



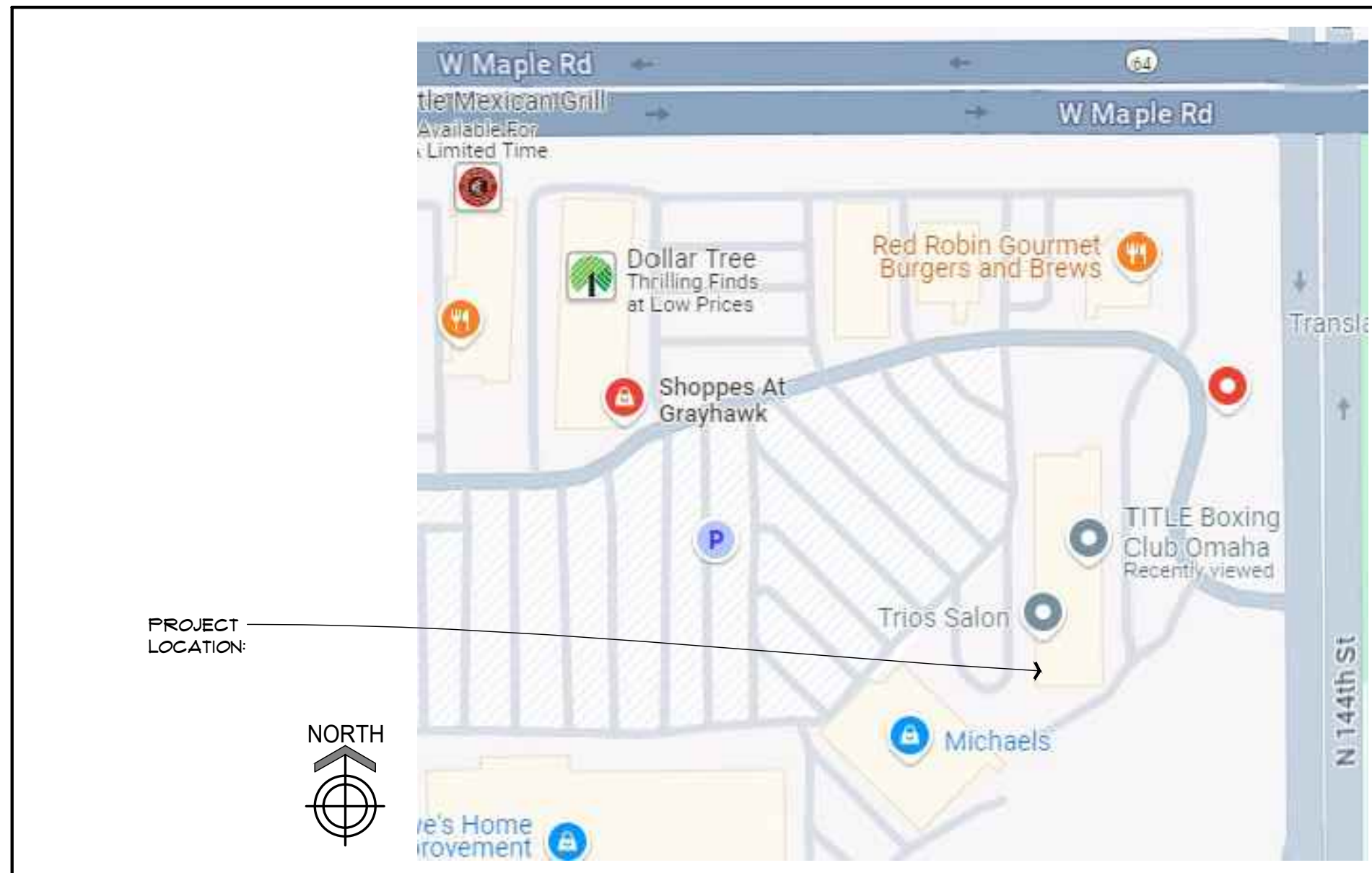
TENANT IMPROVEMENT

● SHOPPES @ GRAYHAWK - 3525 144TH ST., SUITE 213 - OMAHA, NE 68116 ●

ABBREVIATIONS

ABOVE FINISHED FLOOR	AFF	Gauge	GA	POLYVINYL CHLORIDE	PVC
ACCESSIBLE	ACC	GALVANIZED	GALV	FOUND	LB
ACOUSTIC	ACOT	GENERAL	GEN	FOUNDS PER	FBI
ACOUSTIC CEILING TILE	ACT	GENERAL CONTRACTOR	GC	SQUARE INCH	SQ
ALTERNATE	ALT	GLAZING	GLAZ	PREFABRICATED	PREFAB
ALUMINUM	ALUM	GLUED LAMINATED WOOD	GLULAM	PREFINISHED	PREFIN
ANCHOR BOLT	AB	GRADE	GR	PRELIMINARY	PREFIM
ANODIZED	ANOD	GRADE BEAM	GR BM	QUALITY	QUAL
APPROXIMATELY	APPROX	GROSS SQUARE FEET	G9F	QUALITY CONTROL	QC
AVERAGE	AVG	GROUND	GND	QUANTITY	QTY
BACK OF HOUSE	BOH	GROUND FAULT CIRCUIT	GFCI	QUARRY TILE	QT
BACKGROUND	BKGD	INTERRUPTER	GYP	RADIUS	RAD
BEAM	BM	GYP&M BOARD	GYP BD	RECEPTACLE	RECP
BEARING	BRG	HANGER	HNGR	RECESS	REC
BLOCKING	BLKG	HANDICAPPED	HCP	REFERENCE	REF
BOARD	BD	HARDWARE	HDW	REFLECTED CEILING PLAN	RCP
BOTTOM	BOT	HEADER	HDR	REINFORCE	REINF
BOTTOM OF	B/	HEATING, VENTILATION AND AIR CONDITIONING	HVAC	REINFORCEMENT	REINF
BUILDING	BLDG	HEIGHT	HT	REINFORCING BAR	REBAR
CARPET	CPT	HOLLOW CORE	HLDN	REQUIRED	REQD
CASEWORK	CSWK	HOLLOW METAL	HM	REQUIREMENTS	REQS
CAST IN PLACE	CIP	HOLLOW STRUCTURAL SECTION	H89	RESILIENT	RESIL
CEILING	CLG	HORIZONTAL CERAMIC TILE	HORIZ	RESILIENT CHANNEL	RC
CENTER	CTR	CLEAR, CLEARANCE	CLR	REVISION, REVISED	REV
CENTER LINE	CL	CLOCKWISE	CU	RISER	R
CERAMIC TILE	CLT	COLUMN	COL	ROOF DRAIN	RD
CONCRETE	CONC	COMPARTMENT	COMP	ROOF TOP UNIT	RTU
CONCRETE MASONRY UNIT	CMU	CONCRETE	CONC	ROOFING	RFG
CONTINUE, CONTINUOUS	CONT	CONTROL JOINT	CJ	ROOM	RM
CORNER BEAD	CB	CORNER GUARD	CG	ROUGH OPENING	RO
COUNTER	CNTR	DEGREES	DEG	ROUND	RND
DEMOLITION	DEMO	DIAMETER	DIA	SCHEDULE	SCHED
DETAIL	DTL	DIMENSION	DIM	SECTION	SECT
DIVIDE, DIVIDED, DIVISION	DIV	DOOR, DRAIN	DR	SHEATHING	SHTG
DOUBLE	DBL	DOWN	DN	SHEET	SHT
DOWNPOUT	DS	DRAWER	DWR	SHIELD	SH
DRAWING	DWG	DRIVE-THRU	DT	SIDING	SDG
EACH	EA	EACH WAY	EW	SIMILAR	SIM
EASEMENT	ESMT	EAST	E	SLIP JOINT	SJ
ELECTRIC, ELECTRICAL	ELEC	ELECTRICAL	EC	SOLID CORE	SC
ELEVATION	EL	ELEVATOR	ELEV	SOUTH	S
EMERGENCY	EM	ENCLOSURE	ENCL	SPEAKER	SPKR
ENGINEER	ENG	ENTRANCE	ENT	SPECIFICATION, SPECIFIED	SPEC
EQUAL	EQ	EQUIPMENT	EQUIP	SQUARE	SQ
ESTIMATE	EST	EVACUATE, EVACUATION	EVAC	SQUARE FOOT	SF
EXHAUST FAN	EXF	EXISTING	EX	STAINLESS STEEL	SS
EXPAND, EXPANSION	EXP	EXTERIOR	EXT	STAIRS	ST
EXTERIOR INSULATION AND FINISH SYSTEM	EIFS	FABRICATE	FAB	STANDARD	STD
FACED	FAC	FACED	FAC	STEEL	STL
FIBER REINFORCED	FRP	FIBER REINFORCED	FRP	STORAGE	STOR
FINISH	FIN	FINISH	FIN	STRUCTURE, STRUCTURAL	STRUCT
FINISHED FLOOR	FFE	FINISH	FIN	SUBSTITUTE	SUB
ELEVATION	FE	FIRE EXTINGUISHER	FEC	SUSPENDED	SUSP
FIRE EXTINGUISHER	FEC	FIXTURE	FIXT	TELEPHONE	TEL
CABINET	CAB	FLASHING	FLSH	TELEVISION	TV
FIXTURE	FIXT	FLOOR	FLR	TEMPORARY	TEMP
FLASHING	FLSH	FLOOR CLEANOUT	FCO	THICK, THICKNESS	THK
FLOOR	FLR	FLOOR DRAIN	FLD	THICKENED	THRU
FLOOR CLEANOUT	FCO	FLOOR SINK	FS	THROUGH BOLT	TB
FLOOR DRAIN	FLD	FOOT, FEET	FT	TONGUE & GROOVE	T&G
FLOOR SINK	FS	FOOTING	FTG	TOP AND BOTTOM	T&B
FOOT, FEET	FT	FOUNDATION	FDN	TOP OF	T/
FOOTING	FTG	FRAMING	FRMG	TOP OF CURB	TOC
FOUNDATION	FDN	FREEZER/COOLER	F/C	TREAD	T
FRAMING	FRMG	FRONT OF HOUSE	FOH	TUBE STEEL	TS
FREEZER/COOLER	F/C	FURNISHING, FURNITURE	FURN	TYPICAL	TYP
FRONT OF HOUSE	FOH	FURNITURE, FIXTURE AND EQUIPMENT	F&E	UNIVERSAL	UNV
FURNISHING, FURNITURE	FURN	PLYWOOD	PLY	UNLESS NOTED OTHERWISE	UNO
FURNITURE, FIXTURE AND EQUIPMENT	F&E	POINT OF SALE	POS	UTILITY	UTIL
FURRING	FURR	POLYETHYLENE	POLY	VARIABLE	VAR
				VENEER	VNR
				VERIFY IN FIELD	VIF
				VERTICAL	VERT
				VINYL COMPOSITION TILE	VCT
				VINYL WALL COVERING	VWC
				WANSOC	WSCT
				WATER CLOSET	WC
				WATER HEATER	WH
				WEATHER RESISTIVE BARRIER	WRB
				WEATHERPROOFING	WP
				WEIGHT	WT
				WELOPED WIRE FABRIC	WUF
				WEST, WIDE, WIDTH	W
				WIDE FLANGE	WF
				WINDOW	WDW
				WITH	W/
				WITHOUT	W/O
				WOOD	WD
				W/REPLACE OR REMEDY ANY FAULTY, IMPROPER OR INFERIOR MATERIALS OR WORKMANSHIP OR ANY DAMAGE WHICH SHALL APPEAR WITHIN ONE (1) YEAR AFTER THE COMPLETION & ACCEPTANCE OF THE WORK UNDER THIS CONTRACT.	
				ALL EXIT DOORS TO BE OPERABLE FROM THE INSIDE WITH A SINGLE EFFORT WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE.	

VICINITY MAP



GENERAL NOTES

- THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES IN THE DRAWINGS OR AT THE JOB SITE TO THE ARCHITECT IMMEDIATELY UPON DISCOVERY OF SUCH INCONSISTENCIES TO DETERMINE A COURSE OF ACTION TO CORRECT ANY CONFLICTS BETWEEN THE CONTRACT DOCUMENTS AND EXISTING CONDITIONS AND DETERMINE COST RESPONSIBILITIES.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES RELATED TO THE TENANT SPACE SCOPE OF WORK WHETHER SHOWN HEREON OR NOT & TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSES OF REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED BY OPERATIONS IN CONJUNCTION WITH THE PERFORMANCE OF THE WORK.
- CITY AND LANDLORD APPROVED PLANS SHALL BE KEPT IN A SAFE PLACE & SHALL NOT BE USED BY WORKERS. ALL CONSTRUCTION SETS SHALL REFLECT SAME INFORMATION. THE CONTRACTOR SHALL ALSO MAINTAIN IN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA & CHANGE ORDERS ON THE PREMISES AT ALL TIMES. THESE ARE TO BE UNDER THE CARE OF THE JOB SUPERINTENDENT AND TO BE TURNED OVER AT THE END OF THE JOB.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE TENANT SPACE SCOPE OF WORK WHILE THE JOB IS IN PROGRESS & UNTIL THE JOB IS COMPLETED.
- ALL DEBRIS BY GENERAL CONTRACTOR & OWNER MATERIALS SHALL BE REMOVED FROM THE PREMISES BY THE GENERAL CONTRACTOR OR RESPONSIBLE CONTRACTOR & ALL AREAS SHALL BE LEFT IN A CLEAN (BROOM) CONDITION AT ALL TIMES.
- CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THE SAFETY OF THE OCCUPANTS & WORKERS AT ALL TIMES.
- ALL DIMENSIONS ARE TO FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE. DIMENSIONS TAKE PRECEDENCE OVER DRAWING, DO NOT SCALE DRAWINGS TO DETERMINE ANY LOCATIONS. THE ARCHITECT SHALL BE NOTIFIED OF ANY DISCREPANCY PRIOR TO CONTINUING WITH WORK.
- ALL CONSTRUCTION SHALL COMPLY WITH ALL LOCAL GOVERNING BUILDING CODES & ORDINANCES.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS & SHALL MAINTAIN THE STRUCTURAL INTEGRITY OF ANY CONSTRUCTION UNTIL ALL FINISH LOAD CARRYING SYSTEMS ARE COMPLETE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR & SHALL REPLACE OR REMEDY ANY FAULTY, IMPROPER OR INFERIOR MATERIALS OR WORKMANSHIP OR ANY DAMAGE WHICH SHALL APPEAR WITHIN ONE (1) YEAR AFTER THE COMPLETION & ACCEPTANCE OF THE WORK UNDER THIS CONTRACT.
- ALL EXIT DOORS TO BE OPERABLE FROM THE INSIDE WITH A SINGLE EFFORT WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE.
- MAXIMUM OCCUPANCY SIGN TO BE POSTED IF REQUIRED BY LOCAL CODE. FURNISHED & INSTALLED BY OWNER. "MAXIMUM LOAD--" CONTRASTING LETTERS TO BACKGROUND.
- COORDINATE LOCATIONS OF THE FIRE EXTINGUISHERS WITH THE LOCAL FIRE MARSHALL OR AUTHORITY AND OWNER'S CONSTRUCTION REPRESENTATIVE. FIRE EXTINGUISHERS TO BE PLACED WITHIN THE BUILDING SO MAXIMUM TRAVEL DISTANCE TO ANY FIRE EXTINGUISHER DOES NOT EXCEED 15'-0". FINAL LOCATIONS TO BE COORDINATED WITH FIRE MARSHALL.
- GENERAL CONTRACTOR TO BE RESPONSIBLE FOR COST AND COORDINATION OF ALL CONSTRUCTION DUMPSTERS AND MUST COMPLY WITH ALL BUILDING REQUIREMENTS AND GOVERNING CODES. DUMPSTER TO BE LOCATED ON SITE PER LANDLORD REQUIREMENT. GC TO VERIFY DUMPSTER LOCATION WITH BUILDING LANDLORD.
- GENERAL CONTRACTOR TO BE RESPONSIBLE TO SCHEDULE AND COORDINATE ALL REQUIRED INSPECTIONS INCLUDING BUILDING, ENGINEERING AND HEALTH DEPARTMENT INSPECTIONS AS APPLICABLE AND MUST SECURE A CERTIFICATE OF OCCUPANCY FROM THE JURISDICTION BY THE PROJECT COMPLETION DATE.

PROJECT TEAM

ARCHITECT
 REPRISÉ DESIGN
 PORTLAND CORPORATE CENTER
 12400 PORTLAND AVE. SOUTH
 SUITE 100
 BURNSVILLE, MN 55337
 CONTACT: JAMES BERGET
 JBERGET@REPRISÉDESIGN.COM
 PH: 952-562-3121
 FAX: 952-292-4043

ENGINEER
 EMANUELSON-PODAS
 1105 BUSH LAKE ROAD
 EDINA, MN 55433
 CONTACT: WENDY WENBORG
 WENBORG@EPINC.COM
 PH: 952-930-0050

CONSTRUCTION MANAGER
 BERENDS CONSTRUCTION
 1345 BROADVIEW AVENUE
 CHASKA, MN 55318
 CONTACT: JEFF BERENDS
 JBERENDS@BERENDSCONSTRUCTION.COM
 PH: 612-843-4934

DRAWING INDEX

NOTES: THESE DRAWINGS AS LISTED IN THE DRAWING INDEX ALONG WITH THE CONTRACT FOR CONSTRUCTION CONSTITUTE THE INSTRUMENTS OF SERVICE AND ARE CONSIDERED A SINGLE ENTITY. THE CONTRACTOR IS THEREFORE BOUND BY ALL INFORMATION INCLUDED.	
GENERAL	
● G001	COVER SHEET
● G002	LIFE SAFETY PLAN AND CODE REVIEW
● G003	RESPONSIBILITY MATRIX
ARCHITECTURAL	
● D101	DEMOLITION FLOOR PLAN, KEY & GENERAL NOTES
● D102	DEMOLITION CEILING PLAN, KEY & GENERAL NOTES
● A101	FLOOR PLAN, WALL TYPES & DETAILS
● A102	REFLECTED CEILING PLAN
● A104	FINISH PLAN AND FINISH SCHEDULE
● A401	ENLARGED RESTROOM PLAN AND ELEVATIONS
● A501	INTERIOR ELEVATIONS
● A502	INTERIOR ELEVATIONS
● A601	SCHEDULES
12	AFFECTED SHEETS
MECHANICAL	
● M001	MECHANICAL COVER SHEET
● M002	SPECIFICATIONS
● M003	DEMOLITION PLAN
● M100	MECHANICAL PLAN
● M200	ROOF PLAN
● M300	DETAILS
● M400	SCHEDULES
1	AFFECTED SHEETS
PLUMBING	
● P001	SPECIFICATIONS AND NOTES
● P010	DEMOLITION PLAN
● P100	WASTE, VENT AND WATER FLOOR PLANS
● P300	RISER DIAGRAMS AND SCHEDULES
● P400	PLUMBING DETAILS
5	AFFECTED SHEETS
ELECTRICAL	
● E001	ELECTRICAL COVER SHEET
● E002	RISER DIAGRAM AND DETAILS
● E003	SPECIFICATIONS
● E200	LIGHTING PLAN
● E300	POWER AND ROUGH IN PLAN
● E400	ROOF PLAN
6	AFFECTED SHEETS
30	TOTAL AFFECTED SHEETS
30	TOTAL ISSUED SHEETS
DEFERRED SUBMITTAL	
FIRE ALARM SYSTEMS TO BE SUBMITTED UNDER SEPARATE PERMIT.	
ALL SIGNAGE PLANS SHALL BE SUBMITTED SEPARATELY FOR CITY APPROVAL.	

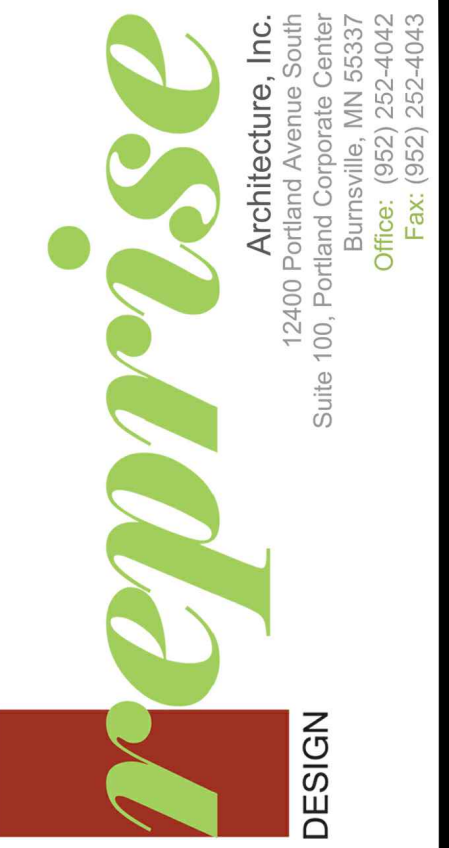
DRAFTING SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	NORTH ARROW		DETAIL REFERENCE BUBBLE
	ROOM NAME ROOM NUMBER		ELEVATION REFERENCE
	SECTION REFERENCE		PARTITION TYPE REFERENCE
	ELEVATION REFERENCE		KEYNOTE REFERENCE
			WINDOW TYPE REFERENCE
			REVISION REFERENCE

OMAHA, NEBRASKA

I, COREY ALLAN ENGLUND, AM THE COORDINATING PROFESSIONAL ON THE GOGLOW TENANT IMPROVEMENT STORE PROJECT.

10/31/2024



10/31/2024

goGLOW
 TENANT IMPROVEMENT IN EXISTING SHELL BUILDING
 SHOPPES @ GRAYHAWK, 3525 N. 144TH ST., SUITE 213
 OMAHA, NE 68116



DATE ISSUED
 PERMIT SET 10/31/24

DRAWN BY AB
 CHECKED BY JH
 JOB NO. 24197

G001

CODE DATA

APPLICABLE CODES

- 2021 INTERNATIONAL BUILDING CODE
- 2021 INTERNATIONAL MECHANICAL CODE
- 2021 NATIONAL ELECTRICAL CODE
- 2021 UNIFORM PLUMBING CODE
- 2019 INTERNATIONAL ENERGY CONSERVATION CODE
- 2021 INTERNATIONAL FIRE CODE
- 2021 INTERNATIONAL FUEL GAS CODE
- 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN

PROJECT DESCRIPTION: 1,841 S.F. TENANT IMPROVEMENT

BUILDING SUMMARY: NEW TENANT IMPROVEMENT PROJECT IN AN EXISTING MULTI-TENANT, MIXED USE BUILDING. THIS PROJECT IS UPFITTING AN EXISTING TENANT SPACE INTO A SPRAY TAN SALON.
BUILDING USE: B (NO CHANGE)
BUILDING CONSTRUCTION TYPE: IIB (ASSUMED), SPRINKLERED (EXISTING)
THE SCOPE OF THE PROJECT IS A 1,841 S.F. NON-STRUCTURAL, TENANT IMPROVEMENT IN AN EXISTING BUILDING SHELL IN ACCORDANCE WITH ALTERATION LEVEL 2 PER IBC

CHAPTER 3: OCCUPANCY CLASSIFICATION

GROUP	SECTION	DESCRIPTION
B	304	BUSINESS

CHAPTER 4: PLUMBING FIXTURES REQUIRED

SECTION: TABLE 422.1					
OCCUPANT GROUP	ACTUAL OCCUPANT LOAD	U.C. SINGLE USE	LAVS SINGLE USE	SERVICE SINK	DRINKING FOUNTAINS
B	12	-	-	-	-
TOTAL REQUIRED					0*
TOTAL PROVIDED					
FACTOR FROM (TABLE 2902.1)					
OCCUPANT	TOILETS	LAVS	DRINKING FOUNTAINS		
B	1 PER 25 FOR THE FIRST 50 1 PER 50 FOR THE REMAINDER EXCEEDING 50	1 PER 40 FOR THE FIRST 20 AND 1 PER 20 FOR THE REMAINDER EXCEEDING 20	1 PER 100		

* BOTTLED WATER TO BE PROVIDED IN LIEU OF DRINKING FOUNTAIN
 * SEPARATE FACILITIES NOT REQUIRED PER 2902.2 (OCC. LOAD LESS THAN 25)

CHAPTER 5: GENERAL BUILDING LIMITATIONS

CONSTRUCTION TYPE	IIB (ASSUMED EXISTING)	OCCUPANCY	B
STORIES	EXISTING		

PROPOSED AREA (GROSS) FOR OUR TENANT SPACE
 1,841 GSF (LEASE SPACE) - EXISTING

CHAPTER 6: CONSTRUCTION TYPES / REQUIREMENTS

TABLE 601: FIRE RESISTIVE RATING REQUIREMENTS FOR BUILDING ELEMENTS IN HOURS

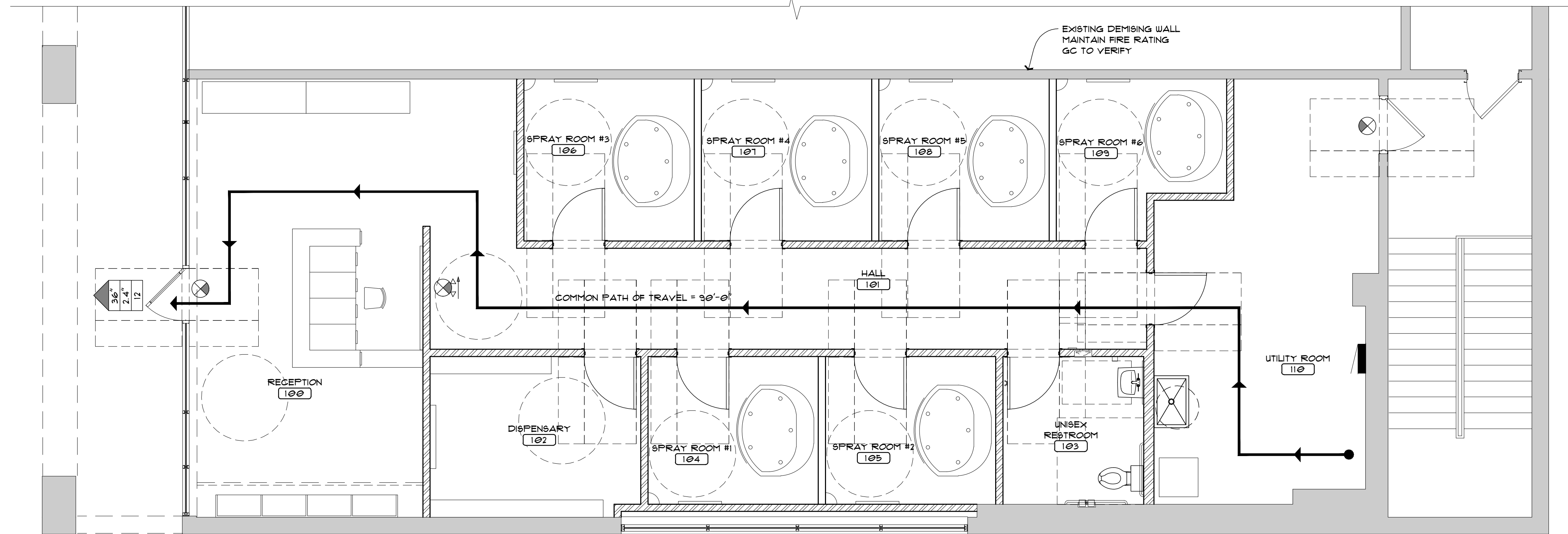
GROUP	CONSTRUCTION TYPE	BUILDING ELEMENT	RATING (HOURS)
B	IIB (ASSUMED)	STRUCTURAL FRAME	0-EXISTING
		BEARING WALLS - EXTERIOR	0-EXISTING
		BEARING WALLS - INTERIOR	0-EXISTING
		NONBEARING WALLS - EXTERIOR	0-EXISTING
		NONBEARING WALLS - INTERIOR	0-EXISTING
		FLOOR CONSTRUCTION	0-EXISTING
		ROOF CONSTRUCTION	0-EXISTING

CHAPTER 10: MEANS OF EGRESS / OCCUPANT LOADS

USE / FUNCTION AREAS	AREAS TOTAL S.F.	OCCUPANT LOAD FACTOR TABLE 1004.5	SQ FT TYPE	ACTUAL OCCUPANT LOAD
BUSINESS	1,841 SF	150	GROSS	12

SECTION 1005: MEANS OF EGRESS SIZING				
	ACTUAL OCCUPANT LOAD	WIDTH / OCCUPANT	TOTAL WIDTH REQUIRED	TOTAL WIDTH PROVIDED
TOTAL	12	0.2"	2.4"	36"

NOTES / EXCEPTIONS:
 1006.2.1 NUMBER OF EXITS REQUIRED = 1
 EXITS PROVIDED = 1 PUBLIC, 1 STAFF ONLY (EXISTING - UNCHANGED)
 1006.2.1 MAX. COMMON PATH OF EGRESS TRAVEL = 100' (OCCUPANCY 'B', MAINTAINED)
 1011.2 EXIT ACCESS TRAVEL DISTANCE = 300' IN SPRINKLERED BUILDING FOR 'B' OCCUPANCY (EXISTING SPRINKLER SYSTEM PROVIDED)



1 LIFE SAFETY PLAN
 SCALE: 1/4" = 1'-0"



CODE PLAN LEGEND

	FIRE EXTINGUISHER
	EMERGENCY LIGHTING
	EXIT SIGNAGE
	EXTERIOR EMERGENCY LIGHT
	OCCUPANT LOAD
	REQUIRED EGRESS WIDTH
	PROVIDED EGRESS WIDTH (*EGRESS WIDTH TO ALWAYS REMAIN CLOSEST TO ARROW)
	EXIT PATH OF TRAVEL
	COMMON PATH OF TRAVEL
	EXIT ACCESS



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 TENANT IMPROVEMENT IN EXISTING SHELL BUILDING
 SHOPPER @ GRAYHAWK, 3525 N. 144TH ST., SUITE 213
 OMAHA, NE 68116

LIFE SAFETY PLAN AND CODE REVIEW



DATE ISSUED	
PERMIT SET	10/31/24
DRAWN BY	AB
CHECKED BY	JH
JOB NO.	24197

G002

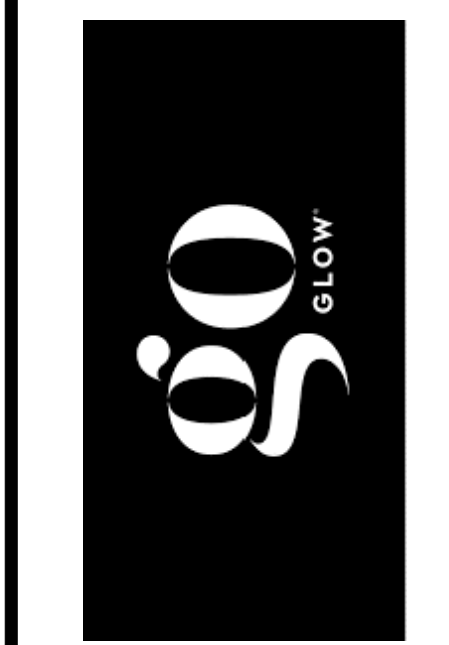
RESPONSIBILITY MATRIX					
ITEMS	OWNER FURNISHED	OWNER INSTALLED	GC FURNISHED	GC INSTALLED	REMARKS
DIVISION 01: GENERAL CONDITIONS					
BUILDING PERMITS	●				COORDINATION FOR PERMIT TO BE THROUGH ARCH/PROJECT MANAGEMENT
THIRD PARTY INSPECTION	●		●	●	GC TO PROVIDE ALL INSPECTIONS UNLESS NOTED OTHERWISE
CERTIFIED TEST & BALANCE			●	●	
TEMPORARY UTILITIES			●	●	
FINAL CLEAN UP			●	●	
INSURANCE			●	●	
TEMPORARY LABOR			●	●	
PROTECTION OF ALL FINISHED SURFACES (BOTH OWNER AND GENERAL CONTRACTOR)			●	●	
STORAGE CONTAINER			●	●	CONTRACTOR TO COORDINATE AND PROVIDE STORAGE CONTAINER FOR OWNER FURNISHED ITEMS DURING LAST 2 WEEKS OF CONSTRUCTION
DUMPSTER			●	●	PROVIDE DUMPSTER FOR OWNER FURNISHED ITEMS DURING LAST 2 WEEKS OF CONSTRUCTION
DIVISION 02: SITE CONSTRUCTION					
TYPICALLY N/A			●	●	
DIVISION 03: CONCRETE					
CORE DRILLING, SAW CUTTING, PATCH, REPAIR OR INFILL			●	●	
DIVISION 04: MASONRY					
TYPICALLY N/A			●	●	
DIVISION 05: METALS					
JOIST STIFFENING AND MISC METALS			●	●	
DIVISION 06: WOODS AND PLASTICS					
TELEPHONE DEMARK CABINET			●	●	
WALL PLYWOOD AND BLOCKING			●	●	
MILLWORK (SEE BELOW)			●	●	GC IS RESPONSIBLE FOR RECEIVING, STORING, AND PROTECTING ALL MILLWORK ON SITE. SEE MILLWORK SHEET FOR SPECIFIC SIZES AND UNIT DETAILS
RETAIL / MERCHANDISE DISPLAY	●				
RECEPTION DESK	●				
RECEPTION BACK CABINETS	●				
RECEPTION BENCHES	●				
CORNER SHELVING	●				
DISPENSARY SHELVING	●				
UTILITY ROOM CABINETS	●				
UTILITY SHELVING	●				
DIVISION 07: THERMAL AND MOISTURE					
ROOFING PENETRATIONS			●	●	
INSULATION (INTERIOR WALLS)			●	●	
INSULATION (ROOF DECK)			●	●	
DIVISION 08: DOORS AND WINDOWS					
REAR SERVICE DOOR			●	●	
INTERIOR DOORS			●	●	
STOREFRONT			●	●	LANDLORD SUBCONTRACTOR MAY BE REQUIRED
HARDWARE			●	●	
PANIC HARDWARE ON ALL EXTERIOR DOORS			●	●	
DIVISION 09: FINISHES					
WALL BASE AND TRIM			●	●	
PAINTS			●	●	
FLOORING			●	●	
CEILING			●	●	
WOODS			●	●	
RESTROOM MIRROR			●	●	
SPRAY ROOM MIRROR	●				
LAMINATES			●	●	
RETAIL MIRROR	●				
DIVISION 10: SPECIALTIES					
RESTROOM ACCESSORIES					
GRAB BARS			●	●	
TOILET PAPER DISPENSERS			●	●	
SOAP DISPENSERS			●	●	
PAPER TOWEL DISPENSERS			●	●	
ADA & HC TACTILE SIGNS PER CITY, LOCAL AND STATE CODES			●	●	
ROBE HOOK @ RESTROOM / HOOKS @ DISPENSARY			●	●	
FILTER DRYING RACKS			●	●	CONTACT: L&V METALS, INC. - JIM HERZOG - 763-560-1100 - JIM@L&VMETALS.COM
FIRE EXTINGUISHERS			●	●	
STAINLESS STEEL TROUGH @ DISPENSARY			●	●	
SPRAY BOOTH	●				CONTACT GOGLOW SKINCARE
ALL SPECIALTY SIGNAGE PER CITY OR LOCAL CODES			●	●	
DIVISION 12: FURNISHINGS					
SHELVING & SPRAY BOOTH CORNER SHELF	●				
SIGNAGE					ALL SIGNAGE IS TO BE INSTALLED BY THE SIGNAGE VENDOR
DOOR / WINDOW VINYL	●	●			
INTERIOR GRAPHICS AND SIGNS	●	●			
EXTERIOR BUILDING SIGNAGE OR MONUMENT SIGN	●	●			PREFERRED SIGN VENDOR: SILICON SIGNS - MCLANE SANFORD PHONE: (816) 863-1188 EMAIL: SALES@SILICONSIGNS.COM
ANY REQUIRED ELECTRICAL OR IN-WALL BLOCKING TO BE INSTALLED BY GC			●	●	
DIVISION 15: MECHANICAL / PLUMBING					
THERMOSTATS AND REMOTE SENSORS			●	●	
RTU'S OR SPLIT SYSTEM			●	●	SUPPLIED & INSTALLED BY LANDLORD
RTU FILTER AND CHANGE AT CONSTRUCTION TURN OVER TO OWNER			●	●	
EXHAUST FANS AND DUCT WORK			●	●	
SINK			●	●	
FAUCETS			●	●	
TOILET			●	●	
SERVICE (MOP) SINK			●	●	
WASHER / DRYER	●				SPECIFIED BY FRANCHISEE
WATER HEATER			●	●	SPECIFIED AND SIZED BY PLUMBING ENGINEER
DIVISION 16: ELECTRICAL					
ELECTRICAL SWITCHGEAR					SUPPLIED & INSTALLED BY LANDLORD
ELECTRIC PANELS					SUPPLIED & INSTALLED BY LANDLORD
LIGHT FIXTURES			●	●	
LIGHT FIXTURE LIGHT BULBS (LAMPS)			●	●	
FIRE SPRINKLER SYSTEM			●	●	
FIRE ALARM SYSTEM			●	●	
TELEPHONE ROUGH-IN	●	●			
TELEPHONE EQUIPMENT INSTALLATION	●	●			OWNER TO VERIFY AND COORDINATE BANDWIDTH AVAILABLE
TELEPHONE BACKER BOARD AT DEMARK			●	●	
DATA LINES	●	●			
AV & VIDEO SECURITY LINES	●	●			
NOTES:					
- ALL OWNER FURNISHED ITEMS, OWNER TO COORDINATE WITH GC					
- THIS GUIDE IS NOT A SUBSTITUTE FOR COMPLETE REVIEW AND APPLICATION OF DESIGN MANUAL IN ITS ENTIRETY					
- GC WILL BE RESPONSIBLE FOR COORDINATING DELIVERY OF ALL EQUIPMENT AND MATERIALS THROUGH THE VENDORS LISTED THROUGHOUT DESIGN MANUAL					
- "OWNER FURNISHED" IS TYPICALLY ANYONE OTHER THAN THE GENERAL CONTRACTOR AND INCLUDES THE TENANT, FRANCHISEE, VENDORS AND MATERIAL SUPPLIERS					



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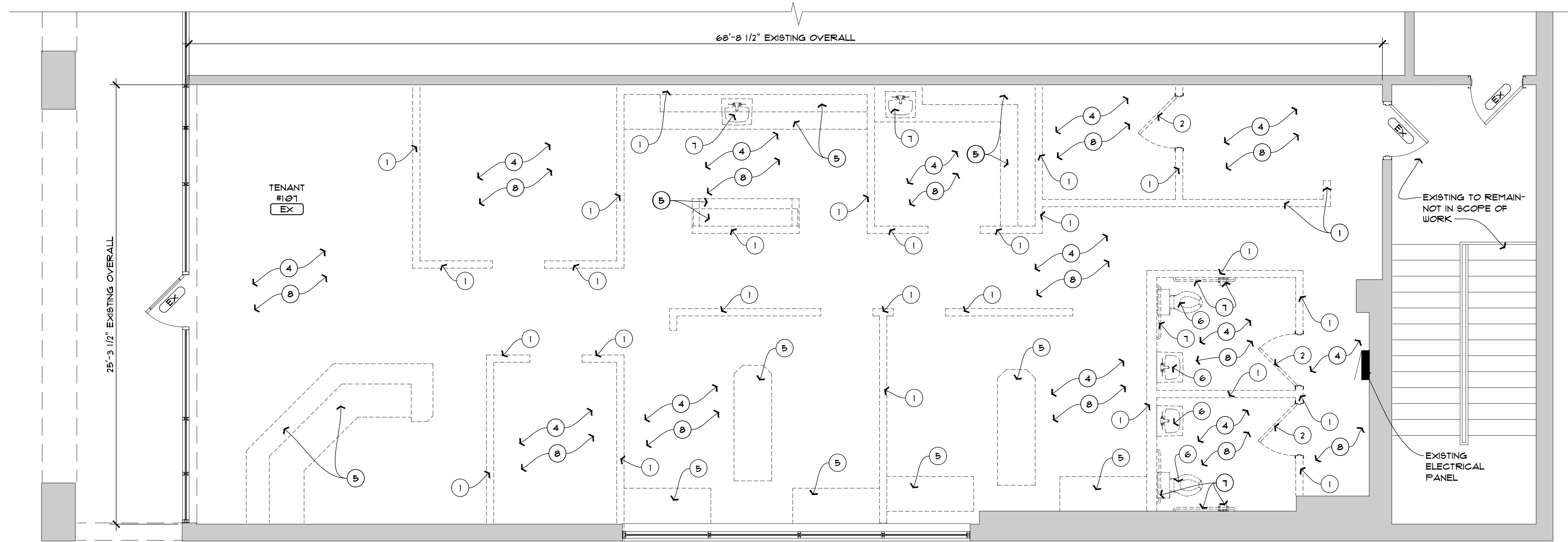
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TENANT IMPROVEMENT IN EXISTING SHELL BUILDING
SHOPPES @ GRAYHAWK, 3525 N. 144TH ST., SUITE 213
OMAHA, NE 68116

RESPONSIBILITY MATRIX

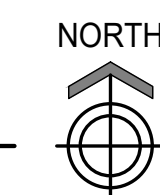


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G003



1 DEMOLITION FLOOR PLAN
SCALE: 1/4" = 1'-0"



DEMOLITION KEY NOTES

1	REMOVE EXISTING WALLS. PATCH AND REPAIR DISTURBED SURFACES.
2	REMOVE EXISTING DOOR & FRAME
3	NOT USED
4	REMOVE EXISTING FLOORING, TRANSITION STRIPS, ADHESIVE & WALL BASE. REPAIR FLOOR AS REQUIRED FOR NEW FINISHES.
5	REMOVE EXISTING MILLWORK, FIXTURES/SHELVING AND FURNITURE
6	REMOVE EXISTING PLUMBING FIXTURES (SEE PLUMBING), U.N.O.
7	REMOVE EXISTING RESTROOM ACCESSORIES AND SIGNAGE
8	REMOVE EXISTING WALL FINISHES DOWN TO GYP. BD. PATCH AND REPAIR AS REQUIRED FOR NEW FINISHES
9	
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WALL LEGEND

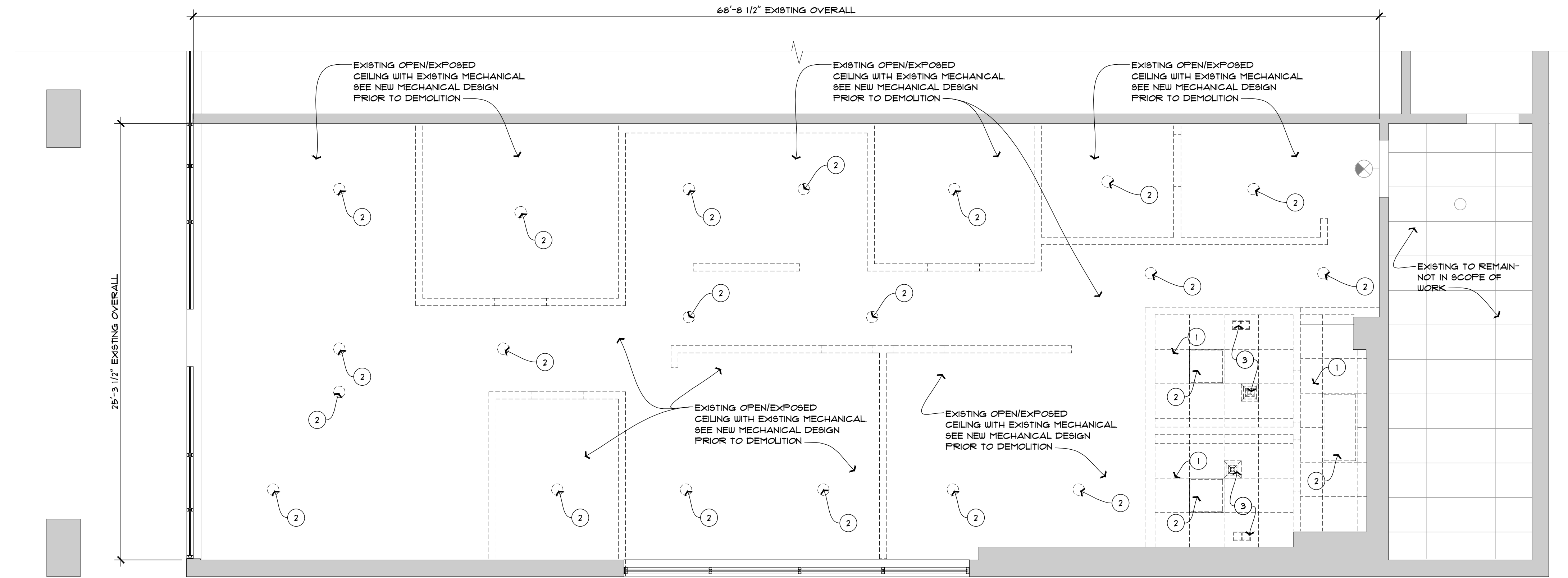
	EXISTING WALL/EXISTING CONDITIONS BY OTHERS TO REMAIN
	EXISTING CONDITION TO BE REMOVED

GENERAL NOTES

- THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES IN THE DRAWINGS OR AT THE JOB SITE TO THE ARCHITECT IMMEDIATELY UPON DISCOVERY TO DETERMINE A COURSE OF ACTION AND NEW COST RESPONSIBILITIES.
- THE CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREON OR NOT AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSES OF REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED BY OPERATIONS IN CONJUNCTION WITH THE PERFORMANCE OF THE WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE SITE WHILE THE JOB IS IN PROGRESS AND UNTIL THE JOB IS COMPLETED.
- ALL DEBRIS BY GENERAL CONTRACTOR AND OWNER MATERIALS SHALL BE REMOVED FROM THE PREMISES BY THE GENERAL CONTRACTOR OR RESPONSIBLE CONTRACTOR AND ALL AREAS SHALL BE LEFT IN A CLEAN (BROOM CLEAN) CONDITION AT ALL TIMES.
- CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THE SAFETY OF THE OCCUPANTS AND WORKERS AT ALL TIMES.
- ALL DEMOLITION AND TERMINATION OF MECHANICAL, ELECTRICAL AND PLUMBING SYSTEMS SHALL COMPLY WITH ALL LOCAL GOVERNING BUILDING CODES AND ORDINANCES.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS AND METHODS. CONTRACTOR SHALL MAINTAIN THE STRUCTURAL INTEGRITY OF ANY CONSTRUCTION UNTIL ALL FINISH LOAD CARRYING SYSTEMS ARE COMPLETE.
- CONTRACTOR SHALL DISCONNECT, ABANDON OR REMOVE ALL HVAC SYSTEMS BACK TO THEIR SOURCE, U.N.O. VERIFY SYSTEMS TO REMAIN. SEE MECHANICAL DRAWINGS.
- CONTRACTOR SHALL DISCONNECT & REMOVE ALL LIGHT FIXTURES, ELECTRICAL RECEPTACLES, JUNCTION BOXES, SWITCHES BACK TO THEIR SOURCE, U.N.O. SEE ELECTRICAL DRAWINGS.
- CONTRACTOR SHALL DISCONNECT & REMOVE ALL PLUMBING FIXTURES INCLUDING WATER SUPPLY LINES, U.N.O. SEE PLUMBING DRAWINGS.
- CONTRACTOR SHALL DISCONNECT & REMOVE ALL PLUMBING WASTE & VENT PIPING, U.N.O. SEE PLUMBING DRAWINGS.
- CONTRACTOR SHALL DISCONNECT & REMOVE ALL GAS PIPING, U.N.O. SEE PLUMBING DRAWINGS.
- CONTRACTOR SHALL REMOVE ALL EXISTING COUNTERS AND EQUIPMENT FROM PREVIOUS TENANT INCLUDING ASSOCIATED MECHANICAL, ELECTRICAL & PLUMBING. CONTRACTOR VERIFY & COORDINATE.
- GENERAL CONTRACTOR TO COORDINATE WITH PLUMBING CONTRACTOR AS TO EXTENT OF EXISTING CONCRETE SLAB TO BE REMOVED RELATIVE TO NEW RESTROOM LAYOUTS (IF APPLICABLE). BEFORE SAW CUTTING THE EXISTING CONCRETE FLOOR IF REQUIRED, THE G.C. SHALL LOCATE AND MARK LOCATIONS OF EXISTING UNDER FLOOR ELECTRICAL AND PLUMBING SERVICES TO ENSURE THOSE ITEMS DO NOT GET DISTURBED OR DAMAGED.
- GENERAL CONTRACTOR TO VERIFY DISPOSAL/SALVAGE OF ALL MISCELLANEOUS ITEMS WITH OWNER.
- EXISTING FIRE SPRINKLER PIPING & HEADS TO REMAIN. PROTECT PIPING AND HEADS FROM DAMAGE.
- ALL PIPES, DUCTS, CONDUITS, FINISHES AND EQUIPMENT NOT BEING USED MUST BE REMOVED. DO NOT ABANDON IN PLACE.
- VERIFY ALL EXISTING STRUCTURAL CONDITIONS PRIOR TO ANY DEMOLITION AND CONSTRUCTION. PROVIDE TEMPORARY STRUCTURAL SHORING WHERE REQUIRED AS IS APPLICABLE.
- PROVIDE ALL ROOF PENETRATIONS AS REQUIRED PER MEP DRAWINGS. COORDINATE LOCATIONS/QUANTITIES WITH LANDLORD.

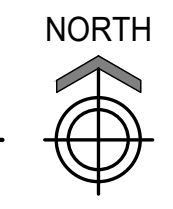


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1 DEMOLITION REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"

SPRINKLER CONTRACTOR SHALL MODIFY THE EXISTING SYSTEM TO ACCOMMODATE THIS PLAN, ADD FIXTURES AS NEEDED, AND COORDINATE WITH THIS PROPOSED LAYOUT AND DESIGN FEATURES.



DEMOLITION KEY NOTES

1	REMOVE EXISTING CEILINGS AND SOFFITS
2	REMOVE EXISTING CEILING ELECTRICAL AS SHOWN (SEE ELECTRICAL)
3	REMOVE EXISTING MECHANICAL AND DUCTWORK (BASED ON NEW MECHANICAL DESIGN). SEE NEW MECHANICAL DESIGN PRIOR TO DEMOLITION
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WALL LEGEND



GENERAL NOTES

- THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES IN THE DRAWINGS OR AT THE JOB SITE TO THE ARCHITECT IMMEDIATELY UPON DISCOVERY TO DETERMINE A COURSE OF ACTION AND NEW COST RESPONSIBILITIES.
- THE CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREON OR NOT AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSES OF REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED BY OPERATIONS IN CONJUNCTION WITH THE PERFORMANCE OF THE WORKS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE SITE WHILE THE JOB IS IN PROGRESS AND UNTIL THE JOB IS COMPLETED.
- ALL DEBRIS BY GENERAL CONTRACTOR AND OWNER MATERIALS SHALL BE REMOVED FROM THE PREMISES BY THE GENERAL CONTRACTOR OR RESPONSIBLE CONTRACTOR AND ALL AREAS SHALL BE LEFT IN A CLEAN (BROOM CLEAN) CONDITION AT ALL TIMES.
- CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THE SAFETY OF THE OCCUPANTS AND WORKERS AT ALL TIMES.
- ALL DEMOLITION AND TERMINATION OF MECHANICAL, ELECTRICAL AND PLUMBING SYSTEMS SHALL COMPLY WITH ALL LOCAL GOVERNING BUILDING CODES AND ORDINANCES.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS AND METHODS. CONTRACTOR SHALL MAINTAIN THE STRUCTURAL INTEGRITY OF ANY CONSTRUCTION UNTIL ALL FINISH LOAD CARRYING SYSTEMS ARE COMPLETE.
- CONTRACTOR SHALL DISCONNECT, ABANDON OR REMOVE ALL HVAC SYSTEMS BACK TO THEIR SOURCE, U.N.O. VERIFY SYSTEMS TO REMAIN. SEE MECHANICAL DRAWINGS.
- CONTRACTOR SHALL DISCONNECT & REMOVE ALL LIGHT FIXTURES, ELECTRICAL RECEPTACLES, JUNCTION BOXES, SWITCHES BACK TO THEIR SOURCE, U.N.O. SEE ELECTRICAL DRAWINGS.
- CONTRACTOR SHALL DISCONNECT & REMOVE ALL PLUMBING FIXTURES INCLUDING WATER SUPPLY LINES, U.N.O. SEE PLUMBING DRAWINGS.
- CONTRACTOR SHALL DISCONNECT & REMOVE ALL PLUMBING WASTE & VENT PIPING, U.N.O. SEE PLUMBING DRAWINGS.
- CONTRACTOR SHALL DISCONNECT & REMOVE ALL GAS PIPING, U.N.O. SEE PLUMBING DRAWINGS.
- CONTRACTOR SHALL REMOVE ALL EXISTING COUNTERS AND EQUIPMENT FROM PREVIOUS TENANT INCLUDING ASSOCIATED MECHANICAL, ELECTRICAL & PLUMBING. CONTRACTOR VERIFY & COORDINATE.
- GENERAL CONTRACTOR TO COORDINATE WITH PLUMBING CONTRACTOR AS TO EXTENT OF EXISTING CONCRETE SLAB TO BE REMOVED RELATIVE TO NEW RESTROOM LAYOUTS (IF APPLICABLE). BEFORE SAW CUTTING THE EXISTING CONCRETE FLOOR IF REQUIRED, THE G.C. SHALL LOCATE AND MARK LOCATIONS OF EXISTING UNDER FLOOR ELECTRICAL AND PLUMBING SERVICES TO ENSURE THOSE ITEMS DO NOT GET DISTURBED OR DAMAGED.
- GENERAL CONTRACTOR TO VERIFY DISPOSAL/SALVAGE OF ALL MISCELLANEOUS ITEMS WITH OWNER.
- EXISTING FIRE SPRINKLER PIPING & HEADS TO REMAIN. PROTECT PIPING AND HEADS FROM DAMAGE.
- ALL PIPES, DUCTS, CONDUITS, FINISHES AND EQUIPMENT NOT BEING USED MUST BE REMOVED. DO NOT ABANDON IN PLACE.
- VERIFY ALL EXISTING STRUCTURAL CONDITIONS PRIOR TO ANY DEMOLITION AND CONSTRUCTION. PROVIDE TEMPORARY STRUCTURAL SHORING WHERE REQUIRED AS IS APPLICABLE.
- PROVIDE ALL ROOF PENETRATIONS AS REQUIRED PER MEP DRAWINGS. COORDINATE LOCATIONS/QUANTITIES WITH LANDLORD.



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WALL LEGEND

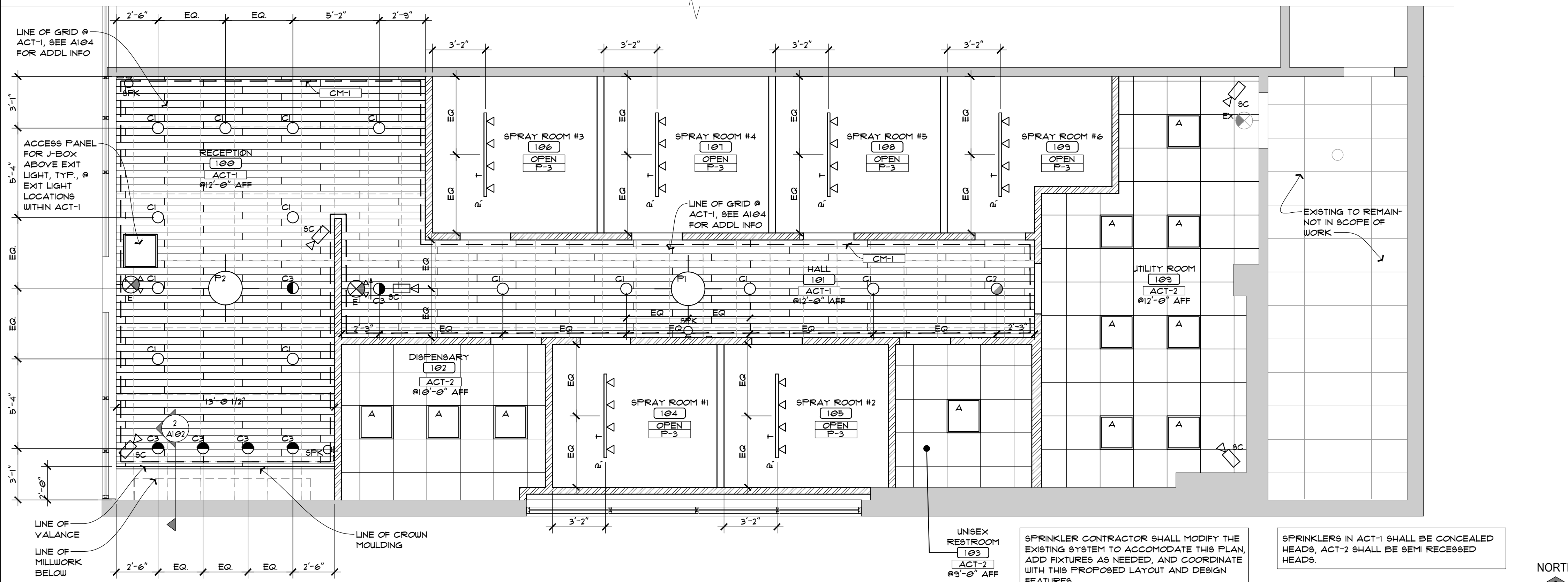
- EXISTING WALL/EXISTING CONDITIONS BY OTHERS TO REMAIN (PREP FOR NEW FINISHES)
- EXISTING PARTIAL HEIGHT WALL/WINDOW TO REMAIN (PREP FOR NEW FINISHES)
- NEW FULL HEIGHT METAL STUD WALL

REFLECTED CEILING LEGEND

- 2' x 2' CEILING GRID LAYOUT
 - 2' x 2' LED LIGHT FIXTURE
 - RECESSED LED CAN LIGHT
 - RECESSED LED CAN LIGHT - EMERGENCY
 - RECESSED LED CAN LIGHT - ADJUSTABLE
 - EXISTING EXIT SIGN TO REMAIN
 - EXIT SIGN/LIGHTING
 - PENDANT LIGHT
 - SECURITY CAMERA, OFCI
 - SPEAKER - WALL MOUNTED, 5006
 - TRACK LIGHTING
- * SEE SHT EQ01 FOR FIXTURE SPECIFICATIONS

GENERAL NOTES

1. ALL DIMENSIONS ARE TO CENTERLINE OF LIGHT FIXTURE AND OR FACE OF FINISHED WALL UNLESS NOTED OTHERWISE.
2. EXPOSED STRUCTURE, HVAC DUCTWORK, ELECTRICAL CONDUIT BOXES, WIRING AND PLUMBING PIPING TO BE PAINTED.
3. HVAC DIFFUSERS, GRILLES AND REGISTERS TO BE PAINTED TO MATCH CEILING.
4. IT IS THE RESPONSIBILITY OF THE G.C. TO ADJUST LIGHTING MOUNTING HEIGHTS AS REQUIRED TO MATCH THE PLAN.
5. DO NOT SCALE THIS DRAWING.
6. EXIT AND EMERGENCY EGRESS LIGHTING TO COMPLY WITH LOCAL JURISDICTIONAL CODE.
7. PROVIDE ADDITIONAL LIGHTING IF REQUIRED BY CODE. ADDITIONAL LIGHTING TO BE COORDINATED BY GC AND ELECTRICAL SUBCONTRACTOR AND OWNER'S LIGHTING CONSULTANT.
8. FINAL PLACEMENT LOCATIONS OF EXIT AND EMERGENCY EGRESS LIGHTING AND EXIT SIGNAGE SHOULD BE VERIFIED WITH THE JURISDICTIONAL FIRE MARSHAL PRIOR TO INSTALLING.
9. LIGHTING PROVIDED AND INSTALLED BY GC.
10. VERIFY TYPE, QUANTITIES AND LOCATIONS OF CEILING SPEAKERS AND SOUND SYSTEM WITH OWNER.
11. VERIFY TYPE, QUANTITIES AND LOCATIONS OF SECURITY CAMERAS AND SECURITY SYSTEM WITH OWNER.
12. EXIT SIGNS SHALL BE CONNECTED TO AN EMERGENCY POWER SYSTEM THAT WILL PROVIDE ILLUMINATION OF NOT LESS THAN 90 MIN. IN CASE OF EMERGENCY POWER LOSS (011.2-101.5).
13. BACK TO BACK SWITCHING NOT ALLOWED. OFFSET A MINIMAL DIMENSION WITH METAL STUD IN BETWEEN OPPOSING SWITCHES.
14. SWITCHES SHOWN IN THE SAME LOCATION SHALL BE GANGED ON THE SAME COVER PLATE.
15. SWITCHING PLAN SHALL BE APPROVED BY THE OWNER PRIOR TO INSTALLING SWITCHES.
16. COORDINATE WITH ALL TRADES TO ENSURE CLEARANCES FOR ALL CEILING RELATED AFFURTENANCES NECESSARY TO MAINTAIN THE SPECIFIED FINISH CEILING HEIGHT AS NOTED.
17. ALL LIGHT FIXTURES, HVAC EQUIPMENT AND DIFFUSERS SHALL BE SUPPORTED FROM TOP CHORD OF STRUCTURAL JOISTS ABOVE.
18. HANGER WIRE AT SUSPENDED CEILINGS SHALL BE 8 GA. AND SHALL BE ATTACHED TO STRUCTURAL STEEL ONLY WITH U.L LISTED CLAMPS. DO NOT ATTACH SUPPORT WIRES TO MECHANICAL EQUIPMENT OR PIPING. SCREWS ARE NOT PERMITTED ON METAL STRUCTURAL DECKING.
19. CEILING SUSPENSION SYSTEM SHALL BE ATTACHED TO TWO ADJACENT WALLS. MAINTAIN TWO SIDES UNRESTRAINED.
20. G.C.'S ELECTRICAL CONTRACTOR SHALL PROVIDE POWER AS REQUIRED FOR LIGHT SIGNAGE. COORDINATE ALL REQUIREMENTS WITH THE OWNER AND SIGN VENDOR PRIOR TO CONSTRUCTION.
21. VERIFY ANY ELEMENTS HANGING FROM CEILING/STRUCTURE WITH BUILDING SHELL STRUCTURAL ENGINEER.
22. SEAL ALL EXTERIOR PENETRATIONS TO FACADE TO PREVENT WATER INTRUSION.

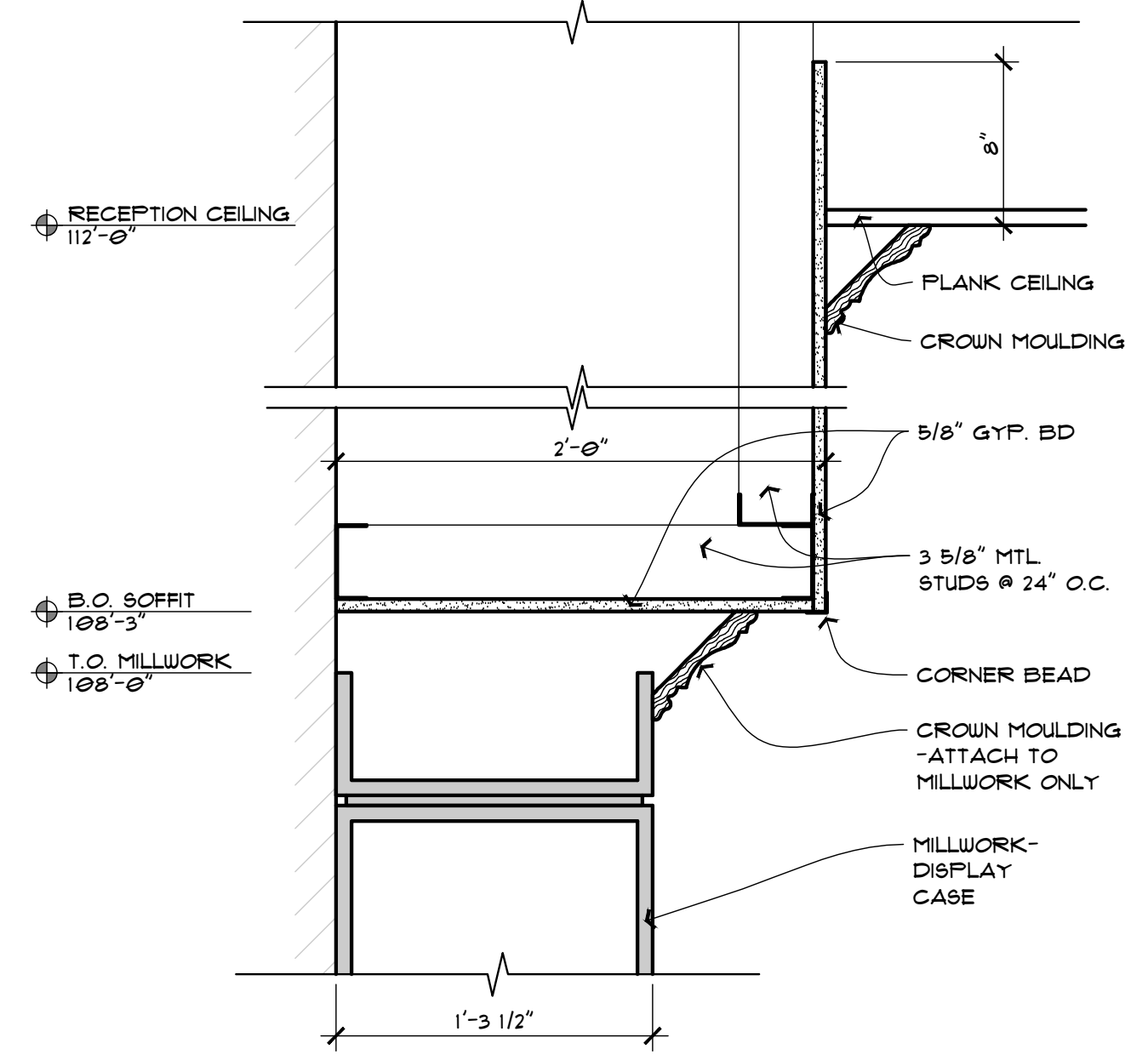


1 REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"

UNISEX RESTROOM [103] [ACT-2] #9'-0" AFF

SPRINKLER CONTRACTOR SHALL MODIFY THE EXISTING SYSTEM TO ACCOMMODATE THIS PLAN, ADD FIXTURES AS NEEDED, AND COORDINATE WITH THIS PROPOSED LAYOUT AND DESIGN FEATURES.

SPRINKLERS IN ACT-1 SHALL BE CONCEALED HEADS, ACT-2 SHALL BE 9EM1 RECESSED HEADS.



2 MILLWORK/SOFFIT/VALANCE DETAIL
SCALE: 1 1/2" = 1'-0"

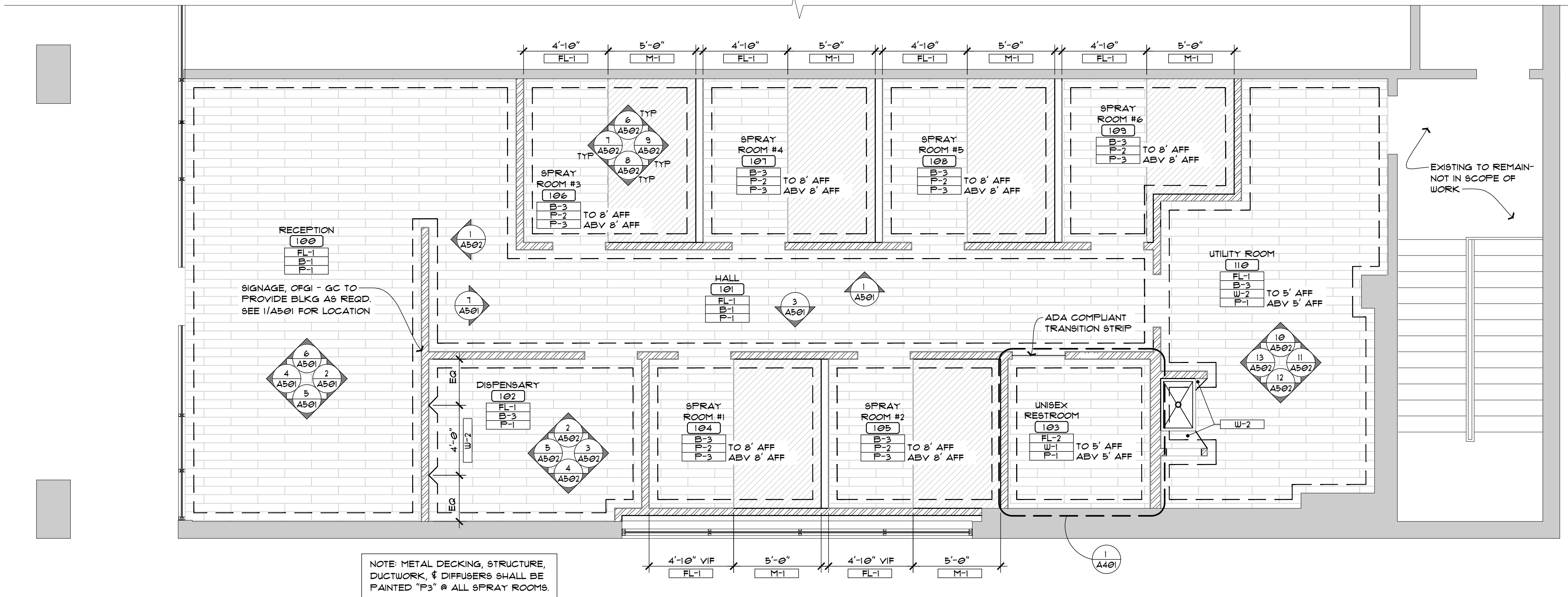


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1 FINISH PLAN
SCALE: 1/4" = 1'-0"

TYPE	TAG	MATERIAL	MANUF	MODEL	COLOR/STYLE	SIZE	DESCRIPTION	NOTES
FLOORING	FL-1	LUXURY VINYL PLANK	SHAW CONTRACT	0454V - TERRAIN II 20 MIL - 6"X48"	568 ROOT	6"X48"		RECEPTION & HALL
	FL-2	FLOOR TILE	AMERICAN OLEAN	LAUREL HEIGHTS	GRAY SUMMIT, MATTE	12"X12"		RESTROOM FLOOR
	M-1	RUBBER MAT	ECORE	6MM FIT COLLECTION	JET BLACK - EL00			SPRAY ROOMS
	G-1	FLOOR TILE GROUT	MAPEI	ULTRACOLOR PLUS PLUS FA 5221 MOONBEAM				RESTROOM
WALL BASE	B-1	WALL BASE	GARDEN STATE LUMBER	BB514-MDF	PTD; P-1	5-1/4" X 1/2"		RECEPTION, HALL
	T8-1	SCHLUTER BASE	SCHLUTER	DILEX-AHK	BRUSHED STAINLESS STEEL			RESTROOM
	B-3	WALL BASE	SHAW CONTRACT	4" COVE RUBBER BASE	00001 BLACK	4"		SEE FL-1 NOTES. SPRAY ROOMS, DISPENSARY, UTILITY ROOM
WALL FINISH	W-1	WALL TILE	SHAW CONTRACT	CT95J GLAZED CERAMIC WALL TILE 3"X6"	100 WHITE	3" X 6"		RESTROOM WAINSCOT
	W-2	FRP	MARLITE	PEBBLED FRP	WHITE			DISPENSARY, UTILITY ROOM
	T8-2	SCHLUTER CAP	SCHLUTER	RONDEC	BRUSHED STAINLESS STEEL			RESTROOM - USE WITH W-1
	G-2	TILE WAINSCOT GROUT	MAPEI	ULTRACOLOR PLUS MAX	5111 PURE WHITE			RESTROOM - USE WITH W-1
PAINT	F-1	PAINT	SHERWIN WILLIAMS	EMERALD INTERIOR ACRYLIC LATEX	SW 7005 PURE WHITE - EGGSHELL		EGGSHELL, U.N.O.	RECEPTION, HALL, DISPENSARY ROOM, UTILITY ROOM
	F-2	PAINT	SHERWIN WILLIAMS	EMERALD INTERIOR ACRYLIC LATEX	SW 9168 ELEPHANT EAR - EGGSHELL		EGGSHELL, U.N.O.	SPRAY ROOMS
	F-3	PAINT	SHERWIN WILLIAMS	EMERALD INTERIOR ACRYLIC LATEX	SW 6258 TRICORN BLACK - EGGSHELL		FLAT/MATTE	SPRAY ROOMS
CEILING	ACT-1	ACOUSTICAL CEILING FLANK	ARMSTRONG	5"X84" WOODHAVEN	1148 - PAINTED WHITE		GRID UNDER FLANK: ARMSTRONG 15/16" GRID W/ EASY-UP CLIPS	RECEPTION, HALL
	ACT-1	GRID SYSTEM FOR ACT-1	ARMSTRONG	PRELUDE XL 15/16"	N/A			DISPENSARY, RESTROOM, UTILITY ROOM
	ACT-2	ACOUSTICAL CEILING TILE	ARMSTRONG	CIRRUS REGULAR 24"X24"	WHITE			DISPENSARY, RESTROOM, UTILITY ROOM
	ACT-2	GRID SYSTEM FOR ACT-2	ARMSTRONG	SUPARFINE XL 3/16"	WHITE			DISPENSARY, RESTROOM, UTILITY ROOM
CROWN MOLDING	CM-1	CROWN MOLDING	GARDEN STATE LUMBER	UCT1-MDF	PAINT - P-1			RECEPTION, HALL
DOOR CASING	-	DOOR CASING	GARDEN STATE LUMBER	ES1-MDF	PAINT - P-1			SPRAY ROOMS, HALL

WALL LEGEND
EXISTING WALL (PREP FOR NEW FINISHES)
EXISTING WINDOW/PARTIAL HEIGHT WALL (PREP FOR NEW FINISHES)
NEW METAL STUD WALL
NEW PARTIAL HEIGHT METAL STUD WALL

- GENERAL NOTES**
- GENERAL CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY OWNER'S CONSTRUCTION MANAGER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
 - ALL TILE TO BE INSTALLED PER TILE COUNCIL OF AMERICA STANDARDS.
 - REMOVAL OF EXCESS GROUT WILL BE DONE WITH WATER, THE USE OF SULFURIC OR MURIATIC ACID IS PROHIBITED. IF THESE ACIDS ARE USED, THE INSTALLER WILL BE REQUIRED TO REMOVE THE ACID AND RESTORE THE GROUT AT THEIR EXPENSE.
 - ALL APPLIED INTERIOR FINISHES SHALL BE IN CONFORMANCE W/ SECTIONS 0901 AND 0903 OF THE INTERNATIONAL BUILDING CODE
 - DO NOT SAW CUT CONTROL JOINTS IN TILE.
 - VARIATIONS IN FLOOR LEVEL IN EXCESS OF 1" FOR EVERY 10'-0" SHALL BE LEVELED BY CONTRACTOR. LEVELING SHALL BE COMPLETED WITH FLOOR READY TO RECEIVE NEW FINISHES AS SPECIFIED. CONTRACTOR SHALL VERIFY SLAB CONDITION PRIOR TO PRICE SUBMISSION.
1. PROVIDE ATTIC STOCK AS FOLLOWS:
 ACOUSTIC CEILING TILE: - 10%
 CERAMIC TILE: - 10%
 RESILIENT MATERIALS: - (1) UNOPENED CARTON OF EACH COLOR AND TYPE
 PAINT: - (1) GALLON OF EACH COLOR AND FINISH



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FINISH PLAN AND FINISH SCHEDULE



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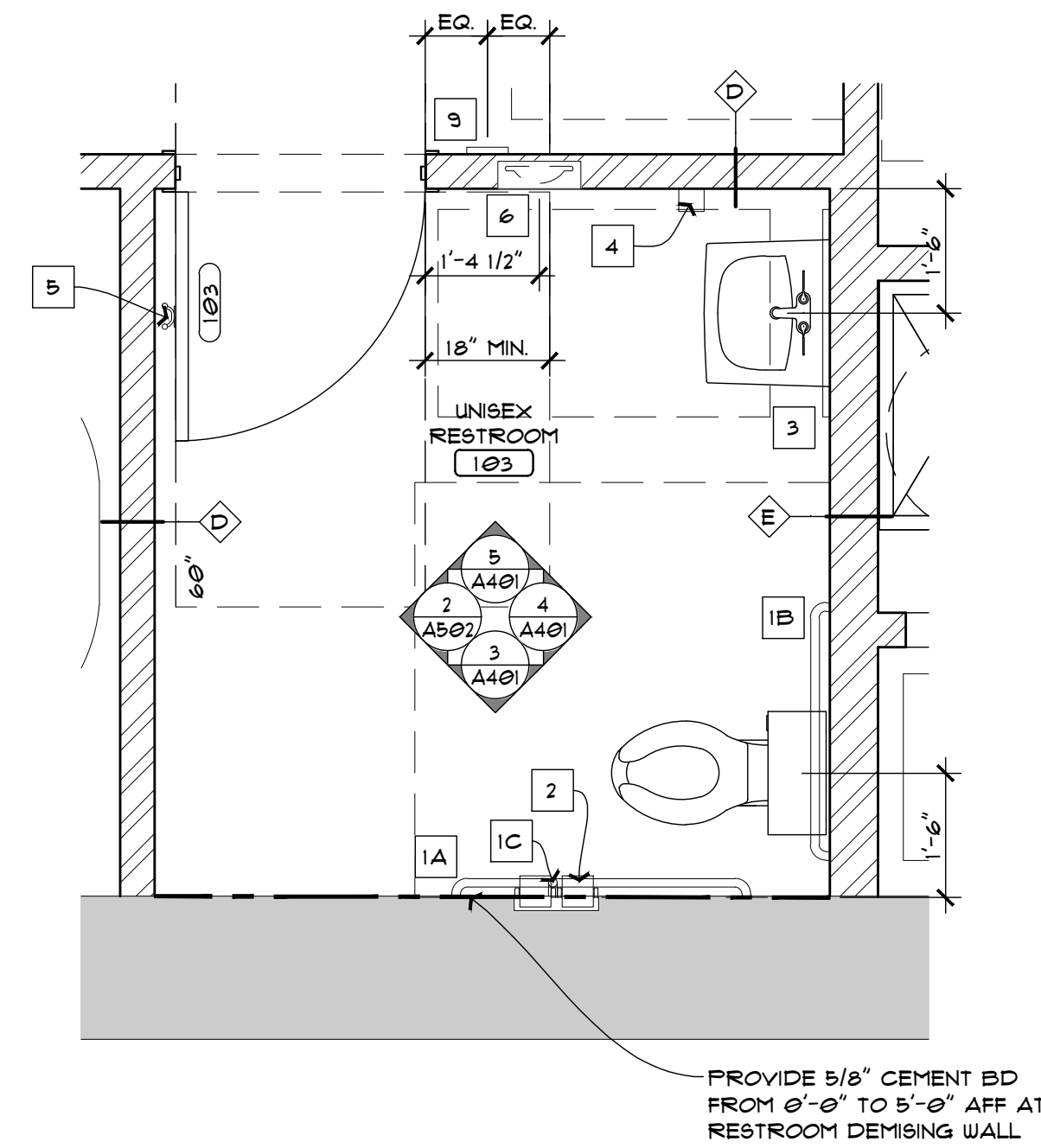
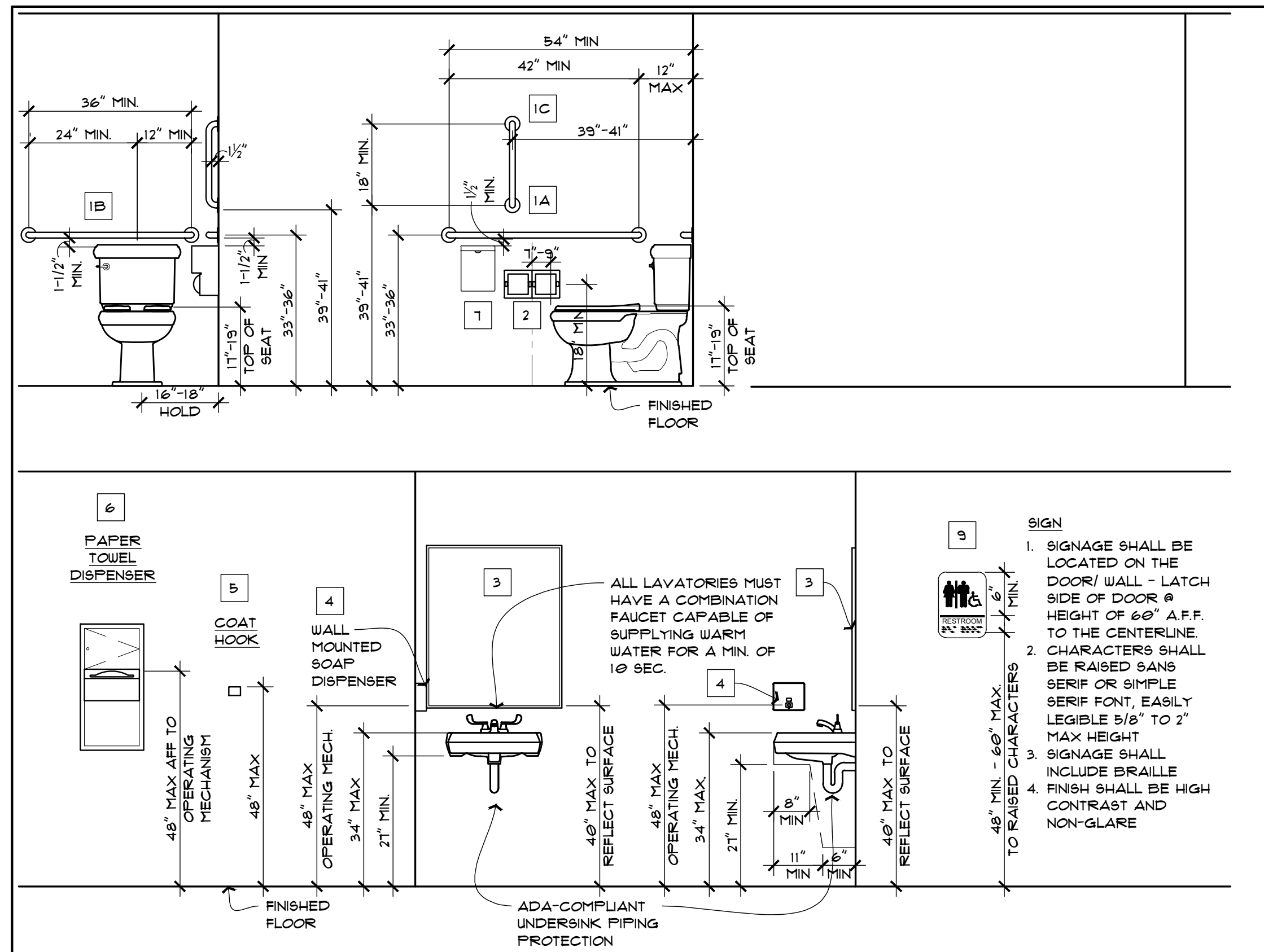
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RESTROOM ACCESSORY SCHEDULE

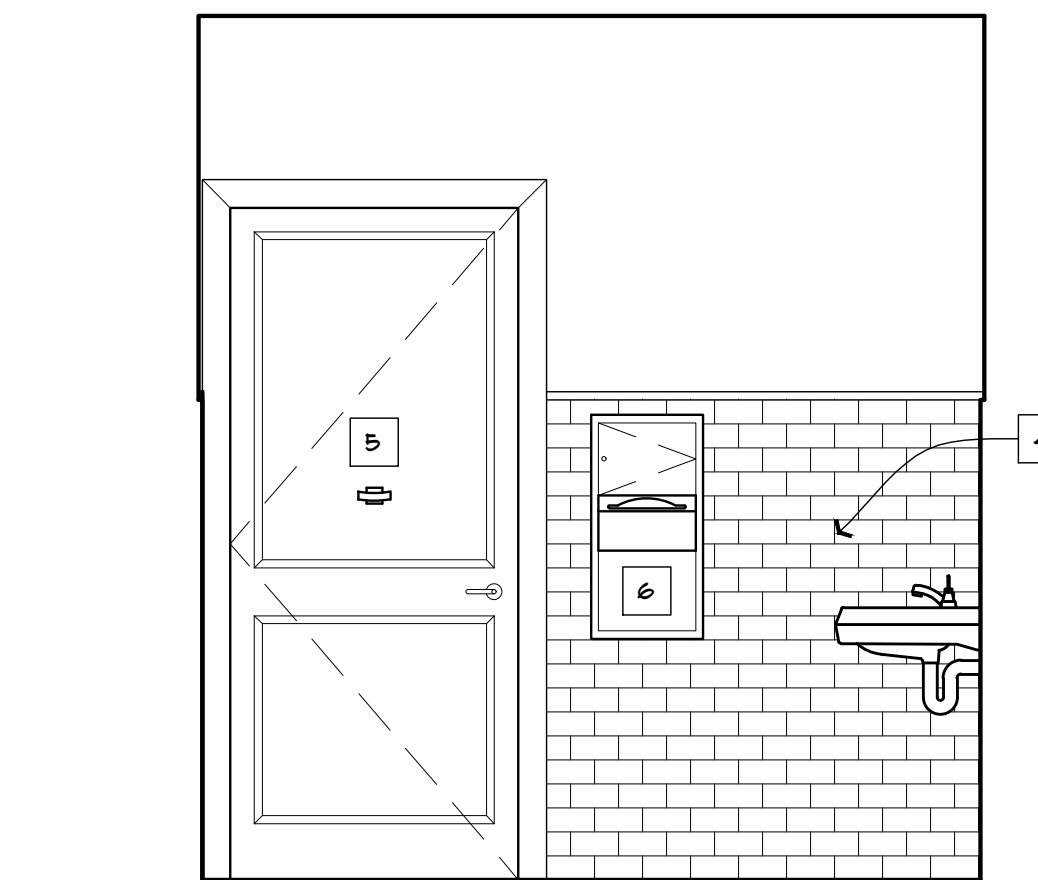
ITEM	DESCRIPTION	MANUF (BASIS OF DESIGN)	MODEL	FINISH	QTY	REMARKS
1A	GRAB BAR 42"	BOBRICK	B-6806-42	STAINLESS STEEL SATIN FINISH	1	
1B	GRAB BAR 36"	BOBRICK	B-6806-36	STAINLESS STEEL SATIN FINISH	1	
1C	GRAB BAR 18"	BOBRICK	B-6806-18	STAINLESS STEEL SATIN FINISH	1	
2	TOILET PAPER HOLDER	BOBRICK	B-35003	STAINLESS STEEL SATIN FINISH	1	
3	MIRROR - BEVELED EDGE	-	30X36	-	1	LOCALLY SOURCED
4	SOAP DISPENSER	BOBRICK	B-4112	STAINLESS STEEL SATIN FINISH	1	
5	COAT HOOK	BOBRICK	B-6121	STAINLESS STEEL SATIN FINISH	1	
6	RECESSED PAPER TOWEL AND WASTE RECEPTACLE	BOBRICK	B-369	STAINLESS STEEL SATIN FINISH	1	
7	SURFACE MOUNTED NAPKIN DISPOSAL *OPTIONAL*	BOBRICK	B-210 OR EQUAL	STAINLESS STEEL SATIN FINISH	-	
9	ADA SIGNAGE	IMAGE INNOVATION SIGN SYSTEMS	-	-	1	SEE NOTE #1

- NOTES:**
- ALL LOCATIONS & MOUNTING HEIGHTS OF ALL FIXTURES AND EQUIPMENT TO COMPLY W/ ALL APPLICABLE ACCESSIBILITY CODES.
 - GC TO FURNISH AND INSTALL ALL RESTROOM ACCESSORIES.
 - GC TO PROVIDE & INSTALL ALL WALL BACKING PER MANUFACTURER'S RECOMMENDATIONS.
 - GC TO PROVIDE CONTINUOUS CLEAR SILICONE SEALANT/CAULK FOR ALL ITEMS BELOW:
 - ALL TOILET FIXTURE AND ACCESSORIES TO FLOORS AND WALLS, TYP.
 - ALL TRANSITIONS BETWEEN TILE & WALLS.
 - PROVIDE ADA COMPLIANT UNDERSINK PIPING PROTECTION. SEE PLUMBING DRAWINGS FOR MORE INFO. (TYP.)
 - REFER TO PLUMBING DRAWINGS FOR SPECIFICATIONS ON WATER CLOSET AND LAVATORY.
 - SIGNAGE:
 - SIGNAGE SHALL BE LOCATED ON THE DOOR/ WALL - LATCH SIDE OF DOOR @ HEIGHT OF 60" A.F.F. TO THE CENTERLINE
 - CHARACTERS SHALL BE RAISED SANS SERIF OR SIMPLE SERIF FONT, EASILY LEGIBLE 5/8" TO 2" MAX HEIGHT, SIGNAGE SHALL ALSO INCLUDE BRAILLE
 - FINISH SHALL BE HIGH CONTRAST & NON-GLARE

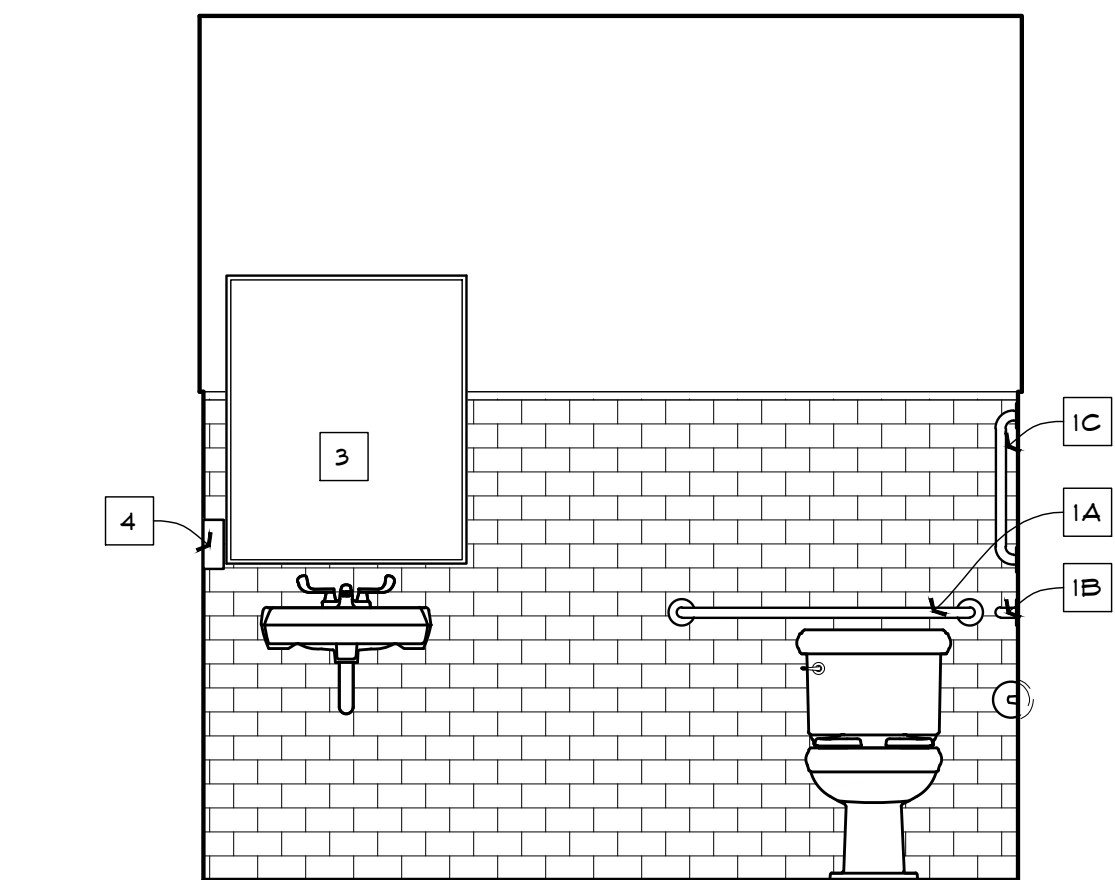
FIXTURE MOUNTING HEIGHT - PER 2009 ANSI



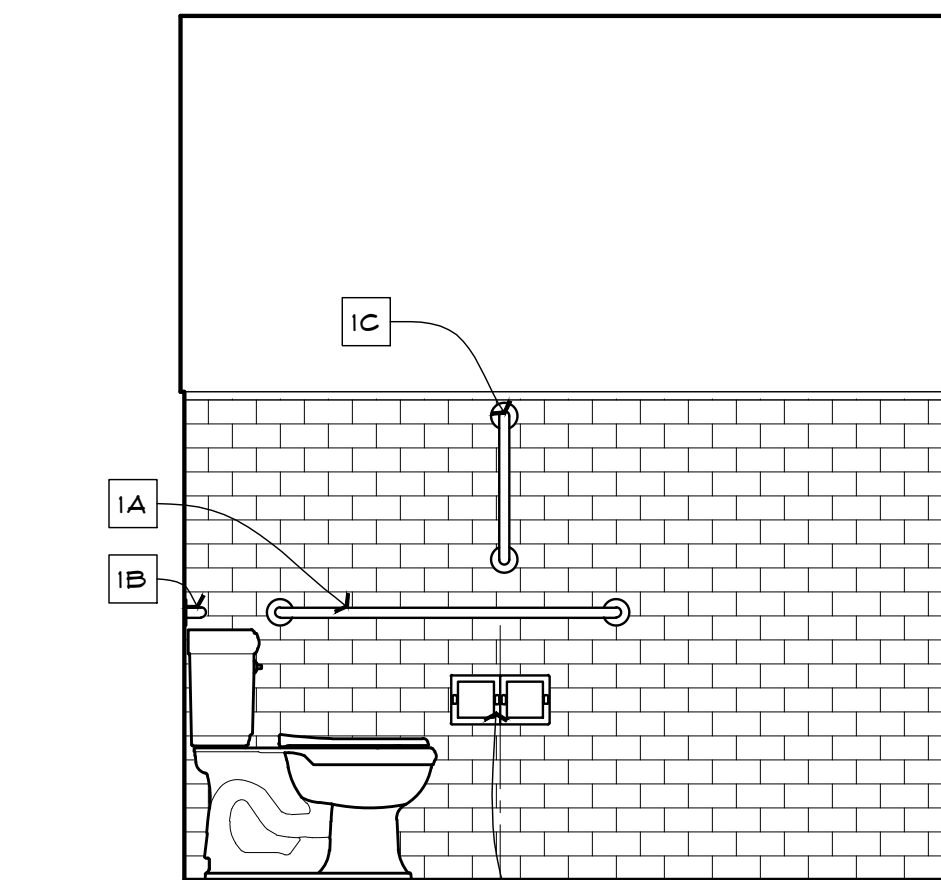
1 ENLARGED RESTROOM PLAN
SCALE: 1/2" = 1'-0"



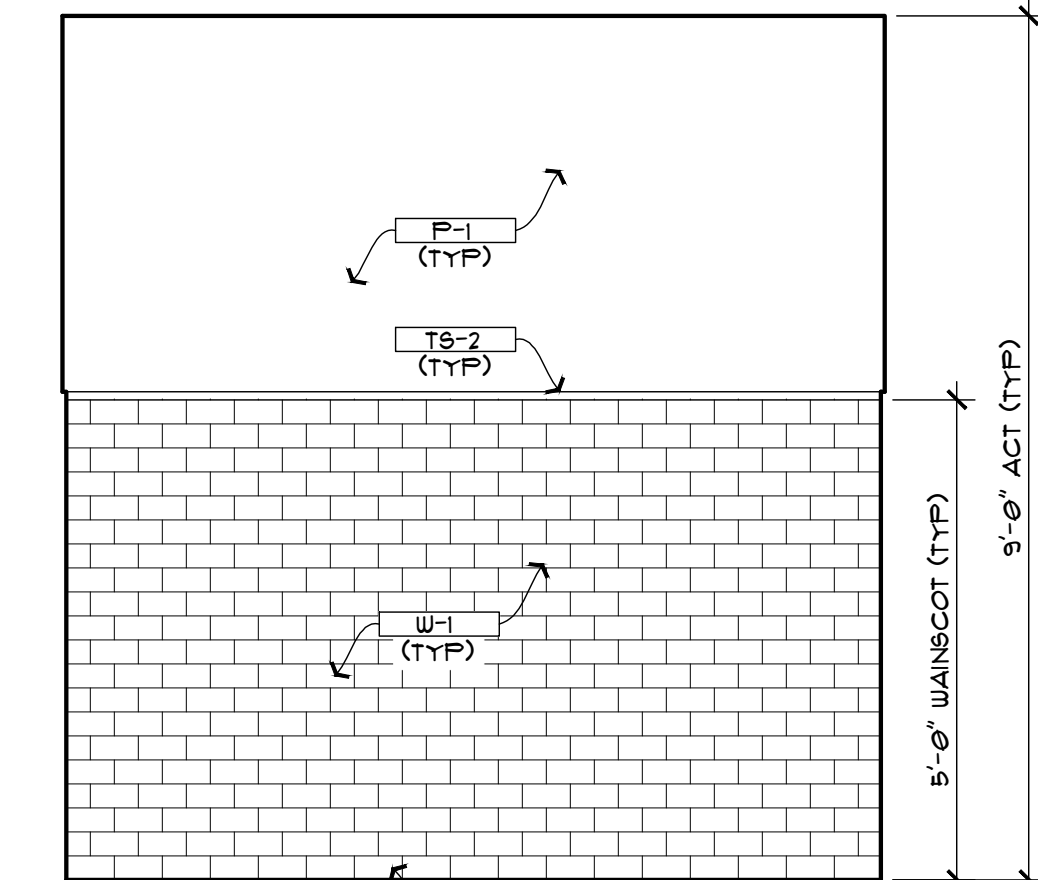
5 UNISEX ELEVATION
SCALE: 1/2" = 1'-0"



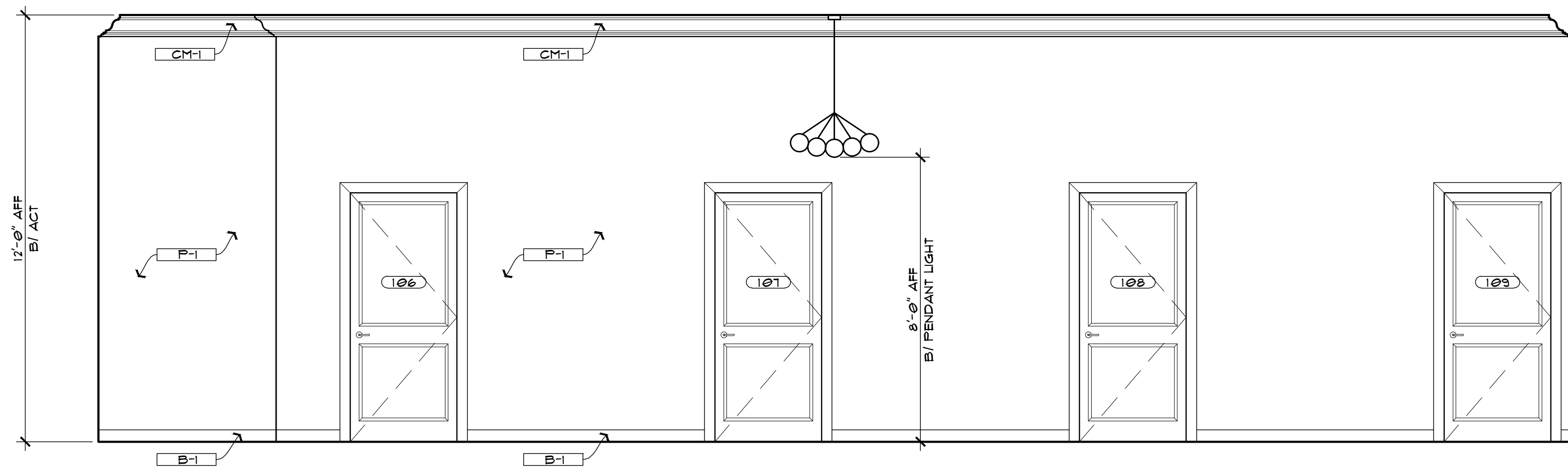
4 UNISEX ELEVATION
SCALE: 1/2" = 1'-0"



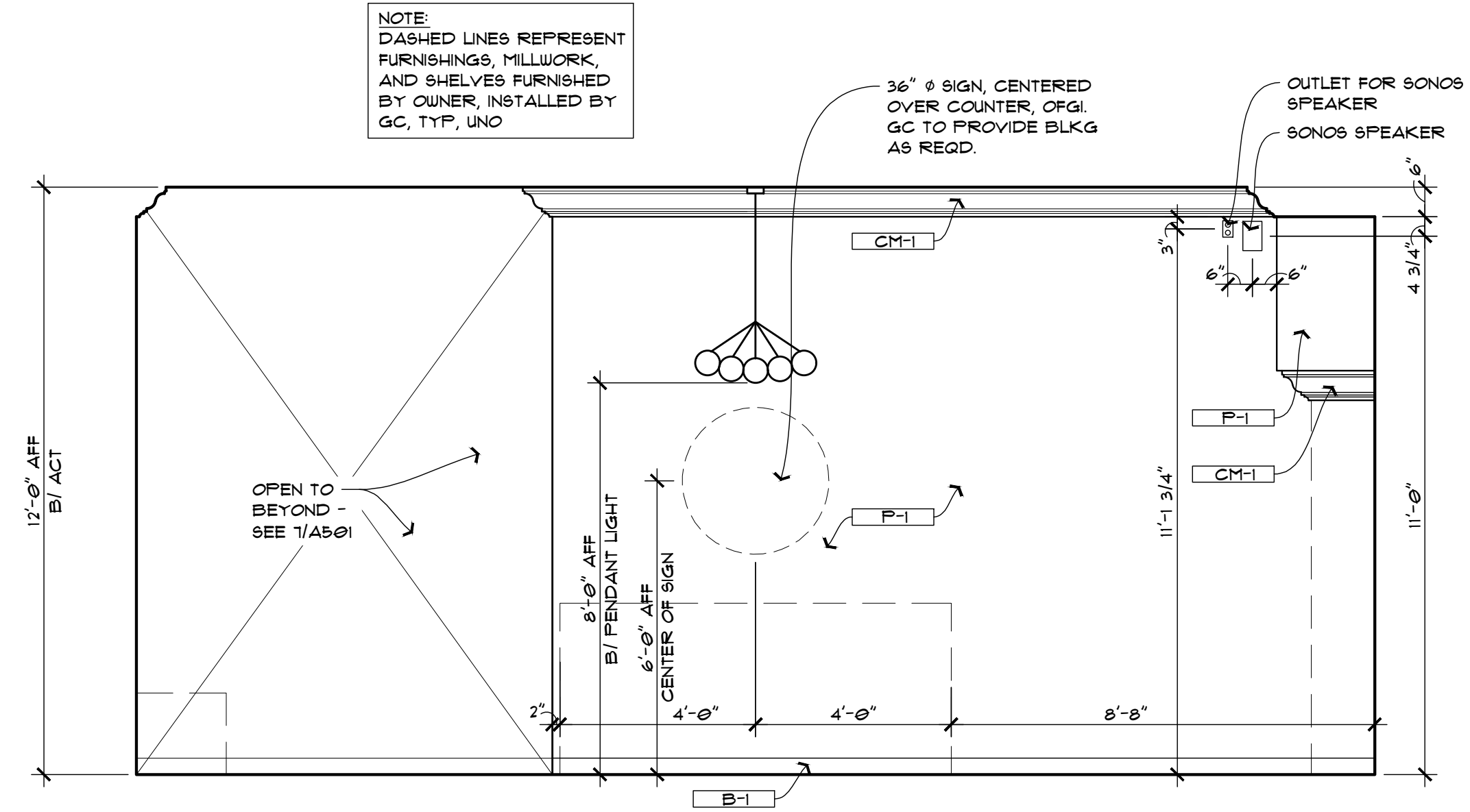
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SCALE: 1/2" = 1'-0"



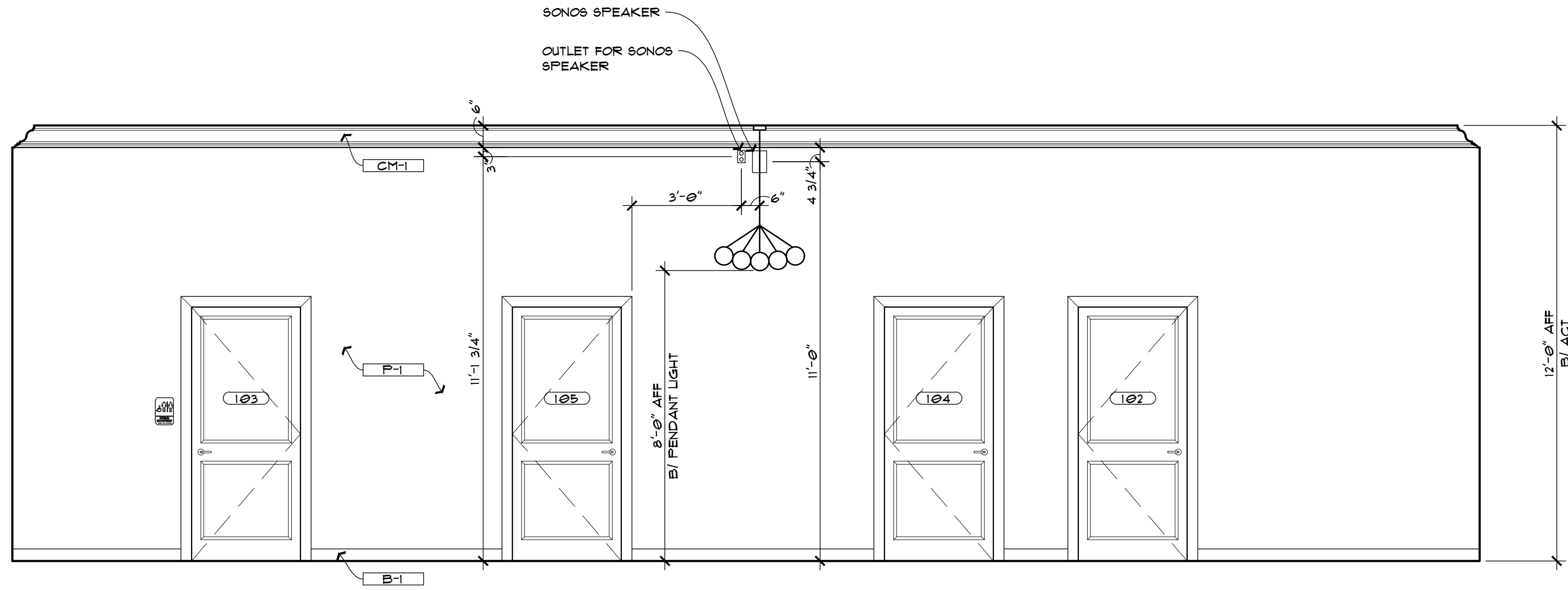
2 UNISEX ELEVATION
SCALE: 1/2" = 1'-0"



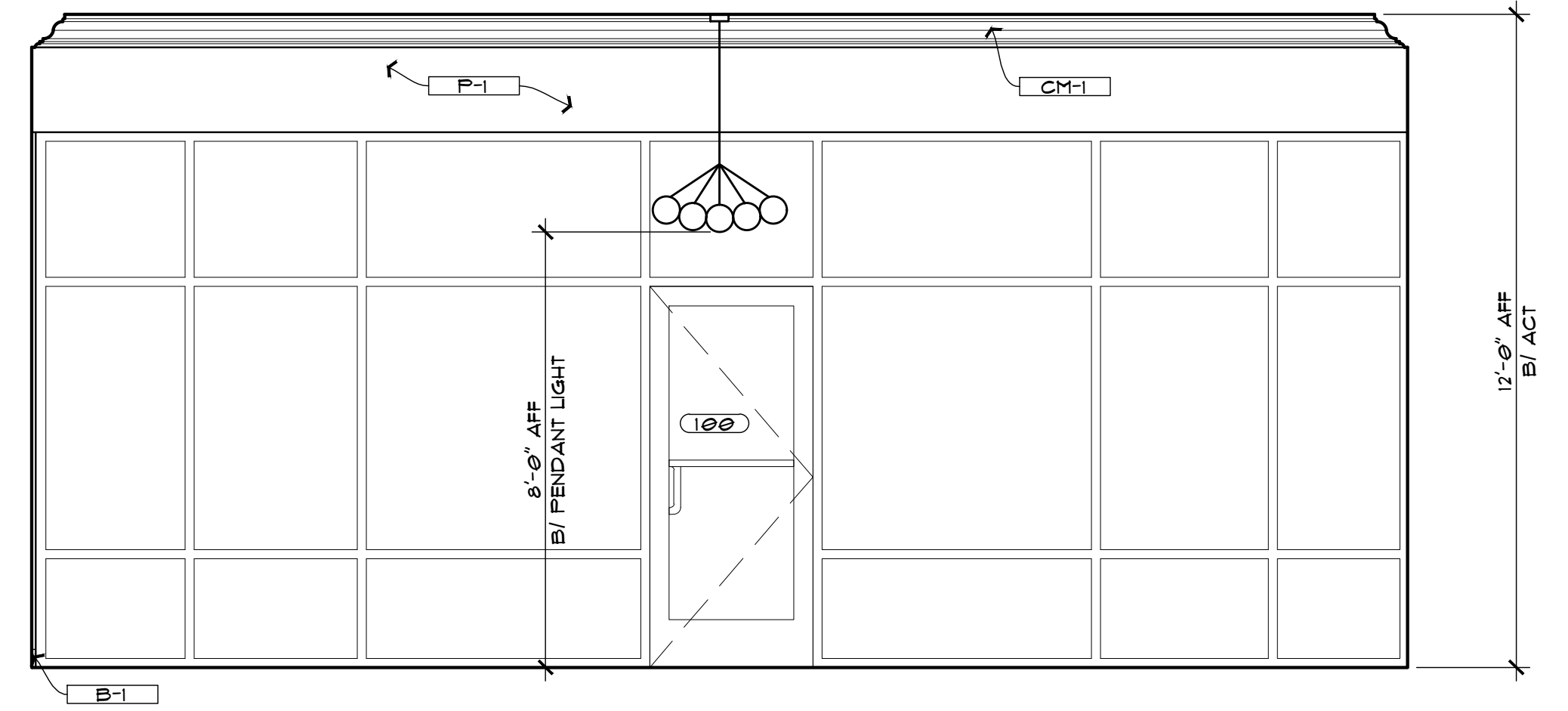
1 NORTH HALL ELEVATION
SCALE: 3/8"=1'-0"



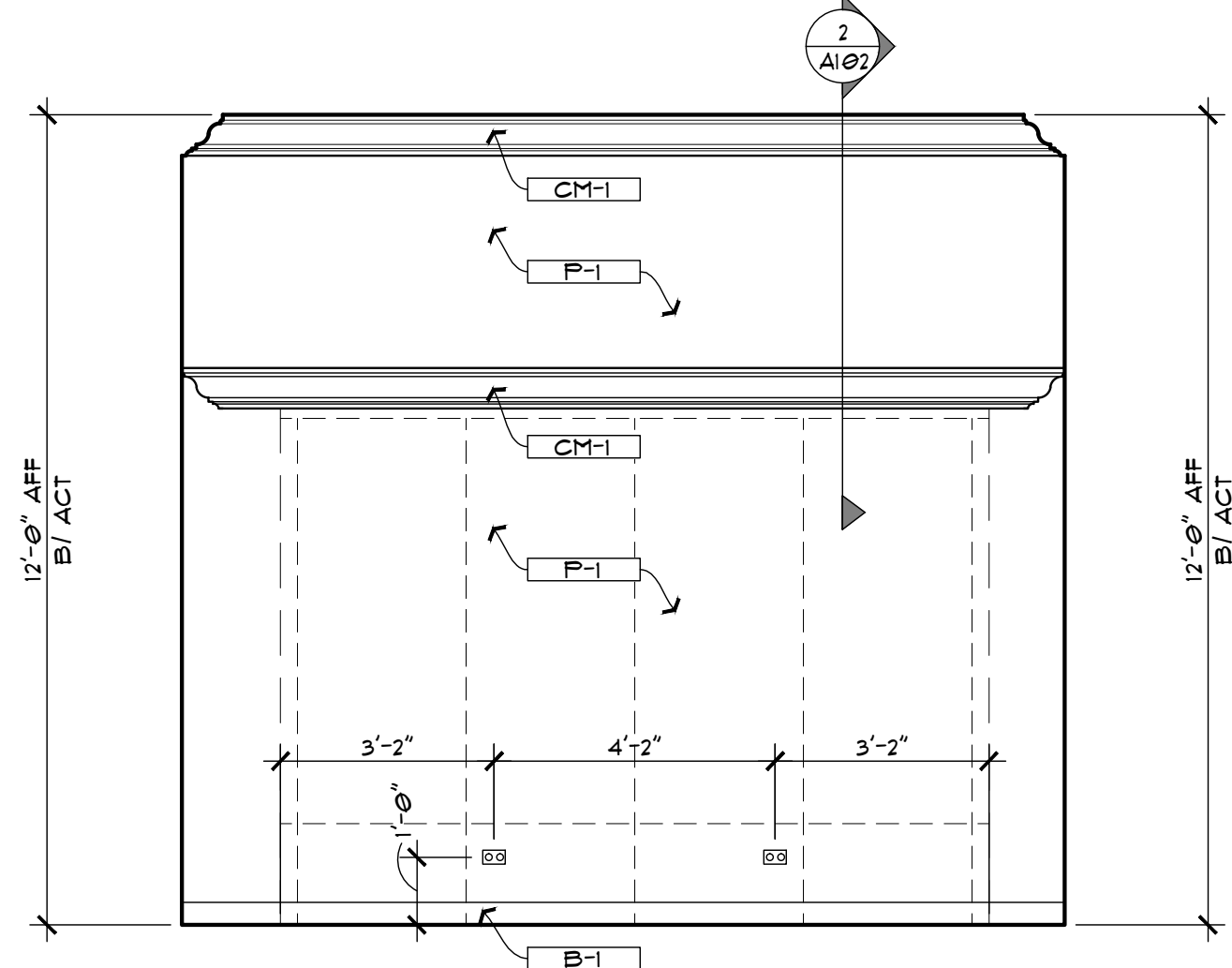
2 EAST RECEPTION ELEVATION
SCALE: 3/8"=1'-0"



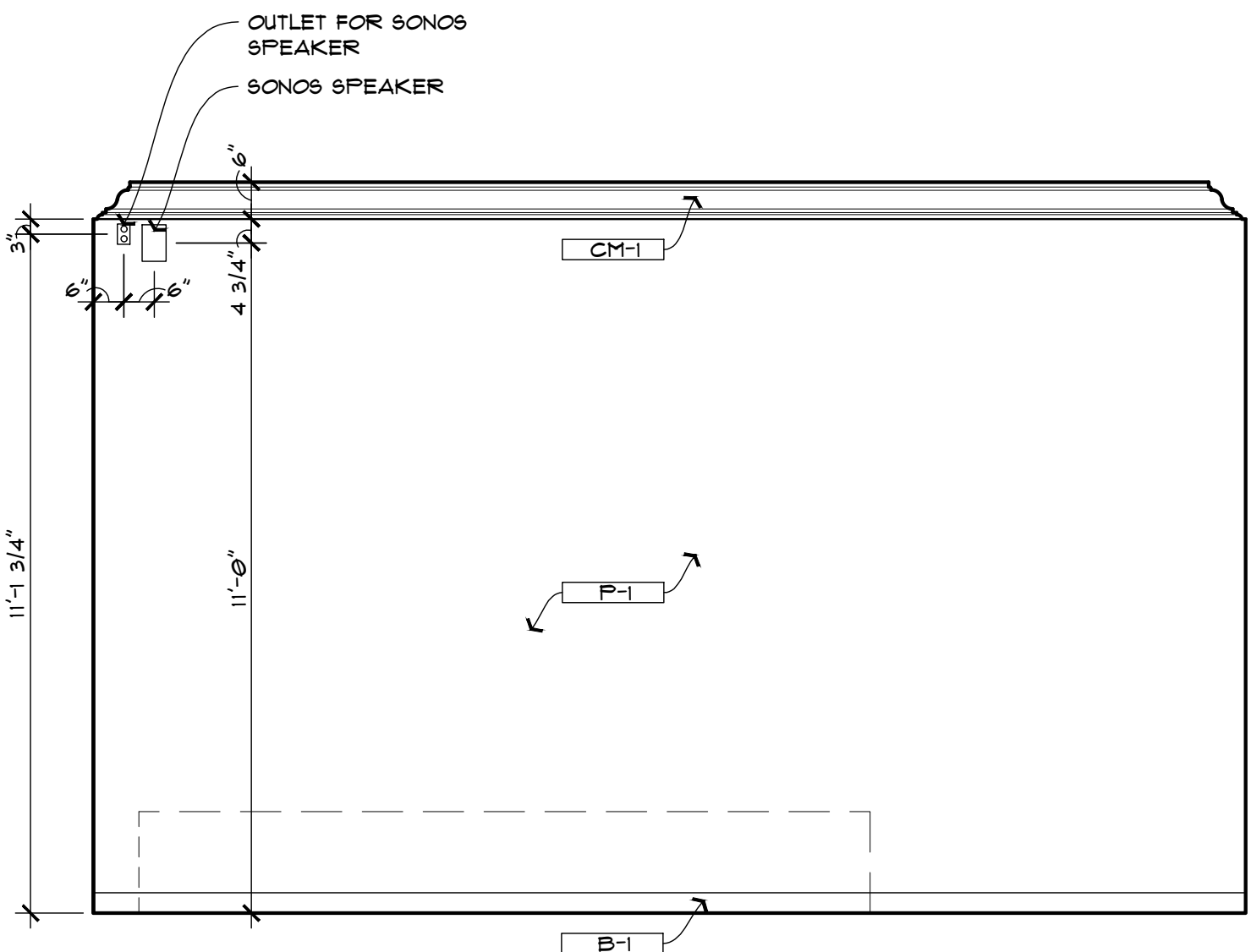
3 SOUTH HALL ELEVATION
SCALE: 3/8"=1'-0"



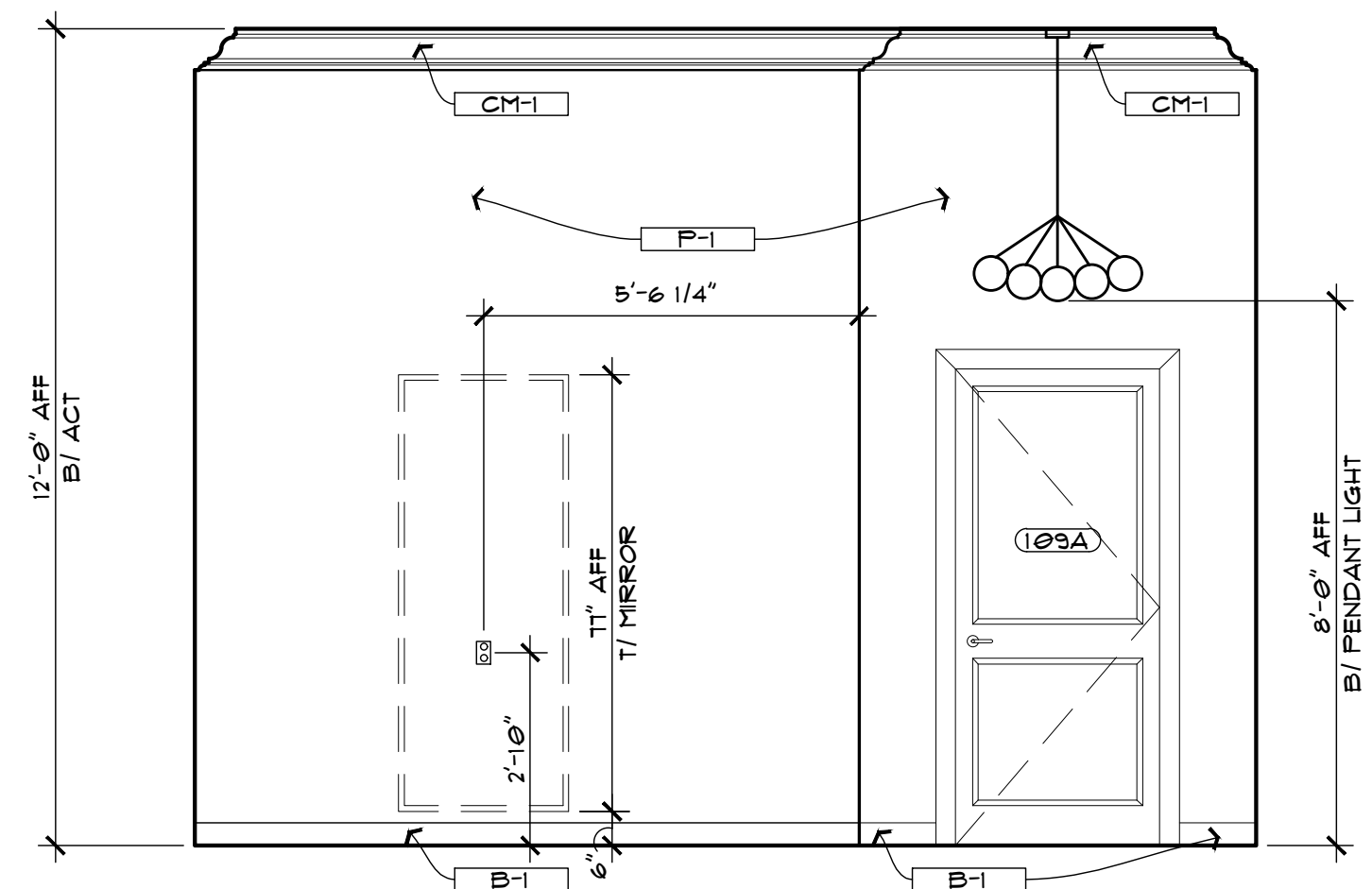
4 WEST RECEPTION ELEVATION
SCALE: 3/8"=1'-0"



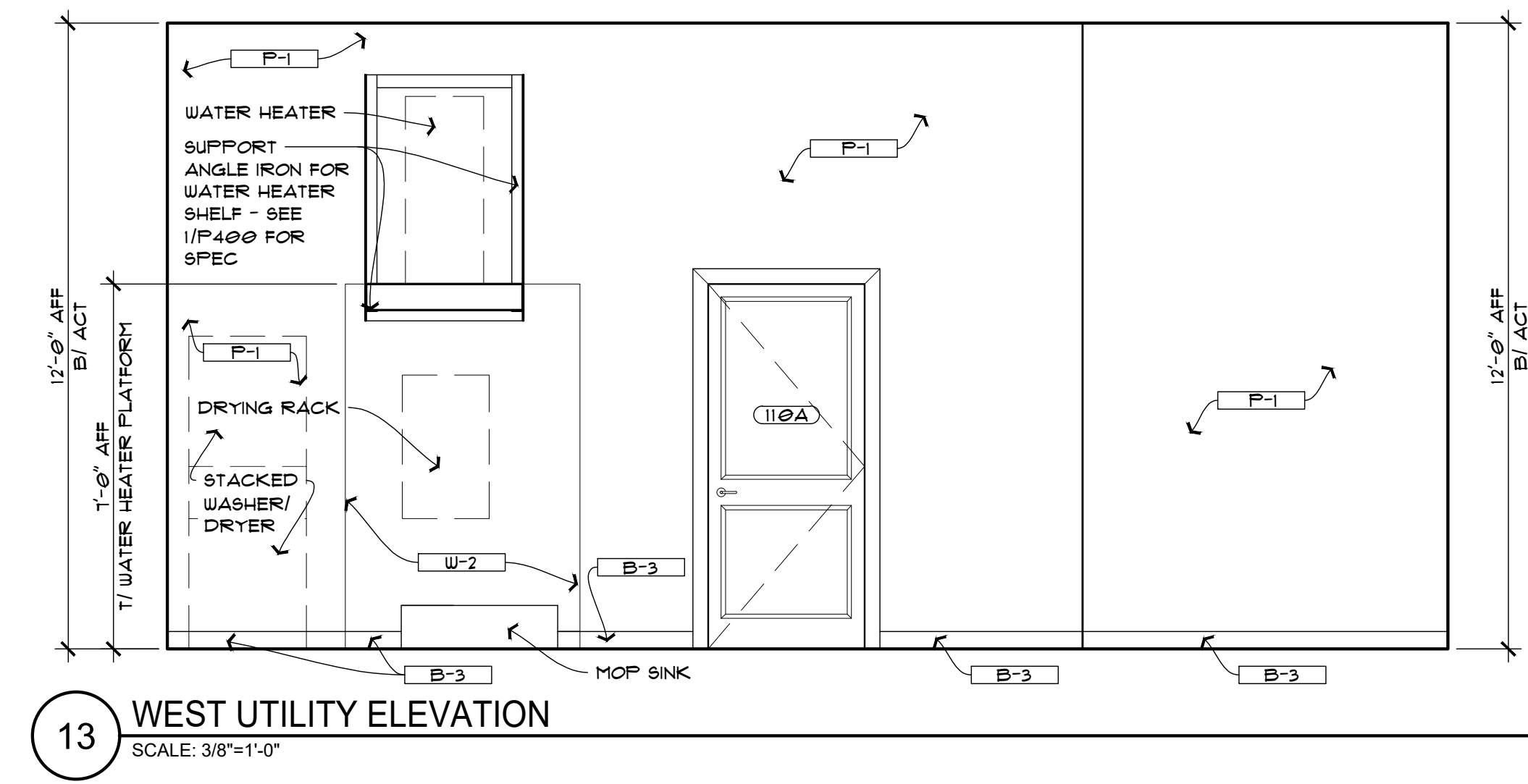
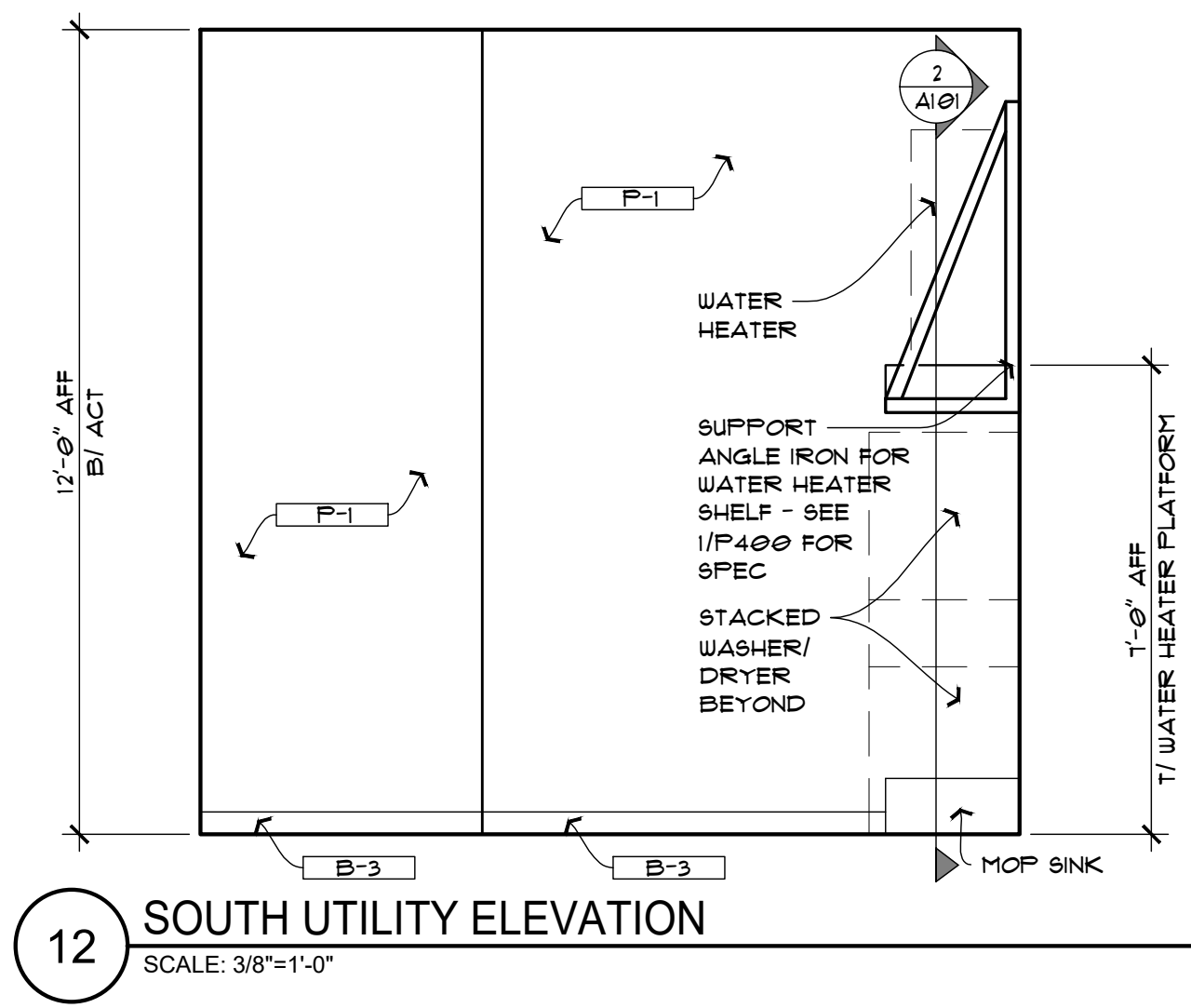
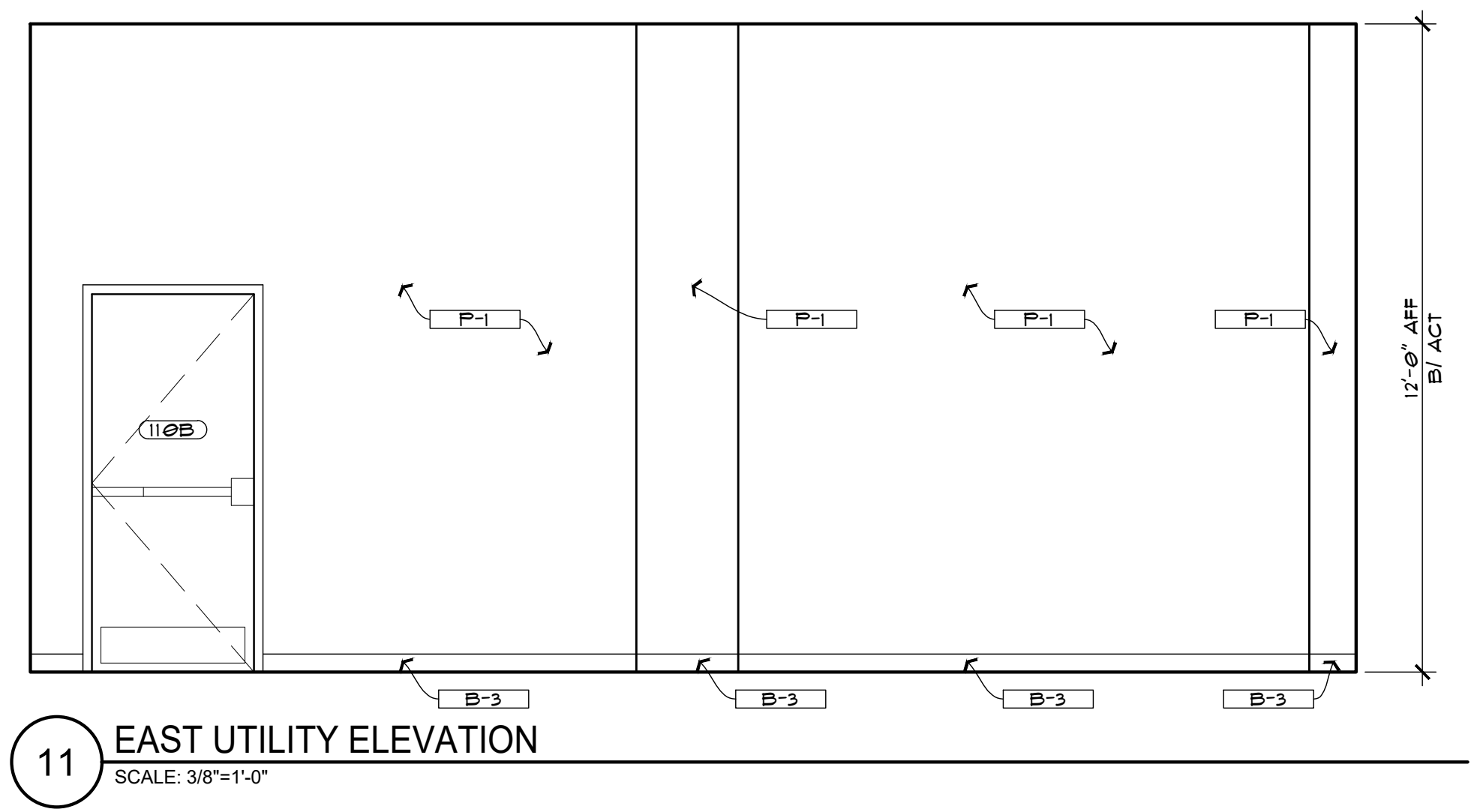
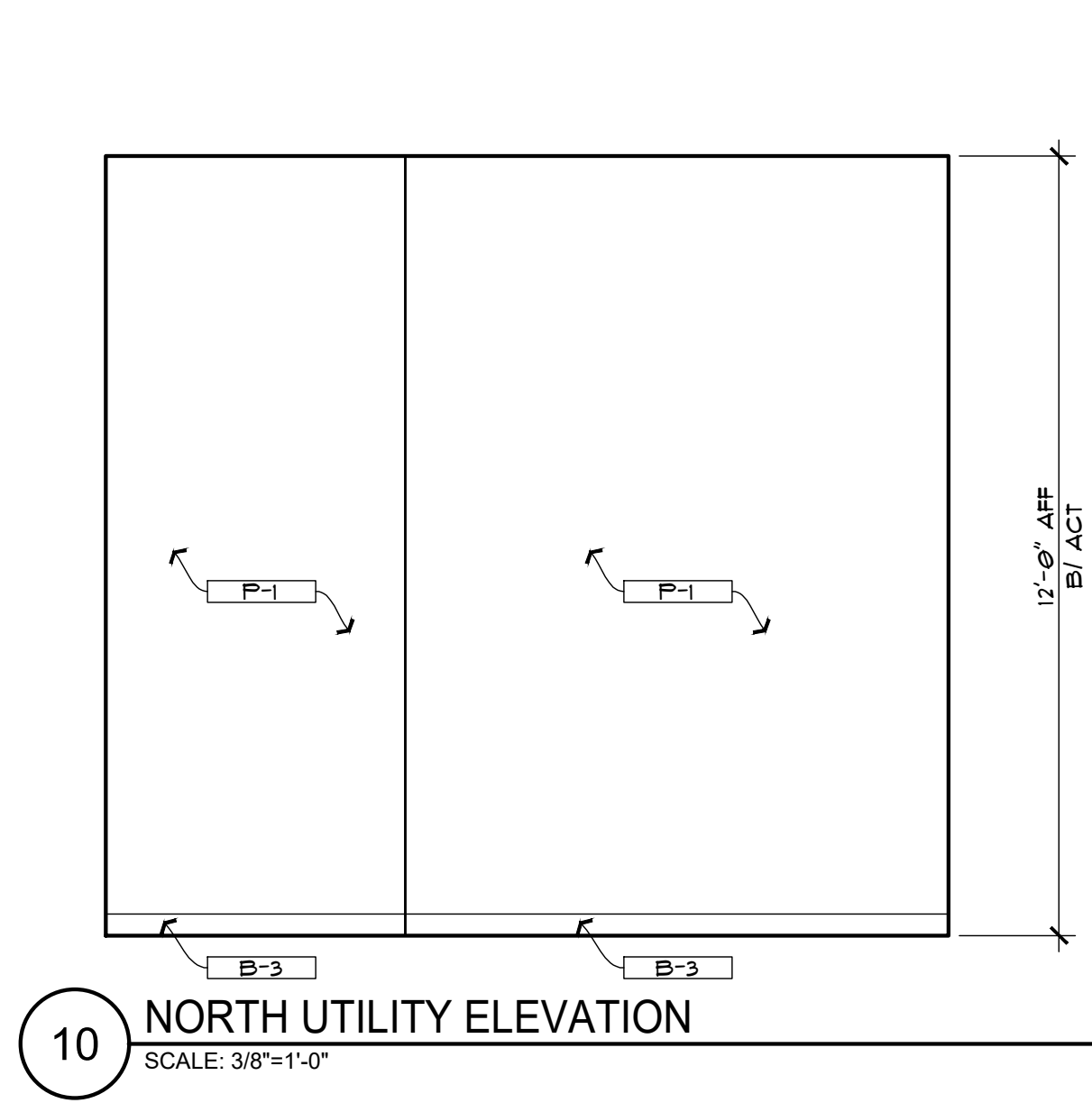
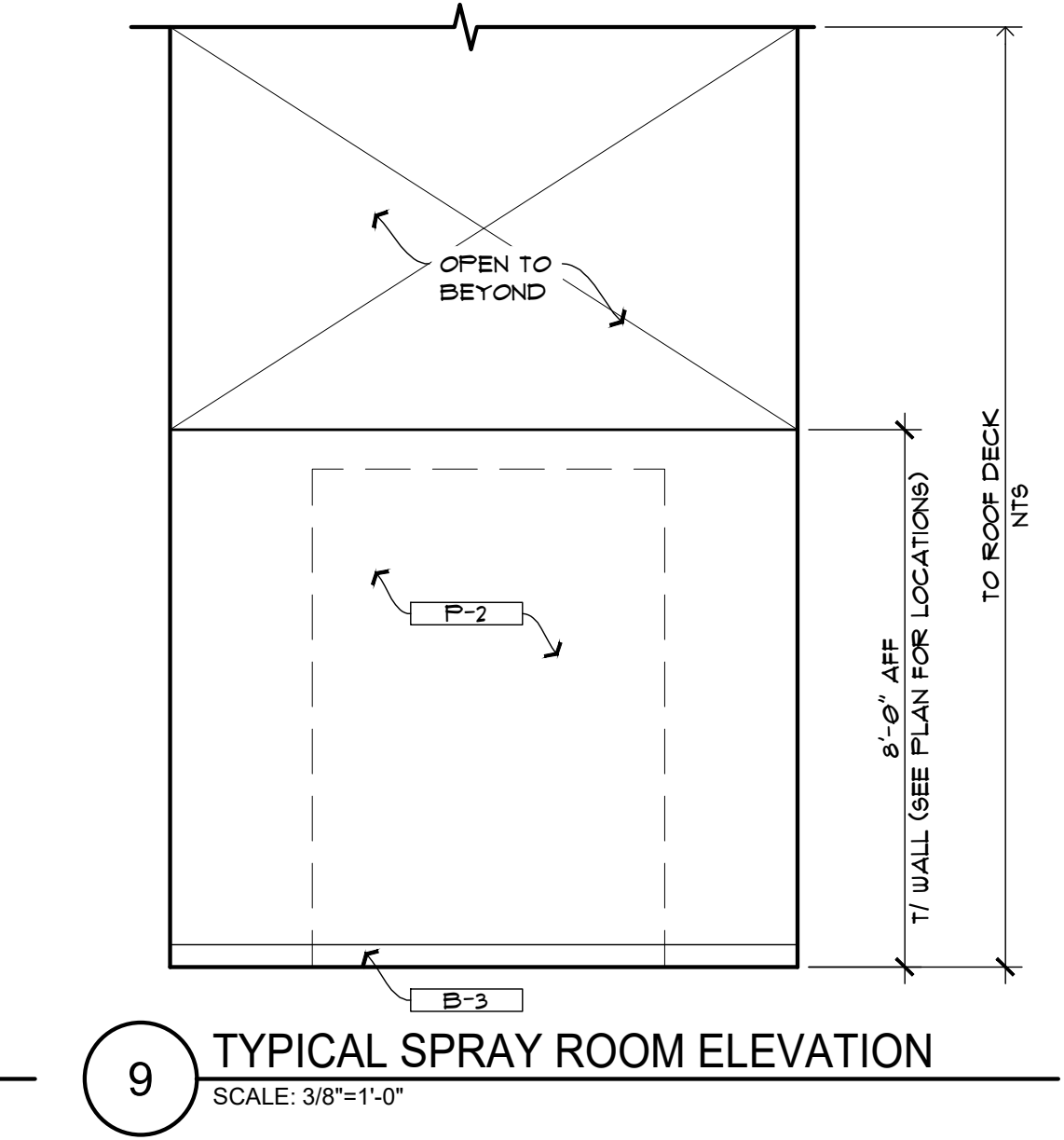
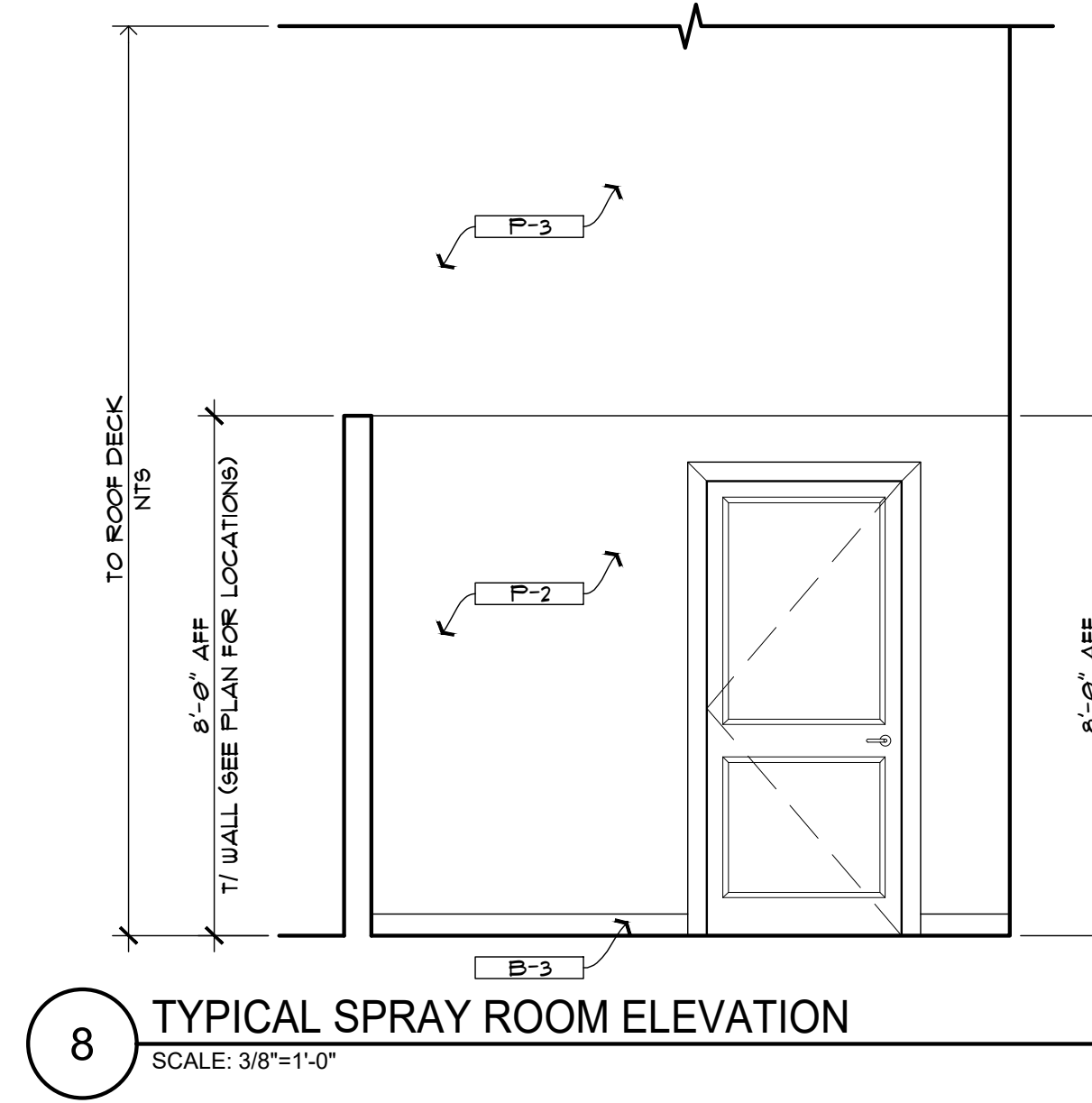
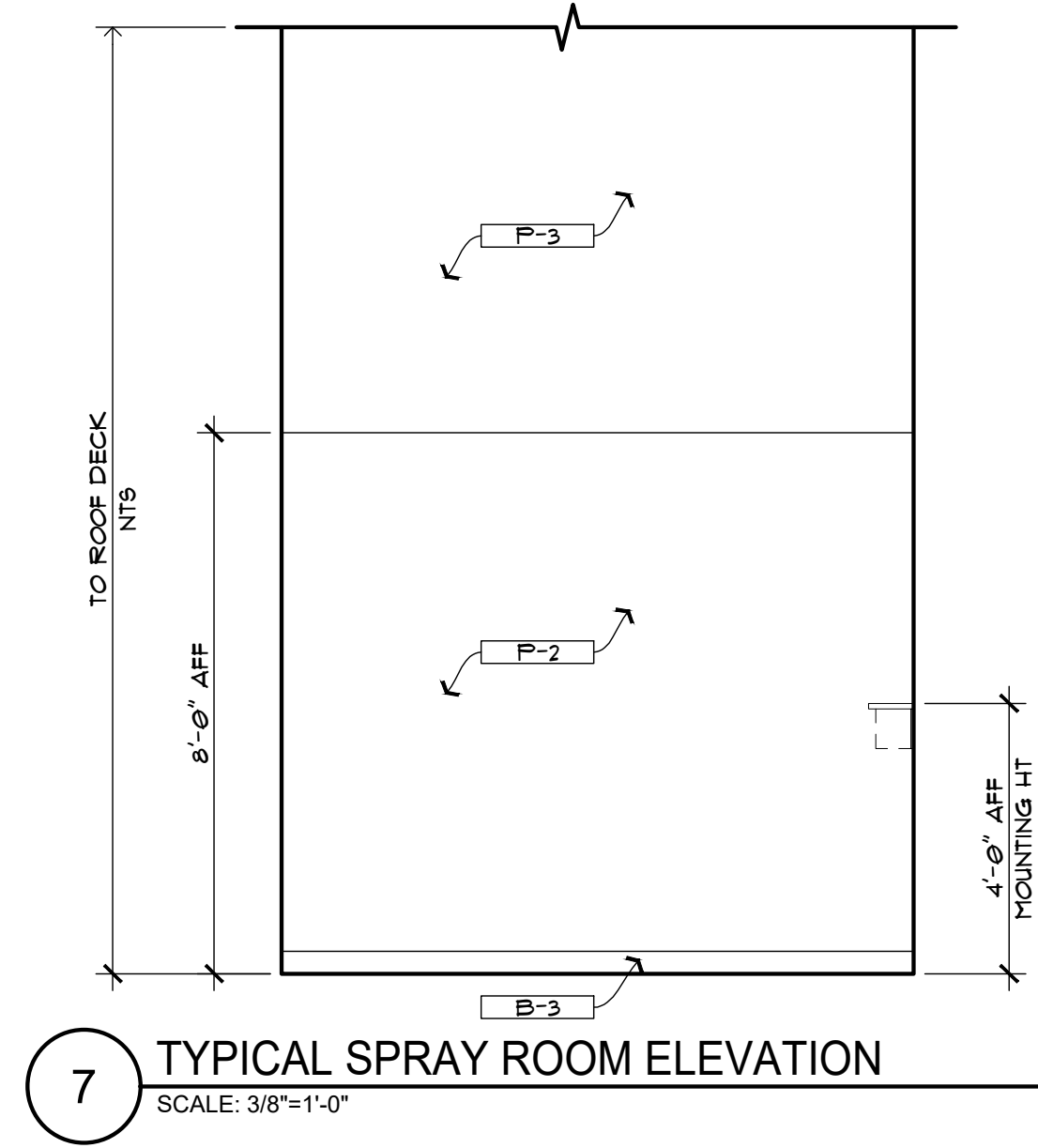
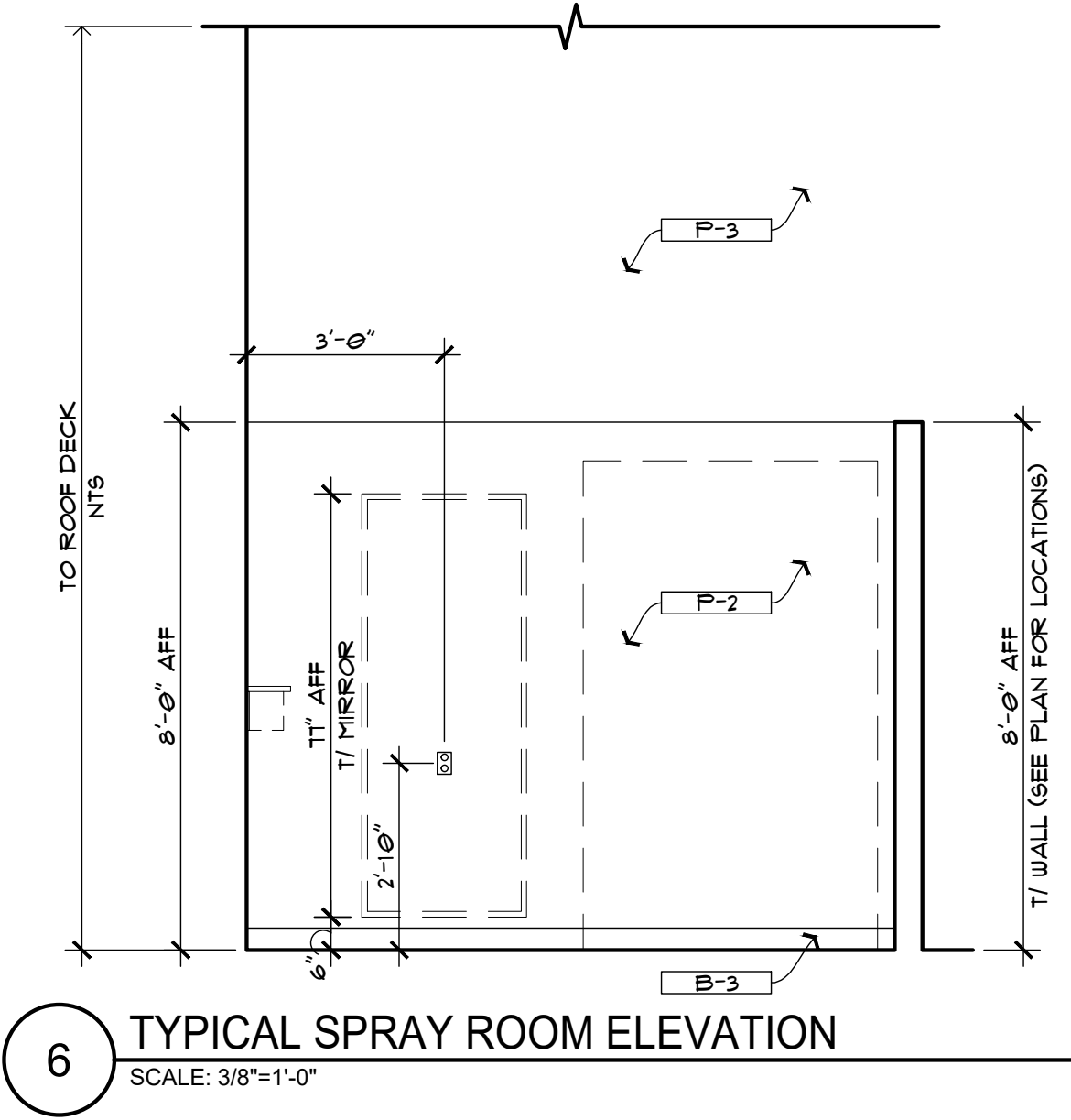
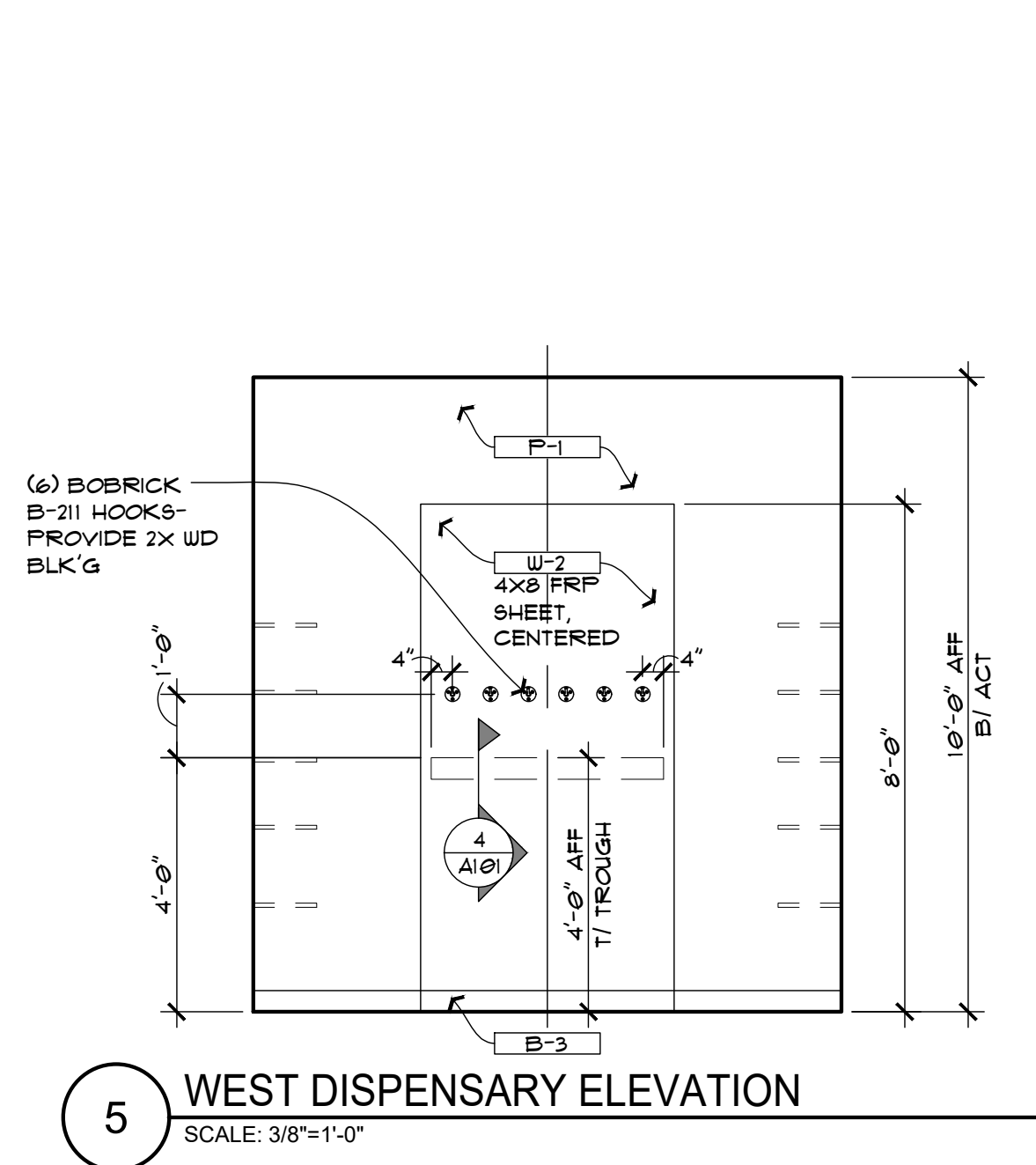
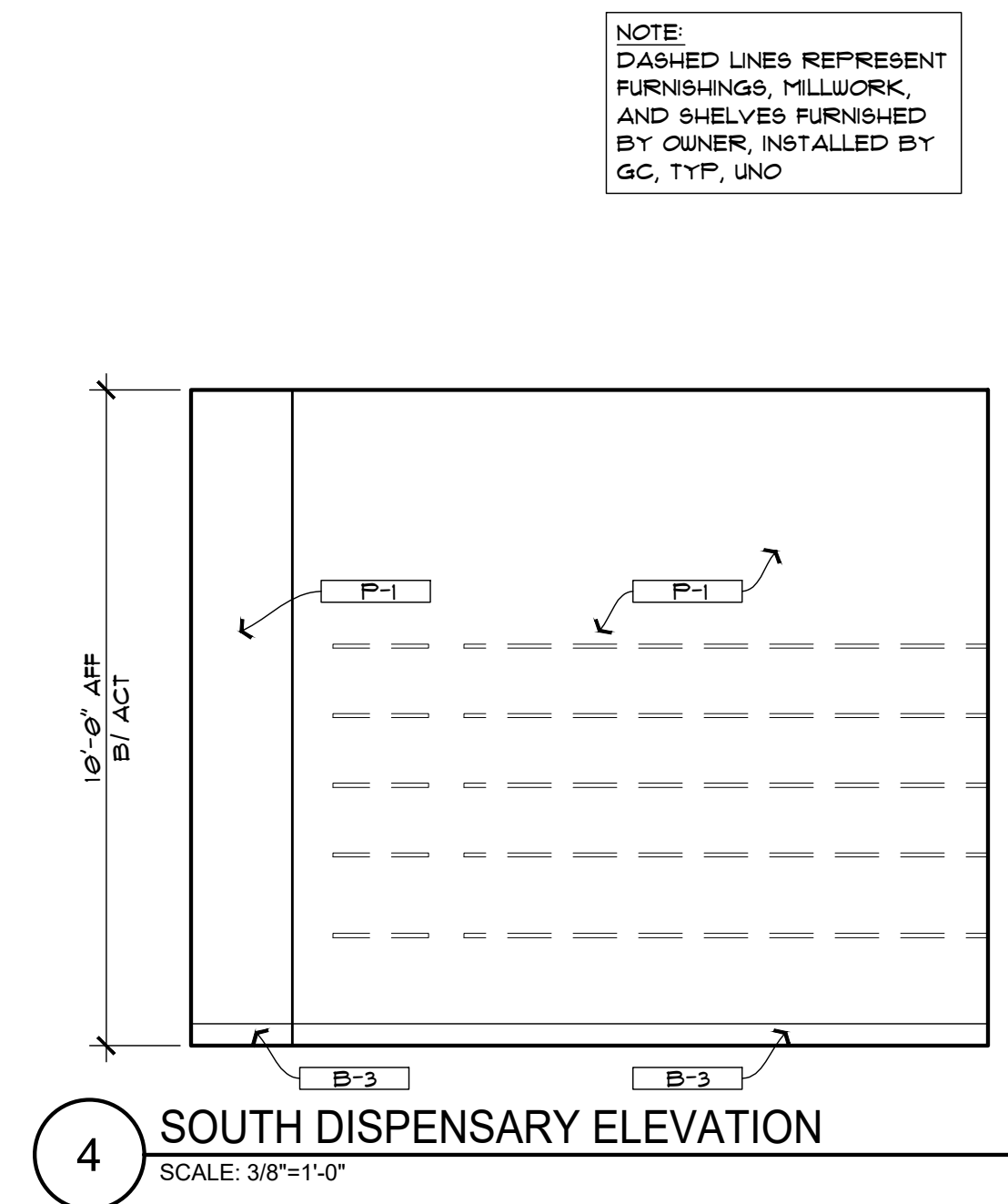
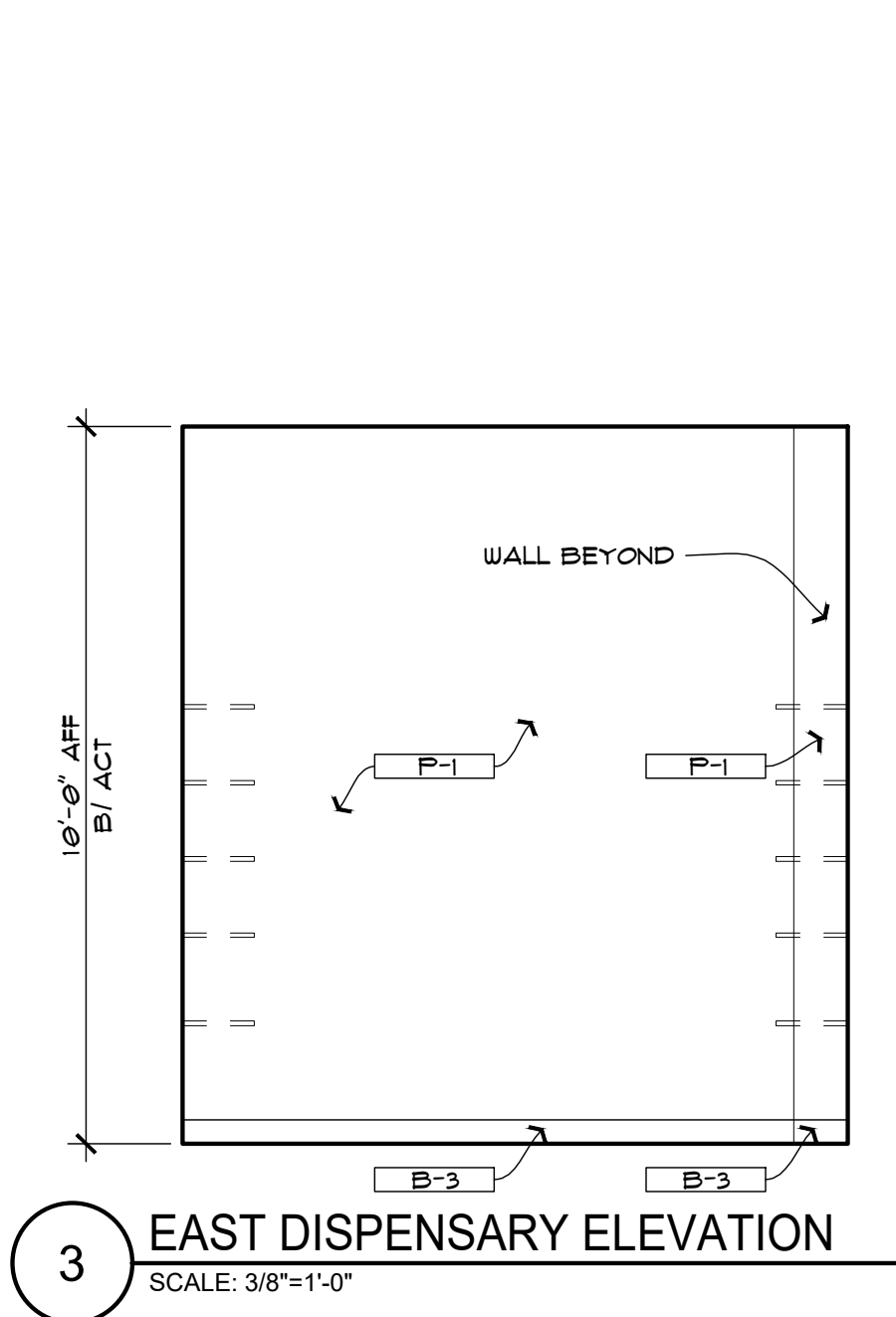
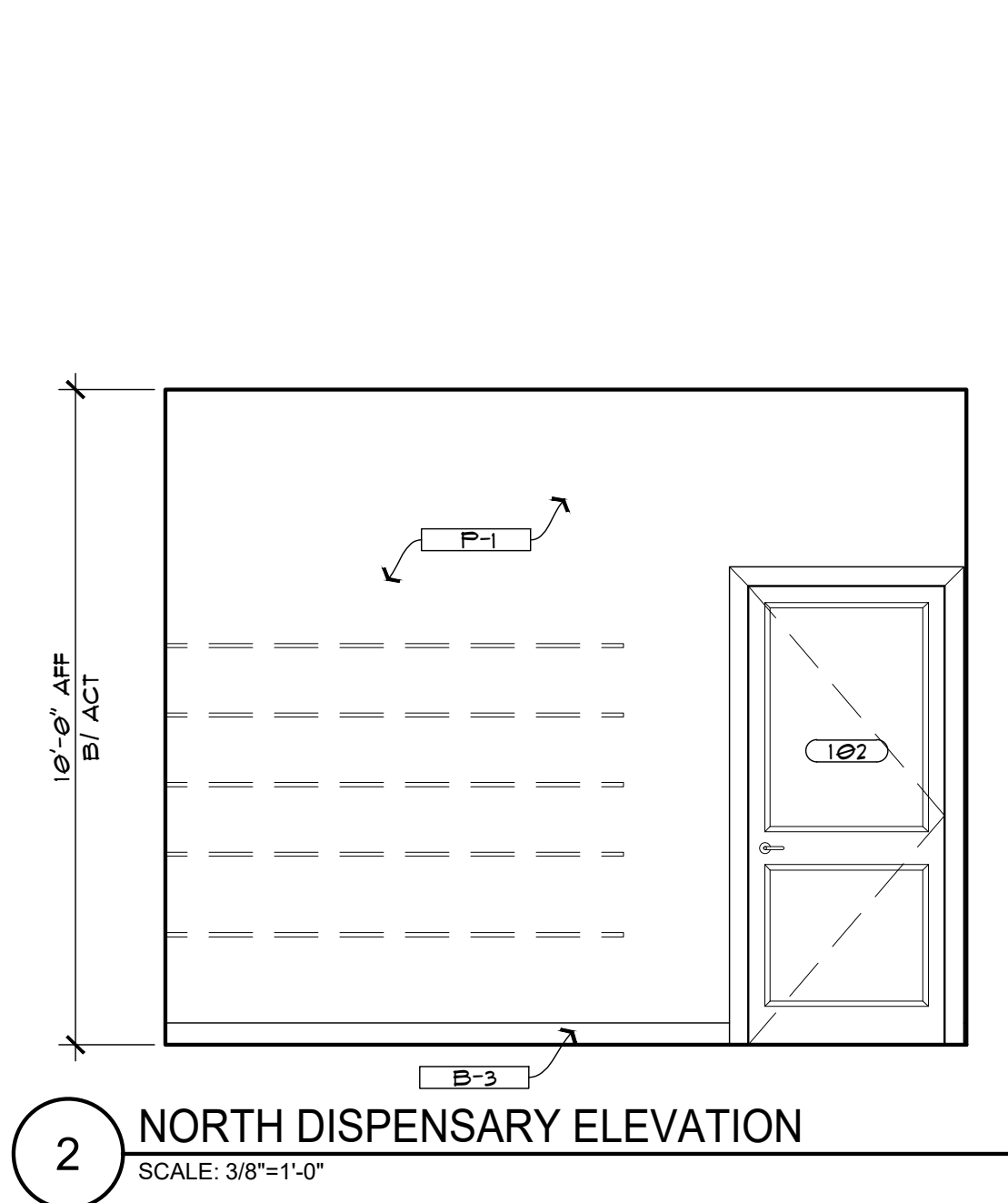
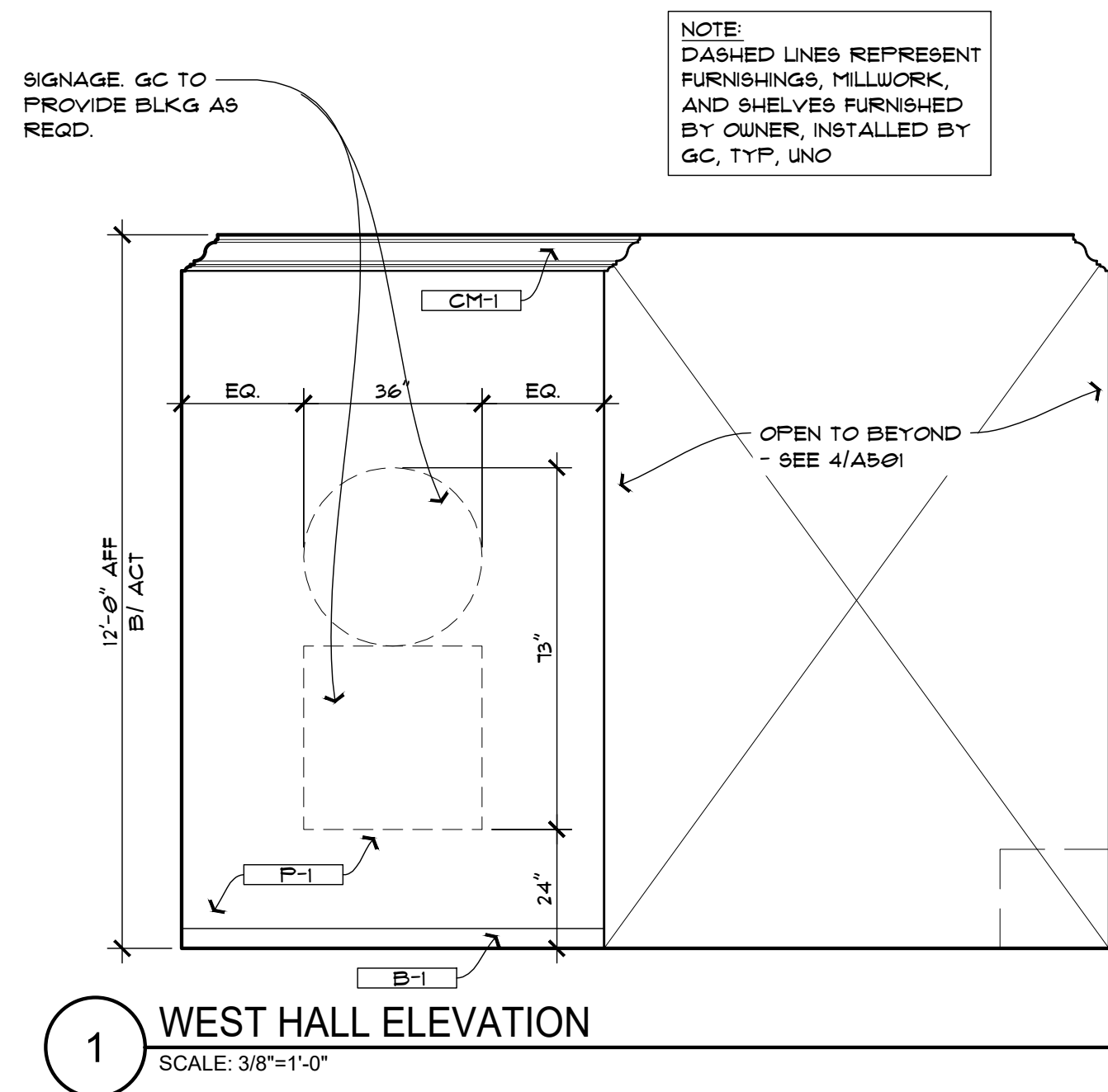
5 SOUTH RECEPTION ELEVATION
SCALE: 3/8"=1'-0"



6 NORTH RECEPTION ELEVATION
SCALE: 3/8"=1'-0"

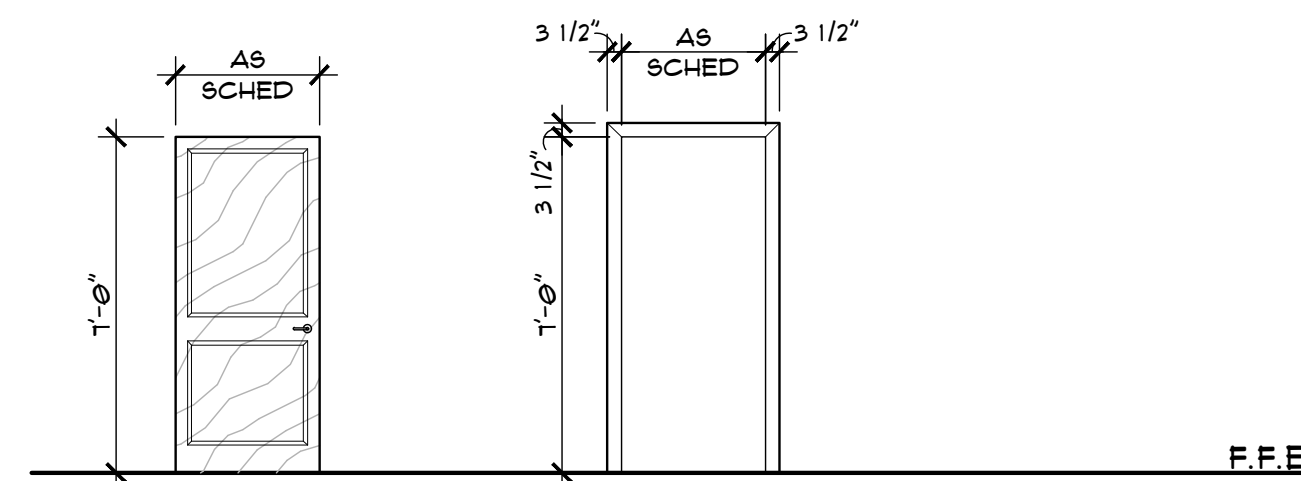


7 EAST HALL ELEVATION
SCALE: 3/8"=1'-0"



DOOR AND FRAME TYPES

- UNDERCUT DOOR AT RESTROOM BY 1/2"
- DOORS SHALL BE PAINTED/PRIMED ALL SIDES



(DI)
 JELD WEN CARRARA -
 SOLID PARTICLE BOARD
 CORE WOOD/MDF W/
 PVC STICKING PROFILE &
 2 3/4" BORING BACKSETS
 [PT-]

(FI)
 GARDEN STATE LUMBER -
 E61 - MDF PRIMED
 [PT-]

DOOR SCHEDULE

DOOR #	DOOR SIZE	DOOR		FRAME		HDW GROUP	REMARKS
		TYPE	FINISH	TYPE	FINISH		
100	3'-0" x 1'-0" (EX)	EX	EX AL	EX	EX AL	EX-1	EXIST TO REMAIN, SEE HARDWARE GROUP AND ELEC
102	3'-0" x 1'-0"	DI	WD/PT	FI	MDF/PT	B	DISPENSARY
103	3'-0" x 1'-0"	DI	WD/PT	FI	MDF/PT	D	RESTROOM
104	3'-0" x 1'-0"	DI	WD/PT	FI	MDF/PT	A	SPRAY ROOM
105	3'-0" x 1'-0"	DI	WD/PT	FI	MDF/PT	A	SPRAY ROOM
106	3'-0" x 1'-0"	DI	WD/PT	FI	MDF/PT	A	SPRAY ROOM
107	3'-0" x 1'-0"	DI	WD/PT	FI	MDF/PT	A	SPRAY ROOM
108	3'-0" x 1'-0"	DI	WD/PT	FI	MDF/PT	A	SPRAY ROOM
109	3'-0" x 1'-0"	DI	WD/PT	FI	MDF/PT	A	SPRAY ROOM
110A	3'-0" x 1'-0"	DI	WD/PT	FI	MDF/PT	C	UTILITY ROOM - SEE ELEC
110B	3'-0" x 1'-0" (EX)	EX	EX HM, PT INT P-1	EX	EX HM, PT INT P-1	EX-2	REAR ENTRY - EXIST TO REMAIN, SEE HARDWARE GROUP AND ELEC
EX	EX	EX	EX	EX	EX	EX	NO CHANGES REQUIRED

DOOR HARDWARE

HDW GROUP	LOCATION	DETAILS
A	SPRAY ROOM	3 - 4 1/2" x 4 1/2" B.B. HINGES 2 - DONJO 1501 HINGE PIN STOP - SET TO 90° OPEN, BRUSHED CHROME 1 - HAGER 3540 LEVER - AUGUST BRUSHED CHROME - PASSAGE
B	DISPENSARY	1 - 4 1/2" x 4 1/2" B.B. HINGES 2 - 4 1/2" x 4 1/2" STANLEY FULL MORTISE SPRING HINGES, 2060R (32D) 1 - BRUSHED CHROME PUSH/PULL HARDWARE 1 - WALL STOP 1 - 8" x 34" BRUSHED CHROME KICK PLATE
C	UTILITY	1 - 4 1/2" x 4 1/2" B.B. HINGES 2 - 4 1/2" x 4 1/2" STANLEY FULL MORTISE SPRING HINGES, 2060R (32D) 2 - DONJO 1501 HINGE PIN STOP - SET TO 90° OPEN, BRUSHED CHROME 1 - ELECTRONIC KEYPAD LOCK 1 - HAGER 3510 LEVER - AUGUST BRUSHED CHROME - CLASSROOM 1 - ELECTRIC STRIKE (SEE ELEC. DRAWINGS)
D	RESTROOM	1 - 4 1/2" x 4 1/2" B.B. HINGES 2 - 4 1/2" x 4 1/2" STANLEY FULL MORTISE SPRING HINGES, 2060R (32D) 1 - HAGER 3540 LEVER - AUGUST BRUSHED CHROME - PRIVACY 1 - WALL STOP
EX-1, EX-2	EXTERIOR (EXISTING)	EXISTING DOOR HARDWARE PROVIDED BY LANDLORD (WITH PANIC BAR AND/OR PUSH HANDLE) TO BE MODIFIED BY GENERAL CONTRACTOR AS REQD TO MEET EXISTING REQUIREMENTS AND TENANT'S LOCKING AND SECURITY REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE ANY ADDITIONAL DOOR HARDWARE (I.E. PANIC HARDWARE, ADA COMPLIANT THRESHOLD, ELECTRIC STRIKES, ETC.) TO MEET THE SAFETY/EGRESS CODE REQUIREMENT PER CITY/JURISDICTION. EXISTING CONSTRUCTION CORES. GENERAL CONTRACTOR TO PROVIDE AND INSTALL FINAL CORES AND KEYS 1 - ELECTRIC STRIKE 1 - ELECTRONIC KEYPAD, SEE ELEC 1 - 34" PANIC HARDWARE (EX-2 ONLY)

- DOOR HARDWARE NOTES:**
1. DOOR HARDWARE KEYING INFORMATION - VERIFY WITH OWNER/TENANT.
 2. PROVIDE HARDWARE AT FIRE-RATED DOORS AS REQUIRED BY CODE IF APPLICABLE.
 3. ALL DOORS ON AN ACCESSIBLE ROUTE MUST BE EQUIPPED WITH LEVER TYPE HARDWARE AND THRESHOLDS NOT EXCEEDING 1/2 INCH IN HEIGHT.
 4. GENERAL CONTRACTOR TO SUBMIT HARDWARE SHOP DRAWINGS FOR ARCHITECT AND OWNER APPROVAL.
 5. IF ANY EXISTING MANUALLY OPERATED FLUSH BOLTS OR SURFACE BOLTS EXIST ON ANY EXISTING OR NEW EGRESS EXIT DOORS THE GENERAL CONTRACTOR IS TO REMOVE THEM COMPLETELY AS THEY ARE NOT CODE COMPLIANT.

ABBREVIATIONS, DOOR & FRAME

AL	ALUMINUM	SC	SOLID CORE
HM	HOLLOW METAL	STL	STAINLESS STEEL
MDF	MEDIUM DENSITY FIBERBOARD	WD	WOOD
PT	PAINT	EX	EXISTING



goGLOW
 TENANT IMPROVEMENT IN EXISTING SHELL BUILDING
 SHOPPES @ GRAYHAWK, 3525 N. 144TH ST., SUITE 213
 OMAHA, NE 68116



DATE ISSUED
 PERMIT SET 10/31/24

DRAWN BY AB
 CHECKED BY JH
 JOB NO. 24197

GENERAL NOTES

- Work to be accomplished on these Drawings and the accompanying specifications includes the furnishing of all labor, materials, equipment, and services necessary for the proper completion of all mechanical work.
- Before submitting a proposal on the work contemplated on these drawings and accompanying specifications, each bidder shall examine the site, check as to the means of making connections to services, and shall become familiar with all the existing conditions and limitations. Mechanical equipment and systems shown as existing on the plans have been based on existing drawings. No extras will be allowed because of the contractor's misunderstanding as to the amount of work involved or his lack of knowledge of any site conditions which may affect his work. Any apparent variance of the plan or specification from existing conditions at the site shall be called to the attention of the Engineer during the bid period so clarification can be made by addendum.
- Existence of any wires, conduits, pipes, ducts, or other facilities are shown in a general way only. It will be the duty of the contractor to visit the site and make exact determination of the existence of any such facilities prior to the submission of his bid. It is understood that he will be responsible for making the exact determination of the location and condition of such facilities.
- All required fees, permits, and inspections shall be obtained and/or arranged for by the contractor under the section of the specifications for which they are required.
- Regular inspections shall be arranged by the contractor as required by any and all regulations. All charges from regulating agencies for inspections of installations or review of plans and Specifications shall be paid by the contractor.
- Certificate of Final Inspection. Under each applicable section of the Specifications, contractor shall, upon completion of the work under that section, furnish a Certificate of Final Inspection to the Engineer from the inspection department having jurisdiction.
- All materials and workmanship shall comply with all current and applicable codes, specifications, ordinances, laws, regulations, industry standards, and utility company regulations.
- In case of difference among building codes, specifications, state laws, local ordinances, industry standards, and utility company regulations and the Contract Documents, the most stringent shall govern. Contractor shall promptly notify the Engineer in writing of any such difference.
- All applicable federal, state, and local laws and ordinances shall be adhered to throughout the construction project.
- Non-Compliance. Should the contractor perform any work that does not comply with the requirements of the applicable building codes, state laws, local ordinances, industry standards, and utility company regulations, he shall bear all costs arising to correct the deficiencies.
- Contractor shall initiate, maintain, and supervise all safety pre-cautions required for his work, including regulations of the Occupational Safety and Health Administration (OSHA).
- Drawings are to scale as noted, but the contractor shall refer to Architectural and Structural Drawings for exact location of partitions, walls, beams, shafts, equipment, etc.
- Each trade shall obtain drawings and specifications of all other trades and coordinate his work with all other trades.
- Drawings show the general arrangement of ductwork, piping, equipment, and appurtenances and shall be followed as closely as actual building construction and work of other trades will permit. Mechanical work shall conform to the requirements shown on all of the drawings. Architectural and Structural Drawings shall take precedence over Mechanical Drawings. Because of the small scale of the Mechanical Drawings, it is not possible to indicate all offsets, fittings, and accessories that may be required.
- Discrepancies discovered before or after work has started shall be brought to the attention of the Engineer immediately, and the Engineer reserves the right to require minor changes in the work of any contractor to eliminate such discrepancies with no change in contract cost.
- Plans and specifications are complementary, and what is called for in either one shall be as binding as if called for in both.
- Where a disagreement exists between the plans and specifications, the item or arrangement of better quality, greater quality, or higher cost shall be included in the bid.
- Access panels shall be furnished by the trade requiring them and delivered to the general contractor for installation.
- All materials and equipment shall be stored in such a place and in such a manner that a minimum of congestion will result. The placing of such materials and equipment shall be subject to the approval of the Owner.
- Contractor shall thoroughly examine the existing building with regard to what temporary measures he must take in order to permit the Owner to occupy specific areas of the building during the various construction phases. Refer to Architectural specification section for construction sequencing schedule. In general, systems must remain in use in those designated areas to permit the owner to function in a pre-construction manner.
- Each contractor shall coordinate work with other trades in the installation of equipment, piping, conduit, and ductwork.
- HVAC/sheet-metal contractor shall initiate the coordination process by providing reproducible plan drawings showing ductwork and equipment.
- Drawings will be forwarded to the piping contractor and electrical contractor for inclusion of their systems work.
- Contractors shall solve all coordination conflicts among themselves when possible. Engineer will arbitrate when necessary, and his judgment will stand, with no additional cost to the Owner.
- Normal use of the facility shall not be disturbed, except within the immediate construction area. All walks, driveways, and entrances shall be kept clear and free of all contractor's equipment, material, and debris at all times.
- Access panels shall be as manufactured by Milcor, or approved equal, and of type that is compatible with construction and finish of the wall and/or ceiling.
- Each trade shall perform all cutting and patching necessary in order to perform the work, unless such work has been delegated to the general contractor/another trade. However, special permission shall be obtained from the engineer before cutting structural members or finished materials. All patching shall be performed in such manner as to leave no visible trace and to return the part affected to the condition of undisturbed work. Patching work shall be performed by persons experienced, skilled, and licensed for the particular type of work involved. Inferior work will not be accepted. All holes in masonry shall be drilled with rotary drills. Impact tools shall not be used.
- Each trade shall bear the expense of all cutting, patching, repairing, or replacing of the work of other trades required because of his fault, error, or tardiness of because of any damage done by him.
- Each trade shall provide all holes and openings required for his work, unless such holes and openings are shown to be provided on the architectural or structural drawings.
- Each trade shall remove existing work that is shown, specified, or obviously necessary for completion of his work. Owner shall have the option of retaining any item or material removed under this contract. Items or materials not retained by owner shall become the property of the trade and shall be removed from the premises.
- Each trade shall periodically clear away all debris, surplus materials, etc., resulting from his work or operations, leaving the job and the equipment furnished under any or all contracts in a clean condition.
- Each trade shall test the equipment provided and/or installed under the specification and shall demonstrate its proper operation to the Owner's operating Engineer.
- Each trade shall furnish, without additional expense to the Owner, the services of competent instructors, who will give full instruction in the care, adjustment, and operation and maintenance of all parts of the equipment to the Owner's permanent employees who are to have charge of the equipment.
- Each subcontractor shall be responsible for tested & rated fire stop systems for all thru-penetration of walls, floors & roof assemblies resulting from piping & other work under his contract. Refer to specification section for fire stopping for requirements.
- All wood nailers and other lumber which is installed in contact with metal, concrete, or masonry shall be pressure treated against decay (unless otherwise noted).
- Provide only products from manufacturers with local representation that can provide complete coverage, service, parts and labor of their products in a timely manner.
- Material exposed within return air plenum ceilings shall comply with all local codes.
- HVAC contractor shall line the inside of all return/relief/exhaust plenum boxes per specifications. If no lining is required, HVAC contractor shall paint the inside flat black.
- All duct sizes are internal dimensions. Contractor shall increase sheet metal size if duct receives internal liner. See specifications for insulation requirements.
- Duct roof penetration sizes to rooftop units are same as duct main, unless noted otherwise. Transition to unit connection sizes within roof curbs.
- Locations of orifices/L-vents for fabric ducts are oriented when facing the direction of airflow.
- HVAC equipment shall be no closer to roof edge than 10'-6" at all times.
- Maintain a minimum of 15'-0" horizontal distance from any intake to exhaust outlet.
- Coordinate underground piping with general contractor to ensure proper footing depth clearance.
- Plans do not include all offsets for coordination with duct, lighting, and structural systems. Provide allowances for required offsets.
- Provide all materials and equipment and perform all labor required to install complete and operable plumbing system as indicated on the drawings, as specified, and as required by code.
- Run 3" and larger sanitary waste, storm drain, and all vent piping at 1/8" per foot slope unless noted otherwise; and less than 3" was piping at 1/4" per foot slope. Horizontal vent piping shall be graded to drain back to the waste pipe by gravity.
- Elevations shown are to the invert of all piping based on architectural finished floor elevation (FFE) of 100'-0", unless noted otherwise.
- Adjust sewer inverts to keep bottom of pipes in line where pipe sizes change.
- Provide shutoff valves in all water piping system branches in which branch piping serves two or more fixtures (not shown for clarity) and where shown on plan and risers.
- Install piping so that all valves, strainers, unions, traps, flanges, and other accessories requiring access are accessible.
- Unions and/or flanges shall be installed at each piece of equipment, in bypasses, and in long runs (over 100') to permit disassembly for alteration and repairs.
- All valves shall be adjusted for smooth and easy operation.
- All valves (except control valves) and strainers shall be full size of pipe before reducing size to make connections to equipment and controls.
- Provide cleanouts in sanitary and storm drainage systems at the ends of runs, at changes in direction, near the base of stacks, every 100' in 4" and larger horizontal runs, every 50' in 3" and smaller horizontal runs, where noted on plans, and where required by code.
- All valves shall be installed so that the valve remains in service when equipment or piping on equipment side of valve is removed.
- All piping work shall be coordinated with all trades involved. Offsets in piping around obstructions shall be provided at no additional cost to the Owner.
- See plumbing risers for sizing not shown on plan sheets (for clarity) and see plumbing fixture schedule for fixture connections and runoff sizes.
- Contractor to ensure that cleanouts (FCO, WCO, CO) locations do not rest below or behind casework. Maintain accessibility for servicing.
- Plumbing contractor is responsible for all removing, cutting, patching, and replacement of all building structure, surfaces, and finishes required to complete work stated in the contract documents.
- Plumbing contractor to coordinate counter openings for new sinks/lavs with general contractor prior to ordering materials.
- Pipes shown spread apart on plans for clarity. Contractor to install pipes tight together.
- All underground domestic water piping shall be seamless Type 'K' copper piping with no joints. See specifications.
- Gas piping supports to be every 5 feet.
- See Architectural roof plan for roof slope and scupper sizes/locations.
- Reduced pressure zone backflow preventer (RPZ) shall be installed at an elevation between 3'-0" AFF and 6'-0" AFF and labeled indicating equipment served. RPZ's shall be inspected and tested annually or at a rate per local codes.
- Piping material for sanitary waste, plumbing vents, and storm sewer shall be cast iron where piping runs through a return-air plenum. Reference local Mechanical Code.
- Fire caulk all floor penetrations and where piping penetrates rated walls.

MECHANICAL ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	ISO	ISOLATOR (ISOLATION)
AP	ACCESS PANEL	LAT	LEAVING AIR TEMPERATURE
BFP	BACK FLOW PREVENTER	LF	LINEAR FEET
BHP	BRAKE HORSEPOWER	LVR	LOUVER
BLW	BELOW	LWT	LEAVING WATER TEMPERATURE
BWV	BACK WATER VALVE	MAU	MAKE-UP AIR UNIT
CD	CONDENSATE DRAIN	MEZZ	MEZZANINE
CHW	CIRCULATING HOT WATER	MXA	MIXED AIR
CLG	CEILING	N	NECK
CO	CLEANOUT	NC	NORMALLY CLOSED
CONN	CONNECTION	NO	NORMALLY OPEN
CONSTR	CONSTRUCTION	OA	OUTSIDE AIR
CONT	CONTINUOUS OR CONTINUED	OPNG	OPENING
CU	CONDENSING UNIT	OPR	OPERATING
CW	COLD WATER	PD	PRESSURE DROP
DF	DRINKING FOUNTAIN	PG	PRESSURE GAUGE
DIFF	DIFFUSER	PLBG	PLUMBING
DMPR	DAMPER	PRV	POWER ROOF VENTILATOR
DN	DOWN	RA	RETURN AIR
EA	EXHAUST AIR	RADN	RADIATION
EAT	ENTERING AIR TEMPERATURE	RD	ROOF DRAIN
EF	EXHAUST FAN	RECIRC	RECIRCULATE
EHC	ELECTRIC HEATING COIL	RF	RETURN FAN
EL	ELEVATION	RHC	REHEAT COIL
ESP	EXTERNAL STATIC PRESSURE	RPZ-BFP	REDUCED PRESS. ZONE B.F. PREVENTER
EUH	ELECTRIC UNIT HEATER	RWL	RAINWATER LEADER
EW	ELECTRIC WATER COOLER	SA	SUPPLY AIR
EWV	ELECTRIC WATER HEATER	SAN	SANITARY
EXH	EXHAUST	SCW	SOFTENED COLD WATER
FCO	FLOOR CLEANOUT	SD	STORM DRAIN
FCU	FAN COIL UNIT	SF	SUPPLY FAN
FD	FLOOR DRAIN	SL	STORM LEADER
FDC	FIRE DEPARTMENT CONNECTION	SLV	SLEEVE
FHC	FIRE HOSE CABINET	SP	STATIC PRESSURE
FILT	FILTER	SP	SUMP PUMP
FIXT	FIXTURE	SPKLR	SPRINKLER
FP	FIRE PROTECTION	STM	STEAM
FPM	FEET PER MINUTE	STR	STORM
FSV	FIRE SERVICE VALVE	SU	SUPPLY UNIT
FSW	FLOW SWITCH	SW	SANITARY WASTE
G	GAS	T	THERMOSTAT
GPH	GALLONS PER HOUR	TRANS	TRANSFER
GW	GREASE WASTE	TSP	TOTAL STATIC PRESSURE
HB	HOSE BIBB	UG	UNDERGROUND
HDCP	HANDICAPPED	UH	UNIT HEATER
HSTAT	HUMIDISTAT	V	VENT
HTG	HEATING	VD	VOLUME DAMPER
HW	HOT WATER	VTR	VENT THRU ROOF
ID	INDIRECT DRAIN	WG	WATER GAUGE
INSUL	INSULATION	WH	WALL HYDRANT
INV EL	INVERT ELEVATION	WPD	WATER PRESSURE DROP
IRR	IRRIGATION WATER		

GRILLE, REGISTER AND DIFFUSER KEY	
A-10	→ SIZE (INCHES) OR DIFFUSER NECK SIZE
350	→ CFM
	→ DEVICE STYLE, SEE SCHEDULE
NOTE: BRANCH DUCT RUNOUTS TO DIFFUSERS/GRILLES SHALL BE SAME SIZE DIFFUSER/GRILLE NECK UNLESS OTHERWISE NOTED.	
EQUIPMENT KEY	
AC	→ EQUIPMENT TYPE
1	→ EQUIPMENT NUMBER

MECHANICAL SHEET INDEX	
SHEET NO.	DESCRIPTION
M-001	MECHANICAL COVER SHEET
M-002	SPECIFICATIONS
M-100	MECHANICAL PLAN
M-300	DETAILS
M-400	SCHEDULES

DRAWINGS AND SPECIFICATIONS ARE TO BE CONSIDERED AS SUPPLEMENTING EACH OTHER. WORK SPECIFIED BUT NOT SHOWN ON DRAWINGS, OR SHOWN ON DRAWINGS BUT NOT SPECIFIED, SHALL BE PERFORMED OR FURNISHED AS THOUGH MENTIONED IN BOTH SPECIFICATIONS AND DRAWINGS. IF NOT OTHERWISE DIRECTED, INSTALLATION OF ALL SYSTEMS AND EQUIPMENT SHALL BE IN ACCORDANCE WITH APPLICABLE CODES AND IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. WHERE WORK DESCRIBED IN THE SPECIFICATIONS IS IN CONFLICT WITH THE WORK SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL SUPPLY THE GREATER QUANTITY, QUALITY AND COST VIA THE BID AND CONTACT THE ENGINEER FOR CLARIFICATION ON DIRECTION PRIOR TO INSTALLATION.

PRIOR TO BID, THE CONTRACTOR SHALL REVIEW THE MECHANICAL, ELECTRICAL AND KITCHEN EQUIPMENT DRAWINGS. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL RELEVANT WORK IN THE ENTIRE SET OF DOCUMENTS AND REPORT ALL DISCREPANCIES BETWEEN THESE DRAWINGS TO THE ENGINEER PRIOR TO BIDDING FOR CLARIFICATION. IF DISCREPANCIES REMAIN UNRESOLVED DUE TO A SHORT TIME FRAME, THE CONTRACTOR SHALL INCLUDE THE MOST WORK AND THE HIGHER COSTS IN THE BID. SOLUTIONS TO UNREPORTED DISCREPANCIES WILL BE DETERMINED BY THE ARCHITECT/ENGINEER, WITH NO ADDITIONAL COMPENSATION DUE TO THE CONTRACTOR.

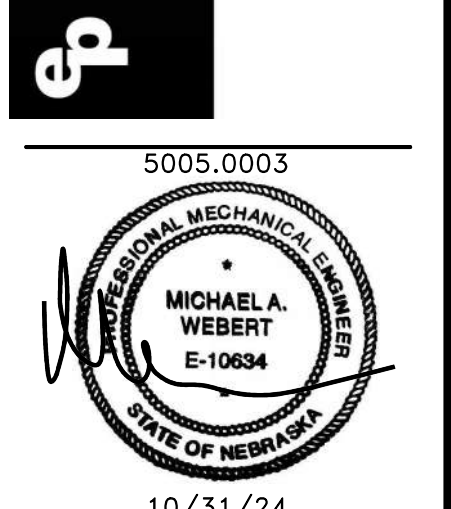
IF YOU HAVE ANY QUESTIONS REGARDING THE PLANS, PLEASE CALL THE DESIGNER.
DESIGNER: Wendy Wenborg
PHONE: 952-540-4047
EMAIL: wwenborg@epinc.com

MECHANICAL SYMBOL LEGEND

	THERMOSTAT		DRAIN VALVE		LINEAR DIFFUSER
	SPACE TEMPERATURE SENSOR		CONNECT TO EXISTING		FLEX DUCT
	HUMIDISTAT		SIAMESE FIRE DEPT. CONNECTION		ROOF (PRV) EXHAUST FAN
	CARBON DIOXIDE SENSOR		SUPPLY, RETURN AND EXHAUST AIR		CABINET UNIT HEATER
	AVERAGING TEMP. SENSOR		MOTORIZED DAMPER		VOLUME DAMPER IN SPIN-IN
			FIRE/SMOKE DAMPER		SUPPLY DUCT ELBOW WITH TURNING VANES
			SMOKE DETECTOR		STANDARD OR LINED DUCT (SUPPLY, RETURN, EXHAUST). DUCT IS LABELED TO INDICATE INTERNAL DUCT DIMENSION. SEE SPECIFICATION FOR INSULATION.
			FIRE DAMPER		STANDARD ROUND TAKEOFF (CONICAL BELL MOUTH) WITH VOLUME DAMPER
			VOLUME DAMPER (MANUAL)		GAS PRESSURE REGULATOR
			EXHAUST REGISTER		WALL HYDRANT
			CEILING SUPPLY DIFFUSER		HOSE BIBB
			RETURN AIR GRILLE/REGISTER		POINT OF CONNECTION
			RETURN AIR GRILLE/REGISTER WITH SOUND BOOT.		POINT OF DISCONNECTION
			SIDEWALL SUPPLY REGISTER		
			SIDEWALL RETURN OR EXHAUST GRILLE		



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10/31/24

90GLOW
TENANT IMPROVEMENT IN EXISTING SHELL BUILDING
SHOPPES @ GRAYHAWK, 3525 N. 144TH ST., SUITE 213
OMAHA, NE 68116
MECHANICAL COVER SHEET



DATE ISSUED
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JOB NO. 24197

M-001

DIVISION 15000 - MECHANICAL

SECTION 15001 - BASIC MECHANICAL REQUIREMENTS

- A. GENERAL CONDITIONS
1. THE DRAWINGS AND GENERAL CONDITIONS, INCLUDING SUPPLEMENTARY GENERAL CONDITIONS SHALL APPLY TO ALL WORK IN DIVISION 15000.
2. THE CONTRACTOR FOR THIS DIVISION SHALL REVIEW THE DRAWINGS AND ACCOMPANYING SPECIFICATIONS, EXAMINE THE SITE, CHECK AS TO THE MEANS OF MAKING CONNECTIONS TO SERVICES, AND SHALL BECOME FAMILIAR WITH ALL THE EXISTING CONDITIONS AND LIMITATIONS BEFORE SUBMITTING A PROPOSAL. ANY APPARENT VARIANCES OF THE PLAN OR SPECIFICATION FROM THE EXISTING CONDITIONS AT THE SITE SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER DURING THE BID PERIOD SO THAT CLARIFICATION CAN BE MADE BY ADDENDUM. ITEMS KNOWN TO BE INCONSISTENT WITH THE BID DOCUMENTS INTENT MUST BE LISTED AND QUALIFIED ON THE CONTRACTORS BID FORM. NO EXTRAS WILL BE ALLOWED BECAUSE OF THE CONTRACTORS MISUNDERSTANDING AS TO THE AMOUNT OF WORK INVOLVED OR HIS LACK OF KNOWLEDGE OF ANY SITE CONDITIONS WHICH MAY AFFECT HIS WORK.
3. COORDINATION OF SCHEDULING FOR COMPLETION AND ALL INSPECTIONS OF THEIR WORK AND WORK OF SUBCONTRACTORS IS THE RESPONSIBILITY OF THIS CONTRACTOR.
4. BEFORE SUBMITTING A PROPOSAL ON THE WORK CONTEMPLATED ON THESE DRAWINGS AND ACCOMPANYING SPECIFICATIONS, EACH BIDDER SHALL EXAMINE THE SITE, CHECK AS TO THE MEANS OF MAKING CONNECTIONS TO SERVICES, AND SHALL BECOME FAMILIAR WITH ALL THE EXISTING CONDITIONS AND LIMITATIONS. MECHANICAL EQUIPMENT AND SYSTEMS SHOWN AS EXISTING ON THE PLANS HAVE BEEN BASED ON EXISTING DRAWINGS. NO EXTRAS WILL BE ALLOWED BECAUSE OF THE CONTRACTORS MISUNDERSTANDING AS TO THE AMOUNT OF WORK INVOLVED OR HIS LACK OF KNOWLEDGE OF ANY SITE CONDITIONS WHICH MAY AFFECT HIS WORK. ANY APPARENT VARIANCE OF THE PLAN OR SPECIFICATION FROM EXISTING CONDITIONS AT THE SITE SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER DURING THE BID PERIOD SO CLARIFICATION CAN BE MADE BY ADDENDUM.

SECTION 15002 - GENERAL REQUIREMENTS

1. WORK TO BE ACCOMPLISHED ON THESE DRAWINGS AND SPECIFICATIONS INCLUDES FURNISHING ALL LABOR, MATERIAL, EQUIPMENT AND SERVICES FOR THE COMPLETION OF ALL MECHANICAL WORK. ALL MECHANICAL WORK UNLESS NOTED TO BE SPECIFICALLY BY THE LANDLORD IS THE RESPONSIBILITY OF THIS CONTRACTOR.
2. THIS CONTRACTOR AND THEIR SUB CONTRACTORS SHALL WORK CLOSELY WITH THE TENANT PROJECT MANAGER FOR COORDINATION OF TRADES AND COMPLETION OF THE PROJECT.
3. PLANS AND SPECIFICATIONS ARE COMPLEMENTARY AND WHAT IS CALLED FOR IN EITHER ONE SHALL BE AS BINDING AS IF CALLED FOR IN BOTH. ANY ITEM OR LABOR THAT IS NECESSARY TO COMPLETE THE WORK AND IS TYPICALLY INCLUDED IN SIMILAR WORK SCOPE SHALL BE FURNISHED AND INSTALLED AS PART OF THE CONTRACT WHETHER OR NOT IT IS SHOWN ON THE PLANS OR IN THE SPECIFICATIONS.
4. WHEN THE INCLUDED DRAWINGS AND/OR SPECIFICATIONS CALL OF ITEMS WHICH EXCEED THE LANDLORDS TENANT CRITERIA OR EXCEED CODE, ITS THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL THE MORE STRINGENT REQUIREMENTS NOTED ON THE PLANS AND/OR SPECIFICATIONS. IF THE PLANS AND SPECIFICATIONS HAVE DISCREPANCIES BETWEEN THEM, THE CONTRACTOR SHALL ASSUME IN THEIR BID THAT THE MORE STRINGENT ITEM IS REQUIRED AT NO ADDITIONAL COST.
5. ALL PIPING, DUCTWORK AND EQUIPMENT SHALL BE FURNISHED AND INSTALLED TO PRESENT A NEAT AND CLEAN APPEARANCE USING GOOD CONSTRUCTION PRACTICES. EQUIPMENT SHALL BE INSTALLED FOR PROPER ACCESS TO OPERATE, SERVICE AND MAINTAIN THE EQUIPMENT WITHOUT HAVING TO MOVE OTHER EQUIPMENT FOR ACCESS. ANY MECHANICAL EQUIPMENT (OR EXISTING EQUIPMENT TO REMAIN) THAT REQUIRES ACCESS PANELS SHALL HAVE THOSE PANELS FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR.
6. UNLESS SPECIFICALLY NOTED ON THE PLANS/SPECIFICATIONS ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND BEST QUALITY TO CONFORM TO THE REQUIREMENTS OF THE LANDLORDS TENANT CRITERIA, LOCAL AND STATE CODES GOVERNING THE WORK INVOLVED AND BE MADE BY NATIONALLY RECOGNIZED MANUFACTURERS WITH UL LISTINGS AND LABELS.

SECTION 15003 - CODES

1. ALL WORK SHALL BE INSTALLED IN CONFORMITY OF THE LANDLORDS TENANT CRITERIA, AND APPLICABLE LOCAL CODES AND ORDINANCES AND STATE STATUTES, ALL REQUIREMENTS OF THE CURRENT PLUMBING CODES, HEATING AND VENTILATION CODES, HEALTH AND SAFETY CODES, NFPA CODES AND ENERGY CODES MUST BE MET. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INQUIRE INTO AND COMPLY WITH ALL LOCAL ORDINANCES AND INCLUDE ANY ADDITIONAL ITEMS NOT NOTED IN THE PLANS/SPECIFICATIONS IN THEIR BID. ANY CHANGES TO THE MECHANICAL SYSTEM AS REQUIRED BY LOCAL, STATE OR TENANT CRITERIA THAT ARE NOT QUALIFIED ON THE CONTRACTORS BID FORM ARE ASSUMED TO BE INCLUDED IN THE ORIGINAL BID AND ADDITIONAL COSTS WILL NOT BE DUE TO COMPLETE THOSE ITEMS AFTER THE CONTRACT IS ISSUED.

SECTION 15004 - LICENSES, PERMITS, INSPECTIONS & FEES

1. THIS CONTRACTOR IS RESPONSIBLE FOR ALL FEES, CHARGES AND OBLIGATIONS FOR OBTAINING PERMITS AND INSPECTIONS FOR PLUMBING, HEATING AND VENTILATION AND FIRE EXTINGUISHING WORK.
2. ALL CERTIFICATES OF INSPECTION AND FINAL INSPECTIONS SHALL BE TURNED OVER TO THE TENANTS PROJECT MANAGER AT THE COMPLETION OF THE PROJECT.

SECTION 15005 - TRADE NAMES, MANUFACTURERS AND SHOP DRAWINGS

1. IN ANY CASE WHERE A SPECIFIC NAME OF EQUIPMENT OR MATERIAL IS MENTIONED ON THE DRAWINGS OR SPECIFICATIONS THE EXACT EQUIPMENT SHALL BE USED FOR THE BASE BID. EQUIPMENT OF EQUAL GRADE AND QUALITY WILL BE SUBJECT TO PRIOR APPROVAL BY THE TENANTS PROJECT MANAGER AND THE ENGINEER IN WRITING THRU THE SHOP DRAWING SUBMITTAL PROCESS. ANY EQUIPMENT INSTALLED WITHOUT WRITTEN APPROVAL WILL BE CHANGED OUT TO THE SPECIFIED EQUIPMENT AT THE CONTRACTORS EXPENSE.
2. MECHANICAL CONTRACTOR SHALL SUBMIT 3 COPIES OF SHOP DRAWINGS TO THE TENANTS PROJECT MANAGER FOR APPROVAL. IF APPROVED, COPIES WILL BE STAMPED "NO EXCEPTIONS" OR "APPROVED AS NOTED" AND WILL BE RETURNED TO THE CONTRACTOR. IF NOTATIONS AND MARKS INDICATE THAT REVISED INFORMATION IS REQUIRED, THEN CORRECTED INFORMATION SHALL BE SUBMITTED.

SECTION 15006 - GUARANTEE

1. THIS CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR AND DEFECTS WHICH MAY DEVELOP IN ANY PART OF THE SYSTEMS CAUSED BY FAULTY WORKMANSHIP, MATERIAL OR EQUIPMENT, AND AGREES TO REPLACE ANY SUCH FAULTY

WORKMANSHIP, MATERIAL OR EQUIPMENT DURING A PERIOD OF 12 MONTHS FROM THE DATE OF FINAL ACCEPTANCE WITHOUT ANY COST TO THE OWNER. ANY EXTENDED WARRANTIES (LONGER THAN 12 MONTHS) FOR EQUIPMENT WILL BE NOTED ON THE SCHEDULES, PLANS OR SPECIFICATIONS.

2. EACH PIECE OF EQUIPMENT FURNISHED BY THE CONTRACTOR SHALL HAVE A 12 MONTH WARRANTY FOR MATERIAL AND LABOR AT STARTS UPON THE DATE OF FINAL ACCEPTANCE AS DESIGNATED BY THE TENANTS PROJECT MANAGER. ALL COSTS FOR THE WARRANTY (MATERIAL AND LABOR) SHALL BE INCLUDED IN THE ORIGINAL BID.

SECTION 15007 - RECORD DRAWINGS

1. THIS CONTRACTOR SHALL MAINTAIN AT THE JOB SITE A SET OF DRAWINGS TO BE USED SPECIFICALLY FOR RECORDING CHANGES FROM THE CONTRACT DOCUMENTS. THE INFORMATION SUCH AS VALVES, DUCT AND PIPE DEVIATIONS SHOULD BE DIMENSIONED FROM EASILY RECOGNIZABLE REFERENCE POINTS INDICATING BOTH HORIZONTAL AND VERTICAL DISTANCES.
2. THE CONTRACTOR SHALL SUBMIT A FINAL SIGNED SET OF AS-BUILT DRAWINGS TO THE TENANTS PROJECT MANAGER AT THE COMPLETION OF THE PROJECT.
3. THE CONTRACTOR SHALL SUBMIT TO THE TENANTS PROJECT MANAGER AT THE END OF THE PROJECT (2) COMPLETE HARD BOUND SET OF CATALOG DATA, MANUFACTURES LITERATURE, DETAIL MANUALS COVERING THE OPERATION AND MAINTENANCE OF ALL EQUIPMENT SPECIFIED.

SECTION 15008 - DISCREPANCIES IN DOCUMENTS

1. THE DRAWINGS OF PIPING AND DUCTWORK SYSTEMS SHALL BE INSTALLED SUBSTANTIALLY AS SHOWN ON THE PLANS. THE EXACT POSITION OF EACH AND EVERY PIPE, DUCT, OFFSET AND TRANSITION CANNOT BE GIVEN BY SCALING THE DRAWINGS BUT SHALL IN EVERY CASE BE PLACED SO AS TO AVOID INTERFERENCE WITH OTHER WORK. ALL NECESSARY CHANGES IN THE LOCATION OF PIPE OR DUCTWORK FOR ITS PROPER INSTALLATION AND TO AVOID CONFLICT WITH OTHER TRADES SHALL BE DONE BY THE CONTRACTOR AT NO ADDITIONAL CHARGE.
1. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THE DEMOLITION OF EXISTING WORK AND THE DEMOLITION PROVIDED BY THE GENERAL CONTRACTOR. COORDINATE WITH THE GENERAL CONTRACTOR ANY EXISTING EQUIPMENT REQUIRED TO BE LEFT INTACT.
2. EACH CONTRACTOR SHALL VERIFY SCOPE OF WORK WITH THE GENERAL CONTRACTOR FOR THE REMOVAL OF ALL EXISTING FIRE PROTECTION, PLUMBING FIXTURES, PIPING, HVAC UNITS, REFRIGERANT RECAPTURE, EXHAUST FANS, ETC. AND ASSOCIATED ROOF CURBS NOT BEING REUSED ON THIS PROJECT, UNLESS SPECIFICALLY NOTED OTHERWISE.
3. CONTRACTOR MUST VERIFY WITH THE LANDLORD ALL PRESUMED ABANDONED EQUIPMENT, PIPES, DUCTWORK, AND EQUIPMENT PRIOR TO REMOVAL. ROOF CURBS SHALL BE REMOVED AND THE ROOF PATCHED. ALL EXTRANEOUS ITEMS IN THE SPACE OR ON THE ROOF NOT APPLICABLE TO THE NEW WORK MUST BE REMOVED AND ROOF/WALL/FLOOR PATCHED/REPAIRED TO MATCH EXISTING STRUCTURE.
4. EXISTING ABANDONED PIPES, DUCTS, OR EQUIPMENT IN THE FLOOR, EMBEDDED IN CONCRETE, OR OTHERWISE INACCESSIBLE ARE TO BE CUT OFF AND SEALED BELOW OR WITHIN FLOOR OR WALL LEVEL WHEN THEY ARE NOT TO BE REUSED IN THIS PROJECT.
5. IF REQUIRED BY LANDLORD OR CODES, ABANDONED PIPING AND/OR DUCTWORK MUST BE REMOVED TO POINT OF ORIGIN, CONFIRM THE EXTENT OF DEMOLITION WITH THE GENERAL CONTRACTOR AND TENANT PRIOR TO BID AND INCLUDE IN BID PROPOSAL AS DIRECTED BY THE GENERAL CONTRACTOR AND TENANT.

SECTION 15010 - CUTTING AND PATCHING

1. THIS CONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING REQUIRED FOR THE INSTALLATION OF HIS EQUIPMENT IN THE BUILDING WALLS, PARTITIONS, FLOORS, CEILINGS, ETC. UNLESS OTHERWISE NOTED, ALL CUTTING AND PATCHING SHALL BE SUBJECT TO THE DIRECTION OF THE LANDLORD, ARCHITECT OR ENGINEER.
2. THIS CONTRACTOR SHALL NOT ENDANGER THE STABILITY OF THE STRUCTURE BY CUTTING, DIGGING OR OTHERWISE ALTERING THE STRUCTURE AND SHALL NOT AT ANY TIME CUT OR ALTER WORK OF ANY OTHER CONTRACTOR.
3. PATCHING OF WALLS, FLOORS AND ROOF SHALL BE OF SAME MATERIAL AND WORKMANSHIP OF THE SURROUNDING MATERIAL WITH FINISHED SURFACE APPEARING THE SAME AS THE SURROUNDING AREAS. ALL PATCHING SHALL BE PERFORMED BY WORKMEN SKILLED IN THAT PARTICULAR TRADE.
4. DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR IN A SUITABLE MANNER ACCEPTABLE TO THE LANDLORD AND TENANTS PROJECT MANAGERS.

SECTION 15011 - SLEEVES

1. THIS CONTRACTOR SHALL INSTALL SLEEVES IN CONNECTION WITH ALL PIPES PASSING THROUGH ALL WALLS, PARTITIONS AND FLOORS. SLEEVES SHALL EXTEND THROUGH FULL THICKNESS OF WALLS AND FLOORS AND SHALL BE CUT FLUSH WITH THE FINISHED SURFACES. SLEEVES IN SLABS SHALL BE CUT 2" ABOVE THE FLOOR SURFACE.
2. ALL SLEEVES SHALL BE 22 GAUGE GALVANIZED STEEL MINIMUM FINISHED WITH A SMOOTH EDGE AND PROPERLY SUPPORTED.
3. CORE DRILLING FLOORS AND WALLS MUST BE COORDINATED WITH THE LANDLORD AND THE TENANTS PROCT MANAGER.
4. THIS CONTRACTOR SHALL FURNISH AND INSTALL FIRE STOPPING AT ALL PENETRATIONS THRU RATED FLOORS TO MAINTAIN THE FIRE RATING. 3M FIRE BARRIER SYSTEMS, FLAME SAFE FIRE RETARDANT SYSTEMS, DOW CORNING, SPECSEAL OR EQUAL. THE CONTRACTOR MUST PRESENT UL LISTING DATA SHEETS TO THE TENANTS PROJECT MANAGER AND LANDLORD TO SHOW THAT THE PENETRATIONS MAINTAIN THE FIRE RATING.

SECTION 15012 - HANGERS

1. FURNISH AND INSTALL BRACKETS, BRACES OR REINFORCING ANGLES AS REQUIRED FOR ALL PARTITIONS NOT SUFFICIENT IN THEMSELVES TO SUPPORT PLUMBING FIXTURES OR OTHER EQUIPMENT.
2. PIPING SHALL BE SUSPENDED FROM CONSTRUCTION ABOVE WITH ANGLE IRON, CLAMPS, UNISTRUT, OR HANGER RODS. NO PIPING SHALL BE HUNG FROM OTHER PIPING EXISTING OR NEW. CONTRACTOR SHALL COORDINATE WITH LANDLORD CRITERIA AND ALL CODES.
3. ALL PIPES WHICH ARE SPECIFIED TO BE INSULATED SHALL HAVE PREFABRICATED INSULATED METAL SADDLES SIZED FOR THE INSULATION THICKNESS AND CONTINUOUS INSULATION THROUGH THE HANGER. ALL DISSIMILAR METALS MUST BE SEPARATED WITH DIELECTRIC MATERIAL.

DIVISION 15500 - HEATING, VENTILATING, AIR CONDITIONING

SECTION 15501 - SUMMARY OF WORK

- A. THIS CONTRACTOR SHALL FURNISH, INSTALL, TEST AND BALANCE ALL NECESSARY EQUIPMENT FOR A COMPLETE WORKING SYSTEM. SEE PLAN FOR DUCTWORK AND SCHEDULES.
- B. CONTROLS
1. VERIFY COMPLETE OPERATION OF ALL MODES: HEAT, COOL, ECONOMIZER, OCCUPIED, UNOCCUPIED, ETC. CONTRACTOR SHALL PROVIDE FULLY FUNCTIONAL SYSTEM AS APPROVED BY TENANT. ASSIST IN ANY NECESSARY TRAINING AND/OR PROGRAMMING PER TENANTS REQUIREMENTS.

SECTION 15502 - MATERIALS

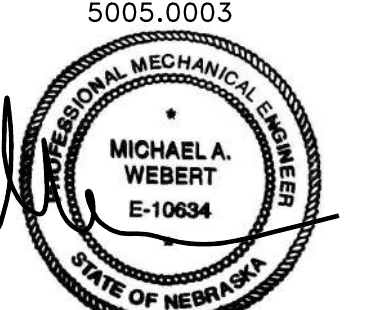
- A. SEE PLANS FOR SCHEDULES AND DETAILS OF EQUIPMENT. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS INSTALLATION INSTRUCTIONS. COORDINATE ALL REQUIREMENTS WITH LANDLORD.
1. THIS CONTRACTOR SHALL PROVIDE ALL NECESSARY PARTS AND LABOR INCLUDING BUT NOT LIMITED TO FANS, BELTS, PULLEYS, BEARINGS, DAMPERS, COILS AND MOTORS AS REQUIRED TO OBTAIN A FULLY OPERATIONAL UNIT THAT MEETS OR EXCEEDS THE DESIGN QUANTITIES SET FORTH IN THESE DOCUMENTS INCLUDING BUT NOT LIMITED TO CAPACITY, CFM AND EXTERNAL STATIC PRESSURE.
- B. DUCTWORK - FIBERGLASS DUCT BOARD IS NOT APPROVED
1. ALL SUPPLY, RETURN, EXHAUST AND RELIEF DUCTWORK SHALL BE GALVANIZED STEEL SHALL BE MANUFACTURED (GAUGES, REINFORCEMENT AND CONNECTIONS), AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA "HVAC DUCT CONSTRUCTION STANDARDS"
2. ALL ELBOWS SHALL HAVE A MINIMUM THROAT RADIUS OF ONE HALF THE DUCT WIDTH OR SHALL BE PROVIDED WITH TURNING VANES.
3. HANG DUCTWORK FROM STRUCTURE ACCORDING TO SMACNA STANDARDS. CONTRACTOR SHALL BE REQUIRED TO INSTALL SEISMIC BRACING AS REQUIRED BY LANDLORD CRITERIA AND/OR LOCAL CODES.
4. ALL DUCT JOINTS AND LONGITUDINAL SEAMS SHALL BE SEALED WITH A WATER BASED DUCT SEALER, DURO DYNE "DURORSEAL" OR APPROVED EQUAL.
5. ALL RTU SUPPLY AIR DUCTWORK SHALL BE WRAPPED (NO INTERNAL LINER ALLOWED) WITH R-5 INSULATION WRAP WITH FOIL VAPOR BARRIER. ALL JOINTS SHALL BE TAPE AND INSTALLED ACCORDING TO THE MANUFACTURES INSTALLATION REQUIREMENTS IN ORDER TO MAINTAIN THE R-VALUE RATING.
7. ALL RTU RETURN AIR DUCTWORK SHALL BE RATED WITH R-5 INSULATION WRAP WITH FOIL VAPOR BARRIER. ALL JOINTS SHALL BE TAPE AND INSTALLED ACCORDING TO THE MANUFACTURES INSTALLATION REQUIREMENTS IN ORDER TO MAINTAIN THE R-VALUE RATING.
8. PROVIDE FLEXIBLE DUCT CONNECTIONS CONSTRUCTED OF NEOPRENE-COATED FLAMEPROOF FABRIC AT EQUIPMENT INLET AND OUTLET TO ISOLATE VIBRATION.
9. THE FINAL 4" OF DUCTWORK TO THE AIR DEVISE MAY BE FLEXIBLE CLASS 1 DUCT WITH R-5 INSULATION AND FOIL VAPOR BARRIER. DUCTWORK MUST MEET LOCAL REQUIREMENTS AND LANDLORDS CRITERIA.
10. ALL SUPPLY TAKE-OFFS SHALL HAVE AIR SCOOP AND MANUAL VOLUME DAMPER WITH QUADRANT LOCKING HANDLE FOR BALANCING. WHERE DUCTWORK IS LOCATED ABOVE A GYPSUM BOARD CEILING AND UNABLE TO ACCESS THROUGH DIFFUSER PLASTER FRAME, A CABLE CONTROLLED DAMPER OPERATOR SHALL BE FURNISHED, YOUNG REGULATOR COMPANY OR EQUAL.

C. TESTING, ADJUSTING, AND BALANCING

1. THE ADJUSTING AND BALANCING OF THE AIR FLOW THROUGHOUT THE FACILITY SHALL BE PERFORMED BY AN NEBB OR AABC CERTIFIED AIR BALANCER AS HIRED BY THE MECHANICAL CONTRACTOR. THE BALANCING SHALL TAKE PLACE AFTER THE FINAL PUNCH LIST. THE BALANCING CONTRACTOR SHALL VERIFY THAT ITEMS ON THE PUNCH LIST EFFECTING THE AIR BALANCE REPORT ARE COMPLETED PRIOR TO STARTING THE AIR BALANCE. THE MECHANICAL CONTRACTOR SHALL PROVIDE ASSISTANCE TO THE TESTING AND BALANCING CONTRACTOR BY MAKING ADJUSTMENTS TO THE SYSTEM AND SYSTEM COMPONENTS REQUIRED FOR ACHIEVING DESIGN PERFORMANCE. THE BALANCING REPORT SHALL INCLUDE AT MINIMUM THE FOLLOWING:
 2. CERTIFICATION NUMBER OF THE AIR BALANCER.
 3. CALIBRATION DATES AND INFORMATION ON THE EQUIPMENT USED FOR BALANCING.
 4. ITEM BEING TESTED WITH MAKE, MODEL AND SERIAL NUMBERS
 5. AIR CFM AT INLET AND OUTLET OF SUPPLY UNIT (PRELIMINARY READING, FIRST ADJUSTMENT, SECOND ADJUSTMENT)
 6. AIR CFM AT DISTRIBUTION POINT (PRELIMINARY READING, FIRST ADJUSTMENT, SECOND ADJUSTMENT). EACH GRILLE, REGISTER, DIFFUSER SHALL BE LABELED ON A MASTER PLAN THAT SHOULD BE INCLUDED IN THE FINAL REPORT.
 7. MOTOR AMP READINGS AFTER EACH ADJUSTMENT.
 8. MOTOR AND FAN RPM READINGS AFTER EACH ADJUSTMENT.
 9. STATIC PRESSURE AT UNIT INCLUDING, INLET, OUTLET AND TOTAL.
 10. OUTSIDE AIR CFM.
 11. SUBMIT (4) COPIES OF THE AIR BALANCE REPORT TO THE TENANTS PROJECT MANAGER.
- D. GAS PIPING
1. FURNISH AND INSTALL A FUNCTIONAL GAS PIPING SYSTEM WITH NECESSARY VALVES, FITTINGS, UNIONS, DIRT LEGS, REGULATORS, METERS, ETC. REFER TO PLANS FOR EXACT REQUIREMENTS.
2. GAS PIPE SHALL BE SCHEDULE 40 BLACK STEEL WITH MALLEABLE THREADED FITTINGS FOR 2" AND SMALLER, AND WITH WELDED JOINTS FOR 2-1/2" AND LARGER.
3. PROVIDE A SHUT-OFF VALVE, 6" DIRT LEG, AND UNION AT EACH EQUIPMENT CONNECTION.
4. PROVIDE LANDLORD APPROVED PIPING SUPPORTS EVERY 5 FEET OR AS REQUIRED BY LANDLORD OR LOCAL AUTHORITY HAVING JURISDICTION, WHICHEVER IS MORE STRINGENT.
5. PAINT AND PRIME ALL EXPOSED GAS PIPING ON ROOF & EXTERIOR OF BUILDING WITH RUST-INHIBITING PAINT. COORDINATE COLOR REQUIREMENTS WITH LANDLORD.
6. TESTING AND PURGING OF GAS PIPING SHALL BE DONE PER THE REQUIREMENTS OF THE LOCAL GAS COMPANY, LOCAL CODES, AND APPLICABLE NFPA 54 CODES.
7. CONTRACTOR AND COORDINATE GAS SERVICE AND METER REQUIREMENTS WITH THE LOCAL GAS COMPANY AND THE MALLS OPERATIONS MANAGER PRIOR TO BID. INCLUDE INSTALLATION OF VALVES, FITTINGS, UNIONS, DIRT LEGS, REGULATORS, METERS, ETC. COSTS IN BID.



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10/31/24

90GLOW TENANT IMPROVEMENT IN EXISTING SHELL BUILDING SHOPPES @ GRAYHAWK, 3525 N. 144TH ST., SUITE 213 OMAHA, NE 68116 SPECIFICATIONS

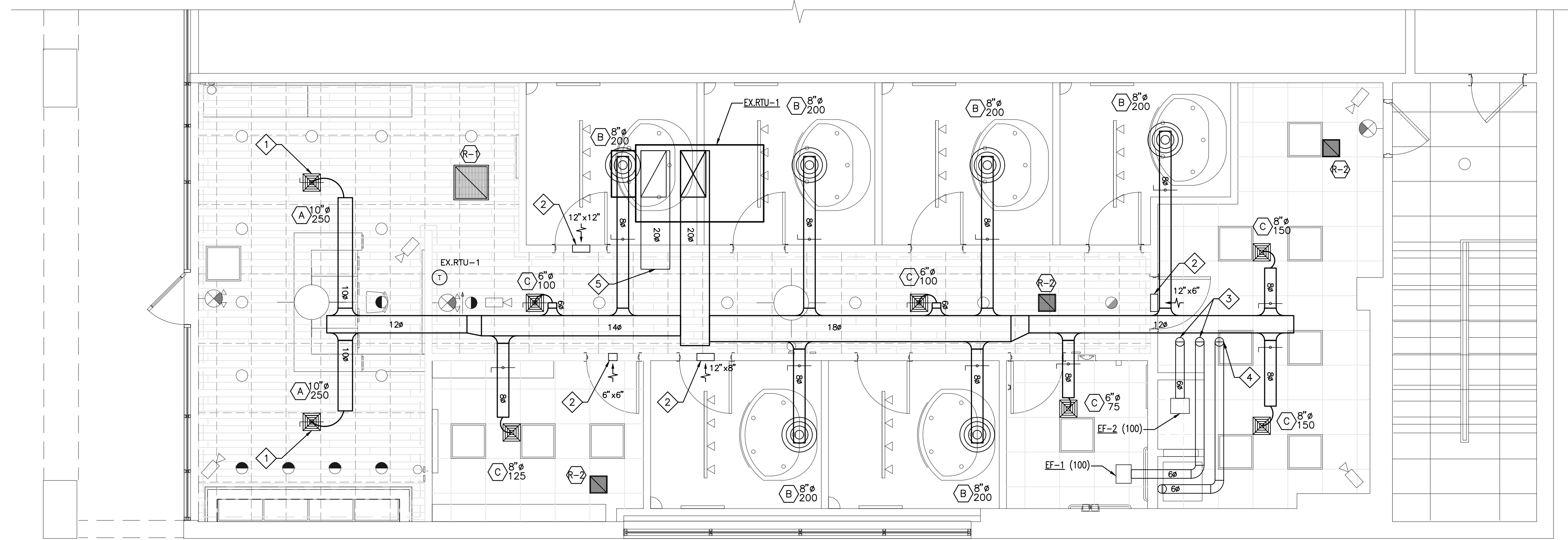


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M-002



1 MECHANICAL PLAN
1/4" = 1'-0"

GENERAL NOTES

1. ALL MECHANICAL HVAC AND PLUMBING WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE BASE BUILDING SPECIFICATION AND WITH THE LATEST EDITION OF THE PREVAILING STATE MECHANICAL/PLUMBING AND BUILDING CODES AS WELL AS ALL REGULATIONS THAT MAY APPLY. IN CASE OF CONFLICTS BETWEEN THE CONTRACT DOCUMENTS AND GOVERNING CODE OR ORDINANCE THE MORE STRINGENT STANDARD SHALL APPLY.
2. DIFFUSER RUN OUTS SHALL BE SAME AS LISTED DIFFUSER NECK SIZE, UNLESS OTHERWISE NOTED: REFER TO SHEET M3-1.
3. COORDINATE EXACT LOCATIONS OF AIR DISTRIBUTION DEVICES WITH CEILING GRID AND LIGHT FIXTURE LAYOUT.
4. ALL RECTANGULAR SUPPLY DUCTS ELBOWS SHALL HAVE DOUBLE THICKNESS TURNING VANES.
5. ALL AIR CONDITIONING DUCTWORK SHALL BE SMACNA 1" PRESSURE CLASSIFICATION WITH SEAL CLASS "B".
6. RECTANGULAR DUCT SIZES SHOWN INDICATE REQUIRED FLOW SIZES. SHEET METAL CONTRACTOR SHALL INCREASE SIZES TO ALLOW FOR 1-INCH THICK LINER EQUIVALENT TO KNAUF TYPE "EM".
7. NOT USED
8. EXACT LOCATIONS OF PACKAGED ROOF TOP UNITS ARE DIMENSIONED ON THE STRUCTURAL FRAMING PLAN AND MAY DIFFER SLIGHTLY FROM WHAT IS SHOWN.
9. ALL ROUND DUCTWORK SHALL HAVE EXTERIOR DUCT WRAP CONSISTING OF A FIBERGLASS BLANKET WITH FACTORY APPLIED VAPOR BARRIER FACING AND HAVING A MINIMUM R-VALUE OF 6.0.
10. IT IS THE INTENT TO HAVE ALL AIR SYSTEMS EXHAUST AND MAKE UP AIR BALANCED BY AN INDEPENDENT TAB CERTIFIED NEBB CONTRACTOR. AIR QUANTITIES IN MAIN DUCT SHALL BE MEASURED BY PITOT TUBE TRAVERSES. OUTLET AND INLET AIR QUANTITIES SHALL BE DETERMINED IN ACCORDANCE WITH NEBB PROCEDURES. THE NEBB TAB FIRM SHALL PROVIDE A CERTIFICATE OF CONFORMANCE CERTIFICATION TO THE OWNER.
11. TEMPERATURE AND HUMIDITY SENSORS LOCATED IN RETURN AIR DUCT (OWNER SUPPLIED CONTRACTOR INSTALLED): SENSORS TO CONNECT TO OWNER SUPPLIED JCI ACT-2 PANEL.
12. DISCHARGE OF ALL EXHAUST FANS SHALL BE 24" ABOVE THE OA INTAKE OF RTU IN COMPLIANCE WITH INTERNATIONAL MECHANICAL CODE 401.5.1 (2000). BUT NO LESS THAN 40-INCHES ABOVE THE ROOF IN COMPLIANCE WITH NFPA-96.
13. NOT USED
14. PROVIDE 3' MIN. AND 6' MAX. FLEX FINAL CONNECTION, TYPICAL ALL SUPPLY AND RETURN.
15. ALL RTU UNITS TO HAVE FULL SIZE SUPPLY AND RETURN PLENUMS EXTENDED DOWN TO CEILING WITH DUCT TAPS AS SHOWN.
16. RUN 18 GA. WIRE FROM SENSORS TO UNITS.
17. UNIT FANS SET TO RUN CONTINUOUS IN OCCUPIED MODE.
18. TEMPERATURE AND HUMIDITY SENSORS LOCATED IN RETURN AIR DUCT (OWNER SUPPLIED CONTRACTOR INSTALLED): SENSORS TO CONNECT TO OWNER SUPPLIED JCI ACT-2 PANEL.
19. ROUND DUCT SHALL BE WRAPPED WITH 2" VINYL BACKED FIBERGLASS INSULATION. AIR BALANCE REQUIRED BY CONTRACTOR.
20. THE MECHANICAL CONTRACTOR SHALL BE LICENSED THROUGH THE STATE'S LICENSING BOARD.
21. ALL HOODS SHALL MEET THE REQUIREMENTS OF LOCALLY ADOPTED CODES OR THE MECHANICAL INDUSTRY REGULATIONS (OAC 158:50).
22. NOT USED
23. NOT USED
24. THE AREA ABOVE THE CEILING IS A RETURN AIR PLENUM SPACE. ALL

EQUIPMENT AND MATERIALS INSTALLED SHALL BE PLENUM RATED IN ACCORDANCE WITH NEBRASKA BUILDING CODE AND NEBRASKA MECHANICAL CODE.

25. ALL AIR DEVICES LOCATED IN HARD CEILINGS SHALL BE SUPPLIED WITH AN INTEGRAL VOLUME DAMPER ACCESSIBLE FROM THE AIR DEVICE FACE TO FACILITATE BALANCING.

FIELD VERIFICATION NOTES:

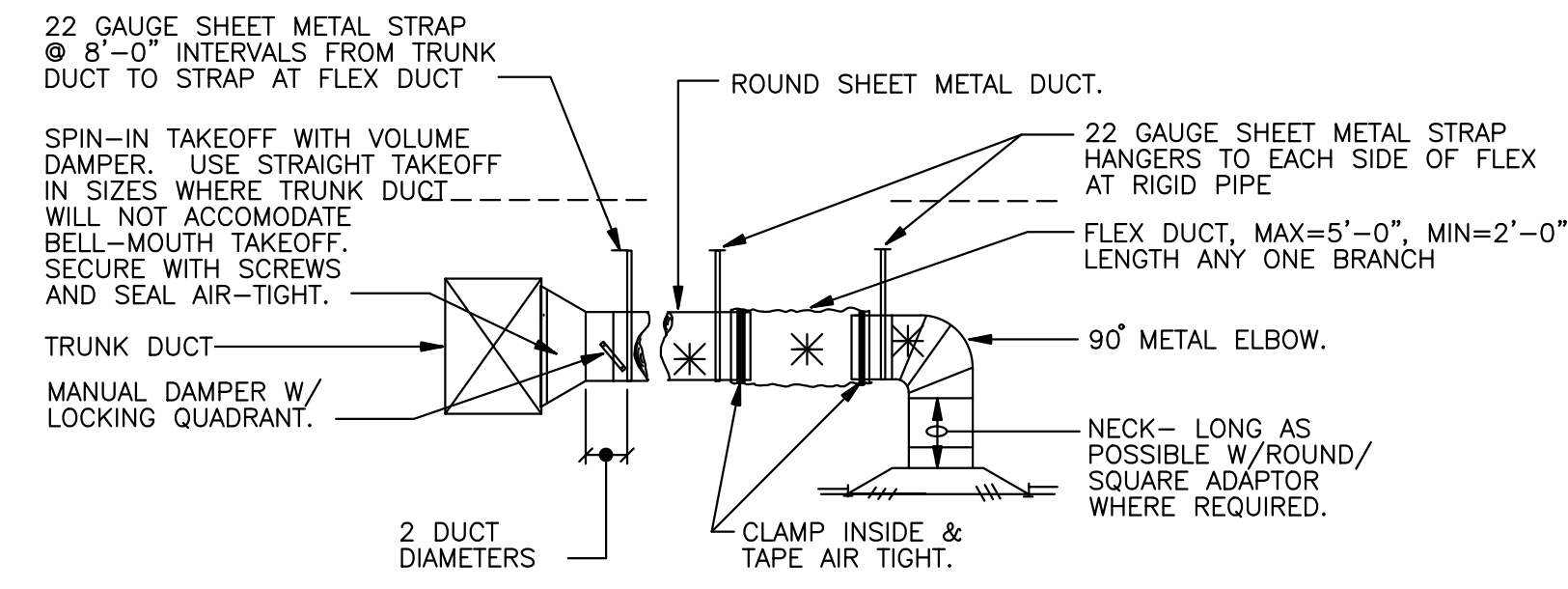
1. THE HVAC CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID TO FIELD VERIFY ALL EXISTING CONDITIONS WHICH MAY AFFECT HIS BID. THE FOLLOWING ITEMS SHALL BE VERIFIED:
 - A. EXACT PLACEMENT, SIZE, CAPACITY, MANUFACTURER AND CONDITION OF ALL EXISTING HVAC EQUIPMENT WITHIN SCOPE OF WORK, WHETHER SPECIFICALLY SHOWN OR NOT.
 - B. SIZE AND LOCATION OF ALL EXISTING DUCTWORK.
 - C. SIZE AND LOCATION OF ALL EXISTING GRILLES REGISTERS AND DIFFUSERS.
 - D. SIZE AND LOCATION OF ALL EXISTING THERMOSTATIC CONTROL DEVICES.
 - E. SIZE AND LOCATION OF ALL EXISTING HYDRONIC PIPING.
2. ALL REFERENCES ON THESE DRAWINGS TO EXISTING EQUIPMENT, DUCTWORK, DIFFUSERS, THERMOSTATS AND PIPING ARE FOR REFERENCE ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL THESE ITEMS PRIOR TO BID AND INCLUDE IN HIS BID ANY AND ALL AMOUNTS REQUIRED TO ACCOMMODATE EXISTING CONDITIONS.
3. NO ALLOWANCES WILL BE MADE AFTER THE PROJECT HAS BEEN AWARDED FOR FAILURE TO VERIFY EXISTING CONDITIONS.
4. ANY DISCREPANCIES WHICH MAY AFFECT THE CONTRACTORS BID SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND ARCHITECT FOR DIRECTION.

KEY NOTES

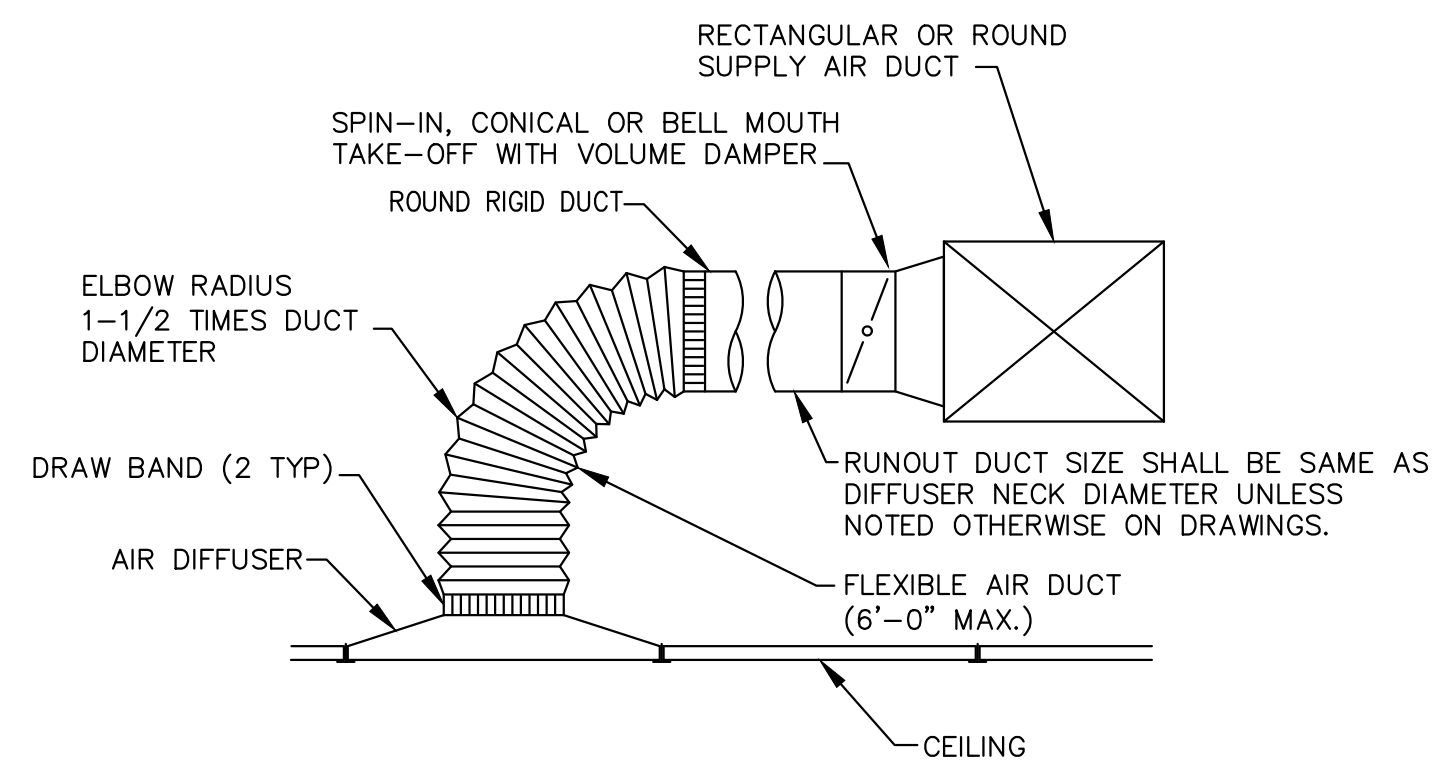
- ◇ FOR DIFFUSERS INSTALLED IN HARD CEILINGS, VOLUME DAMPER IS INTEGRAL TO DIFFUSER AND ADJUSTABLE AT FACE OF DIFFUSER (TYP.) (SEE NOTE 25 UNDER GENERAL NOTES)
- ◇ PROVIDE TRANSFER OPENING IN WALL ABOVE CEILING. SIZE AS SHOWN ON PLANS.
- ◇ EXHAUST DUCT UP THROUGH ROOF. REFER TO "RESTROOM EXH/GOOSENECK" DETAIL. COORDINATE LOCATION WITH EXISTING ROOF EQUIPMENT. MAINTAIN 10" CLEARANCE FROM ALL FRESH AIR INTAKES.
- ◇ DRYER EXHAUST DUCT THROUGH ROOF. COORDINATE LOCATION WITH EXISTING ROOF EQUIPMENT. MAINTAIN 10" CLEARANCE FROM ALL FRESH AIR INTAKES.
- ◇ TERMINATE RETURN WITH MESH SCREEN IN PLENUM. KEEP RETURN AS HIGH AS POSSIBLE.



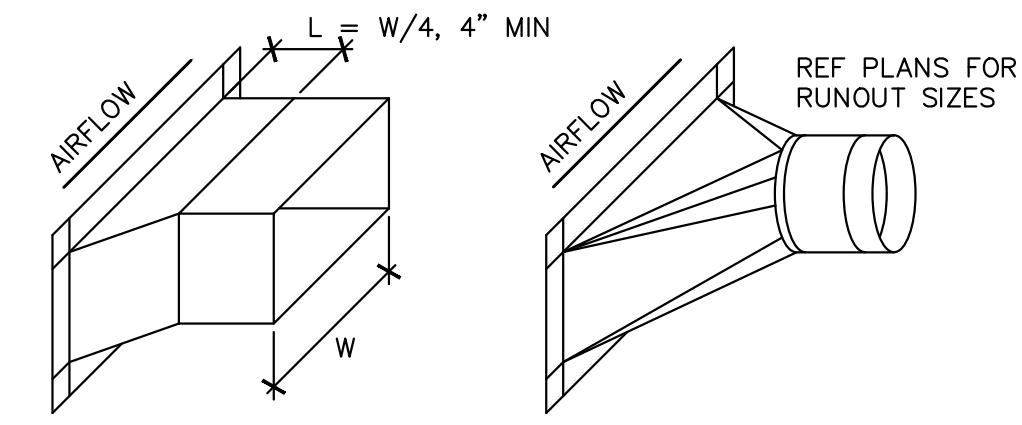
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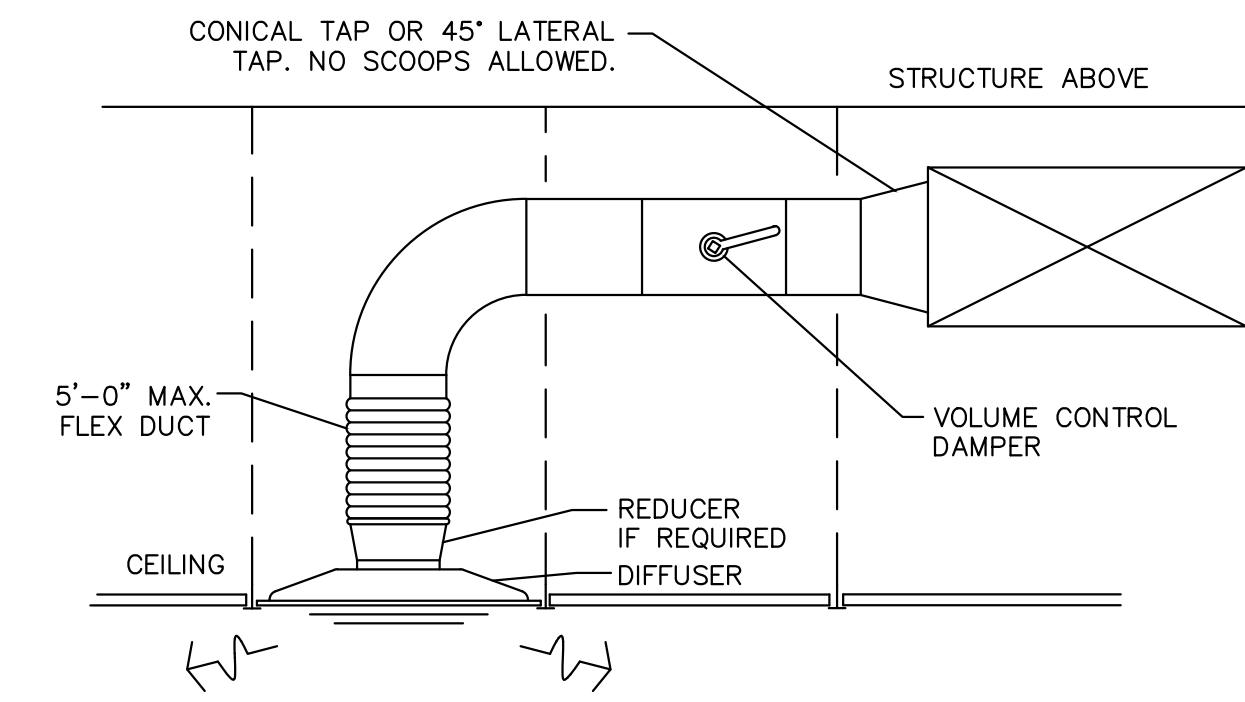
1 BRANCH DUCT CONNECTION- 2x2 DIFFUSER
SCALE: N.T.S.



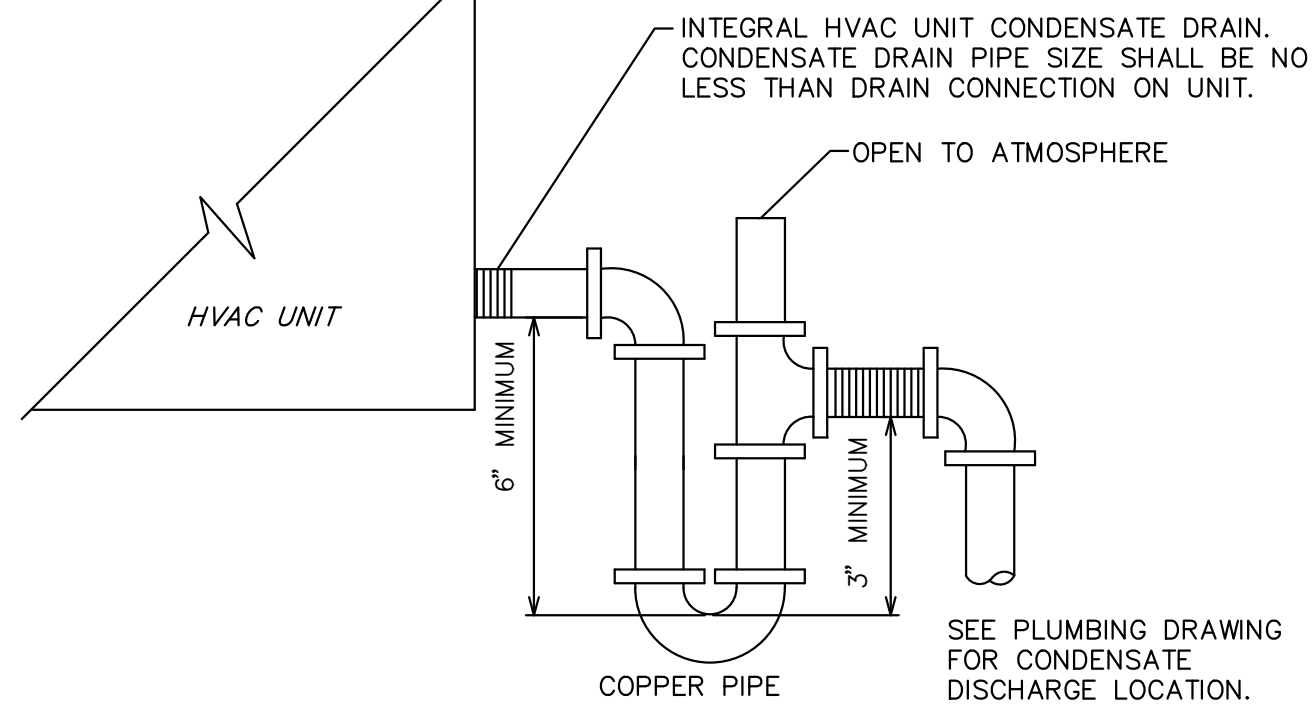
2 DUCT TO SUPPLY DIFFUSER
SCALE: N.T.S.



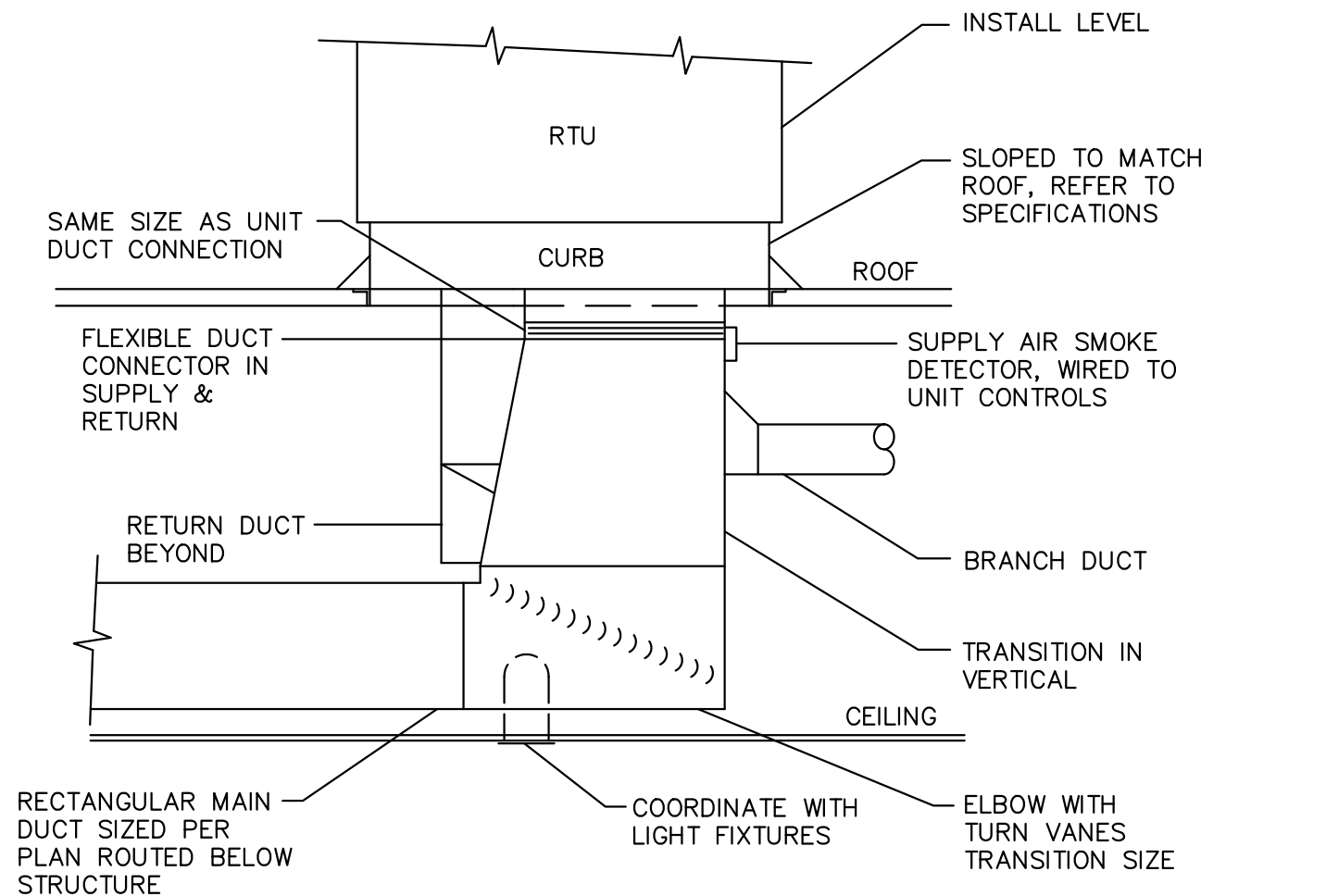
3 BRANCH DUCT FITTING
SCALE: N.T.S.



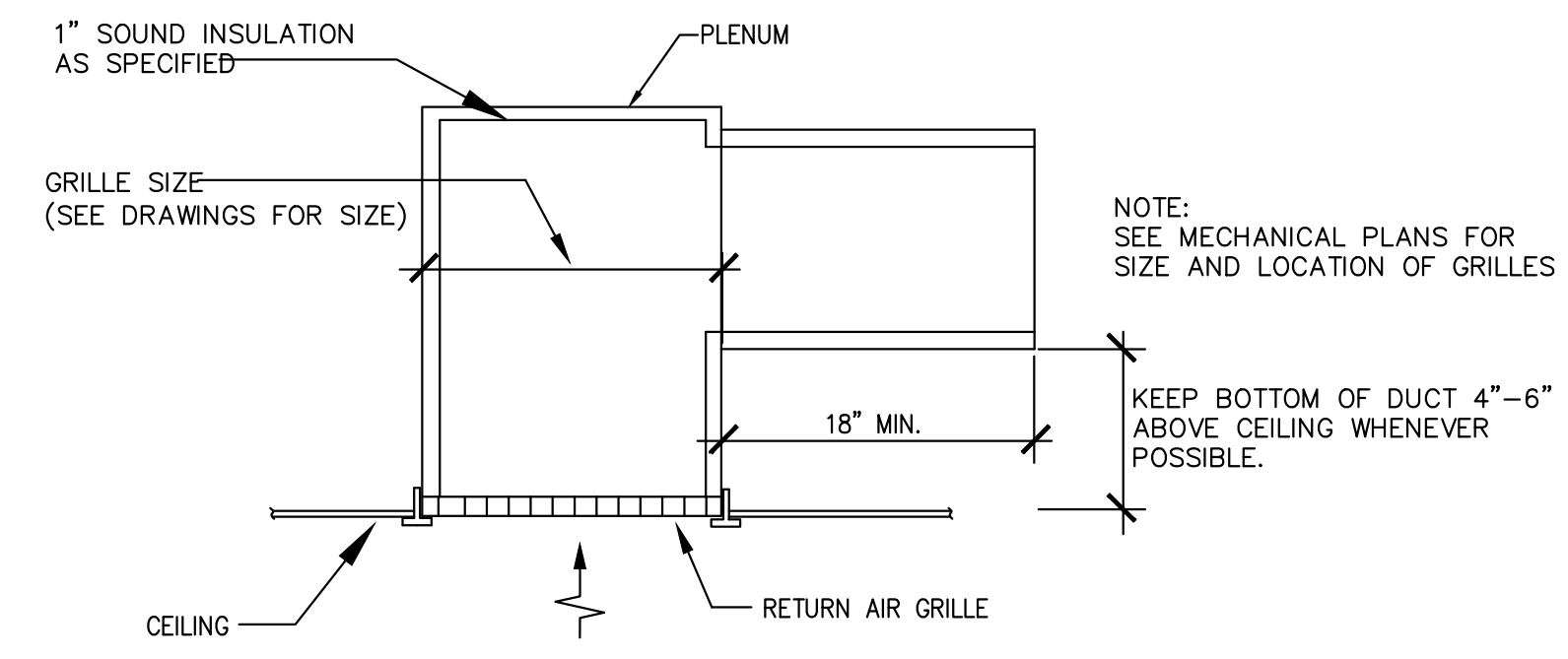
4 FLEXIBLE DUCT
SCALE: N.T.S.



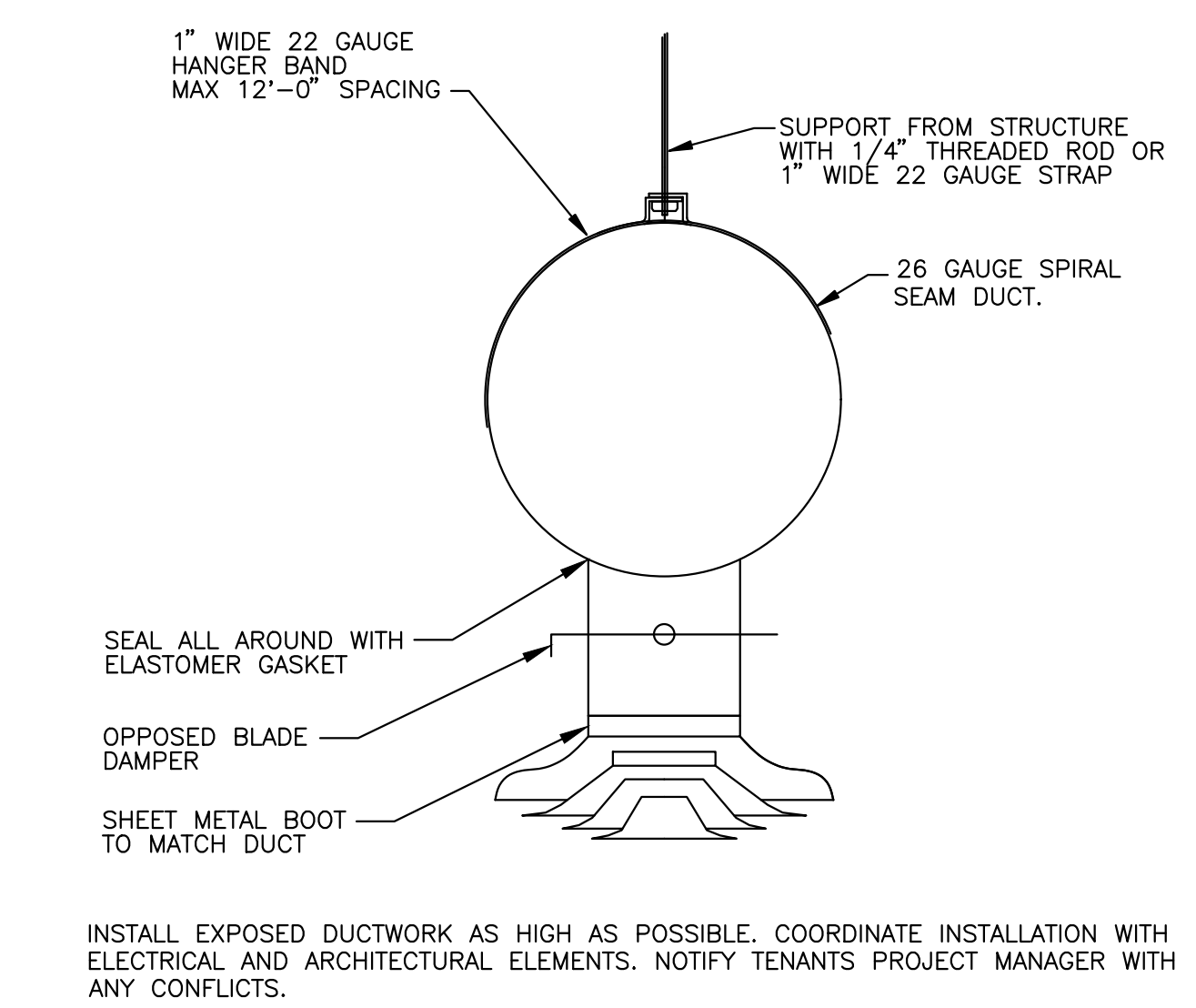
5 HVAC CONDENSATE TRAP
SCALE: N.T.S.



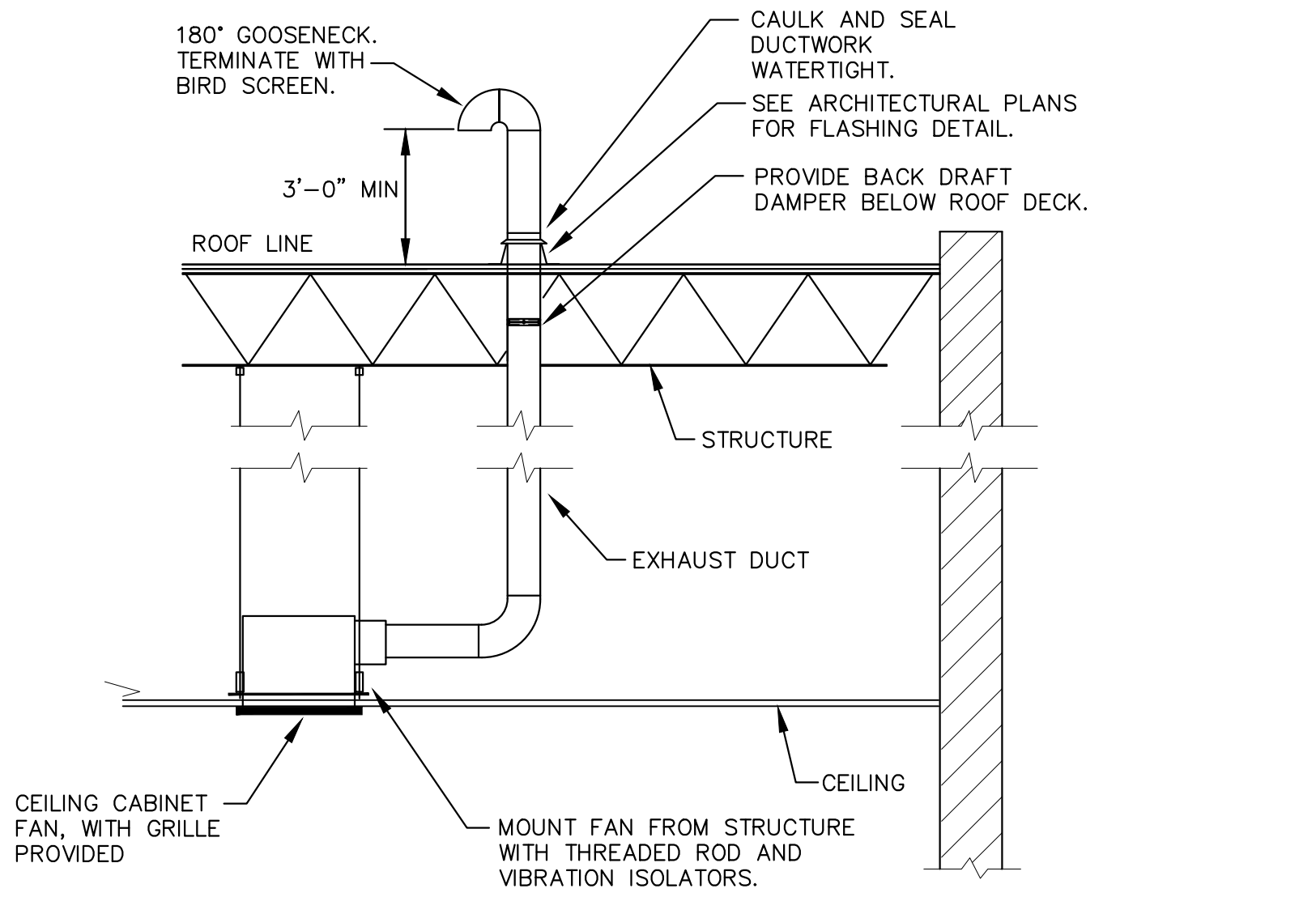
6 ROOFTOP UNIT
SCALE: N.T.S.



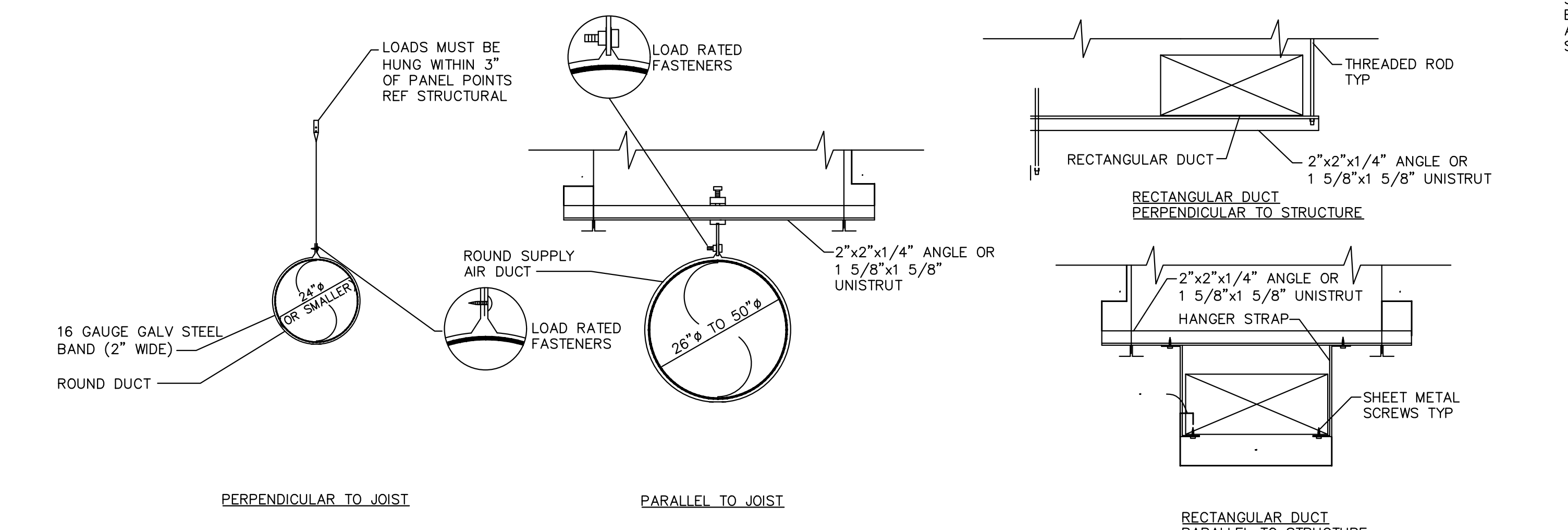
7 RETURN GRILLE DETAIL
SCALE: N.T.S.



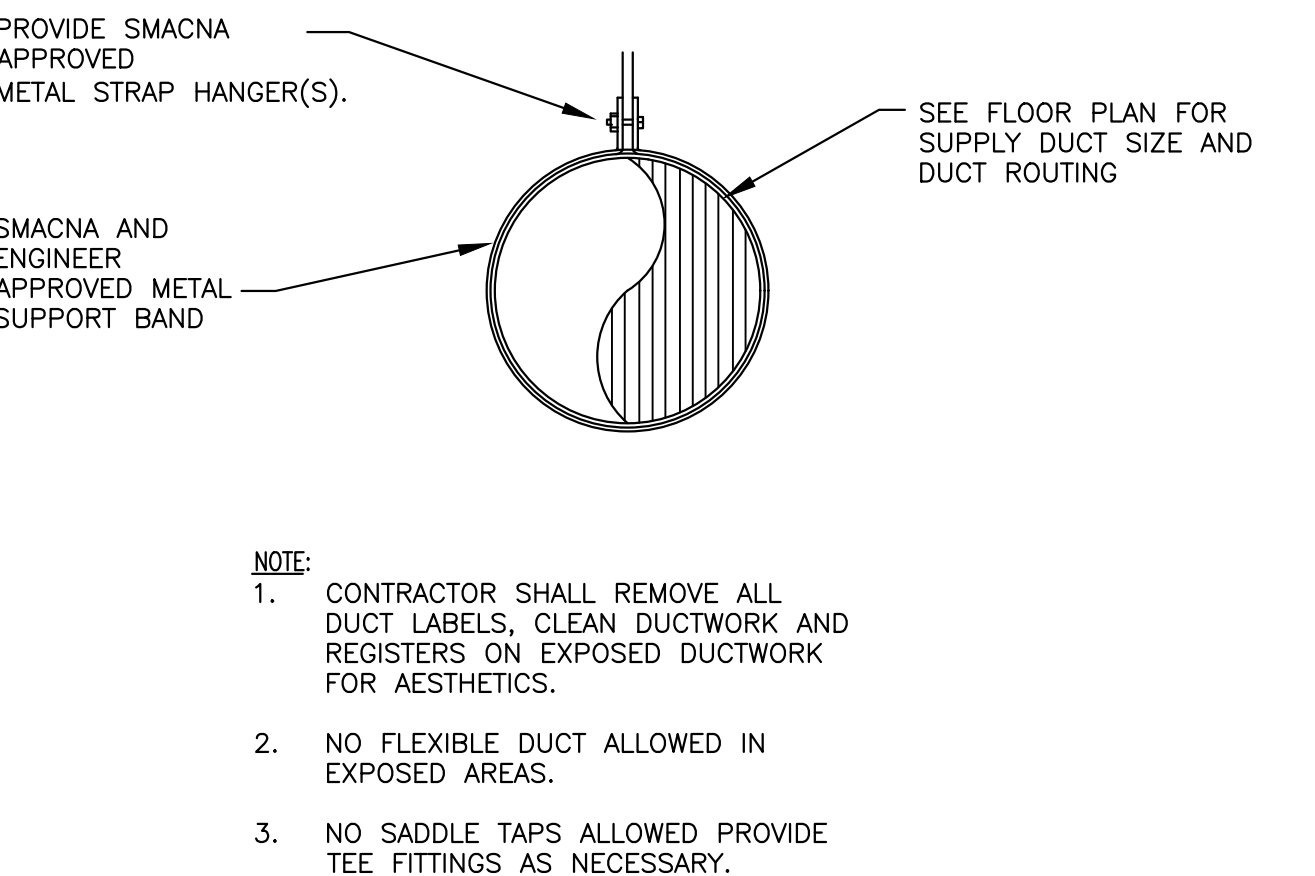
8 DUCT MOUNTED DIFFUSER DETAIL
SCALE: N.T.S.



9 RESTROOM EXH/GOOSENECK DETAIL
SCALE: N.T.S.



10 DUCT SUPPORT AND GRILLE
SCALE: N.T.S.



11 EXPOSED DUCT/REGISTER SUPPORT
SCALE: N.T.S.

NOTE:
1. CONTRACTOR SHALL REMOVE ALL DUCT LABELS, CLEAN DUCTWORK AND REGISTERS ON EXPOSED DUCTWORK FOR AESTHETICS.
2. NO FLEXIBLE DUCT ALLOWED IN EXPOSED AREAS.
3. NO SADDLE TAPS ALLOWED PROVIDE TEE FITTINGS AS NECESSARY.

AIR BALANCE SCHEDULE					
UNIT	SUPPLY AIR	RETURN AIR	OUTDOOR AIR	EXHAUST AIR	PRESSURE
RTU-1	2400	1150	300		300
EF-1				100	-100
EF-2				100	-100
TOTALS	2400	1150	300	200	100

FAN SCHEDULE																				
UNIT	LOCATION	MANUFACTURER	MODEL	SERVES	FAN DATA				MOTOR DATA		WATTS	CONTROL	ELECTRICAL							NOTES
					AIRFLOW (CFM)	ESP (IN WC)	SPEED (RPM)	SONES	DRIVE TYPE	WATTS			V	Ph	Hz	MCA	MOC	BKR	PNL-CKT	
EF-1	CEILING	GREENHECK	SP-A125-QD	REST ROOMS	100	0.20	1,010	0.6	DIRECT	20	23.0	SWITCH	120	1	60	0.19	15	20		1,2,3
EF-2	CEILING	GREENHECK	SP-A125-QD	UTILITY ROOM	100	0.20	1,010	0.6	DIRECT	20	23.0	SWITCH	120	1	60	0.19	15	20		1,2,3

- NOTES:
- FAN PROVIDED AND INSTALLED BY CONTRACTOR.
 - WIRE PARALLEL WITH ROOM LIGHT SWITCH, PROVIDE TRANSFORMER IF REQUIRED.
 - PROVIDE WITH ROOF CURB, BIRD SCREEN, GRAVITY BACKDRAFT DAMPER, AND SOLID STATE SPEED CONTROL.

DIFFUSER, REGISTER & GRILLE SCHEDULE							
UNIT	MANUFACTURER	MODEL	TYPE	DESCRIPTION	NECK SIZE	CFM	NOTES
A	TITUS	TMS	DIFFUSER	12X12 SQUARE SURFACE MOUNT	SEE PLANS	79-314	1-7
B	TITUS	TMRA	DIFFUSER	12" ROUND FREE	SEE PLANS	80-275	1-6,8
C	TITUS	TMS	DIFFUSER	12X12 SQUARE LAY-IN	SEE PLANS	79-314	1-6,8
R-1	TITUS	23RL	GRILLE	24X24 RETURN	-	-	1-4
R-2	TITUS	23RL	GRILLE	12X12 RETURN	-	-	1-4

- NOTES:
- CONTRACTOR IS RESPONSIBLE TO VERIFY LOCATIONS, INSTALLATION METHODS, AND QUANTITIES PRIOR TO ORDERING MATERIALS.
 - VERIFY FRAME TYPE: SURFACE MOUNT, LAY-IN FRAME OR FREE HANGING.
 - PROVIDE WITH HEAVY-DUTY FRAME AND VANDAL-RESISTANT FASTENERS.
 - ALL AIR DEVICES SHALL BE TESTED IN ACCORDANCE WITH ASHRAE STANDARD 70-91.
 - PROVIDE SQUARE TO ROUND NECK ADAPTERS FOR ALL LAY-IN TYPE
 - BRANCH DUCT SHALL BE SAME SIZE AS NECK SIZE AND EXTEND TO DUCT MAIN SHOWN ON PLAN..
 - PROVIDE WITH INTEGRAL VOLUME DAMPER FOR DIFFUSERS IN HARD CEILINGS.
 - PROVIDE VOLUME DAMPER AT TAKE-OFF FOR BALANCING.

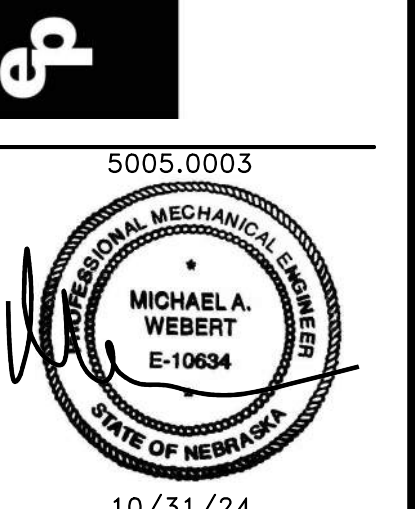
ROOFTOP UNIT SCHEDULE																																													
TAG	MFR.	MODEL	SERVES	GENERAL																	WEIGHT (LBS)	AIRFLOW			COOLING(MBH)			HEATING (Gas)			ARI RATING			MOTOR		ELECTRICAL									
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17		18	19	20	21	S.A.	E.S.P.	R.A.	O.A.	M.A.(S)	M.A.(W)	TOTAL	SENS	LAT	COIL	INPUT	OUTPUT	STAGES	CONN	SEER	EER	IEER	HP	RPM	V
EX.RTU-1	TRANE	YSC 072 A3 EMA	ALL	EX																	EX	2,400	0.60	2,100	300	78.2	53.9	72.0	53.6	18.4	Standard	120,000	97,200	1	1/2"	-	10.2	-	1.00	1,750	208	3	60	32.7	50

- ACCESSORIES:
- | | | | |
|--|---|---|----------------------------------|
| 1. Diff. Enthalpy Economizer | 7. (Not Used) | 13. Stainless Steel Heat Exchanger (M.A. < 45°F) | 19. 14" High Roof Curb |
| 2. Motorized O.A. Damper (Hawaii Only) | 8. Supply Air Tempering | 14. Condenser Coil Protective Coating (within 15 miles of salt water) | 20. Condensate Drain with P-Trap |
| 3. Barometric Relief | 9. Temperature Sensor | 15. Evaporator Coil Protective Coating (within 5 miles of salt water) | 21. Float Switch Kit |
| 4. 1" Pleated Disposable Filters | 10. Combined Temp/Humidity Sensor. See Note 5 | 16. Hail Guards | |
| 5. Pwr. Exh. | 11. (Not Used) | 17. Return Air Smoke Detector | |
| 6. CO2 Sensor for DCV | 12. (Not Used) | 18. Supply Air Smoke Detector | |
- Notes:
- No Substitutions Permitted
 - Not used.
 - Factory installed disconnect switch not available when MOC is 200 amps or larger. Verify with manufacturer's documentation.
 - Mechanical Contractor shall install secondary enthalpy sensor in return air duct drop & wire to unit per manufacturer's instructions.
 - Verify EMS provider with ACM to determine how dehumidification will be controlled.
 - Provide economizer status alert



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10/31/24

goGLOW
TENANT IMPROVEMENT IN EXISTING SHELL BUILDING
SHOPPES @ GRAYHAWK, 3525 N. 144TH ST., SUITE 213
OMAHA, NE 68116
SCHEDULE



DATE ISSUED
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JOB NO. 24197

M-400

GENERAL PLUMBING NOTES

NOT ALL NOTES MAY APPLY TO THIS PROJECTS SCOPE OF WORK.

SCOPE:

- ALL WORK PERFORMED SHALL BE IN ACCORDANCE WITH ALL LOCAL CODES AND ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION, UNLESS NOTED OTHERWISE.
- ALL WORK REQUIRED CONSISTS OF PERFORMING ALL LABOR AND FURNISHING ALL MATERIALS, FIXTURES AND EQUIPMENT REQUIRED TO PROVIDE A COMPLETE PLUMBING INSTALLATION AS INDICATED ON THE DRAWINGS. IT SHALL FURTHER INCLUDE FURNISHING AND INSTALLING ALL MISCELLANEOUS ITEMS REQUIRED FOR THE OPERATION OF THE SYSTEMS, WHETHER SPECIFICALLY CALLED FOR OR NOT. CONNECT ALL EQUIPMENT FURNISHED UNDER OTHER TRADES AS REQUIRED. DETERMINE IN ADVANCE THE SHUT-DOWN OF EXISTING UTILITIES.
- ALL PLUMBING WORK SHALL BE PERFORMED BY A LICENSED PLUMBER.
- ALL DIMENSIONS, CLEARANCES AND TOLERANCES SHALL BE VERIFIED PRIOR TO INSTALLATION. ALL ROUGH-IN LOCATIONS SHALL BE COORDINATED WITH THE MANUFACTURER'S SUBMITTAL INFORMATION.
- ALL MATERIALS, FIXTURES AND EQUIPMENT USED SHALL BE IN ACCORDANCE WITH TENANT SPECIFICATIONS. SPECIFICATIONS ARE CONTAINED WITHIN THESE DRAWINGS.
- ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH ITS LISTING AND/OR THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- ALL FOAM CORE PVC PIPING IS NOT ALLOWED.
- ALL PIPING SHALL BE CONCEALED, EXPOSED PIPING SHALL NOT BE PERMITTED.
- TEST ALL PLUMBING PIPES AS REQUIRED BY STATE, CITY, OR LOCAL CODES AND ORDINANCES. TESTS SHALL BE MADE IN THE PRESENCE OF THE PROPER INSPECTION AUTHORITIES, AUTHORIZED REPRESENTATIVES OF TENANT'S ARCHITECT AND LANDLORD'S ARCHITECT. FURNISH ALL NECESSARY TEST CERTIFICATES TO THE ARCHITECT.
- PRIOR TO BUILDING TURNOVER, THE DOMESTIC WATER SUPPLY SYSTEM SHALL BE PURGED OF DELETERIOUS MATERIAL AND DISINFECTED. DISINFECTION SHALL BE DONE IN ACCORDANCE WITH THE LOCAL HEALTH CODE, PLUMBING CODE OR IN ACCORDANCE WITH AWWA C651 OR AWWA C652.
- WELDING OR DRILLING OF STRUCTURAL MEMBERS ARE NOT ALLOWED.
- DO NOT RUN PIPING THRU, OVER OR UNDER ELECTRICAL EQUIPMENT AREA. PROVIDE CLEARANCE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
- THE CONTRACTOR SHALL CAREFULLY EXAMINE THE THE CONTRACT DOCUMENTS, MAKE A SCHEDULED ARRANGEMENT WITH THE PROJECT MANAGER TO VISIT THE SITE AND BECOME FAMILIAR WITH THE BUILDING STANDARDS AND LOCAL CONDITIONS RELATED TO THE WORK. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF ANY OBLIGATION OF THE CONTRACT.
- WHEN SPRINKLER SYSTEM EXISTS COORDINATE WITH LANDLORDS SPRINKLER CONTRACTOR FOR ANY WORK REQUIRED FOR THIS PROJECT. INCLUDE ALL FEES IN THIS BID.
- THIS CONTRACTOR SHALL PAY FOR ALL PERMITS, LICENSES AND FEES REQUIRED BY STATE AND LOCAL AUTHORITIES
- FURNISH ARCHITECT WITH CERTIFICATE OF INSPECTION AND APPROVAL BY LOCAL AUTHORITIES PRIOR TO FINAL ACCEPTANCE OF THE PROJECT BY THE ARCHITECT. ALL WORK MUST BE INSPECTED.
- ALL CONTRACTORS SHALL BE RESPONSIBLE FOR COORDINATING WORK WITH OTHER TRADES AFFECTED BY EACH OTHERS WORK AND FOR CUTTING AND RE-FINISHING OF EXISTING WALLS, FLOORS, SOLID AND SUSPENDED CEILINGS ETC., WHERE REQUIRED BY WORK SHOWN AND NOTED HEREIN. INSTALL ALL WORK TO CLEAR NEW AND EXISTING ARCHITECTURAL AND STRUCTURAL MEMBERS. ITEMS SUCH AS PIPE, FITTINGS, ETC., SHALL NOT BE INSTALLED IN CONFLICT WITH EQUIPMENT. COORDINATE ALL CUTTING AND PATCHING WITH THE GENERAL CONTRACTOR. SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING OF HIS WORK. OBTAIN WRITTEN PERMISSION OF ARCHITECT BEFORE PROCEEDING WITH ANY CUTTING OR PATCHING OF STRUCTURAL SYSTEMS.
- THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS, EQUIPMENT AND WORKMANSHIP FROM DEFECT OF MATERIAL AND WORKMANSHIP, AND SHALL REPLACE OR REPAIR, WITHOUT ADDITIONAL COST TO THE OWNER, ALL DEFECTIVE MATERIAL AND WORKMANSHIP FOR A PERIOD (1) YEAR AFTER COMPLETION AND ACCEPTANCE.
- SUBSTITUTIONS OF MATERIALS OR PRODUCTS SHOWN HEREIN SHALL BE AT THE OWNER'S, ARCHITECT'S OR ENGINEER'S WRITTEN APPROVAL ONLY WITH COPIES OF APPROVAL SENT TO ARCHITECT FOR PROJECT FILE. DEVIATION FROM THESE DRAWINGS WILL NOT BE ALLOWED.
- PROVIDE TWO (2) SETS OF "RECORD" DRAWINGS AND TWO (2) BOUND SETS OF ALL OPERATIONS MANUALS, DIAGRAMS, SERVICE CONTRACTS, GUARANTEES, ETC., ONE FOR THE OWNER AND ONE FOR BUILDING OPERATIONS DEPARTMENT. OBTAIN A COMPLETE SET OF RECORD DRAWINGS OF EXISTING CONSTRUCTION FROM THE OWNERS FOR INFORMATION ON EXISTING CONDITIONS. INCORPORATE ANY EXISTING CONDITIONS ON NEW RECORD DRAWINGS REQUIRED TO SHOW THE "INSTALLED" INSTALLATION.

SANITARY AND VENT SYSTEMS:

- ALL SANITARY AND VENT PIPE SHALL BE SERVICE WEIGHT, CAST IRON BELL AND SPIGOT PIPE AND FITTING. NO-HUB SERVICE WEIGHT PIPE FITTINGS MAY BE USED ABOVE GRADE WHEN PERMITTED BY CODE.
- SCHEDULE 40, GALVANIZED STEEL PIPE AND BONDED MALLEABLE IRON SCREW
- SCHEDULE 40 AND 80 PVC OR ABS PIPING WITH DWV PATTERN FITTINGS MAY BE USED BY LOCAL CODE.
- ALL HORIZONTAL SANITARY PIPE SHALL BE INSTALLED WITH A MINIMUM PITCH AS FOLLOWS:

PIPE SIZE	MIN. SLOPE
3" OR LESS	1/4" PER FT.
4" TO 6"	3/8" PER FT.
8" OR LARGER	1/2" PER FT.
- CLEANOUTS SHALL BE INSTALLED IN ALL HORIZONTAL DRAINAGE PIPE AND SHALL BE LOCATED NOT MORE THAN 100 FT. APART.
- CLEANOUTS SHALL BE INSTALLED AT ALL CHANGES OF DIRECTION GREATER THAN 45 DEGREES. WHERE MORE THAN ONE CHANGE OF DIRECTION OCCURS IN A SINGLE PIPE RUN, ONLY ONE (1) CLEANOUT SHALL BE REQUIRED FOR EVERY 40 FEET OF DEVELOPED LENGTH.
- CLEANOUTS SHALL BE INSTALLED ON PIPES PRIOR TO ANY SLAB PENETRATION.
- CLEANOUTS ON 6-IN. AND SMALLER PIPES SHALL BE PROVIDED WITH A CLEARANCE OF NOT LESS THAN 18 IN. CLEANOUTS ON 8-IN. AND LARGER PIPE SHALL BE PROVIDED WITH A CLEARANCE OF NOT LESS THAN 36 IN.
- ALL SUSPENDED SANITARY AND VENT PIPE SHALL BE SUPPORTED AS FOLLOWS:

MATERIAL	MAX. HORIZ. SPACING	MAX. VERT. SPACING
ABS	32 IN.	10 FT.
PVC (TYPE DWV)	32 IN.	10 FT.
CAST-IRON (<10 FT. PIPE SECTIONS)	5 FT.	10 FT.
CAST-IRON (10 FT. PIPE SECTIONS)	10 FT.	10 FT.

TRAP SIZE	SLOPE	DISTANCE
1 1/4"	1/4" PER FT.	2'-6"
1 1/2"	1/4" PER FT.	3'-6"
2"	1/4" PER FT.	5'-0"
3"	1/4" PER FT.	6'-0"
4" & LARGER	1/8" PER FT.	10'-0"

- ALL APPLIANCES SHALL DRAIN TO AN APPROVED SANITARY WASTE RECEPTOR (FLOOR SINK OR FLOOR DRAIN WITH FUNNEL). INDIRECT DRAINAGE FROM AN APPLIANCE SHALL MAINTAIN AN AIR GAP BETWEEN THE PIPE OUTLET AND THE TOP OF THE RECEPTOR. THE MINIMUM DISTANCE BETWEEN THE PIPE OUTLET AND THE TOP OF THE RECEPTOR SHALL BE TWICE THE DIAMETER OF THE APPLIANCE DRAIN PIPE.
- ABANDONED FLOOR DRAINS SHALL BE CAPPED AND REMOVED PER STATE AND LOCAL CODES.
- ALL FLOOR DRAINS THAT DO NOT SERVE EQUIPMENT SHALL BE PROTECTED AGAINST DRYING OUT THROUGH THE INSTALLATION OF A DEEP SEAL TRAP.
- DRAINS WHERE INSTALLED IN SURFACES HAVING WATERPROOFING MEMBRANE. PROVIDE DRAINS WITH NON-PUNCHING FLASHING CLAMP DEVICE AND ANCHORING FLANGE.

DOMESTIC SUPPLY SYSTEMS:

- INSULATE DOMESTIC HOT WATER PIPING AND COLD WATER PIPING WITH "THICKNESS REQUIRED PER CODE" FIBERGLASS OR SELF SEALING CLOSED CELL FOAM, WITH ALL-PURPOSE JACKET; SEAL ALL JOINTS INSULATE FITTINGS WITH MITERED SEGMENTS AND VAPOR SEALS. INSULATE EXPOSED PIPING BELOW HANDICAP WITH PREMOLDED INSULATION.
- ALL PIPING SHALL CONFORM TO THE REQUIREMENTS OF THE ANSI SAFETY CODE AND BE FREE FROM ALL DEFECTS AND BE PROPERLY IDENTIFIED.
- ABOVE GROUND: SHALL BE TYPE "L" HARD DRAWN COPPER TUBING CONFORMING TO ASTM B 88-72.
- ABOVE GROUND: TYPE "WIRSB0" CROSSLINKED POLYETHYLENE (PEX) TUBING CONFORMING TO ASTM E84, E119, E814, F876, F877, AND F1960.
- ALL UNDERGROUND SITE PLUMBING SHALL CONFORM TO NSF 61, SHALL BE TYPE K COPPER TUBING OR COPPER PIPE, POLYETHYLENE (PE) OR CPVC. IF CPVC IS USED, FOAM INSULATION SHALL BE INSTALLED AT ALL CHANGES OF DIRECTION TO ACCOUNT FOR EXPANSION AND CONTRACTION.
- A REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER (RPZ) SHALL BE INSTALLED AT THE INCOMING SERVICE WHERE REQUIRED BY CODE.
- A ASSE 1020 BACKFLOW PREVENTER SHALL BE INSTALLED AT THE INLET TO THE R.O. WATER FILTRATION SYSTEM. ALL PIPING DOWNSTREAM OF THE R.O. SHALL BE CROSS-LINKED POLYETHYLENE (PEX).
- ALL DEVICES, APPLIANCES, AND APPARATUS INTENDED TO SERVE SOME SPECIAL FUNCTION SHALL BE PROVIDED WITH PROTECTION AGAINST BACKFLOW AND CONTAMINATION OF THE WATER SUPPLY SYSTEM. ALL BACKFLOW PREVENTION DEVICES SHALL BE ASSE LISTED AND APPROVED FOR THE DEVICE OR APPLIANCE THEY SERVE.
- ALL WATER SUPPLY LINES SHALL BE PROVIDED WITH A QUARTER-TURN SHUT-OFF VALVE BEFORE FINAL CONNECTION TO EQUIPMENT.
- QUARTER-TURN SHUT-OFF VALVES SHALL BE INSTALLED UPSTREAM OF ANY INLINE BACKFLOW PREVENTION DEVICE.
- ALL VALVES AND BACKFLOW PREVENTION DEVICES SHALL BE INSTALLED WITH FITTINGS THAT FACILITATE REMOVAL IN CASE OF FAILURE.
- CAP ABANDONED WATERLINES BELOW SLAB PER STATE AND LOCAL CODES.
- ALL GALVANIZED STEEL PIPE SHALL MEET ASTM STANDARD 53.
- THE INSTALLATION OF CPVC PIPE FOR WATER DISTRIBUTION MUST COMPLY WITH ASTM STANDARD D2846.
- THE PLUMBING SYSTEM SHALL BE TESTED IN ACCORDANCE WITH STATE AND LOCAL CODES.
- PROVIDE A UNION BETWEEN CONNECTIONS TO EACH FIXTURE, DEVICE OR PIECE OF EQUIPMENT FOR DISCONNECTING OF PIPING.

FUEL GAS PIPING:

- GAS PIPING SHALL BE SCREWED STANDARD WEIGHT BLACK STEEL PIPE WITH BLACK MALLEABLE FITTINGS ON 2" OR SMALLER. CONCEALED PIPE OR LARGER PIPE SHALL HAVE WELDED FITTINGS.
- VERIFY ALL EXPOSED GAS PIPING ABOVE 18FT. ABOVE FLOOR AND FREE FROM ALL VEHICULAR TRAFFIC (VERIFY WITH OWNER). PROVIDE LEVER HANDLE GAS COCKS AT ENTRANCE TO BUILDING AND ALL EQUIPMENT LOCATIONS. PROVIDE U.L. AND A.G.A APPROVED REDUCERS AND VENT TO SIDE WALLS.
- THE PLUMBING CONTRACTOR SHALL SEE THAT THE PROPER GAS METER AND REGULATOR ARE INSTALLED BY THE UTILITY CO., AND PAY FOR ANY FEES CHARGED FOR THE INSTALLATION OF THE METER AND SERVICE LINES. GAS LINES SHALL EXTEND FROM THE METER TO ALL EQUIPMENT REQUIRING GAS.
- GAS PIPE SHALL BE PROVIDED WITH SUITABLE DRIP LEGS ON ALL MAINS AND RISERS AT EQUIPMENT CONNECTIONS. ALL EQUIPMENT CONNECTIONS SHALL BE PROVIDED WITH AN AGA APPROVED BUTTERFLY VALVE. CAP WHERE REQUIRED.
- PROVIDE SLEEVES AT ALL PIPING PENETRATING MASONRY WALLS AND PACKED WATERTIGHT WITH APPROVED PACKING.
- AIR PRESSURE TEST SYSTEM TO 75 PSI AND MAINTAIN FOR A PERIOD OF (8) HOURS WITH NO PRESSURE DROP
- PURGE LINE WITH NITROGEN AT JUNCTION WITH MAIN LINE AT GAS METER TO REMOVE ALL AIR. CLEAR COMPLETE LINE BY ATTACHING A TEST PILOT FIXTURE AT CAPPED STUB-IN LINE AT THE BUILDING LOCATION, AND LET GAS FLOW UNTIL TEST PILOT IGNITES. CAUTION FAILURE TO PURGE SYSTEM MAY RESULT IN EXPLOSION WITHIN LINE WHEN AIR-TO-GAS IS AT CORRECT MIXTURE.

PIPE HANGERS:

- PIPE HANGERS SHALL BE MICHIGAN #400 FOR STEEL PIPING, #402 FOR GAS AND COPPER PIPING. SUPPORT PIPING 3/4" AND LESS AT 6'-0" O/C, 1-1/4" AND SMALLER 8'-0" O/C, AND PIPING 1-1/2" AND LARGER 10'-0" O/C. WASTE PIPING SHALL BE SUPPORTED AT 5'-0" O/C. PROVIDE 3/8" DIA. THREADED ROD PROPERLY BRACED FOR APPROPRIATE SEISMIC ZONE.

FIRESTOP:

- FIRE/DRAFT STOP REVIEW: REVIEW THE ARCHITECTURAL DRAWINGS TO VERIFY THE LOCATION OF ALL FIRE AND/OR DRAFT BARRIERS IN THIS PROJECT PRIOR TO CONSTRUCTION. PROVIDE UL AND LOCAL CODE APPROVED PIPING PENETRATION CONSTRUCTION MATERIALS AND INSTALLATION METHODS FOR BARRIER RATING ENCOUNTERED. FAILURE OF THE CONTRACTOR TO VERIFY REQUIRED FIRE/DRAFT BARRIER REQUIREMENTS PRIOR TO BIDDING THESE DOCUMENTS SHALL PLACE THE RESPONSIBILITY FOR ANY SUBSEQUENT RELOCATIONS, OR REVISIONS DIRECTLY UPON THE CONTRACTOR.

PLUMBING SHEET INDEX

SHEET NO.	DESCRIPTION
P-001	SPECIFICATIONS AND NOTES
P-100	WASTE, VENT, & WATER FLOOR PLANS
P-300	RISER DIAGRAMS & SCHEDULES
P-400	PLUMBING DETAILS

PLUMBING SYMBOLS LEGEND

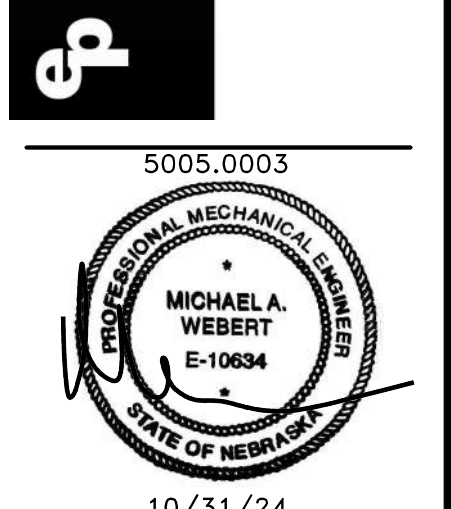
	COLD WATER (CW)
	FILTERED COLD WATER (FW)
	HOT WATER (HW) 140°
	RECIRCULATION HOT WATER
	GAS LINE (G)
	CONDENSATE LINE (D)
	PLUMBING VENT (V)
	SANITARY WASTE (SAN)
	BELOW SLAB/GRADE GREASE WASTE LINE
	EXISTING PIPING
	PIPE TURNING UP/DOWN
	SHUTOFF VALVE (BALL TYPE)
	WATER HAMMER ARRESTER
	PLAN NOTE KITCHEN EQUIPMENT IDENTIFICATION
	PC PROVIDED PLUMBING FIXTURES
	ABOVE FINISHED FLOOR/GRADE INDIRECT WASTE
	VENT THRU ROOF CLEANOUT
	WALL CLEANOUT
	FLOOR CLEANOUT
	BALL VALVE
	ANGLE STOP
	ROUGH-IN
	ON CENTERS
	PLUMBING CONTRACTOR
	FIRE PROTECTION CONTRACTOR
	MECHANICAL CONTRACTOR
	ELECTRICAL CONTRACTOR
	FOOD SERVICE EQUIPMENT CONTRACTOR
	BACKFLOW PREVENTER
	CONNECT TO EXISTING
	EXISTING

DRAWINGS AND SPECIFICATIONS ARE TO BE CONSIDERED AS SUPPLEMENTING EACH OTHER. WORK SPECIFIED BUT NOT SHOWN ON DRAWINGS, OR SHOWN ON DRAWINGS BUT NOT SPECIFIED, SHALL BE PERFORMED OR FURNISHED AS THOUGH MENTIONED IN BOTH SPECIFICATIONS AND DRAWINGS. IF NOT OTHERWISE DIRECTED, INSTALLATION OF ALL SYSTEMS AND EQUIPMENT SHALL BE IN ACCORDANCE WITH APPLICABLE CODES AND IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. WHERE WORK DESCRIBED IN THE SPECIFICATIONS IS IN CONFLICT WITH THE WORK SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL SUPPLY THE GREATER QUANTITY, QUALITY AND COST VIA THE BID AND CONTACT THE ENGINEER FOR CLARIFICATION ON DIRECTION PRIOR TO INSTALLATION.

IF YOU HAVE ANY QUESTIONS REGARDING THE PLANS, PLEASE CALL THE DESIGNER.
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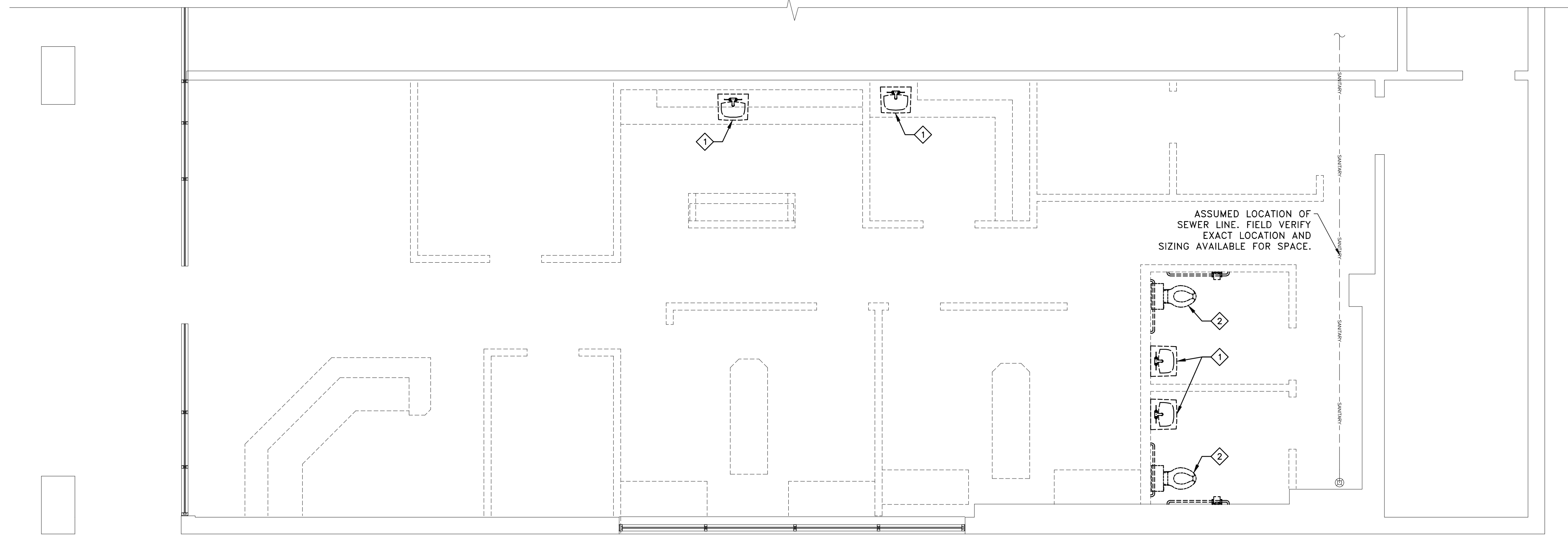
goGLOW
 TENANT IMPROVEMENT IN EXISTING SHELL BUILDING
 SHOPPES @ GRAYHAWK, 3525 N. 144TH ST., SUITE 213
 OMAHA, NE 68116
 SPECIFICATIONS AND NOTES



DATE ISSUED
 PERMIT SET 10/31/24

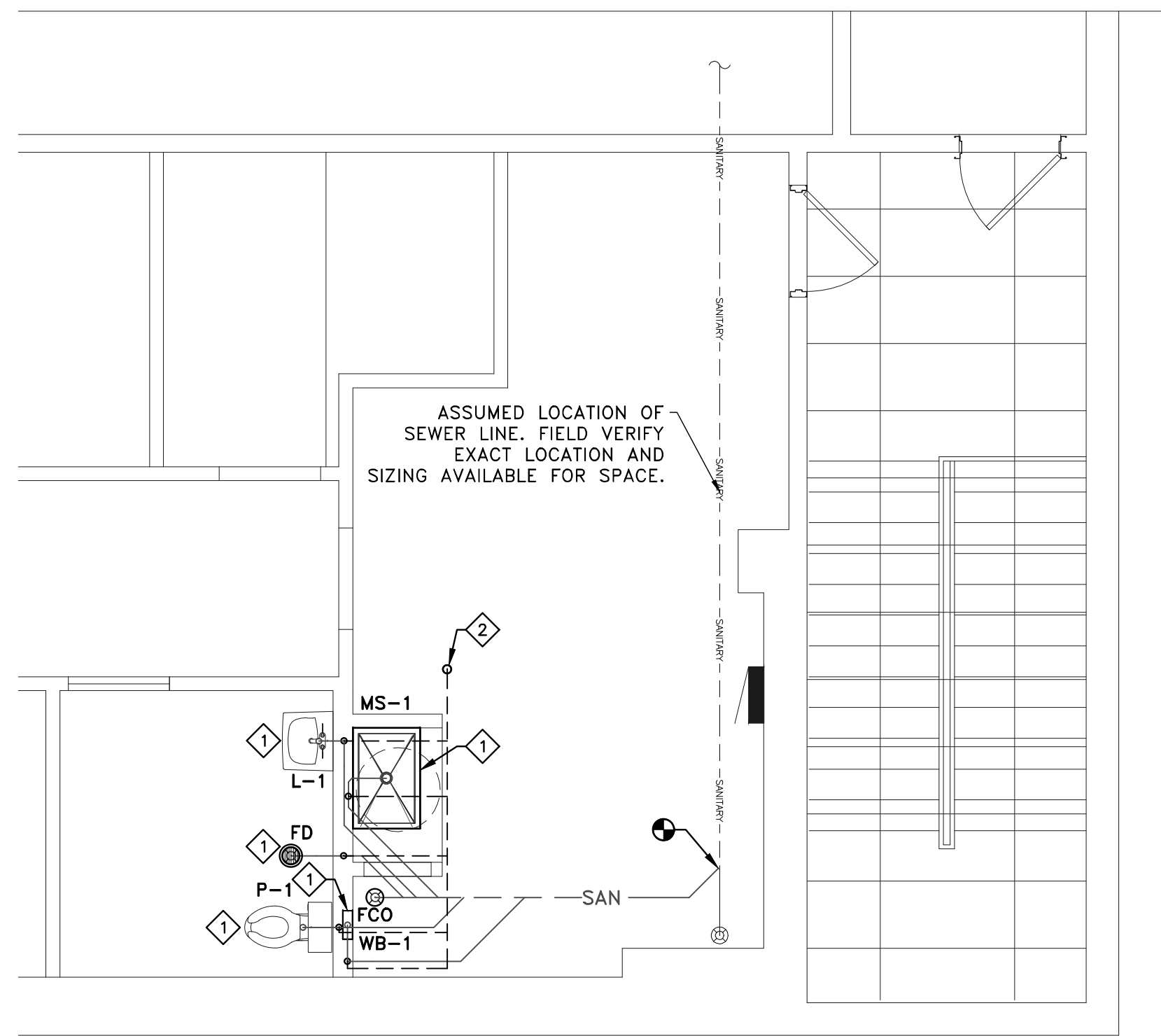
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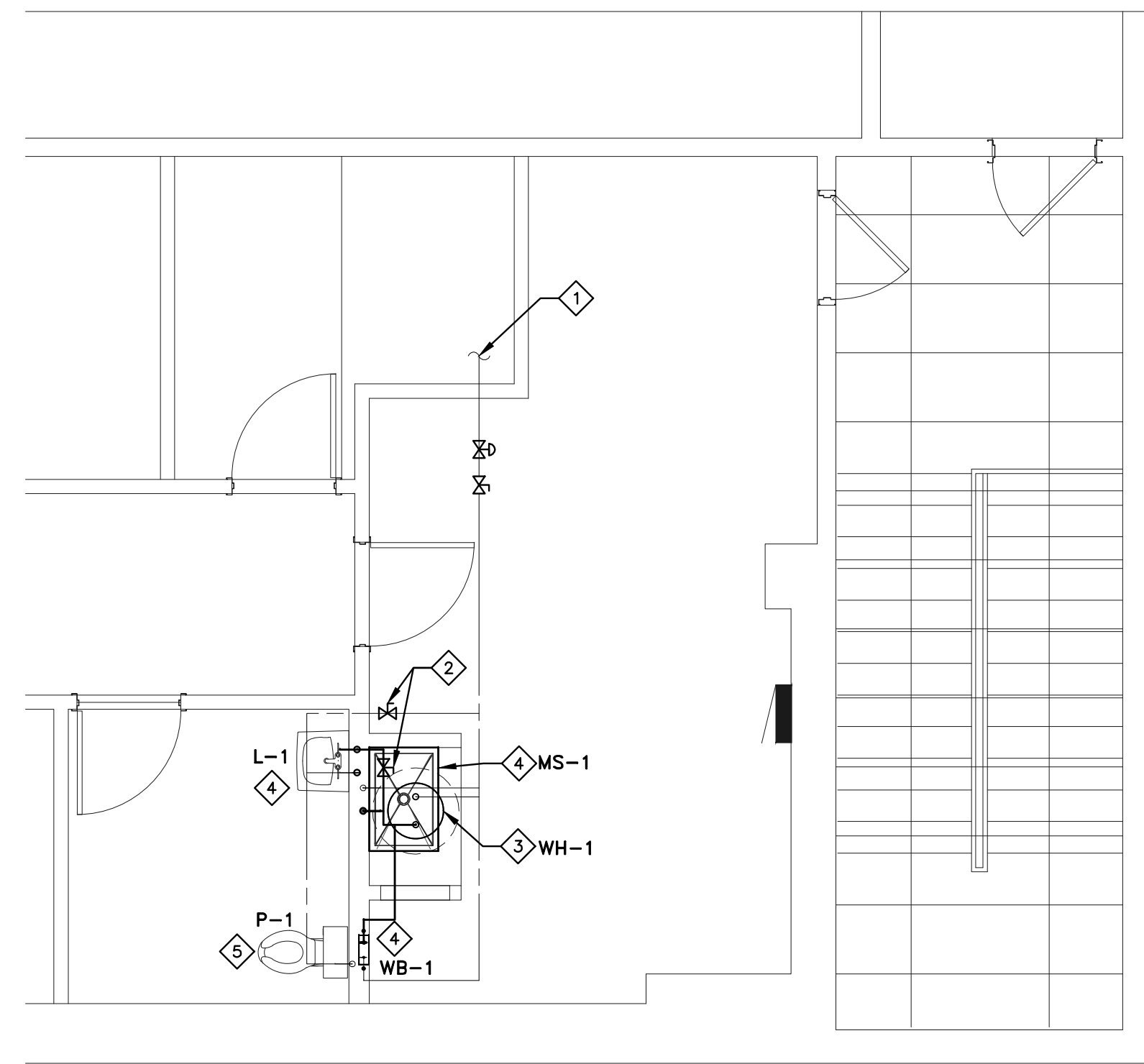


1 DEMOLITION PLAN
1/4" = 1'-0"

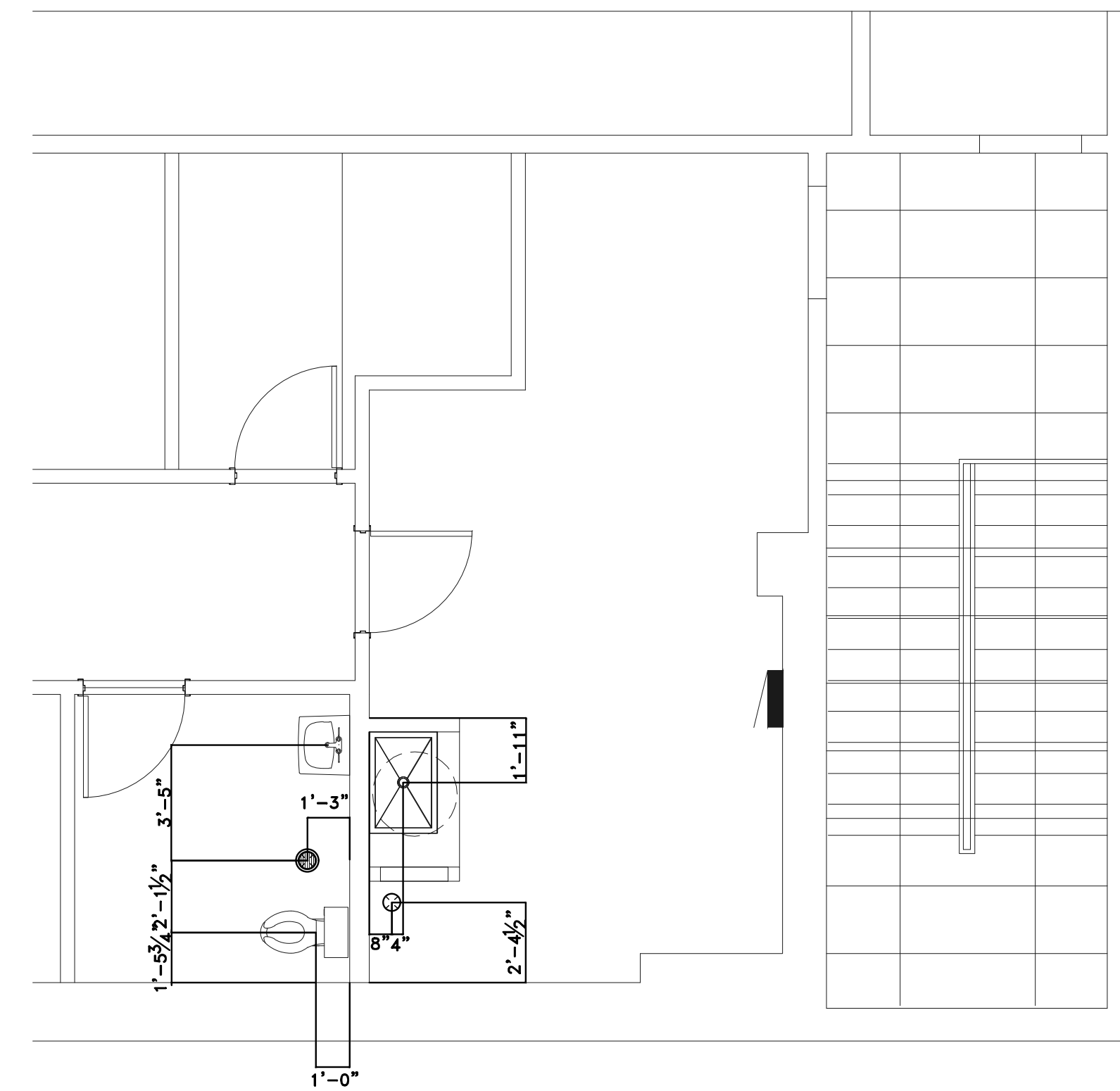
- ◇ DEMOLITION KEY NOTES
1. REMOVE EXISTING PLUMBING FIXTURE. CAP EXISTING CW, HW, SANITARY AND VENT PIPING.
 2. REMOVE EXISTING PLUMBING FIXTURE. CAP EXISTING CW, SANITARY AND VENT PIPING.



1 WASTE AND VENT FLOOR PLAN
1/4" = 1'-0"



2 DOMESTIC WATER PLAN
1/4" = 1'-0"



3 ROUGH-IN FLOOR PLAN
1/4" = 1'-0"

WASTE & VENT KEY NOTES

1. INSTALL NEW PLUMBING FIXTURE. INSTALL NEW SANITARY AND CONCEALED VENT PIPING. SEE ISOMETRIC FOR SIZING. EXTEND PIPING TO NEAREST SAME SIZE OR LARGER. FIELD VERIFY SIZE AND LOCATION OF EXISTING PIPING.
2. 2" VENT THRU ROOF. REUSE EXISTING OPENING IF POSSIBLE.

WATER KEY NOTES

1. ROUTE TO CONNECT TO EXISTING DOMESTIC COLD WATER TO SERVE TENANT SPACE. VERIFY EXACT SIZE, ROUTING, DELIVERY PRESSURE, AND WATER METER INSTALLATION REQUIREMENTS WITH LANDLORD AND LOCAL WATER UTILITY COMPANY PRIOR TO ANY WORK. PROVIDE PRV TO REDUCE WATER PRESSURE IF REQUIRED TO MAINTAIN 60 PSI MAX.
2. SHUT-OFF VALVE FOR RESTROOM ISOLATION. SEE VALVE SCHEDULE. ALL SHUT-OFF VALVES SHALL BE LOCATED OVER SUSPENDED CEILINGS FOR ACCESSIBILITY. DO NOT LOCATE IN AREAS WITH DRYWALL CEILINGS.
3. INSTALL NEW WATER HEATER. REFER TO WATER HEATER DETAIL AND PLUMBING SCHEDULE. ROUTE CONDENSATE TO MOP SINK.
4. INSTALL NEW PLUMBING FIXTURE. INSTALL NEW HOT AND COLD WATER PIPING. SEE ISOMETRIC FOR SIZING. EXTEND PIPING TO NEAREST SAME SIZE OR LARGER. FIELD VERIFY SIZE AND LOCATION OF EXISTING PIPING.
5. INSTALL NEW PLUMBING FIXTURE. INSTALL NEW COLD WATER PIPING. SEE ISOMETRIC FOR SIZING. EXTEND PIPING TO NEAREST SAME SIZE OR LARGER. FIELD VERIFY SIZE AND LOCATION OF EXISTING PIPING.

UNDERFLOOR PLUMBING NOTES:

- A. CONTRACTOR SHALL INSULATE ALL LINES LOCATED ABOVE THE CEILING
- B. ALL SLAB/CONCRETE PENETRATIONS TO BE SLEEVED PER CODE AND PROTECTED BY A MATERIAL WITH PER CODE AND PROTECTED BY A MATERIAL WITH A MINIMUM THICKNESS OF 0.025 INCHES.
- C. EXTEND ALL INDIRECT WASTE FROM KITCHEN EQUIPMENT AND SPILL INTO NEAREST FLOOR SINK PER MANUFACTURER'S RECOMMENDATION.

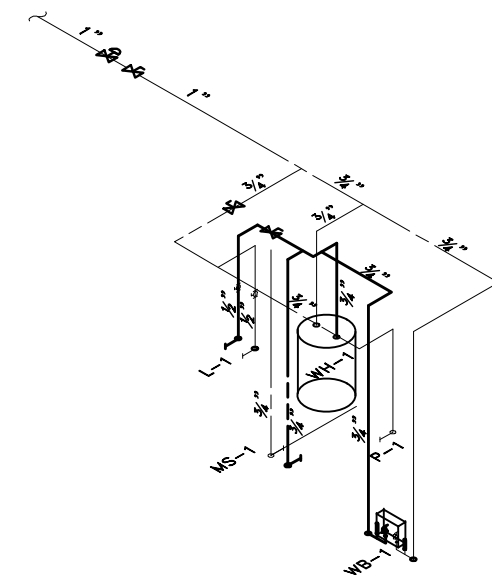
SITE COORDINATION NOTE:

- A. UTILITIES SHOWN ARE TO BE COORDINATED WITH AVAILABLE UTILITIES ON SITE. CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING MODIFICATIONS TO UTILITY ENTRANCES BASED ON SITE AVAILABILITY.
- B. COORDINATE AVAILABILITY OF STORM DRAIN ON SITE AND EXTEND TO SERVICES ON SITE AT OWNER'S OPTION. COORDINATE EFFORT PRIOR TO BID.
- C. COORDINATE AVAILABILITY OF GAS ON SITE & INSTALL AS SHOWN IF AVAILABLE.

GENERAL NOTES:

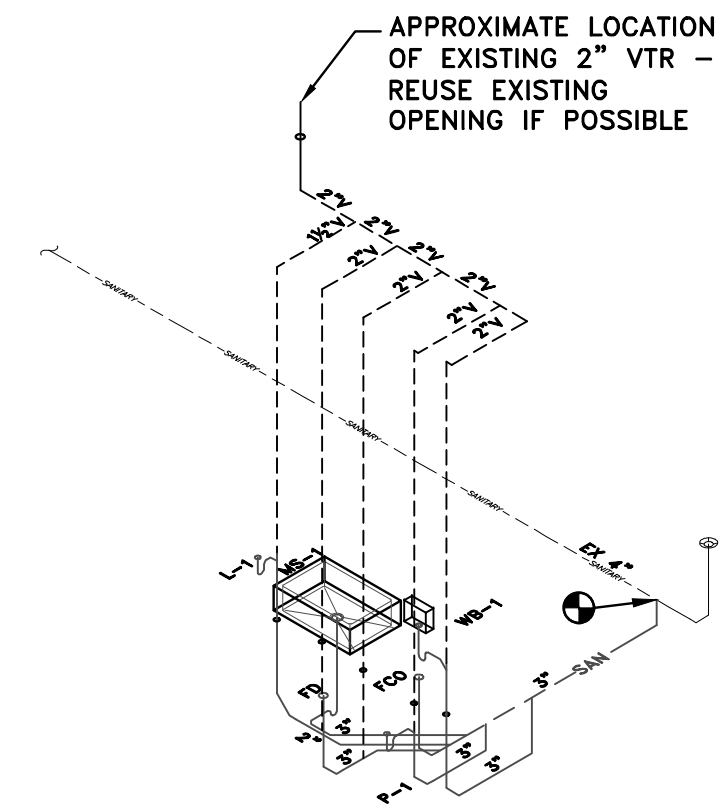
- A. PROVIDE BACKFLOW PREVENTER PER STATE AND NATIONAL CODES.
- B. MAINTAIN A 4" AIR GAP FROM THE TOP OF THE FLOOR SINK TO THE BOTTOM OF THE PIPE ON ALL PREP-SINKS.
- C. THE PLUMBING CONTRACTOR SHALL BE LICENSED THROUGH THE WISCONSIN LICENSING BOARD.

CONDENSATE NOTE:
ROUTE AND DISCHARGE CONDENSATE FROM EQUIPMENT & ALL OTHER INDIRECT WASTE LINES. AS REQUIRED, IN ACCORDANCE WITH INTERNATIONAL PLUMBING CODE AND ALL LOCAL CODE STANDARDS.



1 RISER DIAGRAM—DOMESTIC WATER
N.T.S.

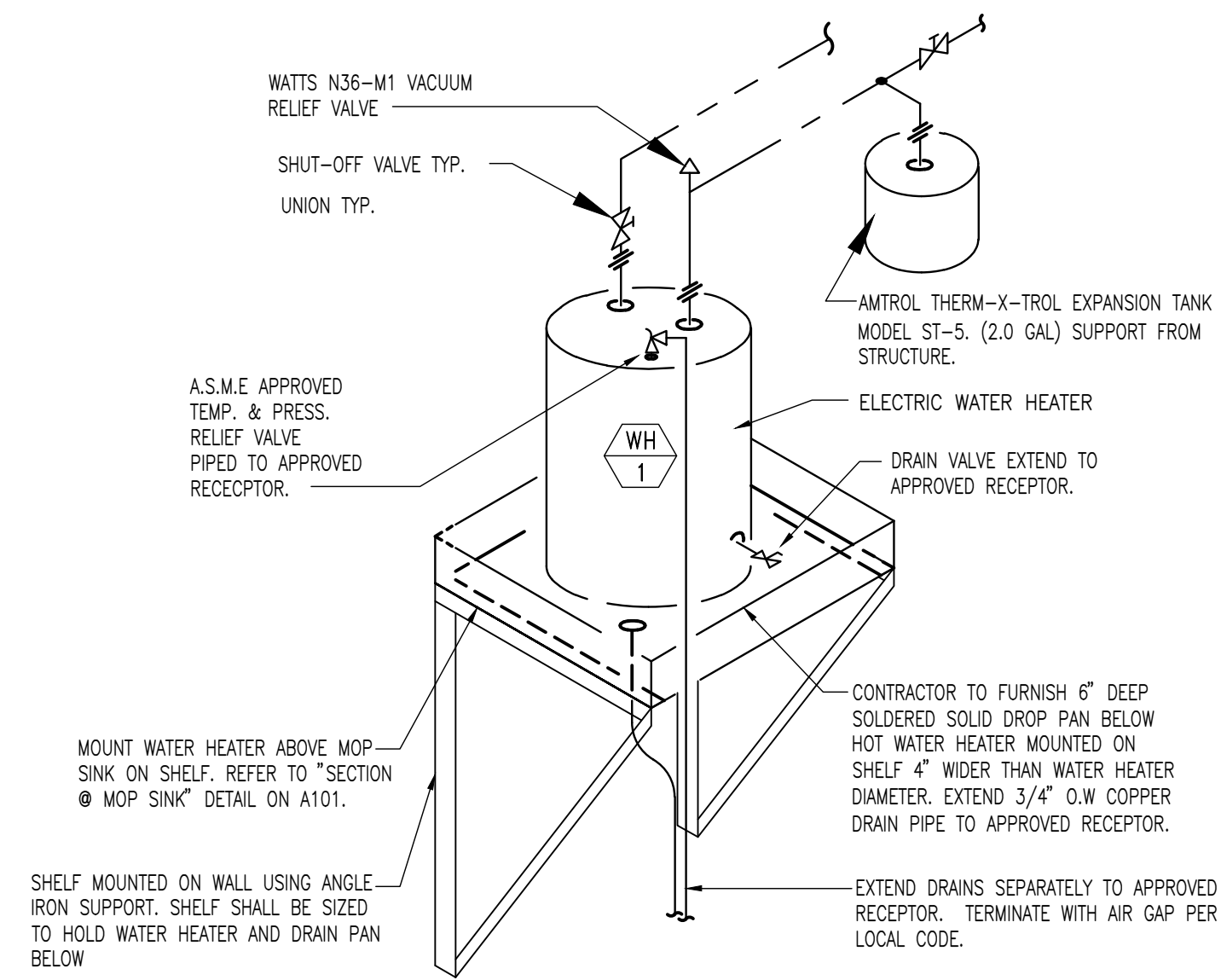
SUPPLY PIPE SIZING - OPC					
Fixture Type	SIZE	SUPPLY HW	SUPPLY CW	QUANTITY	TOTAL
WATER CLOSET	1 IN.	0	5	1	5
LAVATORY SINK	1/2 IN.	1	1	1	2
MOP SINK	3/4 IN.	3	3	1	6
WASHING MACHINE	3/4 IN.	2	2	1	4
				TOTAL	17



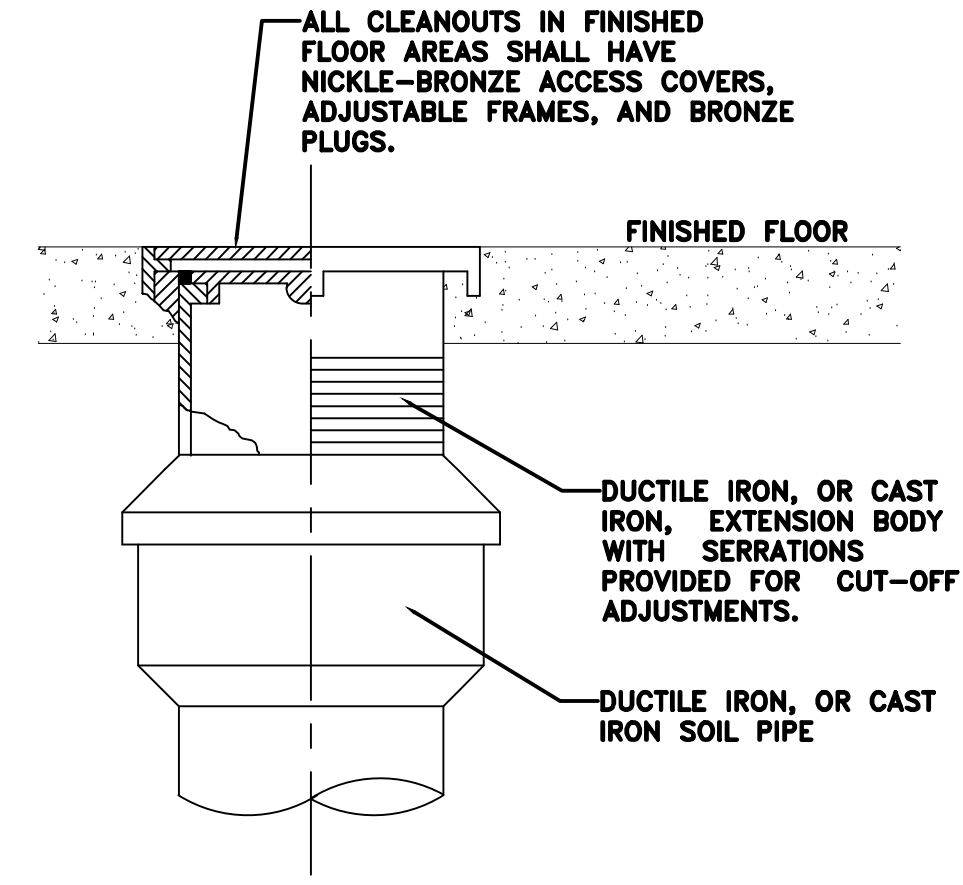
2 RISER DIAGRAM—WASTE & VENT
N.T.S.

WASTE PIPE SIZING - OPC				
Fixture Type	TRAP SIZE	DFU	QUANTITY	TOTAL
MOP SINK	3 IN.	3	1	3
WATER CLOSET	3 IN.	4	1	4
LAVATORY SINK	1 1/4 IN.	1	1	1
WASHING MACHINE	3 IN.	4	1	4
FLOOR DRAIN EMERGENCY	3 IN.	0	1	0
			TOTAL	12

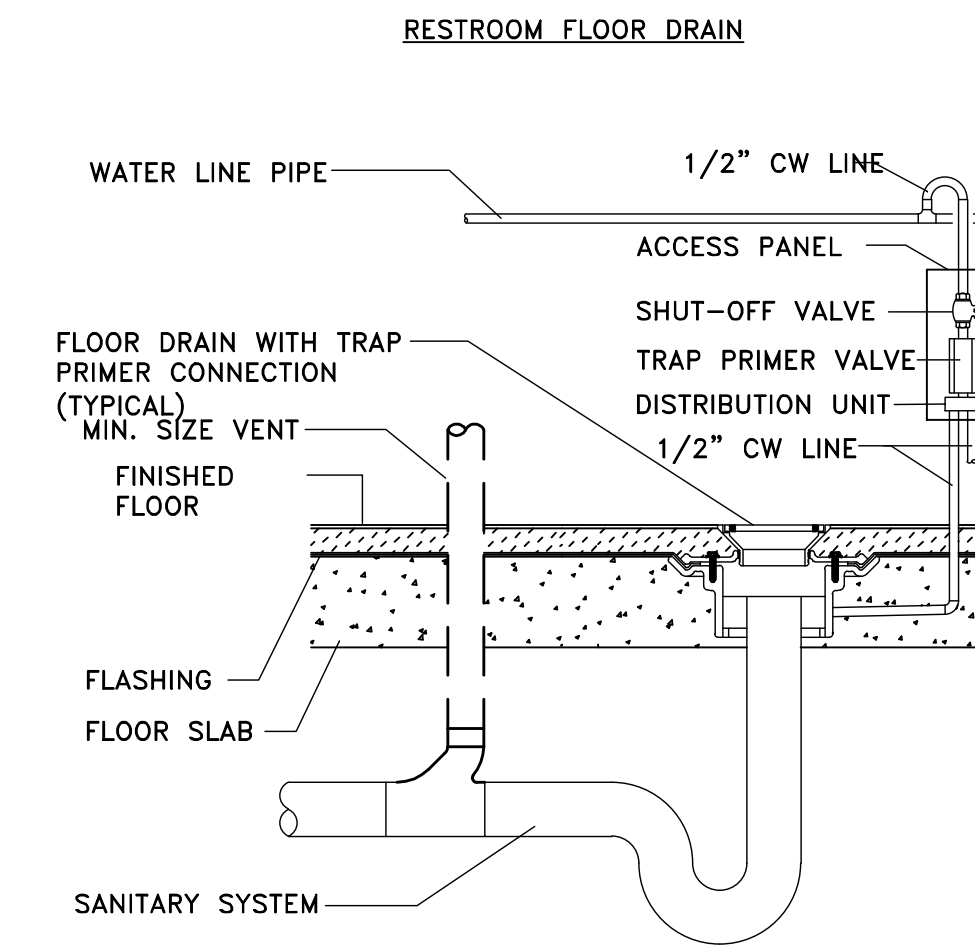
PLUMBING FIXTURE SCHEDULE									
(CONTRACTOR SHALL MEET ALL LOCAL CODES)									
MARK	DISCRIPTION	MANUFACTURER	MODEL	FITTINGS	CW (IN)	HW (IN)	WASTE (IN)	VENT (IN)	REMARKS
P-1	WATER CLOSET ADA COMPLIANT (FLOOR MOUNTED)	KOHLER	K-250-77-SS-0 KINGSTON ADA APPROVED	1.28 GAL. FLOOR SET K-25076-SS BOWL K-25100-RA TANK	1"	---	3"	2"	1.28 GPF EVERCLEAN VITREOUS CHINA ELONGATED BOWL CLOSE COUPLED FLUSHOMETER TANK 16-1/2" HEIGHT
L-1	LAVATORY -- ADA COMPLIANT	KOHLER	K2005-0	DELTA 501 FAUCET, GRID STRAINER 102 W LAV GUARD	1/2"	1/2"	2"	1-1/2"	WALL HUNG LAVATORY
FD	FLOOR DRAIN	ZURN	Z415-SZ1	---	---	---	3"	2"	6"X6" FLOOR DRAIN
MS-1	MOP SINK	ZURN	Z1996-36-AW	DELTA 28T9-AC FAUCET AND HOSE AND HANGER BRACKET 28T911	1/2"	1/2"	3"	2"	WHITE COMPOSITE MOP SINK WITH DRAIN SHELF -- 36"X24"X10"; FAUCET MOUNTED 12" ABOVE MOP SINK
WB-1	WASHER BOX	OATEY	38995	1/4 TURN BRASS HAMMER BALL VALVES, 2" RUBBER TAILPIECE	3/4"	3/4"	3"	2"	METAL WASHING MACHINE OUTLET BOX
WH-1	WATER HEATER	BRADFORD WHITE	LE230S3-3	---	1"	1"	---	---	30 GALLON ELECTRIC WATER HEATER



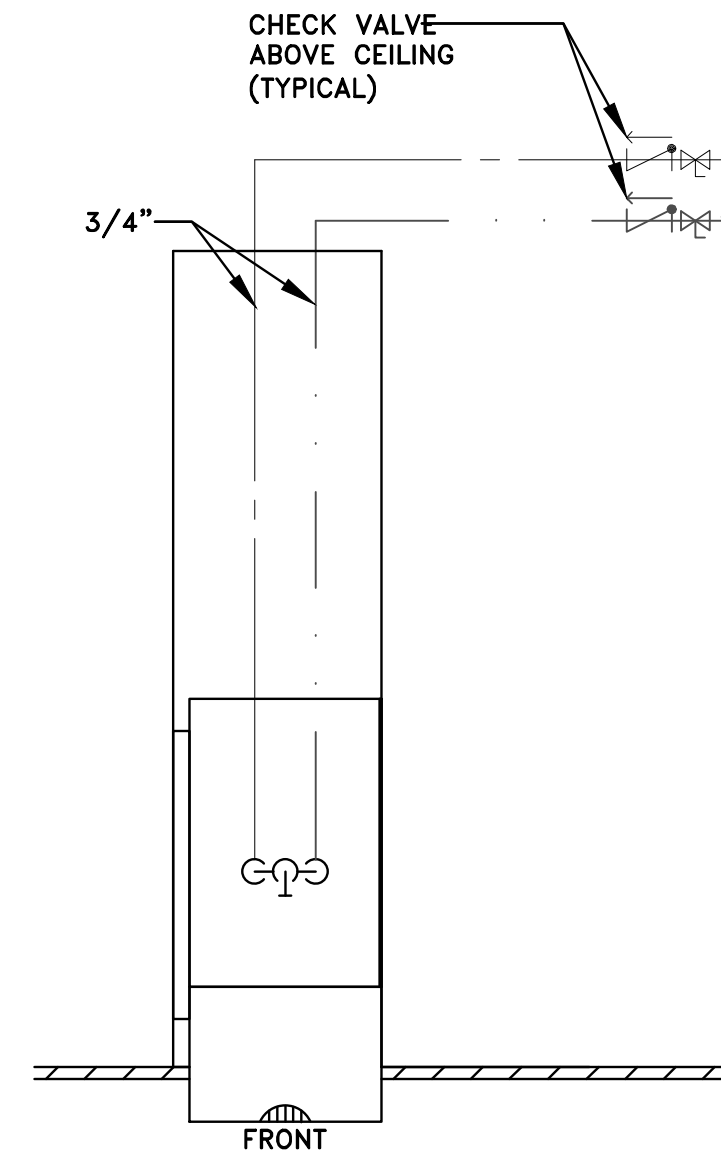
1 WATER HEATER DETAIL
NO SCALE



2 CLEANOUT DETAIL
NO SCALE



3 RESTROOM FLOOR DRAIN
NO SCALE



4 MOP SINK DETAIL
NO SCALE

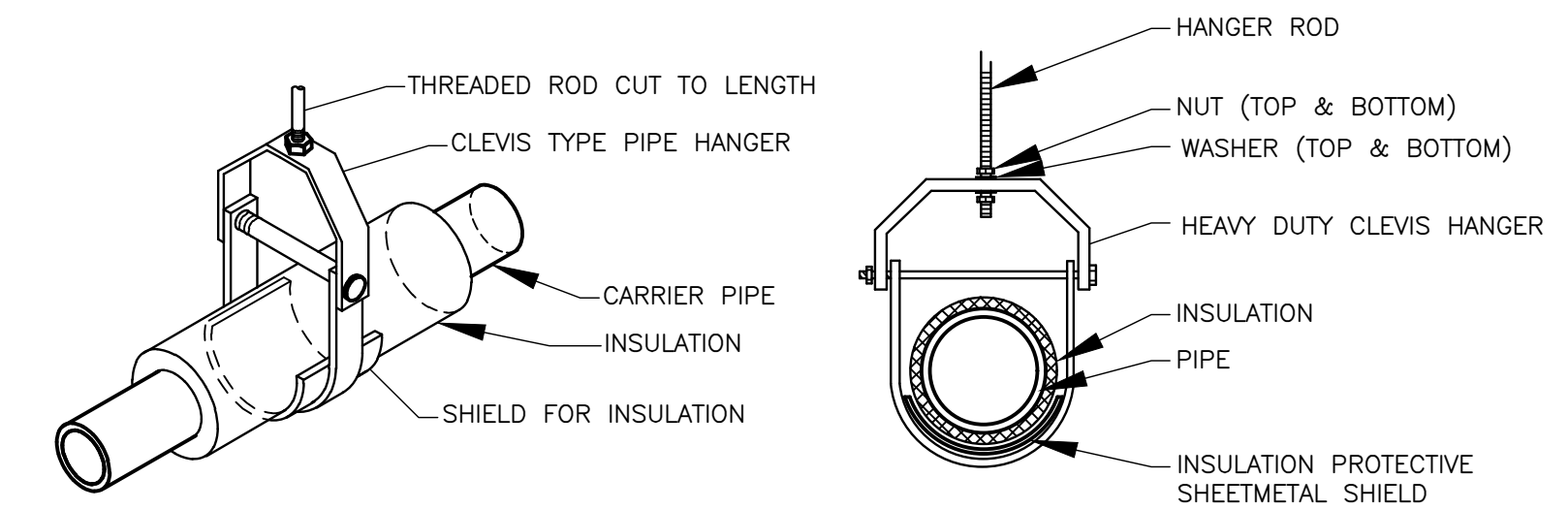
INSTALL PER PDI STANDARDS AND MANUFACTURER'S INSTRUCTIONS

IF HORIZONTAL BRANCH IS LESS THAN 20' LONG, PROVIDE ONE HA AT END OF LINE
IF BRANCH IS GREATER THAN 20' LONG, PROVIDE ANOTHER HA IN MIDDLE, EACH SIZED FOR HALF THE FIXTURE UNITS

SINGLE FIXTURE			MULTIPLE FIXTURES		
PDI SIZE "A"	PIPE SIZE	FIXTURE UNIT LOAD	FIXTURE UNIT TABULATION		
			FIXTURE	COLD	HOT
A	1/2"	1-11	VALVE WATER CLOSET	10	--
B	3/4"	12-32	TANK WATER CLOSET	5	--
C	1"	33-60	URINAL	5	--
D	1-1/4"	61-113	LAVATORY/SINK	1.5	1.5
E	1-1/2"	114-154	MOP SINK	3	3
F	2"	154-330	SHOWER/BATHTUB	2	2

PC TO PROVIDE WATER HAMMER ARRESTERS BY SIOUX CHIEF, PRECISION PLUMBING PRODUCTS, WATTS OR APPROVED EQUIVALENT WITH PISTON AND O-RING CONSTRUCTION, HAVING PDI #WH-201, ASSE #1010 AND ANSI #A112.26.1M CERTIFICATION. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE UNITS AS SHOWN ON THE DRAWINGS AND/OR PER THE TABLES SHOWN ABOVE. PROVIDE ACCESS PANEL FOR SERVICING OR REPLACEMENT, WHERE REQUIRED.

5 WATER HAMMER ARRESTORS
NO SCALE



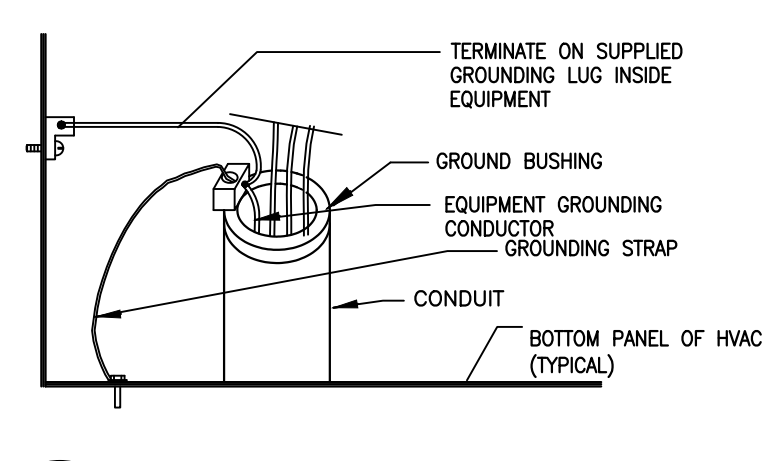
6 PIPE HANGER AND SUPPORT DETAIL
NO SCALE

LIGHTING FIXTURE SCHEDULE									
FIXTURE TYPE	MANUFACTURER CATALOG NUMBER	DESCRIPTION SEE NOTES	LAMP TYPE		REMARKS	LENS\LOUVER\FINISH	W	L	D
			NO.	VOLTS					
A	LITHONIA CPX-2X2-4000LM-80CRI-40K-SWL-MIN10-ZT-MVOLT	2x2 LAY-IN 4272 LUMENS	-	INTEGRAL LED 120/277V	BACK-LIT				
C1	LITHONIA LDN6-50-40-L06-WR-LSS-TRW-MVOLT-GZ10	LED DOWNLIGHT 4000 LUMENS	-	INTEGRAL LED 120/277V					
C2	LITHONIA LDN6-50-40-L06-WR-LSS-TRW-MVOLT-GZ10-EL	LED DOWNLIGHT 4000 LUMENS	-	INTEGRAL LED 120/277V	WITH EMERGENCY BATTERY				
C3	LITHONIA LDN6-50-40-LW6-WR-LSS-TRW-MVOLT-GZ10	LED WALL WASH 4000 LUMENS	-	INTEGRAL LED 120/277V					
E1	COOPER ATLITEAUX	EXIT LIGHTING COMBO	-	INTEGRAL LED 120/277V					
T	LITELINE DA2012	LED TRACK SYSTEM	-	INTEGRAL LED 120V	5000 KELVEN FIXTURE FINISH SHALL BE BLACK				
P1	HUOKU+ ALMA PD1003121	PENDANT LIGHT 3000 LUMEN	-	INTEGRAL LED 120V	GLASS GLOB, 5000 KELVEN FIXTURE SHALL BE WHITE AND GOLD BASE E26 MEDIUM 4 BULB FIXTURE				
P2	HUOKU+ ALMA PD1003121	PENDANT LIGHT 3000 LUMEN	-	INTEGRAL LED 120V	GLASS GLOB, 5000 KELVEN FIXTURE FINISH SHALL BE WHITE AND GOLD BASE E26 MEDIUM 6 BULB FIXTURE				

GENERAL NOTES:
A. PROVIDE ALL NECESSARY COMPONENTS (CABLING, POWER SUPPLIES, DRIVERS, CONTROLS, ACCESSORIES, ETC.) AS REQUIRED FOR A COMPLETE INSTALLATION.
B. VERIFY CEILING TYPES AND CONDITIONS FOR COMPATIBILITY WITH FIXTURE MOUNTING HARDWARE.
C. VERIFY CLEARANCES FOR ALL RECESSED FIXTURES PRIOR TO ORDERING LIGHTING FIXTURES.
D. VERIFY ALL COLOR, FINISHES, LENSES, BEAM SPREADS WITH ARCHITECT PRIOR TO ORDERING.
E. ALL FIXTURES SHALL BE SUPPORTED BY BUILDING STRUCTURE.
F. NOT ALL FIXTURES MAY BE USED.

ELECTRICAL NOTES:
1. PROVIDE MANUFACTURERS RECOMMENDED DATA ENABLER OR POWER SUPPLY WITH ALL REQUIRED MOUNTING TRACKS/CLIPS/HARDWARE/ACCESSORIES FOR A COMPLETE INSTALLATION.
2. PROVIDE FIXTURES WITH ARROWS AS SHOWN ON PLAN.
3. PROVIDE LENGTHS OF TRACK AS INDICATED ALONG WITH ALL INSTALLATION HARDWARE, FEED ENDS, ACCESSORIES, AND TRANSFORMERS FOR A COMPLETE INSTALLATION.

CONDUIT, WIRE SIZE AND GROUNDING FOR HVAC UNITS	
HACR BRKR SIZE	CONDUIT & WIRE SIZE
40A	1" C-3#8
45A	1" C-3#6
50A	1" C-3#6
60A	1" C-3#6
70A	1-1/4" C-3#4
80A	1-1/4" C-3#3
90A	1-1/4" C-3#3
100A	1-1/4" C-3#2
125A	1-1/2" C-3#1
150A	1-1/2" C-3#1/0
175A	2" C-3#2/0
200A	2" C-3#3/0
225A	2" C-3#4/0
250A	2-1/2" C-3#250



1 HVAC GROUNDING DETAIL
NOT TO SCALE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL COORDINATION OF ALL ELECTRICAL FEEDERS AND CIRCUIT BREAKERS WITH THE MANUFACTURER'S WRITTEN DATA FOR EACH MECHANICAL DEVICE PRIOR TO SUBMITTAL OF ANY ELECTRICAL EQUIPMENT FOR REVIEW. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR ANY CHANGES TO ELECTRICAL FEEDERS OR CIRCUIT BREAKERS REQUIRED FOR ANY MECHANICAL DEVICES.

DRAWINGS AND SPECIFICATIONS ARE TO BE CONSIDERED AS SUPPLEMENTING EACH OTHER. WORK SPECIFIED BUT NOT SHOWN ON DRAWINGS, OR SHOWN ON DRAWINGS BUT NOT SPECIFIED, SHALL BE PERFORMED OR FURNISHED AS THOUGH MENTIONED IN BOTH SPECIFICATIONS AND DRAWINGS. IF NOT OTHERWISE DIRECTED, INSTALLATION OF ALL SYSTEMS AND EQUIPMENT SHALL BE IN ACCORDANCE WITH APPLICABLE CODES AND IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. WHERE WORK DESCRIBED IN THE SPECIFICATIONS IS IN CONFLICT WITH THE WORK SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL SUPPLY THE GREATER QUANTITY, QUALITY AND COST VIA THE BID AND CONTACT THE ENGINEER FOR CLARIFICATION ON DIRECTION PRIOR TO INSTALLATION.

IF YOU HAVE ANY QUESTIONS REGARDING THE PLANS, PLEASE CALL THE DESIGNER.

DESIGNER: Wendy Wenborg
PHONE: 952-540-4047
E-MAIL: wwenborg@epinc.com

ELECTRICAL SYMBOLS

DETAIL	DESCRIPTION
	EXIT SIGN
	EMERGENCY LIGHT WITH BATTERY PACK
	MOTION SENSOR
	TOGGLE SWITCH - SINGLE POLE
	SINGLE GROUNDED RECEPTACLE
	DUPLEX GROUNDED RECEPTACLE
	CEILING MTD DUPLEX GROUNDED RECEPTACLE
	GROUND FAULT INTERRUPTING DUPLEX RECEPTACLE
	GROUND FAULT INTERRUPTING DOUBLE DUPLEX RECEPTACLE
	DATA OUTLET
	2-PORT PHONE JACK
	DISCONNECT SWITCH
A.F.F.	ABOVE FINISHED FLOOR.
G.F.I.	GROUND FAULT INTERRUPTING
W.P.	WEATHERPROOF
P-3	CONDUIT RUN W/ ARROW DENOTING HOMERUN. SUBSCRIPT INDICATES PANEL AND CIRCUIT NUMBER. GROUND CONDUCTOR REQUIRED IN ALL CONDUITS BUT NOT INDICATED.
	JUNCTION OR OUTLET BOX.
	JUNCTION BOX WITH COMPUTER CABLE
	PUMP
E-7A	MECHANICAL EQUIPMENT NUMBER TAG
GG E116-6"	KITCHEN EQUIPMENT NUMBER TAG
	DOOR CONTACT
	360° INFRARED MOTION DETECTOR
	KEY PAD
	CEILING MOUNTED SPEAKER
	DURESS
	CCTV CAMERA
	2 VOICE OUTLETS & JACKS (GEN NOTE T1 & T3)
	OUTSIDE SOUNDER
	BUZZER BUTTON
	BUZZER SOUND UNIT
	PUSH BAR
	GLASS BREAK SENSOR
	SECURITY ROOM MOTION SENSOR
'FACP'	FIRE ALARM CONTROL PANEL
'FAAP'	FIRE ALARM ANNUCIATOR PANEL
	FIRE SPRINKLER TAMPER SWITCH
	FIRE SPRINKLER TAMPER SWITCH
	FIRE ALARM VISUAL SIGNAL
	PHOTOELECTRIC AREA SMOKE DETECTOR (GEN NOTE F1)
	COMB. F.A. HORN & VISUAL SIGNAL CEILING
	FIRE ALARM MANUAL STATION
	FIRE ALARM HORN
	FIRE ALARM VISUAL SIGNAL
	COMB. F.A. HORN & VISUAL SIGNAL WALL
	CONDUIT HOME RUN, 1 CIRCUIT. 2#12 & 1#12GRD, 1/2" C.
	CONDUIT RUN PARTIAL CIRCUIT. 2#12 & 1#12GRD, 1/2" C.

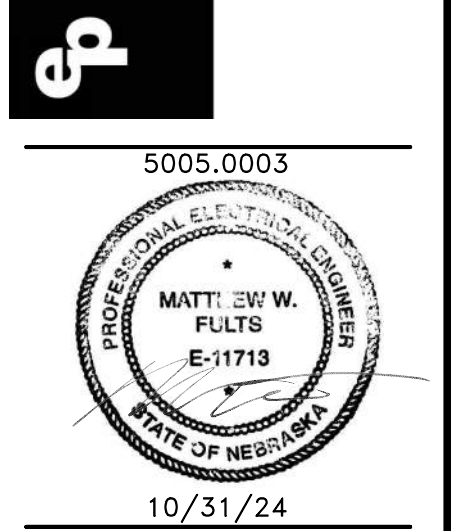
GENERAL NOTES:

- ALL ELECTRICAL WORK SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) & THE AMERICANS WITH DISABILITIES ACT (ADA).
- REFER TO RELATED ARCHITECTURAL, MECHANICAL, AND STRUCTURAL DRAWINGS FOR RELATED INFORMATION.
- REFER TO THE SPECIFICATIONS FOR DATA NOT ON THE DRAWINGS.
- E.C. SHALL REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR THE REQUIREMENTS ASSOCIATED WITH WIRING AND CONNECTION OF INTERLOCKING AND CONTROLS OF MECHANICAL UNITS AND THERMOSTAT LOCATIONS.
- COORDINATE OUTLET BOX LOCATIONS WITH MASONRY TO MINIMIZE CUTTING OF BRICK OR BLOCK.
- ALL MOUNTING HEIGHTS TO CENTERLINE OF ITEM UNLESS OTHERWISE NOTED. VERIFY ALL OUTLET LOCATIONS ON THE JOB PRIOR TO ROUGH-IN.
- CONDUIT RUN W/ CONDUCTORS AS INDICATED & GROUND WIRE SIZED PER N.E.C. 250.122 CONDUIT SIZE AS REQUIRED.
- WHEN INCREASED CONDUCTOR SIZES ARE SHOWN ON THE PLANS, THE LARGER CONDUCTOR SIZE SHALL BE USED THROUGHOUT THE LENGTH OF THE CIRCUIT, INCLUDING NEUTRAL AND GROUND.
- "CT" INDICATED ADJACENT TO DEVICE INDICATES DEVICE MOUNTED ABOVE BACKSLASH OF COUNTER TOP. VERIFY EXACT HEIGHT WITH ARCHITECTURAL PLANS AND ELEVATIONS.
- BRANCH CIRCUITS ARE INDICATED AS ONE CIRCUIT HOME RUNS WITH INDIVIDUAL NEUTRALS. A MAXIMUM OF THREE CIRCUITS (MAXIMUM OF THREE PHASE CONDUCTORS) MAY BE GROUPED IN A SINGLE CONDUIT. WHERE MULTIPLE CIRCUITS ARE LOCATED IN THE SAME RACEWAY, JUNCTION BOX OR ENCLOSURE, NEUTRALS SHALL BE MARKED OR LABELED TO INDICATE WHICH CIRCUIT THEY ARE ASSOCIATED WITH. SEE SPECIFICATION SECTION "LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES" FOR ADDITIONAL INFORMATION.
- OUTLETS AND MOTION SENSORS IN SPRAY ROOMS SHALL BE GREY IN COLOR ALL OTHERS SHALL BE WHITE.
- PROVIDE 18" LONG (MIN.) CONDUIT SLEEVES THRU ALL WALLS WHERE CABLES ARE INDICATED OR REQUIRED TO PASS THRU WALLS. PROVIDE BUSHINGS ON BOTH ENDS. SIZE CONDUIT FOR CABLES INSTALLED. AT CABLE TRAYS, PROVIDE ONE 4" CONDUIT SLEEVE FOR EACH 4" WIDTH OF CABLE TRAY. MAXIMUMS SHALL BE:
2" C. = 10 CABLES
2 1/2" C. = 20 CABLES
3" C. = 30 CABLES
4" C. = 40 CABLES
- FIELD VERIFY LOCATION OF AREA SMOKE DETECTORS AND HEAT DETECTORS. DO NOT LOCATE WITHIN 36" OF A HVAC DIFFUSER (SUPPLY OR RETURN), IN A DIRECT AIR FLOW, WITHIN 36" OF A SPRINKLER HEAD, OR WITHIN 36" OF THE TIP OF A CEILING FAN BLADE. SMOKE DETECTORS FOR DOOR RELEASE SHALL BE LOCATED ON THE CENTER LINE OF THE DOOR AND A MAXIMUM OF 5 FEET FROM THE DOOR. THE MINIMUM DISTANCE FROM THE DOOR IS THE DEPTH OF THE WALL SECTION ABOVE THE DOOR, BUT NOT LESS THAN 12".
- LABEL REMOTE ALARM INDICATOR FOR DUCT MOUNTED SMOKE DETECTORS (IE: RTU-1 SUPPLY, RTU-2 RETURN, FIRE/SMOKE DAMPERS, ETC.). DUCT DETECTORS SHOULD BE LOCATED IN THE AREA BETWEEN 6 AND 10 DUCT EQUIVALENT DIAMETERS OF STRAIGHT, UNINTERRUPTED DUCTWORK. DUCT DETECTORS FOR FIRE/SMOKE DAMPERS SHOULD BE LOCATED BETWEEN THE LAST INLET OR OUTLET UPSTREAM OF THE DAMPER AND THE FIRST INLET OR OUTLET DOWNSTREAM OF THE DAMPER.
- FAN SHUTDOWN RELAY WIRING SHALL BE LOCATED WITHIN 3 FEET OF THE FAN CONTROLS AND THE WIRING TO THE RELAY SHALL BE MONITORED.
- EACH DATA, TELEPHONE, VIDEO, OR OTHER SYSTEMS OUTLET REQUIRES 1" C. WITH PULL ROPE STUBBED 6" ABOVE NEAREST ACCESSIBLE CEILING UNLESS OTHERWISE NOTED ON PLANS. CONDUITS STUBBED UP ABOVE CEILINGS SHALL BE TURNED OUT 90°. PROVIDE INSULATED BUSHINGS ON ALL CONDUITS. LABEL CONDUIT TO IDENTIFY ITS INTENDED USE (IE: TELEPHONE, DATA, ETC.).

GENERAL LIGHTING NOTES:

- REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATIONS AND QUANTITIES OF LIGHT FIXTURES.
 - ALL LIGHT FIXTURES MUST BE ENCLOSED OR SHIELDED TO PROTECT FOODS IN THE STORAGE, SERVING, HOLDING OR PREP AREAS FROM ACCIDENTAL BULB OR TUBE BREAKAGE.
 - EXIT SIGNS AND EMERGENCY LIGHTING SHALL BE CIRCUITED FROM LOCAL LIGHTING CIRCUITS. THEY SHALL NOT BE SWITCHED. EMERGENCY LIGHTING SHALL BE PROVIDED TO MEET ALL LOCAL AND STATE SAFETY REGULATIONS.
 - AN AVERAGE OF AT LEAST 1.0 FOOTCANDLES SHALL BE PROVIDED FOR EMERGENCY EGRESS LIGHTING. HEADS OF EMERGENCY LIGHTING UNITS ARE TO BE AIMED BY THE CONTRACTOR PER MANUFACTURER'S INSTRUCTIONS.
 - EXIT LIGHT POSITIONS ARE TO BE COORDINATED WITH PENDANT LIGHTS AND OTHER ARCHITECTURAL FEATURES TO MINIMIZE OBSTRUCTIONS TO CLEAR VISIBILITY.
 - FINAL QUANTITIES AND LOCATIONS OF EMERGENCY LIGHTS AND EXIT SIGNS ARE TO BE DETERMINED IN THE FIELD WITH THE CITY AND STATE INSPECTORS AND ARCHITECT. THE CONTRACTOR SHALL PROVIDE A UNIT PRICE IN HIS BID FOR ADDITIONAL EXIT SIGNS & EMERGENCY LIGHTS THAT MAY BE REQUIRED BY THE LOCAL JURISDICTION. ALL EMERGENCY BATTERY PACK LIGHTING SHALL BE INSTALLED ABOVE PAINT LINE.
 - ALL CONDUITS SHALL BE PROVIDED WITH A CODE SIZED GREEN GROUND WIRE.
 - ALL 120VOLT OR 277VOLT SINGLE PHASE BRANCH CIRCUITS SHALL HAVE INDIVIDUAL NEUTRAL CONDUCTORS. COMMON NEUTRALS ARE NOT ACCEPTABLE.
 - ALL LIGHTING CIRCUITS ARE TO BE CONTROLLED AT THE PANELBOARD WITH BREAKERS RATED FOR SWITCHING DUTY UNLESS LOCAL SWITCHING IS SHOWN.
 - THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE LOCATIONS OF ALL RECESSED LIGHTING FIXTURES WITH ALL OTHER TRADES PRIOR TO ROUGH-IN.
 - THE ELECTRICAL INSTALLATION SHALL CONFORM TO ALL LOCAL AND STATE SEISMIC REQUIREMENTS.
 - ALL FIXTURES WITH MULTIPLE BALLASTS SHALL BE SWITCHED TO ALLOW FOR EVENLY REDUCED ILLUMINATION BY USE OF DUAL LEVEL SWITCHING. SWITCH "A" SHALL CONTROL THE OUTER LAMPS IN THE FIXTURES AND SWITCH "B" SHALL CONTROL THE INNER LAMPS IN THE FIXTURES.
- NO EXPOSED ELECTRICAL CONDUIT ANYWHERE WITHIN THE ESTABLISHMENT. ALL ELECTRICAL CONDUIT AND SERVICE MUST BE INSTALLED TO BE CONCEALED WITHIN THE FINISHED WALLS, AND PENETRATE ONLY AT THE POINT OF CONNECTION TO THE EQUIPMENT.

ELECTRICAL SHEET INDEX	
SHEET NO.	DESCRIPTION
E-001	ELECTRICAL COVER SHEET
E-002	RISER DIAGRAM AND DETAILS
E-003	SPECIFICATIONS
E-200	LIGHTING PLAN
E-300	POWER AND ROUGH-IN PLAN
E-400	ROOF PLAN



90GLOW
TENANT IMPROVEMENT IN EXISTING SHELL BUILDING
SHOPPES @ GRAYHAWK, 3525 N. 144TH ST., SUITE 213
OMAHA, NE 68116
ELECTRICAL COVER SHEET



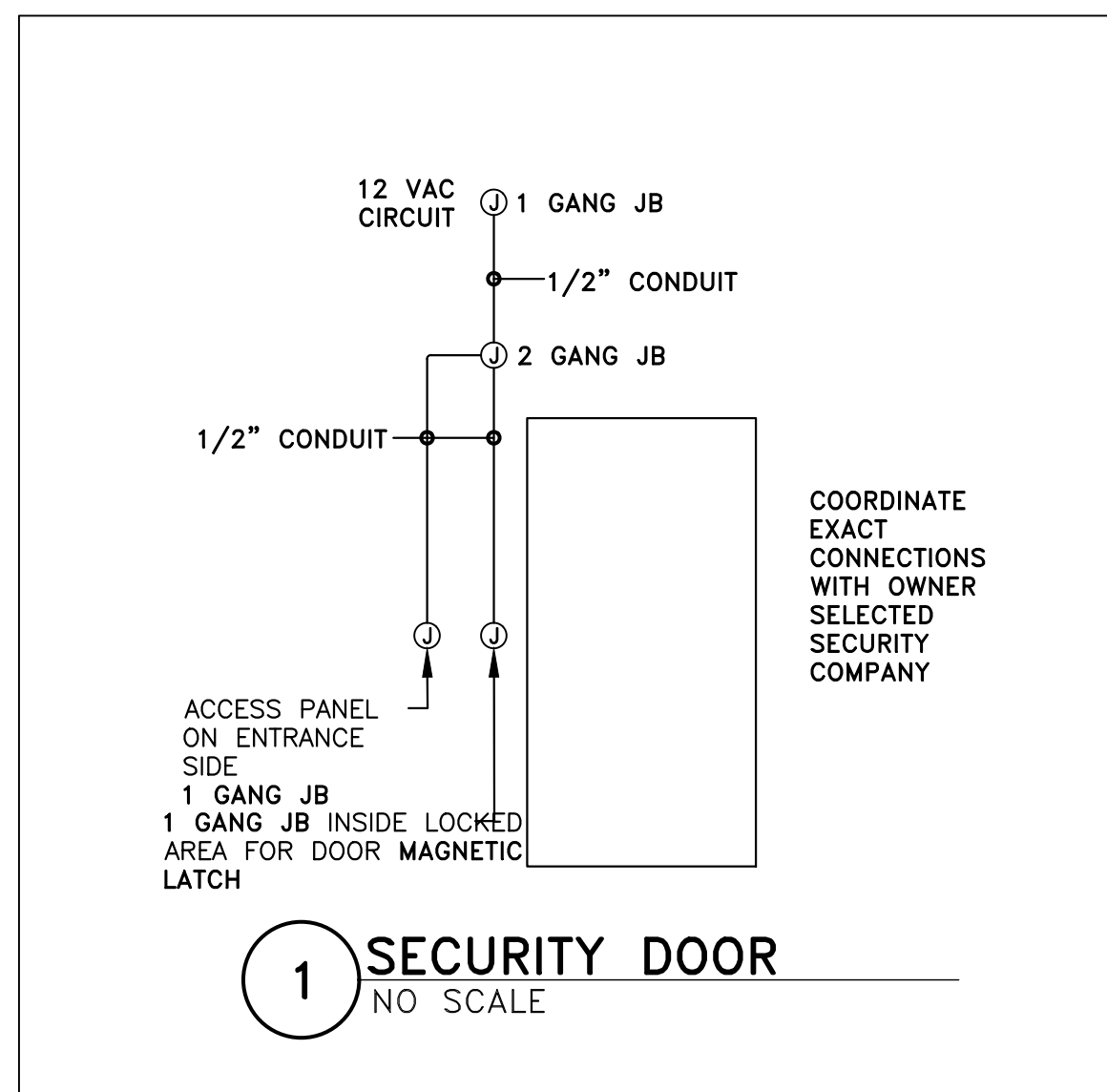
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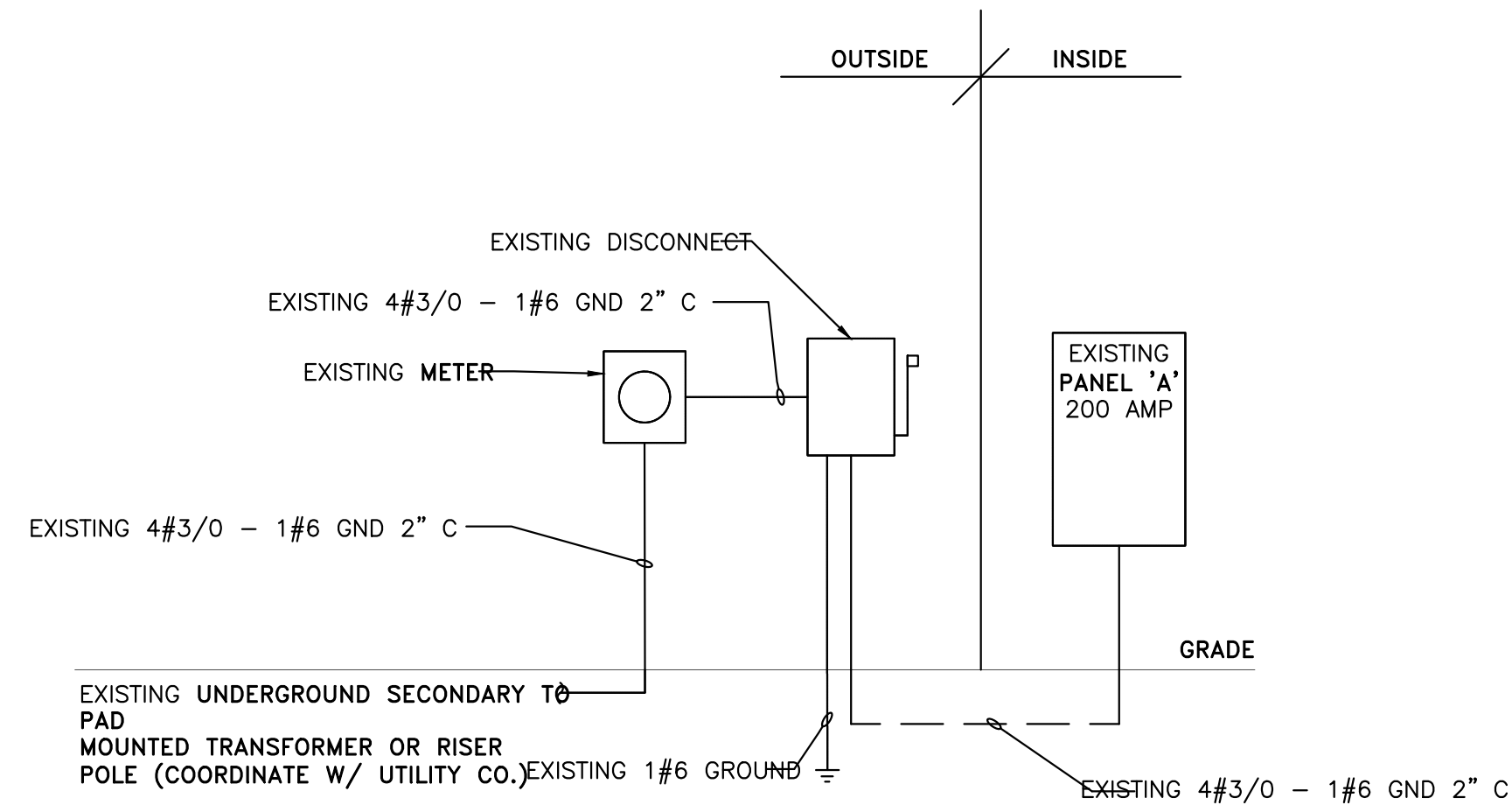
E-001

GENERAL ONE-LINE DIAGRAM NOTES:

- ELECTRICAL CONTRACTOR SHALL COORDINATE AVAILABLE FAULT CURRENT WITH UTILITY COMPANY. EQUIPMENT BRACING RATINGS ON PANEL SCHEDULES ARE BASED ON A MAXIMUM UTILITY FAULT CURRENT OF 55,514A (500KVA 208V 3PH TRANSFORMER WITH 2.5% IMPEDANCE) AT A DISTANCE OF 35' FOR THE "MSB" SWITCHBOARD SERVICE ENTRANCE. IF THE SUPPLIED UTILITY TRANSFORMER PRODUCES A HIGHER FAULT CURRENT OR A SHORTER ROUTE IS USED TO CONNECT THE UTILITY TRANSFORMER, THE ENGINEER SHALL BE NOTIFIED FOR CONSULTATION PRIOR TO EQUIPMENT ORDERING.



1 SECURITY DOOR
NO SCALE



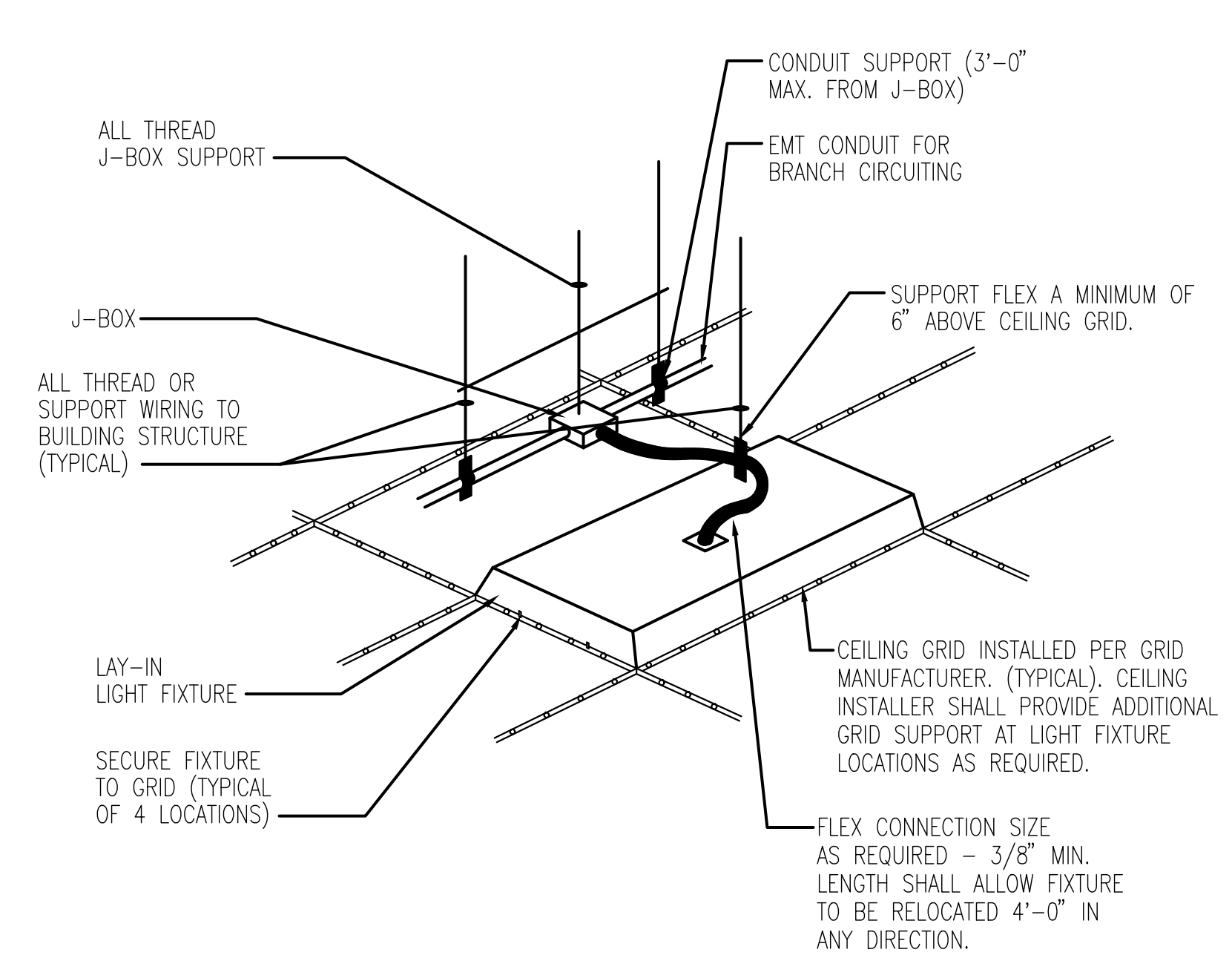
2 ELECTRICAL ONE-LINE RISER
NO SCALE

PANEL SCHEDULE												
PANEL: EXISTING A		LOCATION: CORRIDOR		VOLTS: 208 / 120		PH: 3		W: 4				
AMP MAIN BRKR:		AMP MLO: 200		NOTE 3		SCCR: 65,000		MOUNT: FLUSH		FED FROM: MSB		
CIRCUIT DESCRIPTION		LOAD VA	CKT BKR	P	CIR #	P	CKT BKR	LOAD VA	CIRCUIT DESCRIPTION			
LTG - VEST., FOYER, CORRIDOR		NOTE 5	958	20	1	1	A	2	1	20	1716	SPARY BOOTH
LTG - SPRAY BOOTH ROOM/DISPEN		NOTE 5	506	20	1	3	B	4	1	20	75	MIRROR
LTG - RESTROOM LTS & RECPT, EF-1		NOTE 5	406	20	1	5	C	6	1	20	1716	SPARY BOOTH
EXTERIOR WALL LTG		NOTE 5	317	20	1	7	A	8	1	20	75	MIRROR
FRONT RECEPTION			360	20	1	9	B	10	1	20	1716	SPARY BOOTH
FRONT RECEPTION			180	20	1	11	C	12	1	20	75	MIRROR
SIDE TABLE RECEPTACLE			240	20	1	13	A	14	1	20	1716	SPARY BOOTH
GENERAL RECEPTACLE			480	20	1	15	B	16	1	20	75	MIRROR
OFFICE DESK RECEPTACLE			240	20	1	17	C	18	1	20	1716	SPARY BOOTH
RTU			3927	50	3	19	A	20	1	20	75	MIRROR
I			3927	1	1	21	B	22	1	20	1716	SPARY BOOTH
I			3927	1	1	23	C	24	1	20	75	MIRROR
RTU RECEPTACLE			20	1	25	A	26	1	20	720	RCPT, BREAKROOM, RESTROOM	
RECEPTACLE FOR MILLWORK LIGHTING			1920	20	1	27	B	28	2	30	2880	DRYER
REFRIGERATOR			1800	20	1	29	C	30	1	1	2880	I
WASHER			1200	15	1	31	A	32	3	30	2640	WATER HEATER
TOP MOUNT FAN			264	20	1	33	B	34	1	1	2640	I
SPARE			20	1	35	C	36	1	1	1	2640	I
SPARE			20	1	37	A	38	1	20			SPARE
SPARE			20	1	39	B	40	1	20			SPARE
SPARE			20	1	41	C	42	1	20			SPARE

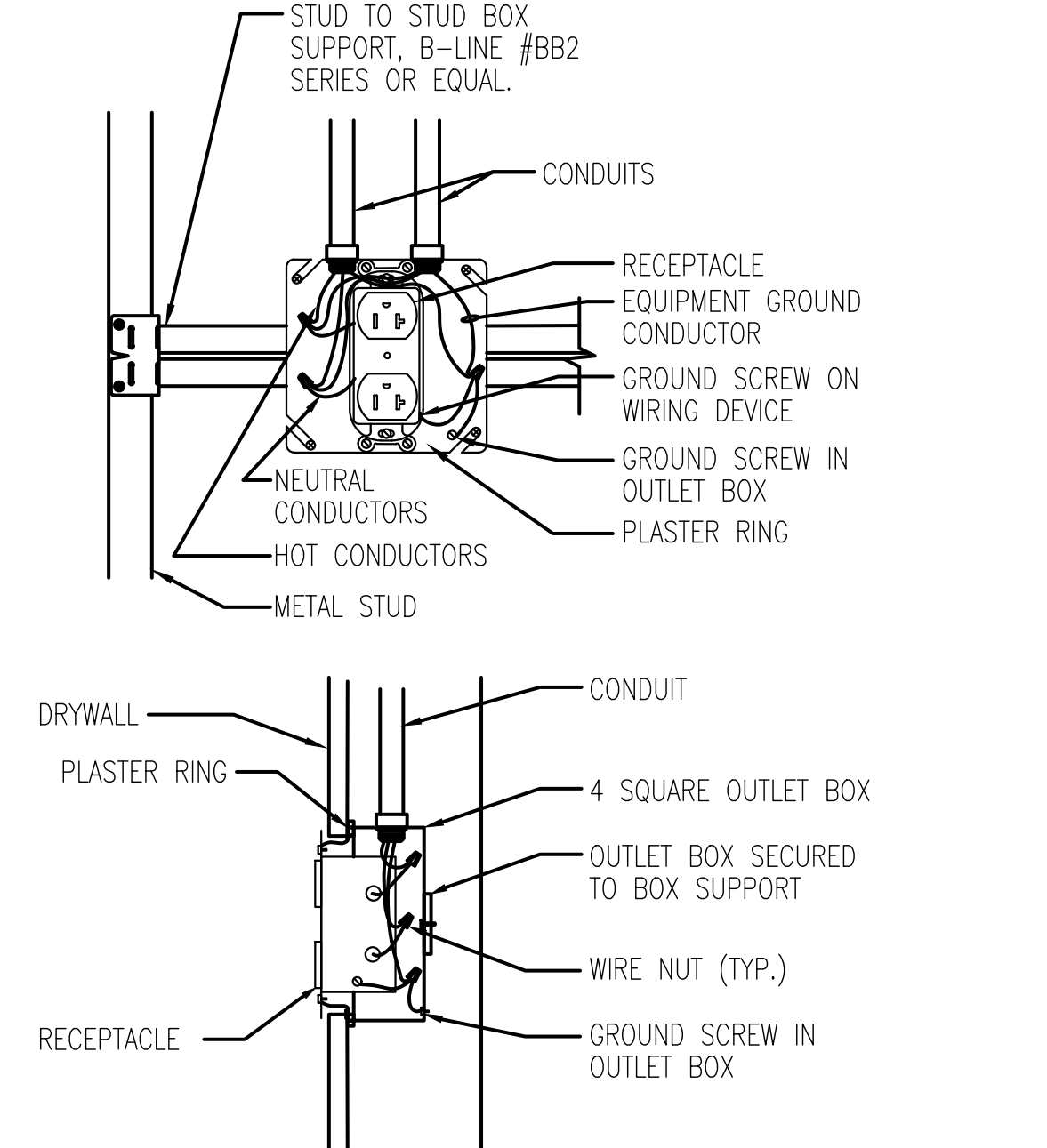
LOAD SUMMARY: CONNECTED		FEEDER/SERVICE CALCULATION	
LIGHTING	2.64 KVA	3.30 KVA (125%)	
LARGEST MOTOR	11.78 KVA	14.73 KVA (125%)	
MOTORS	5.18 KVA	5.18 KVA (100%)	
RECEPT	7.98 KVA	7.98 KVA (100% REM @ 50%)	
KITCHEN EQUIPMENT	0.00 KVA	0.00 KVA (0%)	
ELECTRONIC LOADS	0.00 KVA	0.00 KVA (100%)	
ELECTRIC HEATING	7.92 KVA	7.92 KVA (100%)	
MISC.	10.30 KVA	10.30 KVA (100%)	
TOTALS	46 KVA	49 KVA	HI-PHASE
	127 AMPS	137 AMPS	147 A

NOTES:

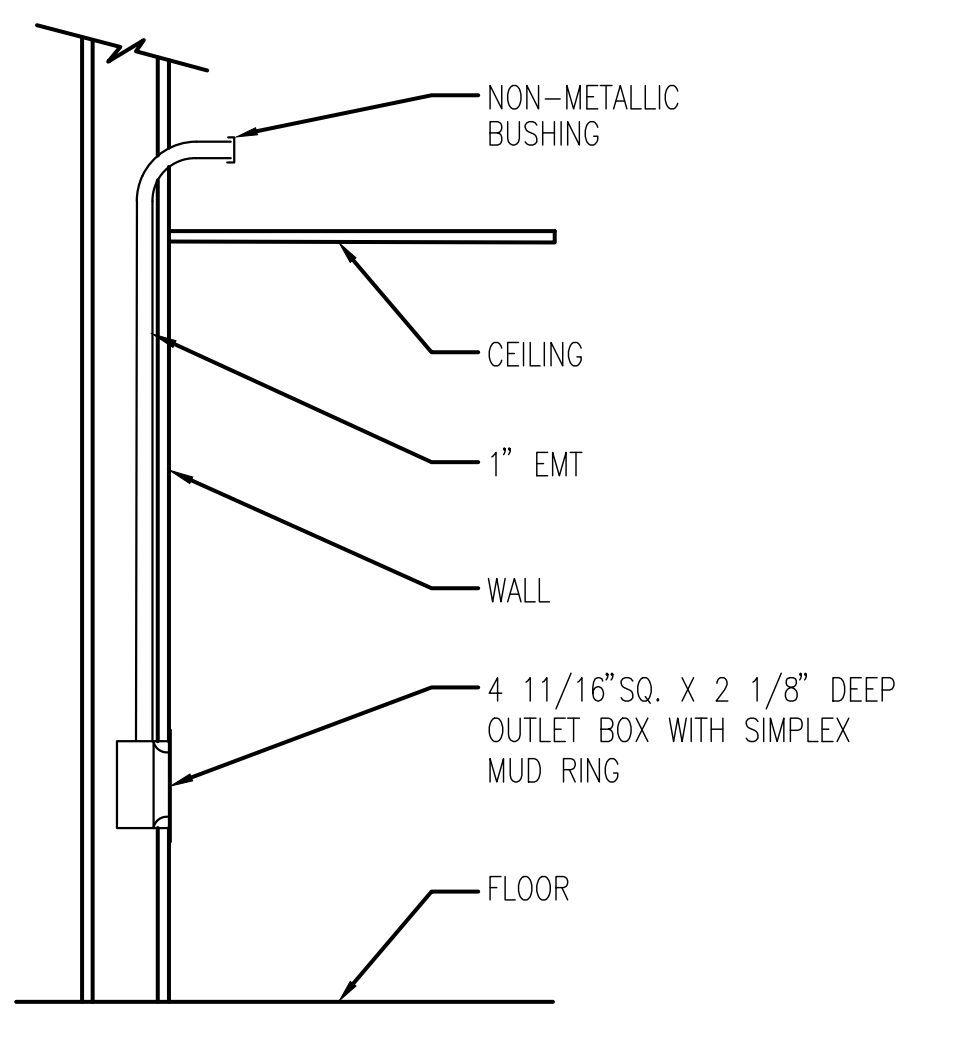
- PROVIDE RED HANDLE LOCK-ON CLIP ON CCT BREAKER.
- PROVIDE SWITCH-RATED BREAKER.
- PANELBOARD SHALL CONTAIN INEGGRATED 100KA PER PHASE SPD.
- VIA PILOT SWITCH
- CIRCUIT VIA LIGHTING CONTROLS. SEE CONTROL DIAGRAM.
- PROVIDE W/PERMANENTLY INSTALLED PROVISION FOR LOCKING IN THE "OFF" POSITION.



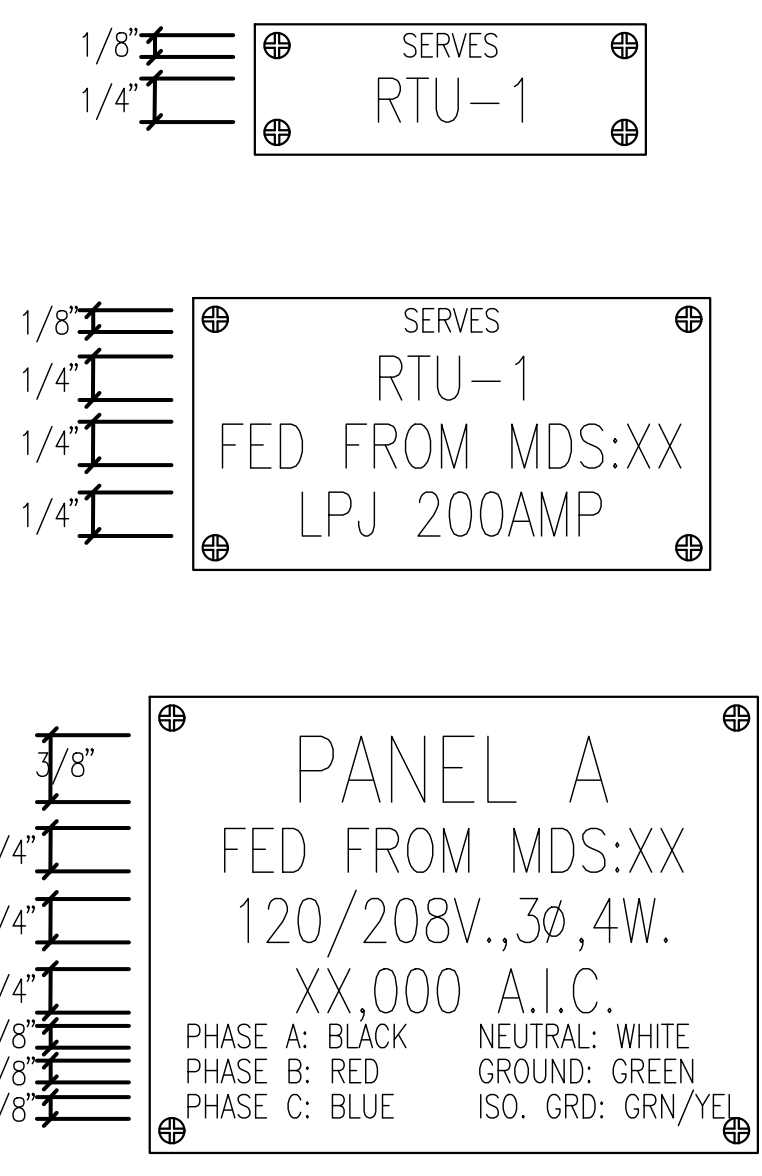
3 TYPICAL LAY-IN FIXTURE INSTALLATION DETAIL
NO SCALE
ADDITIONAL LIGHT FIXTURE SUPPORT MAY BE REQUIRED DUE TO POTENTIAL SEISMIC CONDITIONS, BUILDING OCCUPANCY, AND FIXTURE TYPE. REFER TO THE SPECIFICATIONS.
NOTE: MOUNTING AND CONNECTION OF RECESSED CAN LIGHTS SHALL UTILIZE BAR HANGERS SECURED TO GRID.



4 TYPICAL RECEPTACLE MOUNTING DETAIL
NO SCALE



5 DATACOM OUTLET DETAIL
NO SCALE



6 TYPICAL NAME PLATES
NO SCALE

SECTION 16 0500 – COMMON WORK RESULTS FOR ELECTRICAL

- 1.1 SUMMARY
A. Section Includes:
1. Common electrical installation requirements.
1.2 COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION
A. Comply with NECA 1.
B. Measure indicated mounting heights to bottom of unit for suspended items and to center of unit for wall-mounting items.
C. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide maximum possible headroom consistent with these requirements.
D. Equipment: Install to facilitate service, maintenance, and repair or replacement of components of both electrical equipment and other nearby installations.
E. Right of Way: Give to piping systems installed at a required slope.
F. Contractor shall provide rough-in for and connect to the following equipment furnished by others.
1.6 RACEWAY APPLICATION
A. Outdoors: Apply raceway products as specified below, unless otherwise indicated:
1. Exposed Conduit: Rigid steel conduit or RNC, Type EPC-40-PVC.
2. Concealed Conduit, Aboveground: Rigid steel conduit or RNC, Type EPC-40-PVC.
3. Underground Conduit: RNC, Type EPC-40-PVC, direct buried.
4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
5. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.
B. Comply with the following indoor applications, unless otherwise indicated:
1. Exposed, Not Subject to Physical Damage: EMT.
2. Exposed, Not Subject to Severe Physical Damage: EMT.
3. Exposed and Subject to Severe Physical Damage: Rigid steel conduit.
4. Concealed in Ceilings and Interior Walls and Partitions: EMT.
5. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
6. Damp or Wet Locations: Rigid steel conduit.
7. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4, nonmetallic in damp or wet locations.

- SECTION 16 0519 – LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES
1.1 SUMMARY
A. This Section includes the following:
1. Building wires and cables rated 600 V and less.
2. Connectors, splices, and terminations rated 600 V and less.
1.2 QUALITY ASSURANCE
A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
B. Comply with NFPA 70.
1.3 CONDUCTORS AND CABLES
A. Copper and Aluminum Conductors: Comply with NEMA WC 70.
B. Conductor Insulation: Comply with NEMA WC 70 for Types THHN–THWN and XHHW.
C. Multi-conductor Cable: Comply with NEMA WC 70 for metal-clad cable, Type MC with ground wire.
1.4 CONDUCTOR MATERIAL APPLICATIONS
A. Feeders: Copper for feeders smaller than No. 3 AWG; copper or aluminum for feeders No. 4 AWG and larger. Solid for No. 12 AWG and smaller; stranded for No. 10 AWG and larger.
B. Branch Circuits: Copper. Solid for No. 12 AWG and smaller; stranded for No. 10 AWG and larger.
1.5 CONDUCTOR INSULATION AND MULTI-CONDUCTOR CABLE APPLICATIONS AND WIRING METHODS
A. Service Entrance: Type THHN–THWN, single conductors in raceway or Type XHHW, single conductors in raceway.
B. Exposed Feeders: Type THHN–THWN, single conductors in raceway.
C. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspace: Type THHN–THWN, single conductors in raceway.
D. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN–THWN, single conductors in raceway.
E. Exposed Branch Circuits, Including in Crawlspace: Type THHN–THWN, single conductors in raceway.
F. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN–THWN, single conductors in raceway or Metal-clad cable, Type MC.
G. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN–THWN, single conductors in raceway.
1.6 INSTALLATION OF CONDUCTORS AND CABLES
A. Conceal cables in finished walls, ceilings, and floors, unless otherwise indicated.
B. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.

- SECTION 16 0526 – GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS
1.1 SUMMARY
A. This Section includes methods and materials for grounding systems and equipment.
1.2 QUALITY ASSURANCE
A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
B. Comply with UL 467 for grounding and bonding materials and equipment.
1.3 APPLICATIONS
A. Conductors: Install solid conductor for No. 12 AWG and smaller, and stranded conductors for No. 10 AWG and larger, unless otherwise indicated.
1.4 EQUIPMENT GROUNDING
A. Install insulated equipment grounding conductors with the following items, in addition to those required by NFPA 70:
1. Feeders and branch circuits.
2. Lighting circuits.
3. Receptacle circuits.
4. Single-phase motor and appliance branch circuits.
5. Three-phase motor and appliance branch circuits.

- SECTION 16 0529 – HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS
1.1 SUMMARY
A. Section Includes:
1. Hangers and supports for electrical equipment and systems.
2. Construction requirements for concrete bosses.
1.2 PERFORMANCE REQUIREMENTS
A. Design supports for multiple raceways capable of supporting combined weight of supported systems and its contents.
B. Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.
1.3 QUALITY ASSURANCE
A. Comply with NFPA 70.
SECTION 16 0533 – RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS
1.1 SUMMARY
A. This Section includes raceways, fittings, boxes, enclosures, and cabinets for electrical wiring.
1.2 QUALITY ASSURANCE
A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
B. Comply with NFPA 70.
1.3 METAL CONDUIT AND TUBING
A. Rigid Steel Conduit: ANSI C80.1.
B. IMC: ANSI C80.6.

- C. EMT: ANSI C80.3.
D. FMC: Zinc-coated steel.
E. LFMC: Flexible steel conduit with PVC jacket.
F. Fittings for Conduit (Including all Types and Flexible and Liquidtight), EMT, and Cable: NEMA FB 1; listed for type and size raceway with which used, and for application and environment in which installed.
1. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 886.
2. Fittings for EMT: Steel, set-screw, or compression type.
1.4 NONMETALLIC CONDUIT AND TUBING
A. ENT: NEMA TC 13.
B. RNC: NEMA TC 2, Type EPC-40-PVC, unless otherwise indicated.
C. LFNC: UL 1660.
D. Fittings for ENT and RNC: NEMA TC 3; match to conduit or tubing type and material.
E. Fittings for LFNC: UL 514B.
1.5 BOXES, ENCLOSURES, AND CABINETS
A. Sheet Metal Outlet and Device Boxes: NEMA OS 1.
B. Cast-Metal Outlet and Device Boxes: NEMA FB 1, aluminum, Type FD, with gasketed cover.
C. Nonmetallic Outlet and Device Boxes: NEMA OS 2.
1.6 RACEWAY APPLICATION
A. Outdoors: Apply raceway products as specified below, unless otherwise indicated:
1. Exposed Conduit: Rigid steel conduit or RNC, Type EPC-40-PVC.
2. Concealed Conduit, Aboveground: Rigid steel conduit or RNC, Type EPC-40-PVC.
3. Underground Conduit: RNC, Type EPC-40-PVC, direct buried.
4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
5. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.
B. Comply with the following indoor applications, unless otherwise indicated:
1. Exposed, Not Subject to Physical Damage: EMT.
2. Exposed, Not Subject to Severe Physical Damage: Rigid steel conduit.
3. Exposed and Subject to Severe Physical Damage: Rigid steel conduit.
4. Concealed in Ceilings and Interior Walls and Partitions: EMT.
5. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
6. Damp or Wet Locations: Rigid steel conduit.
7. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4, nonmetallic in damp or wet locations.

- SECTION 16 0553 – IDENTIFICATION FOR ELECTRICAL SYSTEMS
1.1 SUMMARY
A. Section Includes:
1. Identification for raceways.
2. Identification of power and control cables.
3. Identification for conductors.
4. Equipment identification labels.
5. Miscellaneous identification products.
1.2 EQUIPMENT IDENTIFICATION LABELS
A. Self-Adhesive, Engraved, Laminated Acrylic or Melamine Label: Adhesive backed, with white letters on a dark-gray background. Minimum letter height shall be 3/8 inch.
1.3 IDENTIFICATION SCHEDULE
A. Accessible Raceways and Metal-Clad Cables, 600 V or Less, for Service, Feeder, and Branch Circuits More Than 30 A, and 120 V to ground: Install labels at 30-foot maximum intervals.
B. Power-Circuit Conductor Identification, 600 V or Less: For conductors in vaults, pull and junction boxes, manholes, and handholes, use color-coding conductor tape to identify the phase.
1. Color-Coding for Phase Identification, 600 V or Less: Use colors listed below for ungrounded conductors.
a. Color shall be factory applied or field applied for sizes larger than No. 8 AWG, if authorities having jurisdiction permit.
b. Colors for 208/120-V Circuits:
1) Phase A: Black.
2) Phase B: Red.
3) Phase C: Blue.
4) Neutral: White.
c. Colors for 480/277-V Circuits:
1) Phase A: Brown.
2) Phase B: Orange.
3) Phase C: Yellow.
4) Neutral: Gray.
C. Equipment Identification Labels: On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and the Operation and Maintenance Manual. Apply labels to disconnect switches and protection equipment, central or master units, control panels, control stations, terminal cabinets, and racks of each system. Systems include power, lighting, control, communication, signal, monitoring, and alarm systems unless equipment is provided with its own identification.

- C. Equipment Identification Labels: On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and the Operation and Maintenance Manual. Apply labels to disconnect switches and protection equipment, central or master units, control panels, control stations, terminal cabinets, and racks of each system. Systems include power, lighting, control, communication, signal, monitoring, and alarm systems unless equipment is provided with its own identification.
SECTION 16 2416 – PANELBOARDS
1.1 SUMMARY
A. Section includes lighting and appliance branch-circuit panelboards.
1.2 QUALITY ASSURANCE
A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
1.3 GENERAL REQUIREMENTS FOR PANELBOARDS
A. Enclosures: Flush- and surface-mounted cabinets.
1. Rated for environmental conditions at installed location.
a. Indoor Dry and Clean Locations: NEMA 250, Type 1.
b. Outdoor Locations: NEMA 250, Type 3R.
2. Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box.
3. Directory Card: Inside panelboard door, mounted in transparent card holder.
B. Phase, Neutral, and Ground Buses: Tin-plated aluminum.
C. Panelboard Short-Circuit Current Rating: Fully rated to interrupt symmetrical short-circuit current available at terminals.
1.4 LIGHTING AND APPLIANCE BRANCH-CIRCUIT PANELBOARDS
A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Eaton Electrical Inc.; Cutler-Hammer Business Unit.
2. General Electric Company; GE Consumer & Industrial – Electrical Distribution.
3. Siemens Energy & Automation, Inc.
4. Square D; a brand of Schneider Electric.
B. Panelboards: NEMA PB 1, lighting and appliance branch-circuit type.
C. Mains: Circuit breaker.
D. Branch Overcurrent Protective Devices: Bolt-on circuit breakers, replaceable without disturbing adjacent units. Where multi-wire branch circuits are utilized provide multi-pole circuit breakers or manufacturer provided handle ties.
E. Doors: Concealed hinges; secured with flush latch with tumbler lock; keyed alike.
F. Service entrance rated.

- 1.5 DISCONNECTING AND OVERCURRENT PROTECTIVE DEVICES
A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Eaton Electrical Inc.; Cutler-Hammer Business Unit.
2. General Electric Company; GE Consumer & Industrial – Electrical Distribution.
3. Siemens Energy & Automation, Inc.
4. Square D; a brand of Schneider Electric.
B. Molded-Case Circuit Breaker (MCCB): Comply with UL 489, with interrupting capacity to meet available fault currents.
1. Thermal-Magnetic Circuit Breakers: Inverse time-current element for low-level overloads, and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.
2. GFCI Circuit Breakers: Single- and two-pole configurations with Class A ground-fault protection (6-mA trip).
3. Ground-Fault Equipment Protection (GFEF) Circuit Breakers: Class B ground-fault protection (50-mA trip).
1.6 INSTALLATION
A. Install filler plates in unused spaces.
B. Comply with NECA 1.
1.7 IDENTIFICATION
A. Create a directory to indicate installed circuit loads and incorporating Owner's final room designations. Obtain approval before installing. Use a computer or typewriter to create directory; handwritten directories are not acceptable.
B. Panelboard Nameplates: Label each panelboard with a nameplate complying with requirements for identification specified in Division 26 Section "Identification for Electrical Systems."
SECTION 16 2726 – WIRING DEVICES
1.1 SUMMARY
A. This Section includes the following:
1. Receptacles, receptacles with integral GFCI, and associated device plates.
2. Snap switches and wall-box dimmers.
3. Wall-switch occupancy sensors.
1.2 MANUFACTURERS
A. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:
1. Cooper Wiring Devices; a division of Cooper Industries, Inc. (Cooper).
2. Hubbell Incorporated; Wiring Device-Kellems (Hubbell).
3. Leviton Mfg. Company Inc. (Leviton).
4. Pass & Seymour/LeGrand; Wiring Devices & Accessories (Pass & Seymour).
5. Lutron Electronics.
1.3 STRAIGHT BLADE RECEPTACLES
A. Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 configuration 5-20R, and UL 498.
1.4 GFCI RECEPTACLES
A. General Description: Straight blade, feed-through type. Comply with NEMA WD 1, NEMA WD 6, UL 498, and UL 943, Class A, and include indicator light that is lighted when device is tripped.
B. Duplex GFCI Convenience Receptacles, 125 V, 20 A:
1.5 SNAP SWITCHES
A. Comply with NEMA WD 1 and UL 20.
B. Switches, 120/277 V, 20 A:
1.6 WALL-BOX DIMMERS
A. Dimmer Switches: Modular, full-wave, solid-state units with integral, quiet on-off switches, with audible frequency and EM/RFI suppression filters.
B. Control: Continuously adjustable slider; with single-pole or three-way switching. Comply with UL 1472.
C. Incandescent Lamp Dimmers: 120 V; control shall follow square-law dimming curve. On-off switch positions shall bypass dimmer module.
1. 600W unless noted otherwise on plans; dimmers shall require no de-rating when ganged with other devices.
2. Dimmer used for electronic low voltage transformers shall be rated for electronic low voltage.
D. Fluorescent Lamp Dimmer Switches: Modular; compatible with dimmer ballasts; trim potentiometer to adjust low-end dimming; dimmer-ballast combination capable of consistent dimming with low end not greater than 20 percent of full brightness.
1.7 OCCUPANCY SENSORS
A. Wall-Switch Sensors:
1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
a. Sensor Switch WSD-PDT-V.
b. Hubbell LHMTS1
c. Watt Stopper DW-100
d. Leviton OSSMT-WD
e. Equals
2. Description: Dual-technology type (PIR and Ultrasonic/Phonic), 120/277 V, adjustable time delay up to 20 minutes, 180-degree field of view, with a minimum coverage area of 400 sq. ft..
1.8 WALL PLATES
A. Single and combination types to match corresponding wiring devices.
1. Plate-Securing Screws: Metal with head color to match plate finish.
2. Material for Finished Spaces: Smooth, high-impact thermoplastic.
3. Material for Unfinished Spaces: Galvanized steel.
4. Material for Damp Locations: Cast aluminum with spring-loaded lift cover, and listed and labeled for use in "wet locations." Paintable.
B. Wet-Location, Weatherproof Cover Plates: NEMA 250, complying with type 3R weather-resistant , die-cast aluminum with lockable cover. Paintable.
1.9 FINISHES
A. Color: Wiring device catalog numbers in Section Text do not designate device color.
1. Wiring Devices and coverplates: As directed by the Architect, unless otherwise indicated or required by NFPA 70 or device listing. Architect reserves the right to request multiple device finishes.
1.10 INSTALLATION
A. Comply with NECA 1, including the mounting heights listed in that standard, unless otherwise noted. See drawings.
B. Conductors:
1. The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 300, without pigtail.
2. Existing Conductors:
a. Cut back and pigtail, or replace all damaged conductors.
b. Pigtail existing conductors is permitted provided the outlet box is large enough.
D. Receptacle Orientation:
1. Install ground pin of vertically mounted receptacles down, and on horizontally mounted receptacles to the right.
E. Receptacles Connections:
1. Provide pigtail in each receptacle box. Do not use feed through lugs on receptacles.
F. Dimmers:
1. Install dimmers within terms of their listing.

- 2. Install unshared neutral conductors on line and load side of dimmers according to manufacturers' device listing conditions in the written instructions.
SECTION 16 2816 – ENCLOSED SWITCHES
1.1 SUMMARY
A. Section Includes:
1. Fusible switches.
2. Non-fusible switches.
3. Enclosures.
1.2 QUALITY ASSURANCE
A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
1.3 MANUFACTURERS
A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Eaton Electrical Inc.; Cutler-Hammer Business Unit.
2. General Electric Company; GE Consumer & Industrial – Electrical Distribution.
3. Siemens Energy & Automation, Inc.
4. Square D; a brand of Schneider Electric.
1.4 FUSIBLE SWITCHES
A. Type GD, General Duty, Single Throw, 240-V ac, 800 A and Smaller: UL 98 and NEMA KS 1, horsepower rated, with cartridge fuse interiors to accommodate indicated fuses, lockable handle with capability to accept two padlocks, and interlocked with cover in closed position.
1.5 NON-FUSIBLE SWITCHES
A. Type GD, General Duty, Single Throw, 600 A and Smaller: UL 98 and NEMA KS 1, horsepower rated, lockable handle with capability to accept two padlocks, and interlocked with cover in closed position.
1.6 ENCLOSURES
A. Enclosed Switches: NEMA AB 1, NEMA KS 1, NEMA 250, and UL 50, to comply with environmental conditions at installed location.
1. Indoor, Dry and Clean Locations: NEMA 250, Type 1.
2. Outdoor Locations: NEMA 250, Type 3R.
1.7 IDENTIFICATION
A. Label each enclosure with engraved metal or laminated-plastic nameplate.

- SECTION 16 5100 – LIGHTING
1.1 SUMMARY
A. Section Includes:
1. Interior lighting fixtures, lamps, and ballasts.
2. Emergency lighting units.
3. Exit signs.
4. Lighting fixture supports.
1.2 QUALITY ASSURANCE
A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
1.3 EXTRA MATERIAL
A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Lamps: 1 for every 10 of each type and rating installed unless noted otherwise. Furnish at least one of each type. Provide 1 for every 1 of each 12V lamp.
2. Plastic Diffusers and Lenses: 1 for every 100 of each type and rating installed. Furnish at least one of each type.
3. Ballasts: 1 for every 30 of each type and rating installed. Furnish at least one of each type.
4. Globes and Guards: 1 for every 20 of each type and rating installed. Furnish at least one of each type.
1.4 MANUFACTURERS
A. Products: Subject to compliance with requirements, provide one of the products indicated on Drawings.
1.5 GENERAL REQUIREMENTS FOR LIGHTING FIXTURES AND COMPONENTS
A. Recessed Fixtures: Comply with NEMA LE 4 for ceiling compatibility for recessed fixtures.
B. Incandescent Fixtures: Comply with UL 1598.
C. Fluorescent Fixtures: Comply with UL 1598.
D. HID Fixtures: Comply with UL 1598. Metal Parts: Free of burrs and sharp corners and edges.
E. Sheet Metal Components: Steel unless otherwise indicated. Form and support to prevent warping and sagging.
F. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position.
G. Diffusers and Globes:
1. Acrylic Lighting Diffusers: 100 percent virgin acrylic plastic. High resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
a. Lens Thickness: At least 0.125 inch minimum unless otherwise indicated.
b. UV stabilized.
c. Glass: Annealed crystal glass unless otherwise indicated.
1.6 BALLASTS FOR LINEAR FLUORESCENT LAMPS
A. General Requirements for Electronic Ballasts:
1. Comply with UL 935 and with ANSI C82.11.
2. Designed for type and quantity of lamps served.
3. Ballasts shall be designed for full light output unless another BF, dimmer, or bi-level control is indicated.
4. Sound Rating: Class A.
5. Total Harmonic Distortion Rating: Less than 20 percent.
6. Transient Voltage Protection: IEEE C62.41.1 and IEEE C62.41.2, Category A or better.
7. Operating Frequency: 42 kHz or higher.
8. Lamp Current Crest Factor: 1.7 or less.
9. BF: 0.88 or higher unless otherwise indicated.
10. Power Factor: 0.95 or higher.
B. Ballasts for Low-Temperature Environments:
1. Temperatures 0 Deg F and Higher: Electronic type rated for 0 deg F starting and operating temperature with indicated lamp types.
1.7 BALLASTS FOR HID LAMPS
A. Electronic Ballast for Metal-Halide Lamps: Include the following features unless otherwise indicated:
1. Minimum Starting Temperature: Minus 20 deg F for single-lamp ballasts.
2. Rated Ambient Operating Temperature: 130 deg F.
3. Lamp end-of-life detection and shutdown circuit.
4. Sound Rating: Class A.
5. Total Harmonic Distortion Rating: Less than 20 percent.
6. Transient Voltage Protection: IEEE C62.41.1 and IEEE C62.41.2, Category A or better.
7. Lamp Current Crest Factor: 1.5 or less.
8. Power Factor: 0.90 or higher.
9. Interference: Comply with 47 CFR 18, Ch. 1, Subpart C, for limitations on electromagnetic and radio-frequency interference for non-consumer equipment.

- 10. Protection: Class P thermal outcut.
1.8 EXIT SIGNS
A. General Requirements for Exit Signs: Comply with UL 924; for sign colors, visibility, luminance, and lettering size, comply with authorities having jurisdiction.
B. Internally Lighted Signs:
1. Lamps for AC Operation: LEDs, 50,000 hours minimum rated lamp life.
2. Self-Powered Exit Signs (Battery Type): Integral automatic charger in a self-contained power pack.
a. Battery: Sealed, maintenance-free, nickel-cadmium type.
b. Charger: Fully automatic, solid-state type with sealed transfer relay.
c. Operation: Relay automatically energizes lamp from battery when circuit voltage drops to 80 percent of nominal voltage or below. When normal voltage is restored, relay disconnects lamps from battery, and battery is automatically recharged and floated on charger.
d. Test Push Button: Push-to-test type, in unit housing, simulates loss of normal power and demonstrates unit operability.
e. LED Indicator Light: Indicates normal power on. Normal glow indicates trickle charge; bright light indicates charging at end of discharge cycle.
1.9 EMERGENCY LIGHTING UNITS
A. General Requirements for Emergency Lighting Units: Self-contained units complying with UL 924.
1. Battery: Sealed, maintenance-free, lead-acid type.
2. Charger: Fully automatic, solid-state type with sealed transfer relay.
3. Operation: Relay automatically turns lamp on when power-supply circuit voltage drops to 80 percent of nominal voltage or below. Lamp automatically disconnects from battery when voltage approaches deep-discharge level. When normal voltage is restored, relay disconnects lamps from battery, and battery is automatically recharged and floated on charger.
4. Test Push Button: Push-to-test type, in unit housing, simulates loss of normal power and demonstrates unit operability.
5. LED Indicator Light: Indicates normal power on. Normal glow indicates trickle charge; bright light indicates charging at end of discharge cycle.
1.10 FLUORESCENT LAMPS
A. T8 rapid-start lamps, 2950 initial lumens (minimum), CRI 85 (minimum), color temperature 3500 K, and average rated life 30,000 hours unless otherwise indicated.
1.11 HID LAMPS
A. Ceramic, Pulse-Start, Metal-Halide Lamps: Minimum CRI 80, and color temperature 4000 K.

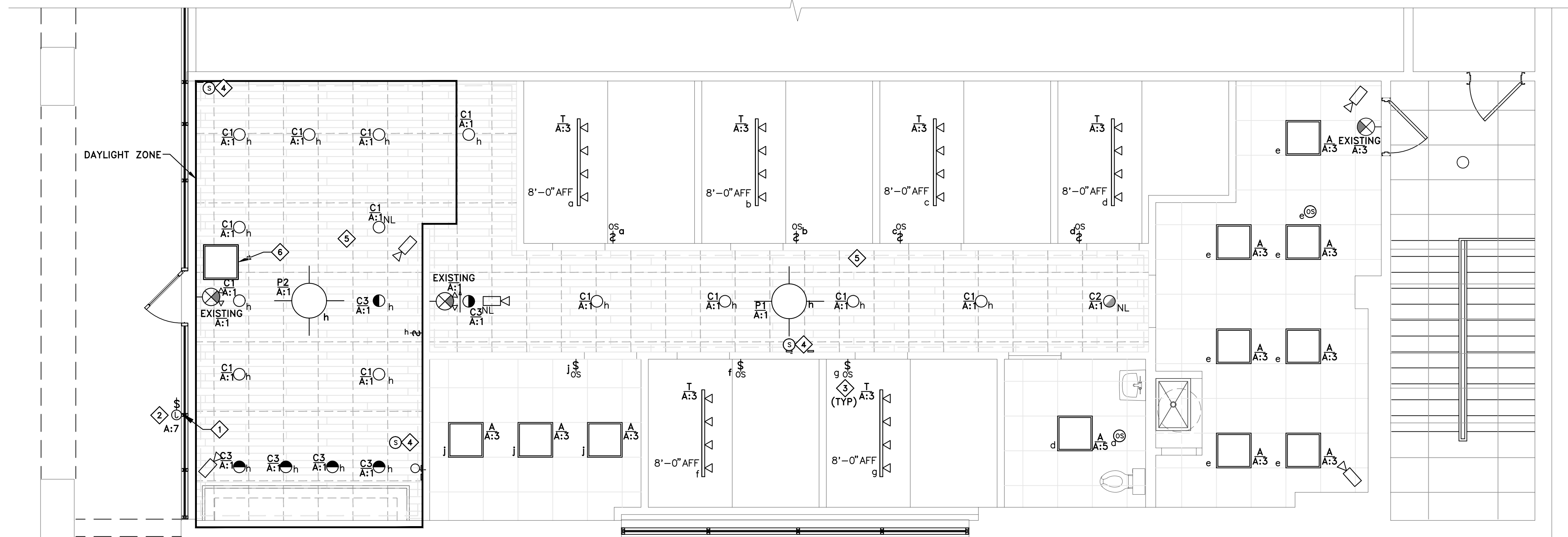
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1.1 SUMMARY
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3. Exit signs.
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1.3 EXTRA MATERIAL
A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Lamps: 1 for every 10 of each type and rating installed unless noted otherwise. Furnish at least one of each type. Provide 1 for every 1 of each 12V lamp.
2. Plastic Diffusers and Lenses: 1 for every 100 of each type and rating installed. Furnish at least one of each type.
3. Ballasts: 1 for every 30 of each type and rating installed. Furnish at least one of each type.
4. Globes and Guards: 1 for every 20 of each type and rating installed. Furnish at least one of each type.
1.4 MANUFACTURERS
A. Products: Subject to compliance with requirements, provide one of the products indicated on Drawings.
1.5 GENERAL REQUIREMENTS FOR LIGHTING FIXTURES AND COMPONENTS
A. Recessed Fixtures: Comply with NEMA LE 4 for ceiling compatibility for recessed fixtures.
B. Incandescent Fixtures: Comply with UL 1598.
C. Fluorescent Fixtures: Comply with UL 1598.
D. HID Fixtures: Comply with UL 1598. Metal Parts: Free of burrs and sharp corners and edges.
E. Sheet Metal Components: Steel unless otherwise indicated. Form and support to prevent warping and sagging.
F. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position.
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1.6 BALLASTS FOR LINEAR FLUORESCENT LAMPS
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2. Designed for type and quantity of lamps served.
3. Ballasts shall be designed for full light output unless another BF, dimmer, or bi-level control is indicated.
4. Sound Rating: Class A.
5. Total Harmonic Distortion Rating: Less than 20 percent.
6. Transient Voltage Protection: IEEE C62.41.1 and IEEE C62.41.2, Category A or better.
7. Operating Frequency: 42 kHz or higher.
8. Lamp Current Crest Factor: 1.7 or less.
9. BF: 0.88 or higher unless otherwise indicated.
10. Power Factor: 0.95 or higher.
B. Ballasts for Low-Temperature Environments:
1. Temperatures 0 Deg F and Higher: Electronic type rated for 0 deg F starting and operating temperature with indicated lamp types.
1.7 BALLASTS FOR HID LAMPS
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7. Lamp Current Crest Factor: 1.5 or less.
8. Power Factor: 0.90 or higher.
9. Interference: Comply with 47 CFR 18, Ch. 1, Subpart C, for limitations on electromagnetic and radio-frequency interference for non-consumer equipment.

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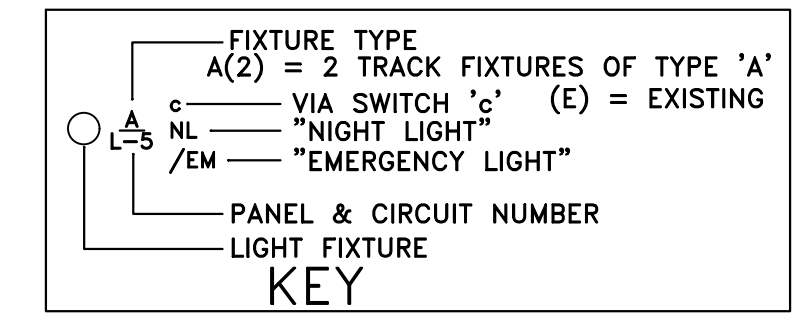
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A. General Requirements for Electronic Ballasts:
1. Comply with UL 935 and with ANSI C82.11.
2. Designed for type and quantity of lamps served.
3. Ballasts shall be designed for full light output unless another BF, dimmer, or bi-level control is indicated.
4. Sound Rating: Class A.
5. Total Harmonic Distortion Rating: Less than



1 LIGHTING PLAN
1/4" = 1'-0"

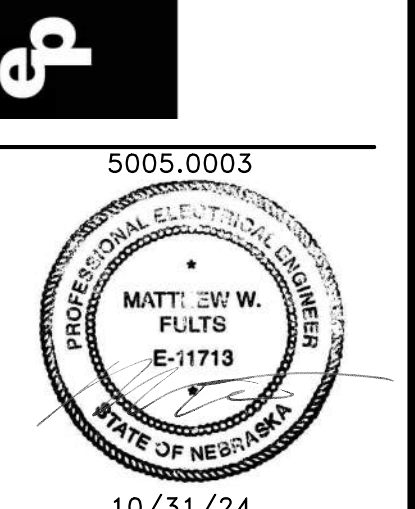


GENERAL NOTES

- A. BRANCH CIRCUITS ARE INDICATED AS ONE CIRCUIT HOME RUNS WITH INDIVIDUAL NEUTRALS. A MAXIMUM OF THREE CIRCUITS (MAXIMUM OF THREE PHASE CONDUCTORS) MAY BE GROUPED IN A SINGLE CONDUIT. WHERE MULTIPLE CURRENTS ARE LOCATED IN THE SAME RACEWAY, JUNCTION BOX OR ENCLOSURE, NEUTRALS SHALL BE MARKED OR LABELED TO INDICATE WHICH CIRCUIT THEY ARE ASSOCIATED WITH. SEE SPECIFICATION SECTION "LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES" FOR ADDITIONAL INFORMATION. SHARED NEUTRALS ARE NOT ALLOWED.
- B. A GROUND CONDUCTOR SIZED PER N.E.C. ARTICLE 250 IS REQUIRED IN ALL CONDUITS.
- C. ALL PENETRATIONS IN THE RATED WALLS AND CEILINGS SHALL BE SEALED WITH A MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASSES. THE SEALANT SHALL HAVE A T-RATING OF ONE HOUR.
- D. ALL PIPING, CONDUIT, AND OUTLET BOXES (ELECTRIC, TELEPHONE, COMPUTER, ETC.) IN THE WALLS OR CEILING SHALL BE CONSTRUCTED OF NON-COMBUSTIBLE MATERIAL.
- E. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LIGHT FIXTURE LOCATIONS. VERIFY ALL DISCREPANCIES WITH ARCHITECT PRIOR TO ROUGH-IN.
- F. EMERGENCY, EXIT AND NIGHT LIGHT FIXTURES SHALL BE WIRED AHEAD OF SWITCH CONTROLS.

◇ LIGHTING KEY NOTES

- 1 PROVIDE ACCESS PANEL NEAR EXIT SIGNS TO ACCESS J-BOX.
- 2 PROVIDE CONNECTION TO SIGNS VIA TIMECLOCK. COORDINATE ACCESS PANEL LOCATION FOR SIGN WITH OWNER'S REPRESENTATIVE.
- 3 OCCUPANCY SENSOR SHALL BE DUAL TECHNOLOGY SENSORS.
- 4 MOUNT 11"-1 3/4" AFF. COORDINATE LOCATION OF OUTLET SONOS SPEAKERS WITH ARCHITECT REFLECTED CEILING PLAN.
- 5 PLACE A PERMANENT STICKER STATING 6 WATT G125 BULB.
- 6 PROVIDE ACCESS PANEL FOR J-BOX ABOVE EXIST LIGHT.



10/31/24

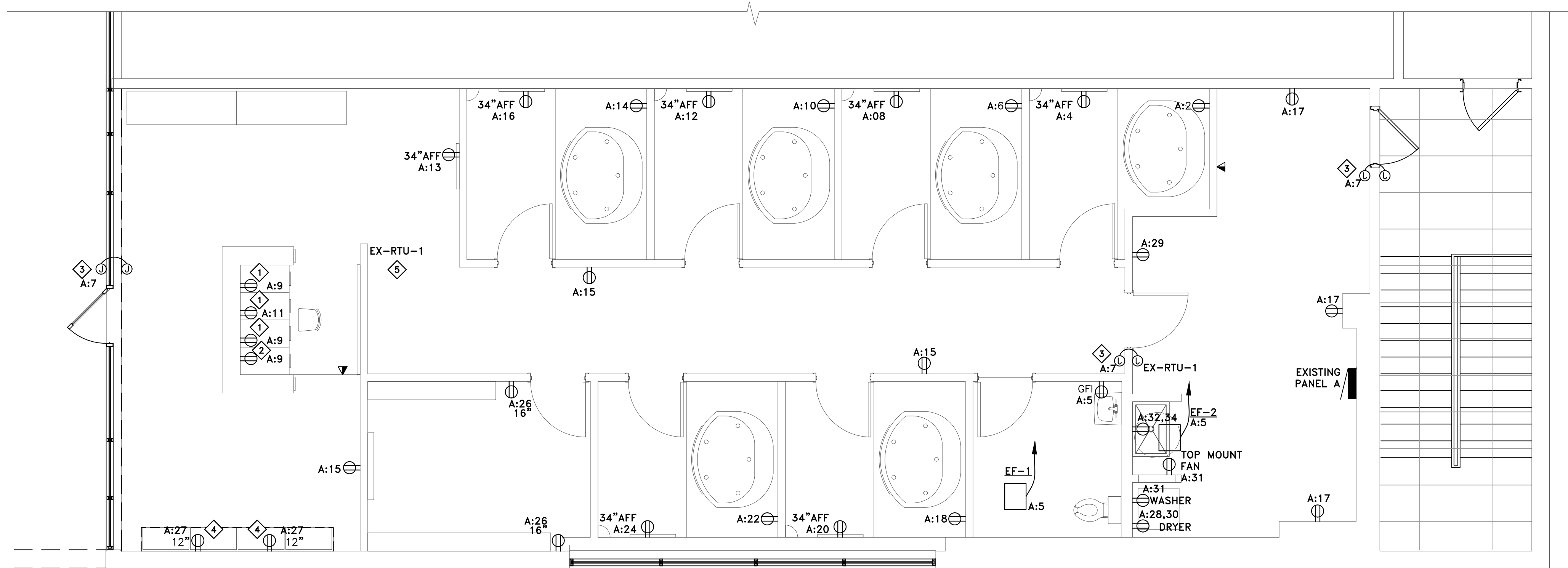
goGLOW
TENANT IMPROVEMENT IN EXISTING SHELL BUILDING
SHOPPES @ GRAYHAWK, 3525 N. 144TH ST., SUITE 213
OMAHA, NE 68116
LIGHTING PLAN



DATE ISSUED
PERMIT SET 10/31/24

DRAWN BY MW
CHECKED BY WLW
JOB NO. 24197

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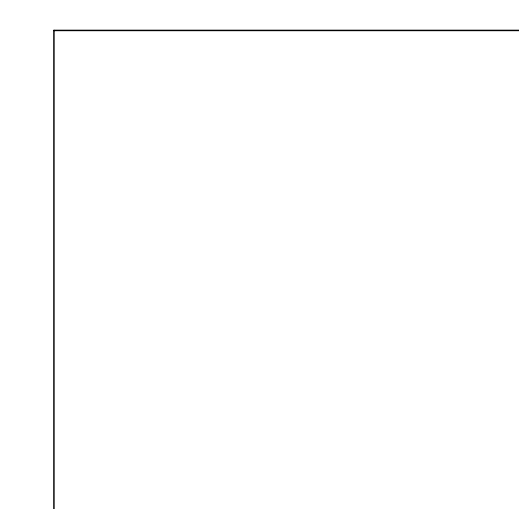
1 POWER AND ROUGH IN PLAN
 1/4" = 1'-0"

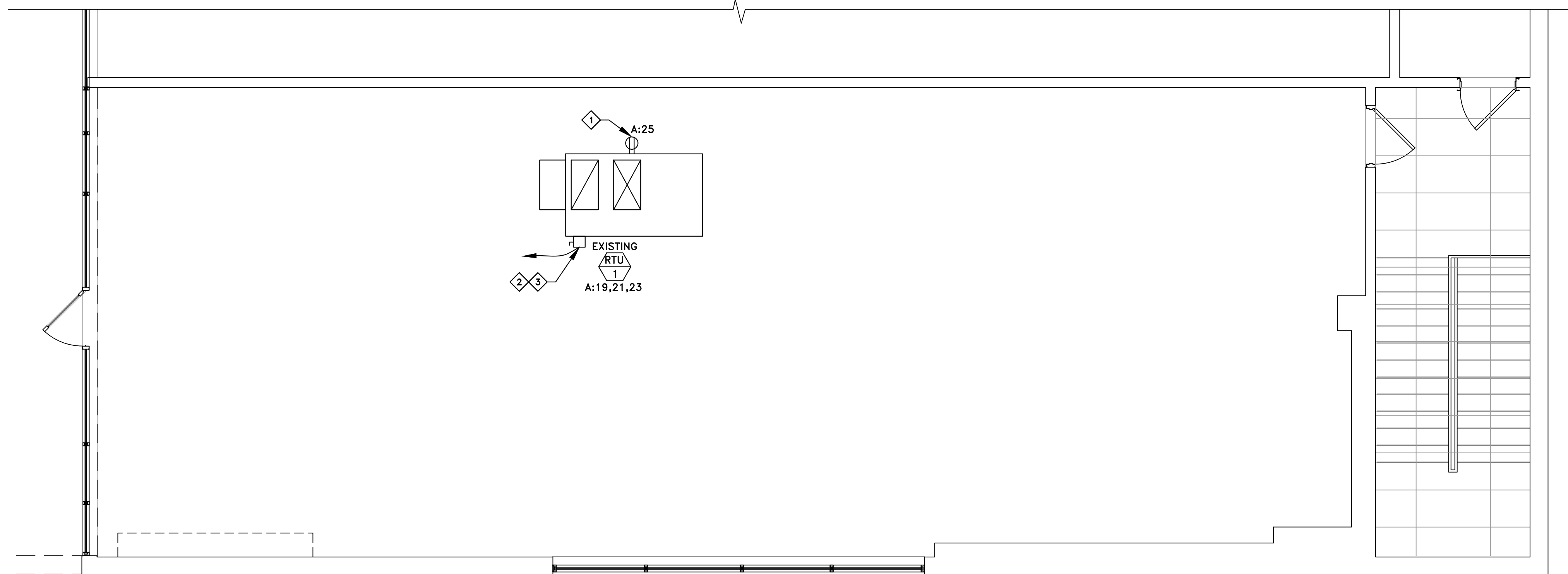
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- D. ALL PENETRATIONS IN THE RATED WALLS AND CEILINGS SHALL BE SEALED WITH A MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASSES. THE SEALANT SHALL HAVE A T-RATING OF ONE HOUR.
- E. ALL PIPING, CONDUIT, AND OUTLET BOXES (ELECTRIC, TELEPHONE, COMPUTER, ETC.) IN THE WALLS OR CEILING SHALL BE CONSTRUCTED OF NON-COMBUSTIBLE MATERIAL.
- F. OUTLET BOXES (ELECTRIC, TELEPHONE, COMPUTER, ETC.) SHALL BE LIMITED TO TWO OUTLET BOXES PER STUD SPACE. OUTLET BOXES ON OPPOSITE SIDES OF THE RATED WALLS SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF 24 INCHES.
- G. FIELD VERIFY THE EXACT LOCATION OF ALL FLOOR BOXES AND POKE-THROUGHS WITH ARCHITECT PRIOR TO ROUGH-IN.
- H. ALL KITCHEN RECEPTACLES SHALL BE GFCI PROTECTED.
- I. VERIFY AND PROVIDE ALL KITCHEN AND COOLER EQUIPMENT NEMA PLUG CONFIGURATIONS PRIOR TO INSTALLATION. ELECTRICAL CONTRACTOR TO PROVIDE NEMA PLUGS.

POWER KEY NOTES

- 1 PROVIDE RECEPTACLE WITH USB AT COUNTER.
- 2 RECEPTACLE INSTALLED WITH-IN DESK FOR INTERNET MODEM. COORDINATE LOCATION WITH OWNER.
- 3 REFER TO SECURITY DOOR DETAIL ON E-003 FOR WIRING DIAGRAM. COORDINATE LOCATION OF ACCESS PANEL. PROVIDE KEYPAD ENTRY AT REAR DOOR. PROVIDE ALARM AT UNILITY ROOM DOOR.
- 4 RECEPTACLE FOR MILLWORK LIGHTING.
- 5 THERMOSTAT PROVIDED BY MECHANICAL. PROVIDE CONNECTION TO CONTROL FURNACE AND CONDENSER PER MECHANICAL SEQUENCE OF OPERATION. COORDINATE WITH MECHANICAL.





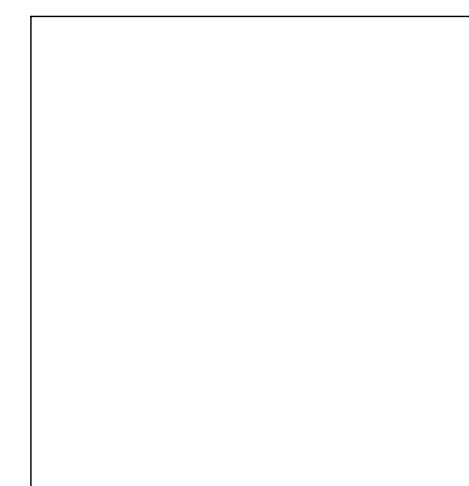
1 ROOF PLAN
1/4" = 1'-0"

GENERAL NOTES

- A. EXHAUST FANS TO BE CONTROLLED BY BUILDING MANAGEMENT SYSTEM. PROVIDE AND INSTALL AUX. CONTACTS FOR "ON / OFF" CONTROL BY LOW-VOLTAGE BUILDING MANAGEMENT SYSTEM. COORDINATE, PROVIDE, AND INSTALL PER SUCCESSFUL BUILDING MANAGEMENT CONTRACTOR. PROVIDE AND INSTALL A COMPLETE AND OPERATIONS SYSTEM.
- B. FINAL LOCATIONS OF ALL EQUIPMENT NOT PROVIDED BY DIVISION 16 TO BE DETERMINED BY OTHERS. COORDINATE ALL FINAL LOCATIONS WITH OTHER TRADES PRIOR TO INSTALLATION.
- C. VERIFY FUSE SIZE OF ALL ROOFTOP EQUIPMENT WITH MANUFACTURER'S RECOMMENDATION.
- D. BRANCH CIRCUITS ARE INDICATED AS ONE CIRCUIT HOME RUNS WITH INDIVIDUAL NEUTRALS. A MAXIMUM OF THREE CIRCUITS (MAXIMUM OF THREE PHASE CONDUCTORS) MAY BE GROUPED IN A SINGLE CONDUIT. WHERE MULTIPLE CIRCUITS ARE LOCATED IN THE SAME RACEWAY, JUNCTION BOX OR ENCLOSURE, NEUTRALS SHALL BE MARKED OR LABELED TO INDICATE WHICH CIRCUIT THEY ARE ASSOCIATED WITH. SEE SPECIFICATION SECTION "LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES" FOR ADDITIONAL INFORMATION.
- E. A GROUND CONDUCTOR SIZED PER N.E.C. ARTICLE 250 IS REQUIRED IN ALL CONDUITS.
- F. ALL PENETRATIONS IN THE RATED WALLS AND CEILINGS SHALL BE SEALED WITH A MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASSES. THE SEALANT SHALL HAVE A T-RATING OF ONE HOUR.
- G. ALL PIPING, CONDUIT, AND OUTLET BOXES (ELECTRIC, TELEPHONE, COMPUTER, ETC.) IN THE RATED WALLS OR CEILING SHALL BE CONSTRUCTED OF NON-COMBUSTIBLE MATERIAL.
- H. SIZE FUSES MOTOR FUSTATS BASED ON 125% OF MANUFACTURER'S NAMEPLATE FULL LOAD AMPERAGE UNLESS OTHERWISE NOTED ON DRAWINGS.

◇ ROOF PLAN KEY NOTES

- ◇ PROVIDE WEATHER PROOF RECEPTACLES WITH GFCI PROTECTION LOCATIONS PER NEC ARTICLE 210.63. CIRCUIT SHALL EMANATE FROM PANEL A:25.(TYPICAL).
- ◇ REFER TO SHEET E001 FOR CONDUIT AND WIRE SIZE.(TYPICAL)
- ◇ PROVIDE NEMA 3R DISCONNECT WITH CURRENT LIMITING FUSES TO COMPLY WITH NEC 110 AND 440. ELECTRICAL CONTRACTOR SHALL STUB UP THRU RACEWAY IN CURB TO ELIMINATE CONDUIT PENETRATION OF ROOFING. (TYPICAL)



goGLOW

TENANT IMPROVEMENT IN EXISTING SHELL BUILDING
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ROOF PLAN



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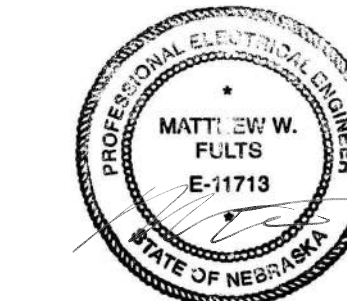
E-400

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