

HTEAO - HELOTES

12550 E. BANDERA ROAD
HELOTES, TX 78023



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CONTRACTOR NOTES

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS BEFORE BEGINNING WORK. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IMMEDIATELY IN WRITING BEFORE WORK BEGINS.

CAREFULLY EXAMINE THE CONSTRUCTION SITE TO DETERMINE THE EXTENT OF THE WORK AND THE EXISTING CONDITIONS. NO EXTRA PAYMENTS WILL BE ALLOWED FOR CLAIMS FOR ADDITIONAL WORK THAT COULD HAVE BEEN DETERMINED BY SUCH INSPECTION.

CHECK AND VERIFY DOCUMENTS AND FIELD CONDITIONS FOR ACCURACY. CONFIRM THAT EXISTING CONDITIONS ARE AS DOCUMENTED BEFORE BEGINNING CONSTRUCTION. IF ANY QUESTIONS OR CONCERNS ARISE THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING CLARIFICATIONS FROM THE ARCHITECT BEFORE PROCEEDING.

ALL WORK SHALL BE PERFORMED BY SKILLED AND QUALIFIED WORKMEN, FOLLOWING THE BEST AND ESTABLISHED PRACTICES OF THE TRADES INVOLVED USING PUBLISHED TRADE ASSOCIATION STANDARDS AND GUIDELINES.

THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK BETWEEN THE TRADES AND FOR THE PROPER SCHEDULING OF WORK AND TRADES ON THE JOB. BUILDING SHALL BE LOCKED AND SECURED AT THE END OF EACH WORKING DAY.

PROVIDE TEMPORARY SECURE PROTECTION OF THE BUILDING FROM THE ELEMENTS, VANDALISM, ETC. DURING WORK ON THE EXTERIOR WALL AND/OR ROOF.

THE GENERAL CONTRACTOR SHALL PAY FOR ALL BUILDING FEES AND SECURE ALL NECESSARY PERMITS AS REQUIRED FOR PROPER COMPLETION OF THE WORK. PROVIDE A CERTIFICATE OF OCCUPANCY TO THE OWNER UPON COMPLETION.

ALL MATERIALS SHALL BE NEW, UNUSED, AND OF THE HIGHEST QUALITY IN EVERY RESPECT UNLESS OTHERWISE NOTED. MANUFACTURED MATERIALS AND EQUIPMENT SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDED INSTRUCTIONS.

ALL WORK SHALL BE PERFORMED BY THE GENERAL CONTRACTOR UNLESS OTHERWISE NOTED.

THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION. SAFETY PRECAUTIONS ARE THE RESPONSIBILITY OF THE CONTRACTORS. GOVERNING CODES AND ORDINANCES SHALL APPLY.

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING A CLEAN PROJECT, FREE FROM TRASH AND DEBRIS. FLOORS SHALL BE KEPT CLEAN AND SWEEPED. ADJACENT WORK SHALL BE PROTECTED FROM ONGOING WORK, DAMAGE, OVERSPRAY, ETC. ALL FIXTURES, EQUIPMENT, AND FINISHES SHALL BE LEFT CLEAN AND READY FOR OCCUPANCY. EXISTING WORK SHALL BE KEPT PROTECTED FROM NEW CONSTRUCTION. ANY DAMAGE TO EXISTING CONDITIONS SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE. THE EXTERIOR OF THE BUILDING SHALL BE KEPT CLEAN AT ALL TIMES DURING CONSTRUCTION.

THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL EQUIPMENT AND/OR APPLIANCES SPECIFIED UNLESS OTHERWISE NOTED. OWNER SUPPLIED EQUIPMENT SHALL BE INSTALLED BY CONTRACTOR. CONTRACTOR SHALL VERIFY ALL ROUGH DIMENSIONS OF ALL EQUIPMENT BEFORE FABRICATION OF ANY ADJACENT WORK.

PROVIDE BLOCKING BEHIND ALL EQUIPMENT. WALL MOUNTED DOOR STOPS, RESTROOM ACCESSORIES, MILLWORK, ETC. TO PROVIDE PROPER AND STRONG ATTACHMENT.

SUBMIT SHOP DRAWINGS ON ALL MILLWORK OR OTHER SPECIAL CONSTRUCTION FOR ARCHITECTS OR OWNER'S APPROVAL BEFORE FABRICATIONS.

THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL EXIT SIGNS AND EMERGENCY LIGHTING AS REQUIRED BY LOCAL CODES.

CONTRACTOR SHALL PROVIDE AND INSTALL APPROVED TYPE FIRE EXTINGUISHER(S) AS DIRECTED BY THOSE GOVERNMENTAL AGENCIES HAVING JURISDICTION. EXTINGUISHERS SHALL BE PROVIDED WITH WALL MOUNT AND BRACKET. UNITS SHALL BE U.L. RATED 2A-10BC WITH CAPACITY AS REQUIRED.

ALL PENETRATIONS OF FIRE RESISTIVE FLOORS OR WALLS SHALL BE PROTECTED BY MATERIALS AND INSTALLATION DETAILS THAT CONFORM TO UNDERWRITERS LABORATORIES LISTINGS FOR THROUGH-PENETRATION FIRE STOP SYSTEMS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWING DETAILS FURNISHED BY THE MANUFACTURER OF THE FIRE STOP MATERIAL WHICH SHOW COMPLETE CONFORMANCE TO THE UL LISTING TO THE ARCHITECT AND SUCH DRAWINGS SHALL BE AVAILABLE TO THE CITY INSPECTORS. THE DRAWINGS SHALL BE SPECIFIC FOR EACH PENETRATION WITH ALL VARIABLES DEFINED.

ALL EXITS SHALL BE OPERABLE FROM THE INSIDE OF THE SPACE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE DURING NORMAL BUSINESS HOURS.

ALL UTILITIES ARE AVAILABLE AT THE SITE AND SHALL BE AS SHOWN ON THE CIVIL ENGINEER'S PLANS.

ALL PLUMBING, MECHANICAL, AND ELECTRICAL SUBCONTRACTORS SHALL SECURE SEPARATE PERMITS FOR THEIR WORK, IF REQUIRED BY THE CITY.

ALL GLASS SUBJECT TO HUMAN IMPACT SHALL CONFORM TO THE STANDARDS SET FORTH BY CHAPTER 24 OF THE I.B.C.

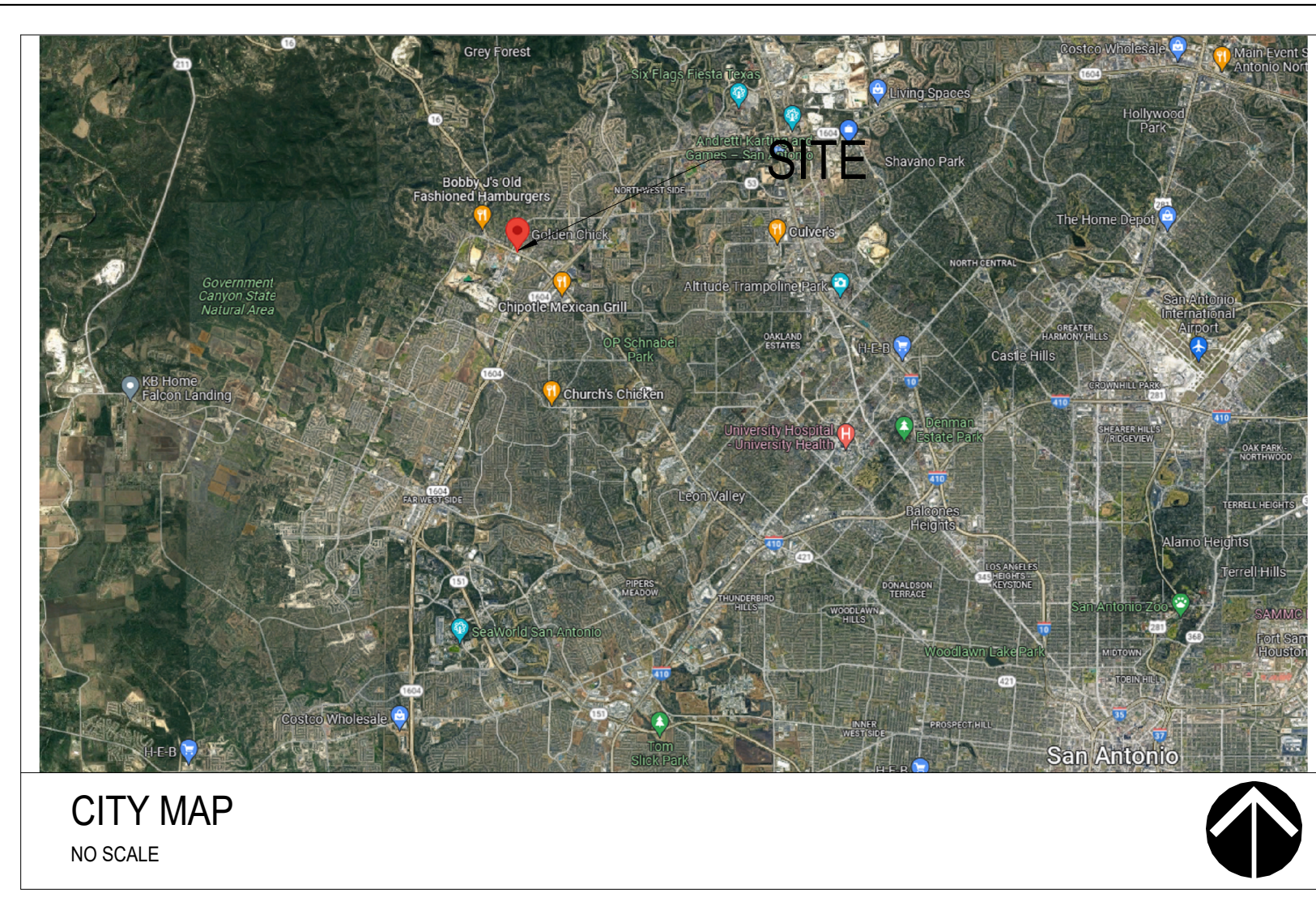
MANUALLY OPERATED FLUSH EDGE BOLTS, SURFACED MOUNTED BOLTS, AND SURFACE BOLTS ARE PROHIBITED ON EXIT DOORS. IF BOLTS ARE REQUIRED ON ANY EXIT DOOR THEY SHALL BE AUTOMATIC FLUSH BOLTS.



CONSTRUCTION SYMBOLS

	STRUCTURE GRID
	NEW PARTITION
	ROOM TAG
	DOOR TAG
	WINDOW TAG
	CEILING TAG
	REVISION TAG
	ELEVATION MARK
	BUILDING SECTION MARK
	WALL SECTION MARK
	DETAIL MARK

LOCATION MAPS



OWNER	ARCHITECT	CIVIL CONSULTANT	STRUCT. CONSULTANT	MEP CONSULTANT	LANDSCAPE CONSULTANT	CONTRACTOR	CITY OF HELOTES
BTWDR TEA CORP, A TEXAS CORPORATION AS LANDLORD WANDA BOLLER ATTN: CHRIS MUELLER 13637 LYTLE LANE HELOTES, TX 78023 760-522-7249 PHONE WBOLLER@YAHOO.COM	STEPHEN J. KRAMER ARCHITECTURE+ DESIGN, INC. STEPHEN J. KRAMER, A.I.A. 4733 SHAVANO OAK DR. STE. 103 SAN ANTONIO, TX 78249 210-479-8900 PHONE 210-479-8901 FAX SKRAMER@SKRAMER.COM	NOT IN SCOPE	ALPHA CONSULTING ENGINEERS, INC. SCOTT TAK, P.E. 13300 OLD BLANCO RD. #326 SAN ANTONIO, TX 78216 210-227-3647 PHONE stak@alphaconsultingengineers.com *IF REQUIRED	CAPCO ENGINEERING CHRIS A. PIEPER, P.E. P.O. BOX 3015 FREDERICKSBURG, TX 78624 245-595-0088 PHONE cpieper@capcoengr.com	NOT IN SCOPE	TBD	12951 BANDERA ROAD P.O. BOX 507 (MAILING) HELOTES, TX 78023 210.695.5901 PHONE COORDINATOR 210.695.5947 PHONE REPRESENTATIVE 210.695.5914 PHONE SPECIALIST MGALLARDO@HELOTES-TX.GOV EMAIL COORDINATOR NMAFIELD@HELOTES-TX.GOV EMAIL REPRESENTATIVE SDARST@HELOTES-TX.GOV EMAIL SPECIALIST

HTEAO - HELOTES
12550 E. BANDERA ROAD
HELOTES, TX 78023



Date: 07-05-2022
Dwn: BRZ Chk: SJK
Project No.: 2222
Issue:

Sheet Name:
COVER

A0.0



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Date: 07-05-2022
 Dwn: BRZ Chk: SJK
 Project No.: 2222
 Issue:

Sheet Name:
LIFE SAFETY PLAN AND DATA

A0.1

BUILDING CODE INFO & ANALYSIS

PROJECT S.F.: 1951

BUILDING USE: RESTAURANT

CONSTRUCTION TYPE (CHAPTER 6): VB

OCCUPANCY CLASSIFICATION (CHAPTER 3): M

OCCUPANCY SEPARATION (TABLE 508.4): NOT APPLICABLE TO SCOPE OF THIS PROJECT

HEIGHT DETERMINATION (SECTION 504.2):

ALLOWABLE BUILDING HEIGHT: 40'-0"

ALLOWABLE BUILDING STORIES: 1

ACTUAL BUILDING HEIGHT: EXISTING TO REMAIN

ACTUAL BUILDING STORIES: EXISTING TO REMAIN

EXITS REQUIRED (SECTIONS 1005 & 1006):

NUMBER REQUIRED: 2

NUMBER PROVIDED: 3

OVERALL EXIT WIDTH: 156 INCHES

FIRE PROTECTION (CHAPTER 9):

SMOKE DETECTION AND FIRE ALARMS TO BE PROVIDED PER 2018 INTERNATIONAL FIRE CODE

SPRINKLERS (A.F.E.S.): YES EXISTING

FIRE ALARMS: YES EXISTING

EMERGENCY LIGHTS: YES EXISTING TO REMAIN

BUILDING AGENCY JURISDICTION: CITY OF HELOTES, BEXAR COUNTY

BUILDING CODES IN EFFECT:

2015 INTERNATIONAL BUILDING CODE WITH LOCAL AMENDMENTS

2015 INTERNATIONAL MECHANICAL CODE WITH LOCAL AMENDMENTS

2015 INTERNATIONAL FIRE CODE WITH LOCAL AMENDMENTS

2015 INTERNATIONAL PLUMBING CODE WITH LOCAL AMENDMENTS

2017 NATIONAL ELECTRICAL CODE WITH LOCAL AMENDMENTS

2015 INTERNATIONAL ENERGY CONSERVATION CODE

2012 TEXAS ACCESSIBILITY STANDARDS

*ALL PENETRATIONS OF FIRE RESISTIVE FLOORS OR WALLS SHALL BE PROTECTED BY MATERIALS AND INSTALLATION DETAILS THAT CONFORM TO UNDERWRITERS LABORATORIES LISTINGS FOR THROUGH-PENETRATION FIRE STOP SYSTEMS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWING DETAILS FURNISHED BY THE MANUFACTURER OF THE FIRE STOP MATERIAL WHICH SHOW COMPLETE CONFORMANCE TO THE UL LISTING TO THE ARCHITECT AND SUCH DRAWINGS SHALL BE AVAILABLE TO THE CITY INSPECTORS. THE DRAWINGS SHALL BE SPECIFIC FOR EACH PENETRATION WITH ALL VARIABLES DEFINED.

SITE INFORMATION

BUILDING ADDRESS: 12550 E. BANDERA ROAD, HELOTES, TX 78023

LOT AND BLOCK NO.: LOT 5, BLOCK 1

ZONING: B3

FLOOD PLAN: NOT APPLICABLE

LOT COVERAGE (APPROXIMATE):

ACRES: 1.12

TOTAL SITE SQUARE FOOTAGE: 48,787.2 S.F.

IMPERVIOUS: EXISTING

PERVIOUS: EXISTING

AFFECTED SITE TOTAL AREA: EXISTING

AFFECTED SITE PERVIOUS AREA: EXISTING

FUTURE SITE AREA: EXISTING

ZONING REQUIREMENTS (REFER TO SITE PLAN)

SETBACKS:

FRONT: EXISTING

REAR: EXISTING

SIDE: EXISTING

SIDE: EXISTING

CITY PARKING REQ'TS:

SPACES REQUIRED: 1951 S.F. / 100 SF PER SPACE = 20

SPACES SHOWN: 31

PARKING:

ACTUAL PARKING SPACES: 31 EXISTING

STANDARD SPACES: 29

ACCESSIBLE (STANDARD): 1

ACCESSIBLE (VAN): 1

ADA PARKING SITE REQ'TS:

2 SPACES REQ'D PER TABLE 208.2 OF THE ARCHITECTURAL BARRIER TEXAS ACCESSIBILITY STANDARDS (TAS)

3 ACCESS POINTS ARE PROVIDED AND 1 ACCESSIBLE PER VESTING AUTHORITY

VERIFY ALL INFORMATION PROVIDED WITH CIVIL DRAWINGS, AS REQUIRED.

* REFER TO SHELL FOR MORE INFORMATION.

*ALL UTILITIES ARE AVAILABLE AT THE SITE AND SHALL BE AS SHOWN ON THE CIVIL ENGINEER'S PLANS.

*ALL COMMON AREA AND SITE SHALL CONFORM TO THE TEXAS ACCESSIBILITY STANDARDS OF THE ARCHITECTURAL BARRIER ACT (ARTICLE 9102) AND WITH THE UNITED STATES ACCESS BOARD, ADA 1990. REFER TO BUILDING PLAN.

ENERGY SUMMARY

ROOF SOLAR REFLECTANCE (3-YR AGED): 0.55 MINIMUM (TESTED IN ACCORDANCE WITH ASTM C1549, ASTM E 903 OR ASTM E 1918 OR CRRC-1 STANDARD)

ROOF THERMAL EMITTANCE (3-YR AGED): 0.75 MINIMUM (TESTED IN ACCORDANCE WITH ASTM C1371 OR ASTM E 408 OR CRRC-1 STANDARD)

ROOF SRI (3-YR AGED): 64 MINIMUM (DETERMINED IN ACCORDANCE WITH ASTM E 1980 USING CONVECTION COEFFICIENT OF 2.1 BTU/H - FT² - °F)

ROOF R-VALUE: EXISTING R-30 CONTINUOUS RIGID INSULATION TO REMAIN

WALL R-VALUE: EXISTING INSULATION TO BE REPLACED TO MEET R-21 VALUE

OPAQUE DOOR U-FACTOR: SWINGING = 0.61 MAX.

FENESTRATION U-FACTOR: FIXED = 0.5 MAX. / GLAZED ENTRANCE DOORS = 0.83 MAX.

FENESTRATION SHGC: 0.25 MAX. (OR 0.30 OR 0.40 W/ PROJECTION FACTORS)

MAX. VERTICAL FENESTRATION CALCULATION: 131 VERT. FEN. S.F. / 785 WALL S.F. = 16%-17% 3U% MAX.

SKYLIGHT DATA: NO SKYLIGHTS REQUIRED/PROVIDED. B.O. ROOF DECK < 15'-0" NO SKYLIGHTS REQUIRED/PROVIDED. < 75% CLG. AREA > 15'-0"

*CONTRACTOR MUST INSURE ALL MINIMUM VALUES ARE MET.

PLUMBING FIXTURE COUNT:

FIXTURE REQUIREMENTS (TABLE 2092.1)

TOTAL OCCUPANTS: 22 / 2 (MEN & WOMEN)= 11

TOILET REQUIREMENTS: 1.25 FOR FIRST 50 & 1.50 THEREAFTER OCCUPANTS REQ'D
2 EXISTING TOILETS PROVIDED

LAVATORY REQUIREMENTS: 1.40 FOR THE FIRST 80 AND 1.80 THEREAFTER OCCUPANTS REQ'D
2 EXISTING LAVATORYS PROVIDED

DRINKING FOUNTAIN REQ'S (1 MIN.): 0 PROVIDED

SERVICE SINK (1 MIN.): 1 PROVIDED

*ALL PLUMBING, MECHANICAL, AND ELECTRICAL SUBCONTRACTORS SHALL SECURE SEPARATE PERMITS FOR THEIR WORK IF REQUIRED BY THE CITY.

CODE ANALYSIS LEGEND:

X SF	OCCUPANT LOAD
(X OCC)	CALCULATED ROOM
↑	PRIMARY EGRESS PATH
↑	SECONDARY EGRESS PATH
---	() HOUR RATED FIRE ASSEMBLY
---	BUILDING DIAGONAL
---	EXIT TRAVEL DISTANCE
⊕ --- →	COMMON PATH OF TRAVEL
>	DIRECTION OF TRAVEL
⊙ 20	FIRE RATED DOOR (IN MIN.) IF REQ'D

FIRE ALARM SYSTEM LEGEND:

(A)	ANSULARY SYSTEM
⊗	EMERGENCY EXIT
⊕	EMERGENCY LIGHTING
(H)	HEAT DETECTOR
(S)	SMOKE DETECTOR
FHS	FIRE HORN STROBE
FS	FIRE STROBE
FAP	FIRE ALARM PANEL
FEC	FIRE EXTINGUISHER CABINET
FP	FIRE PULL

*ALARM SYSTEM TO COMPLY WITH LOCAL, INTERNATIONAL BUILDING CODE, NFPA AND U.L. VERIFY ALL LOCATIONS AND DEVICES WITH EQUIPMENT VENDOR AND/OR MEP DRAWINGS

OCCUPANT LOAD:

NAME	AREA	LOAD	FACTOR	OCCUPANCY
KITCHEN	896 SF	200 SF	GROSS	4.48
MERCANTILE	1055 SF	60 SF	GROSS	17.58
TOTALS	1951 SF			22.06

FIRE RESISTANCE RATING REQ'TS:

STRUCTURAL FRAME INCLUDING COLUMNS, GIRDERS, TRUSSES	0 HOURS
BEARING WALLS EXTERIOR INTERIOR	0 HOURS
NONBEARING WALLS & PARTITIONS EXTERIOR INTERIOR	0 HOURS 0 HOURS
FLOOR CONSTRUCTION INCLUDING SUPPORTING BEAMS & JOISTS	0 HOURS
ROOF CONSTRUCTION INCLUDING SUPPORTING BEAMS & JOISTS	0 HOURS

*FIRE SEPARATION DISTANCE IS GREATER THAN 10' ON ALL SIDES.

BASED ON TABLES 601 AND 602 OF 2018 IBC.

*NOT APPLICABLE TO SCOPE OF THIS PROJECT

EXTERIOR WALL FIRE RESISTIVE RATING (V-B CONST.)
BASED ON FIRE SEPARATION (TABLE 602)

X < 5'	1 HOUR	X = FIRE SEPARATION DISTANCE
5' < X < 10'	1 HOUR	
10' < X < 30'	1 HOUR	
X > 30'	NO REQUIREMENT	

EXIT TRAVEL DISTANCE:

EXIT ACCESS AND CONFIGURATION (SECTION 1007)

BUILDING/SUITE DIAGONAL: 70' - 11"

1/2 OF DIAGONAL: 35' - 5 1/2"

EXIT SEPARATION 1: 39' - 9"

MAXIMUM TRAVEL / COMMON PATH OF TRAVEL DISTANCE

COMMON PATH ALLOWED (TABLE 1006.2.1) 100' - 0"

MAX DISTANCE ALLOWED (TABLE 1017.2) 200' - 0" (M - OCCUPANCY - NON-SPRINKLED)

MAX DISTANCE (MEASURED PER 1017.3) 69' - 2"

SECTION 1020 - CORRIDORS

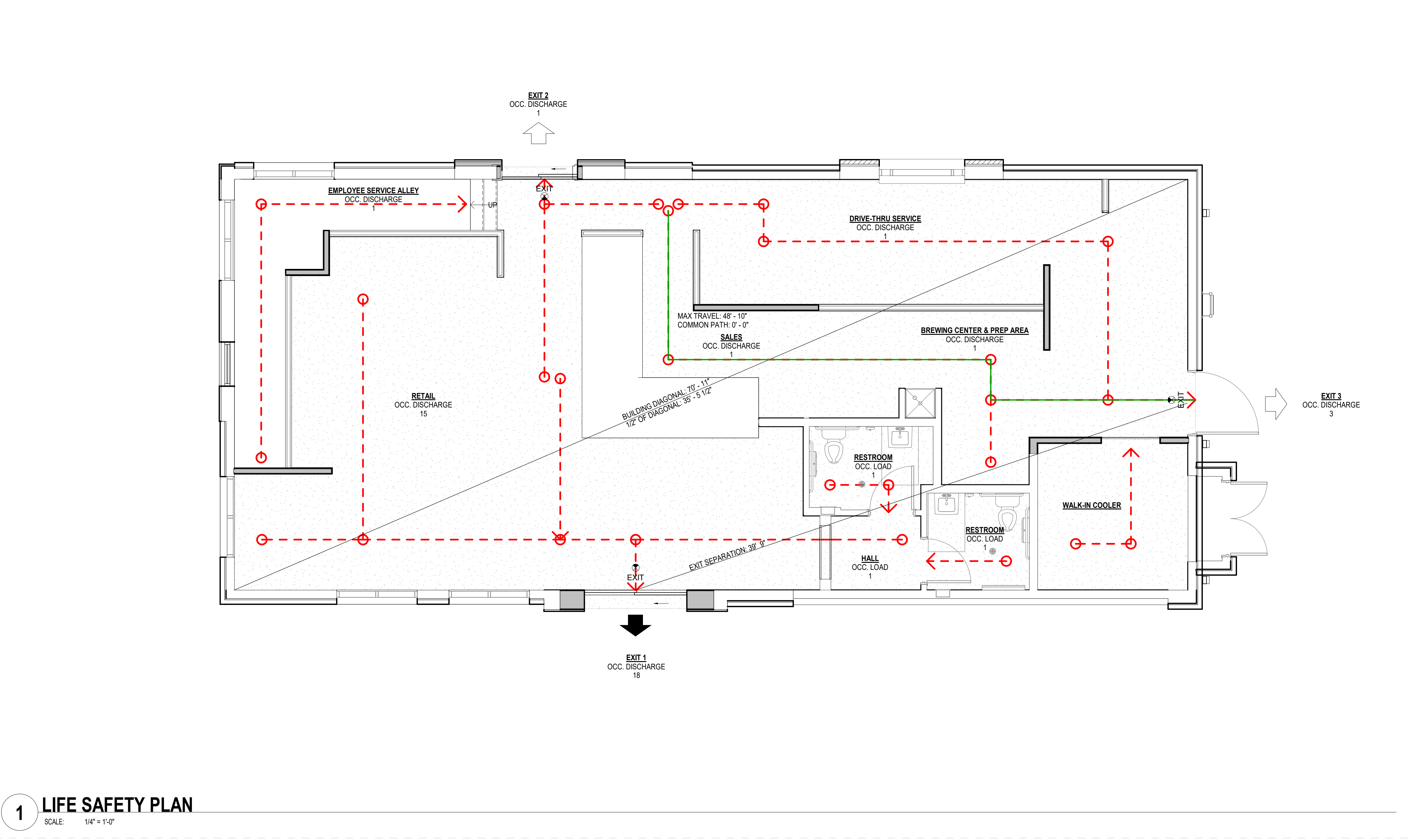
-NO RATING REQUIRED WITH SPRINKLED BUILDING

-NO CORRIDORS IN BUILDING (ONLY WITHIN SUITE)

*MANUALLY OPERATED FLUSH EDGE BOLTS, SURFACED MOUNTED BOLTS, AND SURFACE BOLTS ARE PROHIBITED ON EXIT DOORS. IF BOLTS ARE REQUIRED ON ANY EXIT DOOR THEY SHALL BE AUTOMATIC FLUSH BOLTS.

*ALL EXITS SHALL BE OPERABLE FROM THE INSIDE OF THE SPACE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE DURING NORMAL BUSINESS HOURS.

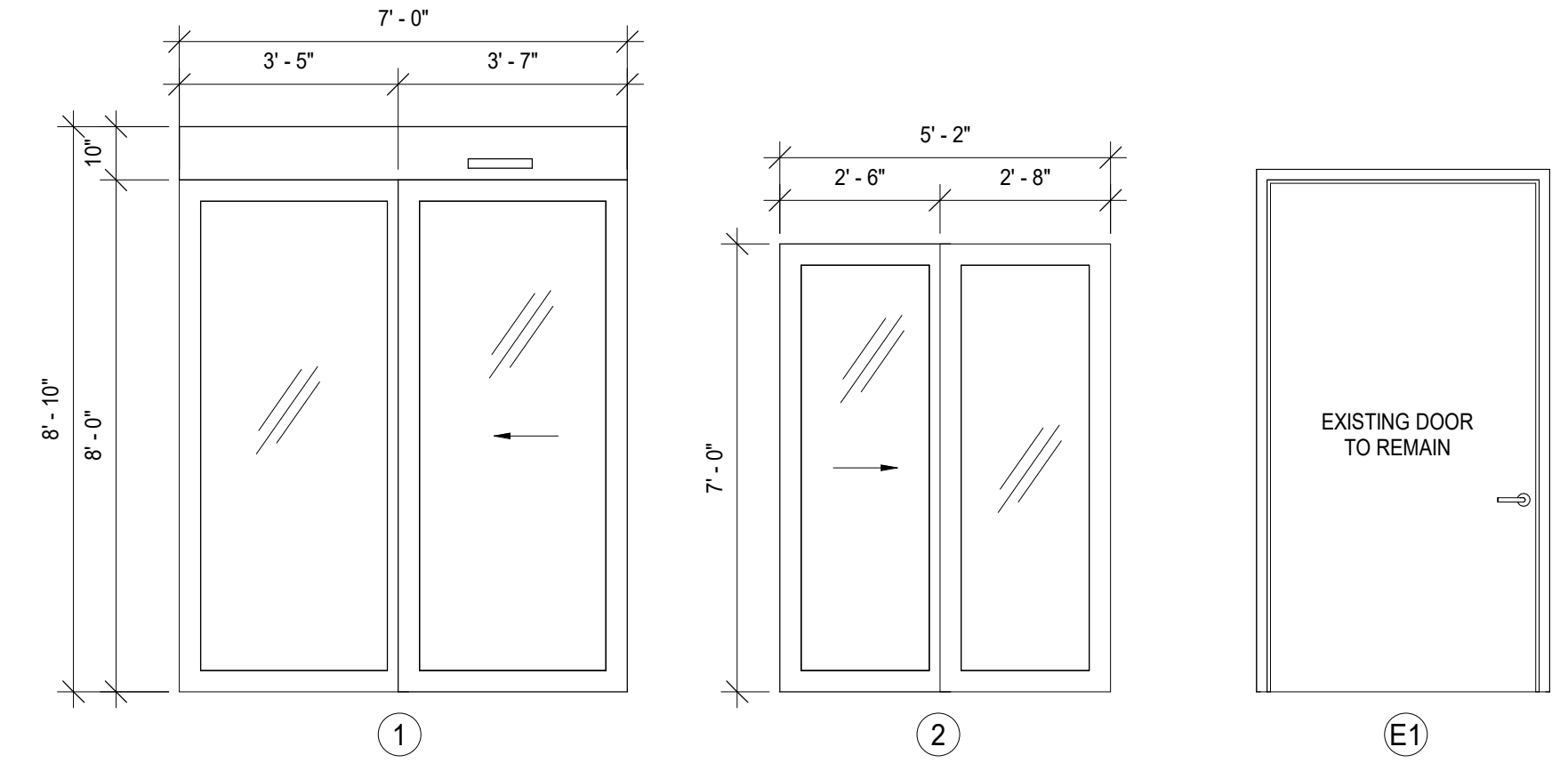
*ALL GLASS SUBJECT TO HUMAN IMPACT SHALL CONFORM TO THE STANDARDS SET FORTH BY CHAPTER 24 OF THE I.B.C.



1 LIFE SAFETY PLAN

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

DOOR SCHEDULE							
TYPE MARK	WIDTH	HEIGHT	DOOR TYPE	DOOR FINISH	DOOR FRAME FINISH	DOOR HARDWARE	COMMENTS
1	7'-0"	8'-0"	ALUMINUM/GLASS	CLEAR ANODIZED	BRUSHED ALUMINUM	G	AUTOMATED ENTRY DOOR W/ BASIS-OF-DESIGN: DORMA ESA100 - WITH TRANSOM - PROVIDE 10" BOTTOM RAIL PER TAS
2	5'-2"	7'-0"	ALUMINUM/GLASS	CLEAR ANODIZED	BRUSHED ALUMINUM	G	MANUALLY OPERATED PASS-THRU DOOR
E1	4'-3"	8'-0"	HOLLOW METAL	P-3	P-3	C	EXISTING EXIT DOOR TO BE REPAINTED
E2	5'-0"	8'-0"	HOLLOW METAL	P-3	P-3	C	DOUBLE ELECTRICAL CLOSET DOOR TO BE REPAINTED
E3	3'-0"	8'-0"	SOLID CORE WOOD	ST-1	P-3	B	BATHROOM DOORS TO BE REFINISH



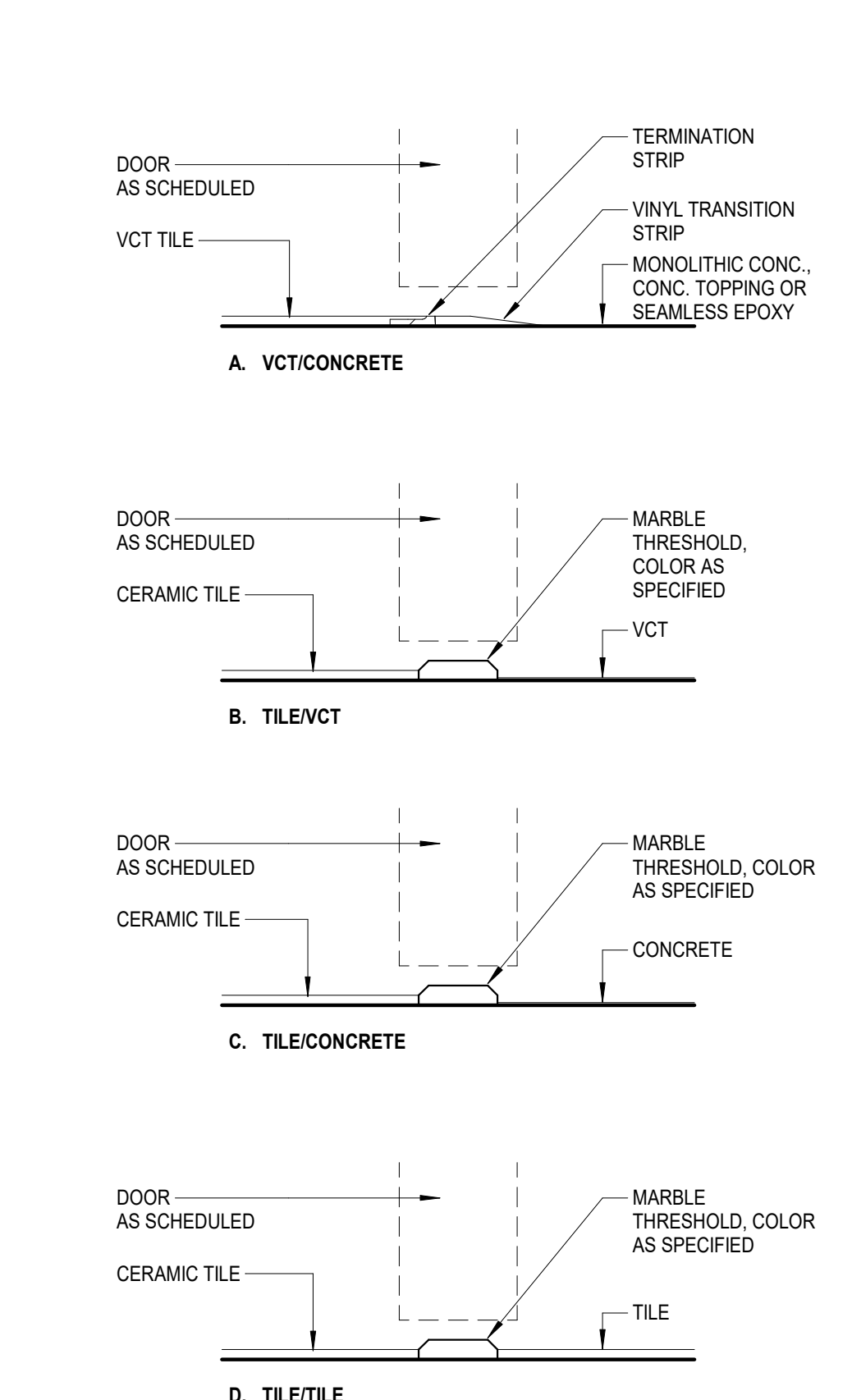
DOOR ELEVATIONS

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

HARDWARE SET:

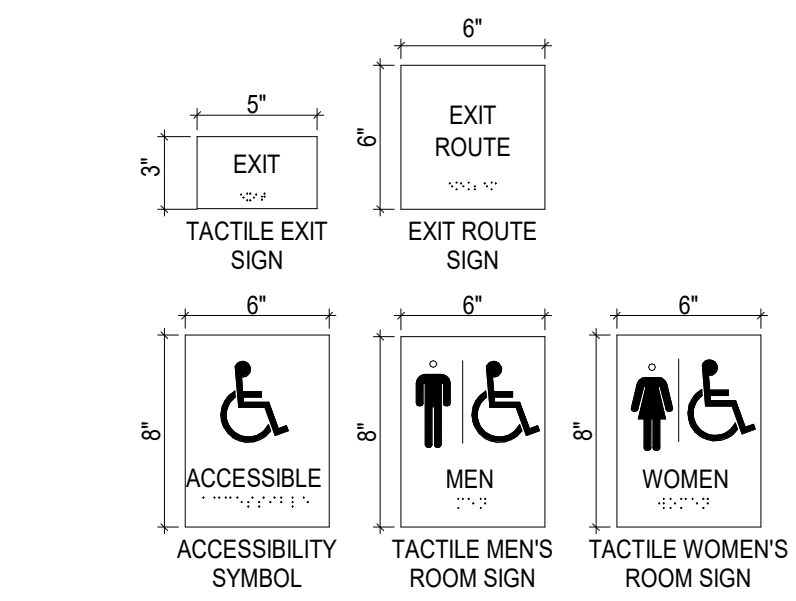
- A - 3 FULL MORTISE BUTT HINGES, LEVER HANDLES AND PASSAGE SET
- B - 3 FULL MORTISE BUTT HINGES, LEVER HANDLES AND PRIVACY LOCKSET
- C - 3 FULL MORTISE BUTT HINGES, LEVER HANDLES AND KEYED LOCKSET
- D - 3 FULL MORTISE BUTT HINGES, PUSH-PULL HANDLE SET
- E - 3 FULL MORTISE BUTT HINGES, PUSH-PULL HANDLES, DOUBLE CYLINDER DEAD BOLT, CLOSER, WEATHERSTRIP, AND ACCESSIBLE THRESHOLD.
- F - 3 FULL MORTISE BUTT HINGES, LEVER HANDLES, PANIC HARDWARE, CLOSER, WEATHERSTRIP, ACCESSIBLE THRESHOLD AND KEYED LOCKSET
- G - AS DESIGNED PER MANUFACTURER SPECIFICATIONS

NOTE: PROVIDE PANIC HARDWARE AT ALL EXIT DOORS AS REQUIRED BY CODE. VERIFY ALL ROUGH OPENING SIZES BEFORE ORDERING. VERIFY ALL DOOR HARDWARE AND FINISHES WITH OWNER PRIOR TO ANY WORK. PROVIDE TEMPERED GLASS ON DOORS AS REQUIRED BY CODE. PROVIDE WALL AND FLOOR STOPS AS REQUIRED.



FLOOR TRANSITION DETAILS

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



GENERAL CONTRACTOR TO VERIFY EXISTING SIGNAGE IN FIELD AND PROVIDE NEW AS REQUIRED TO COMPLY WITH APPLICABLE BUILDING CODES.

ALL SIGNAGE SHALL CONFORM WITH ADA ACCESSIBILITY GUIDELINES, INCLUDING BUT NOT LIMITED TO PROPORTION, COLOR, CONTRAST & RELIEF AND GRADE 2 BRAILLE REQUIREMENTS.

SIGNAGE: AFFIX AN INTERNATIONAL ACCESSIBILITY SYMBOL ON ALL ACCESSIBLE ENTRANCES PER APPLICABLE BUILDING CODE.

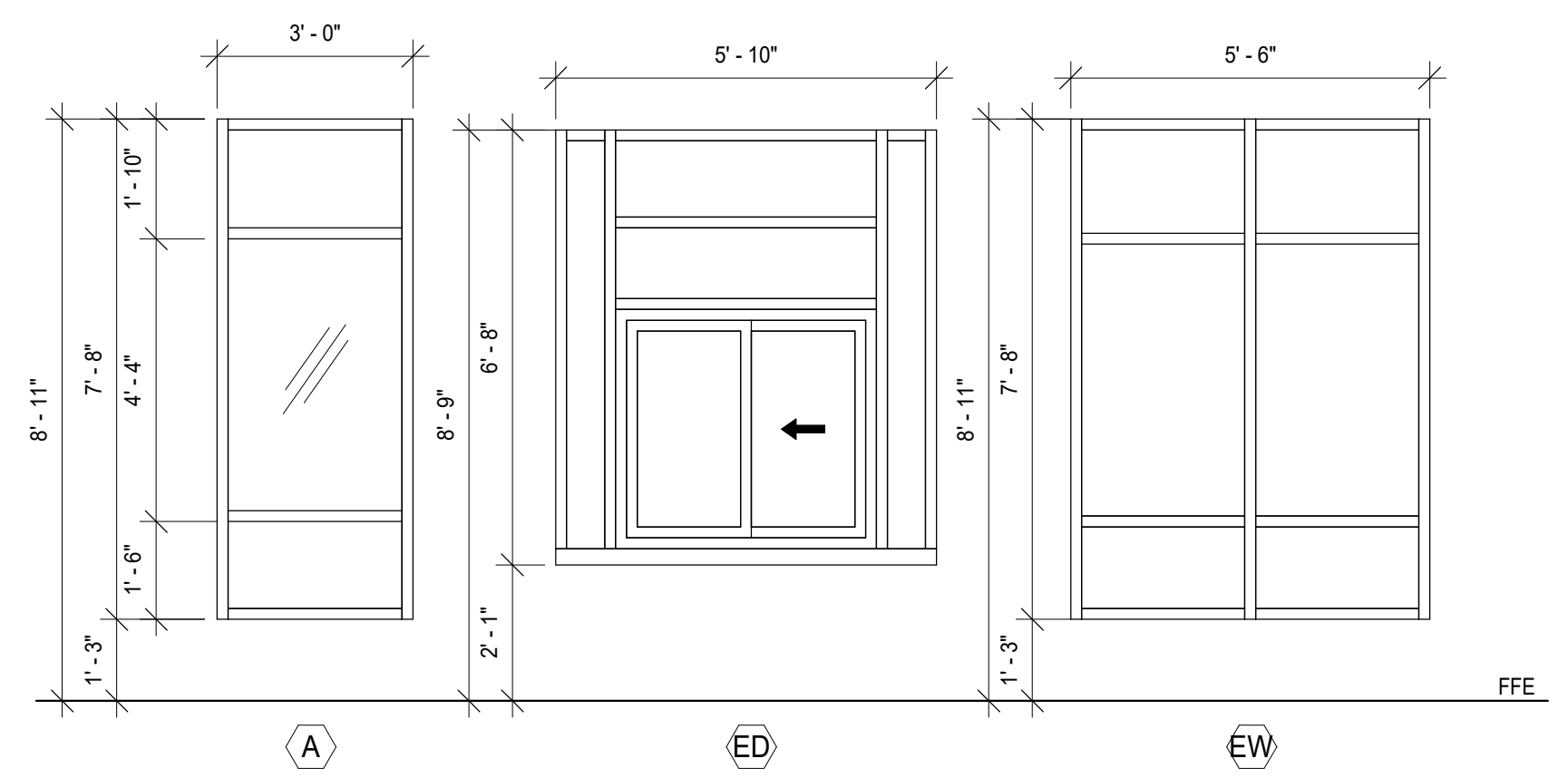
- STRIKE EDGE CLEARANCE AT DOORWAY:**
- PROVIDE 18" STRIKE EDGE CLEARANCE ON THE PULL SIDE OF INTERIOR DOORS.
 - PROVIDE 24" STRIKE EDGE CLEARANCE ON THE PULL SIDE OF THE EXTERIOR DOOR.
 - PROVIDE 12" STRIKE EDGE CLEARANCE ON THE PUSH SIDE OF ALL DOORS WHICH HAVE BOTH A LATCH AND A CLOSER.

- TACTILE EXIT SIGNAGE:**
- A TACTILE EXIT SIGN WITH THE WORD "EXIT" SHALL IDENTIFY EACH GRADE LEVEL EXTERIOR EXIT DOOR.
 - A TACTILE EXIT SIGN WITH THE WORDS "EXIT ROUTE" SHALL IDENTIFY EACH EXIT ACCESS DOOR FROM AN INTERIOR ROOM OR AREA TO A CORRIDOR OR HALLWAYS THAT IS REQUIRED TO HAVE A VISUAL EXIT SIGN.
 - GENERAL CONTRACTOR TO VERIFY EXISTING SIGNAGE INSTALLATIONS AND PROVIDE NEW AS REQUIRED.
 - CHARACTERS, SYMBOLS AND BACKGROUND SHALL HAVE A NON-GLARE FINISH. CHARACTERS AND SYMBOLS SHALL CONTRAST WITH THE BACKGROUND, EITHER LIGHT ON DARK BACKGROUNDS OR DARK ON LIGHT BACKGROUND.
 - SIGNS TO INCLUDE BRAILLE AND CHARACTERS AS DEFINED BY CODE.
 - MOUNT SIGNAGE AT 60" A.F.F. TO THE CENTER OF THE SIGN. MOUNTING LOCATION SHALL BE SO THAT A PERSON APPROACHING WITHIN 3" OF SIGN DOES NOT ENCOUNTER PROTRUDING OBJECTS OR WITHIN THE SWING OF A DOOR.

ADA SIGNAGE

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

WINDOW SCHEDULE						
TYPE MARK	TYPE	ROUGH WIDTH	ROUGH HEIGHT	HEAD HEIGHT	DESCRIPTION	COMMENTS
A	3 Panel	3'-0"	7'-8"	8'-11"	STOREFRONT STYLE WINDOW	NEW FIXED WINDOW
ED	Storefront Drive-Thru Window	5'-6"	6'-5"	8'-9"	DRIVE-THRU WINDOW	EXISTING WINDOW TO REMAIN
EW	Storefront style window	5'-6"	6'-5"	8'-11"	DRIVE-THRU WINDOW	EXISTING WINDOW TO REMAIN

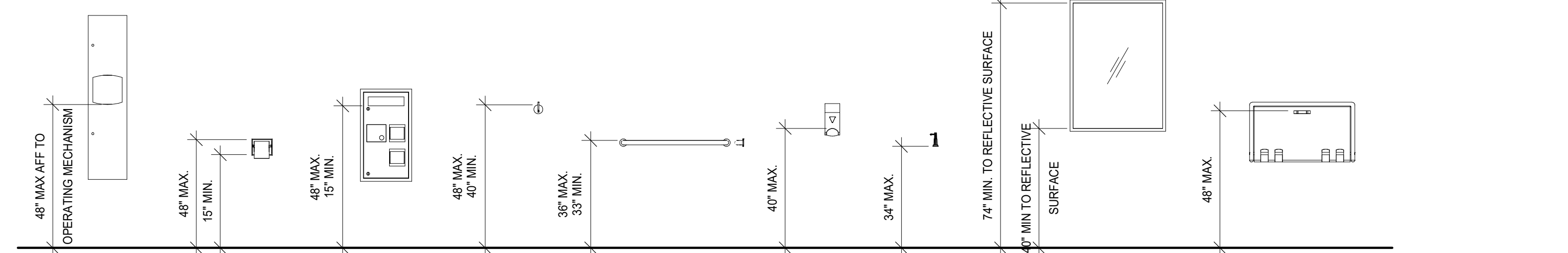


WINDOW ELEVATIONS

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

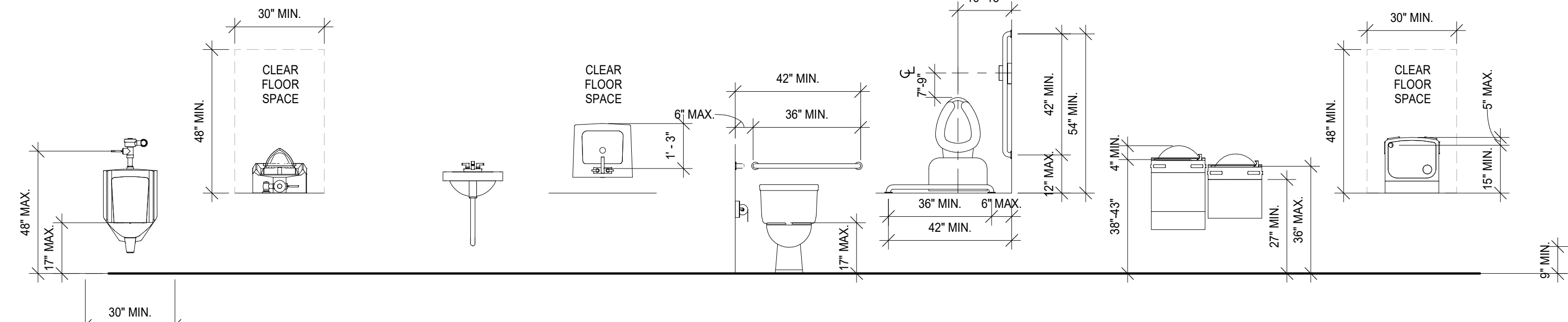
FINISH SCHEDULE											
NUMBER	NAME	FLOOR FINISH	BASE FINISH	WALL FINISH	WALLS:				CEILING:		COMMENTS
					NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL	CEILING FINISH	CEILING HEIGHT	
1	RETAIL	F-1	B-1	P-1	P-1	P-1	P-1	P-1	P-1	EXPOSED	REFER TO RCP
2	SALES	F-1	B-1	FRP	FRP	FRP	FRP	FRP	FRP	EXPOSED	REFER TO RCP
3	BREW CENTER	F-1	B-1	FRP	FRP	FRP	FRP	FRP	FRP	2X2 ACT/PL-1	13'-0"
4	RESTROOM	F-1	TILE	CT-1/CT-2/P-1	CT-1/CT-2/P-1	CT-1/CT-2/P-1	CT-1/CT-2/P-1	CT-1/CT-2/P-1	CT-1/CT-2/P-1	EXISTING	"CLOUDS" TO BE FINISHED WITH PL-1
5	RESTROOM	F-1	TILE	CT-1/CT-2/P-1	CT-1/CT-2/P-1	CT-1/CT-2/P-1	CT-1/CT-2/P-1	CT-1/CT-2/P-1	CT-1/CT-2/P-1	P-2	EXISTING
6	PREP AREA	F-1	B-1	FRP	FRP	FRP	FRP	FRP	FRP	2X2 ACT	10'-0"
7	WALK-IN COOLER										
8	DRIVE-THRU SERVICE	F-1	B-1	FRP	FRP	FRP	FRP	FRP	FRP	2X2 ACT/PL-1	10'-0"
9	EMPLOYEE SERVICE ALLEY	LVT-1	B-1	P-1	P-1	P-1	P-1	P-1	P-1	EXPOSED	13'-0"
10	VESTIBULE	F-1	B-1	P-1	P-1	P-1	P-1	P-1	P-1	EXPOSED	13'-0"

MATERIAL SCHEDULE				
KEY NAME	DESCRIPTION	MANUFACTURER	STYLE/PATTERN/COLOR	COMMENTS
B-1	VINYL WALL BASE	-	40 BLACK B (4" X 80" THICK)	
CS-1	COMPOSITE SIDING	NEWTechWOOD	BRAZILIAN IPE, PERUVIAN TEAK, SPANISH WALNUT, & HAWAIIAN CHARCOAL	EQUAL MIX OF ALL COLORS. CORNERS AND TRIM TO BE BRAZILIAN IPE
CT-1	CERAMIC TILE	JOHNSONITE	3"x6" GLAZED WHITE SUBWAY TILE	
CT-2	CERAMIC TILE	-	WHITE BULL NOSE TRIM	MATCH CT-1
F-1	STAINED CONCRETE	CHEM-STONE	ANTIQUE GREEN (MATTE FINISH) WITH CLEAR MATTE SEALER	GC TO PROVIDE ALTERNATE BID FOR PREP AND STAINING OF EXISTING CONCRETE FLOOR
F-2	EPOXY CONCRETE	ELITE CRETE SYSTEM	EPOXY COATING PEARL AND GREEN APPLE	GC TO PROVIDE ALTERNATE BID FOR PREP AND COATING OF EXISTING CONCRETE FLOOR
FRP	FIBER REINFORCED PLASTIC	CRANE COMPOSITES	WHITE (GLASSBOARD WITH SURFSEAL)	WET WALL JANITORS CLOSET
LVT-1	LUXURY VINYL TILE	ARMSTRONG VCT	POLAR WHITE 51941	FOR EMPLOYEE SERVICE ALLEY PLATFORM. INSTALLED BY GC
M-1	"CLOUD" EDGE TRIM	-	NATURAL MILL FINISH STEEL WITH CLEAR COAT FINISH	BOTTOM EDGE TRIM OF CLOUDS
M-2	STAIR EDGING	-	ALUMINUM	PLACED ON STAIRS ENTERING EMPLOYEE SERVICE ALLEY
MT-1	METAL CORNER	-	ANGLE IRON NO FINISH	ON OUTSIDE CORNERS, CLOUDS AND DRIVE-THRU
MT-2	METAL SHEATHING	-	-	ON DRIVE-THRU 8' AFF. SHOULD HAVE NO FRP. VINYL CORNER BEAD OR PROTRUSION
P-1	PAINT	SHERWIN-WILLIAMS	AUSTERE GREY SW 6184 - EGG SHELL FINISH	DRYWALL FINISH - LEVEL 5 THROUGHOUT
P-2	PAINT	SHERWIN-WILLIAMS	SW 2636 - BLACK EMERALD - EGG SHELL FINISH	PAINT ABOVE TRUSS BEARING LINE, TRUSSES & CEILING
P-3	PAINT	SHERWIN-WILLIAMS	SW 7864 - "STEELY GRAY" - SEMI-GLOSS FINISH	HOLLOW METAL DOOR FRAMES
P-4	PAINT	SHERWIN-WILLIAMS	P1 + SEMI-GLOSS FINISH	BATHROOMS & SELFIE WALL - LOCATION TBD
P-5	PAINT	SHERWIN-WILLIAMS	SW 7002 DOWNY	PAINT OVER ALL EXTERIOR BRICK
PL-1	PLASTIC LAMINATE	WILSONART	7997 / 38 EBONY RECON	CABINET, CLOUD & FURR DOWN
QT-1	QUARTZ COUNTERTOP	MSI	ICE WHITE (30MM/3CM - NO STACK)	POS COUNTER & FRUIT BAR
ST-1	WOOD STAIN	SHERWIN-WILLIAMS	SW DARK WALNUT	WOOD DOORS



TYPICAL ADA MOUNTING HEIGHTS

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



ADA STANDARDS

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

GENERAL NOTES

- CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO COMMENCEMENT OF ANY WORK.
- NOTIFY ARCHITECT OF ANY DISCREPANCIES.
- ALL EXTERIOR HOLLOW METAL DOORS TO BE GALVANIZED.
- ALL EXTERIOR HOLLOW METAL UNITS TO CONDITIONED SPACES SHALL BE INSULATED.
- CONTRACTOR TO VERIFY ALL DOOR SIZES PRIOR TO ORDERING.
- REFER TO DOOR HARDWARE SCHEDULE FOR FIRE RATED DOORS.

DOOR NOTES

- ALL DOOR DIMENSIONS SHOWN ON THIS SHEET ARE UNIT SIZES, UNLESS OTHERWISE NOTED.
- ALL INTERIOR DOORS SHALL HAVE APPROPRIATE THRESHOLDS AT DOORWAY WHEN FINISH FLOORING MATERIAL IS DIFFERENT FROM ROOM TO ADJOINING ROOM.
- ALL EXTERIOR DOORS SHALL HAVE ALUMINUM THRESHOLDS, DOOR SWEEPERS & WEATHER STRIPPING ALL AROUND.
- ALL EXISTING AND/OR NEW INSTALLATION SHALL BE IN COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ALL NEW DOORS SHALL HAVE HINGES AS RECOMMENDED BY MANUFACTURER.
- CONTRACTOR OR HARDWARE SUPPLIER SHALL SUBMIT A HARDWARE SCHEDULE FOR APPROVAL PRIOR TO INSTALLATION.

WINDOW NOTES

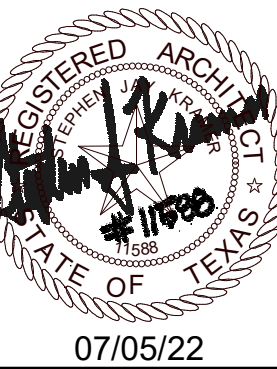
- ALL WINDOW DIMENSIONS SHOWN ON THIS SHEET ARE FRAME SIZES, UNLESS OTHERWISE NOTED. PROVIDE MASONRY OPENING AS PER MANUFACTURER'S RECOMMENDATION.
- ALL WINDOWS SHALL BE THOROUGHLY SEALED, CAULKED AND WATERPROOFED.
- WINDOW SUPPLIER SHALL FIELD VERIFY ALL EXISTING WINDOW OPENINGS AND CONTRACTOR SHALL MAKE ALL REQUIRED ADJUSTMENTS TO EXISTING MASONRY OPENING SIZES TO ACCOMMODATE AVAILABLE WINDOWS.

ROOM FINISH NOTES

- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER PREPARATION OF ALL NEW AND EXISTING SURFACES IN SATISFACTORY MANNER. TOUCH-UP AND/OR REFINISH OF SURFACES DAMAGED BY SUBSEQUENT WORK SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. ALL WORK SHALL BE PERFORMED IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDED INSTALLATION METHODS. THE GENERAL CONTRACTOR SHALL PREPARE THE EXISTING FLOOR PRIOR TO THE APPLICATION OF FINISH FLOORING. THE EXISTING CONCRETE SLAB MUST BE SMOOTH AND LEVEL TO WITHIN A TOLERANCE OF ONE-EIGHTH INCH PER FOOT. LATEX CEMENT PATCHING COMPOUND SHALL BE UTILIZED (NO ASPHALT BASED COMPOUNDS).
- ALL SURFACES WHICH ARE TO RECEIVE A PAINT FINISH SHALL BE PRIMED AND FINISHED IN ACCORDANCE WITH THE FINISH MATERIAL MANUFACTURER'S SUGGESTIONS / RECOMMENDATIONS.
- ALL JOINTS IN GYPSUM BOARD WALLS SHALL BE FINISHED WITH PAPER TAPE 2" WIDE AND THREE COATS OF VINYL DRY OR PREMIUM JOINT COMPOUND. ALL OUTSIDE CORNERS SHALL BE FINISHED WITH METAL CORNER BEADS TAPED AND SPACKLED. ALL AREAS TO BE PAINTED SHALL BE SANDED SMOOTH. JUST PRIOR TO THE APPLICATION OF THE FIRST COAT OF PAINT, WIPE SANDED SURFACES WITH DAMP CLOTH IN ORDER TO LAY FLAT ANY NAP WHICH MAY HAVE FORMED IN SANDING.
- THE PAINT CONTRACTOR SHALL REMOVE ALL HARDWARE, SWITCH COVERS, ETC. PRIOR TO PAINTING AND BE RESPONSIBLE FOR THE REINSTALLATION AFTER PAINTING IS COMPLETED.
- FINISH FLOORING INSTALLATION SHALL BE IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDED INSTALLATION GUIDELINES. COORDINATE THE INSTALLATION WITH ALL OTHER TRADES.
- ALL JOINTS BETWEEN MATERIALS TO BE TIGHT AND CONSTRUCTED IN A NEAT WORKMANLIKE MANNER.
- ALL FINISHES SHALL BE TOUCHED UP TO CORRECT ANY IMPERFECTIONS AFTER INSTALLATION. FIXTURE MANUFACTURER SHALL PROVIDE TO THE GENERAL CONTRACTOR ALL MATERIALS FOR TOUCH UP WORK.
- THE INTENT OF THE FINISH SPECIFICATIONS IS TO PROVIDE A SATISFACTORY FINISH TO ALL PARTS OF THE WORK. COVER ALL SURFACES THOROUGHLY. IF THE SPECIFIED NUMBER OF COATS DOES NOT ACCOMPLISH THE INTENT, THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE APPLICATION OF THE ADDITIONAL COATS OF THE SPECIFIED MATERIAL TO GIVE SATISFACTORY COVERAGE, AT NO ADDITIONAL COST TO OWNER.
- VINYL TILE INSTALLATION SHALL BE FREE OF BUCKLES, JOINTS OR IMPERFECTIONS. SEAMS SHALL BE IN ACCURATE ALIGNMENT ALONG BOTH COORDINATES. UPON COMPLETION, PROVIDE FIFTEEN FULL EXTRA TILES FOR FUTURE USE.
- CLEAN ALL GLASS SURFACES WITH LIQUID GLASS CLEANER AT PROJECT COMPLETION.



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SCHEDULES

A0.2

GENERAL SITE NOTES

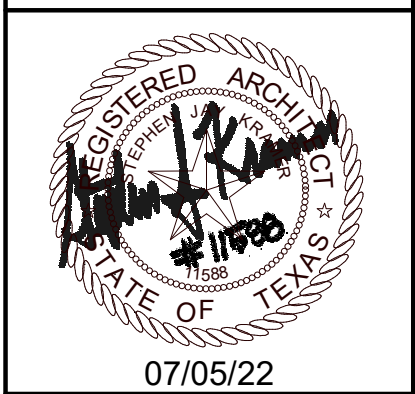
1. CONTRACTOR SHALL VERIFY ALL EXISTING AND PROPOSED SITE ELEMENTS AND NOTIFY ARCHITECT OF ANY DISCREPANCIES. SURVEY DATA OF EXISTING CONDITIONS WAS PROVIDED BY OTHERS.
2. CONTRACTOR SHALL LOCATE ALL EXISTING UNDERGROUND UTILITIES AND NOTIFY ARCHITECT OF ANY CONFLICT BEFORE CONSTRUCTION COMMENCE. CONTRACTOR SHALL EXERCISE CAUTION WHEN WORKING IN THE VICINITY OF UNDERGROUND UTILITIES.
3. REPLACE/UPDATE ANY SITE ELEMENTS THAT ARE DAMAGED OR NO LONGER FUNCTIONING PROPERLY AS ORIGINALLY DESIGNED (SPRINKLERS, TREE CONDITIONS, LANDSCAPING, LIGHTING, ETC.)
4. ALL EXISTING STRIPPING TO BE REFINISHED OR CLEANED TO LOOK LIKE NEW.
5. ALL SITE STRIPPING TO BE WHITE

SITE PLAN LEGENDS

- PROPERTY LINE
- FIRE LANE
SHALL READ "NO PARKING FIRE LANE" EVERY 15'
- [Pattern] LANDSCAPING BED / DECOMPOSED GRANITE
- [Down Arrow] SODDED AREA
- [Dotted Box] CONCRETE



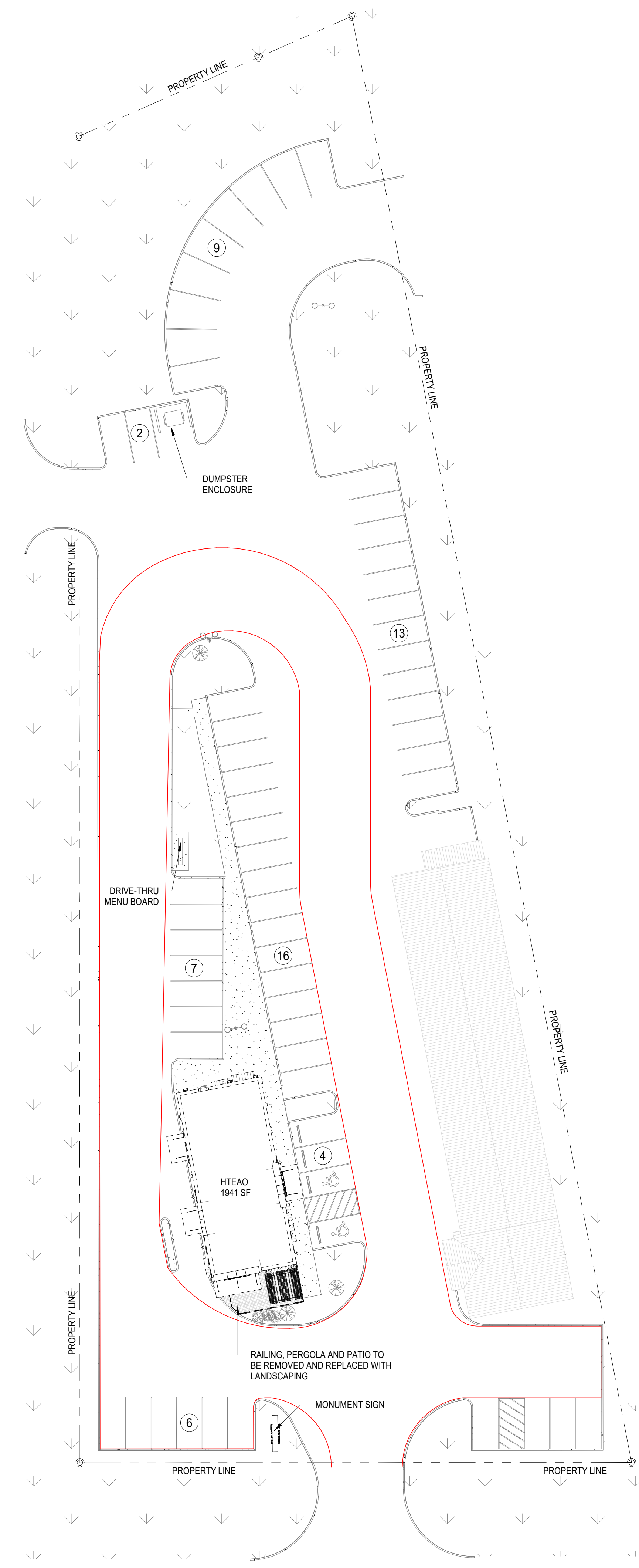
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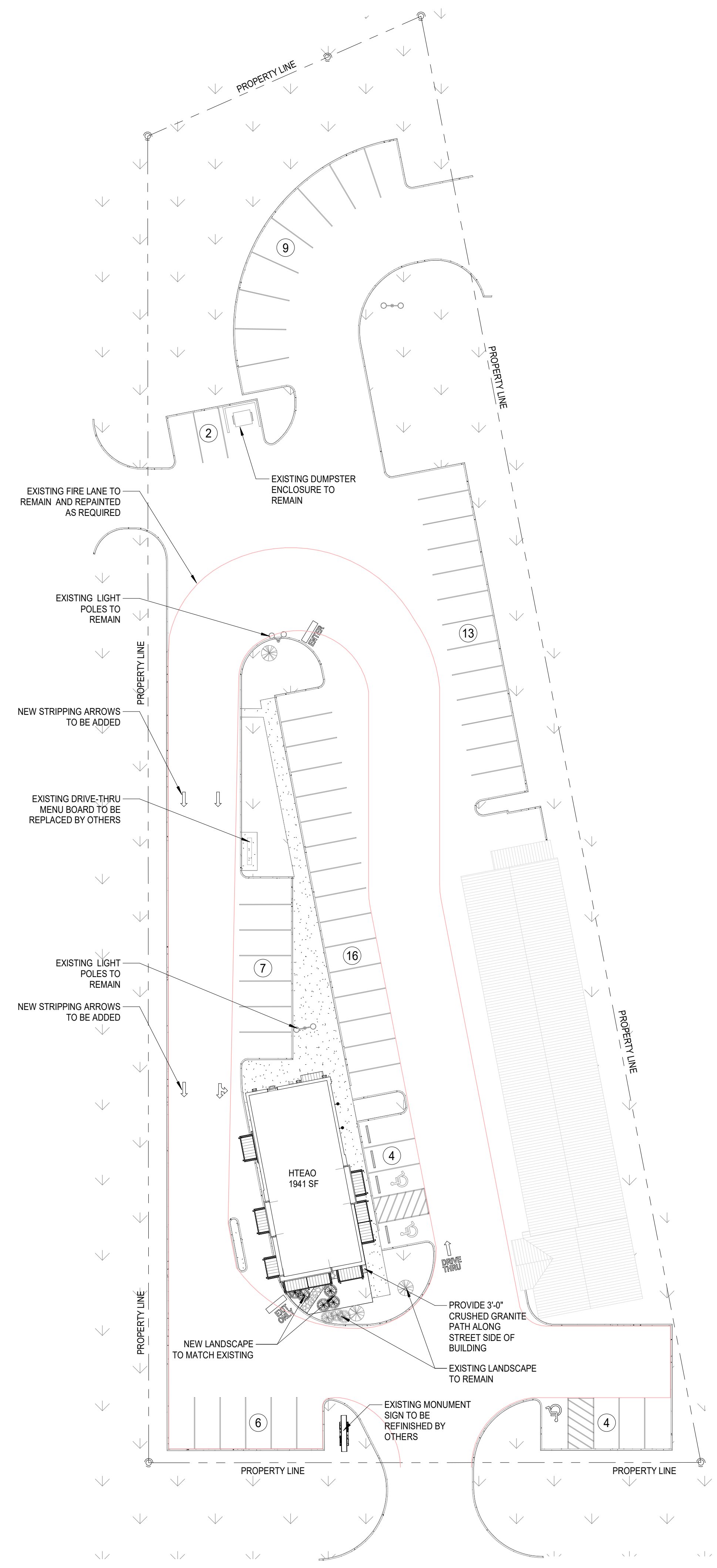
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 Dwn: BRZ Chk: SJK
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 EXISTING,
 DEMO. & NEW
 ARCH SITE
 PLAN

D1.0

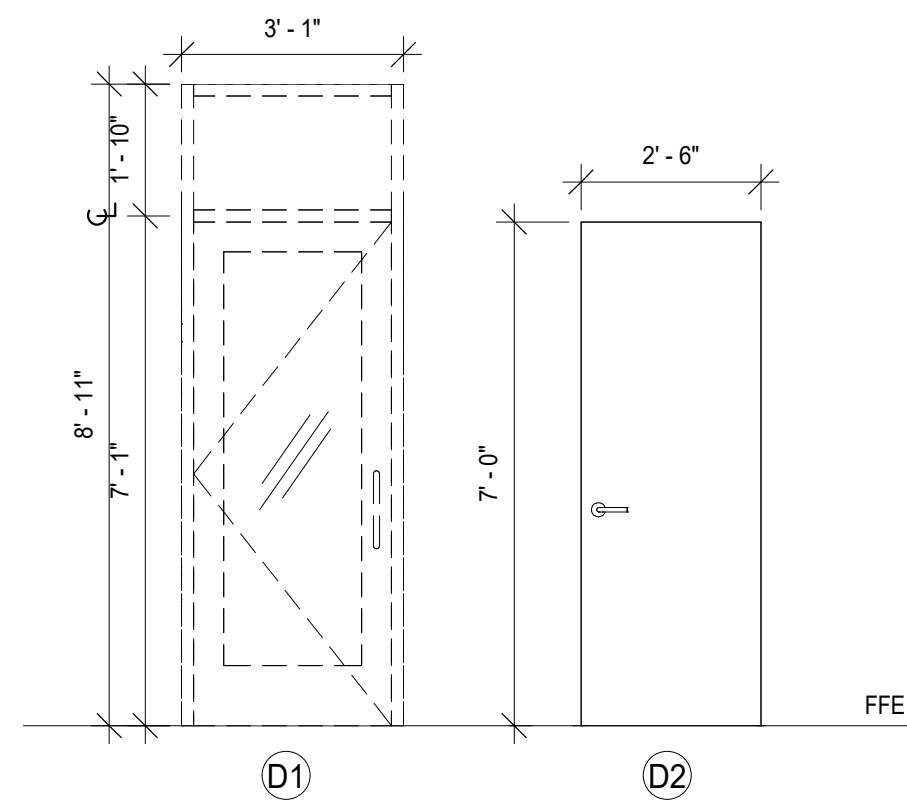


1 EXISTING & DEMO. ARCH. SITE PLAN
 SCALE: 1" = 25'-0"



2 NEW ARCH. SITE PLAN
 SCALE: 1" = 25'-0"

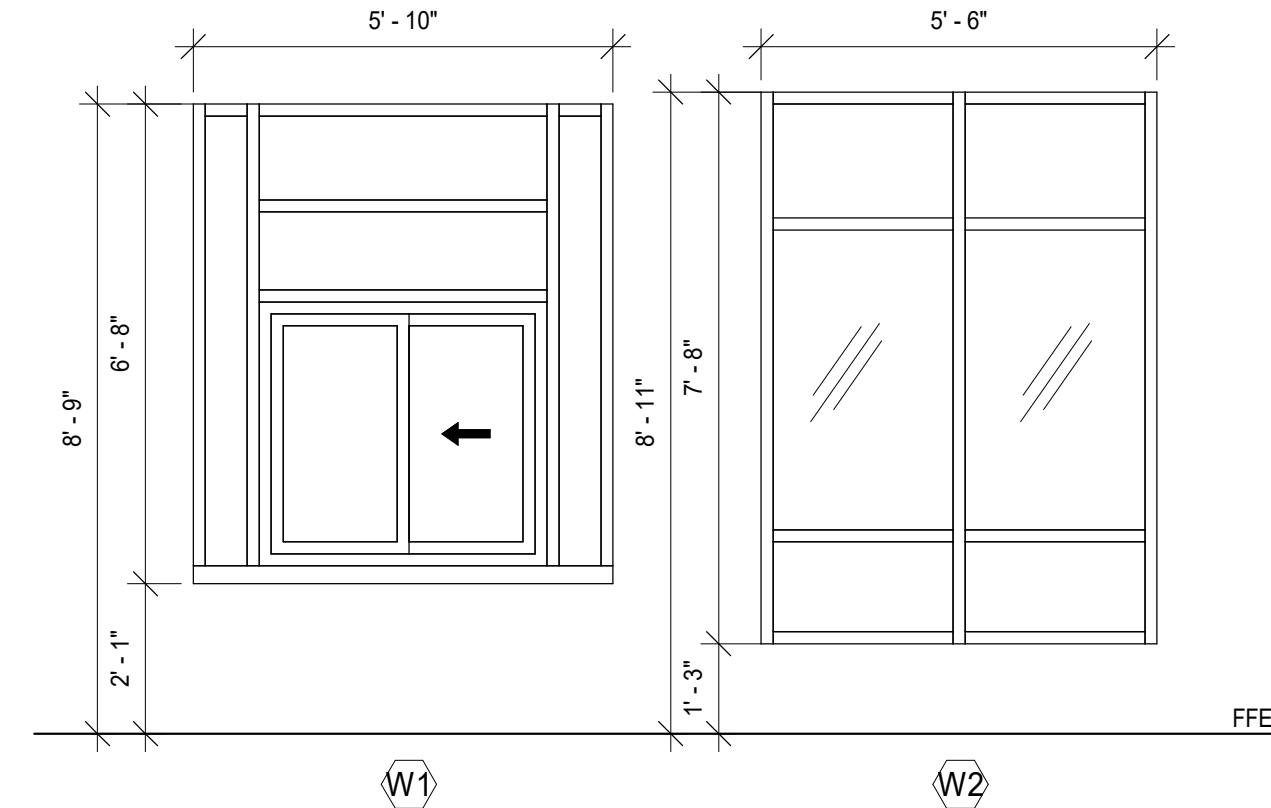
DEMO DOOR SCHEDULE							
TYPE MARK	WIDTH	HEIGHT	DOOR TYPE	DOOR FINISH	DOOR FRAME FINISH	DOOR HARDWARE	COMMENTS
D1	2'-9"	7'-0"	EXISTING				EXISTING DOOR TO BE REMOVED
D2	2'-6"	7'-0"	EXISTING				EXISTING COOLER DOORS TO BE REMOVED



DEMO DOOR ELEVATIONS

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

DEMO WINDOW SCHEDULE					
TYPE MARK	ROUGH WIDTH	ROUGH HEIGHT	HEAD HEIGHT	DESCRIPTION	COMMENTS
W1	5'-6"	6'-5"	8'-9"	DRIVE-THRU WINDOW	EXISTING WINDOW TO BE REMOVED
W2	5'-6"	7'-8"	8'-11"	STOREFRONT STYLE WINDOW	EXISTING WINDOW TO BE REMOVED



DEMO WINDOW ELEVATIONS

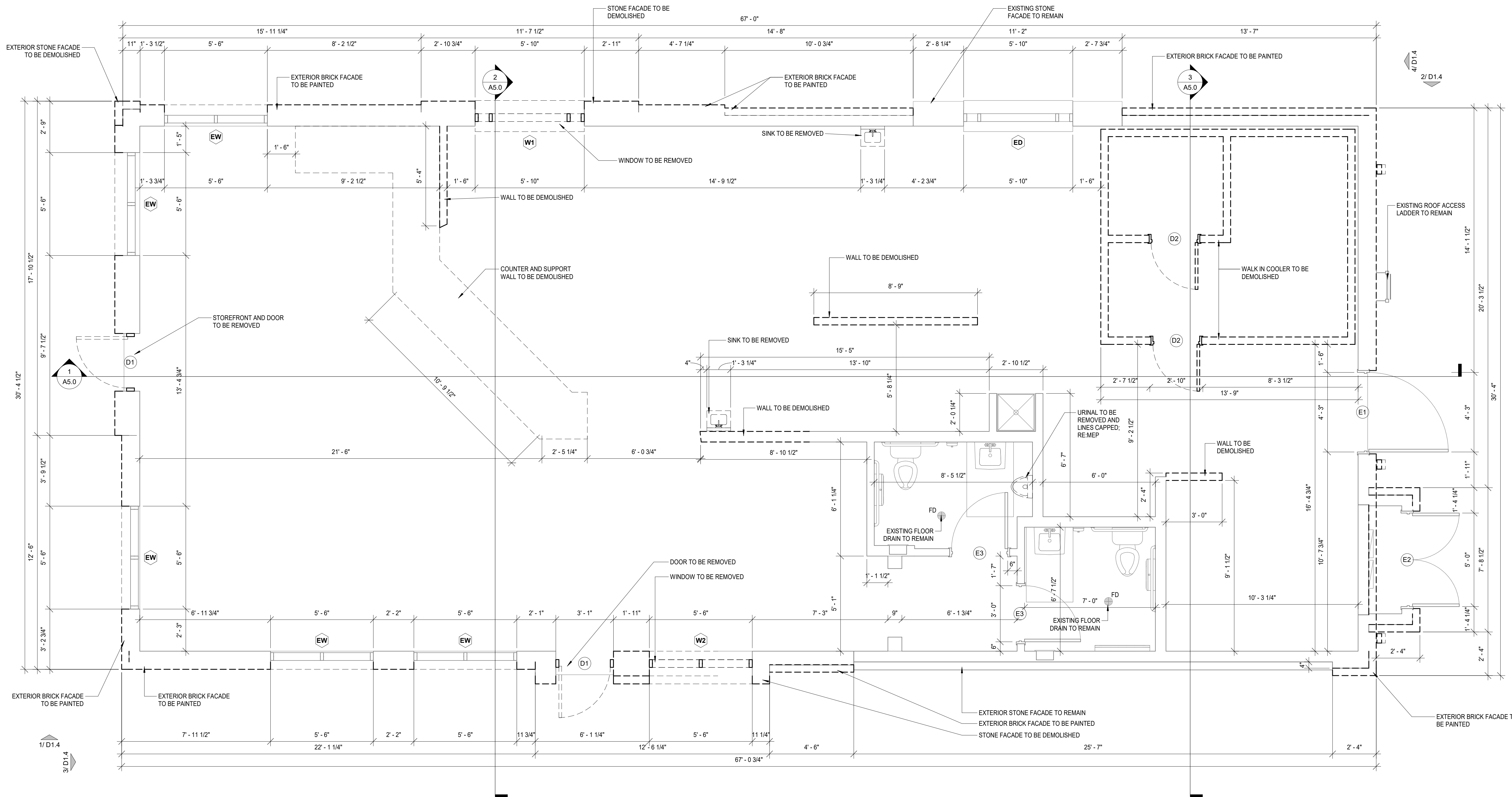
SCALE: 3/8" = 1'-0"

DEMOLITION NOTES

1. THE CONTRACTOR SHALL REMOVE ALL DESIGNATED BUILDING EQUIPMENT, FIXTURES, COMPONENTS, PARTITIONS, WALLS, PLUMBING, AND ELECTRICAL AS SHOWN ON PLANS. KEEP ALL ITEMS INDICATED TO REMAIN ON PLANS.
2. CONFORM TO APPLICABLE CODE FOR DEMOLITION SAFETY OF ADJACENT CONSTRUCTION, DUST CONTROL, SERVICE UTILITIES AND DISCOVERED HAZARDS.
3. PROVIDE, ERECT AND MAINTAIN TEMPORARY BARRIERS AND SECURITY DEVICES.
4. NOTIFY ADJACENT OWNERS OF WORK WHICH MAY AFFECT THEIR PROPERTY, POTENTIAL NOISE, UTILITY OUTAGE OR DISRUPTION. COORDINATE WITH PROPERTY OWNER/MANAGER.
5. ERECT AND MAINTAIN WEATHERPROOF CLOSURES FOR EXTERIOR OPENINGS IF APPLICABLE. ERECT AND MAINTAIN TEMPORARY PARTITIONS TO PREVENT SPREAD OF DUST, ODORS, AND NOISE.
6. PROTECT EXISTING ITEMS WHICH ARE NOT INDICATED TO BE REMOVED AND CONDUCT DEMOLITION TO MINIMIZE INTERFERENCE WITH ADJACENT BUILDING AREAS AND PUBLIC OR PRIVATE ACCESSSES.
7. MAINTAIN EGRESS AND ACCESS AT ALL TIMES. DO NOT CLOSE OR OBSTRUCT DRIVES OR SIDEWALKS. COORDINATE WITH PROPERTY OWNER/MANAGER.

DEMOLITION NOTES

8. CEASE OPERATIONS IMMEDIATELY IF ADJACENT STRUCTURE OR SPACES APPEAR TO BE IN DANGER. NOTIFY PROPERTY OWNER/MGR.
9. DEMOLISH AND REMOVE COMPONENTS IN AN ORDERLY AND CAREFUL MANNER. PROTECT EXISTING SUPPORTING STRUCTURAL MEMBERS, FIXTURES, FINISHES AND BUILDING AREAS.
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13. CHECK EXISTING ROOF FOR LEAKS, AND REPAIR AS REQUIRED. REMOVE AND REPLACE ANY DAMAGED ROOFING.
14. REMOVE ANY EXISTING DAMAGED BATT INSULATION AT THE UNDERSIDE OF ROOF AND REPLACE WITH NEW BATT INSULATION AS REQUIRED.



1 EXISTING & DEMO FLOOR PLAN

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



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EXISTING & DEMO FLOOR PLAN

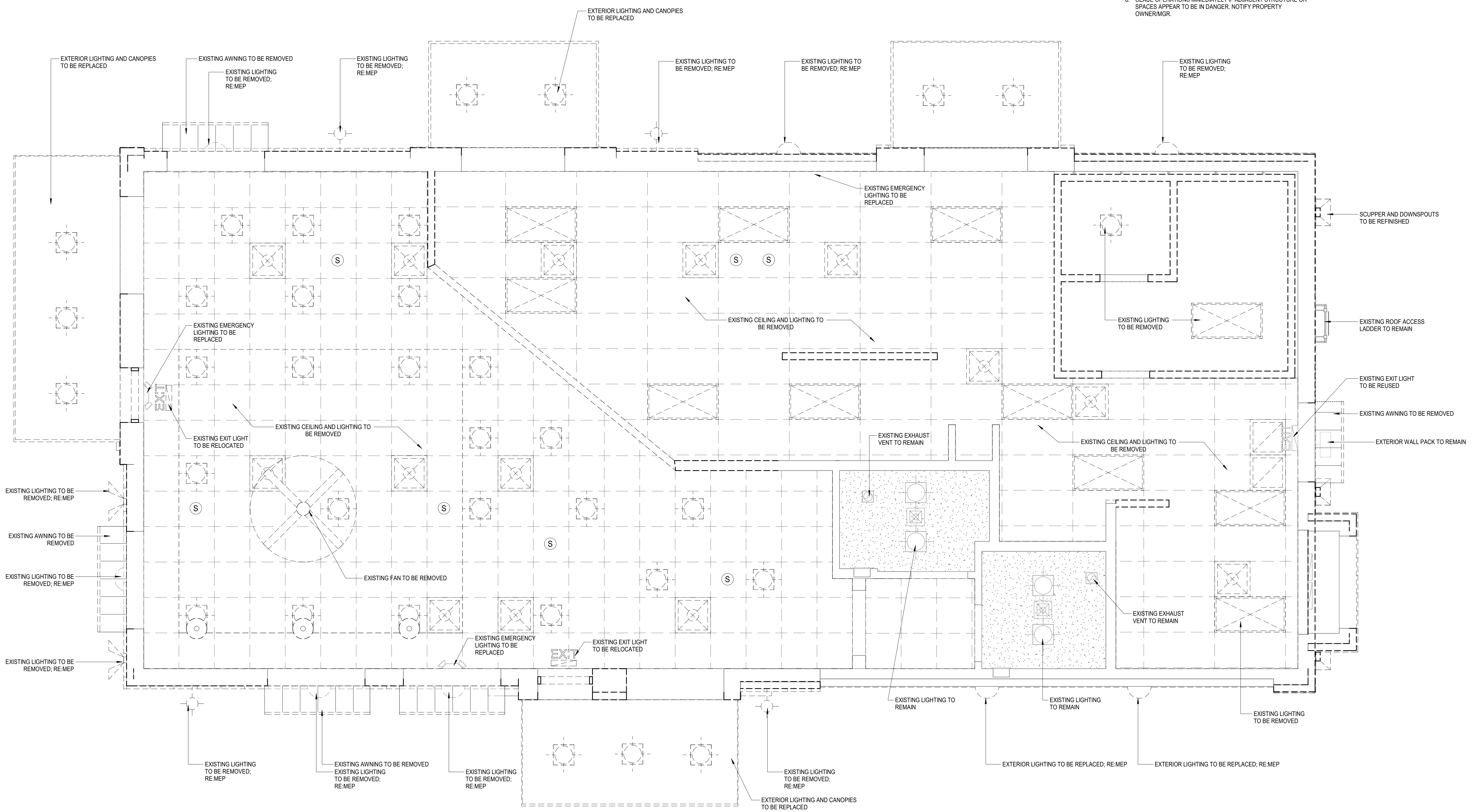
D1.1

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13. COORDINATE WITH THE TENANT ON ANY EXISTING CABINETS THAT THEY MAY WANT TO KEEP. REMOVE ANY UNWANTED CABINETS AND FIXTURES.
14. CHECK EXISTING ROOF FOR LEAKS, AND REPAIR AS REQUIRED. REMOVE AND REPLACE ANY DAMAGED ROOFING.
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1 EXISTING & DEMOLITION REFLECTED CEILING PLAN
SCALE: 3/8" = 1'-0"



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EXISTING & DEMO. REFLECTED CEILING PLAN
D1.2

DEMOLITION NOTES

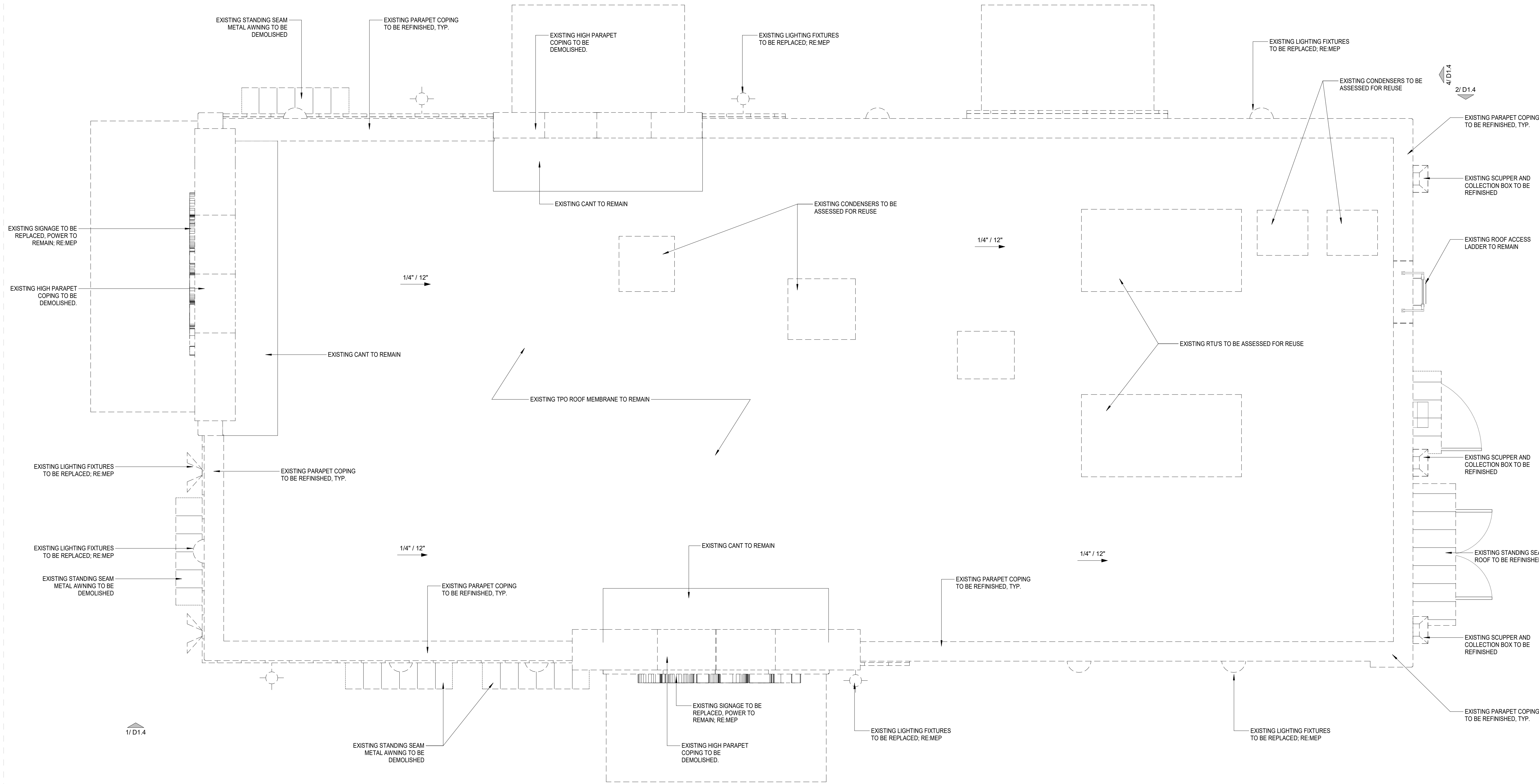
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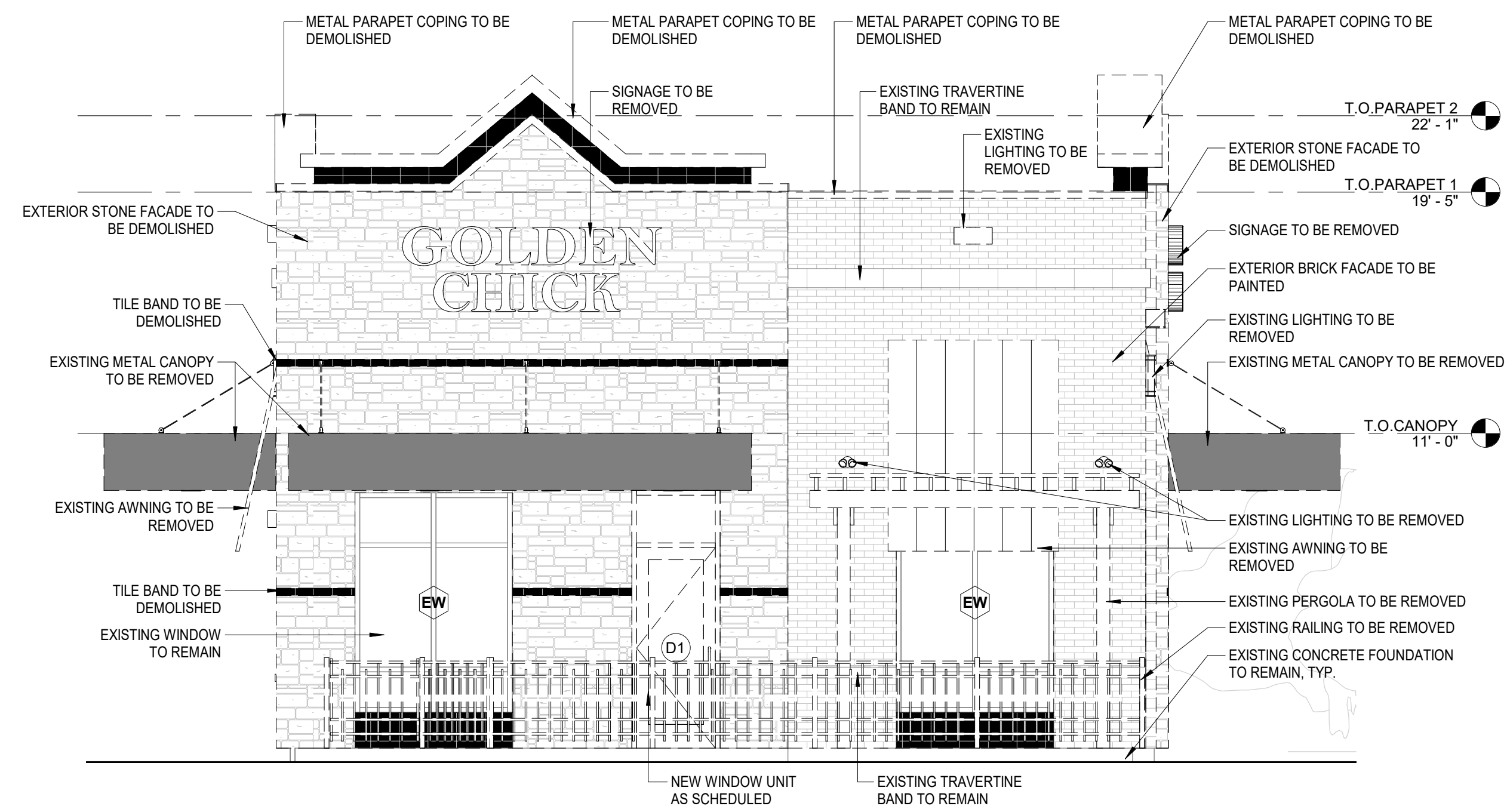
1 EXISTING & DEMOLITION ROOF PLAN
 SCALE: 3/8" = 1'-0"



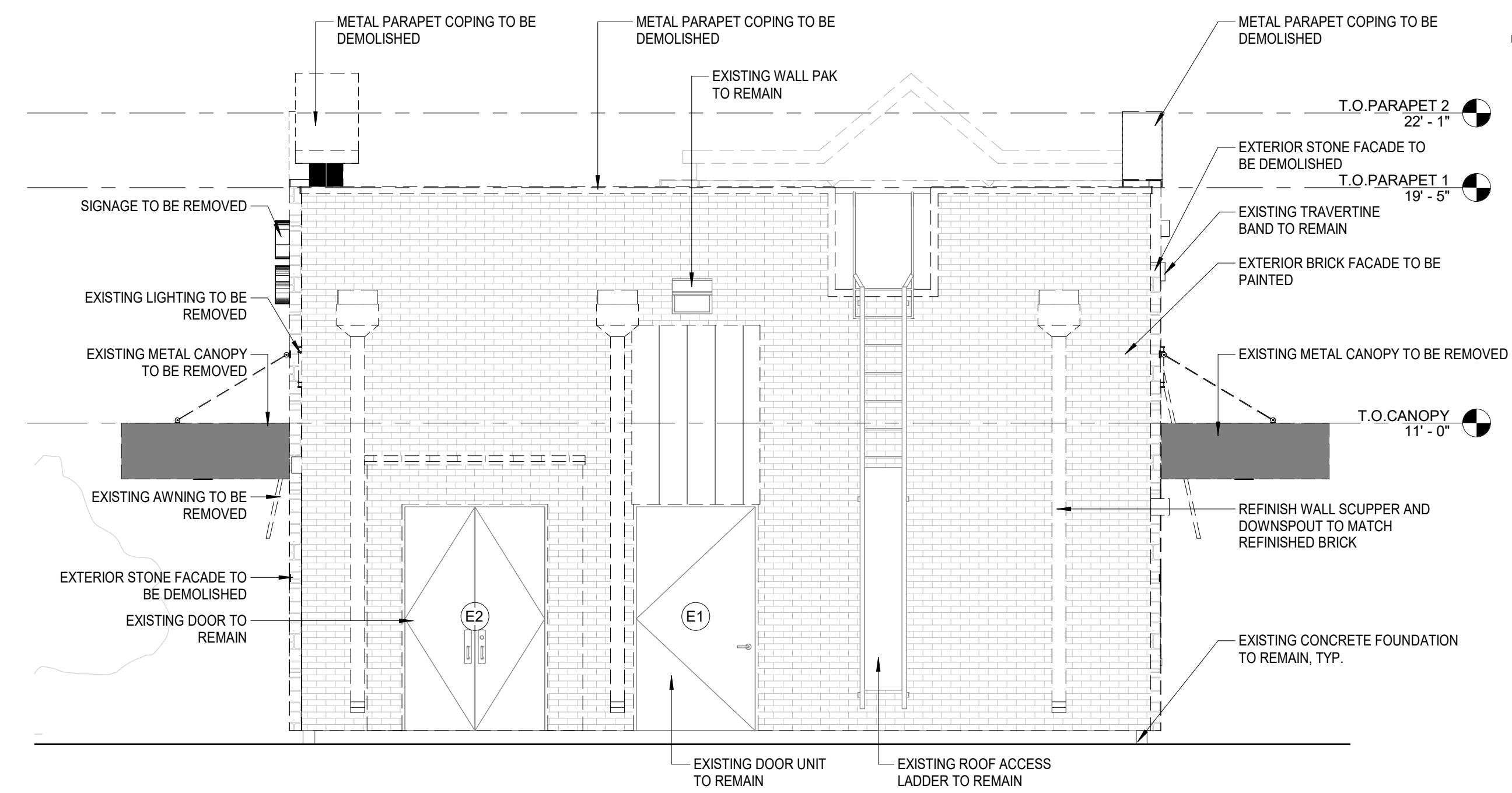
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 Project No.: **2222**
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EXISTING & DEMO. ROOF PLAN

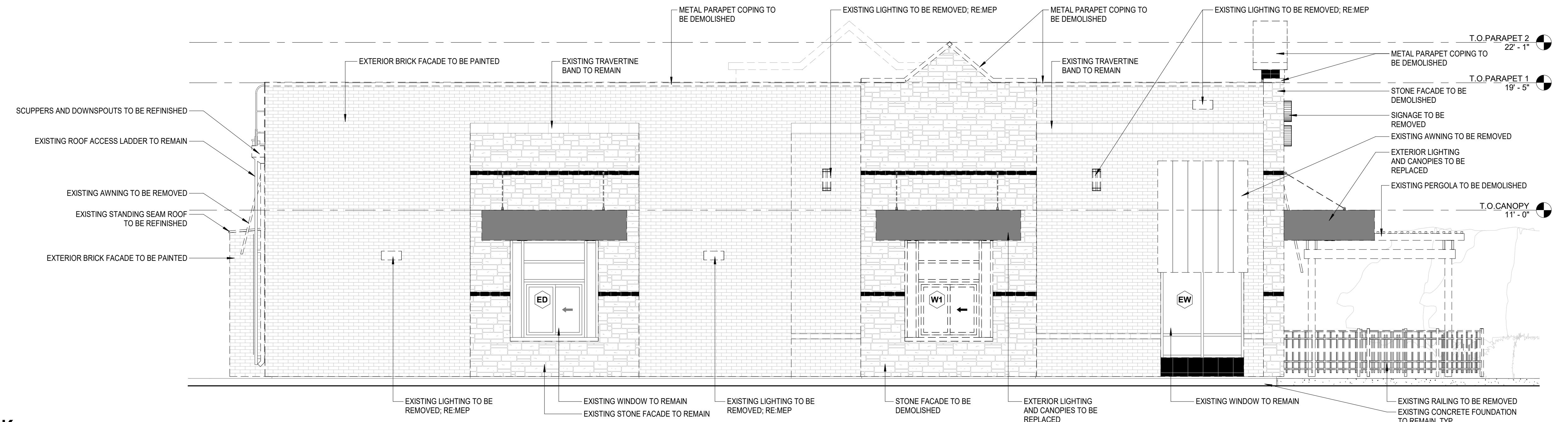
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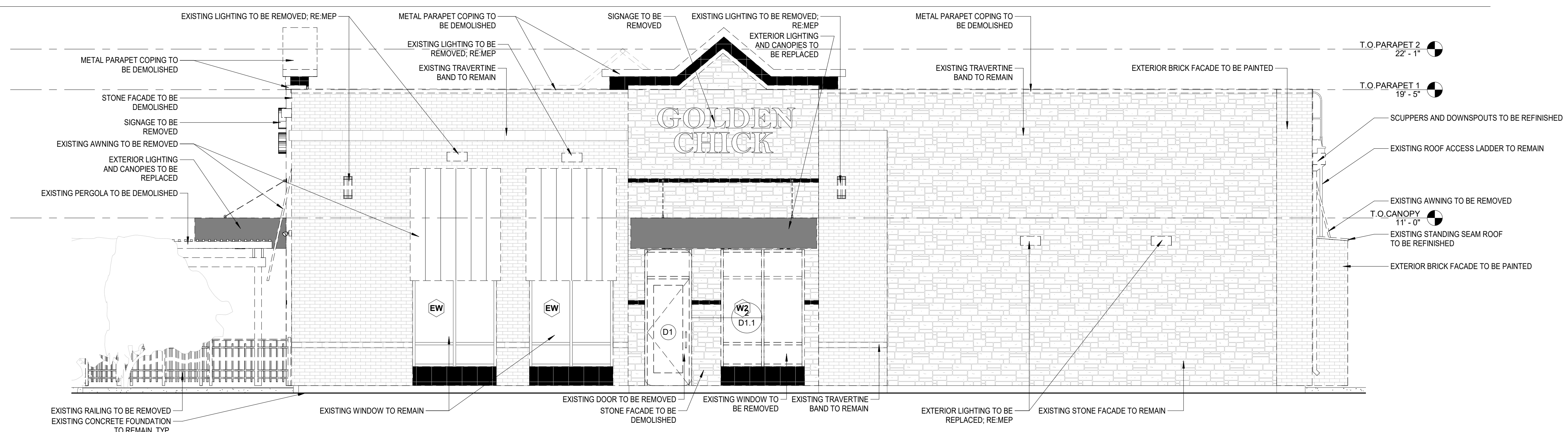
3 DEMO LEFT
SCALE: 1/4" = 1'-0"



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



2 DEMO BACK
SCALE: 1/4" = 1'-0"



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

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10. REMOVE DEMOLISHED MATERIALS FROM SITE AS WORK PROGRESSES. LEAVE AREAS OF WORK IN CLEAN CONDITION. PROVIDE ON SITE DUMPSTER, OR HAUL MATERIALS TO LAND FILL OR ARE DESIGNATED FOR SUCH USE.
11. REMOVE ALL EXISTING FLOORING & DISPOSE OF MATERIALS UNLESS OTHERWISE NOTED AND LEAVE AREA OF WORK IN CLEAN CONDITION.
12. REMOVE ALL EXISTING CEILING GRID, LIGHTS, AND TILE IN BACK OF HOUSE AND STORAGE AREAS NEEDED TO PREPARE SPACE FOR NEW CEILING AND LIGHTING. EXISTING CEILING AND LIGHTING IN SALES AREA AND RR TO REMAIN AND BE REUSED.
13. COORDINATE WITH THE TENANT ON ANY EXISTING CABINETS THAT THEY MAY WANT TO KEEP. REMOVE ANY UNWANTED CABINETS AND FIXTURES.
14. CHECK EXISTING ROOF FOR LEAKS, AND REPAIR AS REQUIRED. REMOVE AND REPLACE ANY DAMAGED ROOFING.
15. REMOVE ANY EXISTING DAMAGED BATT INSULATION AT THE UNDERSIDE OF ROOF AND REPLACE WITH NEW BATT INSULATION AS REQUIRED.
16. ALL EXTERIOR LIGHTING THAT IS TO BE REMOVED SHALL BE CAPPED AND COVERED BY MATCHING FACADE MATERIAL.



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EXISTING &
DEMO.
EXTERIOR
ELEVATIONS

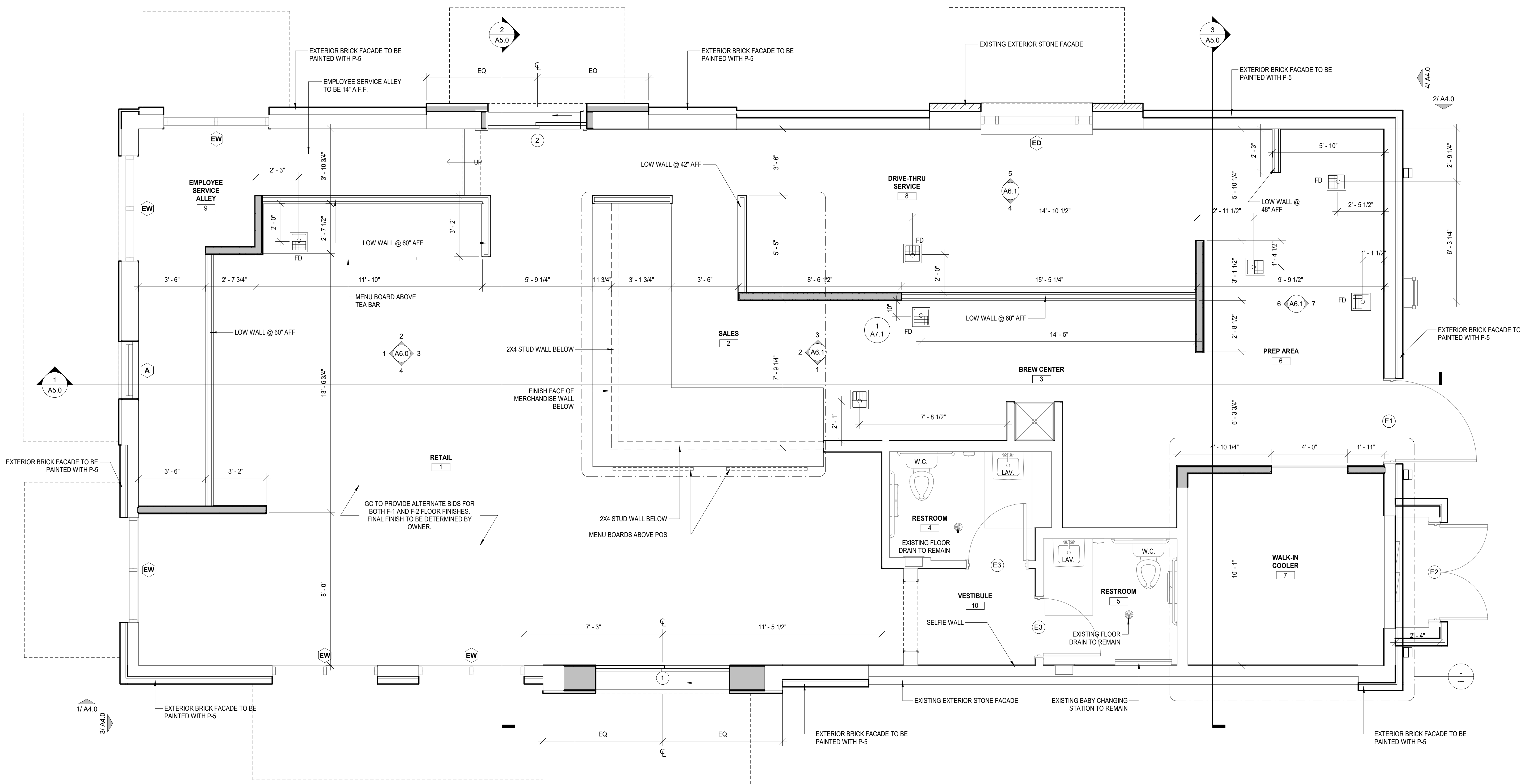
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GENERAL NOTES

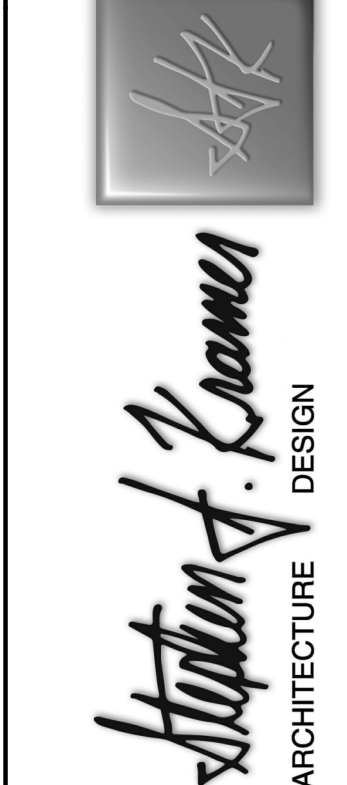
1. THE DRAWINGS SHALL NOT BE SCALED. ALL DIMENSIONS HAVE PREFERENCE OVER SCALE AND SHALL BE FIELD VERIFIED AND SHALL BE COORDINATED WITH THE WORK OF ALL TRADES IF NO DIMENSIONS ARE GIVEN OR DISCREPANCIES FOUND THE CONTRACTOR SHALL NOTIFY THE ARCHITECT FOR CLARIFICATION BEFORE BIDDING OR THE COMMENCEMENT OF THE WORK.
2. IT IS THE INTENT OF THIS DRAWING TO SHOW MANNER OF ACCOMPLISHING THE WORK. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS & CONDITIONS INCLUDED AS PART OF THE WORK. IF DISCREPANCIES FOUND THE CONTRACTOR SHALL NOTIFY THE ARCHITECT FOR CLARIFICATION BEFORE BIDDING OR THE COMMENCEMENT OF THE WORK.
3. THE CONTRACTOR SHALL VERIFY THE SIZES DIMENSIONS AND LOCATIONS OF ALL MECHANICAL AND ELECTRICAL EQUIPMENT PADS, BASES AND FOUNDATIONS AS WELL AS POWER, WATER AND DRAIN REQUIREMENTS FOR SUCH EQUIPMENT WITH EQUIPMENT MANUFACTURER.
4. THE CONTRACTOR SHALL ADVISE ALL UTILITY COMPANIES OF THE PROPER WORK AND SHALL COORDINATE ANY WORK REQUIRED FOR THE TIMELY CONNECTION TO THEIR SERVICES TO THE PROJECT.
5. PROVIDE WOOD BLOCKING IN WALLS FOR ALL WALL-HUNG ITEMS (CASEWORK, RESTROOM ACCESSORIES, FURNITURE, ELECTRONICS, ETC.)
6. DIMENSIONS ARE INDICATED FROM STUD TO STUD UNLESS NOTED OTHERWISE
7. CONTACT ARCHITECT IF ANY DISCREPANCIES ARE NOTED BETWEEN ARCHITECTURAL DRAWINGS, ENGINEERING DRAWINGS, OR EXISTING CONDITIONS

GENERAL NOTES

8. IN NO CASE SHALL INTERIOR PARTITIONS INTERFERE WITH WINDOWS - IF THIS OCCURS, MOVE WALL MINIMALLY TO CORRECT THE PROBLEM. NOTIFY ARCHITECT AND CONTRACTORS THAT WILL BE AFFECTED BY THIS CHANGE
9. SEE STRUCTURAL DRAWINGS FOR ADDITIONAL WALL FRAMING REQUIREMENTS NOT SCHEDULED BELOW
10. ALL PENETRATIONS SHALL BE PROTECTED BY AN APPROVED SOUND ISOLATION SYSTEM UNLESS NOTED OTHERWISE
11. PROVIDE MOISTURE RESISTANT, TYPE 'X' GYPSUM WALL BOARD FOR ALL WALLS THAT CONTAIN PLUMBING LINES.
12. SEE OTHER DRAWINGS FOR ITEMS TO BE INSTALLED (i.e. FIRE EXTINGUISHER CABINETS, WALL PROTECTION, ETC.)
13. FLOOR ELEVATIONS ARE INTENDED AS RELATIVE ELEVATIONS - SEE CIVIL DRAWINGS FOR ABSOLUTE ELEVATIONS VALUES
14. REFER TO SHEETS TAS1-TASS FOR ACCESSIBILITY STANDARDS
15. REFER TO SHEETS A1.1 FOR TYPICAL RESTROOM MOUNTING HEIGHTS OF ACCESSORIES
16. SEE MEP DRAWINGS FOR TOILET FIXTURES & PLUMBING
17. CONTRACTOR TO FIELD VERIFY ALL OPENINGS & CLEARANCES PRIOR TO FABRICATION OF CASEWORK, TOILET PARTITIONS, ETC.
18. ALL SPACES WITH FLOOR DRAINS TO HAVE FINISHED FLOORS SLOPED TO DRAIN. VERIFY WITH ARCHITECT.
19. SET ALL ALUMINUM THRESHOLDS IN BED OF SEALANT AT ALL EXTERIOR DOORS.



1 NEW FLOOR PLAN
SCALE: 3/8" = 1'-0"



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NEW FLOOR PLAN

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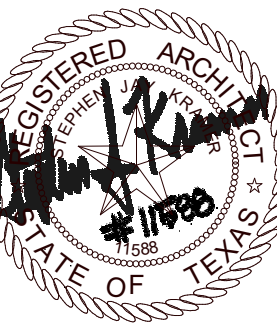
GENERAL NOTES

1. SEE MEP DRAWINGS FOR SPECIFICATIONS ON CONNECTIONS OF EQUIPMENT.
2. PROVIDE WOOD BLOCKING IN WALLS FOR ALL WALL-HUNG ITEMS (CASEWORK, RESTROOM ACCESSORIES, FURNITURE, ELECTRONICS, ETC.)



Stephen A. Kramer
ARCHITECTURE DESIGN

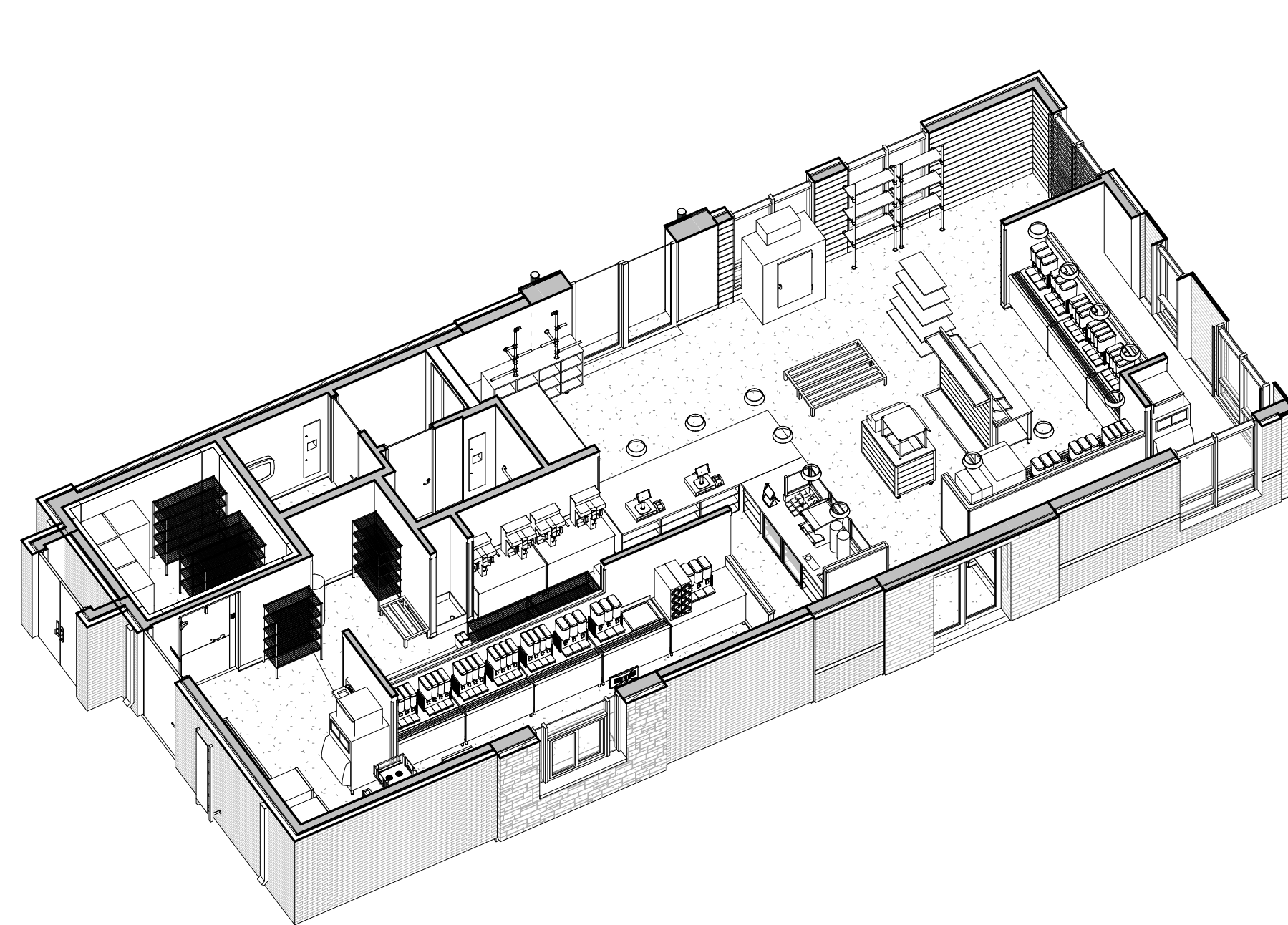
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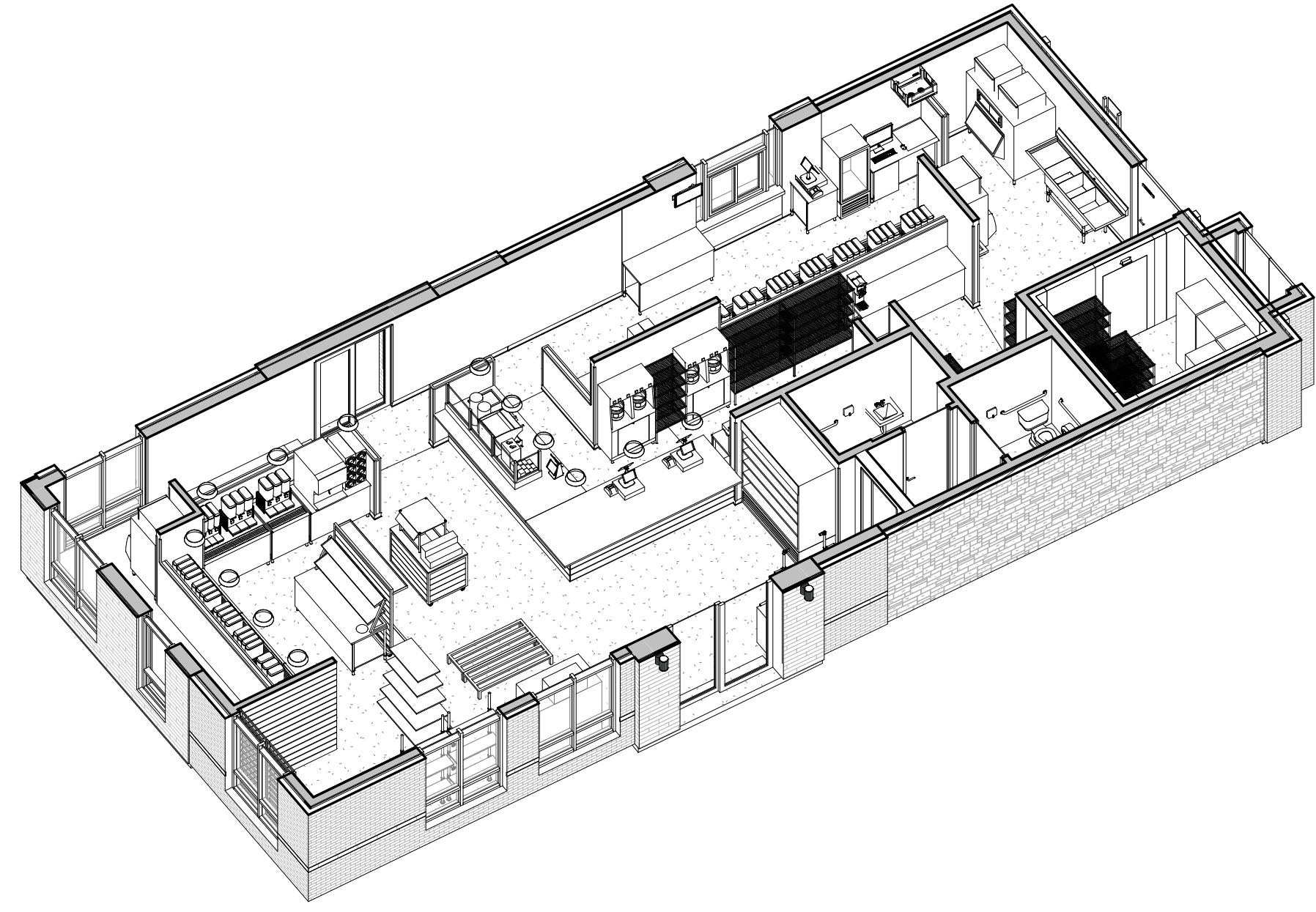
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EQUIPMENT FLOOR PLAN

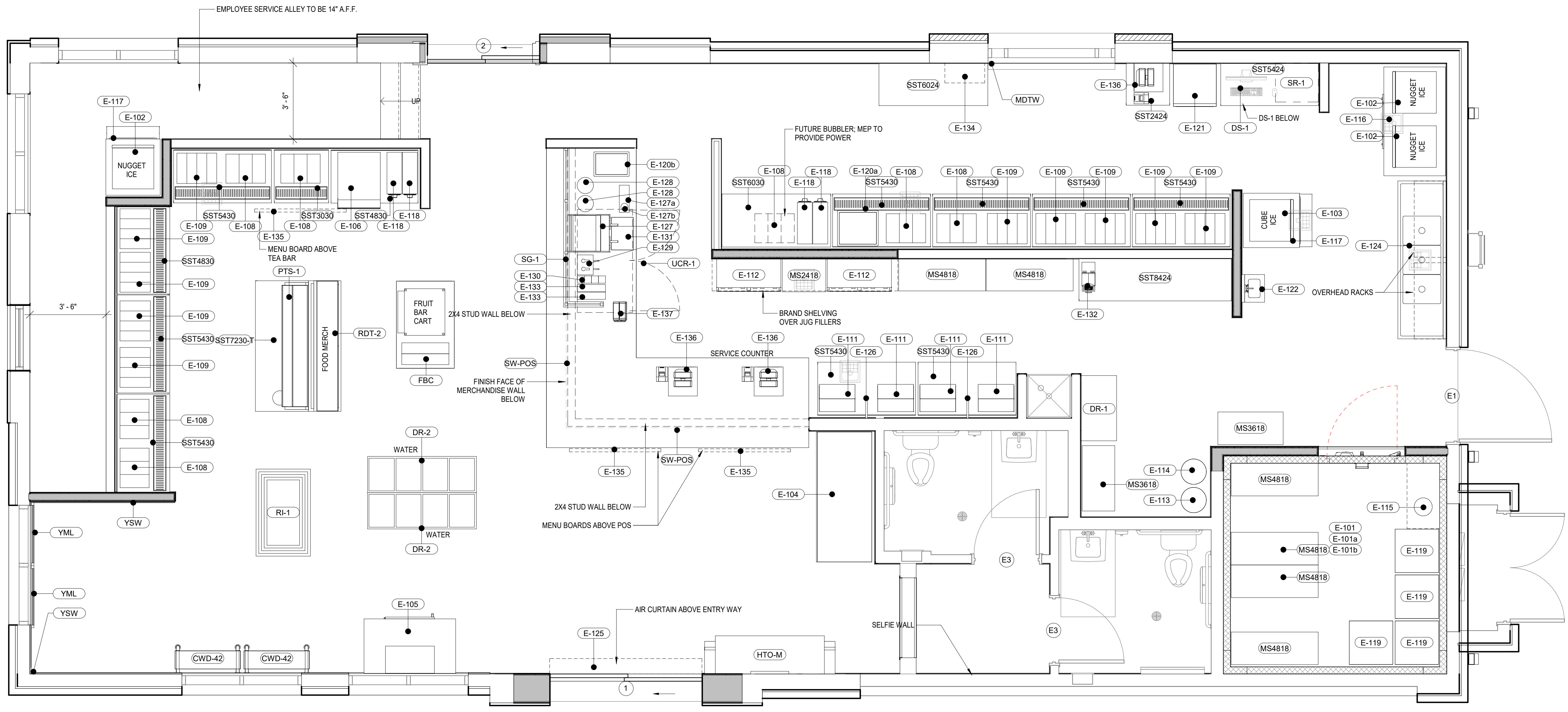
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2 3D EQUIPMENT LAYOUT
SCALE:



3 3D EQUIPMENT LAYOUT
SCALE:



1 EQUIPMENT FLOOR PLAN
SCALE: 3/8" = 1'-0"

SPECIALTY EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	MFG	MODEL	VOLTS	PHASE	AMPS	HP	ELECTRICAL CONNECTION TYPE	PLUMBING				DIMENSIONS (INCHES U.N.O.)			FURNISHED BY	INSTALLED BY	NOTES	
									CW	HW	RO	DRAIN	GAS	H	W				D
CWD-42	CROCK WALL DISPLAY	BRAND INC												132	42	14	BRAND, INC.	BRAND, INC.	SECURE TO TOP OF VERTICAL MEMBER TO 2X BLOCKING
DR-1	DUNNAGE RACK													18	36	20	CENTRAL	GC	ALUMINUM
DR-2	DUNNAGE RACK													18	60	20	CENTRAL	GC	ALUMINUM
DS-1	DEPOSITORY SAFE - 3.6 CU.FT. MESA MFL3020CC	MESA												30	20	20	CENTRAL	GC	ANCHOR SAFE TO FLOOR PER MANUFACTURER INSTRUCTIONS
E-101	WALK IN COOLER	US COOLER	CRHCUS	240	1		2HP	NEMA 3R HEAVY DUTY 40A DISCONNECT						7.5'	10.25'	10'	CENTRAL	GC	WEATHER PROOF GFCI RECEPTACLE WITHIN 25 FEET OF UNIT. REF - MEP PLANS FOR COOLER EQUIPMENT SPECIFICATIONS AND REQUIREMENTS
E-101a	WALK IN EVAPORATIVE COIL	BOHN	ADT156AEK	120	1	5.4		SINGLE POLE MOTOR SWITCH AT COIL WITH WEATHER PROOF COVER									CENTRAL	GC	
E-101b	WALK IN LIGHTING AND CONTROL	US COOLER	CUSTOM	120	1			ONE 120V CIRCUIT FOR COOLER LIGHTS AND CONTROLS									CENTRAL	GC	
E-102	ICE NUGGET MAKER	SCOTSMAN	N1322R-32	280-230	1	18.9			3/8"		3/4" INDIRECT			27	22.9	24	CENTRAL	GC	FEED REMOTE CONDENSER ON ROOF FROM ICE MACHINE POWER
E-103	ICE CUBE MACHINE	MANITOWOC	ID-1472C	120	1	1.1			3/8"		1/2" INDIRECT			25	30	24.5	CENTRAL	GC	FEED REMOTE CONDENSER ON ROOF FROM ICE MACHINE POWER
E-104	OPEN DISPLAY MERCHANDISER	TURBO AIR	TOM-72EB-N	220	1	18	3/4	NEMA 6-20P PROVIDE 6 FOOT MATCHING CORD						81.125	72	29.875	CENTRAL	GC	
E-105	ICE MERCHANDISER	LEER, INC.	L040UAGX	115	1	7.2	1/3	NEMA 5-15P PROVIDE 6 FOOT MATCHING CORD						76.5	72	29.875	CENTRAL	GC	
E-106	ICE DISPENSER	SERVEND	S-150-2705519	120	1	2.8					3/4"			34.9	23	31.1	CENTRAL	GC	
E-108	BEVERAGE DISPENSER 3 BOWL	CRATHCO	D35-3	120	1	9	1/3	NEMA 5-15P						27.25	25.63	15.87	CENTRAL	GC	
E-109	BEVERAGE DISPENSER 4 BOWL	CRATHCO	E49-3	120	1	6.0	1/5	NEMA 5-15P						25.5	20.5	15	CENTRAL	GC	
E-111	FETCO BREWING UNIT	FETCO	CBS-2132XTS-1G	200-240	1	25.5		HARD WIRED						27.75	19.75	20.3	CENTRAL	GC	
E-112	WATER JUG FILL STATION	OWNER		110/120	1	10		NEMA 5-20P PROVIDE 6 FOOT MATCHING CORD						65.5	35.4	17.7	OWNER	GC	
E-113	WATER DISINFECTION SYSTEM	VIQUA	S8Q-PA	120	1	0.06											RO SUPPLIER	RO SUPPLIER	
E-114	REVERSE OSMOSIS SYSTEM	CULLIGAN	E1-1F	120	1		3/4										RO SUPPLIER	RO SUPPLIER	
E-115	WATER PRESSURE BOOST PUMP	GRUNDFOS	MQ3-35	120	1												RO SUPPLIER	RO SUPPLIER	
E-116	NUGGET ICE BIN	SCOTSMAN	BH1600BB											62	60	34	CENTRAL	GC	
E-117	ICE STORAGE BIN	MANITOWOC	F700			4					1"			58.5	30	31	CENTRAL	GC	
E-118	CUP DISPENSING CABINET	TREX	SLR-R-4SS											32.5	8.25	23	CENTRAL	GC	
E-119	RO STORAGE TANK	NORWESCO	140 GALLON											72	24	24	RO SUPPLIER	RO SUPPLIER	
E-120a	DROP-IN ICE BIN	ADVANCE TABCO	D-24-JBL								1" IPS			14	21	18	CENTRAL	GC	CUTOUT SIZE 15.25" X 20.375"
E-120b	DROP-IN ICE BIN	ADVANCE TABCO	D-12-JBL								1" IPS			14	18	12	CENTRAL	GC	CUTOUT SIZE 15.25" X 9.625"
E-121	SWING DOOR MERCHANDISER	TURBO AIR	TCM-118V4N6	115	1	2.2	1/5	NEMA 5-15P PROVIDE 6 FOOT MATCHING CORD						62.75	23.63	26	CENTRAL	GC	
E-122	HAND SINK	ADVANCE TABCO	7-PS-EC-SP-2X								1 1/2" IPS			13	17	15.25	CENTRAL	GC	
E-124	3 COMP SINK WITH DRAINBOARDS	ADVANCE TABCO	FE-3-1620-18RL-X														CENTRAL	GC	
E-125	AIR CURTAIN	BERNER	SLC07-1042A	120		3.4		NEMA 5-15P						8.5	**	8.5	CENTRAL	GC	
E-126	JUG FILLERS	T&S BRASS AND BRONZE WORKS	B-0605														CENTRAL	GC	
E-127	ESPRESSO CAPPUCCINO MACHINE (SINGLE HEAD)	EVERSYS	CAMEO CLASSIC C2m	208	1	15/35		NEMA L6-30 TWIST	3/8"		1.25"			24.8	16.9	23.6	OWNER	GC	REFER TO MANUFACTURER RECOMMENDATIONS FOR WATER REQUIREMENTS. CORPORATE HAS APPROVED HIGH VOLUME OPTION (EVERSYS) PLEASE SEEK APPROVAL BEFORE ORDERING. DEDICATED REVERSE OSMOSIS WATER (50 PPM)
E-127a	4.5" RECESSED STAINLESS STEEL RINSER WITH DRIP TRAY AND DRAIN	VEVOR							1/2" TO 3/8" & 3/4" ADAPTERS		1/2" TO 3/8" & 3/4" ADAPTERS			.05	8.6	25.7	OWNER	GC	GLASS WASHER FOR BAR, 25.7X8.6" (652X218MM) IN SIZE, WITH CUTOUT SIZE OF 24.2"X7.2" (615X182MM), RECOMMENDED WATER PRESSURE 15-30 PSI
E-127b	ESPRESSO PARTS NSF COUNTERTOP BAR & CAFE RINSER		W17B-EPPRCT662	120	1	2.0		SINGLE POLE MOTOR SWITCH AT COIL WITH WEATHER PROOF COVER	3/8"		1/2"			24	9	9	OWNER	GC	USED AT STORES WHERE RECESSED COUNTER RINSER CAN NOT BE USED
E-128	THERMAL DISPENSER 1.5 GAL D449		W438-L4D15											16	11	8.75	OWNER	OWNER	
E-129	4 QT. 2 COMPARTMENT STAINLESS STEEL CONDIMENT DISPENSER WITH TWO PUMPS	WINCO	PKTS-2D											13	4	15.5	OWNER	OWNER	
E-130	4 TIER SYRUP RACK	WINCO	PKTS-2D											13	4	15.5	OWNER	OWNER	
E-131	RUBBER BAR MAT													.05	12	18	OWNER	OWNER	
E-132	COFFEE BATCH GRINDER	BUNN	G2-HD BLK	120	1	9.4		NEMA 5-15P						26.5	7.3	15.9			
E-133	COFFEE CUP DISPENSER													13	4	15.5			
E-134	KITCHEN DISPALY UNIT																OWNER	GC	
E-135	MENU BOARDS																		
E-136	POS STATIONS													*	30	16			
E-137	ORDER DISPLAY SCREENS													12	12	7			
FBC	FRUIT BAR CART	BRAND INC												54	50	32	BRAND, INC.	BRAND, INC.	
HTO-M	HTEAO MERCHANDISE DISPLAY	BRAND INC												118	72	18	BRAND, INC.	BRAND, INC.	
MDTW	METAL DRIVE THRU WALL	BRAND INC															BRAND, INC.	BRAND, INC.	
MS2418	"METRO" SHELF UNIT - BLUE FINISH	METRO												60	24	18	BRAND, INC.	BRAND, INC.	
MS3618	"METRO" SHELF UNIT - BLUE FINISH	METRO												60	36	18	BRAND, INC.	BRAND, INC.	
MS4818	"METRO" SHELF UNIT - BLUE FINISH	METRO												60	48	18	BRAND, INC.	BRAND, INC.	
PTS-1	PREP TABLE RETAIL SHELF	BRAND INC												26.375	70	13	BRAND, INC.	BRAND, INC.	
RDT-2	RETAIL ROLLING DISPLAY - 5'	BRAND INC												64	72	18	BRAND, INC.	BRAND, INC.	
RI-1	RETAIL ISLAND - 4' X 2'-6"	BRAND INC												61	48	30	BRAND, INC.	BRAND, INC.	
SG-1	POS SNEEZE GUARD	BRAND INC												26	88	22	BRAND, INC.	BRAND, INC.	
SR-1	SERVER RACK																		
SST2424	STAINLESS STEEL TABLE													34	24	24	CENTRAL	GC	
SST3030	STAINLESS STEEL TABLE													34	30	30	CENTRAL	GC	
SST4830	STAINLESS STEEL TABLE													34	48	30	CENTRAL	GC	
SST6424	STAINLESS STEEL TABLE													34	54	24	CENTRAL	GC	
SST6430	STAINLESS STEEL TABLE													34	54	30	CENTRAL	GC	
SST6024	STAINLESS STEEL TABLE													34	60	24	CENTRAL	GC	
SST6030	STAINLESS STEEL TABLE													34	60	30	CENTRAL	GC	
SST7230-T	STAINLESS STEEL TABLE													34	72	30	CENTRAL	GC	
SST6424	STAINLESS STEEL TABLE													34	84	24	CENTRAL	GC	
SW-POS	SLAT WALL AT P.O.S.	BRAND INC												32	*	1.5	BRAND, INC.	BRAND, INC.	
UCR-1	UNDER COUNTER REFRIGERATOR	TRUE	TUC-80G-LP-HC-FGD01	115	1	4.0	1/4HP	NEMA 5-15P						31.875	59	27.5	OWNER	GC	
UCR-1a	CASTERS FOR TRUE LOCK (2) LOCK 2.5" DIA. SET OF 4	TRUE	LOW PROFILE CASTERS														OWNER	GC	
YML	YETI METAL LADDER	BRAND INC												100	*	1.5	BRAND, INC.	BRAND, INC.	
YSW	YETI SLAT WALL	BRAND INC												118.5	*	1.5	BRAND, INC.	BRAND, INC.	

ANGLE IRON SCHEDULE	
Type	Linear Feet
Cloud Gaurd	171' - 9"
Corner Gaurds	459' - 10 1/2"
Grand total	631' - 7 1/2"

Angle Iron Guards	
Type	Linear Feet
Cloud Gaurd	171' - 9"
Corner Gaurds	459' - 10 1/2"
Grand total	631' - 7 1/2"



Stephen A. Kramer
ARCHITECTURE
DESIGN

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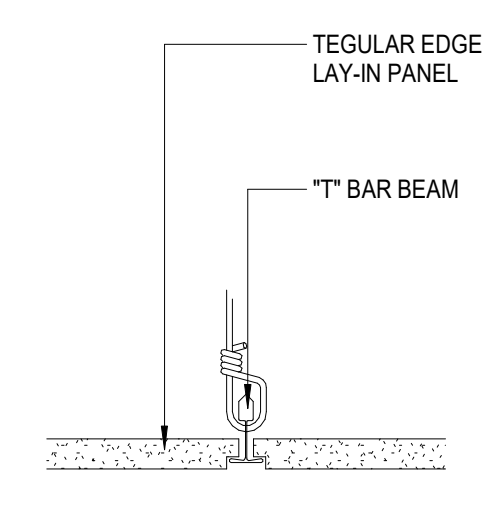
RCP NOTES

1. NOTIFY ARCHITECT OF ANY DISCREPANCIES.
2. GYP MUST BE MOISTURE RESISTANT IN TOILET ROOMS.
3. REFER TO FLOOR PLANS FOR PARTITIONS THAT EXTEND TO ROOF STRUCTURE.
4. CEILING GRIDS CENTERED IN ROOM U.N.O.
5. ALL FIXTURES/ DEVICES MAY NOT BE INDICATED COORDINATE WITH MEP, AV. & TELECOM DRAWINGS. AND PROVIDE ADDITIONAL FIXTURES, DIFFUSERS DEVICES AND OTHER ITEMS AS REQUIRED AND INDICATED.
6. REFER TO MECHANICAL FOR AIR DEVICES, TYPICAL.
7. REFER TO ELECTRICAL FOR CEILING SPEAKER PLACEMENT, LIGHTING AND POWER.
8. LIGHTING LAYOUT AT MECHANICAL ROOMS TO BE COORDINATED WITH M.E.P. DEVICES.
9. PROVIDE USG#093 CONTROL JOINT IN GWB CEILINGS PER G.A. SPACING RECOMMENDATIONS.
10. CENTER ALL LIGHT PATTERNS AND CEILING GRIDS WITHIN ANY GIVEN SPACE, UNLESS NOTED OTHERWISE.
11. PAINT ALL EXPOSED STRUCTURE, MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, TELECOM, DATA, AND AUDIO-VISUAL WORK, UNLESS NOTED OTHERWISE. ALL MEP WORK SHALL RUN CONCEALED WHERE FINISH CEILINGS ARE PROVIDED.
12. RUN ALL CONDUIT, WIRING, PIPING IN EXPOSED CEILING AREAS ALONG STRUCTURE AND WALLS IN SUCH A MANNER TO MINIMIZE RUNS ACROSS OPEN SOFFITS AND DECK. ALL RUNS SHALL BE PERPENDICULAR OR PARALLEL WITH STRUCTURE AND DECK ORIENTATION. PROVIDE FOR ADJUSTMENT IN ALL RUNS.
13. REVIEW ALL LIGHT FIXTURE LOCATIONS FOR CONFLICTS WITH STRUCTURE, MECHANICAL DUCTWORK, PIPING AND PLENUM CLEARANCES TO PROVIDE COORDINATION BEFORE INSTALLATION OF ANY WORK ABOVE CEILING.
14. REVIEW AND VERIFY ALL CEILING HEIGHTS FOR COORDINATION WITH ABOVE-CEILING WORK.
15. PROVIDE PAINTED ACCESS PANELS IN GYPSUM BOARD AND PLASTER CEILINGS AT ALL LOCATIONS WHERE NEEDED FOR ACCESS TO ABOVE CEILING MECHANICAL AND ELECTRICAL DEVICES. COORDINATE WITH MECHANICAL AND ELECTRICAL SUBCONTRACTORS. ACCESS PANELS SHALL BE FLUSH TRIMLESS TYPE PAINTED TO MATCH FINISH OF REST OF CEILING.
16. PROVIDE CASED EDGES AND CONTINUOUS SEALANT AT GYPSUM BOARD CEILING FURRING INTERSECTIONS TO CMU AND CONCRETE STRUCTURE.
17. PROVIDE CONT. MATCHING PREFINISHED HEMMED ANGLE TRIM AROUND PERIMETER OF ALL EXTERIOR FLUSH METAL SOFFIT PANELS.
18. FINISH ALL CEILINGS AS NOTATED ON MATERIAL SCHEDULE.

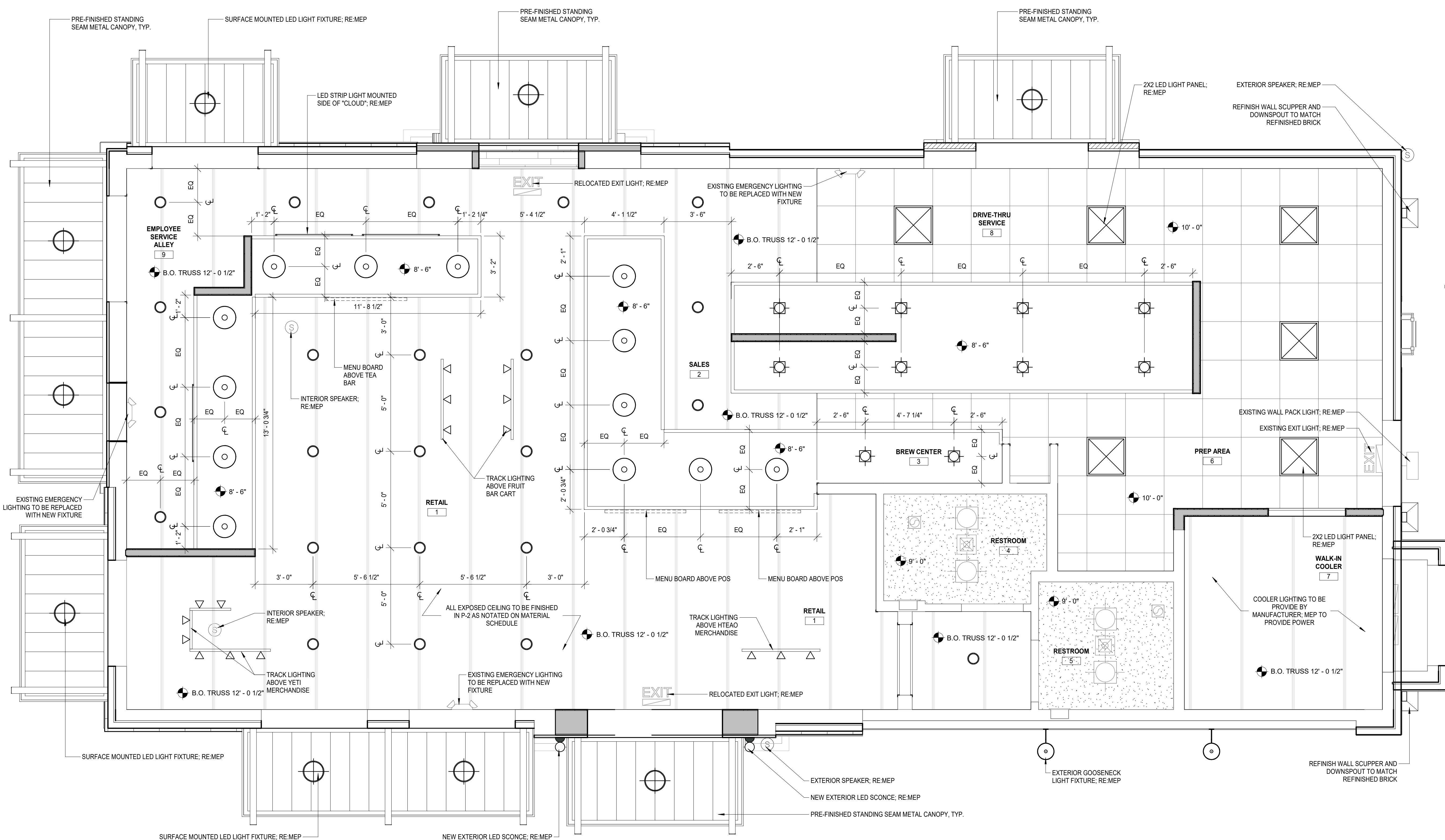
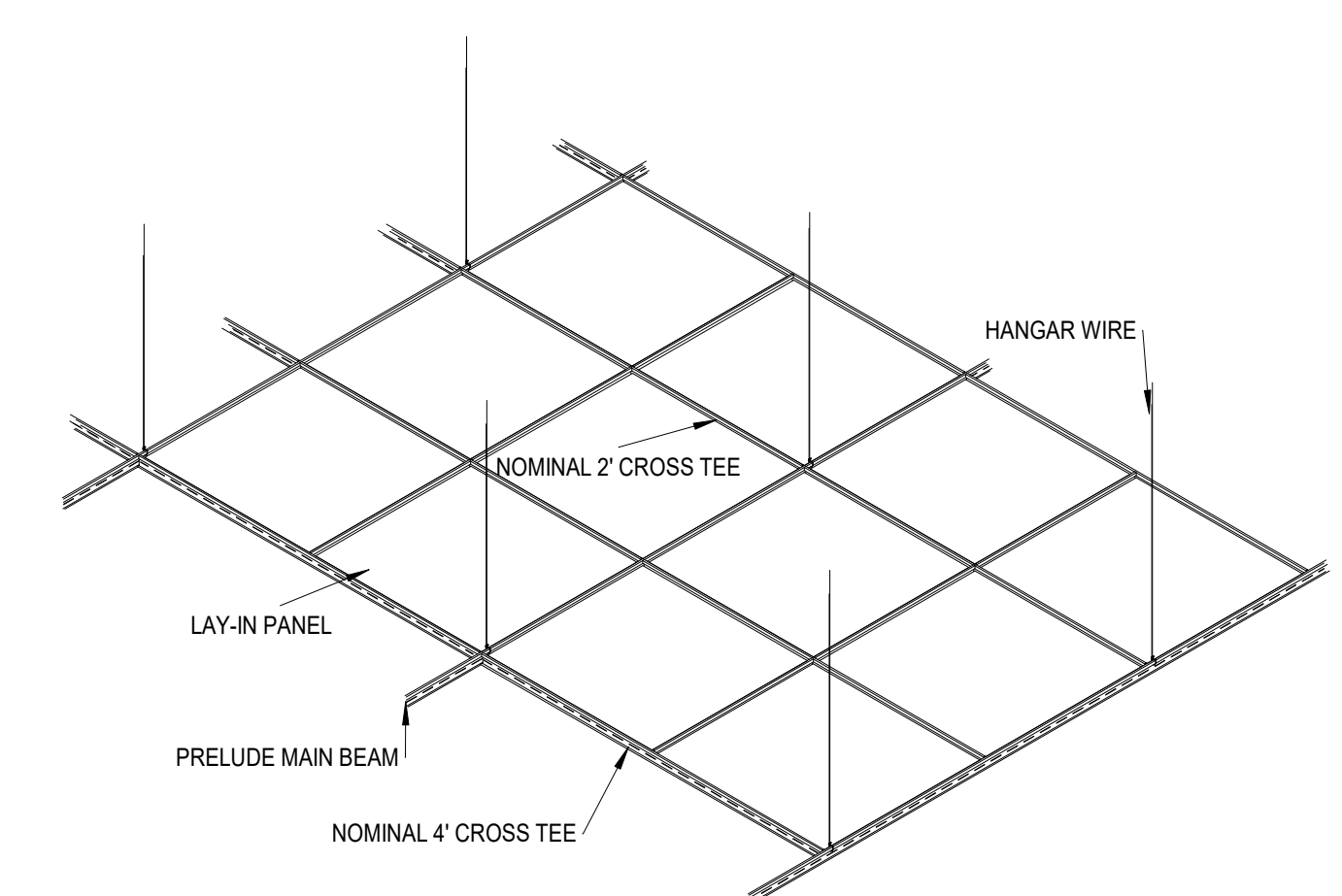
RCP LEGEND

- MECHANICAL SUPPLY
- 2X2 RECESSED LED LIGHT FIXTURE
- 6" RECESSED LED CAN LIGHT FIXTURE
- 6" PENDANT LIGHT FIXTURE
- SURFACE MOUNTED DECORATIVE LED PENDANT LIGHT FIXTURE
- EXHAUST FAN UNIT FOR TOILET ROOMS
- 6"x4" SURFACE MOUNTED LED STRIP LIGHT
- WALL MOUNTED EMERGENCY LIGHT FIXTURE (QTY./LOC. PER FIRE CODE)
- WALL MOUNTED PACK LIGHT LED LIGHT FIXTURE
- SURFACE MOUNTED LED LIGHT FIXTURE
- WALL MOUNTED DECORATIVE SCONCE LED LIGHT FIXTURE
- EXTERIOR GOOSENECK DOWNLIGHT
- TRACK LIGHTING
- INTERIOR/EXTERIOR SPEAKERS

2 ACT SUPPORT DETAIL
SCALE: 3/8" = 1'-0"



3 2X2 ACT CEILING LAYOUT
SCALE: 1/2" = 1'-0"



1 NEW REFLECTED CEILING PLAN
SCALE: 3/8" = 1'-0"



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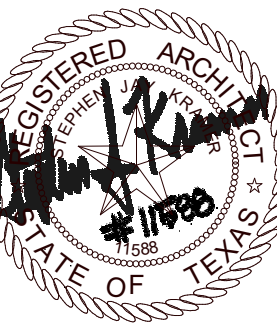
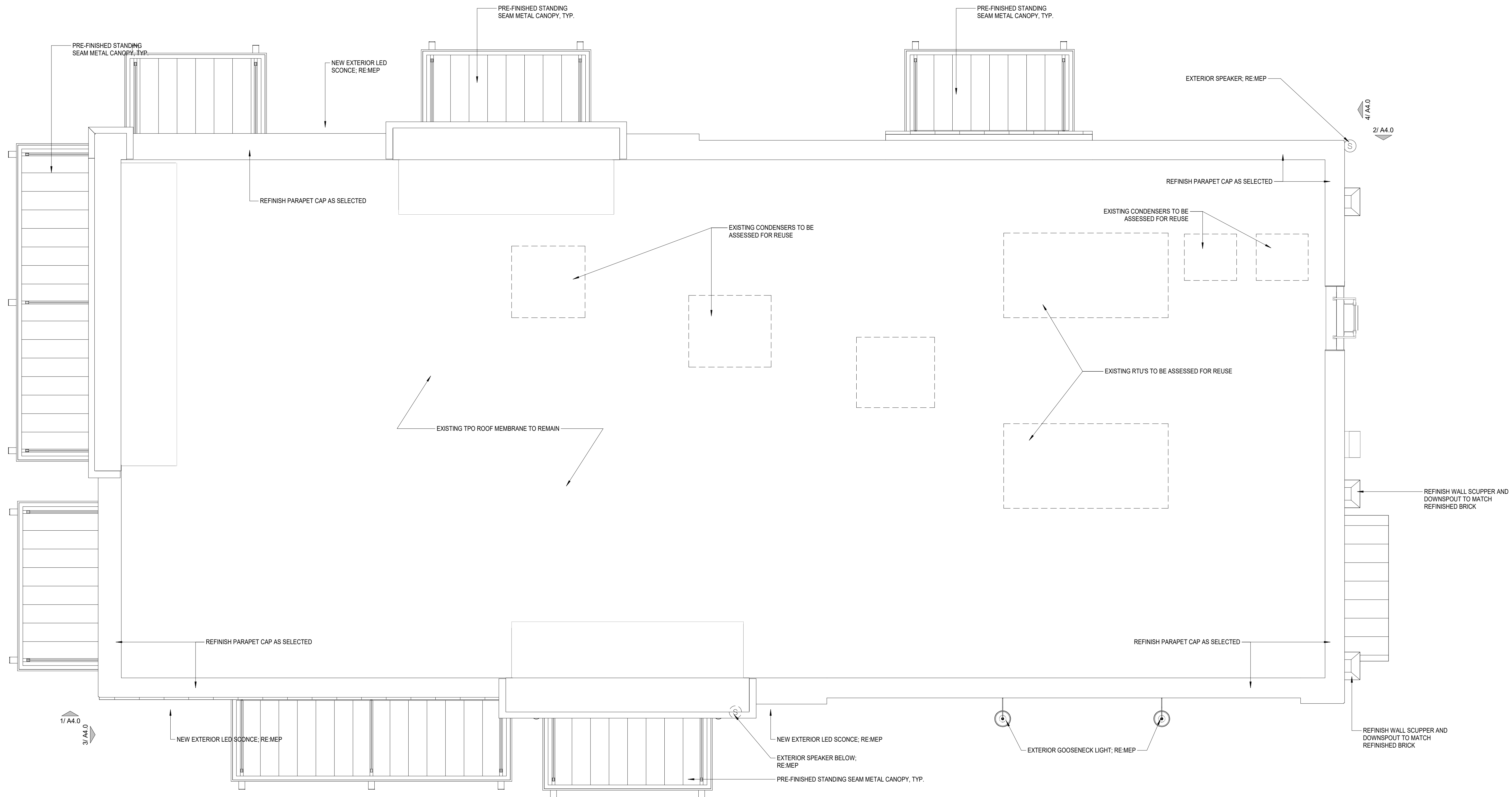
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ROOF PLAN NOTES

1. COORDINATE CURB & ROOFING W/ CURB & ROOF TOP EQUIPMENT.
2. ALL ROOF SLOPES SHOWN ARE TO BE REVIEWED AND APPROVED BY THE ROOFING SUPPLIER.
3. ALL EQUIPMENT ON ROOF TO BE MOUNTED ON CURBS AND PROPERLY FLASHED PER EQUIPMENT MANUFACTURER'S AND ROOF MANUFACTURER'S RECOMMENDATIONS.
4. CRICKETS ARE TO BE PROVIDED WITH SUFFICIENT DEPTH AND SLOPE TO ACCOMMODATE PROPER DRAINAGE ON ROOF AT ALL EQUIPMENT OR PENETRATIONS.
5. COORDINATE ALL ROOF PENETRATIONS W/ STRUCTURAL AND MEP CONTRACTOR.
6. SET BOTTOM OF EMERGENCY OVERFLOW SCUPPERS @ HIGH INTERSECTION OF TAPERED INSULATION. BOTH EMERGENCY OVERFLOW SCUPPERS SHOULD BE @ THE SAME ELEVATION.
7. PROVIDE QUANTITY AND LOCATION OF ROOF TOP UNITS PER THE HVAC CONTRACTOR. COORDINATE WITH STRUCTURAL AND ARCHITECTURAL PLANS.
8. REFER TO SPECIFICATIONS FOR ALL ROOFING MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS.
9. OVERFLOW DRAINS AND OVERFLOW SCUPPERS SHALL HAVE INLET AT 2' ABOVE ROOF LINE.
10. REFER TO ELEVATIONS FOR PARAPET HEIGHT.



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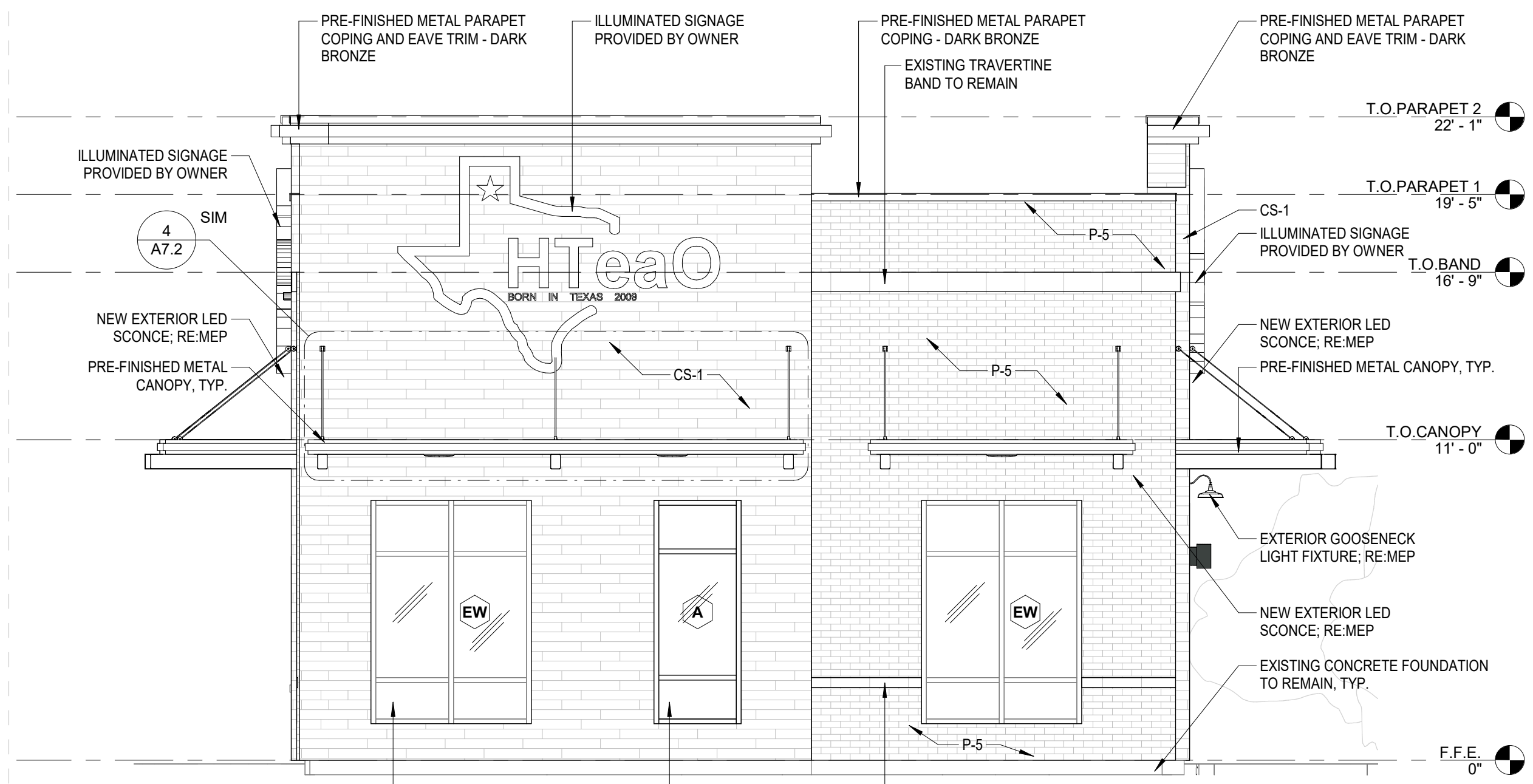
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NEW ROOF PLAN

A3.0

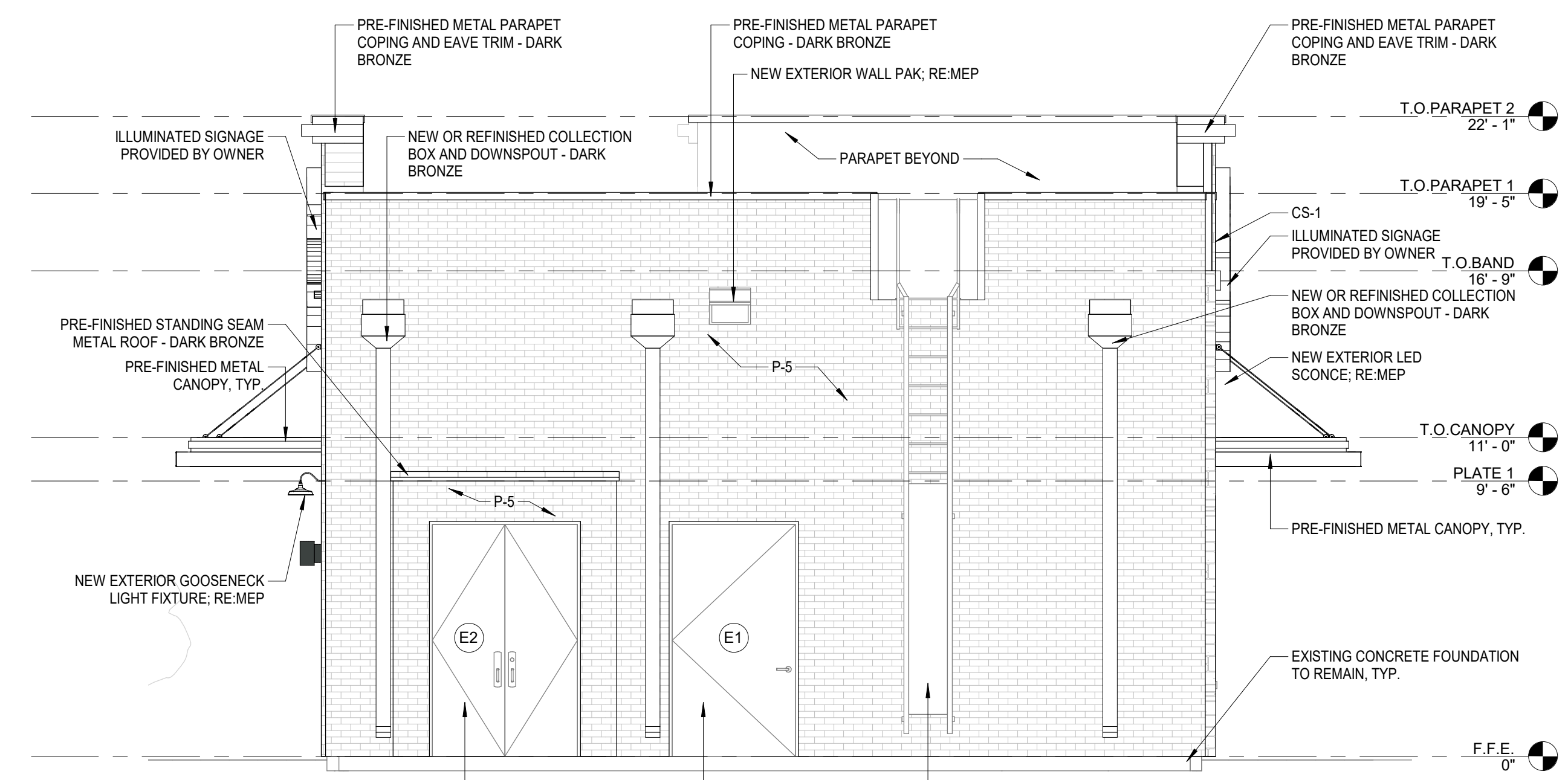
1 NEW ROOF PLAN
 SCALE: 3/8" = 1'-0"

GENERAL NOTES

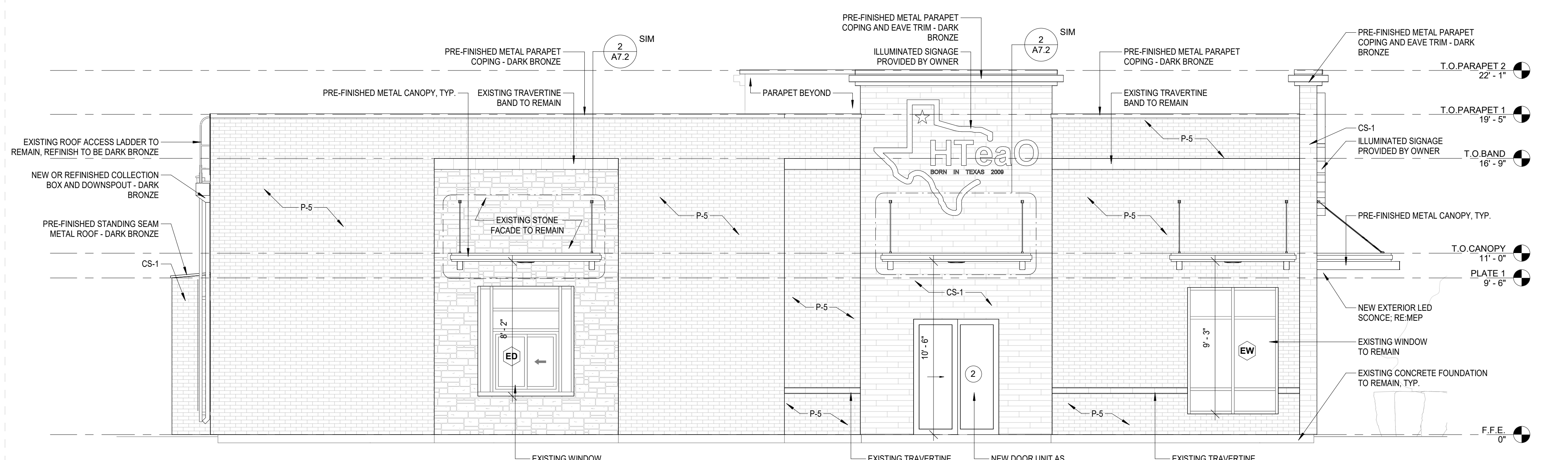
1. CONTRACTOR TO VERIFY ALL FINISHES WITH OWNER BEFORE ORDERING.
2. CONTRACTOR TO VERIFY ALL OPENINGS FOR DOORS AND WINDOWS BEFORE ORDERING.
3. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER PREPARATION OF ALL SURFACES IN SATISFACTORY MANNER. TOUCH-UP AND/OR REFINISH OF SURFACES DAMAGED BY SUBSEQUENT WORK SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. ALL WORK SHALL BE PERFORMED IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDED INSTALLATION METHODS.
4. ALL GLASS SUBJECT TO HUMAN IMPACT SHALL CONFORM TO THE STANDARDS SET FORTH BY CHAPTER 24 OF THE I.B.C.
5. GC TO PROVIDE BID FOR REFINISHED COLLECTION BOXES AND DOWNSPOUTS AS WELL AS ALTERNATE BID FOR REPLACEMENT PRE-FINISHED COLLECTION BOXES AND DOWNSPOUTS



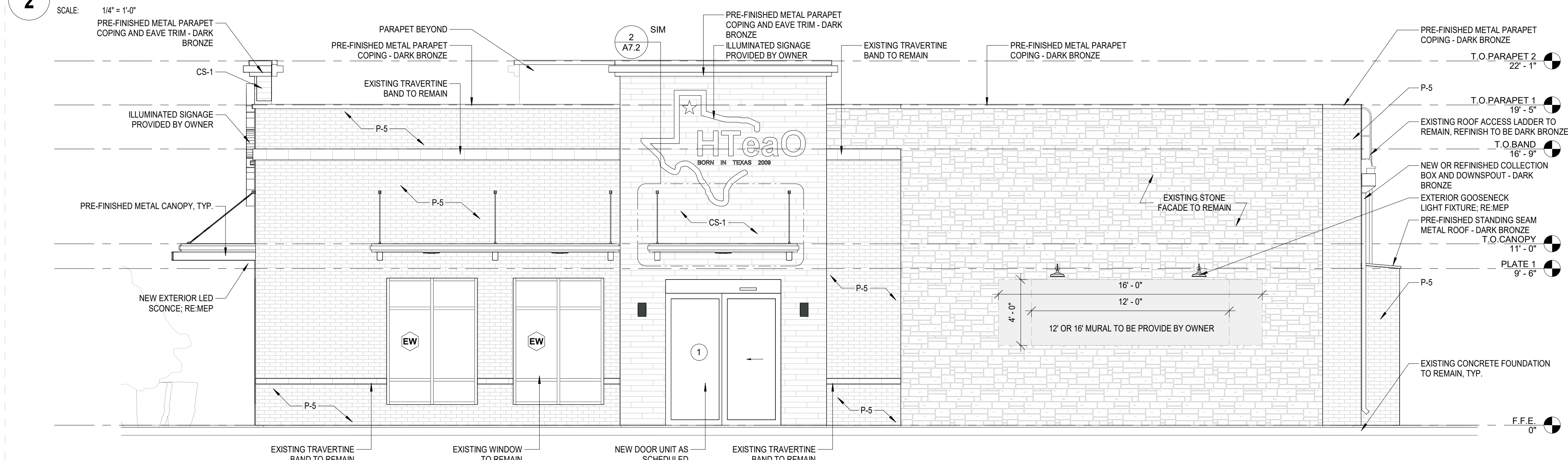
3 NEW LEFT
SCALE: 1/4" = 1'-0"



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



2 NEW BACK
SCALE: 1/4" = 1'-0"



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

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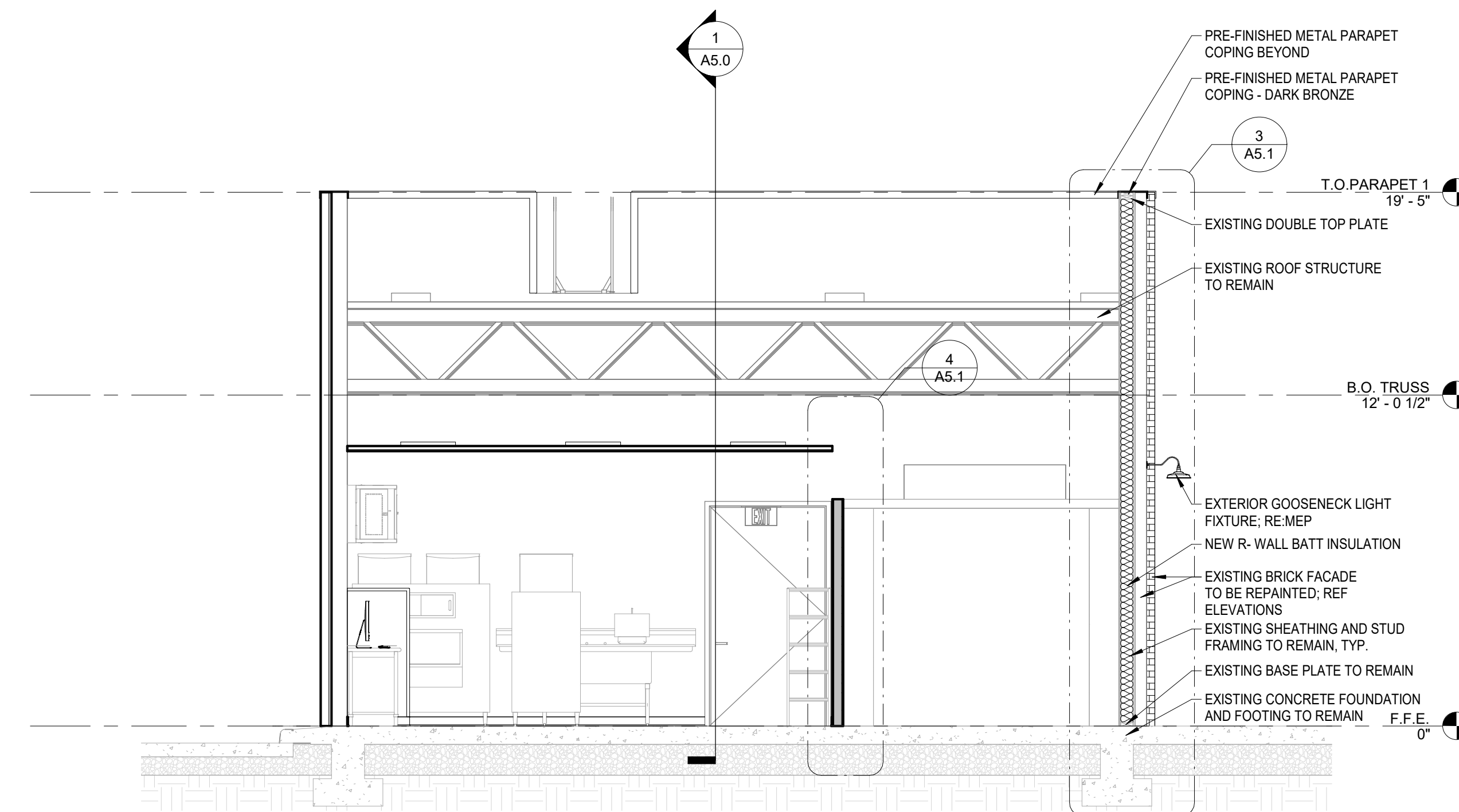
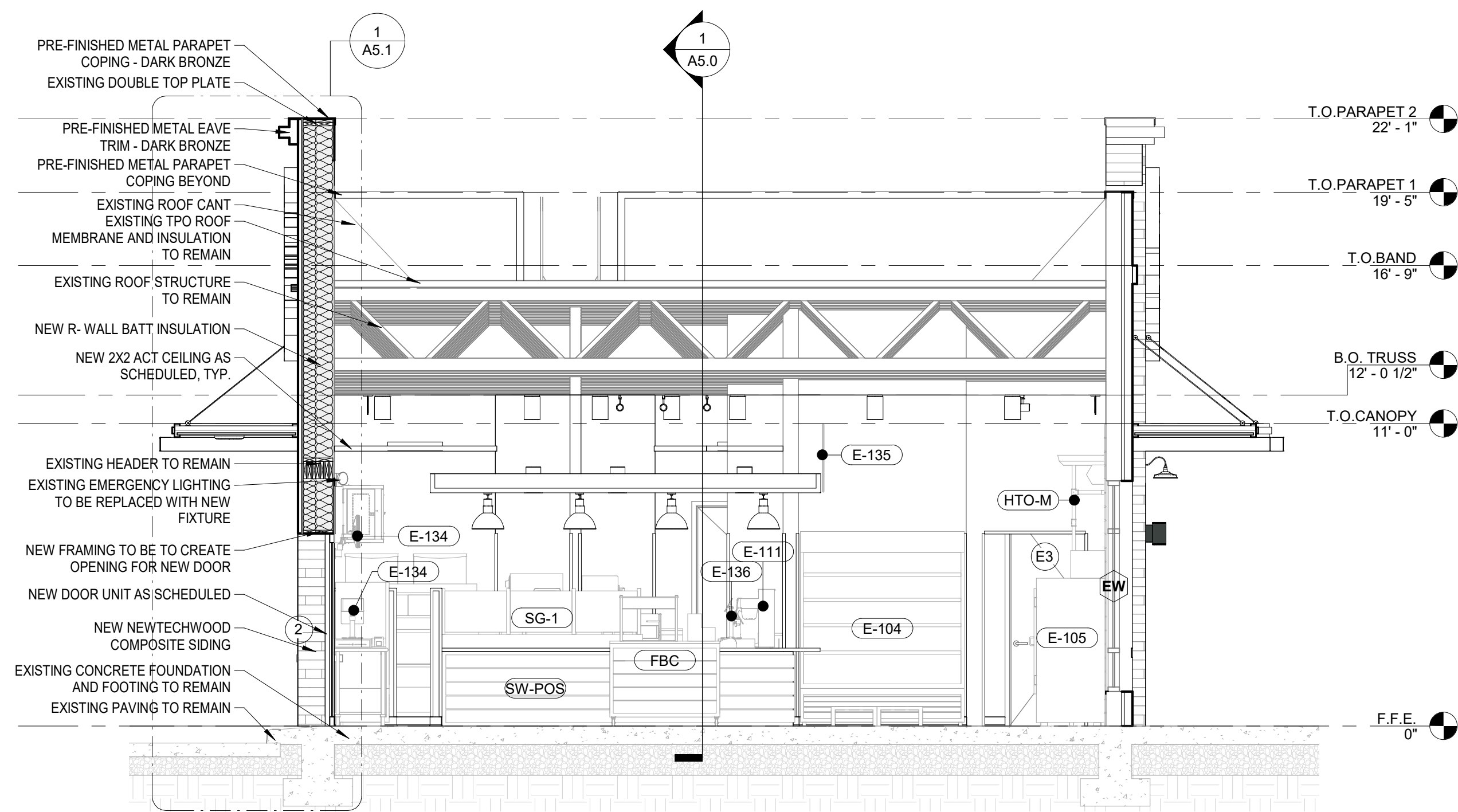
Date: 07-05-2022
Dwn: BRZ Chk: SJK
Project No.: 2222
Issue:

Sheet Name:
NEW EXTERIOR ELEVATIONS

A4.0

GENERAL NOTES

1. RE: STRUCTURAL FOR FOUNDATION AND FRAMING. THESE DRAWINGS ARE FOR REFERENCE ONLY



2 TRANSVERSE SECTION 1
SCALE: 1/4" = 1'-0"

3 TRANSVERSE SECTION 2
SCALE: 1/4" = 1'-0"



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

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07/05/22

Date: 07-05-2022
Dwn: BRZ Chk: SJK
Project No.: 2222
Issue:

Sheet Name:
BUILDING SECTIONS

A5.0

GENERAL NOTES

1. RE: STRUCTURAL FOR FOUNDATION AND FRAMING. THESE DRAWINGS ARE FOR REFERENCE ONLY



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DESIGN

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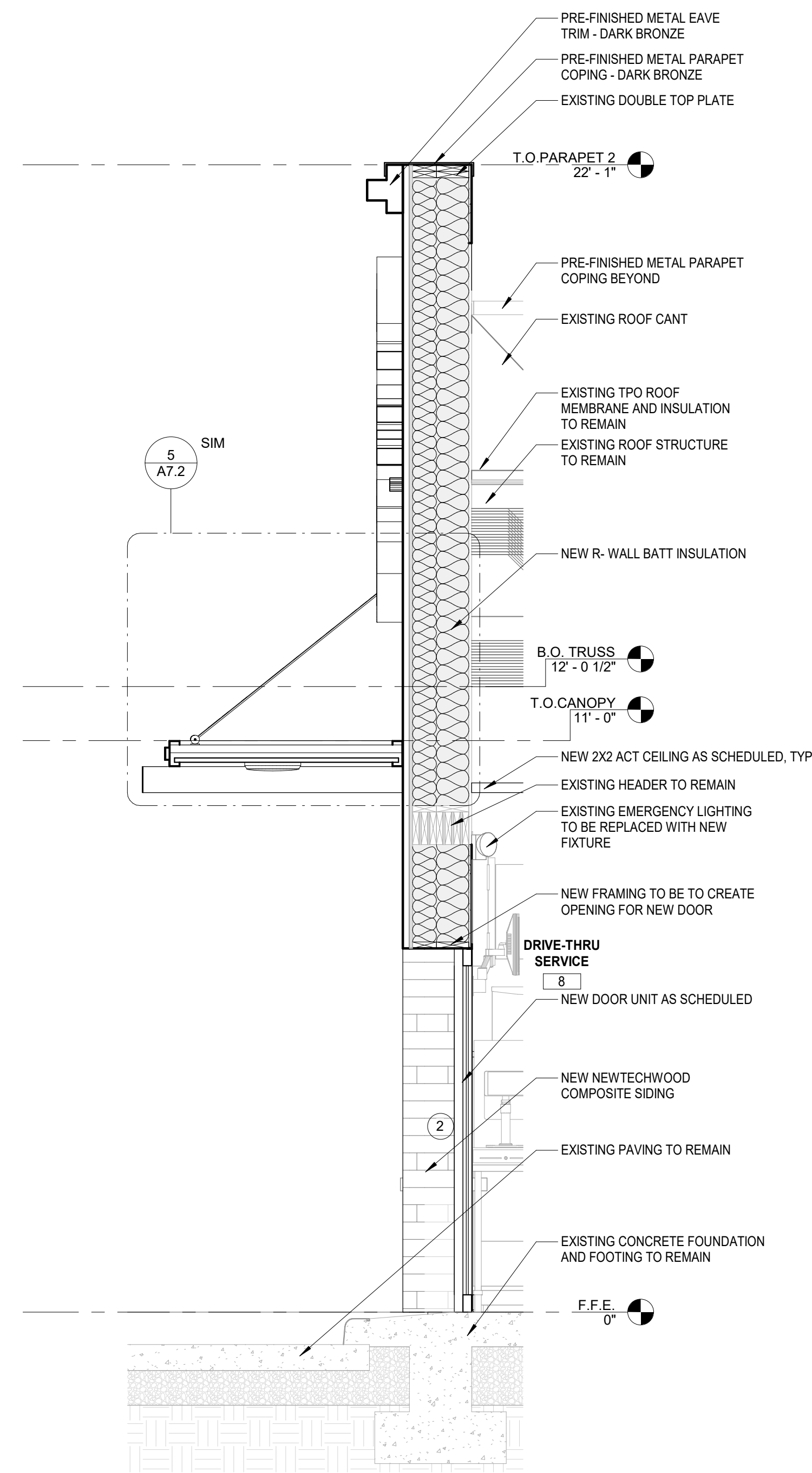


07/05/22

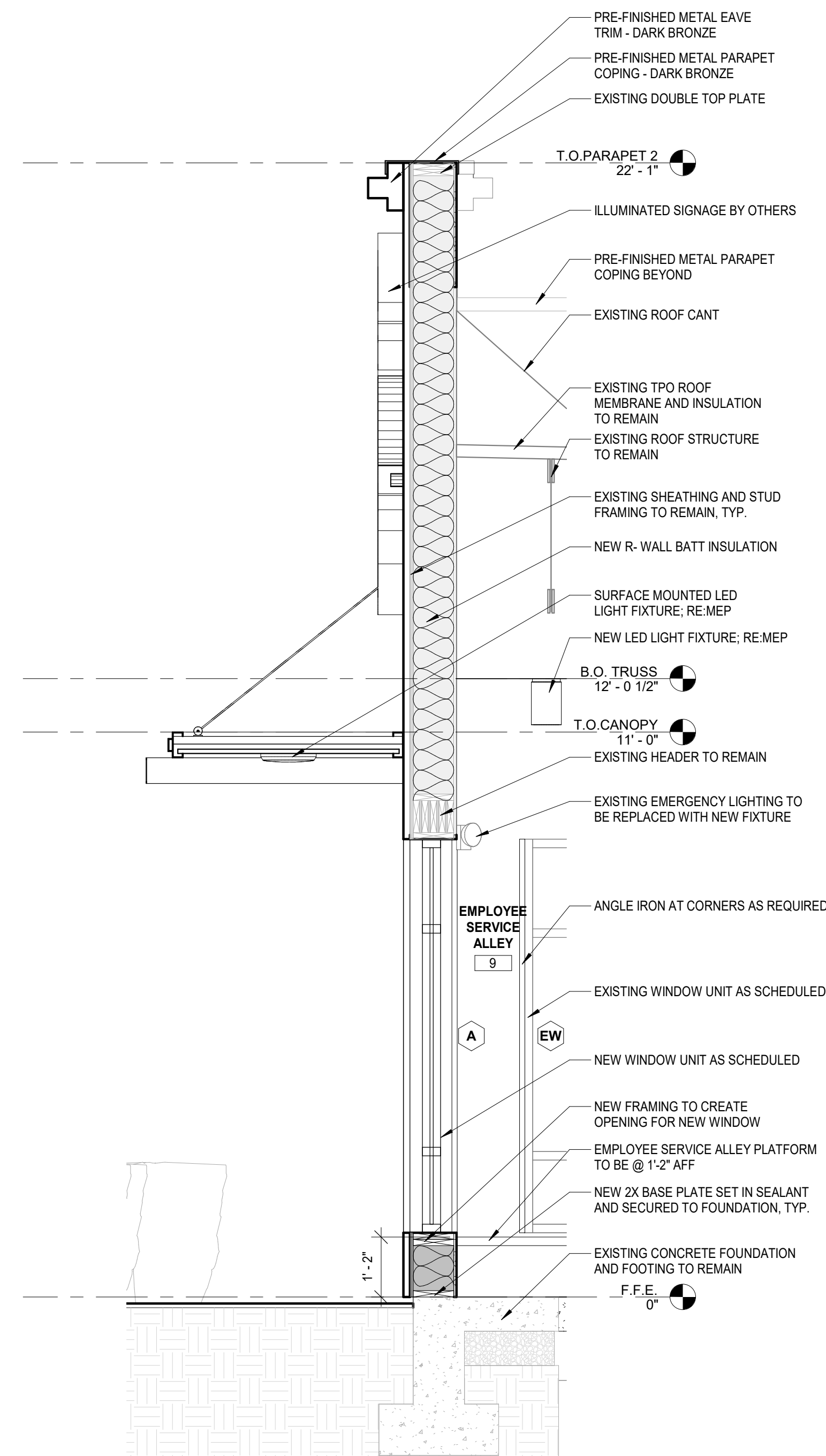
Date: **07-05-2022**
Dwn: **BRZ** Chk: **SJK**
Project No.: **2222**
Issue:

Sheet Name:
WALL SECTIONS

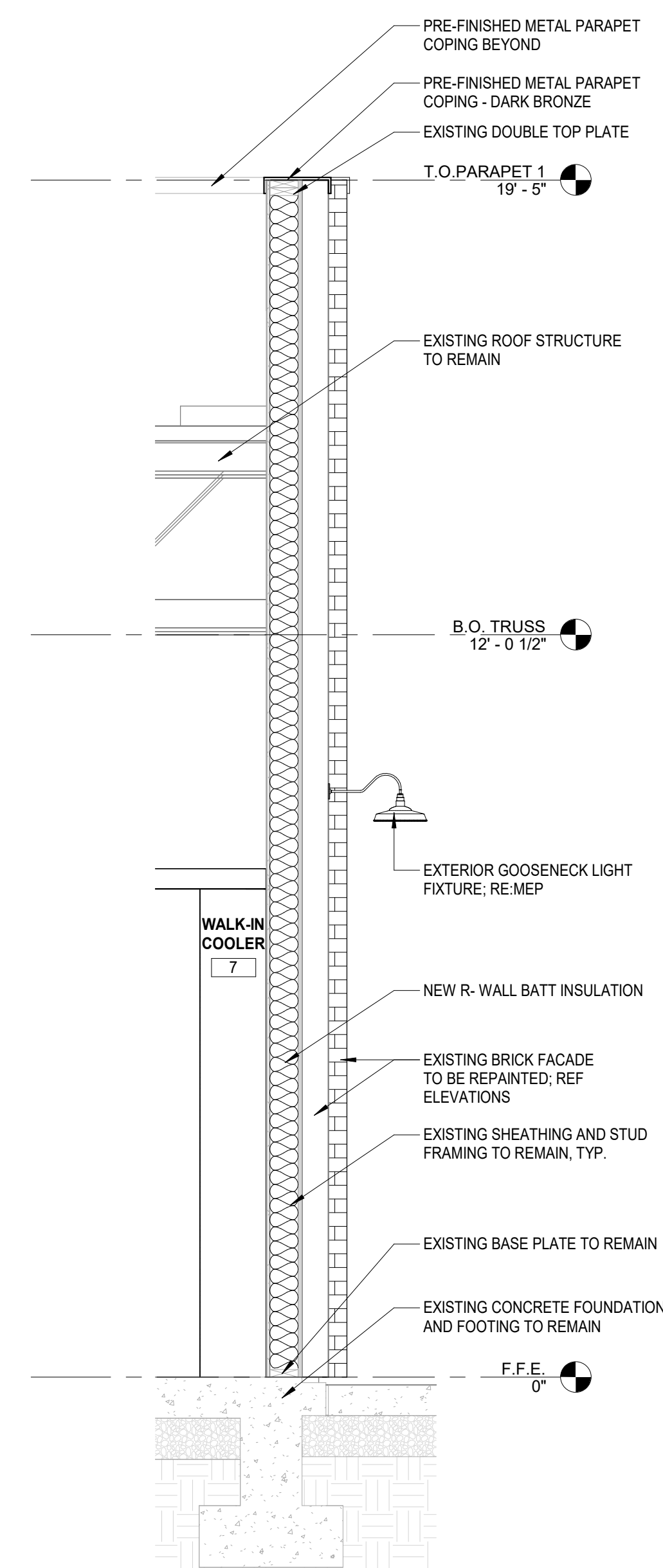
A5.1



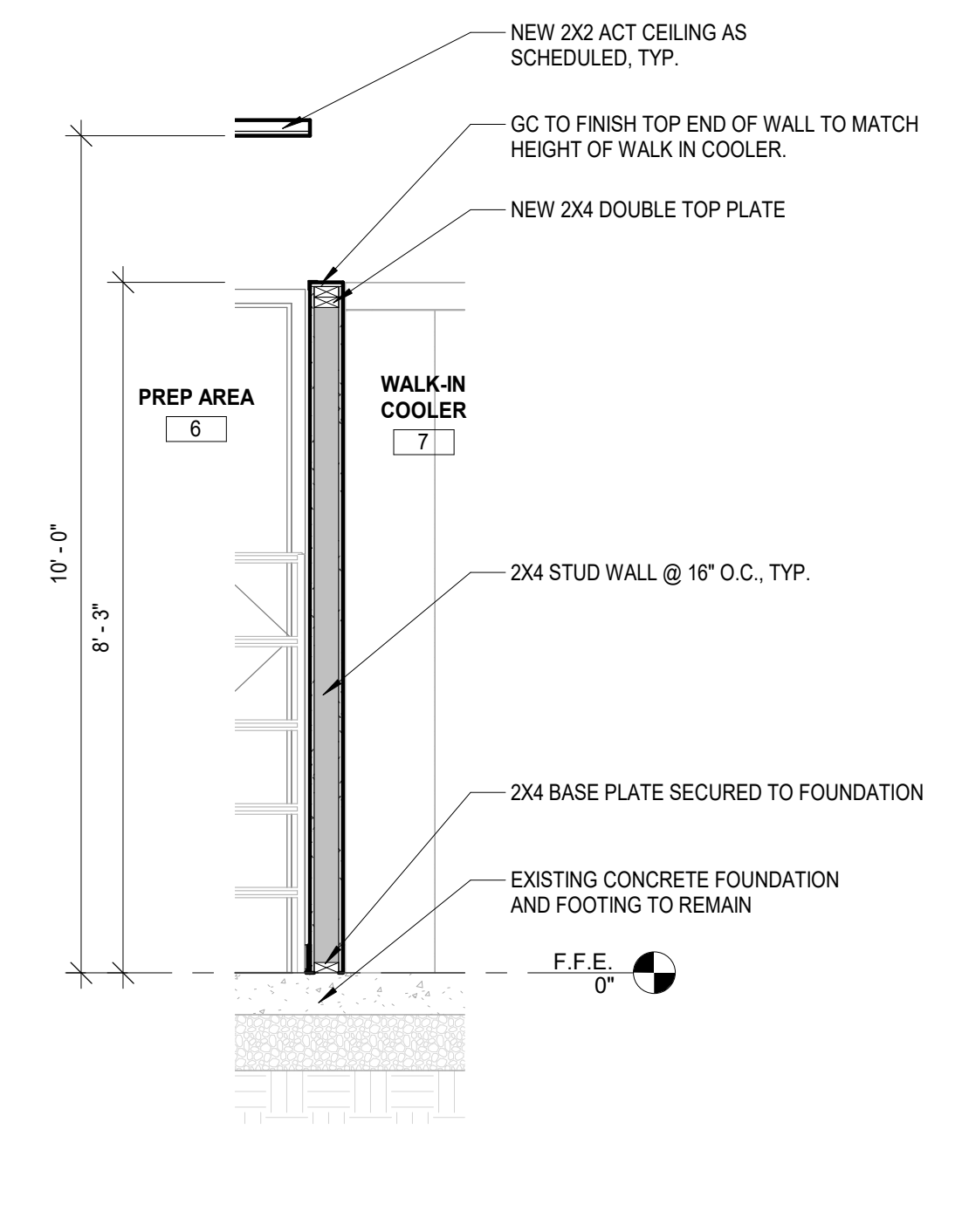
1 WALL SECTION
SCALE: 1/2" = 1'-0"



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



3 WALL SECTION
SCALE: 1/2" = 1'-0"



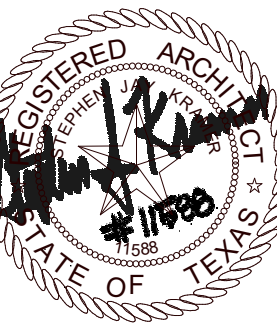
4 WALL SECTION
SCALE: 1/2" = 1'-0"

GENERAL NOTES

1. THE DRAWINGS SHALL NOT BE SCALED. ALL DIMENSIONS HAVE PREFERENCE OVER SCALE AND SHALL BE FIELD VERIFIED AND SHALL BE COORDINATED WITH THE WORK OF ALL TRADES IF NO DIMENSIONS ARE GIVEN OR DISCREPANCIES FOUND THE CONTRACTOR SHALL NOTIFY THE ARCHITECT FOR CLARIFICATION BEFORE BIDDING OR THE COMMENCEMENT OF THE WORK.
2. IT IS THE INTENT OF THIS DRAWING TO SHOW MANNER OF ACCOMPLISHING THE WORK. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS & CONDITIONS INCLUDED AS PART OF THE WORK. IF DISCREPANCIES FOUND THE CONTRACTOR SHALL NOTIFY THE ARCHITECT FOR CLARIFICATION BEFORE BIDDING OR THE COMMENCEMENT OF THE WORK.
3. THE CONTRACTOR SHALL VERIFY THE SIZES DIMENSIONS AND LOCATIONS OF ALL MECHANICAL AND ELECTRICAL EQUIPMENT PADS, BASES AND FOUNDATIONS AS WELL AS POWER, WATER AND DRAIN REQUIREMENTS FOR SUCH EQUIPMENT WITH EQUIPMENT MANUFACTURER.
4. OWNER TO APPROVE HARDWARE TYPE & FINISH PRIOR TO FINAL PRICING AND INSTALLATION
5. PROVIDE WOOD BLOCKING IN WALLS FOR ALL WALL-HUNG ITEMS (CASEWORK, RESTROOM ACCESSORIES, FURNITURE, ELECTRONICS, ETC.)
6. DIMENSIONS ARE INDICATED FROM STUD FACE TO STUD FACE UNLESS NOTED OTHERWISE
7. CONTACT ARCHITECT IF ANY DISCREPANCIES ARE NOTED BETWEEN ARCHITECTURAL DRAWINGS OR ENGINEERING DRAWINGS.
8. SEE STRUCTURAL DRAWINGS FOR ADDITIONAL WALL FRAMING REQUIREMENTS.
9. ALL PENETRATIONS SHALL BE PROTECTED BY AN APPROVED SOUND ISOLATION SYSTEM UNLESS NOTED OTHERWISE
10. PROVIDE MOISTURE RESISTANT, TYPE 'X' GYPSUM WALL BOARD FOR ALL WALLS THAT CONTAIN PLUMBING LINES.
11. REFER TO SHEET A0.2 FOR TYPICAL RESTROOM MOUNTING HEIGHTS OF ACCESSORIES
12. FLOOR ELEVATIONS ARE INTENDED AS RELATIVE ELEVATIONS - SEE CIVIL DRAWINGS FOR ABSOLUTE ELEVATIONS VALUES
13. TYPICAL DOOR AND FRAME ELEVATIONS DESIGNATED ARE LOCATED ON SHEET A0.2
14. REFER TO TAS SHEETS FOR ACCESSIBILITY STANDARDS
15. SEE MEP DRAWINGS FOR TOILET FIXTURES & PLUMBING
16. CONTRACTOR TO FIELD VERIFY ALL OPENINGS & CLEARANCES PRIOR TO FABRICATION OF CASEWORK, TOILET PARTITIONS, ETC.



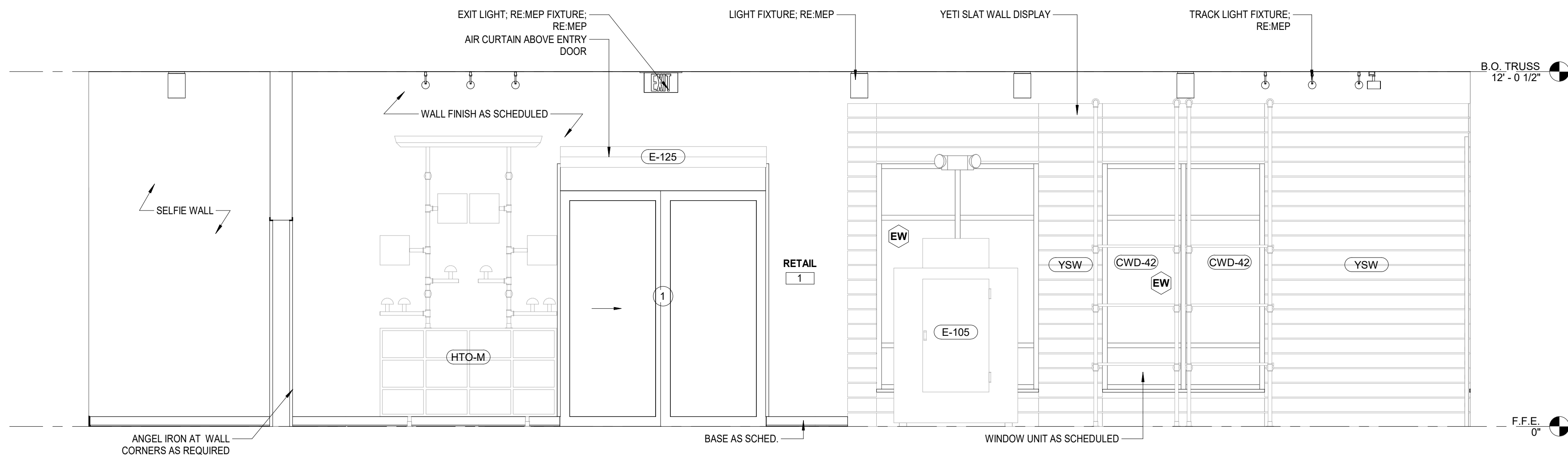
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HELOTES, TX 78023



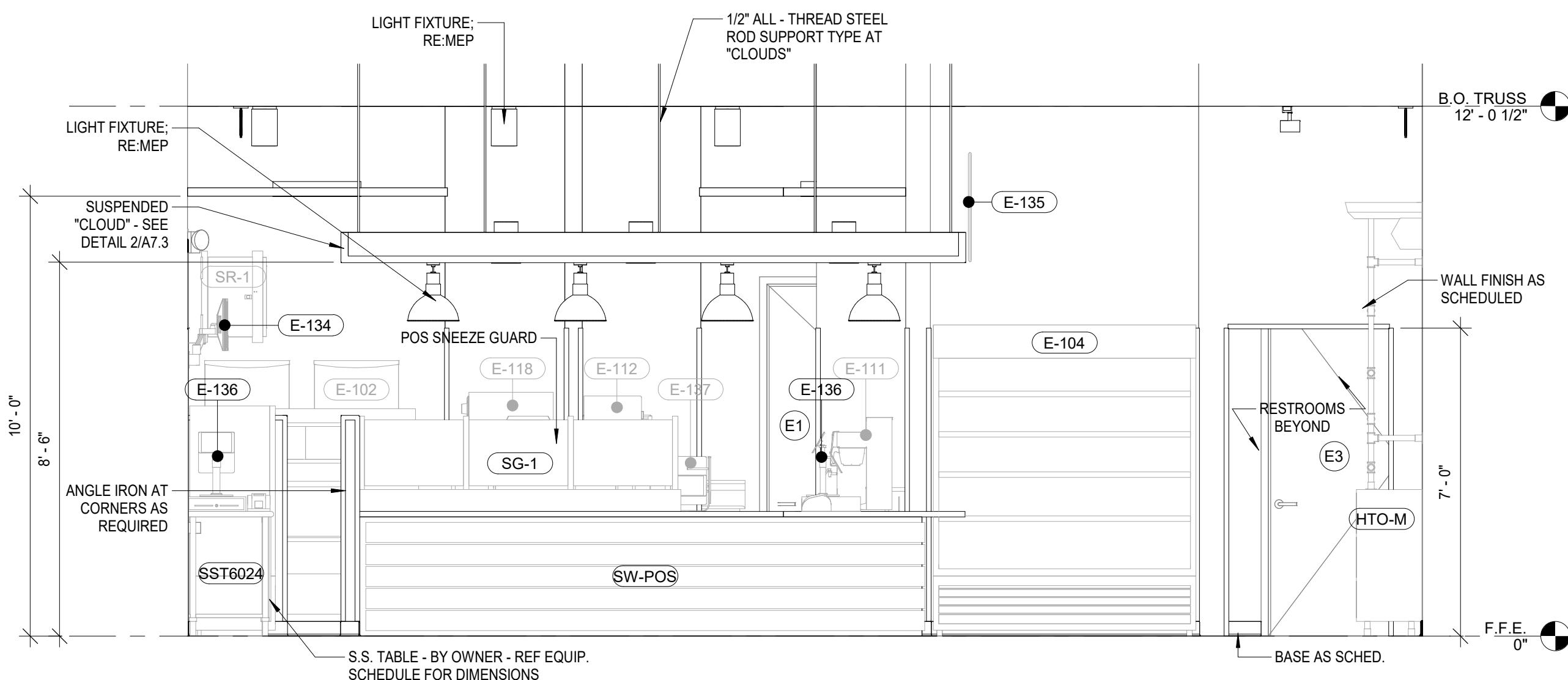
Date: **07-05-2022**
 Dwn: **BRZ** Chk: **SJK**
 Project No.: **2222**
 Issue:

Sheet Name:
FOH INTERIOR ELEVATIONS

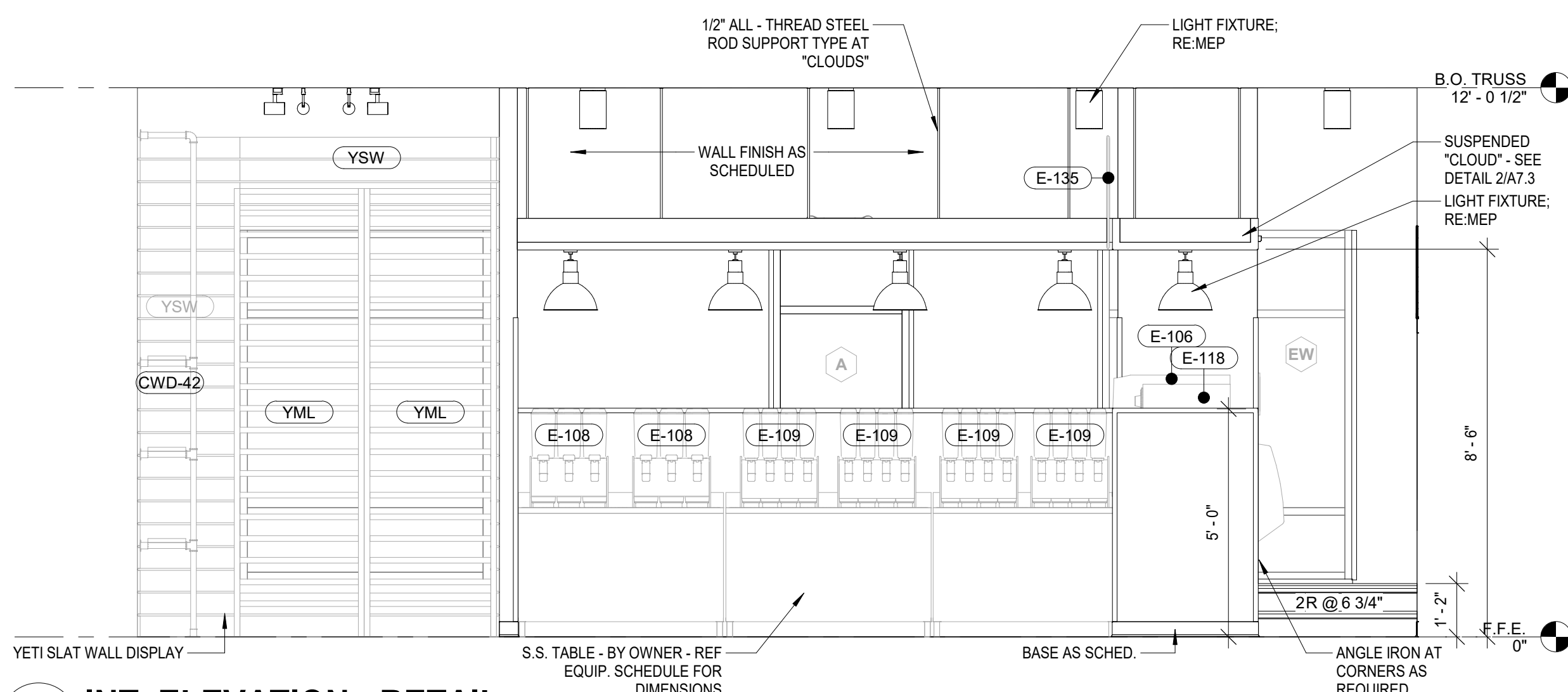
A6.0



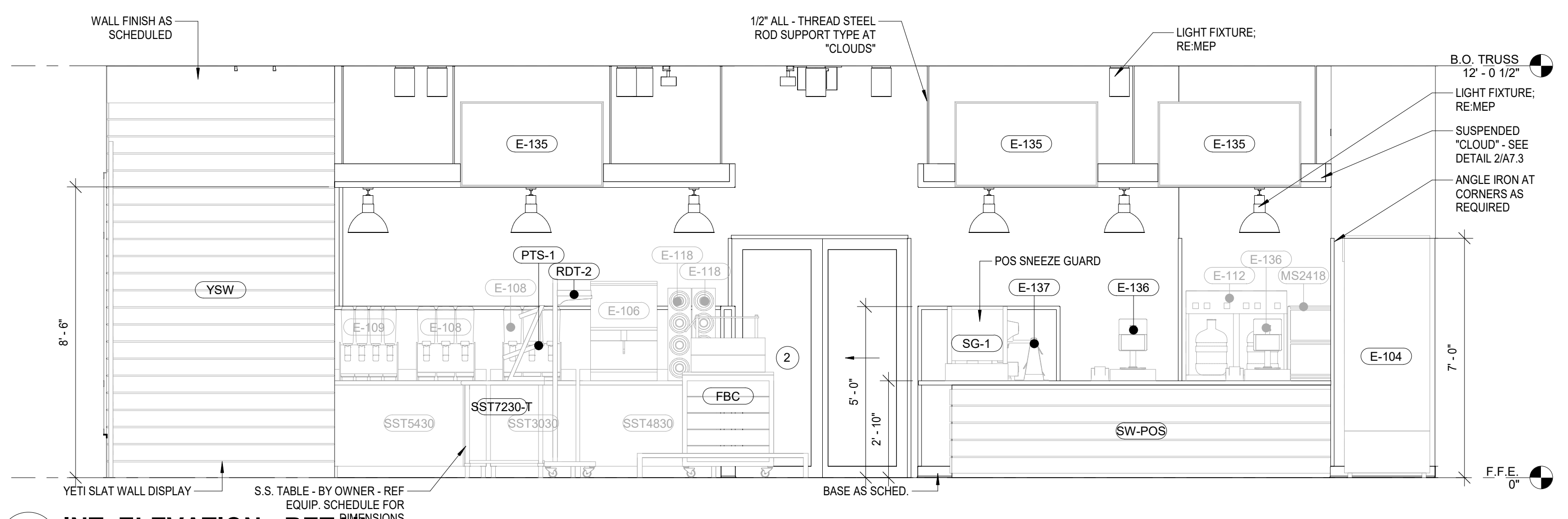
4 INT. ELEVATION - RETAIL
 SCALE: 3/8" = 1'-0"



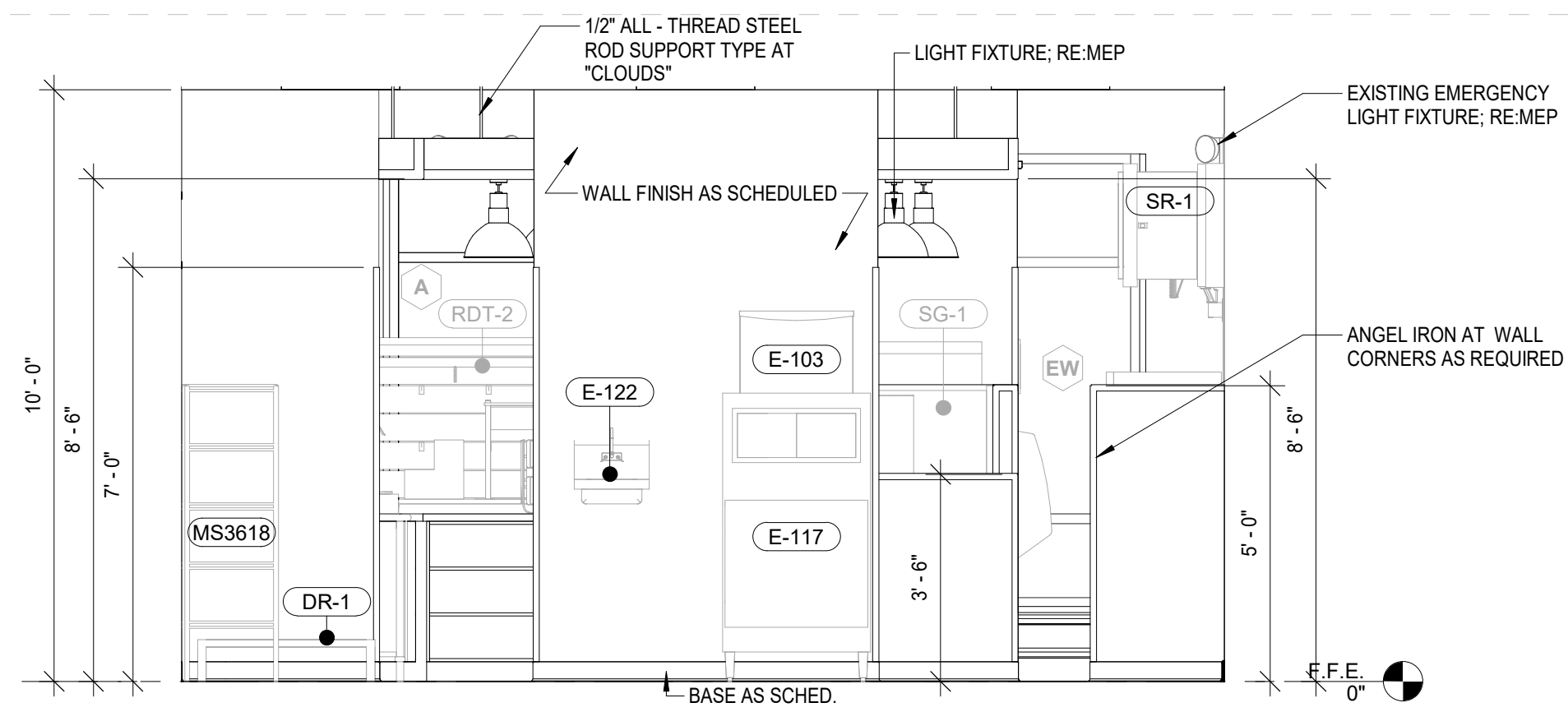
3 INT. ELEVATION - RETAIL
 SCALE: 3/8" = 1'-0"



1 INT. ELEVATION - RETAIL
 SCALE: 3/8" = 1'-0"

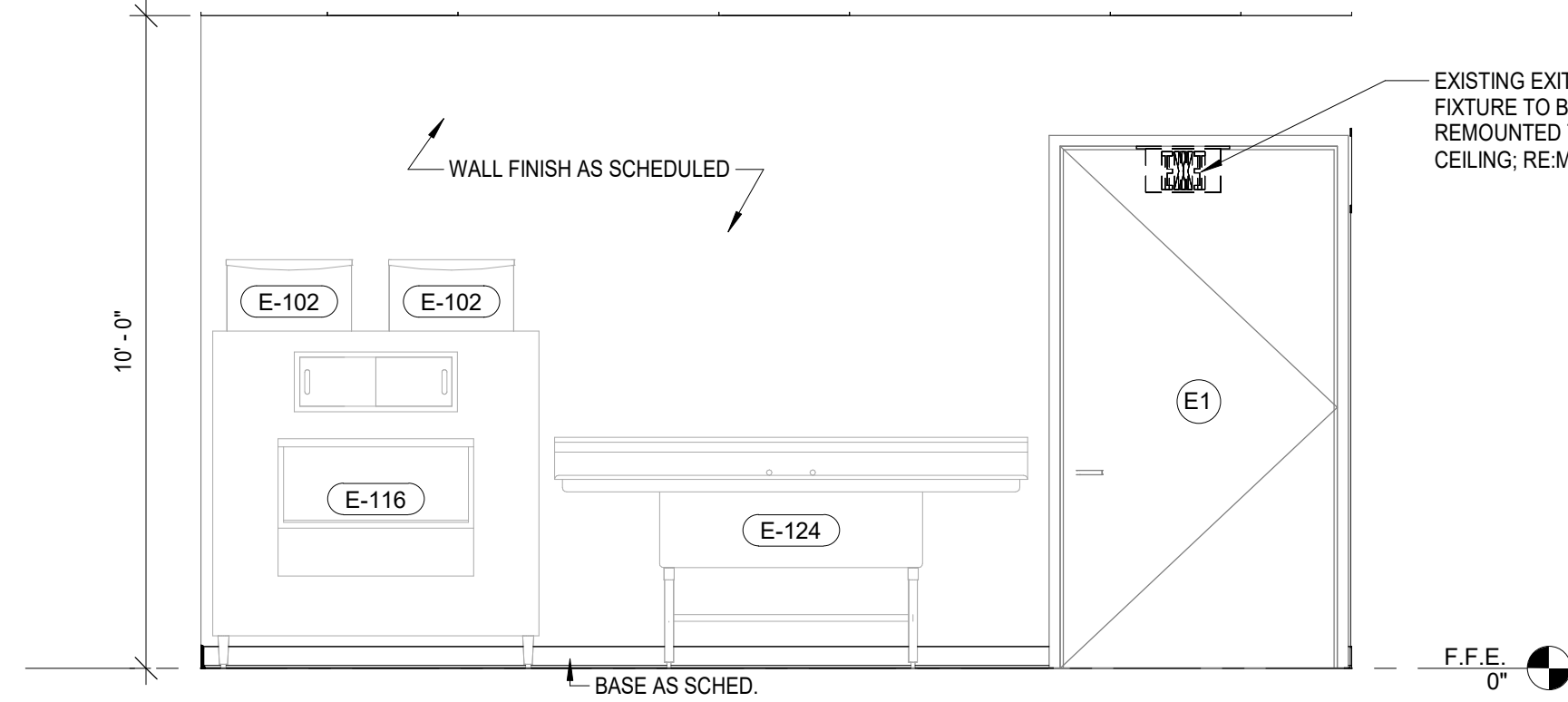


2 INT. ELEVATION - RETAIL
 SCALE: 3/8" = 1'-0"



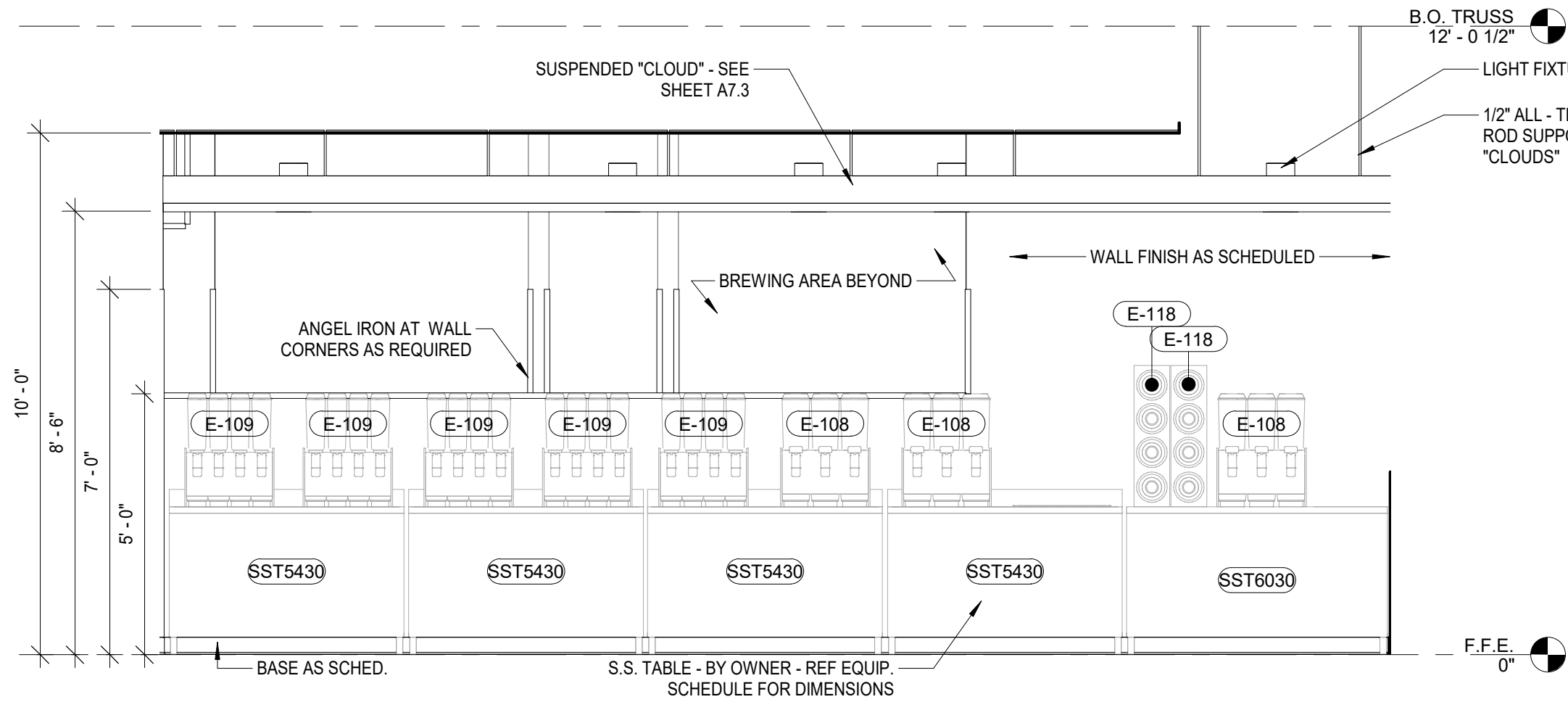
6 INT. ELEVATION - PREP AREA

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



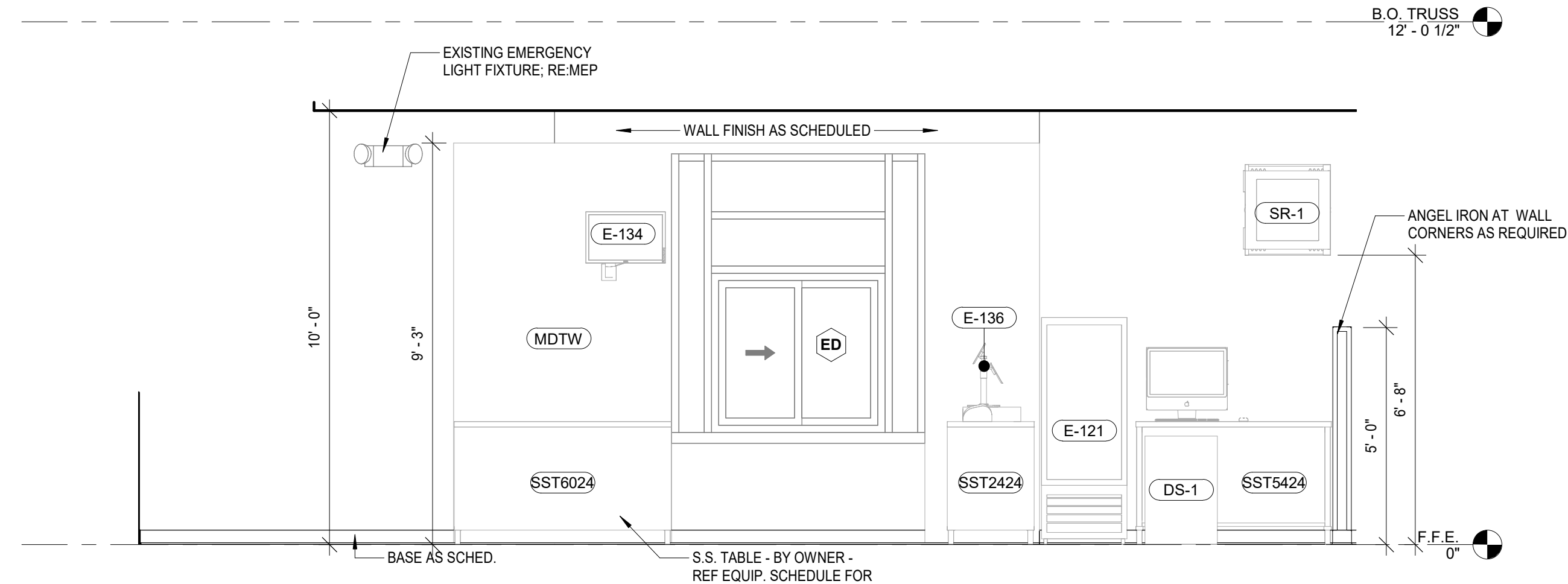
7 INT. ELEVATION - PREP AREA

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



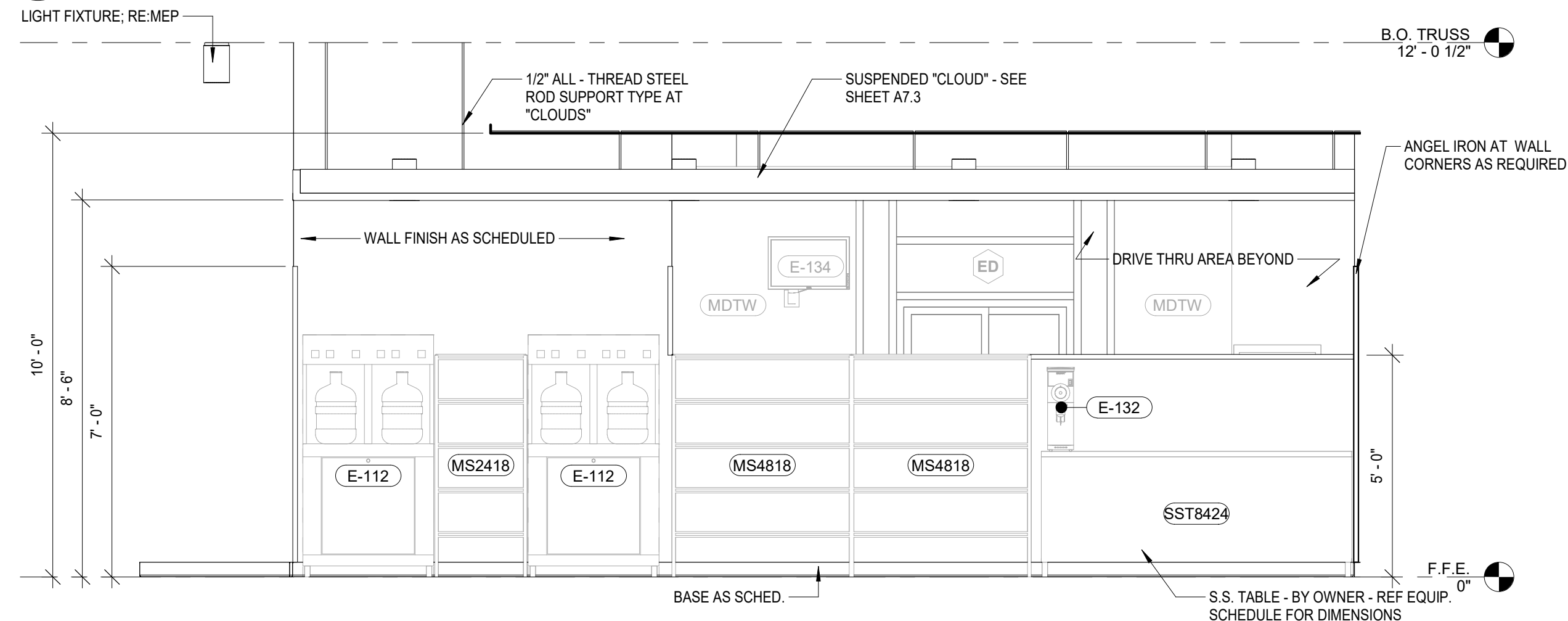
4 INT. ELEVATION - DRIVE THRU

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



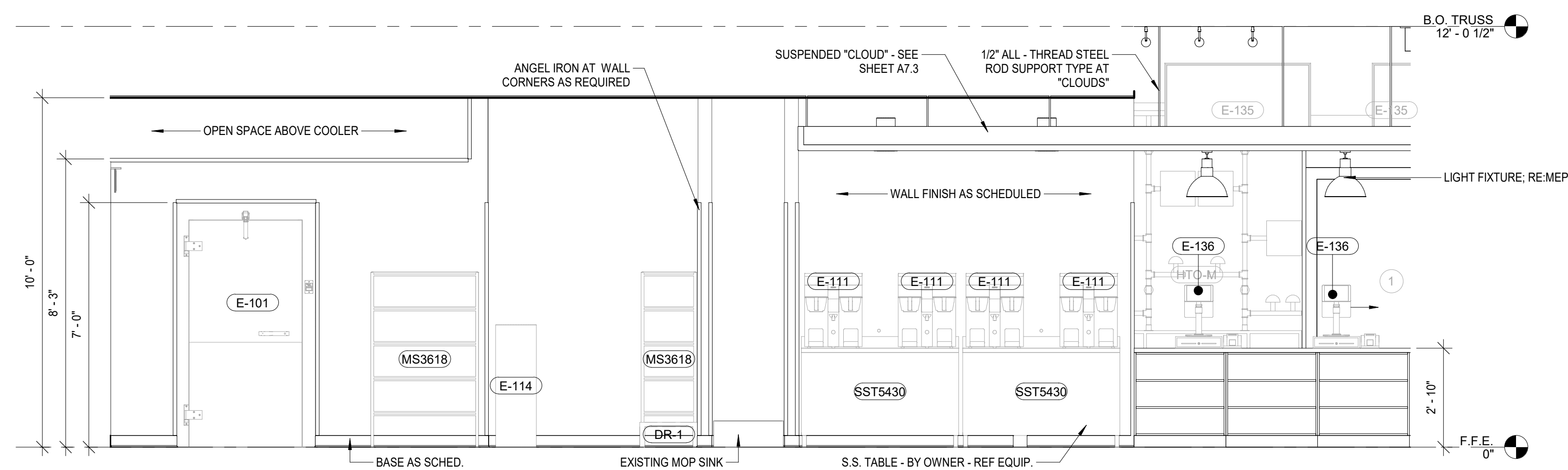
5 INT. ELEVATION - DRIVE THRU

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



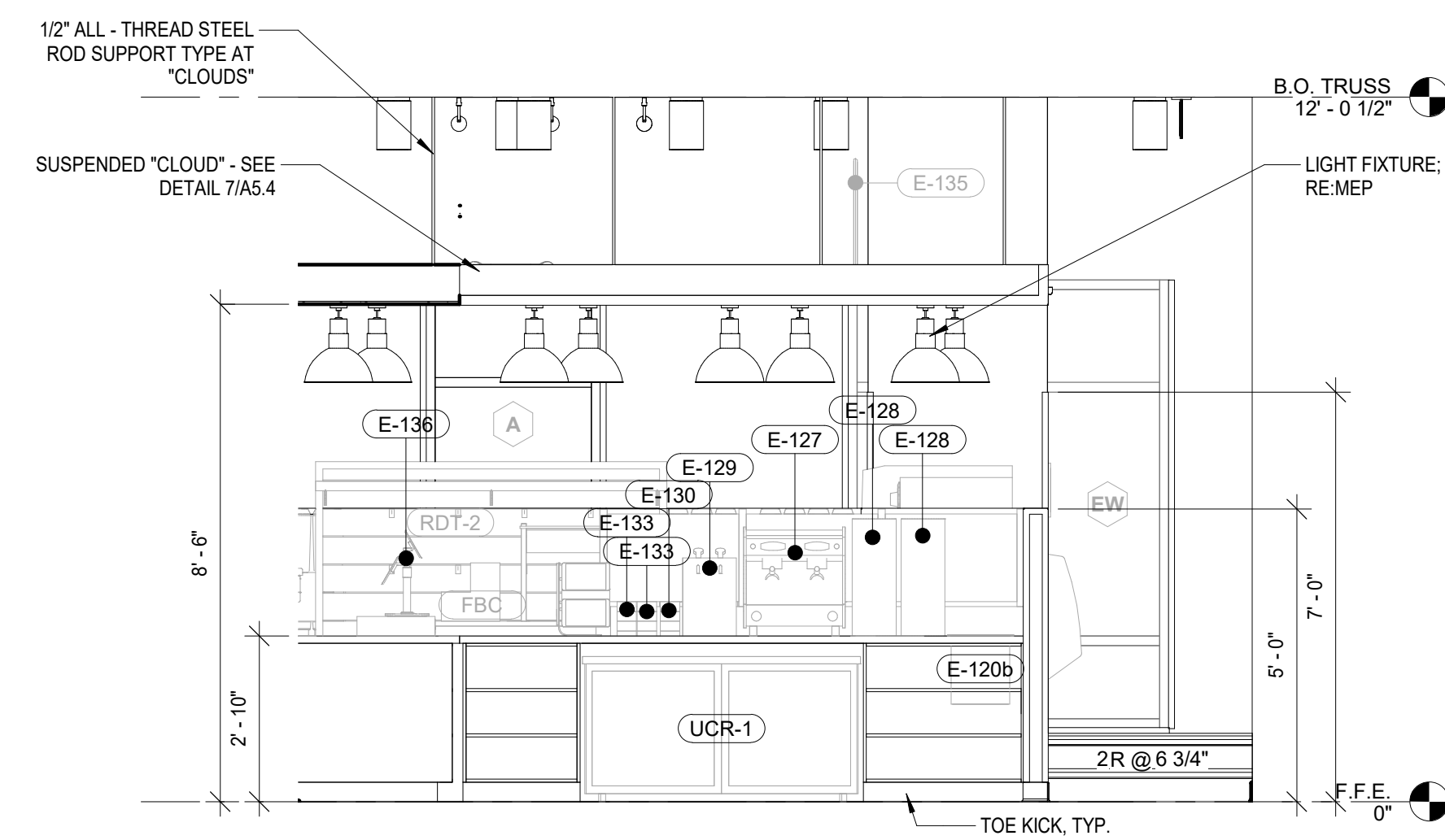
3 INT. ELEVATION - SALES

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



1 INT. ELEVATION - SALES

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



2 INT. ELEVATION - SALES

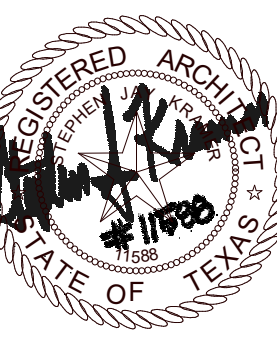
SCALE: 3/8" = 1'-0"

GENERAL NOTES

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Date: **07-05-2022**
 Dwn: **BRZ** Chk: **SJK**
 Project No.: **2222**
 Issue:

Sheet Name:
BOH INTERIOR ELEVATIONS

A6.1

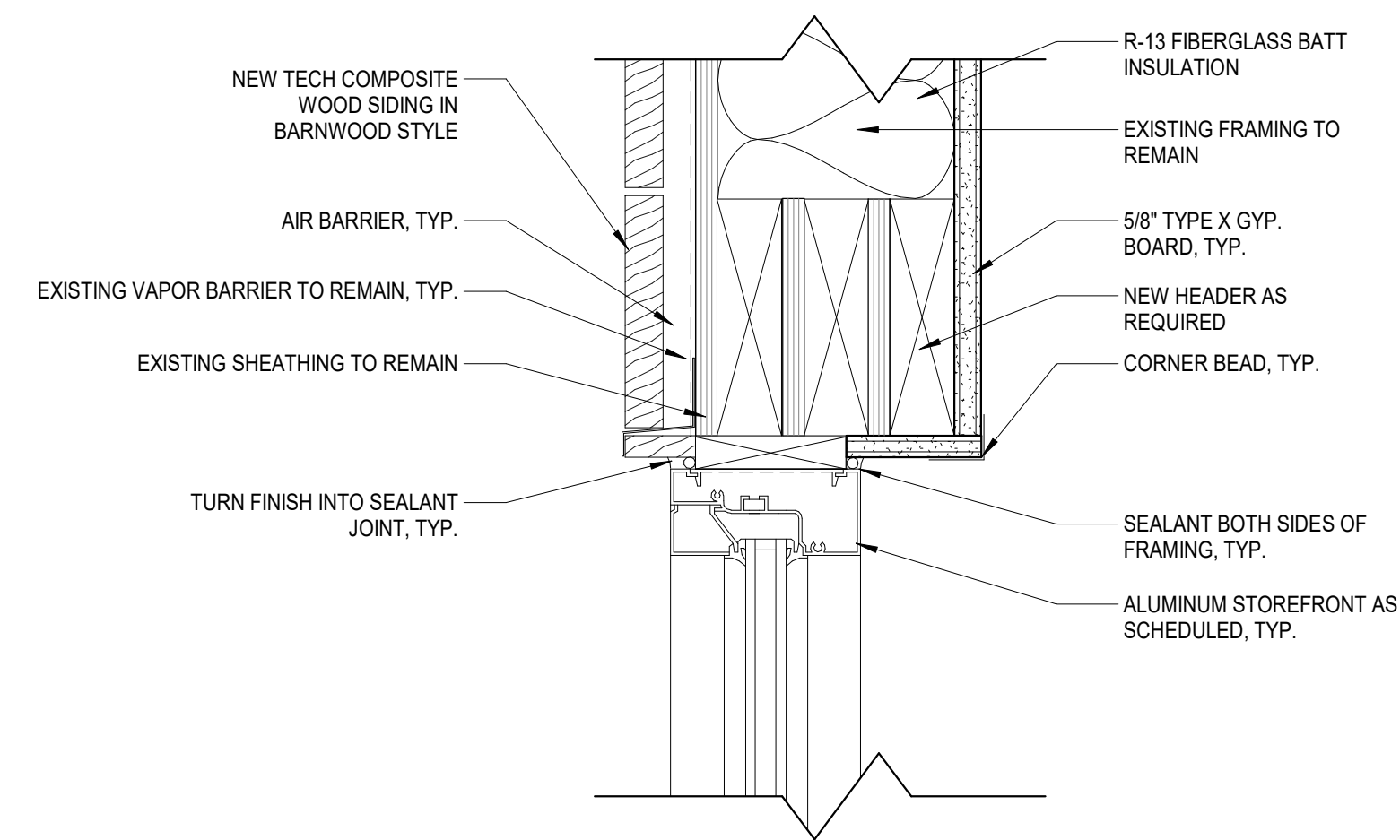
GENERAL NOTES

1. RE: STRUCTURAL FOR FOUNDATION AND FRAMING. THESE DRAWINGS ARE FOR REFERENCE ONLY



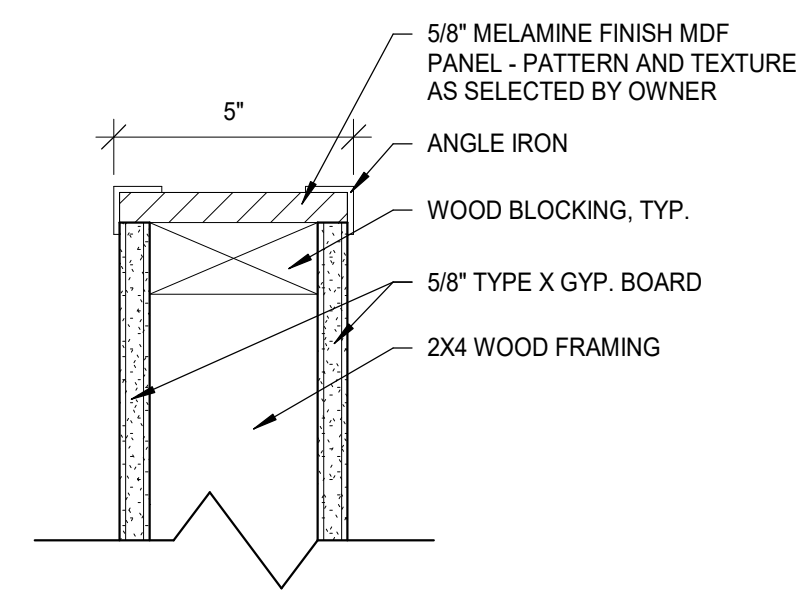
Stephen A. Kramer
ARCHITECTURE DESIGN

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HELOTES, TX 78023



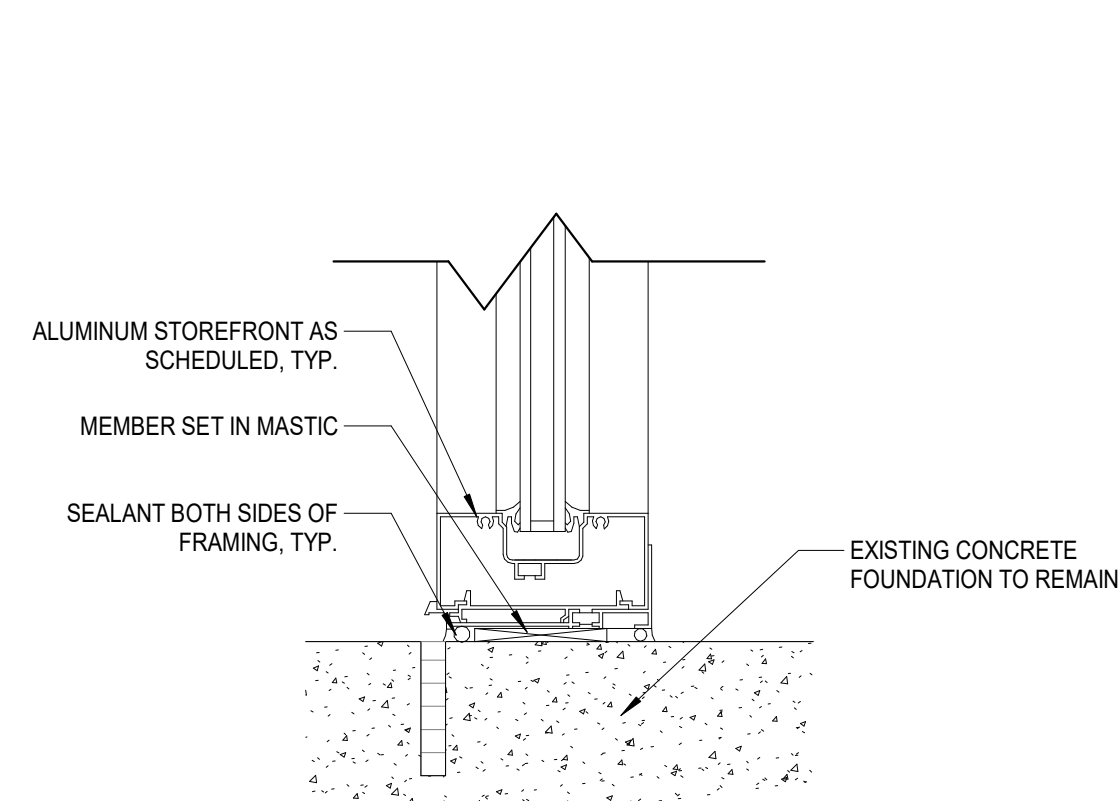
4 STOREFRONT HEAD @ COMPOSITE WOOD

SCALE: 3" = 1'-0"



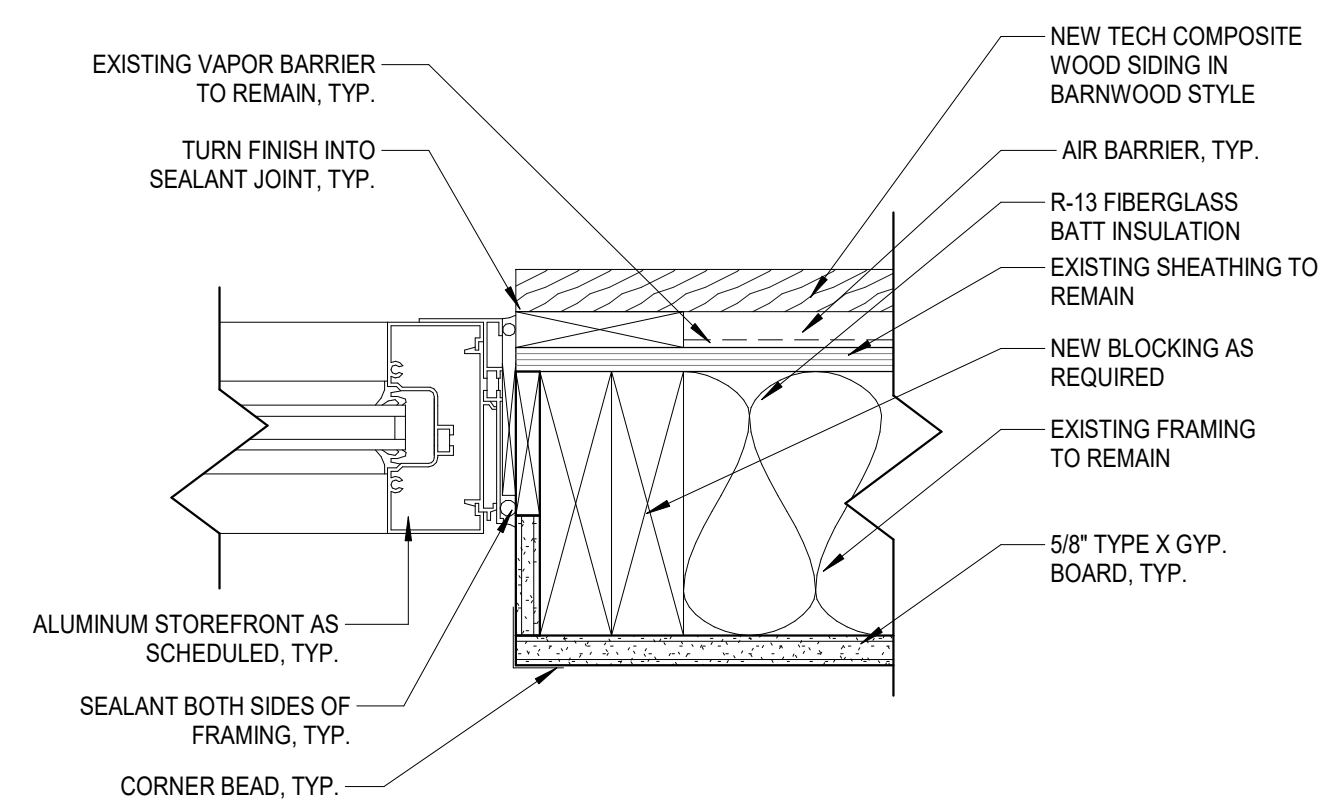
5 LOW WALL CAP DETAIL

SCALE: 3" = 1'-0"



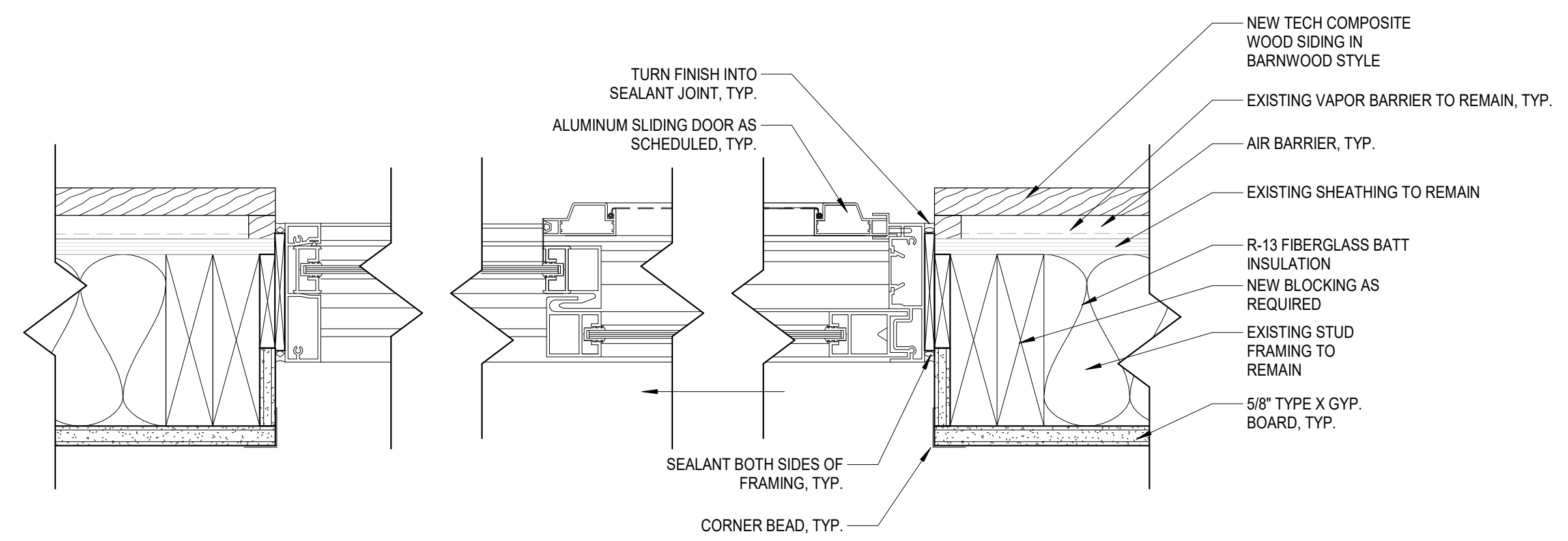
1 STOREFRONT SILL

SCALE: 3" = 1'-0"



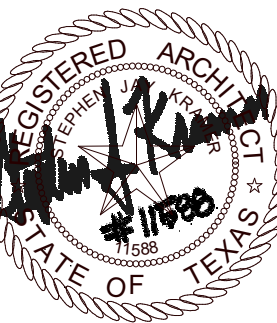
2 STOREFRONT JAMB @ COMPOSITE WOOD

SCALE: 3" = 1'-0"



3 SLIDING DOOR DETAIL

SCALE: 3" = 1'-0"



Date: **07-05-2022**
Dwn: **BRZ** Chk: **SJK**
Project No.: **2222**
Issue:

Sheet Name:
STOREFRONT & DOOR DETAILS

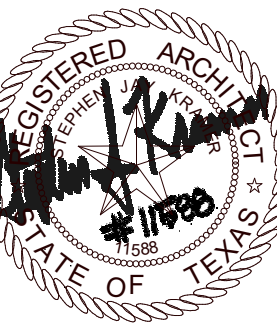
A7.0

MILLWORK NOTES

1. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF ALL MILLWORK
2. CONTRACTOR SHALL VERIFY ALL FINISH TO FINISH DIMENSIONS PRIOR TO MANUFACTURING ANY MILLWORK
3. REFER TO ADA COMPLIANCE DETAILS, NOTES & MOUNTING HEIGHTS
4. ALL SHELVING TO BE GRADE A/C 3/4" PLYWOOD SHELVING, PAINTED WITH HARDWOOD EDGES W/ 1/4" HARDBOARD BACKING VERTICALS TO BE EITHER 1 3/4" W/ EDGING PLYWOOD OR M2 3/4" PLYWOOD SHEETS, BACK TO BACK WITH A 1" X 2" TRIM DEPENDING ON THE CONSTRUCTION METHOD PROPOSED. ALL ADJUSTABLE SHELVING STANDARDS SHALL BE RECESSED W/ STANDARDS THAT ARE BACK TO BACK ON ONE PLYWOOD SHEET TO BE ALTERNATELY LAPPED BY 1"
5. ALL FIXED SHELVES SHALL BE A/C 3/4" PLYWOOD W/ HARDWOOD EDGES, PAINTED W/ ALL HORIZONTAL & VERTICAL SURFACES MEETING IN CLEAN WELL CRAFTED DADO JOINTS. GLUE AND / OR INVISIBLE TOE NAIL AT ALL SPLICES. REFER TO SPECS.
6. ALL TOE SPACE OF ALL BASE CABINET UNITS, AS WELL AS FULL HEIGHT SHELVING UNITS, PROVIDE A FULL 4" TO ALLOW A 4" VINYL (RUBBER) BASE TO BE APPLIED. (A CONTINUOUS 1/2" PLYWOOD STRIP IN ADDITION TO THE 3 1/2" OF THE 2X4 SHOULD SUFFICE)
7. PAINT ALL EXPOSED SURFACES. REFER TO PAINT SPECIFICATIONS.
8. PROVIDE W/D. BLOCKING IN WALLS AS REQUIRED TO SUPPORT MILLWORK
9. PROVIDE ALL PULLS, HINGES, K-V STANDARDS, SLIDES & MISC. HARDWARE ON ALL MILLWORK & CASEWORK. RE: SPECS.
10. PROVIDE LOCKS AT COUNTERTOPS & CABINETS AS NOTED OR RE: SPECS



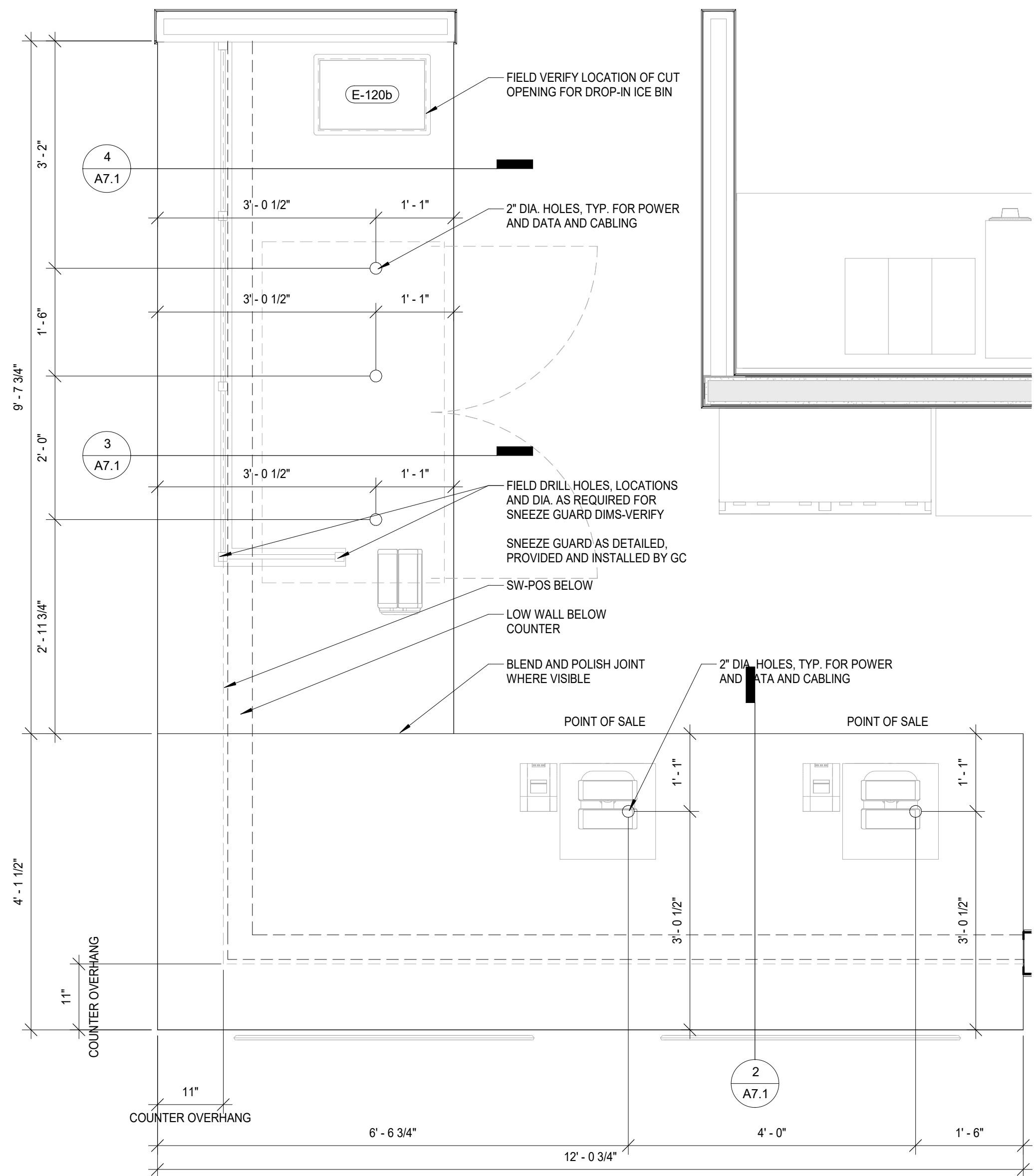
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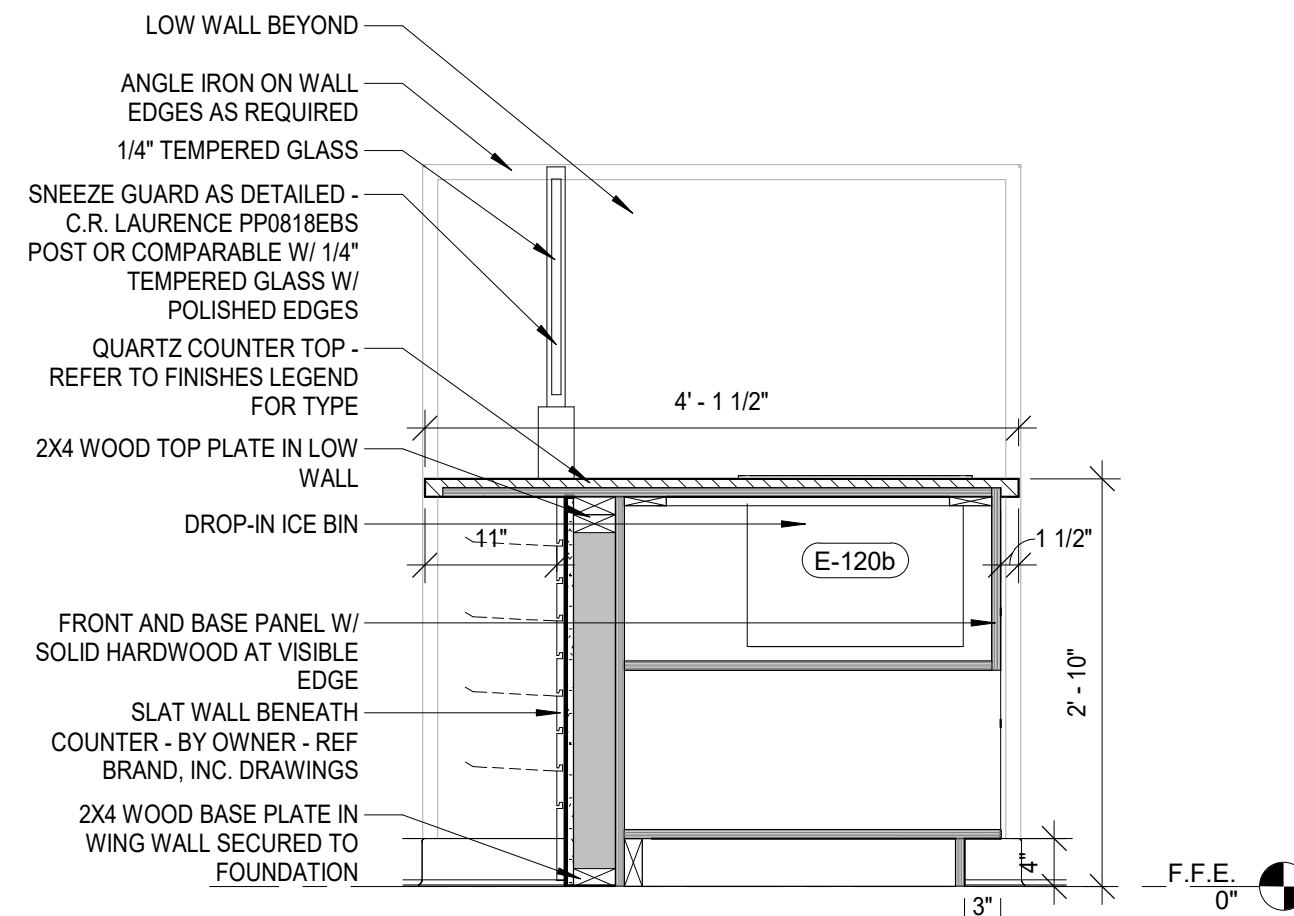
Date: 07-05-2022
 Dwn: BRZ Chk: SJK
 Project No.: 2222
 Issue:

Sheet Name:
 MILLWORK
 DETAILS

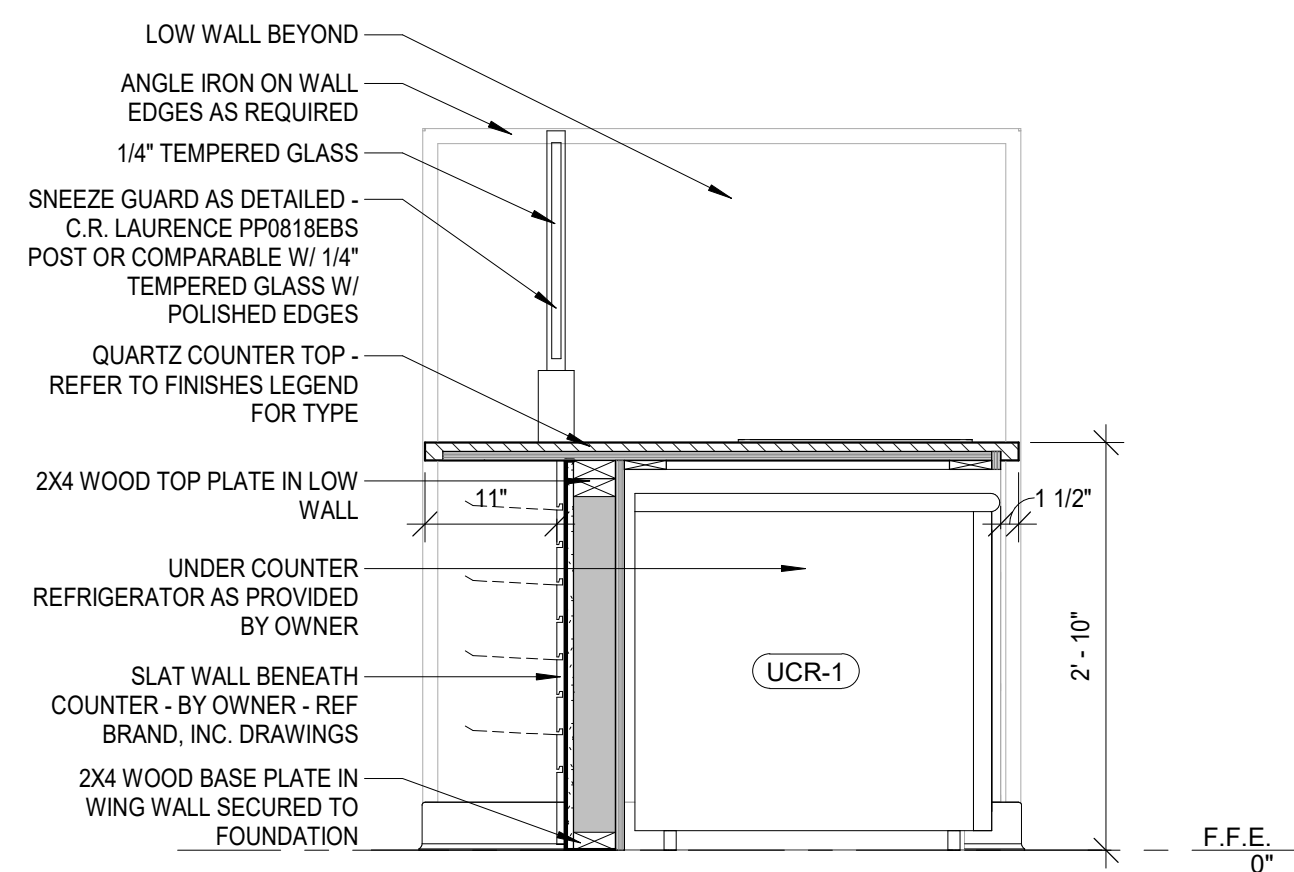
A7.1



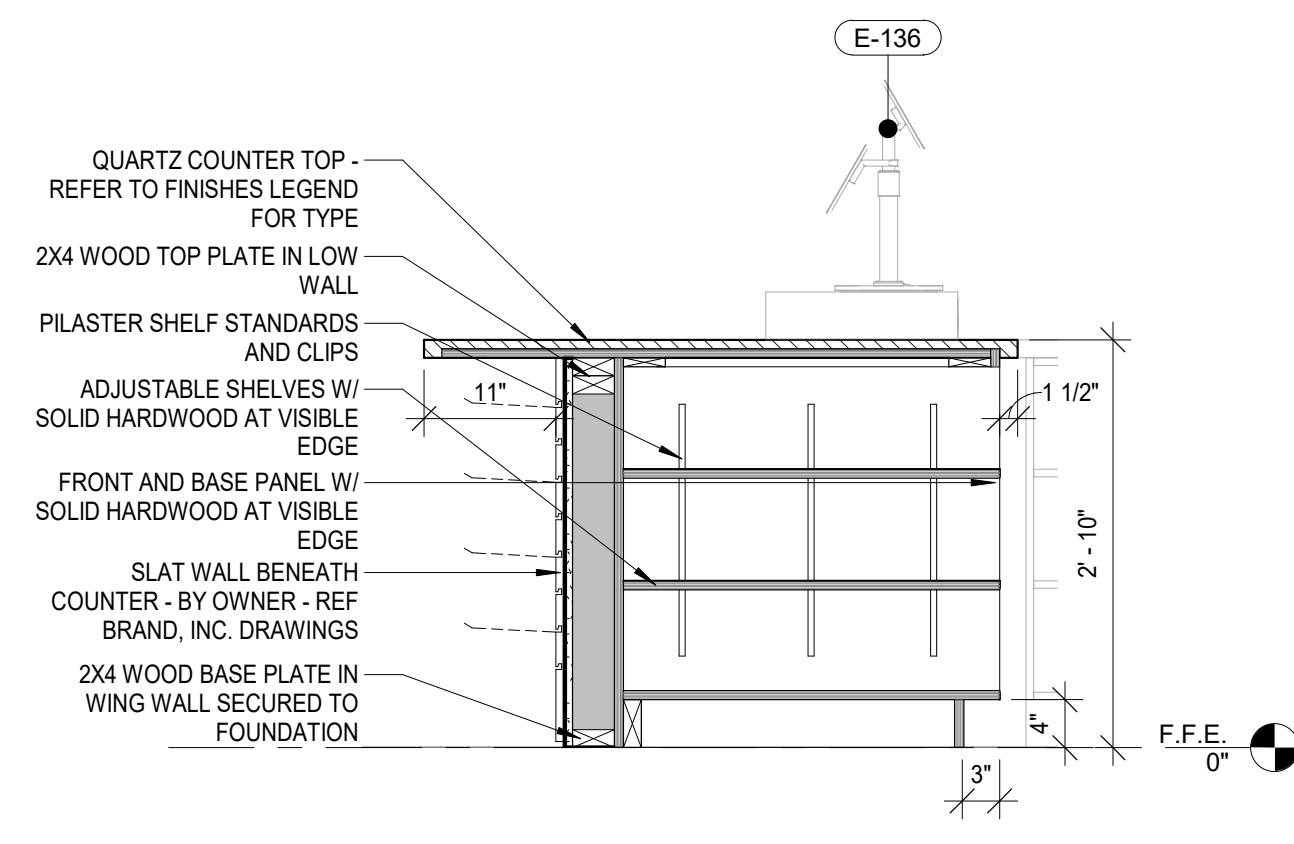
1 ENLARGED COUNTER DETAIL
 SCALE: 3/4" = 1'-0"



4 COUNTER SECTION @ DROP-IN ICE BIN
 SCALE: 3/4" = 1'-0"



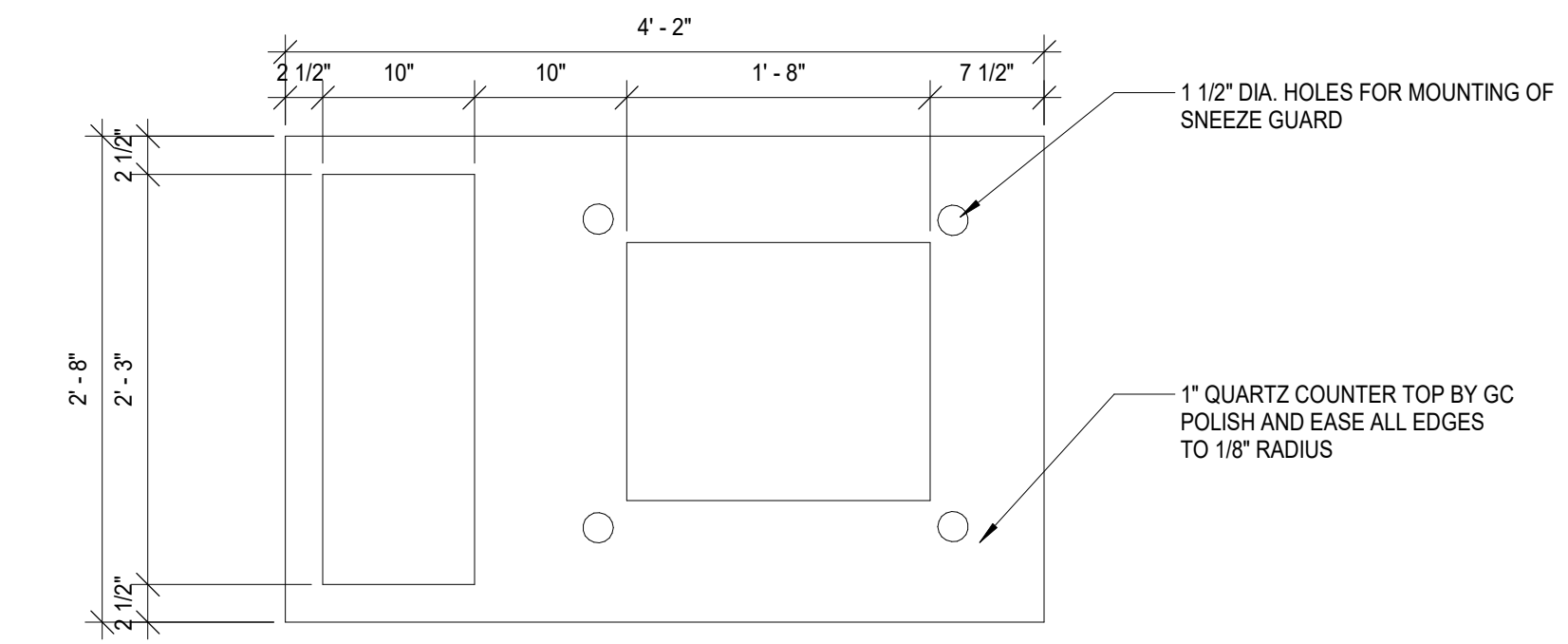
3 COUNTER SECTION @ UCR
 SCALE: 3/4" = 1'-0"



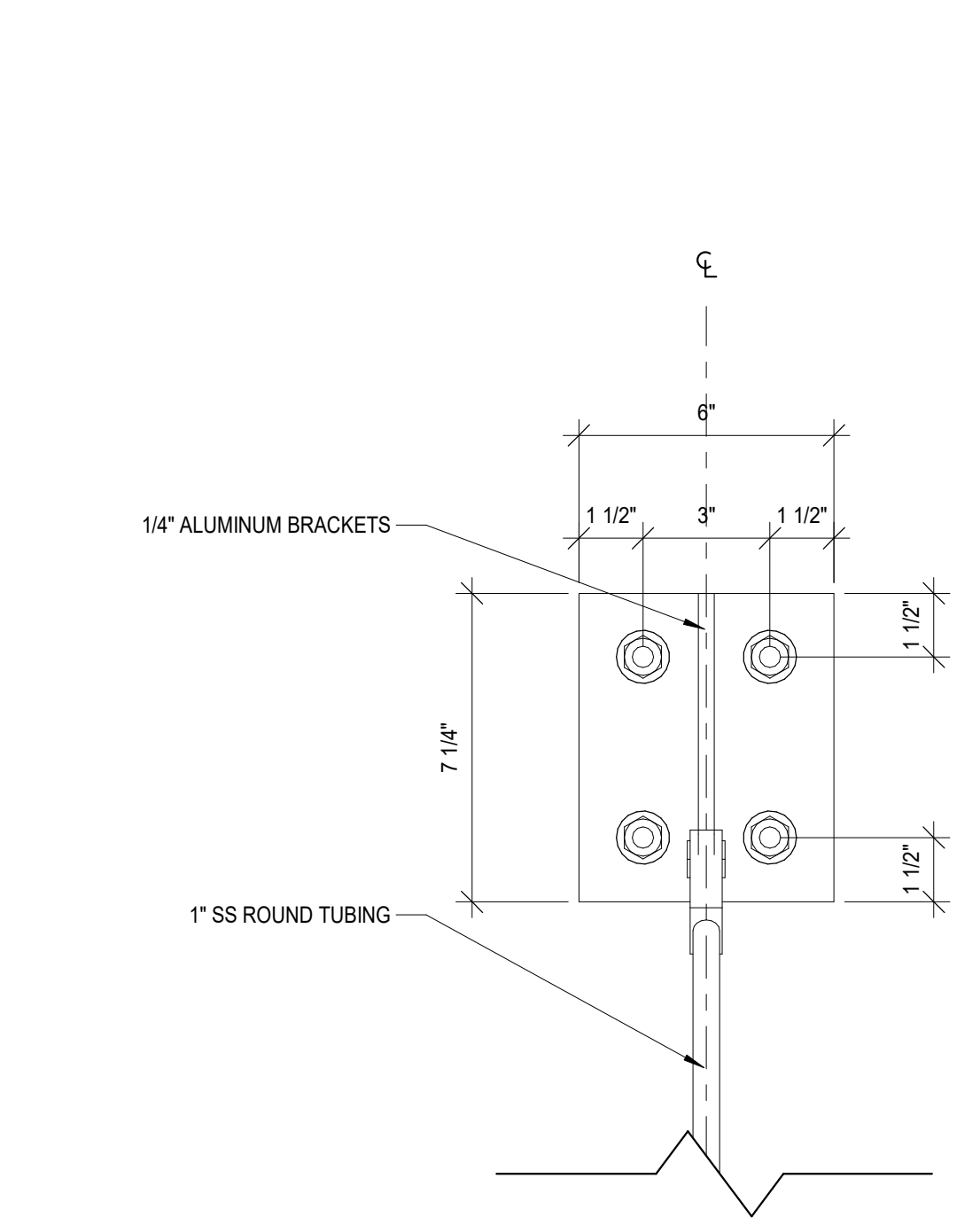
2 POS COUNTER SECTION
 SCALE: 3/4" = 1'-0"

THIS ITEM IS FURNISHED BY THE GENERAL CONTRACTOR. REFER TO "FINISH SELECTIONS" ON SHEET A0.2 FOR QUARTZ COLOR AND PATTERN.

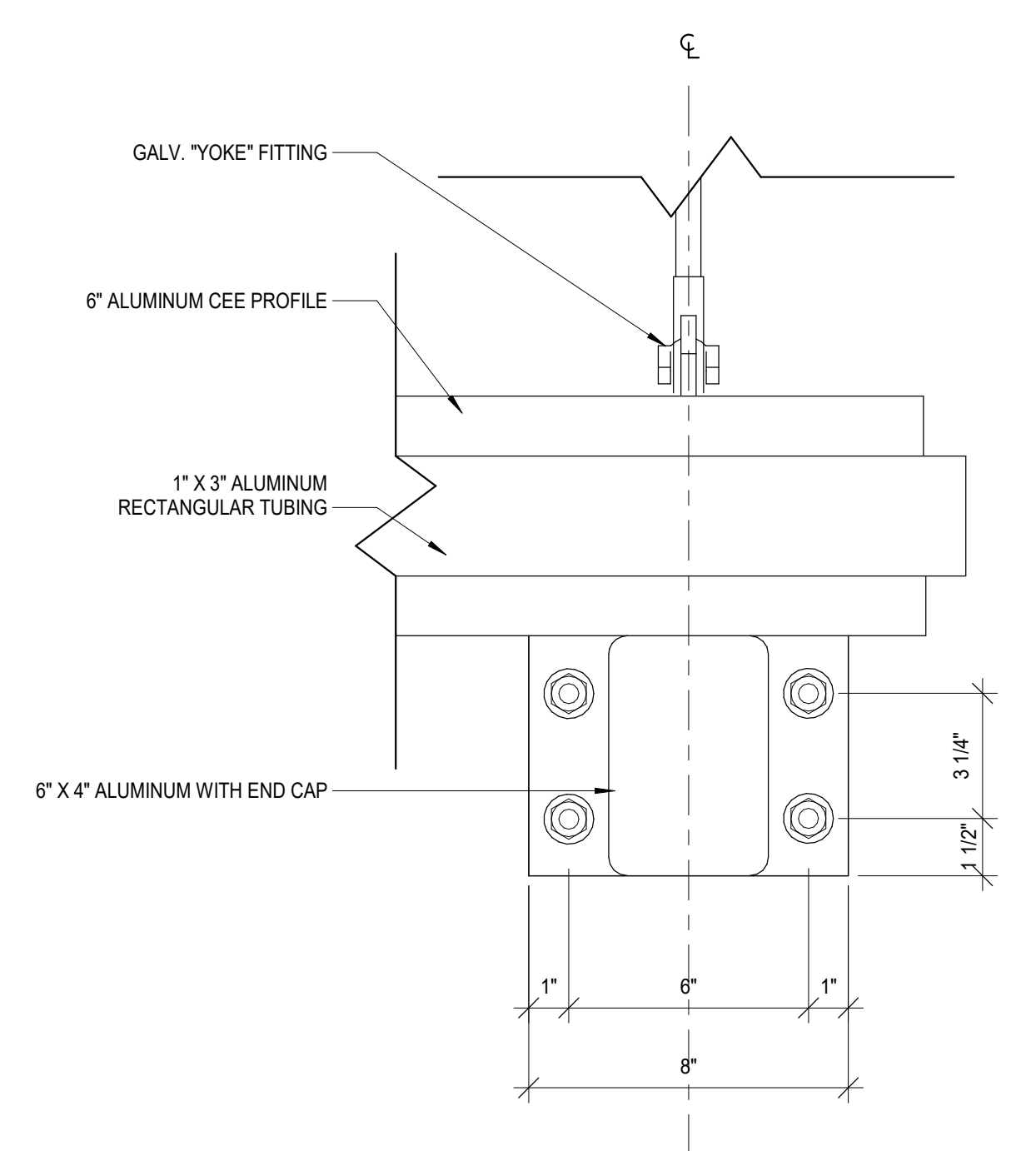
GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ASSEMBLY OF FRUIT BAR CART, INCLUDING COMPONENTS FURNISHED BY OTHERS - REFER TO EQUIP. SCHEDULE



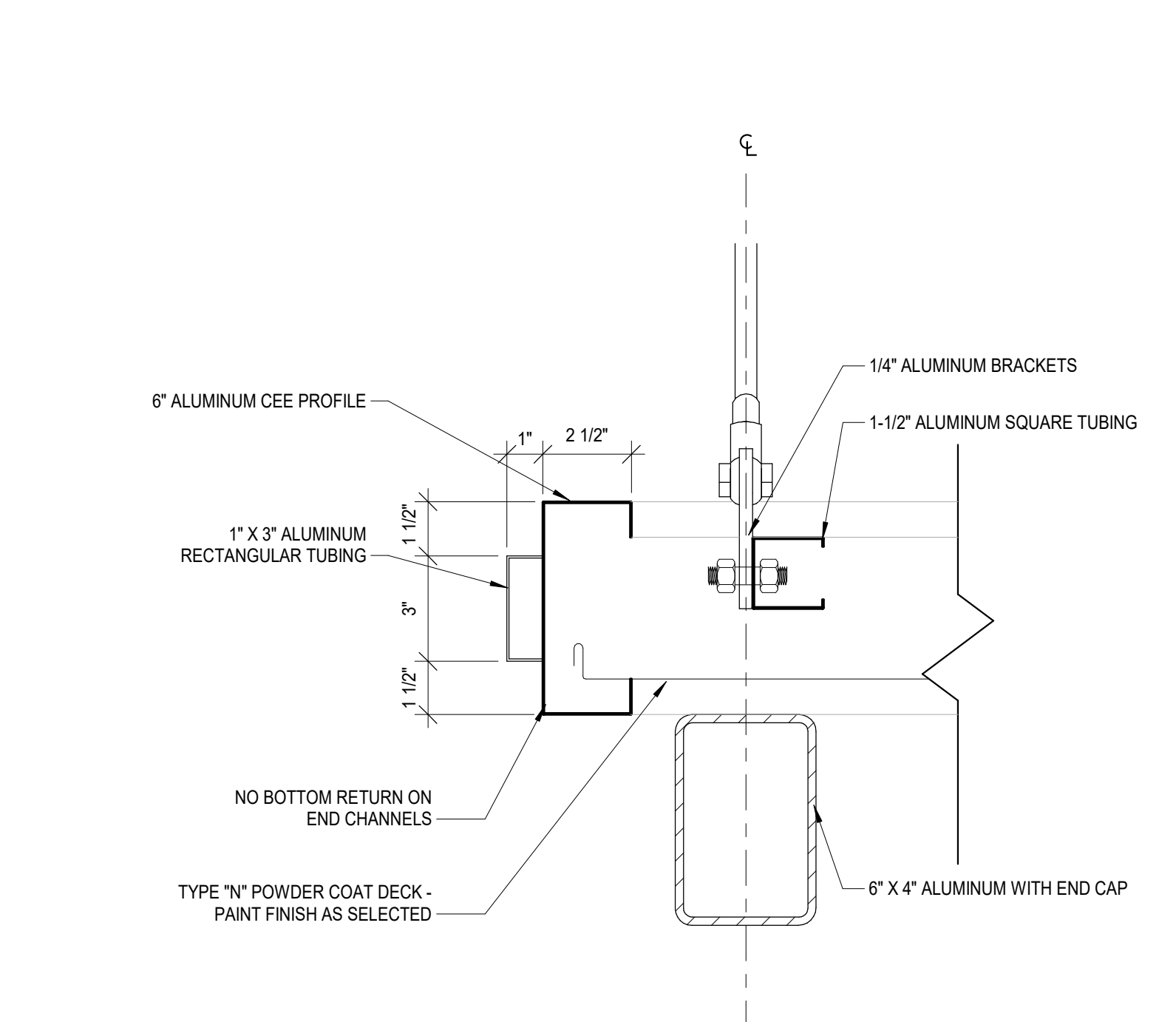
5 ENLARGED FRUIT BAR
 SCALE: 1" = 1'-0"



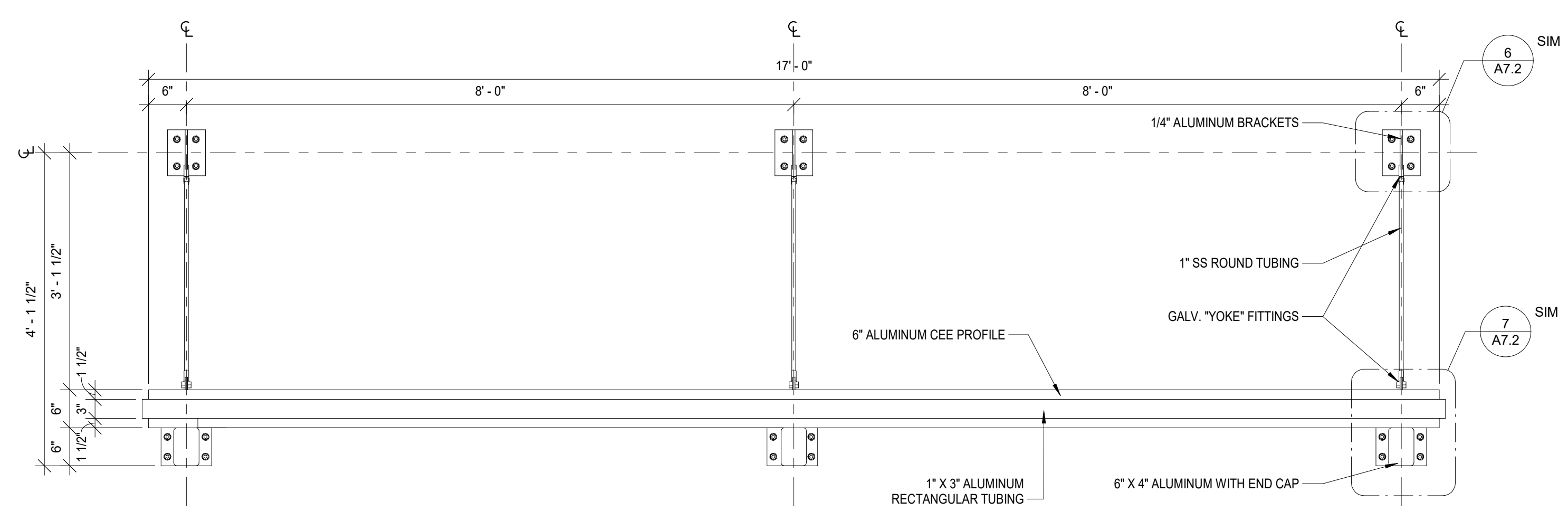
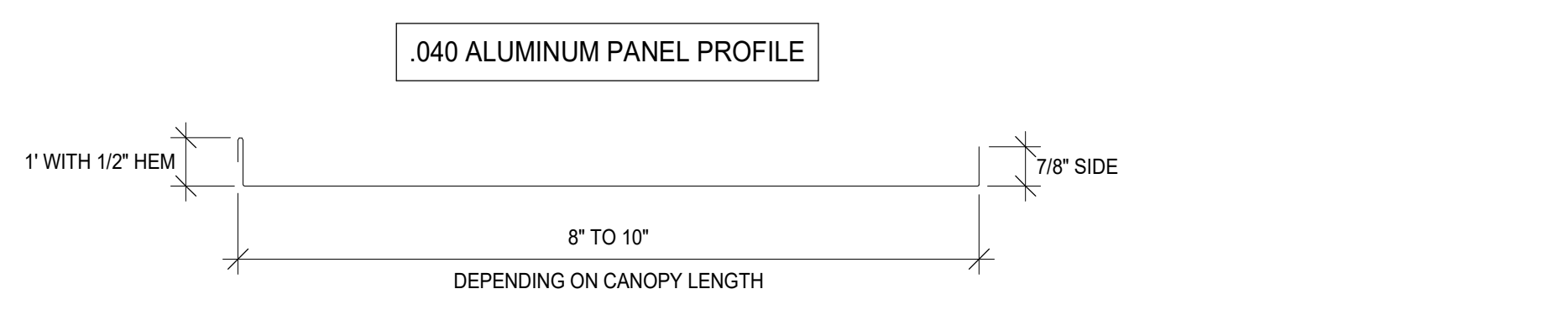
6 CANOPY TOP CONNECTION DETAIL
 SCALE: 3\"/>



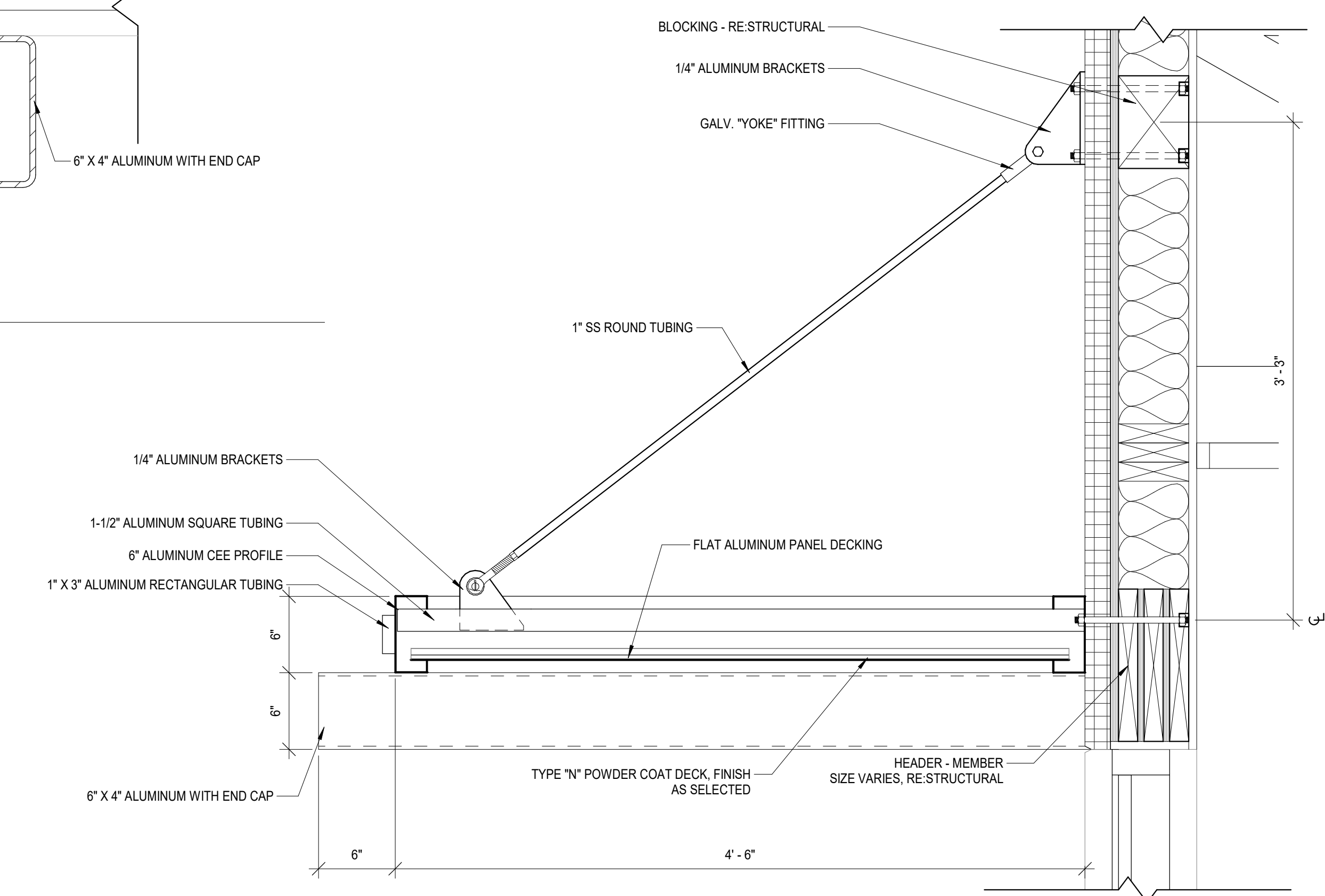
7 CANOPY BOTTOM CONNECTION DETAIL
 SCALE: 3\"/>



8 CANOPY TRIM DETAIL
 SCALE: 3\"/>

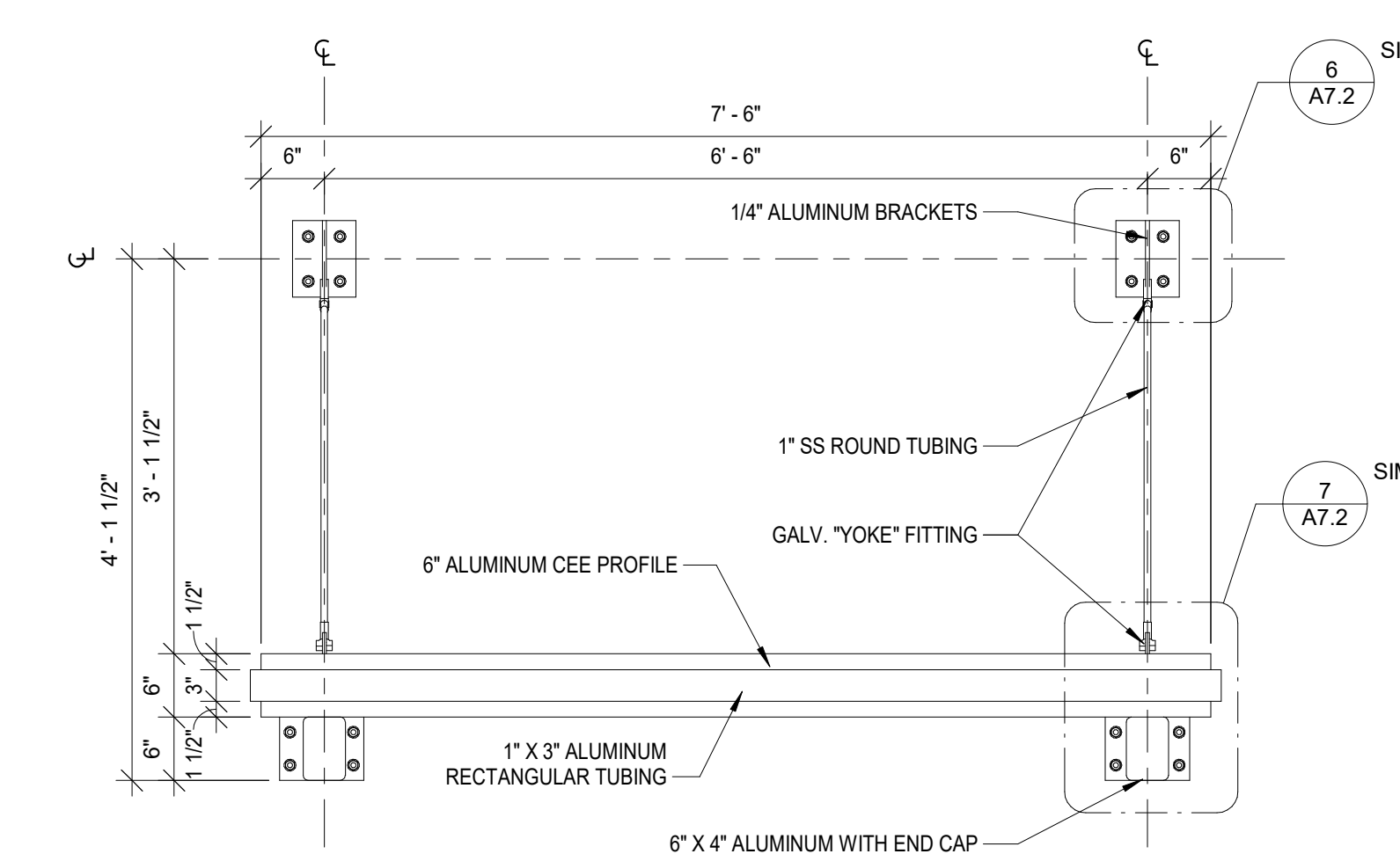


4 17' CANOPY DETAIL
 SCALE: 3/4\"/>

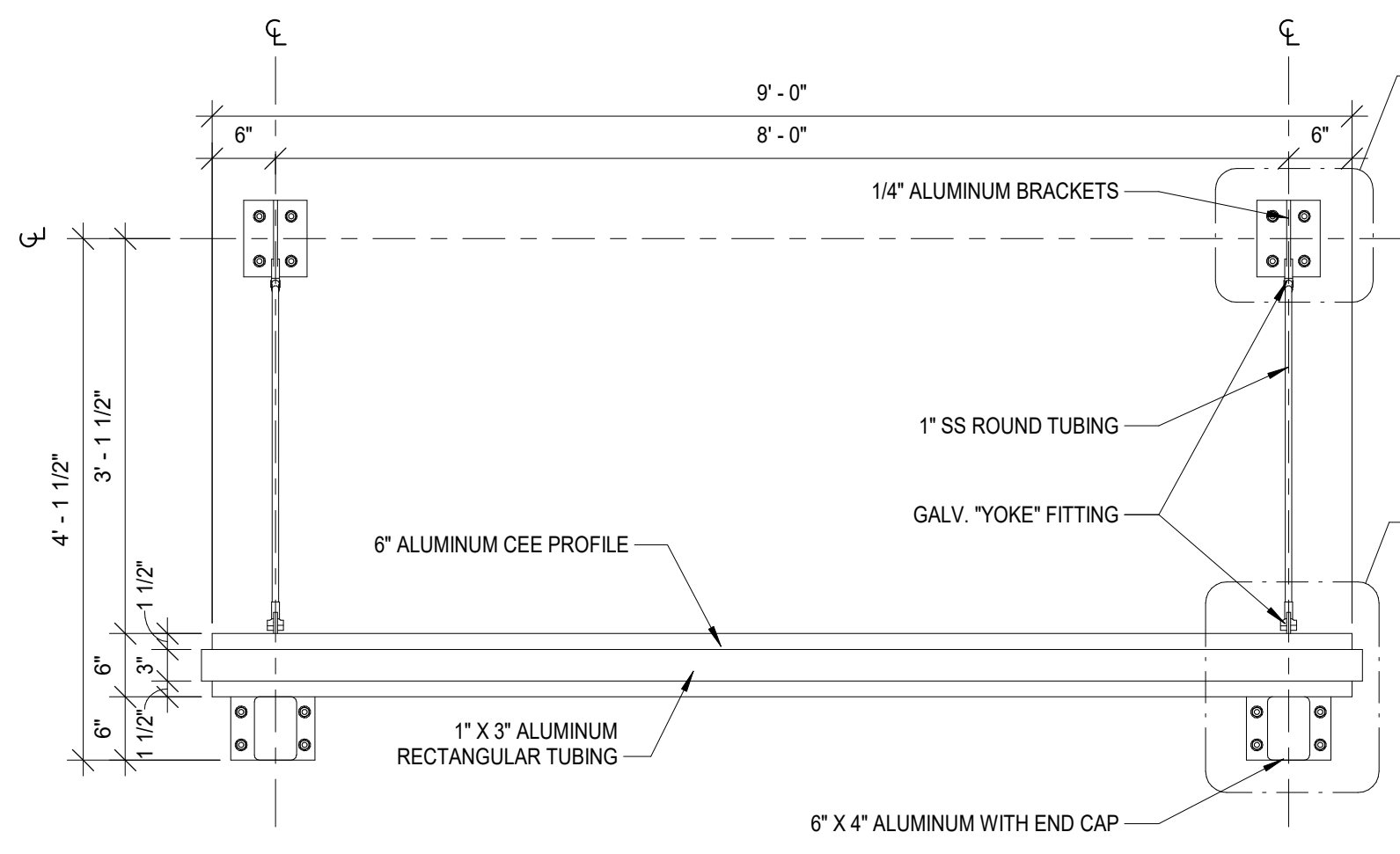


5 TYP. CANOPY SECTION
 SCALE: 1 1/2\"/>

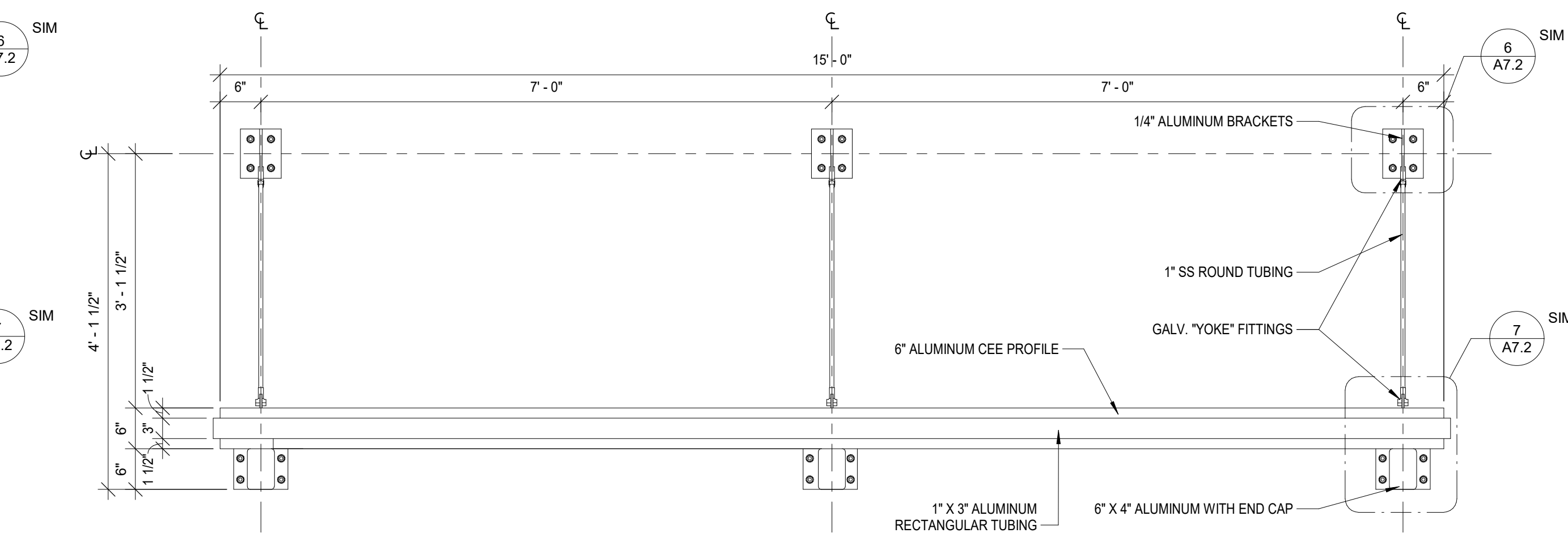
*CANOPIES ARE TO BE POWDER COATED PRIOR TO INSTALLATION
 ALL COMPONENTS ALUMINUM, WITH STAINLESS STEEL FASTENERS
 ALL COMPONENTS PRE-FINISHED DARK BRONZE



**1 7'-6\"/>
 SCALE: 3/4\"/>**



2 9' CANOPY DETAIL
 SCALE: 3/4\"/>



3 15' CANOPY DETAIL
 SCALE: 3/4\"/>



Stephen A. Kramer
ARCHITECTURE
DESIGN

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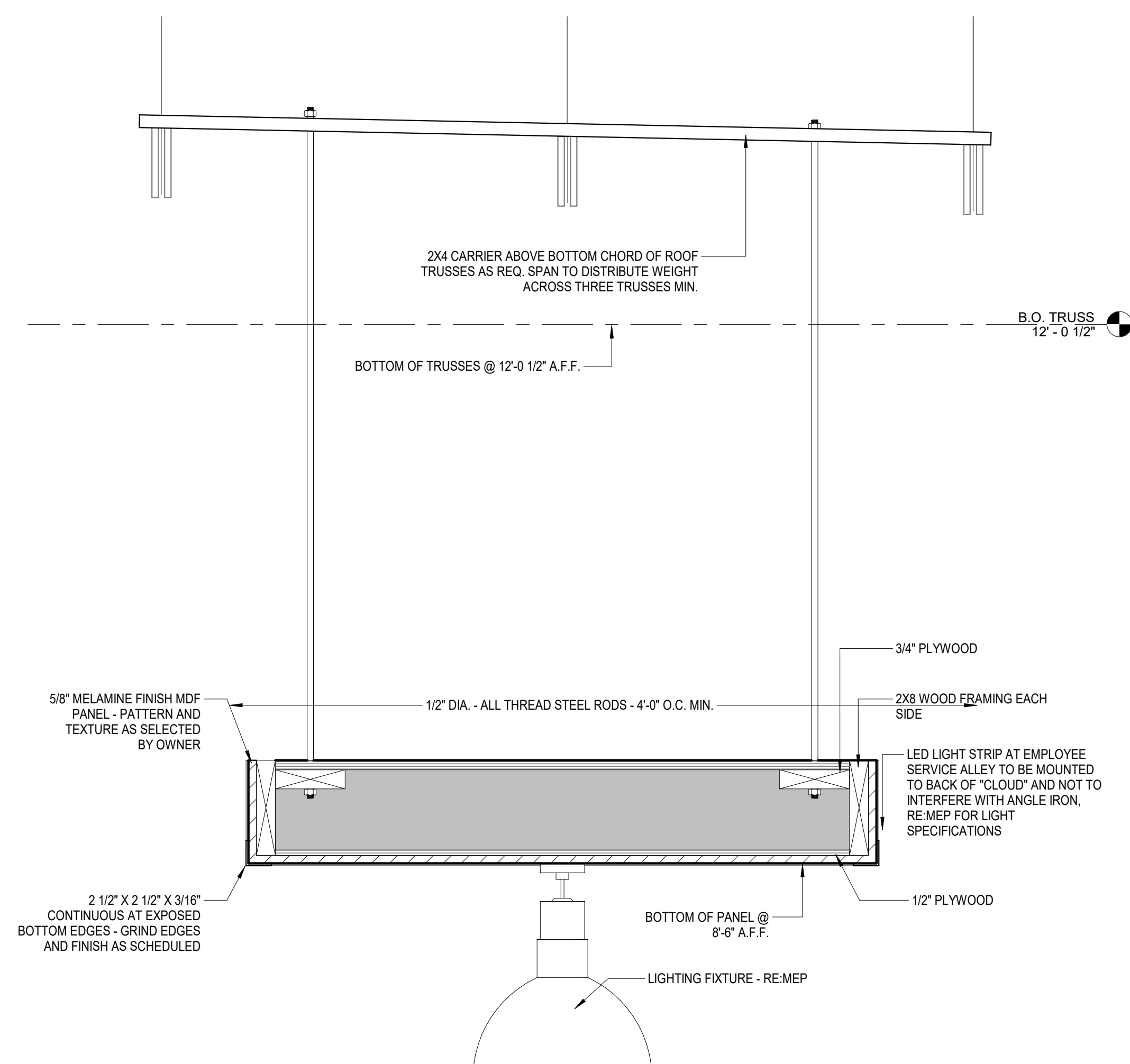


07/05/22

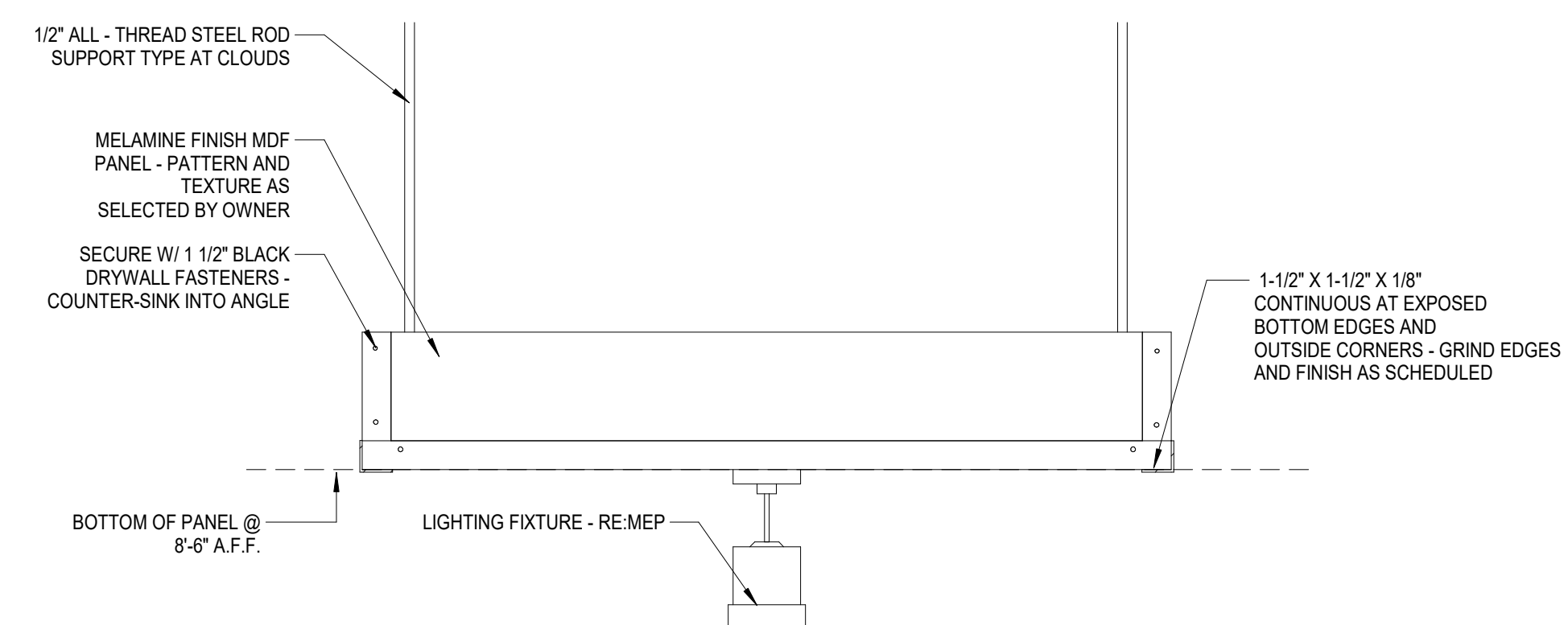
Date: 07-05-2022
Dwn: Designchk: Checker
Project No.: 2222
Issue:

Sheet Name:
TYP. CLOUD
DETAILS

A7.3



*DETAILS SHOWS "CLOUD" ABOVE DRIVE-THRU SERVICE - REFER TO THIS DETAIL FOR TYP. "CLOUD" CONSTRUCTION



1 TYP. CLOUD DETAIL
SCALE: 1 1/2" = 1'-0"

2 CLOUD DETAIL - END VIEW
SCALE: 1 1/2" = 1'-0"

NOTE: This is provided for reference only and is not a comprehensive listing of requirements please reference to 2012 TDLR Texas Accessibility Standards for the full code requirements.

302 Floor and Ground Surface

302.2 Carpet. Carpet or carpet tile shall be securely attached and shall have a firm cushion, pad, or backing or no cushion or pad. Carpet or carpet tile shall have a level loop, textured loop, level cut pile, or level cut/uncut pile texture. Pile height shall be 1/2 inch (13 mm) maximum. Exposed edges of carpet shall be fastened to floor surfaces and shall have trim on the entire length of the exposed edge. Carpet edge trim shall comply with 303.

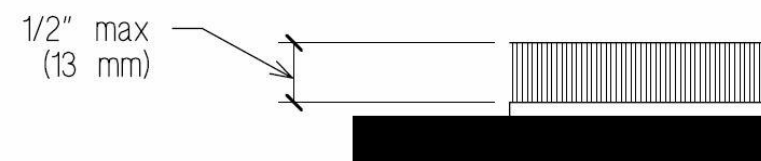


Figure 302.2 Carpet Pile Height

302.3 Openings. Openings in floor or ground surfaces shall not allow passage of a sphere more than 1/2 inch (13 mm) diameter except as allowed in 407.4.3, 409.4.3, 410.4, 810.5.3 and 810.10. Elongated openings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.

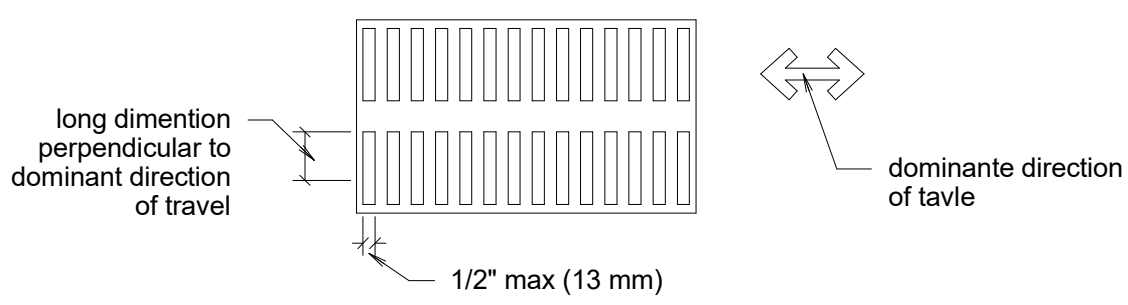


Figure 302.3 Elongated Openings in Floor or Ground Surfaces

303 Changes in Level

303.1 General. Where changes in level are permitted in floor or ground surfaces, they shall comply with 303.

- EXCEPTIONS:
1. Animal containment areas shall not be required to comply with 303.
 2. Areas of sport activity shall not be required to comply with 303.

303.2 Vertical. Changes in level of 1/4 inch (6.4 mm) high maximum shall be permitted to be vertical.

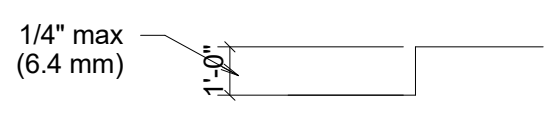


Figure 303.2 Vertical Change in Level

303.3 Beveled. Changes in level between 1/4 inch (6.4 mm) high minimum and 1/2 inch (13 mm) high maximum shall be beveled with a slope not steeper than 1:2.

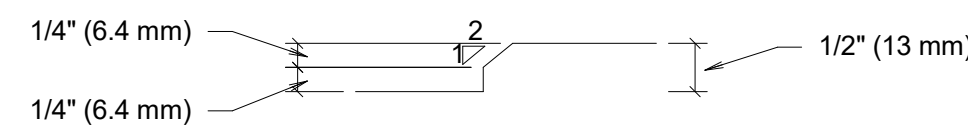


Figure 303.3 Beveled Change in Level

303.4 Ramps. Changes in level greater than 1/2 inch (13 mm) high shall be ramped, and shall comply with 405 or 406.

304 Turning Space

304.2 Floor or Ground Surfaces. Floor or ground surfaces of a turning space shall comply with 302. Changes in level are not permitted.

EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

304.3 Size. Turning space shall comply with 304.3.1 or 304.3.2.

304.3.1 Circular Space. The turning space shall be a space of 60 inches (1525 mm) diameter minimum. The space shall be permitted to include knee and toe clearance complying with 306.

304.3.2 T-Shaped Space. The turning space shall be a T-shaped space within a 60 inch (1525 mm) square minimum with arms and base 36 inches (915 mm) wide minimum. Each arm of the T shall be clear of obstructions 12 inches (305 mm) minimum in each direction and the base shall be clear of obstructions 24 inches (610 mm) minimum. The space shall be permitted to include knee and toe clearance complying with 306 only at the end of either the base or one arm.

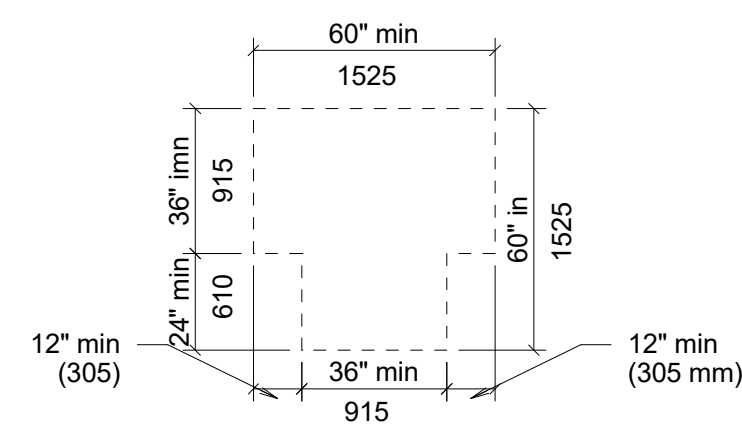


Figure 304.3.2 T-Shaped Turning Space

304.4 Door Swing. Doors shall be permitted to swing into turning spaces.

305 Clear Floor or Ground Space

305.2 Floor or Ground Surfaces. Floor or ground surfaces of a clear floor or ground space shall comply with 302. Changes in level are not permitted.

EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

305.3 Size. The clear floor or ground space shall be 30 inches (760 mm) minimum by 48 inches (1220 mm) minimum.

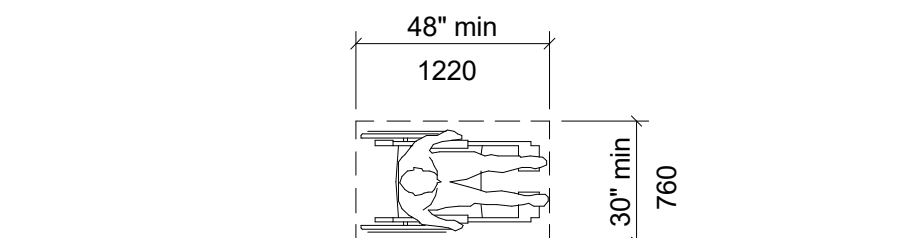


Figure 305.3 Clear Floor or Ground Space

305.4 Knee and Toe Clearance. Unless otherwise specified, clear floor or ground space shall be permitted to include knee and toe clearance complying with 306.

305.5 Position. Unless otherwise specified, clear floor or ground space shall be positioned for either forward or parallel approach to an element.

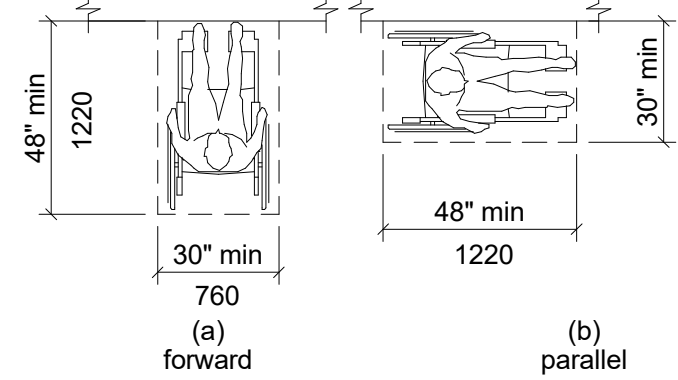


Figure 305.5 Position of Clear Floor or Ground Space

305.6 Approach. One full unobstructed side of the clear floor or ground space shall adjoin an accessible route or adjoin another clear floor or ground space.

305.7 Maneuvering Clearance. Where a clear floor or ground space is located in an alcove or otherwise confined on all or part of three sides, additional maneuvering clearance shall be provided in accordance with 305.7.1 and 305.7.2.

305.7.1 Forward Approach. Alcoves shall be 36 inches (915 mm) wide minimum where the depth exceeds 24 inches (610 mm).

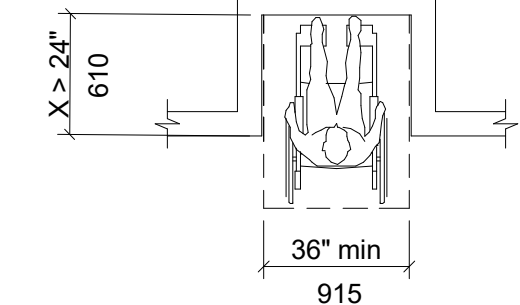


Figure 305.7.1 Maneuvering Clearance in an Alcove, Forward Approach

305.7.2 Parallel Approach. Alcoves shall be 60 inches (1525 mm) wide minimum where the depth exceeds 15 inches (380 mm).

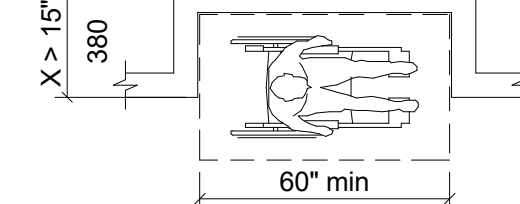


Figure 305.7.2 Maneuvering Clearance in an Alcove, Parallel Approach

306 Knee and Toe Clearance

306.1 General. Where space beneath a element is included as part of clear floor or ground space or turning space, the space shall comply with 306. Additional space shall not be prohibited beneath an element but shall not be considered as part of the clear floor or ground space or turning space.

306.2 Toe Clearance.

306.2.1 General. Space under an element between the finish floor or ground and 9 inches (230 mm) above the finish floor or ground shall be considered toe clearance and shall comply with 306.2.

306.2.2 Maximum Depth. Toe clearance shall extend 25 inches (635 mm) maximum under an element.

306.2.3 Minimum Required Depth. Where toe clearance is required at an element as part of a clear floor space, the toe clearance shall extend 17 inches (430 mm) minimum under the element.

306.2.4 Additional Clearance. Space extending greater than 6 inches (150 mm) beyond the available knee clearance at 9 inches (230 mm) above the finish floor or ground shall not be considered toe clearance.

306.2.5 Width. Toe clearance shall be 30 inches (760 mm) wide minimum.

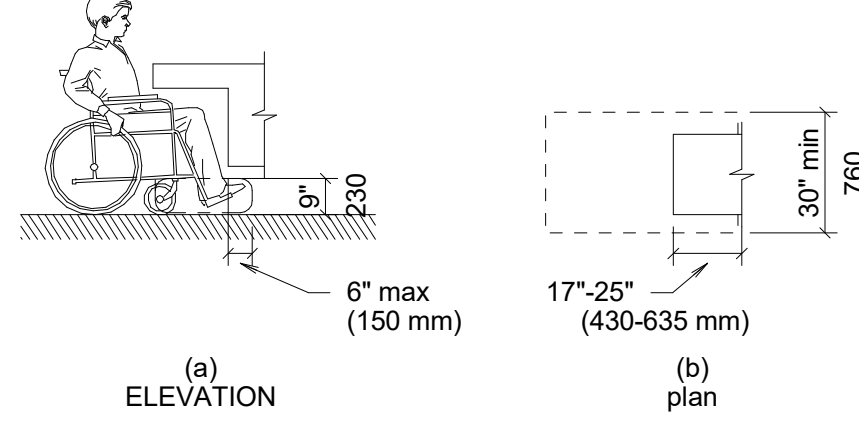


Figure 306.2 Toe Clearance

306.3 Knee Clearance.

306.3.1 General. Space under an element between 9 inches (230 mm) and 27 inches (685 mm) above the finish floor or ground shall be considered knee clearance and shall comply with 306.3.

306.3.2 Maximum Depth. Knee clearance shall extend 25 inches (635 mm) maximum under an element at 9 inches (230 mm) above the finish floor or ground.

306.3.3 Minimum Required Depth. Where knee clearance is required under an element as part of a clear floor space, the knee clearance shall be 11 inches (280 mm) deep minimum at 9 inches (230 mm) above the finish floor or ground, and 8 inches (205 mm) deep minimum at 27 inches (685 mm) above the finish floor or ground.

306.3.4 Clearance Reduction. Between 9 inches (230 mm) and 27 inches (685 mm) above the finish floor or ground, the knee clearance shall be permitted to reduce at a rate of 1 inch (25 mm) in depth for each 6 inches (150 mm) in height.

306.3.5 Width. Knee clearance shall be 30 inches (760 mm) wide minimum.

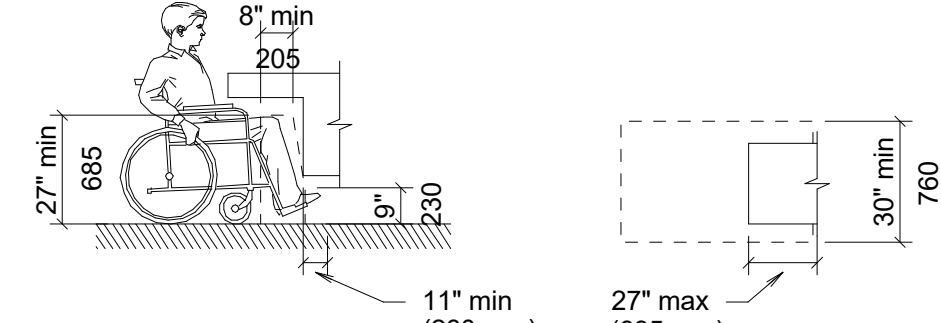


Figure 306.3 Knee Clearance

307 Protruding Objects

307.2 Protrusion Limits. Objects with leading edges more than 27 inches (685 mm) and not more than 80 inches (2030 mm) above the finish floor or ground shall protrude 4 inches (100 mm) maximum horizontally into the circulation path.

EXCEPTION: Handrails shall be permitted to protrude 4 1/2 inches (115 mm) maximum.

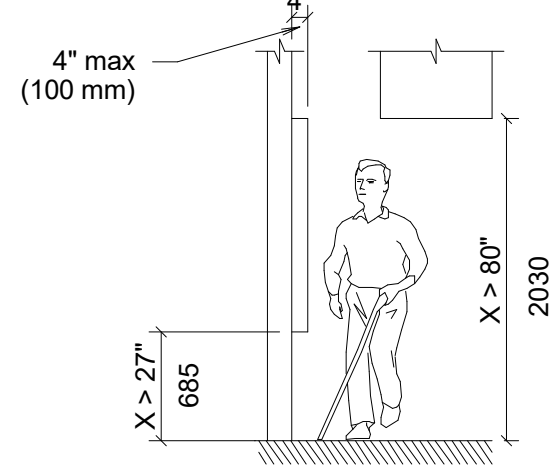


Figure 307.2 Limits of Protruding Objects

307.3 Post-Mounted Objects. Free-standing objects mounted on posts or pylons shall overhang circulation paths 12 inches (305 mm) maximum when located 27 inches (685 mm) minimum and 80 inches (2030 mm) maximum above the finish floor or ground. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches (305 mm), the lowest edge of such sign or obstruction shall be 27 inches (685 mm) minimum or 80 inches (2030 mm) maximum above the finish floor or ground.

EXCEPTION: The sloping portions of handrails serving stairs and ramps shall not be required to comply with 307.3.

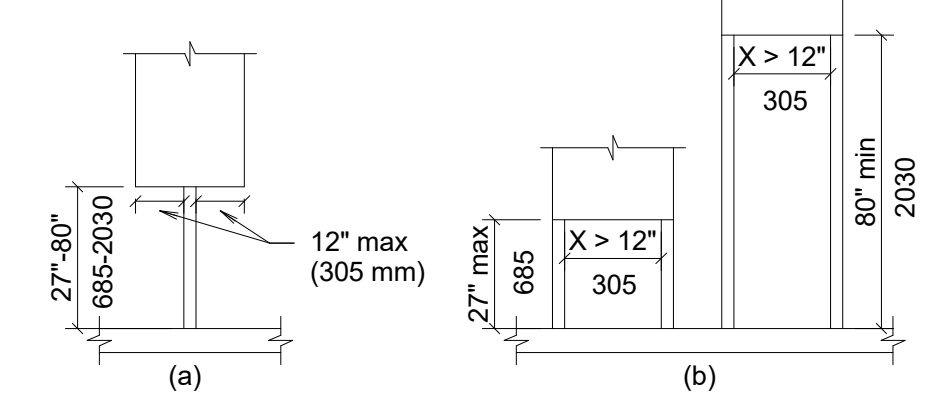


Figure 307.3 Post-Mounted Protruding Objects

307.4 Vertical Clearance. Vertical clearance shall be 80 inches (2030 mm) high minimum. Guardrails or other barriers shall be provided where the vertical clearance is less than 80 inches (2030 mm) high. The leading edge of such guardrail or barrier shall be located 27 inches (685 mm) maximum above the finish floor or ground.

EXCEPTION: Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the finish floor or ground.

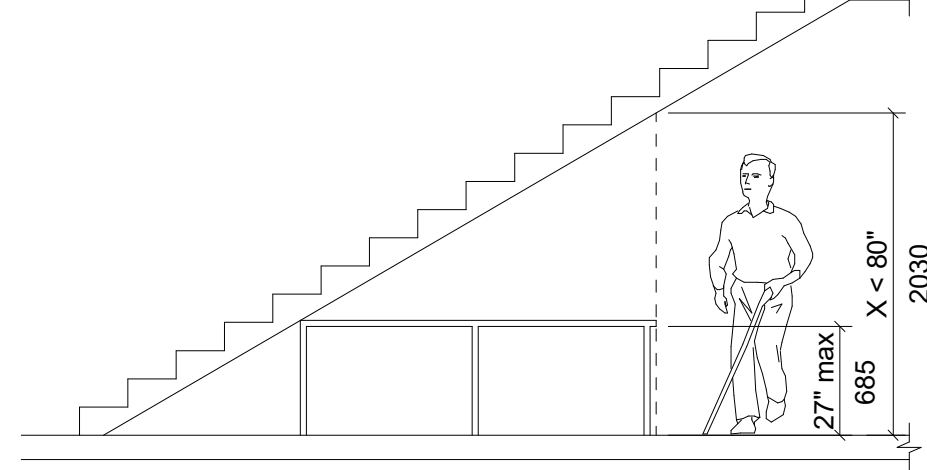


Figure 307.4 Vertical Clearance

307.5 Required Clear Width. Protruding objects shall not reduce the clear width required for accessible routes.

308 Reach Ranges

Forward or Side Reach	Children's Reach Ranges		
	Ages 3 and 4	Ages 5 through 8	Ages 9 through 12
High (maximum)	36 in (915 mm)	40 in (1015 mm)	44 in (1120 mm)
Low (minimum)	20 in (510 mm)	18 in (455 mm)	16 in (405 mm)

308.2 Forward Reach.

308.2.1 Unobstructed. Where a forward reach is unobstructed, the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be 15 inches (380 mm) minimum above the finish floor or ground.

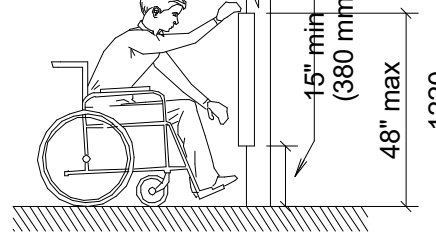


Figure 308.2.1 Unobstructed Forward Reach

308.2.2 Obstructed High Reach. Where a high forward reach is over an obstruction, the clear floor space shall extend beneath the element for a distance not less than the required reach depth over the obstruction. The high forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the high forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

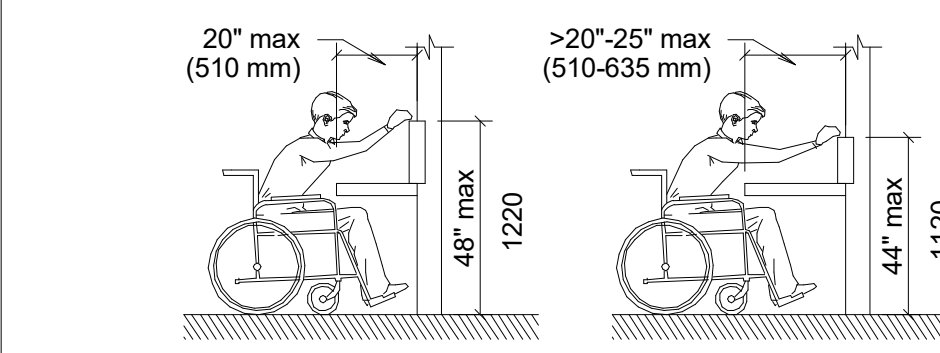


Figure 308.2.2 Obstructed High Forward Reach

308.3 Side Reach.

308.3.1 Unobstructed. Where a clear floor or ground space allows a parallel approach to an element and the side reach is unobstructed, the high side reach shall be 48 inches (1220 mm) maximum and the low side reach shall be 15 inches (380 mm) minimum above the finish floor or ground.

EXCEPTIONS:

1. An obstruction shall be between the clear floor and ground space and the element where the depth of the obstruction is 10 inches (255 mm) maximum.
2. Operable parts of fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum measured from the surface of the vehicle way where fuel dispensers are installed on existing curbs.

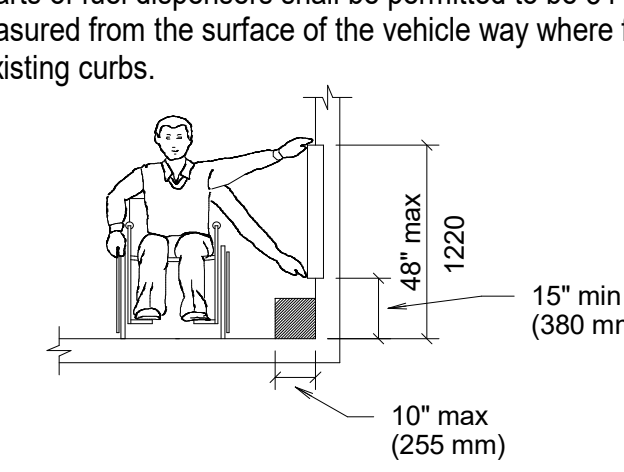


Figure 308.3.1 Unobstructed Side Reach

308.3.2 Obstructed High Reach. Where a clear floor or ground space allows a parallel approach to an element and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches (865 mm) maximum and the depth of the obstruction shall be 24 inches (610 mm) maximum. The high side reach shall be 48 inches (1220 mm) maximum for a reach depth of 10 inches (255 mm) maximum. Where the reach depth exceeds 10 inches (255 mm), the high side reach shall be 46 inches (1170 mm) maximum for a reach depth of 24 inches (610 mm) maximum.

EXCEPTIONS:

1. The top of washing machines and clothes dryers shall be permitted to be 36 inches (915 mm) maximum above the finish floor.
2. Operable parts of fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum measured from the surface of the vehicle way where fuel dispensers are installed on existing curbs.

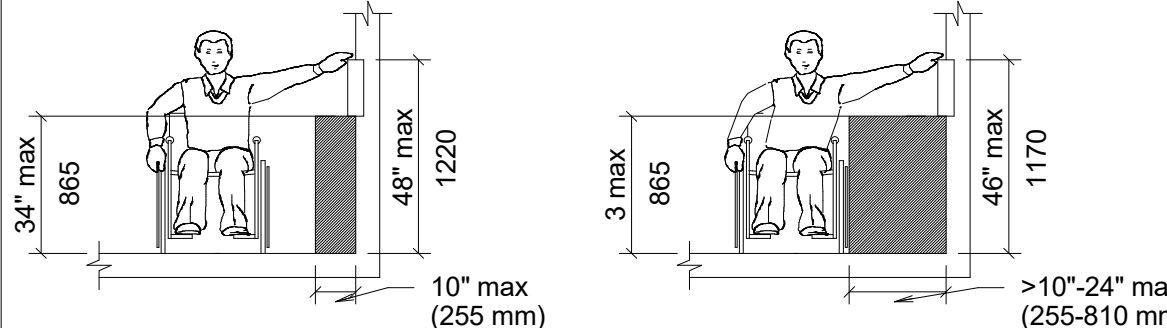


Figure 308.3.2 Obstructed High Side Reach

401 General

401.1 Scope. The provisions of Chapter 4 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

402 Accessible Routes

402.1 General. Accessible route shall comply with 402.

402.2 Components. Accessible routes shall consist of one or more of the following components, walking surfaces with a running slope not steeper than 1:20, doorways, ramps, curb ramps excluding the flared sides, elevators, and platform lifts. All components of an accessible route shall comply with the applicable requirements of Chapter 4.

403 Walking Surfaces

403.2 Floor or Ground Surface. Floor or ground surfaces shall comply with 302.

403.3 Slope. The running slope of walking surfaces shall not be steeper than 1:20. The cross slope of walking surfaces shall not be steeper than 1:48.

403.5 Clearances. Walking surfaces shall provide clearances complying with 403.5.

EXCEPTION: Within employee work areas, clearances on common use circulation paths shall be permitted to be decreased by work area equipment provided that the decrease is essential to the function of the work being performed.

403.5.1 Clear Width. Except as provided in 403.5.2 and 403.5.3, the clear width of walking surface shall be 36 inches (915mm) minimum.

EXCEPTION: The clear width shall be permitted to be reduced to 32 inches (815 mm) minimum for a length of 24 inches (610 mm) maximum provided that reduced width segments are separated by segments that are 48 inches (1220 mm) long (915 mm) wide minimum.

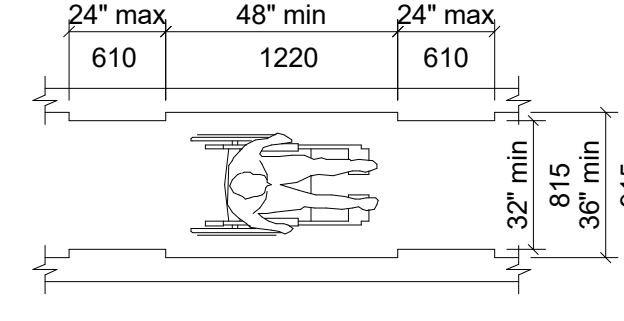


Figure 403.5.5 Clear Width of an Accessible Route

403.5.2 Clear Width at Turn. Where the accessible route makes a 180 degree turn around an element which is less than 48 inches (1220 mm) wide, clear width shall be 42 inches (1065 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn and 42 inches (1065 mm) minimum leaving the turn.

EXCEPTION: Where the clear width at the turn is 60 inches (1525 mm) minimum compliance with 403.5.2 shall not be required.

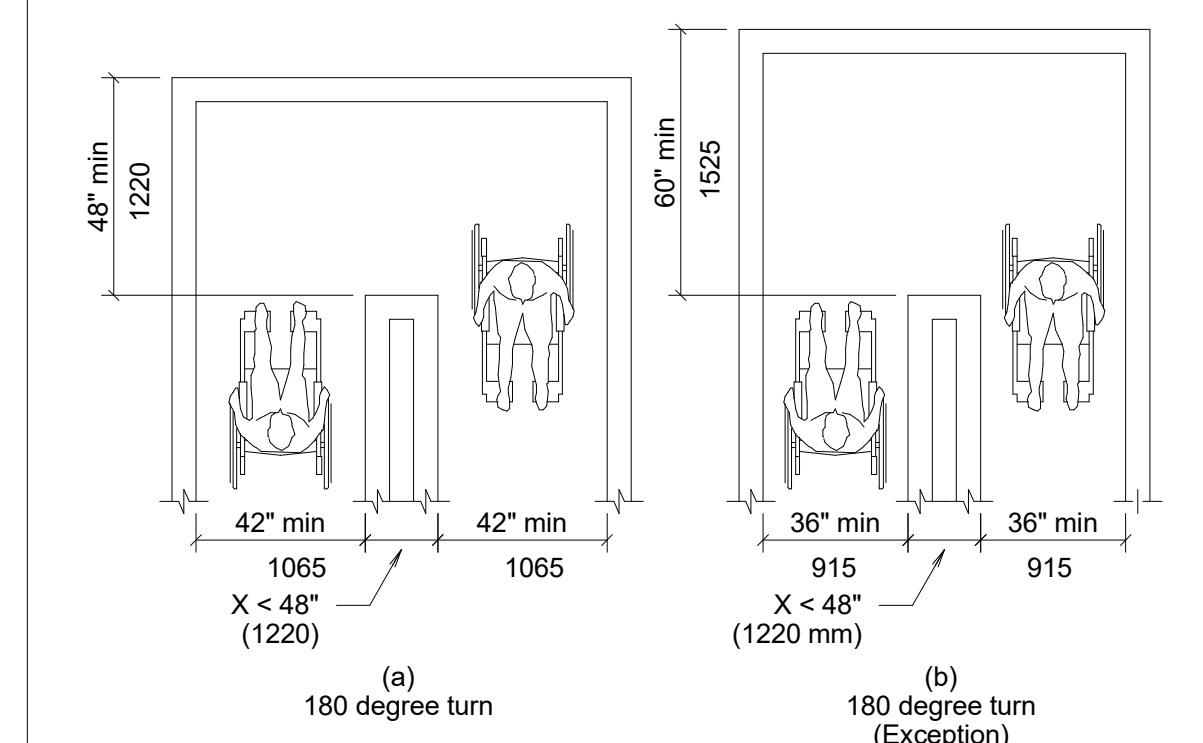


Figure 403.5.2 Clear Width at Turn

403.5.3 Passing Spaces. An accessible route with a clear width less than 60 inches (1525 mm) shall provide passing spaces at intervals of 200 feet (61 m) maximum. Passing spaces shall be either: a space 60 inches (1525 mm) minimum by 60 inches (1525 mm) minimum; or, an intersection of two walking surfaces providing a T-shaped space complying with 304.3.2 where the base and arms of the T-shaped space extend 48 inches (1220 mm) minimum beyond the intersection.

403.6 Handrails. Where handrails are provided along walking surfaces with running slopes not steeper than 1:20 they shall comply with 505.

404 Doors, Doorways, and Gates

404.2.1 Revolving Doors, Gates, and Turnstiles. Revolving doors, revolving gates, and turnstiles shall not be part of an accessible route.

404.2.2 Double-Learn Doors and Gates. At least one of the active leaves of doorways with two leaves shall comply with 404.2.3 and 404.2.4.

404.2.3 Clear Width. Door openings shall provide a clear width of 32 inches (815 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) deep shall provide a clear opening of 36 inches (915 mm) minimum. There shall be no projections into the required clear opening width lower than 34 inches (865 mm) above the finish floor or ground. Projections into the clear opening width between 34 inches (865 mm) and 80 inches (2030 mm) above the finish floor or ground shall not exceed 4 inches (100 mm).

EXCEPTIONS:

1. In alterations, a projection of 5/16 inch (16 mm) maximum into the required clear width shall be permitted for the latch side stop.
2. Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the finish floor or ground.

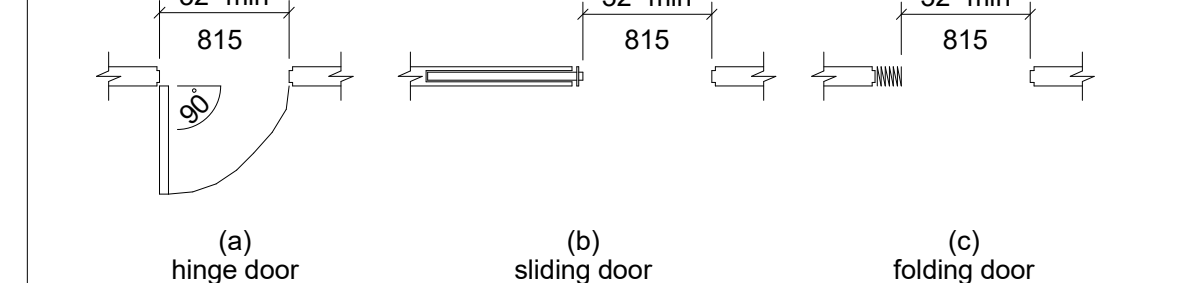


Figure 404.2.3 Clear Width of Doorways

404.2.4 Maneuvering Clearance. Minimum maneuvering clearance at door and gates shall comply with 404.4. Maneuvering shall extend the full width of the doorway and the required latch side or hinge side clearance.

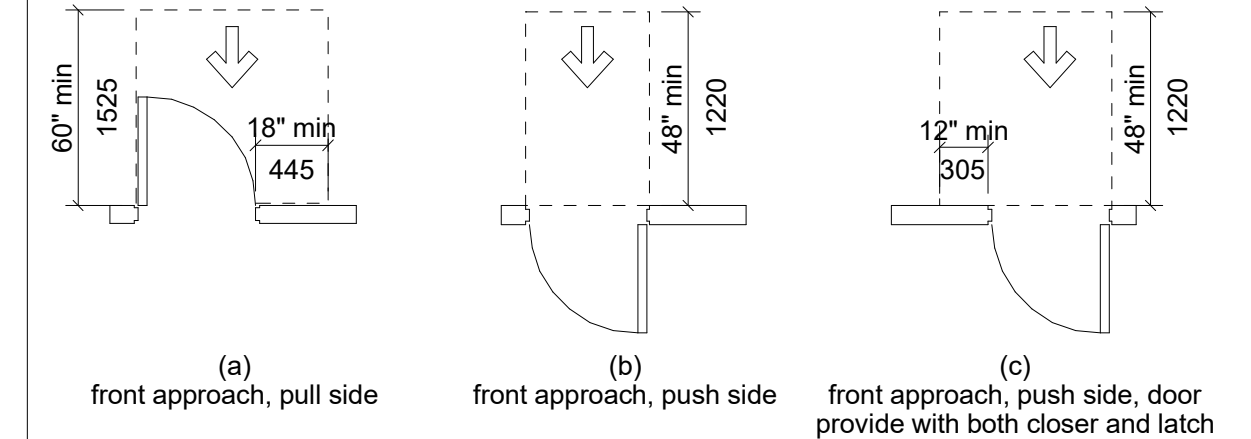
Exemption: Entry door to hospital patient rooms shall not be required to provide clearance beyond the latch side of the door.

404.2.4.1 Swinging Door and gates. Swinging doors and gates shall have maneuvering clearance complying with table 404.2.4.1.

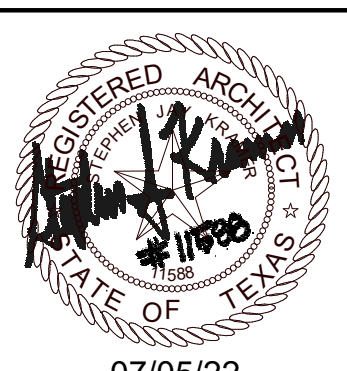
Table 404.2.4.1 Maneuvering Clearances at Manual Swinging Doors and Gates Type of Use

Approach Direction	Type of Use	Minimum Maneuvering Clearance	
		Door and Gate Side	Perpendicular to Doorway (beyond latch side unless noted)
From front	Pull	60 inches (1525 mm)	18 inches (455 mm)
From front	Push	48 inches (1220 mm)	0 inches (0 mm)
From hinge side	Pull	60 inches (1525 mm)	36 inches (915 mm)
From hinge side	Push	54 inches (1370 mm)	42 inches (1065 mm)
From latch side	Pull	42 inches (1065 mm)	22 inches (560 mm)
From latch side	Push	48 inches (1220 mm)	24 inches (610 mm)
From latch side	Push	42 inches (1065 mm)	24 inches (610 mm)

1. Add 12 inches (305 mm) if closer and latch are provided.
2. Add 6 inches (150 mm) if closer and latch are provided.
3. Beyond hinge side. 4. Add 6 inches (150 mm) if closer is provided.



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HELOTES, TX 78023



Date: 07-05-2022
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Project No.: 2222
Issue:

Sheet Name:
ACCESS.
STANDARDS

TAS1

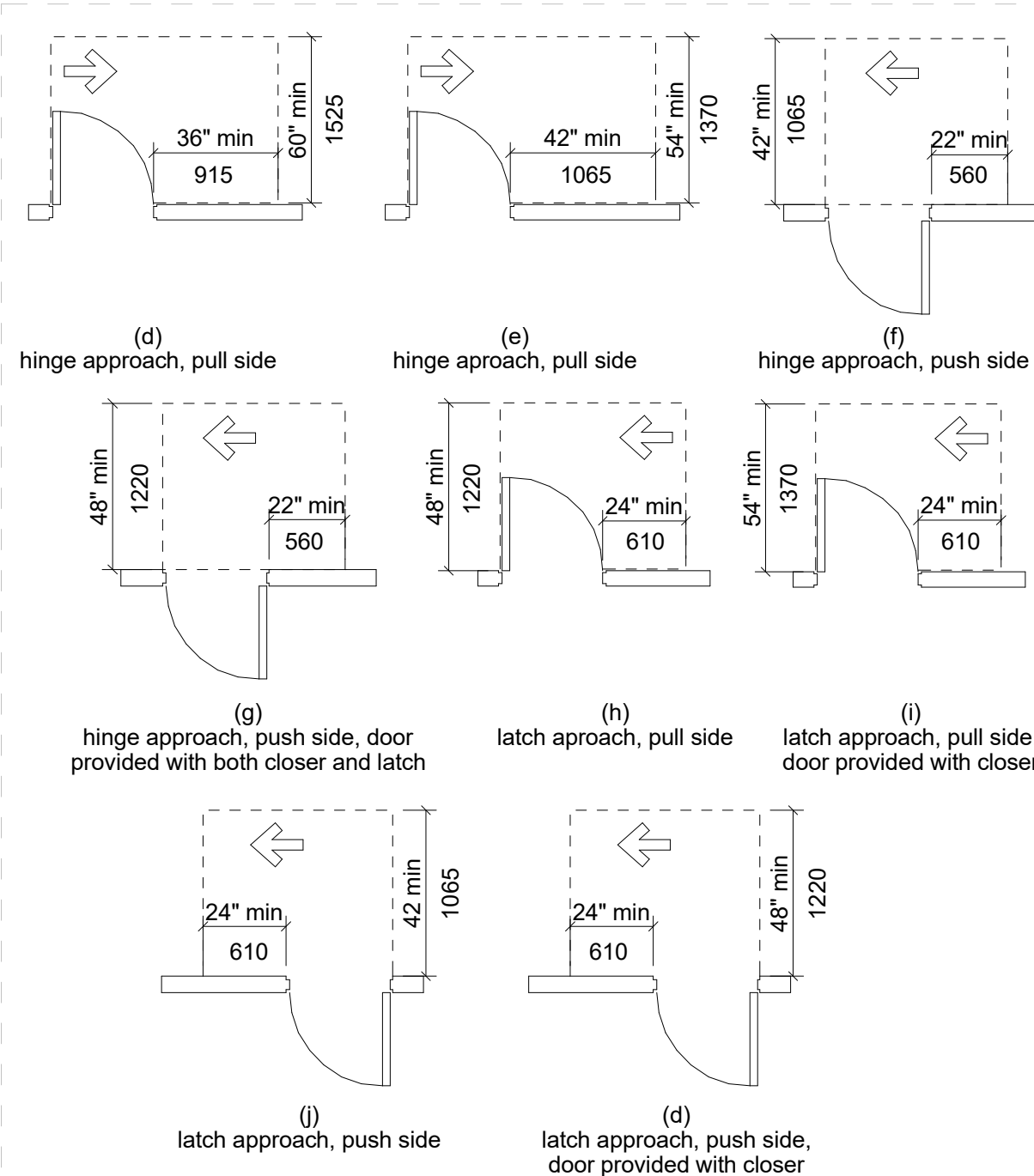


Figure 404.2.4.1 Maneuvering Clearance at Manual Swinging Doors and Gate (continued)

404.2.4.2 Doorways without Doors or Gates, Sliding Doors, and Folding Doors. Doorways less than 36 inches (915 mm) wide without doors or gates, sliding doors, or folding doors shall have maneuvering clearances complying with Table 404.2.4.2.

Table 404.2.4.2 Maneuvering Clearances at Doorways without Doors or Gates, Manual Sliding Doors, and Manual Folding Doors

Approach Direction	Minimum Maneuvering Clearance	
	Perpendicular to Doorway	Perpendicular to Doorway (beyond latch side unless noted)
From front	48 inches (1220 mm)	0 inches (0 mm)
From side	42 inches (1065 mm)	0 inches (0 mm)
From pocket/hinge side	42 inches (1065 mm)	22 inches (560 mm)
From stop/latch side	42 inches (1065 mm)	24 inches (610 mm)

1. Doorway with no door only.
2. Beyond pocket/hinge side.

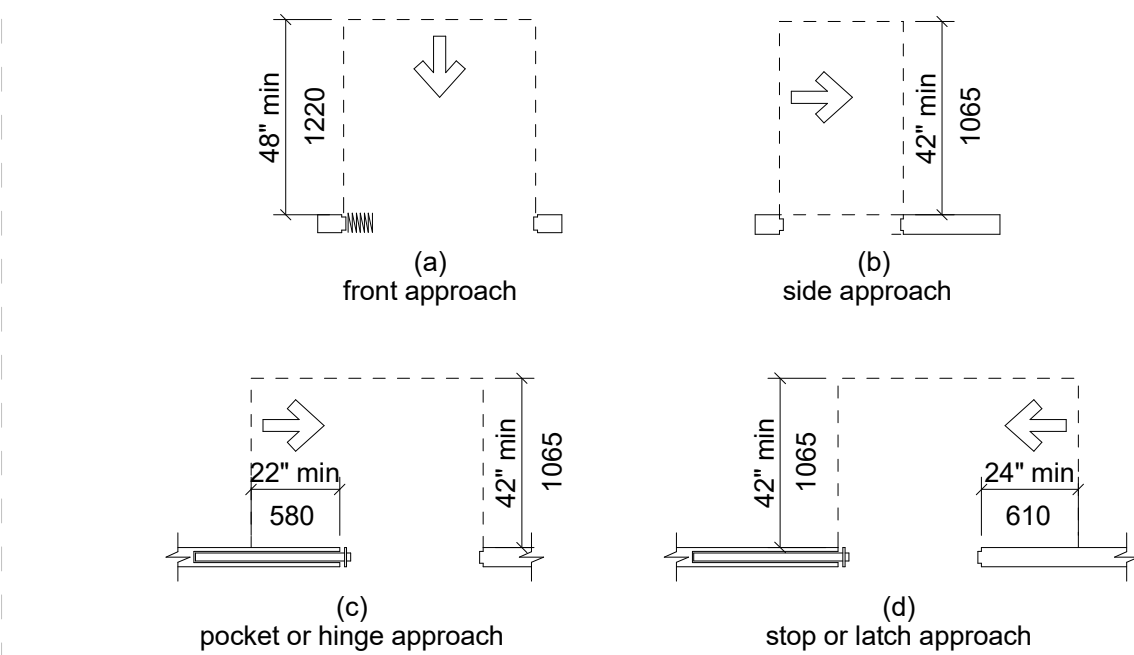


Figure 404.2.4.2 Maneuvering Clearances at Doorways Without Doors, Sliding Doors, Gates, and Folding Doors

404.2.4.3 Recessed Doors and Gates. Maneuvering clearances for forward approach shall be provided when any obstruction within 18 inches (455 mm) of the latch side of a doorway projects more than 8 inches (205 mm) beyond the face of the door, measured perpendicular to the face of the door or gate.

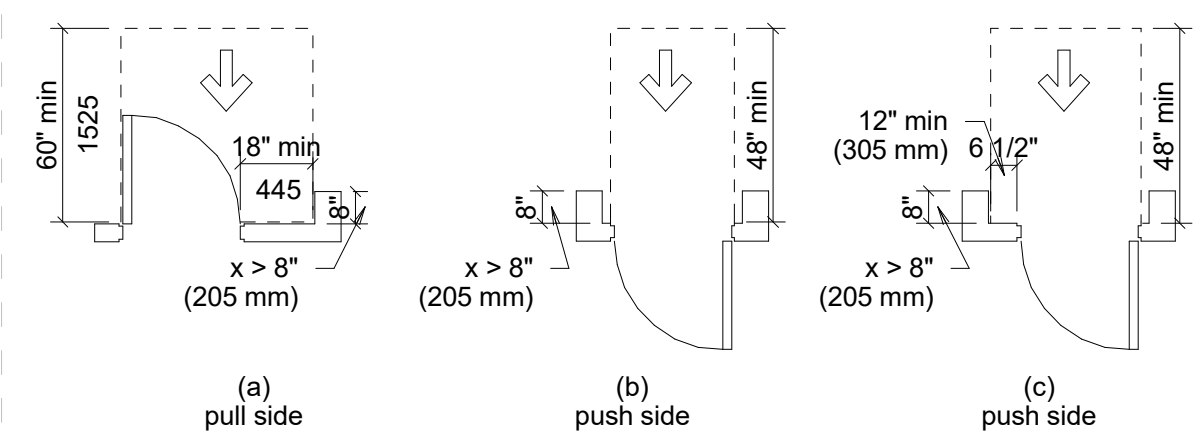


Figure 404.2.4.3 Maneuvering Clearances at Recessed Doors and Gates

404.2.5 Thresholds. Thresholds, if provided at doorways, shall be 1/2 inch (13 mm) high maximum. Raised thresholds and changes in level at doorways shall comply with 302 and 303.

EXCEPTION, Existing or altered thresholds 3/4 inch (19 mm) high maximum that have a beveled edge on each side with a slope not steeper than 1:2 shall not be required to comply with 404.2.5.

404.2.6 Doors in Series and Gates in Series. The distance between two hinged or pivoted doors in series and gates in series shall be 48 inches (1220 mm) minimum plus the width of doors or gates swinging into the space.

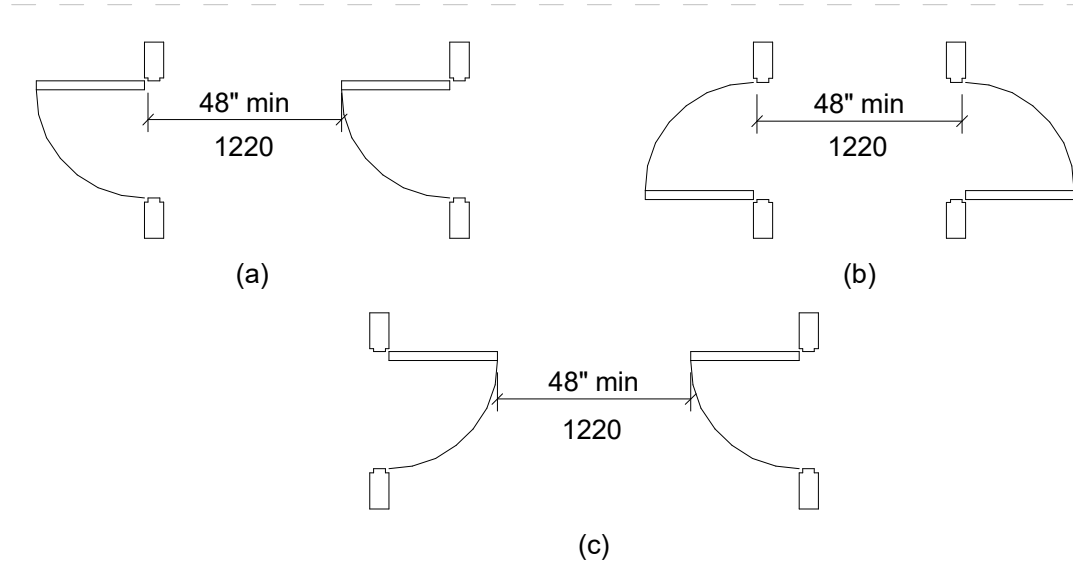


Figure 404.2.6 Doors in Series and Gates in Series

404.2.7 Door and Gate Hardware. Handles, pulls, latches, locks, and other operable parts on doors and gates shall comply with 309.4. Operable parts of such hardware shall be 34 inches (865 mm) minimum and 48 inches (1220 mm) maximum above the finish floor or ground. Where sliding doors are in the fully open position, operating hardware shall be exposed and usable from both sides.

404.2.8 Closing Speed. Door and gate closing speed shall comply with 404.2.8.

404.2.8.1 Door Closers and Gate Closers. Door closers and gate closers shall be adjusted so that from an open position of 90 degrees, the time required to move the door to a position of 12 degrees from the latch is 5 seconds minimum.

404.2.8.2 Spring Hinges. Door and gate spring hinges shall be adjusted so that from the open position of 70 degrees, the door or gate shall move to the closed position in 1.5 seconds minimum.

404.2.9 Door and Gate Opening Force. Fire doors shall have a minimum opening force allowable by the appropriate administrative authority. The force for pushing or pulling open a door or gate other than fire doors shall be as follows,

1. interior hinged doors and gates, 5 pounds (22.2 NI maximum).
2. Sliding or folding doors, 5 pounds (22.2 NI maximum).

These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door or gate in a closed position.

404.2.10 Door and Gate Surfaces. Swinging door and gate surfaces within 10 inches (255 mm) of the finish floor or ground measured vertically shall have a smooth surface on the push side extending the full width of the door or gate. Parts creating horizontal or vertical joints in these surfaces shall be within 1/16 inch (1.6 mm) of the same plane as the other. Cavities created by added kick plates shall be capped.

EXCEPTIONS,

1. Sliding doors shall not be required to comply with 404.2.10.
2. Tempered glass doors without stiles and having a bottom rail or shoe with the top leading edge tapered at 60 degrees minimum from the horizontal shall not be required to meet the 10 inch (255 mm) bottom smooth surface height requirement.
3. Doors and gates that do not extend to within 10 inches (255 mm) of the finish floor or ground shall not be required to comply with 404.2.10.
4. Existing doors and gates without smooth surfaces within 10 inches (255 mm) of the finish floor or ground shall not be required to provide smooth surfaces complying with 404.2.10 provided that if added kick plates are installed, cavities created by such kick plates are capped.

404.2.11 Vision Lights. Doors, gates, and side lights adjacent to doors or gates, containing one or more glazing panels that permit viewing through the panels shall have the bottom of at least one glazed panel located 43 inches (1090 mm) maximum above the finish floor.

EXCEPTION, Vision lights with the lowest part more than 66 inches (1675 mm) from the finish floor or ground shall not be required to comply with 404.2.11.

404.3 Automatic and Power-Assisted Doors and Gates. Automatic doors and automatic gates shall comply with 404.3. Full-powered automatic doors shall comply with ANSI/BHMA A156.10 (incorporated by reference, see "Referenced Standards" in Chapter 11. Low-energy and power-assisted doors shall comply with ANSI/BHMA A156.19 (1997 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1).

404.3.1 Clear Width. Doorways shall provide a clear opening of 32 inches (815 mm) minimum in power-on and power-off mode. The minimum clear width for automatic door systems in a doorway shall be based on the clear opening provided by all leaves in the open position.

404.3.2 Maneuvering Clearance. Clearances at power-assisted doors and gates shall comply with 404.2.4. Clearances at automatic doors and gates without standby power and serving an accessible means of egress shall comply with 404.2.4.

EXCEPTION, Where automatic doors and gates remain open in the power-off condition, compliance with 404.2.4 shall not be required.

404.3.3 Thresholds. Thresholds and changes in level at doorways shall comply with 404.2.5.

404.3.4 Doors in Series and Gates in Series. Doors in series and gates in series shall comply with 404.2.6.

404.3.5 Controls. Manually operated controls shall comply with 309. The clear floor space adjacent to the control shall be located beyond the arc of the door swing.

404.3.6 Break Out Opening. Where doors and gates without standby power are a part of a means of egress, the clear break out opening at swinging or sliding doors and gates shall be 32 inches (815 mm) minimum when operated in emergency mode.

EXCEPTION, Where manual swinging doors and gates comply with 404.2 and serve the same means of egress compliance with 404.3.6 shall not be required.

404.3.7 Revolving Doors, Revolving Gates, and Turnstiles. Revolving doors, revolving gates, and turnstiles shall not be part of an accessible route.

405 Ramps

405.1 General. Ramps on accessible routes shall comply with 405.

EXCEPTION, In assembly areas, aisle ramps adjacent to seating and not serving elements required to be on an accessible route shall not be required to comply with 405.

405.2 Slope. Ramp runs shall have a running slope not steeper than 1:12.

Table 405.2 Maximum Ramp Slope and Rise for Existing Sites, Buildings, and Facilities

Slope%	Maximum Rise
Steeper than 1:10 but not steeper than 1:8	3 inches (75 mm)
Steeper than 1:12 but not steeper than 1:10	6 inches (150 mm)

1. A slope steeper than 1:8 is prohibited.

405.3 Cross Slope. Cross slope of ramp runs shall not be steeper than 1:48

405.4 Floor or Ground Surfaces. Floor or ground surfaces of ramp runs shall comply with 302. Changes in level other than the running slope and cross slope are not permitted on ramp runs.

405.5 Clear Width. The clear width of a ramp run and, where handrails are provided, the clear width between handrails shall be 36 inches (915 mm) minimum.

405.6 Rise. The rise for any ramp run shall be 30 inches (760 mm) maximum.

405.7 Landings. Ramps shall have landings at the top and the bottom of each ramp run. Landings shall comply with 405.7.

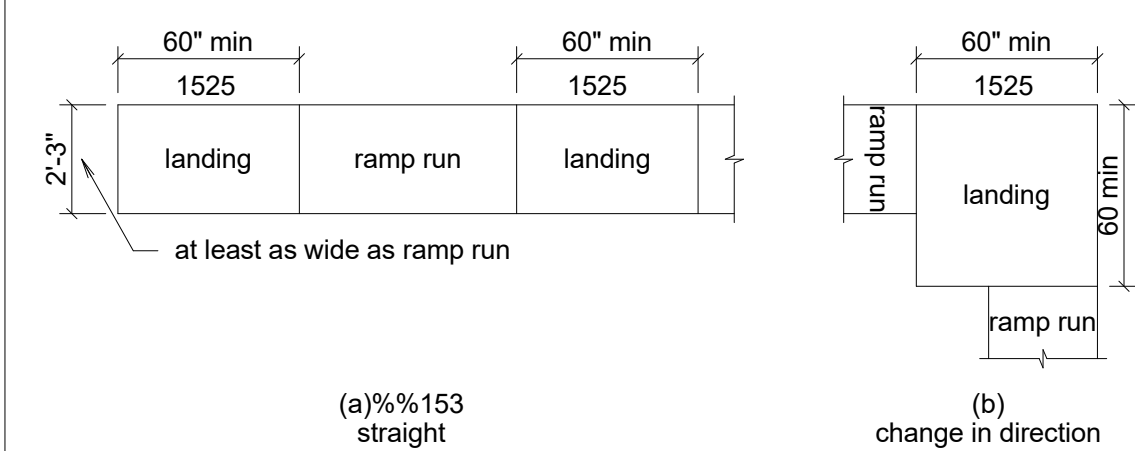


Figure 405.7 Ramp Landings

405.7.2 Width. The landing clear width shall be at least as wide as the widest ramp run leading to the landing.

405.7.3 Length. The landing clear length shall be 60 inches (1525 mm) long minimum.

405.7.4 Change in Direction. Ramps that change direction between runs at landings shall have a clear landing 60 inches (1525 mm) minimum by 60 inches (1525 mm) minimum.

405.7.5 Doorways. Where doorways are located adjacent to a ramp landing, maneuvering clearances required by 404.2.4 and 404.3.2 shall be permitted to overlap the required landing area.

405.8 Handrails. Ramp runs with a rise greater than 6 inches (150 mm) shall have handrails complying with 505.

EXCEPTION, Within employee work areas, handrails shall not be required where ramps that are part of common use circulation paths are designed to permit the installation of handrails complying with 505. Ramps not subject to the exception to 405, be designed to maintain a 36 inch (915 mm) minimum clear width when handrails are installed.

405.9 Edge Protection. Edge protection complying with 405.9.1 or 405.9.2 shall be provided on each side of ramp runs and at each side of ramp landings.

EXCEPTIONS:

1. Edge protection shall not be required on ramps that are not required to have handrails and have sides complying with 406.3.
2. Edge protection shall not be required on the sides of ramp landings serving an adjoining ramp run or stairway.
3. Edge protection shall not be required on the sides of ramp landings having a vertical drop-off of Y, inch (13 mm) maximum within 10 inches (255 mm) horizontally of the minimum landing area specified in 405.7.

405.9.1 Extended Floor or Ground Surface. The floor or ground surface of the ramp run or landing shall extend 12 inches (305 mm) minimum beyond the inside face of a handrail complying with 505.



Figure 405.9.1 Extended Floor or Ground Surface Edge Protection

405.9.2 curb or Barrier. A curb or barrier shall be provided that prevents the passage of a 4 inch (100 mm) diameter sphere, where any portion of the sphere is within 4 inches (100 mm) of the finish floor or ground surface.

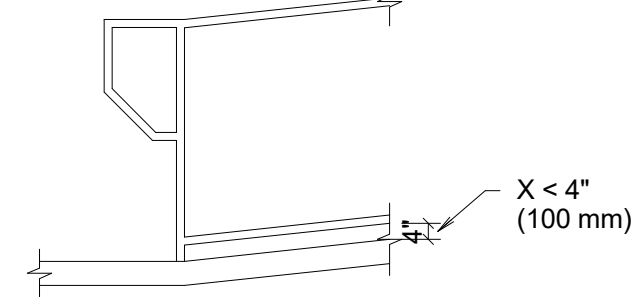


Figure 405.9.2 Curb or Barrier Edge Protection

406 Curb Ramps

406.2 Counter Slope. Counter slopes of adjoining gutters and road surfaces immediately adjacent to the curb ramp shall not be steeper than 1:20. The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level.

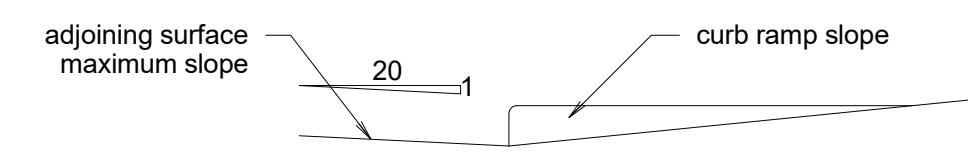


Figure 406.2 Counter Slope of Surfaces Adjacent to Curb Ramps

406.3 Sides of Curb Ramps. Where provided, curb ramp flares shall not be steeper than 1:10.

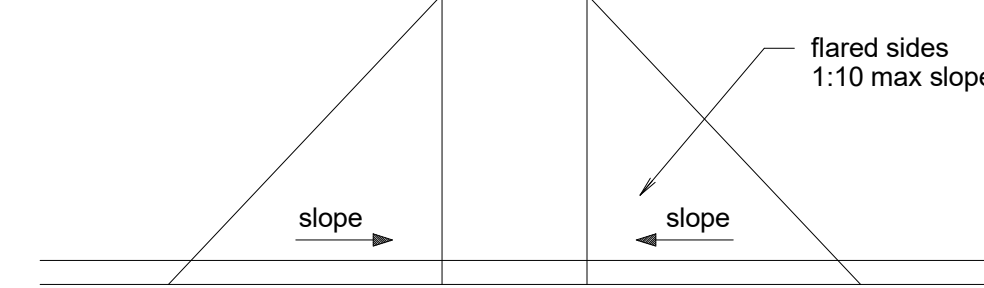


Figure 406.3 Sides of Curb Ramps

406.4 Landings. Landings shall be provided at the tops of curb ramps. The landing clear length shall be 36 inches (915 mm) minimum. The landing clear width shall be at least as wide as the curb ramp, excluding flared sides, leading to the landing.

EXCEPTION, In alterations, where there is no landing at the top of curb ramps, curb ramp flares shall be provided and shall not be steeper than 1:12.

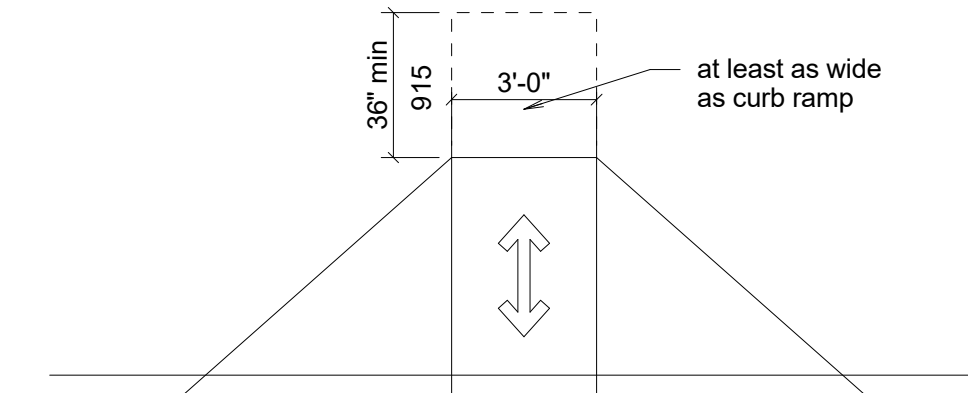


Figure 406.4 Landings at the Top of Curb Ramps

406.5 Location. Curb ramps and the flared sides of curb ramps shall be located so that they do not project into vehicular traffic lanes, parking spaces, or parking access aisles. Curb ramps at marked crossings shall be wholly contained within the markings, excluding any flared sides.

406.6 Diagonal Curb Ramps. Diagonal or corner type curb ramps with returned curbs or other well-defined edges shall have the edges parallel to the direction of pedestrian flow. The bottom of diagonal curb ramps shall have a clear space 48 inches (1220 mm) minimum outside active traffic lanes of the roadway. Diagonal curb ramps provided at marked crossings shall provide the 48 inches (1220 mm) minimum clear space within the markings. Diagonal curb ramps with flared sides shall have a segment of curb 24 inches (610 mm) long minimum located on each side of the curb ramp and within the marked crossing.

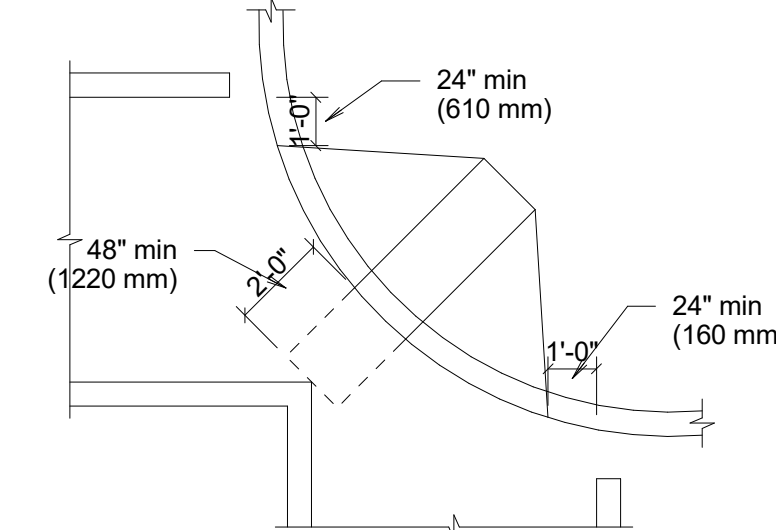


Figure 406.6 Diagonal or Corner Type Curb Ramps

406.7 Islands. Raised islands in crossings shall be cut through level with the street or have curb ramps at both sides. Each curb ramp shall have a level area 48 inches (1220 mm) long minimum by 36 inches (915 mm) wide minimum at the top of the curb ramp in the part of the island intersected by the crossings. Each 48 inch (1220 mm) minimum by 36 inch (915 mm) minimum area shall be oriented so that the 48 inch (1220 mm) minimum length is in the direction of the running slope of the curb ramp it serves. The 48 inch (1220 mm) minimum by 36 inch (915 mm) minimum areas and the accessible route shall be permitted to overlap.

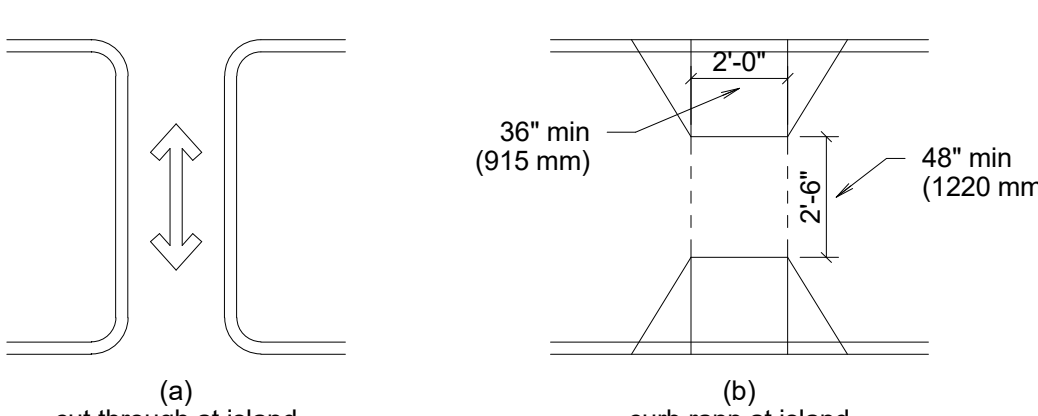


Figure 406.7 Islands in Crossings

407 Elevators

407.2.1 Call Controls. Where elevator call buttons or keypads are provided, they shall comply with 407.2.1 and 309.4. Call buttons shall be raised or flush.

407.2.1.1 Height. Call buttons and keypads shall be located within one of the reach ranges specified in 308, measured to the centerline of the highest operable part.

407.2.1.2 Size. Call buttons shall be 3/4 inch (19 mm) minimum in the smallest dimension.

EXCEPTION: Existing elevator call buttons shall not be required to comply with 407.2.1.2.

407.2.1.3 Clear Floor or Ground Space. A clear floor or ground space complying with 305 shall be provided at call controls.

407.2.1.4 Location. The call button that designates the up direction shall be located above the call button that designates the down direction.

EXCEPTION, Destination-oriented elevators shall not be required to comply with 407.2.1.4.

407.2.1.5 Signals. Call buttons shall have visible signals to indicate when each call is registered and when each call is answered.

407.2.1.6 Keypads. Where keypads are provided, keypads shall be in a standard telephone keypad arrangement and shall comply with 407.4.7.2.

407.2.2 Hall Signals. Hall signals, including in-car signals, shall comply with 407.2.2.

407.2.2.1 Visible and Audible Signals. A visible and audible signal shall be provided at each hoistway entrance to indicate which car is answering a call and the car's direction of travel. Where in-car signals are provided, they shall be visible from the floor area adjacent to the hall call buttons.

407.2.2.2 Visible Signals. Visible signal fixtures shall be centered at 72 inches (1830 mm) minimum above the finish floor or ground. The visible signal elements shall be 2 1/2 inches (64 mm) minimum measured along the vertical centerline of the element. Signals shall be visible from the floor area adjacent to the hall call button.

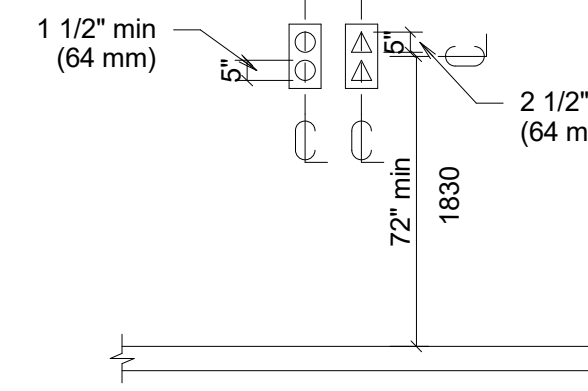


Figure 407.2.2.2 Visible Hall Signals

407.2.2.3 Audible Signals. Audible signals shall sound once for the up direction and twice for the down direction, or shall have verbal annunciators that indicate the direction of elevator car travel. Audible signals shall have a frequency of 1500 Hz maximum. Verbal annunciators shall have a frequency of 300 Hz minimum and 3000 Hz maximum. The audible signal and verbal annunciator shall be 10 dB minimum above ambient, but shall not exceed 80 dB, measured at the hall call button.

EXCEPTIONS:

1. Destination-oriented elevators shall not be required to comply with 407.2.2.3 provided that the audible tone and verbal announcement is the same as those given at the call button or call button keypad.
2. Existing elevators shall not be required to comply with the requirements for frequency and dB range of audible signals.

407.2.2.4 Differentiation. Each destination-oriented elevator in a bank of elevators shall have audible and visible means for differentiation.

407.2.3 Hoistway Signs. Signs at elevator hoistways shall comply with 407.2.3.

407.2.3.1 Floor Designation. Floor designations complying with 703.2 and 703.4.1 shall be provided on both jambs of elevator hoistway entrances. Floor designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum. A tactile star shall be provided on both jambs at the main entry level.

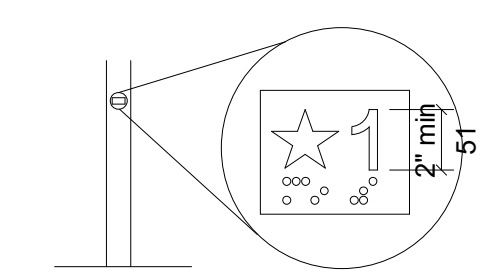


Figure 407.2.3.1 Floor Designations on Jambs of Elevator Hoistway Entrances

407.2.3.2 Car Designations. Destination-oriented elevators shall provide tactile car identification complying with 703.2 on both jambs of the hoistway immediately below the floor designation. Car designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum.

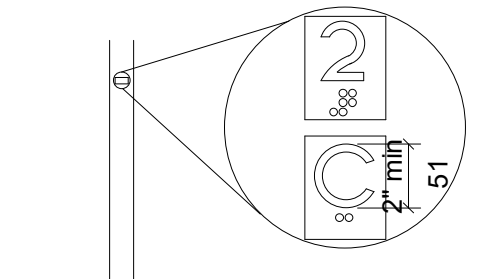


Figure 407.2.3.2 Car Designations on Jambs of Destination-Oriented Elevator Hoistway Entrances

407.3.1 Type. Elevator doors shall be the horizontal sliding type. Car gates shall be prohibited.

407.3.2 Operation. Elevator hoistway and car doors shall open and close automatically.

EXCEPTION, Existing manually operated hoistway swing doors shall be permitted provided that they comply with 404.2.3 and 404.2.9. Car door closing shall not be initiated until the hoistway door is closed.

407.3.3 Reopening Device. Elevator doors shall be provided with a reopening device complying with 407.3.3 that shall stop and reopen a car door and hoistway door automatically if the door becomes obstructed by an object or person.

407.3.3.1 Height. The device shall be activated by sensing an obstruction passing through the opening at 5 inches (125 mm) nominal and 29 inches (735 mm) nominal above the finish floor.



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407.3.3.2 Contact. The device shall not require physical contact to be activated, although contact is permitted to occur before the door reverses.

407.3.3.3 Duration. Door reopening devices shall remain effective for 20 seconds minimum.

407.3.4 Door and Signal Timing. The minimum acceptable time from notification that a car is answering a call or notification of the car assigned at the means for the entry of destination information until the doors of that car start to close shall be calculated from the following equation:

$$T = D / (1.5 \text{ ft/s}) \text{ or } T = D / (455 \text{ mm/s}) = 5 \text{ seconds minimum where } T \text{ equals the total time in seconds and } D \text{ equals the distance (in feet or millimeters) from the point in the lobby or corridor 60 inches (1525 mm) directly in front of the farthest call button controlling that car to the centerline of its hoistway door.}$$

EXCEPTIONS:

- For cars with in-car lanterns, T shall be permitted to begin when the signal is visible from the point 60 inches (1525 mm) directly in front of the farthest hall call button and the audible signal is sounded.
- Destination-oriented elevators shall not be required to comply with 407.3.4.

407.3.5 Door Delay. Elevator doors shall remain fully open in response to a car call for 3 seconds minimum.

407.3.6 Width. The width of elevator doors shall comply with Table

407.4.1 Car Dimensions. Inside dimensions of elevator cars and clear width of elevator doors shall comply with Table 407.4.1.

Table 407.4.1 Elevator Car Dimensions

Door Location	Minimum Dimensions			
	Door Clear Width	Inside Car, Side to Side	Inside Car, Back Wall Front to Front Return	Inside Car, Back Wall Front to Inside Face of Door
Centered	42 inches (1065 mm)	80 % 153 inches (2030 mm)	51 inches (1295 mm)	54 inches (1370 mm)
Side (off-centered)	36 inches (915 mm)	68 inches (1725 mm)	51 inches (1295 mm)	54 inches (1370 mm)
Any	36 inches (915 mm)	54 inches (1370 mm)	80 inches (2030 mm)	80 inches (2030 mm)
Any	36 inches (915 mm)	60 inches (1525 mm)	60 inches (1525 mm)	60 inches (1525 mm)

- A tolerance of minus 5/8 inch (16 mm)
- Other car configurations that provide a turning space complying with 304 with the door closed shall be permitted.

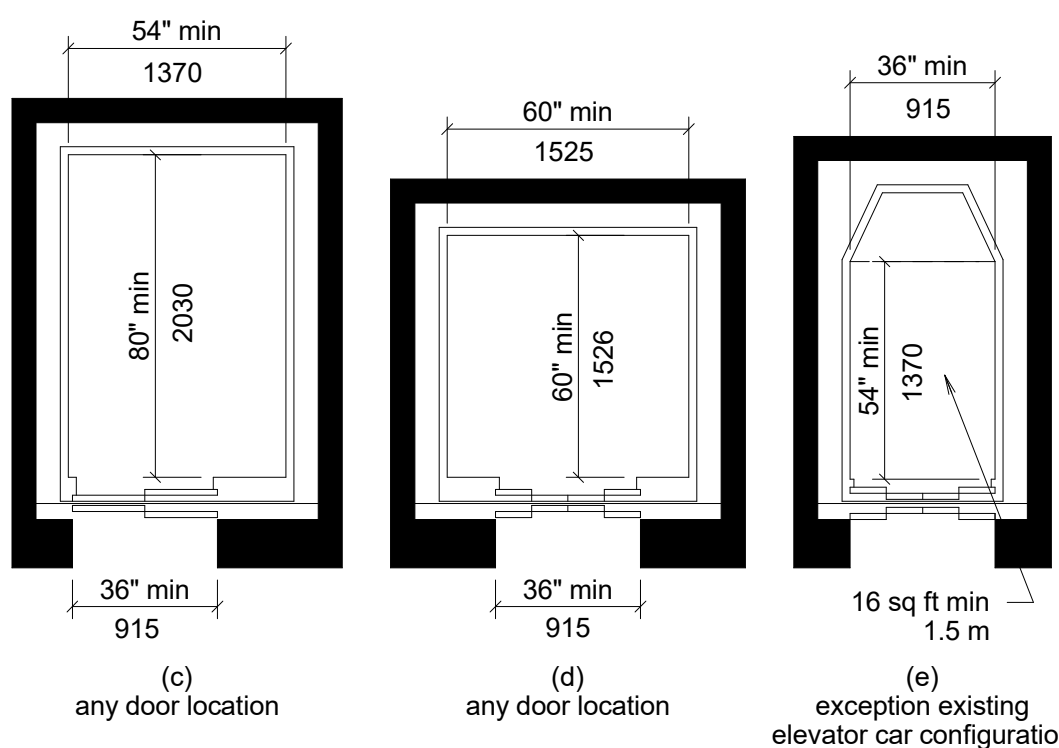
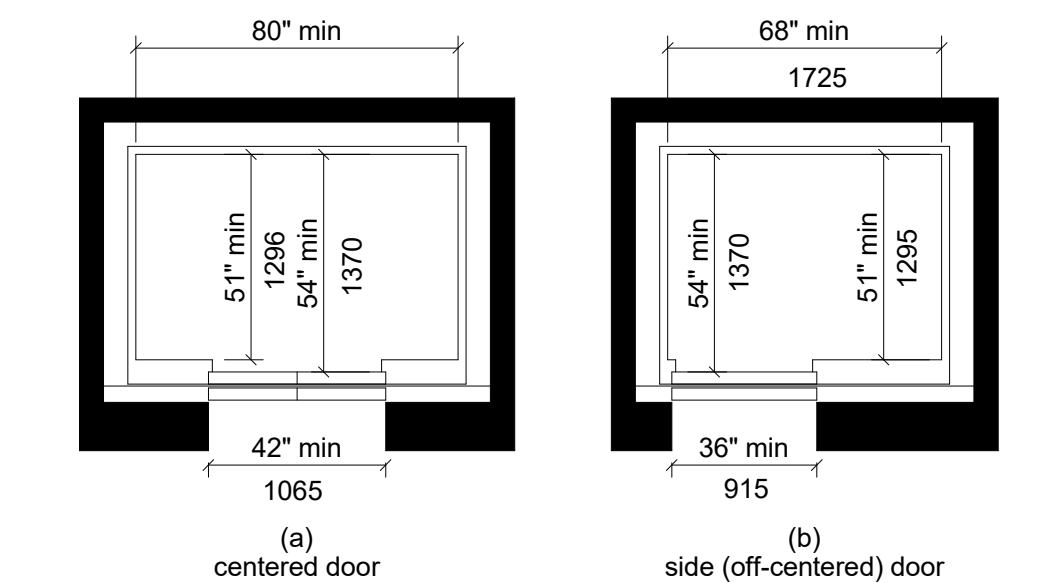


Figure 407.4.1 Elevator Car Dimensions

407.4.3 Platform to Hoistway Clearance. The clearance between the car platform sill and the edge of any hoistway landing shall be 1 1/4 inch (32 mm) maximum.

407.4.4 Leveling. Each car shall be equipped with a self-leveling feature that will automatically bring and maintain the car at floor landings within a tolerance of 1/2 inch (13 mm) under rate loading to zero loading conditions.

407.4.5 Illumination. The level of illumination at the car controls, platform, car threshold and car landing sill shall be 5 foot candles (54 lux) minimum.

407.4.6.1 Location. Controls shall be located within one of the reach ranges specified in 308.

407.4.6.2 Buttons. Car control buttons with floor designations shall comply with 407.4.6.2 and shall be raised or flush.

407.4.6.2.1 Size. Buttons shall be 3/4 inch (19 mm) minimum in their smallest dimension.

407.4.6.2.2 Arrangement. Buttons shall be arranged with numbers in ascending order. When two or more columns of buttons are provided they shall read from left to right.

407.4.6.3 Keypads. Car control keypads shall be in a standard telephone keypad arrangement and shall comply with 407.4.7.2.

407.4.6.4 Emergency Controls. Emergency controls shall comply with 407.4.6.4.

407.4.6.4.1 Height. Emergency control buttons shall have their centerlines 35 inches (890 mm) minimum above the finish floor.

407.4.6.4.2 Location. Emergency controls, including the emergency alarm, shall be grouped at the bottom of the panel.

407.4.7.1.1 Type. Control buttons shall be identified by tactile characters complying with 703.2.

407.4.7.1.2 Location. Raised character and braille designations shall be placed immediately to the left of the control button to which the designations apply.

EXCEPTION, Where space on an existing car operating panel precludes tactile markings to the left of the controls, markings shall be placed as near to the control as possible.

407.4.7.1.3 Symbols. The control button for the emergency stop, alarm, door open, door close, main entry floor, and phone, shall be identified with tactile symbols as shown in Table 407.4.7.1.3.

Table 407.4.7.1.3 Elevator Control Button Identification Control Button

Control Button	Tactile Symbol	Braille Message
Emergency Stop	⊗	"ST"OP Three cells"
Alarm	⠠	AL"AR"AM Four cells
Door Open	⠠	OP"EN" Three cells
Door Close	⠠	CLOSE Five cells
Main Entry Floor	★	MA"IN" Three cells
Phone	☎	PH"ONE" Four cells

407.4.7.1.4 Visible Indicators. Buttons with floor designations shall be provided with visible indicators to show that a call has been registered. The visible indication shall extinguish when the car arrives at the designated floor.

407.4.7.2 Keypads. Keypads shall be identified by characters complying with 703.5 and shall be centered on the corresponding keypad button. The number five key shall have a single raised dot. The dot shall be 0.118 inch (3 mm) to 0.120 inch (3.05 mm) base diameter and in other aspects comply with Table 703.3.1.

407.4.8 Car Position Indicators. Audible and visible car position indicators shall be provided in elevator cars.

407.4.8.1 Visible Indicators. Visible indicators shall comply with 407.4.8.1.

407.4.8.1.1 Size. Characters shall be 1/2 inch (13 mm) high minimum.

407.4.8.1.2 Location. Indicators shall be located above the car control panel or above the door.

407.4.8.1.3 Floor Arrival. As the car passes a floor and when a car stops at a floor served by the elevator, the corresponding character shall illuminate.

407.4.8.1.4 Destination Indicator. In destination-oriented elevators, a display shall be provided in the car with visible indicators to show car destinations.

407.4.8.2 Audible Indicators. Audible indicators shall comply with 407.4.8.2.

407.4.8.2.1 Signal Type. The signal shall be an automatic verbal annunciator which announces the floor at which the car is about to stop.

EXCEPTION, For elevators other than destination-oriented elevators that have a rated speed of 200 feet per minute (1 mis) or less, a non-verbal audible signal with a frequency of 1500 Hz maximum which sounds as the car passes or is a floor served by the elevator shall be permitted.

407.4.8.2.2 Signal Level. The verbal annunciator shall be 10 dB minimum above ambient, but shall not exceed 80 dB, measured at the annunciator.

407.4.8.2.3 Frequency. The verbal annunciator shall have a frequency of 300 Hz minimum to 3000 Hz maximum.

407.4.9 Emergency Communication. Emergency two-way communication systems shall comply with 308. Tactile symbols and characters shall be provided adjacent to the device and shall comply with 703.2.

502 Parking Spaces

502.1 General. Car and van parking spaces shall comply with 502. Where parking spaces are marked with lines, width measurements of parking spaces and access aisles shall be made from the centerline of the markings.

502.2 Vehicle Spaces. Car parking spaces shall be 96 inches (2440 mm) wide minimum and van parking spaces shall be 132 inches (3350 mm) wide minimum, shall be marked to define the width, and shall have an adjacent access aisle complying with 502.3.

EXCEPTION, Van parking spaces shall be permitted to be 96 inches (2440 mm) wide minimum where the access aisle is 96 inches (2440 mm) wide minimum.

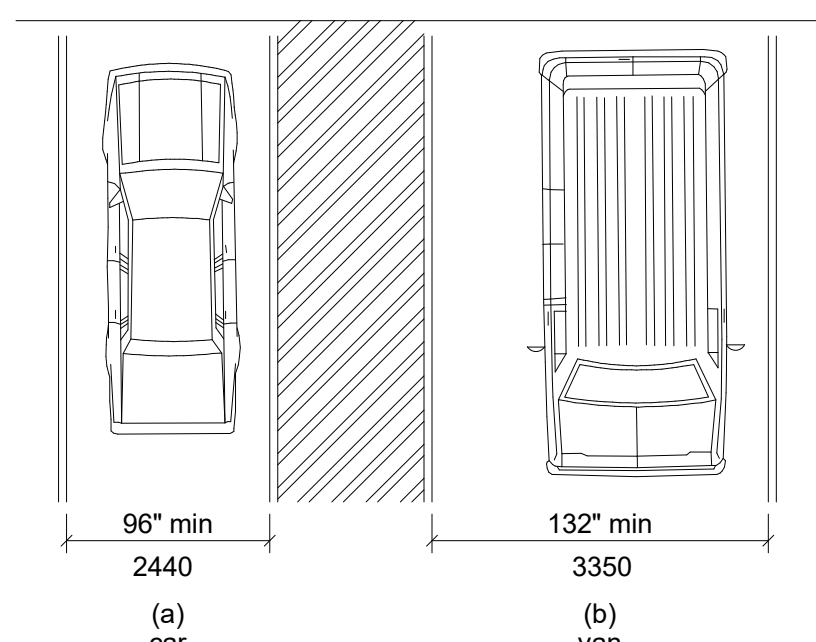


Figure 502.2 Vehicle Parking Spaces

502.3 Access Aisle. Access aisles serving parking spaces shall comply with 502.3. Access aisles shall adjoin an accessible route. Two parking spaces shall be permitted to share a common access aisle.

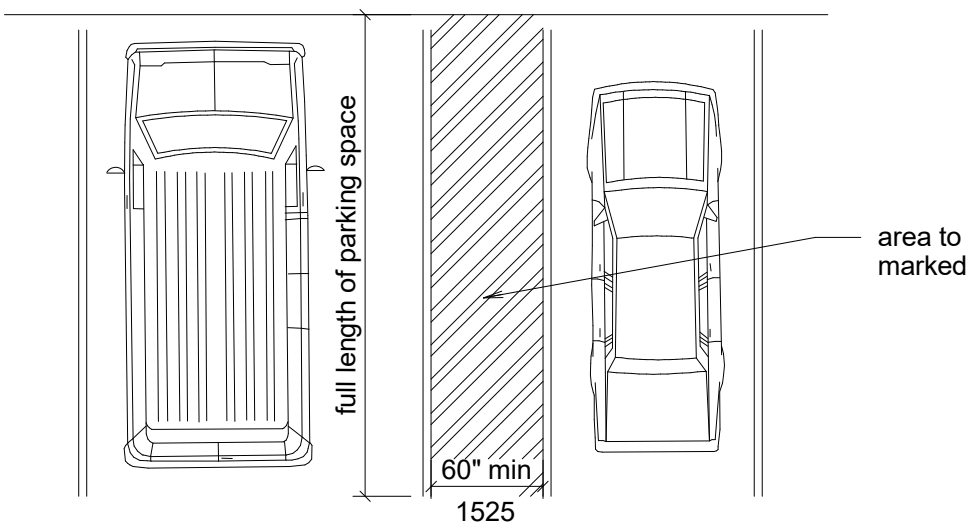


Figure 502.3 Parking Space Access Aisle

502.3.1 Width. Access aisles serving car and van parking spaces shall be 60 inches (1525 mm) wide minimum.

502.3.2 Length. Access aisles shall extend the full length of the parking spaces they serve.

502.3.3 Marking. Access aisles shall be marked so as to discourage parking in them.

502.3.4 Location. Access aisles shall not overlap the vehicular way. Access aisles shall be permitted to be placed on either side of the parking space except for angled van parking spaces which shall have access aisles located on the passenger side of the parking spaces.

502.4 Floor or Ground Surfaces. Parking spaces and access aisles serving them shall comply with 302. Access aisles shall be at the same level as the parking spaces they serve. Changes in level are not permitted.

502.5 Vertical Clearance. Parking spaces for vans and access aisles and vehicular routes serving them shall provide a vertical clearance of 98 inches (2490 mm) minimum.

502.6 Identification. Parking space identification signs shall include the International Symbol of Accessibility complying with 703.7.2.1. Signs identifying van parking spaces shall contain the designation "van accessible." Signs shall be 60 inches (1525 mm) minimum above the finish floor or ground surface measured to the bottom of the sign.

502.7 Relationship to Accessible Routes. Parking spaces and access aisles shall be designed so that cars and vans, when parked, cannot obstruct the required clear width of adjacent accessible routes.

504 Stairways

504.2 Treads and Risers. All steps on a flight of stairs shall have uniform riser heights and uniform tread depths. Risers shall be 4 inches (100 mm) high minimum and 7 inches (180 mm) high maximum. Treads shall be 11 inches (280 mm) deep minimum.

504.3 Open Risers. Open risers are not permitted.

504.4 Tread Surface. Stair treads shall comply with 302. Changes in level are not permitted.

EXCEPTION, Treads shall be permitted to have a slope not steeper than 1:48.

504.5 Nosings. The radius of curvature at the leading edge of the tread shall be 1/2 inch (13 mm) maximum. Nosings that project beyond risers shall have the underside of the leading edge curved or beveled. Risers shall be permitted to slope under the tread at an angle of 30 degrees maximum from vertical. The permitted projection of the nosing shall extend 1 1/2 inches (38 mm) maximum over the tread below.

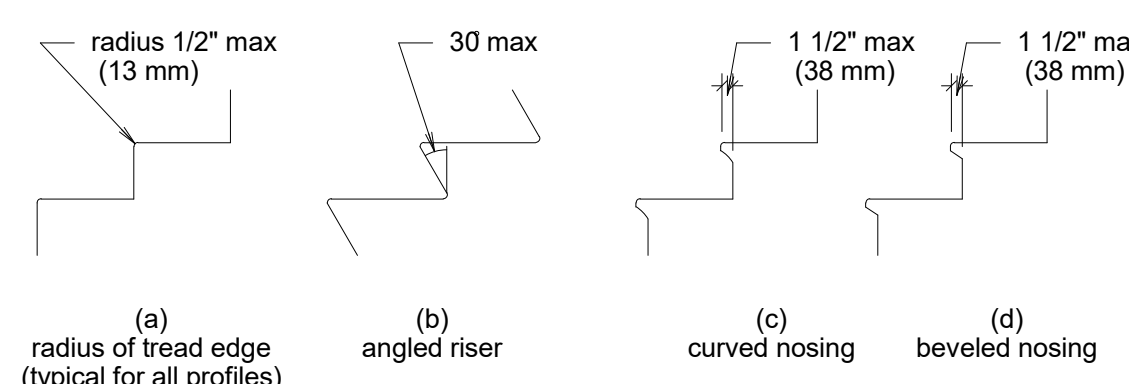


Figure 504.5 Stair Nosings

504.6 Handrails. Stairs shall have handrails complying with 505.

504.7 Wet Conditions. Stair treads and landings subject to wet conditions shall be designed to prevent the accumulation of water.

505 Handrails

505.1 General. Handrails provided along walking surfaces complying with 403, required at ramps complying with 405, and required at stairs complying with 504 shall comply with 505.

Advisory 505.1 General. Handrails are required on ramp runs with a rise greater than 6 inches (150 mm) (see 405.81 and on certain stairways (see 504). Handrails are not required on walking surfaces with running slopes less than 1:20. However, handrails are required to comply with 505 when they are provided on walking surfaces with running slopes less than 1:20 (see 403.6). Sections 505.2, 505.3, and 505.10 do not apply to handrails provided on walking surfaces with running slopes less than 1:20 as these sections only reference requirements for ramps and stairs.

505.2 Where Required. Handrails shall be provided on both sides of stairs and ramps.

EXCEPTION, In assembly areas, handrails shall not be required on both sides of aisle ramps where a handrail is provided at either side or within the aisle width.

505.3 Continuity. Handrails shall be continuous within the full length of each stair flight or ramp run. Inside handrails on switchback or dogleg stairs and ramps shall be continuous between flights or runs.

EXCEPTION, In assembly areas, handrails on ramps shall not be required to be continuous in aisles serving seating.

505.4 Height. Top of gripping surfaces of handrails shall be 34 inches (865 mm) minimum and 38 inches (965 mm) maximum vertically above walking surfaces, stair nosings, and ramp surfaces. Handrails shall be at a consistent height above walking surfaces, stair nosings, and ramp surfaces.

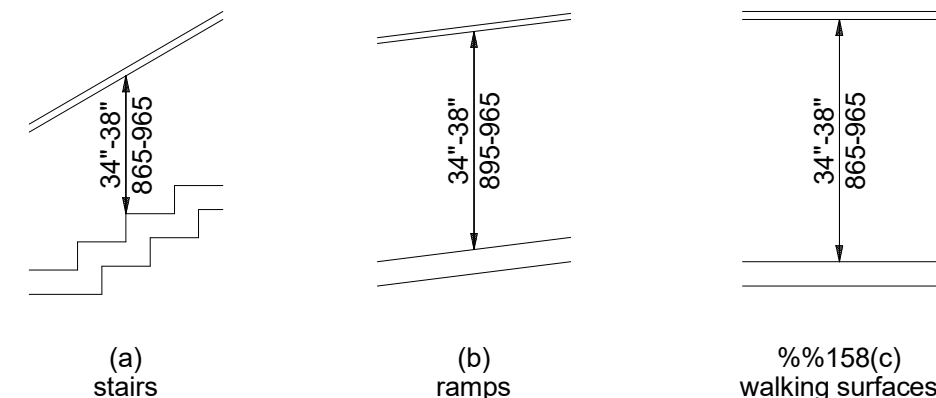


Figure 505.4 Handrail Height

505.5 Clearance. Clearance between handrail gripping surfaces and adjacent surfaces shall be 1 1/2 inches (38 mm) minimum.

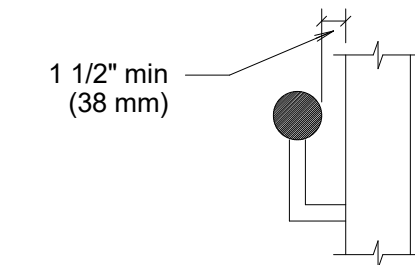


Figure 505.5 Handrail Clearance

505.6 Gripping Surface. Handrail gripping surfaces shall be continuous along their length and shall not be obstructed along their tops or sides. The bottoms of handrail gripping surfaces shall not be obstructed for more than 20 percent of their length. Where provided, horizontal projections shall occur 1 1/2 inches (38 mm) minimum below the bottom of the handrail gripping surface.

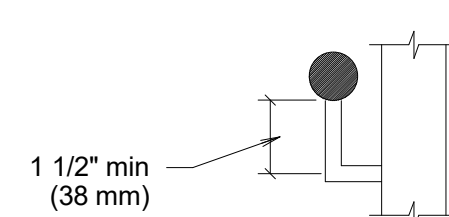


Figure 505.6 Horizontal Projection Below Gripping Surface

505.7 Cross Section. Handrail gripping surfaces shall have a cross section complying with 505.7.1 or 505.7.2.

505.7.1 Circular Cross Section. Handrail gripping surfaces with a circular cross section shall have an outside diameter of 1 1/4 inches (32 mm) minimum and 2 inches (51 mm) maximum.

505.7.2 Non-Circular Cross Sections. Handrail gripping surfaces with a non-circular cross section shall have a perimeter dimension of 4 inches (100 mm) minimum and 6 1/4 inches (160 mm) maximum, and a cross-section dimension of 2 1/4 inches (57 mm) maximum

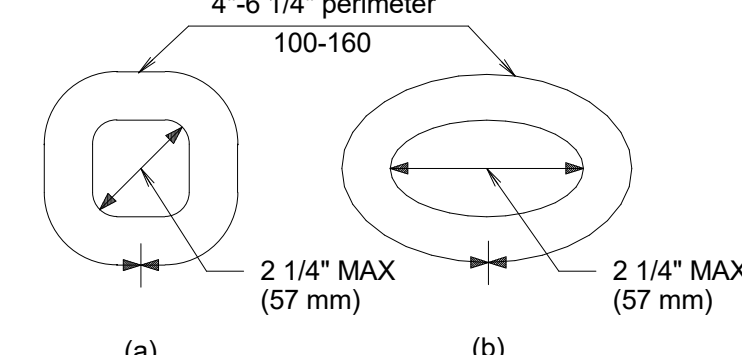


Figure 505.7.2 Handrail Non-Circular cross section

505.8 Surfaces. Handrail gripping surfaces and any surfaces adjacent to them shall be free of sharp or abrasive elements and shall have rounded edges.

505.9 Fittings. Handrails shall not rotate within their fittings.

505.10 Handrail Extensions. Handrail gripping surfaces shall extend beyond and in the same direction of stair flights and ramp runs in accordance with 505.10.

EXCEPTIONS:

- Extensions shall not be required for continuous handrails at the inside turn of switchback or dogleg stairs and ramps.
- In assembly areas, extensions shall not be required for ramp handrails in aisles serving seating where the handrails are discontinuous to provide access to seating and to permit crossovers within aisles.
- In alterations, full extensions of handrails shall not be required where such extensions would be hazardous due to plan configuration.

505.10.1 Top and Bottom Extension at Ramps. Ramp handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beyond the top and bottom of ramp runs. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent ramp run.

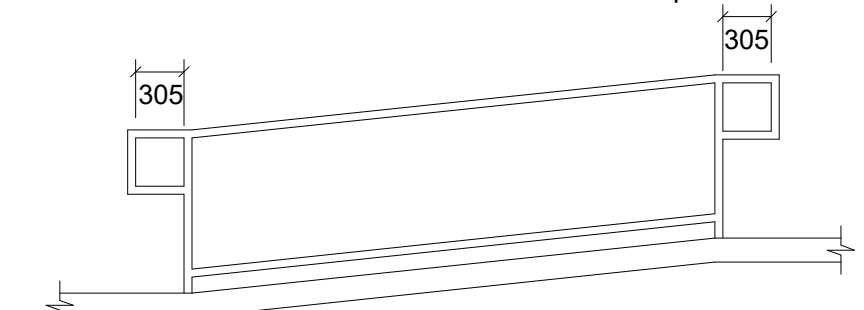


Figure 505.10.1 Top and Bottom Handrail Extension at Ramps

505.10.2 Top Extension at Stairs. At the top of a stair flight, handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beginning directly above the first riser nosing. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight.

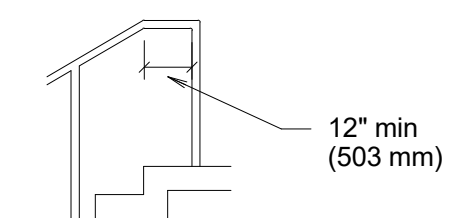


Figure 505.10.2 Top Hand rail Extension at Stairs

505.10.3 Bottom Extension at Stairs. At the bottom of a stair flight, handrails shall extend at the slope of the stair flight for a horizontal distance at least equal to one tread depth beyond the last riser nosing. Extension shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight.

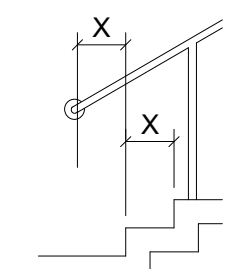


Figure 505.10.3 Bottom Handrail Extension at Stairs

602 Drinking Fountains

602.2 Clear Floor Space. Units shall have a clear floor or ground space complying with 305 positioned for a forward approach and centered on the unit. Knee and toe clearance complying with 306 shall be provided.

EXCEPTION, A parallel approach complying with 305 shall be permitted at units for children's use where the spout is 30 inches (760 mm) maximum above the finish floor or ground and 1 3/4 inches (90 mm) maximum from the front edge of the unit, including bumpers.

602.3 Operable Parts. Operable parts shall comply with 309.

602.4 Spout Height. Spout outlets shall be 36 inches (915 mm) maximum above the finish floor or ground.

602.5 Spout Location. The spout shall be located 15 inches (380 mm) minimum from the vertical support and 5 inches (125 mm) maximum from the front edge of the unit, including bumpers.

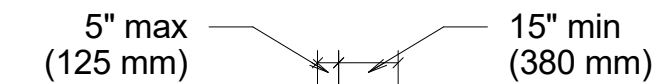


Figure 602.5 Drinking Fountain Spout Location

602.7 Drinking Fountains for Standing Persons. Spout outlets of drinking fountains for standing persons shall be 38 inches (965 mm) minimum and 43 inches (1090 mm) maximum above the finish floor or ground.

603 Toilet and Bathing Rooms

603.2.1 Turning Space. Turning space complying with 304 shall be provided within the room.

603.2.2 Overlap. Required clear floor spaces, clearance at fixtures, and turning space shall be permitted to overlap.

603.2.3 Door Swing. Doors shall not swing into the clear floor space or clearance required for any fixture. Doors shall be permitted to swing into the required turning space

EXCEPTIONS:

- Doors to a toilet room or bathing room for a single occupant accessed only through a private office and not for common use or public use shall be permitted to swing into the clear floor space or clearance provided the swing of the door can be reversed to comply with 603.2.3.
- Where the toilet room or bathing room is for individual use and a clear floor space complying with 305.3 is provided within the room beyond the arc of the door swing, doors shall be permitted to swing into the clear floor space or clearance required for any fixture.

603.3 Mirrors. Mirrors located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 40 inches (1015 mm) maximum above the finish floor or ground. Mirrors not located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 35 inches (890 mm) maximum above the finish floor or ground.

603.4 Coat Hooks and Shelves. Coat hooks shall be located within one of the reach ranges specified in 308. Shelves shall be located 40 inches (1015 mm) minimum and 48 inches (1220 mm) maximum above the finish floor.



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Date: 07-05-2022
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ACCESS.
STANDARDS

TAS3

604 Water Closets and Toilet Compartments

604.2 Location. The water closet shall be positioned with a wall or partition to the rear and to one side. The centerline of the water closet shall be 16 inches (405 mm) minimum to 18 inches (455 mm) maximum from the side wall or partition, except that the water closet shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum from the side wall or partition in the ambulatory accessible toilet compartment specified in 604.8.2. Water closets shall be arranged for a left-hand or right-hand approach.

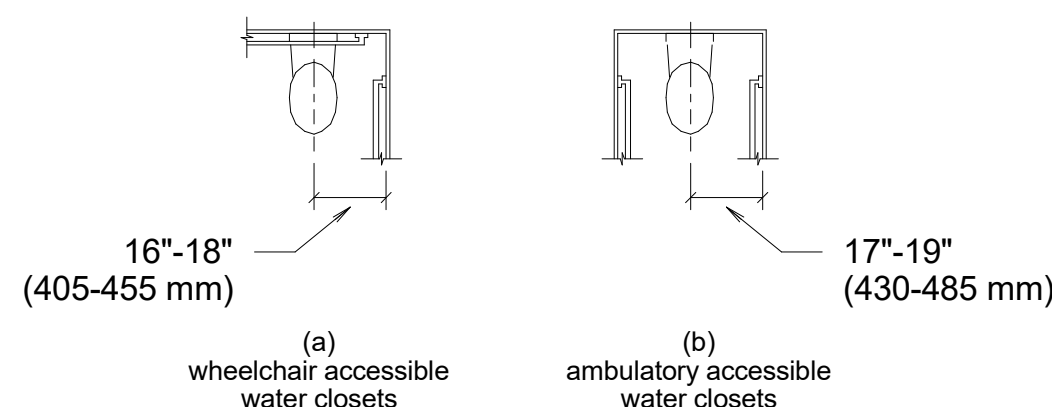


Figure 604.2 Water Closet location

604.3 Clearance. Clearances around water closets and in toilet compartments shall comply with 604.3.

604.3.1 Size. Clearance around a water closet shall be 60 inches (1525 mm) minimum measured perpendicular from the side wall and 56 inches (1420 mm) minimum measured perpendicular from the rear wall.

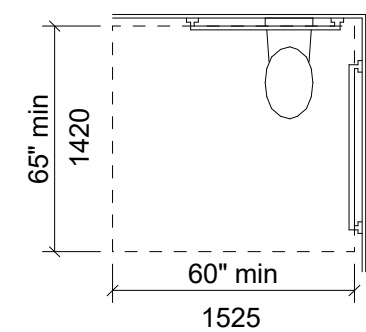


Figure 604.3.1 Size of Clearance at Water Closets

604.3.2 Overlap. The required clearance around the water closet shall be permitted to overlap the water closet, associated grab bars, dispensers, sanitary napkin disposal units, coat hooks, shelves, accessible routes, clear floor space and clearances required at other fixtures, and the turning space. No other fixtures or obstructions shall be located within the required water closet clearance.

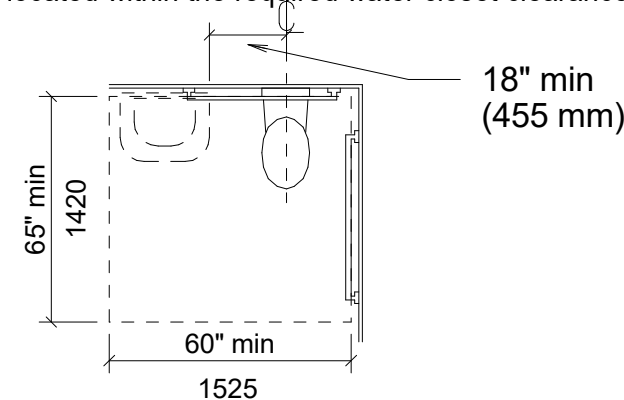


Figure 604.3.2 (Exception) Overlap of Water Closet Clearance in Residential Dwelling Units

604.4 Seats. The seat height of a water closet above the finish floor shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum measured to the top of the seat. Seats shall not be sprung to return to a lifted position.

604.5 Grab Bars. Grab bars for water closets shall comply with 609. Grab bars shall be provided on the side wall closest to the water closet and on the rear wall.

604.5.1 Side Wall. The side wall grab bar shall be 42 inches (1065 mm) long minimum, located 12 inches (305 mm) maximum from the rear wall and extending 54 inches (1370 mm) minimum from the rear wall.

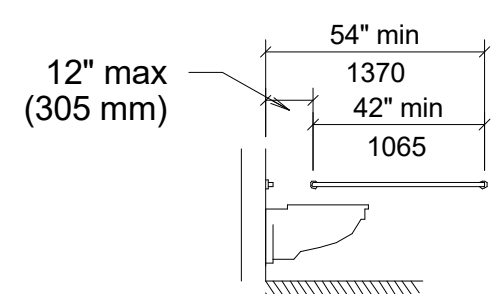


Figure 604.5.1 Side Wall Grab Bar at Water Closets

604.5.2 Rear Wall. The rear wall grab bar shall be 36 inches (915 mm) long minimum and extend from the centerline of the water closet 12 inches (305 mm) minimum on one side and 24 inches (610 mm) minimum on the other side.

EXCEPTIONS:

- The rear grab bar shall be permitted to be 24 inches (610 mm) long minimum, centered on the water closet, where wall space does not permit a length of 36 inches (915 mm) minimum due to the location of a recessed fixture adjacent to the water closet.
- Where an administrative authority requires flush controls for flush valves to be located in a position that conflicts with the location of the rear grab bar, then the rear grab bar shall be permitted to be split or shifted to the open side toilet area.

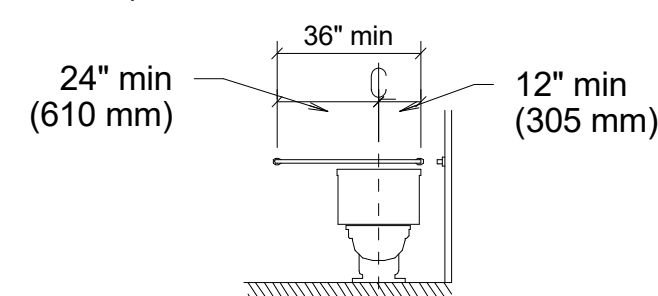


Figure 604.5.2 Rear Wall Grab Bar at Water Closets

604.6 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309. Flush controls shall be located on the open side of the water closet except in ambulatory accessible compartments complying with 604.8.2.

604.7 Dispensers. Toilet paper dispensers shall comply with 309.4 and shall be 7 inches (180 mm) minimum and 9 inches (230 mm) maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be 15 inches (380 mm) minimum and 48 inches (1220 mm) maximum above the finish floor and shall not be located behind grab bars. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow.

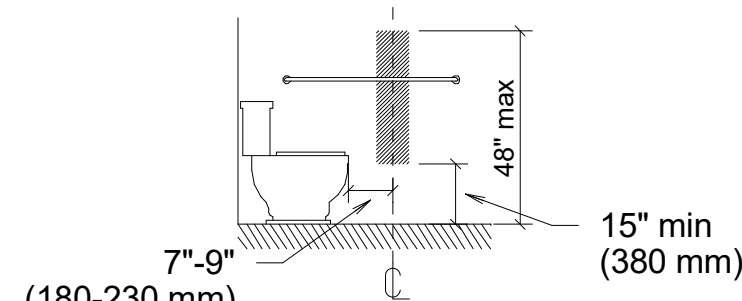


Figure 604.7 Dispenser Outlet Location

604.8 Toilet Compartments. Wheelchair accessible toilet compartments shall meet the requirements of 604.8.1 and

604.8.3. Compartments containing more than one plumbing fixture shall comply with 603. Ambulatory accessible compartments shall comply with 604.8.2 and 604.8.3.

604.8.1 Wheelchair Accessible Compartments. Wheelchair accessible compartments shall comply with 604.8.1.

604.8.1.1 Size. Wheelchair accessible compartments shall be 60 inches (1525 mm) wide minimum measured perpendicular to the side wall, and 56 inches (1420 mm) deep minimum for wall hung water closets and 59 inches (1500 mm) deep minimum for floor mounted water closets measured perpendicular to the rear wall. Wheelchair accessible compartments for children's use shall be 60 inches (1525 mm) wide minimum measured perpendicular to the side wall, and 59 inches (1500 mm) deep minimum for wall hung and floor mounted water closets measured perpendicular to the rear wall.

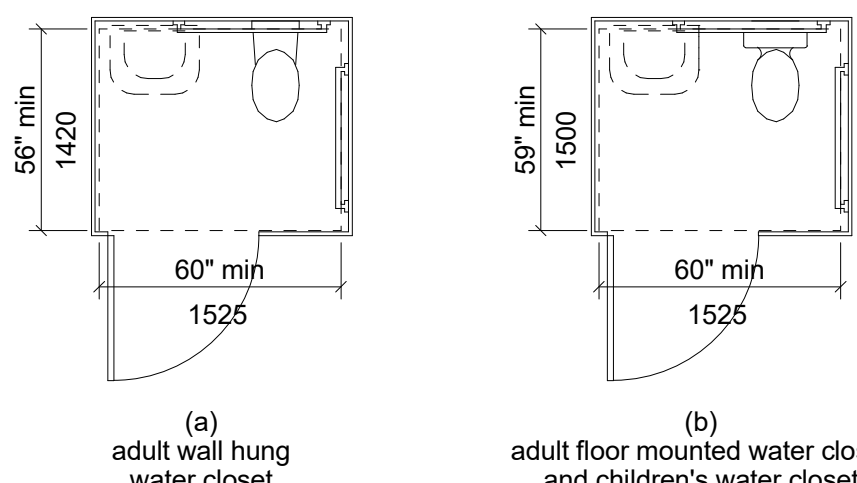


Figure 604.8.1.1 Size of wheelchair Accessible Toilet Compartment

604.8.1.2 Doors. Toilet compartment doors, including door hardware, shall comply with 404 except that if the approach is to the latch side of the compartment door, clearance between the door side of the compartment and any obstruction shall be 42 inches (1065 mm) minimum. Doors shall be located in the front partition or in the side wall or partition farthest from the water closet. Where located in the front partition, the door opening shall be 4 inches (100 mm) maximum from the side wall or partition farthest from the water closet. Where located in the side wall or partition, the door opening shall be 4 inches (100 mm) maximum from the front partition. The door shall be self-closing. A door pull complying with 404.2.7 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the minimum required compartment area.

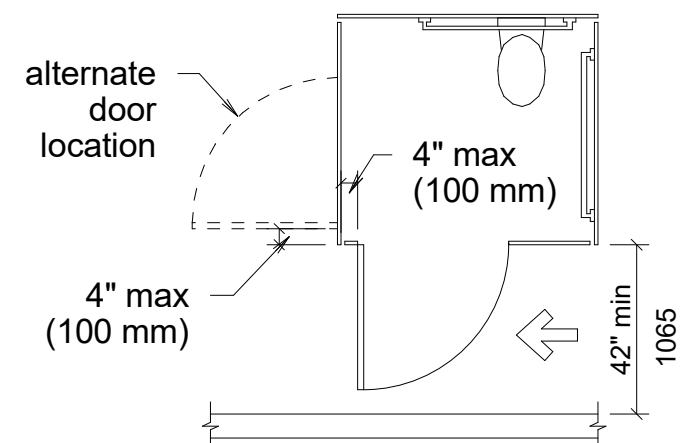


Figure 604.8.1.2 Wheelchair Accessible Toilet Compartment Doors

604.8.1.3 Approach. Compartments shall be arranged for left-hand or right-hand approach to the water closet.

604.8.1.5 Grab Bars. Grab bars shall comply with 609. A side-wall grab bar complying with 604.5.1 shall be provided and shall be located on the wall closest to the water closet. In addition, a rear-wall grab bar complying with 604.8.2

604.8.2 Ambulatory Accessible Compartments. Ambulatory accessible compartments shall comply with 604.8.2.

604.8.2.1 Size. Ambulatory accessible compartments shall have a depth of 60 inches (1525 mm) minimum and a width of 35 inches (890 mm) minimum and 37 inches (940 mm) maximum.

604.8.2.2 Doors. Toilet compartment doors, including door hardware, shall comply with 404, except that if the approach is to the latch side of the compartment door, clearance between the door side of the compartment and any obstruction shall be 42 inches (1065 mm) minimum. The door shall be self-closing. A door pull complying with 404.2.7 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the minimum required compartment area.

604.8.2.3 Grab Bars. Grab bars shall comply with 609. A side-wall grab bar complying with 604.5.1 shall be provided on both sides of the compartment.

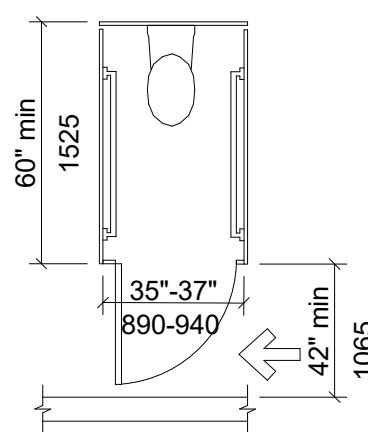


Figure 604.8.1.2 Wheelchair Accessible Toilet Compartment Doors

604.8.3 Coat Hooks and Shelves. Coat hooks shall be located within one of the reach ranges specified in 308. Shelves shall be located 40 inches (1015 mm) minimum and 48 inches (1220 mm) maximum above the finish floor.

604.9 Water Closets and Toilet Compartments for Children's Use. Water closets and toilet compartments for children's use shall comply with 604.9.

Advisory Specifications for Water Closets Serving Children Ages 3 through 12			
	Ages 3 and 4	Ages 5 through 8	Ages 9 through 12
Water Closet Centerline	12 inches (305 mm)	12 to 15 inches (305 to 380 mm)	15 to 18 inches (380 to 455 mm)
Toilet Seat Height	11 to 12 inches (280 to 305 mm)	12 to 15 inches (305 to 380 mm)	15 to 17 inches (380 to 430 mm)
Grab Bar Height	18 to 20 inches (455 to 510 mm)	20 to 25 inches (510 to 635 mm)	25 to 27 inches (635 to 685 mm)
Dispenser Height	1 inches (355 mm)	14 to 17 inches (355 to 430 mm)	17 to 19 inches (430 to 485 mm)

604.9.1 Location. The water closet shall be located with a wall or partition to the rear and to one side. The centerline of the water closet shall be 12 inches (305 mm) minimum and 18 inches (455 mm) maximum from the side wall or partition, except that the water closet shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum from the side wall or partition in the ambulatory accessible toilet compartment specified in 604.8.2. Compartments shall be arranged for left-hand or right-hand approach to the water closet.

604.9.2 Clearance. Clearance around a water closet shall comply with 604.3.

604.9.3 Height. The height of water closets shall be 11 inches (280 mm) minimum and 17 inches (430 mm) maximum measured to the top of the seat. Seats shall not be sprung to return to a lifted position.

604.9.4 Grab Bars. Grab bars for water closets shall comply with 604.5.

604.9.5 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309.2 and 309.4 and shall be installed 36 inches (915 mm) maximum above the finish floor. Flush controls shall be located on the open side of the water closet except in ambulatory accessible compartments complying with 604.8.2.

604.9.6 Dispensers. Toilet paper dispensers shall comply with 309.4 and shall be 7 inches (180 mm) minimum and 9 inches (230 mm) maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be 14 inches (355 mm) minimum and 19 inches (485 mm) maximum above the finish floor. There shall be a clearance of 1 1/2 inches (38 mm) minimum below the grab bar. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow.

604.9.7 Toilet Compartments. Toilet compartments shall comply with 604.8.

605 Urinals

605.2 Height and Depth. Urinals shall be the stall-type or the wall-hung type with the rim 17 inches (430 mm) maximum above the finish floor or ground. Urinals shall be 13 1/2 inches (345 mm) deep minimum measured from the outer face of the urinal rim to the back of the fixture.

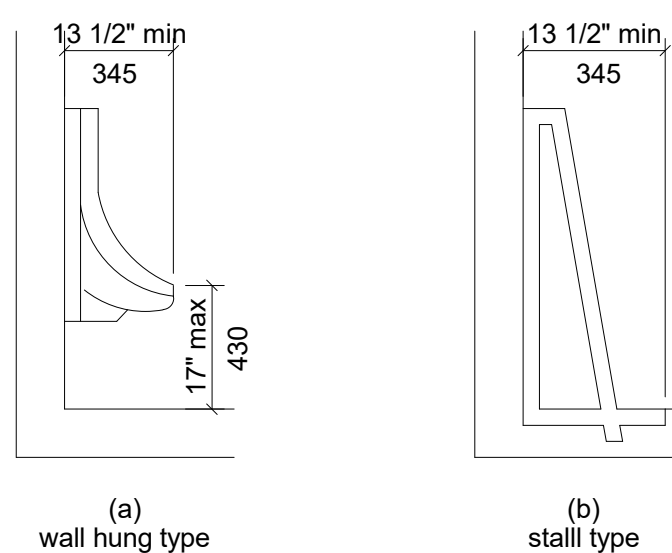


Figure 605.2 Height and Depth of Urinals

605.3 Clear Floor Space. A clear floor or ground space complying with 305 positioned for forward approach shall be provided.

605.4 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309.

606 Lavatories and Sinks

606.2 Clear Floor Space. A clear floor space complying with 305, positioned for a forward approach, and knee and toe clearance complying with 306 shall be provided.

606.3 Height. Lavatories and sinks shall be installed with the front of the higher of the rim or counter surface 34 inches (865 mm) maximum above the finish floor or ground.

606.4 Faucets. Controls for faucets shall comply with 309. Hand-operated metering faucets shall remain open for 10 seconds minimum.

606.5 Exposed Pipes and Surfaces. Water supply and drain pipes under lavatories and sinks shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories and sinks.

607 Bathtubs

607.2 Clearance. Clearance in front of bathtubs shall extend the length of the bathtub and shall be 30 inches (760 mm) wide minimum. A lavatory complying with 606 shall be permitted at the control end of the clearance. Where a permanent seat is provided at the head end of the bathtub, the clearance shall extend 12 inches (305 mm) minimum beyond the wall at the head end of the bathtub.

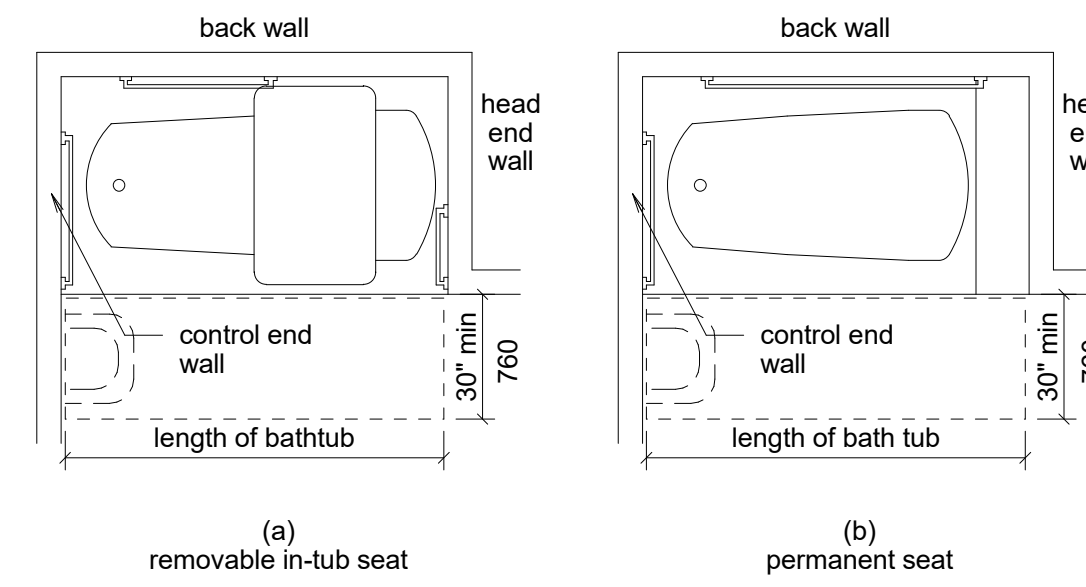


Figure 607.2 Clearance for Bathtubs

607.3 Seat. A permanent seat at the head end of the bathtub or a removable in-tub seat shall be provided. Seats shall comply with 610.

607.4 Grab Bars. Grab bars for bathtubs shall comply with 609 and shall be provided in accordance with 607.4.1 or 607.4.2.

607.4.1 Bathtubs With Permanent Seats. For bathtubs with permanent seats, grab bars shall be provided in accordance with 607.4.1.

607.4.1.1 Back Wall. Two grab bars shall be installed on the back wall, one located in accordance with 609.4 and the other located 8 inches (205 mm) minimum and 10 inches (255 mm) maximum above the rim of the bathtub. Each grab bar shall be installed 15 inches (380 mm) maximum from the head end wall and 12 inches (305 mm) maximum from the control end wall.

607.4.1.2 Control End Wall. A grab bar 24 inches (610 mm) long minimum shall be installed on the control end wall at the front edge of the bathtub.

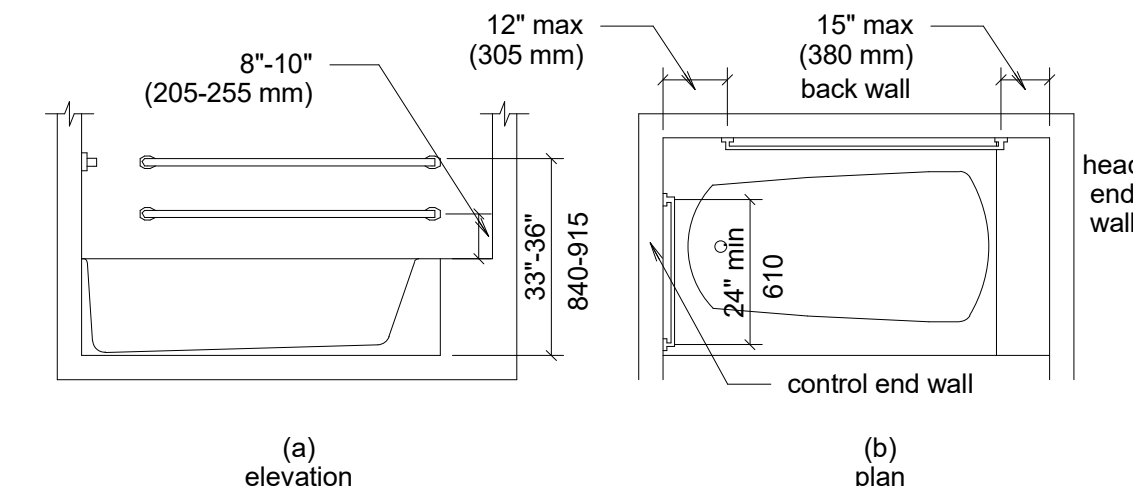


Figure 607.4.1 Grab Bars for Bathtubs with Permanent Seats

607.4.2 Bathtubs Without Permanent Seats. For bathtubs without permanent seats, grab bars shall comply with 607.4.2.

607.4.2.1 Back Wall. Two grab bars shall be installed on the back wall, one located in accordance with 609.4 and other located 8 inches (205 mm) minimum & 10 inches (255 mm) maximum above the rim of the bathtub. Each grab bar shall be 24 inches (610 mm) long minimum and shall be installed 24 inches (610 mm) maximum from the head end wall and 12 inches (305 mm) maximum from the control end wall.

607.4.2.2 Control End Wall. A grab bar 24 inches (610 mm) long minimum shall be installed on the control end wall at the front edge of the bathtub.

607.4.2.3 Head End Wall. A grab bar 12 inches (305 mm) long minimum shall be installed on the head end wall at the front edge of the bathtub.

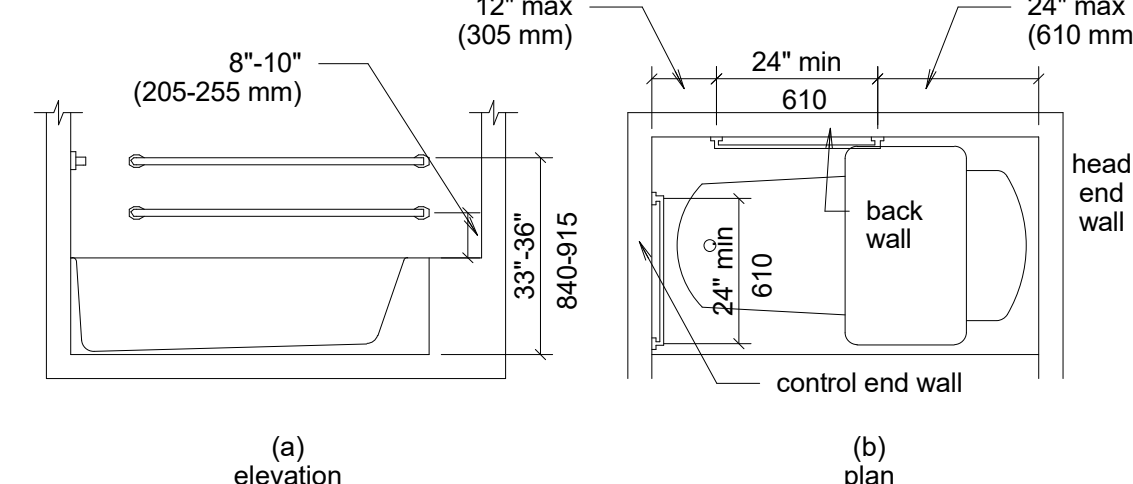


Figure 607.4.1 Grab Bars for Bathtubs with Removable In-Tub Seats

607.5 Controls. Controls, other than drain stoppers, shall be located on an end wall. Controls shall be between the bathtub rim and grab bar, and between the open side of the bathtub and the centerline of the width of the bathtub. Controls shall comply with 309.4.

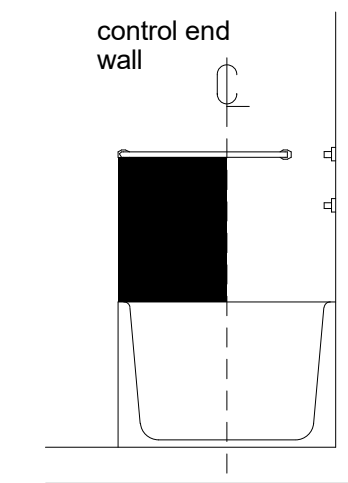


Figure 607.5 Bathtub Control Location

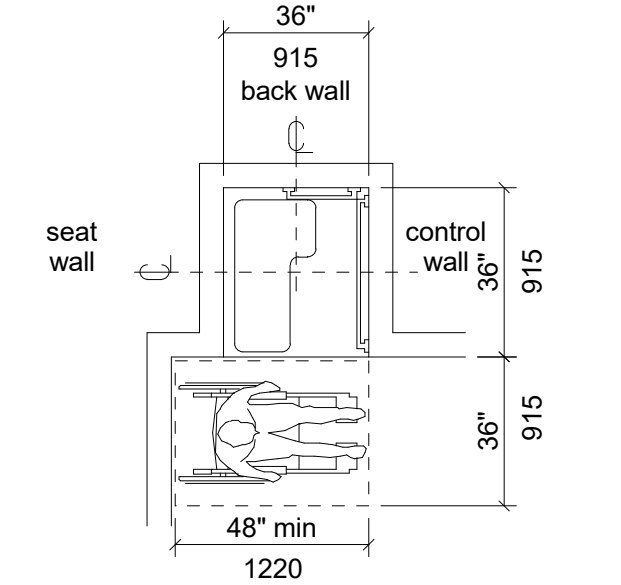
607.6 Shower Spray Unit and Water. A shower spray unit with a hose 59 inches (1500 mm) long minimum that can be used both as a fixed-position shower head and as a hand-held shower shall be provided. The shower spray unit shall have an on/off control with a non-positive shut-off. If an adjustable-height shower head on a vertical bar is used, the bar shall be installed so as not to obstruct the use of grab bars. Bathtub shower spray units shall deliver water that is 120F (49C) maximum.

607.7 Bathtub Enclosures. Enclosures for bathtubs shall not obstruct controls, faucets, shower and spray units or obstruct transfer from wheelchairs onto bathtub seats or into bathtubs. Enclosures on bathtubs shall not have tracks installed on the rim of the open face of the bathtub.

608 Shower Compartments

608.2 Size and Clearances for Shower Compartments. Shower compartments shall have sizes and clearances complying with 608.2.

608.2.1 Transfer Type Shower Compartments. Transfer type shower compartments shall be 36 inches (915 mm) by 36 inches (915 mm) clear inside dimensions measured at the center points of opposing sides and shall have a 36 inch (915 mm) wide minimum entry on the face of the shower compartment. Clearance of 36 inches (915 mm) wide minimum by 48 inches (1220 mm) long minimum measured from the control wall shall be provided.



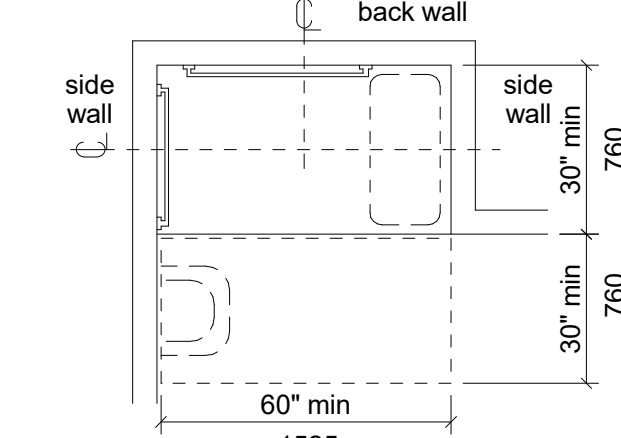
NOTE: Inside finished dimensions measured at the center point of opposing sides

Figure 608.2.1 Transfer Type Shower Compartment Size and Clearance

608.2.2 Standard Roll-In Type Shower Compartments. Standard roll-in type shower compartments shall be 30 inches (760 mm) wide minimum by 60 inches (1525 mm) deep minimum clear inside dimensions measured at center points of opposing sides and shall have a 60 inches (1525 mm) wide minimum entry on the face of the shower compartment.

608.2.2.1 Clearance. A 30 inch (760 mm) wide minimum by 60 inch (1525 mm) long minimum clearance shall be provided adjacent to the open face of the shower compartment.

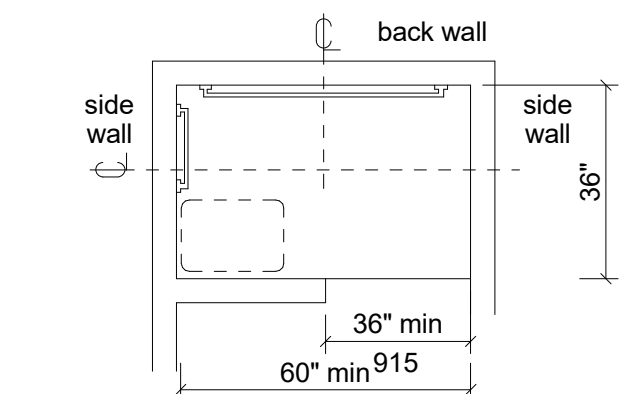
EXCEPTION: A lavatory complying with 606 shall be permitted on one 30 inch (760 mm) wide minimum side of the clearance provided that it is not on the side of the clearance adjacent to the controls or, where provided, not on the side of the clearance adjacent to the shower seat.



NOTE: Inside finished dimensions measured at the center point of opposing sides

Figure 608.2.2 Standard Roll-In Type Shower Compartment Size and Clearance

608.2.3 Alternate Roll-In Type Shower Compartments. Alternate roll-in type shower compartments shall be 36 inches (915 mm) wide and 60 inches (1525 mm) deep minimum clear inside dimensions measured at center points of opposing sides. A 36 inch (915 mm) wide minimum entry shall be provided at one end of the long side of the compartment.



NOTE: Inside finished dimensions measured at the center point of opposing sides

Figure 608.2.3 Alternate Roll-In Type Shower Compartment Size and Clearance 608.3 Grab Bars. Grab bars shall comply with 609 and shall be provided in accordance with 608.3. Where multiple grab bars are used, required horizontal grab bars shall be installed at the same height above the finish floor.

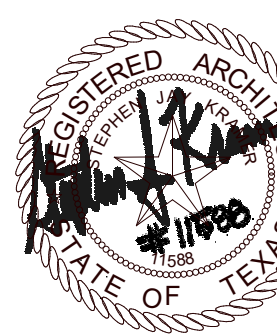
EXCEPTIONS:

- Grab bars shall not be required to be installed in a shower located in a bathing facility for a single occupant accessed only through a private office, and not for common use or public use provided that reinforcement has been installed in located so as to permit the installation of grab bars complying with 608.3.
- In residential dwelling units, grab bars shall not be required to be installed in showers located in bathing facilities provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complyin 608.3.

608.3.1 Transfer Type Shower Compartments. In transfer type compartments, grab bars shall be provided across the control wall and back wall to a point 18 inches (455 mm) from the control wall.



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07/05/22

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Issue:

Sheet Name:
ACCESS.
STANDARDS

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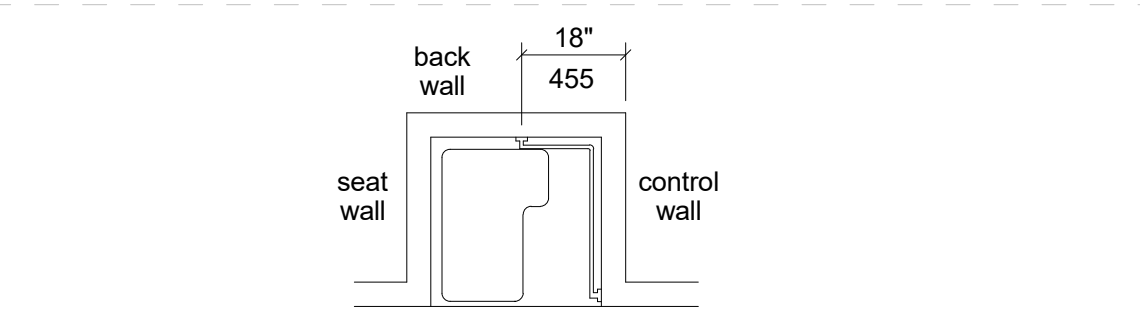


Figure 608.3.1 Grab Bars for Transfer Type Showers

608.3.2 Standard Roll-In Type Shower Compartments. Where a seat is provided in standard roll-in type shower compartments, grab bars shall be provided on the back wall and the side wall opposite the seat. Grab bars shall not be provided above the seat. Where a seat is not provided in standard roll-in type shower compartments, grab bars shall be provided on three walls. Grab bars shall be installed 6 inches (150 mm) maximum from adjacent walls.

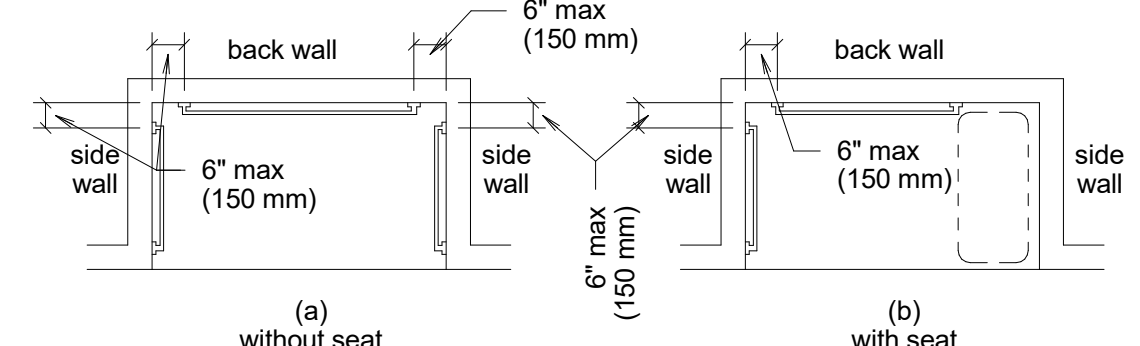


Figure 608.3.2 Grab Bars for Standard Roll-In Type Showers

608.3.3 Alternate Roll-In Type Shower Compartments. In alternate roll-in type shower compartments, grab bars shall be provided on the back wall and the side wall farthest from the compartment entry. Grab bars shall not be provided above the seat. Grab bars shall be installed 6 inches (150 mm) maximum from adjacent walls.

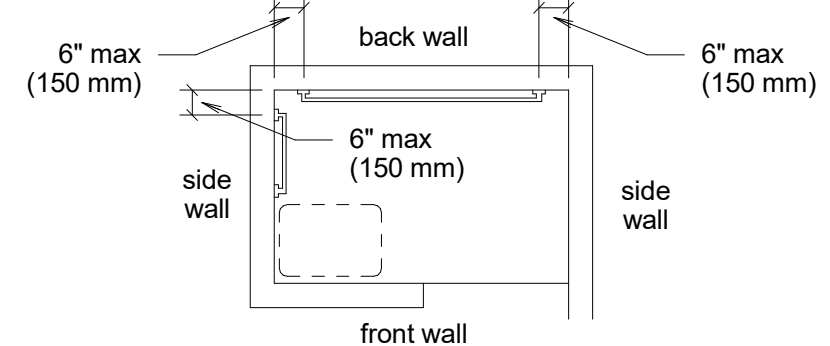


Figure 608.3.3 Grab Bars for Alternate Roll-In Type Showers

608.4 Seats. A folding or non-folding seat shall be provided in transfer type shower compartments. A folding seat shall be provided in roll-in type showers required in transient lodging guest rooms with mobility features complying with 806.2. Seats shall comply with 610.

EXCEPTION: In residential dwelling units, seats shall not be required in transfer type shower compartments provided that reinforcement has been installed in walls so as to permit the installation of seats complying with 608.4.

608.5 Controls. Controls, faucets, and shower spray units shall comply with 309.4.

608.5.1 Transfer Type Shower Compartments. In transfer type shower compartments, the controls, faucets, and shower spray unit shall be installed on the side wall opposite the seat 38 inches (965 mm) minimum and 48 inches (1220 mm) maximum above the shower floor and shall be located on the control wall 15 inches (380 mm) maximum from the centerline of the seat toward the shower opening.

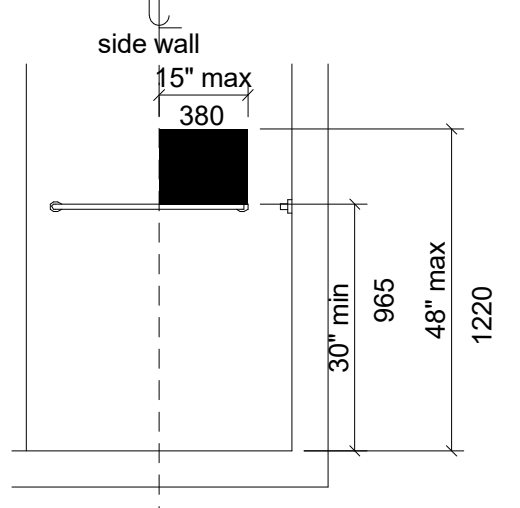


Figure 608.5.1 Transfer Type Shower Compartment Control Location

608.5.2 Standard Roll-In Type Shower Compartments. In standard roll-in type shower compartments, the controls, faucets, and shower spray unit shall be located above the grab bar, but no higher than 48 inches (1220 mm) above the shower floor. Where a seat is provided, the controls, faucets, and shower spray unit shall be installed on the back wall adjacent to the seat wall and shall be located 27 inches (685 mm) maximum from the seat wall.

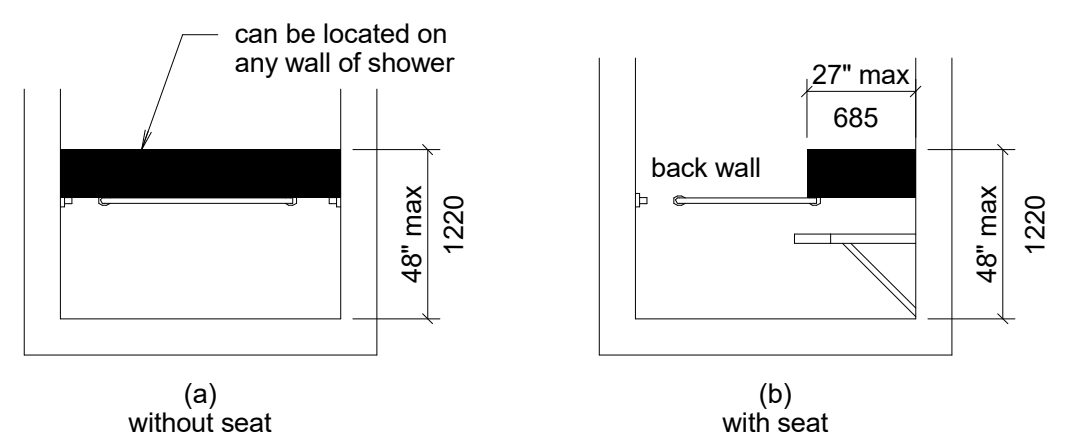


Figure 608.5.2 Standard Roll-In Type Shower Compartment Control Location

608.5.3 Alternate Roll-In Type Shower Compartments. In alternate roll-in type shower compartments, the controls, faucets, and shower spray unit shall be located above the grab bar, but no higher than 48 inches (1220 mm) above the shower floor. Where a seat is provided, the controls, faucets, and shower spray unit shall be located on the side wall adjacent to the seat 27 inches (685 mm) maximum from the side wall behind the seat or shall be located on the back wall opposite the seat 15 inches (380 mm) maximum, left or right, of the centerline of the seat. Where a seat is not provided, the controls, faucets, and shower spray unit shall be installed on the side wall farthest from the compartment entry.

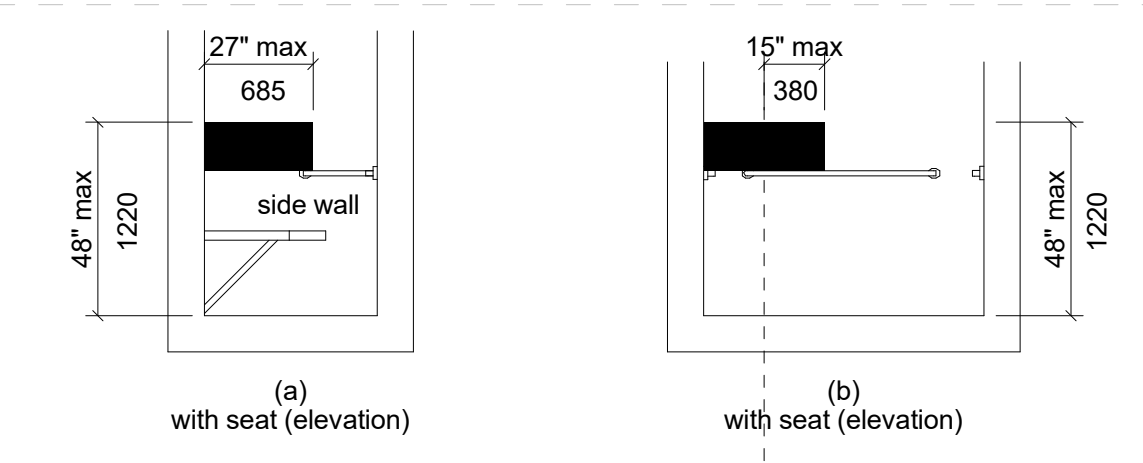


Figure 608.5.3 Alternate Roll-In Type Shower Compartment Control Location

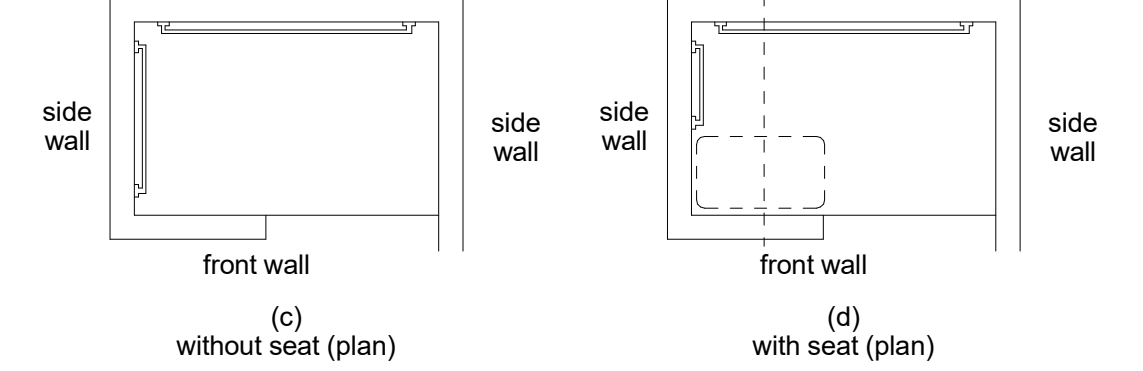


Figure 608.5.3 Alternate Roll-In Type Shower Compartment Control Location

608.6 Shower Spray Unit and Water. A shower spray unit with a hose 59 inches (1500 mm) long minimum that can be used both as a fixed-position shower head and as a hand-held shower shall be provided. The shower spray unit shall have an on/off control with a non-positive shut-off. If an adjustable-height shower head on a vertical bar is used, the bar shall be installed so as not to obstruct the use of grab bars. Shower spray units shall deliver water that is 120F (49C) maximum.

EXCEPTION: A fixed shower head located at 48 inches (1220 mm) maximum above the shower finish floor shall be permitted instead of a hand-held spray unit in facilities that are not medical care facilities, long-term care facilities, transient lodging guest rooms, or residential dwelling units.

608.7 Thresholds. Thresholds in roll-in type shower compartments shall be 1/2 inch (13 mm) high maximum in accordance with 303. In transfer type shower compartments, thresholds 1/2 inch (13 mm) high maximum shall be beveled, rounded, or vertical.

608.8 Shower Enclosures. Enclosures for shower compartments shall not obstruct controls, faucets, and shower spray units or obstruct transfer from wheelchairs onto shower seats.

609 Grab Bars

609.2 Cross Section. Grab bars shall have a cross section complying with 609.2.1 or 609.2.2.

609.2.1 Circular Cross Section. Grab bars with circular cross sections shall have an outside diameter of 1 1/4 inches (32 mm) minimum and 2 inches (51 mm) maximum.

609.2.2 Non-Circular Cross Section. Grab bars with non-circular cross sections shall have a cross-section dimension of 2 inches (51 mm) maximum and a perimeter dimension of 4 inches (100 mm) minimum and 4.8 inches (120 mm) maximum.

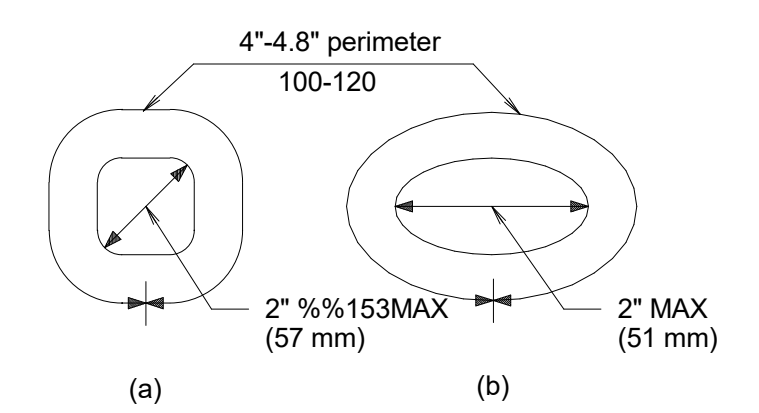


Figure 609.2.2 Grab Bar Non-Circular Cross Section 609.3 Spacing. The space between the wall and the grab bar shall be 1 1/2 inches (38 mm). The space between the grab bar and projecting objects below and at the ends shall be 1 1/2 inches (38 mm) minimum. The space between the grab bar and projecting objects above shall be 12 inches (305 mm) minimum.

EXCEPTION: The space between the grab bars and shower controls, shower fittings, and other grab bars above shall be permitted to be 1 1/2 inches (38 mm) minimum.

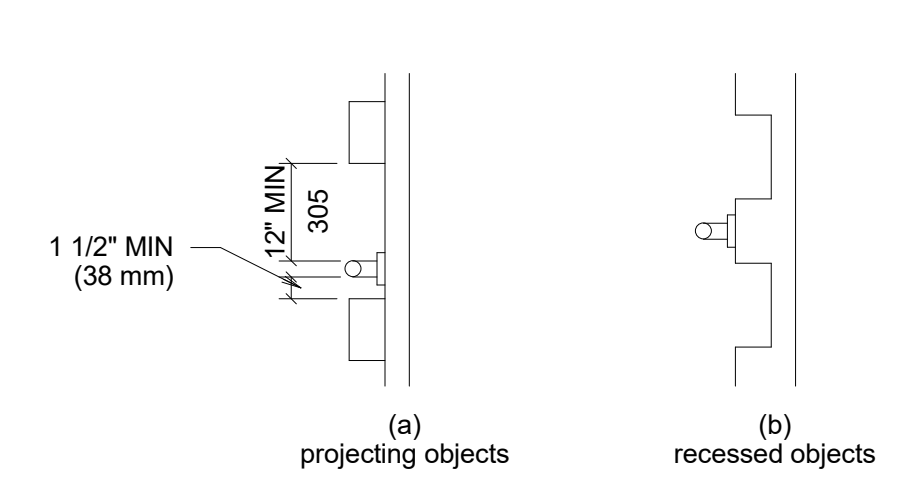


Figure 609.3 Spacing of Grab Bars

609.4 Position of Grab Bars. Grab bars shall be installed in a horizontal position, 33 inches (840 mm) minimum and 36 inches (915 mm) maximum above the finish floor measured to the top of the gripping surface, except that at water closets for children's use complying with 604.9, grab bars shall be installed in a horizontal position 18 inches (455 mm) minimum and 27 inches (685 mm) maximum above the finish floor measured to the top of the gripping surface. The height of the lower grab bar on the back wall of a bathtub shall comply with 607.4.1.1 or 607.4.2.1.

609.5 Surface Hazards. Grab bars and any wall or other surfaces adjacent to grab bars shall be free of sharp or abrasive elements and shall have rounded edges.

609.6 Fittings. Grab bars shall not rotate within their fittings.

609.7 Installation. Grab bars shall be installed in any manner that provides a gripping surface at the specified locations and that does not obstruct the required clear floor space.

609.8 Structural Strength. Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 pounds (1112 N) is applied at any point on the grab bar, fastener, mounting device, or supporting structure.

610 Seats

610.2 Bathtub Seats. The top of bathtub seats shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the bathroom finish floor. The depth of a removable in-tub seat shall be 15 inches (380 mm) minimum and 16 inches (405 mm) maximum. The seat shall be capable of secure placement. Permanent seats at the head end of the bathtub shall be 15 inches (380 mm) deep minimum and shall extend from the back wall to or beyond the outer edge of the bathtub.

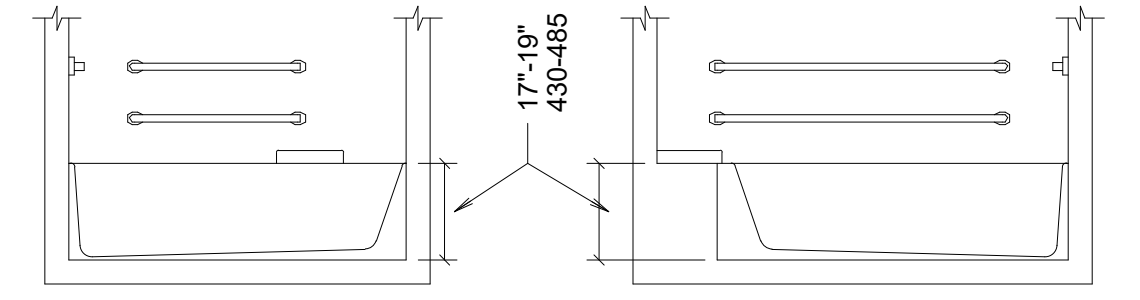


Figure 610.2 Bathtub Seats

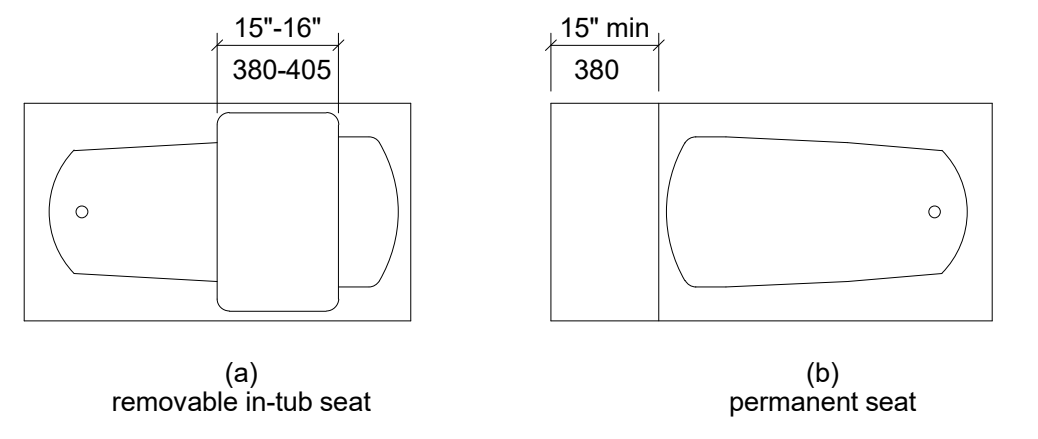


Figure 610.2 Bathtub Seats (continued)

610.3 Shower Compartment Seats. Where a seat is provided in a standard roll-in shower compartment, it shall be a folding type, shall be installed on the side wall adjacent to the controls, and shall extend from the back wall to a point within 3 inches (75 mm) of the compartment entry. Where a seat is provided in an alternate roll-in type shower compartment, it shall be a folding type, shall be installed on the front wall opposite the back wall, and shall extend from the adjacent side wall to a point within 3 inches (75 mm) of the compartment entry. In transfer-type showers, the seat shall extend from the back wall to a point within 3 inches (75 mm) of the compartment entry. The top of the seat shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the bathroom finish floor. Seats shall comply with 610.3.1 or 610.3.2.

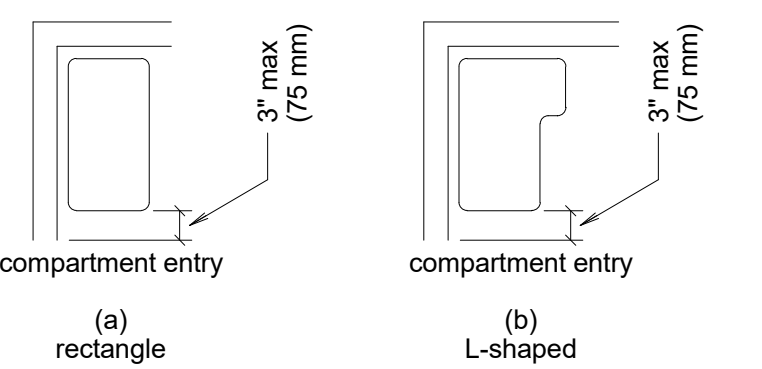


Figure 610.3 Extent of Seat 610.3.1 Rectangular Seats. The rear edge of a rectangular seat shall be 2 1/2 inches (64 mm) maximum and the front edge 15 inches (380 mm) minimum and 16 inches (405 mm) maximum from the seat wall. The side edge of the seat shall be 1 1/2 inches (38 mm) maximum from the adjacent wall.

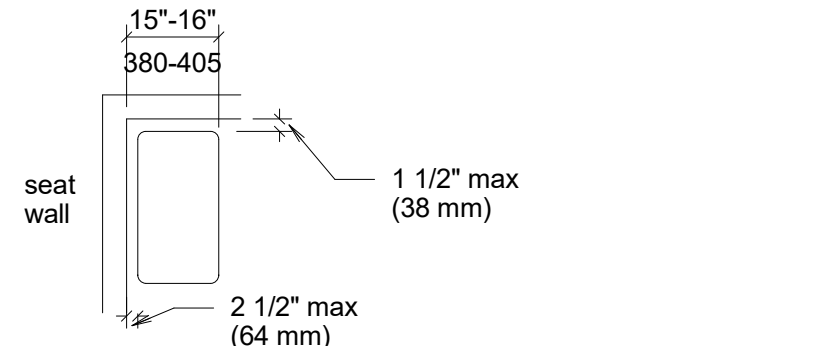


Figure 610.3.1 Rectangular Shower Seat 610.3.2 L-Shaped Seats. The rear edge of an L-shaped seat shall be 2 1/2 inches (64 mm) maximum and the front edge 15 inches (380 mm) minimum and 16 inches (405 mm) maximum from the seat wall. The rear edge of the "L" portion of the seat shall be 1 1/2 inches (38 mm) maximum from the wall and the front edge shall be 14 inches (355 mm) minimum and 15 inches (380 mm) maximum from the wall. The end of the "L" shall be 22 inches (560 mm) minimum and 23 inches maximum (585 mm) from the main seat wall.

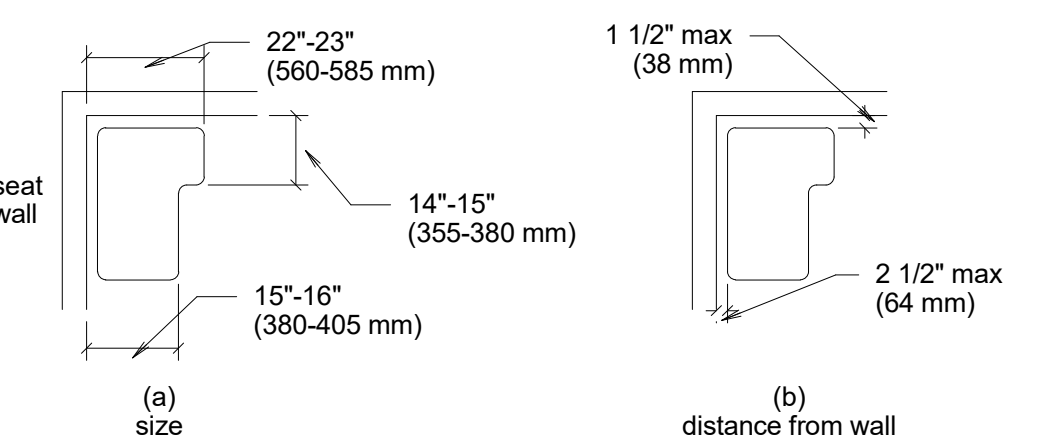


Figure 610.3.2 L-Shaped Shower Seat

610.4 Structural Strength. Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 pounds (1112 N) is applied at any point on the seat, fastener, mounting device, or supporting structure.

611 Washing Machines and Clothes Dryers

611.2 Clear Floor Space. A clear floor or ground space complying with 305 positioned for parallel approach shall be provided. The clear floor or ground space shall be centered on the appliance.

611.3 Operable Parts. Operable parts, including doors, lint screens, and detergent and bleach compartments shall comply with 309.

611.4 Height. Top loading machines shall have the door to the laundry compartment located 36 inches (915 mm) maximum above the finish floor. Front loading machines shall have the bottom of the opening to the laundry compartment located 15 inches (380 mm) minimum and 36 inches (915 mm) maximum above the finish floor.

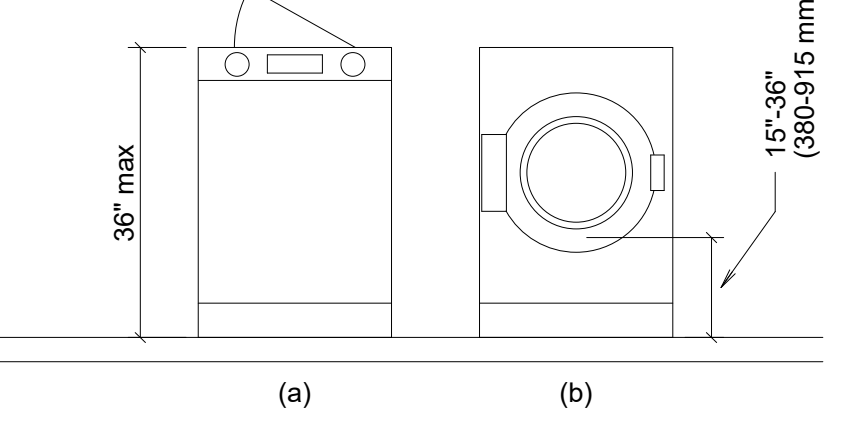


Figure 611.4 Height of Laundry Compartment Opening

702 Fire Alarm Systems

702.1 General. Fire alarm systems shall have permanently installed audible and visible alarms complying with NFPA 72 (1999 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1), except that the maximum allowable sound level of audible notification appliances complying with section 4-3.2.1 of NFPA 72 (1999 edition) shall have a sound level no more than 110dB at the minimum hearing distance from the audible appliance. In addition, alarms in guest rooms required to provide communication features shall comply with sections 4-3 and 4-4 of NFPA 72 (1999 edition) or sections 7.4 and 7.5 of NFPA 72 (2002 edition).

EXCEPTION: Fire alarm systems in medical care facilities shall be permitted to be provided in accordance with industry practice.

703 Signs

703.1 General. Signs shall comply with 703. Where both visual and tactile characters are required, either one sign with both visual and tactile characters, or two separate signs, one with visual, and one with tactile characters, shall be provided.

703.4.1 Height Above Finish Floor or Ground. Tactile characters on signs shall be located 48 inches (1220 mm) minimum above the finish floor or ground surface, measured from the baseline of the lowest tactile character and 60 inches (1525 mm) maximum above the finish floor or ground surface, measured from the baseline of the highest tactile character.

EXCEPTION: Tactile characters for elevator car controls shall not be required to comply with 703.4.1.

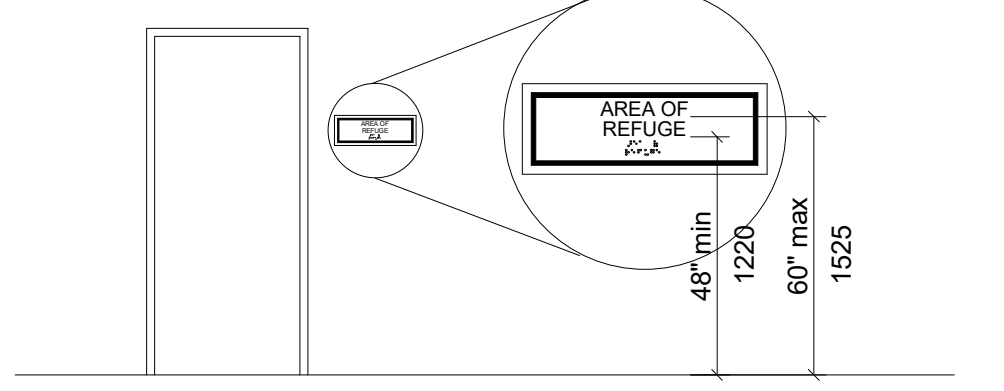


Figure 703.4.1 Height of Tactile Characters Above Finish Floor or Ground

703.4.2 Location. Where a tactile sign is provided at a door, the sign shall be located alongside the door at the latch side. Where a tactile sign is provided at double doors with one active leaf, the sign shall be located on the inactive leaf. Where a tactile sign is provided at double doors with two active leaves, the sign shall be located to the right of the right hand door. Where there is no wall space at the latch side of a single door or at the right side of double doors, signs shall be located on the nearest adjacent wall. Signs containing tactile characters shall be located so that a clear floor space of 18 inches (455 mm) minimum by 18 inches (455 mm) minimum, centered on the tactile characters, is provided beyond the arc of any door swing between the closed position and 45 degree open position.

EXCEPTION: Signs with tactile characters shall be permitted on the push side of doors with closers and without hold-open devices.

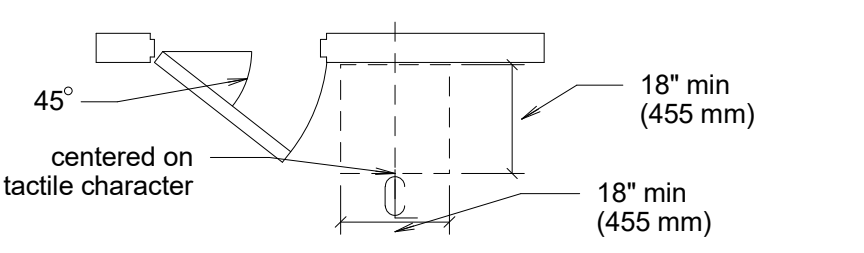


Figure 703.4.2 Location of Tactil Signs at Doors

MEP LEGENDS:

	RECTANGULAR STEEL DUCTWORK (WIDTH/HEIGHT IN INCHES)
	RECTANGULAR DUCT IN SECTION, SUPPLY AIR
	RECTANGULAR DUCT IN SECTION, RETURN AIR
	ROUND STEEL DUCTWORK, DIAMETER SHOWN IN INCHES
	ROUND DUCT IN SECTION, RETURN AIR
	ROUND DUCT IN SECTION, SUPPLY AIR
	FLEXIBLE ROUND DUCTWORK, SIZES SHOWN ON GRILLE SCHEDULE.
	RECTANGULAR SUPPLY TRUNK DUCT WITH ROUND BRANCH TAP, MANUAL BALANCING DAMPER AND FLEXIBLE DUCT CONNECTION.
	DUCT MOUNTED BALANCING DAMPER WITH MANUAL LOCKING LEVER
	DUCT OFFSET TO AVOID INTERFERENCES, DIRECTION SHOWN, SEE DETAILS
	FACTORY HVAC UNIT OR EQUIPMENT, MARK SHOWN, SEE SCHEDULES
	DUCT FLEXIBLE CONNECTION TO EQUIPMENT OR PLENUM, SEE SPECS.
	CEILING LAY-IN SUPPLY AIR DIFFUSER, TYPE, CFM, AND AIR FLOW DIRECTION SHOWN, SEE SCHEDULES.
	CEILING LAY-IN RETURN, EXHAUST OR TRANSFER AIR GRILLE, TYPE AND AIR FLOW DIRECTION SHOWN, SEE SCHEDULES.
	CEILING LAY-IN RETURN, EXHAUST OR TRANSFER GRILLE WITH RECTANGULAR DUCT CONNECTION ABOVE, DUCT SIZE, GRILLE TYPE, AND AIR FLOW DIRECTION SHOWN.
	ROUND SUPPLY AIR GRILLE WITH SPIRAL ROUND DUCT CONNECTION, TYPE SHOWN, SEE SCHEDULE.
	BARAMETRIC RELIEF DAMPER, DUCT MOUNTED, SPRING ASSISTED
	MOTORIZED BACKDRAFT OR CONTROL DAMPER, SEE CONTROLS DIAGRAM
	WALL MOUNTED THERMOSTAT AT 50° AFF. SEE SPECS AND CONTROL DETAILS
	REMOTE MOUNTED TEMP SENSOR CONNECTED TO THERMOSTAT. SEE SPECS AND CONTROL DETAILS
	WALL MOUNTED HUMIDISTAT AT 50° AFF. SEE SPECS AND CONTROL DETAILS
	DUCT MOUNTED ENTHALPY SENSOR FOR ECONOMIZER CONTROL. SEE SPECS AND CONTROL DETAILS
	DUCT MOUNTED CARBON MONOXIDE (CO2) SENSOR FOR DEMAND VENTILATION CONTROL. SEE SPECS AND CONTROL DETAILS
	DUCT MOUNTED SMOKE DETECTOR FOR UNIT SHUTDOWN AND ALARM. SEE SPECS AND CONTROL DETAILS
	LOW-VOLTAGE CONTROL WIRING, SEE SPECS
	RETURN, EXHAUST OR TRANSFER AIRFLOW DIRECTION
	SUPPLY AIRFLOW DIRECTION
	UNDERCUT DOOR MIN. 1" GAP, AIRFLOW DIRECTION SHOWN
	PIPING, CONDENSATE DRAIN, SLOPED MIN. 1/8" PER FOOT TOWARDS DRAIN, SIZED AS SHOWN.
	NEGATIVE ROOM PRESSURE, CREATED BY AIRFLOW BALANCE AS SHOWN, TRANSFER AIR FLOWS INTO ROOM.
	HOMERUN, 120V/1P/20A CIRCUIT WITH 2 #12 AND #12 GND IN 1/2" CONDUIT, PANEL AND CIRCUIT NUMBER SHOWN.
	HOMERUN, 208V/2P CIRCUIT HOME RUN WITH 2 HOTS AND GND, PANEL AND CIRCUIT NO'S SHOWN.
	HOMERUN, 208V/3P CIRCUIT HOME RUN WITH 3 HOTS AND GND, PANEL AND CIRCUIT NO'S SHOWN.
	ELECTRICAL CONDUIT AND WIRE OR CABLES IN WALLS OR ABOVE CEILINGS
	ELECTRICAL CONDUIT AND WIRE UNDERGROUND OR BELOW FLOOR WITH POWER CIRCUIT, SEE SCHEDULES.
	DATA CONDUIT AND PULL STRING BELOW FLOOR FOR FUTURE INSTALLATION OF DATA CABLE BY OTHERS.
	PHOTOCELL SWITCH FOR LIGHTING CONTROLS, SEE DETAILS
	OCCUPANCY SENSOR, CEILING MOUNTED, WIRED IN SERIES WITH LIGHT SWITCH
	LIGHT SWITCH AT 48" ABOVE FINISHED FLOOR
	3-WAY LIGHT SWITCH AT 48" ABOVE FINISHED FLOOR
	OCCUPANCY/LIGHT SWITCH AT 48" ABOVE FINISHED FLOOR
	MOTOR RATED TOGGLE SWITCH IN SUITABLE BOX WITH COVER
	DUPLEX RECEPTACLE AT 42" ABOVE FLOOR, OR AS NOTED.
	DUPLEX RECEPTACLE, GFI TYPE. AT 42" ABOVE FLOOR, OR AS NOTED.
	DUPLEX RECEPTACLE, GFI TYPE IN WEATHERPROOF BOX WITH COVER, MIN. 24" ABOVE GRADE.
	QUAD RECEPTACLE AT 12" AFF.
	QUAD RECEPTACLE AT 12" AFF, GFI PROTECTED WHERE SHOWN.
	240V RECEPTACLE AT 42" AFF, AMP RATING SHOWN.
	JUNCTION BOX
	ELECTRICAL PANELBOARD, LABEL SHOWN
	DISCONNECT SWITCH, FUSED OR NON-FUSED, SEE SCHEDULES.
	INDOOR LIGHTING TIMER, SEE SPECS AND LIGHTING CONTROL DETAILS.

	OUTDOOR LIGHTING TIMER, SEE SPECS AND LIGHTING CONTROL DETAILS.
	PHOTOCELL SWITCH FOR OUTDOOR LIGHTING CONTROL, SEE DETAILS.
	LIGHTING CONTACTOR, SEE LIGHTING CONTROL DETAILS.
	ELECTRICAL METER
	ELECTRICAL GROUND CONNECTION
	COMBINATION-EXIT FIXTURE/EMERGENCY LIGHT AT 8' AFF, SEE SCHEDULES
	EMERGENCY FIXTURE AT 8' AFF, SEE SCHEDULES
	OUTDOOR EMERGENCY FIXTURE AT 10' AFG, SEE SCHEDULES
	POLE FIXTURE AT 28' AFG, SEE SCHEDULES
	SANITARY DRAIN PIPING UNDER FLOOR INSIDE BUILDING, SLOPE MIN. 1/8" PER FT TOWARDS SEWER CONNECTION.
	SANITARY VENT PIPING, INSTALLED ABOVE CEILINGS OR IN WALLS, SLOPED MIN. 1/8" PER FT TOWARDS DRAIN.
	NEW SANITARY VENT PIPING, INSTALLED UNDER FLOOR BETWEEN WALL AND FIXTURE TRAP ARM, PROVIDE WALL CLEANOUT AS REQUIRED.
	DOMESTIC CW PIPING, ABOVE CEILING OR IN WALLS.
	NEW DOMESTIC HW PIPING, ABOVE CEILING OR IN WALLS.
	1/2" DOMESTIC HOT WATER RE-CIRCULATION PIPING, TYPICAL SOFTENED CW FROM WATER SOFTENER SYSTEM.
	UNDERGROUND OR UNDER FLOOR WATER PIPING, TYPE SHOWN.
	POINT OF CONNECTION TO EXIST PIPING.
	PIPE ELBOW, 90° TURNED DOWN.
	PIPE ELBOW, 90° TURNED UP.
	PIPE TEE, BRANCH TURNED DOWN.
	PIPE TEE, BRANCH TURNED UP.
	VENT STACK UP THRU ROOF, SIZE SHOWN.
	VENT STACK CONNECTION TO WASTE LINE BELOW.
	WASTE STACK UP THROUGH FLOOR.
	CLEANOUT, FLOOR OR GRADE, WITH PROPER COVER.
	WALL CLEANOUT PLUG AND COVER.
	HOSE BIB AT 24" ABOVE FINISHED GRADE, SEE SPECS.
	BALL VALVE, LINE SIZED.
	BACKFLOW PREVENTER OR CHECK VALVE AS NOTED.
	PRESSURE RELIEF VALVE, GAS OR WATER
	THERMOSTATIC MIXING VALVE MV1, MASTER
	THERMOSTATIC MIXING VALVE MV2, POINT OF USE
	BALANCING VALVE OR CIRCUIT SETTER
	PIPE UNION COUPLING
	PIPE FLEXIBLE COUPLING
	HW RECIRCULATION PUMP, SEE SCHEDULES.
	NEW PLUMBING FIXTURE, MARK SHOWN, SEE SCHEDULES
	NEW FLOOR DRAIN OR SINK, MARK SHOWN, SEE SCHEDULES
	EXIST PLUMBING FIXTURE, MARK SHOWN, SEE ABBREVIATIONS
	EXIST FLOOR DRAIN OR SINK
	OWNER FURNISHED EQUIPMENT, TYPE SHOWN.
	MECH OR OWNER FURNISHED EQUIPMENT, MARK SHOWN.
	ROOFTOP MECHANICAL EQUIPMENT, MARK SHOWN.
	DETAIL NUMBER AND SHEET WHERE SHOWN.
	SECTION CUT LINE, DIRECTION ARROW, DETAIL NUMBER AND SHEET WHERE SHOWN.
	NORTH ARROW

MEP ABBREVIATIONS:

A - AMPERES CURRENT
AFF - ABOVE FINISHED FLOOR
AFG - ABOVE FINISHED GRADE
AFI - ARC FAULT INTERRUPTING
AHJ - AUTHORITY HAVING JURISDICTION
ARCH - ARCHITECTURAL
BOD - BOTTOM OF DUCT ABOVE FINISHED FLOOR OR GRADE
BOP - BOTTOM OF PIPE ABOVE FINISHED FLOOR OR GRADE
BTM - BOTTOM
BTU - BRITISH THERMAL UNIT
CB - CIRCUIT BREAKER
CFM - CUBIC FEET PER MINUTE
CO - CLEANOUT, OR COMPANY
CONC - CONCRETE
COND - COLD-CONDENSATE FROM HVAC EQUIPMENT
CU - COPPER
CW - COLD WATER
DDC - DIRECT DIGITAL CONTROLS
DET - DETAIL
DIA - DIAMETER
DN - DOWN
DX - DIRECT EXPANSION
EF - EXHAUST FAN
ENGR - ENGINEER OR ENGINEERING
EXH - EXHAUST
EXIST - EXISTING
FC - FOOTCANDLES, ILLUMINANCE LEVEL
FD - FLOOR DRAIN
FT - FEET
*F - DEGREES FAHRENHEIT
GFI - GROUND FAULT INTERRUPTING
GND - GROUND
GPF - GALLONS PER FLUSH
GPH - GALLONS PER HOUR
GPM - GALLONS PER MINUTE
HW - HOT WATER, DOMESTIC
HVAC - HEATING, VENTILATION AND AIR CONDITIONING
HZ - HERTZ
IE - INVERT ELEVATION, BELOW FINISHED FLOOR LEVEL
IECC - INTERNATIONAL ENERGY CONSERVATION CODE
IFGC - INTERNATIONAL FUEL GAS CODE
IG - ISOLATED GROUND
IN - INCHES
IMC - INTERNATIONAL MECHANICAL CODE
IPC - INTERNATIONAL PLUMBING CODE
JB - JUNCTION BOX
KW - KILOWATT
KVA - KILOVOLT AMPS
LBS - POUNDS
MAX - MAXIMUM
MBH - 1000 BTU PER HOUR
MCA - MINIMUM CIRCUIT AMPACITY
MCB - MAIN CIRCUIT BREAKER
MFG - MANUFACTURER
MIN - MINIMUM
MLO - MAIN LUGS ONLY
MOCPP - MAXIMUM OVERCURRENT PROTECTION
NA - NOT APPLICABLE
NEC - NATIONAL ELECTRIC CODE
NEMA - NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NO - NUMBER
NFDS - NON-FUSED DISCONNECT SWITCH
NEG. - NEGATIVE
OA - OUTSIDE AIR
OE - OVERHEAD ELECTRICAL
OH - OVERHEAD
O&M - OPERATIONS & MAINTENANCE
P - POLE
PH - PHASE
PLCS - PLACES
PSIG - LBS PER SQUARE INCH, GAGE PRESSURE
RA - RETURN AIR
REFR - REFRIGERATOR
SA - SUPPLY AIR
SCA - SHORT CIRCUIT CURRENT AVAILABLE
SQFT - SQUARE FEET
ST - SHUNT TRIP TYPE CIRCUIT BREAKER
TEMP - TEMPERATURE
TYP - TYPICAL
UG - UNDERGROUND
V - VOLTS
VTR - VENT THROUGH ROOF
W - WIRE
WCO - WALL CLEANOUT PLUG AND COVER
WH - WATER HEATER
WP - WEATHERPROOF
XFMR - TRANSFORMER
YR - YEAR

MEP COMMISSIONING PLAN:

- A. PURPOSE:** THIS COMMISSIONING PLAN IS REQUIRED FOR QUALITY CONTROL AND PERFORMANCE VERIFICATIONS. FAILURE TO FULLY IMPLEMENT THIS PLAN MAY RESULT IN POOR QUALITY AND PERFORMANCE OF THE MEP SYSTEMS. THE DRAWINGS AND SPECIFICATIONS ARE TO BE USED AS THE BASIS OF ALL EVALUATIONS.
- B. RESPONSIBILITIES:**
- OWNER:**
 - ENFORCE THE COMMISSIONING PLAN AS PROVIDED.
 - REVIEW AND APPROVE ALL SUBMITTALS, TESTING AND WORK DESCRIBED BELOW.
 - MAINTAIN RECORDS OF ALL COMMISSIONING WORK AND FINAL APPROVALS
 - PROVIDE ENGINEER WITH COPY OF RECORDS AS NEEDED
 - MEP CONTRACTOR:**
 - PERFORM ALL COMMISSIONING WORK LISTED BELOW.
 - OBTAIN OWNER APPROVAL OF ALL SUBMITTALS PRIOR TO ORDERING.
 - OBTAIN OWNER APPROVAL OF ALL STARTUP AND TESTING OF MEP SYSTEMS AND EQUIPMENT
- C. SUBMITTALS:** PRE-CONSTRUCTION SUBMITTALS SHALL INCLUDE MANUFACTURER'S SPECIFICATIONS, SHOP DRAWINGS AND INSTALLATION MANUALS. PROVIDE SUBMITTALS FOR OWNER AND ARCHITECT APPROVAL PRIOR TO ORDERING THE FOLLOWING MAJOR COMPONENTS.
- MECHANICAL:**
 - HVAC UNITS AND FANS
 - GRILLES AND DIFFUSERS
 - THERMOSTATS AND CONTROL DEVICES
 - ELECTRICAL:**
 - ELECTRICAL DISTRIBUTION EQUIPMENT
 - LIGHT FIXTURES AND SWITCHES
 - AUTOMATIC LIGHTING CONTROLS
 - PLUMBING:**
 - PLUMBING FIXTURES, DRAINS AND ACCESSORIES
 - WATER HEATERS AND RE-CIRCULATION PUMPS
- D. MECHANICAL EQUIPMENT STARTUP:** PROVIDE COMPLETE STARTUP AND TESTING OF NEW SYSTEMS AND EQUIPMENT PER MANUFACTURER'S INSTRUCTIONS:
- ENSURE PROPER WEATHER CONDITIONS AT TIME OF ALL TESTS.
 - MAKE ADJUSTMENTS AS REQUIRED TO MEET PERFORMANCE SPECIFICATIONS.
 - PROVIDE STARTUP AND TESTING TO INCLUDE THE FOLLOWING:
 - HVAC UNITS AND FANS
 - THERMOSTATS AND CONTROL DEVICES
 - PROVIDE TEST AND BALANCE OF ALL NEW HVAC SYSTEMS. INCLUDE FINAL APPROVED BALANCING REPORT AT PROJECT COMPLETION.
 - ADJUST ALL SUPPLY AND EXHAUST AIR GRILLES TO WITHIN + OR - 10% OF CFM QUANTITIES SHOWN ON PLANS.
 - ADJUST TO WITHIN + OR - 10% ONLY THOSE RETURN AIR GRILLES WITH CFM VALUES SHOWN ON PLANS. ALL OTHER RETURN GRILLES ARE UNBALANCED.
 - FOR A PERIOD OF ONE MONTH FOLLOWING SUBMITTAL OF THE TAB REPORT, CONTRACTOR SHALL MAKE SUCH ADJUSTMENTS AS MAY BE DEEMED NECESSARY BY THE OWNER FOR COMFORT PURPOSES.
 - ALL FINAL DAMPER AND OR VALVE POSITIONS SHALL BE MARKED WITH PERMANENT-INK MARKERS OR BLACK SPRAY PAINT AFTER FINAL BALANCING.
 - THE BUILDING SHALL BE BALANCED TO A NET POSITIVE PRESSURE AS SHOWN ON AIR BALANCING SCHEDULES. ADJUST ALL OUTSIDE AIR DAMPERS AS REQUIRED TO WITHIN 10% OF DESIGN CONDITIONS. FINAL PRESSURIZATION RESULTS SHALL BE INCLUDED IN THE TAB REPORT TO BE PROVIDED BY THE CONTRACTOR.
 - CONTRACTOR SHALL PERFORM TESTING AND BALANCING WORK IN ACCORDANCE WITH NEBB, AABC OR SMACNA STANDARDS.
- E. LIGHTING EQUIPMENT STARTUP:** CONTRACTOR SHALL PERFORM THE FOLLOWING:
- TEST ALL INDOOR AND OUTDOOR LIGHTING CONTROLS AFTER INSTALLATION. PROVIDE NAME AND SIGNATURE OF PERSON(S) COMPLETING THE TESTING, DATE PERFORMED, INITIAL AND FINAL SETTINGS OF CONTROLS ADJUSTMENTS AND THE RESULTING OPERATIONAL PERFORMANCE.
 - ENSURE LIGHT FIXTURES ARE INSTALLED AND OPERATIONAL
 - PERFORM COMPLETE OPERATIONAL TESTING OF EMERGENCY LIGHTING SYSTEMS AS REQUIRED BY NFPA 101, ANNUAL TESTING PROCEDURE.
 - VERIFY OPERATION OF ALL WALL MOUNTED OCCUPANCY LIGHT SWITCHES AND ADJUSTMENT AS REQUIRED FOR PROPER OPERATION, PER MANUFACTURER'S INSTRUCTIONS.
 - VERIFY OPERATION OF ALL CEILING MOUNTED OCCUPANCY SENSORS IN EACH ZONE SHOWN ON PLANS. ADJUST SETPOINTS AS REQUIRED FOR PROPER OPERATION, PER MANUFACTURER'S INSTRUCTIONS.
 - VERIFY OPERATION OF LIGHTING TIME CLOCKS. ADJUST SETPOINTS ON TIME CLOCK TO ENABLE OUTDOOR LIGHTING CIRCUIT INDEPENDENT OF SEASONAL CHANGES. PERFORM ALL TESTING PER MANUFACTURER'S INSTRUCTIONS.
- F. PLUMBING STARTUP AND TESTING:** CONTRACTOR SHALL PERFORM THE FOLLOWING:
- PIPING SYSTEMS: CONTRACTOR SHALL PRESSURE TEST THE WASTE/VENT, POTABLE WATER SYSTEMS AS REQUIRED BY THE IPC OR THE AHJ.
 - WATER HEATER:
 - AFTER PRESSURE TESTING PIPING CONNECTIONS, OPERATE WATER HEATER AND ADJUST TEMPERATURE SETTING TO 105°F.
 - UTILIZE MANUFACTURER'S STARTUP SHEET TO SETUP AND TEST RE-CIRCULATION PUMP, INCLUDING ENERGY CONTROLS AS REQUIRED BY IECC. PROVIDE COMPLETED STARTUP SHEET WITH O&M MANUAL.
 - PROVIDE MINIMUM FLOW BALANCING OF ALL HW RE-CIRCULATION BRANCHES USING BALANCING VALVES SHOWN ON PLANS. ENSURE THAT HOT WATER SUPPLY IS MAINTAINED IN EACH BRANCH.
 - MIXING VALVES: UTILIZE MFG'S INSTRUCTIONS TO ADJUST HW SUPPLY SETTING TO 105°F. TEST ACTUAL WATER TEMPERATURE AT ALL LAVATORIES AND HAND SINKS AFTER ADJUSTMENT TO VERIFY SETTINGS.
- G. O&M DOCUMENTATION:** MEP CONTRACTOR SHALL PROVIDE A MINIMUM OF 2 SETS OF OPERATIONS AND MAINTENANCE (O&M) BINDERS FOR THE PROJECT. EACH BINDER SHOULD INCLUDE ALL O&M MANUALS, WARRANTIES, STARTUP AND TESTING SHEETS, CONTROL DIAGRAMS AND SETPOINTS FOR THE FOLLOWING ITEMS:
- ALL NEW MECHANICAL SYSTEMS, INCLUDING TEST AND BALANCE REPORT.
 - ALL NEW LIGHTING AND CONTROLS, INCLUDING EMERGENCY LIGHTING.
 - ALL NEW WATER HEATERS AND CIRCULATION PUMPS.
- H. TRAINING:** CONTRACTOR SHALL PROVIDE A MINIMUM OF 2 HOURS ON-SITE TRAINING FOR OWNER'S OPERATIONAL STAFF UPON COMPLETION OF ALL WORK. TRAINING SHALL COVER OPERATIONS AND MAINTENANCE ON ALL NEW MEP SYSTEMS INCLUDING:

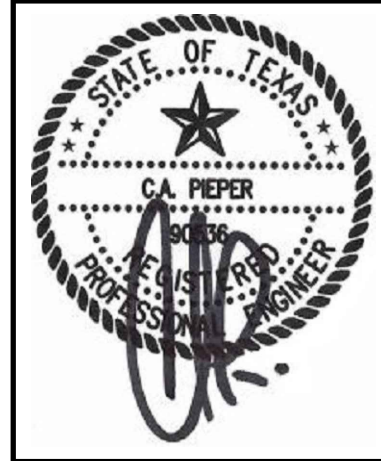
- MECHANICAL SYSTEMS & CONTROLS
 - AIR FILTER LOCATIONS, REPLACEMENT AND REQUIREMENTS
 - LIGHTING AND ELECTRICAL SYSTEMS AND EQUIPMENT
 - WATER HEATER AND TEMPERATURE ADJUSTMENT, MIXING VALVE ADJUSTMENT
 - RE-CIRCULATION PUMP
 - WATER VALVE LOCATIONS AND USAGE
- I. PRELIMINARY COMMISSIONING REPORT (WHERE REQUIRED BY AHJ):**
- A REPORT OF TEST PROCEDURES AND RESULTS SHALL BE COMPLETED AND CERTIFIED BY A REGISTERED DESIGN PROFESSIONAL AND PROVIDED TO THE BUILDING OWNER, PER IECC REQUIREMENTS.
 - THE REPORT SHALL IDENTIFY ANY DEFICIENCIES, DEFERRED TESTS AND REQUIRED CLIMATIC CONDITIONS TO COMPLETE DEFERRED TESTS IF ANY. PROVIDE PRELIMINARY COMMISSIONING

CODE COMPLIANCE SCHEDULE	
CITY OF:	SAN ANTONIO, TX
MECHANICAL	2018 INTERNATIONAL MECHANICAL CODE
PLUMBING	2018 INTERNATIONAL PLUMBING CODE
FUEL GAS	2018 INTERNATIONAL FUEL GAS CODE
ELECTRICAL	2017 NATIONAL ELECTRIC CODE
ENERGY	2018 INTERNATIONAL ENERGY CODE
ALL WORK SHALL COMPLY WITH LOCALLY ADOPTED CODES AS LISTED, INCLUDING ALL LOCAL AMMENDMENTS	



TEXAS FIRM REGISTRATION: #F-9165

HTEAO - HELOTES
12550 E. BANDERA ROAD
HELOTES, TX 78023



JOB NO.: SJK-174
SCALE : SHOWN
DRAWN: C.A. PIEPER
DATE: 7/5/22
REVISIONS :

SHEET :
MEP1
MEP LEGENDS AND COMMISSIONING
OF : 4

GENERAL NOTES FOR MEP CONTRACTORS:

A. INCIDENTAL WORK:

- CUTTING AND PATCHING: WHERE CUTTING AND PATCHING ARE REQUIRED TO INSTALL MECHANICAL, ELECTRICAL AND PLUMBING SYSTEMS, CONTRACTORS SHALL PROVIDE AS NEEDED. AFTER INSTALLATION, PATCH ALL OPENINGS TO MATCH ADJACENT FINISHED SURFACES. FINISHED PAINTING TO BE PROVIDED BY OTHERS.

B. EXCAVATIONS:

- PERFORM EXCAVATIONS CAUTIOUSLY TO AVOID DISRUPTION OR DAMAGE TO UNDERGROUND UTILITIES. HAVE ALL UNDERGROUND UTILITIES LOCATED AND MARKED, PRIOR TO DIGGING. UTILIZE HAND DIGGING WHEN NEAR BURIED PIPING, CABLES, GAS LINES, ETC.
- COMBINE UNDERGROUND PIPING AND ELECTRICAL CONDUITS INTO COMMON TRENCHES WHERE POSSIBLE TO MINIMIZE TRENCHING. TRENCH ROUTING SHOWN ON PLANS IS PRELIMINARY ONLY. SEE CIVIL ENGR. PLANS FOR OUTDOOR ROUTING AND UTILITY CONNECTION DETAILS.

C. ENGINEERING DRAWINGS:

- SCHEMATIC DRAWINGS: ALL ENGINEERING PLANS AND DETAILS ARE GENERALLY SCHEMATIC IN NATURE. ONLY ITEMS WITH SPECIFIC LOCATIONS AND OR SIZES WILL BE DIMENSIONED. CONTRACTORS ARE RESPONSIBLE FOR COORDINATING FINAL LOCATIONS OF ALL NEW EQUIPMENT. COORDINATE WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- ADDED DETAILS: DRAWINGS DO NOT SHOW EVERY DETAIL OR ITEM REQUIRED FOR EQUIPMENT INSTALLATIONS. CONTRACTORS SHALL PROVIDE ALL REQUIRED INSTALLATION WORK AND ACCESSORIES AS SPECIFIED BY EQUIPMENT MFG'S INSTRUCTIONS.
- OFFSETS AND ADJUSTMENTS: CONTRACTORS SHALL PROVIDE ALL REQUIRED OFFSETS AND ADJUSTMENTS TO DUCTWORK, CONDUIT AND PIPING SHOWN ON DRAWINGS AS NEEDED TO AVOID INTERFERENCES WITH BUILDING STRUCTURE AND OR OTHER TRADES. ALL FINAL COORDINATION AND DETAILING OF DUCTWORK AND PIPING SHALL BE PROVIDED BY CONTRACTORS.
- EQUIPMENT SELECTION: THE CONTRACTOR AND SUPPLIER ARE RESPONSIBLE FOR THE FINAL SELECTION OF ALL EQUIPMENT SCHEDULED ON THE DRAWINGS. MODEL NO'S SHOWN ON SCHEDULES ARE PRELIMINARY ONLY, TO BE VERIFIED BY SUPPLIER. PERFORMANCE DATA SHOWN SHALL BE EQUIVALENT FOR ALL SUBSTITUTIONS WHERE ALLOWED.
- EQUIPMENT WEIGHTS: UTILIZE FINAL EQUIPMENT SUBMITTALS FROM SUPPLIER FOR ALL STRUCTURAL SUPPORT DESIGN. INCLUDE CURB WEIGHTS FOR ALL ROOFTOP MOUNTED EQUIPMENT. WEIGHTS SHOWN ON SCHEDULES ARE PRELIMINARY ONLY.
- FLEX DUCTS SIZES: SEE DIFFUSER AND GRILLE SCHEDULES FOR FLEX DUCT SIZES NOT SHOWN ON PLANS FOR CLARITY.
- WIRE SIZES: SEE ELECTRICAL PANEL SCHEDULES FOR ALL WIRE AND CONDUIT SIZES, NOT SHOWN ON PLANS FOR CLARITY. ALL ELECTRICAL CIRCUITS ON PLAN ARE IDENTIFIED AT HOMERUN BY PANEL AND CIRCUIT NUMBERS.
- PIPE SIZES: SEE PLUMBING FIXTURE AND DRAIN SCHEDULES FOR ALL PIPING CONNECTION SIZES NOT SHOWN ON PLANS FOR CLARITY.
- INVERT ELEVATIONS (IE): ESTIMATED DEPTH (INCHES) OF SANITARY DRAIN PIPING BELOW FINISHED FLOOR AT POINT SHOWN ON PLAN. FINISHED FLOOR IS ASSUMED TO ALWAYS BE AT 0" IE. FOR EXISTING BUILDINGS, FIELD VERIFY INVERT ELEVATIONS OF EXISTING SANITARY DRAIN PIPING PRIOR TO STARTING WORK.

D. COORDINATION WITH OWNER:

- MECHANICAL SHALL COORDINATE WITH OWNER TO VERIFY:
 - LOCATIONS OF THERMOSTATS AND OTHER HVAC CONTROLS THAT REQUIRE ADJUSTMENT, SERVICE OR REPLACEMENT. LOCATIONS SHOWN ON PLANS ARE PRELIMINARY ONLY.
 - COLOR AND FINISH OF ALL GRILLES AND DIFFUSERS AND EXPOSED DUCTWORK WHERE PAINTING IS SPECIFIED ON PLANS.
- ELECTRICAL SHALL COORDINATE WITH OWNER TO VERIFY:
 - FINAL LOCATION AND MOUNTING HEIGHT OF ALL LIGHT FIXTURES, RECEPTACLES, DATA BOXES AND CONTROLS
 - FINAL ROUGH-IN AND CONNECTIONS FOR ALL OWNER FURNISHED EQUIPMENT, INCLUDING OUTDOOR SIGNAGE, APPLIANCES, COMMERCIAL KITCHEN EQUIPMENT, AS REQUIRED BY MFG.
 - PANEL AND EQUIPMENT IDENTIFICATION MARKS PRIOR TO ORDERING PERMANENT LABELS. ALL MARKS SHOWN ON PLANS ARE PRELIMINARY.
 - COLOR AND FINISH OF ALL RECEPTACLES, COVER PLATES AND LIGHT FIXTURES.
- PLUMBING SHALL COORDINATE WITH OWNER TO VERIFY:
 - COLOR AND FINISH OF ALL PLUMBING FIXTURES.
 - MOUNTING HEIGHT OF ALL WALL MOUNTED LAVATORIES OR SINKS
 - FINAL ROUGH-IN AND CONNECTIONS FOR ALL OWNER FURNISHED EQUIPMENT, INCLUDING APPLIANCES, COMMERCIAL KITCHEN EQUIPMENT, AS REQUIRED BY MFG.

E. COORDINATION BETWEEN TRADES:

- ALL CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES TO AVOID INTERFERENCES, PROPERLY SEQUENCE INSTALLATIONS, AND PROVIDE MANUFACTURER'S REQUIRED SERVICE CLEARANCES. WHERE REQUIRED, CONTRACTOR SHALL MAKE THE REQUIRED ADJUSTMENTS.
- ALL CONTRACTORS SHALL COORDINATE WITH ROOFING CONTRACTOR TO PROPERLY FLASH AND SEAL ALL ROOF CURBS AND PIPING PENETRATIONS THROUGH ROOF PER ARCHITECTURAL ROOFING SPECIFICATIONS.
- MECHANICAL CONTRACTOR SHALL COORDINATE WITH ARCHITECTRAL AND STRUCTURAL TO ENSURE ADEQUATE SERVICE AND REMOVAL CLEARANCES ARE PROVIDED FOR ALL HVAC EQUIPMENT, INCLUDING AIR HANDLING UNITS LOCATED IN ATTIC SPACE BETWEEN TRUSS WEBS.
- MECHANICAL CONTRACTOR SHALL VERIFY FINAL ROOF OPENING LOCATIONS WITH STRUCTURAL PLANS PRIOR TO CUTTING FOR HVAC UNITS. LOCATIONS SHOWN ON PLANS ARE PRELIMINARY.
- MECHANICAL CONTRACTOR SHALL COORDINATE WITH FIRE ALARM CONTRACTOR TO CONNECT DUCT MOUNTED SMOKE DETECTORS TO FIRE ALARM SYSTEM, IF REQUIRED.

- ELECTRICAL CONTRACTOR TO PROVIDE SERVICE CONNECTIONS TO ALL HVAC EQUIPMENT, INCLUDING DISCONNECTS AND LABELS. HVAC CONTRACTOR TO PROVIDE FINAL SUBMITTALS TO ELECTRICAL.
- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ARCH PRIOR TO ROUGH IN OF ALL ELECTRICAL PANELS, METER AND SERVICE SWITCH. LOCATIONS SHOW ON PLANS ARE PRELIMINARY ONLY. ENSURE FINAL LOCATIONS MAINTAIN REQUIRED CLEARANCES PER NEC REQUIREMENTS.
- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY FINAL SPECIFICATIONS AND REQUIREMENTS FOR ALL NEW ELECTRICAL SERVICE EQUIPMENT SHOWN ON PLANS, INCLUDING METER BASE AND DISCONNECT SWITCH OR SERVICE PANEL BOARD.
- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH PLUMBING TO PROVIDE ALL SERVICE CONNECTIONS TO WATER HEATER AND RECIRCULATION PUMP AS SHOWN ON PLANS.
- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH CIVIL TO PROVIDE CONCRETE BASE FOR ALL OUTDOOR AREA LIGHT POLES. COORDINATE THE REQUIRED BOLT PATTERN AND ROUGH-IN CONDUIT PRIOR TO POURING BASES BY OTHERS.
- PLUMBING CONTRACTOR SHALL PROVIDE ROUGH-IN FOR ALL INDIRECT DRAIN CONNECTIONS FOR CONDENSATE PRODUCING HVAC UNITS SHOWN ON MECHANICAL PLANS. MECHANICAL CONTRACTOR TO VERIFY FINAL DRAIN LOCATIONS WITH PLUMBING.

- PLUMBING CONTRACTOR SHALL LOCATE ALL VENT-THRU-ROOF STACKS A MINIMUM 10' AWAY FROM ALL HVAC OUTSIDE AIR INTAKES.

F. MECHANICAL DUCTWORK, PIPING AND SUPPORTS:

- FABRICATE ALL SHEET METAL DUCTWORK ACCORDING TO LATEST SMACNA CONSTRUCTION STANDARDS, INCLUDING REINFORCEMENT, JOINTS, SEAL CLASS, AND METAL GAGE. ALL DUCTWORK SHOWN ON PLANS SHALL BE MIN. 1" PRESSURE RATED UNLESS NOTED OTHERWISE.
 - HVAC UNITS ABOVE FINISHED CEILING: LINER
 - SUPPLY AND RETURN AIR DUCTS ABOVE FINISHED CEILING: DUCT WRAP
 - EXHAUST OR RELIEF AIR DUCTS ABOVE FINISHED CEILING: NOT REQUIRED
 - SUPPLY AND RETURN AIR DUCTS EXPOSED INDOORS IN FINISHED AREAS: NOT REQUIRED
- INSULATION IS GENERALLY NOT REQUIRED FOR EXPOSED SPIRAL ROUND AND RECTANGULAR DUCTWORK AND EQUIPMENT INSTALLED IN CONDITIONED SPACES. HOWEVER, DUCT WHERE EXPOSURE TO UNCONDITIONED AIR WILL FREQUENTLY OCCUR, PROVIDE INTERNAL LINER AS SHOWN IN SPECIFICATIONS.
- PROVIDE 2" INTERNAL DUCT LINER WHERE NOTED ON PLANS AT FAN CONNECTIONS FOR SOUND ATTENUATION. SEE SPECS FOR DUCT LINER.
- WHERE ALLOWED BY OWNER TO UTILIZE DUCTBOARD IN PLACE OF STEEL, FABRICATE ALL FIBERGLASS DUCTWORK AND FITTINGS PER NAIMA FIBROUS GLASS DUCT CONSTRUCTION STANDARDS.
- HOLD ALL DUCTWORK AND PIPING TIGHT AGAINST STRUCTURES, RUN IN A NEAT AND WORKMAN LIKE MANNER PARALLEL TO BUILDING LINES WHEREVER POSSIBLE. PROVIDE ALL REQUIRED DUCT AND PIPE HANGERS AND SUPPORTS WITH PROPER SPACING PER CODE REQUIREMENTS.
- GROUP PARALLEL RUNS OF DUCTWORK AND PIPING TOGETHER ON COMMON HANGERS AND SUPPORTS TO MINIMIZE SPACE WHEREVER POSSIBLE.
- INSTALL ALL EXPOSED DUCTWORK IN A NEAT AND ORDERLY MANNER WITH FINISHED APPEARANCE, INCLUDING ALL HANGERS AND SUPPORTS MIN. 10' TO BOD. WHERE SPECIFIED, COAT OR PAINT DUCTWORK AS SHOWN IN SPECS.
- PROVIDE FIELD FABRICATED SHEETMETAL BOOTS OR PLENUMS WHERE REQUIRED TO CONNECT DUCTWORK TO GRILLES, WALL LOUVERS OR ROOF HOODS WITH RECTANGULAR COLLARS. PROVIDE HINGED OR REMOVABLE ACCESS DOORS TO LARGE PLENUMS FOR CLEANING, SIZED AS REQUIRED TO ALLOW FOR SERVICE ACCESS.
- PROVIDE 2 TIE WRAPS AT EACH FLEX DUCT CONNECTION TO GRILLES, DAMPERS OR EQUIPMENT. INSTALL ALL FLEX DUCT FULLY EXTENDED AND FREE FROM KINKS OR TIGHT BENDS. PROVIDE FACTORY SHEET METAL ELBOW WHERE REQUIRED TO AVOID KINKING OR TIGHT BENDING.
- INSTALL ALL DAMPERS, INCLUDING MANUAL BALANCING, BAROMETRIC RELIEF AND OR MOTORIZED BACKDRAFT DAMPERS IN ACCESSIBLE LOCATIONS FOR SERVICE AND ADJUSTMENT. LOCATIONS SHOWN ON PLANS ARE PRELIMINARY ONLY. WHERE INSTALLED ABOVE SHEETROCK CEILING, COORDINATE WITH OWNER TO PROVIDE ACCESS HATCH FOR SERVICE AND BALANCING.
- ROUTE CONDENSATE DRAIN PIPING AS TO ALLOW FOR REMOVAL OF HVAC UNIT SERVICE PANELS FOR CLEANING AND REPAIR.
- PROVIDE MINIMUM 1/2" INSULATION ON ALL INTERIOR COLD CONDENSATE DRAIN PIPING AND FITTINGS AFTER INSTALLATION.

G. HVAC EQUIPMENT INSTALLATIONS:

- MAINTAIN ALL REQUIRED SERVICE CLEARANCES WHEN INSTALLING FANS AND HVAC UNITS. ENSURE THAT ALL INSTALLED EQUIPMENT CAN BE SAFELY ACCESSED AND SERVICED AFTER INSTALLATION OF ALL DUCTWORK, PIPING AND ELECTRICAL.

H. MECHANICAL CONTROL SYSTEMS:

- PROVIDE A COMPLETE SYSTEM OF CONTROLS TO PROPERLY OPERATE ALL HVAC SYSTEMS SHOWN ON PLANS. PLANS SHOW ONLY THE ANTICIPATED MAJOR COMPONENTS OF CONTROL SYSTEMS AND SEQUENCE OF OPERATIONS ONLY. THEY DO NOT SHOW EVERY SINGLE COMPONENT OF THE SYSTEM OR WIRING AND INSTALLATION DETAILS. CONTRACTOR SHALL PROVIDE ALL ADDITIONAL ITEMS AS NEEDED TO MEET THE PERFORMANCE SEQUENCES SHOWN ON PLANS.
- ALL CONTROL WIRING, NUMBER OF CONDUCTORS AND GAUGE SHALL BE AS SPECIFIED BY CONTROL EQUIPMENT MANUFACTURER. ALL WIRING EXPOSED IN MECHANICAL ROOMS OR SPACES SHALL BE INSTALLED IN EMT CONDUIT.

- FOR ALL PACKAGED RTUS, PROVIDE AN EMERGENCY WATER-LEVEL FLOAT SWITCH IN THE PRIMARY DRAIN PAN. INTERLOCK SWITCH TO SHUT OFF UNIT COOLING UPON OVERFLOW LEVEL.
- SMOKE DETECTORS: PROVIDE APPROVED SMOKE DETECTOR FOR ALL HVAC UNITS OVER 2000 CFM, SEE SPECS.
- INTERLOCKS: PROVIDE ALL REQUIRED DEVICES AND INTERLOCK WIRING TO PERFORM THE SEQUENCE OF OPERATIONS AS SPECIFIED IN CONTROL DIAGRAMS. COORDINATE WITH CONTROLS MFG FOR FINAL REQUIREMENTS.

I. ELECTRICAL CONDUITS AND SUPPORTS:

- HOLD ALL CONDUITS TIGHT AGAINST STRUCTURE TO AVOID DAMAGE AND INTERFERENCE FROM OTHER TRADES. RUN ALL CONDUITS IN A NEAT AND WORKMAN LIKE MANNER PARALLEL TO BUILDING LINES.
- PROVIDE ALL REQUIRED CONDUIT HANGERS AND SUPPORTS WITH PROPER SPACING PER CODE REQUIREMENTS. GROUP PARALLEL RUNS OF CONDUIT TOGETHER ON COMMON HANGERS AND SUPPORTS TO MINIMIZE SPACE WHEREVER POSSIBLE.
- INSTALL A GALVANIZED IRON OR PVC SLEEVE FOR THE CONDUIT PASSING THROUGH CONCRETE OR MASONRY CONSTRUCTION.
- UTILIZE MC CABLES IN PLACE OF CONDUIT AND WIRE WHERE ALLOWED FOR CONCEALED WIRING INSTALLATIONS, OUTSIDE, UNDERGROUND, INSIDE WALLS OR OTHER BUILDING FRAMING, AND IN ATTIC AND CEILING PLENUM SPACES. INSTALL PER NEC REQUIREMENTS AND MANUFACTURER'S INSTRUCTIONS WITH FACTORY FITTINGS AND CONNECTORS.
- UTILIZE EMT CONDUIT WHERE INSTALLING ELECTRICAL IN EXPOSED LOCATIONS IN MECHANICAL ROOMS, SERVICE UTILITY AND OTHER WORK AREAS NOT OPEN TO PUBLIC. IN HIGH CEILING OR HIGH BAY AREAS, USE EMT CONDUIT FOR WIRING UP TO MINIMUM 10' ABOVE FLOOR BEFORE SWITCHING TO MC CABLE.
- UTILIZE RIGID PVC CONDUIT FOR INSTALLING ELECTRICAL IN UNDERGROUND EXTERIOR LOCATIONS WHERE ALLOWED AND NOT SUBJECT TO DAMAGE. PROVIDE LONG-SWEEP ELBOWS AT ALL 90° BENDS. WHERE EXPOSED, RISING OUT OF EXCAVATION TRENCH, PROVIDE SCHEDULE 80 PVC PIPE AND FITTINGS.
- UTILIZE RIGID STEEL CONDUIT FOR INSTALLING ELECTRICAL CONDUCTORS IN ALL HIGH ABUSE AREAS INDOORS AND OUTDOORS.

J. BRANCH CIRCUIT INSTALLATIONS:

- PROVIDED REDUNDANT GROUND PATH USING METALLIC CONDUIT OR SHEATH IN ADDITION TO EQUIPMENT GROUND CONDUCTOR FOR ALL BRANCH CIRCUITS SERVING PATIENT CARE AREAS, INCLUDING EXAM, THERAPY, RECREATION AND PATIENT CORRIDORS.

K. AUTOMATIC LIGHTING CONTROLS:

- PROVIDE ALL REQUIRED INDOOR LIGHTING CONTROLS AS REQUIRED FOR COMPLIANCE WITH LATEST IECC REQUIREMENTS, INCLUDING WALL OR CEILING MOUNTED OCCUPANCY SENSORS, WIRING AND ACCESSORIES PER MFG DATA.
- PROVIDE ALL REQUIRED OUTDOOR AREA LIGHTING CONTROLS, INCLUDING OUTDOOR LIGHTING TIMER, CONTACTOR AND PHOTOCCELL SWITCH. SEE CONTROLS DETAILS.
- INSTALL ALL LIGHTING CONTROLLERS IN ACCESSIBLE LOCATION ON WALL, ABOVE CEILING OR OTHER APPROVED LOCATION. WHEN ABOVE CEILING, PROVIDE PERMANENT MARKER FOR LOCATING CONTROLLER FROM THE GROUND.
- PROGRAM ALL REQUIRED TIMERS WITH OWNER FURNISHED SCHEDULES FOR AUTOMATIC CONTROL OF ALL OUTDOOR LIGHTING, OUTDOOR SIGNAGE, AS SHOWN ON PLANS.
- ALL LIGHTING CONTROL CABLE SHALL BE PLENUM RATED AND RUN EXPOSED TIGHT AGAINST BUILDING STRUCTURE IN MANNER TO KEEP IT FROM DAMAGE BY OTHER TRADES. PROVIDE TIE-WRAP SUPPORTS TO HOLD TIGHT AGAINST STRUCTURE.

L. EQUIPMENT ELECTRICAL CONNECTIONS:

- INSTALL ALL UNIT MOUNTED SWITCHES AND EQUIPMENT IN MANNER THAT DOES NOT COVER UP MANUFACTURER'S EQUIPMENT LABELS OR BLOCK ACCESS TO REMOVABLE SERVICE PANELS.
- WHERE REQUIRED FOR EQUIPMENT SERVICE CONNECTIONS, PROVIDE STEEL CHANNEL SUPPORT STANDS FOR MOUNTING OF UNIT DISCONNECT SWITCHES, STARTERS, SPEED CONTROLLERS AND CONDUITS. PROPERLY SECURE SUPPORTS TO FLOORS OR WALLS.
- ENSURE THAT SERVICE CLEARANCES ARE NOT BLOCKED BY ROUTING OF CONDUIT OR SUPPORT STRUCTURES AT ALL EQUIPMENT SERVICE CONNECTIONS. COORDINATE WITH HVAC CONTRACTOR TO DETERMINE REQUIRED CLEARANCES AND SERVICE WORK AREAS.
- VERIFY WITH OWNER EQUIPMENT IDENTIFICATION MARKS, PRIOR TO ORDERING AND INSTALLING LABELS ON UNIT DISCONNECT SWITCHES. UNIT MARK SHOWN ON PLANS IS PRELIMINARY.

M. ELECTRICAL SERVICES AND EQUIPMENT:

- INSTALL ALL ELECTRICAL SERVICE EQUIPMENT AS REQUIRED BY LOCAL UTILITY SPECIFICATIONS. FIELD VERIFY FINAL LOCATION OF EQUIPMENT TO ENSURE PROPER CLEARANCES ARE AVAILABLE FOR FINAL ENCLOSURES TO BE INSTALLED. PROVIDE STEEL MOUNTING RACK WHERE REQUIRED TO HOLD ALL METERS, DISCONNECT SWITCHES, BUSSED GUTTERS AND PANELS AS SHOWN.

N. PLUMBING PIPING AND SUPPORTS:

- OPEN PIPING SYSTEMS, INCLUDING FLOOR DRAINS, FLOOR SINKS, HUB DRAINS, ETC., SHALL BE CAPPED OR PLUGGED DURING ALL CONSTRUCTION TO PREVENT DAMAGE AND THE ENTRANCE OF FOREIGN MATERIALS. REMOVE ALL PROTECTIVE COVERINGS UPON COMPLETION OF ALL WORK.
- HOLD ALL PIPING TIGHT AGAINST STRUCTURE TO AVOID DAMAGE AND INTERFERENCE FROM OTHER TRADES. RUN ALL PIPING IN A NEAT AND WORKMAN LIKE MANNER PARALLEL TO BUILDING LINES.
- PROVIDE ALL REQUIRED PIPING HANGERS AND SUPPORTS WITH PROPER SPACING PER CODE REQUIREMENTS. GROUP PARALLEL RUNS OF PIPING TOGETHER ON COMMON HANGERS AND SUPPORTS TO MINIMIZE SPACE WHEREVER POSSIBLE.

- MAINTAIN MINIMUM 1/8" PER FOOT SLOPE TOWARDS DRAIN FOR BOTH WASTE AND VENT PIPING. ROUT ALL DRAIN PIPING AS NEEDED TO MINIMIZE REQUIRED DEPTH OF BUILDING SEWER. DRAIN PIPE ROUTING SHOWN ON PLANS IS SCHEMATIC LAYOUT, PLUMBING CONTRACTOR SHALL DETERMINE ACTUAL ROUTING.
- PROVIDE PIPING INSULATION ON ALL DOMESTIC HOT AND COLD WATER PIPING, VALVES AND FITTINGS INSTALLED, SEE SPECS.

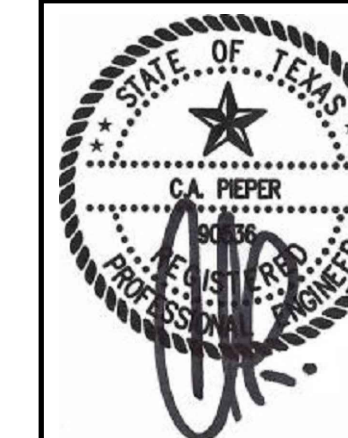
O. PLUMBING EQUIPMENT INSTALLATIONS:

- WHERE REQUIRED FOR EQUIPMENT PIPING CONNECTIONS, PROVIDE STEEL CHANNEL SUPPORT STANDS FOR MOUNTING OF PIPING, VALVES, AND FITTINGS. PROPERLY SECURE SUPPORTS TO FLOORS OR WALLS.
- PROVIDE WATER HAMMER ARRESTERS ON HOT AND COLD-WATER SUPPLY PIPING FOR ALL WASHING MACHINES, DISHWASHERS, KITCHEN SINKS, TUB OR SHOWER AND ANY OTHER EQUIPMENT WITH QUICK CLOSING VALVES, AND WHERE REQUIRED BY LOCAL AUTHORITY. COORDINATE WITH ARCH TO PROVIDE MIN. 12" x 12" ACCESSIBLE OPENING FOR SERVICE OF ALL ARRESTERS.
- PROVIDE TRAP GUARDS ON ALL FLOOR DRAINS AND FLOOR SINKS, NOT SHOWN ON PLANS FOR CLARITY.
- INSTALL PUMPS AND OTHER VIBRATING EQUIPMENT IN A MANNER THAT MINIMIZES NOISE LEVELS. MAKE ALL POSSIBLE ADJUSTMENTS TO REDUCE NOISE TO ACCEPTABLE LEVELS. SQUEAKS, SQUEALING AND RATTLING ARE NOT ACCEPTABLE.
- WHERE AN UNDERFLOOR VENT IS REQUIRED FOR A FIXTURE OR DRAIN, PROVIDE A WALL CLEANOUT AT VENT STACK, NOT SHOWN ON PLANS FOR CLARITY.
- BACKFLOW PREVENTERS: WHERE SHOWN ON PLANS OR REQUIRED BY AHJ, PROVIDE BACKFLOW PREVENTION DEVICES TO PROTECT AGAINST POLLUTION OR CONTAMINATION OF THE POTABLE WATER SYSTEM. INSTALL ALL PREVENTERS IN READILY ACCESSIBLE LOCATIONS. SEE SPECS.
- PROVIDE HW SUPPLY MIXING VALVE SET FOR MAX. 105F SUPPLY TEMPERATURE ON ALL LAVATORIES AND HAND SINKS NOT USED FOR DISHWASHING.



TEXAS FIRM
REGISTRATION:
#F-9165

HTEAO - HELOTES
12550 E. BANDERA ROAD
HELOTES, TX 78023



JOB NO.: SJK-174

SCALE : SHOWN

DRAWN: C.A. PIEPER

DATE: 7/5/22

REVISIONS :

SHEET :
MEP2
GENERAL NOTES
FOR CONTRACTORS
OF : 4

MEP SPECIFICATIONS:

GENERAL CONDITIONS FOR MEP WORK:

A. CONTRACTOR QUALIFICATIONS:

1. CONTRACTORS SHALL STUDY CONTRACT DOCUMENTS, FULLY UNDERSTAND AND ACCEPT THE BASIS OF DESIGN AND SCOPE OF WORK. SUBMISSION OF BID INDICATES CONTRACTOR'S COMPLETE APPROVAL AND ACCEPTANCE OF CONSTRUCTION DOCUMENTS.
2. CONTRACTORS SHALL PROVIDE A MINIMUM 1 YR. WARRANTY ON ALL LABOR AND MATERIALS INSTALLED. CONTRACTOR SHALL MAKE ALL WARRANTY REPAIRS OR REPLACEMENTS IN A TIMELY MANNER, AT NO ADDITIONAL COST TO THE OWNER.

B. BASIS OF DESIGN:

1. ALL CONSTRUCTION DOCUMENTS PROVIDED BY OWNER, INCLUDING ENGINEERING DRAWINGS, NOTES, SCHEDULES, DETAILS, CALCULATIONS AND SPECIFICATIONS PROVIDED, ALONG WITH EQUIPMENT MANUFACTURER'S DRAWINGS AND SPECIFICATIONS, FORM THE 'BASIS OF DESIGN'.
2. THE BASIS OF DESIGN WILL BE USED FOR ALL INSPECTIONS, TESTING AND ACCEPTANCE OF THE WORK PERFORMED BY THE CONTRACTOR TO VERIFY SUCCESSFUL COMPLETION OF SCOPE OF WORK.

C. SCOPE OF WORK:

1. INSTALL COMPLETE AND OPERABLE MECHANICAL, ELECTRICAL AND PLUMBING SYSTEMS AS DESCRIBED BY THE CONSTRUCTION DOCUMENTS. INCIDENTAL ITEMS NOT SPECIFIED, BUT WHICH ARE ESSENTIAL FOR THE PROPER OPERATION OF SPECIFIED SYSTEMS AND EQUIPMENT, ARE INCLUDED IN THE SCOPE OF WORK AND SHALL BE PROVIDED BY CONTRACTOR AT NO ADDITIONAL COST.
2. COMPLY WITH COMMISSIONING PLAN SHOWN ON DRAWINGS TO VERIFY FINAL QUALITY AND PERFORMANCE OF ALL WORK.

D. CODE COMPLIANCE: ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL LOCALLY ADOPTED BUILDING CODES AS LISTED ON THE DRAWINGS, AND ACCORDING TO THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ).

E. DISCREPANCIES:

1. IN THE CASE OF A DISCREPANCY BETWEEN DRAWINGS, SPECIFICATIONS OR MANUFACTURER'S REQUIREMENTS, THE MOST STRINGENT SHALL APPLY AND BE COMPLIED WITH BY THE CONTRACTOR.
2. IN THE CASE OF A DISCREPANCY BETWEEN BY CODES AND THE CONSTRUCTION DOCUMENTS OR MANUFACTURER'S REQUIREMENTS, THE AHJ SHALL DETERMINE WHICH SHOULD BE COMPLIED WITH BY THE CONTRACTOR.

F. JOBSITE CONDITIONS: CONTRACTOR SHALL EXAMINE THE JOBSITE PRIOR TO BIDDING AND FULLY UNDERSTAND THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. BY SUBMITTING BID FOR WORK CONTRACTOR ACCEPTS ALL JOB CONDITIONS AS-IS.

G. PERMITS AND FEES: CONTRACTOR SHALL OBTAIN THE NECESSARY PERMITS, LICENSES, AND CERTIFICATIONS REQUIRED BY THE AHJ AND PAY FOR ALL PERMITTING FEES.

H. UTILITY CONNECTIONS:

1. SEE CIVIL PLANS FOR CONTINUATION OF ELECTRICAL, WATER AND SEWER CONNECTIONS OUTSIDE OF BUILDING.
2. UTILIZE EXISTING ELECTRICAL AND PLUMBING UTILITY SERVICES AS SHOWN ON PLANS. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BIDDING WORK.

I. CONTRACTOR FURNISHED EQUIPMENT & MATERIALS:

1. SHALL BE NEW, MANUFACTURED AND CERTIFIED TO COMPLY WITH THE BASIS OF DESIGN, FREE OF DEFECT AND COVERED UNDER A MINIMUM 1-YEAR FACTORY WARRANTY, UNLESS SPECIFIED DIFFERENTLY ELSEWHERE.
2. SHALL BE AS SPECIFIED IN CONSTRUCTION DOCUMENTS, OR AS ACCEPTABLE SUBSTITUTION OF EQUAL ITEM. ALL SUBSTITUTIONS MUST BE 'APPROVED' THROUGH THE COMMISSIONING PROCESS TO BE ACCEPTABLE.
3. SHALL BE COMMERCIAL GRADE EQUIPMENT AND MATERIALS, UNLESS OTHERWISE INDICATED IN CONSTRUCTION DOCUMENTS.

J. DELIVERY, STORAGE AND PROTECTION:

1. CONTRACTOR SHALL FURNISH DELIVERY OF ALL REQUIRED MATERIALS AND EQUIPMENT TO BE INSTALLED. CONTACTOR SHALL VERIFY ALL EQUIPMENT IS UNDAMAGED AT THE TIME OF DELIVERY FROM THE FACTORY. DAMAGED ITEMS SHOULD BE RETURNED TO THE FACTORY FOR REPLACEMENTS AT NO ADDITIONAL COST TO THE OWNER.
2. WHERE REQUIRED, CONTRACTOR SHALL PROVIDE CRANE AND OR ALL RIGGING EQUIPMENT NEEDED TO INSTALL EQUIPMENT OR FIXTURES IN PLACE AS SHOWN ON PLANS.
3. CONTRACTOR SHALL COORDINATE WITH OWNER TO OBTAIN SECURE JOBSITE STORAGE LOCATION FOR EQUIPMENT AND MATERIALS. PROVIDE WEATHER PROTECTION WHERE REQUIRED.

K. JOBSITE CLEANUP: REMOVE ALL CONSTRUCTION DEBRIS FROM THE JOBSITE AS REQUIRED AND PRIOR TO COMPLETION OF ALL WORK. ALL WORK AREAS SHOULD BE BROOM CLEANED, AND EQUIPMENT WIPED CLEAN PRIOR TO FINISHING PROJECT.

L. CORRECTIONS REQUIRED:

1. IF CONTRACTOR IDENTIFIES ANY ACTUAL SITUATION OR SITE CONDITION THAT WILL PROHIBIT OR NEGATIVELY IMPACT THE INSTALLATION OR PERFORMANCE OF THE SYSTEMS AS DESIGNED, STOP ALL WORK AND NOTIFY THE ENGINEER IMMEDIATELY.
2. ANY EQUIPMENT THAT IS FOUND TO BE DEFECTIVE, OR OUT OF COMPLIANCE WITH BASIS OF DESIGN OR CODE, CONTRACTOR SHALL REPLACE AT NO ADDITIONAL COST. ALL NEW WORK SHALL COMPLY WITH THE BASIS OF DESIGN.
3. IF CONTRACTOR DAMAGES ADJACENT PROPERTY WHILE PERFORMING SCOPE OF WORK, HE SHALL MAKE PROMPT REPAIR AT OWN EXPENSE, PRIOR TO COMPLETING SCOPE.

MECHANICAL EQUIPMENT & MATERIALS

A. CONDENSATE DRAIN PIPING: PROVIDE COMPLETE CONDENSATE DRAIN PIPING SYSTEMS FROM ALL HVAC UNITS AND EQUIPMENT WHERE REQUIRED, USING THE FOLLOWING MATERIALS:

1. COLD CONDENSATE: COPPER PIPING WITH SWEAT FITTINGS AND JOINTS, OR PVC WITH SLIP FITTINGS. PROVIDE MINIMUM 1/2" INSULATION ON ALL PIPING AND FITTINGS AFTER INSTALLATION.

B. DUCTWORK SYSTEMS: UTILIZE ANY OF THE FOLLOWING AS SHOWN ON PLANS.

1. ROUND DUCT:
 - a. FLEX DUCT, FACTORY MADE, STEEL WIRE HELX, INNER FILM LINER AND FIBERGLASS SCRIM, FIBERGLASS BLANKET INSULATION AND POLYETHYLENE OUTER JACKET, AS MANUFACTURED BY THERMAFLEX, TYPE G-KM OR EQUAL. USE IN CONCEALED LOCATIONS ONLY.
 - b. SNAP-LOCK, GALVANIZED STEEL, FACTORY MADE, MIN. 1" RATED, WITH FACTORY FITTINGS AND ACCESSORIES. USE IN CONCEALED LOCATIONS ONLY. FOR EXHAUST DUCTWORK, SEAL ALL JOINTS AND SEAMS WITH MASTIC ON HIGH PRESSURE SIDE OF FAN.
 - c. SPIRAL ROUND, GALVANIZED STEEL, FACTORY MADE, MIN. 1" RATED AND SEALED, WITH FACTORY FITTINGS AND ACCESSORIES, PAINT GRIP COATED AND PAINTED BLACK AFTER INSTALLATION. USE IN EXPOSED FINISHED AREAS ONLY.
2. RECTANGULAR DUCT:
 - a. GALVANIZED STEEL, CUSTOM FABRICATED, MIN. 1" RATED AND SEALED, WITH SLIP & DRIVE OR FLANGED AND GASKETED JOINTS. CAN BE USED FOR ALL EXPOSED AND CONCEALED DUCT LOCATIONS. WHERE EXPOSED, PROVIDE PAINT GRIP COATING AND PAINT BLACK AFTER INSTALLATION.

- b. RIGID FIBERGLASS DUCT BOARD, CUSTOM FABRICATED, BONDED TO FOIL-REINFORCED KRAFT VAPOR RETARDING FACING, MINIMUM R-6 RATING, REINFORCED COATING FOR DUST AND MOLD RESISTANCE, AS MANUFACTURED BY JOHNS MANVILLE, SUPERDUCT RC OR EQUAL. UTILIZE ONLY FOR CONCEALED LOCATIONS WHERE OWNER APPROVED SUBSTITUTE FOR STEEL DUCTWORK.
3. INSULATION: PROVIDE THERMAL PROTECTION FOR ALL HOT OR COLD HVAC DUCTWORK AND EQUIPMENT AS NEEDED TO PREVENT LOSS OF HEAT AND CONDENSATION. MIN. R6 FOR INTERIOR AND R8 EXTERIOR INSTALLATIONS AS FOLLOWS:
 - a. BOARD INSULATION: 1 1/2" FIBERGLASS INSULATION BOARD, FOIL-REINFORCED VAPOR BARRIER, AS MANUFACTURED BY OWENS CORNING, SERIES 701 FOR CURVED SURFACES AND SERIES 705 FOR FLAT SURFACES, OR EQUAL.
 - b. WRAP INSULATION: 2" ALL-SERVICE DUCT WRAP, FIBERGLASS BLANKET WITH FRK VAPOR RETARDER, AS MANUFACTURED BY OWEN'S CORNING ALL-SERVICE DUCT WRAP OR EQUAL.
 - c. LINER INSULATION: 2" THICK, R8 RATING, FIBERGLASS BLANKETS OR BOARDS, VEIL FACED AIRSTREAM SURFACE, MOLD AND BACTERIAL RESISTANT, AS MANUFACTURED BY OWENS CORNING, QUIET R ROTARY DUCT LINER OR EQUAL.

4. DUCT ACCESS DOOR: SQUARE, GALVANIZED STEEL, FLANGED FRAME, 1" INSULATION, CAMLOCK FASTENERS, GASKETED, SAFETY CHAIN, PIANO-HINGE, SMACNA CONSTRUCTIONS STANDARS, AS MANUFACTURED BY NAILOR INDUSTRIES, 08SCH SERIES, OR EQUAL.
5. MANUAL BALANCING DAMPERS: ROUND DAMPERS SHALL BE AS MANUFACTURED BY RUSKIN, MODEL MDRS25 OR APPROVED EQUAL. RECTANGULAR DAMPERS SHALL BE AS MANUFACTURED BY RUSKIN, MODEL MD25 OR APPROVED EQUAL.
6. GRILLES AND DIFFUSERS: AS SCHEDULED OR EQUAL. COORDINATE FINAL COLOR SELECTION WITH ARCH PRIOR TO ORDERING.
 - a. WHERE REQUIRED, PROVIDE FACTORY MOUNTING FRAME FOR INSTALLATION INTO SHEETROCK CEILINGS.
 - b. FOR SPIRAL DUCT MOUNTED SIDEWALL GRILLES, PROVIDE FACTORY SCOOP FOR BALANCING.
 - c. FOR SPIRAL DUCT MOUNTED ROUND CEILING GRILLES, PROVIDE FACTORY PAINT COLOR TO MATCH DUCTWORK. COORDINATE PAINTING REQUIREMENTS WITH OWNER.

C. HANGERS AND SUPPORTS: PROVIDE ALL REQUIRED HANGERS, SUPPORTS, VIBRATION ISOLATION, ETC, AS NEEDED FOR SAFE AND QUIET INSTALLATION OF ALL MECHANICAL SYSTEMS, DUCTWORK AND EQUIPMENT.

1. ROOF CURBS: FACTORY MADE, MINIMUM 8" TALL, AS MANUFACTURED BY GREENHECK, MODEL GPI OR EQUAL.
 2. ROOFTOP SUPPORTS: RECYCLED RUBBER SUPPORT BLOCK WITH GALVANIZED STEEL CHANNEL FOR CLAMPING PIPING TO BLOCK, AS MANUFACTURED BY B-LINE, MODEL DURA-BLOK OR EQUAL. SPACE SUPPORTS AS REQUIRED BY CODE FOR PIPE SIZES RUN ACROSS ROOF.
- B. MECHANICAL CONTROL SYSTEMS:**
1. CONTROL WIRING: COPPER CONDUCTORS, TWISTED PAIR, SHIELDED, PLENUMM RATED, AS RECOMMENDED BY CONTROLS EQUIPMENT MFG'S.
 2. THERMOSTATS: AS MANUFACTURED BY HONEYWELL OR EQUAL, WITH ALL CONTROL CAPABILITIES AS REQUIRED BY LATEST ENERGY CODE, INCLUDING 7-DAY SCHEDULED TEMPERATURE SETBACK WITH OPTIMAL START AND MANUAL OVERRIDE OF UP TO 2 HRS.
 3. HUMIDISTATS: AS MANUFACTURED BY HONEYWELL, HUMIDIPRO, MODEL #H6062A1000 OR EQUAL.
 4. AIR ECONOMIZER CONTROLLER: ENTHALPY TYPE SENSORS, AS MANUFACTURED BY HONEYWELL, JADE MODEL OR EQUAL. CONTROLLER SHALL COMPLY WITH LATEST VERSION OF IECC.
 5. CURRENT SWITCH: CURRENT OPERATED SWITCH, NORMALLY OPEN, 120V/20A RATED, AS MANUFACTURED BY KELE OR EQUAL.
 6. FAN RELAY: 24VAC COIL, 120V/20A DRY CONTACTS, AS MANUFACTURED BY KELE OR EQUAL.

C. PACKAGED HVAC EQUIPMENT:

1. ROOFTOP UNITS: RTU PERFORMANCE, MAKE AND MODEL NUMBERS AS SCHEDULED ON DRAWINGS. UNITS SHALL COME WITH FACTORY OPTIONS AS LISTED BELOW:
 - a. FACTORY ROOF CURB
 - b. FACTORY ECONOMIZER DAMPERS AND CONTROLLER CAPABLE OF COMPLIANCE WITH LATEST ENERGY CODE REQUIREMENTS.
 - c. FACTORY BAROMETRIC RELIEF DAMPERS
 - d. RETURN DUCT SMOKE DETECTOR (WHERE ABOVE 2000 CFM)
 - e. SINGLE POINT POWER CONNECTIONS
 - f. 120V, GFI TYPE, FIELD-POWERED CONVENIENCE OUTLET
 - g. NON-CORROSIVE CONDENSATE DRAIN PAN, DOUBLE SLOPED
 - h. EMERGENCY CUT-OFF SWITCH FOR CONDENSATE PAN
 - i. HAIL GUARDS
2. EXHAUST FAN: PERFORMANCE, MAKE AND MODEL NUMBER AS SCHEDULED, OR APPROVED EQUAL.
 - a. PROVIDE WITH FACTORY ECM MOTOR AND SPEED CONTROLS FOR BALANCING.
 - b. PROVIDE FACTORY DISCONNECT SWITCH FOR FIELD INSTALLATION IN SUITABLE ENCLOSURE FOR MOUNTING LOCATION.
 - c. PROVIDE ALL EXHAUST FANS WITH INTERLOCKED, MOTORIZED BACKDRAFT DAMPERS AS REQUIRED TO AUTOMATICALLY CLOSE WHEN NOT IN OPERATION.
 - d. PROVIDE FACTORY ROOF CURB FOR ALL ROOFTOP MOUNTED FANS.

3. AIR CURTAINS: PERFORMANCE, MAKE AND MODEL NUMBER AS SCHEDULED, OR APPROVED EQUAL:
 - a. FACTORY WALL OR CEILING BRACKET
 - b. MULTI-SPEED MOTORS AND CONTROLS
 - c. NOISE REDUCTION PACKAGE.

ELECTRICAL EQUIPMENT & MATERIALS

A. CONDUIT:

1. EMT: HOT GALVANIZED STEEL, INTERIOR COATING, UL LISTED, AS MANUFACTURED BY ALLIED, E-Z PULL EMT, OR EQUAL. ALL FACTORY COUPLINGS AND FITTINGS SHALL BE OF SAME MATERIAL AS CONDUIT.
2. RIGID STEEL: HOT DIPPED GALVANIZED STEEL, CORROSION RESISTANT, UL LISTED, AS MANUFACTURED BY ALLIED, GRG, OR EQUAL. ALL FACTORY COUPLINGS AND FITTINGS SHALL BE OF SAME MATERIAL AS CONDUIT.
3. PVC: SCHEDULE 40 OR 80 ELECTRICAL CONDUIT, UL LISTED, SINLIGHT RESISTANT, SLIP BELL FITTING ON ONE END, AS MANUFACTURED BY ALLIED OR EQUAL.

B. WIRE AND CABLE:

1. CONDUCTORS: PROVIDE COPPER CONDUCTORS OF STANDARD AMERICAN GAGES FOR ALL WIRING SHOWN ON DRAWINGS. MINIMUM 90°F RATED INSULATION FOR ALL CONDUCTORS USED, SUCH AS THHN, THHW, THW OR EQUAL.
2. ALUMINUM CONDUCTORS OF EQUIVALENT AMPACITY CAN BE SUBSTITUTED FOR SIZES #6 AND ABOVE.
3. MC CABLE: METAL CLAD CABLE WITH COPPER CONDUCTORS, RATED FOR WET OR DRY LOCATIONS, 90°C TEMPERATURE RATING, WITH GREEN INSULATED GROUNDING CONDUCTOR. ALL CONDUCTORS CABLED TOGETHER WITH SEPARATOR TAPE, INTERLOCKED ALUMINUM ARMOR, FLAME RETARDANT BLACK PVC JACKET OVER THE ARMOR.

C. RECEPTACLES AND COVER PLATES:

1. INDOORS:

- a. DUPLEX RECEPTACLES: 120V, DUPLEX, 15A 125V, NEMA 5-15R, AS MANUFACTURED BY HUBBELL MODEL #BR151 OR EQUAL.
- b. GFI RECEPTACLES: 120V, DUPLEX, TEST BUTTON, LED INDICATOR LIGHT, 15A 125V, NEMA 5-15R, AS MANUFACTURED BY HUBBELL MODEL #GF151L OR EQUAL.
- c. 240V RECEPTACLES: 240V, MULTI-POLE WITH GROUND, COORDINATE FINAL NEMA TYPE AND AMPERAGE RATING WITH EQUIPMENT SUBMITTALS, SINGLE OR DUPLEX, AS MANUFACTURED BY HUBBELL OR EQUAL.

2. OUTDOORS:

- a. GFI RECEPTACLES: 120V, WEATHER RESISTANT, DUPLEX, TEST BUTTON, LED INDICATOR LIGHT, 15A 125V, NEMA 5-15R, AS MANUFACTURED BY HUBBELL MODEL #GF151LWR OR EQUAL.

D. WALL SWITCHES:

1. LIGHT SWITCH: 1P/15A/120V TOGGLE SWITCH, SINGLE GANG BOX MOUNTED, AS MANUFACTURED BY LEVITON MODEL # 5501-LHW OR EQUAL.
2. 3-WAY LIGHT SWITCH: 1P/15A/120V TOGGLE SWITCH, SINGLE GANG BOX MOUNTED, AS MANUFACTURED BY LEVITON MODEL # 5503-LHW OR EQUAL.
3. MOTOR RATED SWITCH: 1P/20A, SUITABLE FOR USAGE AS MANUAL TOGGLE CONTROLLER FOR FRACTIONAL HP MOTORS, AS MANUFACTURED BY LEVITON MODEL # MS302-DS OR EQUAL.

E. LIGHT FIXTURES: AS SCHEDULED ON PLANS, OR APPROVED EQUAL.

F. LIGHT POLES: AS SCHEDULED ON PLANS, OR APPROVED EQUAL.

1. COORDINATE BOLT PATTERN ORDERED WITH CIVIL CONTRACTOR WHO IS PROVIDING THE BASE FOR THE POLES.
2. PROVIDE ANCHOR BOLTS FOR MOUNTING BASE TO CONCRETE CONTRACTOR PRIOR TO POUR PER MANUFACTURER'S INSTRUCTIONS.

G. AUTOMATIC LIGHTING CONTROLS:

1. OCCUPANCY SWITCH, WALL MOUNTED: DUAL TECHNOLOGY, ULTRASONIC AND PASSIVE INFRARED, AUTOMATIC ON/OFF LIGHTING CONTROLLER FROM WALL SWITCH, SINGLE GANG, AS MANUFACTURED BY LEVITON, MODEL #OSMT-MD/GD OR EQUAL. PROVIDE WITH MATCHING COVER PLATE. COORDINATE COLOR WITH ARCHITECT.
2. OCCUPANCY/DIMMER LIGHT SWITCH: ELECTRONIC BALLAST OR LED DRIVER, 8A/120V RATED, 0-10V DIMMING, PASSIVE IR SENSOR FOR OCCUPANCY CONTROL, AS MANUFACTURED BY LUTRON #MS-Z101, OR EQUAL.
3. OCCUPANCY SWITCH, CEILING MOUNTED:
 - a. GENERAL USE: DUAL TECHNOLOGY, ULTRASONIC AND PASSIVE INFRARED, AUTOMATIC ON/OFF LIGHTING CONTROLLER FROM CEILING SENSOR WITH ASSOCIATED POWER PACK AND LOW VOLTAGE WIRING CONNECTIONS, AS MANUFACTURED BY LEVITON MODEL #OSC20-RMW, OR EQUAL.
4. LIGHTING TIMER: 24-HOUR ELECTRONIC TYPE, MIN. 2P/20A CONTACTS, 120V POWER SUPPLY, NEMA 1 ENCLOSURE, AS MANUFACTURED BY INTERMATIC #ET1125C OR EQUAL.
5. PHOTOCCELL SWITCH: 1P/120V, 1800 W RATING, WEATHERPROOF, SLIDE ADJUSTMENT, DELAY ACTION, AS MANUFACTURED BY INTERMATIC, MODEL # K4121C OR EQUAL.
6. LIGHTING CONTACTORS: SINGLE OR MULTIPLE POLE, 20A/120V MINIMUM RATINGS, NORMALLY OPEN CONTACTS, MAGNETICALLY HELD, 120V COIL VOLTAGE, NEMA ENCLOSURE AS SHOWN ON SCHEDULES, AS MANUFACTURED BY SQUARE D, TYPE LX OR EQUAL.

H. PANELS, SWITCHGEAR & DISTRIBUTION EQUIPMENT

1. ELECTRICAL PANELS: AS MANUFACTURED BY SQUARE D, OR EQUAL. PROVIDE SUBMITTALS FROM VENDOR PRIOR TO ORDERING PANELS AND BREAKERS. VERIFY PANELS MEET THE FAULT CURRENT RMS VALUES AS SHOWN ON THE PLANS.
2. DISCONNECT SWITCHES: HEAVY DUTY SAFETY SWITCH AS MANUFACTURED BY SQUARE D, OR EQUAL. PROVIDE NEMA 1 OR 3R ENCLOSURE AS REQUIRED. PROVIDE CLASS R, L OR J FUSES AND SPRING REINFORCED PLATED COPPER FUSE CLIPS WHERE SPECIFIED.
3. ELECTRICAL CAUTION TAPE: 6" WIDE HEAVY-DUTY POLYETHYLENE TAPE, RED WITH BLACK LETTERS, "CAUTION, ELECTRIC LINE BELOW" TEXT, AS MANUFACTURED BY BRADY #91296 OR EQUAL.
4. EQUIPMENT LABELS: PROVIDE EQUIPMENT LABELS FOR ALL DISCONNECT SWITCHES, PANELBOARDS, MOTOR CONTROL CENTERS AND OTHER MARKED ENCLOSURES. LABELS SHALL BE PERMANENTLY FASTENED TO EXTERIOR OF ENCLOSURE IN VISIBLE LOCATION AND SHALL MATCH EQUIPMENT IDENTIFICATION MARKS SHOWN ON PLANS.
 - a. INTERIOR LABELS SHALL BE BLACK PLASTIC WITH WHITE LETTERS, MINIMUM 3/4" HIGH.
 - b. EXTERIOR LABELS SHALL BE METALLIC, SUITABLE FOR EXTERIOR LOCATIONS WITH BLACK LETTERS MINIMUM 3/4" HIGH.

PLUMBING EQUIPMENT & MATERIALS

A. DOMESTIC WATER PIPING:

1. WATER SERVICE PIPING (OUTSIDE BUILDING): MINIMUM 160 PSI PRESSURE RATED, CONFORMING TO NSF 61 STANDARDS, OF THE FOLLOWING APPROVED TYPES:
 - a. PVC PLASTIC PIPE AND FITTINGS WITH SLIP OR SCREWED JOINTS AND FITTINGS OF SAME MATERIAL.
 - b. POLYETHYLENE (PE) PLASTIC TUBING, JOINTS AND FITTINGS.
 - c. POLYPROPYLENE (PP) PLASTIC PIPE OR TUBING, JOINTS AND FITTINGS.
 2. WATER DISTRIBUTION PIPING (INSIDE BUILDING): MINIMUM 100 PSI PRESSURE RATED, CONFORMING TO NSF 61 STANDARDS, OF THE FOLLOWING APPROVED TYPES:
 - a. TYPE L OR M COPPER, WITH JOINTS AND FITTINGS OF SAME MATERIAL. SOLDER JOINTS SHALL BE MADE WITH LEAD FREE FLUX AND SOLDER.
 - b. CPVC PLASTIC PIPE AND FITTINGS WITH SLIP OR SCREWED JOINTS AND FITTINGS OF SAME MATERIAL.
- B. DRAIN, WASTE, VENT (DWV) PIPING:** CONTRACTOR CAN UTILIZE ANY OF THE FOLLOWING PIPING MATERIAL TYPES FOR SANITARY AND ROOF DRAINAGE, DEPENDING UPON THE APPLICATION:
1. SCHEDULE 40 ABS PLASTIC PIPE AND FITTINGS
 2. CAST IRON PIPE AND FITTINGS
 3. SCHEDULE 40 PVC PLASTIC PIPING AND FITTINGS

C. PIPING INSULATION:

1. MATERIALS: PIPING INSULATION MATERIALS SHALL BE ONE OF THE FOLLOWING TYPES:
 - a. POLYETHYLENE FOAM, SELF-SEALING TYPE
 - b. RUBBER, SELF-SEALING TYPE
 - c. MOLDED FIBERGLASS WITH ALL SERVICE JACKET
2. DOMESTIC WATER PIPING: MINIMUM R-4 RATED, WITH MINIMUM 1" THICKNESS ON HW PIPING UP THRU 1 1/4", AND MINIMUM 1.5" ON PIPING OVER 1 1/4".
3. LAVATORIES: INSULATE ALL EXPOSED DRAIN AND WATER PIPING UNDER LAVATORIES WITH FACTORY COVERS AS MANUFACTURED BY TRUEBRO LAVGUARD, MODEL #102 OR EQUAL.

D. ROOFTOP SUPPORTS: RECYCLED RUBBER SUPPORT BLOCK WITH GALVANIZED STEEL CHANNEL FOR

CLAMPING PIPING TO BLOCK, AS MANUFACTURED BY B-LINE, MODEL DURA-BLOK OR EQUAL. SPACE SUPPORTS AS REQUIRED BY CODE FOR PIPE SIZES RUN ACROSS ROOF.

E. HOSE BIBS:

1. OUTDOOR: SHALL BE WOODFORD MODEL 67, CHROME FINISH, FREEZEPROOF TYPE, AUTOMATIC DRAINING WITH BACKFLOW PREVENTER AND KEYED OPERATION, OR APPROVED EQUAL. VERIFY WALL THICKNESS PRIOR TO ORDERING HOSE BIBS.

F. BACKFLOW PREVENTERS:

1. MAIN CW LINE: WHERE REQUIRED BY LOCAL AHJ, PROVIDE AS FOLLOWS:
 - a. HEALTH HAZARD (CONTAMINATION): LINE SIZED, CAST BRONZE BODY, TEST COCKS, BALL VALVES, REDUCED PRESSURE ZONE ASSEMBLY, WATTS #LF909 OR EQUAL.
 - b. NON-HEALTH HAZARD (POLLUTION): LINE SIZED, CAST BRONZE BODY, TEST COCKS, BALL VALVES, DOUBLE CHECK VALVE ASSEMBLY, AS MANUFACTURED BY WATTS #LF007 OR EQUAL.
2. BEVERAGE DISPENSERS: 3/8" NPT, STAINLESS STEEL AND RUBBER CONSTRUCTION, FDA COMPLIANT MATERIALS, DUAL CHECK VALVE ASSEMBLY, AS MANUFACTURED BY WATTS #SD-2 OR EQUAL.
3. LAWN SPRINKLERS: LINE SIZED, CAST BRONZE BODY, BALL VALVE TEST COCKS, BALL VALVES, DOUBLE CHECK VALVE ASSEMBLY, AS MANUFACTURED BY WATTS #LF007 OR EQUAL.
4. APPLIANCES: MIN. 1/2" ANTI-SIPHON VACUUM BREAKER, LEAD FREE CAST COPPER BODY, SILICONE DISC, AS MANUFACTURED BY WATTS #LF288A OR EQUAL.

G. BACKWATER VALVE: CAST IRON BODY, BRONZE SEAT AND FLAPPER, GASKETED, AS MANUFACTURED BY WATTS, #BV-200 OR EQUAL.

H. BALL VALVES (WATER): LINE SIZED, FULLY PORTED, SOLID BRASS BALL AND BODY, 600 PSI RATED, NON-SHOCK, ADJUSTABLE STEM PACKING, NPTF THREADS, AS MANUFACTURED BY APOLLO, SERIES #77 OR EQUAL.

I. HW BALANCING VALVES: 1/2" NPT, BRONZE BALL VALVE, FULLY PORTED, AS MANUFACTURED BY APOLLO #70-103-K8 OR EQUAL.

J. THERMOSTATIC MIXING VALVES: LEAD FREE, CORROSION RESISTANT, ADJUSTABLE, TAMPERPROOF, ASSE 1070 CONTROLS, INTEGRAL CHECK VALVES AND SCREENS, AS SCHEDULED OR EQUAL.

K. WATER HAMMER ARRESTERS: AS MANUFACTURED BY WATTS, MODEL #15M2 OR EQUAL. SELECT AND INSTALL PER MANUFACTURER'S INSTRUCTIONS.

L. VALVE BOX AND COVER: GREY IRON CASTINGS, FIELD PAINTED WITH GREY ENAMEL, AS MANUFACTURED BY US FOUNDRY, MODEL #HSF 7615 OR EQUAL. PROVIDE LID MARKED FOR WATER OR GAS SERVICE AS REQUIRED.

M. VALVE TAGS: 20 GA. BRASS TAG, MIN. 1 1/2" DIA, STAMPED AND BLACK FILLED TEXT, 3/16" DIA. MOUNTING HOLE, AS MANUFACTURED BY MARKSERV.COM OR EQUAL.

N. OUTLET BOXES:

1. ICE MAKERS: 1/2 TURN CHROME VALVE, COLD WATER CONNECTION AS REQUIRED, AS MANUFACTURED BY IPS, MODEL #W9700 OR EQUAL.

O. FLOOR DRAINS AND SINKS: AS SCHEDULED ON DRAWINGS OR MANUFACTURER RECOMMENDED EQUAL.

1. TRAP GUARDS: PROVIDE ALL FLOOR DRAINS WITH TRAP GUARDS FOR PROTECTION AGAINST DRY TRAPS, AS MANUFACTURED BY RECTORSEAL, SURESEAL SERIES OR EQUAL. SIZE GUARDS FOR ACTUAL TRAPS INSTALLED.
2. FLOOR SINKS: PROVIDE ALL FLOOR SINKS WITH FACTORY CUT OPENINGS IN TOP GRATE FOR INSTALLATION OF ACTUAL INDIRECT WASTE PIPING REQUIRED. COORDINATE SELECTIONS WITH DRAIN SUPPLIER.

P. HUB DRAIN: MIN. 2", INTEGRAL FUNNEL, DOME BOTTOM STRAINER, AS MANUFACTURED BY J.R. SMITH, MODEL #3811 OR EQUAL. PROVIDE WITH P-TRAP AND TRAP GUARD.

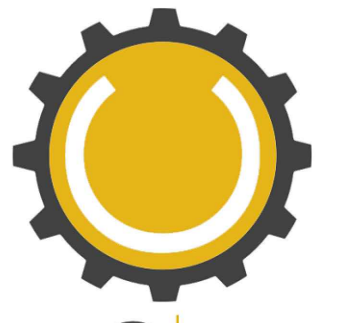
Q. CLEANOUTS: PROVIDE WHERE SHOWN ON PLANS AND AS REQUIRED BY LOCAL PLUMBING CODES. CLEANOUTS SHALL BE SUITABLE FOR CONDITIONS WHERE INSTALLED AS FOLLOWS:

1. FLOORS, FINISHED: CLEANOUT TEE WITH NICKEL BRONZE, ADJUSTABLE TOP, AS MANUFACTURED BY J.R. SMITH, ZURN OR EQUAL.
2. WALL: CLEANOUT TEE, STAINLESS STEEL ROUND COVER AND SCREW, IRON PLUG WITH SEAL, AS MANUFACTURED BY J.R. SMITH, ZURN OR EQUAL.
3. GRADE: CLEANOUT BODY, HEAVY DUTY CAST IRON COVER, FLANGED FOR USE IN POURED CONCRETE, SUITABLE FOR USE IN ASPHALT PAVING OR EARTH, ADJUSTABLE TOP, AS MANUFACTURED BY J.R. SMITH, ZURN OR EQUAL.
4. 2-WAY (DOUBLE): HEAVY DUTY CAST IRON COVER, FLANGED FOR USE IN POURED CONCRETE, SUITABLE FOR USE IN ASPHALT PAVING OR EARTH, 2-WAY CLEANOUT TEE FITTING WITH ADJUSTABLE TOP, AS MANUFACTURED BY J.R. SMITH, ZURN OR EQUAL.

R. PLUMBING FIXTURES AND ACCESSORIES: AS SCHEDULED ON DRAWINGS OR APPROVED EQUAL. FURNISH AND INSTALL PER MANUFACTURER'S INSTRUCTIONS. PROVIDE ALL REQUIRED FITTINGS AND ACCESSORIES FOR A COMPLETE AND FUNCTIONING FIXTURE, WHETHER SPECIFIED ON PLANS OR NOT.

PACKAGED PLUMBING EQUIPMENT:

- A. WATER HEATERS: TYPE, STORAGE CAPACITY AND PERFORMANCE AS SCHEDULED ON DRAWINGS OR EQUAL. INSTALL PER MANUFACTURER'S INSTRUCTIONS. PROVIDE ALL REQUIRED VALVES AND FITTINGS AS SHOWN ON THE PLANS, INCLUDING THE FOLLOWING ACCESSORIES:
 1. EXPANSION TANK: ANTIMICROBIAL LINER, WATER DIFFUSER, PRE-CHARGED TO MATCH WATER SERVICE PRESSURE, DEEP DRAWN STEEL DOMES, THICK RUBBER DIAPHRAGM, STAINLESS STEEL SYSTEM CONNECTION, NSF 61 APPROVED, AS MANUFACTURED BY AMITROL, MODEL THERM-X-TROL, OR EQUAL. SIZING SHALL BE PROVIDED BY VENDOR BASED ON WATER HEATER CAPACITY.
 2. VACUUM BREAKER: LOW PROFILE, ALL BRASS BODY, PROTECTIVE CAP, AS MANUFACTURED BY WATTS MODEL #N36-M1 OR EQUAL. LINE SIZED FOR COLD WATER INLET PIPING.
 3. RELIEF VALVE: TEMPERATURE AND PRESSURE RELIEF VALVE, LEAD FREE COPPER ALLOY BODY WITH NPT MALE INLET AND NPT FEMALE OUTLET CONNECTIONS, UNIQUE THERMOSTAT WITH SPECIAL THERMO-BONDED COATING, AND A TEST LEVER. TEMPERATURE RELIEF: 210°F, PRESSURE RELIEF RANGE: 75 TO 150PSI, AS MANUFACTURED BY WATTS, SERIES LF100XL.
 4. WALL MOUNT: 12 GA. GALV PAN WITH 1" PVC DRAIN CONNECTION, THREADED RODS WITH TURNBUCKLES, WALL BRACKETS, AS MANUFACTURED BY HOLDRITE QUICK STAND #50-SWHP-W OR EQUAL.
- B. HW RECIRCULATION PUMP: IN-LINE CENTRIFUGAL PUMP, ELECTRONIC CONTROLS CAPABLE OF STARTING/STOPPING THE PUMP AS THE DEMAND FOR HOT WATER COMES AND GOES, AND STOPPING PUMP WITHIN 5 MINUTES OF END OF HEATING CYCLE. INCLUDE ALL FACTORY REMOTE TEMPERATURE SENSORS AND ACCESSORIES REQUIRED TO COMPLY WITH LATEST ENERGY CODE.
- C. WATER COOLER: SELF-CONTAINED, HEAVY DUTY, VANDAL RESISTANT WATER COOLER, FRONT PUSHBUTTON ACTIVATION, INTEGRAL BASIN DRAIN, WALL MOUNTED, AS SHOWN ON PLUMBING FIXTURE SCHEDULE OR APPROVED EQUAL. SEE SCHEDULES FOR PERFORMANCE REQUIREMENTS. REFRIGERATION SYSTEM INCLUDES RECIPROCATING TYPE COMPRESSOR WITH R134 REFRIGERANT, COPPER TUBING AND STAINLESS-STEEL TANK, EPS FOAM INSULATION, CONDENSER FAN AND ADJUSTABLE THERMOSTATIC CONTROLS.



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Engineering

TEXAS FIRM
REGISTRATION:
#F-9165

HTEAO - HELOTES
12550 E. BANDERA ROAD
HELOTES, TX 78023



JOB NO.: SJK-174

SCALE : SHOWN

DRAWN: C.A. PIEPER

DATE: 7/5/22

REVISIONS :

SHEET :

MEP3

MEP SPECIFICATIONS

OF : 4

MEP SPECIFICATIONS: (CONTINUED)

B. REFRIGERATION EQUIPMENT (BY OWNER): ALL REFRIGERATION SYSTEMS SHALL BE FURNISHED AND INSTALLED BY THE OWNER / VENDOR OF THE EQUIPMENT. THE FOLLOWING ENERGY CODE REQUIREMENTS SHALL APPLY TO ALL REFRIGERATION EQUIPMENT PROVIDED BY THE OWNER.

1. WALK-IN COOLERS - SITE ASSEMBLED: WALK-INS SHALL BE CONSTRUCTED OF PREFAB, PRECISION-FORMED, MODULAR PANELS DESIGNED FOR ACCURATE, RAPID FIELD ASSEMBLY. WALK-INS SHALL BE TEST ASSEMBLED AT THE FACTORY.
 - a. PROVIDE FACTORY INSTALLATION INSTRUCTIONS AND LAY-OUT DRAWING FOR ALL COOLERS. ALL PANELS SHALL HAVE PANEL IDENTIFICATION CORRESPONDING WITH THE LAY-OUT DRAWING TO FACILITATE RAPID AND ACCURATE FIELD ERECTION.
 - b. PANELS: INNER AND OUTER METAL SKIN WITH 4" POLYSTYRENE INSULATION CORE, MIN. R-25 INSULATION RATING FOR COOLERS AND R-32 FOR FREEZERS.
 - c. FLOORS: MIN. R-28 POLYSTYRENE INSULATION RATING, RATED FOR 600 LB/SQFT LOAD
 - d. COOLER DOORS: FLUSH MOUNTED, MAGNETIC GASKETS, DOOR CLOSER, PRE-WIRED LIGHT FIXTURE, LIGHT SWITCH AND PILOT LIGHT, DIAL THERMOMETER, MANUAL INTERNAL LOCK OVERRIDE, CHROME PLATED CAM HINGES AND LATCHES. IF OUTDOORS PROVIDE WEATHERPROOF LIGHT SWITCH AND DOOR DRIP CAP.
 - e. PROVIDE ALL DOORS WITH FACTORY ACCESSORIES FOR INFILTRATION CONTROL, INCLUDING STRIP DOORS, CURTAINS, SPRING-HINGED DOORS OR OTHER.
 - f. FAN MOTORS: ALL MOTORS LESS THAN 1 HP ON EVAPORATOR AND CONDENSING UNIT FANS SHALL BE THE EC TYPE.
 - g. LIGHTING: WEATHERTIGHT FIXTURE, LED LIGHT DRIVER, MIN. 100 LUMEN/WATT.



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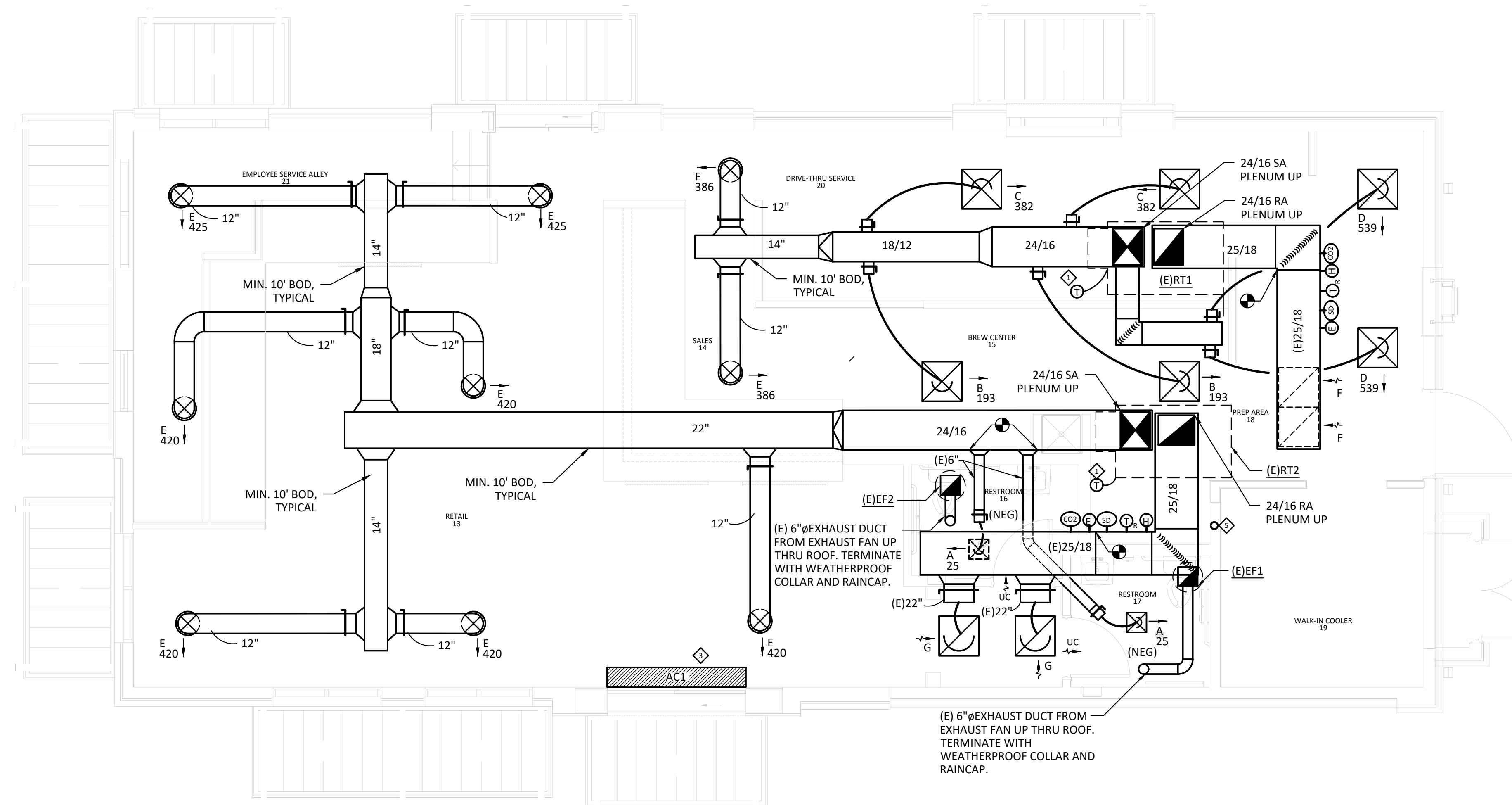
MEP4

MEP SPECIFICATIONS
CONTINUED

OF : 4

◆ KEYNOTES:

- COORDINATE WITH OWNER FOR FINAL LOCATION OF THERMOSTATS. PROVIDE LOCKING COVERS. CONNECT THERMOSTATS TO REMOTE, DUCT MOUNTED TEMP SENSORS FOR CONTROL OF RTUS. TYPICAL 2 PLACES.
- INSTALL CONTROLS IN RA DUCT IN ACCESSIBLE LOCATIONS FOR SERVICE AND ADJUSTMENT, TYPICAL BOTH RTUS.
- COORDINATE WITH OWNER FOR FINAL REQUIREMENTS FOR AIR CURTAINS SCHEDULED AND LOCATIONS, TYPICAL 3 PLACES. PROVIDE ALL REQUIRED CONTROLS FOR OPERATION PER MFG'S INSTRUCTIONS. POWER CONNECTION TO BE PROVIDED BY ELECTRICAL CONTRACTOR.
- COORDINATE WITH OWNER TO INSTALL OWNER FURNISHED COOLER REFRIGERATION UNIT. COORDINATE FINAL LOCATION OF UNIT WITH OWNER PRIOR TO INSTALLATION. PROVIDE CONDENSATE PUMP AND DRAIN PIPING AS REQUIRED BY MFG. PROVIDE REFRIGERANT PIPING AS REQUIRED UP TO REMOTE CONDENSER ON ROOF ABOVE, SEE 1/M2.
- 1" COND. DRAIN PIPING DOWN FROM ROOFTOP UNITS ABOVE, ROUTE TO SINK BELOW, COORDINATE WITH PLUMBING AND ROOFING CONTRACTORS FOR ROUGH-IN.

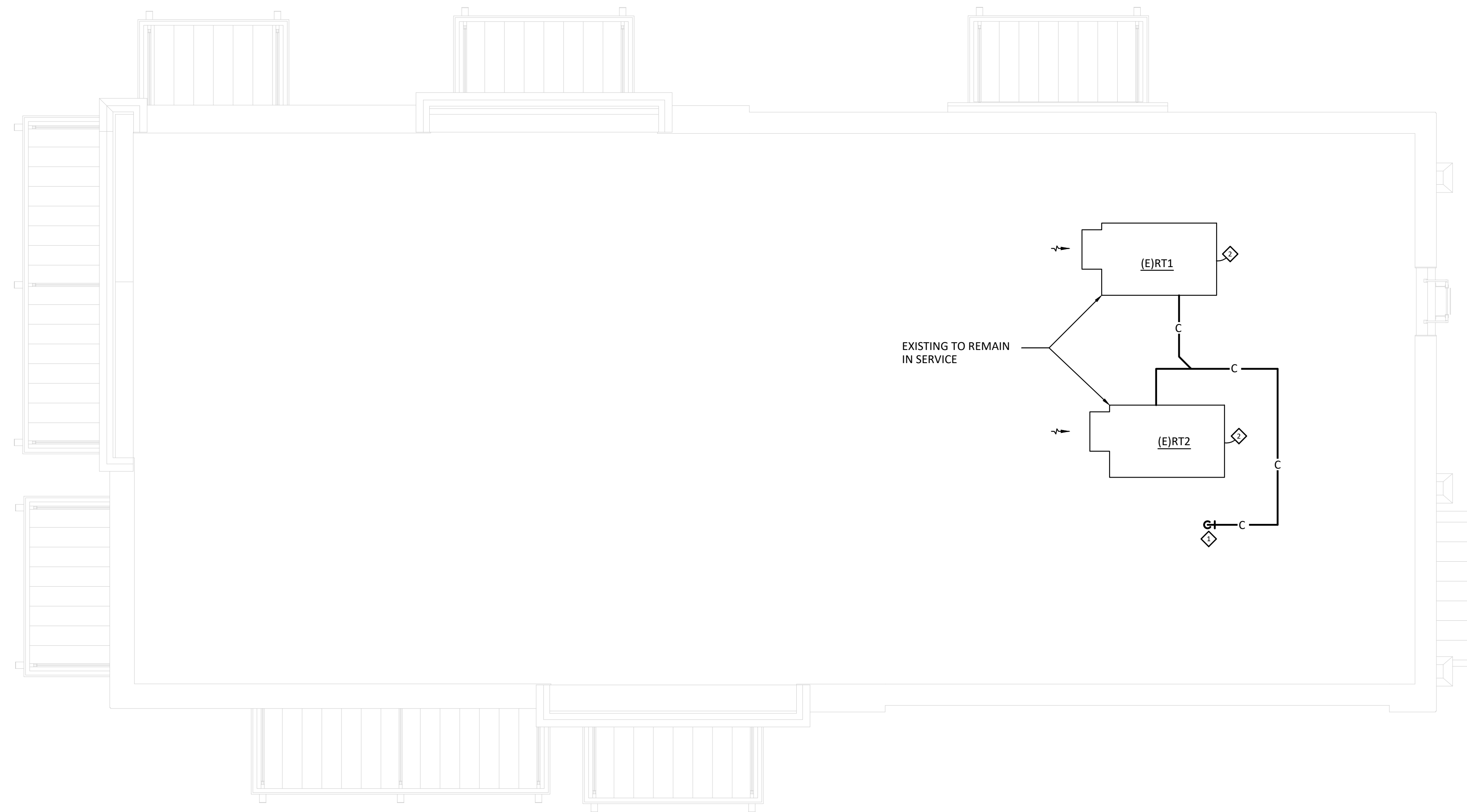


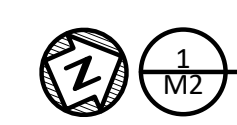
PLAN - HVAC
SCALE: 1/4"=1'-0"

- NOTES:
- FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BIDDING WORK.
 - RE-USE EXISTING RESTROOM EXHAUST FANS AND DUCTWORK AS SHOWN.
 - REUSE EXISTING ROOFTOP UNITS AS SHOWN. PROVIDE NEW DUCTWORK AS SHOWN ABOVE.
 - PROVIDE REQUIRED HVAC CONTROLS AS SHOWN, SEE CONTROLS DETAIL.

◆ KEYNOTES:

1. 1" COND. DRAIN PIPING DOWN TO LAVATORY BELOW, COORDINATE WITH PLUMBING AND ROOFING CONTRACTORS FOR ROUGH-IN, TYPICAL.
2. EXIST ROOFTOP PACKAGED UNIT TO BE RE-USED. MAKE ALL REPAIRS AS REQUIRED FOR FACTORY PERFORMANCE SPECIFICATIONS. FIELD VERIFY EXISTING CONDITIONS AND PERFORM EQUIPMENT TESTING PRIOR TO BIDDING WORK.



 **ROOF PLAN - HVAC**
SCALE: 1/4"=1'-0"

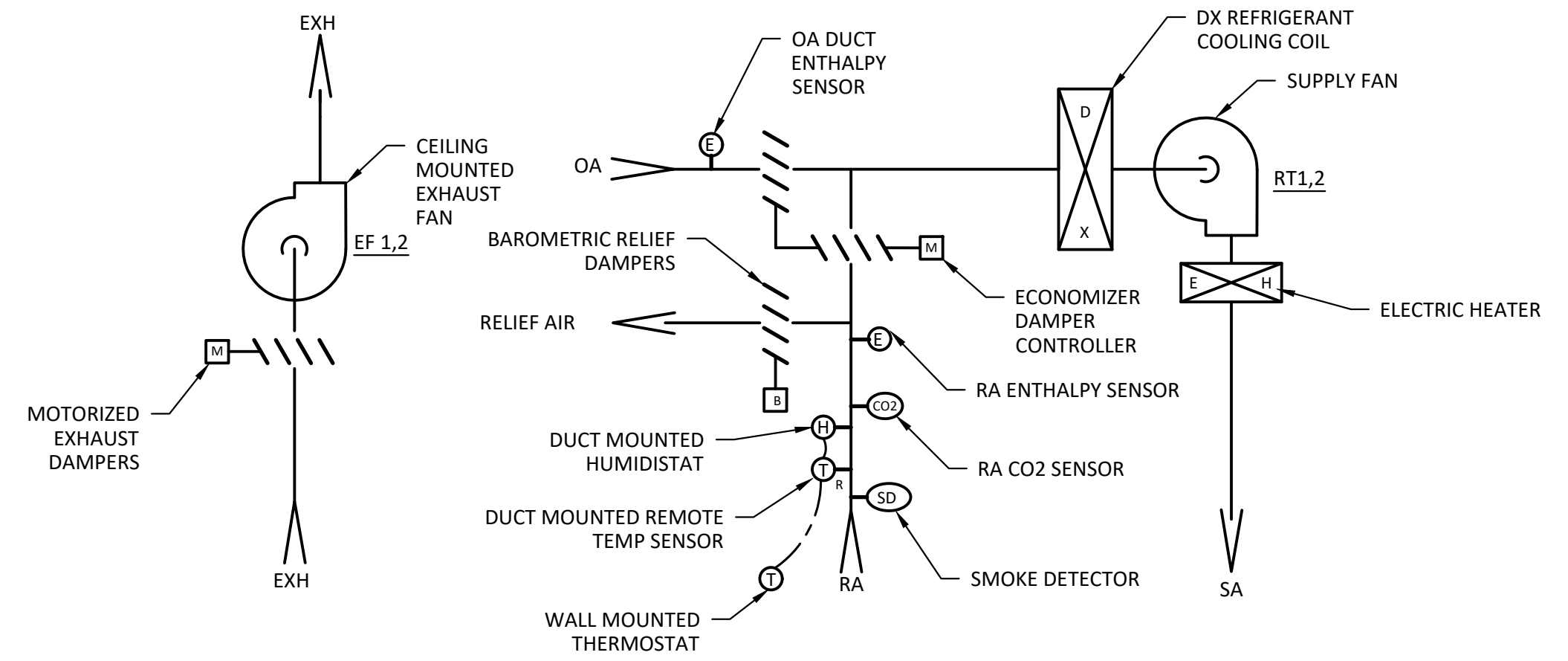
- NOTE:
1. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BIDDING WORK.
 2. ALL CONDENSATE DRAIN PIPING 3/4" UNLESS SHOWN OTHERWISE. REPAIR OR REPLACE EXISTING PIPING AS REQUIRED TO MAINTAIN SLOPE OR ELIMINATE CLOGS OR LEAKS.

ROOFTOP UNIT SCHEDULE (EXISTING)		
MARK	RT1	RT2
SERVES	KITCHEN	SALES
TOTAL AIRFLOW (CFM)	3,000	3,000
OUTSIDE AIR (CFM)	900	250
RETURN AIR (CFM)	2100	2750
PERCENTAGE OA (%)	30%	8%
EXT. S.P. (IN.WG.)	1.50	1.50
OPERATING WEIGHT (LBS)	1500	1500
FILTER RATING	8	8
DX COOLING DATA		
ENT. AIR DB (F)	80.0	80.0
ENT. AIR WB (F)	67.0	67.0
LVG AIR DB (F)	55.0	55.0
LVG AIR WB (F)	54.0	54.0
SENS. CAP. (MBH)	83.0	83.0
TOT. CAP. (MBH)	89.0	89.0
NO. CIRCUITS	2	2
MIN. SEER	12	12
GAS HEATING DATA		
ENT. AIR DB (F)	58.2	58.2
LVG AIR DB (F)	93.5	93.5
MIN. OUTPUT CAP. (MBH)	96.0	96.0
GAS HEATER INPUT (MBH)	120.0	120.0
MIN. EFFICIENCY (%)	80	80
NO. STAGES	2	2
ELECTRICAL DATA		
VOLTS/POLE	208V/3P	208V/3P
MCA (AMPS) WITH HEATER	41.0	41.0
MOCP (AMPS) WITH HEATER	50.0	50.0
MANUFACTURER	TRANE	TRANE
MODEL NO.	YAC090	YAC090
FACTORY ACCESSORIES	ECONOMIZER	ECONOMIZER
NOTE: DATA ABOVE IS PRESENTED AS REFERENCE TO ORIGINAL EQUIPMENT ONLY AND DOES NOT GUARANTEE THE EXISTING CONDITIONS OR PERFORMANCE CAPABILITIES. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND TEST EQUIPMENT FOR PERFORMANCE, PRIOR TO STARTING WORK.		

EXHAUST FAN SCHEDULE (EXISTING)		
MARK	EF1	EF2
SERVES	RESTROOM	RESTROOM
TYPE	IN-LINE, CEILING FAN	IN-LINE, CEILING FAN
MOUNTING	CEILING	CEILING
OPERATING WEIGHT (LBS)	0.24	0.24
AIRFLOW (CFM)	75	75
EXT. S.P. (IN.WG.)	0.30	0.30
MOTOR DATA		
FULL LOAD INPUT	80 W	80 W
VOLTS/POLE	120V/1P	120V/1P
MANUFACTURER	GREENHECK	GREENHECK
MODEL NO.	SP-B110	SP-B110
NOTE: DATA ABOVE IS PRESENTED AS REFERENCE TO ORIGINAL EQUIPMENT ONLY AND DOES NOT GUARANTEE THE EXISTING CONDITIONS OR PERFORMANCE CAPABILITIES. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND TEST EQUIPMENT FOR PERFORMANCE, PRIOR TO STARTING WORK.		

AIR CURTAIN SCHEDULE	
MARK	AC1
SERVES	MAIN DOOR
TYPE	CENTRIFUGAL
MOUNTING	WALL
OPERATING WEIGHT (LBS)	15
AIRFLOW (CFM)	2,000
LENGTH (IN)	84
DEPTH (IN)	9
HEIGHT (IN)	9
MOTOR DATA	
HORSEPOWER	1 X 1/5
INPUT POWER (WATTS)	320
VOLTS/POLE	120V/1P
BREAKER RATING (AMPS)	15
MANUFACTURER	BERNER
MODEL NO.	SLC07-1081A

DIFFUSER & GRILLE SCHEDULE							
MARK	A	B	C	D	E	F	G
SERVES	(E)SUPPLY	SUPPLY	SUPPLY	SUPPLY	SUPPLY	(E)RETURN	(E)RETURN
MAXIMUM (CFM)	100	200	450	650	450	2,000	2,000
MAX. PD (IN WC)	0.11	0.01	0.06	0.07	0.07	0.13	0.13
MOUNTING TYPE	LAY-IN	LAY-IN	LAY IN	LAY IN	DUCT	LAY IN	DUCT
NECK SIZE (IN)	6	6	10	12	10	22 x 22	22
FACE SIZE (IN)	12 x 12	24 x 24	24 x 24	24 x 24	18	24 x 24	24 x 24
MAX. NC	25	22	25	25	25	25	25
MANUFACTURER	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS
MODEL NO.	TMS	TMS	TMS	TMS	TMR	PAR	PAR
FINISH	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE
CONSTRUCTION	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL
FLEX CONNECTION (IN)	8	8	12	14	NA	NA	NA



RTU CONTROL DIAGRAM
 NO SCALE

SEQUENCE OF OPERATIONS:

- A. EXHAUST FANS:
 - EXIST RESTROOM EXHAUST FANS SHALL BE CONTROLLED BY EXIST WALL SWITCH IN EACH RESTROOM.
- B. ROOFTOP UNITS:
 - WALL MOUNTED THERMOSTATS CONTROLLING ALL ROOFTOP UNITS SHALL BE PROGRAMMED WITH OWNER'S OCCUPIED/UNOCCUPIED TIME SCHEDULE.
 - RTU FANS SHALL BE PROGRAMMED TO RUN CONTINUOUSLY DURING OCCUPIED PERIODS AND CYCLE ONLY DURING UNOCCUPIED TIMES, IN ORDER TO COMPLY WITH MECHANICAL VENTILATION REQUIREMENTS.
- C. VENTILATION (RT1):
 - RT1 OA DAMPERS, UNDER NORMAL OPERATION, SHALL OPEN TO ALLOW FOR SCHEDULED OA VENTILATION WHEN THE FAN IS IN OPERATION. COORDINATE WITH BALANCING CONTRACTOR TO MAKE FINAL MEASUREMENTS AND SETTINGS OF ALL MINIMUM OA DAMPER POSITIONS.
 - FACTORY BAROMETRIC RELIEF DAMPERS ON RTUS SHALL AUTOMATICALLY OPEN AND RELIEVE EXCESS BUILDING PRESSURE WHENEVER REQUIRED.
 - OA DAMPERS SHALL AUTOMATICALLY CLOSE WHEN FAN IS OFF.
- C. VENTILATION (RT2):
 - OA DAMPERS, UNDER NORMAL OPERATION, SHALL PROVIDE DEMAND CONTROLLED VENTILATION (DCV). COORDINATE WITH BALANCING CONTRACTOR TO MAKE FINAL MEASUREMENTS AND SETTINGS OF MINIMUM OA DAMPER POSITIONS.
 - RA DUCT MOUNTED CO2 SENSOR SHALL MODULATE OA DAMPERS AS NEEDED TO MAINTAIN 1000 PPM SET POINT (ADJUSTABLE).
 - FACTORY BAROMETRIC RELIEF DAMPERS ON RTU'S SHALL AUTOMATICALLY OPEN AND RELIEVE EXCESS AIR FROM BUILDING WHENEVER INDOOR PRESSURE IS ABOVE MIN +0.01".
- D. DX COOLING:
 - UPON CALL FOR COOLING FROM DUCT MOUNTED REMOTE TEMP SENSOR, RTU SHALL OPERATE IN COOLING MODE TO STAGE ON/OFF REFRIGERANT COMPRESSOR STAGES IN SEQUENCE, AS NEEDED TO MAINTAIN ROOM TEMPERATURE SET POINT.
- E. HEATING SYSTEMS:
 - UPON CALL FOR HEATING FROM DUCT MOUNTED REMOTE TEMP SENSOR, RTU SHALL STAGE ELECT HEATER ON/OFF AS NEEDED TO MAINTAIN ROOM TEMPERATURE SET POINT.
- F. ECONOMIZER:
 - WHEN RTU IS IN OPERATION IN COOLING MODE, RTU SHALL AUTOMATICALLY MODULATE ECONOMIZER DAMPERS TO 100% OA AND OPEN BAROMETRIC RELIEF DAMPER WHENEVER OA ENTHALPY IS BELOW RA ENTHALPY SETPOINT.
 - RTU SHALL AUTOMATICALLY RETURN ECONOMIZER DAMPERS TO MINIMUM OA SETPOINT WHENEVER OA ENTHALPY IS GREATER THAN RA ENTHALPY SETPOINT, OR OA IS BELOW 55F.
- H. SMOKE DETECTOR: UPON ALARM FROM DUCT MOUNTED SMOKE DETECTOR, UNIT FAN SHALL STOP AND BE LOCKED OUT OF OPERATION UNTIL FIRE ALARM RESET.



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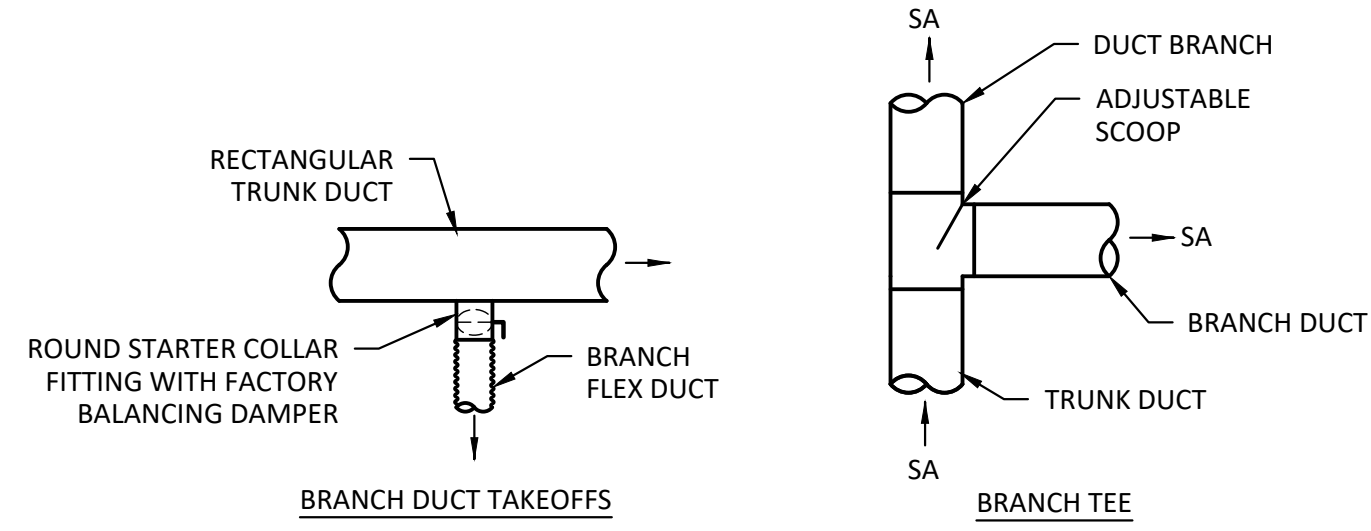
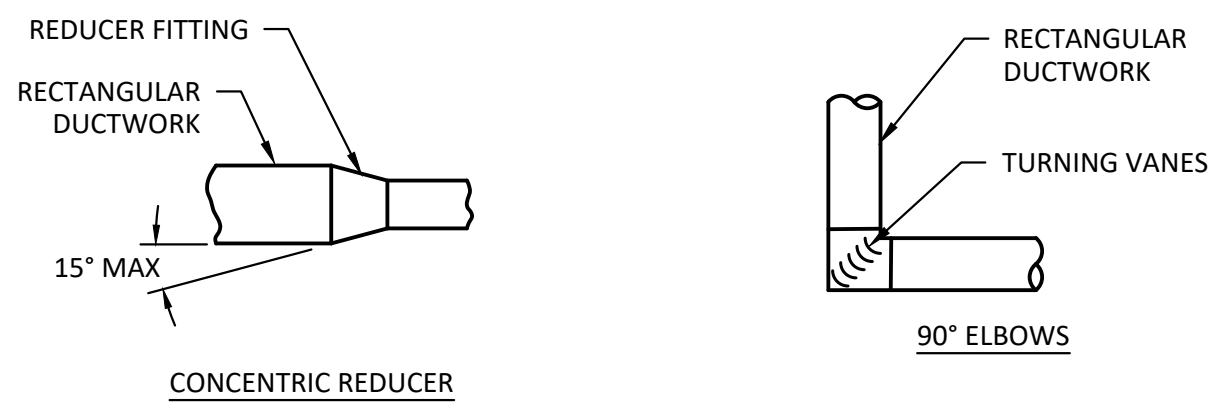
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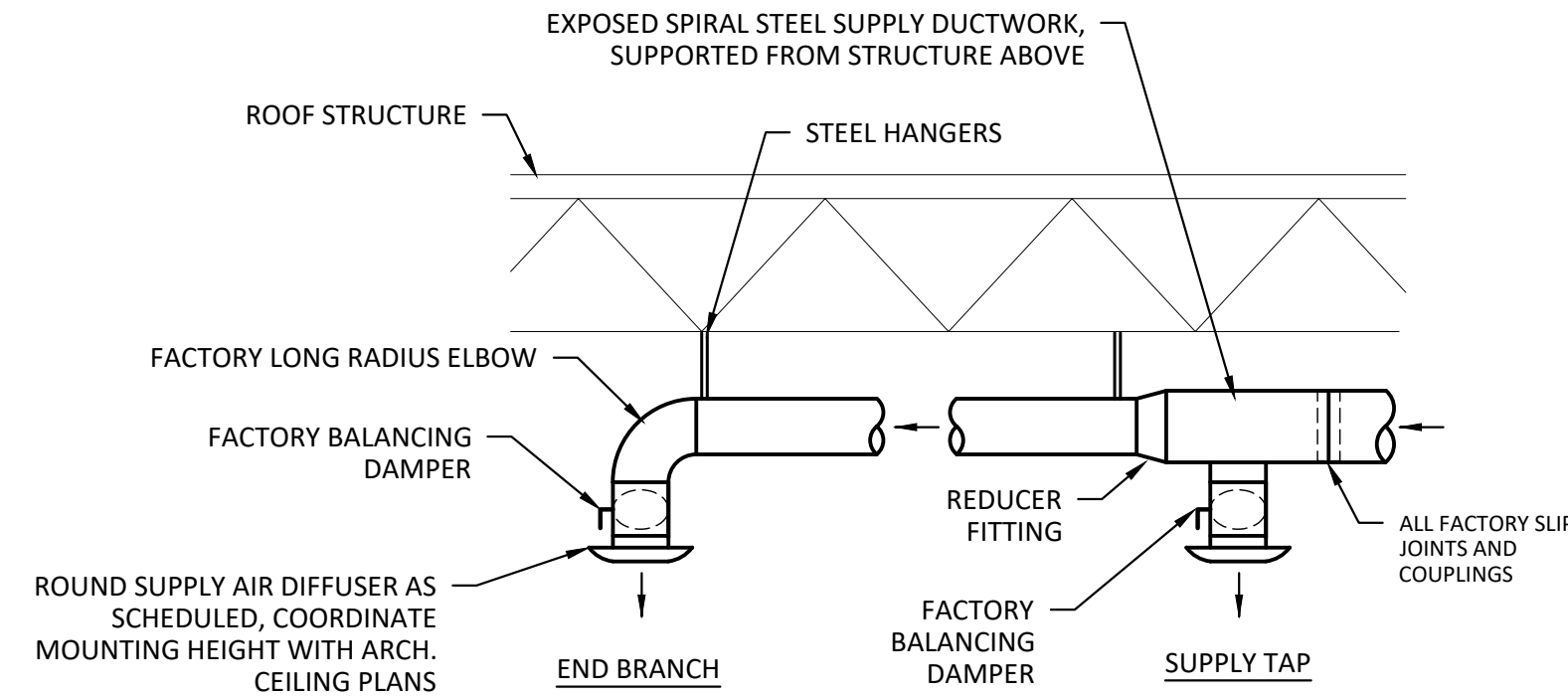
HVAC SCHEDULES
 AND CONTROL SEQUENCE

OF : 4



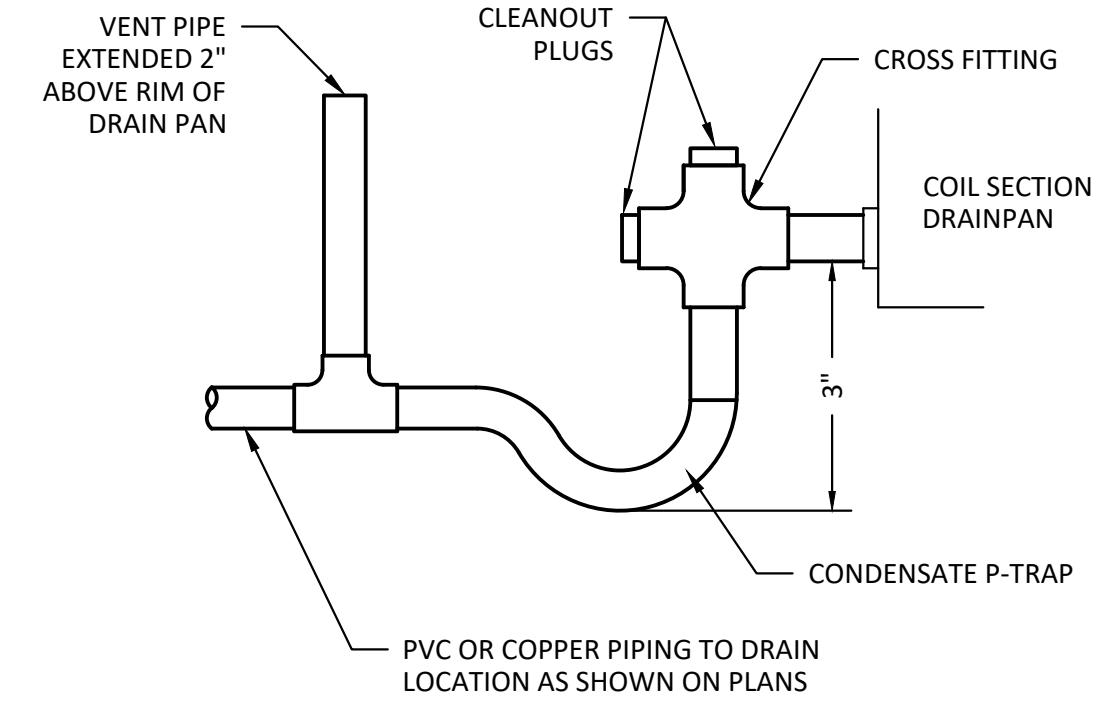
1 M4 NO SCALE
CONCEALED DUCTWORK DETAILS

- NOTES:
- FABRICATE ALL CONCEALED DUCTWORK SYSTEMS ACCORDING TO LATEST SMACNA OR NAIMA FIBROUS GLASS DUCT CONSTRUCTION STANDARDS.
 - SEAL ALL JOINTS AND SEAMS WITH METALIC TAPE AND OR MASTIC SEALANT AS NEEDED FOR MIN. 1" WC. PRESSURE RATING.
 - PROVIDE ALL REQUIRED DUCT BRACING PER SMACNA OR NAIMA CONSTRUCTION STANDARDS.
 - ALL FLEX DUCT BRANCHES TO BE INSTALLED FULLY EXTENDED WITHOUT KINKS OR SHARP BENTS.
 - PROVIDE ALL REQUIRED SUPPORTS TO ENSURE UNRESTRICTED AIRFLOW THROUGH FLEX DUCT BRANCHES. WHERE REQUIRED, PROVIDE FACTORY STEEL, LONG SWEEP ELBOWS TO ENSURE SMOOTH BENDS.



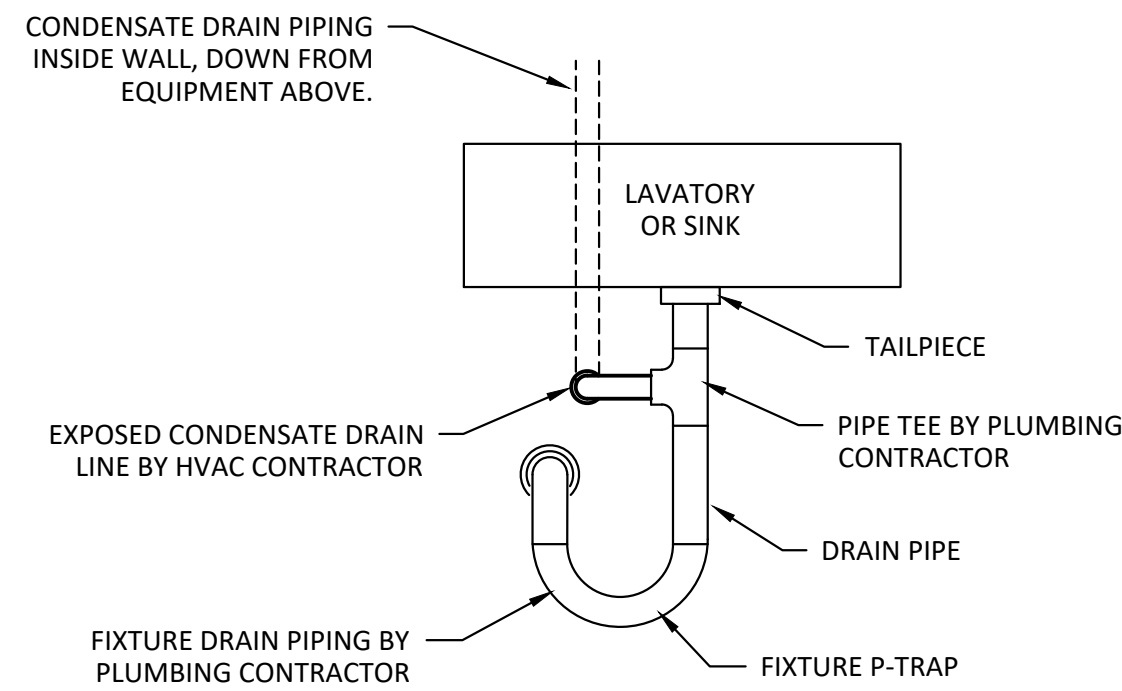
2 M4 NO SCALE
SPIRAL ROUND DUCTWORK DETAILS

- NOTES:
- FABRICATE ALL EXPOSED SPIRAL STEEL DUCTWORK SYSTEMS SHOWN ON PLANS USING DETAILS SHOWN ABOVE AS WELL AS THE LATEST SMACNA DUCT CONSTRUCTION STANDARDS.
 - SEAL ALL JOINTS AND SEAMS WITH CLEAR SILICONE SEALANT AS NEEDED FOR MIN. 1" WC. PRESSURE RATING.
 - INSTALL ALL EXPOSED DUCTWORK IN FINISHED CONDITION, FREE FROM MARKS AND OTHER DAMAGE, WIPED CLEAN AND READY FOR PRIMING BY OTHERS.
 - ALL EXPOSED DUCTWORK MIN. 10' AFF, OR AS NOTED ON PLANS.



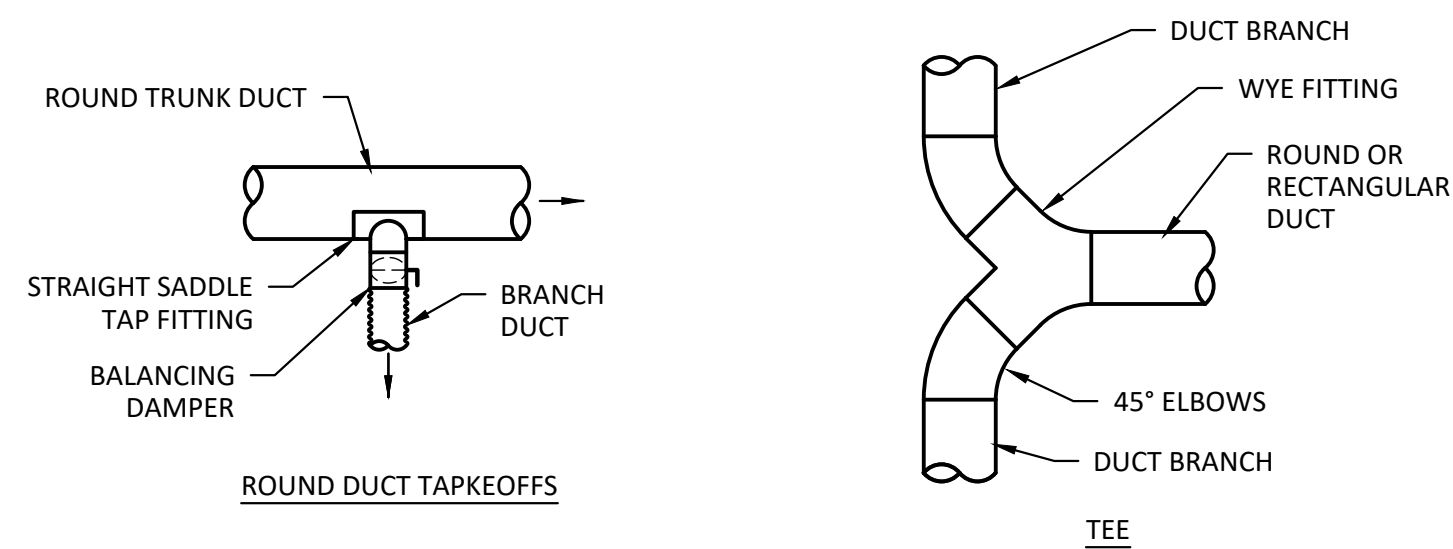
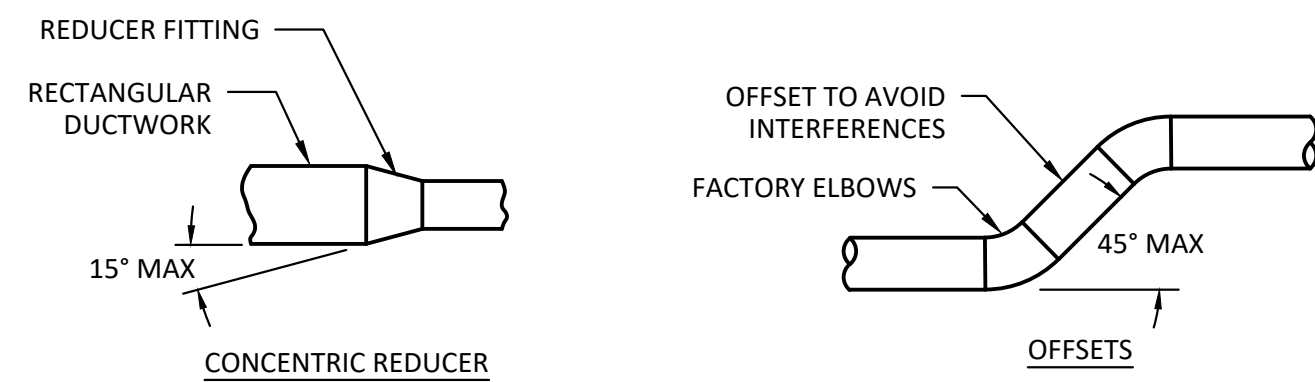
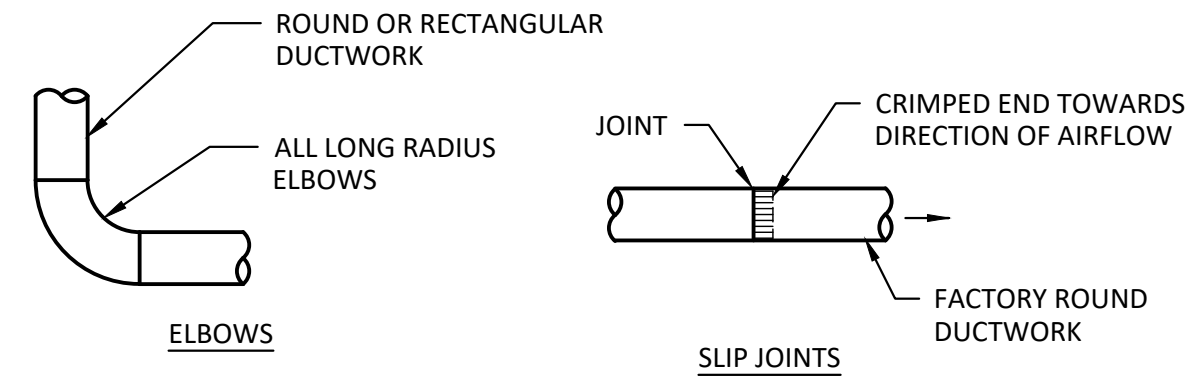
3 M4 NO SCALE
CONDENSATE TRAP DETAIL

- NOTES:
- PIPING SHOWN ABOVE IS GENERAL ARRANGEMENT ONLY. MODIFY AS REQUIRED TO AVOID INTERFERENCES.
 - ENSURE THAT CONDENSATE PIPING DOES NOT BLOCK ACCESS TO UNIT PANELS FOR SERVICE.
 - PROVIDE SUPPORTS FOR ALL PIPING RUN ACROSS ROOFTOP, SEE SPECS.



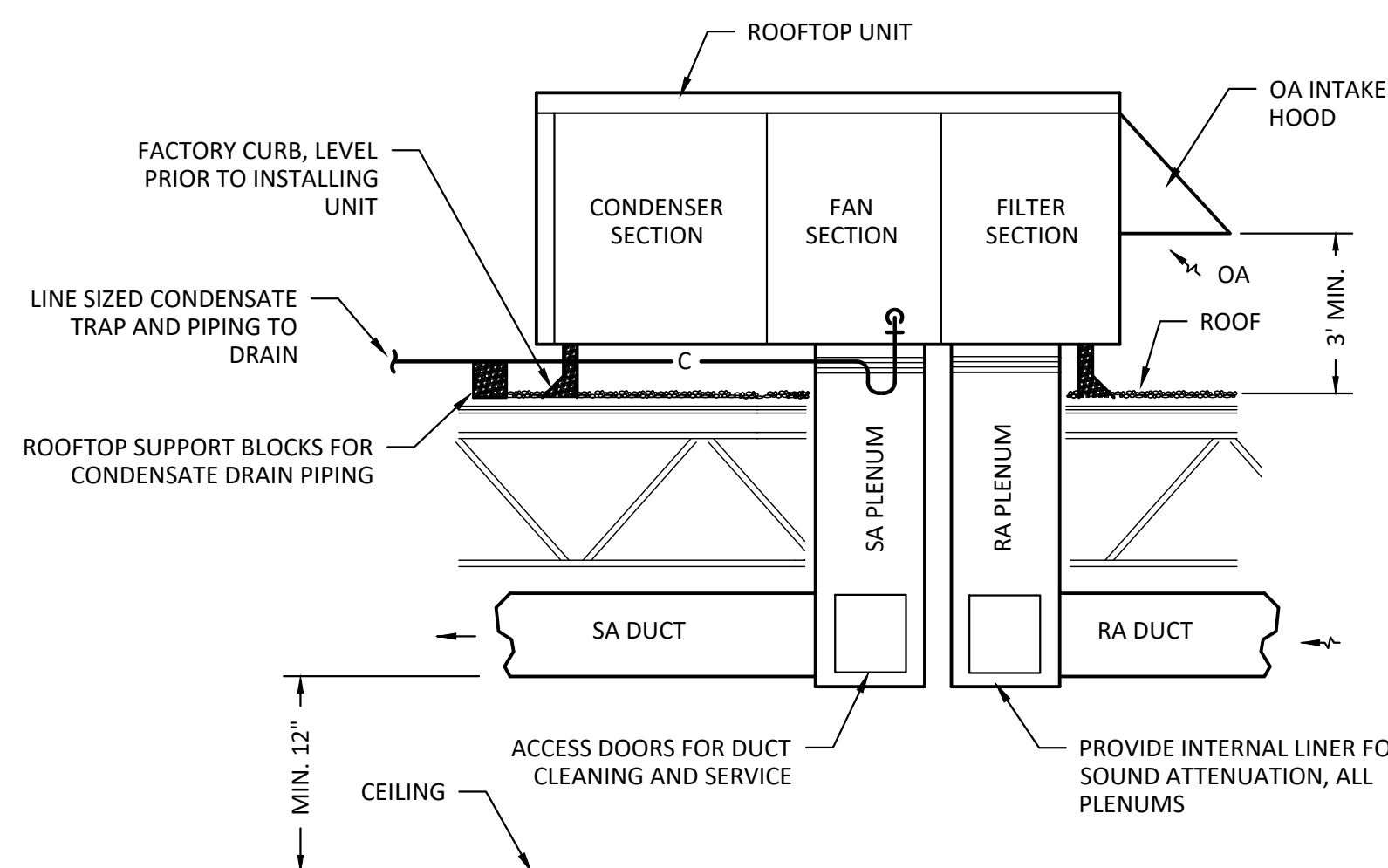
4 M3 NO SCALE
CONDENSATE DRAIN DETAIL

- NOTES:
- PIPING SHOWN ABOVE IS GENERAL ARRANGEMENT ONLY FOR INDIRECT DRAIN CONNECTIONS SHOWN ON PLANS.
 - COORDINATE WITH PLUMBING CONTRACTOR TO PROVIDE ROUGH-IN FOR CONDENSATE DRAIN CONNECTION SHOWN.



5 M4 NO SCALE
SPIRAL ROUND DUCTWORK DETAILS

- NOTES:
- DETAILS SHOW ABOVE ARE GENERAL CONSTRUCTION STANDARDS FOR EXPOSED SPIRAL ROUND DUCT SYSTEM FABRICATION.
 - FABRICATE ALL DUCTWORK ACCORDING TO LATEST SMACNA DUCT CONSTRUCTION STANDARDS.
 - SEAL ALL JOINTS AND SEAMS WITH CLEAR SILICON AS NEEDED FOR MIN. 1" WC. PRESSURE RATING.



6 M4 NO SCALE
RTU INSTALLATION DETAILS

- NOTES:
- INSTALLATION SHOWN ABOVE IS GENERAL ARRANGEMENT ONLY. MAKE ALL REQUIRED FIELD ADJUSTMENTS NEEDED TO AVOID INTERFERENCES AND MAINTAIN CLEARANCES AND SEPARATIONS.



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HVAC DETAILS

OF : 4

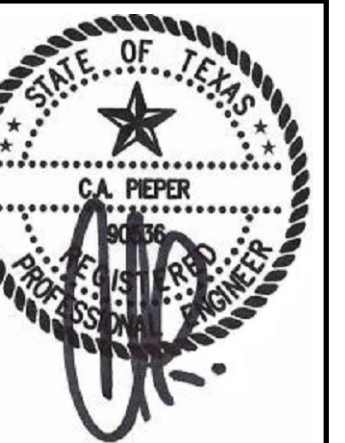
◇ KEYNOTES:

1. COORDINATE WITH MECH TO PROVIDE POWER CONNECTION FOR AIR CURTAIN ABOVE DOOR PER MFG'S INSTRUCTIONS. LOCATE CORD AND PLUG CLOSE TO UNIT FOR CONCEALMENT, TYPICAL 2 PLACES.
2. COORDINATE WITH PLUMBING CONTRACTOR TO PROVIDE POWER CIRCUIT FOR WATER HEATER, LOCATION SHOWN IS PRELIMINARY.
3. COORDINATE WITH PLUMBING CONTRACTOR TO PROVIDE GFI RECEPTACLE FOR RECIRCULATION PUMP RP, LOCATION SHOWN IS PRELIMINARY.
4. COORDINATE WITH LANDSCAPE CONTRACTOR TO PROVIDE RECEPTACLE AND 1 1/4" CONDUIT WITH PULL STRING TO NEARBY LANDSCAPE AREA. COORDINATE FINAL LOCATIONS AND REQUIREMENTS WITH LANDSCAPE CONTRACTOR.
5. EXISTING EXHAUST FAN TO REMAIN IN USE. TYPICAL 2 PLACES.



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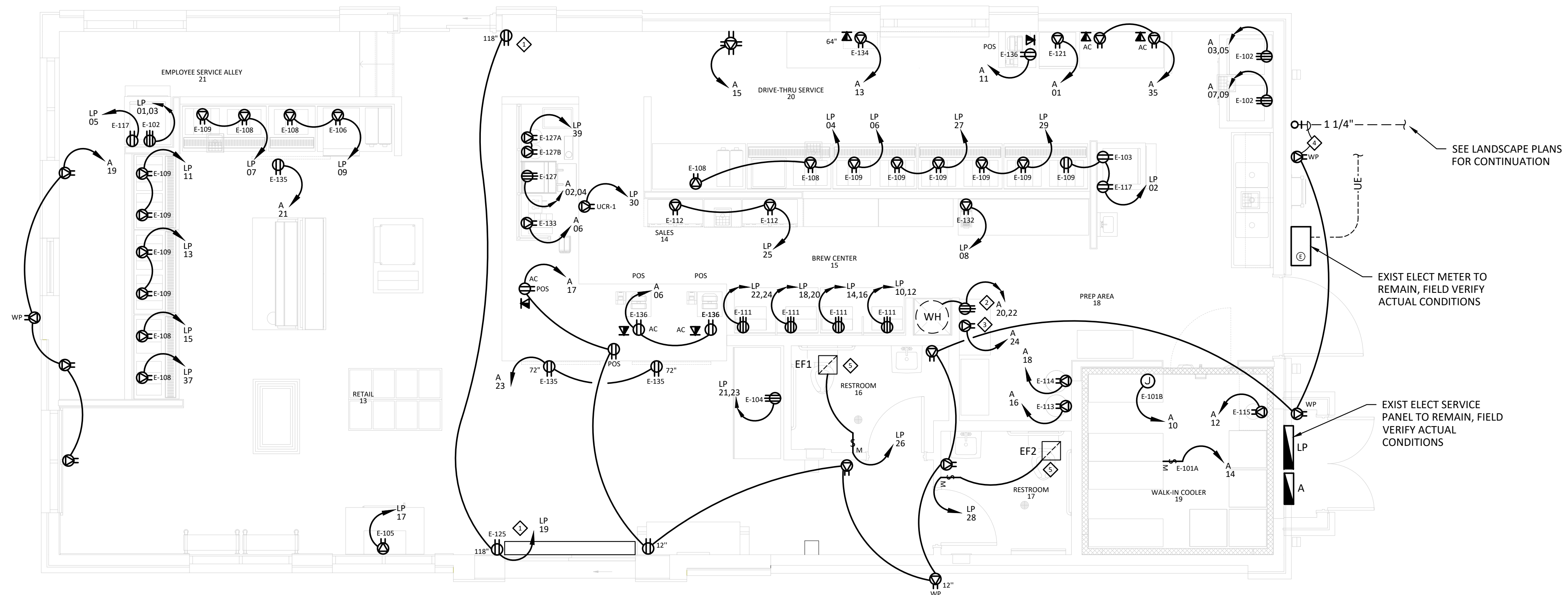
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ELECTRICAL PLANS
AND NOTES

OF : 6



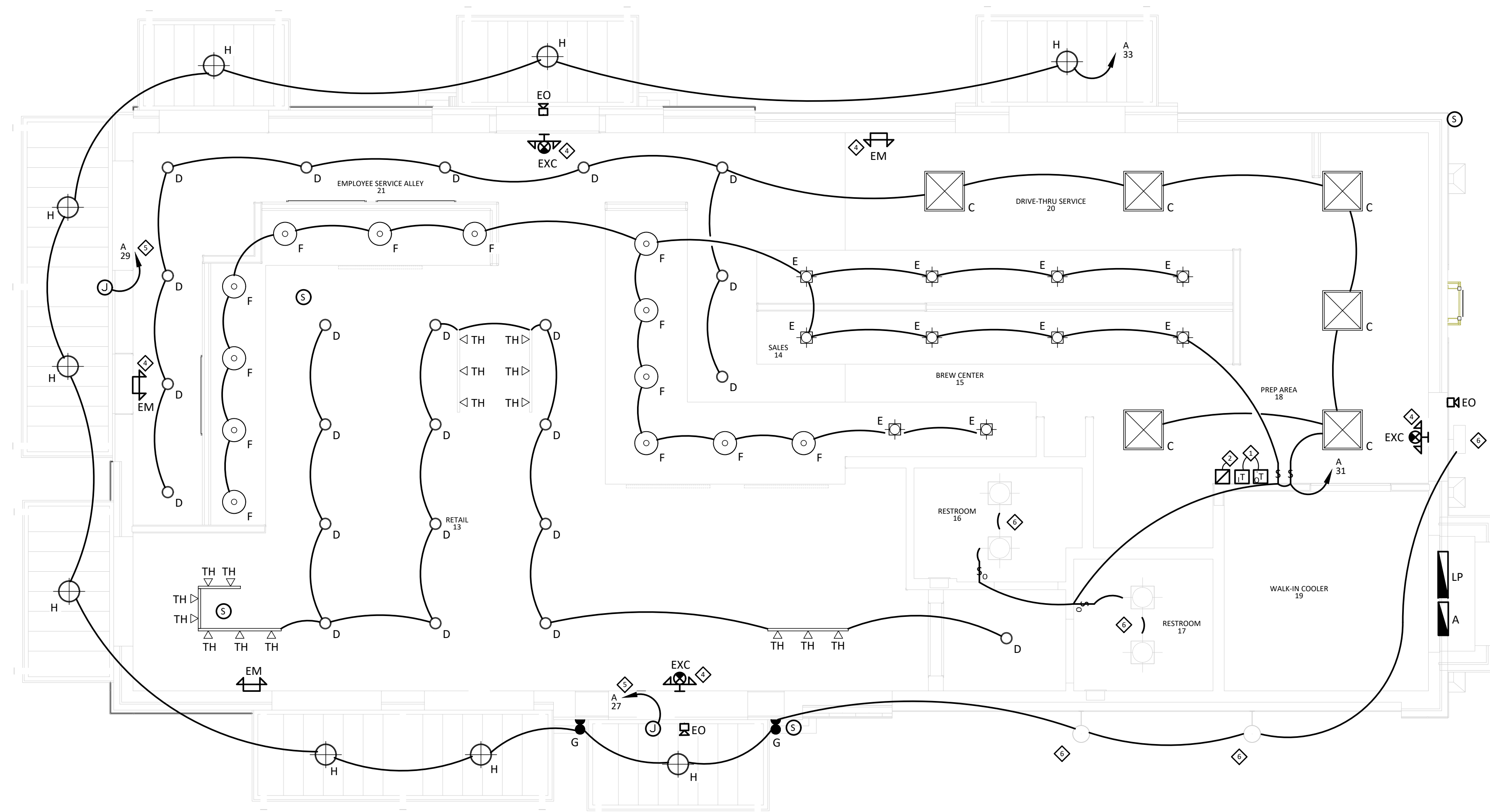
PLAN - ELECTRICAL
SCALE: 1/4"=1'-0"

NOTES

1. COORDINATE WITH OWNER, FINAL RECEPTACLE AND DATA BOX LOCATIONS AND MOUNTING HEIGHTS, PRIOR TO ROUGH-IN. LOCATIONS SHOWN ON PLANS ARE PRELIMINARY.

◆ KEYNOTES:

1. INDOOR AND OUTDOOR LIGHTING TIMERS, INSTALLED IN ACCESSIBLE LOCATION FOR ADJUSTMENT. COORDINATE FINAL LOCATION WITH OWNER PRIOR TO ROUGH-IN. SEE DETAILS FOR WIRING.
2. CONTACTORS FOR LIGHTING CONTROL, SEE DETAILS.
3. COORDINATE WITH OWNER TO INSTALL EMERGENCY LIGHT ABOVE YETI SLAT WALL AT 8'-6" AFF.
4. ALL EMERGENCY LIGHTING IS ON CIRCUIT NO. A-41, INCLUDING EXIT SIGNS.
5. COORDINATE WITH OWNER TO LOCATE JBOX AND POWER CIRCUIT FOR OWNER FURNISHED SIGNAGE. LOCATION SHOWN IS PRELIMINARY. PROVIDE FINAL CONNECTION TO OWNER FURNISHED SIGNAGE.
6. EXIST LIGHT FIXTURE TO REMAIN, CONNECT TO NEW CIRCUIT AS SHOWN. TYPICAL.



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

NOTES:

1. COORDINATE WITH ARCH, FINAL MOUNTING HEIGHT FOR ALL PENDANT AND SURFACE OR WALL MOUNTED LIGHT FIXTURES PRIOR TO INSTALLATION. HEIGHTS SHOWN ON SCHEDULE ARE PRELIMINARY ONLY.
2. COORDINATE WITH OWNER, ALL LIGHT SWITCH LOCATIONS PRIOR TO ROUGH-IN. LOCATIONS SHOWN ARE PRELIMINARY ONLY.

◆ KEYNOTES:

1. COORDINATE WITH MECH CONTRACTOR TO PROVIDE POWER CONNECTIONS FOR NEW ROOFTOP UNITS AND CONDENSER UNITS WITH FACTORY 120V CONVENIENCE RECEPTACLE. PROVIDE FIELD CONNECTION FOR RECEPTACLE, TYPICAL 4 PLACES.
2. COORDINATE WITH HVAC CONTRACTOR TO PROVIDE SUITABLE RECEPTACLE NEAR EQUIPMENT FOR FUTURE MAINTENANCE.
3. EXISTING RTUS TO REMAIN IN USE. TYPICAL 2 PLACES.



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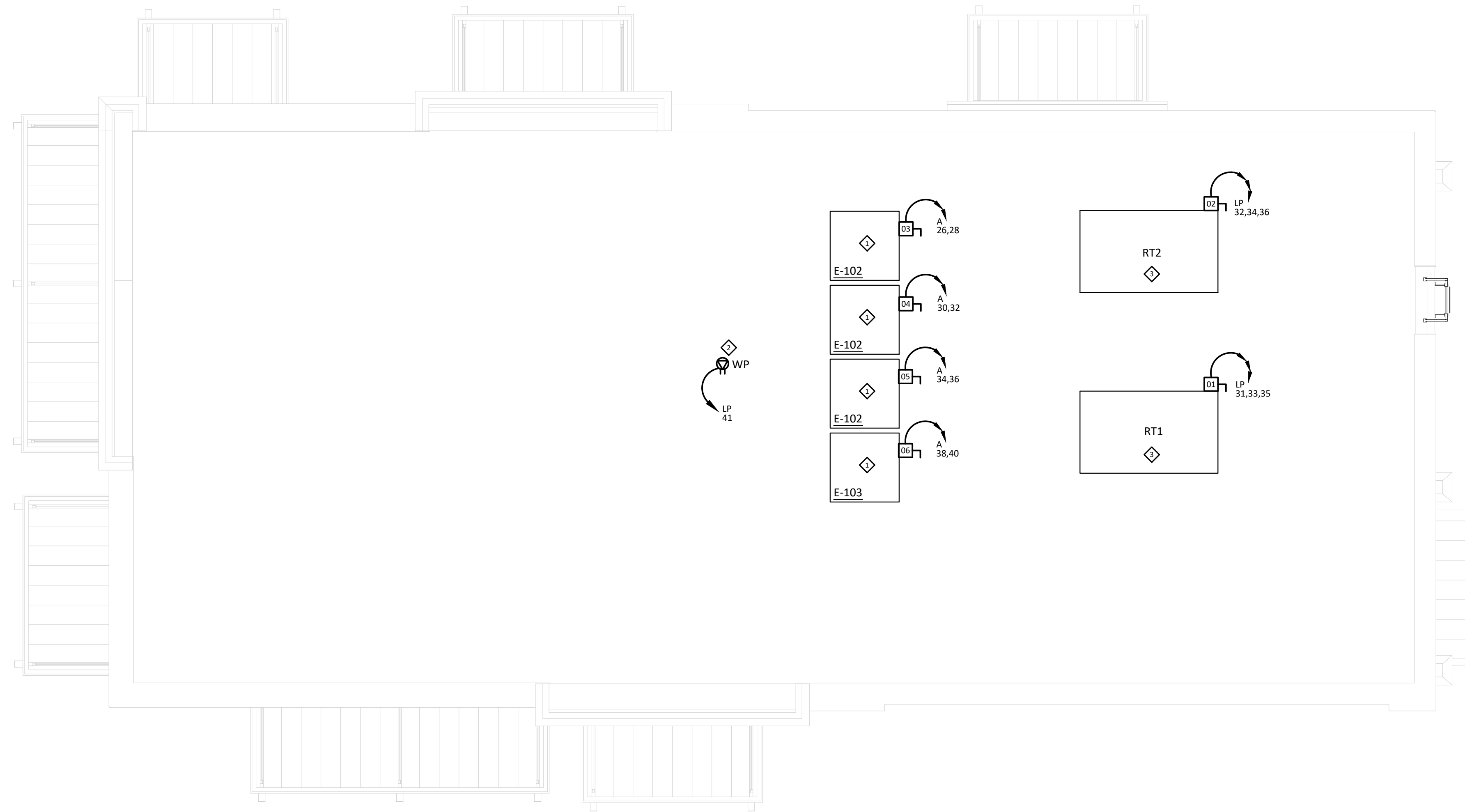
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E3

LIGHTING PLANS
AND NOTES

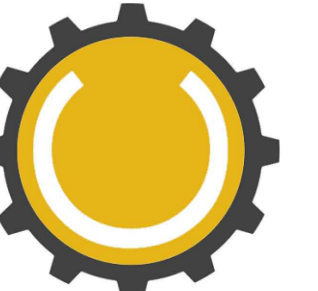
OF : 6



ROOF PLAN - ELECTRICAL
SCALE: 1/4"=1'-0"

NOTES:

1. FIELD VERIFY ALL EXISTING CONDITIONS AND EQUIPMENT, PRIOR TO BIDDING WORK.



CAPCO
Engineering

TEXAS FIRM
REGISTRATION:
#F-9165

HTEAO - HELOTES
12550 E. BANDERA ROAD
HELOTES, TX 78023



JOB NO.: SJK-174

SCALE : SHOWN

DRAWN: S. AFSAR

DATE: 7/5/22

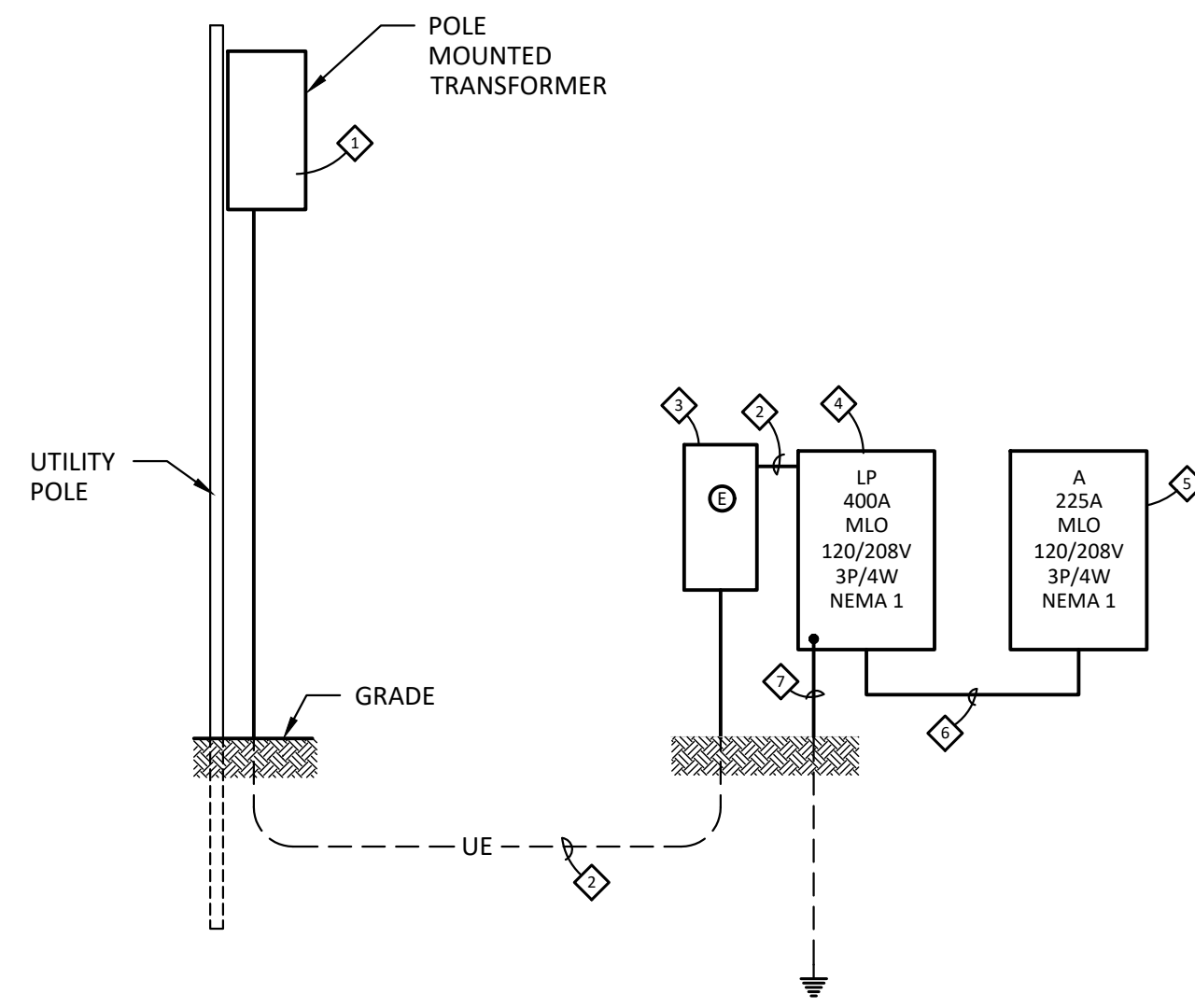
REVISIONS :

SHEET :

E4

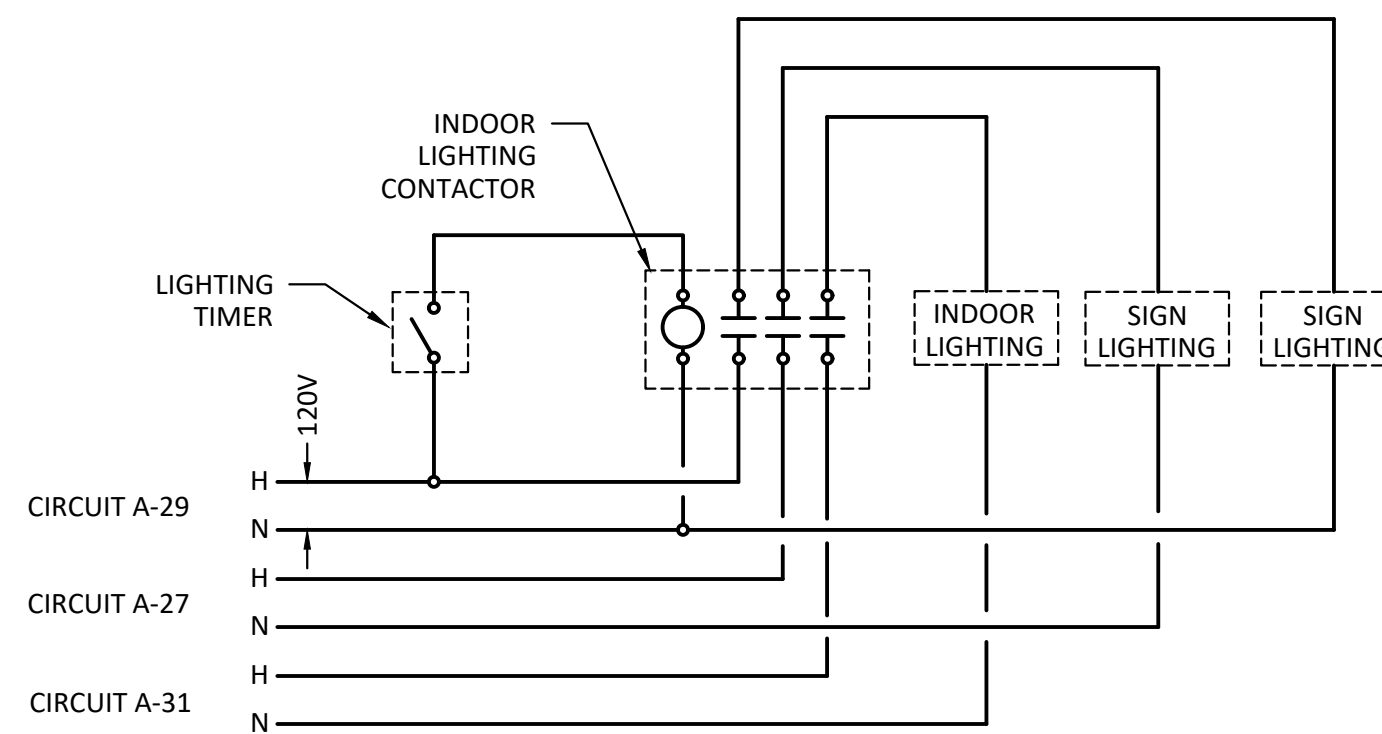
ELECTRICAL DETAILS
AND NOTES

OF : 6



1
E4
ELECTRICAL RISER DIAGRAM
NO SCALE

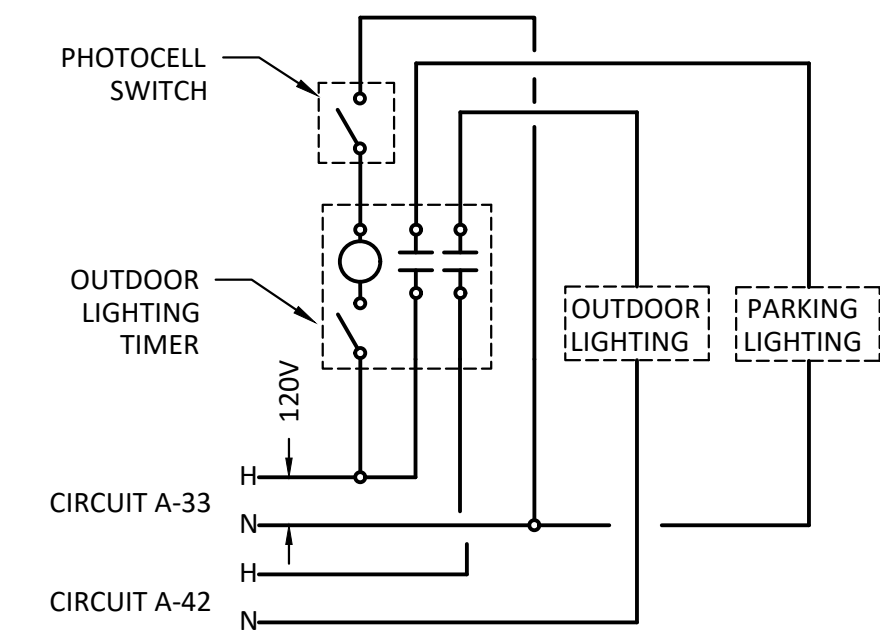
- EXIST UTILITY TRANSFORMER: BY LOCAL ELECT UTILITY AS SHOWN, FIELD VERIFY EXISTING CONDITIONS PRIOR TO BIDDING. INFORMATION PROVIDED ON EXISTING SYSTEMS IS PRELIMINARY ONLY.
- EXIST SERVICE CONDUCTORS: 2 SETS OF 4 #4/0 IN 2 1/2" CONDUIT, COORDINATE ROUGH-IN REQUIREMENTS WITH UTILITY.
- EXIST ELECTRIC METER: UTILITY FURNISHED METERING ENCLOSURE, TO BE INSTALLED BY CONTRACTOR, COORDINATE FINAL ROUGH-IN REQUIREMENTS WITH UTILITY.
- EXIST DISTRIBUTION PANEL LP: RATINGS AS SHOWN ABOVE. SERVING LARGE LOADS AND BRANCH PANEL(S). PROVIDE NEW CIRCUIT WIRING AS SHOWN ON PANEL SCHEDULES
- EXIST BRANCH PANEL: SERVING LIGHTING AND APPLIANCES. PROVIDE NEW CIRCUIT WIRING AS SHOWN ON PANEL SCHEDULES
- EXIST BRANCH PANEL FEEDER: 4 #4/0 AND #6 GND IN 2 1/2" CONDUIT.
- EXIST GROUNDING ELECTRODE CONDUCTOR: BARE #1/0 CU CONDUCTOR FROM GROUND BUS TO GROUND ROD AND ELECTRODE SYSTEM AS SHOWN. FIELD VERIFY GROUND CONNECTION AND ENSURE ADEQUATE CONDITIONS.



2
E4
INDOOR LIGHTING CONTROL DETAIL
NO SCALE

NOTES:

- LOCATE ALL LIGHTING CONTROLS IN ACCESSIBLE LOCATION FOR SERVICE AND ADJUSTMENT.
- PROGRAM TIMER TO OPERATE LIGHTING ACCORDING TO OWNERS SCHEDULES. UTILIZE MFG'S INSTRUCTIONS TO MAKE ALL SETTING ADJUSTMENTS.
- SEE PLANS AND PANEL SCHEDULES FOR WIRE AND CONDUIT SIZES, NOT SHOWN FOR CLARITY.



3
E4
OUTDOOR LIGHTING CONTROL DETAIL
NO SCALE

NOTES:

- LOCATE ALL LIGHTING CONTROLS IN ACCESSIBLE LOCATION FOR SERVICE AND ADJUSTMENT.
- PROGRAM TIMER TO OPERATE LIGHTING ACCORDING TO OWNERS SCHEDULES. UTILIZE MFG'S INSTRUCTIONS TO MAKE ALL SETTING ADJUSTMENTS.
- ALL CIRCUITS SHOWN ARE 120V/20A/1PH.
- PROVIDE WIRE LABELS FOR EACH CIRCUIT, INCLUDING PANEL AND CIRCUIT NO.

BRANCH PANEL SCHEDULE																								
120/208 VOLTS										PANEL : LP					MAIN BREAKER : 400 AMPS									
10K AIC 3 PHASE										LOCATION : ELECT CLOSET					BUSSING : 400 AMPS									
MIN. SC RATING 4 WIRE										FEEDER : SEE RISER DIAGRAM					ENTER CABINET AT : TOP									
WIRE AND CONDUIT		SERVES			WATTAGE			CIRC #	BRK A	PHASE A - B - C	BRK A	CIRC #	WATTAGE			SERVES			WIRE AND CONDUIT					
H	N	G	C	A	B	C						A	B	C	H	N	G	C	H	N	G	C		
10		10	1/2"	E-102 ICE MAKER			1,966				1	2P/30/GFI												
12	12	12	1/2"	E-117 ICE STORAGE BIN				1,966			3	2P/20/GFI												
12	12	12	1/2"	E-109 & 108 DISPENSER			1,740				5	2P/20/GFI												
12	12	12	1/2"	E-108 & 106 DISPENSER			1,356				7	1P/20												
12	12	12	1/2"	E-109 DISPENSERS					480		9	1P/20												
12	12	12	1/2"	E-109 DISPENSERS			1,440				11	1P/20												
12	12	12	1/2"	E-108 DISPENSERS				1,020			13	1P/20												
12	12	12	1/2"	E-105 ICE MERCHANDISER							15	1P/20												
12	12	12	1/2"	E-125 AIR CURTAIN			816				17	1P/20												
10		10	1/2"	E-104 MERCHANDISER				1,872			19	1P/20												
12	12	12	1/2"	E-112 WATER JUG FILL STATION			2,400				21	2P/30												
12	12	12	1/2"	E-109 DISPENSERS				1,440			23	1P/20												
12	12	12	1/2"	E-109 DISPENSERS					1,440		25	1P/20												
6	6	10	1"	RT-1			2,843				27	3P/50												
12	12	12	1/2"	E-108 DISPENSERS			1,020				29	1P/20												
12	12	12	1/2"	E-127A & E-127B ESPRESSO			480				31	1P/20												
12	12	12	1/2"	ROOF RECEPTACLE					180		33	1P/20												
TOTAL				12,224	10,976	9,119	TOTAL				25,205	28,985	25,640											

NOTE: EXISTING PANELBOARD TO BE REWIRED AND REUSED AS REQUIRED FOR NEW CIRCUITS SHOWN. REMOVE ALL ABANDONED CIRCUIT WIRING AND CONDUIT.

BRANCH PANEL SCHEDULE																								
120/208 VOLTS										PANEL : A					MAIN BREAKER : MLO AMPS									
10K AIC 3 PHASE										LOCATION : ELECT CLOSET					BUSSING : 225 AMPS									
MIN. SC RATING 4 WIRE										FEEDER : SEE RISER DIAGRAM					ENTER CABINET AT : TOP									
WIRE AND CONDUIT		SERVES			WATTAGE			CIRC #	BRK A	PHASE A - B - C	BRK A	CIRC #	WATTAGE			SERVES			WIRE AND CONDUIT					
H	N	G	C	A	B	C						A	B	C	H	N	G	C	H	N	G	C		
12	12	12	1/2"	E-121 TURBO AIR			264				1	1P/20												
10		10	1/2"	E-102 ICE MAKER				1,966			3	2P/30/GFI												
10		10	1/2"	E-102 ICE MAKER							5	2P/30/GFI												
12	12	12	1/2"	E-136 POS STATION							7	2P/30/GFI												
12	12	12	1/2"	E-136 POS STATION							9	1P/20												
12	12	12	1/2"	E-134 KITCHEN DISPLAY			1,000				11	1P/20												
12	12	12	1/2"	IT RECEPTACLE							13	1P/20												
12	12	12	1/2"	RECEPTACLES							15	1P/20												
12	12	12	1/2"	RECEPTACLES							17	1P/20												
12	12	12	1/2"	RECEPTACLES			720				19	1P/20												
12	12	12	1/2"	MENUBOARDS				1,200			21	1P/20												
12	12	12	1/2"	MENUBOARDS							23	1P/20												
12	12	12	1/2"	SPACE							25	1P/20												
12	12	12	1/2"	OWNER SIGNAGE				1,200			27	1P/20												
12	12	12	1/2"	OWNER SIGNAGE							29	1P/20												
12	12	12	1/2"	INTERIOR LIGHTING			1,398				31	1P/20												
12	12	12	1/2"	OUTDOOR LIGHTING				470			33	1P/20												
12	12	12	1/2"	RECEPTACLES							35	1P/20												
12	12	12	1/2"	MONUMENT SIGNAGE			1,200				37	1P/20												
12	12	12	1/2"	DRIVE-THRU MENUBOARD				1,200			39	1P/20												
12	12	12	1/2"	EMERGENCY LIGHTING							41	1P/20												
TOTAL				6,548	8,361	7,646	TOTAL				7,161	7,359	4,880											

NOTE: EXISTING PANELBOARD TO BE REWIRED AND REUSED AS REQUIRED FOR NEW CIRCUITS SHOWN. REMOVE ALL ABANDONED CIRCUIT WIRING AND CONDUIT.

LIGHTING FIXTURE SCHEDULE												
MARK	TYPE	MANUFACTURER	MODEL NO.	MOUNTING	MTG HEIGHT FT	INPUT VOLT	INPUT WATTS	LUMENS	LAMP TYPE	COLOR TEMP	BUG RATING	FACTORY ACCESSORIES
C	PANEL LIGHT, 2x2	WLS LIGHTING	NUVO #65-571	LAY-IN	CEILING	120	40	4,200	LED	4000K	NA	
D	PENDANT, 6" CYLINDER	WLS LIGHTING	P5741-31, BLACK	SUSPENDED	10.5	120	18	1,400	LED	4000K	NA	#P8741-31 CEILING MOUNT
E	DOWNLIGHT	WLS LIGHTING	8120H-23-4K	RECESSED	CEILING	120	23	2,300	LED	4000K	NA	
F	PENDANT	WLS LIGHTING	W514, 18 ST6, STC MINT GREEN	SUSPENDED	7.5	120	18	629	LED	4000K	NA	#ST6-STC STEM MOUNT
G	WALL SCONCE	WLS LIGHTING	4424OB-20-4K DOWN LIGHT ONLY	WALL	7.5	120	20	1375	LED	4000K	B5-U0-G3	
H	CANOPY	WLS LIGHTING	4431OB-40-4K	SURFACE	10	120	40	2,255	LED	3000K	NA	
TH	TRAK HEAD	WLS LIGHTING	NUVO TH203 AND TRACK RAIL	TRAK RAIL	CEILING	120	13	1300	LED	4000K	NA	
EXC	EMERGENCY EXT LIGHT/SIGN	WLS LIGHTING	LPRX-R-U-WH-LD11-RL	SURFACE	7.5	120	NA	NA	LED	N/A	NA	EMERGENCY BATTERY
EM	EMERGENCY LIGHT	WLS LIGHTING	EAR-WH	SURFACE	7.5	120	NA	NA	LED	N/A	NA	EMERGENCY BATTERY
EO	EMERGENCY LIGHT-OUTDOOR	WLS LIGHTING	REL7LED-OB	SURFACE	9	120	NA	NA	LED	N/A	NA	EMERGENCY BATTERY

NOTE: PROVIDE ADDITIONAL UN-SWITCHED HOT WIRE CONNECTION FOR ALL EMERGENCY BATTERIES PER MFG'S INSTRUCTIONS, NOT SHOWN ON PLANS FOR CLARITY.

NOTE: COORDINATE FINAL LIGHT FIXTURE SELECTIONS WITH OWNER PRIOR TO ORDERING. SELECTIONS SHOWN ARE PRELIMINARY ONLY..

DISCONNECT SWITCH SCHEDULE								
MARK	SERVES	TYPE	FUSE AMPS	NO. POLES	RATED AMPS	VOLTS	ENCLOSURE	REMARKS
1	RT1	NFDS	NA	3	60	208	NEMA 3R	UNIT MOUNTED
2	RT2	NFDS	NA	3	60	208	NEMA 3R	UNIT MOUNTED
3	E-102 ICE MAKER CONDENSER	NFDS	NA	2	30	208	NEMA 3R	UNIT MOUNTED
4	E-102 ICE MAKER CONDENSER	NFDS	NA	2	30	208	NEMA 3R	UNIT MOUNTED
5	E-102 ICE MAKER CONDENSER	NFDS	NA	2	30	208	NEMA 3R	UNIT MOUNTED
6	E-103 ICE MAKER CONDENSER	NFDS	NA	2	20	208	NEMA 3R	UNIT MOUNTED

LOAD ANALYSIS: PANEL LP	
LIGHTING:	11,368 VA
RECEPTACLES:	2,880 VA
APPLIANCES:	80,854 VA
PRODUCTION LOADS:	0 VA
LARGER OF HEATING OR AC LOADS:	17,056 VA
MOTOR LOADS:	660 VA
GRAND TOTAL:	112,818 VA
120/208V/3PH/4W	313 A



TEXAS FIRM REGISTRATION: #F-9165

HTEAO - HELOTES
12550 E. BANDERA ROAD
HELOTES, TX 78023



JOB NO.: SJK-174

SCALE : SHOWN

DRAWN: S. AFSAR

DATE: 7/5/22

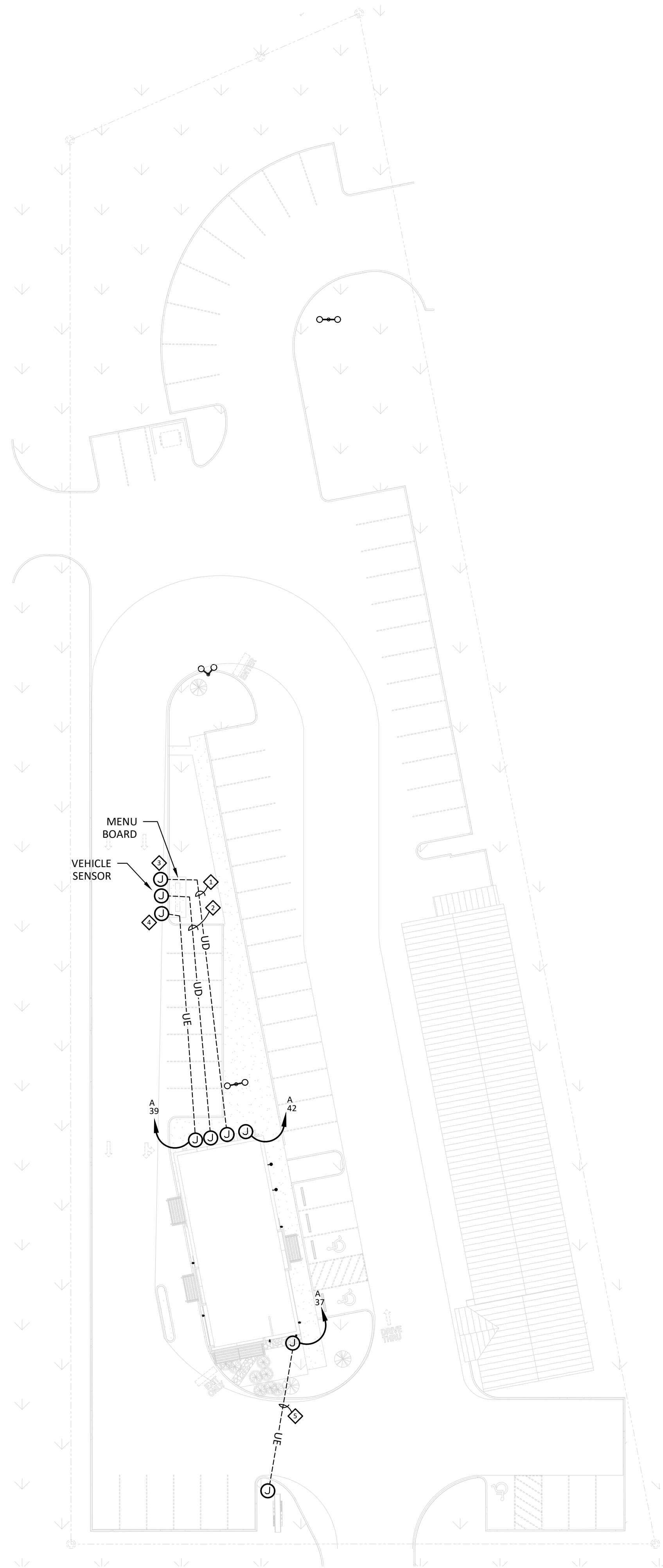
REVISIONS :

SHEET :

E5

ELECTRICAL SCHEDULES

OF : 6



◆ KEYNOTES:

1. COORDINATE WITH ORDER BOARD SUPPLIER TO UTILIZE EXISTING OR PROVIDE COMMUNICATIONS CONDUIT WITH PULL STRING FOR DATA CABLE BY OTHERS. SIZES AND TERMINATIONS SHOWN ARE PRELIMINARY ONLY.
2. COORDINATE WITH VEHICLE SENSOR SUPPLIER TO UTILIZE EXISTING OR PROVIDE COMMUNICATIONS CONDUIT WITH PULL STRING AND WEATHERPROOF JBX AT EACH ORDER BOARD.
3. COORDINATE WITH ORDER BOARD AND VEHICLE SENSOR SUPPLIERS TO UTILIZE EXISTING OR PROVIDE JBOX INSIDE DRIVE THRU FOR DATA CABLES BY OTHERS. LOCATIONS SHOWN ARE PRELIMINARY ONLY, TYPICAL 4 PLACES.
4. COORDINATE WITH ORDER BOARD SUPPLIER FOR FINAL REQUIREMENTS OF POWER CONNECTIONS AT MENU BOARDS. CIRCUIT SHOWN IS PRELIMINARY ONLY.
5. COORDINATE WITH OWNER TO UTILIZE EXISTING OR LOCATE WEATHERPROOF JBX AND POWER CIRCUIT FOR MONUMENT SIGN BY OWNER. LOCATION SHOWN IN PRELIMINARY ONLY.

SITE PLAN - ELECTRICAL
SCALE: 1"=10'

NOTES:

1. FIELD VERIFY ALL EXISTING CONDITIONS AND EQUIPMENT, PRIOR TO BIDDING WORK. EXISTING CONDITIONS SHOWN ARE PRELIMINARY ONLY.



TEXAS FIRM
REGISTRATION:
#F-9165

HTEAO - HELOTES
12550 E. BANDERA ROAD
HELOTES, TX 78023



JOB NO.: SJK-174

SCALE : SHOWN

DRAWN: S. AFSAR

DATE: 7/5/22

REVISIONS :

SHEET :

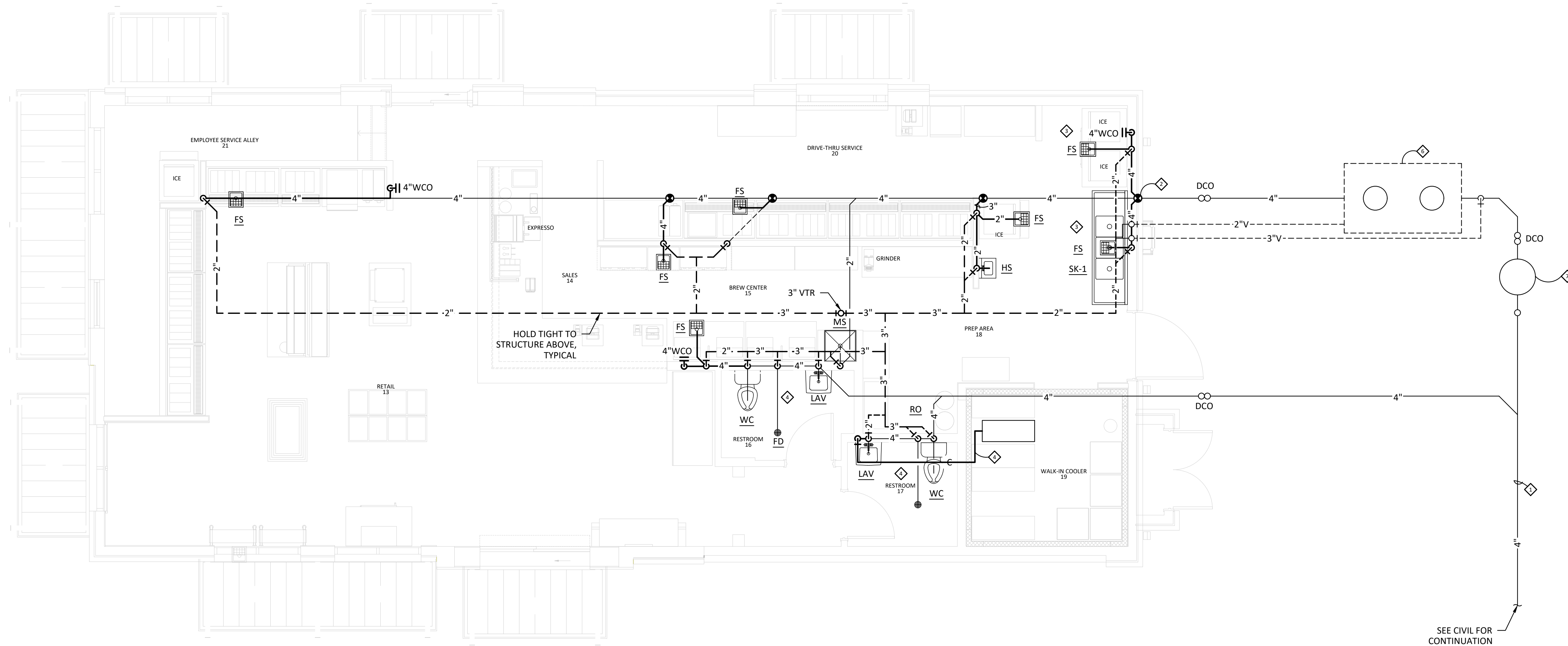
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AREA LIGHTING
PLAN AND DETAILS

OF : 6

◆ KEYNOTES:

1. EXIST SANITARY DRAIN LINE, FIELD VERIFY FINAL LOCATION AND DEPTH PRIOR TO STARTING WORK. LOCATION SHOWN IS PRELIMINARY.
2. CONNECT NEW UNDER FLOOR DRAIN TO EXIST DRAIN LINE, TYPICAL.
3. NEW PLUMBING FIXTURE AS SCHEDULED, TYPICAL ALL NEW FIXTURES SHOWN. CONNECT TO EXISTING DRAIN AND VENT PIPING AS SHOWN, FIELD VERIFY EXISTING CONDITIONS PRIOR TO STARTING WORK.
4. 3/4" CONDENSATE DRAIN FROM OWNER FURNISHED REFRIGERATION UNIT IN COOLER.
5. EXIST WC AND LAVATORY TO REMAIN IN SERVICE WITH CONNECTION TO MAIN DRAIN AS SHOWN. FIELD VERIFY EXISTING CONDITIONS.
6. EXISTING 1000 GAL CREASE TRAP PER CITY CODE. FIELD VERIFY EXISTING CONDITIONS
7. EXISTING TEST WELL PER CITY CODE. FIELD VERIFY EXISTING CONDITIONS

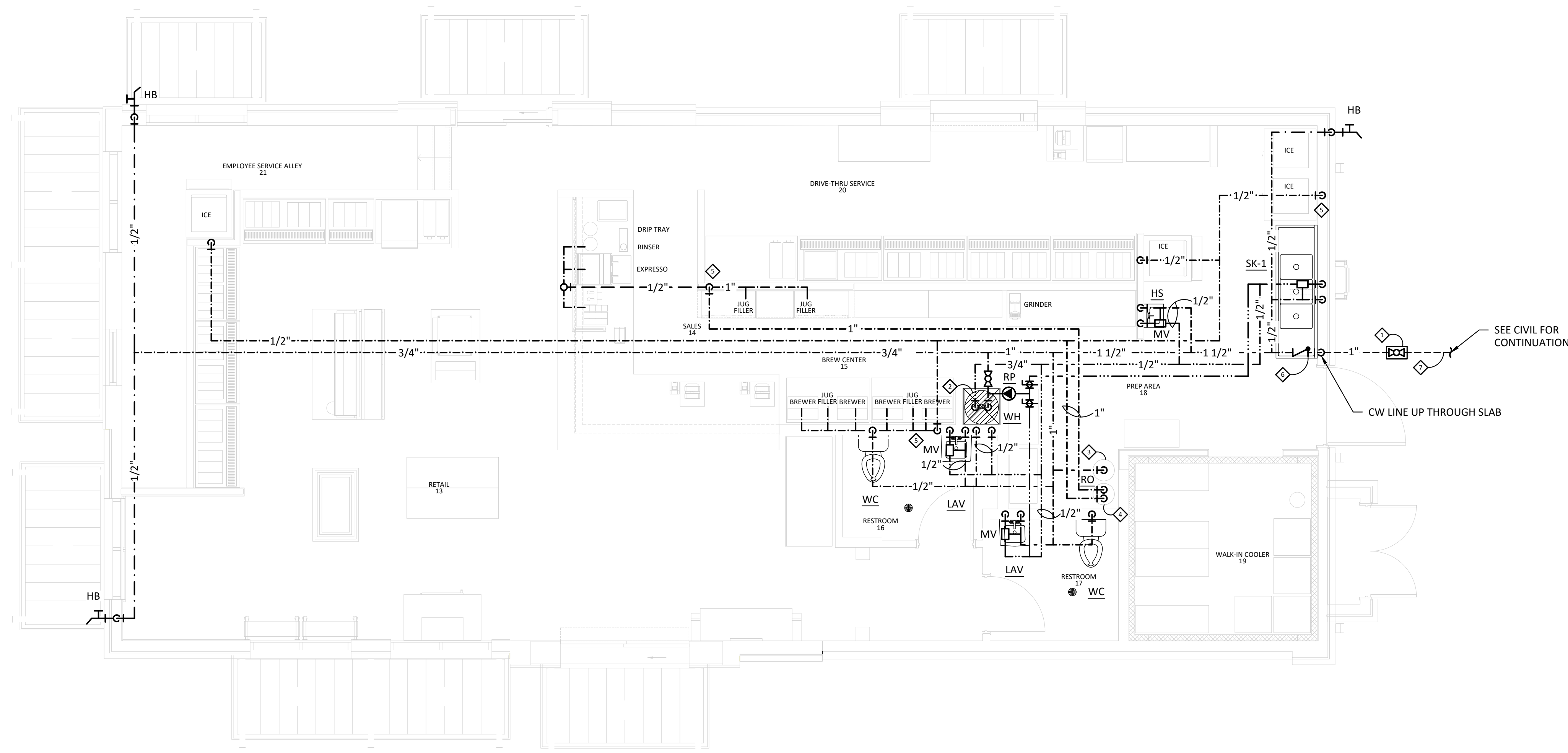




PLAN - DWV PIPING
SCALE: 1/4"=1'-0"

- NOTES:
1. REUSE EXISTING PLUMBING SYSTEMS AS SHOWN ON PLANS. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BIDDING WORK.
 2. SEE PLUMBING FIXTURE SCHEDULE FOR ALL INDIVIDUAL DRAIN AND VENT CONNECTION SIZES. NOT SHOWN ON PLANS FOR CLARITY.
 3. PROVIDE A WALL CLEANOUT BENEATH ALL LAVATORIES AND SINKS, NOT SHOWN ABOVE FOR CLARITY.
 4. PROVIDE EXCAVATION OF FLOOR AS REQUIRED TO LOCATE EXISTING AND INSTALL NEW PIPING AS SHOWN ON PLANS.

◆ KEYNOTES:

1. FIELD VERIFY LOCATION OF WATER STOP VALVE, LOCATION SHOWN IS PRELIMINARY.
2. PROVIDE ELECTRIC WATER HEATER, WALL MOUNTED ABOVE MOP SINK. COORDINATE SUPPORT DESIGN AND INSTALLATION WITH STRUCTURAL. ROUTE WATER HEATER DRAINS INTO MOP SINK BELOW. COORDINATE WITH STRUCTURAL FOR SUPPORT DETAILS AND FINAL MOUNTING LOCATION. SEE DETAILS.
3. COORDINATE WITH RO WATER SYSTEM INSTALLER TO PROVIDE 1" CW LINE FOR CONNECTION BY OTHERS. FINAL CONNECTION REQUIREMENTS AS PROVIDED BY RO WATER SYSTEM MFG. CONFIRM CONNECTIONS AT 40" AFF WITH EQUIPMENT INSTALLER.
4. COORDINATE WITH RO WATER SYSTEMS INSTALLER TO PROVIDE TWO 1" CW LINES TO SERVE ALL BREWERS, WATER FILL STATIONS, JUG FILLERS ICE MAKERS. FINAL CONNECTION REQUIREMENTS AS PROVIDED BY RO WATER SYSTEM MFG. CONFIRM CONNECTIONS AT 40" AFF WITH EQUIPMENT INSTALLER.
5. COORDINATE WITH EQUIPMENT VENDOR TO PROVIDE WATER CONNECTIONS, INCLUDING BACKFLOW PREVENTER, AS SPECIFIED BY MANUFACTURER, TYPICAL ALL EQUIPMENT CONNECTIONS.
6. EXISTING BACKFLOW PREVENTER.
7. FROM EXISTING 1" DOMESTIC CW WATER METER, SEE CIVIL FOR CONTINUATION.



  PLAN - WATER PIPING
SCALE: 1/4"=1'-0"

- NOTES:
1. REUSE EXISTING PLUMBING SYSTEMS AS SHOWN ON PLANS. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BIDDING WORK.
 2. SEE PLUMBING FIXTURE SCHEDULE FOR ALL INDIVIDUAL WATER CONNECTION SIZES, NOT SHOWN ON PLANS FOR CLARITY.
 3. ALL HW RE-CIRCULATION PIPING AND VALVES SHALL BE 1/2".
 4. COORDINATE ALL FINAL EQUIPMENT LOCATIONS AND CONNECTION REQUIREMENTS WITH EQUIPMENT SUPPLIER, PRIOR TO ROUGH-IN. LOCATIONS AND CONNECTIONS SHOWN ABOVE ARE PRELIMINARY.

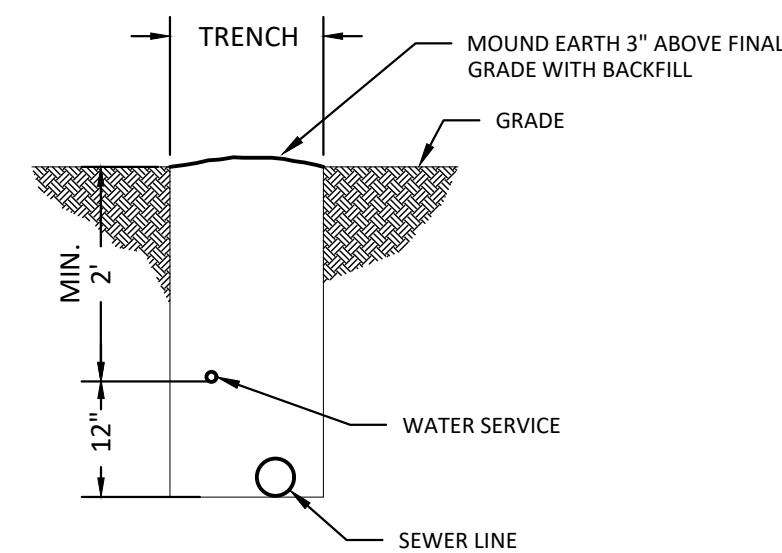
PLUMBING FIXTURE SCHEDULE				
MARK	WC	LAV	SK1	HS
DESCRIPTION	WATER CLOSET, TANK	LAVATORY, WALL HUNG	3 COMPARTMENT KITCHEN SINK	HAND SINK, WALL HUNG
FEATURES	FLOOR MOUNTED, ELONGATED BOWL, 1.28 GPF, PRESSURE ASSISTED	RECT. BOWL, 20 x 18 x 6 DEEP, 4" CENTERS	TRIPLE BOWL, 18 x 18 x 14 DEEP, 20 GA STEEL, 4 HOLE	RECT. BOWL, 10 x 12 x 5 DEEP, 18 GA STEEL, 4" CENTERS
FINISH	VITREOUS CHINA	VITREOUS CHINA	STAINLESS STEEL	STAINLESS STEEL
WASTE SIZE (IN)	3	1 1/4"	1 1/2	1 1/2
VENT SIZE (IN)	1 1/2	1 1/4"	1 1/2	1 1/2
CW SIZE (IN)	3/8	3/8	1/2	1/2
HW SIZE (IN)	-	3/8	1/2	1/2
MFG. & MODEL NO.	AM. STD. # 238AA.104	AM. STD. # 0124.024	BY OWNER	BY OWNER
ACCESSORIES:	SEAT: AM. STD. #5901.100.020 OPEN FRONT	FAUCET: AM. STD. # 7500.160	BY OWNER	BY OWNER

RECIRCULATION PUMP SCHEDULE	
MARK	RP
FLOW (GPM)	3
TOT. PRESSURE (PSI)	11
TYPE	IN-LINE
INLET / DISCHARGE SIZE (IN)	1/2 NPT
WEIGHT (LBS)	8
MOTOR DATA	
MIN. MOTOR HP	0.03
MIN. PUMP EFFICIENCY (%)	75
RPM	3250
VOLTS/PHASE/HZ	120/1/60
MOTOR TYPE	ODP
MANUFACTURER	TACO
MODEL NO.	008-IQSF6
ACCESSORIES:	ENERGY CONTROLS

WATER HEATER SCHEDULE	
MARK	WH
DESCRIPTION	STORAGE TANK TYPE, ELECT
DIMENSIONS (IN)	35 H x 22 DIA.
SHIPPING WT. (LBS)	125
OPERATING WT. (LBS)	457
CONNECTIONS (IN)	3/4 NPT
MIN. STORAGE CAP. (GAL)	40
TEMPERATURE RISE (F)	60
MIN. RECOVERY RATE (GPH)	41
VOLTAGE/POLE	208/2P
MIN. INPUT POWER (KW)	6.0
HEATING ELEMENTS	2
MANUFACTURER	RHEEM
MODEL NO.	ELD40-TB

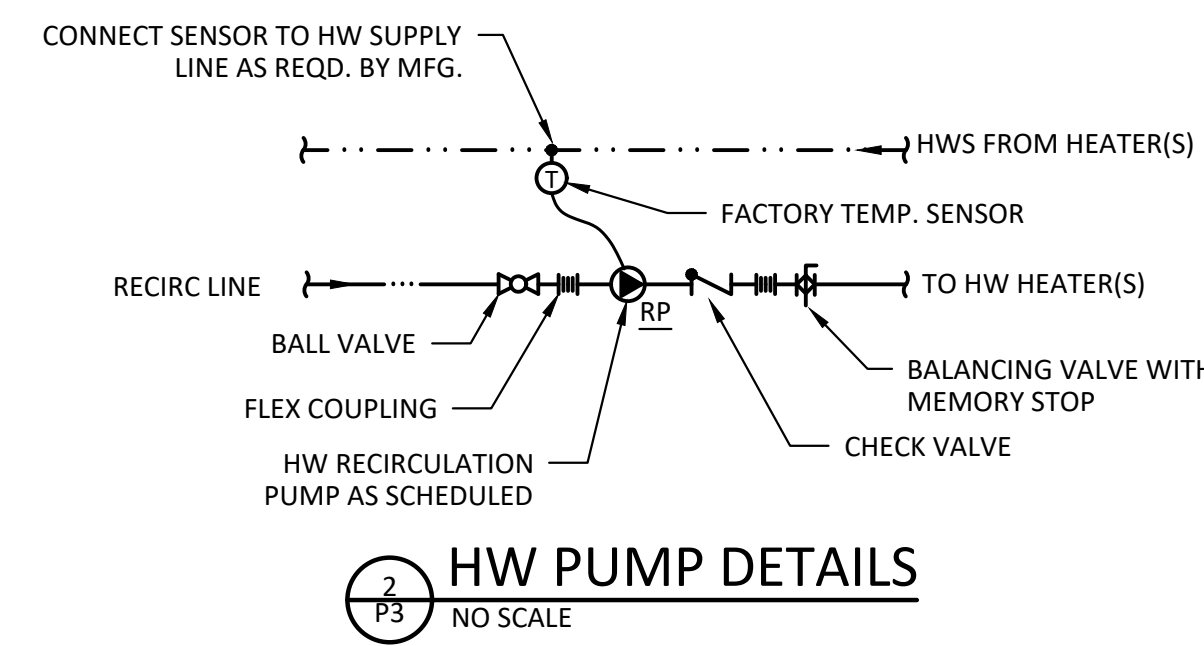
DRAIN SCHEDULE		
MARK	FD	FS
TYPE	FINISHED FLOOR DRAIN	FLOOR SINK, 8" SUMP DEPTH
GRATE OPEN AREA (SQ. IN.)	23	55
FLOOR DRAIN DIMENSIONS (IN)	9" DIA.	12 3/8" SQ.
BODY MATERIAL	CAST IRON	CAST IRON
GRATE MATERIAL	BRONZE	NI-BRONZE
STRAINER MATERIAL	NA	NICKEL
WASTE SIZE (IN)	2	4
VENT SIZE (IN)	1 1/2	3
WEIGHT (LBS)	21	NA
MANUFACTURER	ZURN	WADE
MODEL NO.	Z415N	W-9140-16-1
DESIGN HEAD ABOVE GRATE (IN)	0.06	0.25
DESIGN FLOW RATE (GPM)	24	120
DRAINAGE FIXTURE UNITS (DFU)	12	60

MIXING VALVE SCHEDULE	
MARK	MV
INLET CONNECTIONS (NPT)	1/2"
OUTLET CONNECTIONS (NPT)	1/2"
MAXIMUM FLOW (GPM)	2.5
MAX PRESSURE DROP (PSI)	20
MANUFACTURER	POWERS
MODEL NO.	LFG480-01



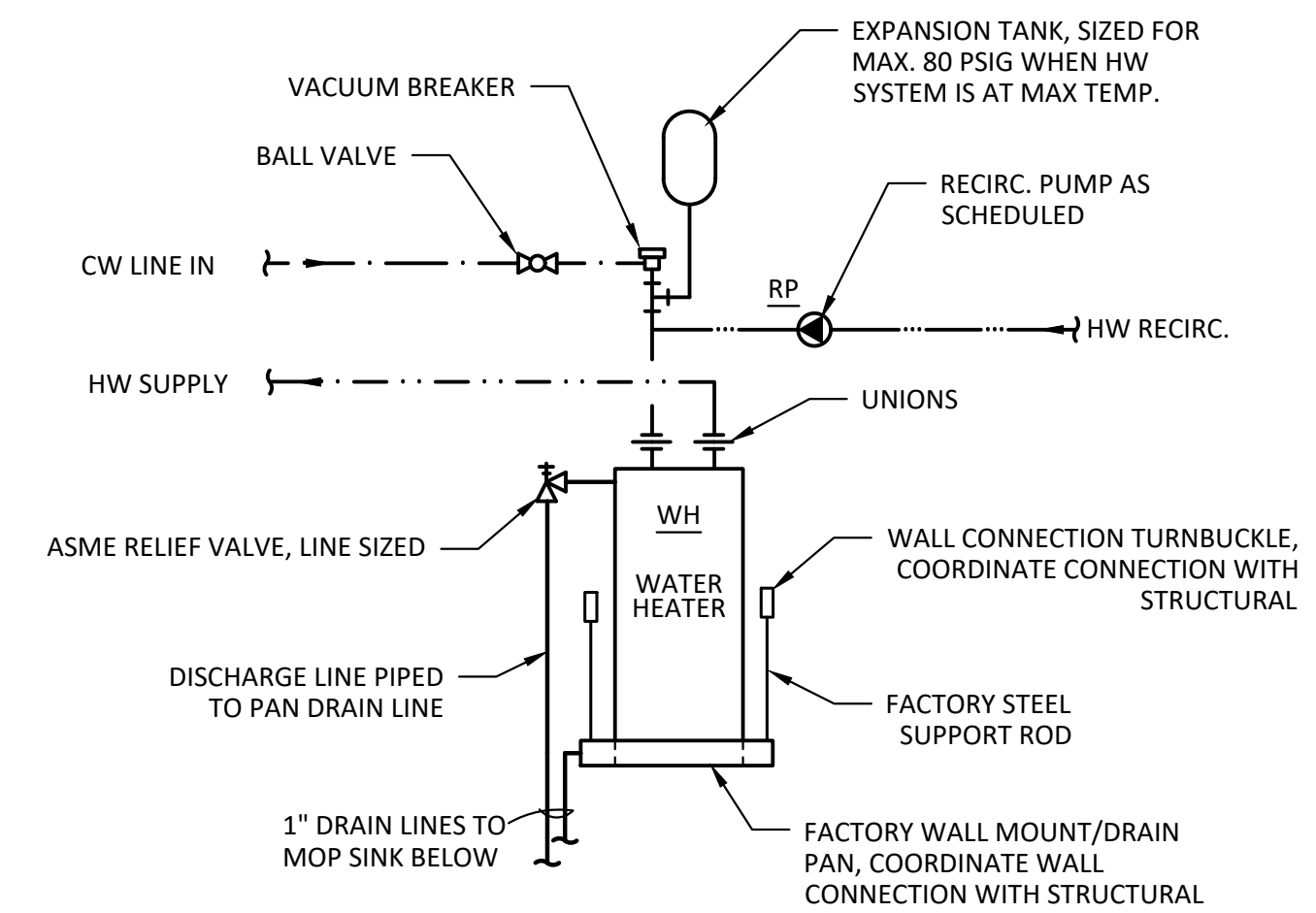
1 PLUMBING TRENCH
NO SCALE

- NOTES:
- DIAGRAM ABOVE IS GENERAL ARRANGEMENT ONLY. COORDINATE FINAL PLUMBING TRENCH DETAILS WITH LOCAL UTILITY SPECIFICATIONS FOR APPROVAL, PRIOR TO INSTALLATION.
 - PROVIDE 3" MIN. SAND BED BELOW AND 12" SAND COVER ABOVE ALL PIPING.



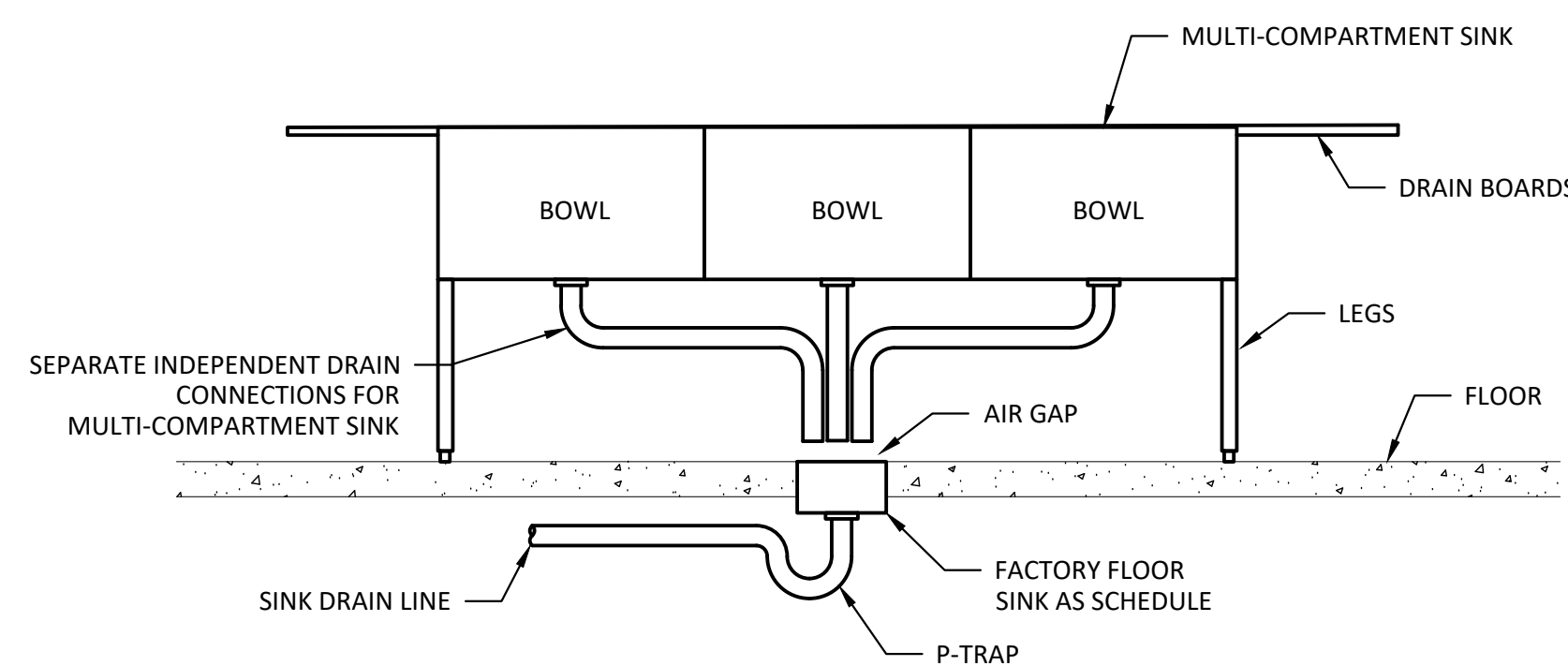
2 HW PUMP DETAILS
NO SCALE

- NOTE
- SEE PLANS FOR PIPE SIZING, NOT SHOWN FOR CLARITY.
 - ADJUST BALANCING VALVE TO FLOW RATE SHOWN ON SCHEDULE.
 - INSTALL FACTORY TEMPERATURE SENSOR IN HW SUPPLY PIPING AS SHOWN, PER PUMP MFG'S INSTRUCTIONS. PROVIDE THERMOWELL FOR SENSOR AS REQUIRED.
 - PROVIDE ALL REQUIRED CONTROL WIRING AND PUMP SETUP AS REQUIRED TO COMPLY WITH 2015 IECC RECIRCULATION PUMP CONTROL SEQUENCES AS FOLLOWS:
 - FACTORY PUMP CONTROLS SHALL AUTOMATICALLY START PUMP UPON A DEMAND FOR HOT WATER.
 - CONTROLS SHALL AUTOMATICALLY STOP PUMP WHEN WATER IN CIRCULATION LOOP IS AT DESIRED TEMPERATURE AND WHEN THERE IS NO DEMAND FOR HOT WATER.
 - CONTROLS SHALL AUTOMATICALLY LIMIT THE OPERATION OF THE PUMP FROM HEATING CYCLE STARTUP TO NOT GREATER THAN 5 MINUTES AFTER THE END OF CYCLE.



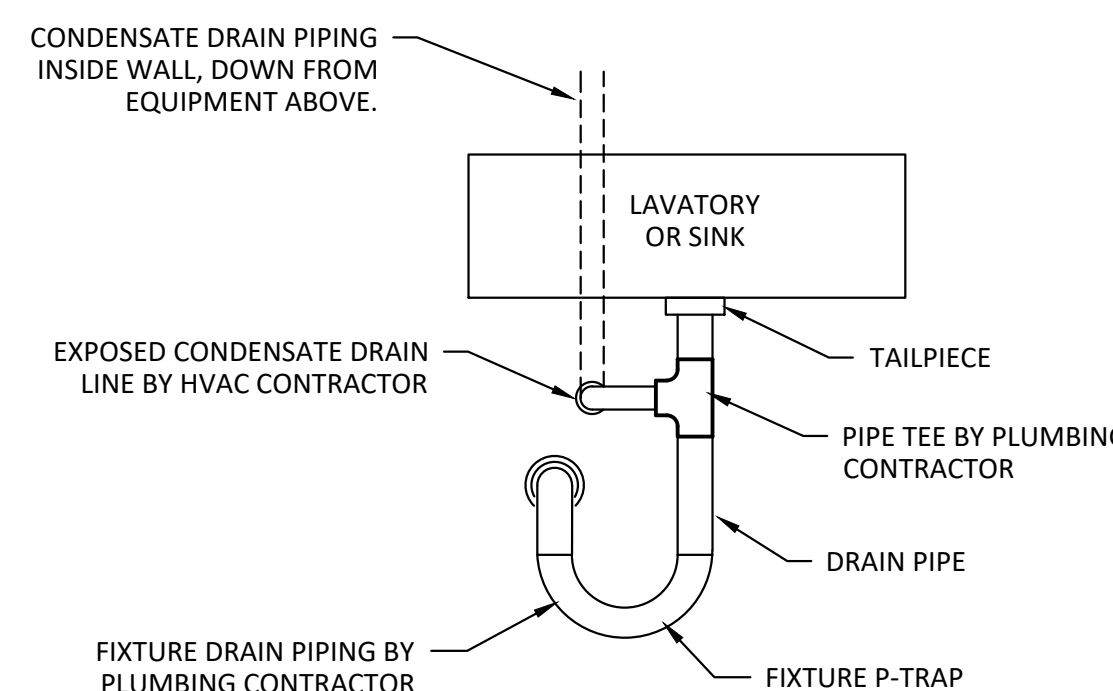
3 WH DETAILS
NO SCALE

- NOTES:
- PIPING SHOWN IS GENERAL ARRANGEMENT, FIELD ADJUST AS NEEDED. INSTALL PER WATER HEATER MFG'S INSTRUCTIONS.
 - SEE PLANS FOR HW PIPING SIZES, NOT SHOWN FOR CLARITY.
 - PROVIDE STEEL SUPPORTS FOR WALL MOUNTING WATER HEATER ABOVE CEILING AS SHOWN ON PLANS.
 - LOCATE RE-CIRCULATION PUMP IN ACCESSIBLE LOCATION, SEE HW PUMP DETAILS FOR VALVES AND FITTINGS.



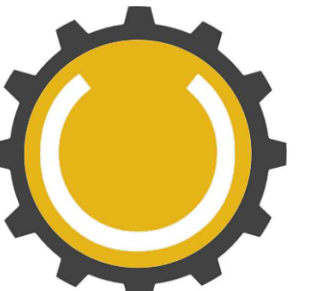
4 SINK DRAIN DETAILS
NO SCALE

- NOTES:
- DETAIL ABOVE IS GENERAL ARRANGEMENT ONLY, MAKE FIELD ADJUSTMENTS AS NEEDED TO ENSURE PROPER DRAINAGE.



5 CONDENSATE DRAIN DETAIL
NO SCALE

- NOTES:
- PIPING SHOWN ABOVE IS GENERAL ARRANGEMENT ONLY FOR INDIRECT DRAIN CONNECTIONS SHOWN ON HVAC PLANS.
 - COORDINATE WITH HVAC CONTRACTOR TO PROVIDE ROUGH-IN FOR CONDENSATE DRAIN CONNECTION AS SHOWN.



CAPCO
Engineering

TEXAS FIRM
REGISTRATION:
#F-9165

HTEAO - HELOTES
12550 E. BANDERA ROAD
HELOTES, TX 78023



JOB NO.: SJK-174

SCALE : SHOWN

DRAWN: HITESH

DATE: 7/5/22

REVISIONS :

SHEET :

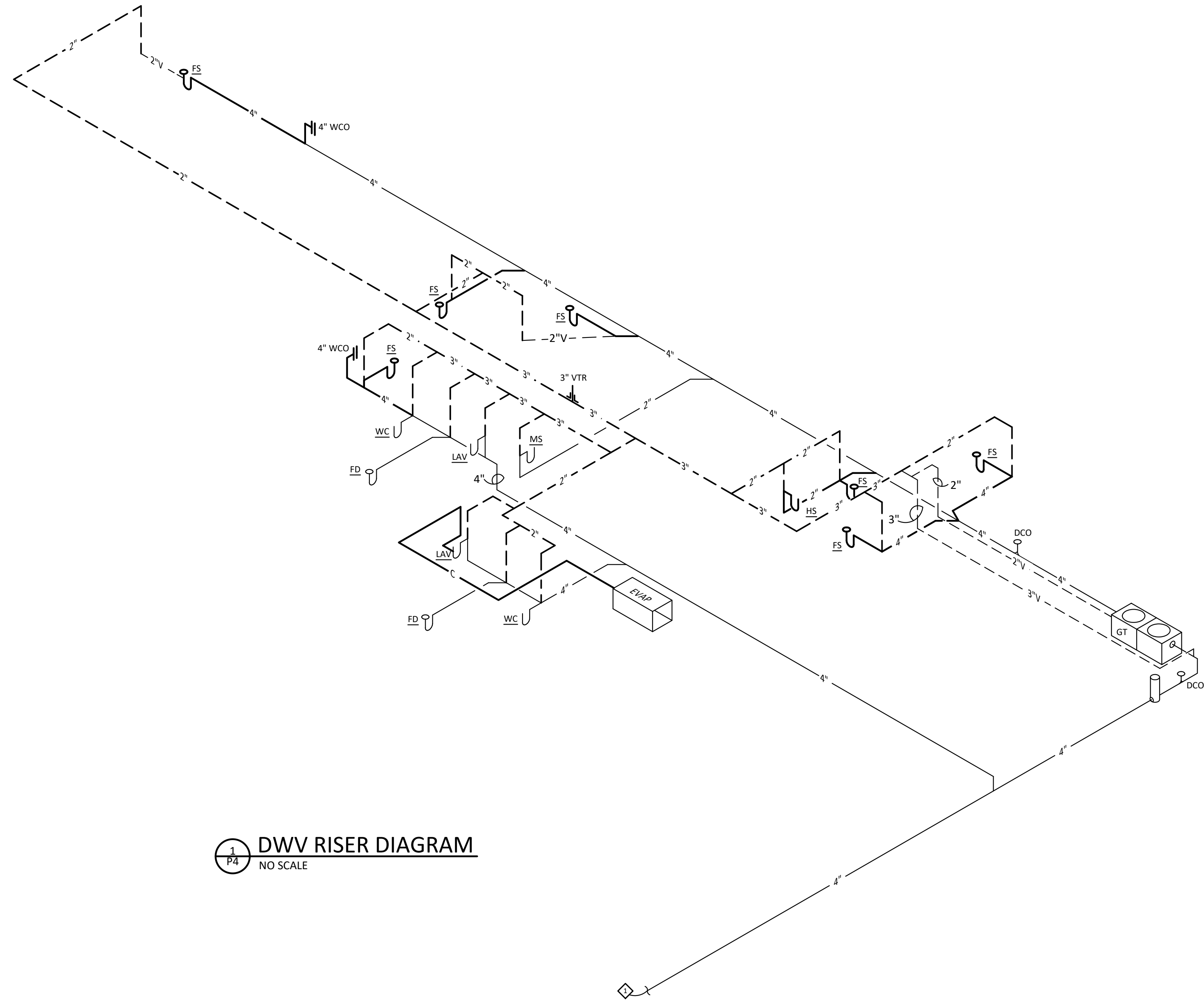
P3

PLUMBING DETAILS
AND SCHEDULES

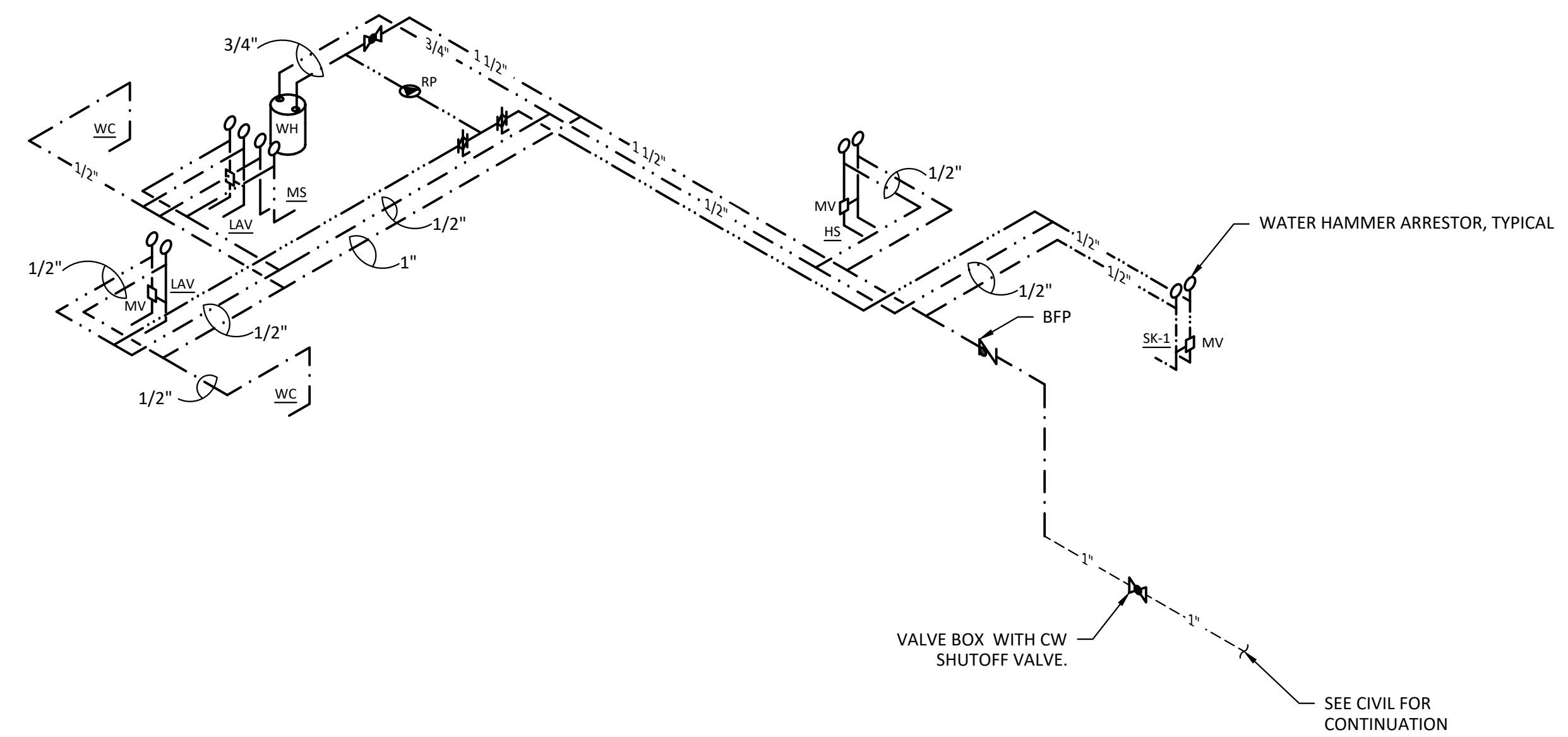
OF : 4

◆ KEYNOTES:

1. EXIST SANITARY DRAIN LINE, FIELD VERIFY FINAL LOCATION AND DEPTH PRIOR TO STARTING WORK. LOCATION SHOWN IS PRELIMINARY.

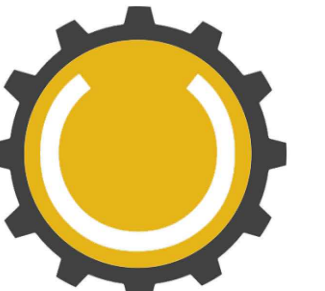


1
P4
DWV RISER DIAGRAM
NO SCALE



2
P4
WATER RISER DIAGRAM
NO SCALE

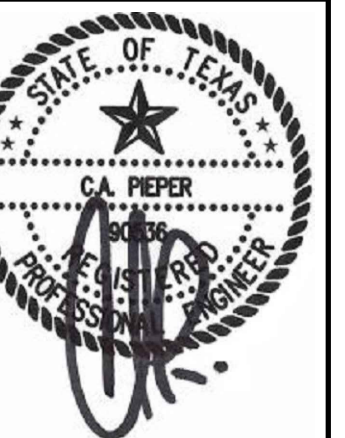
NOTE : HOSE BIBS AND EQUIPMENT WATER CONNECTIONS OMITTED FOR CALRITY.
SEE PLANS FOR HOSE BIBS AND EQUIPMENT CONNECTIONS.



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SHEET :

P4

PLUMBING RISER
DIAGRAMS

OF : 4