALL CLEANOUT (WCO)
	FLOOR DRAIN
	FLOOR SINK
	CAPPED PIPE
STANDARD MOUNTING HEIGHTS	
(AFF, AFG, UNLESS NOTED OTHERWISE)	
PLUMBING	
REFER TO ARCHITECTURAL DRAWINGS FOR PLUMBING FIXTURE MOUNTING HEIGHTS. UNO, INSTALL PLUMBING FIXTURES WITH THE MOUNTING HEIGHTS AS LISTED BELOW WITH FINAL APPROVAL BY THE ARCHITECT.	
ADA ACCESSIBLE LAVATORIES	34" FLOOR TO RIM
ADA ACCESSIBLE WATER CLOSET	17" TO 19" FLOOR TO TOP OF SEAT
JANITOR'S SINK FAUCET FITTINGS	42" FLOOR TO CENTERLINE
ABBREVIATIONS	
AFF ABOVE FINISHED FLOOR AFG ABOVE FINISHED GRADE AHU ABOVE HANDLING UNIT BFF BELOW FINISHED FLOOR BFG BELOW FINISHED GRADE BOP BOTTOM OF PIPE BOS BOTTOM OF STRUCTURE BTU BRITISH THERMAL UNIT CPVC CHLORINATED POLYVINYL CHLORIDE DN DOWN DFU DRAINAGE FIXTURE UNIT ETR EXISTING TO REMAIN FD FLOOR DRAIN FFA FROM FLOOR ABOVE FFB FROM FLOOR BELOW FF FINISHED FLOOR FLA FULL LOADS AMPS FLR FLOOR GPM GALLON PER MINUTE IE INVERTED ELEVATION IN WC INCHES OF WATER COLUMN KW KILOWATT MAX MAXIMUM MBH 1000 BTU PER HOUR	MIN MINIMUM N/C NORMALLY CLOSED N/O NORMALLY OPEN ORD OVERFLOW ROOF DRAIN PDI PLUMBING DRAINAGE INSTITUTE PVC POLYVINYL CHLORIDE PRV PRESSURE REDUCING VALVE RPM REVOLUTIONS PER MINUTE SF SQUARE FEET, SUPPLY FAN TDH TOTAL DYNAMIC HEAD TFA TO FLOOR ABOVE TFB TO FLOOR BELOW UL UNDERWATER LABORATORIES, INC. UNO UNLESS NOTED OTHERWISE V VOLT(S) VCP VITRIFIED CLAY PIPE VS VENT STACK VTR VENT THROUGH ROOF W/ WITH W/O WITHOUT WC WATER COLUMN WS WATER STACK WSFU WATER SUPPLY FIXTURE UNIT
ANNOTATION	
#	PLAN WORK NOTE
RTU	MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE)
-	PLUMBING FIXTURE DESIGNATION
	CONNECTION POINT OF NEW WORK TO EXISTING
A M1	DETAIL REFERENCE UPPER NUMBER INDICATED LOWER NUMBER INDICATES SHEET NUMBER
1 M1	SECTION CUT DESIGNATION

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Project Name and Address:	
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PLUMBING SPECIFICATIONS AND SYMBOLS P-001	



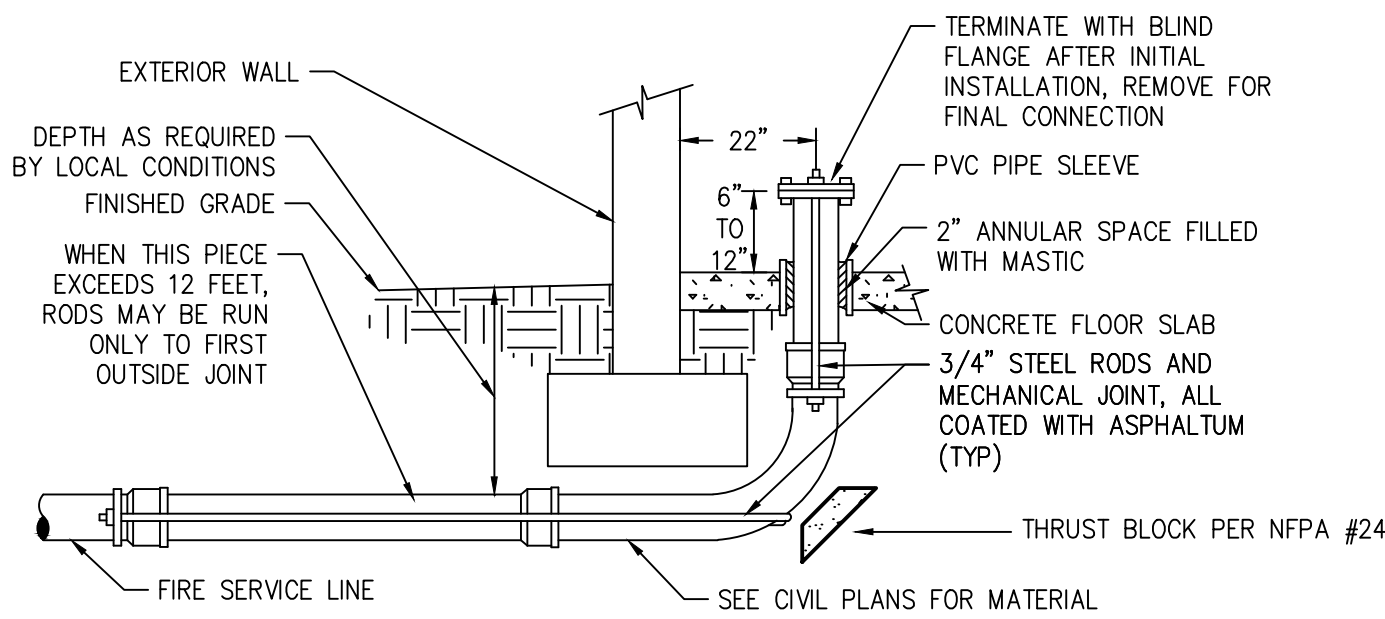


- NOTES:
1. INSTALL ALL VTR'S A MINIMUM OF 10 FEET HORIZONTALLY, OR 3 FEET VERTICALLY AWAY FROM BUILDING OPENINGS OR FRESH AIR INTAKES.
  2. INSTALL VTR'S ONE FOOT AWAY FROM ADJACENT VERTICAL SURFACES.
  3. INSTALL VTR'S ONE FOOT ABOVE THE AVERAGE LOCAL SNOW FALL LEVEL.
  4. VERIFY PROPER FLASHING PROCEDURE WITH ROOF MEMBRANE MANUFACTURER.

## VENT STACK

SCALE : NO SCALE

4



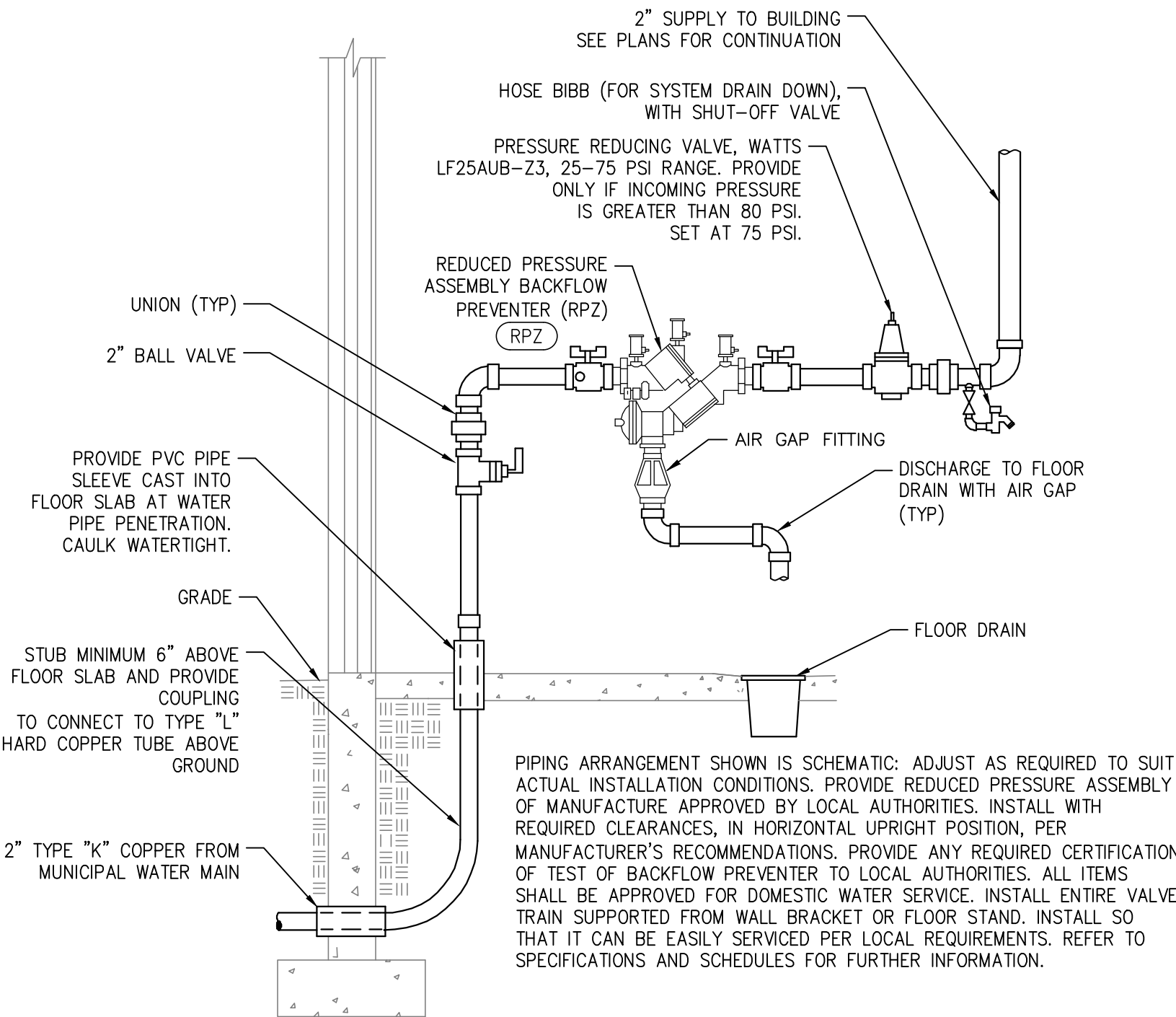
ARRANGEMENT SHOWN IS SCHEMATIC. MODIFY TO SUIT FIELD CONDITIONS AND MEET APPLICABLE CODE REQUIREMENTS. VERIFY FOUNDATION WITH ARCHITECTURAL DRAWINGS. COORDINATE WHO IS TO PROVIDE THE FIRE SERVICE ENTRY WITH THE GENERAL CONTRACTOR OR CONSTRUCTION MANAGER PRIOR TO SUBMITTING BID.

FINAL SIZE OF SERVICE LINE DETERMINED BY FIRE SPRINKLER CONTRACTOR. SIZE SHOWN ON PLANS FOR BIDDING PURPOSES.

## FIRE SPINKLER RISER - WET PIPE

SCALE : NO SCALE

3

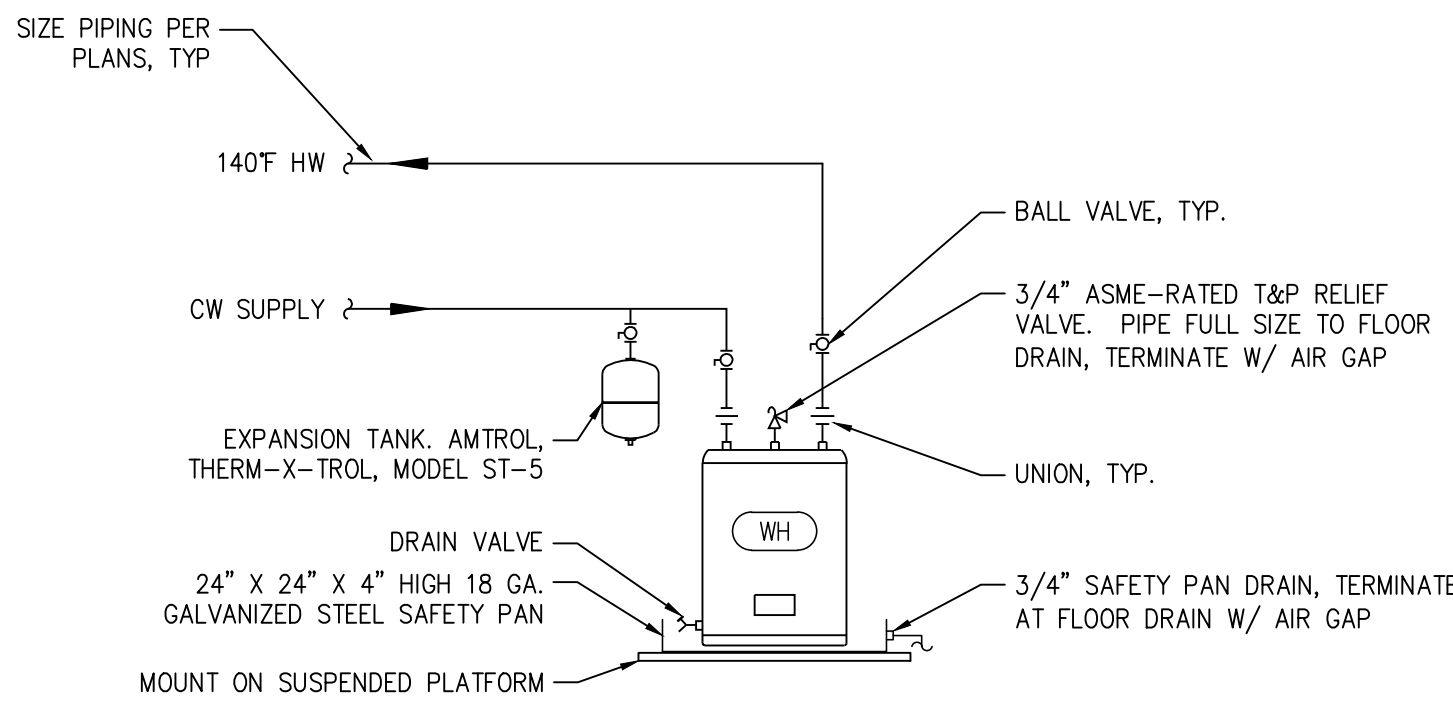


PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST AS REQUIRED TO SUIT ACTUAL INSTALLATION CONDITIONS. PROVIDE REDUCED PRESSURE ASSEMBLY OF MANUFACTURE APPROVED BY LOCAL AUTHORITIES. INSTALL WITH REQUIRED CLEARANCES, IN HORIZONTAL UPRIGHT POSITION, PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ANY REQUIRED CERTIFICATION OF TEST OF BACKFLOW PREVENTER TO LOCAL AUTHORITIES. ALL ITEMS SHALL BE APPROVED FOR DOMESTIC WATER SERVICE. INSTALL ENTIRE VALVE TRAIN SUPPORTED FROM WALL BRACKET OR FLOOR STAND. INSTALL SO THAT IT CAN BE EASILY SERVICED PER LOCAL REQUIREMENTS. REFER TO SPECIFICATIONS AND SCHEDULES FOR FURTHER INFORMATION.

## DOMESTIC WATER SERVICE ENTRY

SCALE : NO SCALE

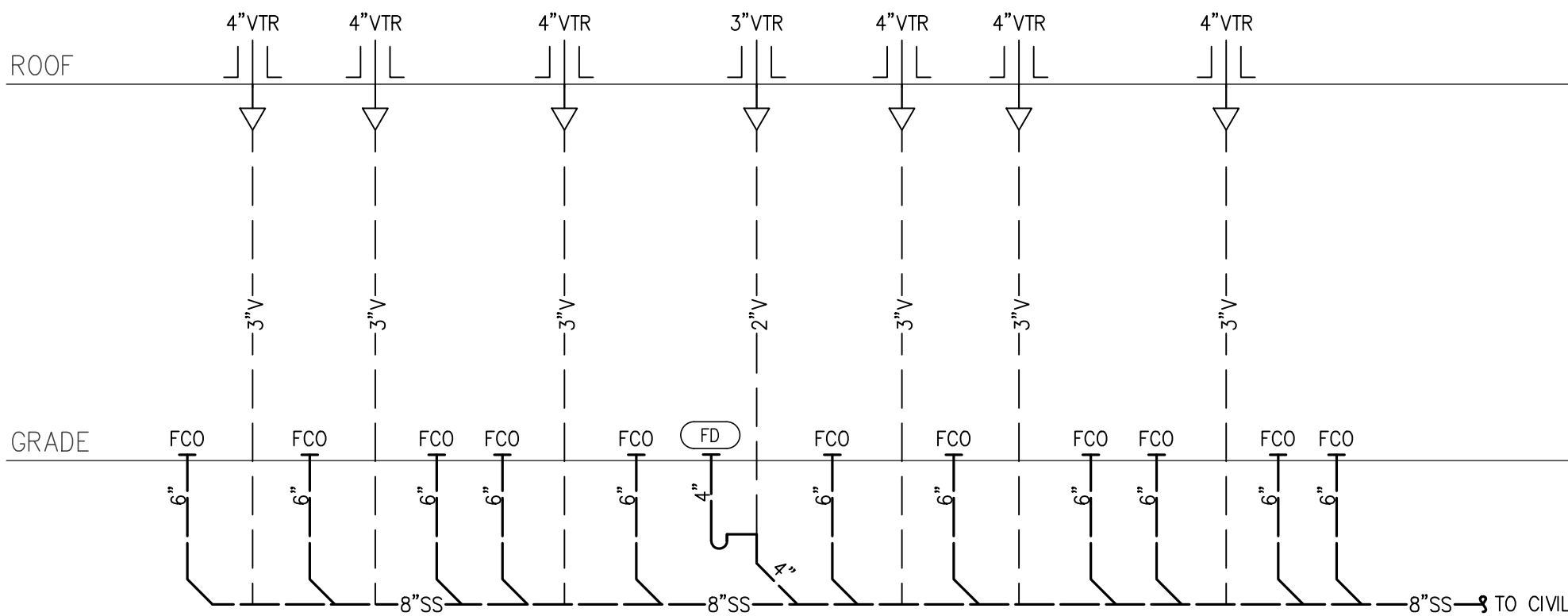
2



## ELECTRIC WATER HEATER

SCALE : NO SCALE

5



## WASTE AND VENT RISER

SCALE : NONE

1

PLUMBING FIXTURE SCHEDULE	
FD	FLOOR DRAIN: SIOUX CHIEF 832-36PF, PVC BODY, ADJUSTABLE 6-1/2" ROUND STAINLESS STEEL STRAINER, TRAP PRIMER CONNECTION. PROVIDE TRAP PRIMER EQUAL TO ZURN Z1022-DU.
FPWH	FREEZE PROOF WALL HYDRANT: ZURN Z1321-WC WITH INTEGRAL BACKFLOW PREVENTER, COORDINATE WITH WALL THICKNESS ON ARCHITECTURAL PLANS, 3/4" MPT INLET.
LAV	WALL-MOUNT LAVATORY: AMERICAN STANDARD LUCERNE, THREE FAUCET HOLE, 4" CENTERS, 14-7/8"X10" OVAL BASIN, VITREOUS CHINA, PROVIDE SINGLE HANDLE FAUCET EQUAL TO GLACIER BAY CONSTRUCTOR. PROVIDE FLEXIBLE SS RISERS WITH CHROME PLATED STOP VALVES, P-TRAP WITH CLEANOUT AND ESCUTCHEONS. INSULATE WITH "HANDI-LAV-GUARD" MODEL 102, OR EQUAL.
MS	MOP SINK: FIAT 5B2424 OR EQUAL. 24"x24"x6" MOP BASIN WITH DRAIN. WALL MOUNT FAUCET, T&S B-0655-BSTR, WITH TWO HANDLES, VACUUM BREAKER AND 1/2" NPT THREAD. INSTALLATION BY PLUMBING CONTRACTOR.
RPZ	REDUCED PRESSURE ZONE BACKFLOW PREVENTER: WATTS LF009, 2", MEETING ASSE 1013, LEAD FREE CAST BRONZE BODY, QUARTER TURN TESTING COCKS, QUARTER TURN BALL VALVES, AND AIR GAP FITTING.
WC	FLOOR-MOUNTED ADA WATER CLOSET: KOHLER K-3519-TR-0, HANDICAP ACCESSIBLE, VIREOUS CHINA, 1.0 GPF, ELONGATED BOWL, FLOOR MOUNTED W/ 17.125" BOWL HEIGHT, WHITE, VITREOUS CHINA TANK AND COVER CONTAINING FLUSH VALVE, WHITE OPEN-FRONT SEAT, CHROME STOPS, C.P. FLEXIBLE RISER TUBE, BOLT CAPS AND ESCUTCHEON.
WH	ELECTRIC WATER HEATER: AO SMITH MODEL DEL-20, 20 GALLON CAPACITY, 3/4" CONNECTIONS, 20 GPH @ 90°F RISE, 240V/1PH, SINGLE 4500W ELEMENT. PROVIDE RELIEF VALVE AND EXPANSION TANK.

FIXTURE BRANCH CONNECTION SCHEDULE				
FIXTURE	COLD WATER	HOT WATER	WASTE	VENT
FLOOR DRAIN	-	-	4"	2"
LAVATORY	1/2"	1/2"	1 1/2"	1 1/2"
MOP SINK	1/2"	1/2"	3"	2"
WALL HYDRANT	3/4"	-	-	-
WATER CLOSET (FLUSH TANK)	1/2"	-	4"	2"
NOTE:	PIPE SIZES SHOWN ARE MINIMUM. MINIMUM SANITARY SIZE UNDERGROUND IS 2".			

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Project Number: 23-015

Project Type: NEW CONSTRUCTION

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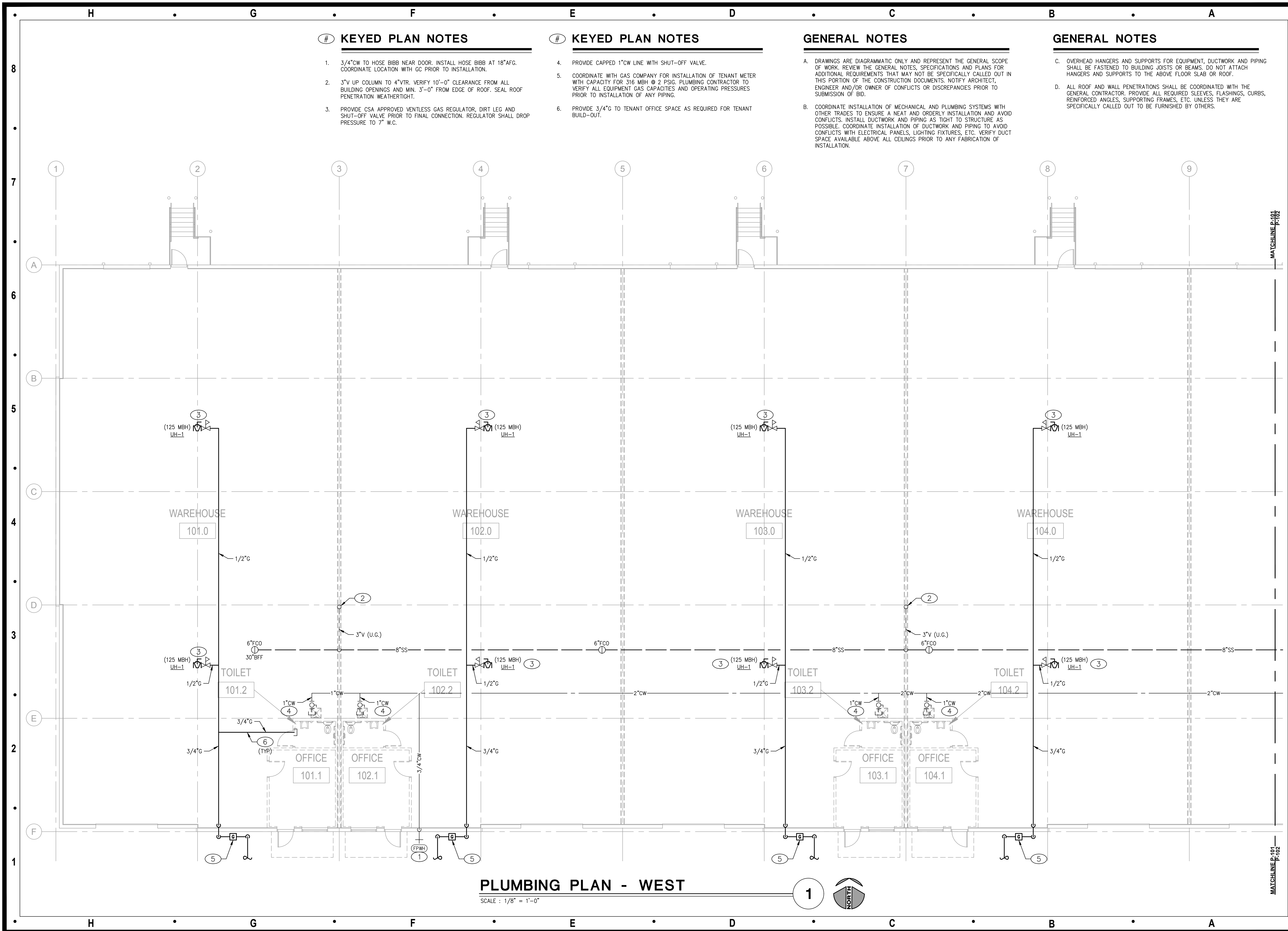
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PLUMBING  
SCHEDULES  
AND DETAILS

P-002





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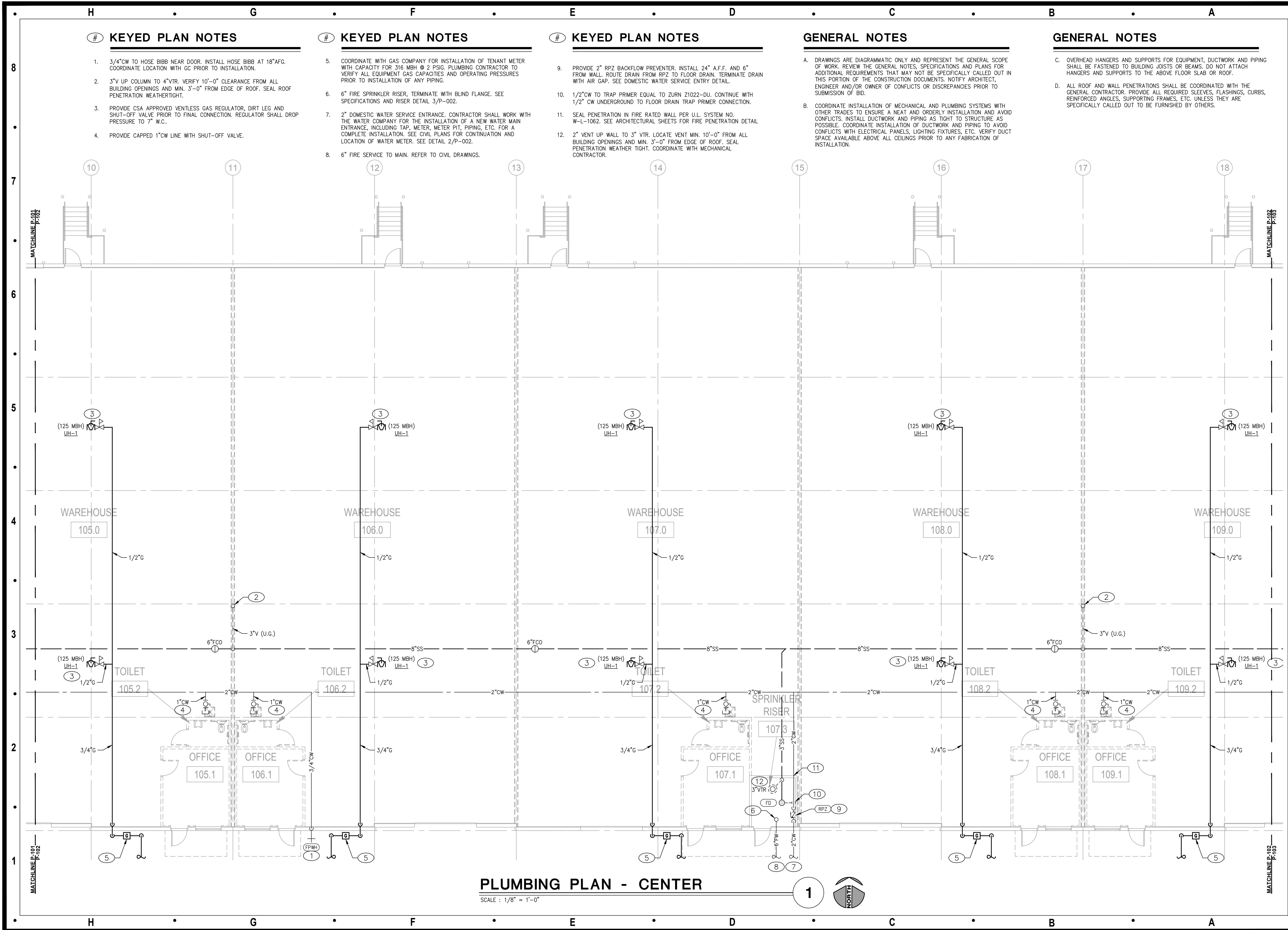
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PARTIAL  
PLUMBING PLAN  
- WEST  
P-101





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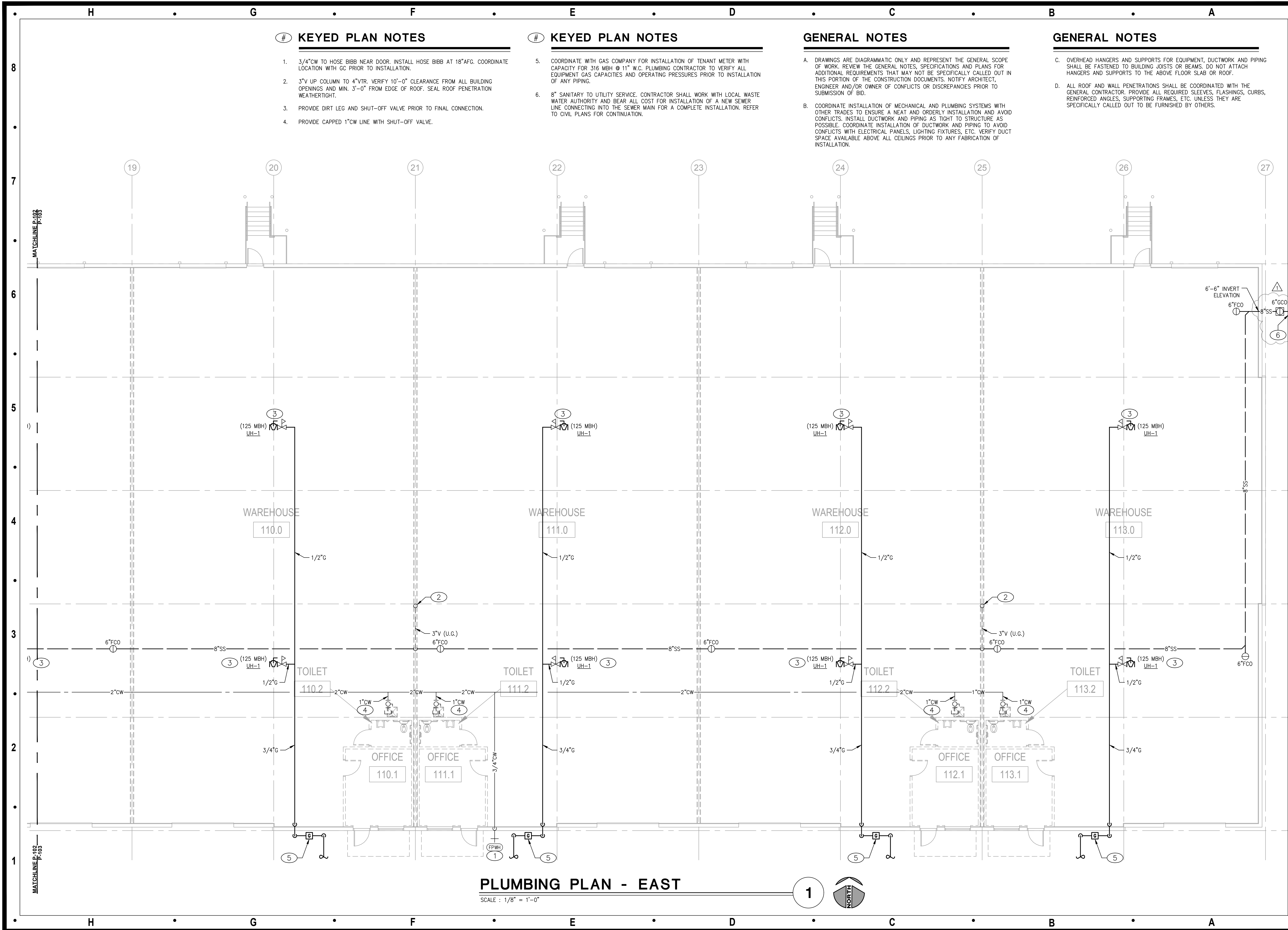
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PARTIAL  
PLUMBING PLAN  
- CENTER  
**P-102**





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Sheet Title:

PARTIAL  
PLUMBING PLAN  
- EAST  
**P-103**

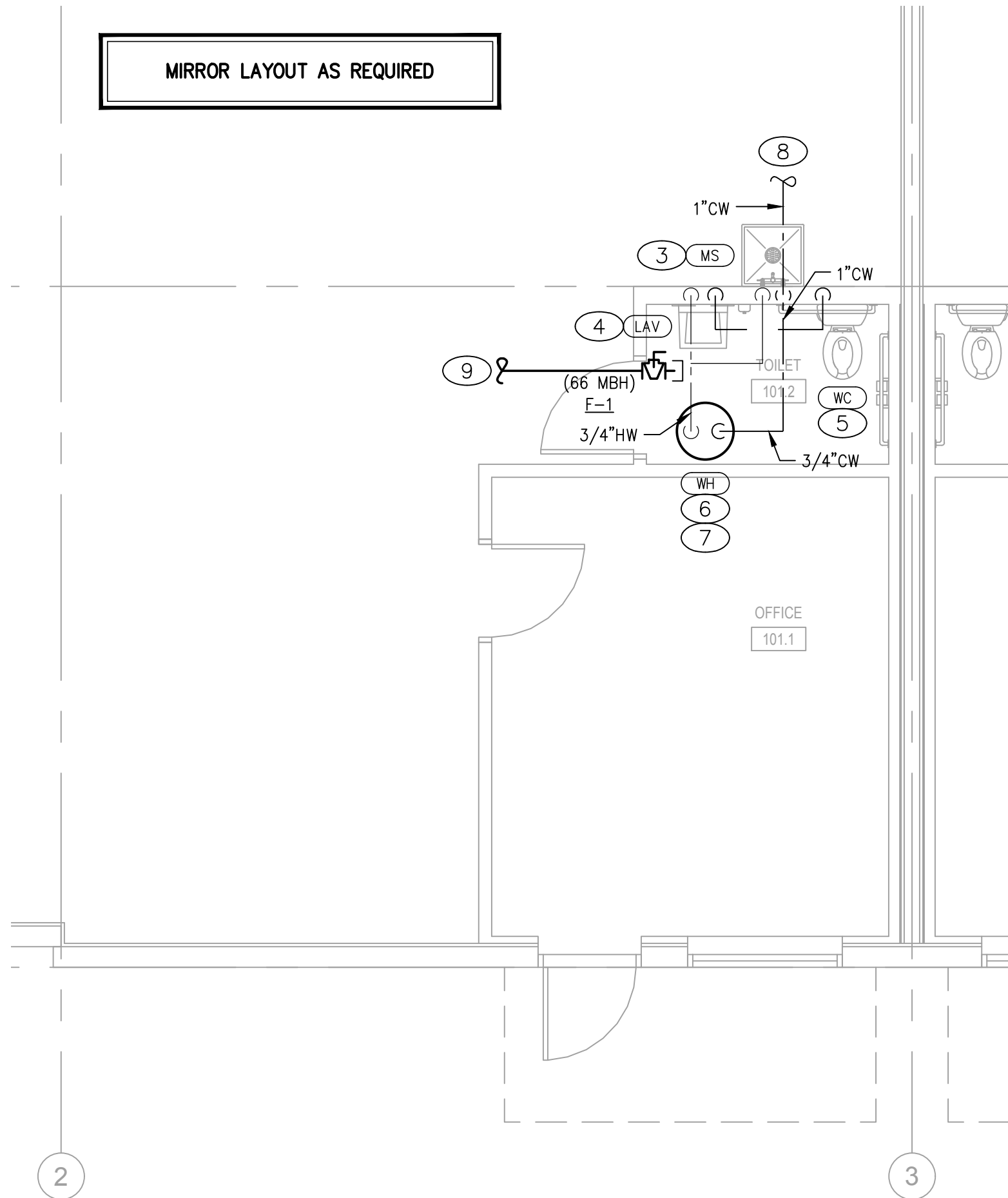


# KEYED PLAN NOTES

1. VENT STACK UP TO 3" VTR. LOCATE MINIMUM 3'-0" FROM EDGE OF ROOF AND 10'-0" FROM ANY OUTSIDE AIR INTAKE. COORDINATE PIPE PENETRATION WITH ROOFING CONTRACTOR SO NOT TO VOID ROOF WARRANTY. SEAL ROOF PENETRATION WEATHERTIGHT.
2. SEE OVERALL PLAN FOR LOCATION OF 8"SS MAIN. PROVIDE EXTENSION AND CONNECTION TO MAIN AS REQUIRED.
3. 3/4"HW AND 3/4"CW DOWN TO MOP SINK.
4. 1/2"HW AND 1/2"CW TO LAVATORY. PROVIDE THERMOSTATIC MIXING VALVE EQUAL TO LEONARD MODEL 170. SET SUPPLY HOT WATER TEMPERATURE TO 110°F.
5. PROVIDE 1/2"CW TO WATER CLOSET.
6. PROVIDE 3/4"CW AND 3/4"HW PIPING TO WATER HEATER.
7. ELECTRIC WATER HEATER INSTALLED ABOVE CEILING ON PLATFORM FURNISHED WITH HEATER. ROUTE FULL SIZE DRAIN LINE FROM T&P RELIEF VALVE TO DRAIN PAN AND FULL SIZED DRAIN LINE FROM DRAIN PAN TO FLOOR DRAIN BELOW. SEE DETAIL 5/P-002.
8. MAKE CONNECTION TO TENANT SHUT-OFF VALVE SHOWN ON OVERALL PLAN.
9. PROVIDE 3/4" GAS TO FURNACE. SEE P-101, OFFICE 101.1 FOR TYPICAL GAS DISTRIBUTION.

GENERAL NOTES

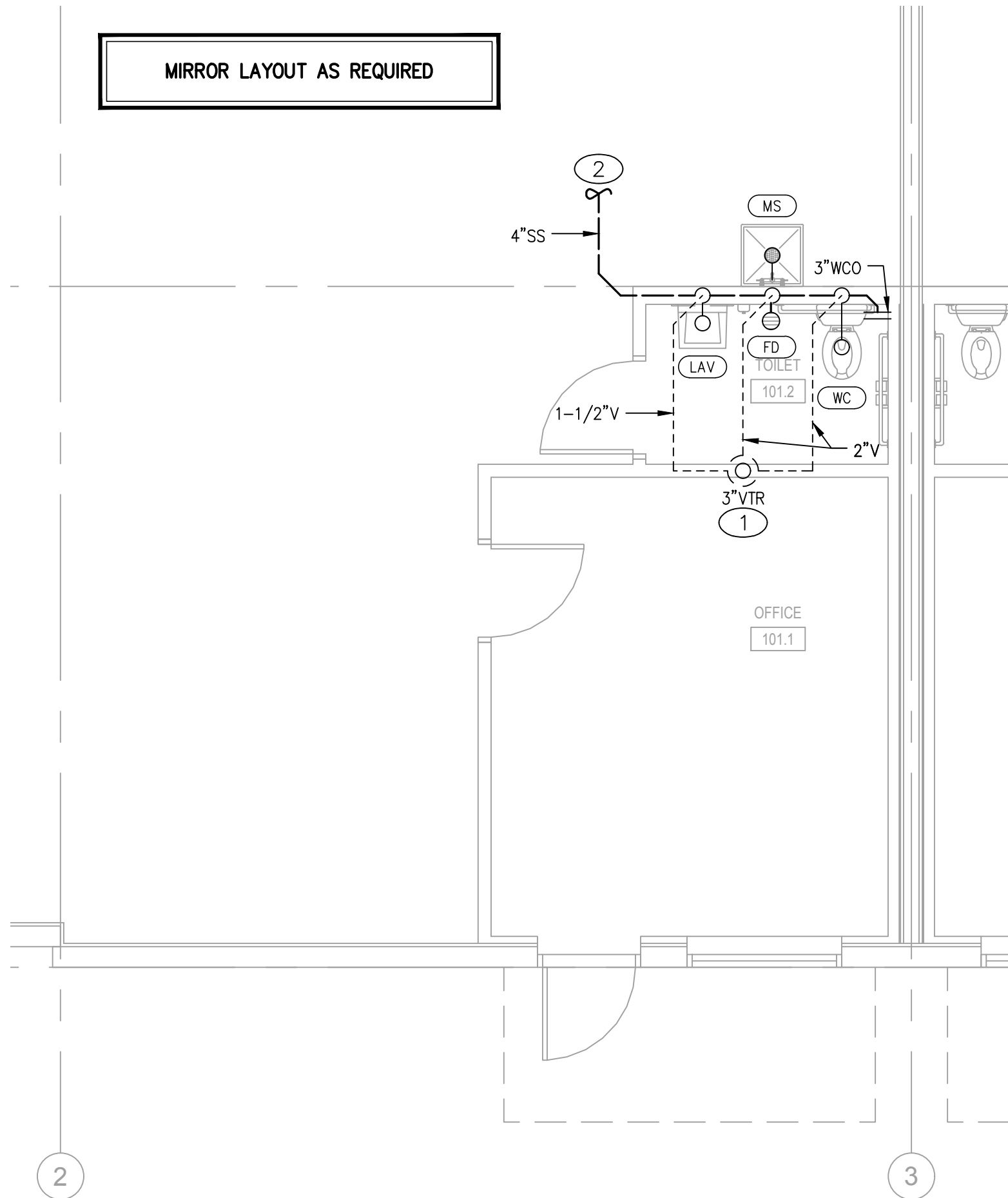
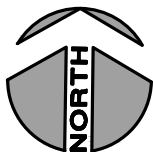
- A. DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF WORK. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
- B. COORDINATE INSTALLATION OF MECHANICAL AND PLUMBING SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION AND AVOID CONFLICTS. INSTALL DUCTWORK AND PIPING AS TIGHT TO STRUCTURE AS POSSIBLE. COORDINATE INSTALLATION OF DUCTWORK AND PIPING TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC. VERIFY DUCT SPACE AVAILABLE ABOVE ALL CEILINGS PRIOR TO ANY FABRICATION OF INSTALLATION.
- C. OVERHEAD HANGERS AND SUPPORTS FOR EQUIPMENT, DUCTWORK AND PIPING SHALL BE FASTENED TO BUILDING JOISTS OR BEAMS. DO NOT ATTACH HANGERS AND SUPPORTS TO THE ABOVE FLOOR SLAB OR ROOF.
- D. ALL ROOF AND WALL PENETRATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. PROVIDE ALL REQUIRED SLEEVES, FLASHINGS, CURBS, REINFORCED ANGLES, SUPPORTING FRAMES, ETC. UNLESS THEY ARE SPECIFICALLY CALLED OUT TO BE FURNISHED BY OTHERS.



FUTURE OFFICES - WATER & GAS  
(BID AS T.I. ADD ALTERNATIVE)

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

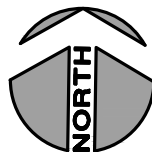
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FUTURE OFFICES - WASTE & VENT  
(BID AS T.I. ADD ALTERNATIVE)

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

1



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Project Number: 23-015

Project Type: NEW CONSTRUCTION

Project Name and Address:

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Sheet Title:

ENLARGED  
PLUMBING PLAN

P-104



## ELECTRICAL SPECIFICATIONS

### PART I - GENERAL

#### A. GENERAL

- FURNISH AND INSTALL A COMPLETELY WIRED AND OPERATIONAL ELECTRICAL SYSTEM AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN, INCLUDING BUT NOT LIMITED TO, THESE MAJOR ITEMS.
  - LIGHTING FIXTURES AS INDICATED AND SPECIFIED ON THE PLANS.
  - ELECTRICAL PANELS, SERVICE, CONDUIT, WIRING, ETC., FOR ALL OUTLETS AND EQUIPMENT.
  - TELEPHONE, TELEVISION, AND FIRE ALARM. OUTLETS AND CONDUIT AS INDICATED.
- OBTAIN AND REVIEW ALL OTHER DRAWINGS INCLUDING REFLECTED CEILING PLAN, INTERIOR AND EXTERIOR ELEVATIONS, FURNITURE PLANS AND ALL MILL WORK DRAWINGS. COORDINATE INSTALLATION OF ALL ELECTRICAL DEVICES AND EQUIPMENT PRIOR TO ROUGH-IN.
- OBTAIN SUBMITTAL AND SHOP DRAWINGS FROM OTHER TRADES AND EQUIPMENT TO COORDINATE INSTALLATION ACCORDINGLY.
- INSTALLATION SHALL COMPLY WITH ALL CURRENT APPLICABLE CODES AND GOVERNING AGENCIES HAVING JURISDICTION.
- FIRE ALARM SYSTEM, IF REQUIRED PER IBC, SHALL BE DESIGN-BUILD BY OWNER'S/GC'S FIRE ALARM CONTRACTOR. DESIGN SHALL BE IN ACCORDANCE WITH NFPA 72. FIRE ALARM CONTRACTOR SHALL SUBMIT STAMPED DRAWINGS TO AHJ FOR REVIEW AND APPROVAL. FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR TESTING AND VERIFYING THAT THE AUDIBILITY OF THE FIRE ALARM SYSTEM MEETS A MINIMUM OF 15 DBA ABOVE AMBIENT NOISE LEVELS. ADD HORNS WHERE REQUIRED TO MAINTAIN MINIMUM LEVELS.
- PROVIDE FIRE STOP ON ALL PIPING THAT PENETRATES RATED WALLS. METHOD OF FIRE STOP SHALL MEET WALL RATING. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF FIRE RATED WALLS. THIS CONTRACTOR SHALL PROVIDE FIRE RATED ENCLOSURES AROUND ALL ROUGH-IN BOXES, PANELS, ETC. THAT ARE LOCATED IN FIRE RATED WALLS AND SHALL FIRE CAULK ALL OPENINGS IN RATED ASSEMBLIES.

#### B. RELATED WORK BY OTHERS

- THE ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT, TRENCH, AND BACKFILL FOR ELECTRICAL SERVICE ENTRANCE FROM THE MAIN SERVICE TO UTILITY POINT OF ELECTRICAL SERVICE. ELECTRICAL CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE ELECTRICAL SERVICE ENTRANCE WITH SERVING UTILITY COMPANY.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT, TRENCH, AND BACKFILL FOR PRIMARY PHONE AND CATV SERVICE FROM THE TELEPHONE TERMINAL BOARD OR CABINET TO THE PHONE COMPANY AND CATV COMPANY POINT OF SERVICE COORDINATE WITH LOCAL UTILITY COMPANIES.

#### C. CODES, REGULATIONS, AND STANDARDS

- THE INSTALLATION SHALL COMPLY WITH APPLICABLE LOCAL AND STATE CODES AND ORDINANCES, WITH THE REGULATIONS OF THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE AND WITH THE REQUIREMENTS OF THE POWER, TELEPHONE, AND CATV COMPANIES FURNISHING SERVICES TO THIS INSTALLATION.
- THE LATEST EDITIONS OF THE FOLLOWING INDUSTRY STANDARDS, SPECIFICATIONS, AND CODES ARE MINIMUM REQUIREMENTS.
  - THE NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION STANDARDS.
  - THE NATIONAL ELECTRICAL CODE, INCLUDING LOCAL AMENDMENTS.
  - UNDERWRITER LABORATORIES INCORPORATED STANDARDS.
  - AMERICAN NATIONAL STANDARDS INSTITUTE.
  - INTERNATIONAL BUILDING CODE.

#### D. INSPECTION OF SITE

- PRIOR TO SUBMITTING A BID FOR ELECTRICAL WORK, THE CONTRACTOR SHALL VISIT THE SITE OF THE PROPOSED CONSTRUCTION AND SHALL THOROUGHLY ACQUAINT HIMSELF WITH EXISTING UTILITIES, AND WORKING CONDITIONS TO BE ENCOUNTERED, ETC. ALLOWANCE WILL NOT BE MADE FOR NONCOMPLIANCE WITH THIS CONDITION AFTER BIDDING.
- ELECTRICAL INSTALLATION SHALL MEET THE EXISTING CONDITIONS.

#### E. STORAGE AND HANDLING OF MATERIAL

- DELIVER MATERIALS AND EQUIPMENT TO THE PROJECT IN THE MANUFACTURER'S ORIGINAL, UNOPENED, LABELED CONTAINERS. PROTECT AGAINST MOISTURE, TAMPERING, OR DAMAGE FROM IMPROPER HANDLING OR STORAGE. CONTRACTOR SHALL PROTECT AND BE RESPONSIBLE FOR ANY DAMAGE TO WORK OR MATERIALS UNTIL FINAL ACCEPTANCE BY THE OWNER, AND SHALL MAKE GOOD WITHOUT COST TO THE OWNER, ANY DAMAGE, OR LOSS THAT MAY OCCUR DURING THIS PERIOD.
- ARRANGE FOR TIMELY DELIVERY OF MATERIALS AND EQUIPMENT TO THE JOB SITE IN ORDER TO MINIMIZE THE LENGTH OF TIME BETWEEN DELIVERY AND INSTALLATION.
- COVER AND PROTECT ANY MATERIAL WHICH MAY BE AFFECTED BY THE WEATHER WHILE IN TRANSIT OR STORED AT THE PROJECT SITE. ANY MATERIAL FOUND DEFECTIVE OR NOT INSTALLED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS MAY BE REJECTED BY THE ENGINEER.

#### F. CLEANUP

- KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIALS, OR RUBBISH CAUSED BY EMPLOYEES OR WORK UNDER THIS DIVISION OF THE SPECIFICATIONS. AT THE COMPLETION OF THE WORK REMOVE ALL SURPLUS MATERIALS, TOOLS, ETC., AND LEAVE THE PREMISES BROOM-CLEAN.

#### G. EXCAVATION, CUTTING, AND FITTING

- PERFORM ALL EXCAVATION AND BACK FILLING REQUIRED FOR WORK PERFORMED UNDER THIS DIVISION OF THE SPECIFICATIONS. USE EXCAVATED MATERIALS FOR BACKFILL UNLESS OFF SITE MATERIALS ARE DEEMED NECESSARY.
- PERFORM THE EXCAVATION, CUTTING, FITTING, REPAIRING, AND FINISHING OF THE WORK NECESSARY FOR THE INSTALLATION OF THE EQUIPMENT OF THIS SECTION. HOWEVER, NO CUTTING OF THE WORK OF OTHER TRADES OR OF ANY STRUCTURAL MEMBERS SHALL BE DONE WITHOUT THE CONSENT OF THE ARCHITECT.

#### H. DRAWINGS

- THE DRAWINGS INDICATE THE GENERAL ARRANGEMENT AND LOCATIONS OF THE ELECTRICAL WORK DATA PRESENTED ON THESE DRAWINGS ARE AS ACCURATE AS PLANNING CAN DETERMINE, BUT FIELD VERIFICATION OF ALL DIMENSIONS, LOCATIONS, LEVELS, ETC., TO SUIT FIELD CONDITIONS IS REQUIRED. REVIEW ALL ARCHITECTURAL, STRUCTURAL, AND MECHANICAL DRAWINGS AND ADJUST ALL WORK TO MEET THE REQUIREMENTS OF CONDITIONS SHOWN. THE ARCHITECTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER ALL OTHER DRAWINGS. DISCREPANCIES BETWEEN DIFFERENT PLANS, OR BETWEEN DRAWINGS AND SPECIFICATIONS, OR REGULATIONS AND CODES GOVERNING THE INSTALLATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING BEFORE THE DATE OF BID OPENING. IF DISCREPANCIES ARE NOT REPORTED, THE CONTRACTOR SHALL BID THE GREATER QUANTITY OR BETTER QUALITY, AND APPROPRIATE ADJUSTMENTS WILL BE MADE AFTER CONTRACT AWARD. CONTRACTOR SHALL BE RESPONSIBLE TO FIELD MEASURE AND CONFIRM MOUNTING HEIGHTS AND LOCATION OF ELECTRICAL EQUIPMENT WITH RESPECT TO COUNTERS, RADIATION, ETC. DO NOT SCALE DISTANCES OFF THE ELECTRICAL DRAWINGS, USE ACTUAL BUILDING DIMENSIONS.

#### I. COOPERATION WITH OTHER CONTRACTORS

- COOPERATE WITH THE OTHER TRADES SO THAT THE INSTALLATION OF THE ELECTRICAL OUTLETS AND EQUIPMENT WILL BE PROPERLY COORDINATED. CONDUIT, LIGHTING FIXTURES, AND OTHER EQUIPMENT LOCATIONS SHALL BE VERIFIED WITH OTHER TRADES TO AVOID CONFLICT WITH THE PIPING, DUCTWORK, STEEL, BEAMS, OR OTHER OBSTRUCTIONS.
- CAREFULLY VERIFY THE LOCATIONS OF THE OUTLET BOXES AND DETERMINE THAT THEY HAVE NOT BEEN DISTURBED DURING THE INSTALLATION OF MATERIALS OF OTHER TRADES.
- COORDINATE THE LOCATION OF THE TRENCHES AND CONDUITS FOR ELECTRICAL AND TELEPHONE UTILITY SERVICES WITH THE GENERAL CONTRACTOR.
- COORDINATE HVAC AND PLUMBING EQUIPMENT CONNECTION REQUIREMENTS WITH HVAC AND PLUMBING CONTRACTORS.

#### J. RECORD DRAWINGS

- THE ELECTRICAL CONTRACTOR SHALL MAINTAIN A SET OF DRAWINGS AT THE JOB SITE FOR THE EXCLUSIVE PURPOSE OF MAINTAINING A RECORD OF ALL WORK INSTALLED AND TO SHOW ANY DEVIATIONS FROM THE WORK INDICATED ON THE DRAWINGS.
- AT THE COMPLETION OF THE PROJECT, ONE SET OF REPRODUCIBLE DRAWINGS, SHOWING ALL RECORD CONDITIONS, SHALL BE DELIVERED TO THE OWNER FOR ACCEPTANCE PRIOR TO FINAL PAYMENT.

### PART II - PRODUCTS AND EXECUTION

#### A. MATERIALS

- ALL MATERIALS SHALL BE NEW AND OF QUALITY AS SPECIFIED ON THE PLANS OR SPECIFICATIONS AND MUST CARRY THE UNDERWRITER'S LABORATORIES APPROVAL COVERING THE PURPOSE FOR WHICH THEY ARE USED, IN ADDITION TO MEETING ALL REQUIREMENTS OF THE CURRENT APPLICABLE CODES AND REGULATIONS.
- SHOP DRAWINGS AND APPROVALS
  - THE ITEMS SPECIFIED HEREIN AND ON DRAWINGS ARE USED AS A STANDARD OF QUALITY. ANY MATERIALS OF EQUAL QUALITY AND AESTHETIC VALUE WILL BE GIVEN CONSIDERATION AS A SUBSTITUTE FOR THE MATERIALS SPECIFIED. NO APPROVAL WILL BE GIVEN TO A SPECIFIC CATALOG NUMBER, MODEL, OR TYPE OF EQUIPMENT, PRIOR TO BIDDING. AFTER BIDDING, THE DECISION OF THE ARCHITECT AND/OR ENGINEER DETERMINING EQUAL MATERIALS WILL BE FINAL.
  - THE CONTRACTOR SHALL SUBMIT (3) IDENTICAL BOUND SETS OF SHOP DRAWINGS ON THE FOLLOWING ITEMS TO THE G.C.:
    - LIGHTING FIXTURE CUTS AND PERFORMANCE DATA.
    - OUTLINE DRAWINGS AND DATA SHEETS OF EACH PANELBOARD, LOAD CENTERS, AND DISTRIBUTION PANELS.
    - OUTLINE DRAWINGS OF ALL SWITCH GEAR COMPONENTS.
    - WIRING DEVICES AND COVERPLATES.
    - ALL CIRCUIT BREAKERS INSTALLED IN PANELBOARDS, LOAD CENTERS, AND DISTRIBUTION PANELS.

#### C. SYSTEM GROUNDING

- GROUNDING SHALL COMPLY WITH REQUIREMENTS OF ARTICLE 250. ALL EXPOSED NONCURRENT CARRYING METALLIC PARTS OF ELECTRICAL EQUIPMENT, METALLIC RACEWAY SYSTEMS, METALLIC CABLE ARMOR, GROUNDING CONDUCTOR OF NONMETALLIC SHEATHED CABLES, GROUNDING CONDUCTOR IN NONMETALLIC RACEWAYS, AND GROUNDING CONDUCTORS OF THE WIRING SYSTEM SHALL BE GROUNDING.
- GROUNDING CONDUCTOR (NEUTRAL) OF THE WIRING SYSTEM SHALL BE CONNECTED TO THE SYSTEM GROUNDING CONDUCTOR AT A SINGLE PLACE IN EACH SYSTEM BY REMOVABLE BONDING JUMPERS, SIZED ACCORDING TO THE APPLICABLE PROVISIONS OF THE NATIONAL ELECTRICAL CODE. THE GROUNDING CONDUCTOR (NEUTRAL) TO THE GROUNDING CONDUCTOR CONNECTION SHALL BE LOCATED IN THE ENCLOSURE FOR THE SYSTEM'S OVERCURRENT PROTECTION OR WHERE OTHERWISE INDICATED ON THE PLANS OR SPECIFICATIONS.
- A GROUND BUS SEPARATE FROM THE NEUTRAL BUS SHALL BE PROVIDED IN ALL DISTRIBUTION PANELS AND PANELBOARDS. PROPER TORQUE ON GROUND BUS SHALL BE VERIFIED, PER MANUFACTURER'S RECOMMENDATIONS, PRIOR TO ENERGIZING EQUIPMENT.
- GROUND BUSES AND NEUTRAL BUSES IN ALL DISTRIBUTION PANELS, LOAD CENTERS, PANELBOARDS, AND THOSE PROVIDED IN ANY EQUIPMENT SHALL BE ISOLATED EXCEPT WHERE REQUIRED TO BE CONNECTED AS SPECIFIED ABOVE FOR THE SERVICE ENTRANCE.
- WHEN INDICATED ON THE DRAWINGS, EQUIPMENT GROUNDING CONDUCTORS SHALL BE EXTENDED FROM THE GROUND BUS IN THE DISTRIBUTION EQUIPMENT TO THE RECEPTACLE, FIXTURE OR DEVICE LUGS WHERE THEY ARE PROVIDED. WHERE LUGS ARE NOT PROVIDED, EQUIPMENT GROUNDING CONDUCTORS SHALL BE CONNECTED TO EQUIPMENT ENCLOSURES. THE CONNECTIONS SHALL BE ARRANGED SUCH THAT REMOVAL OF THE RECEPTACLE, EQUIPMENT GROUND CONDUCTORS, OR GROUND JUMPERS FROM GROUND BUSING SHALL NOT AFFECT THE GROUND SYSTEM.
- RACEWAYS MAY NOT BE USED AS A GROUNDING CONDUCTOR FOR POWER AND LIGHTING CIRCUITS. ALL CONDUIT SHALL HAVE SEPARATE CODE SIZED GREEN GROUND WIRE INSTALLED IN THE CONDUIT TO INSURE A CONTINUOUS GROUNDING PATH.
- IN INACCESSIBLE LOCATIONS, MAKE CONNECTIONS BY EXOTHERMIC WELD PROCESS.
- IN ACCESSIBLE LOCATIONS, CONNECTIONS SHALL BE MADE WITH BOLTED THROUGH, APPROVED SOLDERLESS BRONZE GROUNDING DEVICES.

#### D. WIRE

- CONDUCTOR SIZES SHOWN ON THE DRAWINGS ARE BASED ON COPPER WIRE. UNLESS OTHERWISE SPECIFIED, ALL WIRE SHALL BE TYPE XHHW OR SE FOR FEEDERS OR BRANCH CIRCUITS LARGER THAN 4 AWG, TYPE THHN/THWN INSULATION FOR FEEDERS AND BRANCH CIRCUITS 4 AWG AND SMALLER. ALL BRANCH CIRCUIT WIRING SHALL BE COPPER.
  - ALUMINUM CONDUCTORS MAY BE UTILIZED FOR SERVICE ENTRANCE AND PANEL FEEDERS. CONDUCTORS SHALL BE ALUMINUM ALLOW AA-8000 SERIES.
- THE WIRES SHALL BE MARKED WITH COLOR TO SIMPLIFY CIRCUIT IDENTIFICATION. UNLESS OTHERWISE REQUIRED BY LOCAL ORDINANCES GROUND WIRES SHALL BE GREEN, NEUTRAL WIRES SHALL BE 120V-WHITE, AND LIVE WIRES 208Y/120V AND 120/240 SHALL BE BLACK (PHASE A), RED (PHASE B), AND BLUE (PHASE C). CIRCUIT SHALL BE LABELED IN EACH J-BOX.
  - ALL CONDUCTORS SHALL BE RATED 600 VOLT.
- SPLICES IN EXTERIOR PULL BOXES AND MANHOLES SHALL BE WEATHERPROOF USING "SCOTCHCAST" SPUCE KIT OR APPROVED EQUAL. SEAL ENDS OF CONDUITS AND DUCTS WITH "DUCTSEAL" OR APPROVED EQUAL.
- PROVIDE SOLID CONDUCTOR FOR 12 AWG AND SMALLER.
- NO WIRE SHALL BE INSTALLED IN THE CONDUIT SYSTEM UNTIL THE CONDUIT SYSTEM IS COMPLETE. USE MINERALAC NO. 100 OR EQUIVALENT AS A LUBRICANT TO FACILITATE THE INSTALLATION OF THE CONDUCTORS IN THE CONDUIT SYSTEM.
- MC CABLE WITH COPPER CONDUCTORS AND GROUND WIRE MAY BE USED WHERE PERMITTED.

#### E. CONDUIT

- MC CABLE MAY BE USED AS ALLOWED BY THE NEC.
- WHERE CONDUIT ENTERS OUTLET BOXES, FIXTURES OR CABINETS, FIRMLY FASTEN WITH STEEL SET SCREW, COMPRESSION CONNECTORS, OR DOUBLE LOCKNUTS FOR CONDUITS. ALL CONNECTIONS SHALL HAVE BUSINGS OR INSULATED THROAT CONNECTORS. FIRMLY FASTEN CONDUIT TO THE BUILDING CONSTRUCTION. RUN EXPOSED CONDUIT PARALLEL TO THE BUILDING LINES, SUPPORTED BY APPROPRIATE HANGERS (UNISTRUT, T & B OR APPLINGTON, OR EQUAL).
- CONDUIT PENETRATION THROUGH ROOF SHALL HAVE ROOF FLASHING WITH CAULK TYPE COUNTER FLASHING SLEEVE. INSTALLATION SHALL BE WATERTIGHT.
- CONDUITS SHALL BE ROUTED PARALLEL AND PERPENDICULAR TO THE STRUCTURE.

#### F. OUTLET, PULL, AND JUNCTION BOXES

- EACH SWITCH, LIGHT, RECEPTACLE OR OTHER OUTLET, SHALL BE PROVIDED WITH A CODE SIZED, STEEL OUTLET BOX. JUNCTION AND PULL BOXES SHALL BE METAL AND CODE SIZED.
- BOXES INSTALLED IN POURED CEMENT FLOORS SHALL BE FLUSH TYPE CAST IRON OR STEEL WITH WATERTIGHT GASKETED COVERS. WHERE BOXES ARE INSTALLED IN FLOORS WITH TILE OR CARPET FLOOR COVERING, COVERS SHALL BE OF THE RECESSED TYPE TO ACCOMMODATE THE FLOOR COVERING.
- BOXES INSTALLED FOR THE ALARM, COMPUTER, AND SECURITY SYSTEM SHALL BE PROVIDED WITH APPROPRIATE COVER PLATES.
- BOXES FOR TELEPHONE, COMPUTER, T.V., FIRE ALARM, SECURITY, AND SIMILAR SYSTEMS SHALL BE MINIMUM 2-1/8" DEEP.

#### G. WIRING DEVICES

- WALL SWITCHES SHALL BE SPECIFICATION GRADE AC SILENT TYPE SWITCHES, 20A 120/277 VOLT.
- RECEPTACLES SHALL BE SPECIFICATION GRADE, DUPLEX TYPE, NEMAS-20R, 20 AMPERE, 120VOLT GROUNDING TYPE. SPECIAL APPLICATION RECEPTACLES SHALL BE INDICATED ON PLANS, MOUNT WITH THE GROUND DOWN.
- DEVICE PLATES SHALL BE EQUAL TO SIERRA SMOOTH-LINE PLASTIC WALL PLATES. COLOR SHALL BE WHITE, UNLESS OTHERWISE NOTED.
- RECEPTACLES IN OUTDOOR AND WET LOCATIONS SHALL BE INSTALLED WITH A HINGED OUTLET COVER/ENCLOSURE CLEARLY MARKED AND U.L. LISTED SUITABLE FOR WET LOCATIONS WHILE IN USE, EQUAL TO TAYMAC SPECIFICATION GRADE.

#### H. PANEL BOARDS

- CIRCUIT BREAKER TYPE AS INDICATED ON DRAWINGS. UNLESS INDICATED OTHERWISE, ALL PANELS SHALL HAVE PANEL HAVE PANEL BOARD TYPE CONSTRUCTION WITH BOLT-ON CIRCUIT BREAKERS FOR 3ø PANELS.
- MANUFACTURERS SHALL BE GENERAL ELECTRIC, SQUARE D, SEIMENS, CUTLER-HAMMER WITH VOLTAGE, SIZES, AND RATINGS AS INDICATED ON DRAWINGS.
- THE CIRCUIT BREAKERS SHALL BE OPERABLE IN ANY POSITION AND BE REMOVABLE FROM THE FRONT OF THE PANEL BOARD WITHOUT DISTURBING THE ADJACENT UNITS. BRANCH BREAKERS SHALL BE OF SUCH DESIGN THAT COMBINATION OF SINGLE-POLE, DOUBLE-POLE, AND THREE-POLE BREAKERS CAN BE ASSEMBLED ON THE SAME PANEL. EACH BRANCH CIRCUIT SHALL BE CLEARLY NUMBERED, BRANCH AND MAIN TERMINALS SHALL BE SOLDERLESS TYPE. HANDLE TIES TO FORM MULTI-POLE BREAKERS NOT ACCEPTABLE.

### I. LIGHTING FIXTURES

- PROVIDE ALL LIGHTING FIXTURES, WIRED AND CONNECTED. THE DRAWINGS INDICATE THE FIXTURES FOR EACH LOCATION. PROVIDE LAMPS FOR ALL FIXTURES. THE LAMPS SHALL BE BY THE SAME MANUFACTURER. VERIFY CEILING CONSTRUCTION BEFORE ORDERING RECESSED UNITS. PROVIDE PLASTER FRAMES AND HANGERS AS REQUIRED. CEILING CONSTRUCTION, ARCHITECTURAL ACCESSORIES, VOLTAGE, AND BALLASTS TO MEET THE EXISTING CEILING CONDITION.

### J. TELEPHONE AND CABLE TELEVISION SYSTEMS

- TELEPHONE WALL OUTLETS SHALL CONSIST OF STANDARD BOXES MOUNTED 18" ABOVE THE FLOOR UNLESS OTHERWISE INDICATED. PROVIDE A TERMINAL MOUNTING BOARD FOR THE INCOMING SERVICE CABLE.
- CABLE TELEVISION OUTLETS SHALL CONSIST OF STANDARD BOXES MOUNTED 18" ABOVE THE FLOOR UNLESS OTHERWISE INDICATED. PROVIDE A TERMINAL MOUNTING BOARD FOR THE INCOMING SERVICE CABLE.

### K. GUARANTEE

- GUARANTEE ALL MATERIAL FURNISHED AND ALL WORKMANSHIP PERFORMED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE OF WORK. ANY DEFECTS DEVELOPING WITHIN THIS PERIOD, TRACEABLE TO MATERIAL FURNISHED AS A PART OF THIS SECTION OR WORKMANSHIP PERFORMED HEREUNDER, SHALL BE MADE GOOD AT NO EXPENSE TO THE OWNER.

### L. FIRE SEALING NOTES

- COORDINATE CONSTRUCTION OF OPENINGS AND PENETRATING ITEMS TO ENSURE THAT THROUGH-PENETRATION FIRESTOP SYSTEMS ARE INSTALLED ACCORDING TO SPECIFIED AND APPLICABLE UL REQUIREMENTS.
- COORDINATE SIZING OF SLEEVES, OPENINGS, CORE-DRILLED HOLES, OR CUT OPENINGS TO ACCOMMODATE THROUGH-PENETRATION FIRESTOP SYSTEMS.
- DO NOT COVER UP THROUGH-PENETRATION FIRESTOP SYSTEM INSTALLATIONS UNTIL EXAMINED BY INSPECTOR, IF REQUIRED BY AUTHORITIES HAVING JURISDICTION.
- COMPATIBILITY: PROVIDE THROUGH-PENETRATION FIRESTOP SYSTEMS THAT ARE COMPATIBLE WITH ONE ANOTHER, WITH THE SUBSTRATES FORMING OPENINGS, AND WITH THE ITEMS, IF ANY, PENETRATING THROUGH-PENETRATION FIRESTOP SYSTEMS, UNDER CONDITIONS OF SERVICE AND APPLICATION, AS DEMONSTRATED BY THROUGH-PENETRATION FIRESTOP SYSTEM MANUFACTURER BASED ON TESTING AND FIELD EXPERIENCE.
- PROVIDE COMPONENTS FOR EACH THROUGH-PENETRATION FIRESTOP SYSTEM THAT ARE NEEDED TO INSTALL FILL MATERIALS. USE ONLY COMPONENTS SPECIFIED BY THROUGH-PENETRATION FIRESTOP SYSTEM MANUFACTURER AND APPROVED BY QUALIFIED TESTING AND INSPECTING AGENCY FOR FIRESTOP SYSTEMS INDICATED.
- PROVIDE SLEEVES THROUGH ALL FIRE-RATED WALLS AND FILL VOIDS SURROUNDING SLEEVES AND INTERIOR TO SLEEVES AROUND PIPING WITH FIRE STOP PUTTY WITH U.L. LISTED 3 HOUR RATING INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS.
- FIRE SEAL ALL PIPING, CONDUIT, CABLE, ETC. PENETRATIONS ROUTED THROUGH FIRE RATED WALLS.
- PROVIDE FIRE RATED ENCLOSURES OR WRAPS ON LIGHT FIXTURES AND OTHER ITEMS PENETRATING FIRE RATED CEILINGS, FLOOR/CEILING/ CEILING/ROOF ASSEMBLIES TO MAINTAIN UL LISTING FOR CONSTRUCTION.

### M. COORDINATION STUDY & ARC FLASH REQUIREMENTS

- THE ELECTRICAL CONTRACTOR MUST HIRE AN INDEPENDENT THIRD PARTY TO PERFORM A COORDINATION STUDY OF THE ENTIRE ELECTRICAL SYSTEM. THE COORDINATION STUDY SHALL BE PERFORMED AFTER THE ENGINEER HAS APPROVED THE SHOP DRAWINGS AND A MANUFACTURE HAS BEEN SELECTED. THE STUDY MUST BE PRESENT TO THE ENGINEER AND OWNER FOR REVIEW AND APPROVAL TO ENSURE THE ENTIRE ELECTRICAL SYSTEM IS PROPERLY COORDINATED.
- ARC FLASH REQUIREMENTS:
  - PROVIDE AN ARC FLASH EVALUATION FOR THE NEW ELECTRICAL EQUIPMENT. PERFORM ALL CALCULATIONS AND WORK WITH COMMERCIALY AVAILABLE COMPUTER SOFTWARE IN ACCORDANCE WITH IEEE ISTD. 1584-2018 IEEE GUIDE FOR PERFORMING ARC-FLASH HAZARD CALCULATIONS, NFPA 70-2017 (NEC), AND NFPA 70E-2018 STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE.
  - WHERE THE CALCULATIONS DETERMINE THAT THE SETTINGS RESULT IN PROHIBITIVE INCIDENT ENERGY LEVELS (>40 CAL/CM2) THE CONTRACTOR SHALL PROVIDE RECOMMENDED SETTINGS OR OTHER MITIGATION RECOMMENDATIONS TO REDUCE THE INCIDENT ENERGY TO A LEVEL WHERE ENERGIZED WORK IS CAPABLE OF BEING PERFORMED. THE CONTRACTOR SHALL DOCUMENT THE RECOMMENDED CHANGES AND PROVIDE TIME CURRENT CURVES INDICATING THE COORDINATION THAT REFLECTS THE RECOMMENDED SETTINGS.
  - PROVIDE LABELS FOR EACH ELECTRICAL ENCLOSURE OR EQUIPMENT WHERE WORKERS COULD BE EXPOSED TO ENERGIZED CONDUCTORS. THESE LABELS SHALL COMPLY WITH THE REQUIREMENTS OF NFPA 70E-2018 AND INCLUDE BUT NOT LIMITED TO:
    - VOLTAGE PHASE TO PHASE.
    - FLASH PROTECTION BOUNDARY (INCHES)
    - INCIDENT ENERGY AT THE WORKING DISTANCE (CAL/CM2)
    - PPE CLASS AND DESCRIPTION (INCLUDING GLOVE RATING)
    - RESTRICTED APPROACH BOUNDARY (INCHES)
    - LIMITED SHOCK APPROACH BOUNDARY (INCHES)
    - PROHIBITED SHOCK APPROACH BOUNDARY (INCHES)
    - LOCATION IDENTIFICATION

## GENERAL NOTES

- DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. REFER TO ARCHITECTURAL PLANS OR FIELD MEASUREMENTS FOR DIMENSIONS.
- ALL WORK SHALL COMPLY WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NFPA 70) AND ALL LOCAL BUILDING CODES AND AMENDMENTS.
- ALL ROOF AND WALL PENETRATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. PROVIDE ALL REQUIRED SLEEVES, FLASHINGS, CURBS, REINFORCED ANGLES, SUPPORTING FRAMES, ETC. UNLESS THEY ARE SPECIFICALLY CALLED OUT TO BE FURNISHED BY OTHERS.
- COORDINATE ALL WORK WITH OTHER TRADES AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACE AVAILABLE, AND WITHOUT INTERFERENCES.
- THIS CONTRACTOR SHALL PERFORM ALL WORK INDICATED AND/OR AS REQUIRED FOR THE PROPER INSTALLATION AND OPERATION OF THE ELECTRICAL SYSTEMS.
- ALL WIRING SHALL BE IN APPROVED RACEWAY.
- WIRE SIZE SHALL BE MINIMUM #12 AWG, THHN SOLID COPPER UNLESS OTHERWISE NOTED. PROVIDE GROUND WIRE WHERE REQUIRED BY CODE. INCREASE WIRE SIZE TO COMPENSATE FOR VOLTAGE DROP WHERE TOTAL LENGTH OF ANY BRANCH EXCEEDS 100 FEET.
- MAXIMUM NUMBER OF UNGROUNDING WIRES IN ANY CONDUIT SHALL BE THREE. ADDITIONAL WIRES ARE ACCEPTABLE IF WIRE SIZE IS INCREASED TO ALLOW FOR DERATING PER CODE. PROVIDE ADDITIONAL WIRES FOR SWITCHING AS REQUIRED.
- REFER TO LIGHTING FIXTURE SCHEDULE ON E201 FOR LIGHT FIXTURE TYPES AND REQUIREMENTS.
- CONNECT ALL EXIT SIGNS AND EMERGENCY LIGHTING UNITS TO THE INDICATED CIRCUIT WITH A SEPARATE AND UN-SWITCHED CONDUCTOR BYPASSING ALL CONTROLS AND CONTACTORS. REFER TO MANUFACTURER'S WRITTEN INSTRUCTIONS FOR PROPER INSTALLATION AND TESTING.
- THE ELECTRICAL SYSTEM DESIGN IS BASED IN PART ON THE SPECIFIED HVAC EQUIPMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE EXACT LOCATIONS AND ELECTRICAL REQUIREMENTS OF ALL HVAC EQUIPMENT BEING FURNISHED. ANY CHANGES TO THE ELECTRICAL SYSTEM DUE TO HVAC EQUIPMENT SUBSTITUTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- FIRE ALARM, AUDIO/VIDEO AND SURVEILLANCE SYSTEMS BY OTHERS.
- PROVIDE ALL ADDITIONAL EXTRA CONDUCTORS NEEDED FOR UNSWITCHED AND SWITCH LEGS AND TRAVELERS BETWEEN SWITCHES.

## SYMBOLS LEGEND

NOTE: THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS, ETC, ARE NECESSARILY USED ON THE DRAWINGS.

### LIGHTING FIXTURES - SYMBOL/LETTER INDICATES LIGHT FIXTURE AS INDICATED ON FIXTURE SCHEDULE

- LED FIXTURE (SEE LIGHTING FIXTURE SCHEDULE)
- FIXTURE WITH EMERGENCY BATTERY DRIVER UNIT  
TRACK LIGHT
- DOWNLIGHT FIXTURE WITH EMERGENCY BATTERY DRIVER UNIT  
WALL MOUNTED FIXTURE WITH EMERGENCY BATTERY DRIVER UNIT  
PENDANT MOUNTED FIXTURE WITH EMERGENCY BATTERY DRIVER UNIT
- DOWNLIGHT FIXTURE  
WALL MOUNTED FIXTURE  
PENDANT MOUNTED FIXTURE
- WALL WASHER
- SINGLE FACE EXIT SIGN - UNIVERSAL MOUNTED  
SINGLE FACE EXIT SIGN W/ DIRECTIONAL ARROWS - UNIVERSAL MTD
- DOUBLE FACE EXIT SIGN W/ DIRECTIONAL ARROWS - UNIVERSAL MTD
- DUAL HEADED EMERGENCY UNIT  
COMBO DUAL HEADED EMERGENCY AND EXIT SIGN UNIT

### LIGHTING CONTROLS

- S SINGLE POLE SWITCH @ +48" UNLESS NOTED
- Sabc SWITCH BANK @ +48" UNLESS NOTED. LOWER CASE LETTER INDICATES FIXTURE CONTROLLED.
- S3 3-WAY SWITCH @ +48" UNLESS NOTED
- S4 4-WAY SWITCH @ +48" UNLESS NOTED
- Sd DIMMER SWITCH - SIZE AS REQUIRED @ +48" UNLESS NOTED
- Sm MANUAL MOTOR STARTER
- Sos WALL SWITCH WITH OCCUPANCY SENSOR. DIGITAL LOW VOLTAGE WALL SWITCH. SWITCH @ +48" UNLESS NOTED.
- SLV TWO BUTTON DIGITAL LOW VOLTAGE WALL SWITCH. PROVIDES ON/OFF/0-10V DIMMING. SWITCH @ +48" UNLESS NOTED. PROVIDE EXTRA CONTROL CABLES NEEDED TO FIXTURE CONTROLLED.
- Ⓢ LIGHTING CONTROLS CEILING MOUNT OCCUPANCY SENSOR
- Ⓢ LIGHTING CONTROLS POWER PACK

### POWER DISTRIBUTION

- SWITCHBOARD, MOTOR CONTROL CENTER OR DISTRIBUTION BOARD
- 277/480V, 3 PHASE, 4 WIRE PANELBOARD, UNO
- 120/208V, 3 PHASE, 4 WIRE PANELBOARD, UNO
- 120/240V, 1 PHASE, 3 WIRE PANELBOARD, UNO
- TRANSFORMER

### POWER DEVICES

- SPECIAL HEAVY DUTY RECEPTACLE - SIZE AS NOTED. @ +18" UNLESS NOTED
- 1/2 SWITCHED RECEPTACLE @ +18" UNLESS NOTED
- FIRE RATED POKE THRU WITH TYPE INDICATED
- FLUSH FLOOR BOX WITH TYPE INDICATED
- SINGLE RECEPTACLE @ +18" UNLESS NOTED
- DUPLEX RECEPTACLE @ +18" UNLESS NOTED
- DOUBLE DUPLEX RECEPTACLE @ +18" UNLESS NOTED
- DUPLEX RECEPTACLE INSTALLED ABOVE COUNTERTOP
- GFCI-RATED DUPLEX RECEPTACLE
- ARC FAULT RATED DUPLEX RECEPTACLE
- TAMPER RESISTANT RATED DUPLEX RECEPTACLE
- DUPLEX RECEPTACLE WITH WEATHERPROOF COVERPLATE @ 18" UNLESS NOTED
- JUNCTION BOX
- DISCONNECT SWITCH - SIZE AND TYPE NOTED
- COMBINATION FUSED STARTER DISCONNECT SWITCH FUSE SIZE AS INDICATED, STARTER SIZE "I"

### AUXILIARY SYSTEMS

- MECHANICAL EQUIP. CONNECTION, SEE SCHED. ON MECH. PLAN
- TELEPHONE OUTLET @ +18" UNLESS NOTED
- DATA OUTLET @ +18" UNLESS NOTED
- COMBINATION TELEPHONE/DATA OUTLET @ +18" UNLESS NOTED
- TELEVISION OUTLET @ +60" UNLESS NOTED
- SMOKE DETECTOR
- HEAT DETECTOR
- DUCT SMOKE DETECTOR
- REMOTE TEST STATION WITH INDICATING LIGHT. MOUNT AT 48" AFF UNO.
- AUXILIARY SYSTEM TERMINAL CABINET

### GENERAL

- CONDUIT RUN CONCEALED IN WALL OR ABOVE CEILING
- CONDUIT RUN BELOW FLOOR OR GRADE
- HOMERUN TO PANELBOARD, INFORMATION AT ARROWS ARE CIRCUIT NUMBERS AND PANELBOARD FOR TERMINATION. REFER TO ASSOCIATED NOTE FOR BRANCH CIRCUIT CONDUCTOR SIZES.
- INDICATES 1/2" CONDUIT CONCEALED IN CEILING OR WALL WITH (3) CONDUCTORS, (1) PHASE, (1) NEUTRAL AND (1) GROUND WIRE. ALL ARE #12 AWG UNLESS NOTED OTHERWISE.
- (E) OR ETR: DENOTES EXISTING ITEM/EQUIPMENT TO REMAIN

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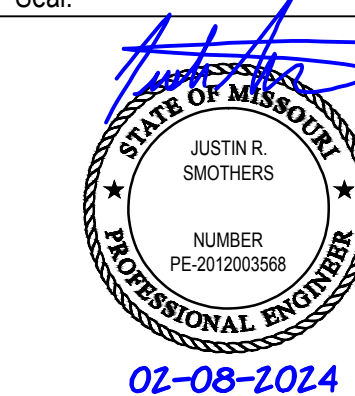
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Seal:



Project Number: 23-015

Project Type: NEW CONSTRUCTION

Project Name and Address:

LAKEWOOD BUSINESS CENTER,  
LOT 1  
NE Maguire Blvd.  
Lee's Summit, Missouri 64064

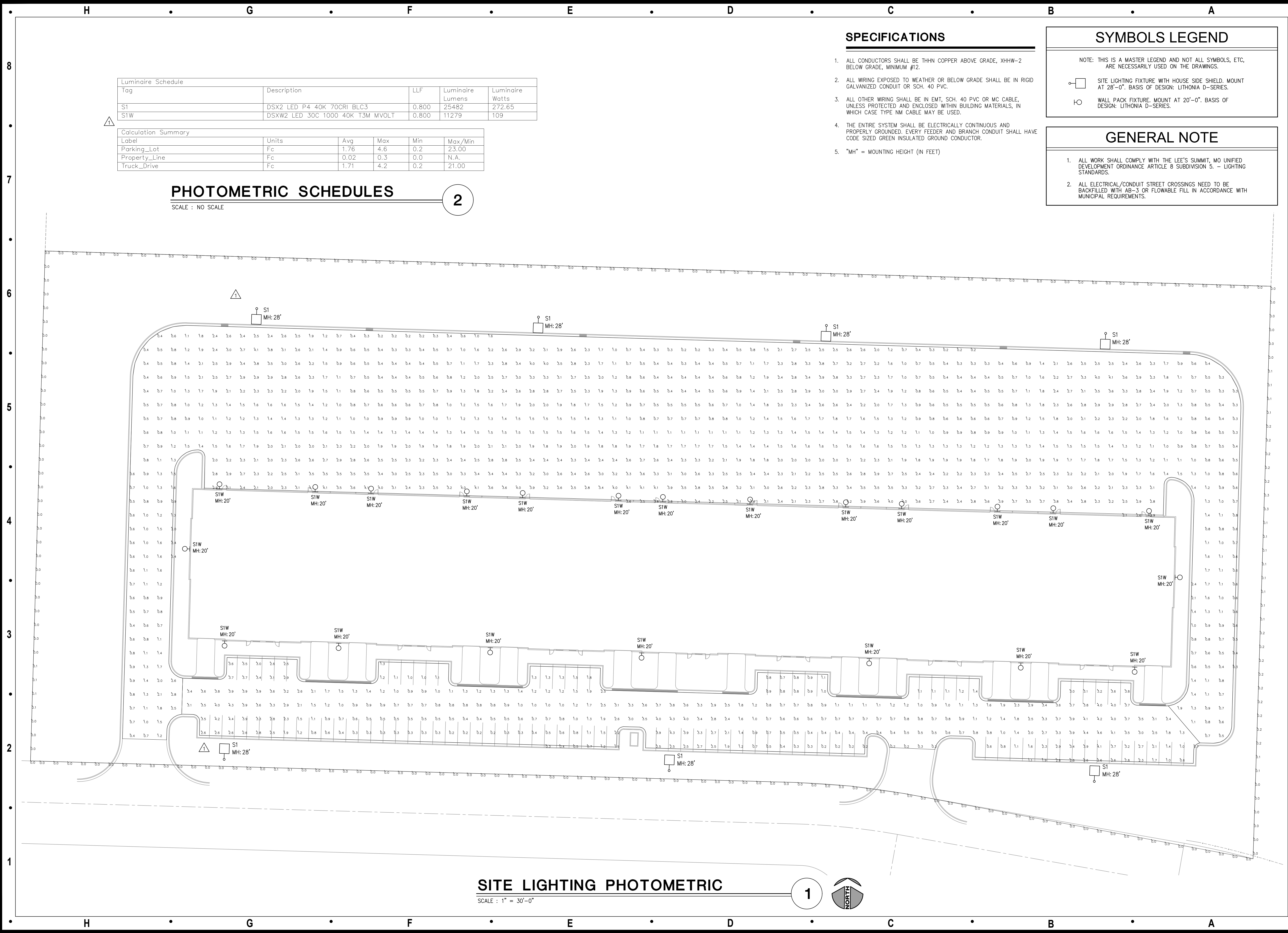
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Permit Set 08.31.23  
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Planchcheck 10.20.23  
Updated Permit Set 02.08.24

Sheet Title:

ELECTRICAL  
SPECIFICATIONS,  
SYMBOLS, & NOTES

E-001





Luminaire Schedule				
Tag	Description	LLF	Luminaire Lumens	Luminaire Watts
S1	DSX2 LED P4 40K 70CRI BLC3	0.800	25482	272.65
SIW	DSXW2 LED 30C 1000 40K T3M MVOLT	0.800	11279	109

Calculation Summary					
Label	Units	Avg	Max	Min	Max/Min
Parking_Lot	Fc	1.76	4.6	0.2	23.00
Property_Line	Fc	0.02	0.3	0.0	N.A.
Truck_Drive	Fc	1.71	4.2	0.2	21.00

## PHOTOMETRIC SCHEDULES

SCALE : NO SCALE

2

## SPECIFICATIONS

- ALL CONDUCTORS SHALL BE THHN COPPER ABOVE GRADE, XHHW-2 BELOW GRADE, MINIMUM #12.
- ALL WIRING EXPOSED TO WEATHER OR BELOW GRADE SHALL BE IN RIGID GALVANIZED CONDUIT OR SCH. 40 PVC.
- ALL OTHER WIRING SHALL BE IN EMT, SCH. 40 PVC OR MC CABLE, UNLESS PROTECTED AND ENCLOSED WITHIN BUILDING MATERIALS, IN WHICH CASE TYPE NM CABLE MAY BE USED.
- THE ENTIRE SYSTEM SHALL BE ELECTRICALLY CONTINUOUS AND PROPERLY GROUNDED. EVERY FEEDER AND BRANCH CONDUIT SHALL HAVE CODE SIZED GREEN INSULATED GROUND CONDUCTOR.
- "MH" = MOUNTING HEIGHT (IN FEET)

## SYMBOLS LEGEND

NOTE: THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS, ETC, ARE NECESSARILY USED ON THE DRAWINGS.

- SITE LIGHTING FIXTURE WITH HOUSE SIDE SHIELD. MOUNT AT 28'-0". BASIS OF DESIGN: LITHONIA D-SERIES.
- WALL PACK FIXTURE. MOUNT AT 20'-0". BASIS OF DESIGN: LITHONIA D-SERIES.

## GENERAL NOTE

- ALL WORK SHALL COMPLY WITH THE LEE'S SUMMIT, MO UNIFIED DEVELOPMENT ORDINANCE ARTICLE 8 SUBDIVISION 5. - LIGHTING STANDARDS.
- ALL ELECTRICAL/CONDUIT STREET CROSSINGS NEED TO BE BACKFILLED WITH AB-3 OR FLOWABLE FILL IN ACCORDANCE WITH MUNICIPAL REQUIREMENTS.

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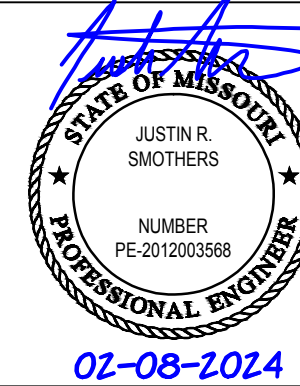
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Project Type: NEW CONSTRUCTION

Project Name and Address:

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Issue:	Date:
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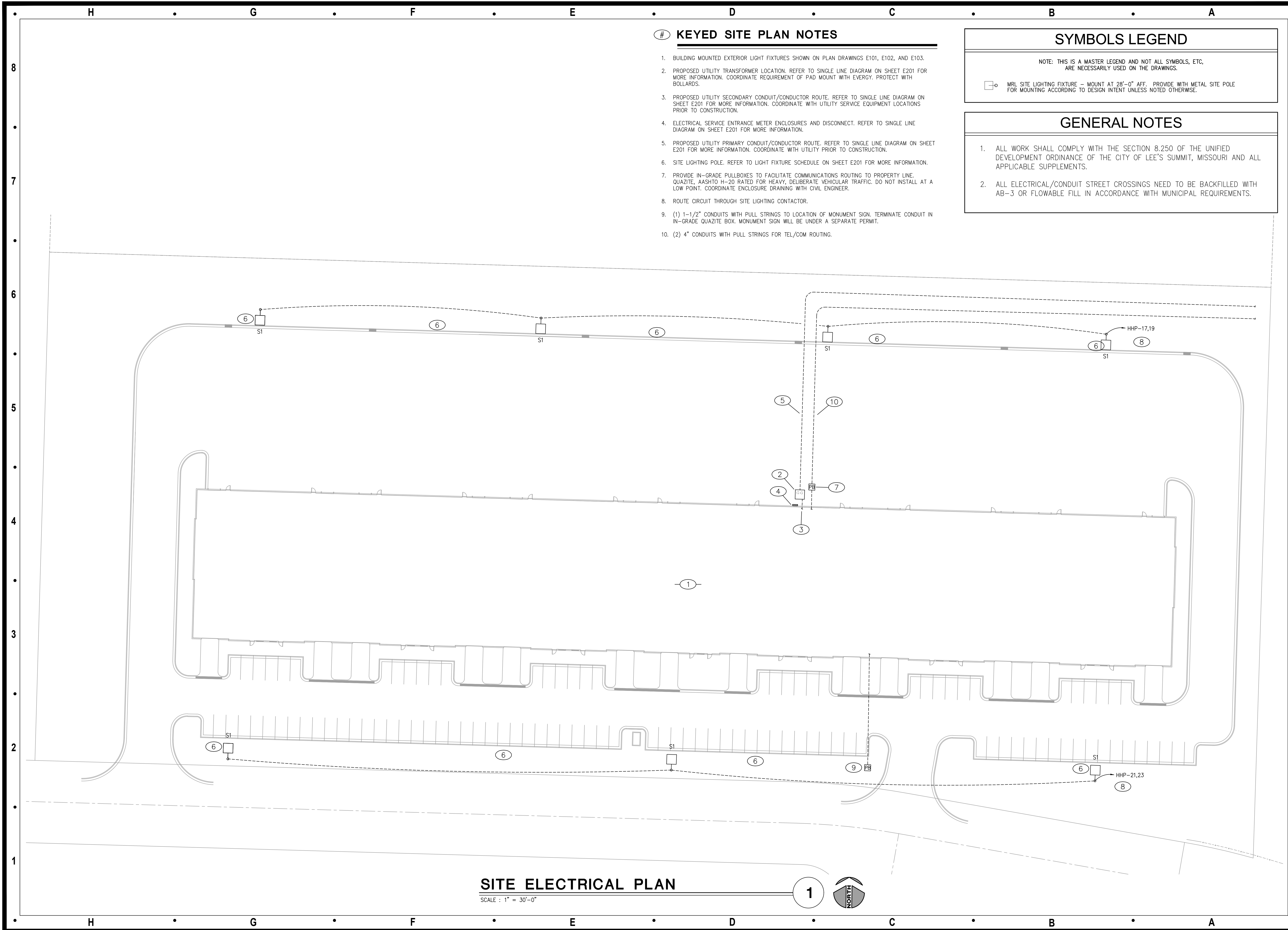
SITE LIGHTING  
PHOTOMETRIC

E-002









- # KEYED SITE PLAN NOTES
- BUILDING MOUNTED EXTERIOR LIGHT FIXTURES SHOWN ON PLAN DRAWINGS E101, E102, AND E103.
  - PROPOSED UTILITY TRANSFORMER LOCATION. REFER TO SINGLE LINE DIAGRAM ON SHEET E201 FOR MORE INFORMATION. COORDINATE REQUIREMENT OF PAD MOUNT WITH EVERY. PROTECT WITH BOLLARDS.
  - PROPOSED UTILITY SECONDARY CONDUIT/CONDUCTOR ROUTE. REFER TO SINGLE LINE DIAGRAM ON SHEET E201 FOR MORE INFORMATION. COORDINATE WITH UTILITY SERVICE EQUIPMENT LOCATIONS PRIOR TO CONSTRUCTION.
  - ELECTRICAL SERVICE ENTRANCE METER ENCLOSURES AND DISCONNECT. REFER TO SINGLE LINE DIAGRAM ON SHEET E201 FOR MORE INFORMATION.
  - PROPOSED UTILITY PRIMARY CONDUIT/CONDUCTOR ROUTE. REFER TO SINGLE LINE DIAGRAM ON SHEET E201 FOR MORE INFORMATION. COORDINATE WITH UTILITY PRIOR TO CONSTRUCTION.
  - SITE LIGHTING POLE. REFER TO LIGHT FIXTURE SCHEDULE ON SHEET E201 FOR MORE INFORMATION.
  - PROVIDE IN-GRADE PULLBOXES TO FACILITATE COMMUNICATIONS ROUTING TO PROPERTY LINE. QUAZITE, AASHTO H-20 RATED FOR HEAVY, DELIBERATE VEHICULAR TRAFFIC. DO NOT INSTALL AT A LOW POINT. COORDINATE ENCLOSURE DRAINING WITH CIVIL ENGINEER.
  - ROUTE CIRCUIT THROUGH SITE LIGHTING CONTACTOR.
  - (1) 1-1/2" CONDUITS WITH PULL STRINGS TO LOCATION OF MONUMENT SIGN. TERMINATE CONDUIT IN IN-GRADE QUAZITE BOX. MONUMENT SIGN WILL BE UNDER A SEPARATE PERMIT.
  - (2) 4" CONDUITS WITH PULL STRINGS FOR TEL/COM ROUTING.

SYMBOLS LEGEND

NOTE: THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS, ETC, ARE NECESSARILY USED ON THE DRAWINGS.

MRL SITE LIGHTING FIXTURE - MOUNT AT 28'-0" AFF. PROVIDE WITH METAL SITE POLE FOR MOUNTING ACCORDING TO DESIGN INTENT UNLESS NOTED OTHERWISE.

GENERAL NOTES

- ALL WORK SHALL COMPLY WITH THE SECTION 8.250 OF THE UNIFIED DEVELOPMENT ORDINANCE OF THE CITY OF LEE'S SUMMIT, MISSOURI AND ALL APPLICABLE SUPPLEMENTS.
- ALL ELECTRICAL/CONDUIT STREET CROSSINGS NEED TO BE BACKFILLED WITH AB-3 OR FLOWABLE FILL IN ACCORDANCE WITH MUNICIPAL REQUIREMENTS.

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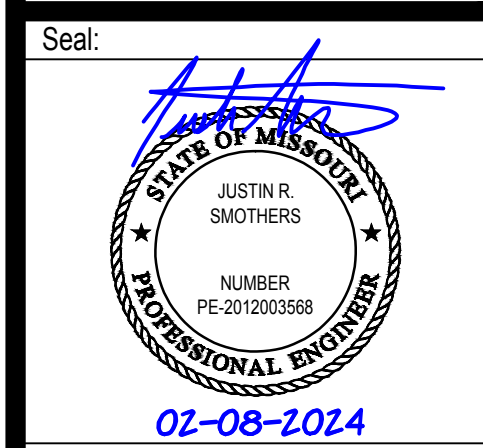
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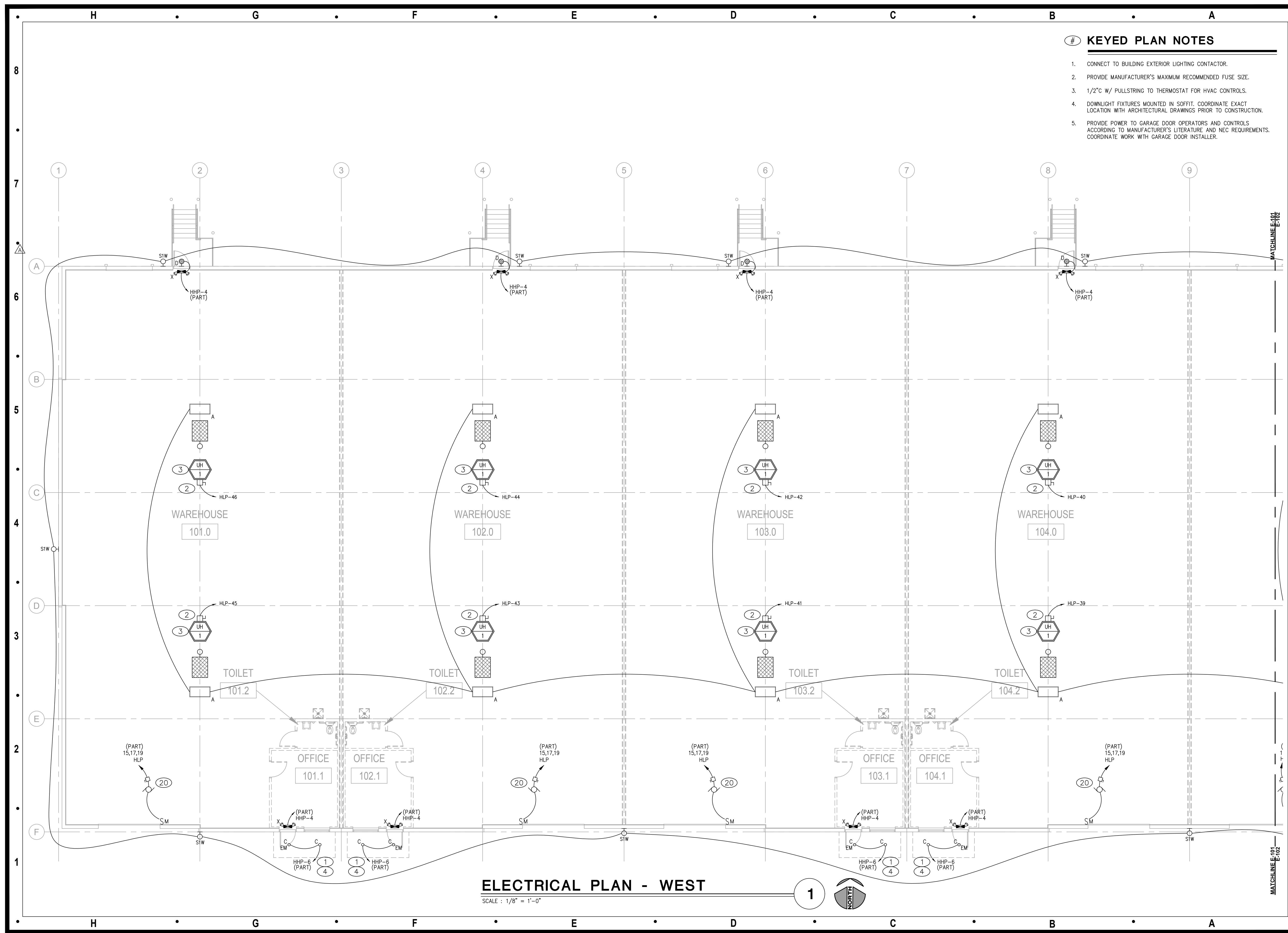
Project Number: 23-015  
Project Type: NEW CONSTRUCTION  
Project Name and Address:  
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LOT 1  
NE Maguire Blvd.  
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△ Plancheck	10.20.23
Updated Permit Set	02.08.24


Sheet Title:

SITE ELECTRICAL  
PLAN  
**E-100**





- # KEYED PLAN NOTES
- CONNECT TO BUILDING EXTERIOR LIGHTING CONTACTOR.
  - PROVIDE MANUFACTURER'S MAXIMUM RECOMMENDED FUSE SIZE.
  - 1/2" w/ PULLSTRING TO THERMOSTAT FOR HVAC CONTROLS.
  - DOWNLIGHT FIXTURES MOUNTED IN SOFFIT. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
  - PROVIDE POWER TO GARAGE DOOR OPERATORS AND CONTROLS. ACCORDING TO MANUFACTURER'S LITERATURE AND NEC REQUIREMENTS. COORDINATE WORK WITH GARAGE DOOR INSTALLER.

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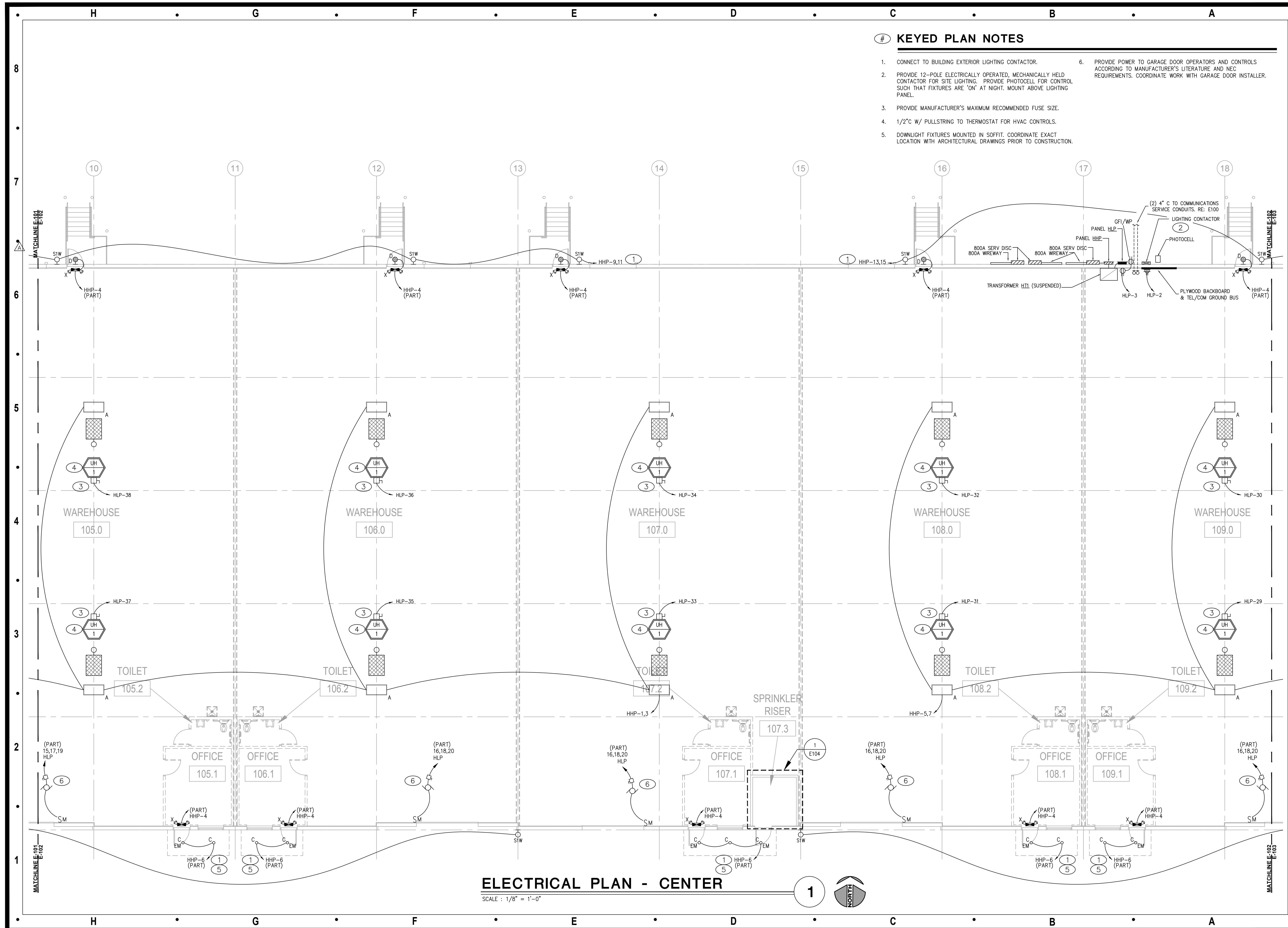
**LAKEWOOD BUSINESS CENTER,  
LOT 1**  
**NE Maguire Blvd.**  
**Lee's Summit, Missouri 64064**

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Sheet Title:

PARTIAL  
ELECTRICAL PLAN  
- WEST  
**E-101**





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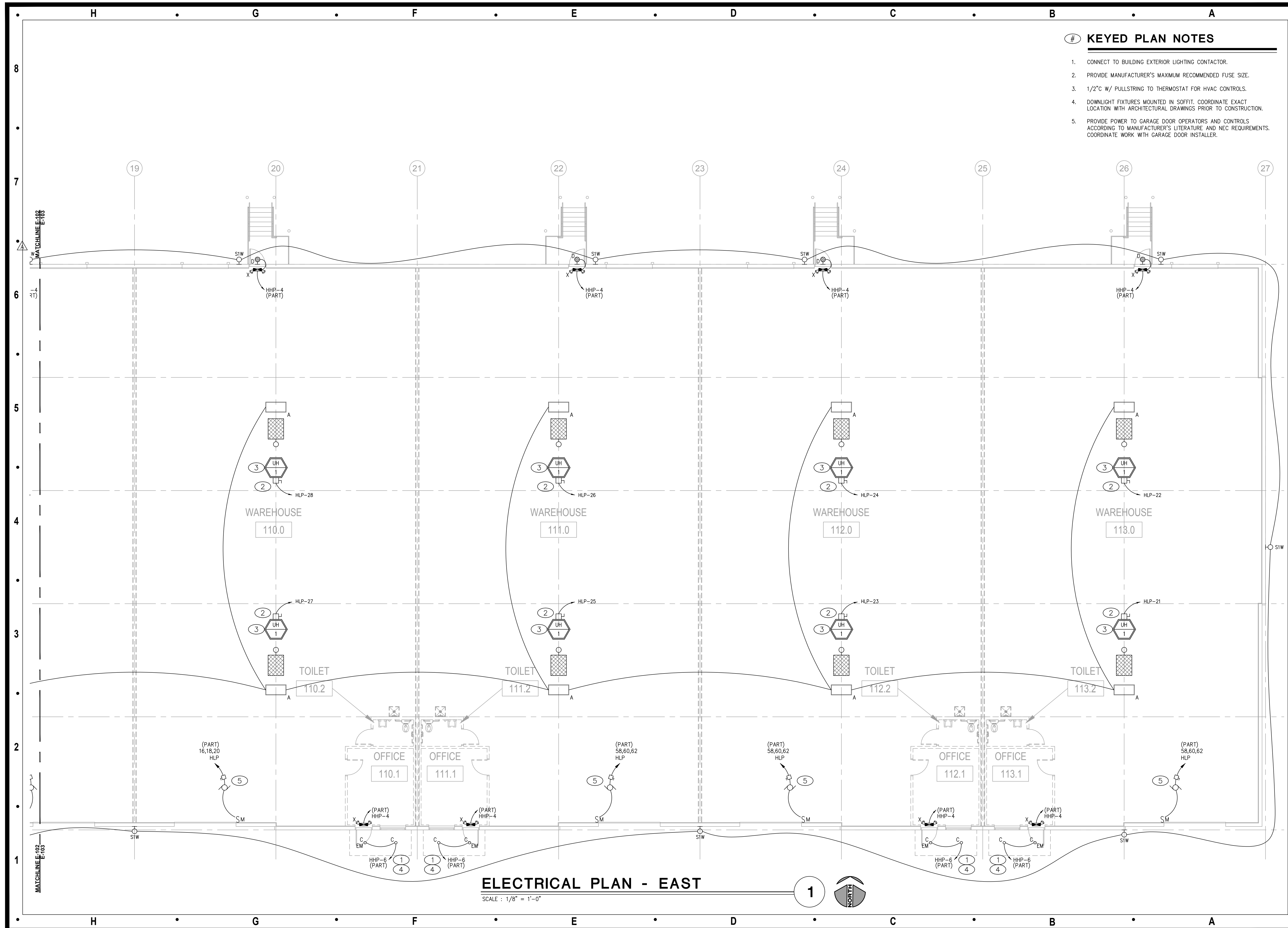
JUSTIN R. SMOTHERS  
NUMBER PE-2012003558  
02-08-2024

Project Number: 23-015  
Project Type: NEW CONSTRUCTION  
Project Name and Address:  
**LAKEWOOD BUSINESS CENTER, LOT 1**  
NE Maguire Blvd.  
Lee's Summit, Missouri 64064

Issue: Date:  
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Sheet Title:  
**PARTIAL ELECTRICAL PLAN - CENTER**  
**E-102**





- # KEYED PLAN NOTES
1. CONNECT TO BUILDING EXTERIOR LIGHTING CONTACTOR.
  2. PROVIDE MANUFACTURER'S MAXIMUM RECOMMENDED FUSE SIZE.
  3. 1/2" W/ PULLSTRING TO THERMOSTAT FOR HVAC CONTROLS.
  4. DOWNLIGHT FIXTURES MOUNTED IN SOFFIT. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
  5. PROVIDE POWER TO GARAGE DOOR OPERATORS AND CONTROLS ACCORDING TO MANUFACTURER'S LITERATURE AND NEC REQUIREMENTS. COORDINATE WORK WITH GARAGE DOOR INSTALLER.

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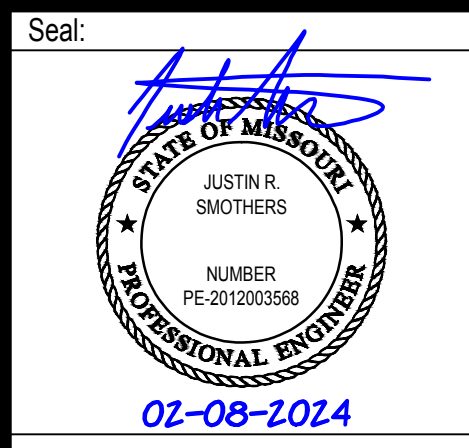
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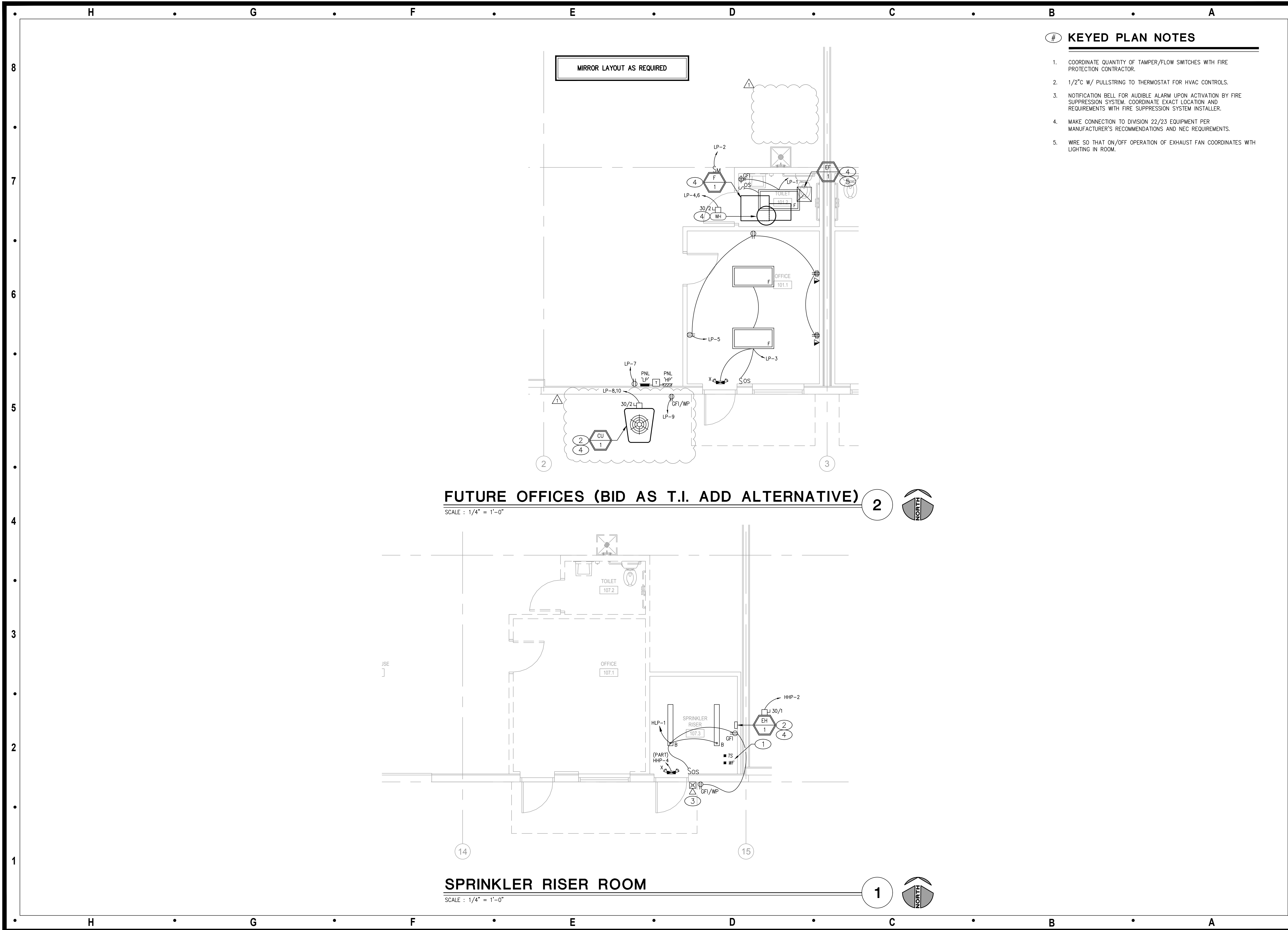


Project Number:	23-015
Project Type:	NEW CONSTRUCTION
Project Name and Address:	LAKELWOOD BUSINESS CENTER, LOT 1 NE Maguire Blvd. Lee's Summit, Missouri 64064
Issue:	Date:
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Sheet Title:

PARTIAL  
ELECTRICAL PLAN  
- EAST  
E-103





# KEYED PLAN NOTES

1. COORDINATE QUANTITY OF TAMPER/FLOW SWITCHES WITH FIRE PROTECTION CONTRACTOR.
2. 1/2" W/ PULLSTRING TO THERMOSTAT FOR HVAC CONTROLS.
3. NOTIFICATION BELL FOR AUDIBLE ALARM UPON ACTIVATION BY FIRE SUPPRESSION SYSTEM. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH FIRE SUPPRESSION SYSTEM INSTALLER.
4. MAKE CONNECTION TO DIVISION 22/23 EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS AND NEC REQUIREMENTS.
5. WIRE SO THAT ON/OFF OPERATION OF EXHAUST FAN COORDINATES WITH LIGHTING IN ROOM.

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Project Number: 23-015

Project Type: NEW CONSTRUCTION

Project Name and Address:

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Sheet Title:

ENLARGED  
ELECTRICAL PLANS

E-104



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Project Type: NEW CONSTRUCTION

Project Name and Address:

LAKESWOOD BUSINESS CENTER,  
LOT 1  
NE Maguire Blvd.  
Lee's Summit, Missouri 64064

Issue: Date:  
Permit Set 08.31.23  
Planchcheck 09.21.23  
Planchcheck 10.20.23  
Updated Permit Set 02.08.24

Sheet Title:

ELECTRICAL  
SCHEDULES AND  
DIAGRAMS

E-201

## VOLTAGE DROP CRITERIA

PROVIDE WIRING PER THE TABLE BELOW, UNLESS NOTED OTHERWISE. (NOTE: DISTANCE IS ORTHOGONAL DISTANCE TO CENTER OF LOAD).

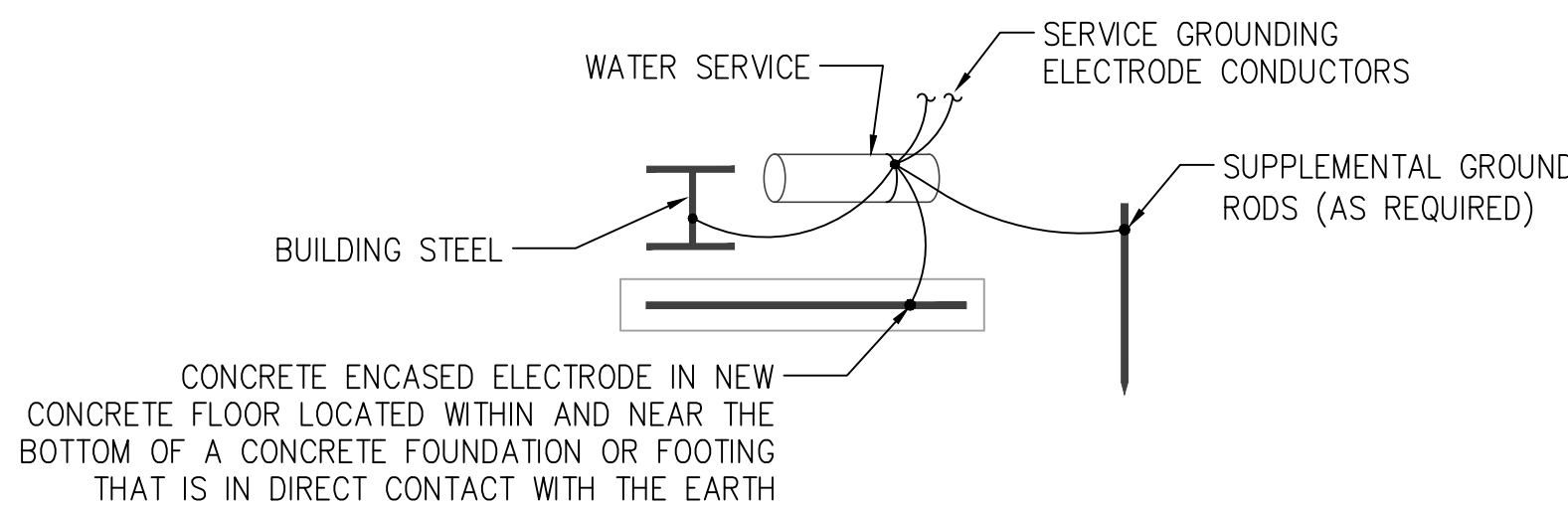
120 VOLT - 20 AMP CIRCUITS  
0-100 FEET: #12  
101-150 FEET: #10  
151-200 FEET: #8  
201-300 FEET: #6  
301-450 FEET: #4  
451-750 FEET: #2

277 VOLT - 20 AMP CIRCUITS  
0-150 FEET: #12  
151-250 FEET: #10  
251-400 FEET: #8  
401-600 FEET: #6  
601-1000 FEET: #4

## GROUNDING ELECTRODE CONDUCTOR SIZING

SIZE OF LARGEST UNGROUNDED CONDUCTOR OR EQUIVALENT AREA FOR PARALLEL CONDUCTORS (AWG/KCMIL)		*SIZE OF GROUNDING ELECTRODE CONDUCTOR (AWG/KCMIL)	
COPPER	ALUMINUM OR COPPER-CLAD ALUMINUM	COPPER	ALUMINUM OR COPPER-CLAD ALUMINUM
2 OR SMALLER	1/0 OR SMALLER	8	6
1 OR 1/0	2/0 OR 3/0	6	4
2/0 OR 3/0	4/0 OR 250	4	2
OVER 3/0 THROUGH 350	OVER 250 THROUGH 500	2	1/0
OVER 350 THROUGH 600	OVER 500 THROUGH 900	1/0	3/0
OVER 600 THROUGH 1100	OVER 900 THROUGH 1750	2/0	4/0
OVER 1100	OVER 1750	3/0	250

\*FOR EXCEPTIONS REFER TO NEC 250.66(A) THROUGH (C).



## GROUNDING ELECTRODE SYSTEM DIAGRAM

SCALE : NO SCALE

2

## ELECTRICAL LIGHTING SCHEDULE (OR EQUAL. VERIFY ALL SELECTIONS AND FINISHES WITH OWNER OR ARCHITECT PRIOR TO ORDERING).

FIXTURE TYPE	MANUFACTURER		VOLT AMPS	MOUNTING	LAMP TYPE	REMARKS	VOLT	REMARKS
	NAME	CATALOG NUMBER						
A	ORACLE	ORHB6-LED ARCHITECTURAL ROUND LED HIGH BAY	200	CHAIN SUSPENDED	200 WATT, 4000K, 30,000 LUMEN LED	ROUND LED HIGH BAY INDUSTRIAL FIXTURE, 4000K.	MVOLT	1
B	LITHONIA	ZL1D-L48-SMR-5000LM-FST-MVOLT-40K-80CRI WITH HC36M12	41	CHAIN SUSPENDED	41 WATT LED	4'-0" LONG SPECIFICATION-GRADE ROUND LENS STRIP FIXTURE. CHAIN MOUNT FROM CEILING AT 8'-6" A.F.F. ALL PARTS PAINTED WHITE AFTER FABRICATION.	277/120	1,2
C	LITHONIA	LDN6-40/25-LO6-AR-LSS-MVOLT-GZ10	28.3	RECESSED	2500 LUMEN PACKAGE, 80 CRI, 28.3 WATTS	6" ROUND APERTURE RECESSED LED DOWNLIGHT. CLEAR TRIM WITH SEMI-SPECULAR FINISH. RATED FOR WET LOCATION.	277/120	1,2
D	LITHONIA	AFB-OELR-DBTXD-WT	2.55	WALL	225 LUMEN LED	WET LOCATION LISTED, LED, DIE-CAST ALUMINUM EMERGENCY LIGHTING UNIT FOR OUTDOOR INSTALLATION FEATURING LONG-LIFE LEDS. FINISH DARK BRONZE.	277/120	-
F	LITHONIA	EPANL-2X4-4000LM-80CRI-40K-MIN10-ZT-MVOLT	38	CEILING GRID	38 WATT LED	2'X4' LED FLAT PANEL, 4000 LUMEN, 4000K	277/120	1
X	LITHONIA	LHQM-LED-R-HO-SD	4.3	WALL	TWO (2) 1.5 WATT LED LAMP HEADS.	COMBINATION EMERGENCY LIGHTING UNIT / EXIT LIGHT. UV-STABLE THERMOPLASTIC HOUSING, FINISH WHITE. ADJUSTABLE LIGHTING HEADS FOR EMERGENCY LIGHT. EXIT SIGN TO HAVE RED LETTERS WITH DIRECTIONAL ARROWS AS INDICATED ON THE PLANS. NICKEL-CADMIUM HIGH OUTPUT BATTERY WITH SELF-DIAGNOSTICS FOR 90 MINUTE OPERATION OF LAMPS, EXIT SIGN, AND REMOTE HEAD.	277/120	-
S1W	LITHONIA	DSXW2-LED-30C-1000-40K-T3M-480	109	WALL	109 WATT, 4000K, 70 CRI LED	UNIVERSAL MOUNT AREA LED LIGHT. DIE CAST ALUMINUM HOUSING WITH INTEGRAL HEAT SINKS. IP65 RATED. IES TYPE III MEDIUM DISTRIBUTION. 1000mA DRIVER, 11,000 LUMEN. STANDARD POWDER COAT FINISH - COORDINATE EXACT COLOR WITH ARCHITECT.	480	1
S1	LITHONIA	DSX2-LED-P4-40K-70CRI-BLC3-HVOLT	277	POLE	277 WATT, 4000K, 70 CRI LED	POLE MOUNT AREA LED LIGHT. DIE CAST ALUMINUM HOUSING WITH INTEGRAL HEAT SINKS. IP66 RATED. IES TYPE III DISTRIBUTION WITH BACKLIGHT CONTROL. 1050mA DRIVER, 25,000 LUMEN. STANDARD POWDER COAT FINISH - COORDINATE EXACT COLOR WITH ARCHITECT. PROVIDE 30" TALL STEEL ROUND POLE, FINISH TO MATCH FIXTURE.	480	1,3

### REMARKS:

- FURNISH WITH AND INSTALL ALL NECESSARY HARDWARE AND MOUNTING BRACKETS.
- WHERE FIXTURE IS LABELED "EM", PROVIDE WITH EMERGENCY BATTERY PACK OPTION FOR 90 MINUTES OF OUTPUT.
- POLE SHALL BE 4" SHAFT, 0.120" WALL THICKNESS, WITH HAND HOLE, GROUND LUG AND FULL BASE COVER.

## Short-Circuit and Voltage Drop Calculations

Distances are for calculation purposes only and shall not be used for contractor takeoffs nor bidding - Contractor shall notify Engineer of any field condition that results in a change of 10% or greater circuit distance.

The following calculations are based on the "Point-to-Point" method where:

$ISC_{(a)} = ISC_{(a)} \times M_{(a)}$

$ISC_{(a)} =$  short circuit current at fault point 1

$ISC_{(a)} =$  short circuit current at fault point 2

$IP =$  Primary short circuit current

$VS =$  Secondary short circuit current

$VS =$  Secondary voltage

$L =$  Length of circuit

$C = "C"$  Factor from Busman table where "C" = 1 / impedance per linear foot

Feeder Types =

NM - Non-Magnetic Conduit, M - Magnetic Conduit, FB - Feeder Busway, PB - Plug-in Busway, TX - Transformer

Feeder:  $f_{(a)} = \frac{1.732 \times L \times I_{sc}}{C \times E}$

Feeder:  $f_{(a)} = \frac{2.4 \times L \times I_{sc}}{C \times E}$

XFMR:  $f_{(a)} = \frac{IP \times I_{sc} \times V_p \times 1.73 \times \%Z}{100,000 \times KVA}$

XFMR:  $f_{(a)} = \frac{IP \times I_{sc} \times V_p \times \%Z}{100,000 \times KVA}$

$IS_{(a)} = \frac{V_p \times M \times IP_{(a)}}{V_s}$

VOLTAGE DROP (3Ø)

$\%VD = (R \times \cos(\arccos(pf)) + X \times \sin(\arccos(pf))) \times L \times I \times 1.73 / E$

VOLTAGE DROP (1Ø)

$\%VD = (R \times \cos(\arccos(pf)) + X \times \sin(\arccos(pf))) \times L \times I \times 1 / E$

$\%VD \text{ CUM} =$  Cumulative Voltage Drop from Fault Point 1 to Fault Point #

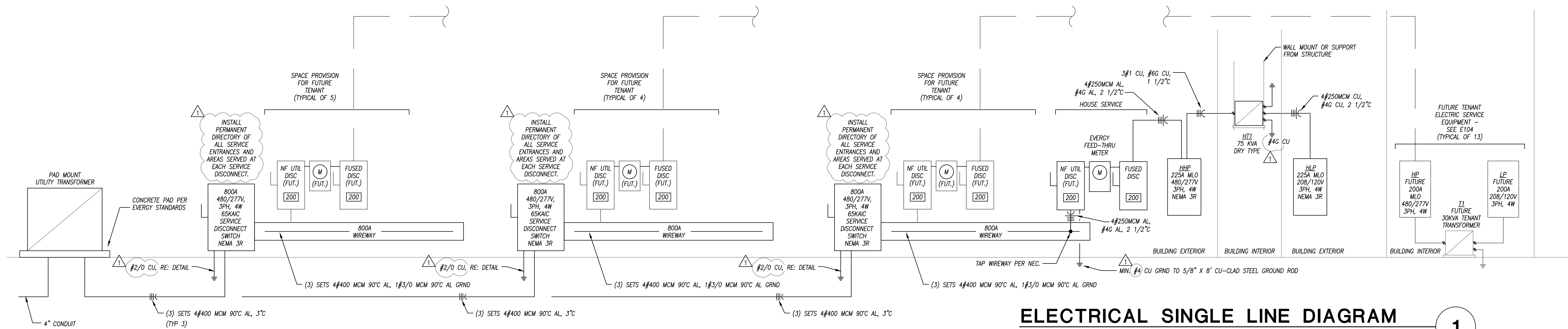
R = resistance in ohms per LF

X = reactances in ohms per LF

Date of Calculations: 06.05.23

System Voltage: 480/277V-3 phase

Point (#)	Bus/Feeder Description	(Fault Point)	Phase	Isc (amps)	Conduit Type/Size	Material	Quantity of Parallel Set and Bus Phase & Neutral Size	Conductor C Value	Busway C Value	L-L Voltage (E)	Circuit Length (L)	Power Factor (pf)	Circuit Load (Amperage)	Resistance (R)	Reactance (X)	Arccos (pf) (Radians)	Type	Degree Rise	kVA	New Xlm Z	Existing Xlm Z	Secondary Voltage	Tap Setting	f	M	Fault Current (amps)	Fault Voltage Drop (%VD)	Cumulative Fault Voltage Drop (%VD)	Point (#)	
Utility Service Point										Source Isc = 65,000 at the secondary of the utility transformer										Source Isc = 65,000 at the secondary of the utility transformer										
Main Contribution																														
TO SERVICE DISCONNECT (TYP 3)																														
1	3	66600	NM	AL	3 Sets) of 400 kcmil	18506	--	480	20	0.9	98	0.000054	0.000040	0.451027											0.087	0.92	61294	-0.02%	-0.02%	2
TO HOUSE MTR/DISC																														
2	3	61294	M	AL	1 Set) of 250 kcmil	12122	--	480	20	0.9	98	0.000085	0.000052	0.451027											0.365	0.73	44607	-0.07%	-0.09%	3
TO PNLBD VHP																														
3	3	44607	M	AL	8 Sets) of 250 AWG	12122	--	480	20	0.9	98	0.000088	0.000050	0.451027											0.367	0.79	35433	-0.07%	-0.16%	4
TO XFMR HT1																														
4	3	35433	M	AL	1 Set) of 2/0 AWG	7187	--	480	20	0.9	98	0.000160	0.000054	0.451027											0.356	0.74	26135	-0.12%	-0.28%	5
XFMR HT1																														
5	3	26135	TX	CU	1 Set) of 250 kcmil	16463	--	480	70	0.9	35.5	0.000054	0.000052	0.451027	DOE	150	75	3.61				208	10.458	0.09	5254	-0.28%	-0.28%	6		
TO PNLBD HLP																														
6	3	5254	M	CU	1 Set) of 250 kcmil	16463	--	208	20	0.9	102	0.000084	0.000052	0.451027											0.053	0.95	4998	-0.12%	-0.40%	7
TO TENANT MTR/DISC																														
7	2	61294	M	AL	1 Set) of 250 kcmil	12122	--	480	20	0.9	13	0.000088	0.000052	0.451027											0.365	0.73	44607	-0.07%	-0.09%	8
TO PNLBD VHP																														
8	3	44607	M	AL	1 Set) of 250 kcmil	12122	--	480	160	0.9	13	0.000088	0.000052	0.451027											2.139	0.32	14307	-0.08%	-0.10%	9
TO XFMR HT1																														
9	3	14307	M	CU	1 Set) of 6 AWG	2425	--	480	20	0.9	13	0.000460	0.000054	0.451027											0.426	0.70	10034	-0.04%	-0.14%	10
XFMR HT1																														
10	3	10034	TX	CU	1 Set) of 3 AWG	4774	--	480	20	0.9	13	0.000250	0.000059	0.451027	DOE	150	30	2.44				208	6.785	0.13	2974	-0.14%	-0.14%	11		
TO PNLBD LP																														
11	3	2974	M	CU	1 Set) of 3 AWG	4774	--	208	20	0.9	31	0.000250	0.000059	0.451027											0.104	0.91	2695	-0.13%	-0.27%	12

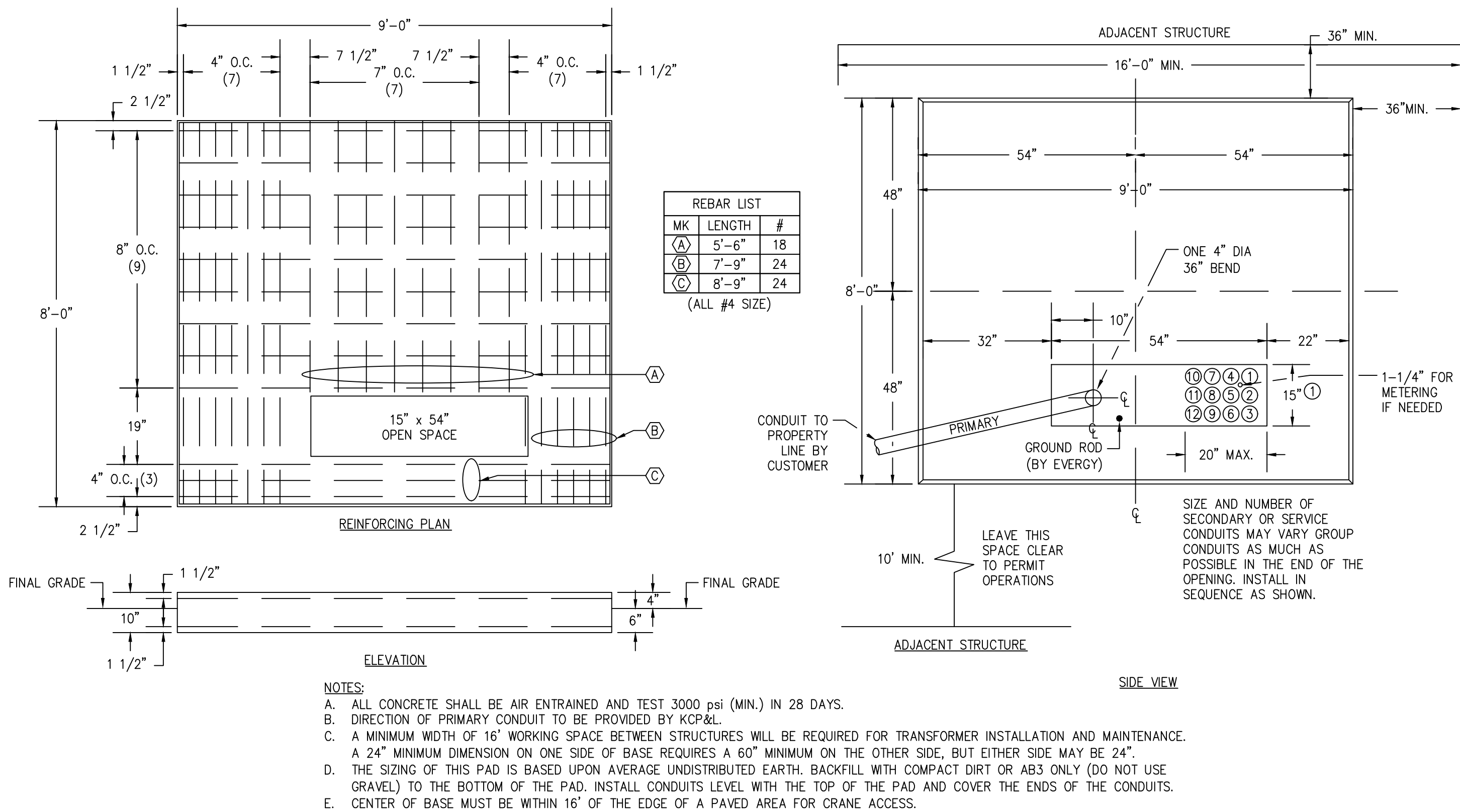


## ELECTRICAL SINGLE LINE DIAGRAM

SCALE : NO SCALE

1





## EVERGY TRANSFORMER PAD DETAIL - 750 THRU 2500kVA

SCALE : NO SCALE

2

PANELBOARD: HP (TYP. 13) (NEW)									
BUS AMPS: 225A			FED FROM: NEW SE METER/DISC.			LINE-SIDE LUGS: MECHANICAL			
MAIN SIZE/TYPE: 225A MCB			A/C RATING: 42000 FULLY RATED			EQUIPMENT GROUND BUS			
VOLTS/PHASE: 480Y/277V, 3PH, 4W			SERVES: FUTURE OFFICES			MOUNTING: SURFACE			
SECTION: 1			LOCATION: SOUTH INTERIOR WALL						
CKT NO.	DESCRIPTION	VOLTS/PHASE	WIRE NO.	BKR AMP	P	BKR WIRE NO.	VOLTS/PHASE	DESCRIPTION	CKT NO.
A	B	C					A	B	C
1	SUBFEED TO	3,312			1			PROVISIONAL SPACE	2
3	PANELBOARD LP (TYP. 13)	4,317	6	50	3	1		PROVISIONAL SPACE	4
5	VIA XFMR		3,330		1			PROVISIONAL SPACE	6
7	PROVISIONAL SPACE				1			PROVISIONAL SPACE	8
9	PROVISIONAL SPACE				1			PROVISIONAL SPACE	10
11	PROVISIONAL SPACE				1			PROVISIONAL SPACE	12
13	PROVISIONAL SPACE				1			PROVISIONAL SPACE	14
15	PROVISIONAL SPACE				1			PROVISIONAL SPACE	16
17	PROVISIONAL SPACE				1			PROVISIONAL SPACE	18
19	PROVISIONAL SPACE				1			PROVISIONAL SPACE	20
21	PROVISIONAL SPACE				1			PROVISIONAL SPACE	22
23	PROVISIONAL SPACE				1			PROVISIONAL SPACE	24
25	PROVISIONAL SPACE				1			PROVISIONAL SPACE	26
27	PROVISIONAL SPACE				1			PROVISIONAL SPACE	28
29	PROVISIONAL SPACE				1			PROVISIONAL SPACE	30
SUBTOTAL		3,312	4,317	3,330					
TOTAL PHASE A - VA		3,312	LOAD		CONN VA	DF	LOAD		CONN VA
AMPS		12	COOLING		4,898	1.00	REFRIG		1.00
TOTAL PHASE B - VA		4,317	HEATING		0	1.25	SIGN/DISP		1.25
AMPS		16	LIGHTING		121	1.25	KITCHEN		1.00
TOTAL PHASE C - VA		3,330	RECEPTACLES		1,440	1.0/5	EXISTING		1.00
AMPS		12	MOTORS		1.00	1.25	LRG MOTOR		1.25
TOTAL PN LBD - VA		10,959	SUPP HEAT		4,500	1.00	SHOW WNDW		1.25
AMPS		13	MISC EQUIP		1.00	1.00	LTG TRACK		1.00
TOTAL DEMAND									10,989 VA
TOTAL DEMAND									13 A

PANELBOARD: LP (TYP.13) (NEW)									
BUS AMPS: 100A			FED FROM: HP (TYP. 13)			LINE-SIDE LUGS: MECHANICAL			
MAIN SIZE/TYPE: MLO			A/C RATING: 10000 FULLY RATED			EQUIPMENT GROUND BUS			
VOLTS/PHASE: 208Y/120V, 3PH, 4W			SERVES: FUTURE OFFICES			MOUNTING: SURFACE			
SECTION: 1			LOCATION: SOUTH INTERIOR WALL						
CKT NO.	DESCRIPTION	VOLTS/PHASE	WIRE NO.	BKR AMP	P	BKR WIRE NO.	VOLTS/PHASE	DESCRIPTION	CKT NO.
A	B	C					A	B	C
1	LTG/RCPT - TOILET	221	12	20	1	1	15	12	924
3	LTG - OFFICE	80	12	20	1	2	30	10	2,250
5	RCPT - OFFICE		12	20	1	2	30	10	2,250
7	RCPT - PANEL CONVENIENCE	180	12	20	1	2	30	10	1,987
9	RCPT - EXTERIOR GFI	180	12	20	1	2	30	10	1,987
11	SPARE		20	1	1	20			
13	SPARE		20	1	1	20			
15	SPARE		20	1	1	20			
17	PROVISIONAL SPACE		1	1					
19	PROVISIONAL SPACE		1	1					
21	PROVISIONAL SPACE		1	1					
23	PROVISIONAL SPACE		1	1					
25	PROVISIONAL SPACE		1	1					
27	PROVISIONAL SPACE		1	1					
29	PROVISIONAL SPACE		1	1					
31	PROVISIONAL SPACE		1	1					
SUBTOTAL		401	260	1,080			2,911	4,237	2,250
TOTAL PHASE A - VA		3,312	LOAD		CONN VA	DF	LOAD		CONN VA
AMPS		28	COOLING		4,898	1.00	REFRIG		1.00
TOTAL PHASE B - VA		4,497	HEATING		0	1.25	SIGN/DISP		1.25
AMPS		37	LIGHTING		121	1.25	KITCHEN		1.00
TOTAL PHASE C - VA		3,330	RECEPTACLES		1,620	1.0/5	EXISTING		1.00
AMPS		28	MOTORS		1.00	1.25	LRG MOTOR		1.25
TOTAL PN LBD - VA		11,139	SUPP HEAT		4,500	1.00	SHOW WNDW		1.25
AMPS		31	MISC EQUIP		1.00	1.00	LTG TRACK		1.00
TOTAL DEMAND									11,169 VA
TOTAL DEMAND									31 A

PANELBOARD: HLP (NEW)									
BUS AMPS: 225A			FED FROM: PNL 'HHP' VIA XFMR			LINE-SIDE LUGS: MECHANICAL			
MAIN SIZE/TYPE: 225A MCB			A/C RATING: 10000 FULLY RATED			EQUIPMENT GROUND BUS			
VOLTS/PHASE: 208Y/120V, 3PH, 4W			SERVES: LOT 4			MOUNTING: SURFACE			
SECTION: 1			LOCATION: ELEC SERVICE RM 102						
CKT NO.	DESCRIPTION	VOLTS/PHASE	WIRE NO.	BKR AMP	P	BKR WIRE NO.	VOLTS/PHASE	DESCRIPTION	CKT NO.
A	B	C					A	B	C
1	LTG - SPKLR RISER RM 107.3	442	12	20	1	1	20	12	1,800
3	RCPT - HOUSE PANEL RCPT.		12	20	1	1	20		
5	SPARE		20	1	1	20			
7	SPARE		20	1	1	20			
9	SPARE		20	1	1	20			
11	SPARE		20	1	1	20			
13	SPARE		20	1	1	20			
15	SPARE		20	1	1	20			
17	PWR - GARAGE DOOR 3		20	3	3	20	6		
19			20	3	3	20	6		
21	PWR - UH-1 (1) (HACR)	653	VD	15	1	1	15	VD	653
23	PWR - UH-1 (2) (HACR)	653	VD	15	1	1	15	VD	653
25	PWR - UH-1 (3) (HACR)	653	VD	15	1	1	15	VD	653
27	PWR - UH-1 (4) (HACR)	653	VD	15	1	1	15	VD	653
29	PWR - UH-1 (5) (HACR)	653	VD	15	1	1	15	VD	653
31	PWR - UH-1 (6) (HACR)	653	VD	15	1	1	15	VD	653
33	PWR - UH-1 (7) (HACR)	653	VD	15	1	1	15	VD	653
35	PWR - UH-1 (8) (HACR)	653	VD	15	1	1	15	VD	653
37	PWR - UH-1 (9) (HACR)	653	VD	15	1	1	15	VD	653
39	PWR - UH-1 (10) (HACR)	653	VD	15	1	1	15	VD	653
41	PWR - UH-1 (11) (HACR)	653	VD	15	1	1	15	VD	653
43	PWR - UH-1 (12) (HACR)	653	VD	15	1	1	15	VD	653
45	PWR - UH-1 (13) (HACR)	653	VD	15	1	1	15	VD	653
47	PROVISIONAL SPACE		1	1					
49	PROVISIONAL SPACE		1	1					
51	PROVISIONAL SPACE		1	1					
53	PROVISIONAL SPACE		1	1					
SUBTOTAL		4,295	4,866	3,853			6,894	5,747	5,094
TOTAL PHASE A - VA		11,189	LOAD		CONN VA	DF	LOAD		CONN VA
AMPS		93	COOLING		4,898	1.00	REFRIG		1.00
TOTAL PHASE B - VA		10,613	HEATING		0	1.25	SIGN/DISP		1.25
AMPS		88	LIGHTING		82	1.25	KITCHEN		1.00
TOTAL PHASE C - VA		8,947	RECEPTACLES		720	1.0/5	EXISTING		1.00
AMPS		75	MOTORS		28,147	1.00	LRG MOTOR		1.25
TOTAL PN LBD - VA		30,749	SUPP HEAT		4,500	1.00	SHOW WNDW		1.25
AMPS		85	MISC EQUIP		1.00	1.00	LTG TRACK		1.00
TOTAL DEMAND									30,770 VA
TOTAL DEMAND									85 A

## PANELBOARD SCHEDULES

SCALE : NO SCALE

1

Architect:

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1120 NW Eagle Ridge Blvd.  
Grain Valley, Missouri 64029  
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Revisions to technical submissions which are not made or approved by the licensee are prohibited.

Seal:



Project Number: 23-015

Project Type: NEW CONSTRUCTION

Project Name and Address:

LAKEWOOD BUSINESS CENTER,  
LOT 1  
NE Maguire Blvd.  
Lee's Summit, Missouri 64064

Issue: Date:

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Sheet Title:

ELECTRICAL  
SCHEDULES

E-202