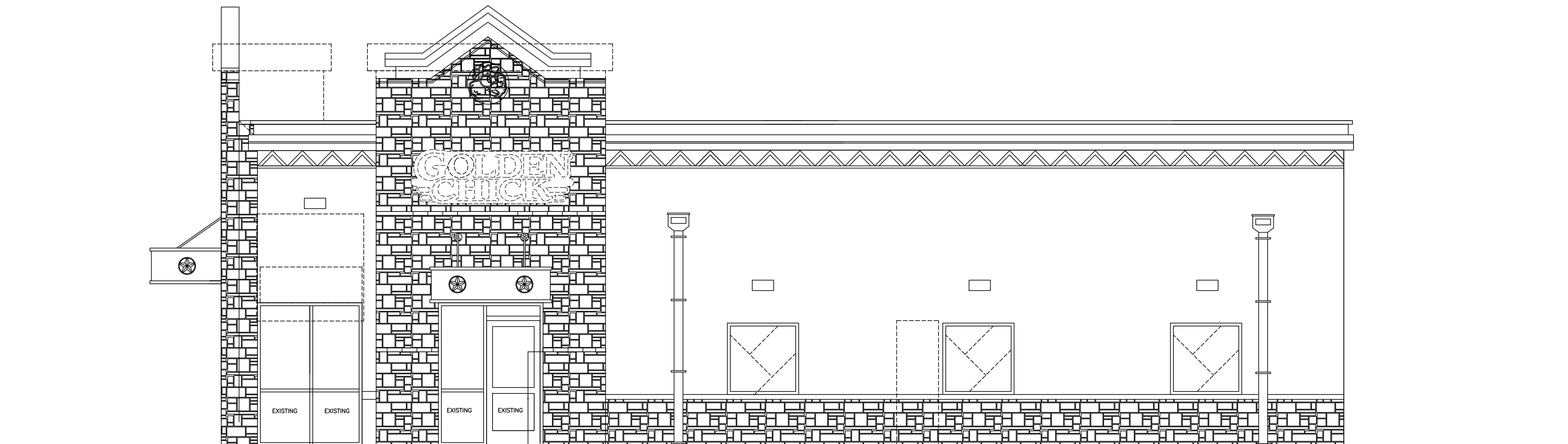


**DRAWING COORDINATION**  
Architectural, Landscape, Civil, Structural, Mechanical and Electrical drawings are interrelated. General Contractor and all Sub Contractors shall review and coordinate the entire set of drawings and specifications.



**VICINITY MAP NOT TO SCALE**



**GENERAL NOTES**

**DRAWING SYMBOLS**

ENTRY	ROOM NAME
101	ROOM NUMBER
D1	DOOR MARK
D	WINDOW MARK
3	DRAWING NOTE
A	COLUMN LINE MARK
⊕	DATUM MARK
3	REVISION NUMBER CLOUD AT LAST REV. ONLY

**PROJECT DATA**

STORIES	BUILDING	FLOOR AREA	CONSTR. TYPE	SPRINKLER SYSTEM	OCCUPANCY
ONE STORY	RESTAURANT LEASE SPACE	2052 SQ.FT	TYPE VB	NA	45

**SITE DESCRIPTION**

2299 NW MILITARY HWY

**ABBREVIATIONS**

∠	- ANGLE	F.O.S.	FACE OF STUD	REF.	REFERENCE
@	- AT	F.P.	FREEZE PROOF	REFR.	REFRIGERATOR
○	- CENTERLINE	FT.	FOOT OR FEET	REINF.	REINFORCING
∅	- DIAMETER	FURR.	FURRING	REQ.	REQUIRED
#	- NUMBER	GA.	GAUGE	RESIL.	RESILIENT
ACOUST.	ACOUSTICAL	GALV.	GALVANIZED	RM.	ROOM
A.D.	AREA DRAIN	G.B.	GRAB BAR	R.O.	ROUGH OPENING
ADJ.	ADJUSTABLE	GYP.	GYPSUM	S.	SOUTH
A.F.F.	ABOVE FINISH FLOOR	H.B.	HOSE BIBB	S.C.	SOLID CORE
AGG.	AGGREGATE	H.C.	HOLLOW CORE	SCHED.	SCHEDULE
ALUM. APPROX.	ALUMINUM APPROXIMATELY	HDWR.	HARDWARE	SECT.	SECTION
BD.	BOARD	H.M.	HOLLOW METAL	SHWR.	SHOWER
BLDG.	BUILDING	HGT.	HORIZONTAL	SIM.	SIMILAR
B.	BOTTOM	I.D.	INSIDE DIAMETER	SPEC.	SPECIFICATIONS
C.J.	CONTROL JOINT	INSUL.	INSULATION	SQ.	SQUARE
CER.	CERAMIC	INT.	INTERIOR	STD.	STANDARD
CLG.	CEILING	JT.	JOINT	STL.	STEEL
CKT.	CIRCUIT	KIT.	KITCHEN	STOR.	STORAGE
CLO.	CLOSET	LAM.	LAMINATE	SUSP.	SUSPEND
CLR.	CLEAR	LAV.	LAVATORY	SYM.	SYMMETRICAL
COL.	COLUMN	LKR.	LOCKER	TRD.	TREAD
CONSTR.	CONSTRUCTION	LT.	LIGHT	T.C.	TOP OF CURB
CONT.	CONTINUOUS	LTG.	LIGHTING	TELE.	TELEPHONE
CTR.	CENTER	M.V.D.	MANUAL VOLUME DAMPER	T&G	TONGUE & GROOVE
DBL.	DOUBLE	MAX.	MAXIMUM	THK.	THICK
DTL.	DETAIL	MECH.	MECHANICAL	T.P.	TOP OF PAVEMENT
DIA.	DIAMETER	MEMB.	MEMBRANE	T.V.	TELEVISION
DIM.	DIMENSION	MTL.	METAL	T.W.	TOP OF WALL
DN.	DOWN	MFR.	MANUFACTURER	TYP.	TYPICAL
D.S.	DOWNSPOUT	MIN.	MINIMUM	UNF.	UNFINISHED
DWR.	DRAWER	MISC.	MISCELLANEOUS	U.N.O.	UNLESS NOTED OTHERWISE
DWG.	DRAWING	M.O.	MASONRY OPENING	VERT.	VERTICAL
E.	EAST	MNT.	MOUNT	VEST.	VESTIBULE
EA.	EACH	MTD.	MOUNTED	W.	WEST
E.J.	EXPANSION JOINT	N.	NORTH	W/	WITH
ELEV.	ELEVATION	N.I.C.	NOT IN CONTRACT	W.C.	WOOD CLOSET
ELEC.	ELECTRICAL	NO.	NUMBER	WD.	WOOD
E.P.	ELECTRICAL PANELBOARD	NOM.	NOMINAL	W/O	WITHOUT
EQ.	EQUAL	N.T.S.	NOT TO SCALE	WP.	WATERPROOF
EQUIP.	EQUIPMENT	O.C.	ON CENTER	WSCT.	WAINSCOT
EXIST.	EXISTING	O.D.	OUTSIDE DIAMETER	WT.	WEIGHT
EXT.	EXTERIOR	OPH.	OPPOSITE HAND		
F.D.	FLOOR DRAIN	OPP.	OPPOSITE		
F.E.	FIRE EXTINGUISHER	PL.	PLATE		
FIN.	FINISH	PLAS.	PLASTIC		
FL.	FLOOR	PLYWD.	PLYWOOD		
FLASH.	FLASHING	PR.	PAIR		
FLUOR.	FLUORESCENT	R.	RADIUS		
F.O.C.	FACE OF CONCRETE	R.D.	ROOF DRAIN		

**CODES AND STANDARDS**

- THE FOLLOWING CRITERIA HAS BEEN USED IN THE PREPARATION OF THESE DOCUMENTS.  
ADA ACCESSIBILITY STANDARDS  
DATE: AS APPLICABLE
- CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES. PROJECT INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING LIST:  
BUILDING CODE: IBC AS APPLICABLE  
NATIONAL ENERGY CODE : AS APPLICABLE  
BUILDING CODES / LAW / ORDINANCES:  
COUNTY, CITY OF SAN ANTONIO, STATE  
BUILDING CODES AND AS AMENDED, CITY ORDINANCES

**GENERAL NOTES**

- THESE NOTES SHALL APPLY UNLESS OTHERWISE INDICATED BY DRAWINGS OR SPECIFICATIONS.
- ALL WORK INCLUDING CIVIL, MECHANICAL, PLUMBING, & ELECTRICAL SHALL BE PERFORMED IN STRICT COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE, & LOCAL CODE REQUIREMENTS, AND IN ACCORDANCE WITH ACCEPTED CONSTRUCTION INDUSTRY STANDARDS.
- CONTRACTOR SHALL OBTAIN AND PAY FOR ALL APPLICABLE PERMITS, INSPECTIONS AND APPROVALS, INCLUDING THOSE RELATED TO BUILDING AND CONTRACTOR SIGNAGE.
- PRIOR TO TURNING BUILDING OVER TO OWNER, REPAIR OR REPLACE ALL MATERIALS, GLASS, OR ASSEMBLIES DAMAGED OR BROKEN DURING CONSTRUCTION.
- SMOKE DETECTORS SHALL BE HARDWIRED INTO AN AC ELECTRICAL POWER SOURCE AND SHALL BE EQUIPPED WITH BATTERY BACK-UP. SMOKE DETECTORS SHALL BE TESTED FOR COMPLIANCE UPON COMPLETION OF WORK.
- AT ALL RATED WALLS, FLOORS AND RATED CEILINGS, ALL PLUMBING, ELECTRICAL & HVAC PENETRATIONS SHALL BE SEALED WITH APPROVED FIRESTOPPING MATERIAL.
- SEAL ALL PENETRATIONS THRU FLOOR DECK.
- FRAMER SHALL PROVIDE IN-WALL BLOCKING AS REQUIRED AT TOILET ACCESSORIES.

**SUBMITTALS:**

The FOLLOWING SUBMITTALS AS A MINIMUM ARE TO BE SUBMITTED TIMEOUSLY:  
1. PLUMBING FIXTURES  
2. ELECTRICAL PANELS  
3. LIGHT FIXTURES  
4. DOORS AND HARDWARE  
5. RESTROOM ACCESSORIES  
6. FRP TILE AND LAMINATE SAMPLES  
7. STONE AND MORTAR SAMPLES  
8. MILLWORK  
9. ACOUSTIC CEILING TILES

CONTRACTOR TO REVIEW AND STAMP AS HAVING BEEN REVIEWED AND IN COMPLIANCE WITH SPECIFICATIONS. SUBMITTALS WILL BE RETURNED WITHOUT THE REVIEW STAMP AND SIGNATURE FROM THE GENERAL CONTRACTOR.  
PROVIDE AND EMAIL TO THE ARCHITECT ALL ITEMS, ITEMS 2,3,4, TO THE MEP ENGINEER AND ITEM 1 TO THE STRUCTURAL ENGINEER.

**INDEX OF DRAWINGS**

ARCHITECTURAL		MEP	
CS	COVER SHEET	ME1.1	SITE AND ROOF MEP PLAN
A1.0	ARCHITECTURAL SITE PLAN	ME1.2	MECHANICAL/ELECTRICAL ROOF PLAN
A2.0	EQUIPMENT PLAN	P1.1	PLUMBING WASTE PLAN
A2.1	RCP PLAN & ROOF PLAN	P1.2	PLUMBING WATER SUPPLY PLAN
A3.0	ROOM AND DOOR SCHEDULE	P2.1	PLUMBING DETAILS
A4.0	EXTERIOR ELEVATIONS	P2.2	PLUMBING DETAILS
A5.0	BUILDING SECTIONS	P3.1	PLUMBING RISERS AND DETAILS
A6.0	WALL SECTIONS	P3.2	PLUMBING RISERS AND DETAILS
A6.1	WALL SECTIONS	M1.1	MECHANICAL PLAN
A7.0	DETAILS	M2.1	MECHANICAL SCHEDULES AND DETAILS
A8.0	KITCHEN INTERIOR ELEVATIONS	M3.1	MECHANICAL DETAILS
A9.0	DINING INTERIOR ELEVATIONS	E1.1	LIGHTING PLAN
SP1-3	SPECIFICATIONS	E2.1	ELECTRICAL PLAN
		E3.1	ELECTRICAL RISER AND SCHEDULES

**CODE INFORMATION**

1.0 APPLICABLE CODES	
BUILDING CODE	2021 INTERNATIONAL BUILDING CODE (IBC) & ICC
FIRE CODE	2021 INTERNATIONAL FIRE CODE (IFC)
ELECTRICAL CODE	2020 NATIONAL ELECTRICAL CODE (NEC)
MECHANICAL CODE	2021 INTERNATIONAL MECHANICAL CODE (IMC)
PLUMBING CODE	2021 INTERNATIONAL PLUMBING CODE (IPC)
FUEL GAS CODE	2021 INTERNATIONAL FUEL GAS CODE (IFGC)
ENERGY CODE	2021 INTERNATIONAL ENERGY CONSERVATION CODE (IEC)
LIFE SAFETY CODE	2012
ACCESSIBILITY CODE	TAS 2012

**COVER SHEET**  
**Golden Chick Restaurant Remodel at**  
**231 Fredericksburg Rd**  
**San Antonio, Texas**

DATE	DESCRIPTION	BY

PROJECT NO.  
**05-05-22**

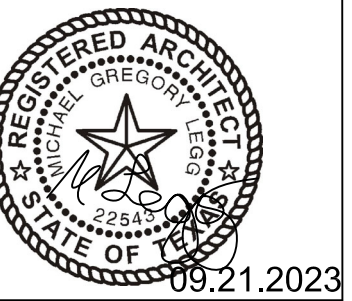
SHEET NO.  
**CS**



FINISH SCHEDULE								
TAG	MATERIAL	MANUFACTURER	MODEL NO.	COLOR	FINISH	DESCRIPTION	CONTACT	LOCATION
PAINT AND STAIN								
P-1	INTERIOR PAINT – CUSTOM GOLDEN CHICK COPPER	PPG	3000/01	GOLDEN CHICK COPPER	SEMI-GLOSS		PPG JIM MONTOUR 985-789-6003 JIM.MONTOUR@PPG.COM	FRONT OF HOUSE CEILING HVAC
P-2	INTERIOR WOOD STAIN – GOLDEN OAK	VALSPAR	N/A	GOLDEN OAK OR EQUAL	N/A			RESTROOM DOORS
P-3	INTERIOR PAINT – GC BLACK	PPG	N/A	GC BLACK	SEMI-GLOSS		PPG JIM MONTOUR 985-789-6003 JIM.MONTOUR@PPG.COM	DOOR FRAMES AND 1X4 WOOD TRIM
P-4	INTERIOR PAINT – GC BEIGE	PPG	N/A	GC BEIGE	SATIN		PPG JIM MONTOUR 985-789-6003 JIM.MONTOUR@PPG.COM	LOBBY WALLS
P-5	INTERIOR PAINT – GC YELLOW	PPG	N/A	GC YELLOW	SATIN		PPG JIM MONTOUR 985-789-6003 JIM.MONTOUR@PPG.COM	RESTROOM CEILINGS
P-6	INTERIOR PAINT – GC LIGHT BLUE	PPG	N/A	GC LIGHT BLUE	SATIN		PPG JIM MONTOUR 985-789-6003 JIM.MONTOUR@PPG.COM	RESTROOMS, RE: RESTROOM ELEVATIONS
P-7	INTERIOR PAINT – GC MEDIUM BLUE	PPG	N/A	GC MEDIUM BLUE	SATIN		PPG JIM MONTOUR 985-789-6003 JIM.MONTOUR@PPG.COM	RESTROOMS, RE: RESTROOM ELEVATIONS
P-8	INTERIOR PAINT – GC DARK BLUE	PPG	N/A	GC DARK BLUE	SATIN		PPG JIM MONTOUR 985-789-6003 JIM.MONTOUR@PPG.COM	RESTROOMS, RE: RESTROOM ELEVATIONS
WALL FINISH								
WC-1	CERAMIC STONE	CREATIVE MATERIALS	VITROMEX CATALAN 12"X24"	RUBY	MATTE	STACKED BOND. GROUT: LATICRETE #58 TERRA COTTA	ALLISON PICHE WITH CREATIVE MATERIALS CORP. P: 518-713-5395 APICHE@CREATIVEMATERIALS.CORP.COM	RE: INTERIOR ELEVATIONS
WC-2	BULLNOSE CERAMIC TILES	CREATIVE MATERIALS	BOON & BEAMING 2"X6" RUNNERS BOON & BEAMING 2"X2" CORNERS	BLACK BRIGHT	GLOSS	PROVIDE CORNER TILES AT EACH OUTSIDE CORNER. GROUT: MAPEI #10 BLACK	ALLISON PICHE WITH CREATIVE MATERIALS CORP. P: 518-713-5395 APICHE@CREATIVEMATERIALS.CORP.COM	RE: INTERIOR ELEVATIONS
WC-3	PORCELAIN TILE	CREATIVE MATERIALS	TILE: 6"X36"	NATURALIZED WHITE	N/A	TILE PATTERN: 1/3 RUNNING BOND PROVIDE A BLACK SCHLUTER QUADEC AT ALL EXPOSED TILE EDGES	ALLISON PICHE WITH CREATIVE MATERIALS CORP. P: 518-713-5395 APICHE@CREATIVEMATERIALS.CORP.COM	RE: INTERIOR ELEVATIONS
WC-4	FIBERGLASS REINFORCED PANELS	MARLITE	P-100	WHITE	PEBBLE	ADD TRIM AND TRANSITION STRIPS PER MANUFACTURERS RECOMMENDATIONS		RE: INTERIOR ELEVATIONS
COUNTERTOPS								
CT-1	GRANITE	BY GENERAL CONTRATOR	2CM LEATHERED GRANITE	BLACK PEARL	MATTE			SERVICE LINE AND BEVERAGE STATION
CT-2	SOLID SURFACE	STARON SOLID SURFACES	SANDED	S0423 SANDED ONYX		1/2" THICK		WINDOW SILLS
CEILING FINISH								
C-1	DECORATIVE VINYL CEILING TILE AND GRID	TILE: LEGACY CEILING TILES GRID: ARMSTRONG	TILE: 24"X24" VENICE CEILING TILE GRID: 24"X24" PRELUDE XL XL7328BZ	TILE: ANTIQUE COPPER GRID: BRONZE (BZ)	N/A		FOR CEILING TILES IN DINING/BEVERAGE/ENTRY/SERVICE: SCOTT FISCHER 800-419-1130 UDECOR.COM SCOTT@WISHIHADTHAT.COM	FRONT OF HOUSE, RE: RCP
C-2	GYP BOARD FINISH	BY CONTRACTOR	N/A	N/A	N/A			RESTROOMS, RE: RCP
C-3	VINYL CLAD CEILING TILE AND GRID	TILE: USG GRID: ARMSTRONG	TILE: 24"X48" CLEAN ROOM VINYL GRID: PRELUDE XL	TILE: WHITE GRID: WHITE	N/A			BACK OF HOUSE AND OFFICE, RE: RCP
BASE FINISH								
B-1	COVE TRANSITION STRIP	SCHLUTER	DILEX-AHK	SATIN ANODIZED ALUMINUM	SATIN			RESTROOM FLOOR TO WALL TRANSITIONS
B-2	QUARRY TILE COVE BASE	CREATIVE MATERIALS	6"X12" COVE BASE	OBIDOS RICE	ANTI-SLIP RICE GRAIN	GROUT: LATICRETE #24 NATURAL GREY EPOXY GROUT	ALLISON PICHE WITH CREATIVE MATERIALS CORP. P: 518-713-5395 APICHE@CREATIVEMATERIALS.CORP.COM	BACK OF HOUSE, OFFICE, COOLER
FLOOR FINISH								
F-1	GLAZED PORCELAIN TILES	CREATIVE MATERIALS	TILE: 6"X36"	SAUNDERS GOLD	N/A	TILE PATTERN: STAGGERED 12" HORIZONTALLY. GROUT: MAPEI #111 HICKORY	ALLISON PICHE WITH CREATIVE MATERIALS CORP. P: 518-713-5395 APICHE@CREATIVEMATERIALS.CORP.COM	FRONT OF HOUSE, RESTROOMS
F-2	QUARRY TILE	CREATIVE MATERIALS	TILE: 8"X8"	OBIDOS RICE	ANTI-SLIP RICE GRAIN	GROUT: LATICRETE #24 NATURAL GREY EPOXY GROUT	ALLISON PICHE WITH CREATIVE MATERIALS CORP. P: 518-713-5395 APICHE@CREATIVEMATERIALS.CORP.COM	BACK OF HOUSE, OFFICE, COOLER
F-3	BRUSHED CONCRETE	BY GENERAL CONTRACTOR	N/A	N/A	N/A	N/A		SERVICE YARD
EXTERIOR FINISHES								
EF-2	MANUFACTURED STONE VENEER	CORNADO STONE PRODUCTS	TEXAS RUBBLE	TEXAS CREAM	N/A	MORTAR: SAVANNAH IVORY: AR005-US.COM	PEGGY HENDERSON WITH SPECIFIED PRODUCTS, INC CELL: 214-388-1228 PEGGY@SPDALLAS.COM	EXTERIOR FINISH, RE: EXTERIOR ELEVATIONS
EF-3	BLACK GLAZED KING KLINKER	ACME BRICK AND TILE	9 5/8" x 2 1/4" x 9/16"	ONYX BLACK	GLAZED	BUTT ENDS TOGETHER. PROVIDE PENCIL BULLNOSE TRIM AT ALL OUTSIDE CORNERS. MORTAR: SAVANNAH IVORY	JUSTIN HAMILTON WITH ACME BRICK CELL: 817-454-0997 JRHAMILTON@ACMEBRICK.COM	EXTERIOR FINISH, RE: EXTERIOR ELEVATIONS
EF-4	8" WIDE INTEGRAL COLOR EIFS BAND	STO	STO THERM CI CLASSIC	MARBLE WHITE	FINE	PROVIDE INTERMEDIATE MESH FOR ADDITIONAL IMPACT RESISTANCE AT ALL LOCATIONS BELOW 7'-0".		EXTERIOR FINISH, RE: EXTERIOR ELEVATIONS
EXTERIOR PAINTS								
EP-1	OIL BASED PAINT – PAPRIKA	EDDIE BAUER	EB27-1	PAPRIKA	SEMI-GLOSS			RECEIVING DOOR AND FRAME, GATES, LADDER, DOWNSPOUTS, CONDUITS, PIPING, EXPOSED CMU
ROOF FINISHES								
R-1	SINGLE PLY ROOFING MEMBRANE	DURO-LAST	50 MIL MEMBRANE	WHITE / TAN	RE: SPECIFICATIONS	COMMERCIAL ROOFING SYSTEM, RE: SPECIFICATIONS		ROOF AND PARPETS
R-2	PREFINISHED METAL PARAPET CAP	KYNAR		(PREFINISHED YELLOW) GOLDEN CHICK YELLOW			SSC SIGNS & LIGHTING – 1200 N. BELTLINE RD. GRAND PRAIRIE, TX 75050	PARAPET CAPS AND SIGNAGE ELEMENTS

**MLA**

MICHAEL LEGG ARCHITECTURE  
Michael Legg, AIA, NCARB, AIA, RIBA, SCAAP  
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San Antonio, Texas 78260  
95-210-44-4955  
michael@mlaarchitect.com  
www.michaelleggarchitect.com



**DRAWING COORDINATION**  
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**Golden Chick Restaurant Remodel at  
2311 Fredericksburg Rd  
San Antonio, Texas**

DATE	DESCRIPTION	BY

**FINISH SCHEDULE**

PROJECT NO.  
05-05-22

SHEET NO.

**A0.3**



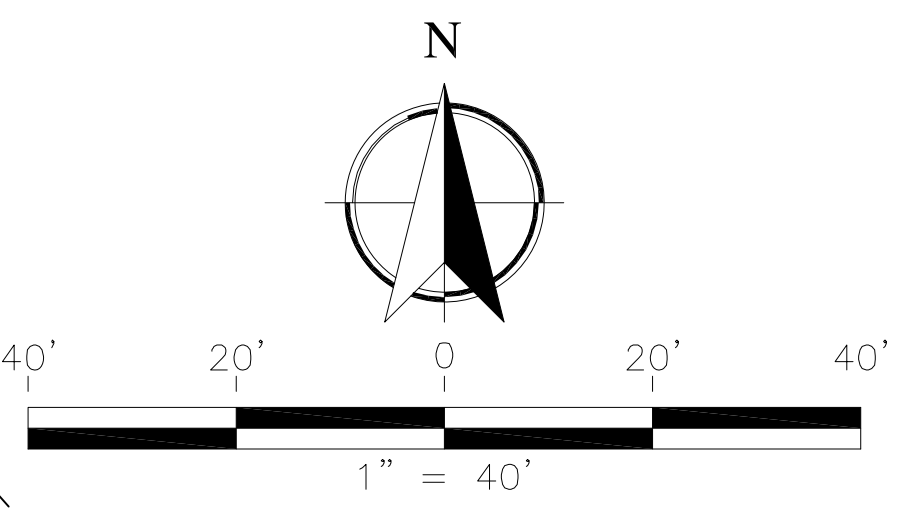
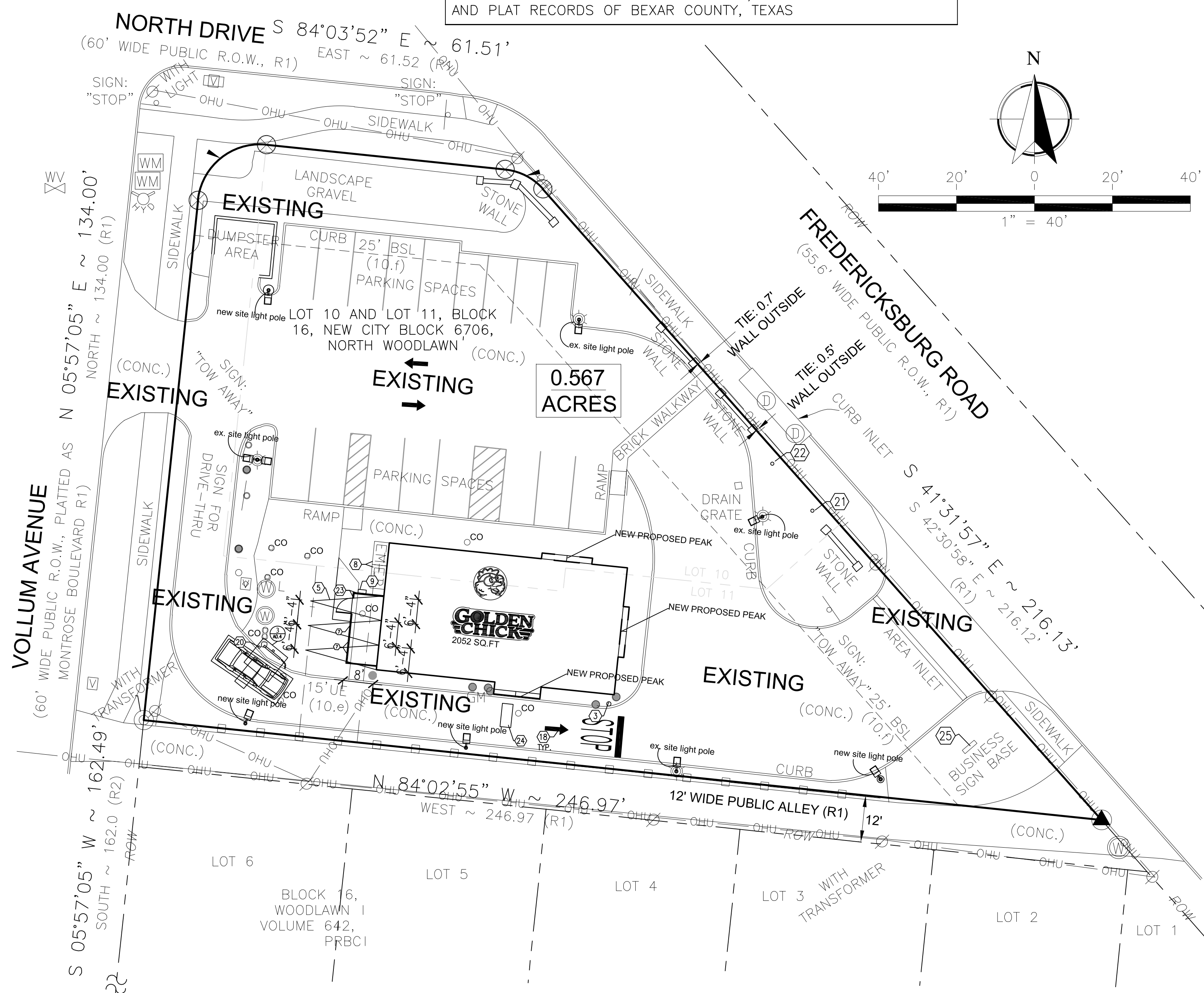


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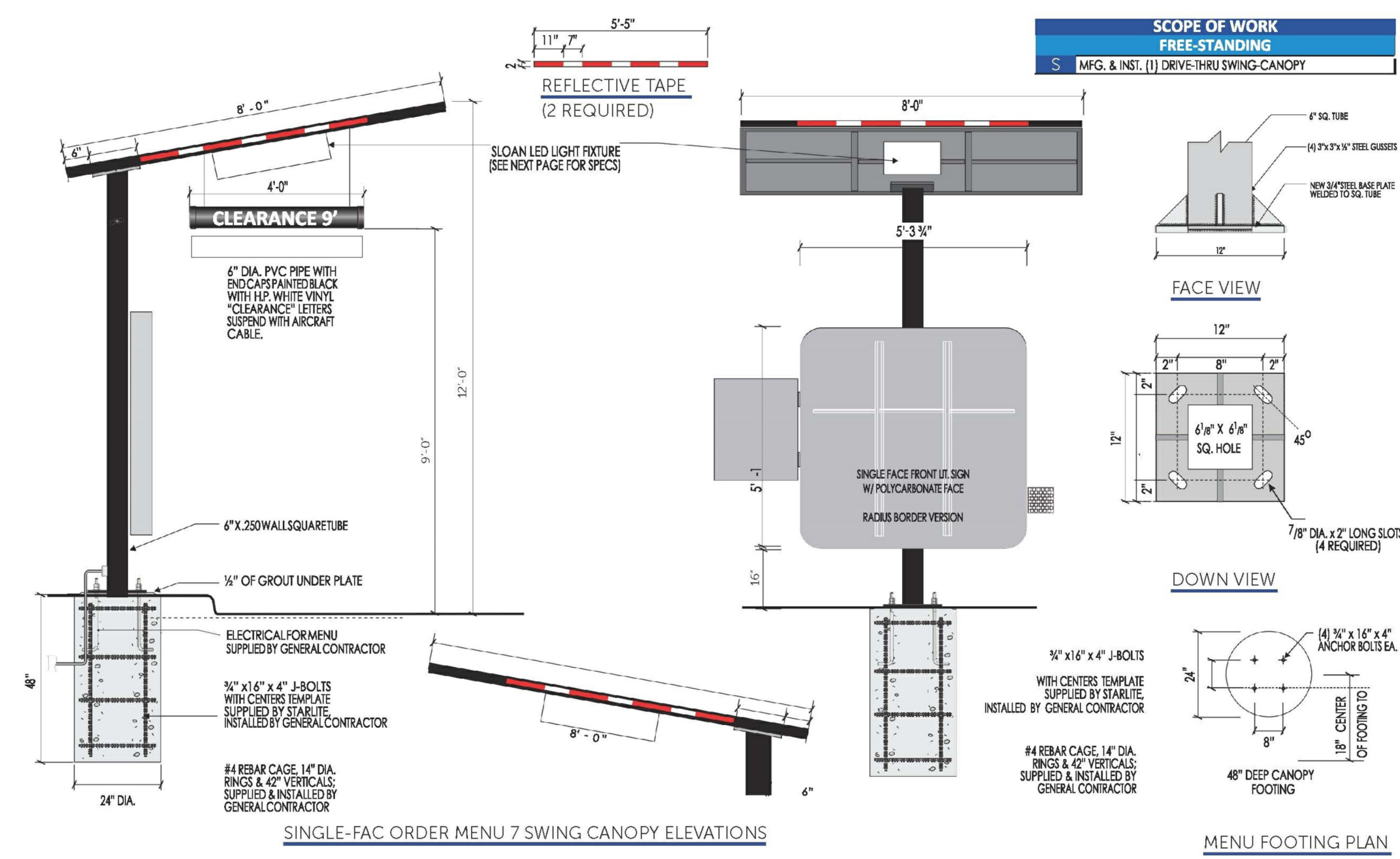
**Golden Chick Restaurant Remodel at 2311 Fredericksburg Rd San Antonio, Texas**

**LEGAL DESCRIPTION - 0.567 ACRES**  
BEING 0.567 ACRES (24,717 SQ.FT) OF LAND, SAID 0.567 ACRES BEING ALL OF LOT 10 AND LOT 11, BLOCK 16, NEW CITY BLOCK 6706 NORTH WOODLAWN TERRACE RE-SUBDIVISION, ACCORDING TO THE PLAT RECORDED IN VOLUME 4181, PAGE 123 OF THE DEED AND PLAT RECORDS OF BEXAR COUNTY, TEXAS

1. SITE PLAN IS FOR REFERENCE ONLY. NEW SITE LIGHT POLES AS PER ARCHITECT SITE PLAN & NOT MEP SITE PLAN - MEP FOR CIRCULARITY.
2. GENERAL CONTRACTOR SHALL VERIFY ALL SIDEWALKS, ACCESSIBLE DRIVE AND DRIVE LINES ARE CLEAR AT ALL TIMES.
- 3.
4. HANDICAPPED SIGNAGE, UPGRADE TO SUIT.
5. LANDSCAPING-MANTAIN EXISTING ALLOW \$10,000 FOR UPGRADE AT DT & BRICK STONE WALL AT ROAD.
- 6.
7. SITE LIGHTING, RE ARCH FOR X4 NUMBER & LOCATO MEP FOR CIRCULARITY.
8. STRING LIGHTS STRUNG FROM POSTS WITH TURBUCKLE CONNECTORS.
9. 4"x4"x9'-0" TALL PRIMED AND PAINTED BLACK POSTS SET IN 18"x36" CONCRETE FOOTINGS. PROVIDE POST CAPS AND EYELETS FOR STRING LIGHTS.
10. FOOD SERVICE MOUNTED TO SERVICE TRAYS.
11. ELECTRICAL SWITCHGEAR AND METER, RE: ELECTRICAL.
12. GAS METER, RE: PLUMBING.
13. EX SERVICE TRAY, RE: PLUMBING.
14. SCHEDULE WITH CONTROL JOINTS AT 5'-0" O.C. MAXIMUM AT COURTYARDS.
- 15.
- 16.
- 17.
- 18.
- 19.
- 20.
21. 40'-0" ALUMINUM FLAGPOLE FOR U.S. FLAG, MODEL NUMBER ECHAD BY EDER FLAG MANUFACTURING COMPANY, INC. RE: WWW.EDERFLAG.COM
22. 35'-0" ALUMINUM FLAGPOLE FOR GOLDEN CHICK FLAG, MODEL NUMBER 3505 BY EDER FLAG MANUFACTURING COMPANY, INC. RE: WWW.EDERFLAG.COM
23. 20'x20'x10' WOODEN SERVICE YARD FENCE WITH CUSTOM STEEL GATE.
24. CAR DETECTOR LOOP AT PICK UP WINDOW, RE: DETAIL BELOW.
25. MONUMENT SIGNAGE TO BE LOCATED ON LEFT SIDE OF DRIVEWAY ON EXISTING STONE SURROUND, COORDINATE WITH OWNER SIGNAGE COMPANY.
- 26.



**DRIVE-THRU**



DRIVE THRU CANOPY		ARCHITECTURAL SITE PLAN	
NTS 6		NTS 1	
<p><b>LAMP POST DETAILS</b> 3/8"-1'-0"</p>		<p><b>SENSOR LOOP, MENU BOARD, AND ORDER REVIEW LAYOUT</b> 3/8"-1'-0"</p>	
<p><b>NOT USED</b> NTS 4</p>		<p><b>NOT USED</b> NTS 5</p>	

DATE	DESCRIPTION	BY

**SITE PLAN AND SITE DETAILS**

PROJECT NO.  
05-05-22

SHEET NO.  
**A0.4**









**DRAWING COORDINATION**  
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**Golden Chick Restaurant Remodel at 2311 Fredericksburg Rd San Antonio, Texas**

DATE	DESCRIPTION	BY

**RCP, FURNISHINGS & EGRESS FLOOR PLAN**

PROJECT NO.  
**05-05-22**

SHEET NO.  
**A1.2**

**GENERAL NOTES**

- ALL DIMENSIONS ARE SHOWN TO FACE OF STUD UNLESS NOTED OTHERWISE
- REFER TO FINISH SCHEDULE AND DETAILS FOR APPLIED FINISHES
- WALLS TO STRUCTURAL DECK MUST BE THOROUGHLY SEALED AROUND PENETRATIONS

**BUILDING DATA**

CONDITIONED AREA:	2,052 SQ. FT.
SERVICE YARD:	171 SQ. FT.
TOTAL AREA:	2,223 SQ. FT.

**SEATING COUNT**

INTERIOR			
4 TOP TABLE x	4	=	16
6 TOP TABLE (ROUND)x	1	=	6
TOTAL INTERIOR:	5		22

**IBC SECTION 1005 - MEANS OF EGRESS WIDTH**

OCCUPANTS	FACTOR	TOTAL EGRESS WIDTH REQUIRED	TOTAL EGRESS WIDTH PROVIDED
40	0.20" PER OCCUPANT	8 IN.	148 IN.

**EXIT OCCUPANCY LOADS**

DOOR OR GATE #	EGRESS WIDTH PROVIDED	OCCUPANCY LOAD
#1	34 IN.	30
#2	34 IN.	30
#3	34 IN.	14
#4/GATE #8	46 IN.	6
	148 IN. PROVIDED	

**EGRESS LAYOUT NOTES**

- TACTILE EXIT SIGNS SHALL BE PROVIDED AT THE FOLLOWING LOCATIONS:
  - TACTILE EXIT WITH THE WORD "EXIT"
  - EACH EXIT, EXIT ACCESS DOOR FROM AN INTERIOR ROOM OR AREA TO A CORRIDOR OR HALLWAY THAT IS REQUIRED TO HAVE A VISUAL EXIT SIGN, SHALL BE IDENTIFIED BY A TACTILE EXIT SIGN WITH THE WORDS, "EXIT ROUTE"

**FURNISHING NOTES**

- HEIGHT OF STANDARD TABLES AND COUNTERS SHALL BE 28" MINIMUM-34" MAXIMUM
- MANUEVERING CLEARANCE SHALL BE 30"x48"
- KNEE CLEARANCE SHALL BE 27" HIGH, 17" DEEP AND 30" WIDE

**FURNITURE SCHEDULE**

TAG	QTY	SIZE	DESCRIPTION
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**TABLE TOP**

T-1	4	24"x27"	OAK STREET MANUFACTURING. 1-1/2" THICK SOLID OAK PLANK W/ NATURAL FINISH.
T-2	4	30"x30"	OAK STREET MANUFACTURING. 1-1/2" THICK SOLID OAK PLANK W/ NATURAL FINISH.
T-3	1	36"x36"	OAK STREET MANUFACTURING. 1-1/2" THICK SOLID OAK PLANK W/ NATURAL FINISH.
T-4	1	30"x48"	OAK STREET MANUFACTURING. 1-1/2" THICK SOLID OAK PLANK W/ NATURAL FINISH.
T-5	2	24"x48"	OAK STREET MANUFACTURING. 1-1/2" THICK SOLID OAK PLANK W/ NATURAL FINISH.
T-6	1	54" ROUND	OAK STREET MANUFACTURING. 1-1/2" THICK SOLID OAK PLANK W/ NATURAL FINISH.
T-7	2	72" HEXAGON	N.O.F. INC. HEXAGONAL RECYCLED PLASTIC TOP AND BASE PICNIC TABLE AND SEATS. CUSTOM MODEL #JP PB6HEX 72"

**TABLE BASE**

TB-1	4	22"x22" STANDARD	OAK STREET MANUFACTURING CROSS BASE MODEL: B22-STD
TB-2	6	22"x22" BAR	OAK STREET MANUFACTURING CROSS BASE MODEL: B22-BAR
TB-3	1	PAIR 5"x22" STANDARD	OAK STREET MANUFACTURING CROSS BASE MODEL: B522-ADA (2 PER TABLE)
TB-4	1	27 1/2" CANTILEVER	OAK STREET MANUFACTURING CANTILEVER BASE MODEL: B CANTILEVER
TB-5	1	30" DIAMETER	OAK STREET MANUFACTURING DISC BASE MODEL: B30DISC-STD

**CHAIRS AND BOOTHS**

CH-1	18	17" x 18"	OAK STREET MANUFACTURING CHAIR MODEL: SL2160 OAK PLANK
CH-2	8	16.5" X 17.25"	OAK STREET MANUFACTURING BAR HEIGHT CHAIR MODEL: SL2301 OAK PLANK
CH-3	2	48" HIGH X 27" LONG	KC BOOTH, LLC MODEL: SINGLE HIGH BOOTH
CH-4	3	48" HIGH X 27" LONG	KC BOOTH, LLC MODEL: DOUBLE HIGH BOOTH
CH-5	2	36" HIGH X 48" LONG	KC BOOTH, LLC MODEL: SINGLE LOW BOOTH
CH-6	2	36" HIGH X 48" LONG	KC BOOTH, LLC MODEL: DOUBLE LOW BOOTH

**FURNISHINGS**

FN-1	1	PER MANUF.	CLUCKY MACHINE
------	---	------------	----------------

**FURNISHINGS & EGRESS FLOOR PLAN**  
1/4"=1'-0" **2**

**WALL ART**

TAG	DESCRIPTION
WA-1	CLUCKY WARHOL (23.75"x36")
WA-2	CATFISH (31.5"x39.25")
WA-3	BLADE MOUNTED ICE CREAM SIGN (BOTTOM 18-24" ABOVE SOFT SERVE)
WA-4	MENU BOARDS (22.5"x38.25")
WA-5	ILLUMINATED 'G' LETTER SIGN
WA-6	ILLUMINATED 'C' LETTER SIGN
WA-7	INTERNALLY ILLUMINATED ROASTED CHICKEN SIGN
WA-8	ALASKAN COO SIGN

**WALL VINYL**

TAG	DESCRIPTION
WV-1	CROWN RIBBON (CONTINUOUS AROUND FRONT OF HOUSE. STARTS AND STOPS AT LARGE WALL VINYL AND INSIDE CORNERS)
WV-2	CLUCKY COOL
WV-3	BRICK WALL
WV-4	GOLDEN CHICK HISTORY
WV-5	GOLDEN TENDERS
WV-6	DOG - WOMEN'S RESTROOM
WV-7	DOG - MENS RESTROOM
WV-8	CLUCKY MACHINE WRAP

**GENERAL NOTES**

- CENTER ALL FRONT OF HOUSE CAN LIGHTS, STROBES, SPEAKERS, AND OTHER ELECTRICAL ITEMS IN DECORATIVE CEILING TILES, UNO.
- REFER TO ELECTRICAL DRAWINGS FOR ALL ELECTRICAL FIXTURES
- ALL LISTED HEIGHTS ARE TO BOTTOM OF FIXTURES
- REFER TO MECHANICAL DRAWINGS FOR ALL REGISTERS AND DIFFUSERS.
- REFER TO ELECTRICAL DRAWINGS FOR ALL LIGHTING FIXTURES.
- PAINT ALL FRONT OF HOUSE SUPPLY AND RETURN GRILLES
- ALL DIMENSIONS ARE SHOWN TO FACE OF STUD WALL.

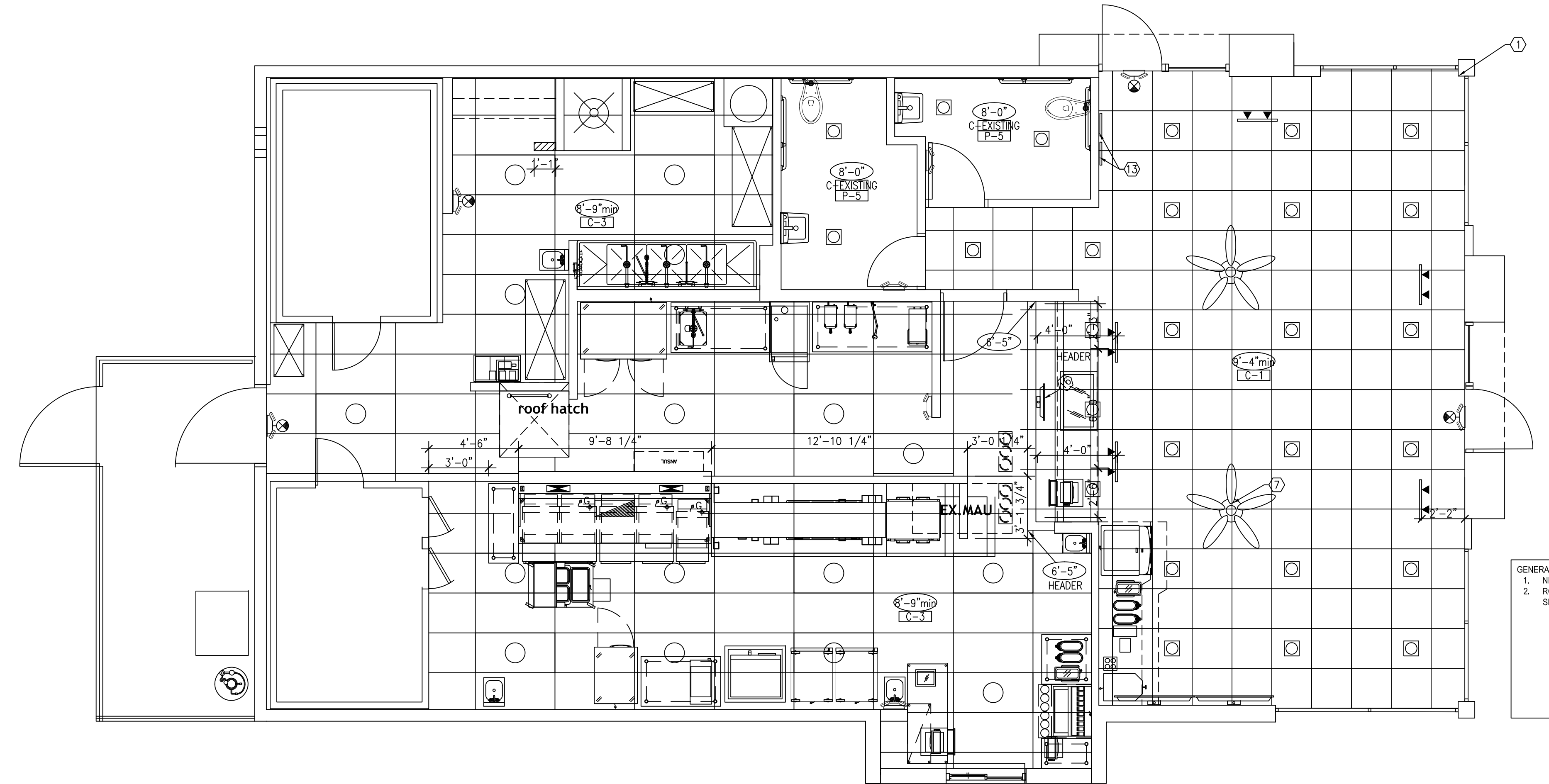
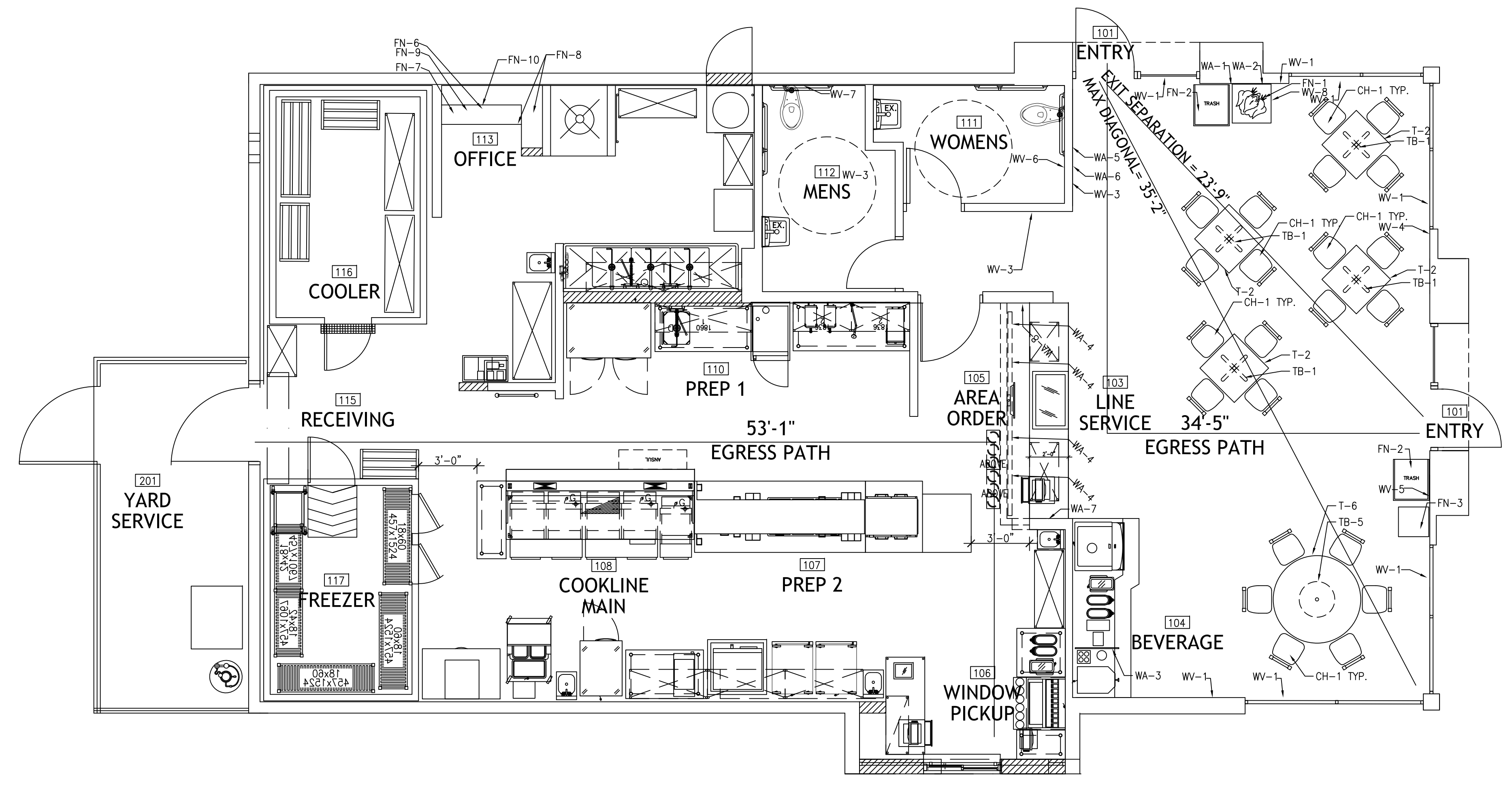
**KEY NOTES:**

- START FULL CEILING TILE IN THIS CORNER. ALIGN GRID WITH STRUCTURE.
- CENTER TRACK WITH GRID TILES.
- CENTER PENDANT IN CEILING TILE, ALIGN WITH TABLE BELOW
- PRE-FABRICATED ALUMINUM AWNING BY SIGNAGE VENDOR.
- PRE-FABRICATED ALUMINUM CANOPY AND TURNBUCKLES BY SIGNAGE VENDOR.
- INTERNET DEMARCATION BOARD, RE: ELECTRICAL
- CEILING FANS, RE: ELECTRICAL
- WATER HEATER, RE: PLUMBING
- PRE-FINISHED DOWNSPOUT, RE: 5/A3.4
- RESTROOM EXHAUST, RE: MECHANICAL
- EXHAUST HOOD, MUA SUPPLY, AND EXHAUSTS, RE: MECHANICAL
- COOLER AND FREEZER LIGHTS, BY K.E.S., INSTALLED BY GC.
- ILLUMINATED LETTER SIGNS, RE: A1.2.
- BLADE MOUNTED ICE CREAM SIGN, RE: A1.2.
- MEDIA DISPLAY, (4) BANKED TELEVISION, RE: ELECTRICAL
- DIGITAL MENU DISPLAY ON HEADER ABOVE, (1) TELEVISION, RE: ELECTRICAL
- OFFICE SHELVING, RE: 1/A1.6

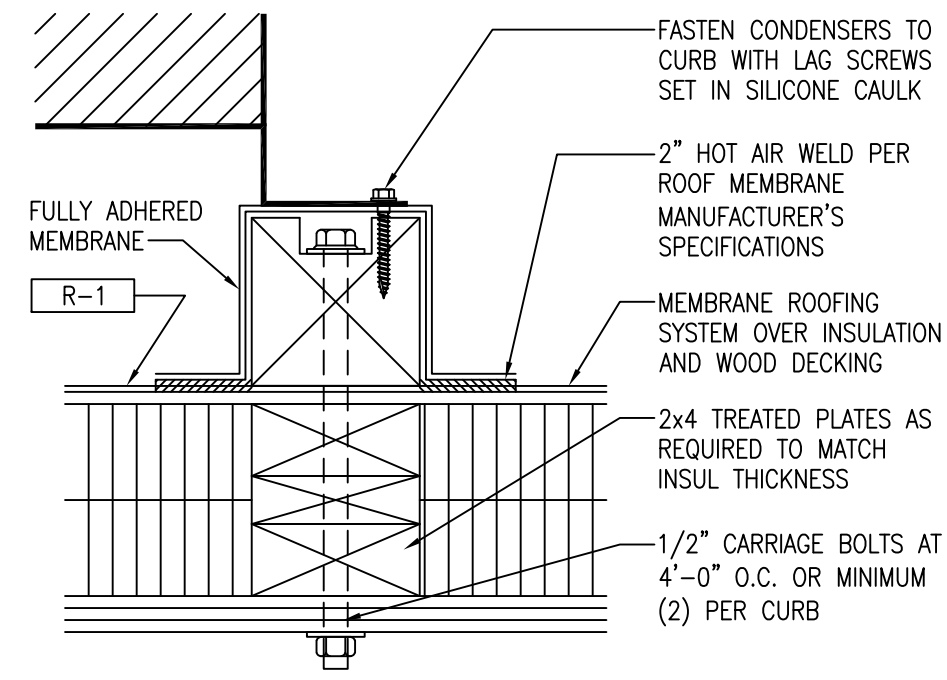
FN-2	2	22" W X 25" D X 48" H	TRASH CAN WITH BACKSPLASH MODEL: M8520 - BLACK WITH WHITE LETTERS
FN-3	2	PER MANUF.	HIGH CHAIRS
FN-4	2	7'-6" OCTAGON	CALIFORNIA UMBRELLA GROVE SERIES MODEL: MARE758-5457 SUNFLOWER YELLOW

**GENERAL ROOF NOTES**

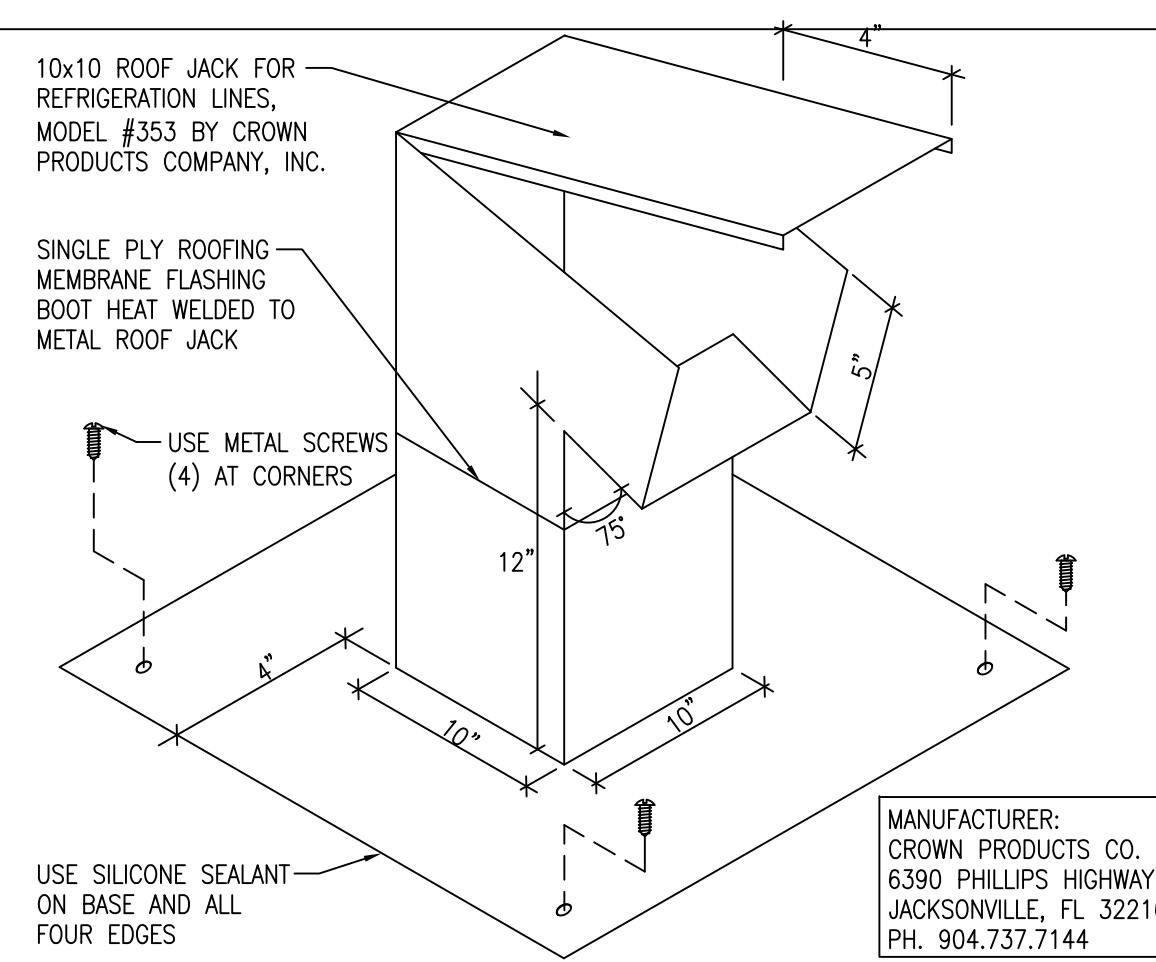
- NEW HVAC HAVE BEEN INSTALLED AS PER MEP
- ROOF TO BE FINISHED WITH DURO-LAST PER SPECS



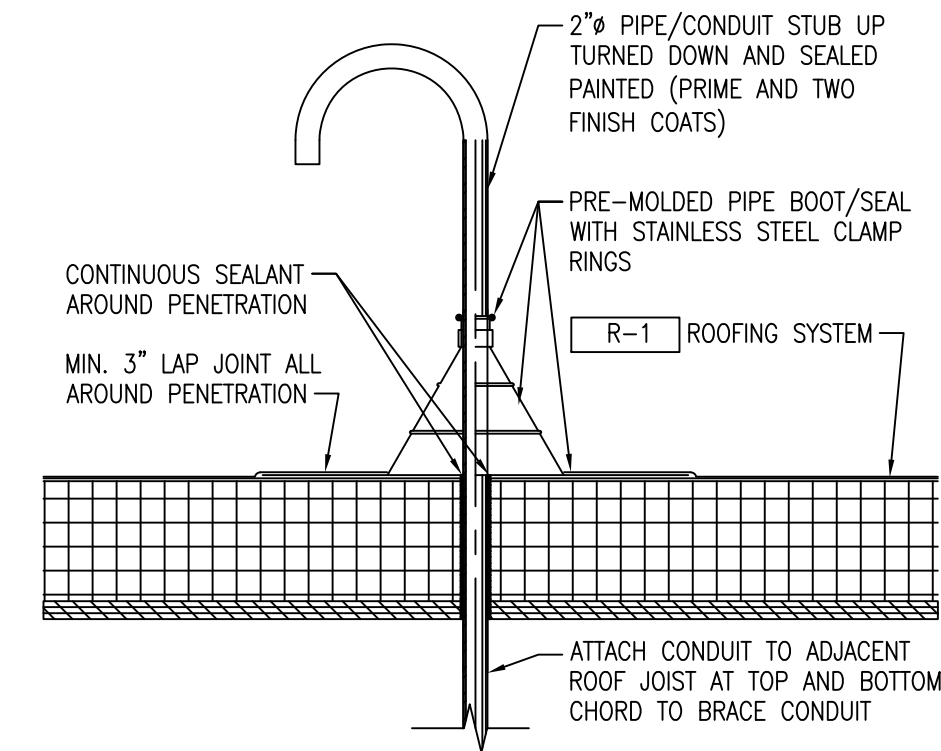




COMPRESSOR CURB DETAIL  
3/4"=1'-0" 3



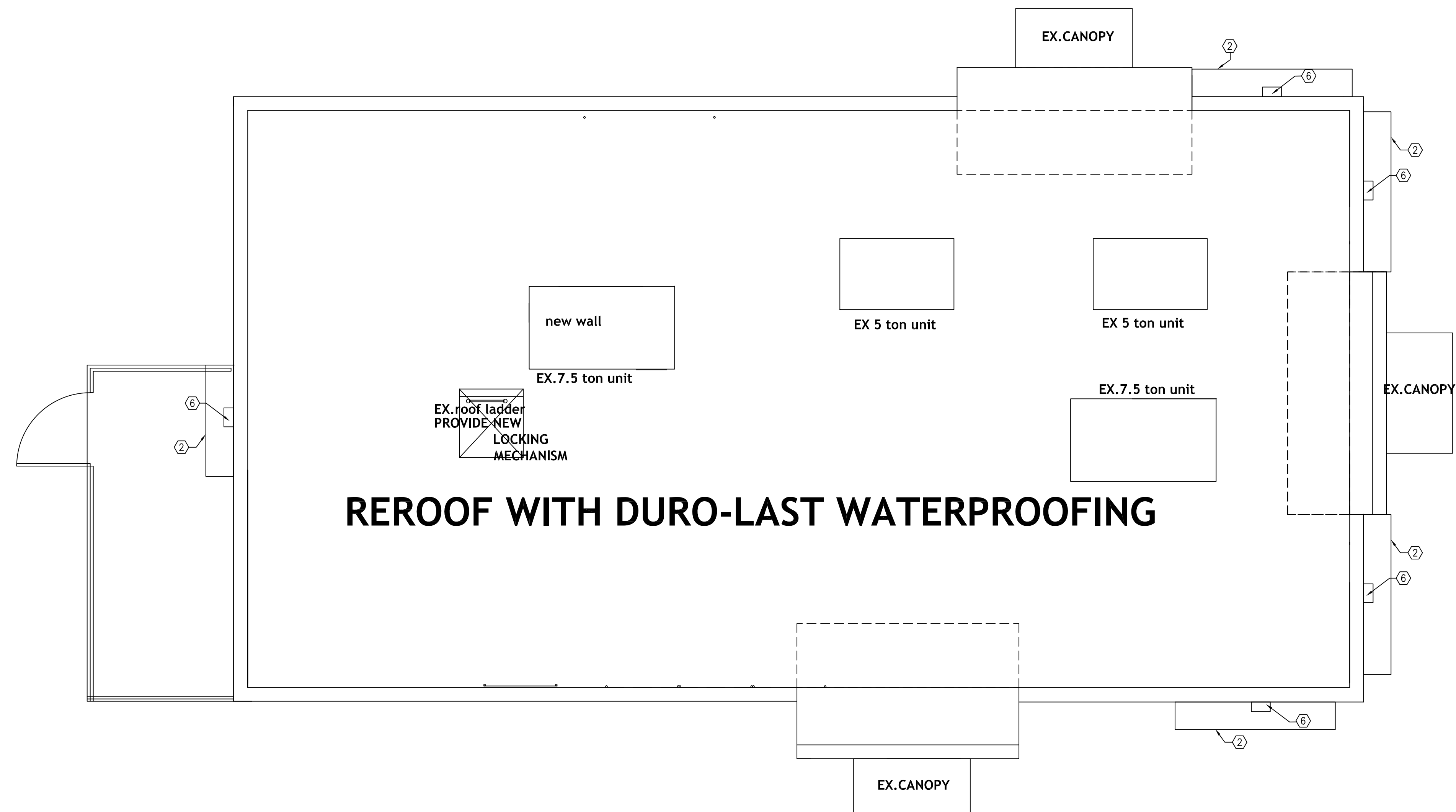
TYPICAL ROOF JACK DETAIL  
NOT TO SCALE 4



TYPICAL GOOSENECK CONDUIT DETAIL  
1/4"=1'-0" 5

GENERAL NOTES

- 1 ALL DIMENSIONS ARE SHOWN TO FACE OF STUD WALL.
- 2 KEY NOTES:
- 1 MAIN LETTER AND UPPER MEDALLION SIGNAGE BY SIGN VENDOR UNDER SEPARATE PERMIT. COORDINATE POWER AND BLOCKING
- 2 PRE-FABRICATED ALUMINUM AWNING BY SIGNAGE VENDOR.
- 3 PRE-FABRICATED ALUMINUM CANOPY AND TURNBUCKLES BY SIGNAGE VENDOR.
- 4 STEEL LADDER MOUNTED TO THE BUILDING FOR ROOF ACCESS, PAINT [EP-1], RE: 1/A3.4
- 5 PRE-FINISHED DOWNSPOUT AND COLLECTION BOX WITH OVERFLOW SCUPPER, RE: 5/A3.4 AND 15/A3.4
- 6 WALL MOUNTED SCANCES, RE: ELECTRICAL. REFER TO EXTERIOR ELEVATIONS A2.0 FOR MOUNTING HEIGHTS.
- 7 ROOF WALKWAY PAD
- 8 ROOF MOUNTED HVAC EQUIPMENT, RE: MECHANICAL
- 9 MAKEUP AIR UNIT, RE: MECHANICAL
- 10 ROOF EXHAUST FAN, RE: MECHANICAL
- 11 TAPERED INSULATION CRICKET, MINIMUM 1/2" SLOPE, TYPICAL
- 12 LED STRIP LIGHT ON PARAPET CAP BY SIGNAGE VENDOR, RE: ELEC.
- 13 BUILDING ROOF PEAK PROVIDED BY SIGNAGE VENDOR, RE: WALL SECTIONS FOR LIMITS OF BUILDING ROOF PEAK AND INSTALLATION.
- 14 SERVICE YARD WALL AND GATE BELOW
- 15 WATER HEATER VENT, RE: PLUMBING
- 16 ROOF CURBS FOR CONDENSERS, RE: 3/A1.5
- 17 ROOF JACK FOR REFRIGERATION LINES, RE: 4/A1.5
- 18 ROOF MOUNTED VTR, RE: MECHANICAL
- 19 PARAPET KICKER, RE: STRUCTURAL



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

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REGISTERED ARCHITECT  
STATE OF TEXAS  
09.21.2023

**DRAWING COORDINATION**  
Architectural, Landscape, Civil, Structural, Mechanical and Electrical drawings are interrelated. General Contractor and all Sub Contractors shall review and coordinate the entire set of drawings and specifications

**Golden Chick Restaurant Remodel at  
2311 Fredericksburg Rd  
San Antonio, Texas**

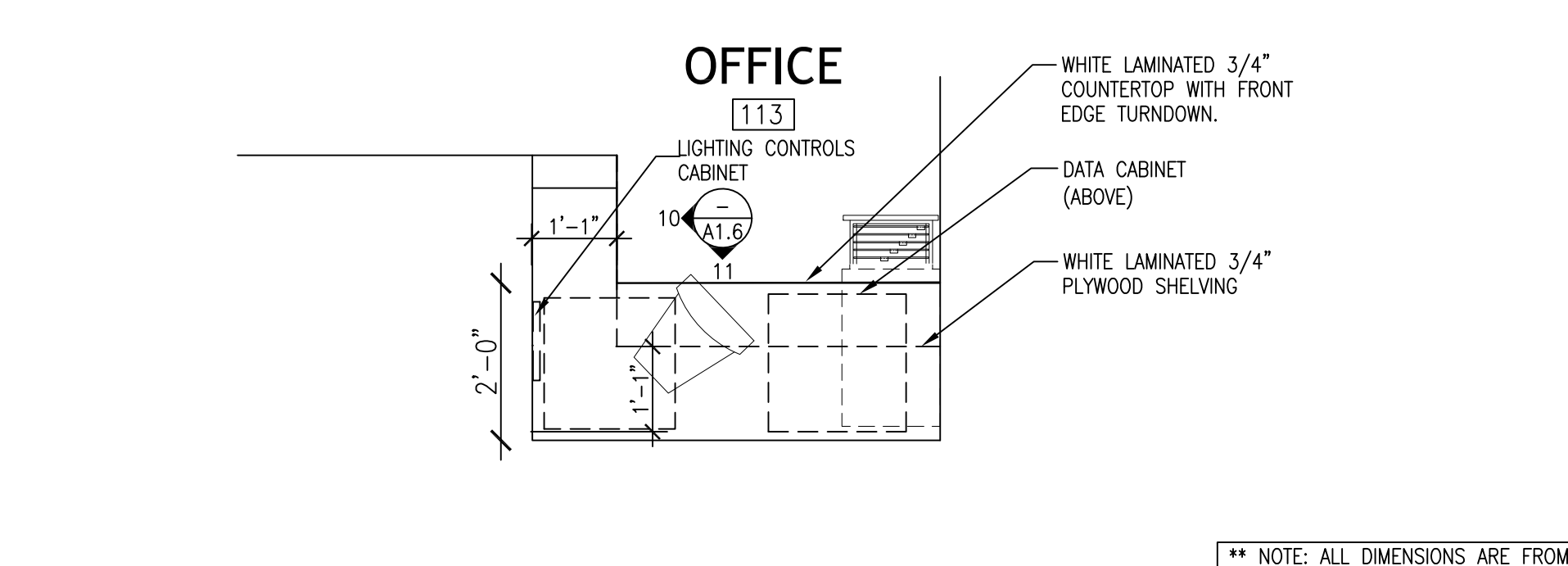
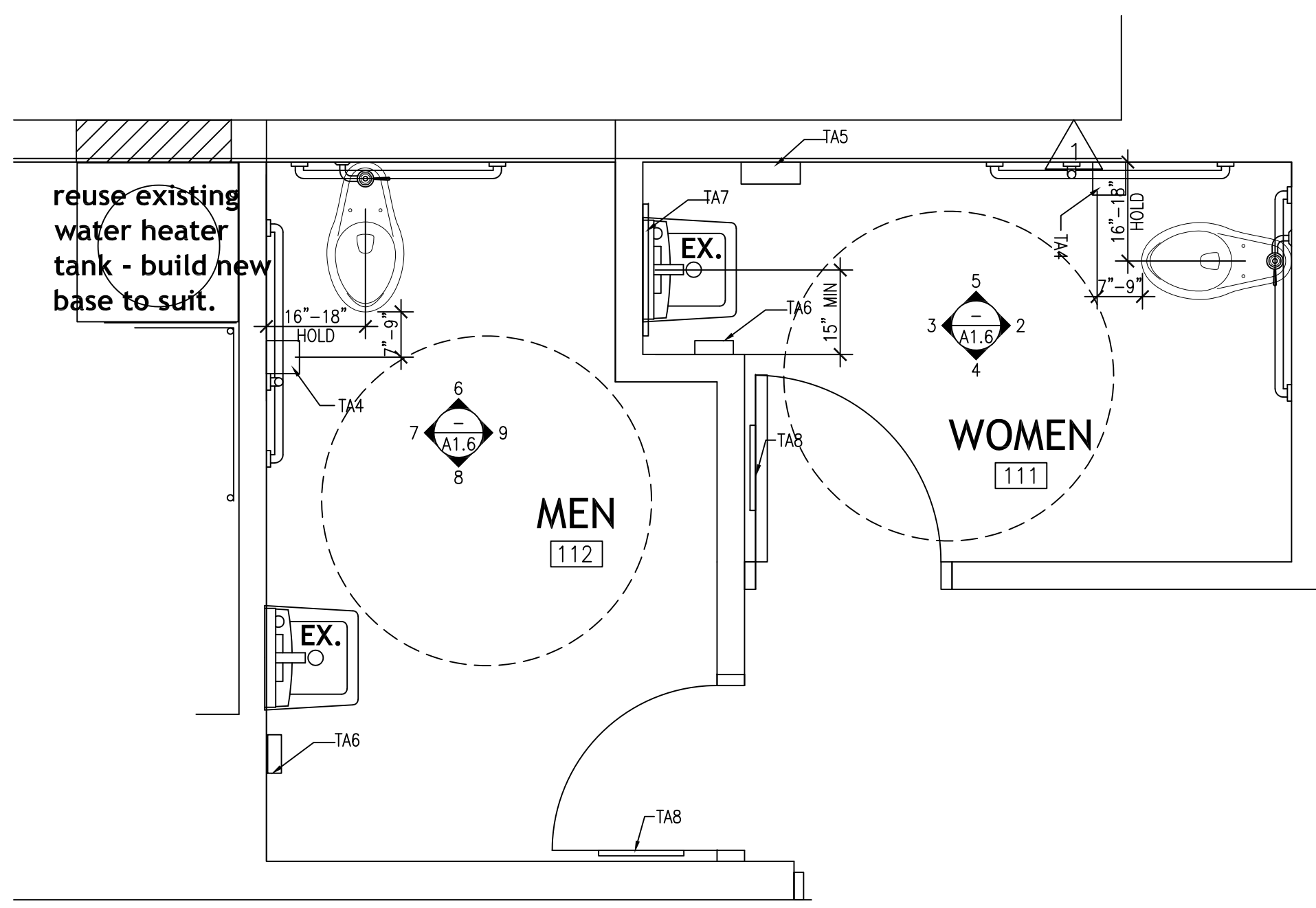
DATE	DESCRIPTION	BY

**ROOF PLAN**

PROJECT NO.  
05-05-22

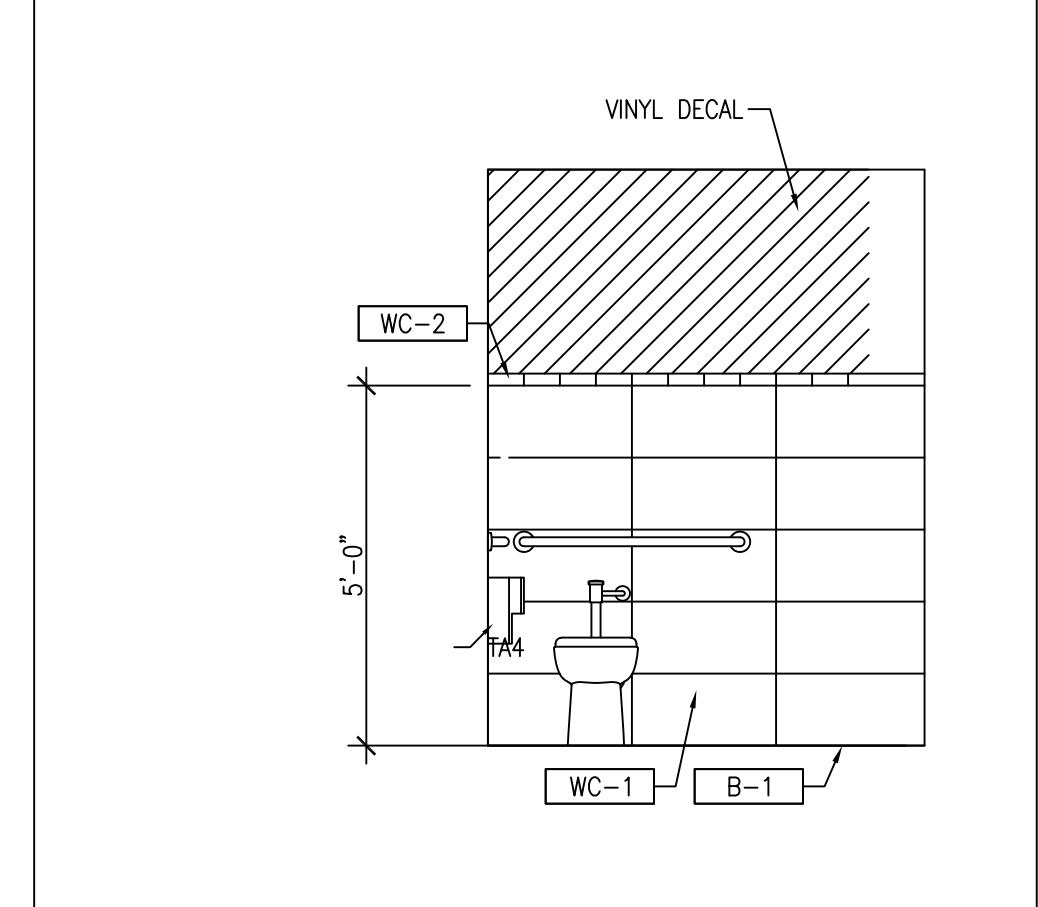
SHEET NO.  
**A1.5**



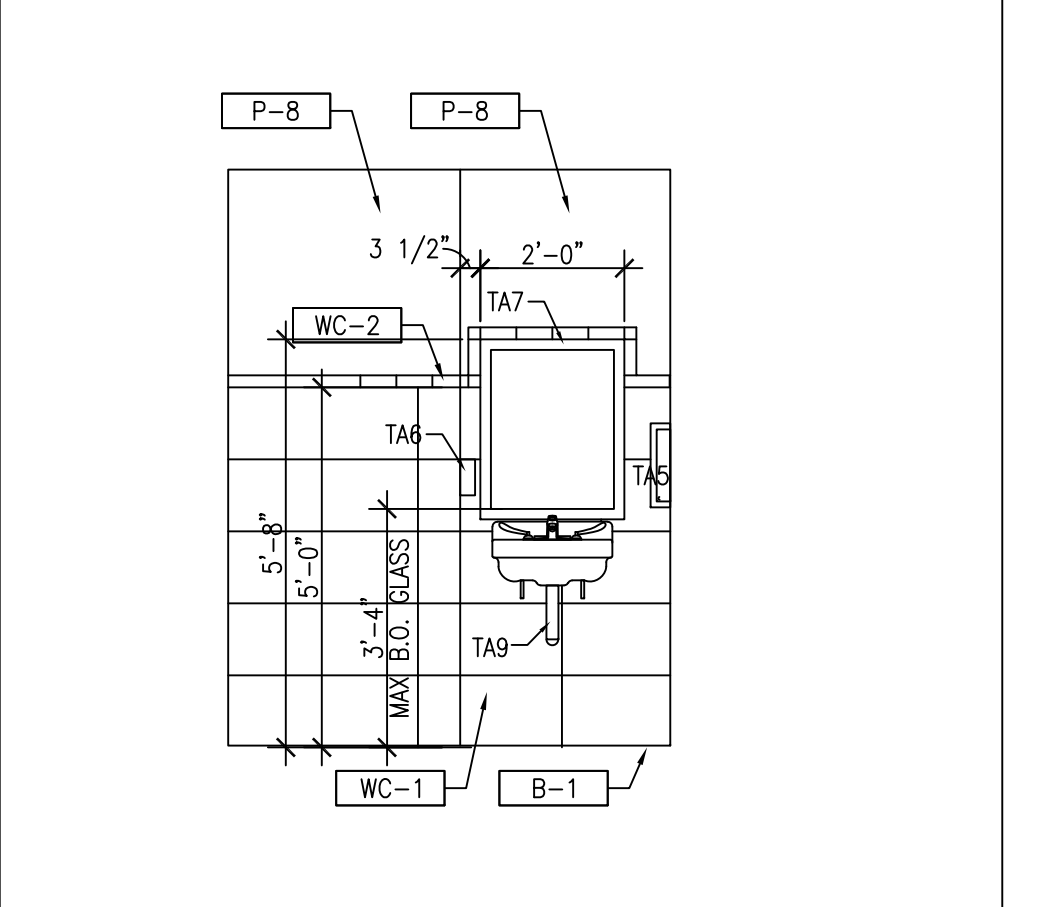


\*\* NOTE: ALL DIMENSIONS ARE FROM FINISH FACE

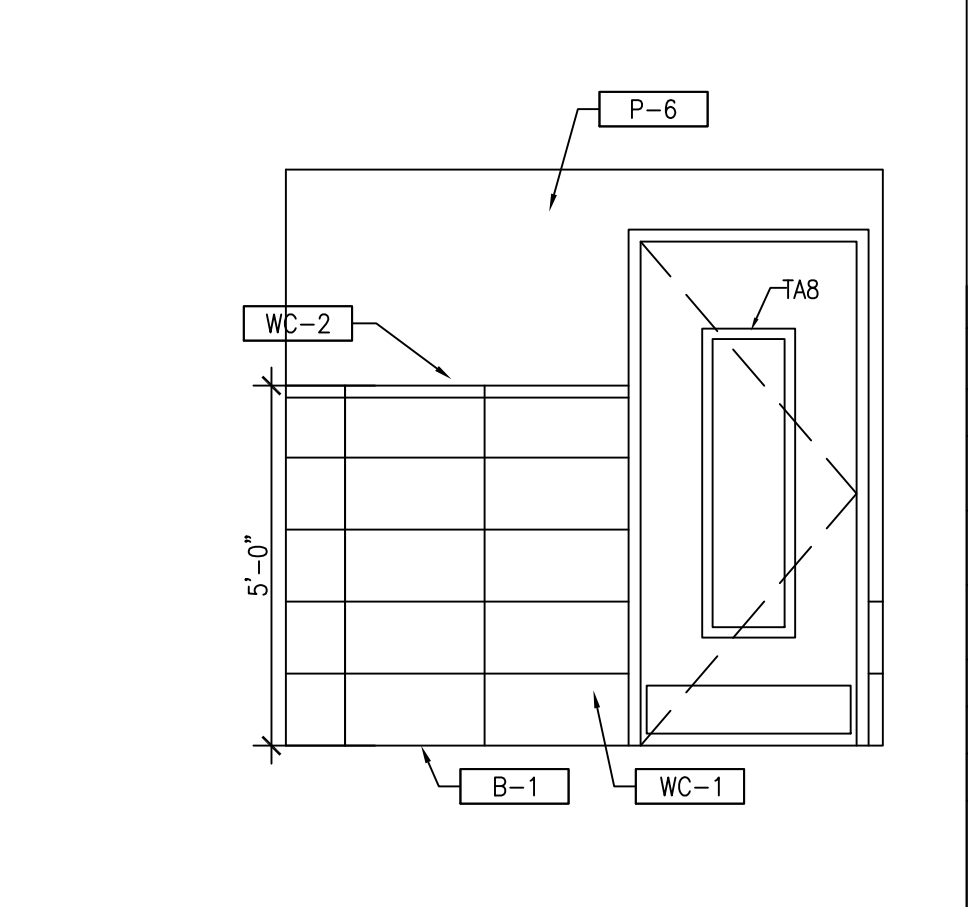
ENLARGED RESTROOM AND OFFICE PLAN 1/2"=1'-0" 1



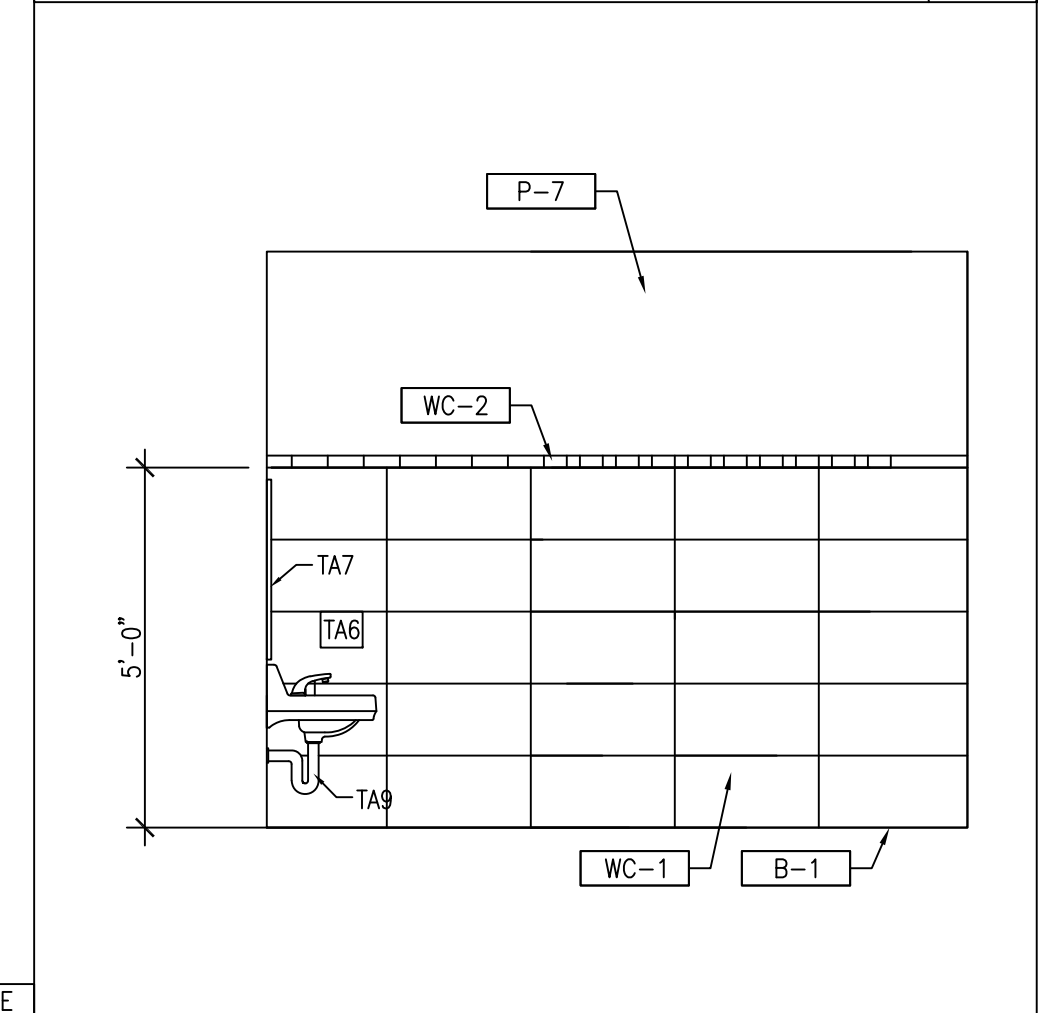
WOMEN'S ELEVATION 3/8"=1'-0" 2



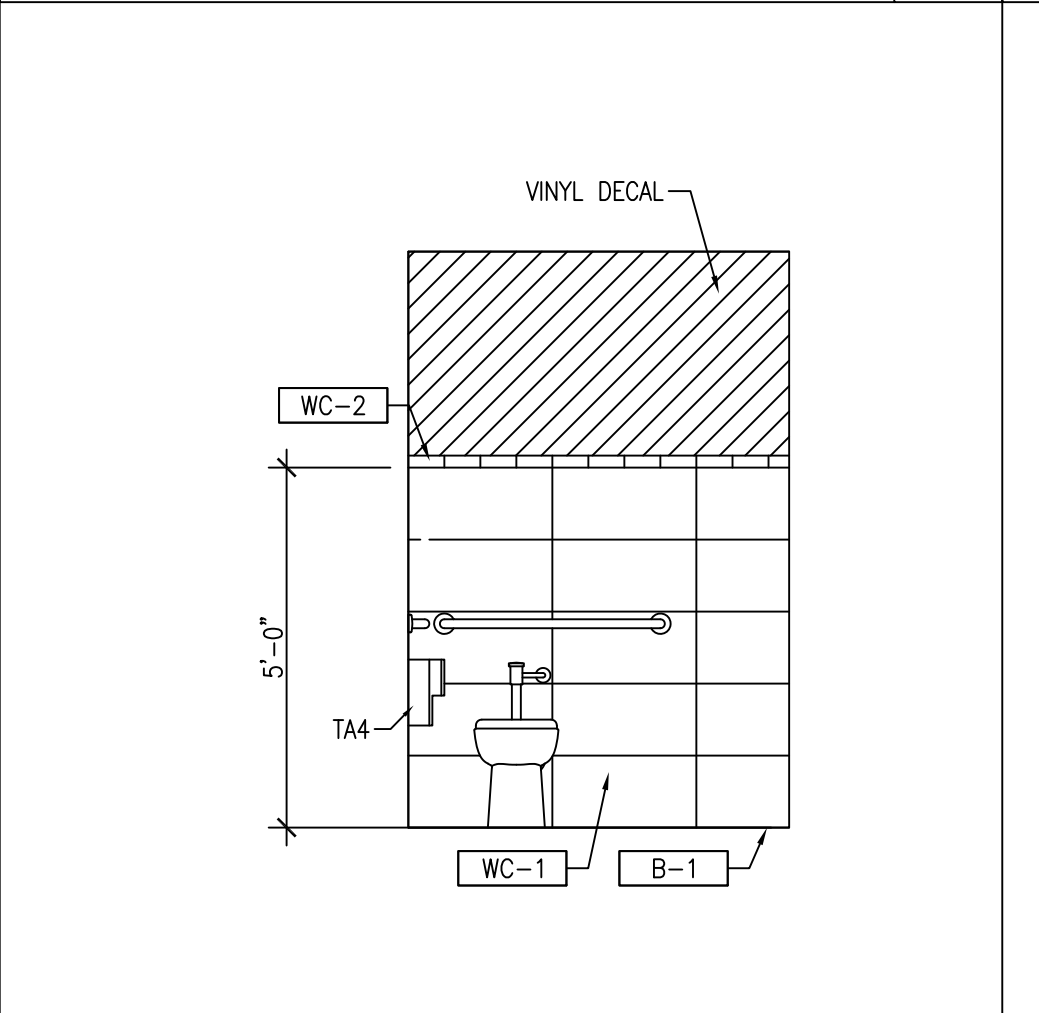
WOMEN'S ELEVATION 3/8"=1'-0" 3



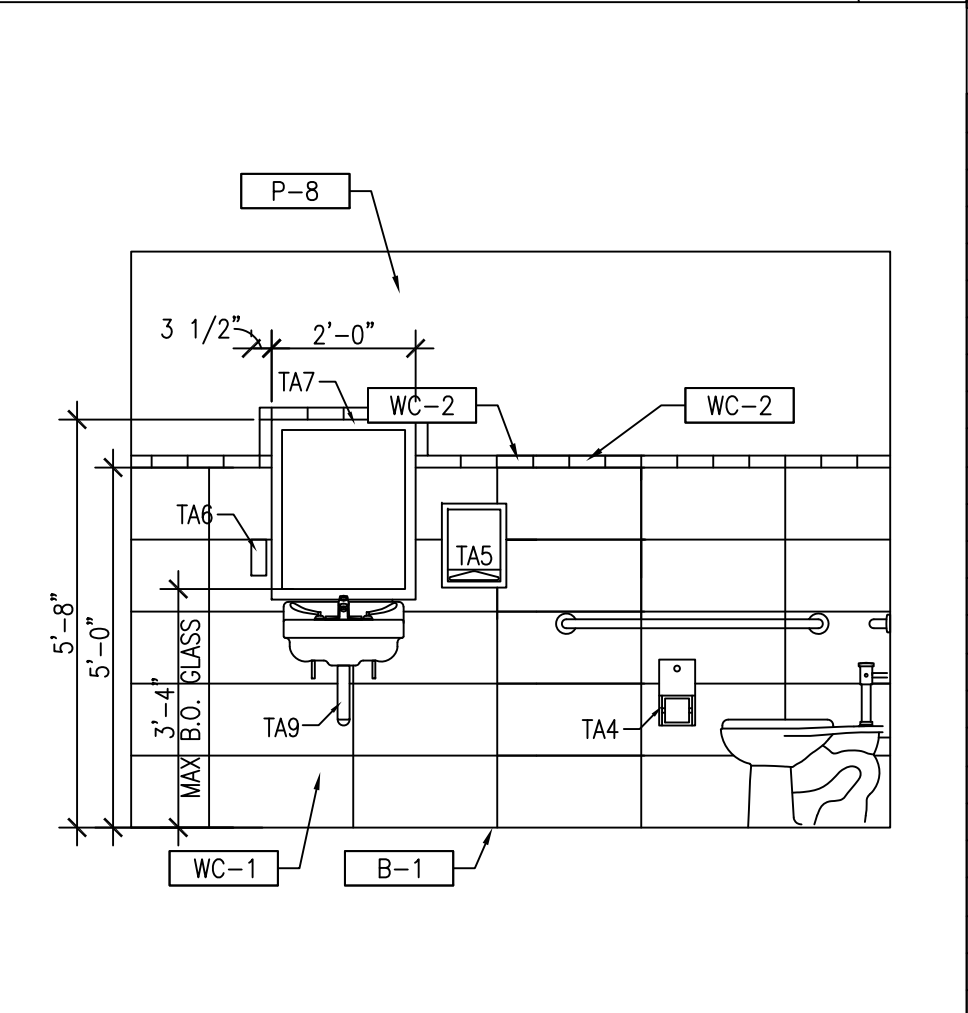
WOMEN'S ELEVATION 3/8"=1'-0" 4



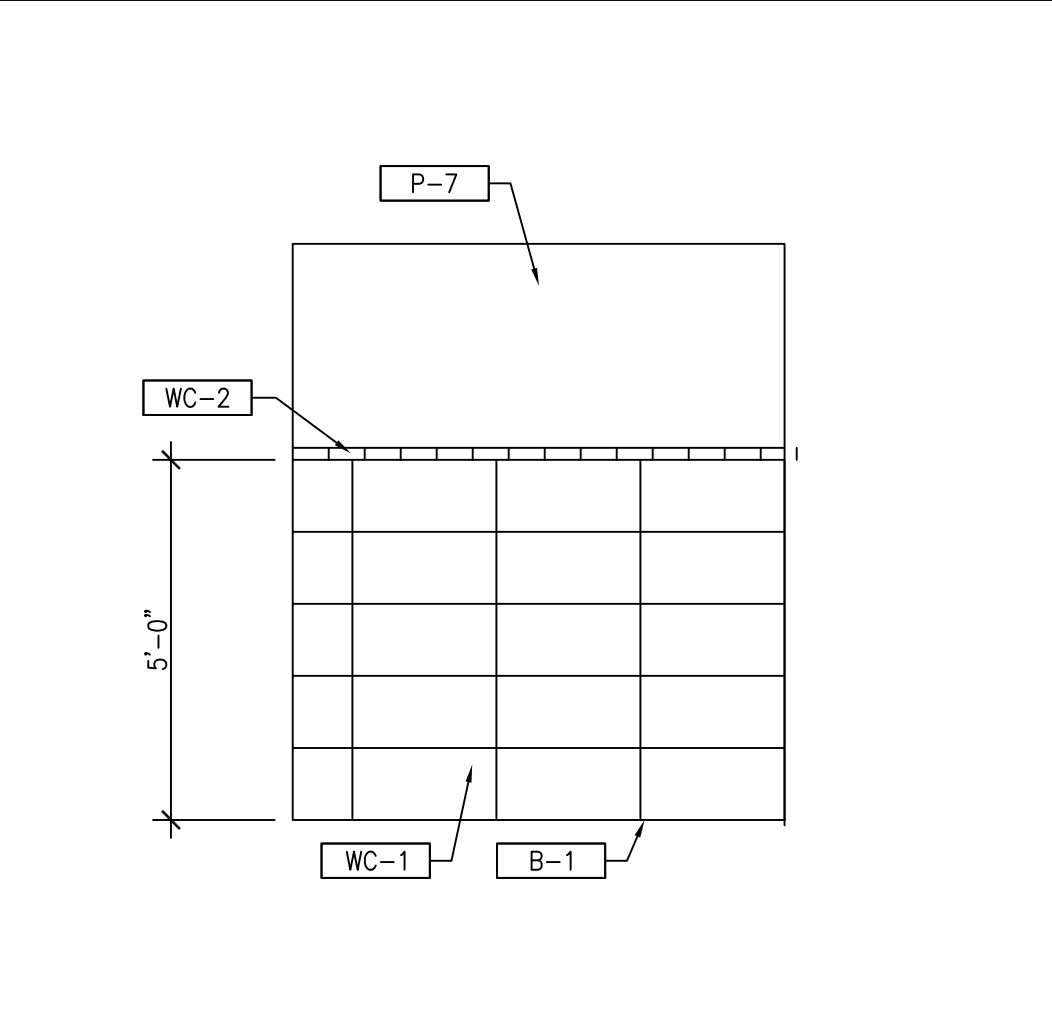
WOMEN'S ELEVATION 3/8"=1'-0" 5



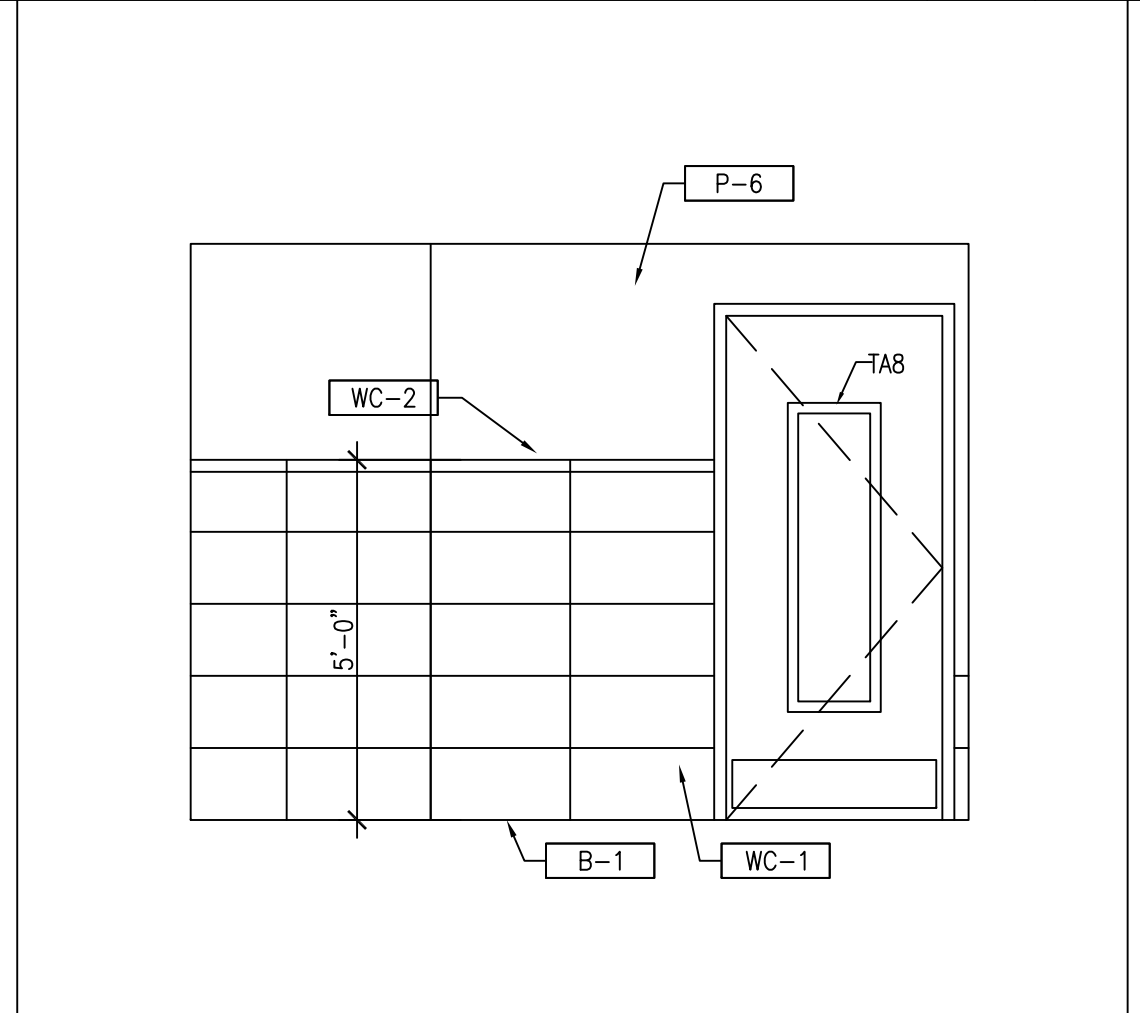
MEN'S ELEVATION 3/8"=1'-0" 6



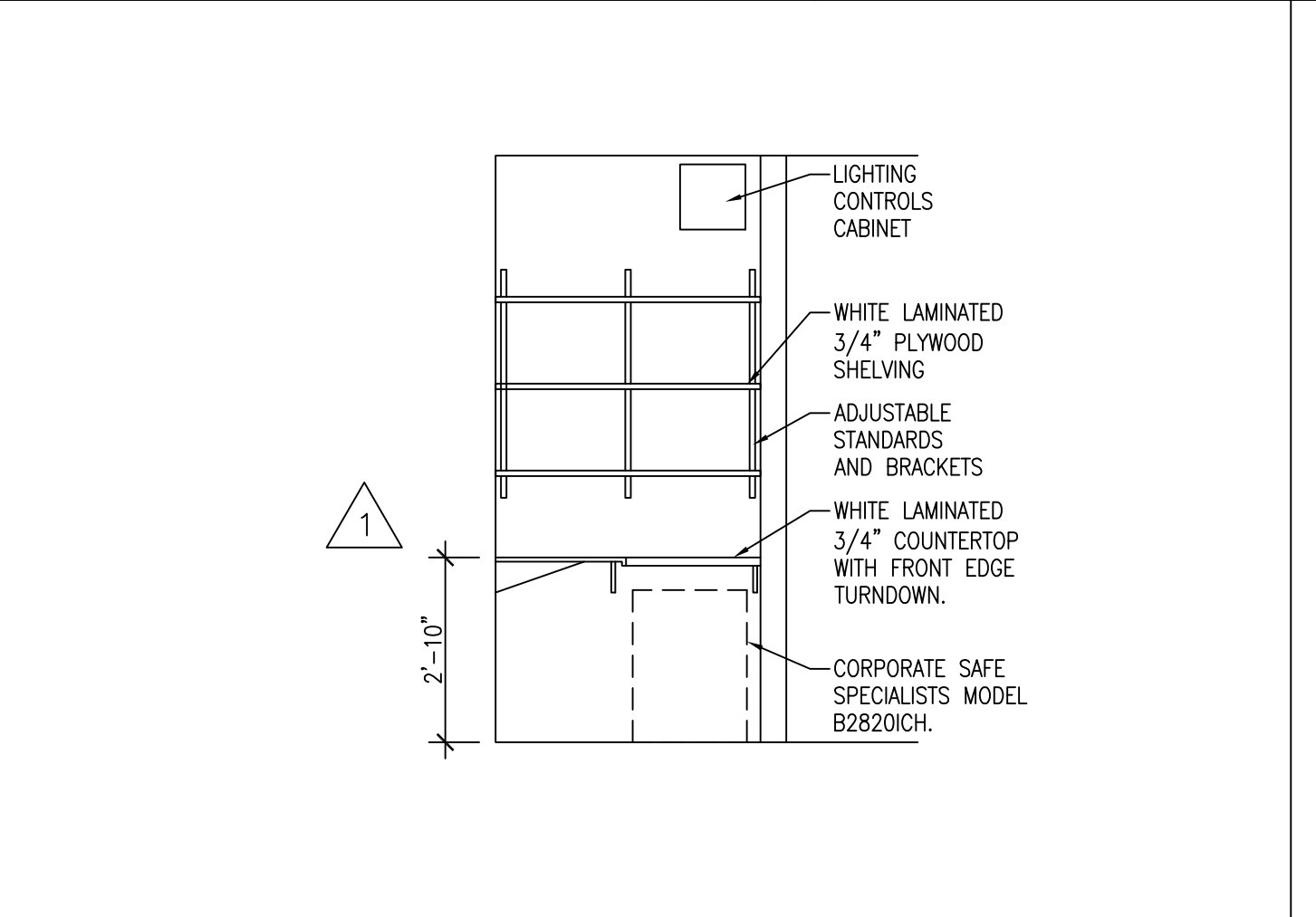
MEN'S ELEVATION 3/8"=1'-0" 7



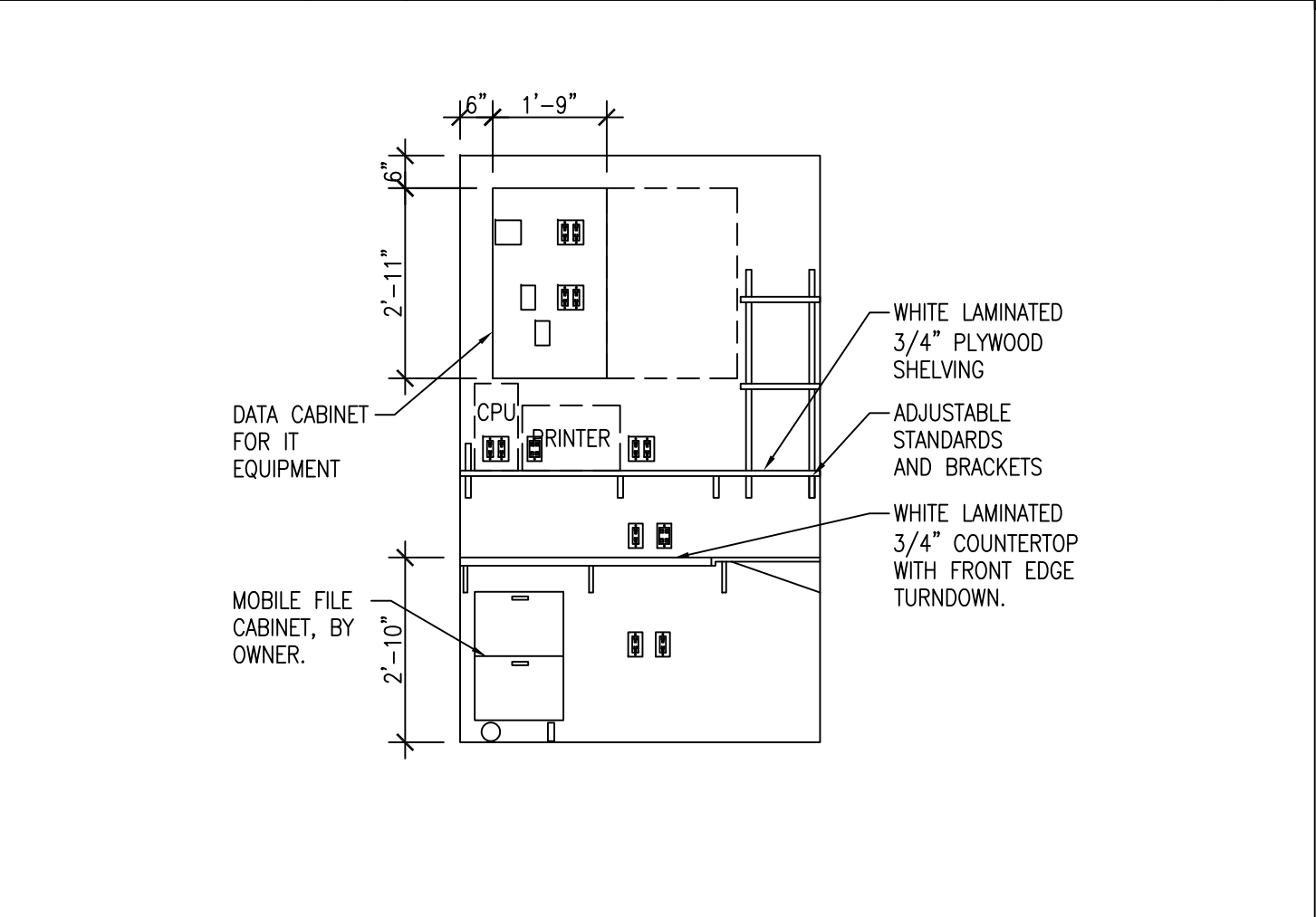
MEN'S ELEVATION 3/8"=1'-0" 8



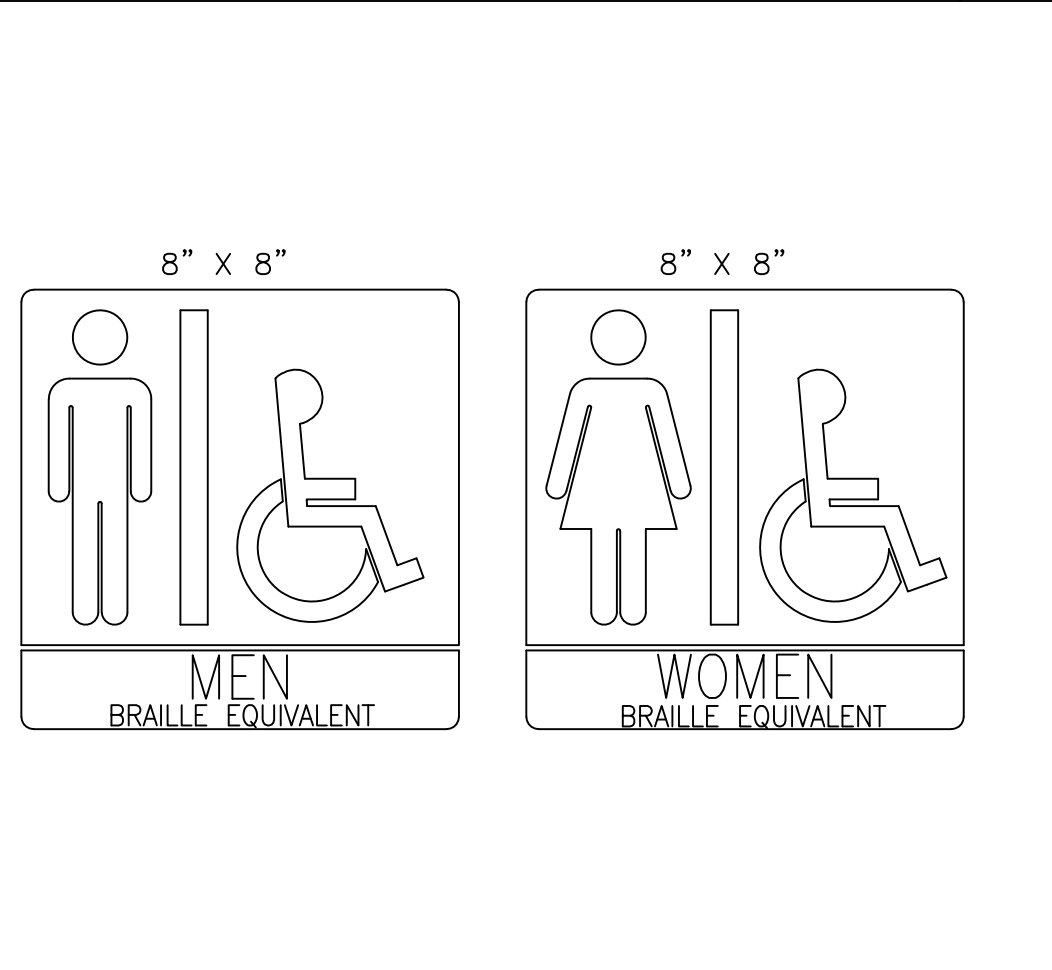
MEN'S ELEVATION 3/8"=1'-0" 9



OFFICE ELEVATION 3/8"=1'-0" 10



OFFICE ELEVATION 3/8"=1'-0" 11



1. UPPER CASE CHARACTERS, HELVETICA
2. CHARACTERS RAISED 1/32"
3. GRADE 2 BRAILLE
4. CHARACTERS AT LEAST 5/8" IN HEIGHT BUT NO HIGHER THAN 2"
5. EQUIVALENT VERBAL DESCRIPTIONS PLACED BELOW EACH PICTOGRAM
6. PICTOGRAM AREA A MINIMUM OF 6"
7. COLOR CONTRAST BETWEEN CHARACTERS AND BACKGROUND
8. MOUNT ON WALL ADJACENT TO LATCH SIDE OF DOOR
9. MOUNT 60" FROM FINISHED FLOOR TO CENTER OF SIGN ADJACENT TO DOOR.

RESTROOM SIGNAGE N.T.S. 12

GENERAL NOTES

1. PROVIDE BLOCKING FOR ALL ACCESSORIES PER MANUFACTURER RECOMMENDATIONS.
2. REFER TO PLUMBING DRAWINGS FOR SPECS OF ALL WATER CLOSETS, LAVATORIES AND URINALS
3. ALL EXPOSED PIPING SHALL BE INSULATED AS PER ADA REQUIREMENTS
4. ADA RESTROOM SIGNAGE ON STRIKE SIDE OF DOOR, RE: 12/A1.6

TOILET ACCESSORY SCHEDULE

TAG	DESCRIPTION	REMARKS
TA1	GRAB BARS (36")	OWNER SUPPLIED
TA2	GRAB BARS (48")	OWNER SUPPLIED
TA4	TOILET TISSUE DISPENSER	PROVIDED BY OWNER THROUGH PFG
TA5	PAPER TOWEL DISPENSER	PROVIDED BY OWNER THROUGH PFG
TA6	SOAP DISPENSER	PROVIDED BY OWNER THROUGH PFG
TA7	24" x 30" FRAMED MIRROR	OWNER PROVIDED
TA8	15.5" x 51.5" FRAMED MIRROR	LOWES ITEM#308319 MODEL#72264 OIL RUBBED BRONZE FINISH
TA9	PIPE WRAP FOR LAVATORY PIPES	TRUEBRO LAVGUARD 2

FINISH SCHEDULE

PAINT AND STAIN	
P-1	CUSTOM GOLDEN CHICK COPPER
P-2	WOOD STAIN - GOLDEN OAK
P-3	GC BLACK
P-4	GC BEIGE
P-5	GC YELLOW
P-6	GC LIGHT BLUE
P-7	GC MEDIUM BLUE
P-8	GC DARK BLUE

WALL FINISH	
WC-1	CERAMIC STONE
WC-2	BULLNOSE CERAMIC TILES
WC-3	PORCELAIN TILE
WC-4	FIBERGLASS REINFORCED PANELS

COUNTERTOPS	
CT-1	GRANITE
CT-2	SOLID SURFACE

CEILING FINISH	
C-1	DECORATIVE VINYL CEILING TILE AND GRID
C-2	GYP BOARD FINISH
C-3	VINYL CLAD CEILING TILE AND GRID

BASE FINISH	
B-1	COVE TRANSITION STRIP
B-2	QUARRY TILE COVE BASE

FLOOR FINISH	
F-1	GLAZED PORCELAIN TILES
F-2	QUARRY TILE
F-3	BRUSHED CONCRETE

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Golden Chick Restaurant Remodel at  
2311 Fredericksburg Rd  
San Antonio, Texas

DATE	DESCRIPTION	BY

ENLARGED RESTROOM AND OFFICE PLANS AND ELEVATIONS

PROJECT NO. 05-05-22

SHEET NO. A1.6



EQUIPMENT SCHEDULE

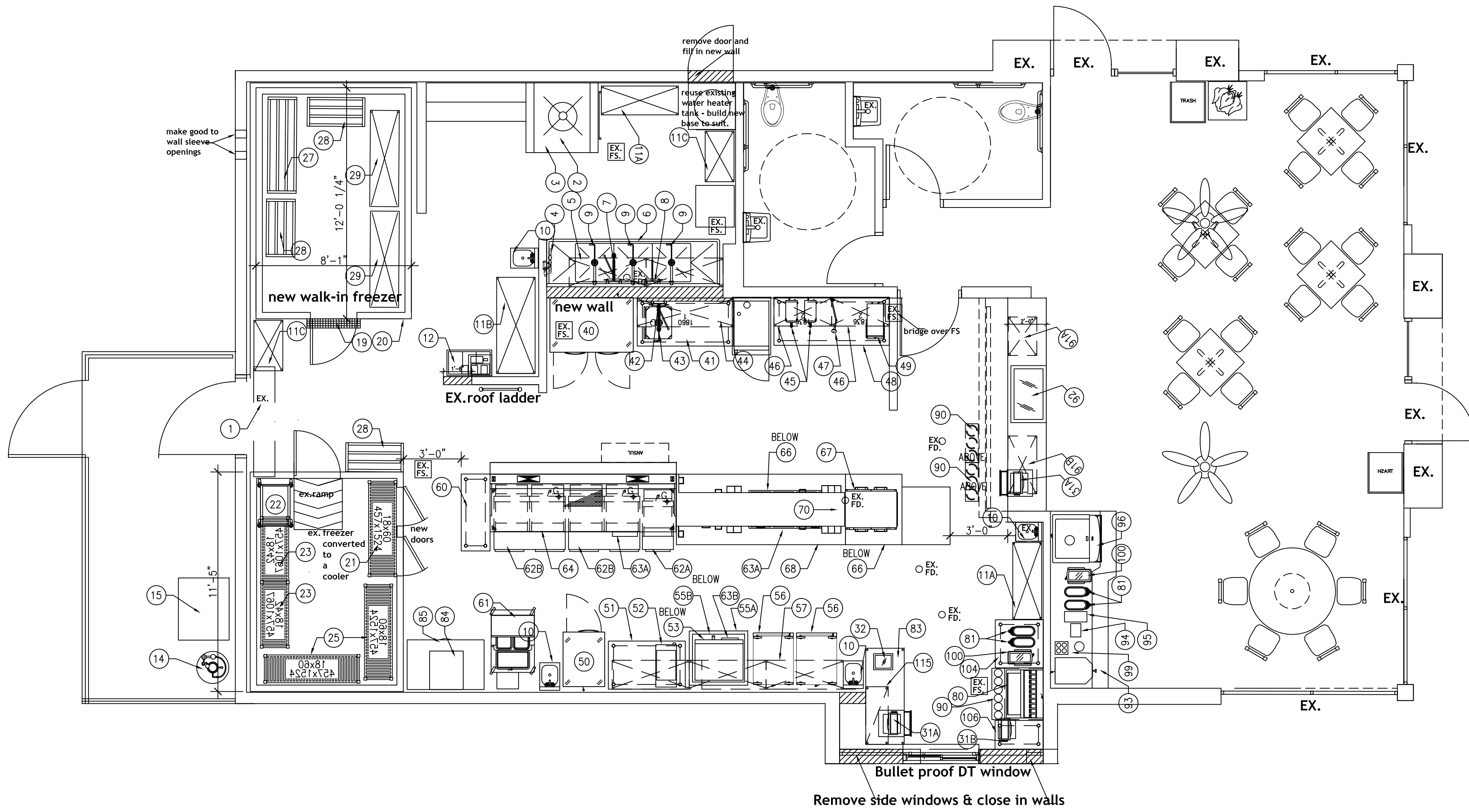
ITEM NO.	QTY	EQUIPMENT CATEGORY	EQUIPMENT REMARKS	MANUFACTURER	MODEL NUMBER
1	1	AIR CURTAIN, UNHEATED	existing - MEP notes		
2	1	REVERSE OSMOSIS SYSTEM	WITH 5 GALLON TANK	JM	5598406
3	1	MOP SINK AND FAUCET	BY PLUMBER		
4	1	FILTER SYSTEM, COMBINATION APPLICATIONS		JM PURIFICATION	DP190
5	2	WIRE SHELVING UNIT, WALL MOUNTED	1 SHELF EACH	METRO	18X48
6	1	SINK, NSF, 3 COMP, 16 GAUGE		ADVANCE TABCO	FC-3-2424-18RL
7	1	PRE-RINSE SPRAYER WITH FAUCET		T & S BRASS	B-0133-12-CR-8
8	1	FAUCET, WALL MOUNT		KROWNE	12-812L
9	3	DRAIN, TWIST HANDLE W/ OVERFLOW		KROWNE	22-204
10	4	SINK, HAND WALL MOUNT		KROWNE	HS-9L
11A	1	WIRE SHELVING UNITS, DRY STORAGE	4 SHELVES EACH, 4 POSTS 74"	OLYMPIC	18X48
11B	1	WIRE SHELVING UNITS, DRY STORAGE	4 SHELVES EACH, 4 POSTS 74"	OLYMPIC	18X60
11C	1	WIRE SHELVING UNITS, DRY STORAGE	4 SHELVES EACH, 4 POSTS 74"	OLYMPIC	24X30
11E	2	WIRE SHELVING UNITS, DRY STORAGE	4 SHELVES EACH, 4 POSTS 74"	OLYMPIC	24X60
12	1	BAG-IN-BOX	BY PEPSI		
13A	-	RACK, DUNNAGE, TUBULAR		FOCUS FOODSERVICE	FHAD361812
13B	1	RACK, DUNNAGE, TUBULAR		FOCUS FOODSERVICE	FHAD481812
14	1	BULK CO2 TANK	BY PURVEYOR		
15	1	BULK GREASE TANK	BY PURVEYOR		
19	1	FLOOR TROUGH, 6"X32"	BY PLUMBER		
20	1	WALK-IN COOLER/FREEZER		BALLY	CUSTOM
21	2	SHELVING UNIT, START, PLASTIC LOUVERED		CAMBRO	CBU186064V4580
22	1	PAN RACK ROLLING CART		WINCO	ALRK-20
23	2	SHELVING UNIT, ADD ON, PLASTIC, LOUVERED		CAMBRO	CBA184264V4580
24	1	SHELVING UNIT, ADD ON, PLASTIC, LOUVERED		CAMBRO	CBU184264V4580
25	1	SHELVING UNIT, ADD ON, PLASTIC, LOUVERED		CAMBRO	CBU185464V4580
26	1	SHELVING UNIT, STARTER, PLASTIC, LOUVERED		CAMBRO	CBU184864V4580
27	1	RACK, DUNNAGE, TUBULAR		FOCUS FOODSERVICE	FHAD601812
28	1	RACK, DUNNAGE, TUBULAR		FOCUS FOODSERVICE	FHAD361812
29	1	WIRE SHELVING UNITS, FREEZER	4 SHELVES EACH, 4 POSTS 74"	OLYMPIC	18X60
31A	2	POS UNIT	BY OWNER		
31B	1	POS UNIT	BY OWNER		
32	1	POS TABLET	BY OWNER		
40	1	REFRIGERATOR, REACH-IN	2DR, RHLH	CONTINENTAL REFRIGERATOR	2RN
41	1	PREP TABLE WITH SINK	INCLUDES SINK BOWL COVER	JERO	VPT3060
42	1	PRE-RINSE SPRAYER WITH FAUCET		T & S BRASS	B-0133-12-CR-B
43	1	DRAIN, TWIST HANDLE W/ OVERFLOW		KROWNE	22-204
44	1	WIRE SHELVING UNIT, WALL MOUNTED	1 SHELF EACH	METRO	18X60
45	2	DISPENSER, HOT WATER	WITH WALL MOUNT BRACKET	BUNN-O-MATIC	43600.0002
46	2	WIRE SHELVING UNIT, WALL MOUNTED	2 SHELVES EACH	METRO	18X36
47	1	FAUCET, POT FILLER, WALL MOUNT		KROWNE	16-181L
48	1	TABLE, WORK		PATRIOT F.S. EQUIPMENT	MKW-3072-N
49	1	ICED TEA BREWER		BUNN-O-MATIC	41400.0000
50	1	FREEZER, REACH-IN	RH	CONTINENTAL REFRIGERATOR	1FN

EQUIPMENT SCHEDULE

ITEM NO.	QTY	EQUIPMENT CATEGORY	EQUIPMENT REMARKS	MANUFACTURER	MODEL NUMBER
51	-	TABLE, WORK		PATRIOT F.S. EQUIPMENT	MKW-3048-N
52	1	COUNTER TOP RETHERMALIZER		PITCO	CRTE
53	1	OVEN, CONVECTION, HALF-SIZE, ELECTRIC		VULCAN	EC02D
54	1	OVEN, STEAMER, COMBINATION, ELECTRIC		HENNY PENNY	FSE610 ELECTRIC
55A	1	STAND FOR OVEN OR RETHERMALIZER		JERO	38X34
55B	1	CUSTOM MOBILE STAND WITH CASTERS	FOR CONVECTION OVEN	JERO	CUSTOM
56	2	CABINET, HOLDING		METRO	C519-HFC-L
57	2	WIRE SHELVING UNIT, WALL MOUNTED	W/ WALL MOUNT BRACKETS	METRO	18X60
58	1	TABLE, WORK		PATRIOT F.S. EQUIPMENT	24X36
60	1	TABLE, WORK		PATRIOT F.S. EQUIPMENT	18X48
61	1	BREADERS / SIFTER		ATKING	BBS-U-L3927
62A	1	FRYER BATTERY, DEEP FAT, GAS W/ FILTER		HENNY PENNY	DFG 321 (1)
62B	2	FRYER BATTERY, DEEP FAT, GAS W/ FILTER		HENNY PENNY	DFG 342 (2)
63A	2	TIMER, 16 CHANNEL		PRINCE CASTLE	755-HM16GOL
63B	1	TIMER, 8 CHANNEL		PRINCE CASTLE	740-T8GOL
64	1	FRYER HOOD, CEILING MOUNTED		Z-VENTILATION SOLUTIONS	HOOD #1 (H-1)
66	2	WARMER, DRAWER TYPE		WELLS	RW-1HD
67	1	DISPLAY CASE, HEATED		HATCO	WFST-2X
68	1	PRODUCTION COUNTER, PACKLINE		WASSERSTROM	CUSTOM
70	1	FAUCET, DECK MOUNT		KROWNE	16-200L
72	1	SANDWICH TOP PREP REFRIGERATOR		HOSHIZAKI	SR36A-10
80	1	SODA DISPENSER WITH ICE BIN	INCLUDES STAND		
81	4	TEA DISPENSER	BY OWNER		
83	1	CUSTOM DRIVE THRU TABLE		EAGLE GROUP	YT2460EBW-0002-00, 60X24
84	1	ICE MAKER, NUGGET STYLE		ICE-O-MATIC	GEM0956R
85	1	BIN, ICE		ICE-O-MATIC	B110PS
90	3	CUP DISPENSER CABINET	BY OWNER, 2-MNTD TO HEADER ABOVE ORDER AREA, 1-MNTD TO CEILING ABOVE SODA DISPENSER AT DRIVE-THRU		
91A	1	WIRE SHELVING UNIT, UNDERCOUNTER	2 SHELVES EACH, 4 POSTS 33"	OLYMPIC	18X24
91B	1	WIRE SHELVING UNIT, UNDERCOUNTER	2 SHELVES EACH, 4 POSTS 33"	OLYMPIC	18X36
92	1	REFRIGERATED DISPLAY CASE		ATOSA	CRDS-56
93	1	DISPENSER, SOFT SERVE		ELECTRO FREEZE	CS4
94	1	NAPKIN DISPENSER	BY OWNER		
95	1	LID AND STRAW ORGANIZER		DISPENSE-RITE	TLO-3BT
96	1	SODA AND ICE DISPENSER, COUNTER TOP			
99	1	JOY CONE DISPENSER			
100	2	LEMONADE URN			
104	1	WORK COUNTER		CUSTOM	30X30
106	1	WORK COUNTER		CUSTOM	18X30
115	1	WIRE SHELVING, COUNTER MOUNTED			14" X 36"

PLUMBING SCHEDULE

ITEM	UTILITY	AFF	REMARKS
2	COLD WATER	DFA	BTC ON REVERSE OSMOSIS SYSTEM THEN TO COMBI OVEN (54)
3	HOT AND COLD WATER	36"	BTC ON MOP SINK FAUCET, VERIFY REQUIREMENTS - PLUMBER PROVIDED
4	COLD WATER	72"	BTC ON WATER FILTER THEN TO EQUIPMENT, SEE WATER FILTER DETAIL
7-8	HOT AND COLD WATER	14"	BTC ON SINK FAUCET OR PRE-RINSE FAUCET
10	HOT AND COLD WATER	20"	BTC ON HAND SINK FAUCET
12	FILTERED WATER	72"	BTC ON SODA SYSTEM
42	HOT AND COLD WATER	14"	BTC ON SINK FAUCET OR PRE-RINSE FAUCET
45	FILTERED/TREATED WATER	48"	BTC ON HOT WATER DISPENSER
47	FILTERED WATER	54"	BTC ON POT FILL FAUCET ON WALL
49	FILTERED/TREATED WATER	48"	BTC ON TEA BREWER
54	REVERSE OSMOSIS WATER	54"	BTC ON COMBI OVEN
84	FILTERED/TREATED WATER	72"	BTC ICE MACHINE
101	FILTERED/TREATED WATER	72"	BTC ICE MACHINE



**MLA**  
MICHAEL LEGG ARCHITECTURE  
Michael Gregg Legg  
NCARB, AIA, RIBA, SACAP  
2016 High Timber Pass St  
San Antonio, Texas 78260  
ph. 210.414.4735  
mlegg@mlaarchitect.com  
www.michaelleggarchitect.com

REGISTERED ARCHITECT  
STATE OF TEXAS  
09.21.2023

**DRAWING COORDINATION**  
Architectural, Landscape, Civil, Structural, Mechanical and Electrical drawings are interrelated. General Contractor and all Sub Contractors shall review and coordinate the entire set of drawings and specifications.

**Golden Chick Restaurant Remodel at  
2311 Fredericksburg Rd  
San Antonio, Texas**

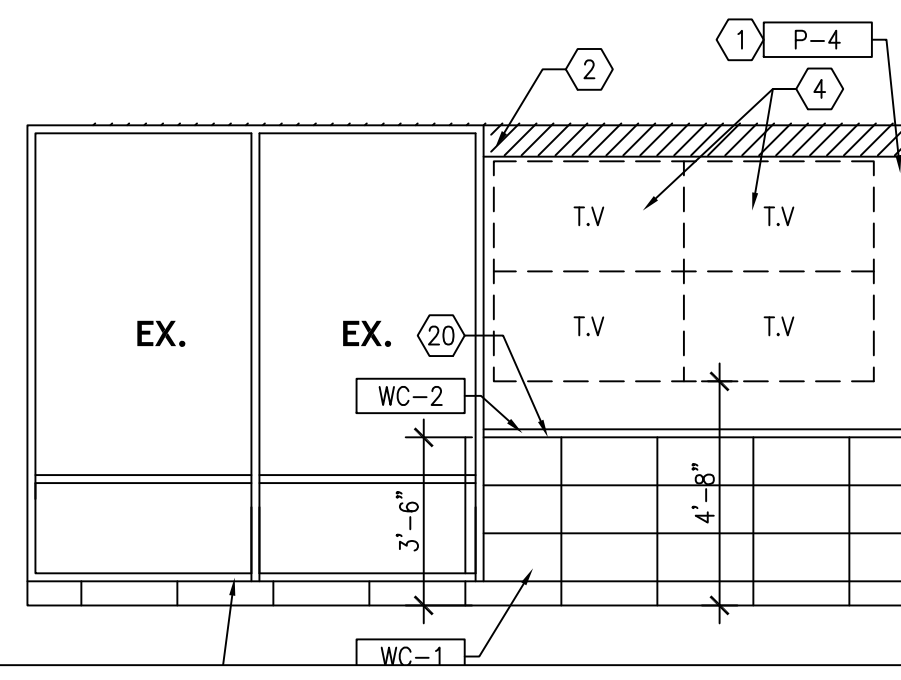
BY	DESCRIPTION	DATE

**FOODSERVICE EQUIPMENT PLAN**

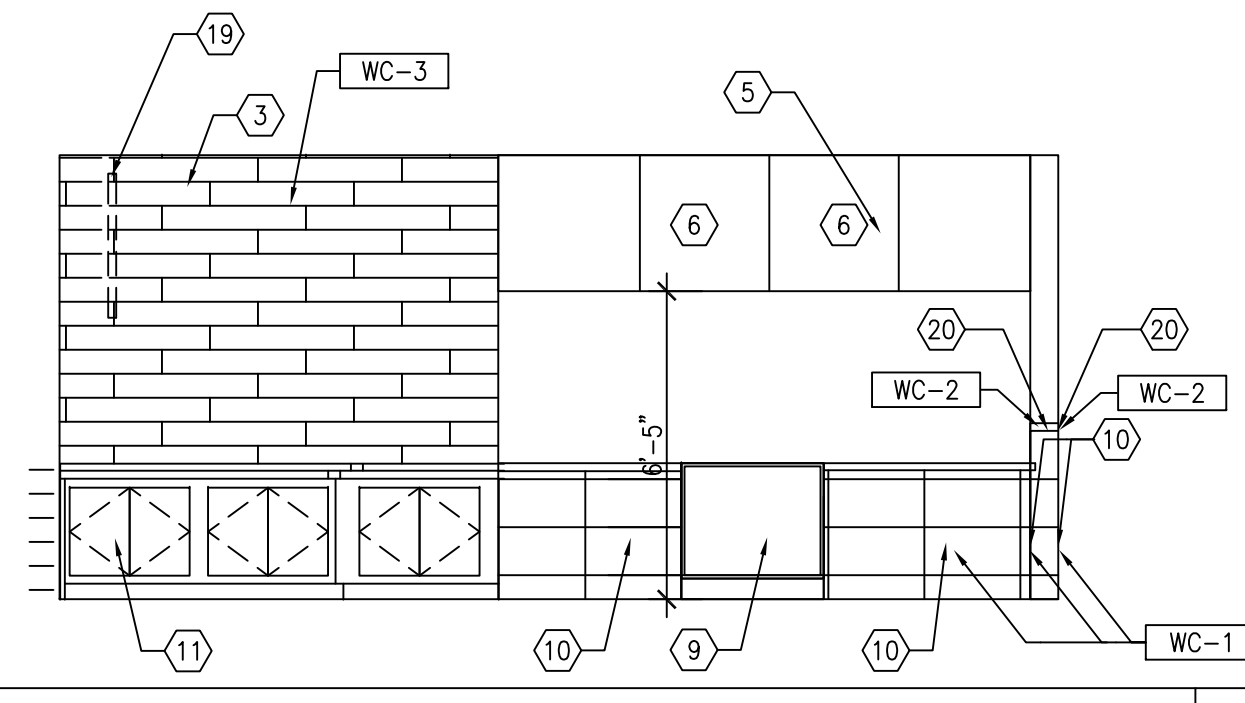
PROJECT NO.  
05-05-22

SHEET NO.  
**A2.0**

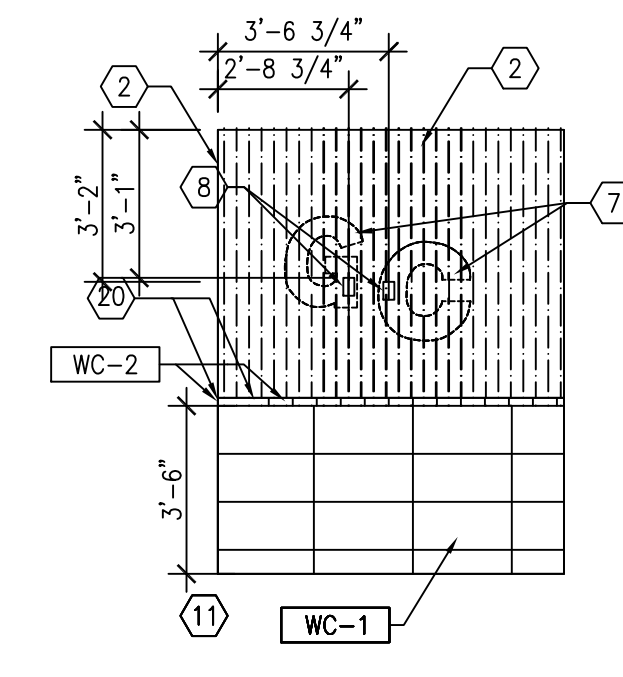




DINING ELEVATION  
1/4"=1'-0" 1

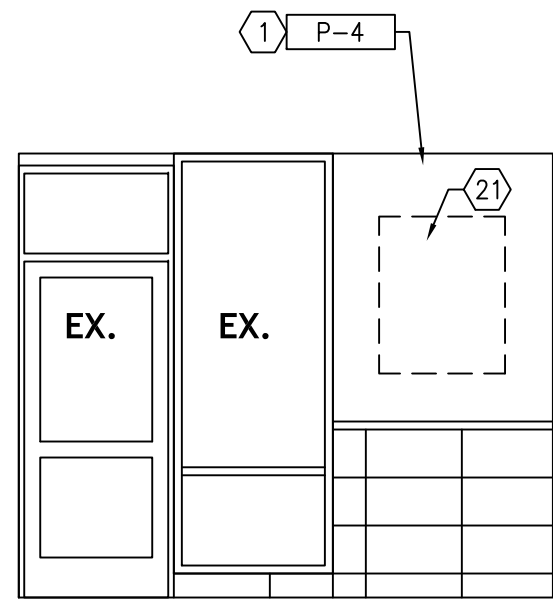


BEVERAGE AND ORDER COUNTER  
1/4"=1'-0" 2

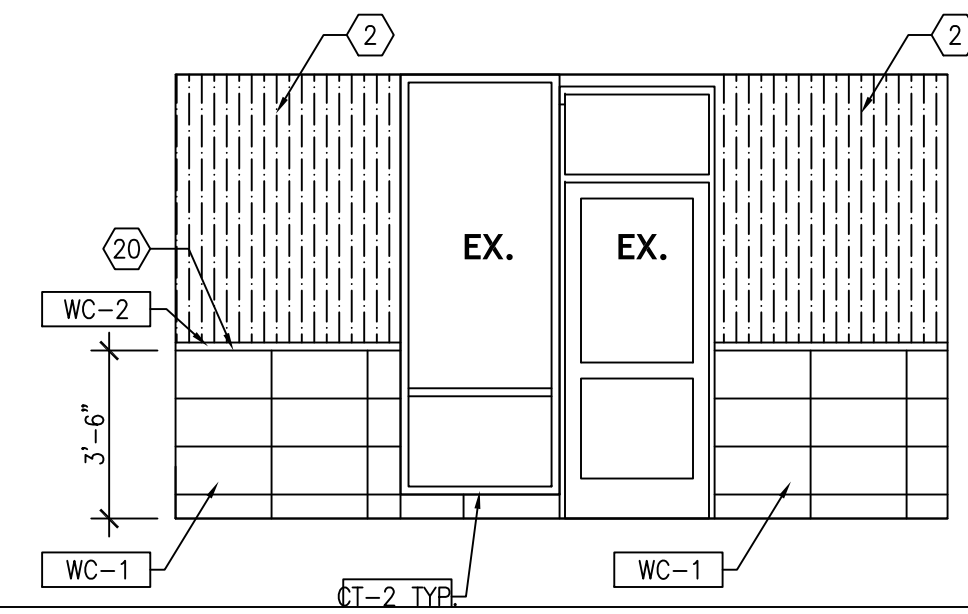


DINING ELEVATION  
1/4"=1'-0" 3

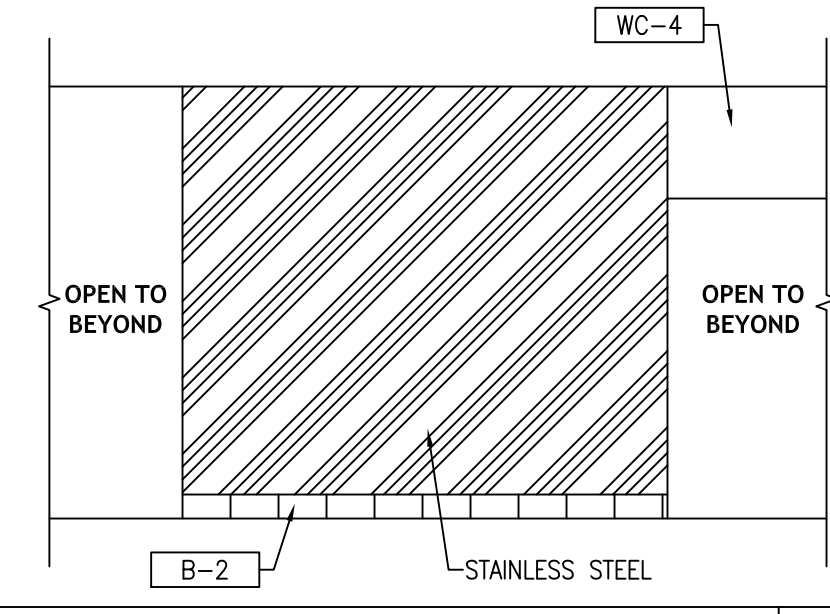
- KEY NOTES:
- 1 PAINTED GYPSUM BOARD
  - 2 WALL VINYL, RE: 2/A1.2 FURNISHINGS PLAN
  - 3 1x4 WOOD TRIM, PAINT P-3
  - 4 MEDIA DISPLAY, (4) BANKED TELEVISION, RE: ELECTRICAL
  - 5 DIGITAL MENU DISPLAY ON HEADER ABOVE, (1) TELEVISION, RE: ELECTRICAL
  - 6 MENU BOARDS, RE: 2/A1.2
  - 7 ILLUMINATED LETTER SIGNS, RE: A1.2
  - 8 OUTLETS FOR ILLUMINATED LETTER SIGNS
  - 9 FOOD DISPLAY CASE, RE: KITCHEN EQUIPMENT
  - 10 ORDER COUNTER, RE: 6/A3.6
  - 11 BEVERAGE COUNTER, RE: 6/A3.6
  - 12 TANKLESS WATER HEATER, RE: PLUMBING
  - 13 ELECTRICAL PANEL, RE: ELECTRICAL
  - 14 STAINLESS STEEL CORNER GUARDS AND WALL CAPS, RE: 3/A3.6
  - 15 STAINLESS STEEL CLOSURE STRIPS, RE: 3/A3.6 SIM
  - 16 EXPOSED STAINLESS STEEL COOLER, RE: KITCHEN EQUIPMENT
  - 17 MOP SINK, RE: PLUMBING
  - 18 PLATFORM FOR RO SYSTEM, RE: STRUCTURAL
  - 19 BLADE MOUNTED ICE CREAM SIGN, RE: A1.2
  - 20 WAINSCOT START POINT. ALL TRIMMED TILES AT BOTTOM OF WAINSCOT.
  - 21 ARTWORK, RE: A1.2
  - 22 ANSUL SYSTEM, RE: MECHANICAL FINISH SCHEDULE



DINING ELEVATION  
1/4"=1'-0" 4



DINING ELEVATION  
1/4"=1'-0" 5



KITCHEN ELEVATION  
1/4"=1'-0" 6

- PAINT AND STAIN
- P-1 CUSTOM GOLDEN CHICK COPPER
  - P-2 WOOD STAIN - GOLDEN OAK
  - P-3 GC BLACK
  - P-4 GC BEIGE
  - P-5 GC YELLOW
  - P-6 GC LIGHT BLUE
  - P-7 GC MEDIUM BLUE
  - P-8 GC DARK BLUE
- WALL FINISH
- WC-1 CERAMIC STONE
  - WC-2 BULLNOSE CERAMIC TILES
  - WC-3 PORCELAIN TILE
  - WC-4 FIBERGLASS REINFORCED PANELS
- COUNTERTOPS
- CT-1 GRANITE
  - CT-2 SOLID SURFACE
- CEILING FINISH
- C-1 DECORATIVE VINYL CEILING TILE AND GRID
  - C-2 GYP BOARD FINISH
  - C-3 VINYL CLAD CEILING TILE AND GRID
- BASE FINISH
- B-1 COVE TRANSITION STRIP
  - B-2 QUARRY TILE COVE BASE
- FLOOR FINISH
- F-1 GLAZED PORCELAIN TILES
  - F-2 QUARRY TILE
  - F-3 BRUSHED CONCRETE



KEY PLAN  
1/4"=1'-0" 10

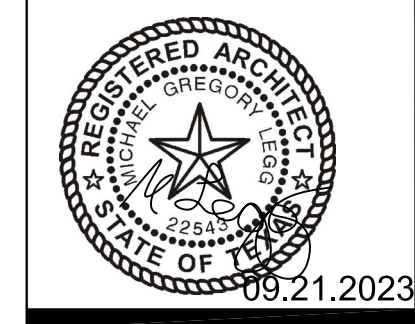


DRAWING COORDINATION  
Architectural, Landscape, Civil, Structural, Mechanical and Electrical drawings are interrelated. General Contractor and all Sub Contractors shall review and coordinate the entire set of drawings and specifications

**Golden Chick Restaurant Remodel at  
2311 Fredericksburg Rd  
San Antonio, Texas**

DATE	DESCRIPTION	BY





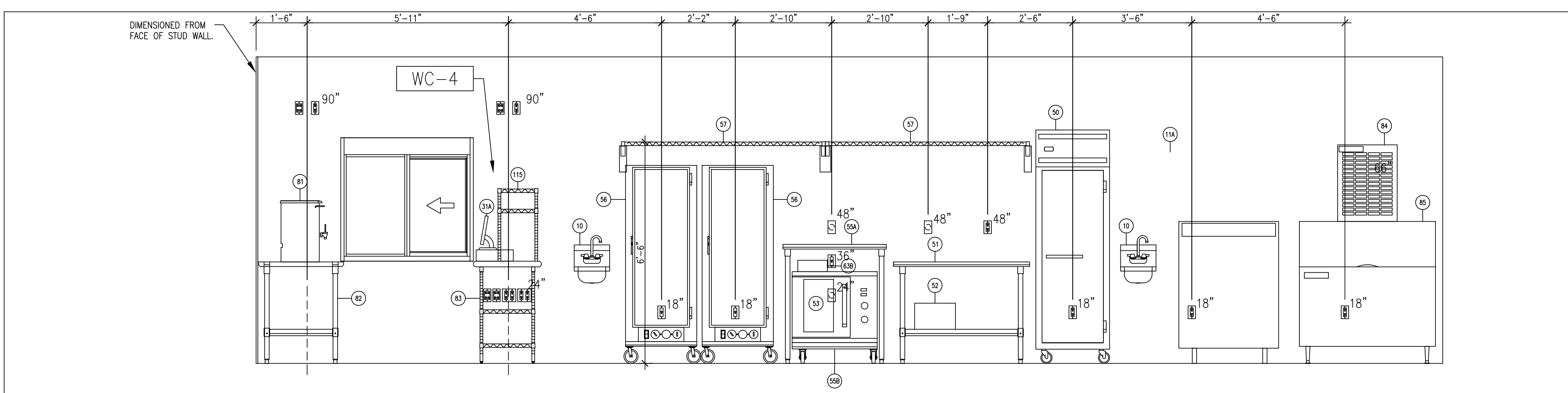
**DRAWING COORDINATION**  
 Architectural, Landscape, Civil, Structural, Mechanical and Electrical drawings are interrelated. General Contractor and all Sub-Contractors shall review and coordinate the entire set of drawings and specifications.

**Golden Chick Restaurant Remodel at  
 2311 Fredericksburg Rd  
 San Antonio, Texas**

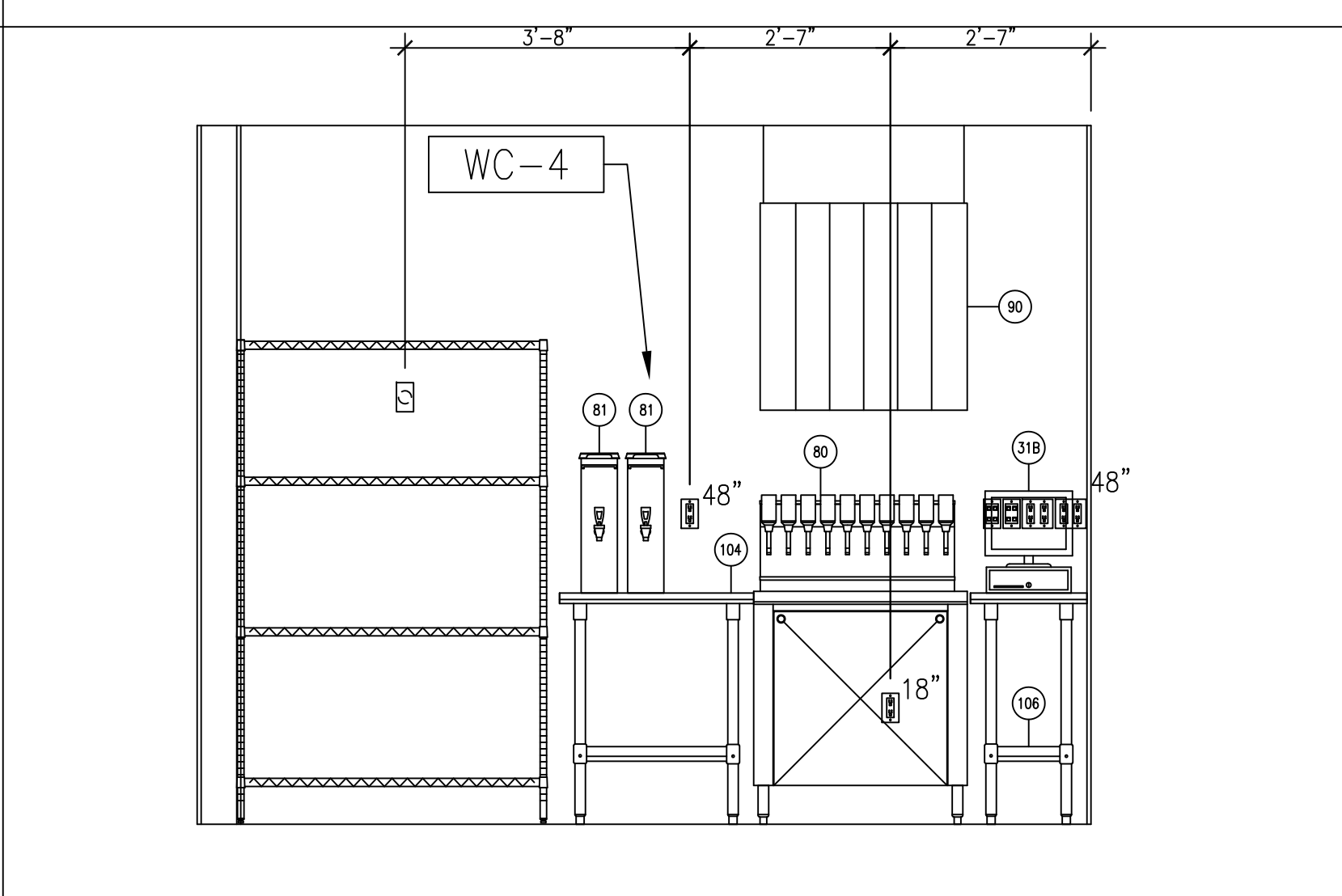
BY	DATE	DESCRIPTION

**FOODSERVICE EQUIPMENT ELEVATIONS**  
 PROJECT NO.  
 05-05-22

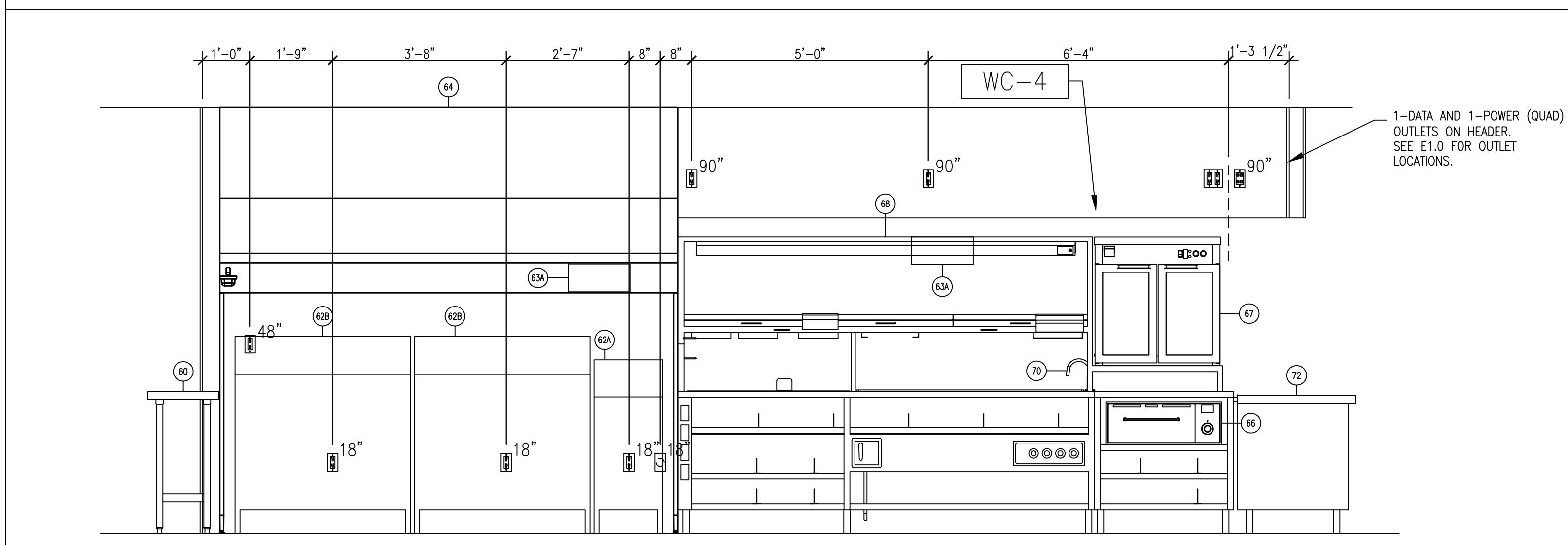
SHEET NO.  
**A2.2**



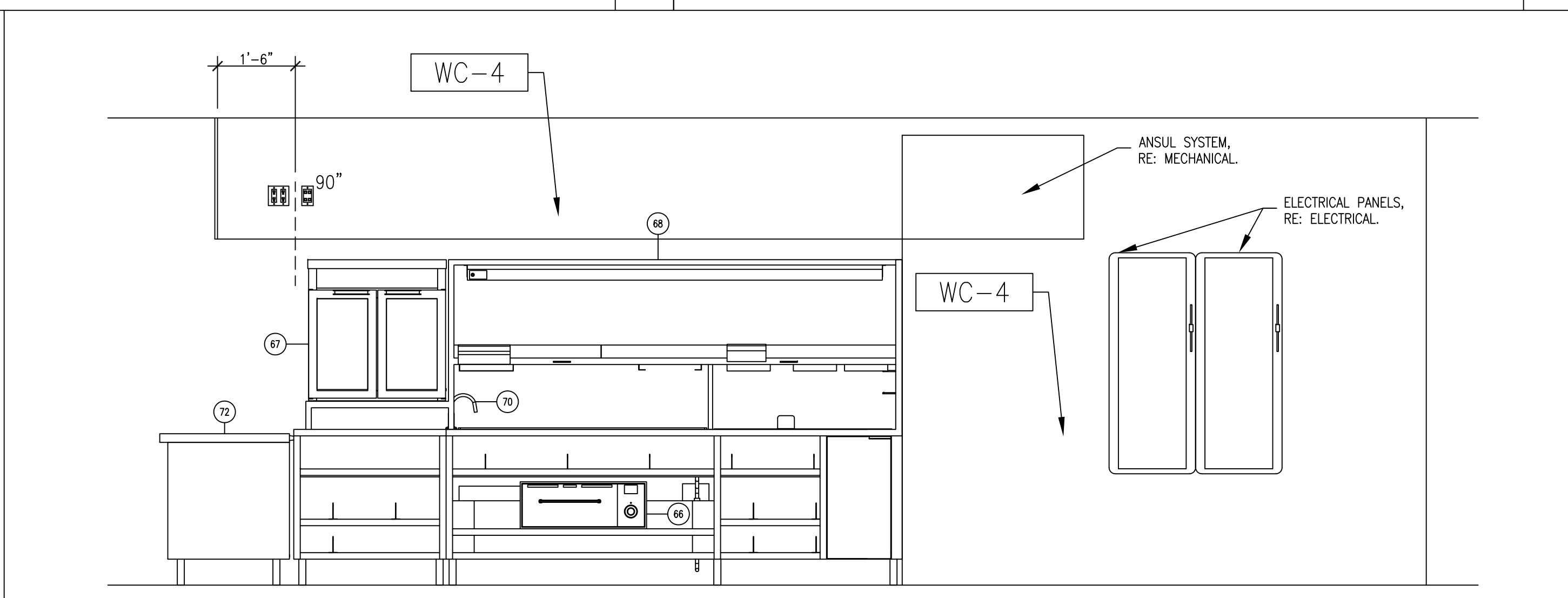
**ELEVATION 1**  
 1/2"=1'-0" 1



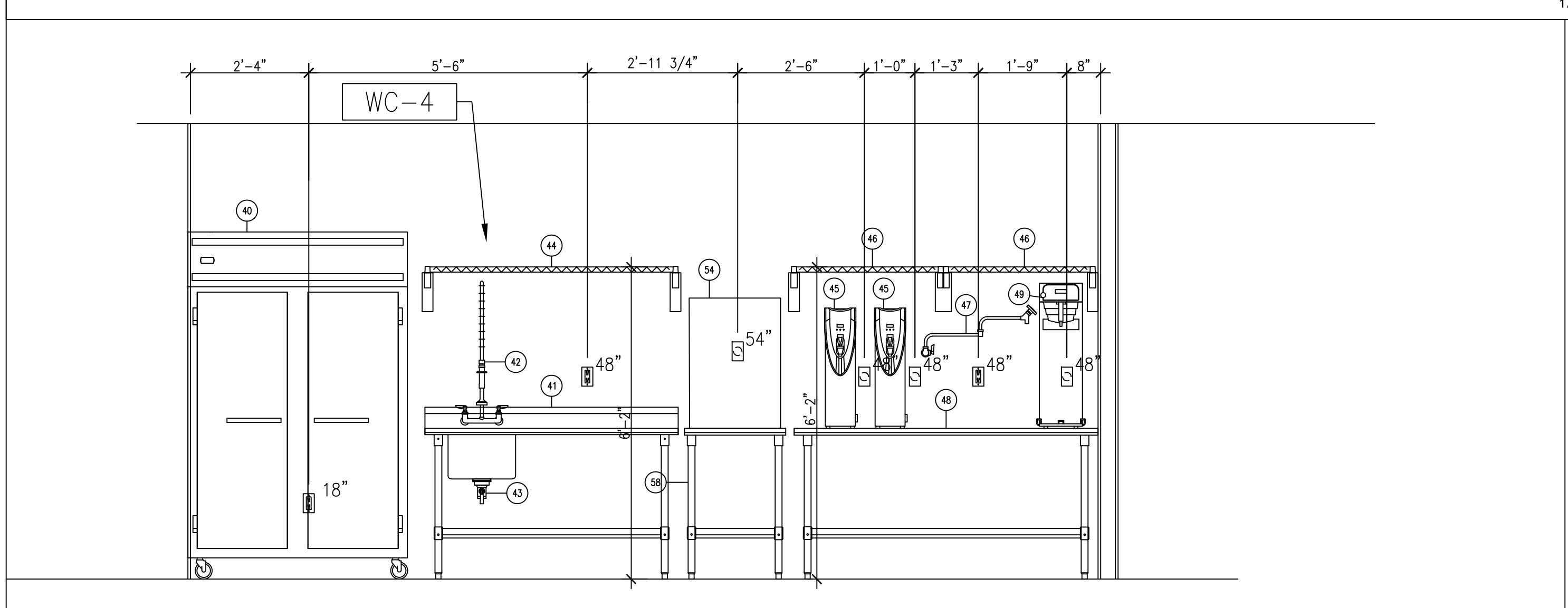
**ELEVATION 2**  
 1/2"=1'-0" 2



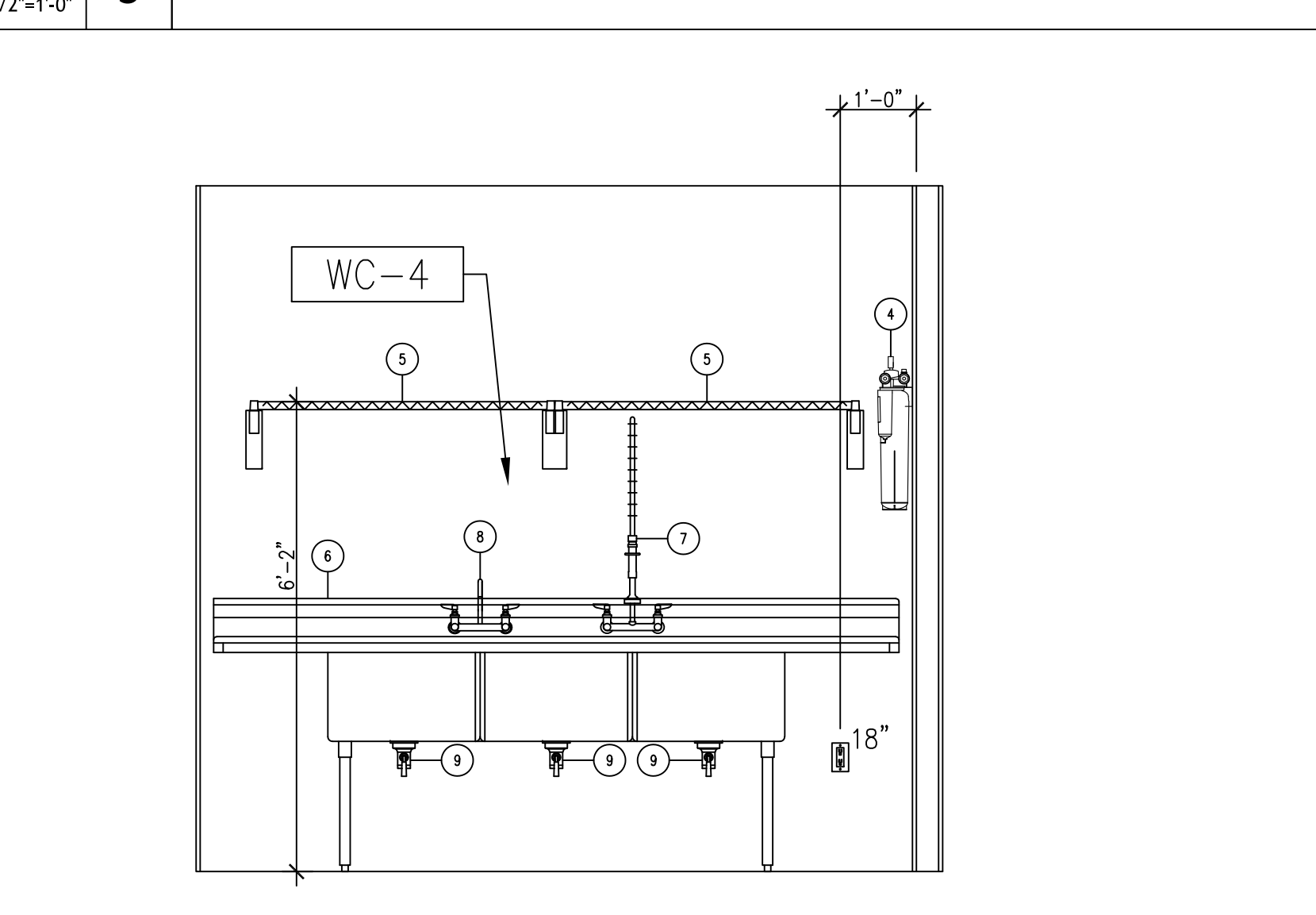
**ELEVATION 3**  
 1/2"=1'-0" 3



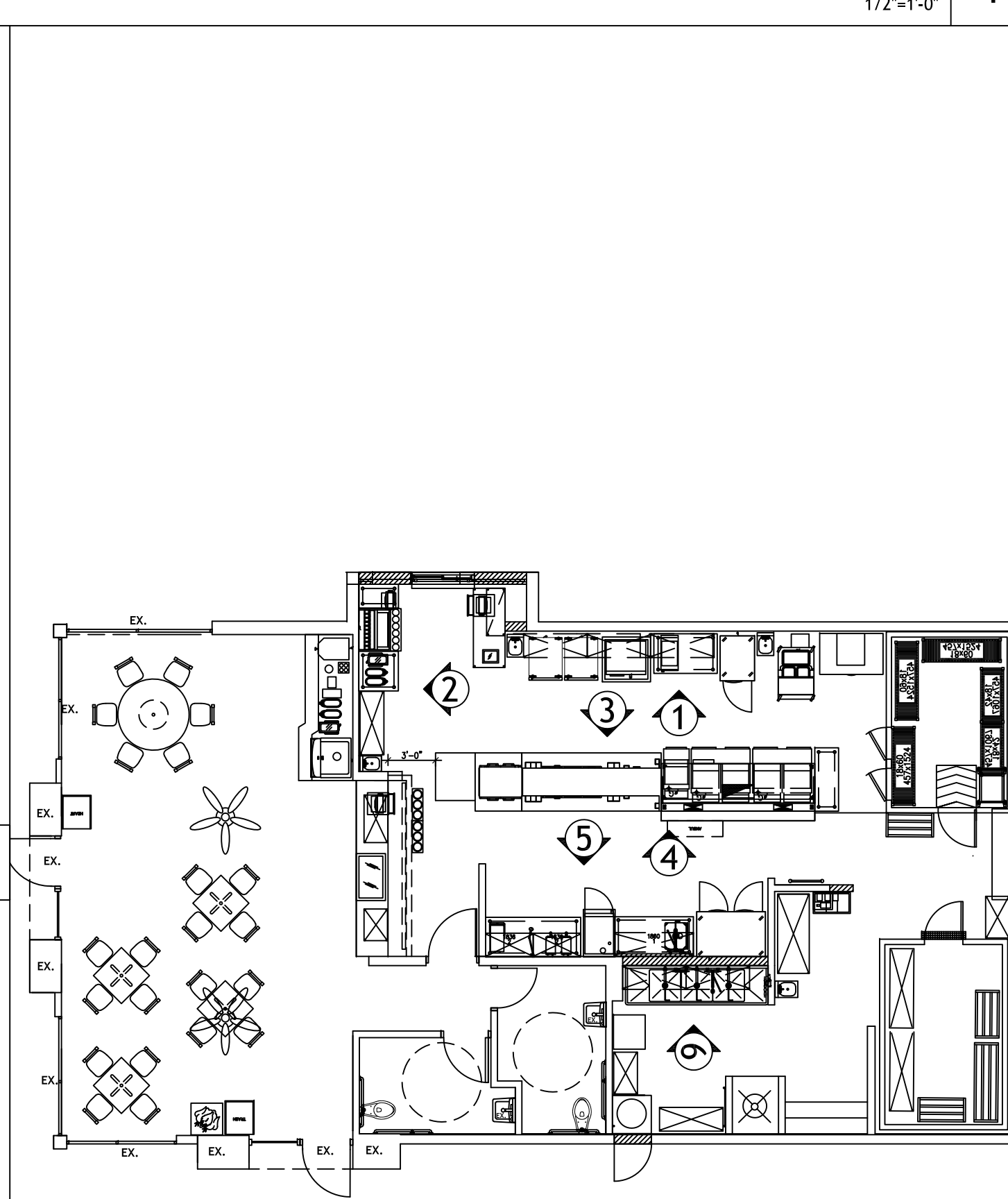
**ELEVATION 4**  
 1/2"=1'-0" 4



**ELEVATION 5**  
 1/2"=1'-0" 5



**ELEVATION 6**  
 1/2"=1'-0" 6



**KEY PLAN**  
 NTS 10



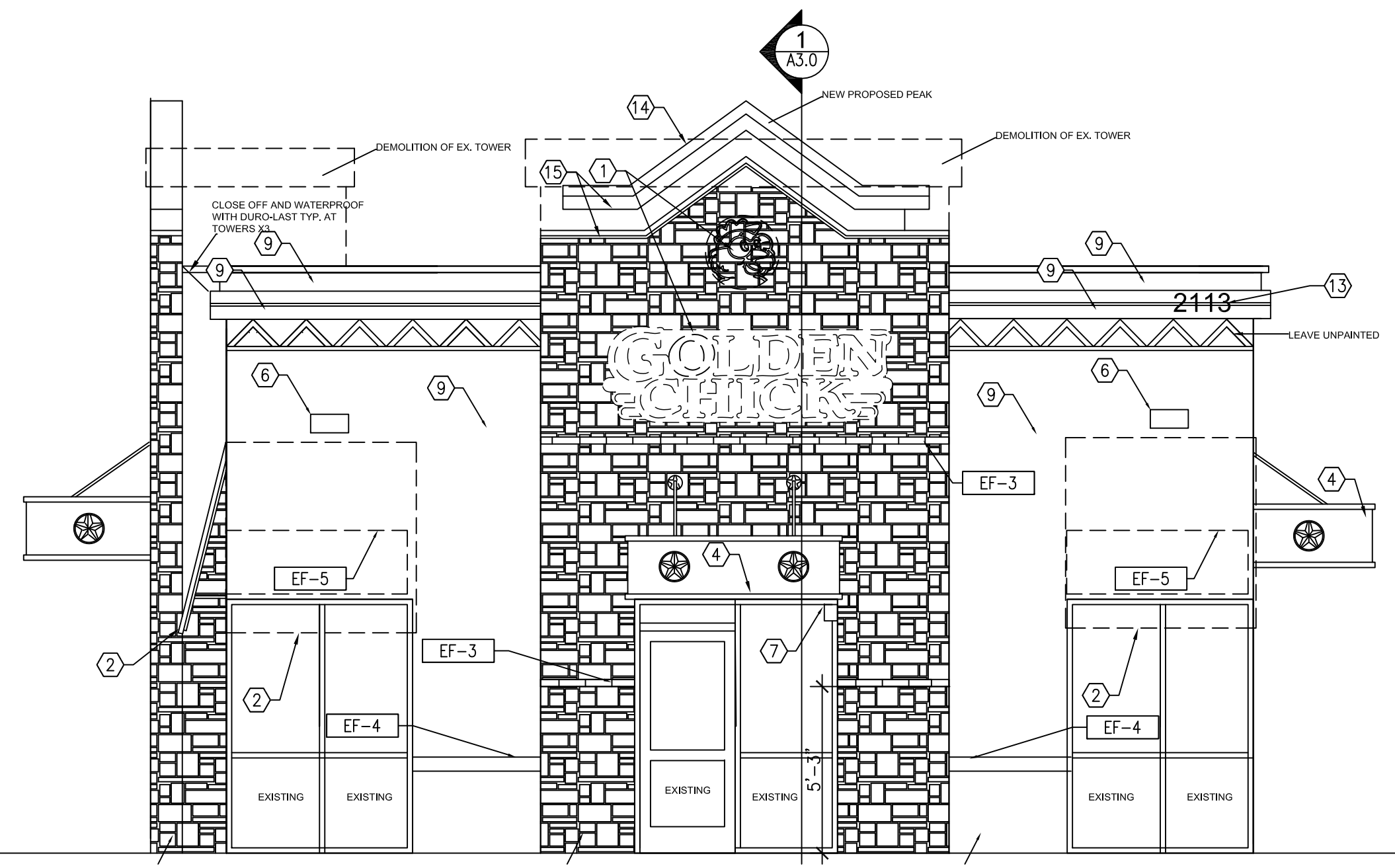




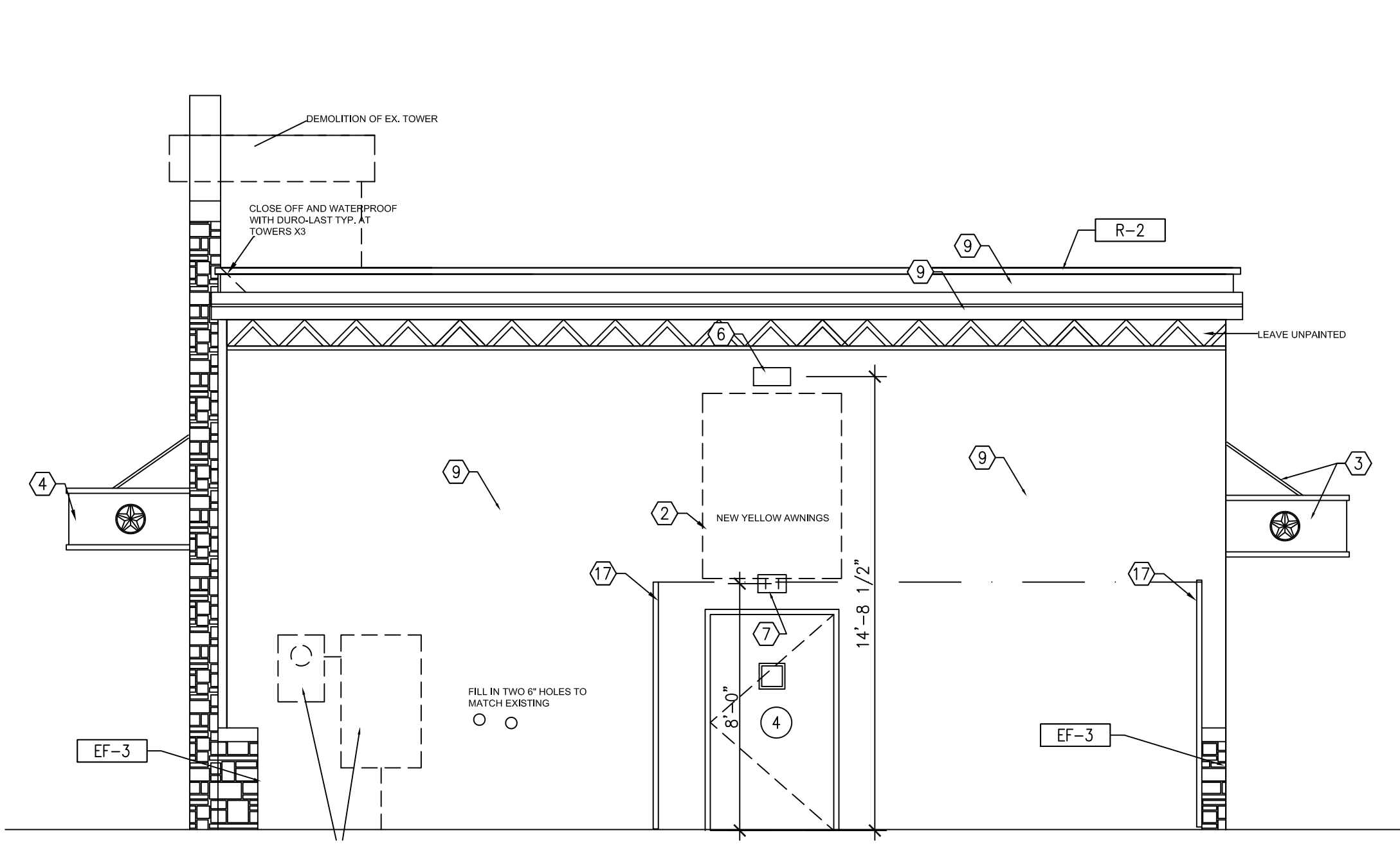


DATE	DESCRIPTION	BY

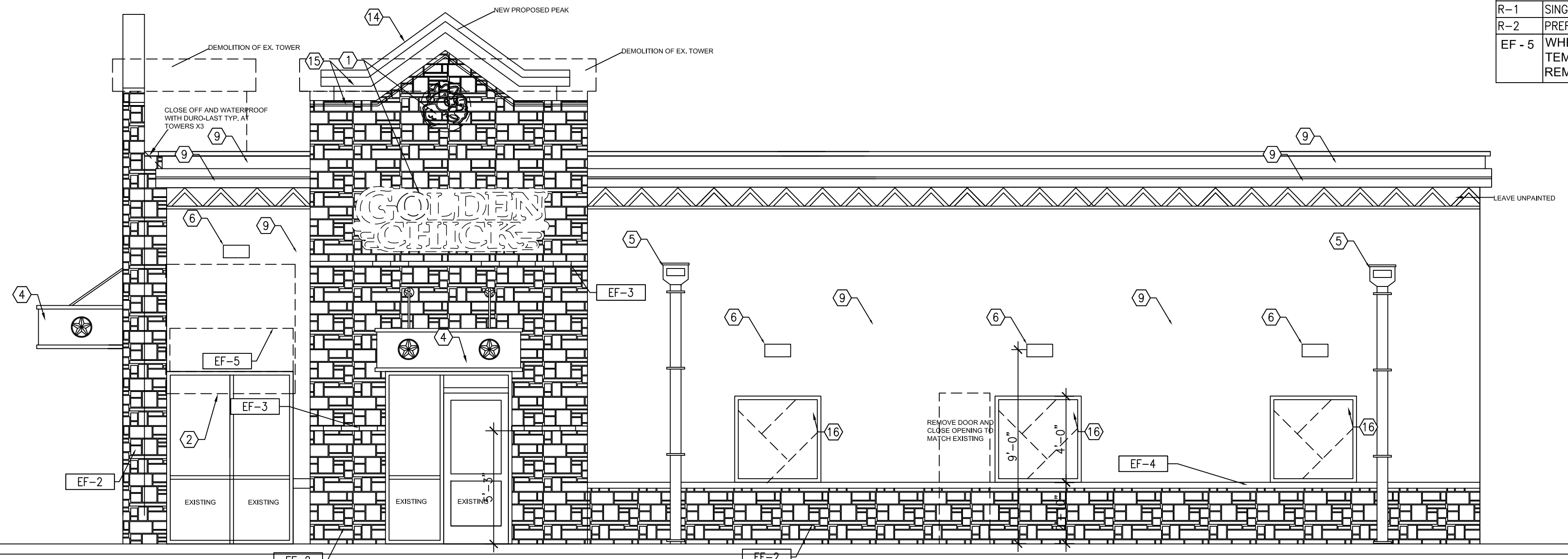
- 1 ALL HORIZONTAL DIMENSIONS ARE SHOWN TO FACE OF STUD WALL.
- KEY NOTES:**
- BUILDING SIGNAGE; FOR REVIEW UNDER SEPARATE PERMIT, RE: ELECTRICAL, GC TO PROVIDE WIRING
  - PRE-FABRICATED ALUMINUM AWNING BY SIGNAGE VENDOR.
  - EXISTING CANOPIES - ADD BLACK METAL PANEL SURROUNDS & STARS
  - EXISTING DOWNSPOUTS
  - WALL MOUNTED SCONCES, RE: ELECTRICAL
  - EMERGENCY LIGHTING FOR EGRESS DOOR, RE: ELECTRICAL
  - KNOX BOX IF REQUIRED. MOUNT NO LOWER THAN 5'-0" AND NO HIGHER THAN 6'-0" A.F.F., VERIFY FINAL LOCATION WITH FIRE MARSHAL PRIOR TO INSTALL
  - Benjamin Moore™ 041 Spoonful Of Sugar #1  
RGB: 175 105 88 HEX: #AF6958 LRV: 19.83%
  - STAINLESS STEEL TRANSACTION EDGE.
  - ELECTRICAL SWITCH GEAR, METER AND C.T. PAINT
  - EX. GAS METER, RE: PLUMBING. PAINT
  - G.C. TO PROVIDE CODE COMPLIANT STREET ADDRESS SIGNAGE
  - LED STRIP LIGHT ON PARAPET CAP BY SIGNAGE VENDOR, RE: ELEC.
  - BUILDING ROOF PEAK PROVIDED BY SIGNAGE VENDOR, RE: WALL SECTIONS FOR LIMITS OF BUILDING ROOF PEAK AND INSTALLATION.
  - METAL DECOR FRAME.
  - WOODEN SERVICE YARD FENCE WITH CUSTOM STEEL GATE, RE: 13/A1.7 & A4.0
  - REF. TO SIGNAGE PACKAGE
  -
- EXTERIOR FINISH**
- |      |  |
|------|--|
| EF-2 | THIN STONE   |
| EF-3 | KING SIZE BLACK GLAZED FULL BRICK (FACED IN FIELD) |
| EF-4 | 8" WIDE INTEGRAL COLOR EIFS BAND                   |
- EXTERIOR PAINT**
- |      |                         |
|------|-------------------------|
| EP-1 | OIL BASED PAINT PAPRIKA |
|------|-------------------------|
- ROOFING**
- |     |                               |
|-----|-------------------------------|
| R-1 | SINGLE PLY DUROLAST MEMBRANE  |
| R-2 | PREFINISHED METAL PARAPET CAP |
- EF-5 WHERE EXISTING CANOPIES HAVE BEEN REMOVED THE TEMPORARY WEATHER PROOFING AND BOARDING IS TO BE REMOVED AND REPLACED WITH METAL LATH & STUCCO



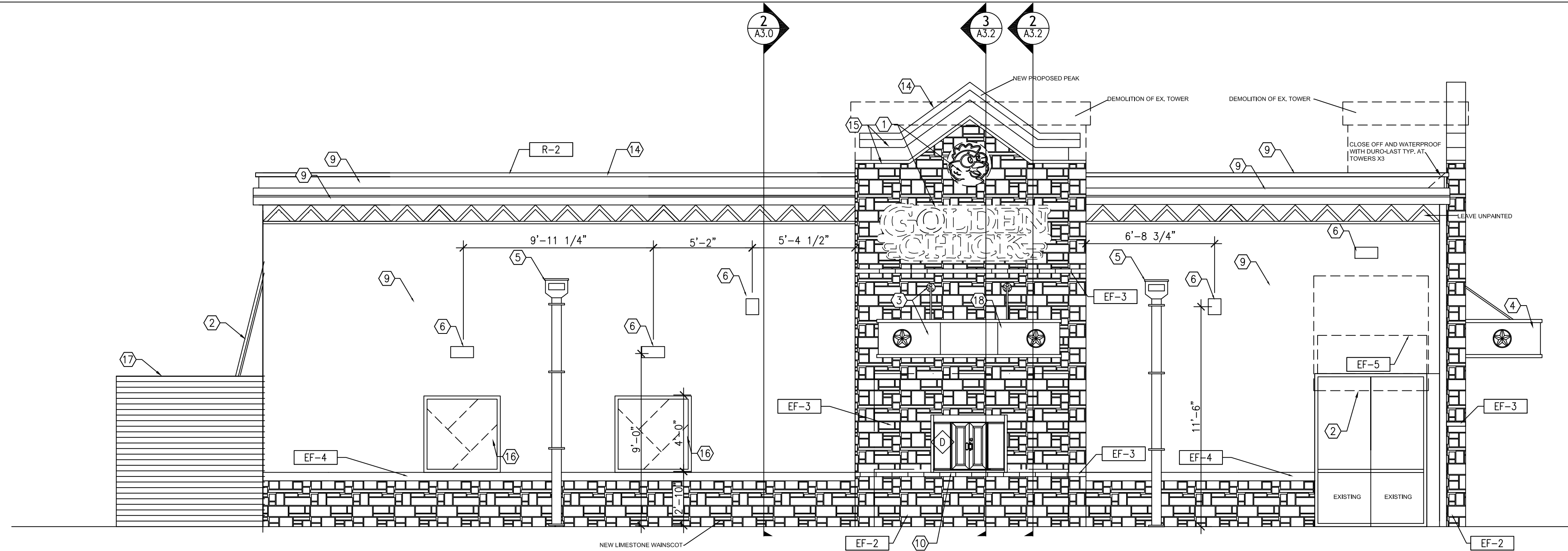
**FRONT ELEVATION**  
1/4"=1'-0" 1



**REAR ELEVATION**  
1/4"=1'-0" 2



**ENTRY SIDE ELEVATION**  
1/4"=1'-0" 3



**DRIVE-THROUGH SIDE ELEVATION**  
1/4"=1'-0" 4




GOLDEN CHICK MASTER SPECIFICATIONS	DIVISION 0 - CONTRACT AND BID INFORMATION
<b>TABLE OF CONTENTS</b>	<b>SECTION 00100 - INSTRUCTIONS TO BIDDERS</b>
<b>DIVISION 0 – CONTRACT AND BID INFORMATION</b> Section 00100 – Instructions to Bidders Section 00120 – Supplementary Instructions to Bidders Section 00300 – Bid Form Section 00700 – General Conditions Section 00800 – Supplementary Conditions	1. AIA Document A701, latest Edition, "Instructions to Bidders" are included as part of these specifications as if herein reprinted in full. a. A copy of AIA A701, latest edition may be obtained from Owner, Architect, or directly from: The American Institute of Architects 1735 New York Avenue, N.W. Washington, D.C. 20006.
<b>DIVISION 1 – GENERAL REQUIREMENTS</b> Section 01100 – Summary of Work Section 01110 – Work Covered by Contract Documents Section 01300 – Administrative Requirements Section 01320 – Change Order Procedures Section 01400 – Quality Requirements Section 01500 – Temporary Facilities and Controls Section 01580 – Project Identification Signs Section 01600 – Product Requirements Section 01700 – Execution Requirements Section 01720 – Construction Layout Section 01780 – Closeout Submittals	2. Contractor shall utilize the following documents, latest edition, in the negotiation and execution of the project: a. AIA Document A701 – Instructions to Bidders b. AIA Document G702 – Application and Certificate for Payment c. AIA Document G703 – Continuation Sheet d. AIA Document G701 – Change Order e. AIA Document G705 – Certificates of Insurance f. AIA Document G706 – Contractor's Affidavit of Payment of Debts and Claims g. AIA Document A706 – Contractor's Affidavit of Release of Liens h. AIA Document A201 – General Conditions of the Contract for Construction i. AIA Document A101 – Owner Contractor Agreement Form – Stipulated Sum
<b>DIVISION 2 – SITEWORK</b> *Refer to Civil Documents for balance of Site Construction Specifications Section 02010 – Subsurface Investigation Section 02072 – Selected Demolition Section 02100 – Site Clearing Section 02200 – Excavation, Backfilling, Compaction, and Grading Section 02361 – Terminate Control Section 02365 – Erosion Control, Walks, Curbs, Gutters and Approaches Section 02511 – Asphaltic Concrete Paving Section 02580 – Pavement Marking Section 02854 – Parking Bumpers (Wheel Stops) Section 02930 – Site Furnishings	<b>SECTION 00120 - SUPPLEMENTARY INSTRUCTIONS TO BIDDERS</b>  The following supplements modify, change, delete from, or add to the instructions to Bidders (AIA A701, latest Edition) Where any article of the instruction to Bidders is modified or any paragraph, sub-paragraph, or clause thereof is modified or deleted by these Supplemental Instructions the unaltered provisions of the article, paragraph, sub-paragraph, or clause shall remain in effect.  1. Article 1, Paragraph 1.8; add: Bidding is by invitation from the Owner, only.  2. Article 1, add Paragraph 1.10: 1.10 The term "Architect" as used herein, shall be construed to mean the "Owner", as the Owner will administer the bidding procedures.  3. Article 3, Paragraph 3.1.1 delete and insert the following: Owner will provide each invited Bidder a complete set of electronic files (.pdf format) of the Bidding Documents. Bidding contractor will be responsible for printing and distribution.  4. Article 4, Paragraph 4.1.1 delete and insert the following: 4.1.1 Bids shall be submitted on forms identical to the Bid Form provided by the Owner, one (1) original with original signature(s). Bids transmitted via facsimile or e-mail; provided they are received by the prescribed deadline, are acceptable. Originals shall be sent by overnight service for next day delivery.  5. Article 4, Paragraph 4.2: Delete this paragraph in it's entirety, as no bid security will be required  6. Article 4, Paragraph 4.4.1: The stipulated time period shall be construed as 90 calendar days.  7. Article 6, Paragraph 6.2: Delete this paragraph in its entirety.  8. Article 7, Paragraph 7.1.1: Bond requirement will be an option reserved by the Owner.  9. Article 7, Paragraph 7.2.2: Delete "unless otherwise provided," and substitute "unless otherwise acceptable to the Owner."
<b>DIVISION 3 – CONCRETE</b> Section 03300 – Cast in Place Concrete	<b>SECTION 00300 - BID FORM</b>  1. The form of proposal will be furnished separately by the Owner.
<b>DIVISION 4 – MASONRY</b> Section 04220 – Concrete Unit Masonry Section 04451 – Stone Veneer Section 04700 – Thin Brick Veneer	<b>SECTION 00700 - GENERAL CONDITIONS</b>  1. AIA Document A201, Latest Edition, "General Conditions of the Contract for Construction" are included as part of these specifications same as if herein reprinted in full. a. A copy of AIA A201, may be obtained from Owner, Architect, or directly from: The American Institute of Architects 1735 New York Avenue, N.W. Washington, D.C. 20006.
<b>DIVISION 5 – METALS</b> Section 05500 – Metal Fabrications Section 05514 – Metal Ladders	<b>SECTION 00800 - SUPPLEMENTARY CONDITIONS</b>  The following supplements, modify, change, delete from, or add to General Conditions (AIA A201). Where any article of the General Conditions is modified or any paragraph, sub-paragraph, or clause thereof is modified or deleted by these Supplemental Instructions, the unaltered provisions of the article, paragraph, sub-paragraph, or clause shall remain in effect.  1. Article 4, Paragraph 4.2.1: delete and substitute:  4.2.1 All references used throughout these documents requiring the Architect to act, approve, observe, or otherwise use his professional judgment regarding this project, will become the sole responsibility of the Owner, who may consult with the Architect on periodic basis as the Owner deems necessary to assure compliance with the Contract Documents.  2. Article 7, Paragraph 7.3.6 is further clarified as follows:  When the Owner authorizes the Contractor to perform changes or additions involving extra labor and material, and if the Contractor is directed to proceed on the basis of the actual cost of labor and material by Change Order, the following allowances will be allowed for Overhead (including Bond and Insurances) & Profit:  (1) For the Contractor: To be noted in the General Contractor's Bid submittal.  (2) Extra work covered by unit prices as requested in the Bid Form, include Contractors overhead and profit.  (3) Superintendent's time shall not be included in T & M extra work.
<b>DIVISION 6 – WOOD AND PLASTICS</b> Section 06100 – Rough Carpentry Section 06160 – Sheathing (ZIP System) Section 06170 – Laminated Veneer Structural Timber Section 06176 – Metal-Plate-Connected Wood Trusses Section 06200 – Finish Carpentry Section 06410 – Custom Cabinets Section 06620 – Solid Non-Porous Sheet and Shape Products	<b>SECTION 01000 - SUMMARY OF WORK</b>  1. PROJECT A. Project Name: <b>Golden Chick Restaurant – Location as Noted on Drawings.</b> B. Owner's Name: <b>GFC Leasing Corporation, LLC.</b>  2. CONTRACT DESCRIPTION A. Contract Type: A single prime contract based on a Stipulated Price as provided By Owner in Bid Package  3. WORK RESPONSIBILITY A. <u>Not In Contract (NIC):</u> Items shown or noted "(NIC)" on the drawings and/or in the specifications shall be furnished and installed by Owner under separate contract, except as described hereinafter. The Contractor shall receive, unload as required, store, coordinate and accommodate the Owner's contractors during the Work and be responsible to the extent of carrying necessary insurance to cover items in case of theft, fire, loss, malicious damage and other miscellaneous damage. Contractor shall provide all conduits, boxes, chases, etc. as indicated on the drawings for a complete installation. Included, but not inclusive, in this category are: 1. Food Service Equipment: a. Owner shall furnish, and Owner's vendor shall install food service equipment shown on food service drawings including, but not limited to the following: 1) Kitchen equipment 2) Stainless steel tables and shelves 3) Remote refrigeration units. All refrigeration unit lines, power supply, calibration, etc. shall be installed and performed by the Contractor. The foodservice suppliers will not furnish pre-charged lines. b. All custom fabricated stainless-steel items. c. Soda System: Contractor is responsible for pipe chases, plumbing and electrical services per plan. d. Illuminated Sign Package: Contractor shall be responsible for supplying individual electrical stub-ups at each site sign and/or each wall sign as required per plans and make final connection. e. Prefabricated Aluminum Awnings, Canopies with Turnbuckles and Building Roof Peaks are provided and installed by Sign Vendor; Contractor shall be responsible for supplying individual electrical stub-ups for each as required per plans and make final connection. f. Music, Intercom and A/V Systems: Contractor shall supply electrical service and wire chases with pull strings per plans and coordinate installation with Owner's agent. g. Point of Sale and Back Office Systems: All system equipment shall be provided by Owner, including computer cable. All equipment shall be installed by Owner's agent. All cable and wiring shall be installed in conduit installed by General Contractor as per plans. Contractor to provide 4 hours of carpentry and 4 hours of electrician labor on installation day for any changes that may arise. h. Security System: Contractor shall supply electrical service and wire chases with pull strings per plans and coordinate installation with Owner's agent. Contractor to provide adequate wood backing to install all necessary equipment. i. Telephones: Owner's agent will supply and install permanent telephone and jacks. Contractor shall supply and install junction boxes with pull strings per plans for said installation and coordinate with Owner's agent. j. Furnishings and decor shown on architectural drawings including, but not limited to, stools, chairs, booths, tables, and decor. <u>Note:</u> All millwork items shown on architectural drawings including, but not limited to, cabinets, shelving and vanities shall be the responsibility of the Contractor. Contractor shall submit shop drawings of same for approval. k. Water Softener: Contractor shall install and plumb all soft water lines and stub-out for unit hook-up.
<b>DIVISION 7 – THERMAL AND MOISTURE PROTECTION</b> Section 07212 – Board and Batt Insulation Section 07240 – Exterior Insulation and Finish Systems Section 07260 – Weather Barriers Section 07530 – Elastomeric Membrane Roofing Section 07620 – Sheet Metal Flashing and Trim Section 07900 – Joint Sealers	8. Article 11, delete first paragraph of 11.1.1 beginning with "The Contractor" ending with "...be liable", and substitute the following:  11.1.1 Prior to the commencement of the Work, Contractor shall procure, and Contractor shall maintain, all insurance required under this Paragraph 11.1.1. Contractor shall require each Subcontractor to provide coverage adequate to protect Subcontractor and its employees. If the terms of coverage of such policies are unacceptable to Owner, Contractor and/or subcontractor shall revise the coverage or obtain additional coverage as reasonably required by Owner. Owner's approval of Contractor's and any Subcontractor's insurance shall not relieve or limit their liability under the Contract Documents. In the event of the failure of Contractor to furnish and maintain such insurance, then the Owner shall have the right, but not the obligation, to take out and maintain such insurance for and in the name of Contractor and Contractor shall pay the cost thereof and furnish all necessary information to permit the Owner to take out and maintain such insurance for the account of Contractor. Contractor shall not allow any Subcontractor to commence work on its subcontract until all insurances required of Subcontractor have been obtained. Contractor shall purchase and maintain such insurance as will protect it from claims set forth below which may arise out of or result from Contractor's operations under the Contract Documents, whether such operations be by Contractor or by Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.  9. Article 11; delete paragraph 11.1.2 and substitute the following:  11.1.2 The liability insurance purchased and maintained by Contractor pursuant to this paragraph and 11.1.1 shall include the types and be in the minimum amounts as follows:  (a) Workman's Compensation  (i) Workers' or workman's compensation – maximum permitted by statute, unlimited if permitted. The policy shall contain a Waiver of Subrogation in favor of Landlord Indemitees.  (ii) – Employer's Liability – \$1 million.  (b) Comprehensive General Liability  Bodily injury and property damage having a combined single limit of \$2 Million and including the following coverages: (i) Comprehensive Form (ii) Premises – Operations (iii) Explosion and Collapse Hazard (iv) Underground Hazard (v) Products – Completed Operations. Hazard (which must be maintained for 2 years commencing with issuances of the final Certificate of Payment) (vi) Broad Form Contractual Insurance (vii) Broad Form Property Damage (extended to apply to completed operations) (viii) Independent Contractors (ix) Personal Injury (with employees and contractual exclusions deleted)  (c) Automobile Liability (Comprehensive Form) insuring contractor for operations of all owned, hired, and non-owned vehicle limit of \$2 Million.  (d) Umbrella Excess Liability: \$3 Million per occurrence / aggregate.  10. Article 11, paragraph 11.3:  Delete all references to Owner furnished property insurance.  The Contractor shall furnish Builders Risk Insurance, including the perils of fire, extended coverage, vandalism, and malicious mischief in an amount of not less than 100% of the insurable value of all the work, and the coverage written on Builders Risk Coverage Form CP0020, including Causes of Loss Basic Form CP1010 or Causes of Loss – Broad Form CP1020 or Causes of Loss – Special Form CP0300 or an acceptable inland Marine "All Risk" installation floaters form, with a company authorized to do business in the state in which the project is located.  11. Article 12, add paragraph 12.2.2.1(a):  12.2.2.1(a) If during the Contractors one (1) year warranty after completion the Owner requests that tests be performed to determine if corrections in the Work need to be made, the expense of such tests shall be borne by (a) the Owner, if the results of the tests indicate that no corrections are necessary, or (b) the Contractor, if the results of the tests indicate that corrections are necessary.  12. Article 13, paragraph 13.6.1:  13.6.1 Interest rate shall be ten percent (10%).
<b>DIVISION 8 – DOORS AND WINDOWS</b> Section 08110 – Steel Doors and Frames Section 08211 – Flush Wood Doors Section 08214 – Metal Faced Flush Wood Door (Eiason) Section 08410 – Aluminum Entrances and Storefronts Section 08582 – Pass-Thru Window Section 08710 – Door Hardware Section 08800 – Glazing	<b>DIVISION 0 - CONTRACT AND BID INFORMATION</b>
<b>DIVISION 9 – FINISHES</b> Section 09260 – Gypsum Board Assemblies Section 09300 – Tile Section 09511 – Suspended Acoustical Ceilings Section 09610 – Granite Section 09729 – Mural Installation Section 09771 – Prefinished Panels Section 09900 – Paints and Coatings	<b>DIVISION 1 - GENERAL REQUIREMENTS</b>
<b>DIVISION 10 – SPECIALTIES</b> Section 10410 – Entry Key Cabinet Section 10442 – Architectural Signage Section 10523 – Fire Extinguishers, Cabinets and Accessories Section 10800 – Toilet Accessories	<b>DIVISION 2 – SITEWORK</b>
<b>DIVISION 11 – EQUIPMENT</b> Section 11400 – Food Service Equipment (Installation)	<b>DIVISION 3 – CONCRETE</b>
<b>DIVISION 15 – MECHANICAL SYSTEMS</b> Section 15100 – General Mechanical Requirements Section 15400 – Plumbing Section 15700 – Heating, Ventilating and Air Conditioning	<b>DIVISION 4 – MASONRY</b>
<b>DIVISION 16 – ELECTRICAL SYSTEMS</b> Section 16050 – Basic Methods and Requirements Section 16110 – Raceways Section 16120 – Wires and Cables Section 16135 – Electrical Boxes and Fittings Section 16142 – Electrical Connections for Equipment Section 16143 – Wiring Devices Section 16150 – Motor Controllers and Contactors Section 16170 – Circuit and Motor Disconnects Section 16180 – Overcurrent Protective Devices Section 16190 – Supporting Devices Section 16195 – Electrical Identification Section 16445 – Panelboards, Distribution and Branch Circuit Section 16450 – Grounding Section 16510 – Interior Building Lighting Section 16721 – Fire Alarm and Smoke Detection Systems	<b>DIVISION 5 – METALS</b>


DESCRIPTION	DATE
BY	
DESCRIPTION	
DATE	
<b>SPECIFICATIONS</b>	
PROJECT NO. 05-05-22	
SHEET NO. <b>SP.1</b>	

<b>B. By Owner:</b> Items shown or noted "By Owner" on the drawings and/or in the specifications shall be furnished by Owner to Contractor/subcontractor for installation by Contractor/subcontractor as part of the construction contract. Contractor shall furnish all labor, material, equipment, and tools required to receive, unload, store, protect, move from storage, uncrate, assemble, install, and level these items and shall carry necessary insurance to cover items in case of theft, fire, loss, malicious damage and other miscellaneous damage. Included, but not inclusive, in this category are: 1. Food Service Equipment: a. Owner shall furnish food service equipment shown on food service drawings including, but not limited to the following: 1) Remote refrigeration units. All refrigeration unit lines, power supply, calibration, etc. shall be installed and performed by the Contractor. The foodservice suppliers will not furnish pre-charged lines. 2) Owner shall furnish exhaust hoods with integral fire suppression, associated exhaust fans, curbs, and MUA units. (a)All ductwork (Type 1 and type 2 hoods), flue caps and duct wrap shall be provided and installed by the Contractor. 3) Stainless Steel Wall Paneling at cook line, prep line, and dish wash area. 4) Stainless Steel Corner Guards. b. Contractor is responsible for coordination, delivery, handling, storage, installation, leveling, silicone sealing (where applicable), set-up, start-up, start-up, and calibration of all Owner provided equipment. 2. Receiving and unloading of Owner furnished items: a. Prior to delivery and installation of the Owner's kitchen equipment, the following must be completed: 1) Tile must be set and clean; Fiberglass Reinforced Panels (FRP) and/or tile shall be hung and trimmed; acoustical ceiling grid complete with all light fixtures, ductwork and diffusers installed; acoustical ceiling tile shall be installed; and all gypsum wall board ceilings shall be finished. 2) Contractor shall provide motorized, hydraulic forklift at site to assist in the offloading of Owner provided kitchen equipment. The Contractor shall inventory the Owner furnished items delivered to the job site and check each item to ensure that the correct type and model number per the food service plans and kitchen equipment brochure provided at the beginning of the project has been delivered. The Contractor shall notify the Owner immediately if any discrepancies are found. 3) Contractor to provide copies of all delivery tickets, bills of lading, etc. certifying receipt of the Owner furnished items. 4) Inspection of all Owner furnished items upon delivery for evidence of damage is the responsibility of the Contractor. The Contractor shall repair or replace, at no cost to the Owner, any damaged equipment received at the job site and not noted on the bill of lading. 5) The Contractor is solely responsible for care of the Owner furnished items once received until completion of the contract. Any lost or damage during his possession will be repaired or replaced at no cost to the Owner. 3. Foodservice equipment installation: a. The Contractor shall off load, uncrate and store all food service equipment not installed by Owner's agent, set in place, level and scribe to walls, floor and base as required. Pull equipment tight and secure field joints and properly dispose of all packing material. b. Property anchor or fasten to walls, floor, ceiling, and base as per installation recommendations of the food service equipment manufacturer. c. Provide silicone bead where equipment joins together or abuts wall surfaces. Color of silicone to be clear. d. Assemble and secure in place all loose components such as, but not limited to, the following examples: tops of base units, shelves, legs, dispensers, etc. e. Mounting of equipment: Equipment which is not provided with legs or casters meeting the applicable requirements should be mounted by the following method: Equipment designed and constructed to be mounted directly to the floor, without legs or casters, should be sealed around the entire perimeter of the equipment. f. Installation of all food service equipment shall comply with all applicable codes and standards required by the local health department. g. The Contractor shall provide rough in water, drainage, and other service piping adjacent to food service equipment requiring same, copping drain outlets with suitable plugs and terminating water and other service with shut-off valves and cocks. After installation of food service equipment, Contractor shall make all final connections. h. The Contractor shall supply one 14-inch diameter loop of soft copper coil at each water line for all applicable food service equipment and related cabinetry that may need to be repositioned for maintenance or repair. i. The Contractor shall provide rough-in electrical wiring terminated in outlet boxed adjacent to food service equipment and, after installation of equipment, shall make all final connections. This includes supplying devices, cord and plugs, etc. as required to complete installation. j. Sealing of Penetrations: 1) Contractor shall adequately seal with escutchcons and/or sealant all utility and service piping and other required openings through walls and floors. 2) Contractor shall seal conduit/outlet penetrations with approved foam insulation. k. Workmanship: 1) Graining: Where two metal surfaces are butt welded, grain shall run in the same direction. 2) Cove all intersections of vertical and horizontal sheet metal on a 5/8" radius unless otherwise indicated. l. Fastening: 1) Provide nuts, bolts, and screws of American Standard unified screw thread design in stainless steel, only when sanitary fastenings are impossible. In all instances, use counter-sunk, flat, or oval head fasteners. round head fasteners are not acceptable. 2) Wherever bolt threads are exposed, or may come in contact with a wiping cloth, use stainless steel acorn nuts. m. Welding: All welding shall be per AWS standards by electric arc method with rod of same composition as parts welded. make welds complete, strong, and ductile with riddle ground off and joints finished smooth, polished, and re-grained. Welds shall not be visible on continuous exposure. All welding shall be of a non-toxic nature when used on surfaces exposed to unpackage food. n. Grinding, Polishing, and Finishing: Any material sunken or depressed by welding operation shall be hammered and peened flush with adjacent surfaces and, if necessary, ground again to eliminate low spots. Surfaces showing evidence of warpage and/or burn discoloration will not be accepted. In all cases, textures from rough grinding shall be removed by successive finer polishing operations until the grain of the entire surface is homogeneous. o. Equipment Adjustment: Contractor shall operate all food service equipment, test for leaks, proper connections, inadequate or faulty performance, calibrate and correct and adjust for proper operation. All thermostatically controlled equipment and equipment with automatic features shall be operated for a sufficient length of time to prove controls are functioning as intended. all food service plans, shop drawings, and equipment brochures are to remain at the store and be handed over to the Owner for future reference. p. Testing: Contractor shall test all water and gas piping built within the food service equipment for leaks using approved testing procedures. q. Completion: 1) Contractor shall remove all protective coverings, tags, labels, and tape from equipment. 2) Contractor shall thoroughly clean and polish Owner furnished items. 3) Contractor shall place protective coverings on all equipment after cleaning until final acceptance of building then shall remove protective coverings.
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<b>4. OWNER OCCUPANCY</b>  A. Owner intends to occupy the Project upon Substantial Completion. Contractor shall cooperate with Owner to minimize conflict and to facilitate Owner's operations and schedule the Work to accommodate Owner occupancy. B. Owner reserves right to occupy and to place and install equipment as necessary in completed areas of building before Substantial Completion, provided such occupancy does not interfere with completion of Work. Such placing of equipment and partial occupancy shall not constitute acceptance of total Work. C. Owner or Owner's agent to prepare Certificate of Substantial Completion for each specific portion of Work to be occupied before Owner occupancy. D. Contractor shall obtain Certificate of Occupancy from local building officials before Owner occupancy E. Mechanical and Electrical Systems: 1. Before partial Owner occupancy, mechanical and electrical systems shall be fully operational. 2. Required inspections and tests shall have been successfully completed. 3. On occupancy, Owner will provide operation and maintenance of mechanical and electrical systems in occupied portions of Building.  5. MISCELLANEOUS PROVISIONS  A. Accessibility Compliance: 1. Full compliance with Uniform Federal Accessibility Standards (UFAS), and Americans with Disabilities Act (ADA), prohibiting discrimination on basis of disability by public accommodations, is required for Work of this Project. 2. This Project has been designed to and requires full compliance with ADA regulations, whether or not specific references or notes to regulations are made on Drawings or in Specifications.  6. PROJECT GENERAL NOTES  A. Unless noted otherwise, all work in these drawings and specifications shall be performed by the Contractor. B. The Contractor shall field verify all conditions and dimensions prior to any work and shall be responsible for all work and materials including those furnished by subcontractors. Contractor shall accept premises as found, Owner assumes no responsibility for the condition of the existing site or existing structures at the time of bidding or thereafter. C. The Contractor is responsible for correcting any errors after the start of construction which has not been brought to the attention of the architect. The means of correcting any error shall first be approved by the Architect and Owner. D. Dimensions take precedence over drawings. DO NOT SCALE DRAWINGS TO DETERMINE ANY LOCATIONS. The architect shall be notified if any discrepancy occurs prior to continuing with work. E. All plan dimensions are from face of stud or face of masonry unless noted otherwise. F. The Contractor shall report to the Owner and Architect any errors, inconsistencies, or omissions discovered. G. All construction shall comply with the applicable building codes and local restrictions. The Contractor must comply with the Contractor registration requirements of all governing authorities. H. The general building permits shall be paid for by the Owner. All other permits shall be secured and paid for by the subcontractor directly responsible. All required city, county, and/or state licenses shall be acquired and paid for by the individual subcontractor. I. It shall be the responsibility of the Contractor to locate all existing utilities whether shown herein or not and to protect them from damage. The Contractor shall bear all expense of repair or replacement of utilities or other property damaged by operations in conjunction with the prosecution of the work. J. The Contractor shall be responsible for and shall replace or remedy any faulty, improper, or inferior materials or workmanship which shall appear within one year or as otherwise specified for a specific component after the completion and acceptance of the work under this contract. K. The Contractor is to provide blocking as required for mounting of booth tables, wall mounted shelves, cabinets, HC grab bars and partition braces, in addition to other requirements specified herein.  7. CONTRACTOR USE OF SITE AND PREMISES  A. Provide access to and from site as required by law and by Owner: 1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered. 2. Do not obstruct roadways, sidewalks, or other public ways without permit. B. Utility Outages and Shutdown: 1. Prevent accidental disruption of utility services to other facilities.  <b>SECTION 01110 - WORK COVERED BY CONTRACT DOCUMENTS</b>  1.INTENT OF DRAWINGS AND SPECIFICATIONS  A.The Contractor shall complete all Work as provided for in Contract Documents including Drawings and Specifications. Anything mentioned in the Specifications and not shown on the Drawings or shown on the Drawings and not mentioned in the Project Manual, shall be furnished and installed as if shown and mentioned in both. The Contractor shall furnish all materials and labor required to complete Work shown on the Drawings and called out in the Project Manual, to include labor and material requirements reasonably inferable therefrom as being necessary to complete the work, whether each and every single item necessary to completion is specified or detailed or not.  2.CONTRACTOR RESPONSIBILITY FOR WORK REQUIRED  A.The organization of the Specifications into Divisions, Sections and Paragraphs and the arrangement of the Drawings are not intended to control the Contractor in dividing the Work among Subcontractors or to establish the limits and extent of work to be performed by a particular trade. The Contractor alone is responsible for the completion of the entire work as drawn and specified, complete in place and in functional or operating conditions. The division of the Project Manual into sections and paragraphs is for convenience only and not for the purpose of limiting or restricting the performance of any portion of the Work to any particular trade.
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09.21.2023

**DRAWING COORDINATION**  
Architectural, Landscape, Civil, Structural, Mechanical and Electrical drawings are interrelated. General Contractor and all Sub-Contractors shall review and coordinate the entire set of drawings and specifications

Golden Chick Restaurant Remodel at  
2311 Fredericksburg Rd  
San Antonio, Texas



**DIVISION 1 - GENERAL REQUIREMENTS (CONTINUED)**

**SECTION 01300 - ADMINISTRATIVE REQUIREMENTS**

**1. PROJECT COORDINATION**

- A. Cooperate with the Owner's Project Coordinator regarding allocation of mobilization areas on site; for field offices and sheds, for worker access, traffic, parking facilities and use of temporary utilities and construction facilities.
- B. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.
- C. Coordinate field engineering and layout work with Owner's Project Coordinator.
- D. Make the following types of submittals to Architect/Engineer through the Project Coordinator:
  - 1. Requests for interpretation.
  - 2. Requests for substitution.
  - 3. Shop drawings, product data, and samples.
- E. Make the following types of submittals to Owner through the Project Coordinator:
  - 1. Test and inspection reports.
  - 2. Manufacturer's instructions and field reports.
  - 3. Applications for payment and change order requests.
  - 4. Progress schedules.
  - 5. Coordination drawings.
  - 6. Closeout submittals.

**2. PRECONSTRUCTION MEETING**

- A. Make arrangements for meetings, prepare agenda with copies for participants and preside at meetings.
- B. Attendance Required: Job superintendent, major Subcontractors and suppliers, Owner, as appropriate to agenda topics for each meeting.
- C. Agenda:
  - 1. Execution of Owner-Contractor Agreement.
  - 2. Submission of executed bonds and insurance certificates.
  - 3. Distribution of Contract Documents.
  - 4. Submission of list of Subcontractors, list of Products, schedule of values, and progress schedule.
  - 5. Designation of personnel representing the parties to Contract, Major Sub-Contractors and Architect/Engineer.
  - 6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
  - 7. Scheduling.
- C. Record minutes and distribute copies within two days after meeting to participants, with two copies to Owner's Project Coordinator, participants, and those affected by decisions made.

**3. SITE MOBILIZATION MEETING**

- A. Owner's Project Coordinator will schedule a meeting at the Project site prior to Contractor occupancy.
- B. Attendance Required:
  - 1. Contractor and Superintendent.
  - 2. Owner's Project Coordinator.
  - 3. Major Subcontractors.
- C. Agenda:
  - 1. Use of premises by Owner and Contractor.
  - 2. Owner's requirements and partial occupancy prior to completion.
  - 3. Construction facilities and controls provided by Owner.
  - 4. Survey and building layout.
  - 5. Security and housekeeping procedures.
  - 6. Schedules.
  - 7. Application for payment procedures.
  - 8. Procedures for testing.
  - 9. Procedures for maintaining record documents.
  - 10. Requirements for start-up of equipment.
  - 11. Inspection and acceptance of equipment put into service during construction period.

**4. PROGRESS MEETINGS**

- A. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- B. Attendance Required: Job superintendent, major Subcontractors and suppliers, Owner, as appropriate to agenda topics for each meeting.
- C. Agenda:
  - 1. Review minutes of previous meetings.
  - 2. Review of Work progress.
  - 3. Field observations, problems, and decisions.
  - 4. Identification of problems which impede planned progress.
  - 5. Review of submittals schedule and status of submittals.
  - 6. Maintenance of progress schedule.
  - 7. Corrective measures to regain projected schedules.
  - 8. Planned progress during succeeding work period.
  - 9. Maintenance of quality and work standards.
  - 10. Effect of proposed changes on progress schedule and coordination.
  - 11. Other business relating to Work.
- D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect/Engineer, Owner, participants, and those affected by decisions made.

**5. CONSTRUCTION PROGRESS SCHEDULE**

- A. Within 10 days after joint review, submit complete schedule.
- B. Submit updated schedule with each Application for Payment.

**6. PROGRESS PHOTOGRAPHS**

- A. Submit digital, electronic photograph files with each application for payment, taken not more than 3 days prior to submission of application for payment.
- B. Maintain one set of all photographs at project site for reference; same copies as submitted, identified as such.
- C. Provide photographs of site and construction throughout progress of Work produced by an experienced photographer, acceptable to Architect/Engineer.
- D. In addition to periodic, recurring views, take photographs of each of the following events:
  - 1. Completion of site clearing.
  - 2. Excavations in progress.
  - 3. Foundations in progress and upon completion.
  - 4. Structural framing in progress and upon completion.
  - 5. Enclosure of building, upon completion.
  - 6. Final completion, minimum of ten (10) photos.
- E. Views:
  - 1. Provide non-aerial photographs from four cardinal views at each specified time, until Date of Substantial Completion.
  - 2. Provide factual presentation.
- F. Digital Photographs: 24 bit color, minimum resolution of 1024 by 768, in JPG format; provide files unaltered by photo editing software.
  - 1. Delivery Medium: Via email.
  - 2. File Naming: Include project identification, date and time of view, and view identification.
  - 3. PDF File: Assemble all photos into printable pages in PDF format, with 2 to 3 photos per page, each photo labeled with file name; one PDF file per submittal.
  - 4. Hard Copy: Printed hardcopy (grayscale) of PDF file.

**7. SUBMITTALS FOR REVIEW**

- A. When the following are specified in individual sections, submit them for review:
  - 1. Product data.
  - 2. Shop drawings.
  - 3. Samples for selection.
- B. Submit to Architect/Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
- C. Samples will be reviewed only for aesthetic, color, or finish selection.
- D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES and for record documents purposes described in Section 01780 - CLOSEOUT SUBMITTALS.

**8. SUBMITTALS FOR INFORMATION**

- A. When the following are specified in individual sections, submit them for information:
  - 1. Design data.
  - 2. Certificates.
  - 3. Test reports.
  - 4. Inspection reports.
  - 5. Manufacturer's instructions.
  - 6. Manufacturer's field reports.
  - 7. Other types indicated.

**9. SUBMITTALS FOR PROJECT CLOSEOUT**

- A. When the following are specified in individual sections, submit them at project closeout:
  - 1. Project record documents.
  - 2. Operation and maintenance data.
  - 3. Warranties.
  - 4. Bonds.
  - 5. Other types as indicated.

**10. NUMBER OF COPIES OF SUBMITTALS**

- A. Documents for Review:
    - 1. Small Size Sheets, Not Larger Than 8-1/2 x 11 inches: Submit the number of copies which the Contractor requires, plus one copy which will be retained by the Owner's Project Coordinator.
    - 2. Larger Sheets, Not Larger Than 30 x 42 inches: Submit the number of opaque reproductions which Contractor requires, plus one copy which will be retained by Owner's Project Coordinator.
  - B. Documents for information: Submit two copies.
  - C. Documents for Project Closeout: Make one reproduction of submittal originally reviewed. Submit one extra of submittals for information.
  - D. Samples: Submit the number specified in individual specification sections; one of which will be retained by Owner's Project Coordinator.
    - 1. After review, produce duplicates.
    - 2. Retained samples will not be returned to Contractor unless specifically so stated.
- 11. SUBMITTAL PROCEDURES**
- A. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
  - B. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.
  - C. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
  - D. For each submittal for review, allow 7 days excluding delivery time to and from the Contractor.
  - E. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work.
  - F. When revised for resubmission, identify all changes made since previous submission.
  - G. Submittals not requested will not be recognized or processed.
  - H. Do not make requests for deviations from contract documents via shop drawings, product data, or samples. Deviations will not be valid unless specifically approved under specified modification procedures.

**SECTION 01320 - CHANGE ORDER PROCEDURES**

**1. GENERAL**

- A. General Conditions of the Contract for Construction, AIA Document A201, Article 7, governs the work of this Section.

**2. CHANGE ORDER FORM**

- A. Change Orders will be issued on Owner's standard forms.

**3. PRELIMINARY PROCEDURES**

- A. Proposal Request: If a change to the Work is considered by the Owner, he will issue a formal request for Contractor's proposal for changes to the Contract. Request includes: Detailed description of change with supplementary or revised Drawings and Specifications, projected time for executing change, with a stipulation of any overtime work required, and period of time during which requested price will be considered valid.
- B. Contractor Response: Respond with formal written proposal referencing Architect's request number, job name, date, specific items requested and indicate total amount of change imposed costs and construction time consideration for each request. Give each numbered request individual response. Do not lump two or more proposals on one response.

**4. CONTRACT CHANGE METHODS**

- A. Work Directive Change: Architect may issue a directive, signed by Owner, instructing Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order. Directive will describe changes in the Work, and will designate method of determining any change in Contract Sum or Contract Time. Promptly execute the change in Work.
- B. Lump Sum Change Order: Will be based on Proposal Request and Contractor's lump sum quotation.
- C. Unit Price Change Order:
  - 1. For pre-determined unit prices and quantities, Change Order will be executed on lump sum basis.
  - 2. For unit costs or quantities of units of work which are not predetermined, execute Work under a work directive change. Changes in Contract Sum or Contract Time will be computed as specified for time and material Change Order.
- D. Time and Material Change Order: Submit itemized account and supporting data with 10 working days after completion of change; Architect will determine change allowable in Contract Sum and Contract Time as provided in GENERAL CONDITIONS.

**5. DOCUMENTATION OF CHANGE IN CONTRACT SUM AND TIME**

- A. General: Document each quotation for a change in cost or time with sufficient data to allow evaluation of quotation.
- B. Time and Material Changes: Maintain detailed records of work done. Provide full information required for evaluation of proposed changes, and to substantiate costs of changes in the Work.
- C. Additional Data: On request, provide additional data to support computations:
  - 1. Quantities of products, labor, and equipment. Taxes, insurance and bonds.
  - 2. Overhead and profit.
  - 3. Justification for any change in Contract Time.
  - 4. Credit for deletions for Contract, similarly documented.
- D. Additional Costs Claims: Support each claim for additional costs, and for work done on a time and material basis, with additional information:
  - 1. Origin and date of claim.
  - 2. Dates and times work was performed, and by whom.
  - 3. Time records and wage rates paid.
  - 4. Invoices and receipts for products, equipment, and subcontracts, similarly documented.

**6. EXECUTION OF CHANGE ORDERS**

- A. Owner's Project Coordinator will issue Change Orders for signatures of parties as provided in GENERAL CONDITIONS.

**7. CORRELATION OF CONTRACTOR SUBMITTALS**

- A. Schedule of Values: Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum as shown on Change Order.
- B. Progress Schedules: Promptly revise Progress Schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by change, and resubmit.
- C. Project Record Documents: Promptly enter changes in Project Record Documents.

**SECTION 01400 - QUALITY REQUIREMENTS**

**1. SUBMITTALS**

- A. Test and Reports: After each test/inspection, promptly submit two copies of report to Architect/Engineer, Owner's Project Coordinator, and to Contractor.
  - 1. Include:
    - a. Date issued.
    - b. Project title and number.
    - c. Name of inspector.
    - d. Date and time of sampling or inspection.
    - e. Identification of product and specifications section.
    - f. Location in the Project.
    - g. Type and Date of test/inspection.
    - h. Results of test/inspection.
    - i. Conformance with Contract Documents.
    - j. When requested, provide interpretation of results.
  - 2. Test reports are submitted for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.
- B. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or subcontractor, in quantities specified for Product Data.
  - 1. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

**2. REFERENCES AND STANDARDS**

- A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the current standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Should specified reference standards conflict with Contract Documents, request clarification from Owner's Project Coordinator before proceeding.

**3. TESTING AND INSPECTION AGENCIES**

- A. General Contractor shall employ services of an, Owner-approved, independent testing agency to perform specified testing. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

**4. CONTROL OF INSTALLATION**

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- D. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

**5. TOLERANCES**

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Owner's Project Coordinator before proceeding.

**6. TESTING AND INSPECTION**

- A. Testing Agency Duties:
  - 1. Provide qualified personnel at site. Cooperate with Owner's Project Coordinator and Contractor in performance of services.
  - 2. Perform specified sampling and testing of products in accordance with specified standards.
  - 3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
  - 4. Promptly notify Owner's Project Coordinator and Contractor of observed irregularities or non-conformance of Work or products.
  - 5. Perform additional tests and inspections required by Owner's Project Coordinator.
  - 6. Submit reports of all tests/inspections specified.
- B. Limits on Testing/Inspection Agency Authority:
  - 1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
  - 2. Agency may not approve or accept any portion of the Work, may not assume any duties of Contractor and has no authority to stop the Work.
- C. Contractor Responsibilities:
  - 1. Deliver to agency at designated location, adequate samples of materials proposed to be used which require testing, along with proposed mix designs.
  - 2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
  - 3. Provide incidental labor and facilities:
    - a. To obtain and handle samples at the site or at source of Products to be tested/inspected.
    - b. To facilitate tests/inspections.
    - c. To provide storage and curing of test samples.
  - 4. Notify Owner's Project Coordinator and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
  - 5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
  - D. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Owner's Project Coordinator.

**7. DEFECT ASSESSMENT**

- A. Replace Work or portions of the Work not conforming to specified requirements.
- B. If, in the opinion of Owner's Project Coordinator, it is not practical to remove and replace the Work, Owner's Project Coordinator will direct an appropriate remedy or adjust payment.

**SECTION 01500 - TEMPORARY FACILITIES AND CONTROLS**

**1. TEMPORARY UTILITIES**

- A. Provide and pay for all electrical power, lighting, water, heating and cooling, and ventilation required for construction purposes.

**2. TELEPHONE SERVICE**

- A. Provide, maintain, and pay for telephone and facsimile services to field office at time of project mobilization.

**3. TEMPORARY SANITARY FACILITIES**

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization. Maintain daily in clean and sanitary condition.

**4. BARRIERS**

- A. Provide barriers to prevent unauthorized entry to construction areas, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.
- C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

**5. FENCING**

- A. Construction: Contractor's option.
- B. Provide 6 foot high fence around construction site; equip with vehicular and pedestrian gates with locks.

**6. SECURITY**

- A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

**7. VEHICULAR ACCESS AND PARKING**

- A. Coordinate access and haul routes with governing authorities and Owner.
- B. Provide and maintain access to fire hydrants, free of obstructions.
- C. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

**8. WASTE REMOVAL**

- A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition. Provide containers with lids and remove trash from site.
- B. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.
- C. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

**9. PROJECT IDENTIFICATION**

- A. Provide and erect project identification sign of design and construction indicated on Drawings as indicated.
- B. No other signs are allowed without Owner permission except those required by law.

**10. FIELD OFFICES**

- A. Office: Weather tight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rack and drawing display table.
- B. Provide space for Project meetings, with table and chairs to accommodate 6 persons.

**11. REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS**

- A. Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion inspection.
- B. Remove underground installations to a minimum depth of 2 feet. Grade site as shown.
- C. Clean and repair damage caused by installation or use of temporary work.
- D. Restore existing facilities used during construction to original condition.

**SECTION 01580 - PROJECT IDENTIFICATION SIGNS**

**1. PROJECT SIGN FRAME**

- A. Within seven days of date of notice to proceed, furnish and erect one (1) project identification signs, in a location directed by the Owner: Sign shall consist of 4x4 inch posts supporting a 4'-0" high by 8'-0" wide sheet of 3/4 inch thick exterior A/C plywood. Locate post 1'-0" from ends of plywood; 6'-0" centers. Bottom of plywood shall be at 4'-0" above grade.
- B. Framework shall receive a fabric sign to be furnished by Owner and installed by General Contractor. Installation of sign will be by wrap and staple method; long staples, closely spaced on back side.

**2. CONTRACTOR SIGNS AND ADVERTISING**

- A. Contractor and principal subcontractors may have company signs on field office, at Contractor's expense, if so desired. No other free-standing signs or advertising of any kind other than "warning" signs and notices required by law will be permitted on the site or about the premises.
- B. If a permit is required, the Contractor is responsible for obtaining the permit.

**SECTION 01600 - PRODUCT REQUIREMENTS**

**1. SUBMITTALS**

- A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
  - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

**2. NEW PRODUCTS**

- A. Provide new products unless specifically required or permitted by the Contract Documents.

**3. PRODUCT OPTIONS**

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

**4. SUBSTITUTION PROCEDURES**

- A. Instructions to Bidders specify time restrictions for submitting requests for substitutions during the bidding period. Comply with requirements specified in this section.
- B. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.
- C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
- D. A request for substitution constitutes a representation that the submitter:
  - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
  - 2. Will provide the same warranty for the substitution as for the specified product.
  - 3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.
  - 4. Waives claims for additional costs or time extension which may subsequently become apparent.
  - E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

**5. OWNER-SUPPLIED PRODUCTS**

- A. Contractor's Responsibilities:
  - 1. Review Owner reviewed shop drawings, product data, and samples.
  - 2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
  - 3. Handle, store, install and finish products.
  - 4. Repair or replace items damaged after receipt.

**6. TRANSPORTATION AND HANDLING**

- A. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- B. Transport and handle products in accordance with manufacturer's instructions.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

**7. STORAGE AND PROTECTION**

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
- B. Store and protect products in accordance with manufacturers' instructions with labels intact and legible.
- C. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- D. For exterior storage of fabricated products, place on sloped supports above ground.
- E. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- F. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.



**DRAWING COORDINATION**  
Architectural, Landscape, Civil, Structural, Mechanical and Electrical drawings are interrelated. General Contractor and all Sub-Contractors shall review and coordinate the entire set of drawings and specifications

**Golden Chick Restaurant Remodel at  
2311 Fredericksburg Rd  
San Antonio, Texas**

DATE	DESCRIPTION	BY

**SPECIFICATIONS**

PROJECT NO.  
**05-05-22**

SHEET NO.

**SP.2**







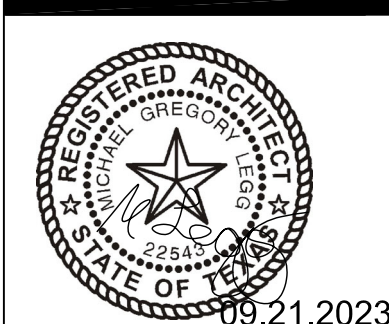
DIVISION 2 - SITEWORK (CONTINUED)	
<b>SECTION 02505 - CONCRETE PAVING, WALKS, CURBS, GUTTERS AND APPROACHES</b>	
1. SECTION INCLUDES	
A. Concrete pedestrian traffic surfaces (walks, ramps, etc.)	
B. Concrete vehicular traffic surfaces	
C. Concrete curbs and gutters	
D. Concrete traffic approaches	
2. REFERENCE PUBLICATIONS AND STANDARDS	
A. Governing Authority: Applicable standards and regulations of state and municipal agencies having governing authority over the work specified in this section shall take priority over items specified herein and shown on the drawings unless the requirements set forth herein require a superior quality work.	
B. Material Standards: American Society for Testing Materials (ASTM)	
C. Concrete Standards: American Concrete Institute (ACI): ACI_617 "Standard Specifications for Concrete Pavement and Bases" ACI_395 "Manual of Standard Practice for Detailing Reinforced Concrete"	
3. SUBMITTALS	
A. Testing Laboratory Reports: Furnish three copies of the test reports to the Owner indicating results of the cylinder test.	
4. BASIC MATERIALS	
A. Concrete and Reinforcing Steel: As Specified in CAST_IN_PLACE CONCRETE	
5. MISCELLANEOUS MATERIALS	
A. Air Entraining Agent: ASTM C0260, Master Builders or equal.	
B. Dispersing Admixture: ASTM C_494, Master Builders or equal.	
C. Curing Compound: ASTM C_309, No. 40W by A. C. Horn Company or equal.	
D. Joint Filler: ASTM D1751, pre-molded fiber filler, unless shown otherwise on the drawings.	
E. Joint Sealer: ASTM D_1190, Code 2351.	
6. CONCRETE MIX DESIGN	
A. Contractor shall employ and pay for, as a part of the contract price, the services of an Owner approved independent testing laboratory to determine actual design mix to be used, based on the following: All concrete: 3000 psi at 28 days, unless noted otherwise.	
7. INSPECTION OF SUBGRADE	
A. Inspect subgrades prepared as specified elsewhere in these Specifications and report any deficiencies to the Owner before beginning work. Commencement of work shall indicate acceptance of subgrades by this Contractor.	
8. CONSTRUCTION	
A. General: Deliver and place concrete as specified in CAST_IN_PLACE CONCRETE.	
B. Curbs and Gutters:	
1. Configurations: Construct to cross_sectional details shown on drawings and at indicated locations. Curbs may be fully formed or pulled and troweled to configurations shown on the drawings.	
2. Reinforcement: Reinforce as indicated on the drawings with continuous reinforcing bars lapped 30 bar diameters and securely tied at all splices. Metal chairs shall be used to hold the reinforcing steel in the proper plane.	
3. Expansion Joints: Construct 1/2" wide expansion joints with joint filler across lengths of curb at all tangent points and at not more than twenty foot intervals. Construct one inch wide expansion joints with joint filler between curbs and concrete paving. All fixed objects, such as buildings, poles, pipes, catch basins, etc., within or abutting the concrete shall be separated from the concrete by expansion joints.	
4. Finishing: Finish surfaces with dense uniform texture equal to burlap drag and cross_score with 1/4" deep cross joints at ten foot intervals with edges smoothed 1/8".	
5. Joints: Fill expansion joints with joint filler except for space 3/4" deep at surface. After concrete has set, clean the open joint above filler and fill with joint sealer in accordance with instructions of sealer manufacturer.	
C. Traffic Approaches and Vehicular Traffic Surfaces:	
1. Configuration: Construct to cross-sectional details shown on drawings and at indicated locations.	
2. Reinforcement: Reinforce with #3 minimum size reinforcing bars 18 inches on center both ways, unless otherwise indicated or noted on the drawings.	
3. Expansion and Construction Joints: At intentional points of stoppage of concrete placing, use expansion joints. At unintentional points of stoppage of concrete placing, use continuation of reinforcing through joints. Construct 1/2 inch wide expansion joints with joint filler at locations shown on the drawings or at not more than twenty foot intervals each way if not shown. Construct 1/2 inch wide expansion joints with joint filler between curbs and concrete paving. All fixed objects, such as buildings, poles, pipes, catch basins, etc., within or abutting the concrete shall be separated from the concrete by expansion joints.	
4. Joint Filling and Sealing: Fill expansion joints with joint filler except for space 3/4" deep at surface. After concrete has set, clean the open joint above filler and fill with joint sealer in accordance with instructions of sealer manufacturer.	
5. Finishing: Vibrate, screed and float concrete to level and test the surface, which shall not vary over 1/4" in ten feet when tested with ten foot straight edge. Finish surface to gritty texture with burlap drag or straight continuous strokes with a stiff bristle push broom. Finish all edges smooth with 1/8" or 1/4" radius.	
D. Walks:	
1. Configurations: Construct to cross-sectional details shown on drawings and at indicated locations.	
2. Sand Cushion: Concrete shall be placed over a sand cushion placed on the stabilized subgrade as shown on the drawings or a minimum of 4" thick if not shown on the drawings.	
3. Reinforcing: Reinforce with 6 x 6 x W1.4, WWF, minimum reinforcing unless otherwise indicated or noted on the drawings.	
4. Expansion Joints: Construct expansion joints as detailed in locations shown on the drawings.	
5. Finishing: Finish surfaces not noted on the drawings to be finished otherwise to a "broom" or "burlap drag" gritty surface. Tool all joints and all edges to provide a smooth border to each section or division of the walk. Finish all vertical surfaces in a manner that leaves the exposed surfaces free of "honeycombing" and form marks. Any damaged surfaces shall be repaired and stone-rubbed to match adjacent finished surfaces.	
9. CURING CONCRETE	
A. Apply a white-pigmented type curing compound at a uniform rate of approximately 200 sq. ft./ gallon, or as recommended by curing compound manufacturer as soon as the finishing operation has been completed and the concrete has lost its water sheen. The curing procedure must protect the concrete, including all exposed surfaces against loss of moisture and rapid temperature change for a period of not less than four days from the beginning of the curing operation and without damage to, or marking of the finished concrete surface. Traffic shall not be allowed on finished concrete for a minimum period of seven days.	
10. TESTING	
A. Independent Testing Laboratory: Contractor shall employ and pay for, as a part of the contract price, the services of an Owner-approved independent testing laboratory to perform concrete cylinder testing. Test cylinders shall be taken and cured by the Contractor and tested by the testing laboratory for each different class of concrete poured in any one day. Cylinders shall be taken in accordance with ASTM C31, and cured and tested in accordance with ASTM C39. One set of three cylinders is required for each 50 cubic yards of concrete or less, placed in any one day. One cylinder shall be tested at 7 days, one cylinder shall be tested at 28 days and one cylinder shall be held as a spare from each set of three cylinders as specified above.	
B. Contractor Tests:	
1. Slump Tests: Slump tests shall be taken by the Contractor when cylinders are taken, and shall show maximum slump 5" and minimum slump 3".	
2. Air Entrainment: Air content by volume: 5% to 7% based on measurements made in concrete mixtures at point of discharge at job site at time slump tests are made. Air content by volume shall be determined in accord with ASTM C231.	
11. CLEANING CONCRETE	
A. Concrete approaches, sidewalks and related work shall be hosed down with water, scrubbed with fiber brushes, allowed to dry and be left broom clean and in condition acceptable to the Owner.	

SECTION 02511 - ASPHALTIC CONCRETE PAVING	
1. SECTION INCLUDES	
A. Paving base	
B. Base Course and surface course	
2. REFERENCE STANDARDS	
A. American Association of State Highway Officials (AASHTO)	
B. American Society for Testing Materials (ASTM)	
C. Governing Authority: Applicable publications of governing bodies having jurisdiction over the work	
3. SUBMITTALS	
A. Submit design mix test reports to Owner per SUBMITTAL requirements.	
4. MATERIALS	
A. Sub-Base: If required; as shown on the site plan (SP) drawings and specified in other sections of these specifications	
B. Base Course (Binder): Unless otherwise shown on the drawings; uniform mix of coarse aggregate and asphalt as determined by "design mix"	
C. Surface Course: Unless otherwise shown on the drawings; uniform mix of coarse aggregate and fine aggregate (pea gravel will not be acceptable), mineral filler and asphalt as determined by "design mix"	
D. Design Mixes: Contractor employ and pay for the services of an Owner-approved independent testing laboratory to determine design mixes for base and surface courses; including asphalt bitumen content; ASTM D2172, latest edition, entitled, "Quantitative Extraction of Bitumen from Bituminous Paving Mixtures"	
5. GRADE CONTROL	
A. Establish and maintain lines and grades shown on drawings by means of line and grade stakes.	
6. TRANSPORTATION	
A. Transport paving mixes from approved mixing plant to site in tight vehicles with metal bottoms previously cleaned of foreign materials. Vehicles shall be suitably insulated to avoid heat losses. Cover each load to prevent cooling and loss of ingredients.	
7. PLACING	
A. General: Thickness shown on Civil drawings. Unless otherwise shown on the drawings, place asphaltic concrete in two courses; first a coarse graded base course, and second a fine graded surface course. Apply base course to prepared sub-base (when applicable) which has been primed with asphalt MC-1, application temperature 50 to 120 degrees F, at a rate of 0.15 to 0.40 gal/sq. yd. Apply surface course to base course to which has been applied a tack coat of asphalt RC-2, application temperature 100 to 175 degrees F, at rate of 0.05 to 0.25 gal/sq. yd. Place each course under temperature conditions of 40 to 90 degrees F.	
B. Means: Dump and spread mixture on primed base with spreading and finishing machine, so that after compaction, surface will be smooth, of uniform density and meets requirements for typical cross-section shown. Other placing means may be proposed.	
C. Time and Temperature: Place and initially roll during daylight hours. Mixture placing temperature: between 225 and 325 degrees F.	
D. Protection of Curbs and Gutters: Prevent splattering of adjacent curbs, gutter, concrete paving and structures. Hand spreading may be employed where machine is impractical.	
E. Finish Grades: Approximately 6 inches below adjacent concrete sidewalks, and/or curbs, except as specifically shown otherwise on the drawings; true to grades shown and straight within 1/4 inch in 10 feet when checked with a straight edge. No "bird baths" will be allowed.	
8. ROLLING	
A. General: After rolling with medium weight steel-wheeled roller, roll with pneumatic, three wheel, or tandem rollers longitudinally at sides and proceed toward center of pavement, overlapping on successive trips by at least half width of rear wheels. Alternate trips of roller shall be slightly different in length.	
B. Compression and Roller Marks: Roll until no further compression can be obtained and roller marks are eliminated. If required, roll diagonally in each direction with tandem roller with second diagonal rolling crossing line of first rolling.	
C. Prevention of Mixture Adhesion to Roller: Keep wheels moistened with water; excessive use of water will not be permitted. Do not permit rollers to stand on pavement which has not been fully compacted and which has not cooled to atmospheric temperature.	
D. Displacement: Keep movement of roller slow enough to avoid displacement of mixture. Correct any displacement at once by use of rakes and addition of fresh mixture.	
E. Precautions: Prevent dropping of oil, gasoline and grease on pavement.	
F. Hand Operations: Thoroughly compact edges of pavement along curbs, headers, aprons, manholes, valve boxes and similar places not accessible to roller with lightly oiled hand-operated vibrating rollers or mechanical tampers.	
9. SPECIAL TESTING	
A. Extraction and Gradation Test: ASTM D2172 for each type.	
B. Field-In-Place Density Test: ASTM D1188 for each type.	
C. Thickness Test: Determine by test borings. Make one test for each 5,000 sq ft of paving surface. If average thickness is deficient by no more than 1/4 inch, and no individual thickness is deficient by more than 5/8 inch, installation will be held to meet requirements. If average thickness is deficient by more than 1/4 inch, or if any individual thickness determination is deficient by more than 5/8 inch, pavement thickness will be held to not meet requirements. Deficient areas shall be defined, removed and replaced, or adjusted to design thickness by methods acceptable to the Owner.	
<b>SECTION 02580 - PAVEMENT MARKING</b>	
1. GENERAL	
a. Marking paint shall conform to AASHTO M248 (chlorinated rubber-alkyd), Type III. Apply as 4" wide stripes (or symbols as indicated) in one coat of 125 sq. ft. per gallon. Color shall be white. Handicapped details shall comply with the latest provisions of the Americans with Disabilities Act and local accessibility standards.	
b. Dust, clay, silt, and excess sand shall be removed by sweeping from pavement to be marked prior to application of paint.	
<b>SECTION 02854- PARKING BUMPERS (WHEEL STOPS)</b>	
1. SECTION INCLUDES	
A. Parking bumper (wheel stop)	
2. WHEEL STOPS	
A. Precast concrete, semi_circular or beveled square in cross_section, 8'_0" long X 6" high X 8" wide, with holes for three dowels cast through each unit, and two 6 inch x 3/4 inch drainage slots.	
3. DOWELS	
A. Not less than 2 - 3/4" round X 12" long (minimum) steel dowels as recommended by wheel stop manufacturer.	
4. GENERAL	
A. Install wheel stops in locations and in accord with details shown on the drawings.	
5. INSTALLATION	
A. Countersink steel dowels to a point 1/2" to 3/4" below the top surface of the wheel stop and set in such a manner as to avoid chipping or cracking the concrete during installation, and seal reveal with silicone caulking fluid.	
6. CLEAN_UP	
A. Upon completion of work of this section, remove related debris from premises.	

SECTION 02930- SITE FURNISHINGS	
1. SECTION INCLUDES	
A. Bollards	
B. Bicycle Racks	
2. RELATED REQUIREMENTS	
A. Section 03300 – Cast-in-Place Concrete: Bollard infill and underground encasement.	
B. Section 05500 – Metal Fabrications: Anchors to attach site furnishings to mounting surfaces.	
3. SUBMITTALS	
A. See Section 01300 – Administrative Requirements, for submittal procedures.	
B. Shop Drawings: Indicate plans for each unit or groups of units, elevations with model number, overall dimensions; construction, and anchorage details.	
4. WARRANTY	
A. See Section 01780 – Closeout Submittals, for additional warranty requirements.	
5. MANUFACTURERS	
A. Steel Pipe Bollards:	
1. FairWeather Site Furnishings: <a href="http://www.fairweatherstf.com">www.fairweatherstf.com</a> .	
2. Hunto Supply, LLC: <a href="http://www.hunto.com">www.hunto.com</a> .	
3. Substitutions: See Section 01600 – Product Requirements.	
B. Outdoor Bicycle Racks: The Wagner Companies – Serpentine Rack Model SR9G; <a href="http://www.wagnercompanies.com">www.wagnercompanies.com</a>	
6. METAL FURNISHINGS	
A. Metal Furnishings, General:	
1. Steel components: Plates, bars, and shapes complying with ASTM A36/A36M and tubing complying with ASTM A500/A500M; cleaned, treated, and powder coated.	
a. Color: As shown on drawings.	
7. BOLLARDS	
A. Steel Pipe Bollards: Concrete filled steel pipe.	
1. Shape: Round.	
2. Model: B-40220-Schedule 40.	
3. Diameter: 5 inches.	
4. Height above grade: 42 inches.	
5. Materials:	
a. Steel Pipe: ASTM A53/A53M, standard weight.	
b. Factory Finish: Primed.	
c. Color: As selected by Architect from manufacturer's standard range.	
6. Mounting: Permanent Embed.	
8. BICYCLE RACKS	
A. Exterior Bicycle Racks: Device allows user provided lock to simultaneously secure one wheel and part of the frame on each bicycle parked or racked.	
1. Style: Serpentine rack formed from a continuous round pipe.	
2. Capacity: (As shown on drawings) bicycles.	
3. Mounting, Ground: Surface flange.	
4. Finish: Hot-dipped galvanized, maintenance-free, and weather-resistant.	
5. Color: As selected by Architect from manufacturer's standard range.	
6. Accessories: Surface flange cover.	
9. EXAMINATION	
A. Verify that mounting surfaces, preinstalled anchor bolts, or other mounting devices are properly installed and ready to receive site furnishings items.	
B. See Section 05500 – Metal Fabrications for anchors to attach site furnishings to mounting surfaces.	
C. Do not begin installation until unacceptable conditions are corrected.	
10. INSTALLATION	
A. Install site furnishings in accordance with approved shop drawings, and manufacturer's instructions.	
B. See Section 03300 – Cast-In-Place Concrete for bollard infill and underground encasement.	
C. Provide level mounting surfaces for site furnishing items.	
D. Install bicycle racks level, plumb, square, and correctly located as indicated on the drawings.	
E. Surface Flange Installation: Anchor bicycle racks securely in place with 1/2 inch by 4-inch anchor bolts through flange holes.	

DIVISION 3 - CONCRETE	
<b>SECTION 03300 - CAST-IN-PLACE CONCRETE</b>	
1. SCOPE	
A. The Contractor shall furnish labor, materials, and equipment necessary to install all items of cast-in-place concrete, and all necessary items as shown on the drawings, including anchor bolts for columns, items specified herein, and items required for a complete installation.	
2. REFERENCES:	
A. The ACI "Manual of Concrete Practice" and the CRSI "Manual of Standard Practice" shall apply unless modified herein.	
3. MATERIALS	
A. Cement: The cement used shall be Portland Cement, conforming to ASTM C 150, Type 1. One brand shall be used for the complete project.	
B. High early strength concrete may be used at General Contractor's discretion.	
C. Aggregates:	
1. Coarse aggregate shall conform to ASTM C-33 specifications with maximum size No. 57. The material shall consist of crushed stone, gravel, or other hard, strong, durable, uncoated pieces.	
2. Fine aggregate shall conform to ASTM C-33 and may be natural sand or manufactured sand.	
D. Admixtures:	
1. Air entrainment agents conforming to ASTM C-260 shall be used in concrete exposed to weather and may be used in all concrete on this project. Air entraining admixtures shall be used to produce 3% to 6% air by volume in the concrete.	
2. High-range water reducing admixture (Super Plasticizer) meeting requirements of ASTM C 494 may be used at the discretion of the Contractor.	
E. Concrete Sealers:	
1. Materials:	
a. Base Sealer: Micro Guard Concrete Clear Waterproofing Sealer, # AD702.	
F. Water: Water used for mixing of concrete shall be potable.	
G. Reinforcing Bars: All reinforcing bars shall conform to ASTM A615 – Grade 60. All bars shall be free of loose and/or excessive rust or other materials which will prevent bond.	
H. Expansion Joint Material: Expansion joint material shall conform to ASTM D1751.	
I. Mill Tests: Reports may be required on any and all material at the Engineer's discretion and direction. Costs of these reports shall be borne by the Contractor.	
J. No fly ash or calcium chloride shall be used on this project.	
4. CONCRETE QUALITY	
A. Strength: All cast-in-place concrete shall have a maximum weight of 150 pounds per cubic foot and minimum strength at 28 days (ultimate strength of 3000 psi).	
B. Proportioning of the Concrete Mixture:	
1. The proportion of the aggregate to cement for any concrete shall be such as to produce a mixture which will work readily into the corners and angles of the forms and around reinforcement with the method of placing employed on the work, but without permitting the materials to segregate or excess free water to collect on the surface.	
2. The materials used for the concrete shall be measured by weight. Maximum slump shall be 4".	
3. Measure, batch, mix and deliver concrete with pigments, where noted, in accordance with manufacturer's written instructions.	
C. Tests:	
1. The Contractor shall assist testing laboratory to receive, mark, cure, and test cylinders in accordance with ASTM C-39. The test report by the laboratory shall identify the location of the concrete sampled, date, slump, air content and other necessary information. The laboratory shall send electronic copies of the reports to the Owner and Contractor.	
2. Routine tests of concrete shall consist of:	
a. Slump tests for each load of ready-mixed concrete.	
b. Compressive strength test for each day's pour and/or each 50 cubic yards of concrete poured. This test shall conform to ASTM C-31 and consist of 4 cylinders.	
5. INSPECTIONS	
A. Owner's Approval: The Contractor shall notify the Owner 48 hours prior to schedule placement of concrete. The forms, steel and other conditions must be approved prior to placement of concrete.	
6. MIXING AND PLACING CONCRETE	
A. All concrete for this project shall be from an approved central mixing plant. Mixing and delivery shall conform to ASTM C-94.	
B. Concrete shall be conveyed from the mixer to the place of final deposit by methods which will prevent the separation or loss of materials.	
C. Concrete shall be deposited as nearly as practicable in its final position to avoid segregation due to re-handling or flowing. When concreting is once started, it shall be carried on as a continuous operation until the placing of the panel or section is completed.	
D. Concrete shall be maintained in a moist condition for seven (7) days after placing by one of the following methods:	
a. Wet coverings	
b. Spraying	
c. Curing compound	
1. Curing method shall be compatible with floor coatings or coverings.	
2. Ashford formula may be used in lieu of curing compound (Part 3). This material shall be applied according to manufacturer's recommendations.	
F. Adequate precautions shall be taken for cold weather or hot weather concreting. (ACI 306 or ACI 305).	
3. FORM WORK AND CONSTRUCTION DETAILS	
A. Forms	
1. Forms shall conform to shapes, lines and dimensions of the members as called for on the plans and shall be sufficiently tight to prevent the leakage of mortar. They shall be properly braced or tied together so as to maintain position and shape.	
2. Form material shall be of:	
a. Plywood: APA Plyform conforming to PS 174	
b. Metal Forms	
3. Before placing the concrete and reinforcing steel, the contact surfaces of all forms shall be thoroughly wetted with water or coated with approved form oil. The form oil shall be applied with a brush or spray so as to cover the form evenly without excess drip. Form coating material used to coat formwork to facilitate the removal thereof shall not cause softening or permanent staining of the concrete surface.	
B. Removal of Forms: Forms not required for structural support may be removed as soon as concrete has hardened sufficiently to resist damage during removal of forms.	

8. FINISHES	
A. Steel trowel finish shall be applied to all floor slabs in the building, unless otherwise noted.	
B. Light broom finish perpendicular to traffic shall be applied to all exterior walkways. A 3/4" transverse contraction joint shall be formed with a tool designed for that purpose at equal intervals not exceeding the width of the walkway. All edges adjoining the final ground line shall be rounded with a 1/4" edge. Expansion joints shall not exceed 20'.	
C. Concrete Sealer:	
1. Concrete Clear Sealer:	
a. Concrete to be sealed must have aged a minimum of 28 days prior to sealer installation.	
b. Immediately prior to applying concrete sealer, the concrete must be thoroughly cleaned. The surface should be swept then scrubbed using rotary floor machine. The surface must be rinsed after cleaning until the rinse water is completely clean. After drying, it should be inspected closely, and additional or spot cleaning should be performed if necessary.	
c. Surfaces must be properly prepared as prescribed in manufacturer's instructions. Surrounding areas and adjacent surfaces must be masked or protected from overspray, spills, tracking, and equipment contact. The work area should be roped off and closed to traffic.	
d. Immediately prior to use, the liquid material must be thoroughly power mixed as described in manufacturer's instructions. Application must be made full strength (un-thinned) at the coverage rate recommended and with equipment recommended by manufacturer's instructions.	
e. Sealer must be applied thinly and uniformly. A wet edge should be maintained and overlap controlled. Material should not be over-applied or allowed to puddle or collect in joint indentations.	
f. Sealer must be allowed to dry completely, normally a minimum of 12 to 48 hours, before it is subjected to temperatures below 42 degrees Fahrenheit or to water from any source.	
D. Variation in concrete slabs shall not exceed 1/8" in ten feet from true grade.	
E. All exposed concrete, except walkways and floor slabs, shall have a rubbed finish, satisfactory to the Owner's Project Coordinator. "White Washing" by use of separately mixed grout will not be permitted.	
9. SHOP DRAWINGS	
A. The Contractor shall prepare and submit for review shop drawings according to the requirements of the General Conditions.	
10. REINFORCEMENT	
A. Reinforcement shall be accurately placed and securely supported on metal or plastic chairs.	



**DRAWING COORDINATION**  
Architectural, Landscape, Civil, Structural, Mechanical and Electrical drawings are interrelated. General Contractor and all Sub-Contractors shall review and coordinate the entire set of drawings and specifications

A. The Contractor shall prepare and submit for review shop drawings according to the requirements of the General Conditions.

A. Reinforcement shall be accurately placed and securely supported on metal or plastic chairs.

**Golden Chick Restaurant Remodel at  
2311 Fredericksburg Rd  
San Antonio, Texas**

DATE	DESCRIPTION	BY

**SPECIFICATIONS**

PROJECT NO.  
**05-05-22**

SHEET NO.  
**SP.4**











## DIVISION 6 - WOODS AND PLASTICS (CONTINUED)

### SECTION 06410 - CUSTOM CABINETS

#### 1. SECTION INCLUDES

- A. Specially fabricated cabinet units and hardware.

#### 2. REFERENCES

- A. ANSI A135.4 – American National Standard for Basic Hardboard; 2004.
- B. ANSI A208.1 – American National Standard for Particleboard; 1999.
- C. AWI/AWMAC (Q5) – Architectural Woodwork Quality Standards Illustrated; Architectural Woodwork Institute and Architectural Woodwork Manufacturers Association of Canada; 2006, 8th Ed., Version 2.0.
- D. GSA CID A–1936 – Adhesive, Contact, Neoprene Rubber; Federal Specifications and Standards; Revision A, 1996.
- E. NEMA LD 3 – High-Pressure Decorative Laminates; National Electrical Manufacturers Association; 2005.
- F. PS 1 – Construction and Industrial Plywood; National Institute of Standards and Technology (Department of Commerce); 1995.

#### 3. QUALITY ASSURANCE

- A. Perform work in accordance with AWI/AWMAC Architectural Woodwork Quality Standards Illustrated, Custom quality, unless other quality is indicated for specific items.

#### 4. LUMBER MATERIALS

- A. Hardwood Lumber: NHLA; Graded in accordance with AWI/AWMAC Architectural Woodwork Quality Standards Illustrated, Grade 1/Premium; average moisture content of 5–10 percent; species as follows:
  3. Exposed Surfaces: As specified on the drawings.
  4. Semi-Exposed Surfaces: As specified on the drawings.
  5. Concealed Surfaces: Species poplar.

#### 5. PANEL MATERIALS

- A. Exposed Surfaces: NIST PS 1; APA A–A Grade, plain-sliced face veneer as indicated on drawings.
- B. Hardboard: AHA A135.4; Pressed wood fiber with resin binder, Class 1 – Tempered, 1/4 inch thick, smooth two sides (S2S); use for drawer bottoms, dust panels, and other components indicated on drawings.

#### 6. ACCESSORIES

- A. Adhesive: Type recommended by fabricator to suit application.
- B. Fasteners: Size and type to suit application.
- C. Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application; galvanized or chrome-plated finish in concealed locations and stainless steel, or chrome-plated finish in exposed locations.
- D. Concealed Joint Fasteners: Threaded steel.
- E. Grommets: Standard plastic, painted metal, or rubber grommets for cut-outs, in color to match adjacent surface.

#### 7. HARDWARE

- A. Adjustable Shelf Supports: Standard back-mounted system using surface mounted metal shelf standards and coordinated cantilevered shelf brackets, satin chrome finish, for nominal 1 inch spacing adjustments.
- B. Drawer and Door Pulls: Top Knobs M1165 Nouveau III Square Black Knobs
- C. Cabinet Locks: First Watch 1385–VB, Keyed cylinder, master keyed, steel with oil rubbed bronze finish.
- D. Catches: L–EP592–P, 15 lb Double Magnetic Catch, Bronze.
- E. Drawer Slides:
  1. Type: Standard extension.
  2. Static Load Capacity: Commercial grade.
  3. Mounting: Side mounted.
  4. Stops: Integral type.
- F. Hinges: Wurth FE12–STB 1 1/2" Piano Hinge, Statuary Bronze.

#### 8. FABRICATION

- A. Cabinet Style: Flush overlay.
- B. Drawer Construction Technique: Dovetail joints.
- C. Assembly: Shop assemble cabinets for delivery to site in units easily handled and to permit passage through building openings.
- D. Edging: Fit shelves, doors, and exposed edges with specified edging. Do not use more than one piece for any single length.
- E. Fitting: When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide matching trim for scribing and site cutting.
- F. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel arises. Locate counter butt joints minimum 2 feet from sink cut-outs.
  1. Apply laminate backing sheet to reverse side of plastic laminate finished surfaces.
  2. Cap exposed plastic laminate finish edges with material of same finish and pattern.
- G. Matching Wood Grain: Comply with requirements of quality standard for specified Grade and as follows:
  1. Provide center matched panels at each elevation.
  2. Provide sequence matching across each elevation.
  3. Carry figure of cabinet fronts to toe kicks.
- H. Provide cutouts for plumbing fixtures. Verify locations of cutouts from on-site dimensions. Prime paint cut edges.

#### 9. INSTALLATION

- A. Set and secure custom cabinets in place, assuring that they are rigid, plumb, and level.
- B. Use fixture attachments in concealed locations for wall mounted components.
- C. Use concealed joint fasteners to align and secure adjoining cabinet units and countertops.
- D. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim for this purpose.
- E. Secure cabinets to floor using appropriate angles and anchorages.
- F. Countersink anchorage devices at exposed locations. Conceal with solid wood plugs of species to match surrounding wood; finish flush with surrounding surfaces.

#### 10. ADJUSTING

- A. Adjust installed work.
- B. Adjust moving or operating parts to function smoothly and correctly.

### SECTION 06620 - SOLID NON-POROUS SHEET AND SHAPE PRODUCT

#### 1. REFERENCE STANDARDS

- A. American Society of Testing Materials (ASTM): ASTM E84
- B. Underwriter's Laboratories (UL)

#### 2. SUBMITTALS

- A. Submit Shop Drawings to Architect, based on details shown on the Drawings. Show design load parameters, dimensions, adjacent construction, materials, thicknesses, fabrication details, required clearances, tolerances, colors, finishes, methods of support, integration of components, and anchorages. Detail to serve as installation drawings. Architect's acceptance is required prior to start of fabrication and/or shipment.

#### 3. WARRANTY

- A. Provide manufacturer's standard ten-year warranty against manufacturing defects.

#### 4. PRODUCTS

- A. Sheet Products (countertops): Manufacturer noted on finish schedule in drawings; 3/8 inch thick sheets, continuous length with bull-nose edge with integral back and side splash, and 3/4 inch exterior grade APA Fir plywood backing.
- B. Patterns and Colors: As noted on finish schedule in drawings.

#### 5. INSTALLATION

- A. Contractor is responsible for dimensions, detailing, fabrication, fitting, and alignment of work of this section.
- B. Protect components during shipping and delivery by appropriate boxing, crating, etc. Protect components from storage damage by retaining shipping protection in place until installation.
- C. Verify that substrate is ready to receive work and dimensions are as indicated on the Drawings prior to fabrication. Beginning of fabrication means dimensions have been verified and acceptance of substrates.
- D. Install fabrications in accord with accepted shop drawings and fabricator's instructions.

### DIVISION 7 - THERMAL AND MOISTURE PROTECTION

#### SECTION 07212 - BOARD AND BATT INSULATION

##### 1. SECTION INCLUDES

- A. Board insulation at cavity wall construction and perimeter foundation wall.
- B. Batt insulation in exterior wall and ceiling construction.
- C. Batt insulation for filling perimeter window and door shim spaces and crevices in exterior wall and roof.

##### 2. REFERENCES

- A. ASTM C 578 – Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation; 2005a.
- B. ASTM C 665 – Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2001.
- C. ASTM C 1289 – Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board; 2006.
- D. ASTM D 2842 – Standard Test Method for Water Absorption of Rigid Cellular Plastics; 2001.
- E. ASTM E 84 – Standard Test Method for Surface Burning Characteristics of Building Materials; 2005.
- F. ASTM E 136 – Standard Test Method for Behavior of Materials in a Vertical Tube Furnace At 750 Degrees C; 2004.

##### 3. BOARD INSULATION MATERIALS

- A. Foundation Insulation: Expanded Polystyrene Board Insulation: ASTM C 578; with the following characteristics:
  1. Flame Spread Index: 75 or less, when tested in accordance with ASTM E 84.
  2. Smoke Developed Index: 450 or less, when tested in accordance with ASTM E 84.
  3. Board Size: 48 x 96 inch.
  4. Board Thickness: 1 inch.
  5. Water Absorption: 4 percent by volume, maximum, when tested in accordance with ASTM D 2842.
  6. Board Density: 0.7 lb/cu ft.
  7. Compressive Resistance: 5 psi.
  8. Thermal Conductivity (k factor) at 25 degrees F: 0.28.
9. Approved manufacturers:
  - a. AFM Corp: [www.r-control.com](http://www.r-control.com).
  - b. Diversifoam Products: [www.diversifoam.com](http://www.diversifoam.com).
  - c. Grace Construction Products: [www.na.graceconstruction.com](http://www.na.graceconstruction.com).

##### 4. BATT INSULATION MATERIALS

- A. Batt Insulation: ASTM C 665; preformed batt; friction fit, conforming to the following:
  1. Combustibility: Non-combustible, when tested in accordance with ASTM E 136, except for facing, if any.
  2. Thermal Resistance:
    - a. Walls: R-21 High Density Fiberglass
    - b. Roof: R-30
    3. Facing: aluminum foil or kraft-paper faced one side.
  4. Approved manufacturers:
    - a. CertainTeed Corporation: [www.certainteed.com](http://www.certainteed.com).
    - b. Johns Manville Corporation: [www.jm.com](http://www.jm.com).
    - c. Owens Corning Corp: [www.owenscorning.com](http://www.owenscorning.com).

##### 5. ACCESSORIES

- A. Tape: Bright aluminum self-adhering type, mesh reinforced, 2 inch wide.
- B. Insulation Fasteners: Impaling clip of unfinished steel with washer retainer and clips, to be adhered to surface to receive insulation, length to suit insulation thickness and substrate, capable of securely and rigidly fastening insulation in place.
- C. Adhesive: Type recommended by insulation manufacturer for application.

##### 6. BOARD INSTALLATION AT FOUNDATION PERIMETER

- A. Install boards vertically on foundation perimeter.
  - B. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.
7. BATT INSTALLATION
    - A. Install insulation in accordance with manufacturer's instructions.
    - B. Install in exterior wall and roof spaces without gaps or voids. Do not compress insulation.
    - C. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.
    - D. Fit insulation tightly in cavities and tightly to exterior side of mechanical and electrical services within the plane of the insulation.
    - E. Install insulation in walls with faced side facing the building interior.
    - F. Tape insulation batts in place.
    - G. Tape seal butt ends, lapped flanges, and tears or cuts in membrane.

### SECTION 07240 - EXTERIOR INSULATION AND FINISH SYSTEMS

##### 1. SECTION INCLUDES

- A. Manufacturer's requirements for the proper design, use, and installation of a Class PB Water-Drainage Exterior Insulation and Finish System.

##### 2. REFERENCES

- A. ASTM E84: Test Method for Surface Burning Characteristics of Building Materials.
- B. ASTM E119: Standard Test Method for Fire Tests of Building Construction and Materials.
- C. ASTM E531: Test Method for Water Penetration by Uniform Static Air Pressure Difference.
- D. ASTM E2430: Standard Specification For Expanded Polystyrene ("EPS") Thermal Insulation Boards For Use In Exterior Insulation and Finish Systems ("EIFS")
- E. ASTM E2486: Standard Test Method for Impact Resistance of Class PB and PI Exterior Insulation and Finish Systems (EIFS)

##### 3. ASSEMBLY DESCRIPTION

- A. Standard WaterMaster LCR – GX : Exterior Insulation and Finish System (EIFS) with drainage consisting of Grooved Expanded Polystyrene Insulation (EPS) Board, Mechanical Fasteners, Base Coat with embedded Reinforcing Fabric Mesh, [Primer], and Finish Coat. This system is installed over a code compliant water-resistive barrier.
- B. Functional Criteria:
  1. General:
    - a. Insulation Board: At system termination, completely encapsulate insulation board edges by mesh reinforced base coat, substrate or drainage track (limited to terminations at foundation). The use of and maximum thickness of insulation board shall be in accordance with applicable building codes and EIFS manufacturer's requirements.
    - b. Flashing: Flashing shall be continuous and watertight. Flashing shall be designed and installed to prevent water infiltration behind the cladding. Refer to Division 07 Flashing Section for specified flashing materials.
    - c. The configuration of the water-resistive barrier, drainage plane and flashing and EIFS materials, must allow for the egress of incidental moisture.
  2. Impact Resistance Classification:
    - a. Standard Impact Resistance, 25–49 in-lbs (2.8 – 5.6 J) Impact Range
    - b. Medium Impact Resistance, 50–89 in-lbs (5.7–10.1 J) Impact Range
    - c. High Impact Resistance, 90–150 in-lbs (10.2–17.0 J) Impact Range
    - d. Ultra High Impact Resistance, >150 in-lbs (> 17.0 J) Impact Range
  3. Expansion Joints: Continuous expansion joints shall be installed at the following locations in accordance with manufacturer's recommendations:
    - a. At substrate expansion joints.
    - b. Where EIFS abuts other materials.
    - c. Where significant structural movement occurs, such as at
      - (1) Changes in roof line.
      - (2) Changes in building shape and/or structural system.
    - d. Where substrate changes occur

4. Manufacturer's requirements shall be followed for standard detail treatments.
  - a. EIFS most current published information shall be followed for standard detail treatments.
  - b. Non-standard detail treatments shall be as recommended by manufacturer, approved by Project Designer and be part of the Contract Documents.
5. Building Code Performance: EIFS shall be acceptable for use on this project under the building code having jurisdiction.
6. In Florida locations, install complete system in complete accordance with FL–8605.1, NOA No. 15–0609.13, to include all detailing, composition, impact mesh and fastening system.

##### 4. SUBMITTALS

- A. General: Submit Samples, Evaluation Reports, Warranties and Certificates in accordance with Division 01 General Requirements Submittal Section.
- B. Samples: Submit samples for approval. Samples shall be of materials specified and of suitable size as required to accurately represent each color and texture used on project. Prepare each sample using same tools and techniques for actual project application. Maintain and make available, at job site, approved samples.

##### 5. QUALITY ASSURANCE

- A. All EIFS assembly materials must be manufactured or sold by a single-source manufacturer and must be purchased direct from the manufacturer or its authorized distributor.
2. Manufacturer: Shall have marketed Exterior Insulation and Finish Systems in United States for at least ten (10) years and be an active member in good standing of EIMA.
3. Applicator:
  - a. Must possess a current manufacturer's certificate of education.
  - b. Must be experienced and competent in installation of plaster-like materials.
- B. Regulatory Requirements:
  1. Insulation Board: Shall be produced and labeled under a third party quality program as required by applicable building code.
6. DELIVERY, STORAGE, AND HANDLING
  - A. Delivery: Deliver materials in original packaging with manufacturer's identification.
  - B. Store materials in a cool, dry location, out of sunlight, protected from weather and other harmful environment, and at a temperature above 40F (4C) and below 110F (43C) in accordance with manufacturer's instructions.

##### 7. PROJECT / SITE CONDITIONS

- A. Installation Ambient Air Temperature: Minimum of 40F (4C) and rising, and remain so for 24 hours thereafter.
  - B. Substrate Temperature: Do not apply materials to substrates whose temperature are below 40F (4C) or contain frost or ice.
  - C. Inclement Weather: Do not apply materials during inclement weather unless appropriate protection is employed.
  - D. Sunlight Exposure: Avoid, when possible, installation of the materials in direct sunlight. Application of Acrylic Finishes in direct sunlight in hot weather may adversely affect aesthetics.
  - E. Materials shall not be applied if ambient temperature exceeds 120F (49C) or falls below 40F (4C) within 24 hours of application. Protect materials from uneven and excessive evaporation during hot, dry weather.
  - F. Prior to installation, the substrate shall be inspected for surface contamination, or other defects that may adversely affect the performance of the materials and shall be free of residual moisture.
8. WARRANTY
    - A. Warranty: Upon request, at completion of installation, provide manufacturer's Standard Limited Warranty and Colorfast Technology fade-resistant warranty.

##### 9. MANUFACTURERS

- A. Manufacturer: Parex USA, Inc., 4125 E. La Palma Ave., Suite 250, Anaheim, CA 92807. Technical Support (800.226.2424).
- B. Components: Obtain components from authorized distributors. No substitutions or additions of other materials are permitted without prior written permission from the EIFS manufacturer for this project.

##### 10. MATERIALS

- A. Secondary Water-Resistive Barrier
  1. A code compliant water-resistive barrier and means of drainage.
- B. Grooved Insulation Board: In compliance with manufacturer's requirements for Standard System EIFS.
  1. Produced and labeled under a third party quality program as required by applicable building code; and produced by a manufacturer approved by Parex USA.
  2. Shall conform to ASTM C578 and ASTM E2430, Type I and the Parex USA specification for Molded Expanded Polystyrene Insulation board.
  3. Thickness: 1.5 in, minimum (38 mm) after rasping.
  4. Profile: Minimum 1/4 inch wide by 1/8 inch deep vertical grooves spaced a maximum of 12 inches on the back face of the board.
- C. Base Coats:
  1. Parex 121 Dry Hl: High Impact basecoat & adhesive. Copolymer based, blend of cement and proprietary ingredients, requires the addition of water.
- D. Reinforcing Mesh:
  1. 355 Standard Mesh: Weight 4.5 oz. per sq. yd. (153 g/sq m); coated for protection against alkali. Standard reinforcement of Parex EIFS, or for use with High Impact 358.14 Mesh, or Ultra High Impact 358.20 Mesh.
  2. 356 Short Detail Mesh: Reinforcing mesh used for backwrapping and details.
  3. 352 Self Adhesive Detail Mesh: Reinforcing mesh used for complex details.
  4. 358.20 Ultra High Impact 20 Mesh: Weight 20 oz. per sq. yd. (678 g/sq m) Reinforcing mesh used with a Standard System; to achieve ultra-high impact strength.
  5. 357 Corner Mesh: Reinforcing mesh used as corner reinforcement; required when using Ultra-High Impact 20 Mesh.
  6. Locations: From Ground level to 7'-0" off use 358.20 Ultra High Impact 20 Mesh; from 7'-0" off to top of parapet use 355 Standard Mesh, unless required otherwise by Florida product approval requirements.
- E. Primer:
  1. 310 Primer: 100% acrylic based coating to prepare surfaces for acrylic or elastomeric finishes.
- F. Finish
  1. Parex AquaSol: 100% acrylic polymer based finish, enhanced DPR acrylic finish with hydrophobic and photocatalytic properties. Finish type, texture and color as noted on the drawings.
- G. Water: Clean, cool, potable water
- H. Portland Cement: ASTM C150, Type I or Type I–II.

##### 11. ACCESSORIES

- A. Mechanical fasteners and washers:
  1. Wind-lock Wind Devil 2 fasteners, non-thermal bridging polypropylene plastic plates and corrosion-resistant screws.
- B. Sealant System:
  1. Sealant for expansion joints between panelized EIFS sections shall be ultra-low modulus designed for minimum 100% elongation and minimum 50% compression and as selected by Project Designer.
  2. Sealant for perimeter seals around window and door frames and other wall penetrations shall be low modulus, designed for minimum 50% elongation and minimum 25% compression, and as selected by Project Designer.
  3. Sealants shall conform to ASTM C 920, Grade NS.
  4. Perimeter seal joints shall be a minimum width of 1/2 in (12.7 mm).
  5. Sealant backer rod shall be closed-cell polyethylene foam.
  6. Apply sealant to tracks or base coat of EIFS.
  7. Refer to EIFS manufacturer's current bulletin for listing of sealants which have been tested and have been found to be compatible with EIFS materials.
  8. Color shall be as noted on the drawings.

##### 12. EXAMINATION

- A. Compliance: Comply with manufacturer's instructions for installation.
- B. Substrate Examination: Examine prior to installation of EIFS assembly materials per manufacturer's written instructions.
- C. Sealants and Backer Rod: To be installed, where required, in accordance with the sealant manufacturer's specifications and published literature, and using the sealant manufacturer's recommended primers.
- D. Advise Contractor of discrepancies preventing proper installation of the EIFS materials. Do not proceed with the work until unsatisfactory conditions are corrected.

##### 13. MIXING

- A. Mix materials in accordance with manufacturer's instructions.

#### 14. APPLICATION

- A. General: Installation shall conform to this specification and manufacturer's written instructions.
- B. Drainage Accessories and Water-Resistive Barrier
  1. Install drainage tracks back-wrap mesh, or edge-wrap mesh at system terminations.
  2. Install water-resistive barrier in accordance with manufacturer's instructions making all laps weatherboard fashion to provide continuity of watershedding.
- C. Insulation Board
  1. Install Wind-lock fasteners to secure insulation board to the wall in accordance with Wind-lock Corporation instructions. For exterior grade gypsum sheathing and glass mat gypsum sheathing minimum screw penetration of framing members shall be 3/4 in (19 mm) into wood and three full threads through steel. Minimum eight (8) fasteners per 2' x 4' (610 mm x 1219 mm) piece of insulation board.
  2. Install insulation board without gaps in a running bond pattern and interlocked at corners.
  3. Rsp irregularities off insulation board.
- D. Apply primer to base coat after drying. Primer may be omitted if it is not required by the manufacturer's product data sheets for the specified finish coat or otherwise specified for the project.
- E. Reinforcing Mesh: Embed into the wet base coat, abutting edges tight, to completely conceal mesh.
- F. Finish Coat: Apply finish coat to match specified finish type, texture, and color. Do not apply finish coat to surfaces to receive sealant. Keep finish out of sealed joint gaps.

### SECTION 07260 - WEATHER BARRIERS

##### 1. SECTION INCLUDES

- A. Vapor Barrier must have all of the following qualities:
    1. Permeance of less than 0.01 Perms [grains/(ft<sup>2</sup> \*hr \* in.Hg)] per ASTM F 1249 or ASTM E 96
    2. ASTM E 1745 Class A
  - B. Air Barriers: Materials to stop passage of air through exterior walls, joints between exterior walls and roof, and joints around frames of openings in exterior walls to comply with IGCC-ES Acceptance Criteria AC–38.
2. SHEET SEAL MATERIALS
    - A. Vapor Retarder: Stego Wrap Vapor Barrier (15-mil) by Stego Industries LLC for underslab applications.
    - B. Air Barrier: Commercial Wrap as manufactured by Dupont Tyvek for vertical wall applications.
    - C. Moisture Barrier: 30 lb felt for horizontal applications.

##### 3. ACCESSORIES

- A. Vapor Retarder Seam Tape:
  1. Permeance less than 0.3 perms per ASTM F 1249 or ASTM E 96
  2. Stego Tape by Stego Industries LLC
- B. Air Barrier Seam Tape:
  1. Permeance less than 0.3 pieces per ASTM F 1249 or ASTM E 96
  2. Tyvek Seam Tape
- C. Pipe Boots
  1. Construct pipe boots from vapor barrier material, pressure sensitive tape and/or mastic per manufacturer's instructions.

##### 4. INSTALLATION

- A. Install materials in accordance with manufacturer's instructions.

### SECTION 07530 - ELASTOMERIC MEMBRANE ROOFING

##### 1. SECTION INCLUDES

- A. Elastomeric roofing membrane, mechanically fastened conventional application.
- B. Insulation, flat and tapered.
- C. Prefabricated flashings, corners, parapets, stacks, vents, and related details.
- D. Fasteners, adhesives, and other accessories required for a complete roofing installation.
- E. Traffic Protection.

##### 2. REFERENCES

- A. ASTM C 1289 – Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board; 2006.
- B. NRCA ML104 – The NRCA Roofing and Waterproofing Manual; National Roofing Contractors Association; Fifth Edition, with interim updates.
- C. UL (RWSD) – Roofing Materials and Systems Directory; Underwriters Laboratories Inc.; current edition.

##### 3. QUALITY ASSURANCE

- A. Perform work in accordance with NRCA Roofing and Waterproofing Manual and manufacturer's instructions.

##### 4. SUBMITTALS

- A. Submit under provisions of Section 01330.
- B. Manufacturer's data sheets on each product to be used, including:
  1. Preparation instructions and recommendations.
  2. Storage and handling requirements and recommendations.
  3. Installation methods.
  4. Maintenance requirements.
  - C. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
  - D. Installer Certification: Certification from the roofing system manufacturer that installer is approved, authorized, or licensed by manufacturer to install roofing system having the status of Master or Elite designation.
  - E. Manufacturer's warranties.

##### 5. ENVIRONMENTAL REQUIREMENTS

- A. Do not apply roofing membrane during unsuitable weather.
- B. Do not apply roofing membrane when ambient temperature is below 40 degrees F or above 110 degrees F.
- C. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.
- D. Do not expose materials vulnerable to water or sun damage in quantities greater than can be waterproofed the same day.

##### 6. WARRANTY

- A. Provide manufacturer's standard written full roofing system repair and/or replacement 15-year NDL warranty at no additional cost, covering materials and labor. Warranty shall include less of consequential damages due to failure of the roof system and contain no exclusions for ponding water or biological growth. Upon warranty inspection and acceptance of the roof, the warranty shall be turned over to the Contractor on behalf of Owner by a Manufacturer's Quality Assurance Specialist.
- B. Notice of Award: Contractor shall submit a "Notice of Award" to Manufacturer at least (10) ten days prior to the beginning of a particular roof application. Contractor will then provide to Owner a copy of the filed Notice of Award which has been signed and conditionally accepted by Manufacturer prior to the start of work under this section.

##### 7. APPROVED MANUFACTURERS

- A. Duro-Last Roofing, Inc., 525 Morley Dr. P. O. Box 3301 ; Saginaw, MI 48601; Toll Free Tel: 800-248-0280; Contact: Jim Miller, Email: [corporatereports@duro-last.com](mailto:corporatereports@duro-last.com); Web: [www.duro-last.com](http://www.duro-last.com)

##### 8. ROOFING

- A. Elastomeric Membrane Roofing Systems:
  1. Duro-Last Roofing Membrane conforming to ASTM D 4434, Type III or IV, fabric reinforced, PVC.
2. Properties:
  - a. 50 mil nominal thickness at roof deck. No exceptions
  - b. 50 mil nominal thickness at parapets. No exceptions
  - c. Exposed Face Color: White on all Horizontal roof surfaces and Duro-Tuff Light Tan on vertical surfaces. No exceptions

##### 6. Roofing Assembly Requirements:

1. Roof Covering External Fire-Resistance Classification: UL Class A.
2. Insulation Thermal Value (R), minimum: R-30; provide insulation of thickness required.

##### C. Acceptable Insulation Types:

1. Two layers of 2.6-inch thick EnergyGuard roof insulation, glass fiber reinforced polyisocyanurate foam roof insulation (Total R value Min. R-30). Run second layer perpendicular to the first layer to minimize joint overlap. Provide tapered insulation, crickets, and saddles to form counter slopes indicated on Drawings.

##### 9. ACCESSORIES

- A. Sheet Flashing: Duro-Last white 40-mil reinforced PVC Duro-Last Parapet Flashing membrane with 28" tabs.
- B. Prefabricated Flashing: Prefabricated white stack flashings for pipes, wind screen support pipes, and curbs, corners of Duro-Last white 40-mil reinforced PVC sheet membrane. Stack flashings to be installed using stainless steel Panduit bands and Duro-Caulk Plus.
- C. Prefabricated inside and outside corner of Duro-Last white 40-mil reinforced PVC sheet membrane.
- D. Pillow block to be supplied by Install 'Roof Top Blox' adjustable piping support under all gas and condensate piping, Ph: (860) 979-0345; [www.rooftopblox.com](http://www.rooftopblox.com).
- E. New 4" x 4" w/monozined block support to be installed underneath condensing unit. A slipsheet should be to be installed under the w/monozined block. High wind locations to have metal support rack. See roof plan.
- F. Sealants and Adhesives: Duro-Caulk Plus, pitch pocket filler, Sure Bond 240 mastic as supplied by Duro-Last Roofing Inc.
- G. Slip Sheet and Cover Boards: Slip sheet or cover boards, of type required by roof membrane manufacturer for the application.
- H. Termination Bars: Standard rigid exterior vinyl bar, 1.5 inches (38 mm) wide with slotted holes 6 inches (152 mm) on center.
- I. Scuppers: Prefabricated Duro-Last® Vinyl-Coated Metal Flange Scuppers with single skirt.
- J. Dome Strainer: See Plumbing Fixture Schedule in Drawings. Proper sized drain boot should also be installed using Duro-Caulk Plus and CDR ring.
- K. Edge Detail: Exceptional Metals Fascia bar and cover, prefabricated Drip Edge, prefabricated Gravel Stop, 2-Piece Snap-On Compression LG Metal Edge. Aluminum 40 Gauge – Finish and Size as indicated on drawings.
- L. Vinyl Coated Metal: 24 gauge, hot-dipped galvanized, grade 90 metal with a minimum of 17 mil of Duro-Last membrane laminated to one side.
- M. ATR hub: made of 24 gauge Vinyl coated metal to be installed around refrigeration lines
- N. Fasteners: #14 Heavy-Duty factory-coated steel fasteners and metal and plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening membrane to substrate.
- O. Two-Way Roof Vents: As recommended by roof membrane manufacturer and installed with a minimum of 1 vent for each 1,000 square-feet of roof area. Vents will be white.
- P. Roof Trac III walkway pads by Duro-Last Roofing – 30" x 60" and 60" x 60" gray, non-skid, maintenance-free Roof Trac III walkway pads to be installed at mechanical equipment, roof hatch and roof ladder as shown on roof plan.
- Q. Duro-Guard plenum vent.

##### 10. SUBSTRATE BOARD (NOTED ON DRAWINGS AS PROTECTION BOARD):

- A. Duro-Guard "DEXCELL" Glass Mat X" thick as manufactured by Duro-Last.

##### 11. EXAMINATION

- A. Verify that surfaces and site conditions are ready to receive work.
- B. Verify deck is clean and smooth, flat, free of depressions, waves, or projections, properly sloped and suitable for installation of roof system.
- C. Verify deck surfaces are dry and free of snow or ice.
- D. Verify that roof openings, curbs, and penetrations through roof are solidly set.

##### 12. INSULATION – UNDER MEMBRANE

- A. Roof insulation shall be installed with approved fasteners and distribution plates placed according to the manufacturer's most recent published specifications for the use under the manufacturer's system and for issuance of the warranty.
- B. Attachment of Insulation:
  1. Mechanically fasten insulation to deck in accordance with roofing manufacturer's instructions.
  - C. Stagger insulation boards 50% from row to row.
  - D. Lay boards with edges in moderate contact without forcing. Cut insulation to fit neatly to perimeter blocking and around penetrations through roof.
  - E. Separation Layer: Install substrate board directly over the roofing insulation in accordance with roof membrane manufacturer's requirements.
  - F. Do not apply more insulation than can be covered with membrane in same day.

##### 13. MEMBRANE APPLICATION







**DIVISION 8 - DOORS AND WINDOWS (CONTINUED)**

**SECTION 08710 - DOOR HARDWARE**

- SECTION INCLUDES
  - Hardware for wood and hollow steel doors.
- REFERENCES
  - ANSI/ICC A117.1 – American National Standard for Accessible and Usable Buildings and Facilities; International Code Council; 2003.
  - BHMA A156.1 thru 156.21 – Builders Hardware Manufacturers Association, Inc.; 2006
  - DHI A115 Series – Specifications for Steel Doors and Frame Preparation for Hardware; Door and Hardware Institute; 2000.
  - DHI A115W Series – Specifications for Wood Door and Frame Preparation for Hardware; Door and Hardware Institute; 2000.
  - DHI (LCS) – Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames; Door and Hardware Institute; 2004.
  - DHI WDHS.3 – Recommended Locations for Architectural Hardware for Flush Wood Doors; Door and Hardware Institute; 1996.
- SUBMITTALS
  - See Section 01300 – Administrative Requirements, for submittal procedures.
  - Shop Drawings:
    - Indicate locations and mounting heights of each type of hardware, schedules, catalog cuts, electrical characteristics, and connection requirements.
  - Submit manufacturer's parts lists and templates.
    - Samples:
      - Submit 1 sample of hinge, latch set, lockset, closer, and closer illustrating style, color, and finish.
    - Samples will be returned to supplier.
    - Maintenance Data: Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.
    - Keys: Deliver with identifying tags to Owner by security shipment direct from hardware supplier.
    - Warranty: Submit manufacturer's warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.
- COORDINATION
  - Coordinate the work with other directly affected sections involving manufacture or fabrication of internal reinforcement for door hardware.
- GENERAL REQUIREMENTS FOR DOOR HARDWARE PRODUCTS
  - Provide products that comply with the following:
    - Applicable provisions of Federal, State, and local codes.
  - Provide products from the manufacturers and finish listed in the schedule located in the construction documents. No substitution allowed without written approval.
  - Finishes: Identified in schedule located in the construction documents.
- KEYING
  - Door Locks: Master keyed.
    - Include construction keying and control keying with removable core cylinders.
    - Supply keys in the following quantities:
      - 4 master keys.
        - Stamp all permanent master keys with a set number and "DO NOT DUP"
      - 2.4 construction keys.
      - 3.4 control keys and 4 extra cylinder cores.
      - 4.2 change keys for each lock.
    - Identify permanent keys in envelopes and deliver to the Owner.
    - Re–key entire building per Owner's direction.
- KEY CABINET
  - Cabinet Construction: Sheet steel construction, piano hinged door with cylinder type lock master keyed to building system.
  - Cabinet Size: Size for project keys plus 50 percent growth.
  - Hooks for 100 keys.
  - Horizontal plastic strips for key hook labelling with clear plastic strip cover over labels.
  - Finish: Baked enamel, color as selected.
- EXAMINATION
  - Verify that doors and frames are ready to receive work and dimensions are as indicated on shop drawings.
- INSTALLATION
  - Install hardware in accordance with manufacturer's instructions and applicable codes.
  - Use templates provided by hardware item manufacturer.
  - Mounting heights for hardware from finished floor to center line of hardware item:
    - For steel doors and frames: Comply with DHI "Recommended Locations for Architectural Hardware for Steel Doors and Frames."
    - For wood doors: Comply with DHI "Recommended Locations for Architectural Hardware for Wood Flush Doors."
  - ADJUSTING
    - Adjust work under provisions of Section 01700.
    - Adjust hardware for smooth operation.

**SECTION 08800 - GLAZING**

**SECTION INCLUDES**

- SECTION INCLUDES
  - Class.
  - Glazing compounds and accessories.
- REFERENCES
  - A.16 CFR 1201 – Safety Standard for Architectural Glazing Materials; current edition.
  - ASTM C 864 – Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers; 2005.
  - ASTM C 920 – Standard Specification for Elastomeric Joint Sealants; 2005.
  - ASTM C 1036 – Standard Specification for Flat Glass; 2001.
  - ASTM C 1048 – Standard Specification for Heat-Treated Flat Glass--Kind HS, Kind FT Coated and Uncoated Glass; 2004.
  - ASTM C 1193 – Standard Guide for Use of Joint Sealants; 2005a.
  - ASTM E 2190 – Standard Specification for Insulating Glass Unit Performance and Evaluation; 2002.
- PERFORMANCE REQUIREMENTS
  - Provide glass and glazing materials for continuity of building enclosure vapor retarder and air barrier:
    - In conjunction with vapor retarder and joint sealer materials described in other sections.
    - To maintain a continuous air barrier and vapor retarder throughout the glazed assembly from glass pane to heel bead of glazing sealant.
- SUBMITTALS
  - See Section 01300 – Administrative Requirements, for submittal procedures.
  - Product Data on Glass Types: Provide structural, physical and environmental characteristics, size limitations, special handling or installation requirements.
  - Product Data on Glazing Compounds: Provide chemical, functional, and environmental characteristics, limitations, special application requirements. Identify available colors.
  - Certificates: Certify that products meet or exceed specified requirements.
- QUALITY ASSURANCE
  - Perform Work in accordance with GANA Glazing Manual and FGMA Sealant Manual for glazing installation methods.
- FLAT GLASS MATERIALS
  - Clear Float Glass: Clear, fully tempered.
    - Comply with ASTM C 1036, Type I, transparent flat, Class 1 clear, Quality Q3 (glazing select).
    - Comply with ASTM C 1048.
      - 6 mm minimum thick.
  - Safety Glass: Clear, fully tempered with horizontal tempering.
    - Comply with ASTM C 1036, Type I, transparent flat, Class 1 clear, Quality Q3 (glazing select) and ASTM C 1048.
      - Comply with 16 CFR 1201 test requirements for Category II.
- SEALED INSULATING GLASS MATERIALS
  - Insulated Glass Units: Double pane, Low E, with glass to elastomer edge seal.
    - Durability: Certified by an independent testing agency to comply with ASTM E 2190.
    - Purge interpane space with dry hermetic air.
    - Total unit thickness of 1 inch minimum.
- GLAZING COMPOUNDS
  - Butyl Sealant: Single component; ASTM C 920, Grade NS, Class 12–1/2, Uses M and A; Shore A hardness in 10 to 20; black color; non–skinning.
  - Silicone Sealant: Single component; neutral curing; capable of water immersion without loss of properties; non–bleeding, non–staining; ASTM C 920, Type S, Grade NS, Class 25, Uses M, A, and G; cured Shore A hardness of 15 to 25; color as selected.
- GLAZING ACCESSORIES
  - Setting Blocks: Neoprene, 80 to 90 Shore A durometer hardness, ASTM C 864 Option I. Length of 0.1 inch for each square foot of glazing or minimum 4 inch x width of glazing rabbet space minus 1/16 inch x height to suit glazing method and pane weight and area.
  - Spacer Shims: Neoprene, 50 to 60 Shore A durometer hardness, ASTM C 864 Option I. Minimum 3 inch long x one half the height of the glazing stop x thickness to suit application, self adhesive on one face.
  - Glazing Tape: Preformed butyl compound with integral resilient tube spacing device; 10 to 15 Shore A durometer hardness; coiled on release paper; size as recommended by glass manufacturer; black color.
  - Manufacturers:
    - Pecora Corporation: [www.pecora.com](http://www.pecora.com).
    - Tremco, Inc: [www.tremcosealants.com](http://www.tremcosealants.com).
    - Substitutions: Refer to Section 01600 – Product Requirements.
  - Glazing Gaskets: Resilient silicone extruded shape to suit glazing channel retaining slot; ASTM C 864 Option I; black color.
  - Glazing Clips: Manufacturer's standard type.
- PREPARATION
  - Prime surfaces scheduled to receive sealant.
  - Install sealants in accordance with ASTM C 1193 and FGMA Sealant Manual.
  - Install sealant in accordance with manufacturer's instructions.
- INSTALLATION – EXTERIOR WET/DRY METHOD (PREFORMED TAPE AND SEALANT)
  - Cut glazing tape to length and set against permanent stops, 3/16 inch below sight line. Seal corners by butting tape and dabbing with butyl sealant.
  - Apply heel bead of butyl sealant along intersection of permanent stop with frame ensuring full perimeter seal between glass and frame to complete the continuity of the air and vapor seal.
  - Place setting blocks at 1/4 points with edge block no more than 6 inches from corners.
  - Rest glazing on setting blocks and push against tape and heel bead of sealant with sufficient pressure to attain full contact at perimeter of pane or glass unit.
  - Install removable stops, with spacer strips inserted between glazing and applied stops, 1/4 inch below sight line. Place glazing tape on glazing pane or unit with tape flush with sight line.
  - Fill gap between glazing and stop with sealant to depth equal to bite of frame on glazing, but not more than 3/8 inch below sight line.
  - Apply cap bead of sealant along void between the stop and the glazing, to uniform line, flush with sight line. Tool or wipe sealant surface smooth.
- INSTALLATION – INTERIOR DRY METHOD (TAPE AND TAPE)
  - Cut glazing tape to length and set against permanent stops, projecting 1/16 inch (1.6 mm) above sight line.
  - Place setting blocks at 1/4 points with edge block no more than 6 inches from corners.
  - Rest glazing on setting blocks and push against tape for full contact at perimeter of pane or unit.
  - Place glazing tape on free perimeter of glazing in same manner described above.
  - Install removable stop without displacement of tape. Exert pressure on tape for full continuous contact.
  - Knife trim protruding tape.
- CLEANING
  - Remove glazing materials from finish surfaces.
  - Remove labels after Work is complete.
  - Clean glass and adjacent surfaces.
- PROTECTION
  - After installation, mark pane with an 'X' by using removable plastic tape or paste; do not mark heat absorbing or reflective glass units.

**DIVISION 9 - FINISHES**

**SECTION 09200 - GYPSUM BOARD ASSEMBLIES**

- SECTION INCLUDES
    - Metal stud wall framing.
    - Fire rated walls.
    - Acoustic insulation.
    - Tile / Base backer board.
    - Cementitious backer unit a hood wall.
    - Gypsum wallboard.
    - Joint treatment and accessories.
  - REFERENCES
    - ANSI A108.11 – American National Standard for Interior Installation of Cementitious Backer Units; 1999 (R2005).
    - ANSI A118.9 – American National Standard Specifications for Test Methods and Specifications for Cementitious Backer Units; 1999 (R2005).
    - ASTM C 475/C 475M – Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2002.
    - ASTM C 645 – Standard Specification for Nonstructural Steel Framing Members; 2004a.
    - ASTM C 754 – Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2004.
    - ASTM C 840 – Standard Specification for Application and Finishing of Gypsum Board; 2005.
    - ASTM C 1002 – Standard Specification for Steel Self–Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2004.
    - ASTM C 1047 – Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base; 2005.
    - ASTM C 1396/C 1396M – Standard Specification for Gypsum Board; 2004.
    - ASTM E 72 – Standard Test Methods of Conducting Strength Tests of Panels for Building Construction; 2005.
  - METAL FRAMING MATERIALS
    - Non-Loadbearing Framing System Components: ASTM C 645; galvanized sheet steel, of size and properties necessary to comply with ASTM C 754 for the spacing indicated, with maximum deflection of wall framing of L/240 at 5 psf.
    - Exception: The minimum metal thickness and section properties requirements of ASTM C 645 are waived provided steel of 40 ksi minimum yield strength is used, the metal is continuously dimpled, the effective thickness is at least twice the base metal thickness, and maximum stud heights are determined by testing in accordance with ASTM E 72 using assemblies specified by ASTM C 754.
    - Studs: "C" shaped with flat or formed webs with knurled faces.
    - Runners: U shaped, sized to match studs.
    - Ceiling Channels: C shaped.
      - Furring Channels: USG furring channels, 7/8" deep, roll formed, hat\_shaped sections of galvanized steel.
    - Ceiling Hangers: Type and size as specified in ASTM C 754 for spacing required.
    - Partition Head to Structure Connections: Provide track fastened to structure with legs of sufficient length to accommodate deflection, for friction fit of studs cut short and fastened as indicated on drawings.
  - GYPSUM BOARD MATERIALS
    - Manufacturers:
      - BPB America Inc: [www.bpb-na.com](http://www.bpb-na.com).
      - G–P Gypsum Corporation: [www.gp.com/gypsum](http://www.gp.com/gypsum).
      - National Gypsum Company: [www.nationalgypsum.com](http://www.nationalgypsum.com).
      - USG: [www.usg.com](http://www.usg.com).
    - Gypsum Wallboard: ASTM C 1396/C 1396M. Sizes to minimize joints in place; ends square cut.
  - Regular Type:
    - Application: Use for vertical surfaces, unless otherwise indicated.
    - Edges: Tapered.
  - Fire Resistant Type: Complying with Type X requirements; UL or WH rated.
    - At Assemblies Indicated with Fire-Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X.
      - Thickness: 5/8 inch.
      - Edges: Tapered.
  - Ceiling Board: Special sag-resistant type.
    - Application: Ceilings, unless otherwise indicated.
      - Thickness: 1/2 inch.
      - Edges: Tapered.
  - Water-Resistant Gypsum Backing Board: ASTM C 1396/C 1396M; ends square cut.
- Application: Vertical surfaces behind thinset tile and pre-finished fiberglass panels in wet areas.
- Core Type: Regular and Type X, as indicated.
- Thickness: 5/8 inch.
- Edges: Tapered.
- TILE / BASE BACKER BOARD
  - Tile backer board panels: 5/8" thick, non-structural, fiberglass-faced, silicone treated moisture barrier, mold resistant gypsum core panel, "DensShield" tile backer board.
  - Joint Reinforcement: 2–inch–wide, coated fiberglass mesh tape.
  - Fasteners: Screws, 1–1/4–inch corrosion, resistant; type specified by panel manufacturer for system used.
- CEMENTITIOUS BACKER BOARD AT HOOD WALLS
  - Cementitious Backer Board: ANSI A118.9, aggregated portland cement panels with glass fiber mesh embedded in front and back surfaces, 5/8 inch thick.
- ACCESSORIES
  - Acoustic Insulation: ASTM C 665; preformed glass fiber, friction fit type, unfaced.
  - Finishing Accessories: ASTM C 1047, galvanized steel, unless otherwise indicated.
- Types: As detailed or required for finished appearance.
- Joint Materials: ASTM C 475 and as recommended by gypsum board manufacturer for project conditions.
  - Tape: 2–inch wide, coated glass fiber tape for joints and corners, except as otherwise indicated.
  - Tape: 2–inch wide, creased paper tape for joints and corners, except as otherwise indicated.
  - Ready–mixed vinyl–based joint compound.
    - Screws: ASTM C 1002; self–piercing tapping type.
- EXAMINATION
  - Verify that project conditions are appropriate for work of this section to commence.
- FRAMING INSTALLATION
  - Metal Framing: Comply with ASTM C 754 and manufacturer's instructions.
  - Studs: Space studs as indicated.
  - Extend partition framing as indicated.
  - Partitions Terminating at Ceiling: Attach ceiling runner securely to ceiling track in accordance with manufacturer's instructions.
  - Partitions Terminating at Structure: Attach extended leg top runner to structure, maintain clearance between top of studs and structure, and brace both flanges of studs with continuous bridging.
  - Wall Furring, Direct Attachment: Install asphalt felt protection strip between each furring channel and wall. Attach 7/8" hot channel horizontally to wall at 24" o.c. with concrete stub nails spaced 24" o.c. staggered on alternate wing flanges.
  - Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.
- ACOUSTIC ACCESSORIES INSTALLATION
  - Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.
  - Acoustic Sealant: Install in accordance with manufacturer's instructions.

- GYPSUM BOARD INSTALLATION
  - Comply with ASTM C 840 and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.
  - Single-Layer Non-Rated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.
  - Fire-Rated Construction: Install gypsum board in strict compliance with requirements of listing authority.
  - Cementitious Backing Board: Install over steel framing members at exhaust hood walls as indicated, in accordance with ANSI A108.11 and manufacturer's instructions.
  - Installation on Metal Framing: Use screws for attachment of all gypsum board.
  - Installation on Wood Framing: For rated assemblies, comply with requirements of listing authority. For non-rated assemblies, install as follows:
    - Single-Layer Applications: Screw attachment.
    - Moisture Protection: Treat cut edges and holes in moisture resistant gypsum board with sealant.
- INSTALLATION OF TRIM AND ACCESSORIES
  - Control Joints: Place control joints consistent with lines of building spaces and as follows:
    - Not more than 30 feet apart on walls and ceilings over 50 feet long.
    - Corner Beads: Install at external corners, using longest practical lengths.
- JOINT TREATMENT
  - Finish all gypsum board in accordance with ASTM C 840 "Level 4" finish.
  - Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
  - Feather coats of joint compound so that camber is maximum 1/32 inch.
  - Taping, filling, and sanding is not required at surfaces behind adhesive applied ceramic tile and fixed cabinetry.
- TOLERANCES
  - Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

**SECTION 09300 - TILE**

- SECTION INCLUDES
  - Tile for floor applications.
  - Tile for wall applications.
  - Backer board as tile substrate.
  - Waterproofing membrane
  - Ceramic trim.
- REFERENCES
  - ANSI A108 Series/A118 Series/A136.1 – American National Standard Specifications for the Installation of Ceramic Tile (Compendium); 2005.
  - TCA (HB) – Handbook for Ceramic Tile Installation; Tile Council of North America, Inc.; 2006.
- QUALITY ASSURANCE
  - Maintain one copy of TCA Handbook and ANSI A108 Series/A118 Series on site.
- DELIVERY, STORAGE, AND HANDLING
  - Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.
- EXTRA MATERIALS
  - Provide 10 sq. ft. of each size, color, and surface finish of tile specified.
- TILE
  - Refer to finish schedule on the construction documents for material selections.
- TRIM AND ACCESSORIES
  - Trim: Matching bullnose, surface bullnose, cove base, and cove ceramic shapes as scheduled in sizes coordinated with field tile.
    - Applications: Use in the following locations:
      - Open Edges: Bullnose.
      - Inside Corners: Jointed.
      - Floor to Wall Joints: Cove base.
    - Manufacturer: Same as for tile.
- ADHESIVE MATERIALS
  - Organic Adhesive: ANSI A136.1, thinset bond type; use Type I in areas subject to prolonged moisture exposure.
  - Epoxy Adhesive: ANSI A118.3, thinset bond type.
- MORTAR MATERIALS
  - Mortar Bed Materials: Portland cement, sand, latex additive and water.
  - Mortar Bond Coat Materials:
    - Dry-Set Portland Cement type: ANSI A118.1.
    - Latex-Portland Cement type: ANSI A118.4.
    - Epoxy: ANSI A118.3.
- GROUT MATERIALS
  - Standard Grout: Any type specified in ANSI A118.6 or A118.7.
  - Furan Grout: ANSI A118.5, furan resin type.
- ACCESSORY MATERIALS
  - Cleavage Membrane: 4 mil thick polyethylene film.
  - Reinforcing Mesh: 2 x 2 inch size weave of 16/16 wire size; welded fabric, galvanized.
  - Waterproofing:
    - Install under tile at all wet locations – Noblesal 30 mil membrane waterproofing conforming to ANSI A118–10.
- EXAMINATION
  - Verify that sub-floor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive tile.
  - Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive tile.
  - Verify that sub-floor surfaces are dust-free and free of substances which would impair bonding of setting materials to sub-floor surfaces.
  - Verify that concrete sub-floor surfaces are ready for tile installation by testing for moisture evaporation rate and alkalinity; obtain instructions if test results are not within limits recommended by tile manufacturer and setting materials manufacturer.
- PREPARATION
  - Protect surrounding work from damage.
  - Vacuum clean surfaces and damp clean.
  - Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.
  - Install cementitious backer board in accordance with ANSI A108.11 and board manufacturer's instructions. Tape joints and corners, cover with skim coat of dry-set mortar to a feather edge.
  - Prepare substrate surfaces for adhesive installation in accordance with adhesive manufacturer's instructions.

- INSTALLATION – GENERAL
  - Install waterproofing membrane at all wet areas in accordance with manufacturer's instructions and TCA Handbook recommendations.
  - Install tile and grout in accordance with applicable requirements of ANSI A108.1 through A108.13, manufacturer's instructions, and TCA Handbook recommendations.
  - Lay tile to pattern indicated. Do not interrupt tile pattern through openings.
  - Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.
  - Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make joints watertight, without voids, cracks, excess mortar, or excess grout.
  - Form internal angles square and external angles bullnosed.
  - Sound tile after setting. Replace hollow sounding units.
  - Keep expansion joints free of adhesive or grout. Apply sealant to joints.
  - Allow tile to set for a minimum of 48 hours prior to grouting.
  - Grout tile joints. Use standard grout unless otherwise indicated.
  - Apply sealant to junction of tile and dissimilar materials and junction of dissimilar planes.
- FLOORS – THIN-SET METHODS
  - Over interior concrete substrates, install in accordance with TCA Handbook Method F113, dry-set or latex-portland cement bond coat, with standard grout, unless otherwise indicated.
    - Where epoxy bond coat and grout are indicated, install in accordance with TCA Handbook Method F131.
- FLOORS – MORTAR BED METHODS
  - Over interior concrete substrates, install in accordance with TCA Handbook Method F111, with cleavage membrane, unless otherwise indicated.
  - Cleavage Membrane: Lap edges and ends.
  - Mortar Bed Thickness: 1–1/4 inch.
- INSTALLATION – WALL TILE
  - Over tile backer board units install in accordance with TCA Handbook Method W223, organic adhesive.
- CLEANING
  - Clean tile and grout surfaces.

**SECTION 09511 - SUSPENDED ACOUSTICAL CEILINGS**

- SECTION INCLUDES
  - Suspended metal grid ceiling system.
  - Acoustical units.
- REFERENCES
  - ASTM C 635 – Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2004.
  - ASTM C 636 – Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels; 2004.
  - ASTM E 580 – Standard Practice for Application of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Requiring Seismic Restraint; 2002.
  - ASTM E 1264 – Standard Classification for Acoustical Ceiling Products; 1998 (Reapproved 2005).
- EXTRA MATERIALS
  - See Section 01600 – Product Requirements, for additional provisions.
  - Provide five percent of total acoustical unit area of each type of acoustical unit for Owner's use in maintenance of project.
- ACOUSTICAL UNITS
  - Manufacturers:
    - Refer to Finish Schedule on drawings for various product manufacturers.
  - Acoustical Units – General: ASTM E 1264, Class A.
    - Models as scheduled on the construction documents.
- SUSPENSION SYSTEM(S)
  - Manufacturers:
    - USG; Product Donn DX: [www.usg.com](http://www.usg.com).
  - Suspension Systems – General: ASTM C 635; die cut and interlocking components, with stabilizer bars, clips, splices, perimeter moldings, and hold down clips as required.
- ACCESSORIES
  - Support Channels and Hangers: Galvanized steel; size and type to suit application, seismic requirements, and ceiling system flatness requirement specified.
  - Perimeter Moldings: Same material and finish as grid.
    - At Exposed Grid: Provide L-shaped molding for mounting at same elevation as face of grid.
- INSTALLATION – SUSPENSION SYSTEM
  - Install suspension system in accordance with ASTM C 636, ASTM E 580, and manufacturer's instructions and as supplemented in this section.
  - Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.
  - Install after major above-ceiling work is complete. Coordinate the location of hangers with other work.
  - Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
  - Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.
  - Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.
  - Support fixture loads using supplementary hangers located within 6 inches of each corner, or support components independently.
  - Do not eccentrically load system or induce rotation of runners.
  - Perimeter Molding: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions.
    - Use longest practical lengths.
    - Overlap and rivet corners.
- ACOUSTICAL UNITS
  - Install acoustical units in accordance with manufacturer's instructions.
  - Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.
  - Fit border trim neatly against abutting surfaces.
  - Install units after above-ceiling work is complete.
  - Install acoustical units level, in uniform plane, and free from twist, warp, and dents.
  - Cutting Acoustical Units:
    - Make field cut edges of same profile as factory edges.



**DRAWING COORDINATION**  
Architectural, Landscape, Civil, Structural, Mechanical and Electrical drawings are interrelated. General Contractor and all Sub-Contractors shall review and coordinate the entire set of drawings and specifications

**Golden Chick Restaurant Remodel at  
2311 Fredericksburg Rd  
San Antonio, Texas**

DATE	DESCRIPTION	BY

**SPECIFICATIONS**  
PROJECT NO.  
**05-05-22**  
SHEET NO.  
**SP.9**



DIVISION 9 - FINISHES (CONTINUED)

SECTION 09610 - GRANITE

1. SECTION INCLUDES

- A. Granite slabs
B. Adhesive
C. Protection of completed work

2. REFERENCE STANDARDS

- A. American National Standards Institute (ANSI): A136.1 Organic adhesives for installation of ceramic tile.
B. American Society of Testing Materials (ASTM): ASTM C615 Granite building stone.
C. Tile Council of America (TCA): Handbook for ceramic tile installation.

3. SAMPLES

- A. Submit two 12-inch x 12-inch samples to the Architect for acceptance.

4. MANUFACTURER

- A. The drawings were prepared, and portions of this specification written on the basis of using the products distributed by company noted on the finish schedule in the drawings.

5. MATERIALS

- A. Granite: ASTM C615, fine rubbed, slab, color specified on Finish Schedule of the drawings.
B. Adhesives: Water resistive type as recommended by granite manufacturer; thinset bond type.
C. Grout: Non-sanded, Latex-Portland Cement Grout, color - to be selected by Owner.
D. Sealer: Multi-Seal "Marble Sealer" as distributed by Dal-Tile Corporation, Richardson, Texas.
E. Cleaning Solution: Type recommended by granite manufacturer which will not harm stone, sealer, or adjacent surfaces.
F. Extra Materials: Provide 20 of each size and type of stone unit specified.

6. ENVIRONMENTAL REQUIREMENTS

- A. Maintain materials and surrounding air to a minimum 50 degrees F prior to, during, and 48 hours after completion of work.

7. SURFACE PREPARATION

- A. Use filler to patch cracks, small holes, and for minor leveling in substrate.
B. Apply conditioner/sealer to surfaces as recommended by adhesive manufacturer.

8. EXAMINATION

- A. Verify that surfaces are ready to receive work of this section. Beginning of installation means acceptance of substrate.

9. INSTALLATION

- A. Preparation: Establish lines, levels, and pattern; protect from disturbance.
B. Adhesive: Apply to prepared substrate in accord with manufacturer's instructions and the TCA Handbook for Ceramic Tile Installation. Ensure full adhesive contact for permanent bond to substrate.
C. Slabs: Clean stone prior to installation. Lay in slabs as large as possible, in patterns and/or directions shown on Drawings. Fit neatly to vertical interruptions. Place units with 1/16 inch joints. Provide expansion space at walls and other obstructions. Remove excessive adhesive from surface as work progresses. Sound units after setting. Replace hollow sounding units. Joints must be free of any debris or foreign matter before grouting. Joints shall be thoroughly filled and wiped flush.
D. Sealer: Allow time to set 72 hours after grouting prior to application of sealer. Apply two coats of sealer in accord with manufacturer's printed specifications and instructions.

10. PROTECTION AND CLEANING

- A. Protect work, adjacent work, and materials by suitable covering. Upon completion of work, remove spots from floors and other surfaces.

SECTION 09729 - MURAL INSTALLATION

1. SECTION INCLUDES

- A. Surface preparation and installation by GC.

2. REFERENCES

- A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

3. REGULATORY REQUIREMENTS

- A. Conform to applicable code for flame and smoke ratings of 25/50 when tested to ASTM E84. Federally specified limits for flame, smoke development and flash over must be met according to ASTM-E84 and NFPA286 tests.

4. DELIVERY, STORAGE, AND PROTECTION

- A. Inspect roll materials on site to verify acceptance.
B. Protect packaged adhesive from temperature cycling and cold temperatures.
C. Do not store roll goods on end.

5. ENVIRONMENTAL REQUIREMENTS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the adhesive or mural product manufacturer.

- B. Maintain these conditions 24 hours before, during, and after installation of adhesive and covering.

6. MATERIALS

- A. Wall Murals: 3M Scotch Print Graphics. Printed on 8620 base film and 3M overlamine. Murals are By Owner, which means the murals are furnished by Owner and installed by GC.

- B. Adhesive: Type recommended by covering manufacturer to suit application to substrate. Adhesives and primers must contain mildew inhibitors.

- C. Substrate Filler: As recommended by adhesive and covering manufacturers; compatible with substrate.

- D. Substrate Cleaner: 3M brand adhesive cleaner and wax remover, Part No. 8984.

7. EXAMINATION

- A. Verify that substrate surfaces are primed and painted and are ready to receive work and conform to requirements of the covering manufacturer.

- B. Measure moisture content of surfaces using an electronic moisture meter. Do not apply coverings unless moisture content of surfaces are below 12 percent.

- C. Verify flatness tolerance of surfaces does not vary more than 1/8 inch in 10 feet nor vary at a rate greater than 1/16 inch/foot.

8. PREPARATION

- A. G.C. to examine all substrata, correct defects, and complete all work that penetrates the substrata before beginning of wallcovering installation. G.C. is responsible to provide an acceptable wall surface for wall mural installation. Gypsum wall board level of finish is to be Level 5.

- 1. Level 5: All joints and interior angles shall have tape embedded in joint compound and shall be immediately wiped with a joint knife leaving a thin coating of joint compound over all joints and interior angles. Two separate coats of joint compound shall be applied over all flat joints and one separate coat of joint compound shall be applied over interior angles. Fastener heads and accessories shall be covered with three separate coats of joint compound. A thin skim coat of joint compound trowel applied, or a material manufactured especially for this purpose and applied in accordance with manufacturer's recommendations, applied to the entire surface. The surface shall be smooth and free of tool marks and ridges. Note: It is recommended that the prepared surface be coated with a drywall primer prior to the application of finish paint. See section C below in regard to painting.

- B. Sand and wipe wall to remove excess drywall dust.

- C. For new drywall construction prior to application of wallcovering, wall shall be painted with compatible primer to Latex paint (two coats). Finish coat to be Semi-gloss Latex paint.

- D. After finishing drywall, ensure that all surfaces are completely flat and smooth with no raised areas or indentations as the vinyl will telegraph any bad areas.

- E. Drying and curing time for substrate painting manufacturer MUST be observed. All air-drying paints should be allowed to dry a minimum of 72 hours prior to mural application. The 72-hour air drying period is to be complete 28 days prior to restaurant opening.

- F. Use only a pencil for marking walls and back of wallcovering. Do not use ballpoint or marking pen, they will bleed through the surface.

- G. When using solvent for cleaning substrate, it is essential that proper precautionary measures, as established by the solvent manufacturer for handling of such materials, be observed.

- H. Clean substrates with adhesive cleaner per manufacturer's written directions; wipe dry with a lint-free cloth before solvent evaporates from surface.

- I. After cleaning, all materials should be handled with mechanical devices or while wearing clean, cloth gloves.

- J. Surface Appurtenances: Remove or mask electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.

- K. Vacuum clean surfaces free of loose particles. Ensure the flat surfaces and the crown molding above and below this area are free of all dust and debris.

9. INSTALLATION

- A. Apply adhesive and covering in accordance with manufacturer's instructions.

- B. Apply adhesive to wall surface immediately prior to application of covering.

- C. Use covering in pattern sequence.

- D. Razor trim edges on flat worktable. Do not razor cut on gypsum board surfaces.

- E. Apply covering smooth, without wrinkles, gaps, or overlaps. Eliminate air pockets and ensure full bond to substrate surface. Butt edges light.

- F. Horizontal seams are not acceptable.

- G. Do not seam within 2 inches of internal corners or within 6 inches of external corners.

- H. Edges of graphics must be trimmed perfectly straight at a 90-degree angle. This will ensure that seams align properly when applied to the wall surface.

- I. Remove excess adhesive while wet from seam before proceeding to next covering sheet. Wipe clean with dry cloth.

SECTION 09771 - PREFINISHED PANELS

1. SECTION INCLUDES

- A. Prefinished panel system for adhesive mounting.

2. MANUFACTURERS

- A. The Marile Corporation, Dover, Ohio
B. Crane Composites (Kermitite), Channahon, IL.

3. FIBERGLASS REINFORCED PANEL (FRP)

- A. Thickness: 3/32"
B. Finish: Pebble
C. Color: As scheduled
D. Moldings: Solid vinyl, wide profile and match the color of the panels.
E. Closures: solid vinyl, wide profile an match the color of the panels.

4. STAINLESS STEEL PANEL

- A. Type: 20 gauge, #304.

5. INSTALLATION

- A. Install in accordance with manufacturer's instructions.
B. Use the adhesives recommended by the panel manufacturer unless prohibited by local regulations; obtain manufacturer's approval of alternative adhesives.
C. Avoid contamination of panel faces; clean as necessary and replace if not possible to repair to original condition.
D. Install stainless steel panels with a one inch ship lap.

SECTION 09900 - PAINTS AND COATINGS

1. SECTION INCLUDES

- A. Surface preparation.
B. Field application of paints, stains, varnishes, and other coatings.

2. DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
B. Container Label: include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

3. ENVIRONMENTAL REQUIREMENTS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

- B. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

4. SUBMITTALS

- A. Prepare two (2) color/texture samples for each color for each type of substrate to be painted or stained per SUBMITTALS.

- B. Make samples not less than twelve inches (12") square.

- C. Submit manufacturer's printed literature on each coating system to be used.

5. EXTRA MATERIALS

- A. Supply 1 gallon of each color; store where directed.
B. Label each container with color in addition to the manufacturer's label.

6. MANUFACTURERS

- A. Paint and Coating manufacturers shall be as scheduled herein and on the drawings.

7. PAINTS AND COATINGS - GENERAL

- A. Paints and Coatings: Ready mixed, except field-catalyzed coatings. Prepare pigments to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating.

- B. Volatile Organic Compound (VOC) Content:

- 1. Provide coatings that comply with the most stringent requirements specified in 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.

8. EXAMINATION

- A. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

- B. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:

- 1. Wood: 15 percent, measured in accordance with ASTM D 4442.

9. PREPARATION

- A. Surfaces: Correct defects and clean surfaces which affect work of this section.
B. Marks: Seal with shellac those which may bleed through surface finishes.
C. Impervious Surfaces: Remove mildew by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

- D. Gypsum Board Surfaces to be Painted: Fill minor defects with filler compound. Spot prime defects after repair. Gypsum ceiling surfaces in all Public areas are required to have a Level 5 finish surface; do not start painting until surface finish level is verified. Beginning of painting gypsum indicates acceptance of surface.

- E. Aluminum Surfaces to be Painted: Remove surface contamination by steam or high-pressure water. Remove oxidation with acid etch and solvent washing. Apply etching primer immediately following cleaning.

- F. Galvanized Surfaces to be Painted: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.

- G. Uncoated Steel and Iron Surfaces to be Painted: Remove grease, mill scale, weld spatter, dirt, and rust. Prime paint entire surface; spot prime after repairs.

- H. Interior Wood Items to Receive Opaque Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats. Back prime concealed surfaces before installation.

- I. Interior Wood Items to Receive Transparent Finish: Wipe off dust and grit prior to sealing, seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lightly between coats. Prime concealed surfaces with gloss varnish reduced 25 percent with thinner.

- J. Wood Doors to be Field Finished: Seal wood door top and bottom edge surfaces with clear sealer.

- K. Metal Doors to be Painted: Prime metal door top and bottom edge surfaces.

10. APPLICATION

- A. Apply products in accordance with manufacturer's instructions.
B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

- C. Apply each coat to uniform appearance. Apply each coat of paint slightly darker than preceding coat unless otherwise approved.

- D. Sand wood and metal surfaces lightly between coats to achieve required finish.

- E. Where clear finishes are required, tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.

- F. Coverage coats noted herein are minimum requirements. Contractor shall provide additional coats as needed for complete coverage.

11. FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT

- A. Painting mechanical and electrical work is limited to items exposed in occupied spaces unless noted otherwise.

- B. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

12. SCHEDULE - SURFACES TO BE FINISHED

- A. Do Not Paint or Finish the Following Items:

- 1. Items fully factory-finished unless specifically noted.
2. Fire rating labels, equipment serial number and capacity labels.
B. Mechanical and Electrical: Use point systems defined for the substrates to be finished.
1. Paint all insulated and exposed pipes, conduit, boxes, hangers, brackets, collars and supports, mechanical equipment, and electrical equipment occurring in finished areas, unless otherwise indicated.
2. Paint shop-primed items occurring in finished areas.
3. Paint interior surfaces of air ducts and convactor and baseboard heating cabinets that are visible through grilles and louvers with one coat of flat black point to visible surfaces.
4. Paint dampers exposed behind louvers, grilles, and convactor and baseboard cabinets to match face panels.
C. Paint both sides and edges of plywood backboards for electrical and telephone equipment before installing equipment.

- 13. TENTATIVE PAINT LIST: Where any particular application is not mentioned in this list, Contractor shall figure on application of manufacturer's specification for application which is consistent with types and qualities listed herein. Colors are indicated on drawings.

EXTERIOR SURFACES

1. Wood Trim - "Painted"

- Sherwin Williams:
1st Coat: S-W Exterior Latex Wood Primer, B42W8041
2nd Coat: S-W) 0 VOC Acrylic Satin B66-660 Series
3rd Coat: Same as 2nd Coat
Glidden Professional:
1st Coat: Glidden Professional 6001 Hydrosealer Primecoat
2nd Coat: Devco Coatings 4212 DEVFLEX HP Eggshell
3rd Coat: Same as 2nd Coat

2. Natural Woods - "Stained"

- Sherwin Williams:
1st Coat: S-W WoodScapes House Stain Exterior Polyurethane SemiTransparent Stain, A15T5
2nd Coat: Same as 1st Coat
3rd Coat: Marine Varnish, Satin finish
Glidden Professional:
1st Coat: Glidden Professional 2710 WOODPRIDE Exterior Oil/AlkydSemi-Transparent Deck & Siding Stain
2nd Coat: Same as 1st Coat
3rd Coat: Glidden Professional 1907 WOODPRIDE Spar Urethane

3. Ferrous Metals and Exposed Gas Lines

- Sherwin Williams:
1st Coat: S-W ) 0 VOC Acrylic Satin, B66-660 Series
2nd Coat: Same as 1st Coat
Glidden Professional:
1st Coat: Devco Coatings 4212 DEVFLEX HP Eggshell
2nd Coat: Same as 1st Coat

4. Unit Masonry

- Sherwin Williams:
1st Coat: S-W Loxon Concrete & Masonry Interior/Exterior Latex Primer, A24W8300
2nd Coat: S-W DTM Acrylic Semi-Gloss, B66-200 Series
3rd Coat: Same as 2nd Coat
Glidden Professional:
1st Coat: Fill with Glidden Professional Concrete Coatings Block Filler 3010-1200 to DFT of 9.0 to 13.6 Mils. Ensure coverage is consistent.
2nd Coat: Finish with Glidden Professional Fortis 450 Exterior 100% Acrylic Satin 6403
3rd Coat: Same as 2nd Coat

5. Pre-Painted Equipment (Rooftop Equipment, Transformers, Etc.)

- Sherwin Williams:
1st Coat: S-W DTM Acrylic Semi-Gloss, B66-200 Series
2nd Coat: Same as 1st Coat
Glidden Professional:
1st Coat: Devco Coatings 4216.DEVLEX HP Semi-Gloss
2nd Coat: Same as 1st Coat

6. Pre-Primed Metal Doors and Frames

- Sherwin Williams:
1st Coat: S-W DTM Acrylic Semi-Gloss, B66-200 Series
2nd Coat: Same as 1st Coat
Glidden Professional:
1st Coat: Devco Coatings 4216.DEVLEX HP Semi-Gloss
2nd Coat: Same as 1st Coat

7. Stucco & EIFS

- Sherwin Williams:
1st Coat: S-W Loxon Concrete & Masonry Interior/Exterior Latex Primer A244W8300
2nd Coat: S-W ConFlex High Build Coating, A5-400 Series
3rd Coat: Same as 2nd Coat
Glidden Professional:
1st Coat: Glidden Professional Hydrosealer 6001 primecoat
2nd Coat: Glidden Professional Fortis 450 Exterior 100% Acrylic Satin 6403
3rd Coat: Same as 2nd Coat

INTERIOR SURFACES

1. Wood Trim - "Painted"

- Sherwin Williams:
1st Coat: S-W Multi-Purpose Interior/Exterior Latex Primer B51W8020 Series
2nd Coat: S-W DTM Acrylic, Semi-Gloss, B666-200 Series
3rd Coat: Same as 2nd Coat
Glidden Professional:
1st Coat: Glidden Professional 3210 Gripper Multi-Purpose Primer
2nd Coat: Devco Coatings 4216 HP Semi-Gloss
3rd Coat: Same as 2nd Coat

2. Wood Trim - "Stained"

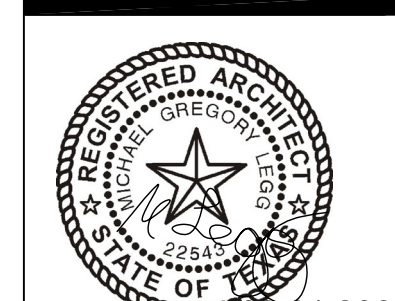
- Sherwin Williams:
1st Coat: Minwax Pre-Stain Wood Conditioner, 154-8866
2nd Coat: S-W WoodClassics Oil Stain, A49 Series
3rd Coat: S-W WoodClassics Waterborne Polyurethane Varnish, A68F90 Series, Satin
Glidden Professional:
1st Coat: Minwax Pre-Stain Wood Conditioner, 154-8866
2nd Coat: Glidden Professional 1700 WOODPRIDE Interior Finishing Stain
3rd Coat: Glidden Professional 1902 WOODPRIDE Interior Polyurethane Satin Varnish

3. Gypsum Wallboard

- Sherwin Williams:
1st Coat: S-W ProMar 200 Interior Latex Primer, B28W8200
2nd Coat: S-W ProMar 200 Latex Semi-Gloss, B31W2200 Series
3rd Coat: Same as 2nd Coat
Glidden Professional:
1st Coat: 1000 HI-Hide water -Based Primer-Sealer
2nd Coat: Glidden Professional Ultra Hide 150 Latex Eggshell 1412
3rd Coat: Same as 2nd Coat
4. Ferrous Metal and Exposed Gas Lines, Doors, Door Frames
Sherwin Williams:
1st Coat: S-W DTM Acrylic Semi-Gloss, B66-200 Series
2nd Coat: Same as 1st Coat
Glidden Professional:
1st Coat: Devco Coatings DEVFLEX 4216 HP Semi-Gloss
2nd Coat: Same as 1st Coat

5. At Dissimilar Metals

- Sherwin Williams:
1st Coat: SW Hi-Mil Sher-Tar Epoxy, B60B40 / B60V40
Glidden Professional:
1st Coat: Devco Coatings Tru-Glaze 4508 Chemical Resistant Epoxy Coating, 4508-XXXHX/ 4508-9999H



DRAWING COORDINATION
Architectural, Landscape, Civil, Structural, Mechanical and Electrical drawings are interrelated. General Contractor and all Sub-Contractors shall review and coordinate the entire set of drawings and specifications

Golden Chick Restaurant Remodel at 2311 Fredericksburg Rd San Antonio, Texas

Table with columns for DATE, DESCRIPTION, and BY

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SPECIFICATIONS
PROJECT NO. 05-05-22

SHEET NO. SP.10



**DIVISION 10 - SPECIALTIES**

**SECTION 10410 - ENTRY KEY CABINET**

**1. SECTION INCLUDES**

- A. Knox Rapid Entry System

**2. SUBMITTALS**

- A. See Section 01300 – Administrative Requirements, for submittal procedures.
- B. Product Data: Provide descriptions, applications, installation instruction.
- C. Shop Drawings: Indicate sizes, shapes and types of materials; finishes, anchors and connections.
- D. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

**3. DELIVERY, STORAGE, AND HANDLING**

- A. Order key boxes from manufacturer using original authorization/order form signed by authority having jurisdiction.
- B. Deliver key boxes to site in good condition, in original unopened packaging, and with labels intact. Inspect materials upon delivery and replace damaged or contaminated materials.
- C. Key boxes shall be shipped to contractor. Keys shall be shipped directly to authority having jurisdiction.

**4. MANUFACTURERS**

- A. The Knox Company, Phoenix, AZ; (800)522-566; 3200 Series–Surface Mounted Hinged Door Model: [www.knoxbox.com](http://www.knoxbox.com)

**5. MANUFACTURED UNITS**

- A. Basis of Design Manufacturer: Knox–Box Model 3200 Surface Mounted heavy duty with tamper switch, 1/2" solid plate door and 1/4" steel case in aluminum finish, or as required by authority having jurisdiction.

- B. Assembly:
  1. Factory assemble.
  2. Shop fabricate to the greatest extent possible.

**6. INSTALLATION**

- A. Install in accordance with manufacturer's instructions.
- B. Locate Key Box as shown on drawings.

**SECTION 10442 - ARCHITECTURAL SIGNAGE**

**1. DESIGN AND FABRICATION**

- A. All patterns for fabrication, regardless of production technique, method, or process specified, shall be approved by the Owner prior to production in order to ensure conformity to design with regard to letter form and height, wording, spelling, capitalization, punctuation, letter spacing, leading and layout or composition.

**2. MANUFACTURER**

- A. **Interior Signage:** The drawings were prepared and this specification written on the basis of using the products of Kroy Sign Systems, Scottsdale, Arizona.
- B. **Street Address Signage:** The drawings were prepared and this specification written on the basis of using the products of WestOn Letters, North Hollywood, CA.
- C. It is not the intent to limit competitive bidding. Products with equal characteristics by other manufacturers are acceptable under the conditions of these specifications.

**3. GENERAL**

- A. Regulatory signage series opaque acrylic, matte finish plaques, with front surface hot stamp graphics, in low profile frame. Configuration shown on drawings to conform with Americans with Disabilities Act requirements.
- B. Provide one sign (unit) for each restroom door opening for public facilities.
- C. Street Address Signage: Lettering to be 6" tall, University Roman Bold, Color: Medium Bronze, ¼ inch standoffs. Lettering to be ordered from: [http://www.westonletters.com/index\\_23.php?catID=23&file=HN-Styles.htm](http://www.westonletters.com/index_23.php?catID=23&file=HN-Styles.htm)

**4. INSTALLATION**

- A. Installation shall be started at the time established by the General Contractor. However, no sign work shall be permitted in the building before the building is completely enclosed and all painting and work of other trades is finished.
- B. Install signs in accord with approved shop drawings. Install true to line, plumb, level, square, in proper planes with other work and free from objectionable defects. Anchor to adequately resist all normally subjected stresses.

**SECTION 10523 - FIRE EXTINGUISHERS, CABINETS AND ACCESSORIES**

**1. SECTION INCLUDES**

- A. Fire extinguishers and cabinets.
- B. Accessories.

**2. REFERENCES**

- A. NFPA 10 – Standard for Portable Fire Extinguishers; National Fire Protection Association; 2007.
- B. UL (FPED) – Fire Protection Equipment Directory; Underwriters Laboratories Inc.; current edition.

**3. MANUFACTURERS**

- A. Fire Extinguishers, Cabinets and Accessories:
  1. Larsen's Manufacturing Co: [www.larsensmfg.com](http://www.larsensmfg.com).

**4. FIRE EXTINGUISHERS**

- A. Fire Extinguishers – General: Comply with product requirements of NFPA 10 and applicable codes, whichever is more stringent.
  1. Provide extinguishers labeled by Underwriters Laboratories Inc. for the purpose specified and indicated.
- B. Dry Chemical Type Fire Extinguishers: Stainless steel tank, with pressure gage.
  1. Class B.C.
  2. Size 10.
  3. Size and classification as scheduled.
  4. Model: MP10
  5. Bracket: B2
  6. Quantity: 1, as located on drawings.
- C. Wet Chemical Type
  1. Class K
  2. Size 2.5 Gallon
  3. Model: WC 2 1/2
  4. Bracket: 864
  5. Quantity: 2, locate per local Fire Official direction

**5. ACCESSORIES**

- A. Cabinets: Larsen's #2409–R2, Vertical Duo Clear, #4 Stainless Steel for public locations.
- B. Extinguisher Brackets: Formed steel, chrome-plated, for kitchen locations.

**6. INSTALLATION**

- A. Install in accordance with manufacturer's instructions.
- B. Secure rigidly in place.

**SECTION 10800 - TOILET ACCESSORIES**

- 1. All toilet accessories are furnished and installed by Contractor. Coordinate rough-in, openings and wood blocking.
- 2. Install fixtures, accessories and items in accordance with manufacturer's instructions, and where affected, at heights or locations for the handicapped as indicated or specified herein.
- 3. Install true, plumb and level, securely and rigidly anchored to substrate.
- 4. See Schedule on drawings for accessories.

**DIVISION 11 - EQUIPMENT**

**SECTION 11400 - FOOD SERVICE EQUIPMENT (INSTALLATION)**

**1. SECTION INCLUDES**

- A. Installation of Owner provided food service equipment.
- B. Equipment shall be furnished, assembled, and set in place under separate contract, with final utility connection by General Contractor.

**2. RELATED SECTIONS**

- A. Mechanical and Electrical services and final connections to equipment.

**3. OWNER / CONTRACTOR RESPONSIBILITIES**

- A. Owner will provide equipment manufacturer's installation instructions for Contractor's use.
- B. Owner will provide equipment manufacturer's operation and maintenance data for Contractor's use.
- C. Coordinate size of access and route to place of installation.
- D. Owner Provided (By Owner):
  1. Equipment scheduled on the drawings.
  2. Mechanical refrigeration systems, including compressor units, condensers, evaporator coils, and control valves.
  3. Motor starters.
  4. Walk-in refrigerator/freezer thermostats.
  5. Stainless steel trim strips, supports and connections, attachment devices, and accessories.
- E. Contractor Provided: Refrigerant System Installation
  1. Refrigerant Lines: Type "L" hard copper tubing.
  2. Fittings: Wrought copper or brass designed for use with high temperature solder.
  3. Piping Joints: Made with silver solder (Sil-Fos).
  4. Piping: Properly suspended from an anchor to the structure with adjustable hangers 6' o.c. maximum.
  5. Suction Lines: Size to have maximum pressure drop of two pounds in medium temperature systems, one pound in low temperature system.
  6. Liquid Lines: Sized to give maximum pressure to prevent trapping of oil. Rigid insulation on all suction lines to be Armaflex insulation by Armstrong – 1" thick at medium temp., 1-1/2" thick at low temp. Refrigerant lines in PVC or EMT conduit to be sealed at both ends with Dow Corning 3-6548 silicone RTV foam.
  7. Evacuation and Charging: After completion of the pressure test, the system shall be evacuated using an approved auxiliary vacuum pump. Connections for evacuations to be in accordance with manufacturer's recommendations.
- F. DELIVERY, HANDLING AND STORAGE
  4. Delivery: Upon receiving equipment, check crates/cartons identification labels with receiving P.O.; assure correct item has been received.
  - B. Handling: Uncrate equipment in organized manner. Take care not to misplace loose parts, accessories, assembly and operating instructions, and warranty cards. Keep utility hookup notes and tags on equipment until after connections are made. Assemble in workmanship manner in accord with manufacturer's directions, taking care to make sure fasteners are tight and components are aligned and square.
  - C. Storage: Store equipment clear of floor in manner to prevent warping, twisting, or sagging.
- G. INSTALLATION
  - A. Install items in accord with manufacturer's instructions and fabricator's shop drawings. Install in accord with local governing Health, Building, and Safety, and Fire Protection Codes and Regulations and NEMA, UL, AIA, ASME and NFPA.
  - B. Electrolysis: Insulate to prevent electrolysis between dissimilar metals. Provide sealant to achieve clean joint without crevices.
  - C. Equipment
    1. General: Set in place and position per kitchen equipment plan; ready for utility hook up. After utility hookups are made, level and secure dish tables to slope toward dishwasher. Completely close and seal gaskets, joints and seams between fixtures/equipment and walls, ceilings and floors with stainless steel trim strips and/or clear silicone sealant. Do not use sealant in joints or seams over 3/16 inch wide.
    2. Refrigerant Piping: Install copper tubing and fittings. Cut with pipe cutters and reshape with sizing tool. Expose piping to view as required by American Standard Safety Code for Mechanical Refrigeration. For exposed areas or accessible furred ceiling spaces, use hard copper tubing. Run exposed tubing in such manner as to prevent damage from activities in areas; otherwise run tubing in pipe or conduit.
    - a. Suction Lines: Size to give max pressure drop from evaporator to machine of 2 lb. For high temp system and 1 lb. For freezer system, allowing gas velocities of not less than 750 rpm in horizontal runs and 1500 rpm in vertical risers. Size liquid lines to give max pressure drop of 3 lbs. from receiver to evaporator.
    - b. Tubing Runs: Grade to prevent trapping of oil.
    - c. Ties: Secure suction and liquid lines for each system together, except when run through conduit; 24 inch intervals with black plastic electrical tape.
    - d. Insulation: Insulate refrigerant suction lines outside of refrigerated compartments back to compressors.
    - e. Hangers and Supports: Provide adjustable hangers, anchors or straps required for proper support of piping not run in conduit. Space hangers not to exceed 10 feet o.c. and closer where required for proper support of small piping. Provide insulated refrigerant piping with approved type sleeves at hanger points.
  3. Walk-In Cooler/Freezer Boxes: Transit level floor screens prior to wall and ceiling panel erection. Seal wall and/or ceiling penetrations for electrical conduits and refrigeration lines, etc., to prevent frost and condensate build-up. Electrical conduits; on exterior of box.
  4. Oil Separators: Provide low temperature operations of system, return line connected to top of crankcase above oil level. Provide exposed oil return lines with shut-off valves of packless stem type.
  5. Evaporator Coils: Support by hangers utilizing fish plates on top of walk-in unit a full 4 inches clear from underside of ceiling panels.

**DIVISION 15 - MECHANICAL SYSTEMS**

**SECTION 15100 - GENERAL MECHANICAL REQUIREMENTS**

**1. Scope of Work:**

- a. The work to be accomplished under this Section of Specifications includes the furnishing of all labor, materials, supervision and equipment for the complete installation of air conditioning, heating, ventilating, plumbing, fire protection together with all the necessary auxiliaries and appurtenances. Generally the work shall consist of, but is not limited to, items listed in the following paragraphs.
- b. Air Conditioning and Heating: Factory built air conditioning and heating units of the single zone roof top and split system units, filters, fans, motors, drives, hoods, etc.
- c. Air Distribution System: Sheet metal ductwork, volume dampers, splitter dampers, turning vanes, air control devices, grilles, registers, diffusers, flexible duct, install per SMACNA Standards. Fiberglass duct board is not an acceptable alternative.
- d. Plumbing: Soil, waste and vent piping, domestic hot and cold water distribution, hot water generators, fixtures, grease traps, vents, condensate lines of HVAC and miscellaneous equipment, underfloor or overhead soda, refrigerant line conduit and/or roof leaders.
- e. Miscellaneous Supply and exhaust fans, make-up air units, temperature controls, thermal insulation, apparatus foundations and supports, pipe hangers and supports and all necessary tools, accessories and appliances as required to make all systems complete and operative.

**2. Products and Execution:**

- a. Electrical Provisions for Mechanical Work: Except for such items as are normally wired up at their point of manufacture and so delivered, and unless specifically noted to the contrary herein, the Electrical Subcontractor will do all electric wiring of every character for power supply. Control wiring shall be furnished and installed by the Electrical Subcontractor. This Subcontractor shall erect all motors in place ready for connection. Except for such items as are normally supplied with starters installed (HVAC units, dishwashers, etc) at their point of manufacture. All other starters not furnished with equipment to be furnished and installed by Electrical Contractor. The Electrical Subcontractor will mount all such starters, as directed, furnishing supporting structures where necessary. The Owner and other Contractors shall furnish with each item requiring electrical connections, the necessary instructions and wiring diagrams to the Electrical Subcontractor. The Electrical Subcontractor shall refer to the specifications to determine the scope of the work.
- b. Chases and Openings: Various divisions, however, the locations of all inserts and openings shall be determined and coordinated with other divisions in ample time to avoid cutting new construction.
- c. Roof Flashing of Ducts and Curbs: Division 7, however, plumbing vent flashing and counter flashing shall be provided under this Division and per roof manufacturer recommendations.
- d. Openings in Roof Deck: Where piping, ducts, vents or any other mechanical apparatus penetrates roof deck and opening is not specifically shown on structural drawings, obtain Architect's approval of location and size. Have roof deck installer do cutting and pay installer cost of cutting opening.

**3. Permits, Fees and Code Regulations:**

- a. Permits: Obtain all permits required to do this work and pay any fees required to such permits.
- b. Regulations: Conform to all State and Local Ordinances and Rulings applicable to this work and in effect at the time the work is performed. Approval of various insuring and inspection authorities shall be obtained. When requested, competent evidence of compliance, with applicable codes, shall be furnished.
- c. Conflicts: If a conflict exists between the drawings and/or specifications and any above mentioned authority, the Contractor shall advise the Architect/Engineer in writing five (5) days prior to presenting Proposal or stand any cost required to meet regulations.

**4. Structural and Space Condition:**

- a. The specifications and accompanying drawings are intended to encompass a system that will not interfere with the structural, electrical and architectural design of the building, and which will fit into the several available spaces. As it is not within the scope of the drawings to show all necessary offsets and obstructions of structural conditions, it shall be the responsibility of the Contractor to install his work in such a manner that it will conform to the structure, avoid obstructions and interferences with other trades, preserve headroom, and keep openings and passageways clear.
- b. Do not run piping or ductwork, or locate equipment (with respect to switchboards, panelboards, power panels, motor control centers or dry type transformers) within 42" in front of equipment, over equipment or within 36" horizontally of same space.

**5. Drawings:**

- a. The drawings as prepared are diagrammatic but shall be followed as closely as actual construction of the work and the work of the trades will permit. Changes from the drawings necessary to fit the work of various trades, to conform to equipment actually being installed, or to conform to the rules of authorities having jurisdiction shall be made without additional cost to the Owner.

**6. As-built Drawings:**

- a. Provide and keep up-to-date, a complete record set of blue line prints which shall be corrected daily with dated notations, and shall show every change from the original Contract drawings. This set of prints shall be kept on the job site and shall be used only as a record set.

**7. Protection of Materials:**

- a. Take such precautions as are necessary to protect all equipment and materials from damage.

**8. Workmanship:**

- a. Labor shall be performed in a workmanlike manner by mechanics skilled in their particular trades.

**9. Materials and Equipment:**

- a. All materials shall be new and of the best quality. Where manufacturer's names and model numbers are mentioned in the specifications, it is intended to set a standard of quality and shall not be construed to limit competition unless specifically stated in drawings or to discriminate against "equal" products of other manufacturer. The words "or approved equal" are to follow each material specification where a substitution will be considered. Any proposed substitution must be submitted for comparison and it is understood that the Engineer shall be the sole Judge in the matter.

**10. Vibrations and Noise:**

- a. Each of the various pieces of equipment shall operate without objectionable vibration or noise. All rotating equipment shall be in static and dynamic balance and shall be mounted, supported and fastened so that no equipment vibration will be transmitted to the building. The specific size of vibration isolation shall be in accordance with manufacturer's recommendation and shall be submitted to the Architect for approval. If, in the opinion of the Architect, objectionable vibration or transmission thereof to the building occurs, the Contractor shall execute remedial measures as may be necessary to eliminate such unsatisfactory operating conditions at the Contractor's expense.

**11. Operating Instructions:**

- a. Brochures: Written instructions, assembled and bound in brochures, shall be furnished in triplicate for operating and maintaining all equipment furnished under this Division of the Specifications. Instructions shall include all normal adjustments, a list of lubricating points with the type and frequency of lubrication required. Parts lists shall be furnished.
- b. Demonstration: Upon completion and acceptance of work by the Owner, the Contractor shall be provided to instruct the operating personnel in the operation of the entire installation. Two sessions shall be held, one for summer operation and one for winter operation, both in the respective seasons.
- c. Equipment location and Use: Provide, in triplicate, suitably bound operating book containing all equipment, its location, use and description, and building schematics. Submit to Architect for approval before printing in final form.
- d. Contractor shall instruct manager on the programming of all thermostats. This shall be a hands-on explanation. Contractor shall also provide manager with booklet showing programming instructions.

**12. Final Inspections:**

- a. Schedule: Upon completion of Contract, there shall be a final inspection of the completed installation. Prior to this inspection, all work under this Division shall have been completed, tested, balanced, and adjusted and in final operating condition.
- b. Personnel: A qualified person representing the Contractor must be present at this final inspection to demonstrate the system and prove the performance of the equipment.

**13. Cutting and Patching:**

- a. Where cutting and patching becomes necessary to permit the installation of any work under this Contract, or should it become necessary to repair any defects that may appear in patching up to the expiration of the guarantee, such cutting shall be done under the supervision of the Owner by the trade of Subcontractor whose work is to be disturbed. After the necessary work has been completed, the trade of Subcontractor whose work has been disturbed shall repair damage. The cost of all cutting and patching shall be paid by the trade of Subcontractor requiring it to be done.

**14. Excavations and Backfilling:**

- a. Provide necessary excavating and backfilling for the installation of work specified in this Division. Trenches for underground piping and conduits shall be excavated to required depths with bell holes provided as necessary to ensure uniform bearing. Care should be taken to excavate below depth, and any excavation below depth shall be refilled with sand or gravel firmly compacted. Where roof or hard objects are encountered, they shall be excavated to a grade size inches (6") below as specified. After the pipe has been installed, tested and approved, the trenches shall be backfilled to grade with approved material, well-tamped or padded compactly in place. Do not proceed with backfill operations until piping has been inspected by the Owner or by the local inspector of the municipality in which the work is being performed. Do not perform backfilling operations except in the presence of the Owner or inspector. All piping outside the building shall be installed below the frost line. Where streets, sidewalks, etc. are disturbed, cut or damaged by this work, the expense of repairing same in a manner approved by the Owner shall be of part of this Contract.

**15. Guarantee:**

- a. The guarantee provision of this specification requires prompt replacement of all defective workmanship and materials occurring within one year of job acceptance. This includes all work required to remove and replace the defective item and to make all necessary adjustments to restore the entire installation to its original specified operating condition and finish at the time of acceptance.

**SECTION 15400 - PLUMBING**

**1. Scope of Work:**

- a. Furnishing of all labor, materials, tools, transportation services, etc. necessary to complete the installation of the plumbing system and as described in these specifications, as illustrated on the accompanying drawings, or as directed by the Architect.
- b. All hot and cold water systems with complete connections from the water meter to all plumbing fixtures and equipment requiring water connections. These systems will be complete with controls, valves, equipment, devices and insulation.
- c. All soil, waste, and vent systems outside and inside the building and sewer connections to Municipal system as indicated on drawings.
- d. Furnish and set plumbing fixtures, including all the required trim and supports.
- e. Trenching, pipe bedding and backfilling.
- f. All rough-in and final connection to equipment in the Kitchen and Service areas, if indicated on the drawings, including necessary traps and miscellaneous items as required. Coordinate w/ Owner and R.E.C.
- g. Furnish all final plumbing connections to heating and air conditioning equipment, and kitchen equipment including condensate drains, indirect waste and gas piping. See Food Service drawings for requirements.
- h. Meters and Utility Connections:

- 1. Water: Coordinate work with the Landlord and the local water company. Furnish all labor and/or material (not furnished by the water company), which is required to connect to existing line and/or set meter. Install all permanent water supply lines from the point of connection and complete the work as shown, all in accordance with the requirements of the local water utility. Owner shall pay tap fees. (If required) Plumbing Contractor shall pay all work related inspection fees by authority having jurisdiction.
- 2. Sewer Connections: Coordinate work with the Landlord and/or local utility company. All work and materials shall be in strict accordance with the requirements of the local governing authority. Tap fees shall be paid by Owner (if required). Plumbing Contractor shall pay all work related inspection fees by authority having jurisdiction (if required).
- 3. Gas: Coordinate work with local utility and furnish all labor and/or materials (not furnished by utility) which is required to provide a working utility for Owner, inclusive of meter and/or regulator. Furnish system from tapping point to and in the building as required and shown on drawings. Owner shall pay tap fees. Plumbing Contractor shall pay all work related inspection fees.
- a. Gas piping to heating, ventilating and air conditioning equipment, and cookline appliances.

**4. Shop Drawings:**

- a. Within 15 days after award of Contract, and before any plumbing materials are delivered to the job site, submit to the Owner complete digital shop drawings in accordance with the provisions of Section 01300 of these specifications, including all plumbing fixtures, trim, drains, cleanouts, piping, valves, insulation, hangers, supports, equipment and devices proposed to be furnished and installed. Shop drawings shall not be reviewed unless they bear the review stamp of the General Contractor.

**3. Product Handling:**

- a. In the event of damage, immediately make all repairs and replacements necessary to the approval of, and at no additional cost to the Owner.

**4. Examination of the Site:**

- a. All Contractors submitting proposals for this work shall first examine the site and all conditions, including local rules and regulations, thereon and /or therein. All proposals shall have taken into consideration all conditions that may affect the work under this Contract. Lack of this information will not be considered as justification for extra cost or allowances to the Contract price.

**5. Guarantee:**

- a. All work performed under this section shall be guaranteed to be free of defective materials and workmanship for a period of one year after final acceptance of the work by the Owner.
- b. Upon notice received from the Owner, Architect or Engineer, of failure of any part of the guaranteed equipment during the warranty periods, the Contractor, at no additional cost to the Owner, shall promptly replace the affected part or parts with new parts. All labor required to perform guaranteed shall be included as part of the complete warranty.

**6. Products:**

- a. Description
  1. Soil, Waste and Vent Piping: See plans for specifications.
  2. Soda Sleeves: See plans for specifications.
  3. Hot and Cold Water Piping: See plans for specifications.
- 4. Condensate Drain Piping:
  - a. See plans for specifications.
  - b. Contractor shall furnish and install line sized condensate drains on cooler/freezer evaporator coils; with trap assembly and 2" air gap above drain as shown on the drawings. Freezer condensate piping shall be wrapped with heat tape with a minimum rating of 10 watts per lineal foot for its entire length within the freezer compartment.
- 5. Direct and Indirect Waste Piping: See plans for specifications.

**6. Gas Piping:**

- a. Gas piping including tap and service shall be included. Coordinate meter location with local authority.
- b. Underground gas piping shall be Schedule 40 black steel pipe with long radius steel welding fittings. Protect pipe and fittings with manufacturer available wrapping tape applied in accordance with the manufacturer's recommendation. Other type of pipe protection of equivalent quality will be optional with this Contractor. Installation of gas service piping and material shall meet with local gas company's approval.
- c. Gas piping above ground: See plans for specifications.
- d. Gas piping shall supply HVAC units and kitchen equipment if indicated on drawings by this Contractor.
- e. Moisture traps shall be installed on each piping drop for HVAC units, water heater and kitchen equipment.

**7. Insulation**

- a. All Water Pipes, Rain Leaders and etc, shall be insulated. Piping shall be insulated to prevent excessive heat loss and to prevent condensation and sweating.
- b. See plans for specifications.
- c. As much of the insulation as possible shall be slipped on to the piping as the piping is being connected in order to avoid cutting the insulation. All butt ends and any necessary longitudinal joints shall be sealed with rubber based adhesive.

**7. Fixtures:**

- a. See plans for specifications.

**8. Flashings:**

- a. All piping and vents passing through roof shall be flashed watertight with six pound to the square foot lead using sleeve flashing with base extending at least 12 inches in each direction beyond the outside diaphragm of the pipe. Turn sleeve down a minimum of 1-1/2" into top of vent pipe with lead fitting snugly inside of pipe. All gas vent caps shall be fitted with lead fitting snugly inside of pipe. All vent caps shall be vandal proof. Verify approved flashing material and methods with roofing contractor to ensure a complete job. See details on architectural sheets.

**9. Cleanouts:**

- a. See plans for specifications.

**10. Equipment:**

- a. Water Heater, Furnished and installed by Plumbing Contractor:
  1. Size, capacity, type and manufacturer as indicated by drawings.
  2. The water heater shall be provided with all temperature and safety controls including ASME and ANSI Z21.22 rated temperature and pressure relief valve, gas pressure regulator (if required), drain valve, expansion tank, etc.
  3. Plumber shall make water, gas and relief line connections with cutoff valves and dielectric unions in water and gas lines.
  - b. Valves, Cocks and Faucets:
    1. Unless specifically indicated elsewhere, the valves shall be designed for not less than 126 lbs. working pressure. The valves shall have suitable valve body patterns for connection to the pipe for which they will operate. All valves with rising stems shall have back seats for packing under pressure.
    2. Cutoff valves underneath lavatories, tank type water closets, sanitary sinks and water coolers shall be chrome plated angle stop valves with soft annealed chrome plated copper connection pipes and chrome plated escutcheon plates.
    3. Gas Cocks for all Equipment: See drawings for requirements.
    4. Water cutoff valve shall be bronze solder joint, 125 lb. WOC with rising stems.
    5. Exterior hose cocks and valve fixtures to be non-freeze type, supply shut-off valves if indicated on plans.

**11. Execution:**

- a. Piping:
  1. All piping shall be run concealed except where shown otherwise on drawings.
  2. Valves, traps, cleanouts and other apparatus shall be installed in an inconspicuous location.
  3. Soil, waste and vent offsets and house drains shall be installed with a minimum, uniform grade of 1/4" to the foot, unless otherwise indicated or required by local codes.
  4. Hot and cold water lines shall be at least 6" apart where piping is parallel.
  5. All water lines shall be run overhead and down partition walls unless no wall is provided; then run lines under slab to point of termination. All lines shall be concealed unless noted otherwise on plans.
    - a. Hangers and Supports:
      1. PEX piping shall be supported at intervals not to exceed 6'-0" and at each change in horizontal or vertical direction. Hanger attachment to structure shall be as required by the manufacturer.
      2. Copper piping shall be supported at intervals not to exceed 7'-0" and at each change in horizontal or vertical direction. Hanger attachment to structure shall be as required.
      3. Gas piping shall be supported at intervals not to exceed 8'-0" and at each change in horizontal or vertical direction. Attachment to structure to be as required.
      4. Hanger rods shall be standard bolt steel with machine screw threads, 3/8" diameter minimum.
      5. All piping underground shall be firmly bedded on the body of the pipe, and bell holes provided at each bell. All piping shall be installed in graded trench. Excavate, backfill and support piping as herein before specified.
    - c. Plumbing Fixtures:
      1. Furnish and install all plumbing fixtures complete with all equipment fittings, trimmings and accessories, as specified.
      2. All fixtures shall be Grade A. The name or trademark of the manufacturer shall be printed or pressed on all closets and lavatories, and a label, which cannot be removed without destroying it, containing the manufacturer's name or trademark and the quality or class of the fixtures, shall be affixed to oil fixtures and not removed until after the work has been accepted.
      3. Exposed piping to fixtures shall be a product of the fixture manufacturer or approved equal and shall be:
        - a. Water: Chromium plated iron pipe size rod brass.
        - b. Waste: Chromium plated tubing, except waste connections to kitchen or scullery sinks.
      4. Stops as manufactured by the fixture manufacturer, with metal-to-metal seat, shall be provided for all fixtures and equipment. Refer to schedule on drawings for manufacturers and model numbers used as guide specifications. Numbers listed represent the complete workable outfits with all brass trim as necessary.
      5. Fixtures shall be white unless otherwise noted.
      6. Fixtures furnished by this Contractor or by the Owner shall be fitted with necessary water supplies, stops and traps with cleanout plugs under this section of the specifications.
    - d. Tests:
      1. The plumbing system and associated system shall be subject to constant inspection and final approval of the code authorities having jurisdiction. Tests, in addition to those included in this section, required to show code compliance, shall be performed as directed.
      2. The soil, waste and vent lines of the sanitary systems shall be subjected to a water pressure test of not less than 10 feet of water head pressure or 54 pounds of air pressure for a duration of not less than 2 hours. During the pressure tests each joint shall be inspected for leaks. The lines shall be tested as an entire system, but all the underground and concealed lines shall be given the above test and approved before the lines are covered.
      3. The domestic water piping system shall be subjected to a water pressure test of not less than 150 PSI for duration of not less than 2 hours. The water piping shall be tested as an entire system, but all underground and concealed lines shall be given the above test and approved before the lines are covered.
      4. The gas system, from the meter connection and throughout the new work, shall be subjected to an air pressure test of not less than 50 PSI for a duration of not less than 4 hours and at the same time each joint and connection shall be tested by applying soap suds to each joint. The gas piping shall be tested as an entire system, but all underground and concealed lines shall be given the above test and approved before being covered. Further, each exposed joint shall be tested with soapsuds after the gas has been admitted into the system.
      5. Should the Contractor refuse or neglect to make any tests necessary to satisfy the Owner, his representative or coding officials, that he has carried out the true intent and meaning of the specifications, the Owner may take such tests and charge the expense thereof to the Contractor.
  - e. Cleaning and Protection:



**SECTION 15 - MECHANICAL SYSTEMS (CONTINUED)**

**SECTION 15700 - HEATING, VENTILATING AND AIR CONDITIONING**

**1. Work Included:**

- A. Heating, ventilating and air conditioning work required, including hoisting of equipment to the specified locations and setting it in place, includes, but not necessarily limited to:
1. Package heating, ventilating and air conditioning units.
  2. Installation of Owner furnished exhaust hood(s).
  3. All HVAC & hood exhaust ducts, dampers, grills, registers and diffusers.
  4. Insulation of ducts and piping.
  5. Installation of exhaust fans, make-up air fans and gravity vents.
  6. HVAC controls and remote temperature sensors.

B. Gas Connections (if required see drawings): Plumbing Contractor will bring Gas to heating, ventilating and air conditioning and final tie-in to HVAC by Plumbing Contractor.

**2. Intent of Drawings:**

A. The drawings are diagrammatic to the extent that they may not indicate all offsets, bends, special fittings and exact locations.

B. Piping, ductwork, apparatus and equipment shall be installed to avoid obstructions, preserve headroom, keep openings and passageways clear, and make all operating equipment accessible for maintenance.

**C. Governing Codes and Standards:**

1. Install all work in accordance with the rules and regulations of the Standards of Safety, adopted and approved by the Insurance Underwriters and the latest standards recognized by ASHRAE and SMACNA and in accordance with local code.
2. In case of conflict between said codes and the drawings, the codes shall govern in all cases; however, notify Owner, before making such change.

**3. Examinations of Drawings and Site:**

A. Before commencing the work, the Contractor shall carefully study the drawings, specifications and site. He shall definitely determine in advance the methods of installing and connecting the apparatus, the means for getting the equipment into place, and shall make himself similar with all of the requirements of the Contract. Equipment shall physically fit the area allocated with ample access for service.

B. The Contractor shall refer any discrepancies to the Architect for decision before proceeding with the work

**4. Submittals:**

A. Materials List: The Contractor shall submit a digital submittal of equipment brochures in index form within fifteen (15) days after contract is signed. All equipment and material submittals shall be submitted at one time. The drawings submitted shall bear the stamp of approval of the Contractor as evidence that the drawings have been checked by the Contractor and comply with the requirements of the Contract drawings and specifications.

**5. Guarantee:**

A. Furnish written certified guarantee, in acceptable form, to the Owner, against defective workmanship, materials, and operating equipment; further, guarantee to rebalance and adjust entire system or any part thereof, as required for perfect operation for a period of at least one (1) year after acceptance, including cost of refrigerant charge. Repair, replace and make satisfactorily operative any and all defective items and, work holding Owner free from any cost and liability in connection therewith for the term of guarantee. The manufacturer shall provide a warranty on his unit compressors for a period of five (5) years.

**6. Coordination of Other Trades:**

A. The work under this section shall be coordinated with other trades to maintain a rapid and smooth construction progress with a minimum of interference.

**7. Painting:**

A. Apply one (1) coat of Zinc Chromate, or Rustoleum to bare metal surfaces of supports, etc. color to match unit's color or as directed by Architect or Owner.

**8. Clean-up:**

A. All equipment and exposed surfaces shall be left smooth and clean. All plate work shall be polished and the entire premises shall be cleaned of unused materials, rubbish, and debris and grease spots.

**9. Products:**

**A. General**

1. All Equipment shall be the capacity and type shown on the Equipment Schedule on the drawings and shall as manufactured by one of the manufacturers designated on that schedule or shall be an equal approved in advance by the Architect.

**B. Sheetmetal Work**

1. Sheetmetal: Prime steel sheets, hot dipped galvanized of the following gauges:
  - (a) Up to 12" wide or diameter, #26
  - (b) 13" to 30" wide or diameter, #24
  - (c) 31" to 60" wide or diameter, #22
  - (d) Partitions forming plenum or suction chambers, #18 gauge with 1-1/2" x 1-1/2" x 3/16" galvanized iron angle and rivets for seam connection and stiffening.
  - (e) Exposed round duct shall be dual wall insulated pipe manufactured of spiral lock seams, with minimum gage per the appropriate SMACNA Tables and per manufacturer's recommendations.
2. Duct Construction:
  - (a) Longitudinal Joints: Pittsburgh corner seams or snap lock.
  - (b) Transverse Joints: Government locks riveted at corners, constructed of metal one gauge heavier than that jointing duct sections. Ducts under 20" may be jointed with transverse capstrips.
  - (c) Supports: Except as otherwise specified, all duct hangers shall be constructed of 3/4" No. 16 galvanized strap, spacing not to exceed eight foot intervals. Where duct hangers exceed six feet in length, provide adequate sway bracing. All vertical ducts shall be supported on angle iron brackets.
  - (d) Elbows: Made for an easy flow of air for minimum friction, inside radius equal to width of duct. Provide elbows with approved duct turns where indicated on plans or where space does not permit required radius.
  - (e) Flexible Connection: At all fans, connections shall be Neoprene coated glass fiber cloth ends which are to be turned into abutting ends of sheetmetal or angle iron frames so as to form a gasket to form an air tight joint.
3. Workmanship and construction shall meet and exceed the standards as set forth by SMACNA

**C. Grilles, Registers and Diffusers:**

1. Sizes: As indicated on drawings.
2. Supply diffusers: As indicated on drawings.
3. Return Air Registers: As indicated on drawings.

**D. Duct Insulation:**

1. Insulate all supply, make-up air and return air ducts with foil-faced blanket, see plans for additional Information. (Not required for exposed Spiral, Round duct).
2. Maximum 25 flame spread 50 smoke developed.

**11. Execution:**

**Installation of Equipment:**

1. General:
  - (a) Install all equipment where indicated on the approved Contract drawings.
  - (b) Avoid interference with structure and the work of other trades: do not cut into load carrying members without the specific approval of the Architect.
  - (c) Temperature control system shall be as shown on the drawings.

**B. Acceptance:**

1. The system shall not be considered for acceptance until the Mechanical Subcontractor has completed work and demonstrated to the representative of the Owner, proper operation of the system and strict compliance with the specifications, particularly in reference to the following articles of these specifications,
  - (a) Testing
  - (b) Cleaning
  - (c) Instructions and Operating Manuals
  - (d) Training of Operating Personnel
  - (e) As-Built Drawings
  - (f) Guarantee Certificates
  - (g) Start up and Test Document
  - (h) Independent Air Balance Report

**C. Air Conditioning Unit Start-up and Test:**

1. All air conditioning equipment shall be started and checked by the manufacturer's factory service personnel. The manufacturer shall correct any problems arising with the equipment. The manufacturer shall provide a checklist or report on the operation of the equipment, which shall be forwarded to the Architect.

**D. Guarantee:**

1. The guarantee provision of this specification requires prompt replacement of all defective workmanship and materials occurring within one year of job acceptance. This includes all work required to remove and replace the defective item and to make all necessary adjustments to restore the entire installation to its original specified operating condition and finish at the time of acceptance.

**12. Exhaust Hood and Fan System:**

A. Kitchen hoods and fans complete with roof mounting curbs; collars and dampers will be furnished, to the job site by the Owner. Kitchen supply and exhaust, all complete with roof mounting curbs; collars and dampers will be furnished with the kitchen equipment package and installed as part of the General Contract. The Contractor will hang the hoods, set fan curbs and fans, and furnish and install all interconnecting sheet metal ductwork as, required by code and per hood manufacturer's cut sheets.

**13. Testing, Adjusting and Balancing:**

A. The testing, adjusting and balancing of the air conditioning and hood system will be performed by an independent technical firm employed directly by the Owner and shall not be part of the Mechanical Contractor's scope of work. The Air Conditioning Contractor shall provide and coordinate the services of qualified responsible mechanics and other personnel as required to correct, repair or replace all deficient items or conditions found during the testing and balancing period.

**DIVISION 16 - ELECTRICAL SYSTEMS**

**SECTION 16050 - BASIC METHODS AND REQUIREMENTS**

**1. RELATED DOCUMENTS**

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 specification sections, apply to work of this section.
- B. Furnish and install all electrical wiring, systems, equipment and accessories in accordance with the specifications and drawings. Capacities and ratings of motors, cable, panelboards, etc., and arrangement for specified items in general are shown on drawings.
- C. All ampacities herein specified or indicated on the drawings are based on copper conductors, with the conduit and raceways accordingly sized. Aluminum conductors are not permitted.

**2. MINIMUM REQUIREMENTS**

- A. References to the National Electrical Code (NEC), Underwriters Laboratories, Inc. (UL), and National Fire Protection Association (NFPA) are a minimum installation requirement standard. Design drawings and other specification sections shall govern in those instances where requirements are greater than those specified in NEC.
- B. The rules and regulations of the Federal, State, local, civil authorities and utility companies in force at the time of execution of the contract shall become a part of this specification.
- C. No work shall be done unless the Superintendent of the Contractor is on the job site. Work shall be properly protected, all rubbish removed promptly, and exposed work shall be carefully cleaned prior to final acceptance.
- D. The term "provide" shall include labor, materials, and equipment necessary to furnish and install, complete and operable, the item or system indicated.
- E. In decisions arising from discrepancies, interpretation of Drawings and Specifications, substitutes, and other pertinent matters, the decision of the Owner's representative's approval shall be final.

**3. SPECIFICATIONS AND DRAWINGS**

- A. Plans show location of fixtures and equipment and are intended to depict the general intent of the work in scope, layout and quality of workmanship. They are not intended to show in minute detail every or all accessories intended for the purpose of executing the work, but it is understood that such details are a part of this work.
- B. Where Drawings and Specifications conflict, it shall be the responsibility of this Contractor to bring such conflict to the attention of the Architect/Engineer for clarification. In general, the Architectural Drawings shall take precedence over the Mechanical Drawings with reference to building construction. All changes from the Drawings necessary to make the work conform with the building as constructed and to fit the work of other trades or to conform to the rules of authorities having jurisdiction, shall be made by the Contractor at his own expense.
- C. Keep a record of the locations of concealed work and of any field changes in Contract Drawings and Specifications for each trade and, upon completion of the job, supply "As-Built" Drawings and Specifications showing in pencil on sepia reproducible, any deviations from the original Drawings, indicating in the Specifications each manufacturer's name underlined or inserted whose product was used on the job. These Drawings shall indicate dimensions of buried utility lines from building walls. One set of sepia reproducible of the original tracings will be furnished upon request for this purpose.

**4. STANDARDS**

- A. All material and equipment shall be listed, labeled or certified by Underwriters Laboratories, Inc., where such standards have been established. Equipment and material which are not covered by UL Standards will be accepted provided equipment and material is listed, labeled, certified or otherwise determined to meet safety requirements of a nationally recognized testing laboratory. Equipment of a class which no nationally recognized testing laboratory accepts, certifies, lists, labels, or determines to be safe, will be considered if inspected or tested in accordance with national industrial standards, such as NEMA or ANSI. Evidence of compliance shall include certified test reports and definitive shop drawings.
- B. Definitions:

**1. Listed: Equipment is "listed" if of a kind mentioned in a list which:**

- a. Is published by a nationally recognized laboratory which makes periodic inspection of production of such equipment.
- b. States that such equipment meets nationally recognized standards or has been tested and found safe for use in a specified manner.

**2. Labeled: Equipment is labeled if:**

- a. It embodies a valid label, symbol, or other identifying mark of a nationally recognized testing laboratory such as Underwriters Laboratories, Inc.
- b. The laboratory makes periodic inspections of the production of such equipment.
- c. The labeling indicates compliance with nationally recognized standards or tests to determine safe use in a specified manner.

**3. Certified: Equipment is "certified" if:**

- a. Equipment has been tested and found by a nationally recognized testing laboratory to meet nationally recognized standards or to be safe for use in a specified manner.
- b. Production is periodically inspected by a nationally recognized testing laboratory.
- c. It bears a label, tag, or other record of certification.

4. Nationally recognized Testing Laboratory: A testing laboratory which is approved, in accordance with OSHA regulations, by the Secretary of Labor.

**5. QUALIFICATIONS (PRODUCTS AND SERVICES)**

- A. Manufacturers Qualifications: The manufacturer shall regularly and presently produce, as one of the manufacturer's principal products, the equipment and material specified for this project, and shall have manufactured the item for at least five years, unless otherwise noted elsewhere in the specifications or on the drawings.
- B. Product Qualification:

1. Manufacturer's product shall have been in satisfactory operation on three installations of similar size and type, as this project, for approximately three years.
2. The Owner reserves the right to require the contractor to submit a list of installations where the products have been in operation before approval of said products.

C. Service Qualifications: There shall be a permanent service organization maintained or trained by the manufacturer which will render satisfactory service to this installation within four hours of receipt of notification that service is needed. Submit name and address of service organizations.

**6. MANUFACTURED PRODUCTS**

- A. Materials and equipment furnished shall be of current production by manufacturers regularly engaged in the manufacture of such items, for which replacement parts should be available. Items not meeting this requirement, but which otherwise meet technical specifications, and merits of which can be established through reliable test reports or physical examination of representative samples, will be considered.
- B. When more than one unit of the same class of equipment is required, such units shall be the product of a single manufacturer.
- C. Equipment Assemblies and Components:

1. All components of an assembled unit need not be products of the same manufacturer, however, the assembled unit shall be the responsibility of a single manufacturer and warranted as such.
2. Manufacturers of equipment assemblies, which include components made by others, shall assume complete responsibility for the final assembled unit.
3. Components shall be compatible with each other and with the total assembly for the intended service.
4. Constituent parts which are similar shall be the product of a single manufacturer.
  - D. All factory wiring shall be identified on the equipment being furnished and on all wiring diagrams.

**7. EQUIPMENT REQUIREMENTS**

- A. Equipment voltage ratings shall be in accordance with the requirements indicated on the drawings or as specified.
- B. Prior to bid, written approval shall be obtained by the Contractor for any equipment that differs from those specified on the drawings and specifications. The Contractor shall be prepared to submit samples of the equipment when requested at no cost to the Architect/Engineer.

1. The Contractor shall furnish drawings showing all installation details, shop drawings, technical data and other pertinent information as required to determine that the equipment is equivalent in quality and function to the equipment specified.

2. Approval by the Architect/Engineer of the equal equipment does not relieve the Contractor of the responsibility of furnishing and installing the equipment at no additional cost to the Owner.

3. Any other items required for the satisfactory installation of the equal equipment shall be furnished and installed at no additional cost to the Owner. This includes but shall not be limited to additions or changes to branch circuits, circuit protective devices, conduits, wire, feeders, controls, panels and correlation with other work, subject to the jurisdiction and approval of the Architect/Engineer.

- C. Catalogue numbers, where given, are intended to give a basis for design, quality and function. Any other incidental equipment needed for a complete and functional installation shall be provided at no additional cost.
- D. EQUIPMENT PROTECTION: Equipment and material shall be protected during shipment and storage against physical damage, dirt, moisture, cold and rain.
- E. During installation, equipment, controls, controllers, circuit protective devices, etc., shall be protected against entry of foreign matter; and be vacuum cleaned both inside and outside before testing, operating and painting.
- F. Damaged equipment shall be, as determined by the Architect/Engineer, placed in first class operating condition or be returned to the source of supply for repair or replacement.
- G. Painted surfaces shall be protected with factory installed removable heavy kraft paper, sheet vinyl or equal.
- H. Damaged point on equipment and materials shall be refinished with the same quality of paint and workmanship as used by the manufacturer so repaired areas are not obvious.

**8. WORK PERFORMANCE**

- A. Arrange, phase and perform work to assure electrical service for other buildings at all times.
- B. New work shall be installed and connected to existing work neatly and carefully. Disturbed or damaged work shall be replaced or repaired to its prior conditions.
- C. Coordinate location of equipment and conduit with other trades to minimize interferences.
- D. Obtain and pay for all required installation inspections and deliver certificates approving installations to the Owner unless directed otherwise.

**9. EQUIPMENT INSTALLATION AND REQUIREMENTS**

- A. Equipment location shall be as close as practical to locations shown on the drawings. Where architectural features govern location of work, refer to architectural drawings.
- B. Working spaces shall not be less than specified in the National Electrical Code for all voltages specified.
- C. Inaccessible Equipment:

1. Where the Owner/Architect/Engineer determines that the Contractor has installed equipment not conveniently accessible for operation and maintenance, equipment shall be removed and reinstalled as directed at no additional cost to the Owner.

2. "Conveniently accessibility" is defined as being capable of being reached without the use of ladders, or without climbing or crawling under or over obstacles such as motors, pumps, belt guards, transformers, piping, and duct work.

**D. Equipment and Material:**

1. New equipment and material shall be installed, unless otherwise specified.
2. Equipment and material shall be designed to assure satisfactory operation and operating life for environmental conditions where being installed. NEC and other code requirements shall apply to the installation in areas requiring special protection such as explosion-proof, watertight and weatherproof construction.

**E. Utility Services:**

1. Determine utility connection requirements and include in the base bid all costs to the Owner for utility service.
2. Include all costs for temporary service, temporary routing of service or any other requirements of a temporary nature associated with the utility service.

**F. Continuity of Service:**

1. No service shall be interrupted or changed without permission from the Architect and the Owner. Written permission shall be obtained before any work is started.
2. When interruption of services is required, all persons concerned shall be notified and a prearranged time agreed upon.

**G. Concrete Work:**

1. Provide all cast-in-place concrete shown on the documents unless noted otherwise. Concrete work shall conform to all applicable Division 2 and 3 specification sections.
2. Provide all anchor bolts, metal shapes and templates required to be cast in concrete or used to form concrete for support of electrical equipment.

**10. EQUIPMENT IDENTIFICATION**

- A. In addition to the requirements of the National Electrical Code, install an identification nameplate which will clearly indicate information required for use and maintenance of items such as switchboard, panelboards, cabinets, safety switches, separately enclosed circuit breakers, motor starters, communications systems cabinets, control devices and other significant equipment.
- B. Nameplates shall be laminated white phenolic resin with a black core with engraved lettering, a minimum of 3/16-inch high. Nameplates that are furnished by manufacturer as a standard catalog item, or where other method of identification is herein specified, are exceptions. Hand written marker is not acceptable.

**11. SHOP AND ERECTION DRAWINGS AND SAMPLES**

- A. The Architect/Engineer's approval shall be obtained for all equipment and material before delivery to the job site. Delivery, storage or installation of equipment or material which has not had prior approval will not be permitted at the job site. Submittals shall be made for all equipment and systems as indicated in the respective specification section.
- B. All submittals shall include adequate descriptive literature, catalog cuts, shop drawings and other data necessary for the Architect/Engineer to ascertain that the proposed equipment and materials comply with specification and drawing requirements. Catalog cuts submitted for approval shall be legible and clearly identify equipment being submitted.
- C. Shop and erection drawing submittals shall conform to the requirements of the General Conditions and Division-1 specifications except as modified herein.
- D. Submit required and/or requested shop and erection drawings, for review by Architect/Engineer before ordering or installing any equipment or material. Equipment or material ordered or installed before Architect/Engineer review may not be accepted and may have to be removed from the project if deemed unacceptable.
- E. Shop drawings shall consist of manufacturer's scale drawings, cuts or catalogs, including descriptive literature which shall clearly indicate the construction, material, physical dimensions, wiring diagrams and complete operating data clearly marked for each item. Data of general nature will not be accepted.
- F. Shop drawings shall be digitally submitted no later than 60 days after the contract has been awarded.

1. Coordination drawings shall show major elements, components, and systems of mechanical equipment and materials in relationship with other building components. Prepare drawings to an accurate scale of 1/4"=1'-0" or larger. Indicate the locations of all equipment and materials, including clearances for installing and maintaining insulation, servicing and maintaining equipment, valve stem movement, and similar requirements. Indicate movement and positioning of large equipment into the building during construction.

G. Submittals for individual systems and equipment assemblies which consist of more than one item or component shall be made for the system or assembly as a whole. Partial submittals will not be considered for approval. Submittals shall be submitted for all applicable products and materials specified in each individual section of these specifications.

H. Make submittals for the equipment and materials in accordance with the following:

1. Mark the submittals, "SUBMITTED UNDER SECTION \_\_\_\_\_".

2. Submittals shall be marked to show specification reference including the section and paragraph numbers.

3. The submittals shall include the following:

- a. Information that confirms compliance with contract requirements. Include the manufacturer's name, model or catalog numbers, catalog information, technical data sheets, shop drawings, pictures, nameplate data and test reports as required. Provide any additional information specifically requested in the individual specification section or on the drawings.
- b. Elementary and interconnection wiring diagrams for fire alarm, sound system, TV system and other communication systems and equipment assemblies. All terminal points and wiring shall be identified on wiring diagrams.
- c. Parts list which shall include those replacement parts recommended by the equipment manufacturer, quantity of parts, current price and availability of each part.

I. A Fee will be charged for Engineering review of drawings received after the time allotted as described in 'D' above or for plans that have been rejected two or more times due to non-compliance or incompleteness. The fee will be determined by the Architect/Engineer and will accompany the re-submittal in the form of a cashiers check or money order made payable to the Engineer.

J. The General Contractor will certify that all mechanical shop drawings are in conformance with the plans and specifications. Deviations from the plans and specifications shall be noted, and the specific area of the deviation clouded and in contrasting color (green) with a complete explanation for the reasons for the deviation. Any redesign of the system shall be Certified by a Professional Engineer, and will be accompanied by the fees as described in 'F' above.

K. Carefully examine all shop drawings and mark-up as necessary before submitting to the Architect/Engineer for review. The consultant will only consider shop drawings bearing the contractor's stamp of approval.

L. The engineer's review shall not relieve the contractor from the responsibility for deviations from drawings and specifications. The engineer's review shall be construed to apply only to general arrangement and shall not relieve the contractor from the responsibility for the correctness of details and dimensions and provision of the correct equipment.

M. The contractor shall retain copies of all reviewed shop drawings on the job site for reference.

N. In addition to the requirement of SUBMITTALS, the Owner reserves the right to request the manufacturer to arrange for the Owner's representative(s) to see typical active systems in operation, when there has been no prior experience with the manufacturer or the type of equipment being submitted.

**12. CUTTING, PATCHING, EXCAVATION, BACKFILL, AND LAYOUT**

- A. Provide openings and excavation required for the installation of the electrical work. Patch work and backfill as required. Finished work shall match the existing adjoining work.
- B. Verify all conditions affecting the work to be performed under this contract.
- C. Carefully verify measurements at the site, determine the exact location of chases and openings required. Provide sleeves, inserts, and hangers as required. No columns, beams, joists, building foundations nor any other structural building component shall be cut, drilled or disturbed in any way. Conflicts shall immediately be brought to the attention of the Architect/Engineer.
- D. All excavation on sites containing existing buildings and existing services, shall be done with hand shovel to avoid damage to existing services. Where hand shovel is not practical extreme caution shall be taken when performing excavation. The contractor will be responsible for locating any existing utilities. Any damage incurred by the Contractor shall be repaired by the Contractor in a manner approved by the Architect/Engineer at no cost to the Owner and with no extension of time limitation.

**13. EXPERIENCE**

A. The Contractor performing this work shall be a licensed, reputable firm, regularly performing the type of work incorporated in this project and who also maintains, as part of the firm, a service department with qualified personnel who regularly perform this type of work. The Contractor shall, upon request, show evidence of at least three jobs of similar character and size installed within the preceding two years.

**14. ELECTRICAL WORK FOR MECHANICAL SYSTEMS**

- A. Factory installed starters, controllers, and control equipment mounted in manufactured mechanical equipment necessary for mechanical equipment operation shall be furnished under Division 15 Mechanical.
- B. Power wiring for motors and installation of starters shall be under Division 16 Electrical.
- C. Temperature, humidity, pressure and similar controls essential to the operation of mechanical systems, and wiring and conduit thereof, including interlock wiring, shall be under Division 15 of Specifications, installed in accordance with requirements of Division 16.
- D. Motors shall be furnished under Division 15 Mechanical of capacity required to operate equipment specified, but shall not be less than that specified.
- E. All low voltage (120V and under) temperature control wiring for Division 15 equipment shall be provided under Division 15, installed in accordance with requirements of Division 16.
- F. Division 15 shall provide conduit when required for control wiring, installed in accordance with Division 16 requirements.

**15. MOTORS**

A. All motors shall be furnished and installed under Division 15 Mechanical and shall be wired under Division 16 Electrical.

**16. REMOVAL OF RUBBISH**

A. Contractor shall keep premises free from accumulations of waste material or rubbish caused by his employees or work. At completion of work, he shall remove all his tools, scaffolding, surplus materials, and rubbish from building and site. He shall leave premises and his work in a clean orderly condition acceptable to the Architect/Engineer.

**17. QUIET OPERATION AND VIBRATION**

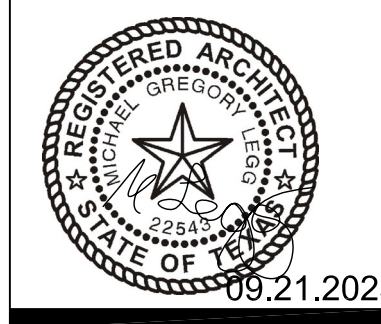
- A. All equipment provided under this section shall operate under all conditions of load free of objectionable sound and vibration. Sound and vibration conditions considered objectionable shall be corrected in an approved manner.
- B. Vibration and sound control shall be by means of approved vibration eliminators or sound attenuators in a manner as specified and as recommended by the manufacturer.

**18. CLEANING AND ADJUSTMENTS**

- A. Upon completion of the work, Contractor shall clean and re-lamp all light fixtures, clean and identify all equipment, adjust and test all equipment and apparatus which he has installed and make certain such apparatus and mechanisms are in proper working order and ready to test.
- B. During construction protect all conduit and equipment from damage and dirt. Cap the open ends of all conduit and equipment.

**19. STORAGE OF MATERIALS**

- A. All materials stored on site shall be properly protected from injury or deterioration. Materials shall not be stored in contact with ground or floor.
- B. Do not remove manufacturer's packing materials until ready to install. Materials showing signs of corrosion, improper handling or storage shall be replaced at no cost to the Owner.
- C. Provide continuous protection for all equipment already installed.



**DRAWING COORDINATION**  
Architectural, Landscape, Civil, Structural, Mechanical and Electrical drawings are interrelated. General Contractor and all Sub-Contractors shall review and coordinate the entire set of drawings and specifications

**Golden Chick Restaurant Remodel at 2311 Fredericksburg Rd San Antonio, Texas**

BY					
DESCRIPTION					
DATE					

**SPECIFICATIONS**

PROJECT NO.  
**05-05-22**

SHEET NO.  
**SP.12**











**DIVISION 16 - ELECTRICAL SYSTEMS (CONTINUED)****SECTION 16150 - MOTOR CONTROLLERS AND CONTACTORS**

- RELATED DOCUMENTS
  - Drawings and general provisions of Contract including General and Division 1 Specification Sections, apply to work of this section.
- SCOPE
  - The work, apparatus and materials which shall be furnished under these specifications and accompanying drawings shall include all items specified hereinafter and shown on the drawings. All other materials necessary for the complete installation shall be furnished and installed by the Contractor to provide complete electrical systems as indicated on the drawings and as specified herein.
  - Coordinate all required interlocks with Division 15. Motor starters shall contain the necessary auxiliary contacts and control coil voltage to interface with the HVAC temperature control system and fire alarm control system.

- DESCRIPTION OF WORK
  - Extent of motor controller work is indicated by drawings and schedules. Types of motor controllers specified in this section include the following:
    - Manual motor starters.
    - Combination disconnect/FMNR motor starters.

- QUALITY ASSURANCE
  - Manufacturers: General Electric, Square D, Allen Bradley.
  - Installer's Qualifications: Firm with at least 3 years of successful installation experience on projects with electrical motor controller work similar to that required for this project.
  - Codes and Standards:
    - NEMA Compliance: Comply with applicable requirements of NEMA Standards Publications pertaining to motor controllers.
    - UL Compliance and Labeling: Comply with applicable requirements of UL safety standards pertaining to motor controllers. Provide motor controllers and components which have been UL-listed and labeled.
    - NEC Compliance: Comply with applicable requirements of NEC pertaining to construction and installation of motor controllers.

- SUBMITTALS
  - Product Data: Submit manufacturer's technical product data, including specifications and installation instructions, for each type of motor controller required. Include data substantiating that materials comply with requirements.

- INDIVIDUAL MOTOR CONTROLLERS
  - Manual motor starters for 115 volts, single phase motors one horsepower and smaller, shall be single pole, horsepower rated switches with thermal overload units and heaters. Starters shall be Allen-Bradley Bulletin 609, General Electric CR-101 or Square D Class 2510 with stainless steel cover plates.
  - Magnetic full voltage starters for three phase motors shall be three pole, horsepower rated, magnetically operated with three thermal overload units and heaters. Starters shall be Allen-Bradley Bulletin 509, General Electric CR-306 or Square D Class 8536. Provide Hand-Off-Auto selector switch, pilot lights to indicate starter's position (Amber - Red - Green), a minimum of two normally open and two normally closed auxiliary contacts, control power transformer fused on primary and secondary, control coil, and three overload heaters with reset button. Provide control power and coil voltage as required for interlock with the HVAC temperature control system and fire alarm system. Starters shall be the Nema size indicated on the drawings but shall be a minimum size one.
  - Combination magnetic, full voltage starters for three phase motors shall be three pole horsepower rated, magnetically operated contacts, with three thermal overload units and heaters. A three pole horsepower rated, fusible disconnect switch shall also be included integral within the enclosure. Provide fuses sized as recommended by the motor manufacturer. Starters shall be Allen-Bradley Bulletin 512, General Electric CR-308 or Square D Class 8538. Provide Hand-Off-Auto selector switch, pilot lights to indicate starter's position (Amber - Red - Green), a minimum of two normally open and two normally closed auxiliary contacts, control power transformer fused on primary and secondary, control coil, and three overload heaters with reset button. Provide control power and coil voltage as required for interlock with the HVAC temperature control system and fire alarm system. Starters shall be the Nema size indicated on the drawings but shall be a minimum size one.

- MOTOR CONTROLLERS, CONTACTORS AND ASSOCIATED CONTROLS
  - Unless otherwise indicated, motor controllers shown on the drawings shall be furnished and installed under this section. The full load current and starting characteristics of each motor shall be verified for proper selection of motor over load devices. The Contractor shall furnish and install all steel shops, etc., necessary for a support of all motor controllers.
  - Unless otherwise indicated, all control devices, such as thermostats, firestats, etc., shall be installed in place and wired under other sections of the specifications. Coordinate required starter auxiliary contacts and coil voltages for a properly operational system.
  - Motor controllers shall be installed in accordance with all applicable NEC installation requirements.

- IDENTIFICATION OF EQUIPMENT
  - Identification shall be provided for all motor controllers installed by the Contractor. Identification shall consist of white laminated plastic plates with black engraved letters.

**SECTION 16170 - CIRCUIT AND MOTOR DISCONNECTS**

- RELATED DOCUMENTS
  - Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

- DESCRIPTION OF WORK
  - Extent of circuit and motor disconnect switch work is indicated by drawings and schedules.
  - Types of circuit and motor disconnect switches in this section include the following:
    - Equipment disconnects.
    - Appliance disconnects.
    - Motor-circuit disconnects.

- Wires/cables, raceways, and electrical boxes and fittings required in connection with circuit and motor disconnect work are specified in other Division-16 Basic Electrical Materials and Methods sections.

- QUALITY ASSURANCE
  - Manufacturers: Firms regularly engaged in manufacture of circuit and motor disconnect switches of types and capacities required whose products have been in satisfactory use in similar service for not less than 3 years.
  - Installer's Qualifications: Firm with at least 3 years of successful installation experience with projects utilizing circuit and motor disconnect work similar to that required for this project.
  - NEC Compliance: Comply with NEC requirements pertaining to construction and installation of electrical circuit and motor disconnect devices.
  - UL Compliance: Comply with requirements of UL 98, "Enclosed and Dead-Front Switches". Provide circuit and motor disconnect switches which have been UL-listed and labeled.
  - NEMA Compliance: Comply with applicable requirements of NEMA Stds Pub No. KS 1, "Enclosed Switches" and 250, "Enclosures for Electrical Equipment (1000 Volts Maximum)".

- SUBMITTALS
  - Product Data: Submit manufacturer's data on circuit and motor disconnect switches.
  - Wiring Diagrams: Submit power and control wiring diagrams for circuit and motor disconnects including connections to power and control panels, and feeders.

- ACCEPTABLE MANUFACTURERS
  - Available Manufacturers: Subject to compliance with requirements, manufacturers offering circuit and motor disconnects which may be incorporated in the work include the following:
    - General Electric Co.
    - Square D Company
    - ITE/Seimens

- FABRICATED SWITCHES
  - Heavy-Duty Safety Switches: Provide surface-mounted, heavy-duty type, sheet-steel enclosed safety switches, of types, sizes and electrical characteristics indicated; solid or non-fusible type as indicated, amperes as indicated, 60 Hz, 3-blades, 4-poles, fused or unfused; and incorporating quick-make, quick-break type switches; construct so that switch blades are visible in OFF position with door open. Equip with operating handle which is integral part of enclosure base and whose operating position is easily recognizable, and is lockable in OFF position; construct current carrying parts of high-conductivity copper, with silver-tungsten type switch contacts, and positive pressure type reinforced fuse clips. Provide NEMA Type 3R enclosures, where applicable. Provide grounding kit. Provide 240 volt rated switches for 208Y/120 volt systems and 600 volt rated switches for 277Y/480 volt systems.
  - Fuses: Provide fuses for safety switches, as recommended by the manufacturer of the equipment to be protected, of classes, types, and ratings needed to fulfill electrical requirements for service indicated. Provide R-clips for all fuse holders.

- INSTALLATION OF CIRCUIT AND MOTOR DISCONNECT SWITCHES
  - Install circuit and motor disconnect switches as indicated, complying with manufacturer's written instructions, applicable requirements of NEC, NEMA, and NECA's "Standard of Installation", and in accordance with recognized industry practices.
  - Coordinate circuit and motor disconnect switch installation work with electrical raceway and cable work, as necessary for proper interface.
  - Install disconnect switches for use with motor-driven appliances, and motors and controllers within sight of controller position unless otherwise indicated.
  - Provide a nameplate indicating the equipment served and protected.

- GROUNDING
  - Provide equipment grounding connections, sufficiently tight to assure a permanent and effective ground, for electrical disconnect switches where indicated.

- FIELD QUALITY CONTROL
  - Subsequent to completion of installation of electrical disconnect switches, energize circuitry and demonstrate capability and compliance with requirements. Where possible, correct malfunctioning units at project site, then retest to demonstrate compliance; otherwise remove and replace with new units and retest.
  - Painting: repair all scratches to factory painted and primed finish with factory supplied touch-up paint.

**SECTION 16180 - OVERCURRENT PROTECTIVE DEVICES**

- RELATED DOCUMENTS
  - Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

- DESCRIPTION OF WORK
  - Extent of overcurrent protective device work is indicated by drawings and schedules.
  - Types of overcurrent protective devices in this section include the following:
    - Circuit Breakers:
      - Air, molded-case, for installation in panels.
      - Air, molded-case, for individual, separately enclosed mounting.
      - For installation in existing panels.
    - Fuses:
      - Class RKS, dual-element time-delay.
  - Refer to other Division-16 sections for cable/wire and connector work required in conjunction with overcurrent protective devices; not work of this section.

- QUALITY ASSURANCE
  - Manufacturers: Firms regularly engaged in manufacture of overcurrent protective devices, of types, sizes, and ratings required, whose products have been in satisfactory use in similar service for not less than 5 years.
  - Installer: Qualified with at least 5 years of successful installation experience on projects with electrical installation work similar to that required for project.
  - NEC Compliance: Comply with NEC requirements as applicable to construction and installation of overcurrent protective devices.
  - UL Compliance: Comply with applicable requirements of UL 489, "Molded-Case Circuit Breakers and Circuit-Breaker Enclosures", and UL 1980, "High-Interrupting-Capacity Class K Fuses". Provide overcurrent protective devices which have been UL-listed and labeled.
  - NEMA Compliance: Comply with applicable requirements of NEMA Std Pub Nos. AB 1, AB 2, and SG 3 pertaining to molded-case and low-voltage power type circuit breakers.
  - FS Compliance: Comply with Federal Specification W-C-375B/GEN pertaining to molded-case circuit breakers.

- SUBMITTALS
  - Product Data: Submit manufacturer's data on overcurrent protective devices, including: amperes, voltages and current ratings, interrupting ratings, current limitations, internal inductive and non-inductive loads, time-current trip characteristics curves, and mounting requirements.
  - Maintenance Stock, Fuses: For types and ratings required, furnish additional fuses, amounting to one unit for every 5 installed units, but not less than one unit of each.

- ACCEPTABLE MANUFACTURERS
  - Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:
    - Circuit Breakers: General Electric Co, Square D Co., ITE/Seimens
    - Fuses: Bussmann Div.; McGraw-Edison Co., Gould, Inc., Cefco

- CIRCUIT BREAKERS
  - General: Except as otherwise indicated, provide circuit breakers and ancillary components, of types, sizes, ratings, and electrical characteristics indicated, which comply with manufacturer's standard design, materials, components, and construction in accordance with published product information, and as required for a complete installation.
  - Molded-Case Circuit Breakers: Provide factory assembled, molded-case circuit breakers of frame size indicated; rated 600 volts or 240 volts as required, 60 Hz, 3-poles with interrupting ratings as shown on drawings. Provide breakers with permanent thermal and instantaneous magnetic trips in each pole, and with fault-current limiting protection, ampere ratings as indicated. Construct with overcenter, trip-free, toggle-type operating mechanisms with quick-make, quick-break action and positive handle trip indication. Handle ties are not permitted. Provide push-to-trip button on cover for mechanical tripping circuit breakers. Construct breakers for mounting and operating in any physical position and operating in an ambient temperature of 40oC. Provide breakers with mechanical screw type removable connector lugs, AL/CU rated. Circuit breakers shall have the short circuit interrupting rated indicated on the drawings or as required for the short circuit current available.
  - Molded-Case Circuit Breakers for Installation in Panelboards: Shall meet the same specifications as in Part B above. Shall be manufactured by the same manufacturer as the panelboard.

- Provide all accessories indicated on the drawings, including accessories indicated on the panel schedules, such as shunt trips, ground fault protection, undervoltage trips, etc. Accessories shall be manufactured by the same manufacturer as the circuit breaker.

- All circuit breakers used to protect heating, ventilation or air conditioning circuits shall be listed HACR type.

- FUSES
  - General: Except as otherwise indicated, provide fuses of types, sizes, ratings, and average time/current and peak let-through current characteristics indicated, which comply with manufacturer's standard design, materials, and construction in accordance with published product information, and with industry standards and configurations.
  - Class RKS Dual-Element Time-Delay Fuses: Provide UL Class RK-5 dual element time-delay fuses rated 600 V, 60 Hz, amperes as required by the manufacturer of the equipment being protected, with 200,000 RMS symmetrical interrupting current rating for protecting motors.

- INSTALLATION OF OVERCURRENT PROTECTIVE DEVICES
  - Install overcurrent protective devices as indicated, in accordance with manufacturer's written instructions and with recognized industry practices to ensure that protective devices comply with requirements. Comply with NEC and NEMA standards for installation of overcurrent protective devices.
  - Coordinate with other work, including electrical wiring work, as necessary to interface installation of overcurrent protective devices with other work.
  - Fasten circuit breakers without causing mechanical stresses, twisting or misalignment being exerted by clamps, supports, or cabling.
  - Set field-adjustable circuit breakers for trip settings as indicated, subsequent to installation of units.
  - Install fuses, if any, in fused circuit breakers.

- ADJUST AND CLEAN
  - Inspect circuit-breaker operating mechanisms for malfunctioning and, where necessary, adjust units for free mechanical movement.

- FIELD QUALITY CONTROL
  - Prior to energization of overcurrent protective devices, test devices for continuity of circuitry and for short-circuits. Correct malfunctioning units, and then demonstrate compliance with requirements.

**SECTION 16190 - SUPPORTING DEVICES**

- RELATED DOCUMENTS
  - Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

- DESCRIPTION OF WORK
  - Extent of supports, anchors, sleeves, and seals is indicated by drawings and schedules and/or specified in other Division-16 sections.
  - Types of supports, anchors, sleeves, and seals specified in this section include the following:
    - Clevis hangers
    - C-clamps
    - I-beam clamps
    - One-hole conduit straps
    - Lead steel rods
    - Round expansion anchors
    - Toggle bolts
    - Wall and floor seals
  - Supports, anchors, sleeves, and seals furnished as part of factory-fabricated equipment, are specified as part of that equipment assembly in other Division-16 sections.

- QUALITY ASSURANCE
  - Manufacturers: Firms regularly engaged in manufacture of supporting devices, of types, sizes, and ratings required, whose products have been in satisfactory use in similar service for not less than 3 years.
  - NEC Compliance: Comply with NEC requirements as applicable to construction and installation of electrical supporting devices.

- MANUFACTURED SUPPORTING DEVICES
  - General: Provide supporting devices which comply with manufacturer's standard materials, design and construction in accordance with published product information, and as required for complete installation; and as herein specified. Where more than one type of supporting device meets indicated requirements, selection is installer's option.
  - Supports: Provide supporting devices of types, sizes, and materials indicated; and having the following construction features:
    - Clevis Hangers: For supporting 2" rigid metal conduit; galvanized steel; with 1/2" dia. hole for round steel rod; approximately 54 pounds per 100 units.
    - Reducing Couplings: Steel rod reducing coupling, 1/2" x 5/8"; black steel; approximately 16 pounds per 100 units.
    - C-Clamps: Black malleable iron; 1/2" rod size; approximately 70 pounds per 100 units.
    - I-Beam Clamps: Black steel, 1-1/4" x 3/16" stock; 3/8" cross bolt; flange width 2"; approximately 52 pounds per 100 units.
    - One-Hole Conduit Straps: For supporting 3/4" rigid metal conduit; galvanized steel; approximately 7 pounds per 100 units.
    - Hexagon Nuts: For 1/2" rod size; galvanized steel; approximately 4 pounds per 100 units.
    - Round Steel Rod: Black steel; 1/2" dia.; approximately 67 pounds per 100 feet.
    - Offset Conduit Clamps: For supporting 2" rigid metal conduit; black steel; approximately 200 pounds per 100 units.
  - Anchors: Provide anchors of types, sizes, and materials indicated, with the following construction features:
    - Lead Expansion Anchors: 1/2", approximately 38 pounds per 100 units.
    - Toggle Bolts: Springhead; 3/16" x 4", approximately 5 pounds per 100 units.

- AVAILABLE MANUFACTURERS
  - Subject to compliance with requirements, manufacturers offering anchors which may be incorporated in the work include, but are not limited to, the following:
    - Abbeon Cal Inc.
    - Ackerman Johnson Fastening Systems, Inc.
    - Elcen Metal Products Co.
    - Ideal Industries, Inc.
    - Joslyn Mfg. and Supply Co.
    - McGraw Edison Co.
    - Rawplug Co., Inc.
    - Star Expansion Co.
    - Expansion Bolt Co.

- Sleeves and Seals: Provide sleeves and seals, of types, sizes, and materials indicated, with the following construction features:
  - Wall and Floor Seals: Provide factory-assembled watertight wall and floor seals, of types and sizes indicated; suitable for sealing around conduit, pipe, or butting passing through concrete floors and walls. Construct seals with steel sleeves, malleable iron body, neoprene sealing grommets and rings, metal pressure rings, pressure clamps, and cap screws.
  - U-Channel Strut Systems: Provide U-channel strut system for supporting electrical equipment, 12-page hot-dip galvanized steel, of types and sizes indicated; construct with 9/16" dia. holes, 8" o.c. on top surface, with standard finish, and with the following fittings which mate and match U-channel.
    - Fixture hangers
    - Channel hangers
    - Thinwall conduit clamps
    - Rigid conduit clamps
    - Conduit hangers
    - U-bolts

- Available Manufacturers: Subject to compliance with requirements, manufacturers offering channel systems which may be incorporated in the work include, but are not limited to, the following:
  - Greenfield Mfg. Co.; Inc.
  - Midland-Ross Corp.
  - OZ/Gedney Div.; General Signal Corp.
  - Power-Strut Div.; Van Huffel Tube Corp.
  - Unistrut Div.; GTE Products Corp.

- Sleeve Sleeves: Provide pipe sleeves of one of the following:
  - Sheet Metal: Fabricate from galvanized sheet metal; round tube closed with snaplock joint, welded spiral seams, or welded longitudinal joint. Fabricate sleeves from the following gage metal: 3" and smaller, 20-gage; 4" to 6", 16-gage; over 6", 14-gage.
  - Steel Pipe: Fabricate from Schedule 40 galvanized steel pipe; remove burrs.
  - Iron Pipe: Fabricate from cast-iron or ductile-iron pipe; remove burrs.
  - Plastic Pipe: Fabricate from Schedule 80 PVC plastic pipe; remove burrs.

- INSTALLATION OF SUPPORTING DEVICES
  - Install hangers, anchors, sleeves, and seals as indicated, in accordance with manufacturer's written instructions and with recognized industry practices to insure supporting devices comply with requirements. Comply with requirements of NECA and NEC for installation of supporting devices.
  - Coordinate with other electrical work, including raceway and wiring work, as necessary to interface installation of supporting devices with other work. Coordinate support locations with other structural and mechanical trades. Supports shall not be attached to mechanical or electrical piping, conduit, ductwork, ceiling grid system or any other non-structural member.
  - Install hangers, supports, clamps, and attachments to support piping properly from building structure. Arrange for grouping of parallel runs of horizontal conduits to be supported together on trapeze type hangers where possible. Install supports with spacings indicated and in compliance with NEC requirements.

**SECTION 16195 - ELECTRICAL IDENTIFICATION**

- RELATED DOCUMENTS
  - Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

- DESCRIPTION OF WORK
  - Extent of electrical identification work is indicated by drawings and schedules.
  - Types of electrical identification work specified in this section include the following:
    - Electrical power, control, and communication conductors.
    - Operational instructions and warnings.
    - Equipment/system identification signs.

- QUALITY ASSURANCE
  - Manufacturers: Firms regularly engaged in manufacture of electrical identification products of types required, whose products have been in satisfactory use in similar service for not less than 3 years.
  - NEC Compliance: Comply with NEC as applicable to installation of identifying labels and markers for wiring and equipment.
  - UL Compliance: Comply with applicable requirements of UL Std 969, "Marking and Labeling Systems", pertaining to electrical identification systems.

- ACCEPTABLE MANUFACTURERS
  - Available Manufacturers: Subject to compliance with requirements, manufacturers offering electrical identification products which may be incorporated in the work include, but are not limited to, the following:
    - Brady, W.H. Co.

- ELECTRICAL IDENTIFICATION MATERIALS
  - General: Except as otherwise indicated, provide manufacturer's standard products of categories and types required for each application. Where more than single type is specified for an application, selection is installer's option, but provide single selection for each application.

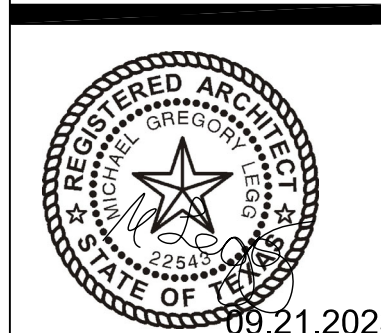
- ENGRAVED PLASTIC-LAMINATE SIGNS
  - General: Provide engraving stock melamine plastic laminate, complying with FS L-P-387, in sizes and thicknesses indicated, engraved with engraver's standard letter style of sizes and wording indicated, white face and black core plies (letter color) except as otherwise indicated, punched for mechanical fastening except where adhesive mounting is necessary because of substrate.
    - Thickness: 1/8", except as otherwise indicated.
    - Fasteners: Self-tapping stainless steel screws, except contact-type permanent adhesive where screws cannot or should not penetrate substrate.

- LETTERING AND GRAPHICS
  - General: Coordinate names, abbreviations and other designations used in electrical identification work, with corresponding designations shown, specified or scheduled. Provide numbers, lettering, and wording as indicated or, if not otherwise indicated, as recommended by manufacturer or as required for proper identification and operation/maintenance of electrical systems and equipment.

- APPLICATION AND INSTALLATION
  - General Installation Requirements:
    - Install electrical identification products as indicated, in accordance with manufacturer's written instructions and requirements of NEC.
    - Coordination: Where identification is to be applied to surfaces which require finish, install identification after completion of painting.
    - Regulations: Comply with governing regulations and requests of governing authorities for identification of electrical work.

- OPERATIONAL IDENTIFICATION AND WARNINGS
  - General: Wherever reasonably required to ensure safe and efficient operation and maintenance of electrical systems, and electrically connected mechanical systems and general systems and equipment, including prevention of misuse of electrical facilities by unauthorized personnel, install self-adhesive plastic signs or similar equivalent identification, instruction or warnings on switches, outlets and other controls; devices and doors of electrical enclosures. Where detailed instructions or explanations are needed, provide plasticized tags with clearly written messages adequate for intended purposes.

- EQUIPMENT/SYSTEM IDENTIFICATION
  - General: Install engraved plastic-laminate sign on each major unit of electrical equipment in building; including central or master unit of each electrical system including communication/control/signal systems, unless unit is specified with its own self-explanatory identification or signal system. Except as otherwise indicated, provide single line of text, 1/2" high lettering, on 1-1/2" high sign (2" high where 2 lines are required), black lettering in white field. Provide text matching terminology and numbering of the contract documents and shop drawings. Provide signs for each unit of the following categories of electrical work:
    - Switchboard, panelboards, electrical cabinets, disconnect switches and enclosures
    - Access panel/doors to electrical facilities
    - Transformers
    - Intercom system master station
    - TV/audio monitoring master station
    - Fire alarm master station
    - Each switch in main switchboard
    - Communications systems terminal cabinets; sound, CCTV, clock, telephone, etc.
  - Install signs at locations indicated or, where not otherwise indicated, at location for best convenience of viewing without interference with operation and maintenance of equipment. Secure to substrate with fasteners, except use adhesive where fasteners should not or cannot penetrate substrate.



**DRAWING COORDINATION**  
 Architectural, Landscape, Civil, Structural, Mechanical and Electrical drawings are interrelated. General Contractor and all Sub-Contractors shall review and coordinate the entire set of drawings and specifications.

**Golden Chick Restaurant Remodel at 2311 Fredericksburg Rd San Antonio, Texas**

DATE	DESCRIPTION	BY

**SPECIFICATIONS**

PROJECT NO.  
**05-05-22**

SHEET NO.  
**SP.15**



**SECTION 16 - ELECTRICAL SYSTEMS (CONTINUED)**

**SECTION 16445 - PANELBOARDS, DISTRIBUTION AND BRANCH CIRCUIT**

**PART 1 GENERAL**

**1.01 WORK INCLUDED**

- A. Furnish and install distribution and branch circuit panel- boards.
- B. Related Work and Specifications: Section 16010: Electrical General Provisions.

**1.02 QUALITY ASSURANCE**

- A. Referenced Standards:
  1. UL 50 – Cabinets and Boxes.
  2. UL 67 – Electric Panelboards.
  3. NEMA AB 1 – Molded Case Circuit Breakers.
  4. NEMA AB 2 – Procedures for Verifying the Performance of Molded Case Circuit Breakers.
  5. NEMA FU 1 – Low Voltage Cartridge Fuses.
  6. NEMA KS 1 – Enclosed Switches.
  7. NEMA PB 1 – Panelboards.

**1.03 SUBMITTALS**

- A. The following information shall be submitted to the Engineer:
  1. Breaker layout drawing with dimensions indicated and nameplate designation
  2. Component list
  3. Conduit entry/exit locations
  4. Assembly ratings including:
    - a. Short-circuit rating
    - b. Voltage
    - c. Continuous current
  5. Cable terminal sizes

**PART 2 PRODUCTS**

**2.01 ENCLOSURE**

- A. Cabinet:
  1. Construct cabinets in accordance with UL 50. Use painted galvanized sheet steel 16-gauge or more.
  2. Provide a minimum 4-inch gutter wiring space on each side.
  3. Reinforce cabinets and securely support bus bars and over-current devices to prevent vibration and breakage in handling.
  4. Provide standard conduit knockouts in cabinet ends.
  5. Finish cabinets of surface-mounted panelboards to match doors and trim as specified below.
  6. Panelboards mounted outdoors shall be weatherproof, and shall have a door behind door type construction.
  7. Panelboards mounted in wet or corrosive areas shall have NEMA 4X stainless steel enclosures.
  8. Panelboards mounted shall be NEMA 12 enclosures for areas classified as NEMA 12.
- B. Doors and Trim:
  1. Fabricate doors and trim from cold-rolled sheet steel.
  2. Equip doors with flush-type combination catch and key lock.
  3. Key all locks alike. Fasten trim for flush-mounted panelboards to cabinets by an approved means which permits both horizontal and vertical adjustment.
  4. Trim for surface-mounted panelboards must fit the cabinet with no overhang.
  5. Apply a finish to trim and doors consisting of two coats of enamel over a rust-inhibiting prime coat.

**2.02 BUS**

- A. Material:
  1. Provide tin plated, copper bus bars, 98 percent IACS conductivity, full-sized throughout their length.
  2. Use buses with silver-plated contact surfaces.
  3. Include a tin plated copper bus bar ground bus in panelboard rated not less than 25 percent of the main bus capacity.
  4. Full size (100% rated) insulated neutral bus shall be included in the panel board, shown with neutral. 200% rated neutral bus shall be supplied for panels designated on the drawings.
  5. The ground and neutral bus shall be at least one terminal screw for each circuit.
  6. Provide through feed or sub feed lugs where indicated.
  7. Provide lugs and connection points on phase, neutral and ground bus suitable for copper conductors.
  8. Spaces for future circuit breakers shall be bussed for the maximum devices that can be fitted.
- B. Size bars as indicated and brace them to withstand the available symmetrical short circuit current.
- C. Installation:
  1. Install buses in allotted spaces so that devices can be added without additional machining, drilling or tapping.
  2. Mount neutral bars, as required, on the opposite end of the main lugs.

**2.03 PROTECTIVE DEVICES**

- A. Circuit Breakers: Provide circuit breakers for the specified service with the number of poles and ampere ratings indicated.
  1. Provide breakers which are quick-make and quick-break on both manual and automatic operation.
  2. Use a trip-free trip indicating breaker.
  3. Incorporate inverse time characteristic by bimetallic overload elements and instantaneous characteristic by magnetic trip. Where indicated, provide ground fault circuit breakers (GFCB).
  4. For 2-pole and 3-pole breakers, use the common-trip type so that an overload or fault on one pole will trip all poles simultaneously. Handle ties are not acceptable.
  5. Unless otherwise indicated, provide circuit breakers with the following interrupting ratings:
    - a. Each circuit breaker used in 120/208 Volt panelboards shall have an interrupting capacity of not less than 10,000 Amps, RMS symmetrical.
    - b. Each circuit breaker used in 120/240 Volt panelboards shall have an interrupting capacity of not less than 10,000 Amps, RMS symmetrical.
    - c. Each circuit breaker used in 277/480 Volt and 480 Volt panelboards shall have an interrupting capacity of not less than 22,000 Amps, RMS symmetrical.
    - d. GFCI (ground fault circuit interrupter) shall be provided for circuits where shown on the drawings. GFCI units shall be 1 Pole, 120 Volt, molded case, bolt-on breakers, incorporating a solid state ground fault interrupter circuit insulated and isolated from the breaker mechanism. The unit shall be UL listed Class A Group I device (5 millamp sensitivity, 25 millisecond trip time) and an interrupting capacity of 10,000 Amps, RMS.
    - e. Circuit breakers shall be as manufactured by the panelboard manufacturer.
  6. Connect breakers to the main bus by means of a solidly bolted connection.
  7. Use breakers which are interchangeable, capable of being operated in any position within the panel.
  8. Independently mount breakers so that a single unit can be removed from the front of the panel without disturbing or removing main bus, other units or other branch circuit connections.
  9. Provide individual breaker handle lock for all circuits that supply exit signs, emergency lights, and fire alarm panels.
  10. Provide GFI circuit breakers for heat trace circuit. The rating shall be as per NEC.
- B. Surge Suppressor
  1. The panelboard shall be provided with externally mounted, transient voltage surge suppression.
- C. Service Entrance
  1. The panelboard shall have a connection for housing and grounding neutral conductor.
  2. Provide a UL label for the panelboard.

**2.04 CIRCUIT IDENTIFICATION**

- A. Directory:
  1. For each panelboard, provide a directory frame mounted inside the door with a heat-resistant transparent face and a directory card for identifying the load served.
  2. Type directory as specified in Section 16010.
- B. Nameplate:
  1. Provide a black on white nameplate on the face of the panelboard using the following as an example:

Panel HA
277/480V, 30, 4W
Feeder from MCC-B/Section
  2. The nameplate shall have a minimum thickness of 1/8".

**2.05 LISTING**

- A. UL 67 – Electric Panelboards.
- 2.06 ACCEPTABLE MANUFACTURERS
  - A. Acceptable manufacturers are Cutler Hammer, Square-D, General Electric, Siemens.

**PART 3 EXECUTION**

**3.01 INSTALLATION**

- A. Install panelboards in the locations as shown and as recommended in NEMA PB1.1.
  - B. In wet and corrosive areas, including outdoor locations, install panelboard enclosures on unistrut support to provide clearance behind the mounting surface.
  - C. In wet and corrosive areas, including outdoor locations, connect conduits to the bottom of the enclosure and to the lower 30 percent of the sides.
  - D. All conduit connections shall be by use of Myers hub.
- 3.02 MOUNTING HEIGHT**
- A. Install the panelboards such that the center of the switch or circuit breaker in the highest position will not be more than 6-1/2 feet above the floor or working platform.
- 3.03 SPECIAL REQUIREMENTS**
- A. All copper items, including wiring, terminal blocks, lugs, connectors, bus, etc., shall be tin plated copper.
  - B. All steel shall be primed and painted as specified. Galvanized items shall also be painted.
  - C. All hardware, including nuts, bolts, washers, screws, anchor bolts, door hinges, etc., shall be made of 316 stainless steel.
  - D. The minimum requirements of painting procedure shall be followed:
    1. Surface preparation per SSPC-SP6.
    2. Primer: Tnemec 66, Epoxinole – one coat 4 dry mils.
    3. Finish Coat: Tnemec Series 72, E dura Shield – one coat 1.5 dry mils (ANSI 61 light gray).
    4. Undercoat Finish: Tnemec Tar 46-413-2 coats 40 dry mils total.

**SECTION 16450 - GROUNDING**

**1. RELATED DOCUMENTS**

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.
- B. Division-16 Basic Electrical Materials and Methods section apply to work of this section.

**2. DESCRIPTION OF WORK**

- A. Extent of grounding work is indicated by drawings and schedules.
- B. Types of grounding specified in this section include the following:
  1. Solid grounding
- C. Applications of grounding work in this section including the following:
  1. Underground metal water piping
  2. Metal building frames
  3. Grounding electrodes
  4. Grounding rods
  5. Service equipment
  6. Enclosures
  7. Equipment

**3. QUALITY ASSURANCE**

- A. Manufacturers: Firms regularly engaged in manufacture of electrical connectors, terminals and fittings, of types and ratings required, and ancillary grounding materials, including stranded cable, copper braid and bus, ground rods and plate electrodes, whose products have been in satisfactory use in similar service for not less than 3 years.
- B. Installer: Qualified with at least 3 years of successful installation experience on projects with electrical grounding work similar to that required for project.
- C. NEC Compliance: Comply with NEC requirements as applicable to materials and installation of electrical grounding systems, associated equipment and wiring. Provide grounding products which are UL-listed and labeled.
- D. UL Compliance: Comply with applicable requirements of UL Standards Nos. 467 and 869 pertaining to electrical grounding and bonding.
- E. IEEE Compliance: Comply with applicable requirements of IEEE Standard 142 and 241 pertaining to electrical grounding.

**4. SUBMITTALS**

- A. Product Data: Submit manufacturer's data on grounding systems and on accessories.
- B. Shop Drawings: Submit layout drawings of grounding systems and accessories including, but not limited to, ground wiring, copper braid and bus, ground rods, and plate electrodes.

**5. ACCEPTABLE MANUFACTURERS**

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering grounding products which may be incorporated in the work include, but not limited to, the following:
  1. Burndy Corp.
  2. Crouse-Hinds Co.
  3. Electrical Components Div.; Gould Inc.
  4. Thomas and Betts Corp.

**6. GROUNDING SYSTEMS**

- A. Materials and Components:
  1. General: Except as otherwise indicated, provide electrical grounding systems indicated; with assembly of materials, including, but not limited to, cables/wires, connectors, terminals (solderless lugs), grounding rods/electrodes and plate electrodes, bonding jumper braid, surge arresters, and additional accessories needed for complete installation. Where more than one type unit meets indicated requirements, selection is Installer's option. Where materials or components are not indicated, provide products complying with NEC, UL, IEEE, and established industry standards for applications indicated.
- B. Conductors: Unless otherwise indicated, provide electrical grounding conductors for grounding connections matching power supply wiring materials and sized according to NEC.
- C. Ground Rods: Solid copper or copper clad steel, minimum 3/4" dia. x 10'. Provide longer rods if necessary for required resistivity.
- D. Electrical Grounding Connection Accessories: Provide electrical insulating tape, heat-shrinkable insulating tubing, welding materials, bonding straps, as recommended by accessories manufacturers for type services indicated.

**7. INSPECTION**

- A. Installer must examine areas and conditions under which electrical grounding connections are to be made and notify Contractor in writing of conditions detrimental to proper completion of work. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to Installer.

**8. INSTALLATION OF ELECTRICAL GROUNDING**

- A. General: Install electrical grounding systems where shown, in accordance with applicable portions of NEC, with NECA's "Standard of Installation", and in accordance with recognized industry practices, to ensure that products comply with requirements and serve intended functions.
- B. Coordinate with other electrical work as necessary to interface installation of electrical grounding system work with other work.
- C. Install clamp-on connectors only on thoroughly cleaned metal contact surfaces, to ensure electrical conductivity and circuit integrity.
- D. All ground connections to water service entrance shall be installed to be exposed and visible for inspection at all times. Insulation shall not be installed over ground connections.
- E. A water pipe, by itself, is not an adequate grounding electrode and must be supplemented by dual grounding electrodes, a minimum of 8 feet apart, and effectively bonded together. The supplemental ground shall be per Code with the "Footing type electrode" taking precedence when possible.

- F. All ground connections shall be made on surfaces which have been cleaned of all paint, dirt, oil, etc., so that connections are bare metal to bare metal contact. All ground connections shall be tight and shall be made with U.L. listed grounding devices, fittings, bushings, etc.

- G. Duplex receptacles of any amperage shall be grounding type and shall have a separate grounding contact. A separate jumper shall be installed between the grounding terminal on the device and the metallic box. The Contractor may provide U.L. listed self-grounding receptacles in lieu of providing the separate jumper.

- H. Single and duplex receptacles shall have all grounded metal mechanically bonded together. Pressure bonding only is not acceptable.

- I. Single and duplex receptacles will be installed with the grounding contacts down.

- J. Hospital grade or high abuse type which will be installed with the ground contacts up.

- K. In all cases where flexible metallic conduit, nonmetallic rigid conduit or liquid tight flexible conduit is used, a green wire ground conductor shall be used to provide ground continuity between the equipment of device and the conduit raceway system.

- L. Provide a separate green wire ground conductor for each branch circuit originating from each panelboard. This ground shall be used to ground the device or load fed, and shall be bonded to components of the raceway system, such as junction boxes, starter or disconnect switch enclosures, equipment cases, etc. The green wire ground conductor shall terminate in the panelboard at the green wire ground bus. Ground conductors for branch circuits shall be of size indicated in NEC, except minimum size ground conductor shall be No. 12 AWG.

- M. Each branch feeder originating at the switchboard(s) shall have a green wire ground conductor originating at the ground bus in the switchboard and terminating at the green wire ground bus in the panelboard. This green wire ground conductor shall be of size indicated in NEC except in no instance smaller than No. 8 AWG.

- N. The green wire ground conductor is in addition to the neutral conductor and in no case shall the neutral conductor serve as the grounding means.

- O. Multiple conductors in a single lug not permitted. Each grounding conductor shall terminate in its own terminal lug.

**SECTION 16510 - INTERIOR BUILDING LIGHTING**

**1. RELATED DOCUMENTS**

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.
- B. Division-16 Basic Electrical Materials and Methods section apply to work specified in this section.

**2. DESCRIPTION OF WORK**

- A. Extent of interior lighting fixture work is indicated by drawings and schedules.
- B. Types of interior lighting fixtures in this section include the following:
  1. Fluorescent
  2. Incandescent
  3. High Intensity Discharge
  4. LED
- C. Applications of interior lighting fixtures required for project including the following:
  1. General lighting
  2. Supplementary lighting
  3. Task lighting
  4. Emergency lighting

**3. QUALITY ASSURANCE**

- A. Manufacturers: Firms regularly engaged in manufacture of interior lighting fixtures of types and ratings required, whose products have been in satisfactory use in similar service for not less than 3 years.
- B. Installer: Qualified with at least 3 years of successful installation experience on projects with interior lighting fixture work similar to that required for project.
- C. NEC Compliance: Comply with NEC as applicable to installation and construction of interior building lighting fixtures.
- D. NEMA Compliance: Comply with applicable requirements of NEMA Std Pub Nos. LE 1 and LE 2 pertaining to lighting equipment.
- E. ANSI/IES Compliance: Comply with ANSI 132.1 pertaining to interior lighting fixtures.
- F. ANSI/UL Compliance: Comply with ANSI/UL standards pertaining to interior lighting fixtures for hazardous locations.
- G. UL Compliance: Provide interior lighting fixtures which have UL-listed and labeled.
- H. CBM Labels: Provide fluorescent-lamp ballasts which comply with Certified Ballast Manufacturers Association standards and carry the CBM label.

**4. SUBMITTALS**

- A. Product Data: Submit manufacturer's data on interior building lighting fixtures, lamps and ballasts. Lighting fixtures shall be in strict accordance with the fixture schedule. Substitutions will not be accepted without formal written prior approval. Requests for review of substitutions shall be submitted a minimum of 10 days prior to bid. Any other requests will be rejected.
- B. Shop Drawings: Submit fixture shop drawings in booklet form with separate sheet for each fixture, assembled in luminaire "type" alphabetical order, with proposed fixture and accessories clearly indicated on each sheet.

**5. ACCEPTABLE MANUFACTURERS**

- A. Manufacturers/Catalog Numbers: Subject to compliance with requirements, provide fixtures manufactured by manufacturers as indicated on the fixture schedule. Catalog numbers given on the fixture schedule are intended to provide the general description of the required fixture and its quality. Additional accessories, mounting hardware, options, etc., not specifically described by the catalog number but required for a properly operating and installed fixture or as described by additional notation on the drawings or in the specifications, shall be provided.

**6. INTERIOR LIGHTING FIXTURES**

- A. General: Provide lighting fixtures, of sizes, types, and ratings indicated; complete with, but not necessarily limited to, housings, lamps, lamp holders, reflectors, ballasts, starters and wiring.
  1. Fluorescent-Lamp Ballasts: Provide energy saving high frequency electronic fluorescent-lamp ballasts, capable of operating 32 watt, octc, T-8 lamp types; with high power factor, rapid-start, and low-noise features; Type 1; Class P; sound-rated A, and with internal thermal protection. All fluorescent fixture ballasts shall be of the same manufacturer and type. Ballasts shall also meet the following requirements:
    2. Operate lamps at 20 KHZ or higher with no detectable flicker.
    3. Ballast manufacturer shall have been producing electronic ballasts in the U.S. for more than five years with a low failure rate.
    4. Ballasts shall be approved and listed by UL.
    5. Ballasts shall comply with all applicable state and federal efficiency standards.
  6. Ballasts shall comply with FCC and NEMA limits governing electromagnetic and radio frequency interference and shall not interfere with operation of other normal electrical equipment.
  7. Ballasts shall meet all applicable ANSI and IEEE standards regarding harmonic distortion and surge protection, but in no case shall have total harmonic distortion exceeding 20%.
  8. Ballasts shall not be affected by lamp failure and shall yield normal published expected lamp life.
  9. Lamp current crest factor shall not exceed 1.7.
- 10. Ballasts shall operate at an input frequency of 60 HZ and an input voltage of that indicated on the drawings for the fixture voltage.

- 11. Ballasts shall have a power factor above 0.95.

- 12. Ballasts shall operate as a parallel circuit allowing remaining lamps to maintain full output if companion lamps fail.

- 13. Ballasts shall carry a minimum three year warranty, including labor allowance.

- 14. Ballasts shall be manufactured by Magnetek, Motorola or approved equal.

- C. Fusing all fluorescent ballasts shall be fused. Fuses may be deleted if the ballast is supplied with automatically resetting thermal overloads internal to the ballast.

- D. H.I.D. Lamp Ballasts: Provide energy saving ballasts, capable of operating lamp types indicated; with high power factor, fixture to have quartz restrike where indicated and low-noise feature and with internal thermal protection, class H insulation. H.I.D. ballasts shall be manufactured by Advanced, Valmont, Magnetek or approved equal.

- E. Lamps: Provide lamps of the wattage and types specified on the drawings. Coordinate lamp type with ballast for a complete operational, energy saving lighting system which will operate for the expected lamp and ballast life. Lamps shall be as manufactured by General Electric, Philips, or Osram/Sylvania.

- 1. Fluorescent lamps shall be rapid start, T-8, medium bi-pin, 32 watt, 3500K, 85 CRI, 3,000 lumens, 20,000 average rated hours.

- 2. Lamp and ballast combinations shall have no noticeable flicker or delayed starting. Lamps shall start instantaneously and illuminate immediately. Any delay in starting will not be acceptable and the lamp and/or ballast shall be replaced.

- 3. All lamp types and color shall be verified with the lighting consultant prior to ordering.

**7. INSTALLATION OF INTERIOR LIGHTING FIXTURES**

- A. Install interior lighting fixtures at locations and heights as indicated, in accordance with fixture manufacturer's written instructions, applicable requirements of NEC, NECA's "Standard of Installation", NEMA standards, and with recognized industry practices to ensure that lighting fixtures fulfill requirements.

- B. Coordinate with other electrical work as appropriate to properly interface installation of interior lighting fixtures with other work.

- C. Fasten fixtures securely to building structural support; and ensure that pendant fixtures are plumb and level. Provide all required mounting hardware and steel channel to supplement structural support where necessary. Fixtures shall not be supported from ductwork, piping, conduits, ceiling grid or any other non-structural building member.

- D. Coordinate fixture installation with mechanical duct work, diffusers, return grilles, communication systems devices, etc., to avoid any interferences.

**8. ADJUST AND CLEAN**

- A. Clean interior lighting fixtures of dirt and debris upon completion of installation

- B. Protect installed fixtures from damage during remainder of construction period.

**9. FIELD QUALITY CONTROL**

- A. Upon completion of installation of interior lighting fixtures, and after building circuitry has been energized, apply electrical energy to demonstrate capability and compliance with requirements. Where possible, correct malfunctioning units at site, then retest to demonstrate compliance; otherwise, remove and replace with new units, and proceed with retesting.
- B. At the time of Substantial Completion, replace lamps in interior lighting fixtures which are observed to be noticeably dimmed after Contractor's use and testing, as judged by Architect/Engineer.
- C. Refer to Division-1 sections for the replacement/restoration of lamps in interior lighting fixtures, where used for temporary lighting prior to time of Substantial Completion.

**10. GROUNDING**

- A. Provide tight equipment grounding connections for each interior lighting fixture installation.

**SECTION 16520 - EXTERIOR BUILDING LIGHTING**

**1. RELATED DOCUMENTS**

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.
- B. Division-16 Basic Electrical Materials and Methods section apply to work specified in this section.

**2. DESCRIPTION OF WORK**

- A. Extent of exterior lighting fixture work is indicated by drawings and schedules.
- B. Types of exterior lighting fixtures in this section include the following:
  1. LED
  2. High Intensity Discharge
  3. Fluorescent
- C. Applications of exterior lighting fixtures required for project including the following:
  1. Outdoor supplementary lighting
  2. Site Lighting

**3. QUALITY ASSURANCE**

- A. Manufacturers: Firms regularly engaged in manufacture of exterior lighting fixtures of types and ratings required, whose products have been in satisfactory use in similar service for not less than 5 years.
- B. Installer: Qualified with at least 3 years of successful installation experience on projects with exterior lighting fixture work similar to that required for project.
- C. NEC Compliance: Comply with NEC as applicable to installation and construction of exterior building lighting fixtures.
- G. UL Compliance: Provide exterior lighting fixtures which are UL-listed and labeled.
- H. CBM Labels: Provide ballasts which comply with Certified Ballast Manufacturers Association standards and carry the CBM label.

**4. SUBMITTALS**

- A. Product Data: Submit manufacturer's data on exterior lighting fixtures, lamps, BUG rating, and ballasts to Architect.
  1. Shop Drawings: Submit dimensioned drawings of exterior lighting fixture. Submit fixture shop drawings in booklet form with separate sheet for each fixture, assembled in luminaire "type" alphabetical order, with proposed fixture and accessories clearly indicated on each sheet to Architect. Provide photometric data for each fixture type. Clearly indicate fixture lamp and ballast type and manufacturer.
- 5. ACCEPTABLE MANUFACTURERS
  - A. Manufacturers/Catalog Numbers: Subject to compliance with requirements, provide fixtures manufactured by manufacturers as indicated on the fixture schedule. Catalog numbers given on the fixture schedule are intended to provide the general description of the required fixture and its quality. Additional accessories, mounting hardware, options, etc., not specifically described by the catalog number but required for a properly operating and installed fixture or as described by additional notation on the drawings or in the specifications, shall be provided.
- 6. EXTERIOR LIGHTING FIXTURES
  - A. General: Provide lighting fixtures, of sizes, types, and ratings indicated; complete with, but not necessarily limited to, housings, lamps, lamp holders, reflectors, ballasts, starters and wiring.
    1. H.I.D.-Lamp Ballasts: Provide energy saving high intensity discharge lamp type ballasts, capable of operating the associated lamp type for its rated life; with high power factor, and low-noise features; Type 1; Class P; sound-rated A, and with internal thermal protection. All HID fixture ballasts shall be of the same manufacturer and type. Provide quartz restrike feature where indicated on the drawings. Ballasts shall operate the lamp at full brightness and shall be suitable for the exterior environment, including the appropriate temperature rating.
    2. LED: Provide internal driver, lamps dimmable from 100% to 0%, Refer to Light Fixture Schedule for distribution types, and voltage.
  - D. Emergency Lighting: Provide emergency battery pack with minimum 90 minutes and wired ahead of lighting controls.

**7. LIGHTING POLES AND STANDARDS**

- A. EPA: Equivalent for projected area.
- B. Provide brackets for mounting luminaire.
- C. Refer to Lighting Fixture Schedule for pole height, thickness, color and type.
- D. Provide handhole with minimum clear opening of 2 1/2-inches by 5-inches with gasketed cover (w/matching finish) secured with stainless steel screws.

**8. INSTALLATION OF EXTERIOR LIGHTING FIXTURES**

- A. Install exterior lighting fixtures at locations and heights as indicated, in accordance with fixture manufacturer's written instructions, applicable requirements of NEC, NECA's "Standard of Installation", NEMA standards, and with recognized industry practices to ensure that lighting fixtures fulfill requirements.
- B. Coordinate with other electrical work as appropriate to properly interface installation of exterior lighting fixtures with other work.
- C. Fasten fixtures securely to required structural supports; and check to ensure that solid pendant fixtures are plumb.

**9. ADJUST AND CLEAN**

- A. Clean exterior lighting fixtures of dirt and debris upon completion of installation.
- B. Protect installed fixtures from damage during remainder of construction period.

**10. FIELD QUALITY CONTROL**

- A. Upon completion of installation of exterior lighting fixtures, and after building circuitry, apply electrical energy to lighting fixtures to demonstrate capability and compliance with requirements. Where possible, correct malfunctioning units at site, then retest to demonstrate compliance; otherwise, remove and replace with new units, and proceed with retesting.
- B. At the time of Substantial Completion, replace lamps in exterior lighting fixtures which are observed to be noticeably dimmed after Contractor's use and testing, as judged by Owner. Furnish stock or replacement lamps amounting to 15% (but not less than one lamp in each case) of each type and size lamp used in each type fixture. Deliver replacement stock as directed to Owner's storage space.
- C. Refer to Division-1 sections for the replacement/restoration of lamps in exterior lighting fixtures, where used for temporary lighting prior to time of Substantial Completion.
- D. Inspect each installed luminaire for damage. Replace damaged luminaires and components.

**11. GROUNDING**

- A. Provide tight equipment grounding connections for each exterior lighting fixture installation.
- B. Ground steel poles per NEC 250.

**SECTION 16721 - FIRE ALARM AND SMOKE DETECTION SYSTEMS**

**1. SECTION INCLUDES**

- A. A combination addressable and hard wired fire alarm and smoke detection system.

**2. REFERENCES.**

- A. NFPA 70 – National Electrical Code – 2017.
- B. NFPA 72 – National Fire Alarm Code – 2009.
- D. NFPA 101 – Life Safety Code – 2009.
- E. ANSI A117.1-1986 American National Standard for Buildings and Facilities Providing Accessibility and Usability for Physically Handicapped People.
- F. American With Disabilities Act of 1990 and applicable sections of the Uniform Federal Accessibility Standard.

**3. REGULATORY REQUIREMENTS**

- A. System: UL listed.
- B. Conform to requirements of NFPA 101 and the Local Fire Marshall.

**4. DESCRIPTION OF SYSTEM**

- A. The system shall be an addressable, microprocessor based fire alarm control system with transient protection on each circuit and walk-through test capability. The system shall have the capability to control and supervise all the addressable devices and non-addressable appliance and auxiliary control circuits. Each component of the system shall be UL listed for its use. The system shall have a Dynamic LCD display and be located in a constantly attended location while the building is occupied.

**5. QUALIFICATIONS**

- A. Manufacturer: Company specializing in smoke detection and fire alarm systems with five (5) years documented experience.
- B. Installer: Company specializing in smoke detection and fire alarm systems with five (5) years documented experience with projects of equivalent scope of work and size and certified by the Florida State Licensing Board as fire alarm installing contractor. The actual installer shall be licensed to install fire alarm systems and shall be certified by the system manufacturer to install the system. Proof of certification and licensure shall be provided upon request.

**6. SUBMITTALS**

- A. Submit six (6) copies shop drawings and product data.
- B. Provide complete point to point wiring diagrams, data sheets, and equipment ratings, layout, dimensions, and finishes. Indicate the location of surge protection devices.
- C. Submit manufacturer's installation instructions.
- D. Submit manufacturer's certificate that the system meets or exceeds specified requirements – certification per NFPA 72.
- E. Submit copy of Contractor's license before work begins.
- F. Submit battery calculations indicating the required battery, including the specified spore capacity.
- G. Submit voltage drop calculations.
- H. Provide training for four (4) people on the operation, maintenance, and repair of the system at the Contractor's expense. Training shall be certified by the manufacturer and be at different times for each person. Include transportation, room and board where needed.

**7. PROJECT RECORD DRAWINGS**

- A. Contractor shall provide five (5) sets of as-built drawings to the Owner upon completion of project.
- B. As-builts shall include the location of end-of-line devices, surge protection devices and exact conduit and wire routing. Numbers and types or conductors shall be indicated for each circuit.



**DRAWING COORDINATION**  
Architectural, Landscape, Civil, Structural, Mechanical and Electrical drawings are interrelated. General Contractor and all Sub-Contractors shall review and coordinate the entire set of drawings and specifications

**Golden Chick Restaurant Remodel at 2311 Fredericksburg Rd San Antonio, Texas**

DATE	DESCRIPTION	BY



DIVISION 16 - ELECTRICAL SYSTEMS (CONTINUED)

SECTION 16721 - FIRE ALARM AND SMOKE DETECTION SYSTEMS (CONTINUED)

8. OPERATION AND MAINTENANCE DATA

- A. Provide seven (7) copies of operation and maintenance data prior at the completion of construction for all point devices, CPUs, and all other equipment.
- B. Include operating instructions, and maintenance and repair procedures.
- C. Provide manufacturer representative's letter stating that the system is operational.
- D. Maintain system for a minimum of one (1) year, after complete acceptance by the Owner, in accordance with NFPA 72 and 72E.
- E. Provide, at the end of the first year after construction completion, a yearly certification as outlined by the State Fire Marshal's Rule 4A-48.

9. DELIVERY, STORAGE, AND HANDLING

- A. Products shall be delivered to job site in manufacturers original shipping packages.
- B. Provide storage and protection of products, as needed.

10. MANUFACTURERS

- A. Notifier System AFP300.
- B. Equal by EST.
- C. Equal by ADT

NOTE : Approval of manufacturer's equipment does not any way relieve the Contractor from meeting the performance criteria as outlined in the Plans and Specifications.

11. FIRE ALARM CONTROL PANEL (FACP)

A. Control panel construction shall be modular with solid state, microprocessor based electronics and shall conform to all requirements made necessary by the Local Fire Marshall. It shall display only those primary controls and displays essential to operation during a fire alarm condition. Keyboards or keypads shall not be required to operate the system during fire alarm conditions. A local audible device shall sound during alarm, trouble or supervisory conditions. This audible device shall sound differently during each condition to distinguish one (1) condition from another without having to view the panel. This audible device shall also sound during each keypress to provide an audible feedback to ensure that the key has been pressed properly. The panel shall be complete with all required cards for the points necessary for all the devices indicated, plus capability for expansion to 30% more points, minimum. Provide the necessary hard wired circuits for all the indicating appliance and auxiliary control devices. Provide a two spare indicating appliance circuits in addition to the required indicating appliance circuits to serve the appliances shown on the drawings.

- 1. Provide Voice Evacuation System as required by Local Codes or jurisdiction. Provide microphone, pre-recorded voice message and amplifier and other required devices for a voice annunciated system. Pre-recorded message shall be capable of being revised and re-recorded. Confirm exact message required by the local fire marshal prior to installation.

B. The following primary controls shall be visible through a front access panel:

- 1. Eighty character liquid crystal display, Individual red system alarm LED.
- 2. Individual yellow supervisory service LED, Individual yellow trouble LED.
- 3. Green "power on" LED.
- 4. Alarm acknowledge key.
- 5. Supervisory acknowledge key.
- 6. Trouble acknowledge key.
- 7. Alarm silence key.
- 8. System reset key.

C. The control shall provide the following:

- 1. Setting of time and date.
- 2. LED testing, Alarm, trouble, and abnormal condition listing.
- 3. Enabling and disabling of each monitor point separately.
- 4. Activation and deactivation of each control point separately.
- 5. Changing operator access levels.
- 6. Walk test enable.
- 7. Running diagnostic functions.
- 8. Displaying software revision level.
- 9. Displaying historical logs.
- 10. Displaying card status.
- 11. Point listing.
- 12. Speaker silence switch.

D. For maintenance purposes, the following lists shall be available from the point lists menu.

- 1. All points listed by address.
- 2. Monitor point list.
- 3. Signal/speaker list.
- 4. Auxiliary control list.
- 5. Feedback point list.
- 6. Pseudo point list.
- 7. LED/switch status list.

12. DEVICES AND ACCESSORIES

- A. Manual Station: Semi-flush mounted, supervised, normally open single action manual station. Manual stations shall be single action and shall be constructed of cast metal or lexan with raised white lettering and a smooth high gloss finish. The station shall have a hinged front with key lock. Stations which utilize screwdrivers, Allen wrenches, or other commonly available tools shall not be accepted. Stations shall be keyed alike with the fire alarm control panel. When the station is operated, the handle shall lock in a protruding manner to facilitate quick visual identification of the activated station. Stations shall be the addressable type.
- B. Heat Detector: Easy installation, low profile with wide base to cover mounting plate and box. Detectors shall be white and have a dangling disk to indicate element operation. Detectors will be fixed temperature with thermostats rated at 135 degrees F, except when the plans call for a 194 or 200 degrees F rating. The detector shall be the addressable type for use with an addressable system and shall be UL listed for this purpose.

1. Heat detectors installed in hazardous environments shall be the explosion proof type.

C. Smoke Detectors: NFPA 72E; photoelectric type with plug-in base, supervised visual indication of detector actuation, suitable for mounting on four inch (4") outlet box.

1. Detectors shall be listed to U.L. Standard 268 and shall be documented compatible with the control equipment to which it is connected. Detectors shall be listed for this purpose by Underwriters Laboratories, Inc. The detectors shall obtain their operating power from the fire alarm panel supervised detection loop. The operating voltage shall be 24 VDC (nominal). Removal of the detector head shall interrupt the supervisory circuit of the fire alarm detection loop and cause a trouble signal to be generated at the control panel. Detectors shall be the addressable type for use on an addressable type system.

2. Each detector shall have a flashing status indicating LED for visual supervision. When the detector is actuated, the flashing LED will latch on steady and at full brilliance. The detector may be reset by actuating the control panel reset switch.

3. To minimize nuisance alarms, voltage and RF transient suppression techniques shall be employed as-well-as a smoke verification circuit and an insect screen. The detector design shall provide full solid-state construction and compatibility with other normally open fire alarm detection loop devices (heat detectors, pull stations, etc.). The detector head shall be easily disassembled to facilitate cleaning.

D. Horns/Speakers: Moisture repellent, fire retardant speaker or horn designed for smooth frequency response with minimal distortion. Horn/Speakers shall be listed and approved for use as a fire alarm indicating appliance. Horn/Speakers shall all sound the same general alarm sound. Outdoor speakers shall be weatherproof and listed for use as an outdoor fire alarm indicating appliance.

1. Sound Level: 87 dB at 10 feet not to exceed 120 dbA.

E. Visual Flashing Lamps (Xenon Strobe): Visual indicating appliances shall be comprised of xenon flashtube and be entirely solid state. These devices shall be UL listed and be capable of either ceiling or wall mounting. The isxon lens shall be pyramidal in shape to allow better visibility. Separate alarm indicating circuits shall be provided for strobes. The maximum strobe pulse duration shall be 0.2 seconds with a maximum duty cycle of 40 percent. The intensity shall be a minimum 100 candela and the flash rate shall be at least 1 Hz but not to exceed 3 Hz. Strobe must meet current ADA requirements.

F. Audio/Visual Alarm indicating Appliance: Audio/Visual units shall provide a common enclosure for the fire alarm audible and visual alarm devices. The housing shall be designed to accommodate either horns, bells, chimes, or speakers. The unit shall be complete with a tamper resistant, pyramidal shaped lexan lens with "Fire" lettering visible from a 180 degree field of view. The front panel or bezel which is constructed of cast metal maybe inverted so that the lens is below the audible device. The lamp assembly shall incorporate a built-in reflector for more efficient light propagation and a special shock-mounting arrangement to resist bulb failure due to vibration. Lamp shall be provided with a 4 wire connection to insure properly supervised in/out system connection. Unit shall be complete with all mounting hardware including backbox. Audio/Visual unit shall be UL Listed for its intended purpose. The visual flashing lamps shall meet the specification indicated above in Part E.

1. Minimum dB: 87 dB at 10 feet per UL 464.

G. Duct Smoke Detectors: Duct smoke detectors shall be of the solid state photoelectric type and shall operate on the light scattering photodiode principle. The detectors shall be designed to ignore invisible airborne particles or smoke densities that are below the factory set alarm point. No radioactive materials shall be used. Detectors shall be the addressable type for use on an addressable type system. Detectors shall be provided with the capability of performing automatic fan shutdown either directly from the detector or via the main control panel. All required wiring and supervision shall be provided for all required fan shutdown. Provide all relays and supervise relays as required.

H. Provide all required auxiliary control circuits for hood fire suppression system supervision, appliance shutdown, door release, hood supply fan shutdown, gas shutdown, dampers, valve closure and other required control functions indicated on the drawings or otherwise specified. All auxiliary control circuits shall be indicated on the annunciator as a separate zone or shall be addressable so the device can be identified quickly and accurately.

I. Provide wall mounted, magnetic door holder/automatic door release devices. Door holder shall have a minimum 25 lbs. holding force.

13. BATTERY BACK-UP

A. The system shall be battery back-up for 24 hours with five (5) minutes of alarm capabilities (per NFPA 72) with all system indicating appliances operating, including strobes. Provide battery with 30% spare capacity for the potential addition of indicating appliances.

14. LIGHTNING PROTECTION

A. Provide surge protection on all circuits.

B. Provide lightning protection at all points entering and leaving the building (including walkways) and at the FACP location shown on the drawings. The 120 volt power circuit shall be provided with lightning protection.

C. Surge protection shall be manufactured and listed for use with the fire alarm system.

15. ENTIRE BUILDING

A. All pull stations, heat detectors, and smoke detectors shall, when placed in an alarm mode, sound the building general alarm, flash strobe lights, shutdown AHUs, release door holders, and annunciate the address of the initiating device or the zone of any of the existing hard wired devices to the FACP.

B. All pull stations, heat detectors, smoke detectors, and duct smoke detectors shall, when placed in a trouble mode, indicate the address of the device or zone of any existing device experiencing trouble to the FACP.

C. Duct smoke detectors shall be hardwired interlocked to shutdown their respective units on alarm or detection of smoke. Duct smoke detectors shall sound a supervisory signal to the FACP and shall not sound the general alarm.

D. The system shall be fully programmed and completely operational prior to acceptance. The FACP and CPU shall have the capability to be fully programmable by Owner's personnel.

E. The Manufacturer shall provide the necessary documentation and training to allow the Owner's personnel to maintain and change software.

F. Program data shall be stored in non-volatile memory with battery back-up. Program data shall not be lost due to temporary outages, surges, dips, etc.

16. INSTALLATION OF FIRE ALARM AND DETECTION SYSTEMS

A. Install fire alarm and detection systems as indicated, in accordance with equipment manufacturer's written instructions and complying with applicable portions of NEC and NECAs "Standard of Installation" and NFPA-72E.

B. Wiring Systems and Materials

1. Wiring shall be in accordance with requirements of the National Electrical Code and NFPA Regulation 72. The fire alarm system, including components, conduit, boxes and wiring shall be completely installed and wiring and conduit shall be properly tagged and color coded. The Electrical Contractor shall make final connections as shown and required by the equipment manufacturer's wiring instructions.

2. Color Code - The color codes of the fire alarm cabling shall conform with the following:

- a. Speaker - Red (+) and Black (-).
- b. Pull Station/Heat/Smoke Detector - Blue and Yellow.
- c. Fan shut-down - White.
- d. Visual Flashing Lamps (Xenon Strobes) - Purple and Orange.
- e. Spare wires - Any different color, must be same throughout the building.

3. All wiring to be installed in conduit with continuous ground.

4. All junction box covers shall be painted red. All lengths of conduits shall have at least one red stripe.

5. AHU shutdown relays and equipment control relays shall be mounted within three (3) feet of controlled device. AHU shutdown relays shall be wired on a separate circuit.

6. Visual flashing lamps and speakers shall be wired on alternate circuits to provide coverage in the event of the failure of one circuit. Provide the required number of circuits for the indicated number of alarm indicating devices.

C. Provide conduit, wire and circuit breakers to connect fire alarm control panels to emergency circuit. The fire alarm circuit breaker shall be accessible to authorized personnel only and shall be marked FIRE ALARM CIRCUIT CONTROL. Provide handle lock for circuit breaker handle.

D. Provide a disable switch for system speakers at the Fire Alarm Control Panel. Label switch "ALARM SILENCE SWITCH". (If the switch is left in the disable position during normal system operation, a trouble signal shall sound at the control panel).

17. QUALITY ASSURANCE

A. NEC Compliance comply with NEC as applicable to construction and installation of fire alarm and detection system components and accessories.

B. UL Compliance and Labeling - Provide fire alarm and detection system components which are UL listed and labeled. Installation is to be by a UL listed installer.

C. Misc. compliance - The fire alarm system is to be installed in accordance with the equipment manufacturer's written instructions and comply with all applicable portions of the NECAs "Standard Installation" and all local codes and ordinances.

18. FIELD QUALITY CONTROL

A. Inspect relays and signals for malfunctioning, and where necessary adjust units for proper operation to fulfill project requirements. Any fine adjustment shall be performed by specially trained personnel in direct employ of manufacturer of the fire alarm detection system equipment. The Manufacturer's representative shall perform a quality inspection off the final installation and, in the presence of the Electrical Contractor, Architect/Engineer, and Owner's Representatives, shall perform a complete functional test of the system. A system certification verifying the proper system operation shall be required prior to acceptance by the Owner.

19. SYSTEM GUARANTEE

A. All components, parts, and assemblies supplied by the Manufacturer shall be guaranteed against defects in materials and workmanship for a period of twelve (12) months commencing the date of substantial completion. Warranty service shall be provided by a qualified factory trained representative of the equipment manufacturer. Service response time shall be a maximum of four (4) hours before arrival to site.

B. Testing: The Contractor shall perform all electrical and mechanical tests required by the equipment manufacturer's form and National Fire Protection Association - 72H. All test and report costs shall be in the contract price. A checkout report shall be prepared by the installation technicians and submitted in triplicate, one (1) copy of which will be registered with the equipment manufacturer. The report shall include, but not be limited to:

- 1. A complete list of equipment installed and wired.
- 2. Indication that all equipment is properly installed and functions and conforms with these specifications.
- 3. Test result of individual initiating devices and indicating appliances.
- 4. Serial numbers, locations by zone and model number for each installed detector.
- 5. Response time on thermostats and flame detectors (if used).
- 6. Technician's name, certificate number and date.

C. Documentation: After completion of the tests and adjustments listed above, the Contractor shall submit the following information to the Owner.

- 1. A copy of the test report described in this specification and a Certificate of Compliance prepared as per National Fire Protection Association Standard 72A Chapter 2, Section 2-2.4, and State Fire Marshal's Rule 4A-48 to be complete at final test.
- 2. Affixed to FACP a standard service tag, as described in rule 4A-48 for fire alarm contractors by the Office of the State Fire Marshal.
- 3. Final tests and inspection shall be held in presence of the Owners' representatives and to their satisfaction. The Contractor shall supply personnel and required auxiliary equipment for this test without additional cost to the Owner.
- 4. To assure that wire size, power supply, number of devices on a circuit, etc. are suitable to support 100% of devices being in alarm or operated simultaneously, this test shall include the following:

- a. Place all sensors and monitor modules in alarm. Each shall display it's address and alarm condition. At least the first ten (10) devices on each circuit shall also have their alarm LEDs lighted.
- b. Operate all control modules for the alarm or operated condition. Each module shall display it's address and condition.
- c. Reset all alarmed and operated devices. The panel shall display the address or zone of any off-normal devices.
- d. Test a representative number of sensors for alarm verification by momentarily testing for alarm. The sensor shall not initiate an alarm. Then, test by placing the sensor in alarm such that it remains in alarm for the selected verification time. The sensor shall initiate an alarm.
- e. Acceptance of the system shall also require a demonstration of the stability of the system. This shall be adequately demonstrated if the system operates for a ninety (90) day test period without any unwarranted alarms. Should unwarranted alarm(s) occur, the Contractor shall readjust or replace the detector(s) and begin another ninety (90) day test period. As required by the Engineer the Contractor shall recheck the detectors using the fire test after each readjustment or replacement of detectors. This test shall not start until the Owner has obtained beneficial use of the building under tests.
- f. If the requirements provided in the paragraph above are not completed within thirty (30) days after beginning the tests described therein, the Contractor shall replace the system with another acceptable manufacturer and the process repeated until acceptance of the equipment by the Owner.
- g. Before final acceptance of work, the Contractor shall deliver seven (7) copies of a composite "Operating and Shop Maintenance Manual." Each manual shall contain, but not be limited to:
  - h. A statement of guarantee including date of termination and name and phone number of the person to be called in the event of equipment failure.
  - i. Individual factory issued manuals containing all technical information on each piece of equipment installed. In the event that such manuals are not obtainable from the factory, it shall be the responsibility of the Contractor to compile and include them. Advertising brochures or operational instructions shall not be used in lieu of the required technical manuals.
  - j. One (1) copy of all approved shop drawings, instruction sheets, operating instructions, and spare parts bulletins.
  - k. A training session, for personnel selected by the Owner, shall be presented by a fully qualified, trained representative of the equipment manufacturer who is thoroughly knowledgeable of the specific installation.
- l. Provide a written description of standard control panel functions and user instructions at each FACP. These instructions shall be written in standard laymen's English so that an unfamiliar operator can accomplish basic functions such as reset.

D. Warranty : All equipment and systems shall be warranted by the Contractor for a period of one (1) year following the date of final acceptance. The warranty shall include parts, labor, prompt field service, pick-up, and delivery.

1. Provide one (1) year of testing as per National Fire Protection Association 72, which shall consist of:

2. At the end of the one year warranty period provide a Test and Written report which certify that all initiating devices have been tested and which indicate the result of the inspection as required by the Owner. Provide the required certification tag. Problems discovered during this testing and inspection shall be covered under the warranty. It is the contractor's responsibility to perform this testing prior to the end of the one year warranty or provide an extended warranty if the test is performed after the warranty period was scheduled to expire.



DRAWING COORDINATION  
Architectural, Landscape, Civil, Structural, Mechanical and Electrical drawings are interrelated. General Contractor and all Sub-Contractors shall review and coordinate the entire set of drawings and specifications

09.21.2023

Golden Chick Restaurant Remodel at  
2311 Fredericksburg Rd  
San Antonio, Texas

DATE	DESCRIPTION	BY

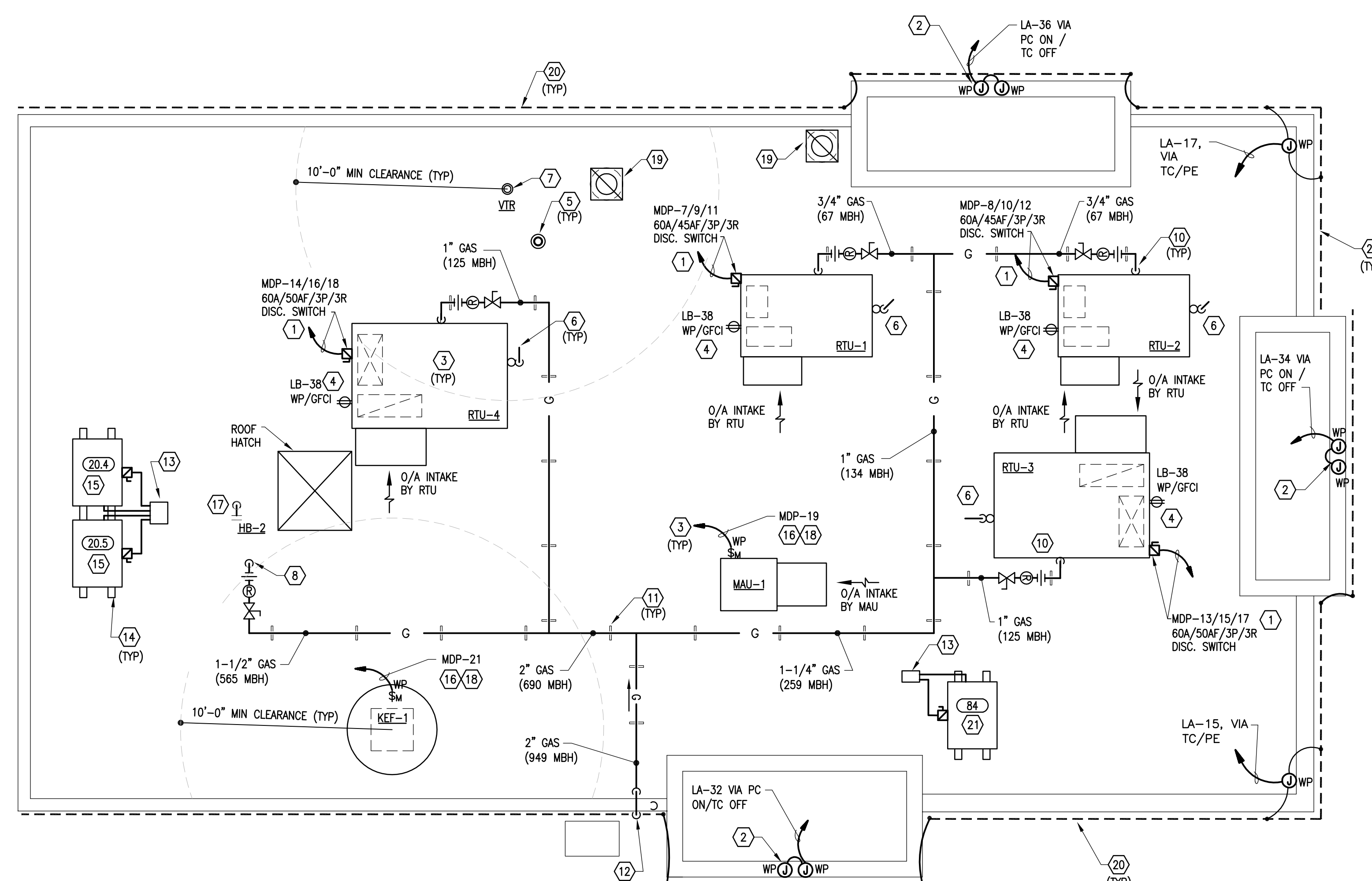
SPECIFICATIONS

PROJECT NO.  
05-05-22

SHEET NO.

SP.17





**GENERAL NOTES**

- A. WEATHERPROOF JUNCTION BOX FOR EXTERIOR SIGNAGE. VERIFY EXACT LOCATION WITH THE OWNER PRIOR TO INSTALLATION. INSTALLATION PER NEC AND LOCAL AHJ.
- B. FIELD FABRICATED ROOF JACK FOR REFRIGERATION PIPING AND POWER CONDUIT(S) SHALL BE PROVIDED BY THE GENERAL CONTRACTOR. REFER TO ARCHITECTURAL DETAILS FOR DIRECTION. THE MC, EC AND GC SHALL COORDINATE FOR A COMPLETE INSTALLATION.

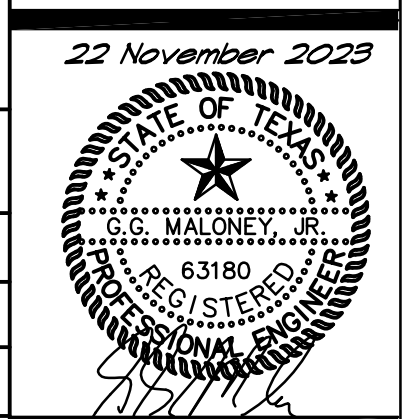
**KEYED NOTES**

- 1. FACTORY PROVIDED AC UNIT CONTROL PANEL. (VERIFY LOCATION). HACR BREAKER / DISCONNECT SWITCH FURNISHED WITH EQUIPMENT.
- 2. VERIFY LOCATION & NUMBER OF SIGNS WITH SIGN VENDOR. RUN SIGN CIRCUITS THROUGH CONTACTOR, CONTROLLED THROUGH PHOTOCELL/TIMELOCK. PROVIDE FLUSH MOUNTED WEATHERPROOF J-BOX ON EXTERIOR FACE OF WALL. PROVIDE DISCONNECTING MEANS PER NEC AND LOCAL AUTHORITY HAVING JURISDICTION.
- 3. G.C. SHALL COORDINATE FINAL LOCATIONS FOR ALL ROOFTOP EQUIPMENT PRIOR TO ROUGH-IN.
- 4. WP/GFI SERVICE RECEPTACLE FURNISHED WITH RTU. CONTRACTOR SHALL CIRCUIT TO PANEL.
- 5. MANUFACTURER'S AVAILABLE CONCENTRIC COMBUSTION AIR VENTS FOR THE GAS FIRED WATER HEATER BELOW. COORDINATE THE ROOF PENETRATION, FLASHING AND COUNTER-FLASHING WITH THE GENERAL CONTRACTOR.
- 6. DISCHARGE CONDENSATE PIPING FROM THE MECHANICAL UNIT TO THE ROOF AT A MINIMUM PITCH OF 1/4" PER FOOT IN THE DIRECTION OF FLOW. PROVIDE COPPER TRAP AND DRAIN PIPING.
- 7. FIELD COORDINATE LOCATION OF EXISTING VTR. THE LOCATION SHALL BE A MINIMUM OF 10'-0" FROM ANY OUTDOOR AIR INTAKE.
- 8. ROUTE GAS PIPING DOWN THRU ROOF. PROVIDE WEATHER TIGHT SEAL AT PIPE PENETRATION.
- 9. NOT USED.
- 10. GAS CONNECTION TO UNIT COMPLETE WITH GAS COCK, UNION, GAS PRESSURE REGULATOR & 6" DIRT LEG.
- 11. ALL PIPING INSTALLED ON THE ROOF SHALL BE SUPPORTED WITH PRE-MANUFACTURED ADJUSTABLE PIPE SUPPORTS AT MAXIMUM 5'-0" ON CENTER AND EVERY CHANGE OF DIRECTION.
- 12. ROUTE GAS LINE UP FROM GAS METER. GENERAL DISTRIBUTION OF NATURAL GAS PIPING SHALL BE 2.0 PSI MEDIUM PRESSURE. GAS PIPING TO BE ROUTED UP AND OVER PARAPET.
- 13. PREMANUFACTURED PIPE PORTAL FOR ROOF PENETRATIONS. THE MC, EC AND GC SHALL COORDINATE FOR A COMPLETE INSTALLATION.
- 14. REMOTE CONDENSING UNIT SHALL BE INSTALLED ON MANUFACTURER APPROVED SLEEPERS. FIELD COORDINATE THE COMPLETE INSTALLATION.
- 15. INTERWIRE SERVICE FROM COMPRESSOR AND TIMELOCK TO BLOWER COIL FOR AUTOMATIC DEFROST SYSTEM TO STOP COMPRESSOR BLOWER COIL FANS AND START HEATERS IN COIL. RUN CONDUIT ABOVE CEILING. THESE ITEMS ARE NOT PRE-WIRED AND WILL REQUIRE CONNECTIONS BY ELECTRICIAN AND FIELD WIRING.
- 16. CONTRACTOR SHALL PROVIDE ALL ELECTRICAL CONNECTIONS, WIRING AND CONDUITS NECESSARY FOR THE INTERLOCKING OF KITCHEN EXHAUST FANS AND MAKEUP AIR UNIT THROUGH THE KITCHEN CONTROL PANEL.
- 17. ROUTE 3/4" HOT WATER UP THROUGH ROOF & CONNECT TO HOSE BIBB MOUNTED ON THE ROOF. REFER TO THE WATER PLUMBING PLAN FOR CONTINUATION OF PIPING BELOW THE ROOF.
- 18. WEATHERPROOF MOTOR RATED SWITCH, 2#10,#10G., IN 3/4"C. DOWN TO PRE-WIRED ELECTRICAL CONTROL PANEL ON KITCHEN HOOD.
- 19. PROVIDE RESTROOM EXHAUST VENT CAP SIMILAR TO LOREN COOK PR-8. INSTALL COMPLETE WITH MANUFACTURER AVAILABLE ROOF CURB, BACKDRAFT DAMPER AND BIRD SCREEN.
- 20. LED ACCENT LIGHT, PROVIDED BY SIGN COMPANY. COORDINATE ROUGH-IN AND CONNECTION REQUIREMENTS. ELEVATION AND LOCATION WITH ARCHITECTURAL DRAWINGS AND SIGN COMPANY. NO EXPOSED CONDUITS ON ROOF.
- 21. PROVIDE ALL INTERCONNECTION WIRING BETWEEN ICE MACHINE AND ICE MACHINE REMOTE CONDENSING UNIT PER MANUFACTURER'S INSTRUCTIONS.

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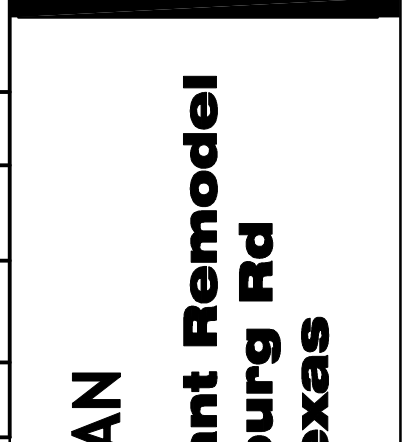
**DRAWING COORDINATION**  
Architectural, Landscape, Civil, Structural, Mechanical and Electrical drawings are interrelated. General Contractor and all Sub Contractors shall review and coordinate the entire set of drawings and specifications.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY G.G. MALONEY, JR., P.E. 63180 ON NOV 22, 2023. ALTERATION OF SEALED DOCUMENTS WITHOUT PROPER NOTIFICATION OF THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.



22 November 2023

**MALONEY ASSOCIATES**  
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**MEP ROOF PLAN**  
**Golden Chick Restaurant Remodel**  
**2311 Fredericksburg Rd**  
**San Antonio, Texas**

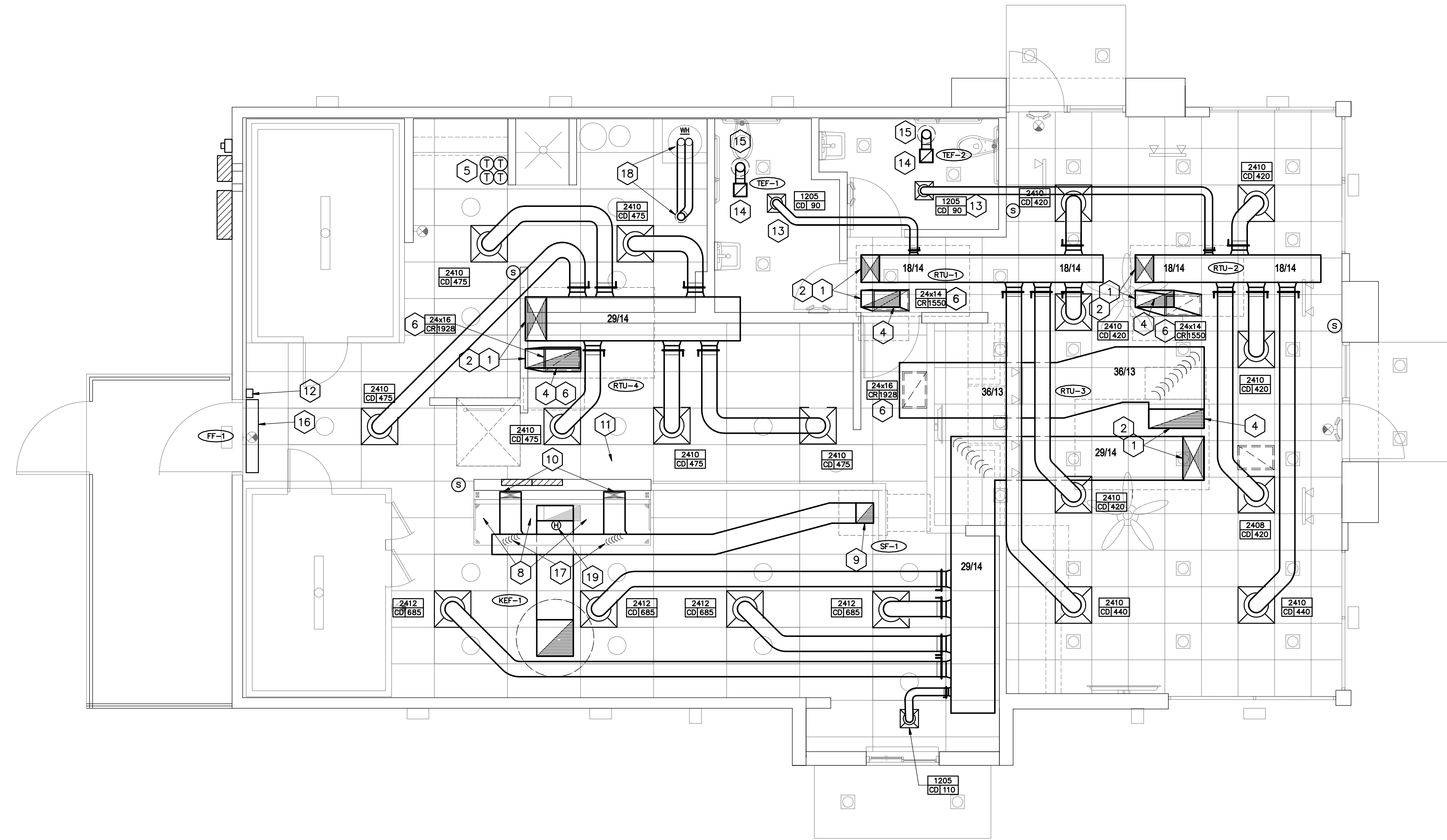
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PROJECT NO.  
05-05-22

SHEET NO.  
**MEP1.0**





**GENERAL NOTES**

- A. OUTDOOR AIR INTAKES SERVING MECHANICAL EQUIPMENT SHALL BE INSTALLED A MINIMUM OF 10'-0" HORIZONTAL CLEARANCE FROM THE DISCHARGE OF ANY EXHAUST FAN, COMBUSTION EXHAUST OR PLUMBING VENT.
- B. PROVIDE VIBRATION ISOLATION DEVICES AND FLEXIBLE DUCT/ PIPING CONNECTIONS TO MOVING MACHINERY NOT INTERNALLY ISOLATED.
- C. DUCT DIMENSIONS SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS.
- D. COORDINATE DUCT AND DIFFUSER LOCATIONS WITH LIGHT FIXTURES, SPRINKLER PIPING, SPRINKLER HEADS, AND OTHER CEILING MOUNTED APPURTENANCES FOR A COMPLETE INSTALLATION.
- E. LOCATIONS FOR THERMOSTATS AND REMOTE SENSORS SHALL BE FIELD COORDINATED TO AVOID INTERFERENCE WITH WALL-MOUNTED DECOR OR PROXIMITY TO HEAT PRODUCING EQUIPMENT.
- F. HVAC AND RESTROOM EXHAUST DUCTWORK SHALL BE INSTALLED AS HIGH AS POSSIBLE UNDER THE ROOF STRUCTURE.
- G. RECTANGULAR, ROUND, AND FLEXIBLE DUCTWORK SHALL BE SIZED AS SHOWN ON THESE DRAWINGS, AND SHALL BE FABRICATED AND INSTALLED ACCORDING TO THE MOST RECENTLY PUBLISHED SMACNA STANDARDS. JOINTS, SEAMS, AND CONNECTIONS SHALL BE SECURELY FASTENED & SEALED BY APPROVED METHODS.
- H. FLEXIBLE DUCTS SHALL BE INSTALLED IN CONCEALED SPACES ONLY. THE MAXIMUM ALLOWABLE LENGTH OF FLEXIBLE DUCT SHALL BE 5'-0". FLEXIBLE DUCTS SHALL BE CONNECTED TO BRANCH RUNS AND FITTINGS WITH A PANDUIT-TYPE BAND, AND SHALL NOT BE ATTACHED DIRECTLY TO THE AIR DEVICE COLLAR. PROVIDE TITUS "FLEXRIGHT" ELBOW BRACES AT ELS, SECURED WITH NYLON CABLE TIES.
- I. SUPPLY, RETURN, RESTROOM EXHAUST, AND MAKEUP AIR DUCT CONSTRUCTION SHALL BE GALVANIZED STEEL. GAUGES, SWAY BRACING AND SUSPENSION SHALL CONFORM TO SMACNA STANDARDS. SEAL SEAMS AND JOINTS AIR AND WATERTIGHT. FLEXIBLE ALUMINUM DUCTWORK OR FIBERGLASS DUCTBOARD IS NOT ALLOWED (UNO).
- J. PITCH HORIZONTAL GREASE AND CONDENSATE DUCTWORK UNIFORMLY BACK TOWARDS THE RESPECTIVE HOOD OR APPLIANCE AT A MINIMUM 1/4" PER FOOT (NOT TO EXCEED 50'-0").
- K. REFER TO MANUFACTURER SHEETS FOR THE HOOD CONTROL WIRING DIAGRAM FOR OPERATION OF THE KITCHEN HOOD EQUIPMENT.
- L. REPLACE THE AIR FILTERS AT THE ROOFTOP UNITS WITH 2" THICK PLEATED MERV 7 THROW AWAY TYPE AIR FILTERS AT THE COMPLETION OF CONSTRUCTION AND PRIOR TO AIR BALANCE AND STORE TURNOVER.
- M. DUCTWORK SERVING THE DINING AREA SHALL BE ROUTED THROUGH MANUFACTURED BLOCK OUTS IN THE STRUCTURAL JOISTS. REFER TO THE ARCHITECTURAL BUILDING SECTIONS FOR ADDITIONAL INFORMATION.
- N. DUCTWORK SERVING THE BACK OF HOUSE AND RESTROOM AREAS SHALL BE ROUTED BELOW THE STRUCTURE, HELD TIGHT TO THE BOTTOM OF THE JOISTS. REFER TO THE ARCHITECTURAL BUILDING SECTIONS FOR ADDITIONAL INFORMATION.
- O. RUNOUT DUCT DIAMETER TO DIFFUSERS SHALL BE SAME SIZE, INSIDE CLEAR, AS RELATED DIFFUSER NECK DIAMETER.

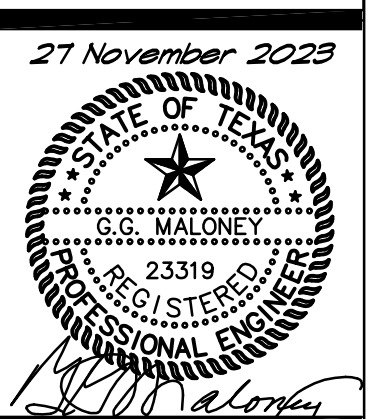
**KEYED NOTES**

- 1. SUPPLY AND RETURN DUCTS DOWN FROM THE RTU CONNECTIONS THRU ROOF. COORDINATE ROOF WORK WITH THE OWNER'S ROOFING WARRANTY. FIRST 10'-0" OF SUPPLY AND RETURN DUCTWORK SHALL BE INTERNALLY LINED FOR ACOUSTIC CONTROL.
- 2. PROVIDE FACTORY AVAILABLE SMOKE DETECTOR INTERLOCKED TO SHUT DOWN THE RESPECTIVE MECHANICAL UNIT UPON ACTIVATION.
- 3. WALL MOUNTED REMOTE ZONE TEMPERATURE SENSOR SHALL BE MOUNTED AT 48" A.F.F. THE TEMPERATURE SENSING ELEMENT SHALL BE WIRED BACK TO RESPECTIVE PROGRAMMABLE THERMOSTAT IN MGR'S OFFICE. COORDINATE PLACEMENT WITH WALL DECOR AND EQUIPMENT. FIELD VERIFY WITH THE OWNER'S REPRESENTATIVE FOR THE FINAL LOCATION PRIOR TO INSTALLATION.
- 4. INSTALL THE FACTORY AVAILABLE HUMIDITY SENSOR IN THE RETURN AIR PATH.
- 5. THERMOSTAT IN OFFICE SHALL BE WALL MOUNTED AT 48" A.F.F. AND PROPERLY LABELED WITH THE ROOFTOP UNIT.
- 6. RETURN GRILLE AIR QUANTITY LISTED IS FOR PARTIAL RETURN DURING STANDARD OPERATING HOURS. RETURN DUCTS ARE SIZED FOR FULL RETURN DURING NIGHT SETBACK CONDITIONS. REFER TO SHEET M2.0 FOR AIR BALANCE REPORT ON DESIGN AIRFLOW RATES.
- 7. ROUTE THE PVC CONCENTRIC COMBUSTION AIR INTAKE/ EXHAUST PIPING FROM THE WATER HEATER(S) TO TERMINATION LOCATIONS ON THE ROOF. INSTALL WITH THE MINIMUM ELBOWS AND OFFSETS AS NECESSARY FOR A COMPLETE INSTALLATION PER THE WATER HEATER MANUFACTURER'S REQUIREMENTS, TERMINATED WITH THE VERTICAL CONCENTRIC VENT KIT.
- 8. THE UL LISTED FRYER HOOD IS MANUFACTURED WITH AN INTEGRAL STAINLESS STEEL EXHAUST CHASE TOPPED WITH AN EXTENSION COLLAR FOR THE DUCT CONNECTION IN THE FIELD. RISER SHALL BE THE SAME SIZE AS THE COLLAR CONNECTION. OFFSET RISER AS REQUIRED BEFORE ROUTING UP THROUGH THE ROOF TO THE EXHAUST FAN. FIELD COORDINATE THE REQUIRED TRANSITIONS OF EXHAUST DUCT FROM COMBUSTIBLE MATERIALS TO MAINTAIN THE MINIMUM CLEARANCES REQUIRED PER APPLICABLE CODE(S) AND FIRE WRAP MANUFACTURER'S INSTRUCTIONS. SEE ALSO M4.1 THRU M4.4 SERIES OF DRAWINGS.
- 9. ROUTE MAKEUP AIR DUCTWORK DOWN FROM THE UNIT CONNECTION. DUCT SHALL BE SAME SIZE AS UNIT OPENING. PROVIDE FLEXIBLE CONNECTION AND TRANSITION AS REQUIRED.
- 10. THE UL LISTED FRYER HOOD IS MANUFACTURED WITH AN INTEGRAL STAINLESS STEEL MAKEUP AIR CHASE TOPPED WITH AN EXTENSION COLLAR FOR THE DUCT CONNECTION IN THE FIELD. RISER SHALL BE THE SAME SIZE AS THE COLLAR CONNECTION. REFER TO THE MECHANICAL HOOD SHEETS, M4.1 THRU M4.4 SERIES OF DRAWINGS FOR ADDITIONAL INFORMATION.
- 11. THE COMPLETE FIRE SUPPRESSION SYSTEM SHALL BE FURNISHED AND INSTALLED BY A CERTIFIED SUBCONTRACTOR UNDER THE GENERAL CONTRACTOR.
- 12. WALL MOUNTED MANUAL PULL STATION FOR KITCHEN HOOD FIRE SUPPRESSION SYSTEM ACTIVATION AND GAS SUPPLY SHUT-OFF TO BE FURNISHED WITH HOOD PACKAGE AND INSTALLED BY THE ELECTRICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL PROVIDE WIRING, A RECESSED JUNCTION BOX AND CONDUIT FOR PULL STATION WIRING. FIRE SUPPRESSION SUBCONTRACTOR SHALL VERIFY APPROVED LOCATION WITH THE LOCAL AUTHORITY AND COORDINATE THE COMPLETE INSTALLATION WITH ALL OTHER TRADES.
- 13. AIR DEVICE IN HARD LID CEILING SHALL BE INSTALLED COMPLETE WITH INTEGRAL OPPOSED BLADE DAMPER FOR MANUAL VOLUME ADJUSTMENT.
- 14. NEW CEILING MOUNTED CABINET EXHAUST FAN. INTERLOCK WITH LIGHT SWITCH. COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR.
- 15. EXTEND THE 6" RESTROOM EXHAUST RISER UP TO THE ROOF MOUNTED GRAVITY VENT. FIELD VERIFY ANY REQUIRED TRANSITIONS OR OFFSETS TO AVOID THE EXISTING STRUCTURE.
- 16. MOUNT THE FLY FAN ON THE WALL ABOVE THE DOOR. COORDINATE THE COMPLETE INSTALLATION WITH OTHER TRADES. CONTROL FAN WITH DOOR MOUNTED LIMIT SWITCH MODEL 30028.
- 17. AIR EXTRACTOR, TITUS AG-45 1" BLADE SPACING FOR DUCTS UP TO 18", TITUS AG-225 FOR DUCTS 19" TO 36". PROVIDE FIXES SPLITTER FOR DUCTS LARGER THAN 36".
- 18. EXTEND FLUE AND COMBUSTION AIR DUCT FULL SIZE OVER AND UP THRU ROOF WITH WH MANUFACTURER'S STANDARD CONCENTRIC FLUE/COMBUSTION AIR CAP. EXTEND MINIMUM 10" FROM OA INTAKES.
- 19. FP THERMAL SENSOR IN GREASE DUCT.

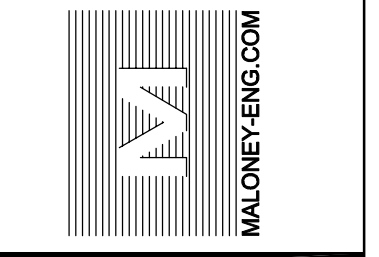
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**DRAWING COORDINATION**  
 Architectural, Landscape, Civil, Structural, Mechanical and Electrical drawings are interrelated. General Contractor and all Sub Contractors shall review and coordinate the entire set of drawings and specifications.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY G.G. MALONEY, P.E. 23319 ON NOV 27, 2023. ALTERATION OF SEALED DOCUMENTS WITHOUT PROPER NOTIFICATION OF THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.



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**MECHANICAL FLOOR PLAN**  
**Golden Chick Restaurant Remodel**  
**2311 Fredericksburg Rd**  
**San Antonio, Texas**

DATE	DESCRIPTION	BY

SCALE:  
AS NOTED

PROJECT NO.  
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**M1.0**



**TEST AND BALANCE NOTES**

- THE GENERAL CONTRACTOR SHALL SUBCONTRACT TO AN INDEPENDENT AIR TEST AND BALANCE CONTRACTOR FOR THE TESTING, ADJUSTING AND BALANCING OF ALL ENVIRONMENTAL SYSTEMS SHOWN OR SPECIFIED ON THE CONTRACT DOCUMENTS. THIS SHALL INCLUDE EQUIPMENT OPERATION IN COOLING, HEATING, AND DEHUMIDIFICATION OPERATIONAL MODES. THE WORK SHALL BE PERFORMED BY A FIRM CERTIFIED BY EITHER ASHRAE OR NEBB.
- A DIGITAL TRANSMITTAL OF THE FINAL REPORT, SUBMITTED ON CERTIFYING AGENCY FORMS, SHALL BE SUBMITTED TO THE OWNER'S CONSTRUCTION MANAGER FOR APPROVAL. THE REPORT SHALL BEAR THE CERTIFICATION SEAL OF THE TAB SUPERVISOR IN CHARGE. THE REPORT SHALL CONTAIN ALL AIR SIDE BALANCING DATA, INSTRUMENTS USED AND THEIR LATEST CALIBRATION DATES, PERSON(S) PERFORMING THE WORK AND A WRITTEN GUARANTEE THAT TAB WORK WAS PERFORMED IN ACCORDANCE WITH THE CERTIFYING AGENCY STANDARDS AND PROCEDURES. THE TEST AND BALANCE REPORT SHALL INCLUDE OPERATIONAL DATA FOR EVERY COMPONENT OF THE COMPLETE MECHANICAL SYSTEM INCLUDING HVAC EQUIPMENT, HVAC AIR DEVICES, KITCHEN FANS, RESTROOM FANS, ETC. THIS DATA SHALL INCLUDE THE BALANCED OPERATING DATA FOR EQUIPMENT AS COMPARED TO THE DESIGN AIR BALANCE SCHEDULE ON THIS SHEET.
- FOR CLARIFICATION, THE ENGINEER OF RECORD WILL NOT BE ABLE TO REVIEW THE INSTALLED MECHANICAL SYSTEMS FOR POTENTIAL OPERATIONAL ISSUES OR INSTALLATION DEFICIENCIES WITHOUT THE FULL AND COMPLETE TEST AND BALANCE REPORT.

**O/A VENTILATION SCHEDULE**

AREA SERVED	VENTILATION (OCCUPANCY)			VENTILATION (AREA)		
	# OF PEOPLE	CFM/PERSON	CFM	SQUARE FEET	CFM/SF	CFM
DINING	46	7.5	345	815	0.18	147
RESTROOMS	-	-	-	165	-	-
KITCHEN	-	-	-	902	-	-
SUBTOTALS	-	-	345	-	-	147
TOTAL O/A REQUIRED				492 CFM		

- NOTES:**
- CALCULATIONS ARE BASED ON **ASHRAE 62.1**.
  - OUTDOOR AIR DEMAND IS: - 492 CFM  
OUTDOOR AIR PROVIDED IS: + 2320 CFM  
OUTDOOR AIR DIFFERENCE IS: + 1828 CFM

**AIR BALANCE SCHEDULE**

MARK	DINING			KITCHEN		
	S/A	O/A	E/A	S/A	O/A	E/A
RTU-1	1800	450	-	-	-	-
RTU-2	1800	450	-	-	-	-
RTU-3	-	-	-	2850	710	-
RTU-4	-	-	-	2850	710	-
KEF-1	-	-	-	-	-	2500
TEF-1	-	-	100	-	-	-
TEF-2	-	-	100	-	-	-
MAU-1	-	-	-	-	600	-
TOTAL	3600	900	200	5700	2020	2500
DINING PRESSURIZATION (O/A) - (E/A) = +700			KITCHEN PRESSURIZATION (O/A) - (E/A) = -480			
NET BUILDING PRESSURIZATION (DINING + KITCHEN) = +220						

**AIR DEVICE SCHEDULE**

MARK	FACE SIZE	TYPE	MOUNTING TYPE	MAXIMUM N.C.	DIRECTION	MANUFACTURER	MODEL	NOTES
CD	24x24	SUPPLY	LAY-IN	30	4-WAY	TITUS	TMS-AA	1,2,4
GD	12x12	SUPPLY	SURFACE	30	4-WAY	TITUS	OMNI	1,3,4
KD	24x24	SUPPLY	LAY-IN	30	1-WAY	TITUS	PAS	1,3,4,5
CR	24x24	RETURN	LAY-IN	30	1-WAY	TITUS	50F	1,2
KR	24x24	RETURN	LAY-IN	30	1-WAY	TITUS	PAR	1,3

- NOTES:** (NOT ALL MAY APPLY)
- PROVIDE NECESSARY MOUNTING HARDWARE AND ACCESSORIES AS REQUIRED FOR INTENDED INSTALLATION.
  - FRONT OF HOUSE AIR DEVICE(S) SHALL BE FACTORY FINISHED WHITE, INSTALLED WITH FIELD APPLIED PAINT GRIP FINISH FOR FINAL PAINTING BY OTHERS.
  - RESTROOM AND BACK OF HOUSE AIR DEVICE(S) SHALL BE FACTORY FINISHED WHITE.
  - AIR DEVICE(S) SHALL BE INSTALLED WITH MANUFACTURER AVAILABLE MOLDED INSULATION BACKING. FIELD FABRICATED INSULATION BACKING IS NOT ALLOWED (UNLESS FIRST APPROVED BY THE OWNER'S CONSTRUCTION MANAGER).
  - KITCHEN SUPPLY DIFFUSERS SHALL NOT BE INSTALLED WITH PATTERN CONTROLLERS.

**PACKAGED ROOFTOP UNIT SCHEDULE**

MARK	RTU-1		RTU-2		RTU-3		RTU-4	
	SERVING	DINING	DINING	KITCHEN	KITCHEN	KITCHEN	KITCHEN	
MANUFACTURER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	
MODEL NO.	48CCDNO6K3M5-6W4FO	48CCDNO6K3M5-6W4FO	48CCDNO6K3M5-6W4FO	48CCDNO6K3M5-6W4FO	48CCDNO6K3M5-6W4FO	48CCDNO6K3M5-6W4FO	48CCDNO6K3M5-6W4FO	
TYPE	GAS/ELEC	GAS/ELEC	GAS/ELEC	GAS/ELEC	GAS/ELEC	GAS/ELEC	GAS/ELEC	
OPERATING WEIGHT, LBS.	826	826	1239	1239	1239	1239	1239	
LENGTH, WIDTH, HEIGHT	75x47x42	75x47x42	89x60x50	89x60x50	89x60x50	89x60x50	89x60x50	
MINIMUM IEER/SEER2	--/13.4	--/13.4	14.6/---	14.6/---	14.6/---	14.6/---	14.6/---	
VOLTS/ PH/ HZ	208/3/60	208/3/60	208/3/60	208/3/60	208/3/60	208/3/60	208/3/60	
MCA (AMPS)	32	32	44	44	44	44	44	
MOCOP (AMPS)	45	45	50	50	50	50	50	
SUPPLY AIR CFM	1800	1800	2850	2850	2850	2850	2850	
OUTSIDE AIR CFM	450	450	710	710	710	710	710	
ESP (W.G.)	0.8	0.8	0.8	0.8	0.8	0.8	0.8	
FAN RPM	2216	2151	841	841	841	841	841	
MOTOR BHP	1.14	1.05	1.33	1.33	1.33	1.33	1.33	
NOMINAL SIZE TONS	5.0	5.0	7.5	7.5	7.5	7.5	7.5	
TOTAL CAPACITY (MBH)	58.2	58.2	87.1	87.1	87.1	87.1	87.1	
SENS CAP (MBH)	44.1	44.2	66.9	66.9	66.9	66.9	66.9	
OUTSIDE AIR DB/WB, °F.	105	105	105	105	105	105	105	
ENTER AIR DB/WB, °F.	80/67	80/67	80/67	80/67	80/67	80/67	80/67	
TYPE OF HEAT	GAS	GAS	GAS	GAS	GAS	GAS	GAS	
HEATING INPUT (MBH)	67	67	125	125	125	125	125	
HEATING OUTPUT (MBH)	54	54	103	103	103	103	103	
OUTSIDE AIR DB/WB, °F.	17	17	17	17	17	17	17	
LEAVING AIR DB/WB, °F.	101.9	101.9	107.0	107.0	107.0	107.0	107.0	
NOTES	1-11	1-11	1-10	1-10	1-10	1-10	1-10	

- NOTES:**
- PROVIDE A FACTORY AVAILABLE UN-INSULATED 14" HIGH FLAT ROOF CURB THAT SHALL BE FIELD ASSEMBLED AND SHIMMED SUCH THAT THE TOP OF THE CURB SETS LEVEL. ROOF CURBS TO BE INSTALLED BY THE GENERAL CONTRACTOR, AND FIELD INSULATED BY THE MECHANICAL CONTRACTOR.
  - PROVIDE WITH LOW AMBIENT CONTROLS, CONDENSER COIL HAIL GUARD, HINGED ACCESS PANELS, CRANK CASE HEATER, AND FROST, HIGH WIND CLIPS.
  - SENSORS AND LOW VOLTAGE CONTROL WIRING SHALL BE INSTALLED BY THE MECHANICAL CONTRACTOR.
  - PROVIDE WITH REMOTE TEMPERATURE SENSOR AND PROGRAMMABLE 24/7 THERMOSTAT CAPABLE OF AUTOMATIC COOLING/HEATING CHANGEOVER.
  - PER IECC, PROVIDE ENTHALPY ECONOMIZER SECTION WITH MOTORIZED OUTSIDE AIR DAMPER.
  - PROVIDE FACTORY AVAILABLE RETURN AIR SMOKE DETECTOR(S), CAPABLE OF SHUTTING DOWN THE ROOFTOP UNIT UPON ACTIVATION.
  - PROVIDE FACTORY INSTALLED NON-FUSED ELECTRICAL DISCONNECT AND CONVENIENCE RECEPTACLE. RECEPTACLE SHALL BE FIELD WIRED BY THE E.C. AND POWERED SEPARATELY FROM THE UNIT.
  - PROVIDE BOTTOM ENTRY SINGLE POINT ELECTRICAL POWER CONNECTION.
  - UNIT SELECTION IS BASED ON R-410A REFRIGERANT AND HIGH EFFICIENCY OPERATION.
  - CONTACT MR. KEN REVILLA (CARRIER) AT (954)218-0070 OR [KEN.REVILLA@CARRIER.COM](mailto:KEN.REVILLA@CARRIER.COM) FOR PRICING AND TO VERIFY FINAL EQUIPMENT SELECTION PRIOR TO ORDERING.
  - PROVIDE UNIT WITH CARRIER HUMIDIFIER DEHUMIDIFICATION OPTION AND KELE HC-201 HUMIDISTAT THAT MOUNTS ON RETURN AIR DUCT. THE HUMIDISTAT SHALL BE DIRECT WIRED BACK TO THE UNIT.

**MECHANICAL LEGEND**

SYMBOL	ABBR.	DESCRIPTION
	CD	CEILING DIFFUSER - SUPPLY
	CD	CEILING DIFFUSER BELOW DUCT - SUPPLY
	SAD	RISER - SUPPLY AIR DUCT
	SAD	DROP - SUPPLY AIR DUCT
	CR	CEILING REGISTER - RETURN
	CR	CEILING REGISTER BELOW DUCT - RETURN
	RAD	RISER - RETURN AIR DUCT
	RAD	DROP - RETURN AIR DUCT
	CE	CEILING REGISTER - EXHAUST
	CE	CEILING REGISTER BELOW DUCT - EXHAUST
	EAD	RISER - EXHAUST AIR DUCT
	(L)	LINED DUCTWORK
	VD	MANUAL VOLUME DAMPER
	FC	FLEXIBLE CONNECTION
		NEW DUCT
		AIR DEVICE DESIGNATION
	TSTAT	PROGRAMMABLE THERMOSTAT
	SENS	REMOTE TEMPERATURE SENSOR
	SD	SMOKE DETECTOR
	POC	POINT OF CONNECTION
	CFM	CUBIC FEET PER MINUTE
	S/A	SUPPLY AIR
	O/A	OUTSIDE AIR
	E/A	EXHAUST AIR
	S.P.	STATIC PRESSURE
	FOH	FRONT OF HOUSE
	BOH	BACK OF HOUSE

**FAN SCHEDULE**

MARK	SERVICE	CFM	E.S.P. "WG	RPM	MOTOR HP	VOLTS/ PH	MANUFACTURER	MODEL	TYPE	WEIGHT	NOTES
KEF-1	FRYER BANK HOOD EXH	2500	0.94	1596	1.00	115/1	CAPTIVEAIRE	DU85HA	ROOF UPBLAST FAN	92	1,2,5,6
SF-1	FRYER BANK HOOD MAU	600	0.50	819	1.00	115/1	CAPTIVEAIRE	A1-G10	ROOF MAKEUP AIR UNIT	197	1,2,6
TEF-1	RESTROOM	100	0.25	585	0.06	115/1	CAPTIVEAIRE	CFA-D150-CA	CEILING CABINET FAN	11	3,4,6
TEF-2	RESTROOM	100	0.25	585	0.06	115/1	CAPTIVEAIRE	CFA-D150-CA	CEILING CABINET FAN	11	3,4,6

- NOTES:** (NOT ALL MAY APPLY)
- PROVIDE INTERLOCK SWITCH BETWEEN KITCHEN HOOD EXHAUST FAN AND MAU-1. COORDINATE REQUIRED WORK WITH THE ELECTRICAL CONTRACTOR.
  - WEATHER PROOF DISCONNECT SWITCH AND INTERNAL WIRING SHALL BE FACTORY INSTALLED.
  - PLUG TYPE DISCONNECT SHALL BE FACTORY INSTALLED.
  - FACTORY EQUIPPED WITH INTERNAL BACKDRAFT DAMPER.
  - PROVIDE FACTORY AVAILABLE GREASE BOX.
  - CONTACT MR. DAVID LOSCHEN (CAPTIVEAIRE) AT 214.220.3999 OR [REG450@CAPTIVEAIRE.COM](mailto:REG450@CAPTIVEAIRE.COM) FOR PRICING AND TO VERIFY FINAL EQUIPMENT SELECTIONS PRIOR TO ORDERING.

**FLY FAN SCHEDULE**

MARK	SERVICE	LENGTH	CFM	VOLTS/ PH	MCA/MOCOP	MANUFACTURER	MODEL	TYPE	WEIGHT	NOTES
FF-1	REAR SERVICE DOOR	48"	1442	115/1	5.1	MARS	SD248-1U	WALL MNTD, DOWNBLAST	42	1,2,3

- NOTES:**
- INSTALL COMPLETE WITH MANUFACTURER AVAILABLE DOOR LIMIT MICRO SWITCH.
  - UNIT SHALL HAVE A LOUVERED FACE.
  - OWNER FURNISHED WITH KITCHEN EQUIPMENT PACKAGE, INSTALLED BY MECHANICAL CONTRACTOR.

**MECHANICAL GENERAL NOTES**

- NOTE: FOR THE PURPOSE OF CLEARNESS AND LEGIBILITY, THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND ALTHOUGH SIZES AND LOCATIONS OF EQUIPMENT ARE DRAWN TO SCALE WHEREVER POSSIBLE, THE CONTRACTOR SHALL MAKE USE OF ALL DATA IN ALL OF THE CONTRACT DOCUMENTS AND VERIFY THIS INFORMATION PRIOR TO ORDERING, FABRICATING OR INSTALLING ANY MATERIALS.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE COMPLETE INFORMATION AND COOPERATE WITH THE OTHER CONTRACTORS AND TRADES AS REQUIRED FOR THE COMPLETION AND COORDINATION OF THE COMPLETE PROJECT.
- THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ADMINISTERING ALL WARRANTIES ON EQUIPMENT WHICH THEY FURNISH AND INSTALL.
- PROVIDE WRITTEN WARRANTY TO REPLACE ALL FAULTY MATERIALS AND/OR LABOR, AT NO COST TO TENANT, FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE. PROVIDE 5 YEAR COMPRESSOR WARRANTY FOR AC UNITS. WARRANTIES SHALL BEGIN ON THE DATE OF SUBSTANTIAL COMPLETION.
- ALL OUTDOOR AIR INTAKE BY MECHANICAL EQUIPMENT SHALL HAVE A MINIMUM 10'-0" HORIZONTAL CLEARANCE FROM THE DISCHARGE OF ANY EXHAUST FAN, RTU GAS EXHAUST OR PLUMBING VENT.
- PROVIDE VIBRATION ISOLATION DEVICES AND FLEXIBLE DUCT/ PIPING CONNECTIONS TO ALL MOVING MACHINERY NOT INTERNALLY ISOLATED.
- ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS.
- THE MECHANICAL CONTRACTOR SHALL COORDINATE ALL DUCT AND DIFFUSER LOCATIONS WITH LIGHT FIXTURES AS REQUIRED FOR A COMPLETE INSTALLATION.
- THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR AND OTHER TRADES ALL REQUIRED OPENINGS AND PENETRATIONS. ALL REQUIRED OPENINGS IN FOUNDATIONS, FLOORS, WALLS AND ROOF SHALL BE CONSTRUCTED INTO THE STRUCTURE WITH THE USE OF SLEEVES, CURBS, ETC. CUTTING AND PATCHING SHALL BE HELD TO A MINIMUM.
- ALL ITEMS PROJECTING THROUGH THE ROOF SHALL BE FLASHED THROUGH CURBS OR PIPE SEALS A MINIMUM OF 12" ABOVE THE ROOF. THE PIPE CURBS AND SEALS SHALL BE INSTALLED BY THE ROOFING CONTRACTOR. ENSURE THAT AMPLE BOOT OPENINGS ARE PROVIDED TO ACCOMMODATE ANY ELECTRICAL CONDUIT PENETRATIONS REQUIRED FOR POWER.
- COORDINATE THE INSTALLATION AND FINISH OF ALL SUPPLY AND RETURN AIR DEVICES. AIR DEVICES LOCATED IN DINING AREAS SHALL BE PAINTED PER THE ARCHITECTURAL DRAWINGS FINISH SCHEDULE.
- THERMOSTATS AND REMOTE SENSORS SHALL BE LOCATED AT 48" A.F.F. EXACT LOCATIONS SHALL BE FIELD COORDINATED TO AVOID INTERFERENCE WITH WALL-MOUNTED WORK AND HEAT PRODUCING EQUIPMENT.
- THERMOSTATS SHALL BE RTU MANUFACTURER AVAILABLE 24/7 AUTOMATIC CHANGEOVER TYPE TO SEQUENCE HEATING AND COOLING. SET POINT RANGE SHALL BE 10F BETWEEN FULL HEATING AND FULL COOLING. ADJUSTABLE TEMPERATURE DIFFERENTIAL SHALL BE 1-1/2F. THERMOSTAT CONTROL RANGE SHALL BE 55F TO 85F. CONTROLS SHALL HAVE CAPABILITY OF TERMINATING HEATING AT NO HIGHER THAN 70F AND COOLING AT NO LOWER THAN 75F.
- ROOFTOP UNITS SHALL BE SET TO RUN IN "FAN CONTINUOUS" MODE DURING OCCUPIED HOURS. DURING NIGHT SET-BACK HOURS, THE ROOFTOP UNITS SHALL RUN IN "FAN AUTO" MODE. CONTRACTOR SHALL COORDINATE NECESSARY CONTROL WIRING REQUIREMENTS WITH THE MANUFACTURER TO ACCOMPLISH THIS CONTROL SEQUENCE WITHOUT THE USE OF A MANUAL SWITCH ON THE SUB-BASE.
- MECHANICAL CONTRACTOR TO FURNISH AND INSTALL 4" HIGH BLACK OVER WHITE LAMINATE NAMEPLATE WITH 2" LETTERS VISIBLE ADJACENT TO DISCONNECT SWITCH FOR ROOFTOP UNITS AND ROOF MOUNTED FANS.
- LINE VOLTAGE WIRING, ALL CONDUIT DISCONNECT SWITCHES AND FINAL CONNECTION BY ELECTRICAL CONTRACTOR. LOW VOLTAGE CONDUIT AND WIRING AND FINAL CONNECTION BY MECHANICAL CONTRACTOR.
- ANY FLEXIBLE DUCTS SHALL BE INSTALLED IN CONCEALED SPACES ONLY. THE MAXIMUM ALLOWABLE LENGTH OF FLEXIBLE DUCT SHALL BE 5'-0". ALL FLEXIBLE DUCTS SHALL BE CONNECTED TO BRANCH RUNS AND FITTINGS WITH A PANDUIT-TYPE BAND, AND SHALL NOT BE ATTACHED DIRECTLY TO THE AIR DEVICE COLLAR.

**MECHANICAL GENERAL NOTES (CONT)**

- ALL KITCHEN MAKEUP AIR DUCTWORK, AND HVAC SUPPLY AND RETURN DUCTWORK SHALL BE INSTALLED AS FOLLOWS:
  - CONCEALED DUCTWORK WITHIN THE BUILDING SHALL BE EXTERNALLY WRAPPED AND SECURED WITH MINIMUM R-8.0, 2" INSULATION WITH VAPOR BARRIER PER THE 2021 INTERNATIONAL MECHANICAL CODE, WITH LOCAL AMENDMENTS. INSULATION SHALL HAVE MAXIMUM RATINGS OF 25 FLAME SPREAD, 50 SMOKE DEVELOPED.
  - EXPOSED DUCTWORK WITHIN THE BUILDING SHALL BE INTERNALLY LINED AND PINNED WITH MINIMUM R-6.0, 1-1/2" INSULATION WITH VAPOR BARRIER PER THE 2021 INTERNATIONAL MECHANICAL CODE WITH LOCAL AMENDMENTS. INSULATION SHALL HAVE MAXIMUM RATINGS OF 25 FLAME SPREAD, 50 SMOKE DEVELOPED. EXPOSED DUCTWORK SHALL BE INSTALLED COMPLETE WITH FACTORY APPLIED PAINT GRIP FINISH, SUITABLE FOR FINAL FIELD APPLIED PAINT BY THE GENERAL CONTRACTOR.
  - DUCT CONSTRUCTION SHALL BE OF GALVANIZED STEEL. GAUGES, SWAY BRACING (AS REQUIRED) AND SUSPENSION SHALL CONFORM TO SMACNA STANDARDS. SEAL ALL SEAMS AND JOINTS AIR AND WATERTIGHT. FLEXIBLE ALUMINUM DUCTWORK OR FIBERGLASS DUCTBOARD IS NOT ALLOWED (UNO).
- ALL KITCHEN EXHAUST DUCTWORK SHALL BE INSTALLED AS FOLLOWS:
  - TYPE I COOKLINE GREASE EXHAUST DUCTWORK SHALL BE LISTED, UL COMPLIANT CORROSION RESISTANT FACTORY BUILT DUCT AND FITTINGS.
  - PITCH ALL HORIZONTAL GREASE DUCTWORK UNIFORMLY BACK TOWARDS THE HOOD AT 1/4" PER FOOT (NOT TO EXCEED 50'-0").
  - EACH GREASE EXHAUST DUCT RISER BETWEEN THE HOOD COLLAR AND EXHAUST FAN SHALL BE OF THE SAME SIZE AS THE RESPECTIVE FIELD OUT HOOD COLLAR SIZE, UNO. REFER TO THE HOOD SHEETS FOR THE HOOD COLLAR SIZES AS SPECIFIED BY THE HOOD MANUFACTURER.
  - ALL KITCHEN EXHAUST DUCTWORK AND FITTINGS SHALL BE FURNISHED WITH THE EXHAUST HOOD PACKAGE, AND INSTALLED COMPLETE BY THE MECHANICAL CONTRACTOR.
- ROOF CURBS FOR EXHAUST FANS AND THE MAKEUP AIR UNIT SHALL BE FACTORY FABRICATED OF FULL WELDED STEEL CONSTRUCTION WITH WOOD NAILER, AND FURNISHED WITH THE HOOD AND FAN PACKAGE. VERIFY REQUIREMENTS FOR THE ROOF CURBS WITH THE EQUIPMENT SUPPLIER. THE GENERAL CONTRACTOR SHALL FLASH ROOF CURBS AND SHIM DEAD LEVEL. COORDINATE EXACT SIZE AND LOCATION OF ROOF OPENINGS WITH THE STRUCTURAL FRAMING. CUTTING OF STRUCTURAL MEMBERS IS NOT PERMITTED.
- ROOF CURBS FOR ROOFTOP UNITS SHALL BE FACTORY FABRICATED OF FULL WELDED STEEL CONSTRUCTION WITH WOOD NAILER, AND FURNISHED WITH THE RTU PACKAGE. VERIFY REQUIREMENTS FOR THE ROOF CURBS WITH THE EQUIPMENT SUPPLIER. THE GENERAL CONTRACTOR SHALL FLASH ROOF CURBS AND SHIM DEAD LEVEL. COORDINATE EXACT SIZE AND LOCATION OF ROOF OPENINGS WITH THE STRUCTURAL FRAMING. CUTTING OF STRUCTURAL MEMBERS IS NOT PERMITTED.
- THE KITCHEN HOOD PACKAGE WILL BE PROVIDED WITH END CABINET(S) HOUSING THE FIRE SUPPRESSION TANKS, HOOD EXHAUST FAN SWITCHES, AND LIGHT SWITCHES.
- THE GREASE EXHAUST DUCT RISERS BETWEEN THE HOOD COLLARS AND EXHAUST FANS SHALL BE OF THE SAME SIZE AS THE RESPECTIVE HOOD COLLAR SIZE, UNO. REFER TO THE MANUFACTURER SHEETS IN THE KITCHEN EQUIPMENT DRAWING SET FOR THE HOOD COLLAR SIZES AS PROVIDED BY THE HOOD MANUFACTURER.
- REFER TO MANUFACTURER SHEETS FOR THE HOOD CONTROL WIRING DIAGRAM FOR OPERATION OF THE KITCHEN HOOD EQUIPMENT.
- THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING THE AIR FILTERS AT THE ROOFTOP UNITS WITH 2" THICK MERV 8 THROW AWAY TYPE AIR FILTERS AT THE COMPLETION OF CONSTRUCTION AND PRIOR TO AIR BALANCE AND STORE TURNOVER.
- A FULL MECHANICAL AIR TEST AND BALANCE REPORT SHALL BE PERFORMED BY AN INDEPENDENT CONTRACTOR.
- MECHANICAL CONTRACTOR SHALL BE ON SITE AND PRESENT AT THE DATE OF STORE TURNOVER.
- PER 2021 INTERNATIONAL MECHANICAL CODE WHEN REQUIRED, EACH SINGLE SYSTEM PROVIDING HEATING OR COOLING AIR IN EXCESS OF 2000 CUBIC FEET PER MINUTE SHALL BE EQUIPPED WITH AN AUTOMATIC SHUTOFF. AUTOMATIC SHUTOFF SHALL BE ACCOMPLISHED BY INTERRUPTING THE POWER SOURCE OF THE AIR MOVING EQUIPMENT DEVICES WHICH WILL DETECT PRODUCTS OF COMBUSTION OTHER THAN HEAT, AND WHICH COMPLY WITH THE I.B.C., SHALL BE LABELED BY AN APPROVED AGENCY FOR AIR DUCT INSTALLATION AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. SUCH DEVICES SHALL BE COMPATIBLE WITH THE OPERATING VELOCITIES, PRESSURES, TEMPERATURES AND HUMIDITIES OF THE SYSTEM WHERE FIRE DETECTION OR ALARM SYSTEMS ARE PROVIDED FOR THE BUILDING. SMOKE DETECTORS SHALL BE SUPERVISED BY SUCH SYSTEMS.

**HVAC SEQUENCE OF OPERATION**

MARK	SERVICE	FUNCTION	START TIME	COOLING SETPOINT(°F)	HEATING SETPOINT(°F)	HUMIDITY SETPOINT(%RH)	NOTES
RTU-1	DINING (MAIN)	OCCUPIED	9:30 AM	72	72	50	1 THRU 4
		UNOCCUPIED	11:00 PM	78	65	60	
RTU-2	DINING (ENTRY)	OCCUPIED	9:35 AM	72	72	N/A	1 THRU 4
		UNOCCUPIED	11:00 PM	78	65	60	
RTU-3	KITCHEN (DRIVE THRU)	OCCUPIED	9:25 AM	70	70	N/A	1 THRU 3
		UNOCCUPIED	11:00 PM	78	65	60	
RTU-4	KITCHEN (REAR)	OCCUPIED	9:20 AM	70	70	50	1 THRU 3
		UNOCCUPIED	11:00 PM	78	65	60	

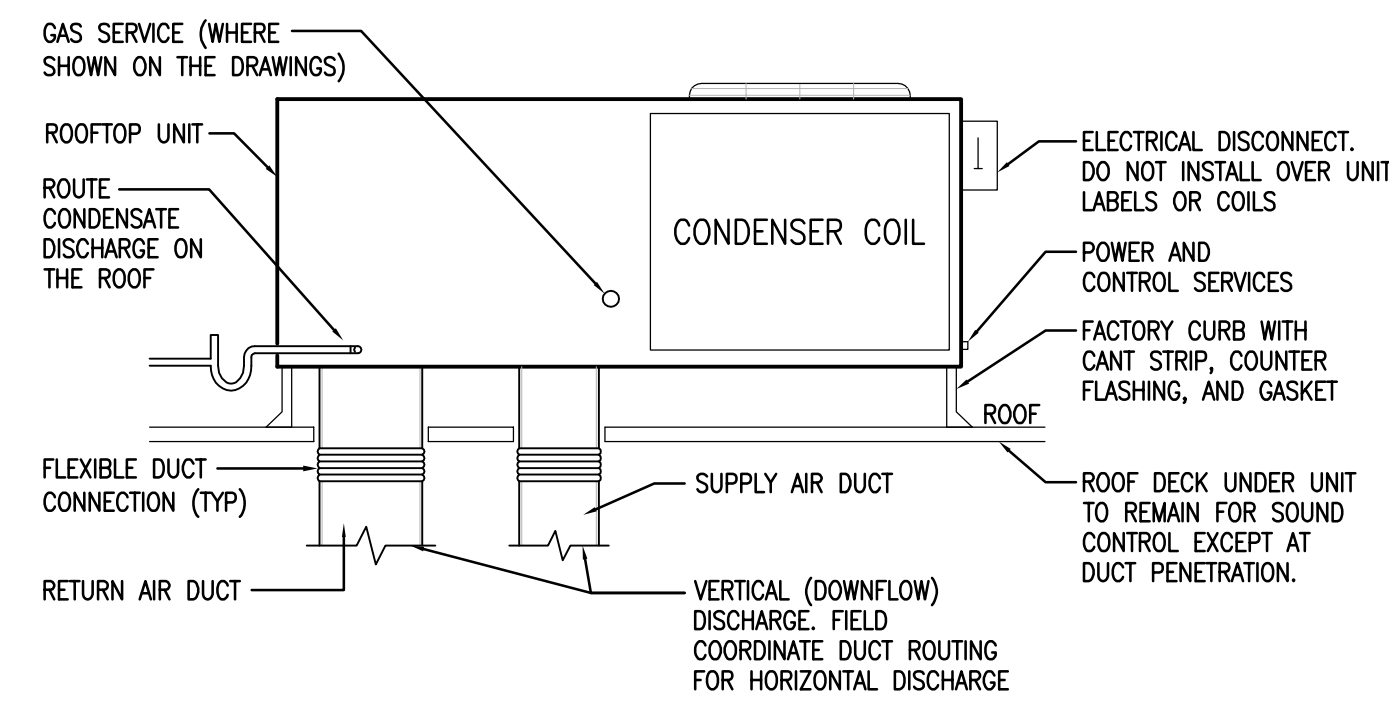
- NOTES:**
- UNIT FAN SHALL RUN ON AUTO DURING OCCUPIED HOURS, AND CYCLE ON DEMAND DURING UNOCCUPIED HOURS.
  - UPON A CALL FOR COOLING:
    - COMPRESSORS TO CYCLE TO MAINTAIN THE SPACE SETTING, WITH THE GAS HEATER LOCKED OUT.
    - THERE SHALL BE A 2F DEAD BAND (ADJUSTABLE) BETWEEN THE 1ST AND 2ND STAGE OF COOLING.
    - THERE SHALL BE A 5 MINUTE (ADJUSTABLE) TIME DELAY BETWEEN THE 1ST AND 2ND STAGE OF COOLING.
  - UPON A CALL FOR HEATING:
    - GAS FURNACE TO CYCLE TO MAINTAIN THE SPACE SETTING, WITH THE COMPRESSORS LOCKED OUT.
    - THERE SHALL BE A 2F DEAD BAND (ADJUSTABLE) BETWEEN THE 1ST AND 2ND STAGE OF HEATING.
    - THERE SHALL BE A 5 MINUTE (ADJUSTABLE) TIME DELAY BETWEEN THE 1ST AND 2ND STAGE OF HEATING.
  - UPON A CALL FOR HUMIDITY CONTROL:
    - DURING OCCUPIED TIMES WHEN THE TEMPERATURE SETPOINT IS SATISFIED HOWEVER THE HUMIDISTAT SENSES HUMIDITY ABOVE THE SET POINT, THE HOT GAS REHEAT SYSTEM SHALL ACTIVATE TO REDUCE THE SPACE HUMIDITY TO BELOW SET POINT.
    - DURING UNOCCUPIED TIMES WHEN THE TEMPERATURE SETPOINT IS SATISFIED HOWEVER THE HUMIDISTAT SENSES HUMIDITY ABOVE THE SET POINT, THE HOT GAS REHEAT SYSTEM SHALL ACTIVATE TO REDUCE THE SPACE HUMIDITY TO BELOW SETPOINT.



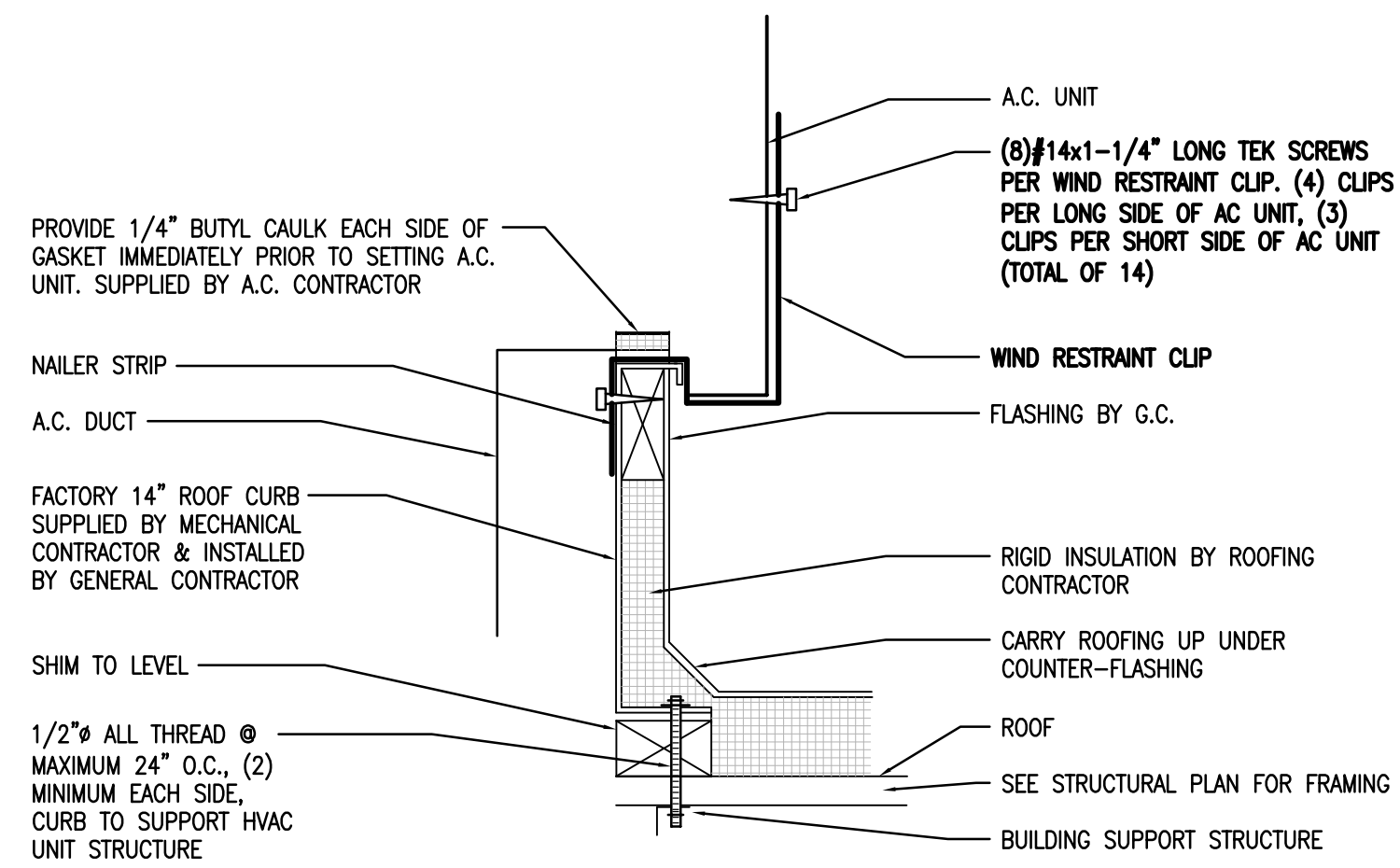
**DRAWING COORDINATION**  
Architectural, Landscape, Civil, Structural, Mechanical and Electrical drawings are interrelated. General Contractor and all Sub Contractors shall review and coordinate the entire set of drawings and specifications.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY G.G. MALONEY, P.E. 23319 ON NOV 27, 2023. ALTERATION

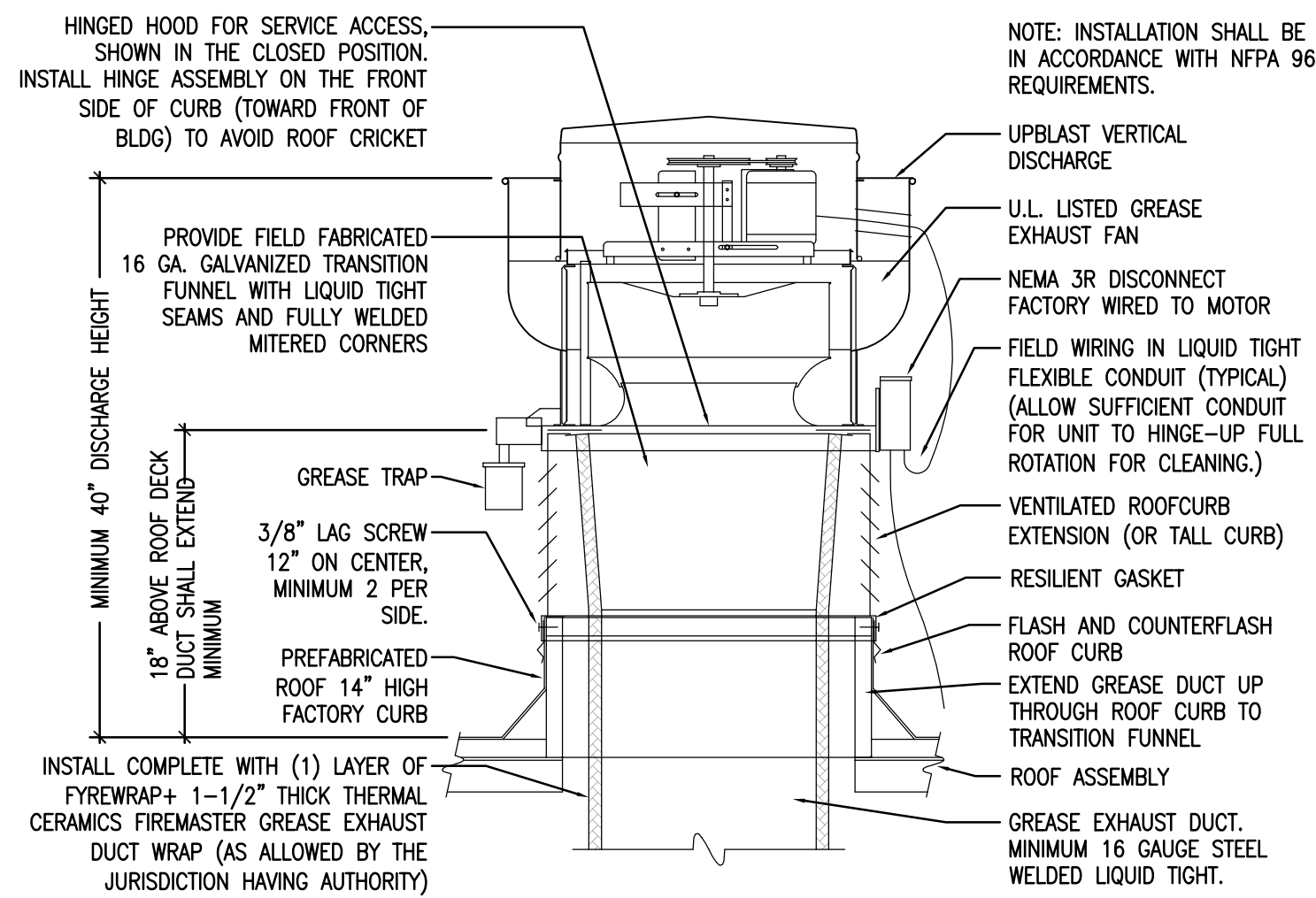




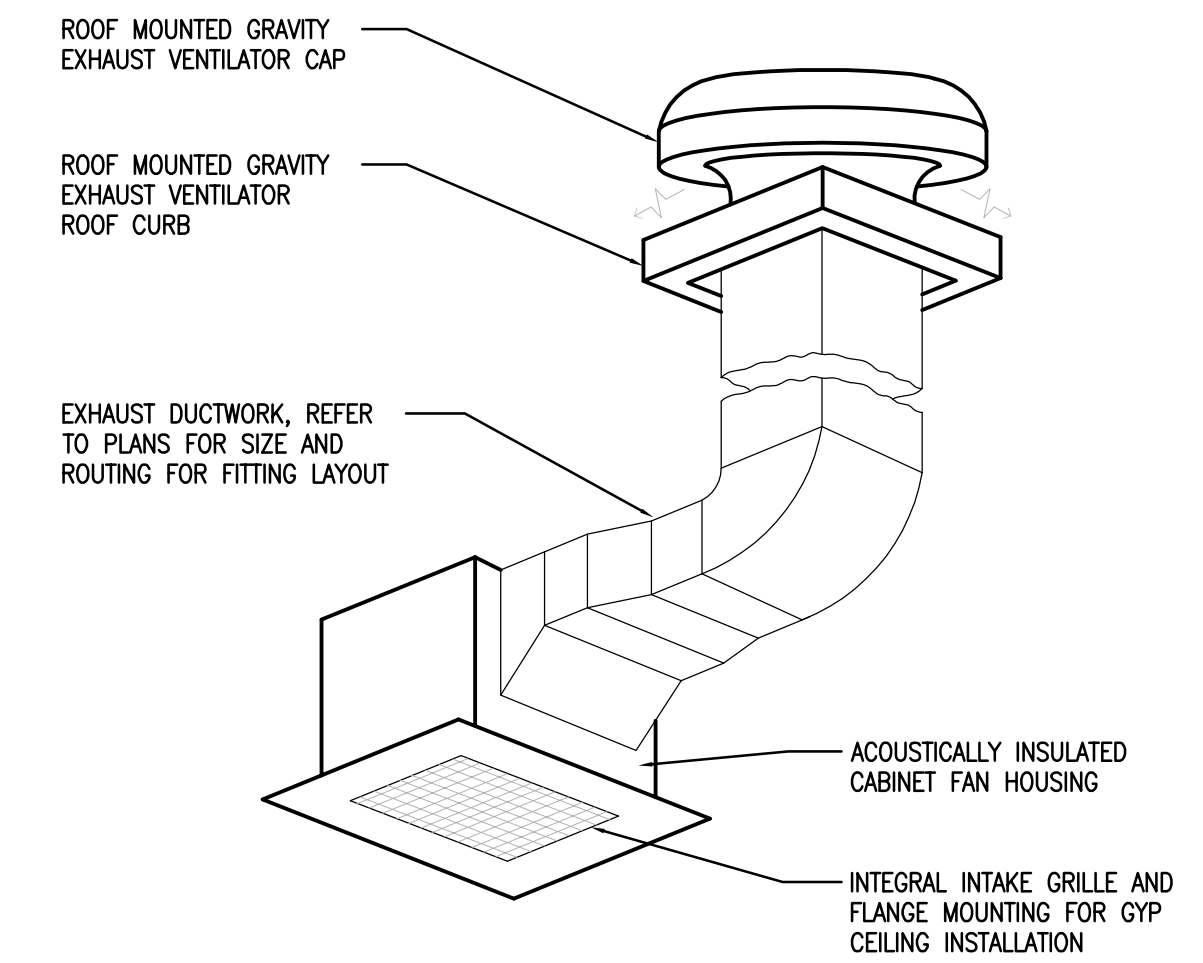
ROOFTOP UNIT DETAIL  
SCALE: NONE 1



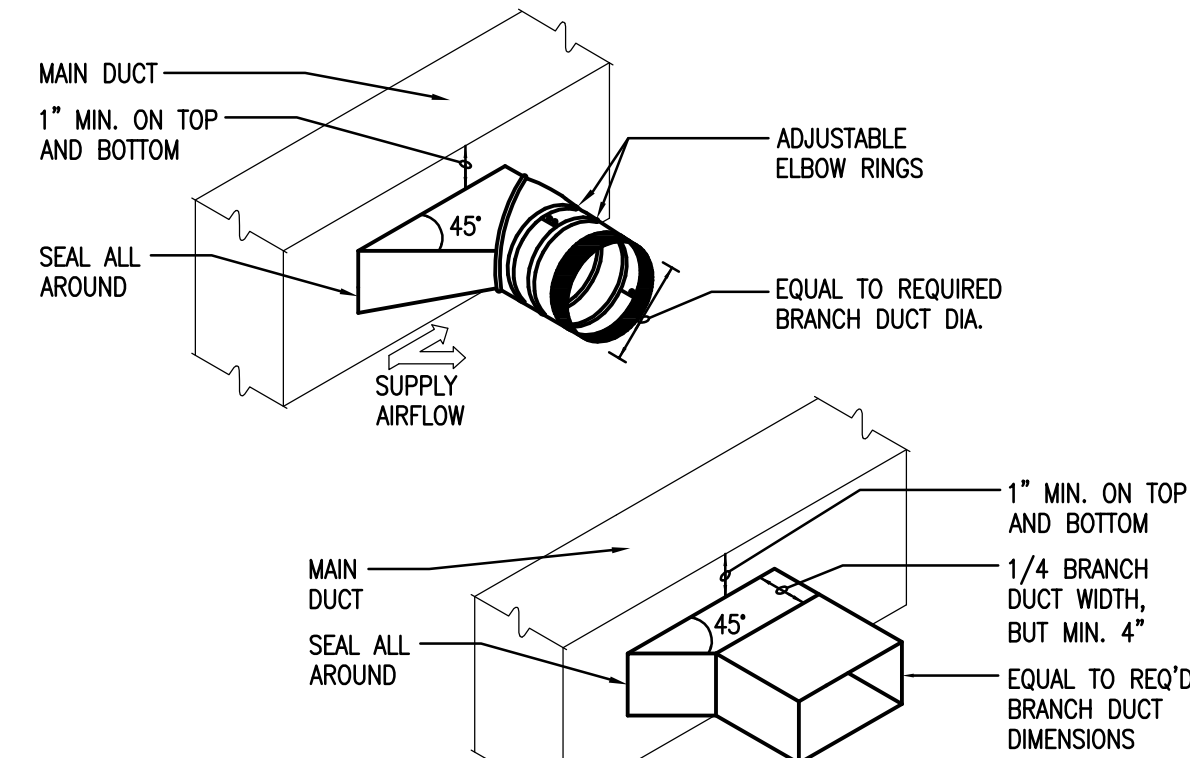
PACKAGED ROOFTOP UNIT CURB BASE DETAIL  
SCALE: NONE 2



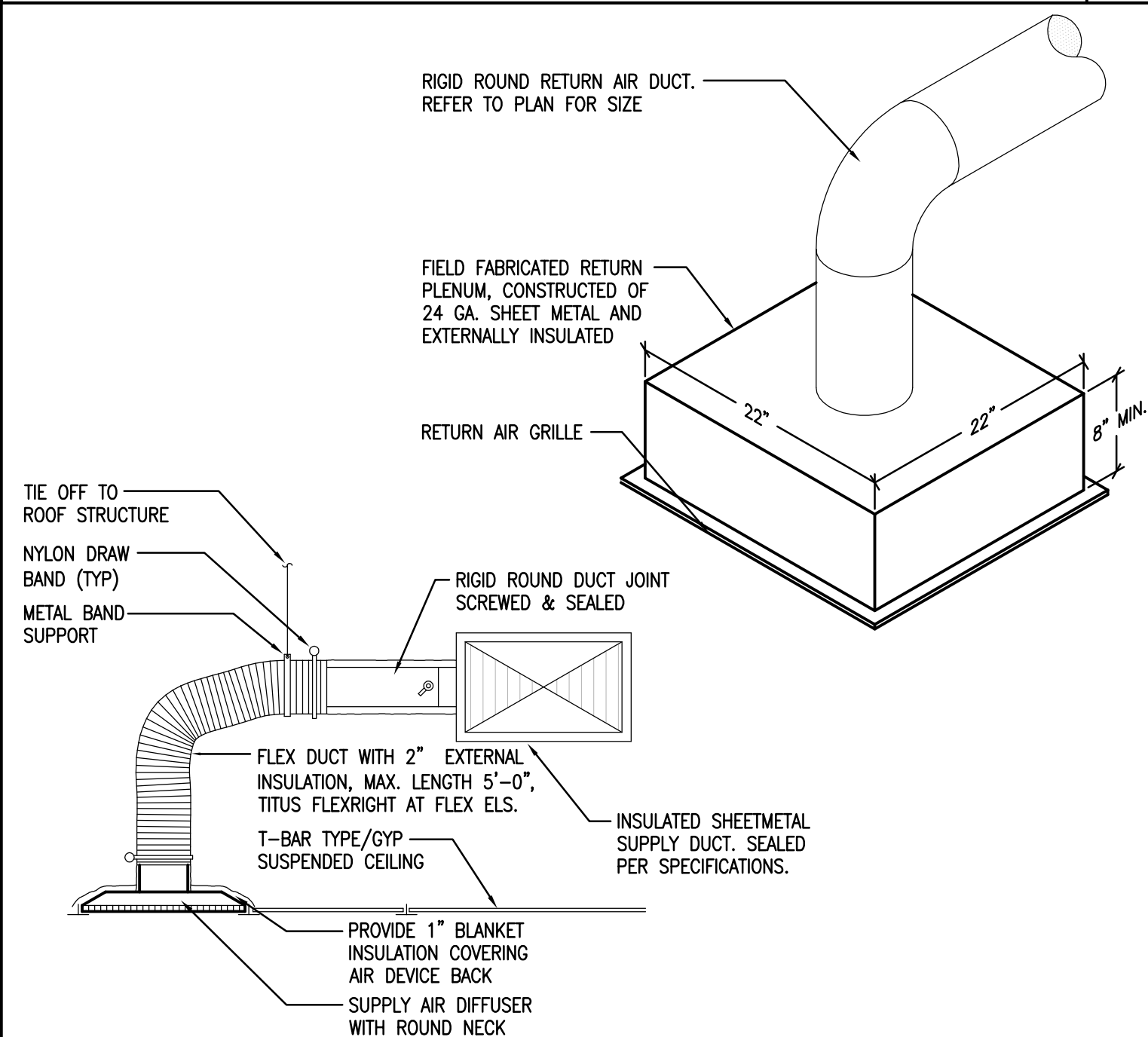
KITCHEN UPBLAST GREASE EXHAUST FAN DETAIL  
SCALE: NONE 3



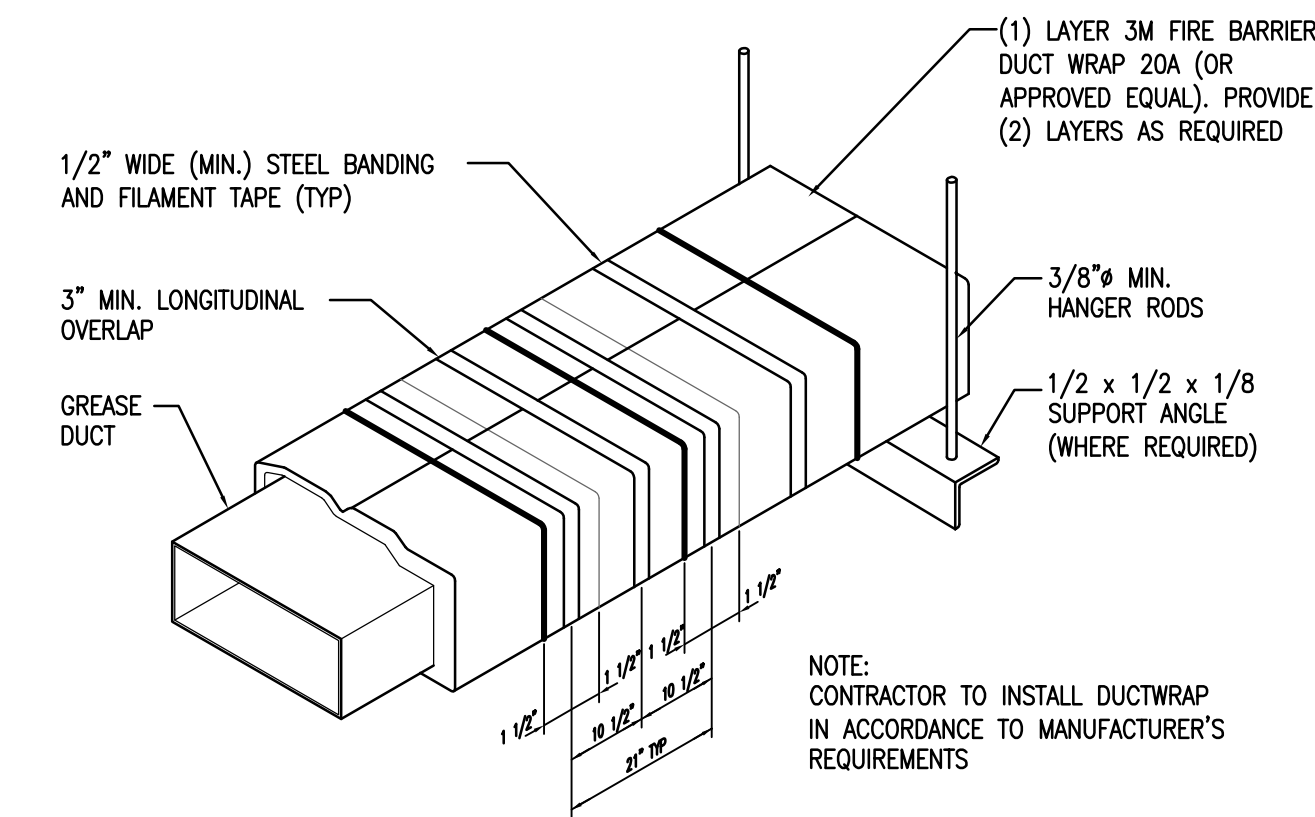
CEILING MOUNTED CABINET FAN DETAIL  
SCALE: NONE 4



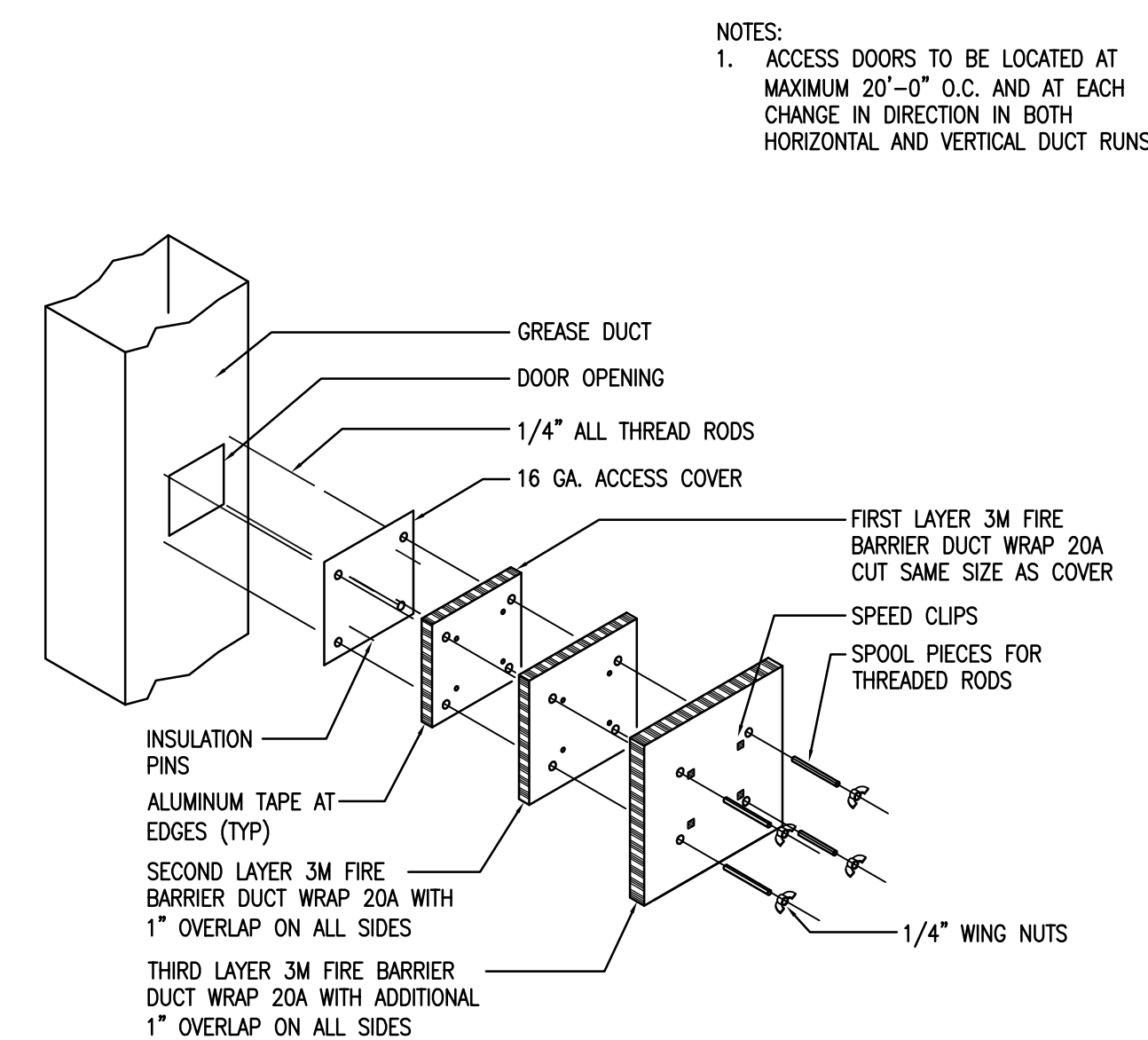
BRANCH TAKE-OFF FITTING DETAIL  
SCALE: NONE 5



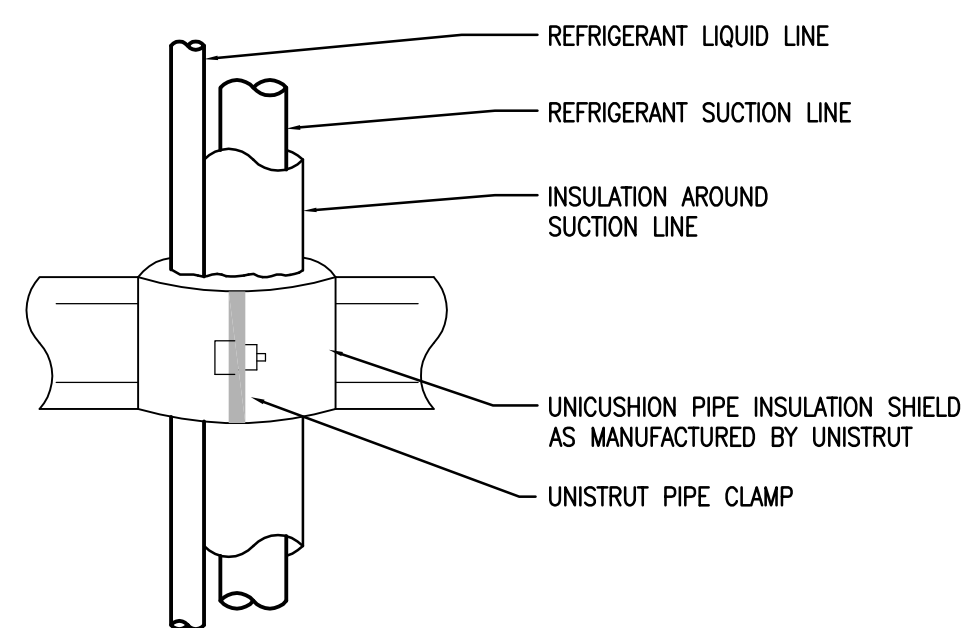
CEILING MOUNTED AIR DEVICE DETAIL  
SCALE: NONE 6



UL LISTED GREASE EXHAUST DUCT WRAP DETAIL  
SCALE: NONE 7

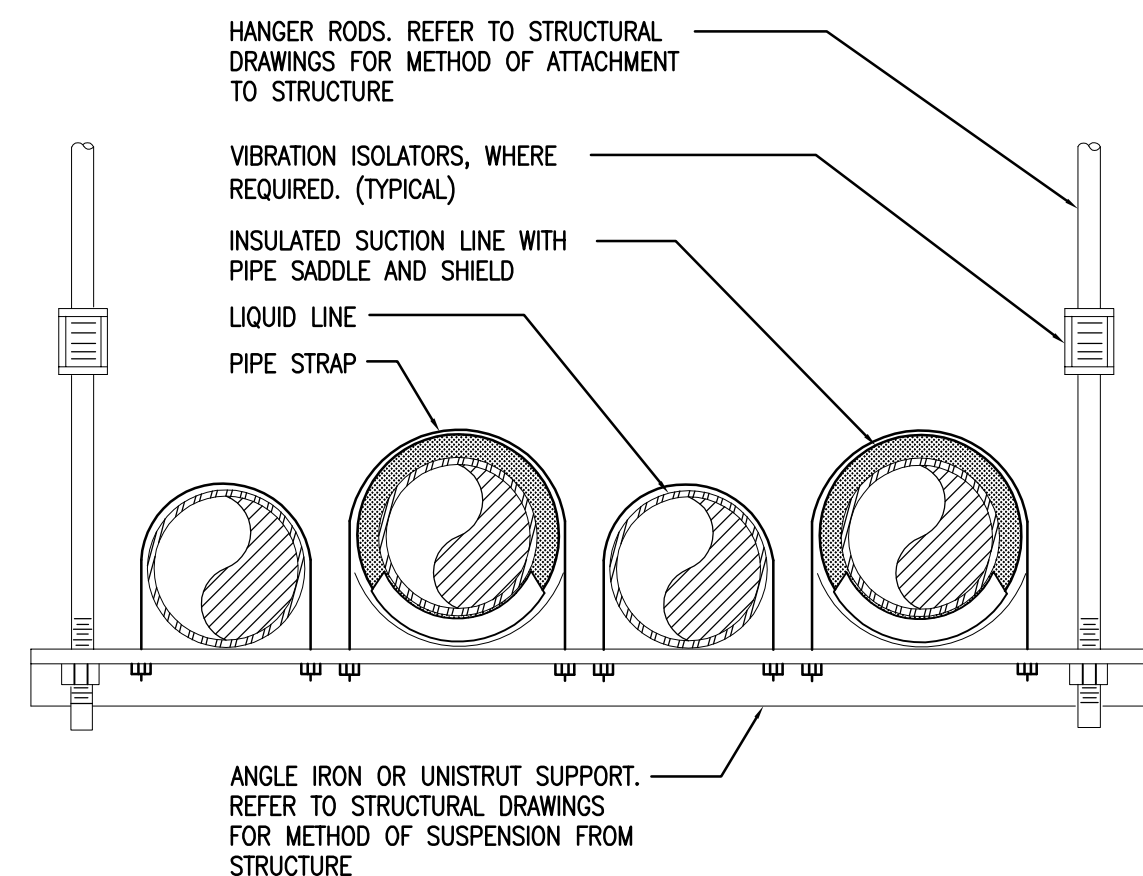


UL LISTED GREASE EXHAUST DUCT ACCESS DOOR DETAIL  
SCALE: NONE 8

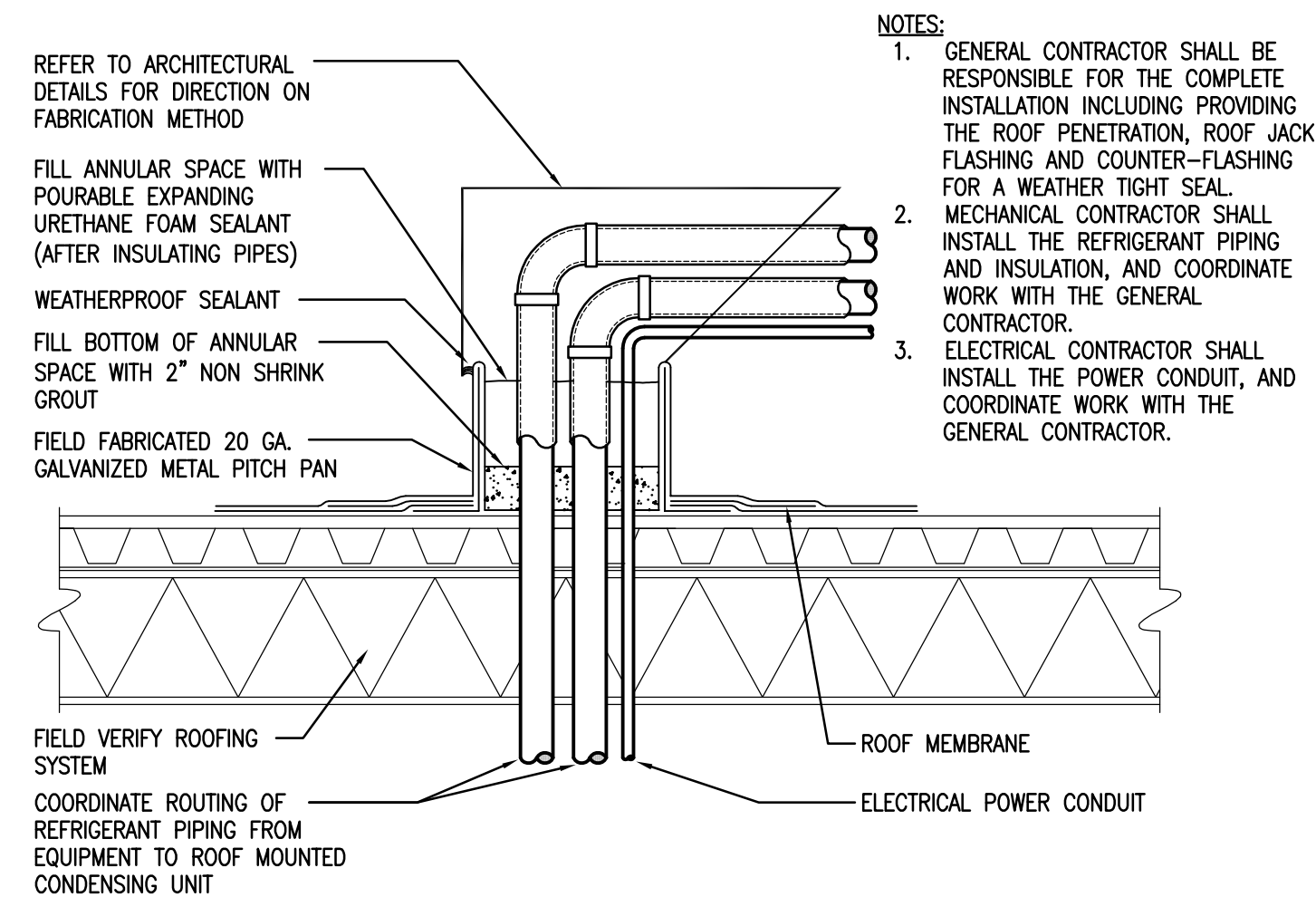


NOTES:  
1. LIQUID AND SUCTION LINES MAY BE ROUTED TOGETHER FOR CONVENIENCE, BUT MUST BE COMPLETELY INSULATED FROM EACH OTHER. DO NOT SOLDER LIQUID AND SUCTION LINES TOGETHER. DO NOT ALLOW METAL TO METAL CONTACT.  
2. LINES SHOULD BE INSTALLED WITH AS FEW BENDS AS POSSIBLE, ALLOWING SERVICE ACCESS TO THE INDOOR COIL.  
3. USE LONG RADIUS ELBOWS WHEREVER POSSIBLE, EXCEPT IN OIL RETURN TRAPS, WHERE SHORT RADIUS ELBOWS SHOULD BE USED.  
4. REFER TO MANUFACTURER'S GUIDELINES FOR THE COMPLETE INSTALLATION.

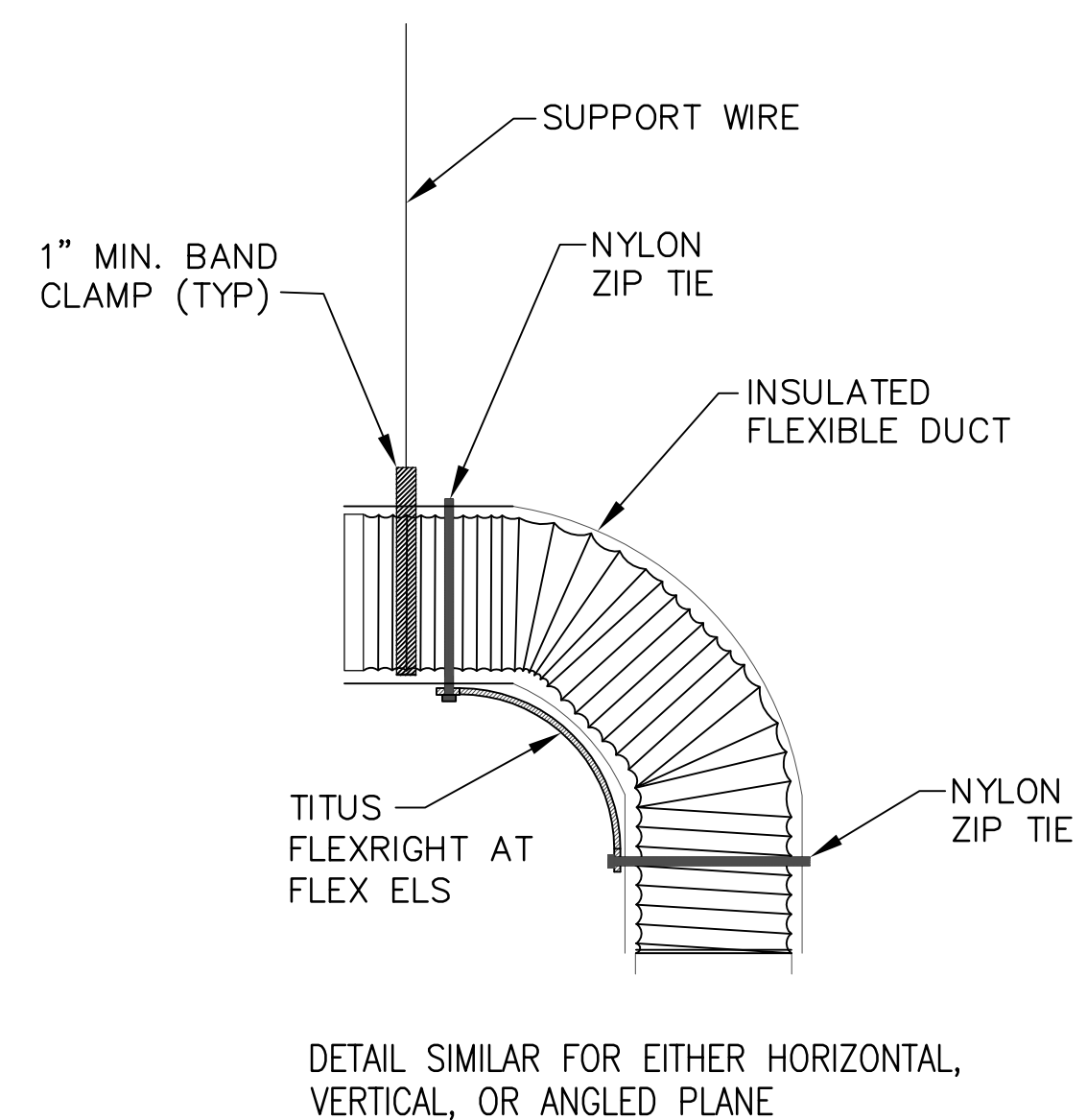
VERTICAL REFRIGERANT PIPE SUPPORT DETAIL  
SCALE: NONE 9



HORIZONTAL REFRIGERANT PIPE SUPPORT DETAIL  
SCALE: NONE 10



PIPING AND CONDUIT ROOF PENETRATION DETAIL  
SCALE: NONE 11



DUCT DETAIL - FLEX EL  
SCALE: NONE 12

DATE	DESCRIPTION	BY



**HOOD INFORMATION**

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM (RESERVS)				HOOD CONSTRUCTION	HOOD END TO END	HOOD CONFIG		
										WIDTH	LENG	HEIGHT	DIA				CFM	VEL
1	H-1	3044	Z-VENTILATION	9' 8"	450 DEG	1	MEDIUM	259	2500	10'	24"	4"	2500	1500	-0.621'	430 SS WHERE EXPOSED	ALONE	ALONE

**HOOD INFORMATION**

HOOD NO	TAG	TYPE	FILTER(S)			EFFICIENCY @ 7 MICRONS	QTY	LIGHT(S)			WIRE GUARD			UTILITY CABINET(S)			FIRE SYSTEM	HOOD HANGING WEIGHT
			QTY	HEIGHT	LENGTH			TYPE	WIDTH	LENG	SIZE	TYPE	SIZE	MODEL #	QUANTITY	TYPE		
1	H-1	SS BAFFLE WITH HANDLES	7	16"	16"	30%	0											254 LBS

**BACK RETURN SUPPLY PLENUM(S)**

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	RESERVS			
						TYPE	WIDTH	LENG	SP
1	H-1	Back	108"	6"	65"	MJA	5"	22"	300
						MJA	5"	22"	300

**HOOD OPTIONS**

HOOD NO	TAG	FIELD WRAPPER	25.00" HIGH	FRONT, LEFT, RIGHT, SIDE LENGTHS INCLUDE 6" BACK RETURN.
1	H-1	RIGHT VERTICAL END PANEL	20"	TOP WIDTH, 20" BOTTOM WIDTH, 61" HIGH INSULATED 430 SS
		LEFT VERTICAL END PANEL	20"	TOP WIDTH, 20" BOTTOM WIDTH, 61" HIGH INSULATED 430 SS

**WALL-MOUNT UTILITY CABINET**

HOOD NO	LOCATION	SIZE	UTILITY CABINET(S)			WEIGHT	
			FIRE SYSTEM	ELECTRICAL	SWITCHES		
1	WALL MNT	12"x42"x24"	ANSUL R-102	3.0/3.0	SC-111010MA	1 FAN	254.00 LBS

**FIRE SYSTEM INFORMATION**

FIRE SYSTEM NO	TAG	TYPE	SIZE	FLOW POINTS	INSTALLATION	
					SYSTEM	LOCATION ON HOOD
1	FS-1	ANSUL R102	3.0/3.0	13	WALL UTILITY CABINET LEFT	N/A

**GAS VALVE(S)**

FIRE SYSTEM NO	TAG	TYPE	SIZE	SUPPLIED BY
1	FS-1	MECHANICAL	1.500	Z-VENTILATION SOLUTIONS

**\*\*FIELD VERIFY GAS VALVE SIZE PRIOR TO ORDERING\*\***

**FIRE SYSTEM PARTS LIST KEY**

FIRE SYSTEM NO	TAG	KEY NUMBER - PART DESCRIPTION	QTY BY FACTORY	QTY BY DIST
1	FS-1	0 - 0 - 43-15733 AIR CYLINDER ASSEMBLY - AIR CYLINDER AND TUBING FOR MECHANICAL GAS VALVES (ANSUL PART #15733).	1	0
		0 - 0 - 439861 LARGE BLOWOFF CAP, METAL, TO FIT NEW LASER-ETCHED ANSUL NOZZLES, A0024201.	7	0
		0 - 0 - DISC UNION BURSTING DISC UNION ASSEMBLY FOR MANIFOLD SYSTEM.	0	1
		0 - 0 - TANK STRAP TANK STRAP - USED FOR ANSUL TANKS.	2	0
		0 - 0 - UCTANKBRACKET TANK BRACKET FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS.	2	0
		1 - 1 - AT - 3.0 TANK#10 - 3.0 GALLON SS TANK (FOR USE WITH AUTDMAN RELEASE, ACTUATOR, OR SS ENCLOSURE (UL/LULC) MACOLA # 01-429862.	2	0
		23 - 3 - ANS-NEW REGULATED RELEASE - ANSUL REGULATED MECHANICAL RELEASE/BRAKET ASSEMBLY, DEM, R-102, CARTRIDGE DETECTION INCLUDED, ANSUL PART # 79493.	1	0
		5 - 5 - L10-30 AGENT - ANSULEX LOW PH WET CHEMICAL AGENT, 3 GALLON (UL) 79372.	0	2
		9 - 9 - DT-CART DOUBLE TANK NITROGEN CARTRIDGE.	0	1
		10 - 10 - TLINK LINK - TEST LINK (G TEST LINK) ANSUL PART # 24916, MACOLA # 20-24916.	0	1
		11 - 11 - MICRO-SDA MICROSWITCH KIT- INCLUDES 2 SWITCHES AND MOUNTING HARDWARE SINGLE DUAL, ELECTRIC SWITCH, ONE STANDARD SWITCH, ONE ALARM DUTY SWITCH ANSUL PART # 437155, MACOLA # 08-437155.	1	0
		12 - 12 - HOSE HOSE - RUBBER HOSE.	1	0
		13 - 13 - 419337 NOZZLE - 2V NOZZLE, DUCT (REPLACES ANSUL PART# 419348, CAS PART# 419337) A0001267.	1	0
		16 - 16 - 419335 NOZZLE - IN NOZZLE, PLENUM/APPLIANCE (REPLACES ANSUL PART# 419346, CAS PART# 419335) A0001265.	1	0
		20 - 20 - 419340 NOZZLE - 245 NOZZLE, APPLIANCE (REPLACES ANSUL PART# 419351, PART# 419340) A0001270.	2	0
		24 - 24 - 419341 NOZZLE - 260 NOZZLE, APPLIANCE (REPLACES ANSUL PART# 419352, CAS PART# 419341) A0001271.	3	0
		25 - 25 - 418569 NOZZLE ADAPTOR - SWIVEL NOZZLE ADAPTOR (REPLACES CAS PART # 418569) A0001274.	5	0
		26 - 26 - OSA-3/8 OJIK SEAL - 3/8" (UL).	7	0
		27 - 27 - OSA-1/2 PULLEY SEAL - 1/2" HOOD SEAL (UL) ANSUL PART # 423253, MACOLA # 32-79768.	1	0
		28 - 28 - S-DET DETECTOR - SERIES (SCISSOR LINKAGE) ANSUL PART # 435547/435548 (OLD # 417369/434480) MACOLA # 05-417369.	5	0
		30 - 30 - ANS-500F FUSIBLE LINK - 500DEG F, R-102 AND PIRANHA, ANSUL PART # 439232.	5	0
		34 - 34 - RPS-A REMOTE PULL STATION - RED COMPOSITE (WITHOUT WIRE ROPE) 434618 (OLD MACOLA H06-4895).	1	0
		35 - 35 - PE-LT PULLEY ELBOW - LOW TEMP. PULLEY ELBOW, SET SCREW TYPE ANSUL PART # 415670, MACOLA # 11-415671.	0	10
		36 - 36 - PE-HT PULLEY ELBOW - HIGH TEMP PULLEY ELBOW, COMPRESSION TYPE, ANSUL PART # 423253, MACOLA # 10-45771.	1	0

**NOTES**

- FIELD PIPE DROPS AS SHOWN
- SLEEVING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVEING, SALAMANDERS, ETC.
- MAXIMUM 9 ELBOWS IN SUPPLY LINE.
- MINIMUM 72 INCHES OF AGENT LINE FROM TANK TO FIRST NOZZLE COVERING A RANGE, FRYER, OR WORK TO REFLECT GENERAL PIPING REQUIREMENTS.
- IF APPLICABLE, PRE-PIPED CHARBROILER DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.
- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.

**SPECIFICATIONS**

THE RESTAURANT FIRE SUPPRESSION SYSTEM SHALL BE THE PRE-ENGINEERED SYSTEM WITH A FIXED NOZZLE AGENT DISTRIBUTION NETWORK. IT SHALL BE LISTED WITH UNDERWRITERS LABORATORIES, INC. (UL).

THE SYSTEM SHALL BE CAPABLE OF AUTOMATIC DETECTION AND ACTUATION WITH LOCAL OR REMOTE MANUAL ACTUATION. ACCESSORIES SHALL BE AVAILABLE FOR MECHANICAL OR ELECTRICAL GAS LINE SHUT-OFF APPLICATIONS.

THE EXTINGUISHING AGENT SHALL BE A POTASSIUM CARBONATE, POTASSIUM ACETATE-BASED FORMULATION DESIGNED FOR FLAME INHIBITION AND SECUREMENT OF GREASE RELATED FIRES. IT SHALL BE AVAILABLE IN PLASTIC CONTAINERS WITH INSTRUCTIONS FOR LIQUID AGENT HANDLING AND USAGE.

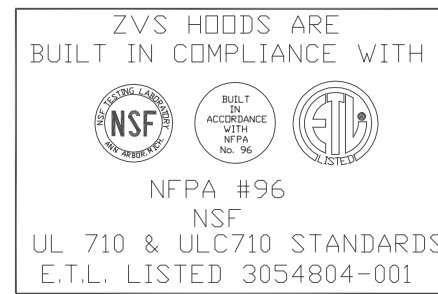
THE REGULATED RELEASE MECHANISM SHALL BE COMPATIBLE WITH A FUSIBLE LINK DETECTION SYSTEM. THE FUSIBLE LINK SHALL BE SELECTED AND INSTALLED ACCORDING TO THE OPERATING TEMPERATURE IN THE VENTILATING SYSTEM. THE FUSIBLE LINK SHALL BE SUPPORTED BY A DETECTOR BRACKET/ LINKAGE ASSEMBLY.

JOB NAME: GOLDEN CHICK

SYSTEM SIZE: ANSUL-3.0/3.0-MANIFOLD-WC TOTAL FP REQUIRED: 13.  
HOOD # 1 9' 8.00" LONG X 30" WIDE X 44" HIGH.  
RISER # 1 SIZE: 10" X 24".  
HOOD # 1 METAL BLOW-OFF CAPS INCLUDED.

**LEGEND - FIRE CABINET ANSUL SYSTEM**

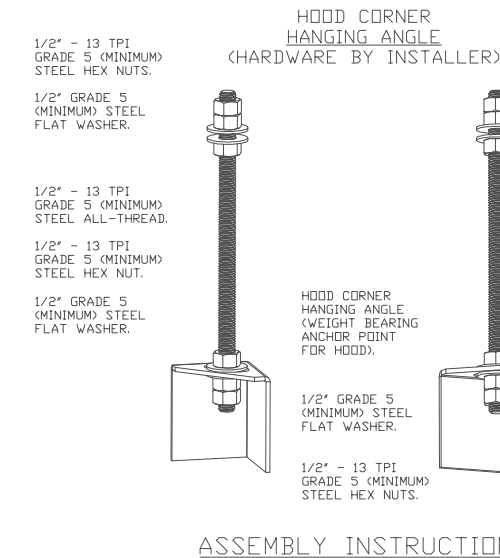
- 1A 15 GALLON TANK.
- 1B 3 GALLON TANK.
- 2 DEM AUTDMAN RELEASE.
- 3 DEM REGULATED RELEASE.
- 4 DEM REGULATED ACTUATOR.
- 5 ANSULEX LIQUID AGENT (3 GAL).
- 6 ANSULEX LIQUID AGENT (1.5 GAL).
- 7 CARTRIDGE (101-20).
- 8 CARTRIDGE (101-10).
- 9 CARTRIDGE (101-300).
- 9A CARTRIDGE (LT-A-101-30).
- 9B DOUBLE TANK CARTRIDGE.
- 10 TEST LINK.
- 11 DOUBLE MICROSWITCH.
- 12 HOSE ASSEMBLY.
- 1100 DUCT NOZZLE (430913).
- 2W DUCT NOZZLE (419337).
- 1W NOZZLE ASSEMBLY (419336).
- 1F NOZZLE ASSEMBLY (419333).
- 1N NOZZLE ASSEMBLY (419335).
- 1/2N NOZZLE ASSEMBLY (419334).
- 3N NOZZLE ASSEMBLY (419338).
- 245 NOZZLE ASSEMBLY (419340).
- 230 NOZZLE ASSEMBLY (419339).
- 2120 NOZZLE ASSEMBLY (419342).
- 290 NOZZLE ASSEMBLY (419342).
- 260 NOZZLE ASSEMBLY (419341).
- 28 DETECTOR BRACKET.
- 29 LOW TEMP FUSIBLE LINK.
- 30 HIGH TEMP FUSIBLE LINK.
- MGV MECHANICAL GAS VALVE.
- EGV ELECTRICAL GAS VALVE.
- 34 REMOTE MANUAL PULL STATION.
- S SWIVEL ADAPTOR.



**ETL LISTING DESCRIPTION BLOCK**  
THE Z-VENTILATION SOLUTIONS MODEL ZVS-BD-2 HAS BEEN E.T.L. TESTED, LISTED, AND APPROVED TO EXHAUST A MINIMUM OF 92 CFM PER LINEAR FOOT OVER 450 DEGREE COOKING EQUIPMENT

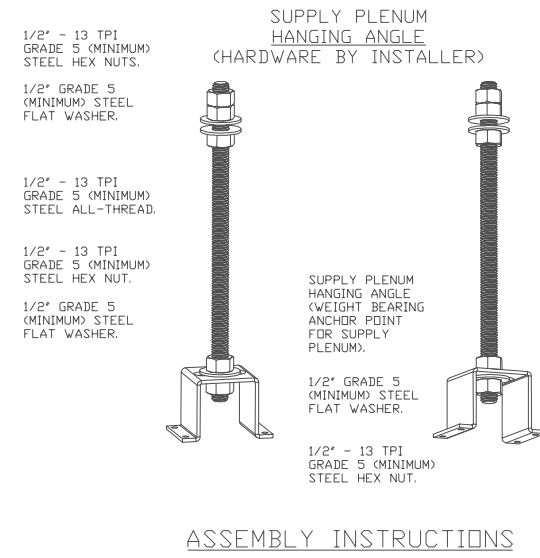
**NOTE**  
IT IS RECOMMENDED NOT TO INSTALL HIGH VELOCITY DIFFUSERS OR HVAC RETURNS WITHIN TEN (10) FEET OF THE HOOD PERFORATED DIFFUSERS ARE RECOMMENDED.

**VERIFY CEILING HEIGHT**  
Height required to verify that the hood will fit and to size the enclosure panels



**ASSEMBLY INSTRUCTIONS**

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD, SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH HOOD HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

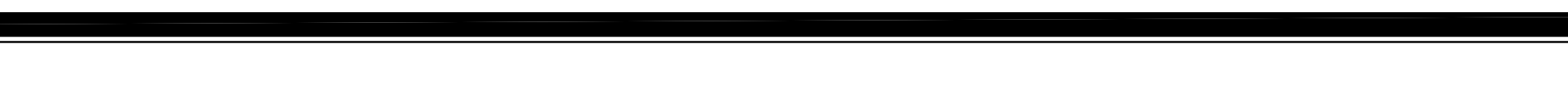
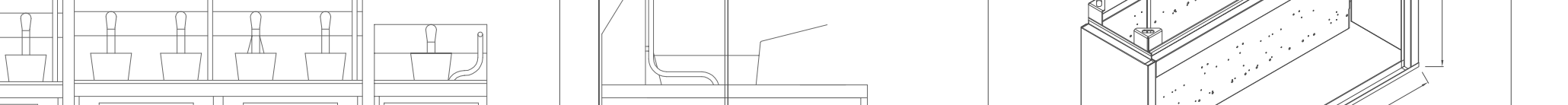
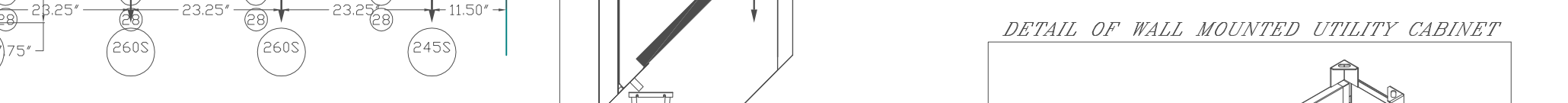
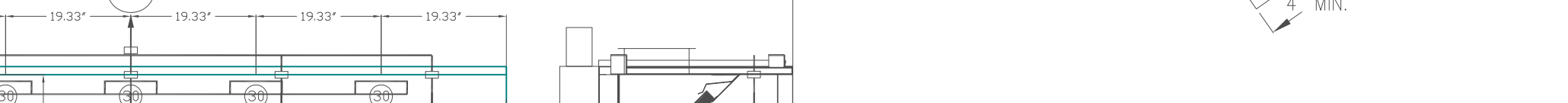
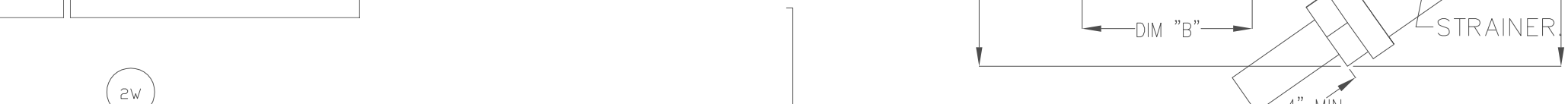
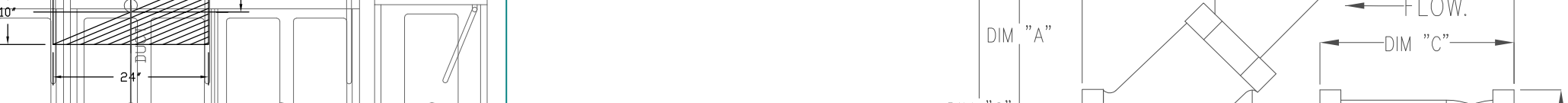
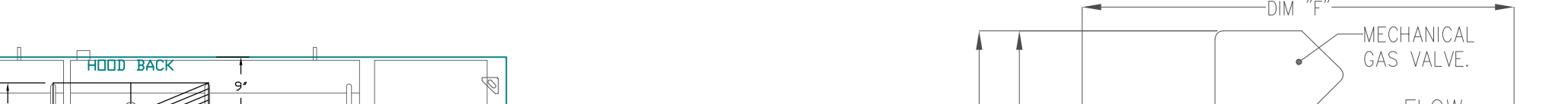


**ASSEMBLY INSTRUCTIONS**

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TYPE	SIZE	VOLTAGE	GAS VALVE SIZING		GAS VALVE DIMENSIONS				INSTALLATION	PART NUMBERS						
			MIN. INLET PRESSURE	MAX. INLET PRESSURE	DIM "A"	DIM "B"	DIM "C"	DIM "D"		MOUNTING ORIENTATION	STRAINER PART NUMBER	GAS VALVE/STRAINER KIT				
MECHANICAL	1-1/2"	N/A	0 PSI (0 IN.W.C.)	10 PSI (277 IN.W.C.)	2.630.000 BTU/HR	1.706.569 BTU/HR	6-3/8"	4-7/8"	5-3/4"	6-3/16"	12-5/8"	11-3/8"	HORIZONTAL	27-55607	4417667	NOVA-1/12

ALL GAS VALVES/STRAINERS PROPER CLEARANCE MUST BE PROVIDED IN ORDER TO SERVICE THE STRAINERS A MINIMUM OF 4" CLEARANCE DISTANCE MUST BE PROVIDED AT THE BASE OF THE STRAINER CUSTOMER MUST VERIFY BTU CONSUMPTION AS WELL AS PRESSURE RATING SPECIFIC GRAVITY OF NATURAL GAS = 0.64, SPECIFIC GRAVITY OF LP = 1.52.



**REVISIONS**

NO	DESCRIPTION	DATE
1		
2		

**EXHA**

FAN UNIT NO	DESCRIPTION	DATE
1		
2		

**MUA**

FAN UNIT NO	DESCRIPTION	DATE
1		
2		

**PAN**

FAN UNIT NO	DESCRIPTION	DATE
1		
2		

**CURB**

FAN UNIT NO	DESCRIPTION	DATE
1		
2		

665 Dearborn Park Lane, Washington, OH, 43085 PHONE: 1.800.882.7400 FAX: (614) 975-1623 EMAIL: zvent@zvs.com

Golden Chick (Proto 2022) Anywhere, USA

DATE: 6/23/2022  
DWG.#:  
DRAWN BY: BLUERGY  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING

SHEET NO. 1

**MLA**  
MICHAEL LEGG ARCHITECTURE  
Michael Gregory Legg  
NCARB, AIA, IBIA, SACAP  
2014 High Timber Pass St  
San Antonio, Texas 78206  
ph. 210-418-4855  
mlegg@mlaarchitect.com  
www.mlaarchitect.com

**DRAWING COORDINATION**  
Architectural, Landscape, Civil, Structural, Mechanical and Electrical drawings are interrelated. General Contractor and all Sub Contractors shall review and coordinate the entire set of drawings and specifications.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY G.G. MALONEY, P.E. 23319 ON NOV 27, 2023. ALTERATION OF SEALED DOCUMENTS WITHOUT PROPER NOTIFICATION OF THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

27 November 2023

**MALONEY ASSOCIATES**  
CONSULTING ENGINEERS, INC.  
F-100  
1428 TRAILWOOD DR  
HURST, TEXAS 76038  
(817) 288-0384

**HOOD DETAILS**  
Golden Chick Restaurant Remodel  
2311 Fredericksburg Rd  
San Antonio, Texas

DATE	DESCRIPTION	BY

SCALE: AS NOTED

PROJECT NO. 05-05-22

SHEET NO. M4.0

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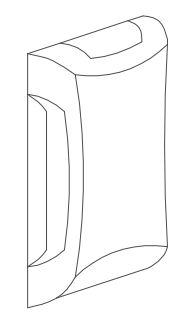
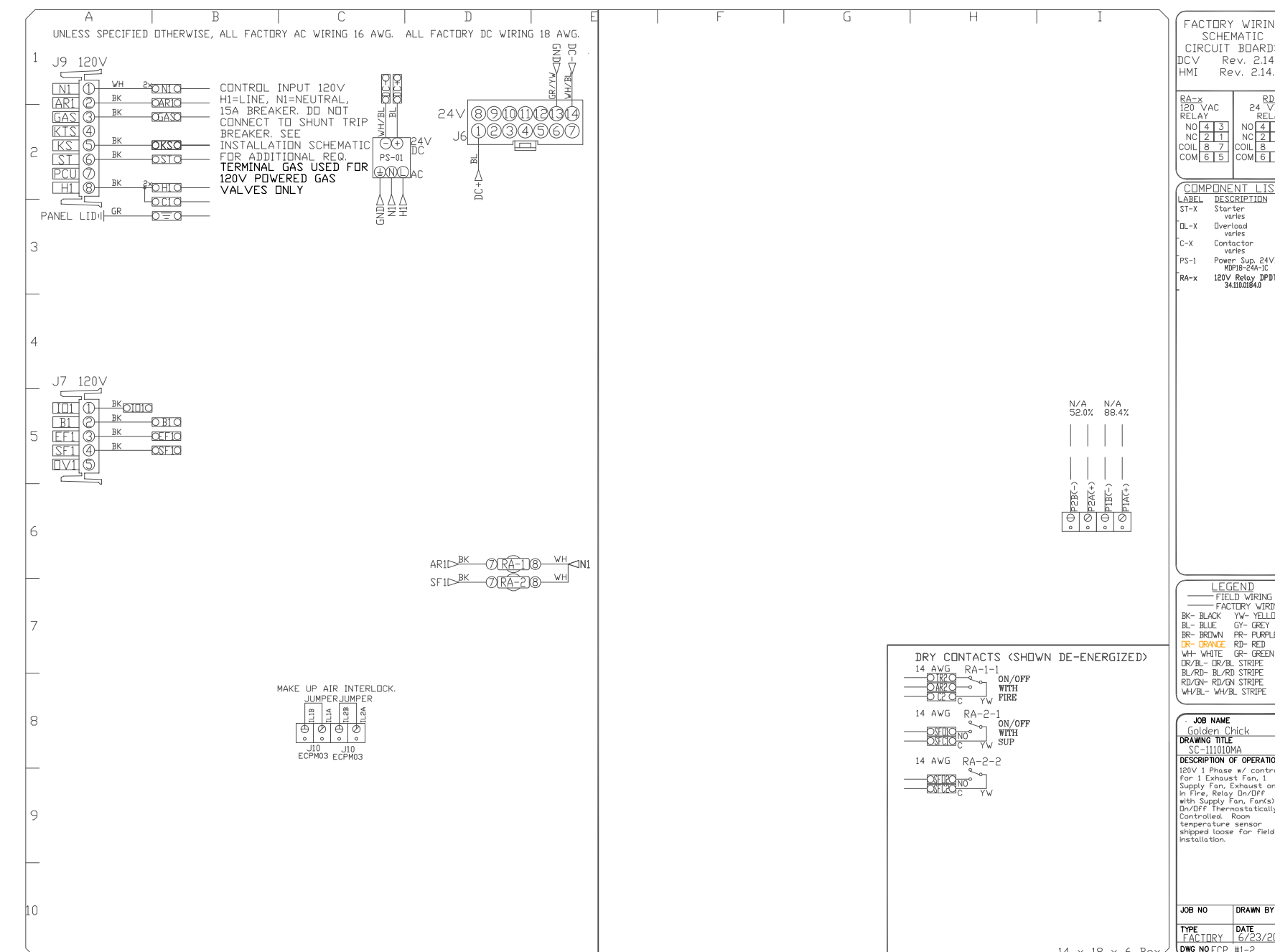
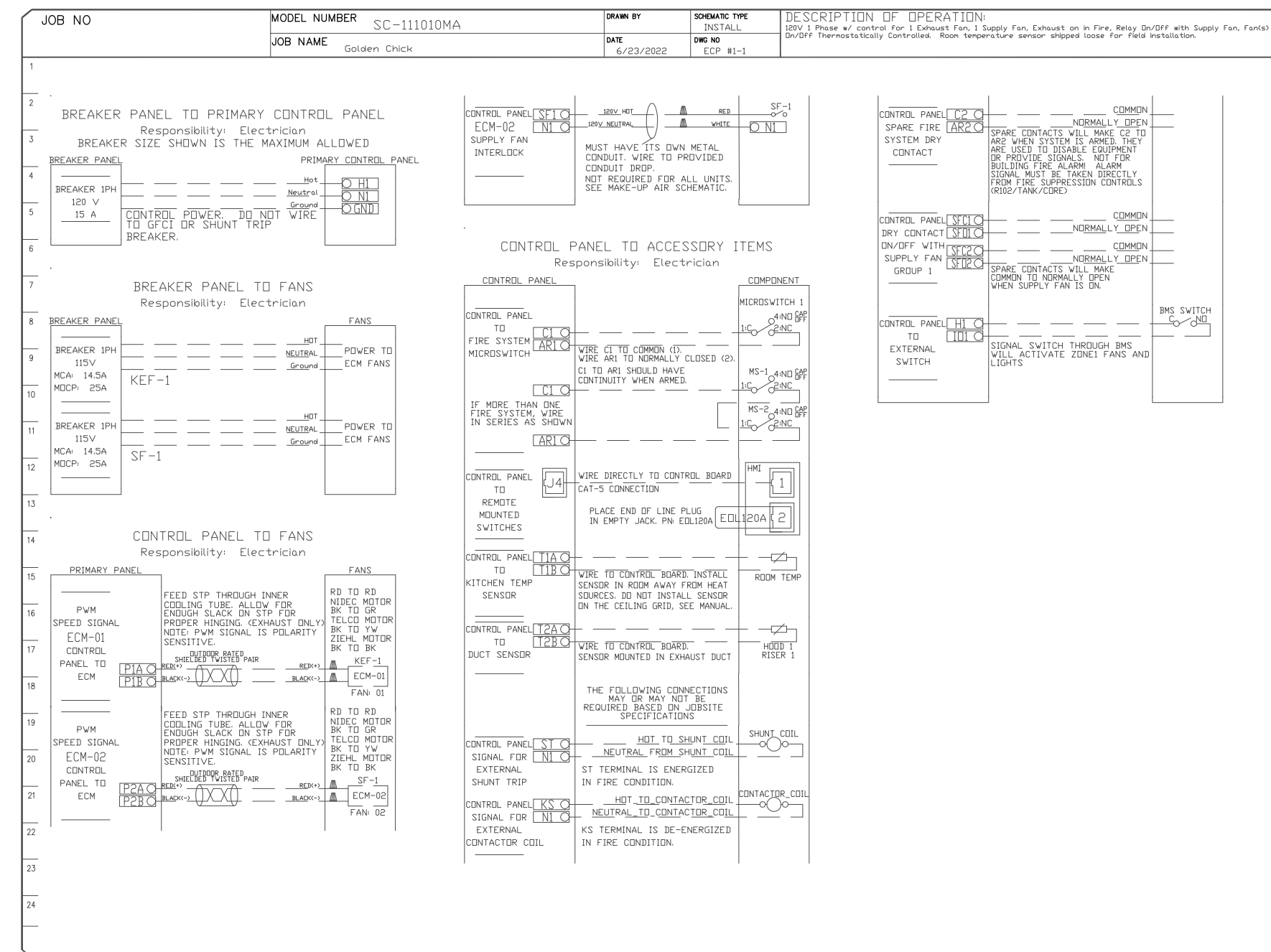
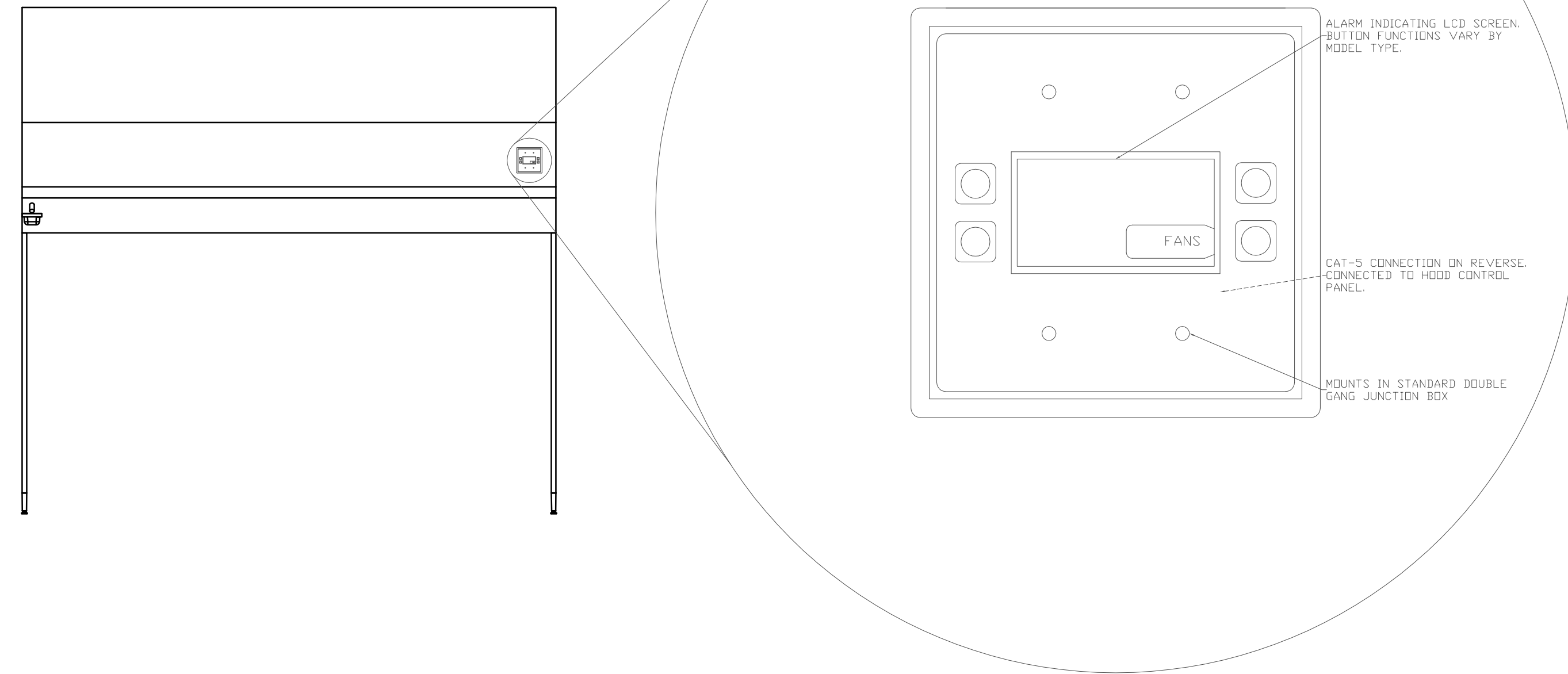
**ELECTRICAL PACKAGE**

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED					
				LOCATION	QUANTITY		FAN TAG	TYPE	1 HP	VOLTS	FLA	
1	ECP-1	SC-111010MA	WALL UTILITY CABINET LEFT	ON FACE MOUNT RIGHT SIDE OF HOOD HOOD # 1	1 FAN	SMART CONTROLS THERMOSTATIC CONTROL W/ RELAY EN/DFW WITH SUPPLY	KEF-1	EXHAUST	1	1000	115	11.6
							SF-1	SUPPLY	1	1000	115	11.6

**ROOM TEMPERATURE SENSOR**

The Room Temperature sensor is a 10K Ohm Thermistor. The sensor provides constant room temperature to the controller. It should be installed on a wall somewhere in the space but not directly under the hood or close to an appliance so that the reading is not affected by heat.

Typically a system will have one room temperature sensor. However, systems configured with 2 fan zones have the option to be ordered with 2 room temperature sensors, one for each zone. They should be mounted in the space accordingly.

**REVISIONS**

NO	DESCRIPTION	DATE
1		
2		
3		
4		

**Z-ventilation SOLUTIONS**  
Sales & Service

**ZVS**  
655 Deacon Park Lane, Warrington, OH 43089  
PHONE: 1.800.282.7400 FAX: (614) 971-1522 EMAIL: zvs@zvsvent.com

Golden Chick (Proto 2052)  
Anywhere, USA

DATE: 6/23/2022  
DWG.#:  
DRAWN BY: BLUERGY  
SCALE: NOT TO SCALE  
MASTER DRAWING

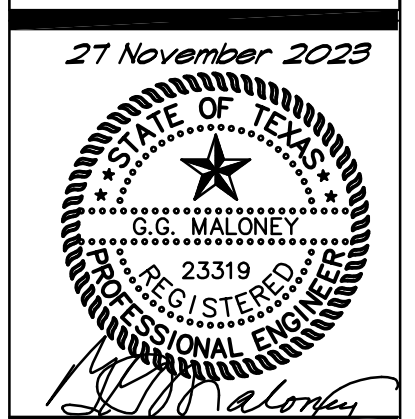
SHEET NO. 3

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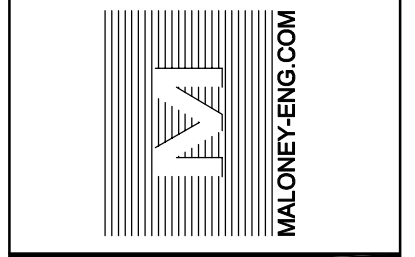
**MLA**  
MICHAEL LEGG ARCHITECTURE  
Michael Gregg Legg  
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26114 High Timber Pass St  
San Antonio, Texas 78260  
ph: 210-416-4855  
mlegg@mlaarchitect.com  
www.michaelleggarchitect.com

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**MALONEY ASSOCIATES CONSULTING ENGINEERS, INC.**  
F-1400  
1208 TRAILWOOD DR  
HURST, TEXAS 76053  
(817) 266-0363



**HOOD DETAILS**  
Golden Chick Restaurant Remodel  
2311 Fredericksburg Rd  
San Antonio, Texas

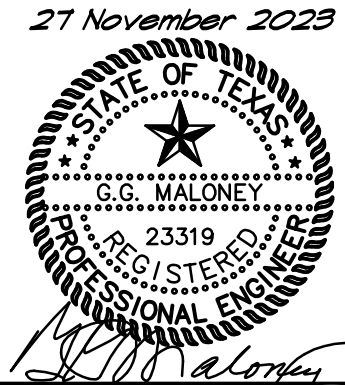
DATE	DESCRIPTION	BY

SCALE: AS NOTED

PROJECT NO. 05-05-22

SHEET NO. M4.2





**MALONEY ASSOCIATES CONSULTING ENGINEERS, INC.**  
 F-1400  
 4208 TRINWOOD DR  
 HURST, TEXAS 76038  
 (817) 268-0384  
 MALONEY-ENG.COM

**HOOD DETAILS**  
**Golden Chick Restaurant Remodel**  
**2311 Fredericksburg Rd**  
**San Antonio, Texas**

DATE	DESCRIPTION	BY

SCALE:  
AS NOTED

PROJECT NO.  
05-05-22

SHEET NO.  
**M4.3**

**CONSTRUCTION NOTES:**

- 16GA 300 SERIES SS WORK TOPS
- 18GA 300 SERIES SS PANELING, SHELVING AND BODIES
- 1-1/4" 300 SERIES SS TUBING
- SS ADJUSTABLE BULLET FEET

DRAWING REPRESENTS THE BASIC DESIGN INTENT OF THIS EQUIPMENT AND IS TO BE USED FOR OVERALL DESIGN AND M.E.P. APPROVALS ONLY.

DATE: 6/23/2022  
 DWG.#:  
 DRAWN BY: BLUERGY  
 SCALE: 3/4" = 1'-0"  
 MASTER DRAWING

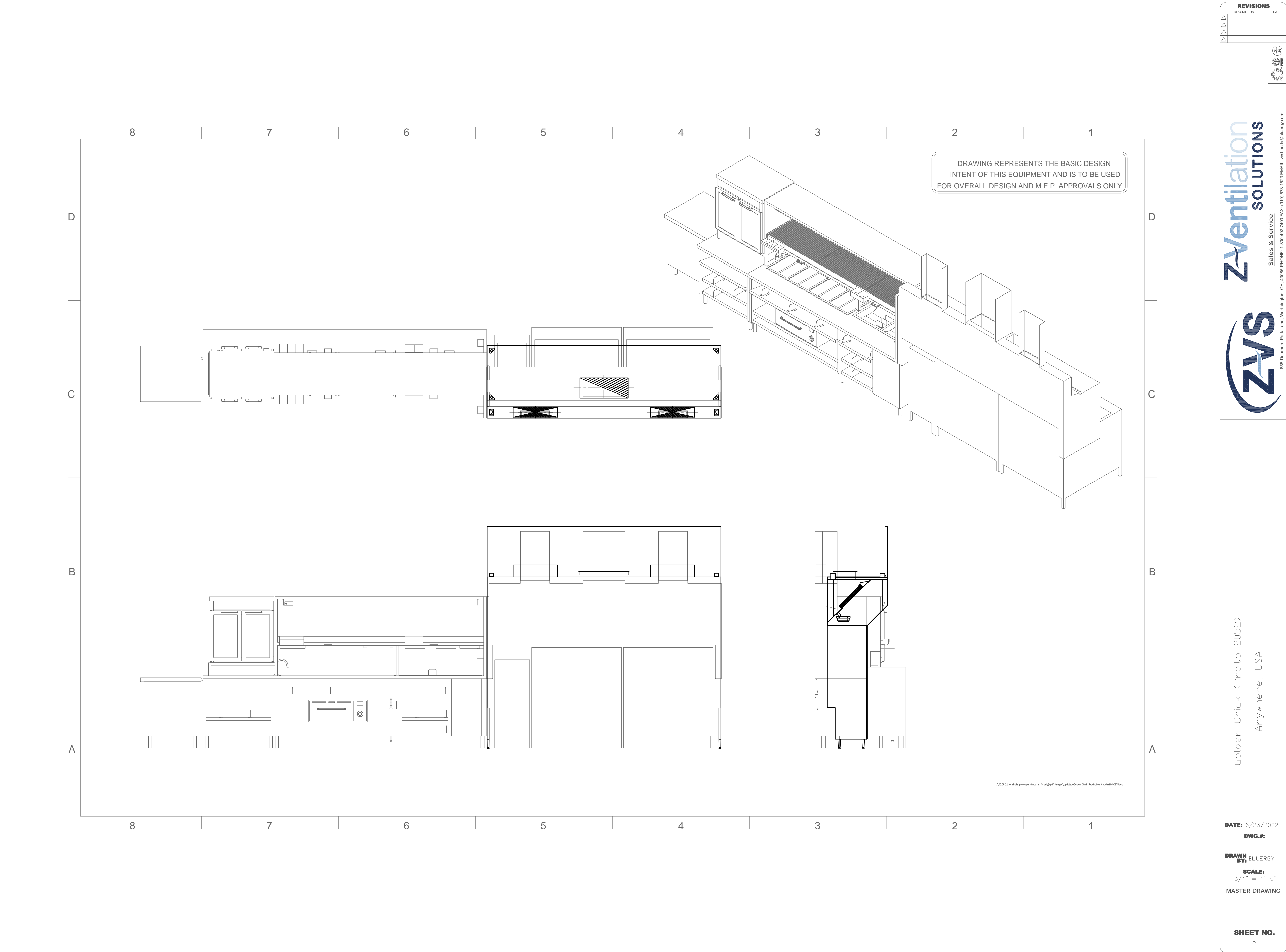
**SHEET NO.**  
4

Golden Chick (Proto 2052)  
Anywhere, USA

**ZVENTILATION SOLUTIONS**  
 Sales & Service  
**ZYS**  
 652 Dunbar Park Lane, Worthington, OH 43085  
 PHONE: 1-800-692-7400 FAX: (614) 575-1523 EMAIL: zvs@zvs.com

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REVISIONS	DESCRIPTION	DATE

**Zventilation SOLUTIONS**  
Sales & Service  
655 Charleston Park Lane, Worthington, OH 43085 PHONE: 1.800.462.7400 FAX: (614) 573-1523 EMAIL: zvent@zvent.com



Golden Chick (Proto 2052)  
Anywhere, USA

DATE: 6/23/2022  
DWG.#:  
DRAWN BY: BLUEGRY  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING

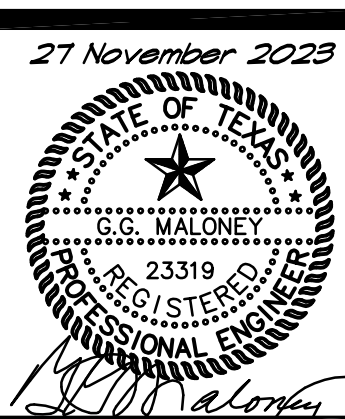
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Michael Gregory Legg  
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F-1400  
4208 TRAILWOOD DR  
HURST, TEXAS 76038  
(817) 286-0384  
MALONEY-ENG.COM

**HOOD DETAILS**  
**Golden Chick Restaurant Remodel**  
**2311 Fredericksburg Rd**  
**San Antonio, Texas**

DATE	DESCRIPTION	BY

SCALE:  
AS NOTED

PROJECT NO.  
05-05-22

SHEET NO.  
**M4.4**



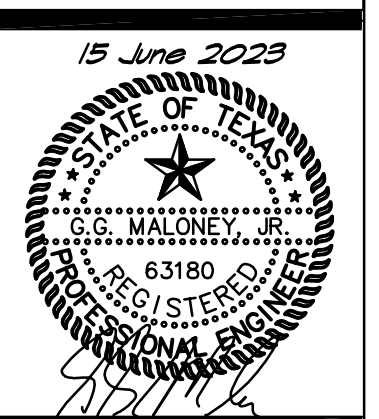
**GENERAL NOTES**

- A. VERIFY LOCATION OF ALL EQUIPMENT WITH ARCHITECT AND OTHER TRADES.
- B. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR FILED VERIFICATION OF ALL CONDITIONS AND IS ALSO RESPONSIBLE FOR REPORTING AND CONFLICTS TO THE ENGINEER PRIOR TO THE START OF WORK.
- C. PLUMBING CONTRACTOR SHALL FIELD VERIFY EXISTING LOCATIONS, ELEVATIONS AND FLOW DIRECTIONS OF GREASE INTERCEPTOR AND VENTS, GREASE AND SANITARY SEWERS, DOMESTIC WATER, GAS, ETC. PRIOR TO BEGINNING WORK OR ORDERING MATERIALS. CONTACT ARCHITECT OR ENGINEER IF ANY SIGNIFICANT DISCREPANCIES ARE FOUND.
- D. UTILITY INFORMATION SHOWN ON THE PLANS IS FROM PRELIMINARY CONTACT WITH THE RESPECTIVE UTILITIES AND/OR FROM INFORMATION PROVIDED BY OTHERS. THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES PRIOR TO BIDDING TO OBTAIN THE MOST UP TO DATE INFORMATION AND INSTALLATION REQUIREMENTS. INCLUDE ALL COSTS IN THE BASE BID, INCLUDING UTILITY CONNECTION, METER, AND OTHER FEES. REPORT ANY DISCREPANCY TO THE ARCHITECT OR ENGINEER.
- E. CONTRACTOR SHALL REQUEST THAT UTILITY COMPANIES LOCATE AND MARK ALL UNDERGROUND WATER PIPES, SANITARY SEWERS, GAS PIPES, ELECTRICAL AND COMMUNICATIONS CONDUITS AND DUCTBANKS, ETC. PRIOR TO DIGGING OR TRENCHING ON SITE. CONTRACTOR SHALL BE FULLY RESPONSIBLE AND BEAR COST FOR REPAIRING ANY UTILITY DAMAGE ON SITE.

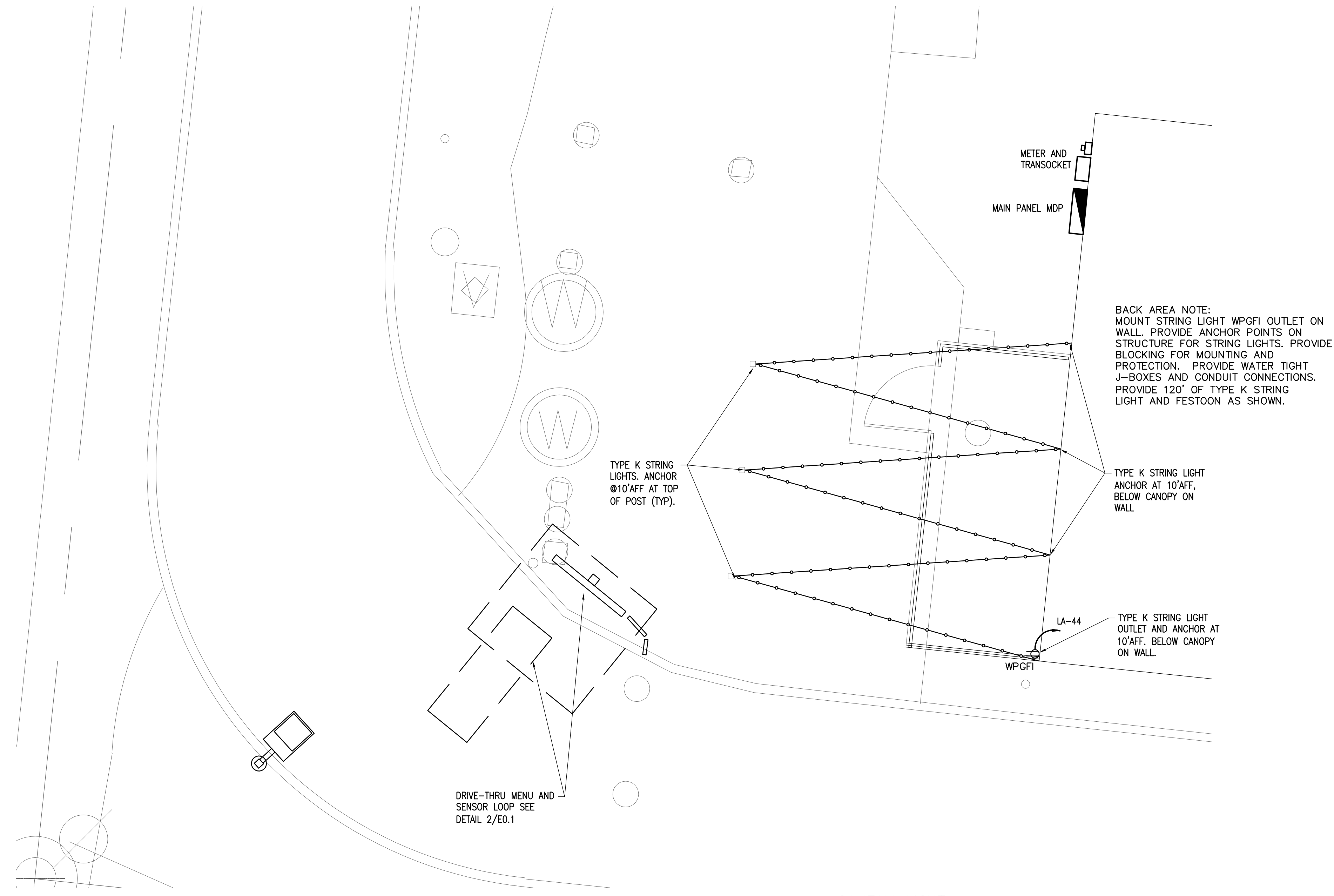
**MLA**  
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 ph: 210-414-4835  
 michael@mlaarchitect.com  
 www.michaelleggarchitect.com

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 CONSULTING ENGINEERS, INC.  
 F-1400  
 1208 TRAILWOOD DR  
 HURST, TEXAS 76044  
 (817) 286-0383  
 MALONEY-ENG.COM



**1** CANTINA LIGHT DETAIL  
 SCALE: 1/4"=1'-0"

**CANTINA LIGHTING PLAN**  
**Golden Chick Restaurant at Talley Rd**  
**San Antonio, Texas**

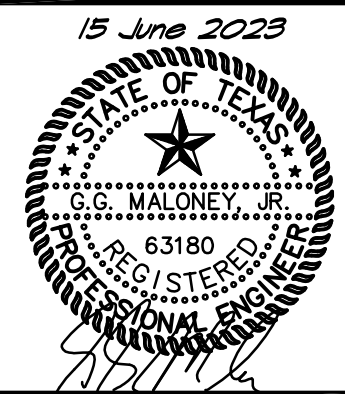
DATE	DESCRIPTION	BY
7.13.23	Owner changes	TJ

SCALE:  
 AS NOTED

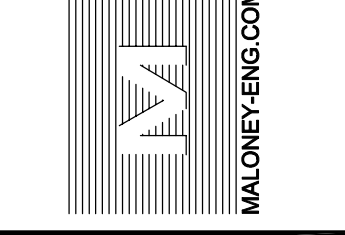
PROJECT NO.  
 05-05-22

SHEET NO.  
**E0.2**





MALONEY ASSOCIATES  
CONSULTING ENGINEERS, INC.  
F-1400  
1208 TRINWOOD DR  
HURST, TEXAS 76044  
(817) 288-0383



**ELECTRICAL SITE PLAN**  
**Golden Chick Restaurant at**  
**Talley Rd**  
**San Antonio, Texas**

DATE	DESCRIPTION	BY
7.13.23	Owner changes	T

SCALE:  
AS NOTED

PROJECT NO.  
05-05-22

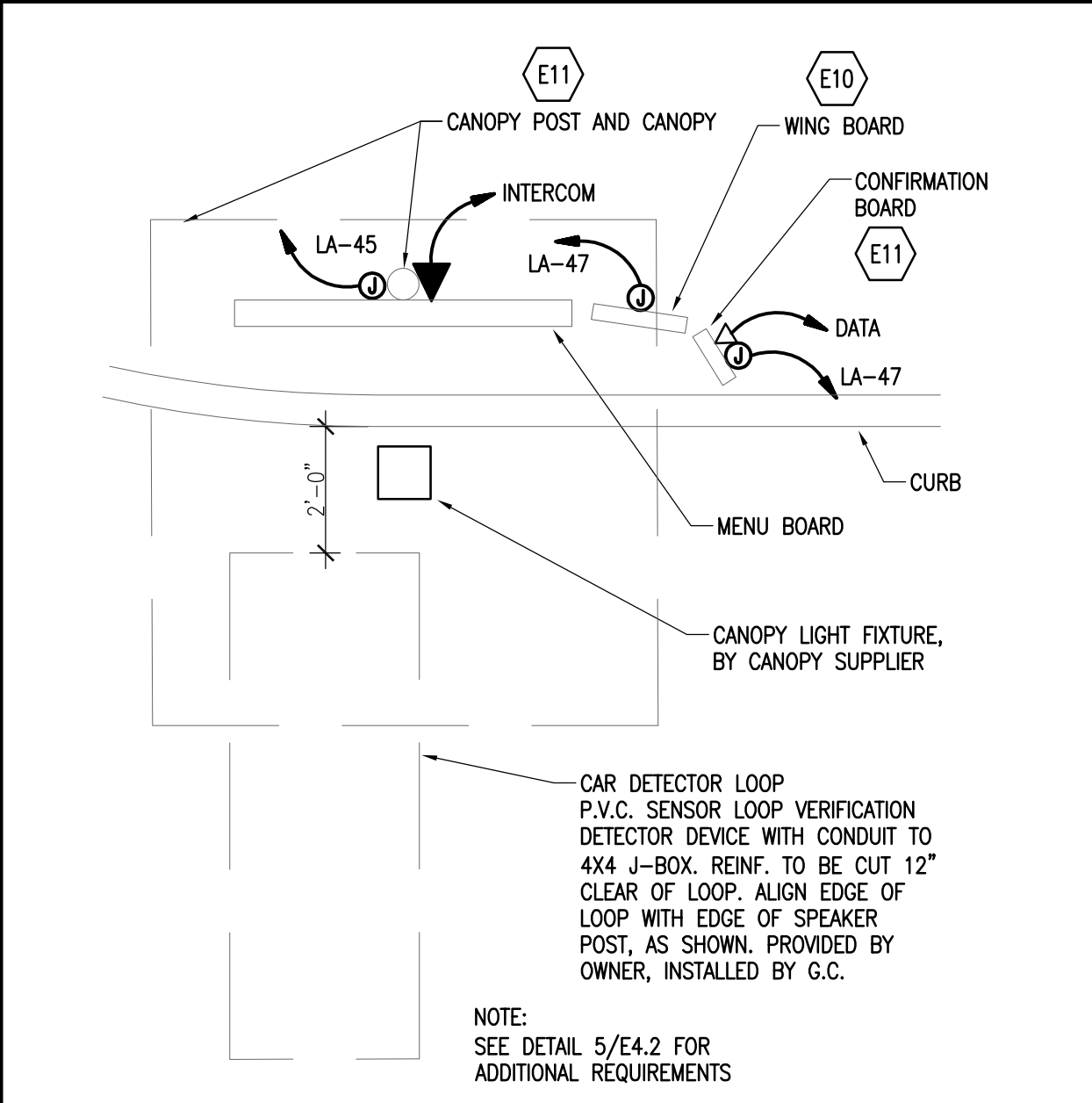
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**E0.1**

**GENERAL NOTES**

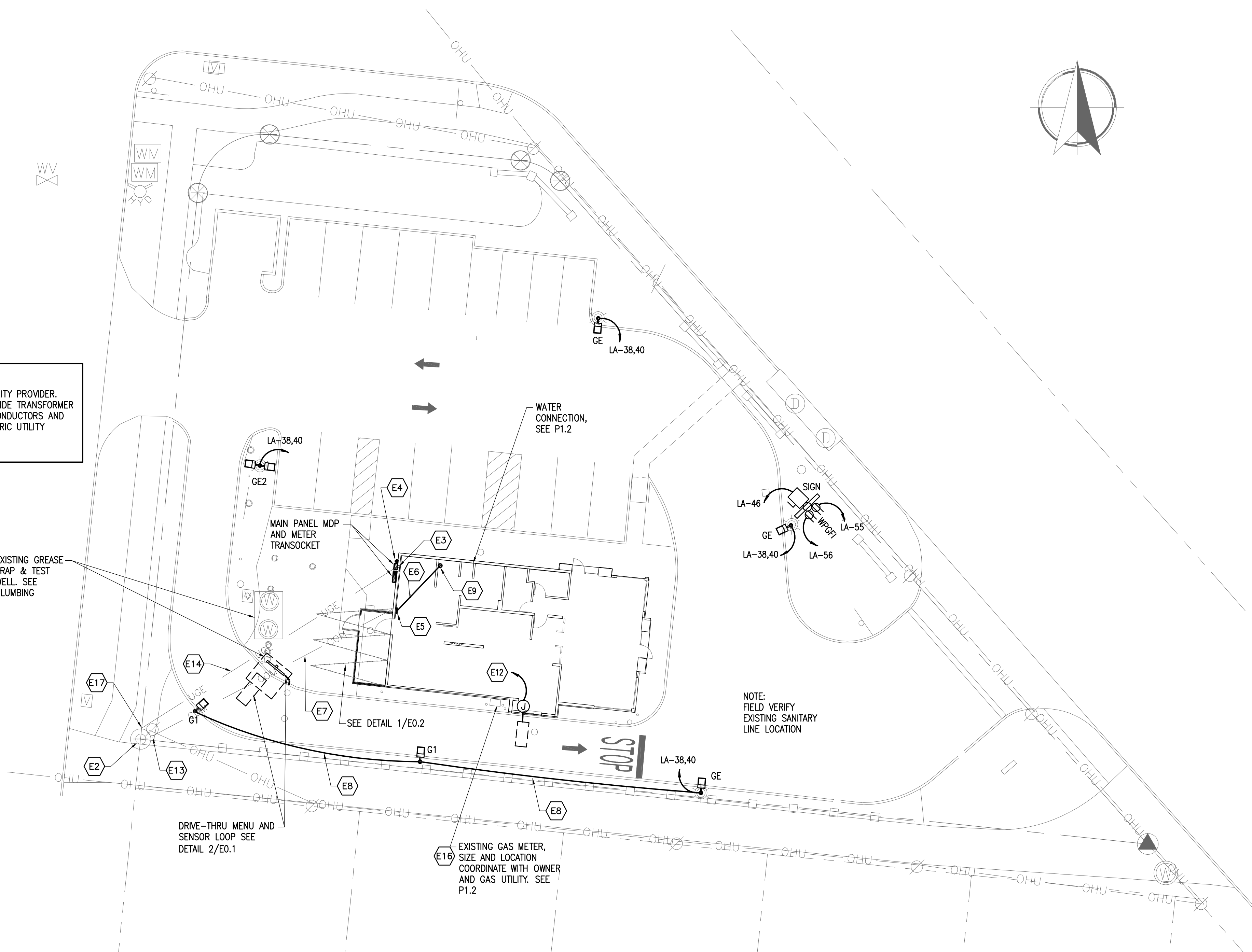
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- CONTRACTOR SHALL REQUEST THAT UTILITY COMPANIES LOCATE AND MARK ALL UNDERGROUND WATER PIPES, SANITARY SEWERS, GAS PIPES, ELECTRICAL AND COMMUNICATIONS CONDUITS AND DUCTBANKS, ETC. PRIOR TO DIGGING OR TRENCHING ON SITE. CONTRACTOR SHALL BE FULLY RESPONSIBLE AND BEAR COST FOR REPAIRING ANY UTILITY DAMAGE ON SITE.

**ELECTRICAL KEYED NOTES**

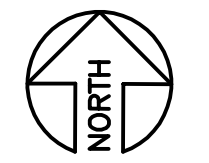
- NOT USED
- EXISTING ELECTRIC UTILITY COMPANY POLED MOUNTED TRANSFORMER. VERIFY EXACT LOCATION AND REQUIREMENTS WITH ELECTRIC COMPANY.
- UNDERGROUND ELECTRICAL SERVICE ENTRANCE COPPER FEEDER. PROVIDE (1) SET OF 4#500KCMIL IN EXISTING 4" CONDUIT. REFER TO ELECTRICAL ONE-LINE RISER DIAGRAM, DRAWING 4/E2.0 FOR ADDITIONAL REQUIREMENTS.
- ELECTRIC UTILITY COMPANY METER-TRANSOCKET. VERIFY EXACT LOCATION AND REQUIREMENTS WITH ELECTRIC UTILITY COMPANY.
- 10"x10"x5/8" FIRE RESISTANT PLYWOOD INTERNET DEMARCATION BOARD. MOUNT TIGHT TO CEILING ABOVE SHELVING WITHIN BACK STORAGE ROOM.
- EXTEND (1)2" E.C. WITH PULL WIRE FROM INTERNET DEMARCATION IN STORAGE TO ABOVE CEILING IN OFFICE.
- EXISTING 2" PVC EMPTY CONDUIT WITH PULLWIRE FOR UNDERGROUND SERVICE ENTRANCE TO INTERNET DEMARCATION BOARD MOUNTED ABOVE SHELVING TIGHT TO CEILING WITHIN BACK STORAGE AREA. VERIFY EXACT ROUTING AND REQUIREMENTS WITH INTERNET COMPANY.
- CONDUIT ROUTING FOR SITE LIGHTING IS SHOWN FOR SCHEMATIC PURPOSES ONLY. CONTRACTOR SHALL VERIFY SITE CONDITIONS AND SHALL INSTALL THE CONDUITS IN THE SHORTEST ROUTE BETWEEN FIXTURES.
- CONDUIT STUB LOCATION ABOVE CEILING IN OFFICE FOR INTERNET.
- WEATHERPROOF JUNCTION BOX FOR DRIVE-THRU MENU BOARD.
- WEATHERPROOF JUNCTION BOX FOR POWER AND DATA FOR DRIVE-THRU MENU BOARD.
- 1" CONDUIT WITH PULL TAPE TO DRIVE-THRU SENSOR CONTROLLER. CONDUIT UP IN WALL SPACE TO ABOVE CEILING IN AN ACCESSIBLE LOCATION WITH PULL STRING. OWNER'S VENDOR WILL RUN THE WIRE AND MAKE ALL FINAL CONNECTIONS.
- EXISTING DATA/COMM SERVICE CONNECTION POINT. FIELD VERIFY LOCATION AND ROUTING OF CONDUIT AND TERMINATION POINTS. COORDINATE ROUGH-IN REQUIREMENTS WITH DATA/COMM COMPANIES.
- EXISTING 4" NMC, ELECTRIC SERVICE. PROVIDE CONDUIT AND CONDUCTORS AS REQUIRED BY UTILITY. COORDINATE ROUGH-IN REQUIREMENTS WITH ELECTRIC UTILITY.
- NOT USED.
- EXISTING GAS METER LOCATION. COORDINATE GAS SERVICE SIZE AND LOCATION WITH OWNER AND GAS UTILITY. SEE CIVIL.
- EXISTING ELECTRIC SERVICE CONNECTION POINT. RISE UP AT POLE WITH 4" RMC. COORDINATE ROUGH-IN REQUIREMENTS WITH ELECTRIC UTILITY.



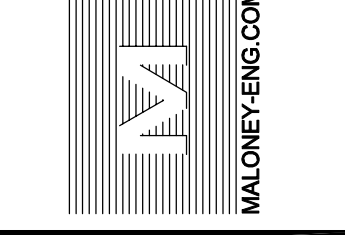
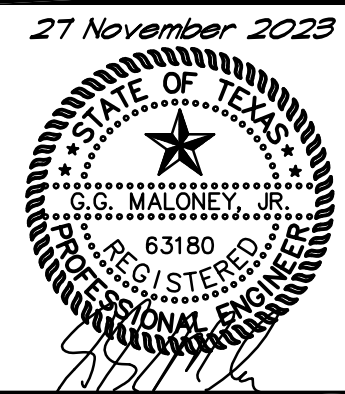
SENSOR LOOP, MENU BOARD, AND ORDER REVIEW LAYOUT  
3/8"=1'-0" 2



NOTE:  
COORDINATE SERVICE REQUIREMENTS WITH ELECTRIC UTILITY PROVIDER.  
COORDINATE LOCATION OF SERVICE TRANSFORMER, PROVIDE TRANSFORMER  
PAD, PRIMARY CONDUITS, SECONDARY CONDUITS AND CONDUCTORS AND  
ANY ADDITIONAL ROUGH-IN AS REQUIRED BY THE ELECTRIC UTILITY  
PROVIDER. COORDINATE WITH ELECTRIC UTILITY.







DATE	DESCRIPTION	BY

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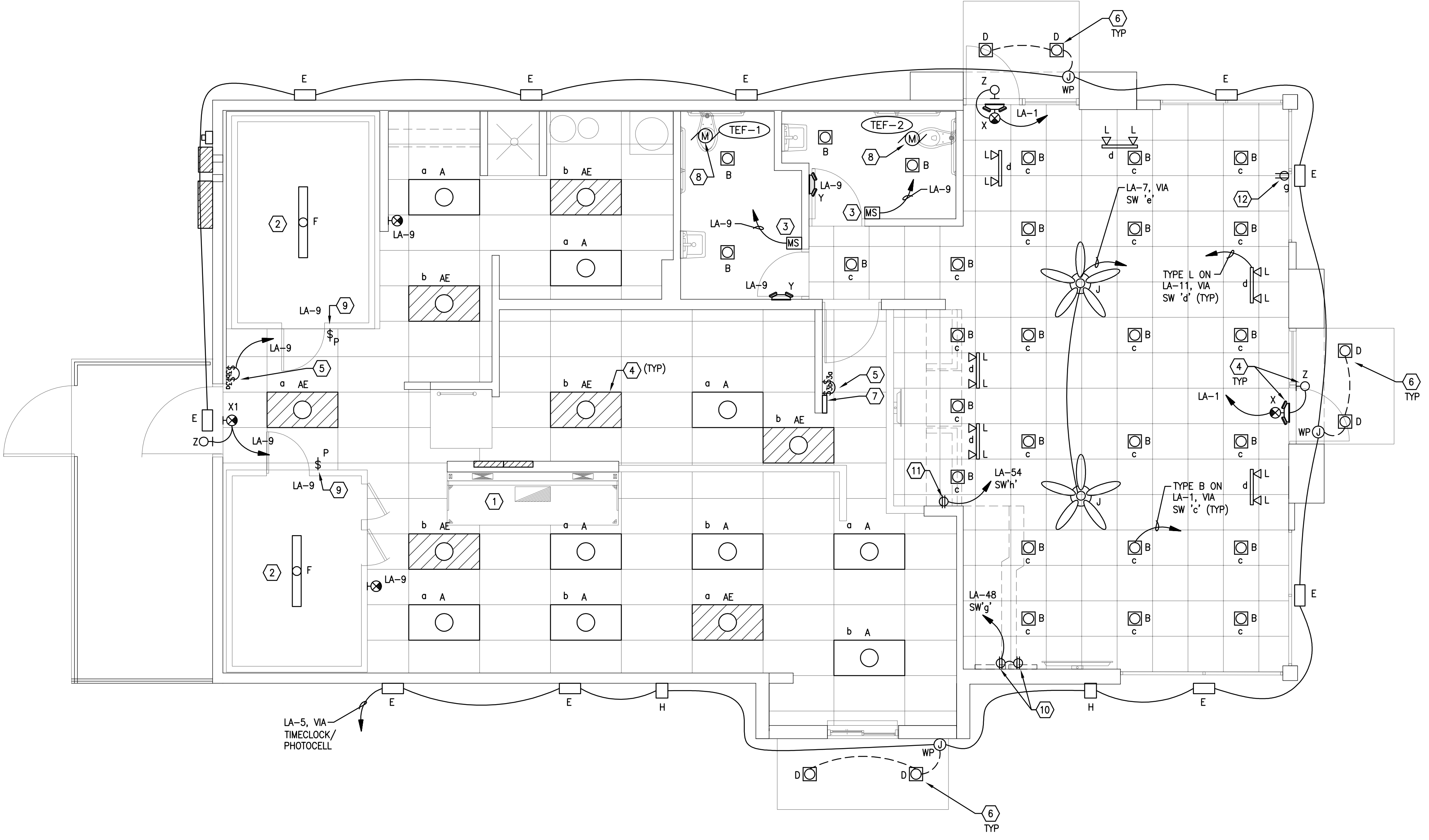
SHEET NO.  
**E1.0**

**GENERAL NOTES**

- A. COORDINATE ALL LOCATIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS ARCHITECTURAL SKETCHES AND EQUIPMENT SUPPLIERS. AVOID CONFLICTS BETWEEN EXIT SIGNS AND TV'S, NEON SIGNS, DRAPERIES, ETC.
- B. BATTERY PACKS ARE TO BE DIRECT WIRED. NO EXPOSED WIRING IS PERMITTED.
- C. ELECTRICAL CONTRACTOR TO PROVIDE STEEL ANGLES AND HARDWARE REQUIRED FOR SUSPENDING ALL HANGING LIGHT FIXTURES, CEILING FANS ETC., ALL EXPOSED CONDUIT, JUNCTION BOXES, MOUNTING HARDWARE ETC., TO BE RUN AS NEAT AS POSSIBLE AT UNDERSIDE OF ROOF DECK AND IS TO BE PAINTED.
- D. ALL WIRING, DEVICES AND FIXTURES INSIDE THE WALK-IN FREEZER AND WALK-IN COOLER ARE TO BE VAPOR PROOF. SEAL ALL CONDUIT PENETRATIONS WITH SILICONE.
- E. USE FLEXIBLE METAL CONDUIT (GREENFIELD) FOR CONNECTION OF LAY-IN FIXTURES.
- F. PROVIDE GROUND CONDUCTOR IN ALL CONDUIT RUNS (NOT ILLUSTRATED).
- G. THROUGH WIRING OF FIXTURES SHALL NOT BE PERMITTED UNLESS SPECIFICALLY ILLUSTRATED.
- H. EACH LIGHTING FIXTURE SHALL HAVE ITS OWN BOX UNLESS OTHERWISE ILLUSTRATED.
- I. COORDINATE LOCATION OF WALL MOUNTED EMERGENCY LIGHT FIXTURES WITH OWNER AND INTERIOR DESIGNER TO AVOID CONFLICT WITH WALL FIXTURES.
- J. REFER TO ARCHITECTURAL FOR EXACT LOCATION OF LIGHTING FIXTURES. COORDINATE WITH ARCHITECT FOR LOCATION OF LIGHTING FIXTURES AND DEVICES BEFORE ROUGH-IN.
- K. SEE KITCHEN EQUIPMENT DRAWINGS FOR KITCHEN FIXTURES ELECTRICAL SCHEDULE AND ROUGH-IN LOCATIONS.
- L. SEE SHEET MEPL0 FOR ADDITIONAL ROOF MOUNTED LIGHT FIXTURES AND SIGNS
- M. WIRING OF EMERGENCY LIGHT FIXTURES SHALL CONFORM TO THE FIRE MARSHAL'S OFFICE EMERGENCY WIRING CRITERIA.
- N. WIRING IN DINING SHALL BE INSTALLED IN CONDUIT.

**KEYED NOTES**

1. (12) 375W HEAT LAMPS ARE TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR AND INSTALLED IN THE LIGHT SOCKETS PROVIDED WITH THE HOOD. WIRING AND CIRCUIT FOR THE HOOD LIGHTS ARE PROVIDED WITH THE HOOD.
2. FREEZER/COOLER LIGHT SHALL BE SUPPLIED BY FREEZER/COOLER MANUFACTURER, INSTALLED BY THE CONTRACTOR. COORDINATE LIGHTING CONTROLS WITH FREEZER/COOLER MANUFACTURER. CIRCUIT TO BACK OF HOUSE LIGHTING CIRCUIT.
3. PROVIDE WALL MOUNTED MOTION SENSOR IN RESTROOMS. SENSOR SHALL BE LUTRON #MS-Z101.
4. CONNECT EMERGENCY FIXTURES AND EXIT SIGNAGE TO UNSWITCHED LEG OF CIRCUIT FOR NORMAL OPERATION. IN CASE OF POWER LOSS, FIXTURES EMERGENCY BATTERY WILL ENERGIZE THE FIXTURE.
5. SWITCHES FOR KITCHEN LED LIGHTING. TWO 3-WAY SWITCHES PER CIRCUIT FOR DUAL LEVEL SWITCHING PER ENERGY CODE. SINGLE SWITCH 'a' TO CONTROL FIXTURES NOTED AS 'a', SINGLE SWITCH 'b' TO CONTROL FIXTURES NOTED AS 'b'.
6. LED LIGHT, TYPE 'D' TO BE FURNISHED AND INSTALLED WITH CANOPY. LIGHTS ARE TO BE PRE-WIRED WITHIN CANOPY. CONTRACTOR TO PROVIDE CIRCUIT AND CONTROLS TO CANOPY JUNCTION BOX LOCATION AS SHOWN. VERIFY WITH CANOPY PROVIDER EXACT CONNECTION REQUIREMENTS.
7. LOCATION OF FRONT OF HOUSE LIGHTING SWITCH BANK. REFER TO SWITCH BANK ELEVATION DETAIL, 6/EA-2.
8. CONTRACTOR SHALL PROVIDE ALL NECESSARY CONTACTORS AND RELAYS TO CIRCUIT EXHAUST FAN TO RESTROOM LIGHTING CIRCUIT AND CONTROL THRU MOTION SENSOR FOR A COMPLETE OPERATIONAL SYSTEM.
9. EXISTING LIGHT FIXTURE PROVIDED WITH COOLER/FREEZER. CONNECT TO LIGHTING CIRCUIT FOR WALK-INS.
10. PROVIDE A RECESSED CLOCK OUTLET FOR WALL MOUNTED LETTER SIGNS. REFER TO BEVERAGE ELEVATION DETAIL, 6/A2.1 FOR EXACT LOCATIONS OF RECEPTACLES.
11. PROVIDE A RECESSED CLOCK OUTLET FOR WALL MOUNTED SIGN. MOUNT OUTLET AT 90° AFF.
12. OUTLET ABOVE WINDOW AT 9'-6" AFF FOR OPEN SIGN. COORDINATE LOCATION WITH ARCH. SWITCH AS INDICATED.





ELECTRICAL KITCHEN EQUIPMENT SCHEDULE

NO.	VOLTS	PH.	LOAD	LOC.	A.F.F.	OUTLET	REMARKS	CIRCUIT
C01	120	1	15.0A	WALL	48"	DCO	NEMA 5-15 FOR CONVENIENCE OUTLET	LB-43,45,47,49,51
C02	120	1	15.0A	WALL	18"	DCO	NEMA 5-15 FOR CONVENIENCE OUTLET	LB-53,55,57,59,44,46,48,50,52
FP	-	-	-	WALL	-	JB	EMPTY JBOX FOR REMOTE FIRE PULL, SEE DETAIL	----
1	120	1	5.0A	CLG	DFA	JB	BTC ON FLY FAN THRU DOOR SWITCH	LB-29
12	120	1	15.0A	WALL	72"	DCO	NEMA 5-15 FOR BAG-N-BOX	LB-31
15	120	1	15.0A	WALL	36"	DCO	NEMA 5-15 FOR GREASE HOLDING SYSTEM (VERIFY REQUIREMENTS, PURVEYOR PROVIDED EQUIPMENT)	LB-33
20.1	120	1	15.0A	CLG	DFA	JB	BTC ON DOOR HEATER AND LIGHT CIRCUIT, 2 DOORS	LB-2,4
20.2	120	1	2.7A	CLG	DFA	JB	BTC ON COOLER EVAPORATOR COIL	LB-6
20.3	208	1	10.0A	CLG	DFA	JB	BTC ON FREEZER EVAPORATOR COIL	LB-8/10
-	-	-	-	CLG	DFA	JB	CONDUIT TO FREEZER REMOTE CONDENSER FOR CONTROL WIRES	----
20.4	208	1	11.4A	VERIFY	VERIFY	JB	BTC ON COOLER REMOTE CONDENSING UNIT	LB-12/14
20.5	208	1	11.4A	VERIFY	VERIFY	JB	BTC ON FREEZER REMOTE CONDENSING UNIT	LB-16/18
31A	120	1	5.0	WALL	24"	QUAD	NEMA 5-15 AND DATA FOR POS UNIT/PRINTER, CLEAN POWER	LA-2,4,6,8
31B	120	1	5.0	WALL	48"	QUAD	NEMA 5-15 AND DATA FOR POS UNIT/PRINTER, CLEAN POWER	LA-57, 59
40	120	1	6.9A	WALL	18"	DCO	NEMA 5-15 FOR REFRIGERATOR	LB-35
45	208	1	4050W	WALL	48"	JB	BTC ON HOT WATER DISPENSER	LB-20/22; LB-24/26
49	120	1	1700W	WALL	48"	JB	BTC ON TEA BREWER	LB-37
50	120	1	7.6A	WALL	18"	DCO	NEMA 5-15 FOR FREEZER	LB-39
52	208	1	29.8A	WALL	48"	JB	BTC ON RETHERMALIZER	LB-28/30; LB-58/60
53	208	3	5.5kW	WALL	24"	JB	BTC ON CONVECTION OVEN	LB-32/34/36
54	208	3	10.8kW	WALL	54"	JB	BTC ON COMBI OVEN	MDP-20/22/24
56	120	1	16.0A	WALL	18"	SCO	NEMA 5-20 FOR HEATED CABINETS	LA-10,12
62A	120	1	2.0A	WALL	18"	DCP	NEMA 5-15 FOR FRYER	LB-1
62B	120	1	2.0A	WALL	18"	DCP	NEMA 5-15 FOR FRYER	LB-3; LB-5
63A	120	1	2.0A	WALL	90"	DCP	NEMA 5-15 FOR TIMER	LB-7; LB-9
63B	120	1	2.0A	WALL	36"	DCP	NEMA 5-15 FOR TIMER	LB-11
64	120	1	5.0A	CLG	DFA	JB	BTC ON FRYER HOOD	LB-13
68	208	1	125A	WALL	18"	JB	BTC ON LOAD CENTER	MDP-25/27
80	120	1	5.0A	WALL	18"	DCO	NEMA 5-15 FOR SODA DISPENSER	LA-14
84	208	1	11.8	WALL	66"	JB	BTC ON ICE MACHINE	LA-16/18
-	-	-	-	WALL	66"	JB	CONDUIT TO ICE MACHINE REMOTE CONDENSER	----
92	120	1	2.0A	WALL	18"	DCO	NEMA 5-15 FOR DISPLAY CASE	LB-41
93	120	1	16.0	WALL	24"	SCO	NEMA 5-20 FOR SOFT SERVE MACHINE	LB-42
96	120	1	5.0A	WALL	24"	DCO	NEMA 5-15 FOR SODA DISPENSER	LA-20
100	120	1	-	WALL	48"	DCO	NEMA 5-15 FOR LEMONADE URN	LB-19; LB-21
101	120	1	-	WALL	66"	JB	BTC ON ICE MACHINE	LB-54,56

NOTE: REFER TO FOOD SERVICES FS ELECTRICAL SCHEDULES FOR MOUNTING HEIGHTS AND NEMA CONFIGURATION FOR ALL EQUIPMENT

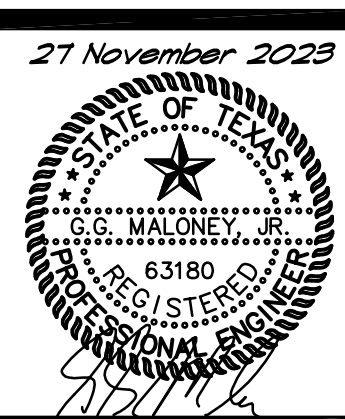
#	KEYED NOTES
1	QUAD RECEPTACLE FOR ETHERNET BOARD.
2	PROVIDE INTERLOCK WITH DOOR SWITCH AS SHOWN FOR FLY FAN. VERIFY EXACT LOCATION WITH EQUIPMENT SUPPLIER.
3	PROVIDE ALL INTERCONNECTION WIRING BETWEEN FREEZER EVAPORATOR AND FREEZER REMOTE CONDENSING UNIT PER MANUFACTURER'S INSTRUCTIONS.
4	WEATHERPROOF RECEPTACLE FOR IRRIGATION SYSTEM CONTROL PANEL TO BE PROVIDED AND INSTALLED BY OTHERS. ELECTRICAL CONTRACTOR TO MAKE 120V CONNECTION TO CONTROLLER.
5	PROVIDE ALL INTERCONNECTION WIRING BETWEEN ICE MACHINE AND ICE MACHINE REMOTE CONDENSING UNIT PER MANUFACTURER'S INSTRUCTIONS.
6	PROVIDE ALL INTERCONNECTION WIRING BETWEEN COOLER EVAPORATOR AND COOLER REMOTE CONDENSING UNIT PER MANUFACTURER'S INSTRUCTIONS.
7	RECEPTACLE MOUNTED ON WALL AT DRIVE THRU KDS MONITOR.
8	DUPLEX RECEPTACLE MOUNTED ON BULKHEAD FOR MENU BOARD.
9	PROVIDE 3" DIAMETER OPENING WITH GROMMET THRU LOW WALL AND MILLWORK AT 12" AFF. PASS REFRIGERATED DISPLAY CASE POWER CORD THRU OPENING FOR CONNECTION TO OUTLET.

GENERAL NOTES	
A.	REFER TO FOOD SERVICE ELECTRICAL PLANS FOR EQUIPMENT ROUGH-IN DIMENSIONS, EXACT LOCATIONS AND HEIGHTS FOR KITCHEN RELATED EQUIPMENT.
B.	ALL LOW VOLTAGE WIRING BY OTHERS SHALL BE PULLED/INSTALLED BY CONTRACTOR.
C.	WIRING IN DINING SHALL BE INSTALLED IN CONDUIT.
D.	ALL WIRING INSIDE BUILDING SHALL BE IN METALLIC RACEWAY, EXCEPT IN BUILDING FLOOR SLAB WHERE SCH 40 PVC MAY BE USED WIRING ON EXTERIOR OF BUILDING, WHERE UNDERGROUND, MAY BE SCHEDULE 40 PVC. PROVIDE MC CABLE WHEN ALLOWED BY CODE.
E.	DUPLEX AND DOUBLE DUPLEX RECEPTACLES FOR P.O.S. SYSTEM (ISOLATED GROUND RECEPTACLES) SHALL NOT SHARE CONDUIT WITH ANY "NORMAL POWER" DEVICES. ISOLATED GROUND RECEPTACLES SHALL BE "ORANGE" IN COLOR.
F.	ALL CONDUCTORS SHALL BE COPPER, "THHN/THWN" INSULATED. COLOR CODE ALL CONDUCTORS.
G.	SEPARATE CODE-SIZE GROUND CONDUCTORS (GREEN-INSULATED) SHALL BE PULLED IN ALL CONDUIT RUNS. METALLIC CONDUITS SHALL NOT SERVE AS GROUND.
H.	ALL CONDUIT PASSING THROUGH THE WALLS, CEILINGS OR FLOORS OF THE WALK-IN UNIT SHALL BE SEALED PER NEC ARTICLE 300.7.
I.	PROVIDE GROUND FAULT CIRCUIT INTERRUPTER PROTECTION FOR PERSONNEL PER 2020 NEC ARTICLE 210.8 (B). ALL 125-VOLT THROUGH 250-VOLT RECEPTACLES SUPPLIED BY SINGLE-PHASE CIRCUITS RATED 150 VOLTS OR LESS TO GROUND, 50 AMPERES OR LESS, AND ALL RECEPTACLES SUPPLIED BY THREE-PHASE BRANCH CIRCUITS RATED AT 150 VOLTS OR LESS TO GROUND, 100 AMPERES OR LESS, INSTALLED IN BATHROOMS, KITCHENS, ROOFTOPS, OUTDOORS, WITHIN 6' FROM THE TOP INSIDE EDGE OF A SINK AND INDOOR DAMP OR WET LOCATIONS. REFER TO PANEL SCHEDULES FOR BREAKERS NOTED AS GFI TO PROVIDE AS PROTECTION, IF ADDITIONAL GFI BREAKERS ARE REQUIRED, PROVIDE AS NEEDED.
J.	CONDUIT SHALL BE PROPERLY SUPPORTED USING CLAMPS. THE WIRES WILL NOT BE APPROVED.
K.	ALL NEMA 5-15, NEMA 15-20, NEMA 6-15, NEMA 6-20 RECEPTACLES, WITH THE EXCEPTIONS OF RECEPTACLES THAT ARE NOT ACCESSIBLE, INSTALLED IN DEDICATED SPACE, OR INSTALLED OVER 5'-6" AFF, SHALL BE TAMPER-RESISTANT IN COMPLIANCE WITH NEC 406.12(5) AND 518.2.
L.	ALL CONDUIT FOR LOW VOLTAGE WIRING IS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. ALL LOW VOLTAGE FINAL CONNECTIONS BY MECHANICAL CONTRACTOR
M.	ELEC. CONTRACTOR TO PROVIDE POWER TO REFRIGERATION CONDENSERS ON ROOF.
N.	ELECTRICAL CONTRACTOR TO WIRE LIGHTS, DOOR HEATER AND HEAT TRACE AT CONDENSATION LINES AT WALK-IN COOLER AND FREEZER.

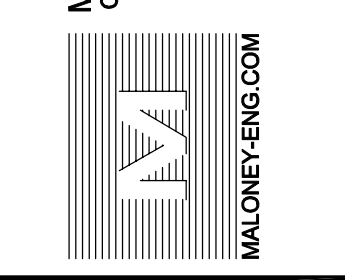


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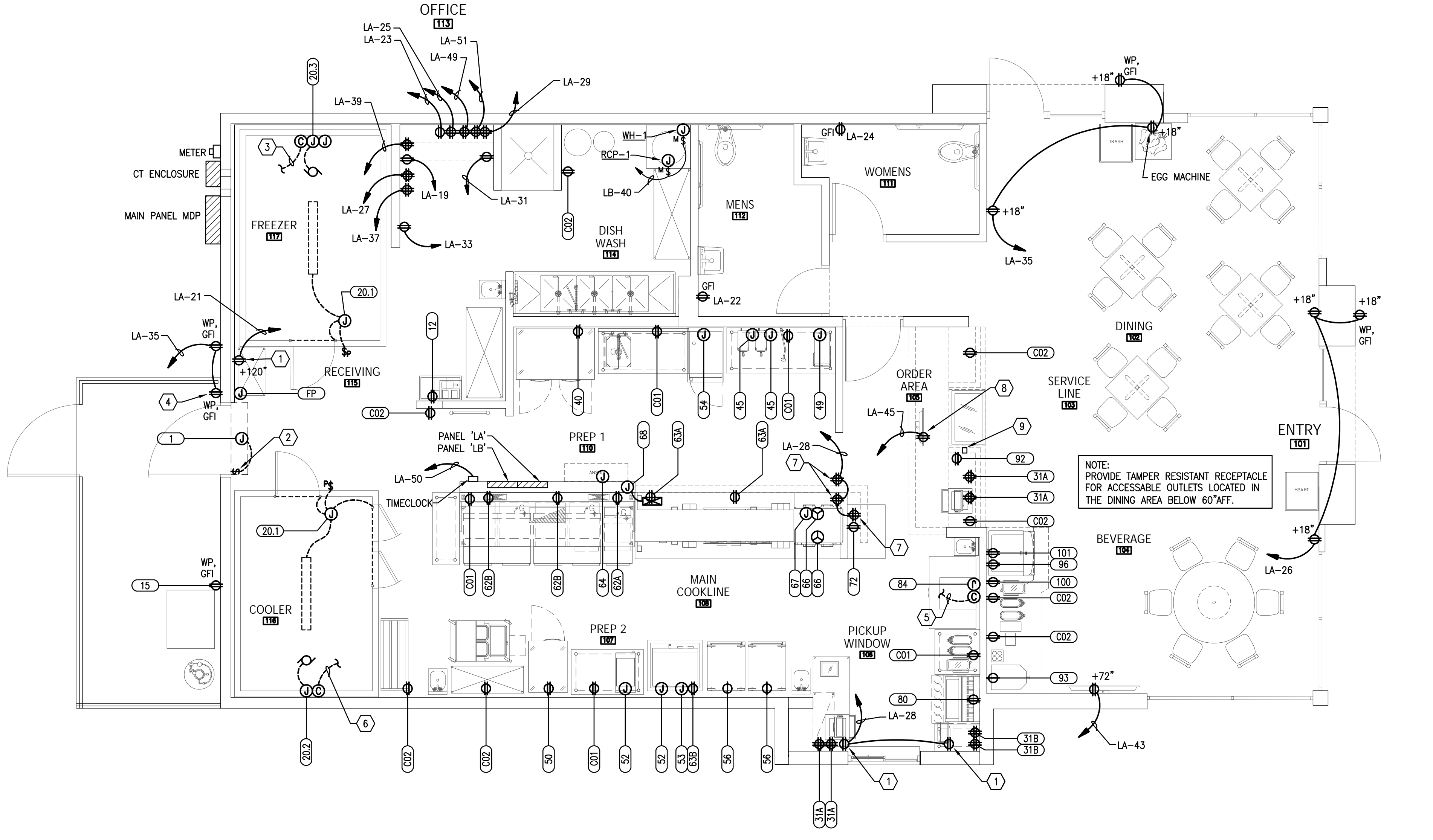
DRAWING COORDINATION  
Architectural, Landscape, Civil, Structural, Mechanical and Electrical drawings are interrelated. General Contractor and all Sub Contractors shall review and coordinate the entire set of drawings and specifications



27 November 2023  
G.G. MALONEY, JR.  
CONSULTING ENGINEERS, INC.  
F-1400  
1208 TRAILWOOD DR  
HURST, TEXAS 76040  
(817) 288-0383



**POWER PLAN**  
**Golden Chick Restaurant Remodel**  
**2311 Fredericksburg Rd**  
**San Antonio, Texas**

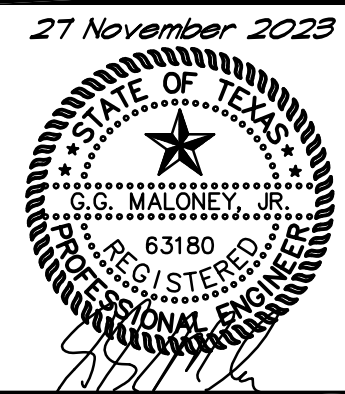


NOTE: PROVIDE TAMPER RESISTANT RECEPTACLE FOR ACCESSIBLE OUTLETS LOCATED IN THE DINING AREA BELOW 60" AFF.

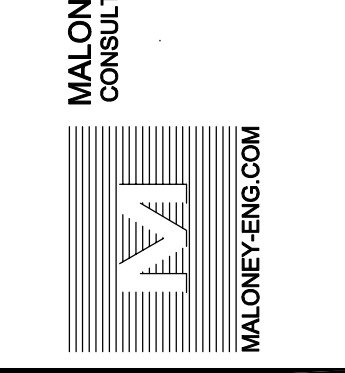
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**SPECIAL SYSTEMS PLAN**  
**Golden Chick Restaurant Remodel**  
**2311 Fredericksburg Rd**  
**San Antonio, Texas**

DATE	DESCRIPTION	BY

SCALE:  
AS NOTED

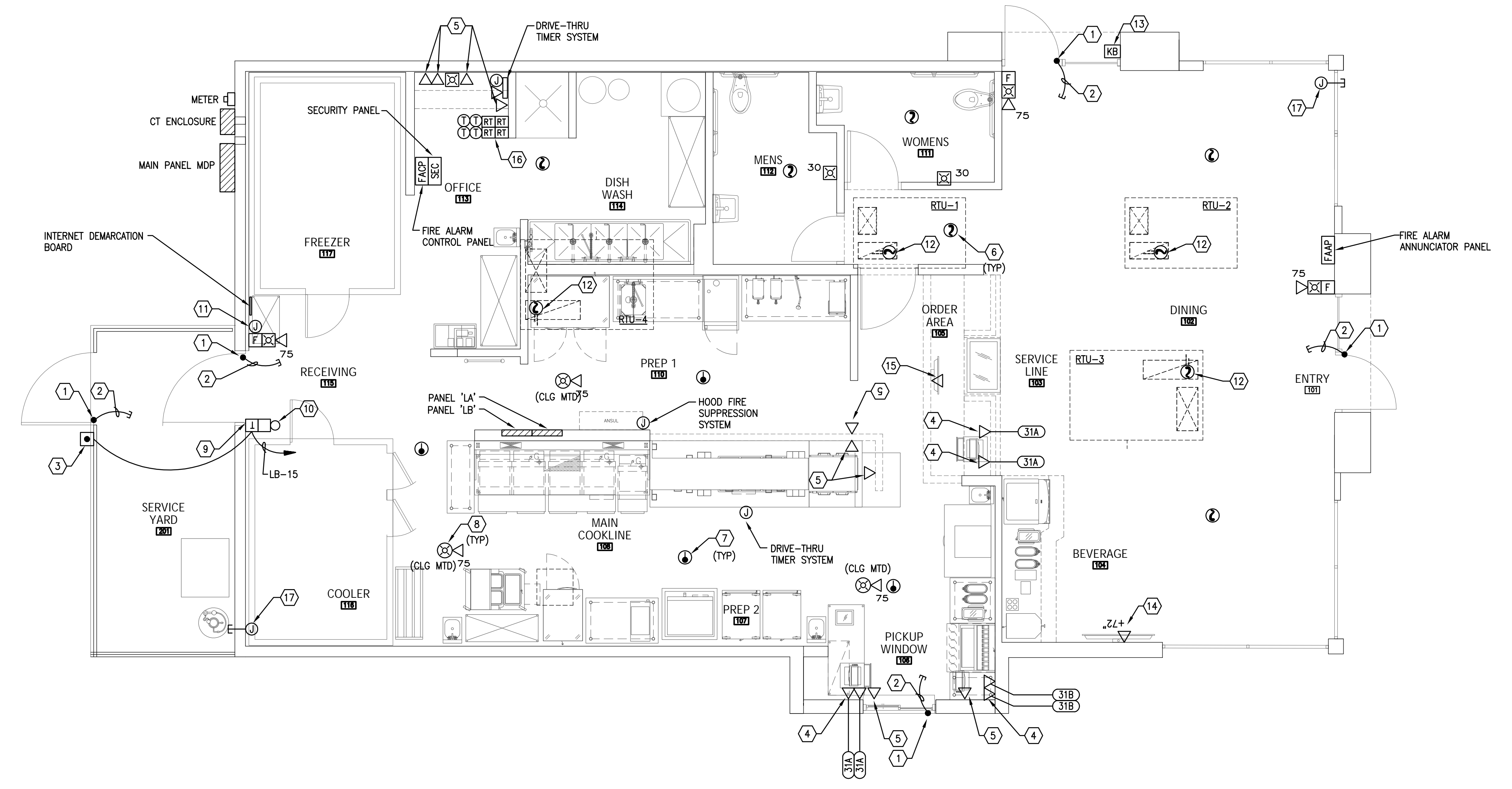
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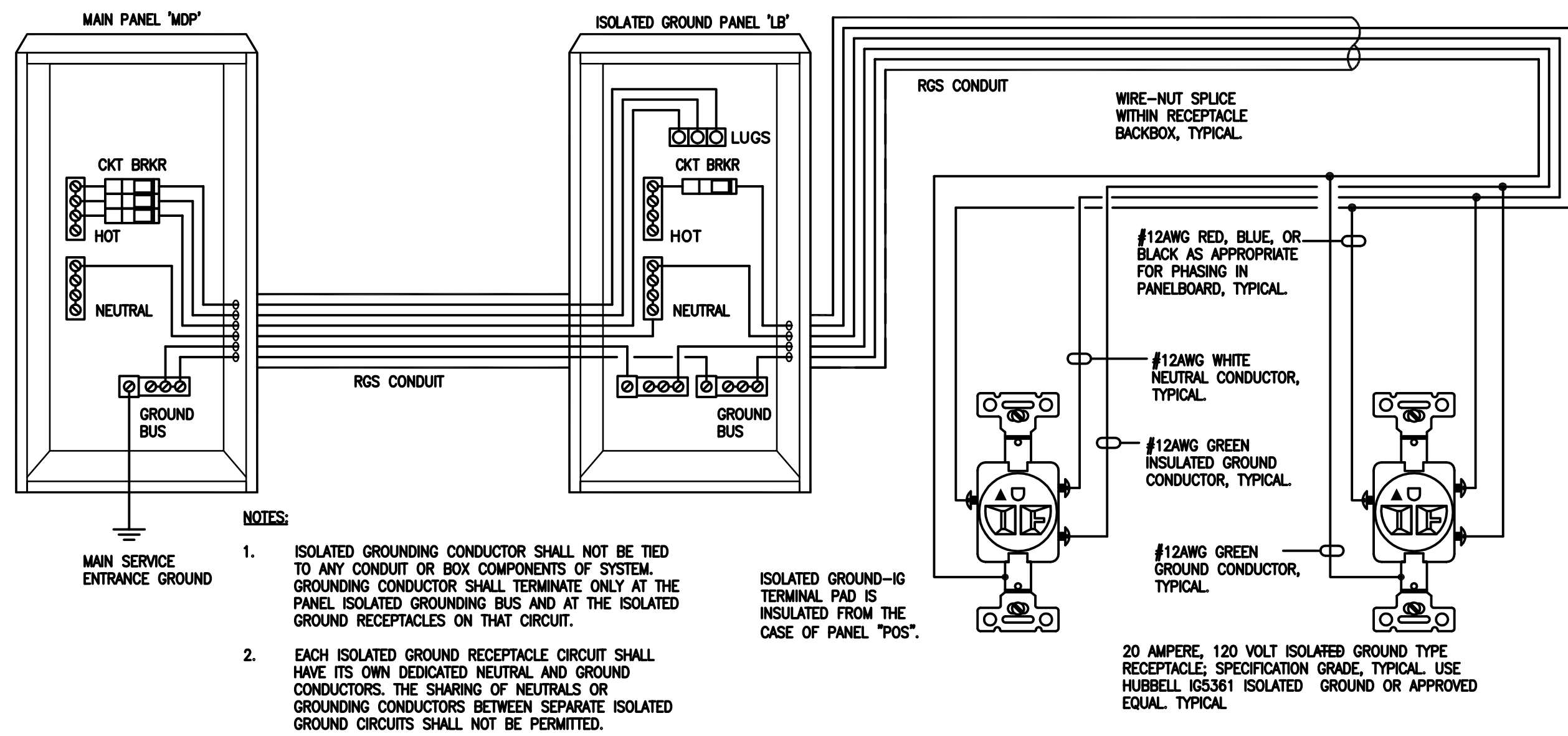
GENERAL NOTES	
A.	ALL EMPTY CONDUIT TO HAVE NYLON PULLSTRINGS INSTALLED.
B.	REFER TO FOOD SERVICE SHEETS FOR ADDITIONAL SOUND AND SECURITY SYSTEM CONDUIT REQUIREMENTS.
C.	ROUTE ALL EXPOSED CONDUIT PARALLEL AND PERPENDICULAR TO TRUSSES BETWEEN BOTTOM OF TOP CHORD AND TOP OF BOTTOM CHORD AS REQUIRED. PAINT AS DIRECTED.
D.	POS SYSTEM AND WIRING BY OWNER.
E.	DUPLEX AND DOUBLE DUPLEX RECEPTACLES FOR P.O.S. SYSTEM (ISOLATED GROUND RECEPTACLES) SHALL NOT SHARE CONDUIT WITH ANY OTHER "NORMAL POWER" DEVICES. ISOLATED GROUND RECEPTACLES SHALL BE "ORANGE" IN COLOR.
F.	ALL P.O.S. CONDUITS FROM POS OUTLETS SHALL RUN UP IN WALLS AND OVERHEAD TO OFFICE, BY ELECTRICAL CONTRACTOR.
G.	ALL LOW VOLTAGE WIRING BY OTHERS SHALL BE PULLED/INSTALLED BY CONTRACTOR.

FIRE ALARM GENERAL NOTE	
1.	AN APPROVED MANUAL FIRE ALARM SYSTEM MONITORED BY A LISTED CENTRAL STATION, REMOTE STATION OR PROPRIETARY STATION SHALL BE PROVIDED, DESIGNED PER NFPA STD. 72 ONLY IF REQUIRED BY LOCAL JURISDICTION. PRIOR TO INSTALLATION A LICENSED CONTRACTOR SHALL SUBMIT TO THE FIRE DEPARTMENT, ONE (1) SET OF MANUFACTURER'S CUT SHEETS AND STATE FIRE MARSHALL LISTING SHEETS FOR EACH DEVICE, THREE (3) SETS OF SHOP DRAWINGS, A COMPLETED PERMIT APPLICATION, AND APPLICABLE FEES FOR REVIEW. ELECTRICAL CONTRACTOR SHALL INSTALL CONDUIT ONLY AND OUTLET BOXES, WIRING AND DEVICES SHALL BE BY OWNERS FIRE ALARM SYSTEM CONTRACTOR. FIRE ALARM SYSTEM CONTRACTOR SHALL SUBMIT FINAL FIRE ALARM SYSTEM SHOP DRAWINGS TO LOCAL FIRE DEPARTMENT PLAN CHECK FOR APPROVAL PRIOR TO INSTALLATION. PROVIDE DOCUMENTATION TO FIRE INSPECTOR VERIFYING SERVICE CONTRACTS OF FIRE ALARM SYSTEM.

#	KEYED NOTES
1	PROVIDE STUB CONDUIT DOWN, ROUTE CONCEALED INSIDE ALUMINUM STOREFRONT SYSTEM TO TOP OF DOOR 8" FROM STRIKE SIDE OF THE DOOR. SECURITY SYSTEM CONTRACTOR IS RESPONSIBLE FOR CONNECTION TO SECURITY SENSOR CONTACTS.
2	PROVIDE 3/4" CONDUIT ONLY FOR SECURITY SYSTEM WIRES. STUB INTO ACCESSIBLE CEILING SPACE FOR ROUTING TO SECURITY PANEL.
3	WEATHERPROOF PUSHBUTTON, MOUNT AT 48" A.F.F. REFER TO DOOR BELL WIRING DIAGRAM, DETAIL 2/E4.0.
4	PROVIDE 3/4" CONDUIT WITH PULLWIRE TO ABOVE CEILING FROM EACH POS AND PRINTER DATA OUTLET LOCATION.
5	PROVIDE 3/4" CONDUIT WITH PULLWIRE TO ABOVE CEILING FROM EACH KDS MONITOR DATA OUTLET LOCATION.
6	PROVIDE CEILING MOUNTED SMOKE DETECTOR. COORDINATE THE FINAL DESIGN INCLUDING LAYOUT AND DEVICE SPECIFICATION WITH THE CERTIFIED FIRE ALARM VENDOR.
7	PROVIDE CEILING MOUNTED HEAT DETECTOR. COORDINATE THE FINAL DESIGN INCLUDING LAYOUT AND DEVICE SPECIFICATION WITH THE CERTIFIED FIRE ALARM VENDOR.
8	PROVIDE CEILING MOUNTED FIRE ALARM STROBE. COORDINATE WITH FIRE ALARM DRAWINGS.
9	LOW VOLTAGE TRANSFORMER. MOUNT AT 96" A.F.F. REFER TO DOOR BELL WIRING DIAGRAM, DETAIL 2/E4.0.
10	WALL MOUNTED BELL. MOUNT AT 96" A.F.F. REFER TO DOOR BELL WIRING DIAGRAM, DETAIL 2/E4.0.
11	PROVIDE 4/S JUNCTION BOX WITH 1/2" RIGID CONDUIT TO ABOVE CEILING SPACE FOR FIRE SUPPRESSION SYSTEM. REFER TO 1/E4.0.
12	SMOKE DETECTORS INDICATED SHALL BE FACTORY MOUNTED WITHIN EACH ROOFTOP UNIT. HVAC CONTRACTOR TO WIRE SHUTDOWN RELAY FROM DETECTOR TO RTU.
13	PROVIDE 4400 SERIES KNOX VAULT. PROVIDE KEYS WITH IDENTIFICATION TAGS FOR THE KNOX VAULT. OBTAIN ORDERING FORMS THRU LOCAL CITY OF SERVICES. VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.
14	WALL MOUNTED TV OUTLET LOCATION. ROUTE 1" CONDUIT WITH PULL STRING TO TELEVISION POINT OF SERVICE. COORDINATE MOUNTING HEIGHT AND REQUIREMENTS WITH OWNER AND TELEVISION INSTALLER AND PROVIDE AS NECESSARY PRIOR TO ROUGH-IN.
15	DATA OUTLET MOUNTED ON BULKHEAD FOR MENU BOARD.
16	REMOTE TEST SWITCH LOCATION FOR DUCT MOUNTED SMOKE DETECTORS. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
17	PROVIDE JUNCTION BOX ABOVE CEILING TIGHT TO STRUCTURE ABOVE FOR WITH A 1" EMPTY CONDUIT WITH PULLWIRE THRU THE EXTERIOR WALL FOR FUTURE WI-FI ACCESS.







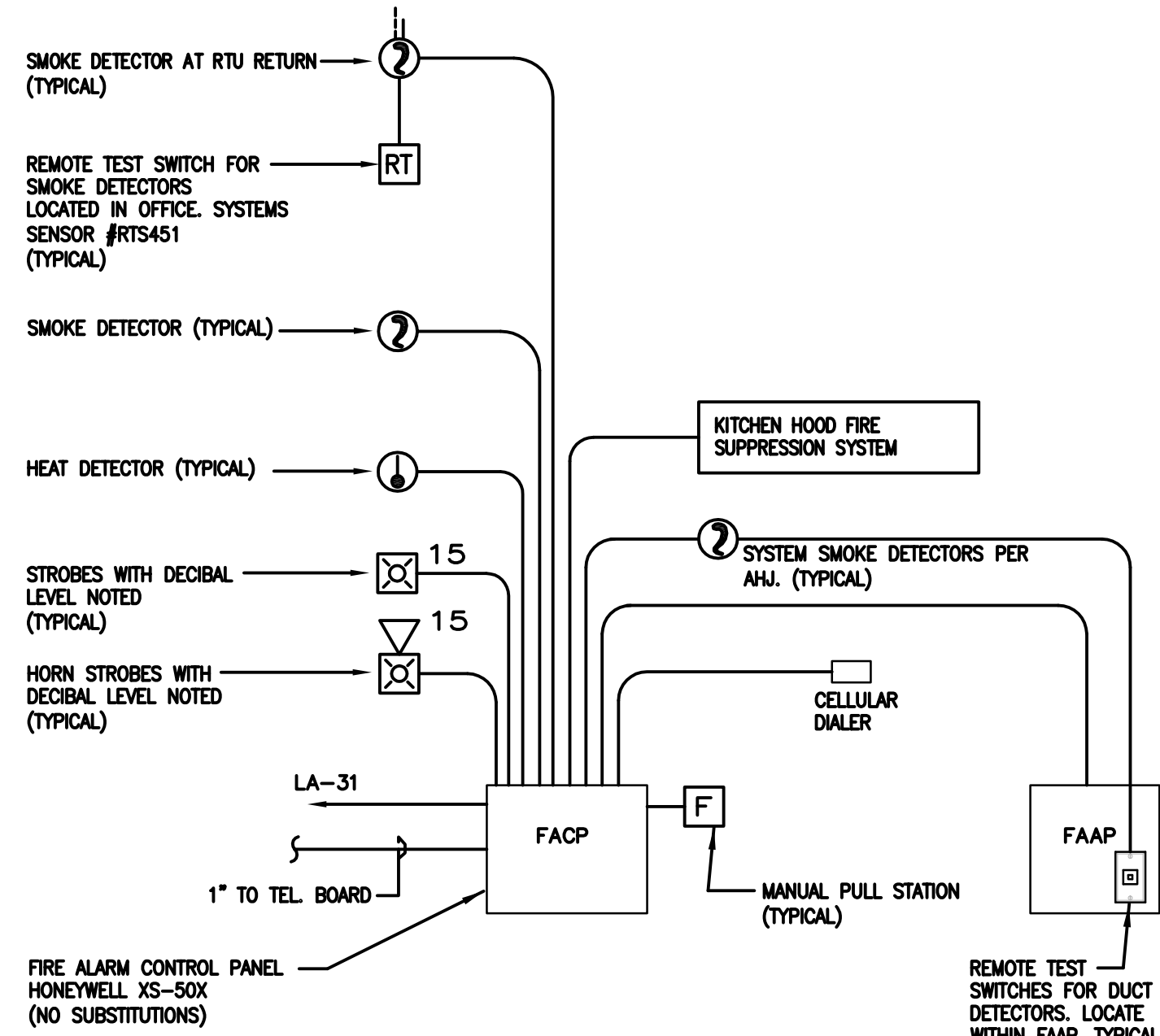
DEDICATED ISOLATED GROUND SCHEMATIC  
SCALE: NONE 1

NOT USED  
SCALE: NONE 2

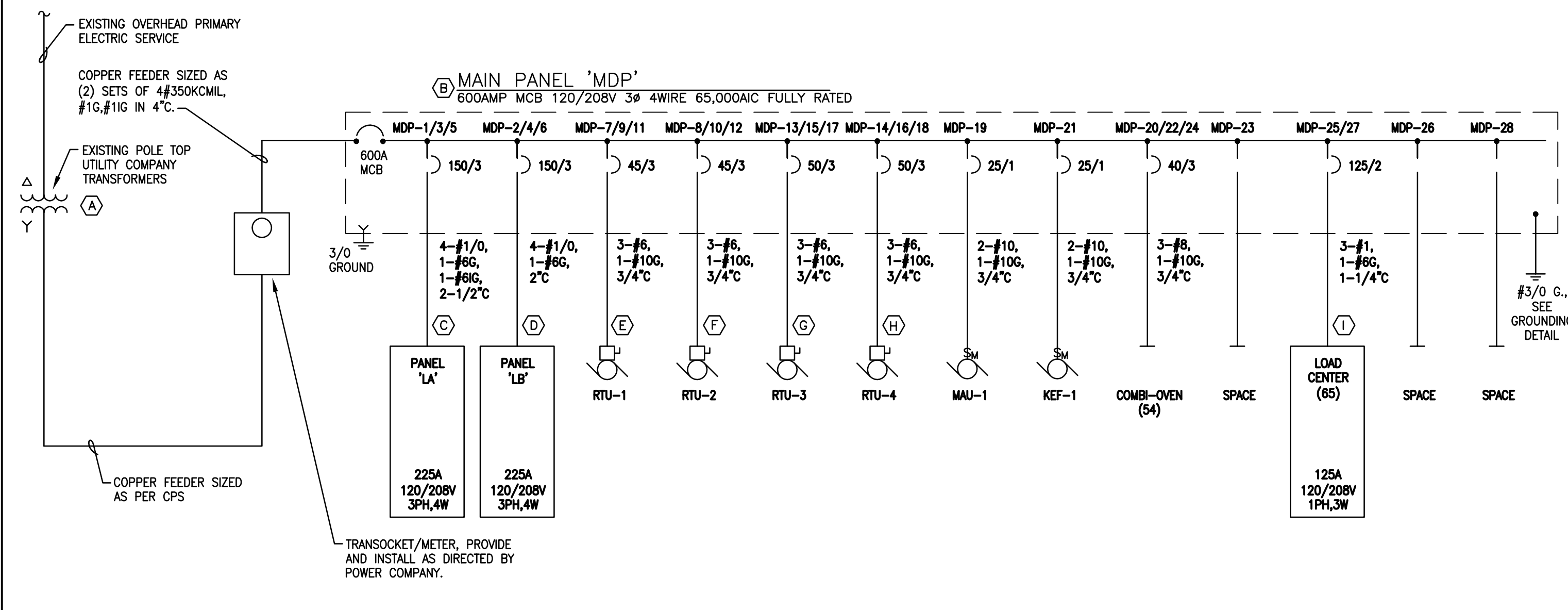
NOTE: AN APPROVED MANUAL FIRE ALARM SYSTEM MONITORED BY A LISTED CENTRAL STATION, REMOTE STATION OR PROPRIETARY STATION SHALL BE PROVIDED, DESIGNED PER NFPA STD. 72 ONLY IF REQUIRED BY LOCAL JURISDICTION.

**FIRE ALARM SCHEMATIC GENERAL NOTES**

- HVAC DUCT MOUNTED SMOKE DETECTORS SHALL BE PROVIDED BY OTHERS.
- FIRE ALARM CONTRACTOR SHALL BE CURRENTLY LICENSED WITH THE STATE AND SUBMIT A COMPLETE FIRE ALARM SUBMITTAL (PLANS, SPECS, CUT SHEETS ETC.) PREPARED BY THE STATE REGISTERED FIRE PROTECTION CONTRACTOR, AND SUBMITTED TO AUTHORITY HAVING JURISDICTION FOR APPROVAL. INFORMATION SHALL NOT BE LIMITED TO THE FOLLOWING:
  - SEQUENCE OF OPERATION
  - CATALOG CUT SHEETS
  - POINT TO POINT DIAGRAM
  - HORN, STROBE LIGHTS
  - MANUAL PULL STATION LAYOUT
  - CANDELA OF STROBES
  - BATTERY CALCULATIONS INCLUDING TOTAL STANDBY
  - ALARM CURRENT
- CONTRACTOR SHALL PROVIDE ADDITIONAL FIRE ALARM DEVICES PER AHJ AND INCLUDE ALL EXPENSES IN BID TO COMPLETE AN OPERABLE FIRE ALARM SYSTEM AS REQUIRED BY AUTHORITY HAVING JURISDICTION. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- PROVIDE THE NUMBER OF ACTIVE AND SPARE ADDRESSES AS REQUIRED TO THE FIRE ALARM PANEL TO ACCOMMODATE ALL DEVICES
- PROVIDE DEDICATED TELEPHONE LINE FOR 24-HOUR MONITORING SYSTEM PER CITY REQUIREMENT.
- CONTRACTOR SHALL FURNISH/INSTALL FIRE ALARM DEVICES, SYSTEM COMPONENTS, WIRING/CONDUITS AND CONTROLS AS REQUIRED AND COMPLETE THE FIRE ALARM SYSTEM PER NFPA 72 AND AUTHORITY HAVING JURISDICTION "AHJ". FIRE ALARM DEVICES SHALL BE MONITORED FROM AN APPROVED CENTRAL STATION PER AHJ.
- PROVIDE ALL APPURTENANCES AS REQUIRED TO INTERFACE WITH KITCHEN SMOKE SUPPRESSION SYSTEM.
- FIRE ALARM SYSTEM (PULL STATION, HORN AND STROBE). ELECTRICAL CONTRACTOR SHALL ROUTE SIGNAL CABLES BACK TO BUILDING FIRE ALARM CONTROL PANEL AND INSTALL AS REQUIRED BY LOCAL CODE. ELECTRICAL CONTRACTOR SHALL VERIFY LOCATION, REQUIREMENTS WITH FIRE MARSHALL AND OWNER PRIOR TO BID AND ROUGH-IN.



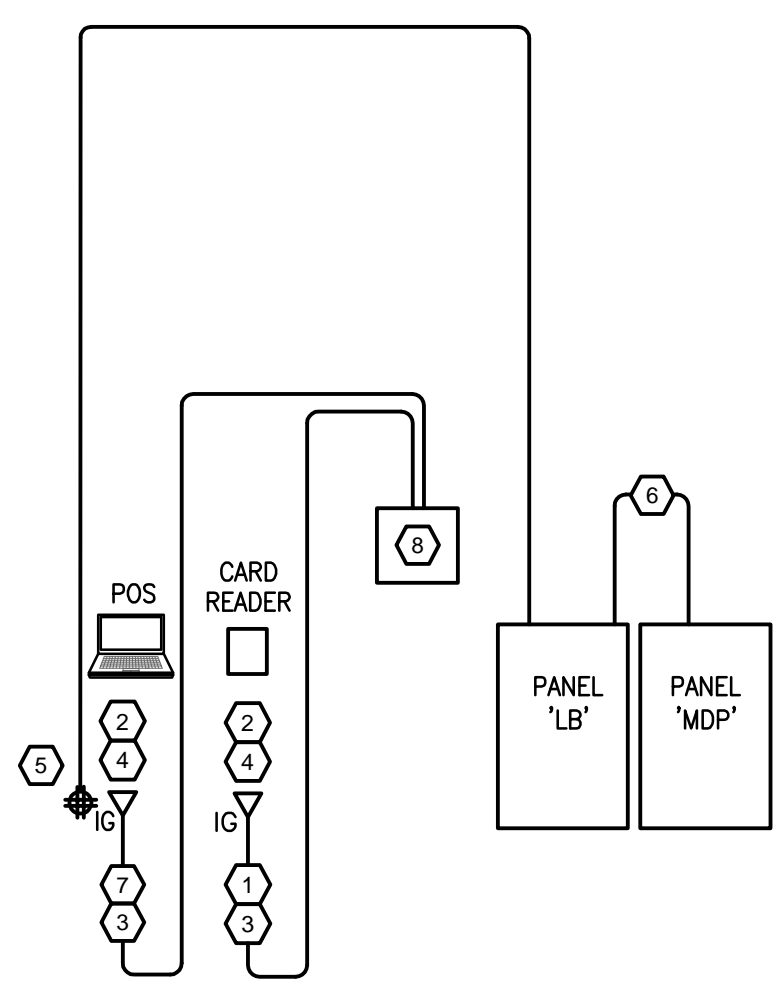
FIRE ALARM RISER DIAGRAM AND ELEVATION  
SCALE: NONE 3



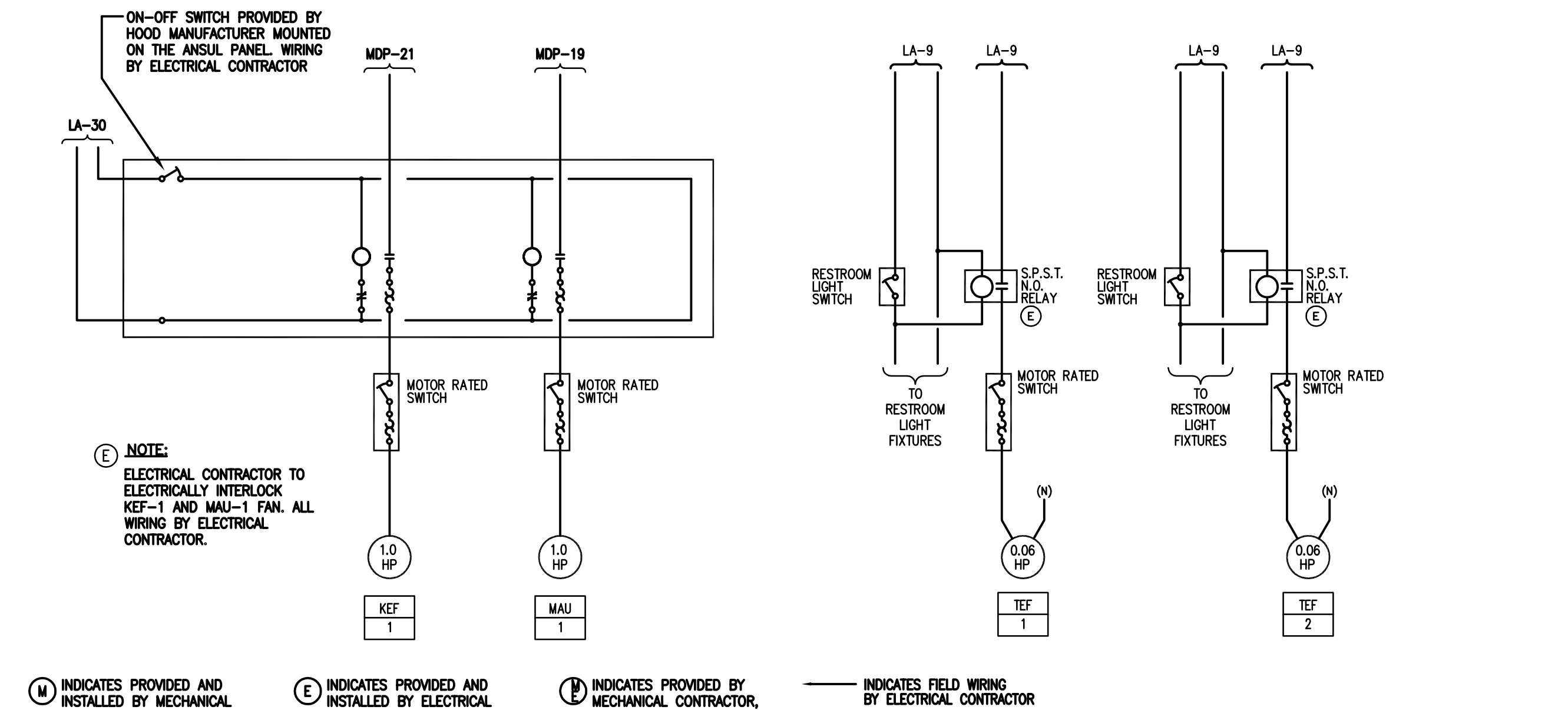
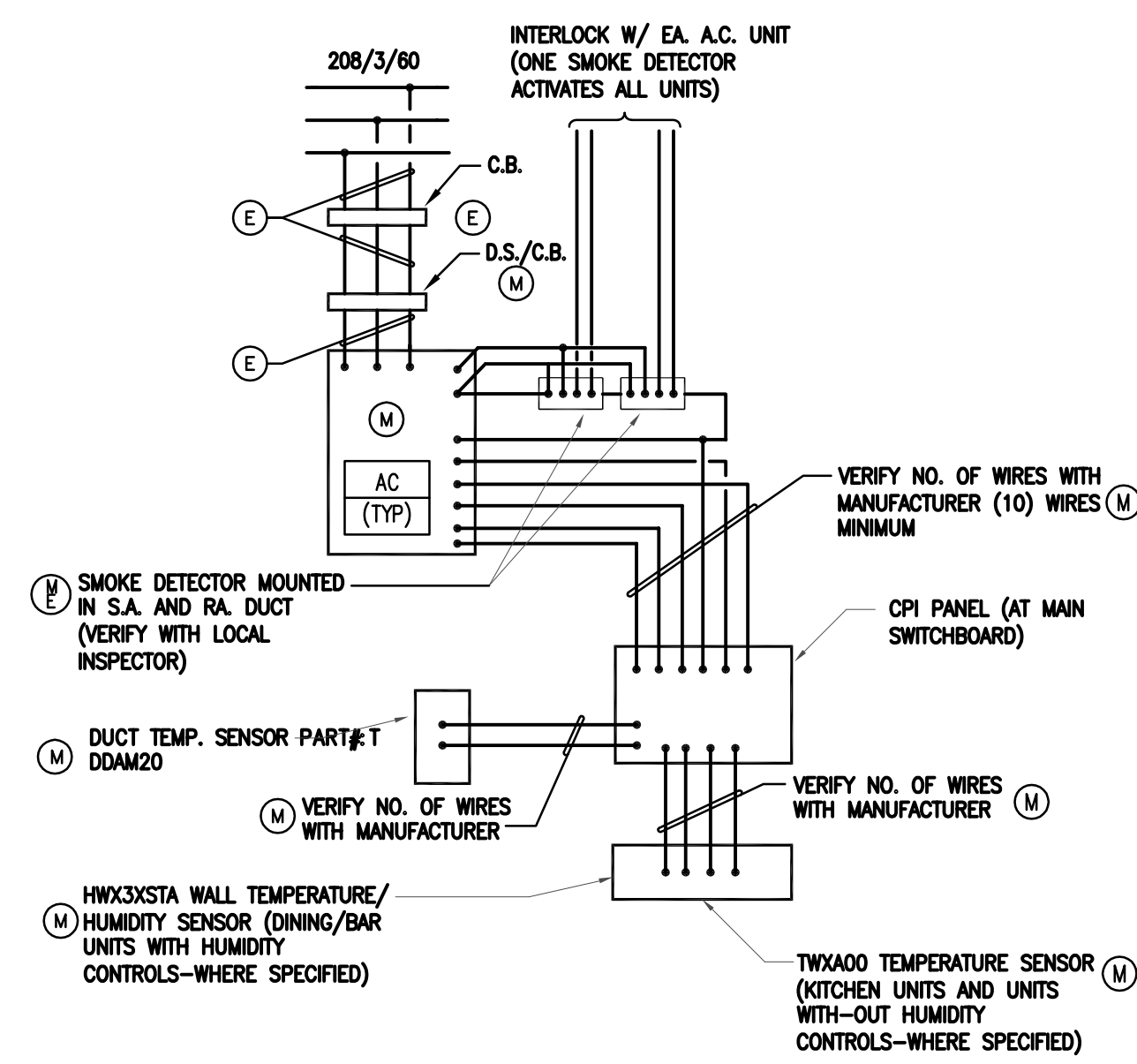
ELECTRICAL ONE-LINE RISER DIAGRAM  
SCALE: NONE 4

**NOTES:**

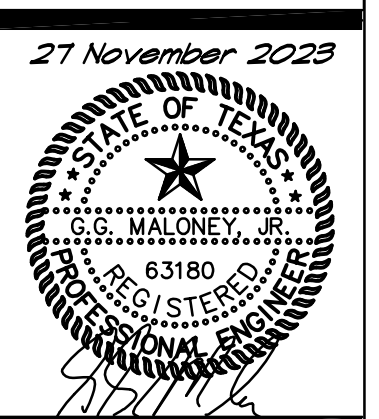
- 1" CONDUIT WITH 4 EACH, 24 GAUGE COPPER, SOLID CONDUCTOR, TWISTED PAIR, CATEGORY 6 CABLE FOR POINT OF SALE COMMUNICATION CABLES, AS REQUIRED. INSTALLED BY CONTRACTOR AND FINAL CONNECTION BY POS COMPANY.
- PROVIDE 2FT. OF EXCESS CABLE AT BOTH ENDS OF RUN.
- ROUTE WIRING/CONDUIT ABOVE CEILING.
- 4/S BOX WITH SINGLE GANG PLATE WITH (2) DATA PORTS.
- DUPLEX ISOLATED GROUND RECEPTACLE, LEVITON #5262-16 (TYPICAL)
- SEPARATE ISOLATED GROUND PER POS SYSTEM EQUIPMENT MANUFACTURER
- 1" CONDUIT WITH 2 EACH, 24 GAUGE COPPER, SOLID CONDUCTOR, TWISTED PAIR, CATEGORY 6 CABLE FOR POINT OF SALE COMMUNICATION CABLES, AS REQUIRED. INSTALLED BY CONTRACTOR AND FINAL CONNECTION BY POS COMPANY.
- TERMINATE IN MANAGER'S OFFICE DATA COMMUNICATION AREA DIRECTLY ONTO 110 TYPE BLOCKS. THESE BLOCKS MUST INCLUDE 48 PORT RJ-45 MODULAR PATCH PANELS.
- 1" CONDUIT WITH 2 EACH, SOLID CONDUCTOR, TWISTED PAIR, CATEGORY 5 CABLE FOR POINT OF SALE COMMUNICATION CABLES, AS REQUIRED. INSTALLED BY CONTRACTOR AND FINAL CONNECTION BY POS COMPANY.



SPECIAL SYSTEMS WIRING DIAGRAM  
NOT TO SCALE 5



EXHAUST & MAKE-UP AIR INTERLOCK WIRING DIAGRAM  
SCALE: NONE 6

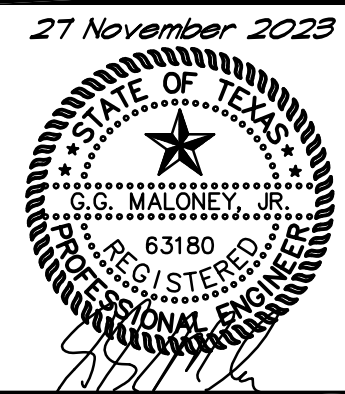


DATE	DESCRIPTION	BY



**DRAWING COORDINATION**  
Architectural, Landscape, Civil, Structural, Mechanical and Electrical drawings are interrelated. General Contractor and all Sub Contractors shall review and coordinate the entire set of drawings and specifications.

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**ELECTRICAL SCHEDULES**  
**Golden Chick Restaurant Remodel**  
**2311 Fredericksburg Rd**  
**San Antonio, Texas**

DATE	DESCRIPTION	BY

SCALE:  
AS NOTED

PROJECT NO.  
05-05-22

SHEET NO.  
**E3.0**

PANEL MDP						WEATHER PROOF ENCLOSURE				
LOAD CONT	LOAD N-CONT	LOCATION	CKT DEVICE	TYPE	CKT # PH CKT #	CKT DEVICE	TYPE	LOCATION	LOAD N-CONT	LOAD CONT
	42,658	PANEL LA /////	3 P 150		1 A 2 3 B 4 5 C 6	3 P 150		PANEL LB /////	32,926	
11,529		RTU- 1 /////	3 P 45 HACR		7 A 8 9 B 10 11 C 12	3 P 45 HACR		RTU- 2 /////		11,529
	15,852	RTU- 3 /////	3 P 60 HACR		13 A 14 15 B 16 17 C 18	3 P 60 HACR		RTU- 4 /////		15,852
1,587		MAU- 1 /////	1 P 25		19 A 20	3 P 40 GFI		COMBI OVEN /////	10,830	
1,587		KEF- 1 SPACE PREP ISLAND /////	1 P 25 2 P 125 ST		21 B 22 23 C 24 25 A 26 27 B 28					
	20,800	SHUNT TRIP CKT 2 SPACE SPACE SPACE SPACE SPACE SPACE	1 P 1 P 1 P 1 P 1 P 1 P 1 P		29 C 30 31 A 32 33 B 34 35 C 36 37 A 38 39 B 40 41 C 42					
439 PANEL AMPERES 600 PANEL MINIMUM BUS SIZE			PANEL VOLTAGE			120/208, 3PH, 4W 42,000 AIC			600A MCB	
58 PANEL CONTINUOUS KVA 107 PANEL NON-CONTINUOUS KVA									PROVIDE BOLT ON BREAKERS	

PANEL LA						RECESSED				
LOAD CONT	LOAD N-CONT	LOCATION	CKT DEVICE	TYPE	CKT # PH CKT #	CKT DEVICE	TYPE	LOCATION	LOAD N-CONT	LOAD CONT
600		FRONT LIGHTING	1 P 20		1 A 2	1 P 20		POS 31	800	
600		BACK LIGHTING	1 P 20		3 B 4	1 P 20		POS 31	200	
320		EXTERIOR BLDG LTS	1 P 20		5 C 6	1 P 20		POS 31	400	
	600	CEILING FANS	1 P 20		7 A 8	1 P 20		POS 31		
200		TOILET LTS FANS	1 P 20		9 B 10	1 P 20 GFI		HEATED CABINET 56	1,200	
200		TRACK LIGHTS	1 P 20		11 C 12	1 P 20 GFI		HEATED CABINET 56	1,200	
50		PENDANT LIGHTS	1 P 20		13 A 14	1 P 20 GFI		SODA DISP 80	600	
800		EXTERIOR LED STRIP	1 P 20		15 B 16	2 P 20 GFI		ICE MACHINE 84	2,500	
800		EXTERIOR LED STRIP	1 P 20		17 C 18					
	720	OFFICE RECPTLS	1 P 20		19 A 20	1 P 20 GFI		SODA DISP 96	108	
200		ETHERNETBOARD	1 P 20		21 B 22	1 P 20		RECEPTACLES	200	
720		OFFICE RECPTLS	1 P 20		23 C 24	1 P 20		RECEPTACLES	200	
		OFFICE RECPTLS	1 P 20		25 A 26	1 P 20		DINING USB OUTLETS	360	
200		DRIVE THRU TIMER	1 P 20		27 B 28	1 P 20		D/T KDS MONITOR	200	
500		CPU	1 P 20		29 C 30	1 P 20		HOOD CONTROL	200	
500		FA CP	1 P 20		31 A 32	1 P 20		EXTERIOR SIGNS		1,000
4,000		RECEPTACLES	1 P 35		33 B 34	1 P 20		EXTERIOR SIGNS	1,000	
360		EXTR RECPTLS	1 P 20		35 C 36	2 P 20		EXTERIOR SIGNS	1,000	
4,000		OFFICE RECPTLS	1 P 35		37 A 38	2 P 20		POLE LIGHTS	1,320	
4,000		OFFICE RECPTLS	1 P 35		39 B 40					
1,080		RECEPTACLES	1 P 20		41 C 42	1 P 20		CANTINA LIGHTS	800	
500		TELEVISIONS	1 P 20		43 A 44	1 P 20		CANTINA LIGHTS	200	
500		MENU BOARD	1 P 20		45 B 46	1 P 20		PYLON SIGN	100	
500		MENU BOARD	1 P 20		47 C 48	1 P 20		INTERIOR GC SIGN	200	
	500	IT RACK	1 P 20		49 A 50	1 P 20		LIGHTING CONTROL	200	
	500	IT RACK	1 P 20		51 B 52	1 P 20		FLAG LIGHTS	1,200	
		SPARE	1 P 20		53 C 54	1 P 20		INTERIOR SIGN	200	
1,000		DIGITAL SIGN	1 P 20		55 A 56	1 P 20		DIGITAL SIGN	1,000	
	800	POS 31B	1 P 20	GFI	57 B 58	1 P 20	GFI			
	800	POS 31B	1 P 20		59 C 60	1 P 20				
92 PANEL AMPERES 225 PANEL MINIMUM BUS SIZE			PANEL VOLTAGE			120/208, 3PH, 4W 22,000 AIC			225A MLO	
9 PANEL CONTINUOUS KVA 26 PANEL NON-CONTINUOUS KVA									PROVIDE BOLT ON BREAKERS	

PANEL LB						RECESSED				
LOAD CONT	LOAD N-CONT	LOCATION	CKT DEVICE	TYPE	CKT # PH CKT #	CKT DEVICE	TYPE	LOCATION	LOAD N-CONT	LOAD CONT
	144	FRYER 62A	1 P 20 ST		1 A 2	1 P 20		COOLER DR HTR 20.1	1,200	
		SHUNT TRIP FRYER	1 P		3 B 4	1 P 20		FREEZER DR HTR 20.1	600	
		SPARE	1 P		5 C 6	1 P 20		COOLER EVAP 20.2	600	
200		16 CHANNEL TIMER 63A	1 P 20 GFI		7 A 8	2 P 20		FREEZER EVAP 20.3	2,100	
200		16 CHANNEL TIMER 63A	1 P 20 GFI		9 B 10					
200		8 CHANNEL TIMER 63B	1 P 20 GFI		11 C 12	2 P 20		COOLER COND 20.4	2,370	
400		FRYER HOOD CONT	1 P 20		13 A 14					
144		FRYER 63B	1 P 20		15 B 16	1 P 20		FREEZER COND 20.5	2,370	
		SHUNT TRIP FRYER	1 P		17 C 18	1 P 20				
360		LEMONADE (100)	1 P 20 GFI		19 A 20	2 P 20 GFI		HOT WATER DISP 45	4,050	
360		LEMONADE (100)	1 P 20 GFI		21 B 22					
144		FRYER 63B	1 P 20 ST		23 C 24	2 P 20 GFI		HOT WATER DISP 45	4,050	
		SHUNT TRIP FRYER	1 P		25 A 26					
		SPARE	1 P		27 B 28	2 P 30 GFI		RETHMALIZER 52	6,200	
600		FLY FAN 1	1 P 20		29 C 30					
1,800		BAG-IN-BOX 12	1 P 20 GFI		31 A 32	3 P 20 GFI		CONVECTION OVEN	5,500	
1,800		GREASE HOLDING 15	1 P 20 GFI		33 B 34					
828		REFRIGERATOR 40	1 P 20 GFI		35 C 36					
1,700		TEA BREWER 49	1 P 20 GFI		37 A 38	1 P 20		ROOF RECEPTACLES	900	
912		FREEZER 50	1 P 20		39 B 40	1 P 20 GFI		WH-1 / RCP-1	300	
600		DISPLAY CASE 92	1 P 20 GFI		41 C 42	1 P 20		SOFT SERVE 93	1,520	
200		RECEPTACLE (CO1)	1 P 20 GFI		43 A 44	1 P 20 GFI		RECEPTACLE (CO2)	200	
200		RECEPTACLE (CO1)	1 P 20 GFI		45 B 46	1 P 20 GFI		RECEPTACLE (CO2)	200	
200		RECEPTACLE (CO1)	1 P 20 GFI		47 C 48	1 P 20 GFI		RECEPTACLE (CO2)	200	
200		RECEPTACLE (CO1)	1 P 20 GFI		49 A 50	1 P 20 GFI		RECEPTACLE (CO2)	200	
200		RECEPTACLE (CO1)	1 P 20 GFI		51 B 52	1 P 20 GFI		RECEPTACLE (CO2)	200	
200		RECEPTACLE (CO1)	1 P 20 GFI		53 C 54	2 P 20 GFI		ICE MACHINE 101	2620.8	
200		RECEPTACLE (CO1)	1 P 20 GFI		55 A 56					
200		RECEPTACLE (CO1)	1 P 20 GFI		57 B 58	2 P 40 GFI		RETHMALIZER 52	6200	
200		RECEPTACLE (CO1)	1 P 20 GFI		59 C 60					
91 PANEL AMPERES 225 PANEL MINIMUM BUS SIZE			PANEL VOLTAGE			120/208, 3PH, 4W 22,000 AIC			225A MLO	
PANEL CONTINUOUS KVA 43 PANEL NON-CONTINUOUS KVA									PROVIDE BOLT ON BREAKERS	



ELECTRICAL SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	2 X 4 LED FIXTURE
	2 X 4 LED FIXTURE WITH BATTERY BACKUP
	1 X 4 LED FIXTURE
	1 X 4 LED FIXTURE WITH BATTERY BACKUP
	4' LED STRIP FIXTURE
	4' LED STRIP FIXTURE WITH BATTERY BACKUP
	SURFACE MOUNTED TRACK AND TRACK HEAD
	PENDANT MOUNTED LIGHT FIXTURE
	RECESSED DOWNLIGHT FIXTURE
	RECESSED WALLWASH LIGHT FIXTURE
	WALL MOUNTED LIGHT FIXTURE
	HOOD LIGHT
	CEILING MOUNTED EXIT SIGN, SHADE INDICATES FACE
	WALL/CEILING MOUNTED EMERGENCY BUGEYE FIXTURE
	COMBINATION EXIT SIGN/EMERGENCY BUGEYE
	EMERGENCY REMOTE HEAD LIGHT FIXTURE
	JUNCTION BOX
	WALL MOUNTED DUPLEX RECEPTACLE
	FLOOR MOUNTED DUPLEX RECEPTACLE
	WALL MOUNTED SINGLE RECEPTACLE
	FLOOR MOUNTED SINGLE RECEPTACLE
	SPECIAL RECEPTACLE
	WALL MOUNTED QUADRUPLEX RECEPTACLE
	SINGLE POLE SWITCH
	THREE POLE SWITCH
	PILOT LIGHT SWITCH
	SINGLE THROW THERMAL SWITCH
	MOTOR RATED SWITCH
	MOTION SENSOR
	BUZZER
	BELL
	PUSHBUTTON (MOMENTARY)
	MOTOR
	TELEPHONE BACKBOARD
	TELEPHONE OUTLET
	FLOOR MOUNTED TELEPHONE OUTLET
	POS CONNECTION
	FLOOR MOUNTED POS CONNECTION
	COMBINATION DATA AND PHONE JACK
	FLOOR MOUNTED COMBINATION DATA AND PHONE JACK
	DISCONNECT SWITCH
	PAGER OUTLET
	SECURITY JUNCTION BOX
	TELEVISION JACK (PROVIDE 3/4" CONDUIT WITH PULL WIRE)
	KEYED SWITCH
	PANELBOARD
	TRANSFORMER
	LOW VOLTAGE DOORBELL TRANSFORMER
	SWITCHED CIRCUITRY BURIED OR IN SLAB
	CIRCUITRY IN WALL OR CEILING
	HOMERUN BACK TO PANEL
	POINT OF CONNECTION
	ISOLATED GROUND
	WEATHERPROOF
	GROUND FAULT CIRCUIT INTERRUPTER
	MOTOR CONTROL TERMINAL
	PRIOR TO ROUGH-IN
	INTEGRATED FACILITY STRUCTURE (SWITCHGEAR)
	INTEGRATED POWER CENTER (SWITCHGEAR)
	FIRE ALARM CONTROL PANEL
	FIRE ALARM ANNUNCIATOR PANEL
	FIRE ALARM PULL STATION
	FIRE ALARM HORN/STROBE DEVICE
	FIRE ALARM STROBE DEVICE
	FIRE ALARM SMOKE DETECTOR
	FIRE ALARM HEAT DETECTOR
	FIRE ALARM DUCT SMOKE DETECTOR
	REMOTE TEST SWITCH
	TAMPER SWITCH
	FLOW SWITCH
	CEILING MOUNTED SPEAKER

NOTE: NOT ALL SYMBOLS MAY APPEAR ON DRAWINGS.

LIGHTING FIXTURE SCHEDULE				
TYPE	SYMBOL	DESCRIPTION	LAMPS	REMARKS
A		LED 2X4 FLAT PANEL LITHONIA CPX 2X4 4000LMHE 80CRI 40K ZT A12 MVOLT	(1) 34.8W LED LAMP 0-10V DIMMING, 4000K COLOR TEMPERATURE	120V, 4910 LUMENS, WHITE
AE		LED 2X4 FLAT PANEL LITHONIA CPX 2X4 4000LMHE 80CRI 40K ZT A12 MVOLT E7W	(1) 40W LED LAMP 0-10V DIMMING, 4000K COLOR TEMPERATURE	120V, 4910 LUMENS, WHITE WITH BATTERY BACKUP
B		RECESSED DOWNLIGHT JUNO TC22LED-G4-14LM-40K MVOLT EZ10 27-CWD TR6 BL HB-26	(1) 15.6W LED LAMP 0-10V DIMMING, 4000K COLOR TEMPERATURE	120V, 1400 LUMENS, BLACK TRIM
D		LED RECESSED DOWNLIGHT PROVIDED WITH CANOPY	(1) 11.3W LED LAMP	120V, LIGHTS CONNECTED TO JUNCTION BOX MOUNTED AT EACH CANOPY LOCATION
E		EXTERIOR LED WALL SCONCE QSSI #WP34Q-F-2X16-U-4K-C-Z	(2) 16W LED LAMP 2700K COLOR TEMPERATURE	120V, COORDINATE MOUNTING HEIGHT WITH ARCH. ELEVATIONS. EACH LAMP IS 1693 LUMENS, TOTAL 3387 LUMENS.
F		COOLER FREEZER LIGHT HUBBELL #VBGL-1	(1) 11W LED LAMP	120V, 750 LUMENS, WHITE, SURFACE MOUNT
G1		SINGLE HEAD LED AREA LUMINAIRE, TYPE 3 DISTRIBUTION ILP # (1) SAS 15L U 50 T3 UMB BRZ, DARK BRONZE POLE #SS 4 20 11 1 BRZ	(1) 110W LED LAMP, 5000K COLOR TEMPERATURE	208V, 15000 LUMENS, 20FT STRAIGHT SQUARE STEEL POLE
GE2		DOUBLE HEAD LED AREA LUMINAIRE, TYPE 3 DISTRIBUTION ILP # (2) SAS 15L U 50 T3 UMB BRZ, DARK BRONZE POLE #SS 4 20 11 1 BRZ	(2) 110W LED LAMP, 5000K COLOR TEMPERATURE	REMOVE EXISTING LUMINAIRES ON POLE AND REPLACE WITH NEW LUMINAIRE. PROVIDE ADAPTOR AS REQUIRED.
GE		SINGLE HEAD LED AREA LUMINAIRE, TYPE 3 DISTRIBUTION ILP # (1) SAS 15L U 50 T3 UMB BRZ, DARK BRONZE POLE #SS 4 20 11 1 BRZ	(1) 110W LED LAMP, 5000K COLOR TEMPERATURE	REMOVE EXISTING LUMINAIRE ON POLE AND REPLACE WITH NEW LUMINAIRE. PROVIDE ADAPTOR AS REQUIRED.
H		DECORATIVE LED WALL SCONCE COPPERSTONE TX STAR WALL SCONCE	(1) 20W LED LAMP	120V, UL WET LOCATION LISTED.
J		56" ALTURA OIL RUBBED BRONZE CEILING FAN HUNTER #26655/ALTURA 56	---	120V, NO LIGHT KIT
K		LED STRING LIGHTS 220FT AMERICAN LIGHTING #LS-MS-24-48-BK	(24) 1.4W LED LAMPS MLV DIMMING, 3000K COLOR TEMPERATURE	120V, 300' LENGTH, BLACK
L		TRACK LIGHTS FIXTURE: JUNO #R605L-30K-PDM-FL-BL TRACK: JUNO #T-2FT-B-T38-BL	(1) 10W LED LAMP 3000K COLOR TEMPERATURE	120V, PROVIDE 2; TRACK SECTION, TWO TRACK HEADS PER SECTION
R		SURFACE MOUNT 4" LED HUBBELL #LAW-4-35-MW-U	(1) 11W LED LAMP	120V, 750 LUMENS, WHITE, SURFACE MOUNT
X		COMBINATION EMERGENCY EXIT SIGN WITH EMERGENCY LIGHTS, UNIVERSAL MOUNT 90 MIN. BATTERY PACK. COMPASS LIGHTING #CCR	PROVIDED WITH FIXTURE	120V, RED LETTERS, BLACK COLOR
X1		EMERGENCY EXIT SIGN WITH EMERGENCY LIGHTS. WALL MOUNT, SINGLE FACE, 90 MIN. BATTERY PACK. COMPASS LIGHTING #CE	PROVIDED WITH FIXTURE	120V, RED LETTERS, WHITE COLOR
X2		EMERGENCY EXIT SIGN WITH EMERGENCY LIGHTS. CEILING MOUNT, SINGLE FACE, 90 MIN. BATTERY PACK. COMPASS LIGHTING #CE	PROVIDED WITH FIXTURE	120V, RED LETTERS, WHITE COLOR
Y		EMERGENCY WALL MOUNTED BUG-EYE WITH 90 MIN. BATTERY PACK. COMPASS LIGHTING #CU2	PROVIDED WITH FIXTURE	120V, WHITE COLOR
Z		EXTERIOR WALL MOUNTED EMERGENCY LIGHT WITH 90 MIN. BATTERY PACK. DUAL-LITE #PGZ-HTR	PROVIDED WITH FIXTURE	120V, BLACK COLOR, UL WET LOCATION LISTED, BATTERY RATED FOR -22degF TO 122degF

LIGHTING VENDOR:  
RYAN DENNEY  
CED NATIONAL ACCOUNTS  
3209 ALTA MERE DR.  
FT. WORTH, TX, 76116  
TEL: 817.923.1983  
ryan.denney@ced.com

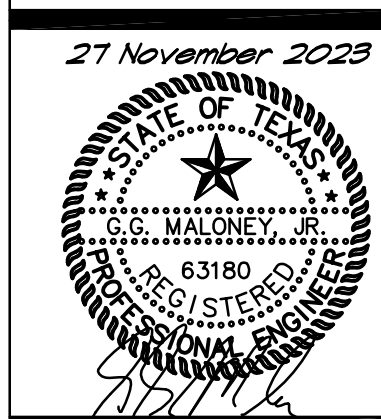
NOTES:  
1. ALL LIGHT FIXTURES ARE TO BE PROVIDED BY CONTRACTOR.  
2. PROVIDE UNIT-PRICING ALONG WITH MANUFACTURER AND MODEL NUMBER FOR ALL LIGHT FIXTURES. NO PACKAGING OR LUMP SUM PRICING OF LIGHT FIXTURES SHALL BE ALLOWED. AT CONTRACTORS OPTION, ALTERNATE LIGHT FIXTURES MAY BE SUBMITTED. HOWEVER, ALTERNATED FIXTURES MUST BE SUBMITTED FOR REVIEW AT BID OPENING. MUST INCLUDE UNIT-PRICING AND INCLUDE ALL APPLICABLE INFORMATION NECESSARY FOR REVIEW AND EVALUATION. REFER TO SPECIFICATION 16510 AND 16520.  
3. VERIFY CEILING CONDITIONS AND COORDINATE LIGHT FIXTURE MOUNTING HARDWARE NEEDED TO SUIT CEILING CONDITIONS PRIOR TO ORDERING.  
4. VERIFY MODEL NUMBERS AND DESCRIPTIONS WITH MANUFACTURER PRIOR TO PLACING ORDER.  
5. VERIFY FINISH AND COLOR WITH ARCHITECT PRIOR TO PLACING ORDER.  
6. REFER TO ARCHITECTURAL DRAWINGS AND DETAILS FOR EXACT LOCATIONS, MOUNTING HEIGHTS AND ADDITIONAL MOUNTING INFORMATION.  
7. CATALOG NUMBER REPRESENTS MANUFACTURER LISTED FIRST. OTHER MANUFACTURERS LISTED ARE CONSIDERED EQUIVALENT FOR SUBSTITUTION.  
8. PROVIDE MAXIMUM WATTAGE LABEL ON INCANDESCENT AND HALOGEN LIGHTS FIXTURES THAT CORRESPOND TO THE MAXIMUM WATTAGE INDICATED IN THIS LIGHT FIXTURE SCHEDULE.  
9. CONTRACTOR SHALL SUPPLY A COMPLETE AND OPERATIONAL SYSTEM TO COMPLY WITH DESIGN INTENT.  
10. DUE TO AESTHETIC OR PERFORMANCE CRITERIA, SPECIFIED MANUFACTURER SHALL BE THE ONLY MANUFACTURE ALLOWED TO BID UNLESS OTHERWISE APPROVED BY ARCHITECT.  
11. COORDINATE WEIGHTS AND APPROPRIATE BLOCKING/SUPPORT FOR THE ANY CUSTOM LIGHTS.

ALLOWED CONDUIT LOCATIONS	
CONDUIT INSTALLATION LOCATION	ALLOWABLE CONDUIT TYPE
BELOW GRADE OUTSIDE OF SLAB PERIMETER	RIGID STEEL CONDUIT OR NONMETALLIC CONDUIT (SCHEDULE 40 OR SCHEDULE 80 PVC)
BELOW GRADE GOING THRU GRADE BEAM	RIGID STEEL CONDUIT OR NONMETALLIC CONDUIT (SCHEDULE 40 OR SCHEDULE 80 PVC) WITH SLEEVE
IN OR UNDER SLAB ON GRADE	RIGID STEEL CONDUIT OR NONMETALLIC CONDUIT (SCHEDULE 40 OR SCHEDULE 80 PVC)
OUTDOOR LOCATIONS, ABOVE GRADE	RIGID STEEL CONDUIT
IN SLAB ABOVE GRADE	RIGID STEEL CONDUIT OR NONMETALLIC CONDUIT (SCHEDULE 40 OR SCHEDULE 80 PVC)
WET AND DAMP LOCATIONS	RIGID STEEL CONDUIT OR NONMETALLIC CONDUIT (SCHEDULE 40 OR SCHEDULE 80 PVC)
DRY LOCATIONS	RIGID STEEL CONDUIT AND ELECTRICAL METALLIC TUBING
ABOVE CEILING BETWEEN LIGHT FIXTURES	FLEXIBLE METAL CONDUIT (8"-0" LENGTHS MAXIMUM)

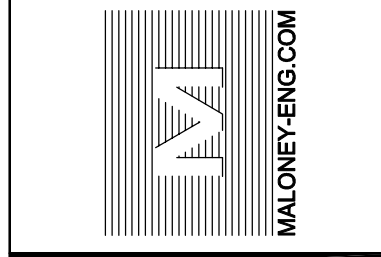
**MLA**  
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**DRAWING COORDINATION**  
Architectural, Landscape, Civil, Structural, Mechanical and Electrical drawings are interrelated. General Contractor and all Sub Contractors shall review and coordinate the entire set of drawings and specifications.

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HURST, TEXAS 76053  
(817) 286-0363



**ELECTRICAL SCHEDULES**  
**Golden Chick Restaurant Remodel**  
**2311 Fredericksburg Rd**  
**San Antonio, Texas**

DATE	DESCRIPTION	BY

SCALE:  
AS NOTED

PROJECT NO.  
05-05-22

SHEET NO.  
**E3.1**

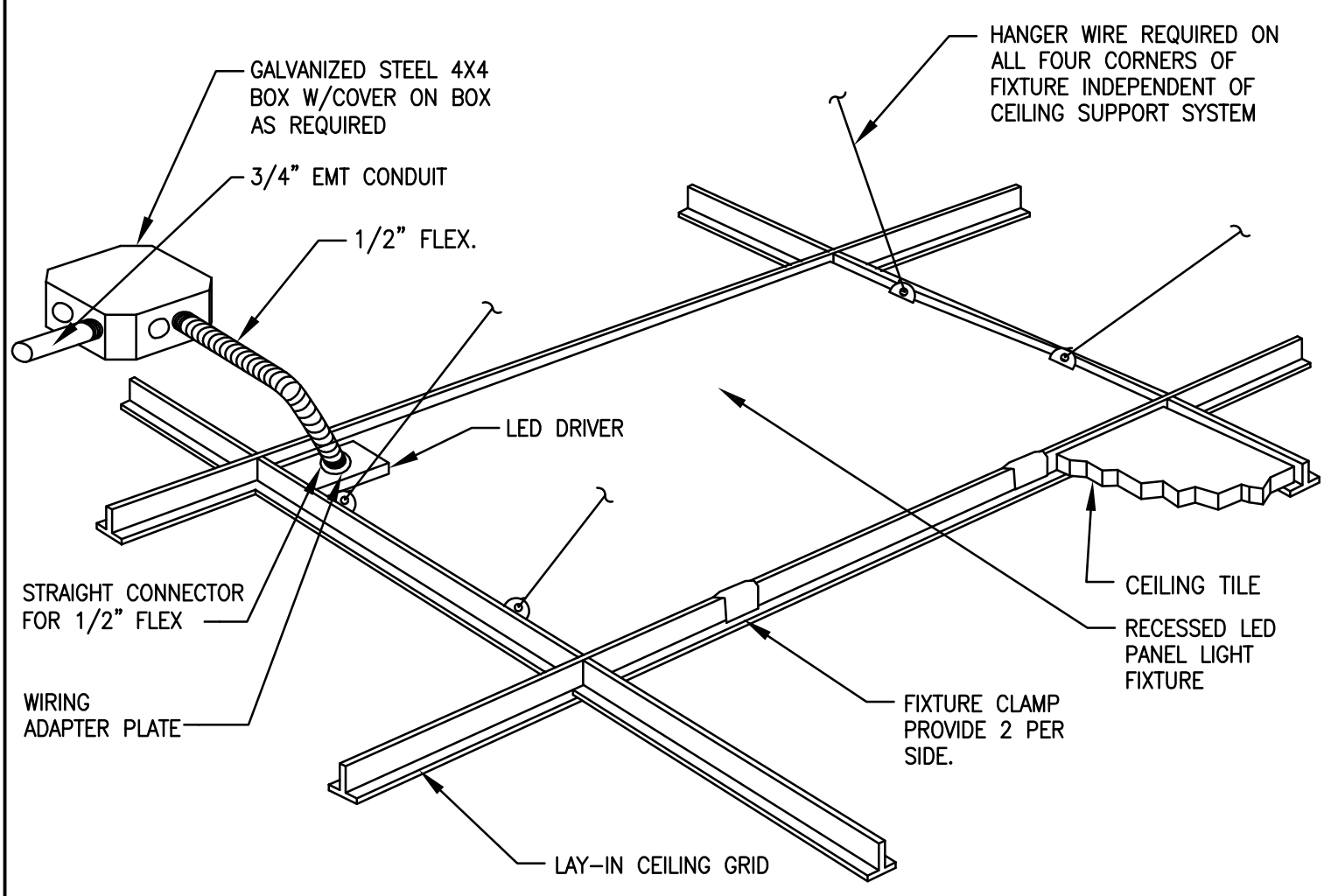


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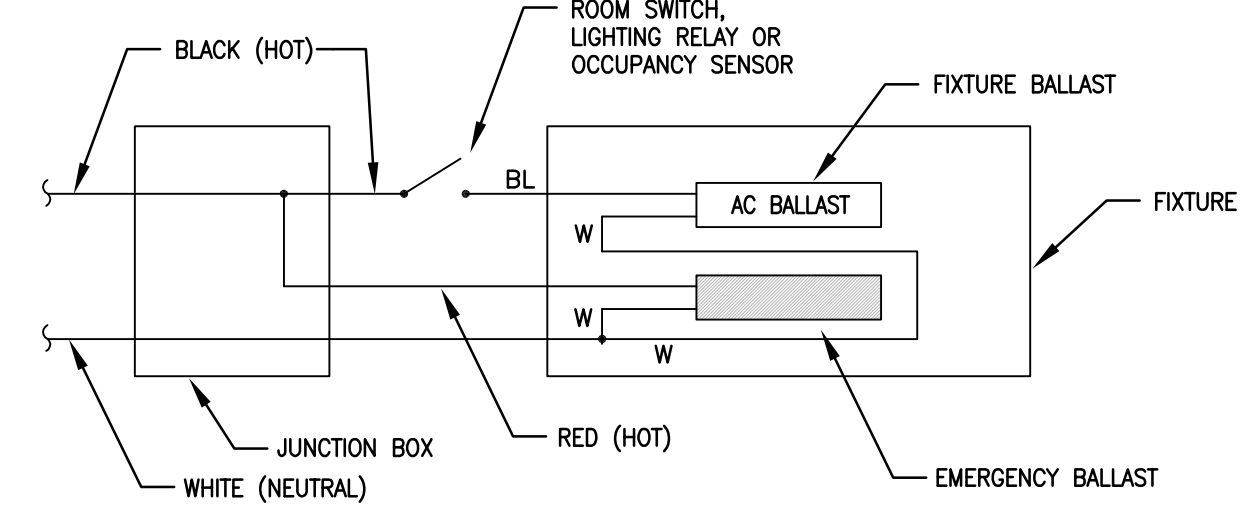
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AS NOTED

PROJECT NO.  
05-05-22

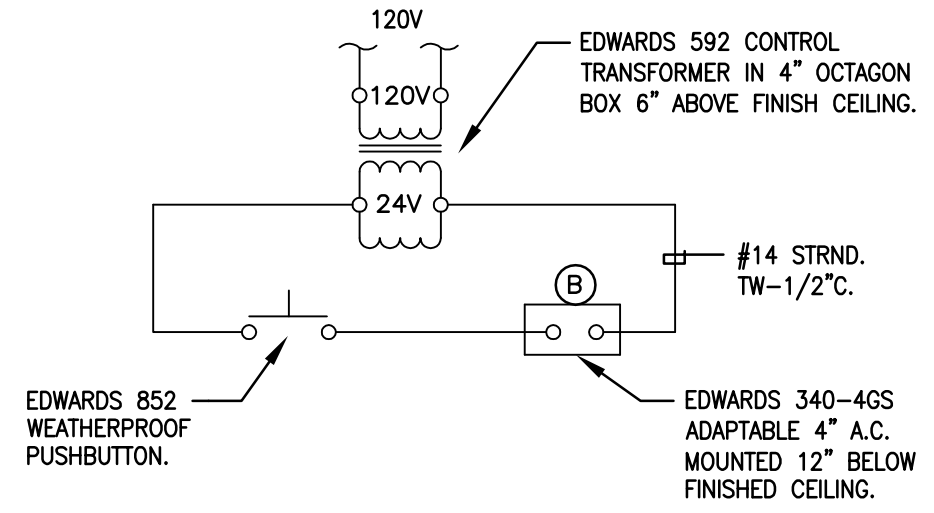
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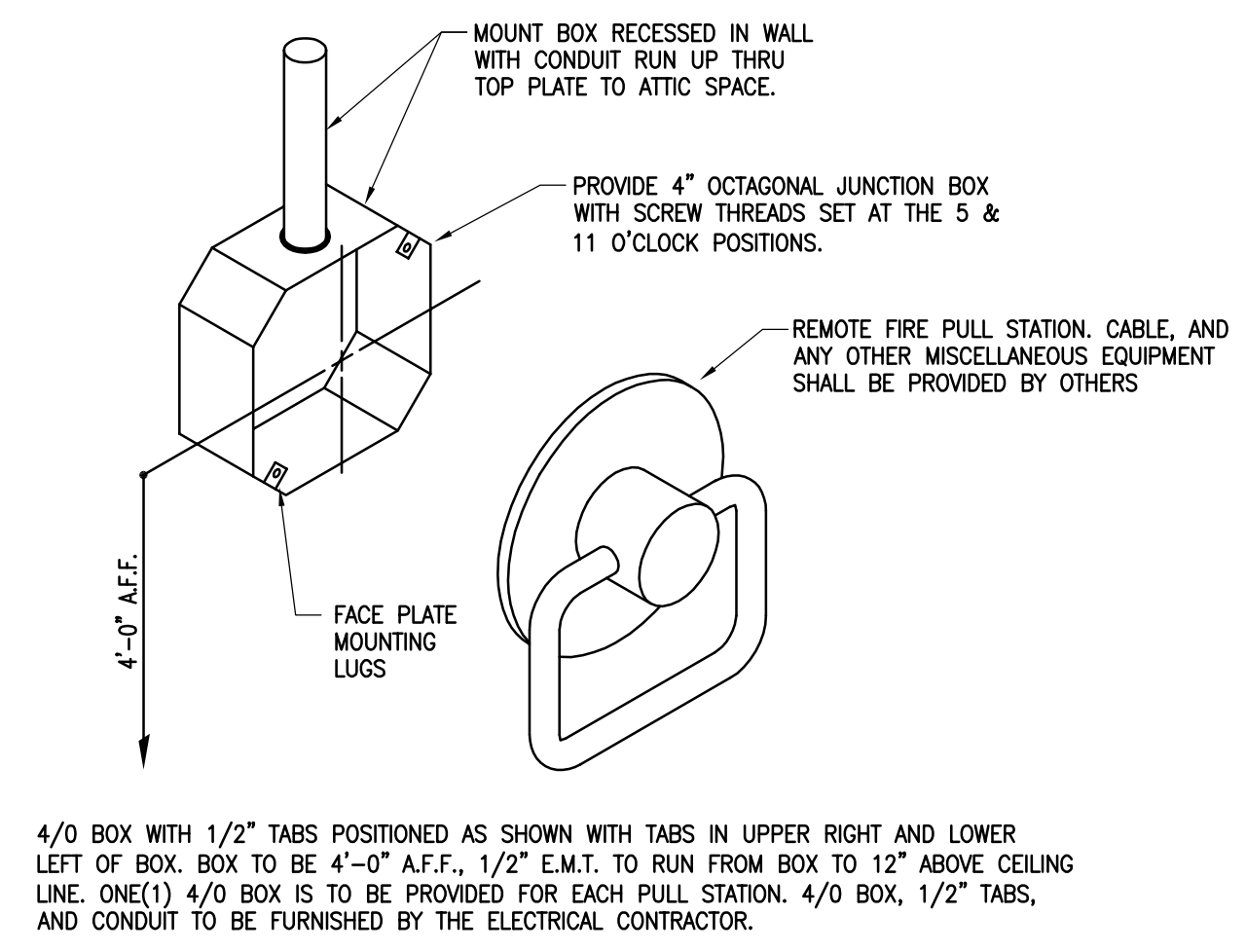
TYPICAL LAY-IN LED PANEL FIXTURE MOUNTING DETAIL  
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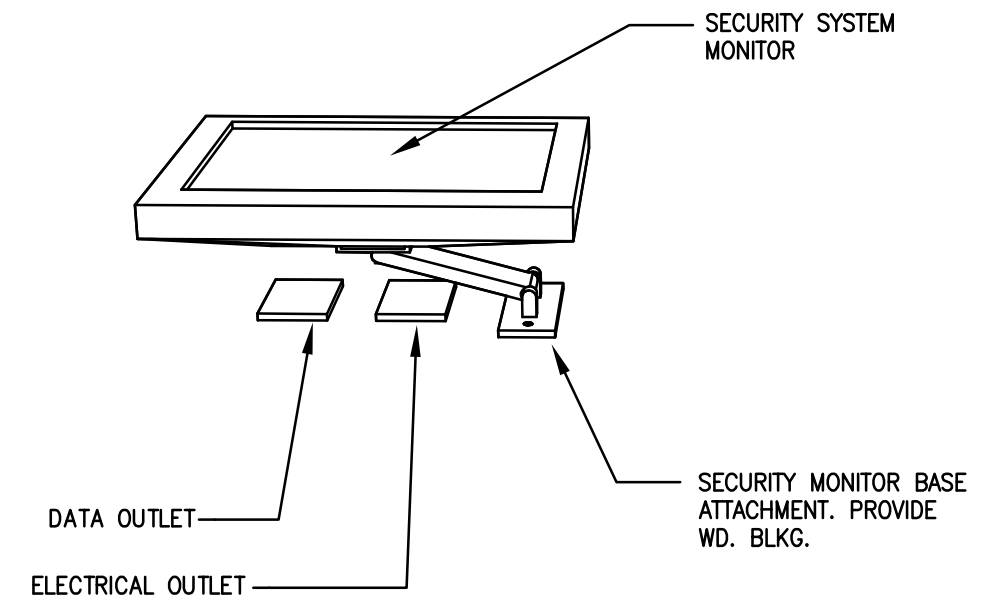
EMERGENCY LIGHTING WIRING DIAGRAM  
SCALE: NONE 3



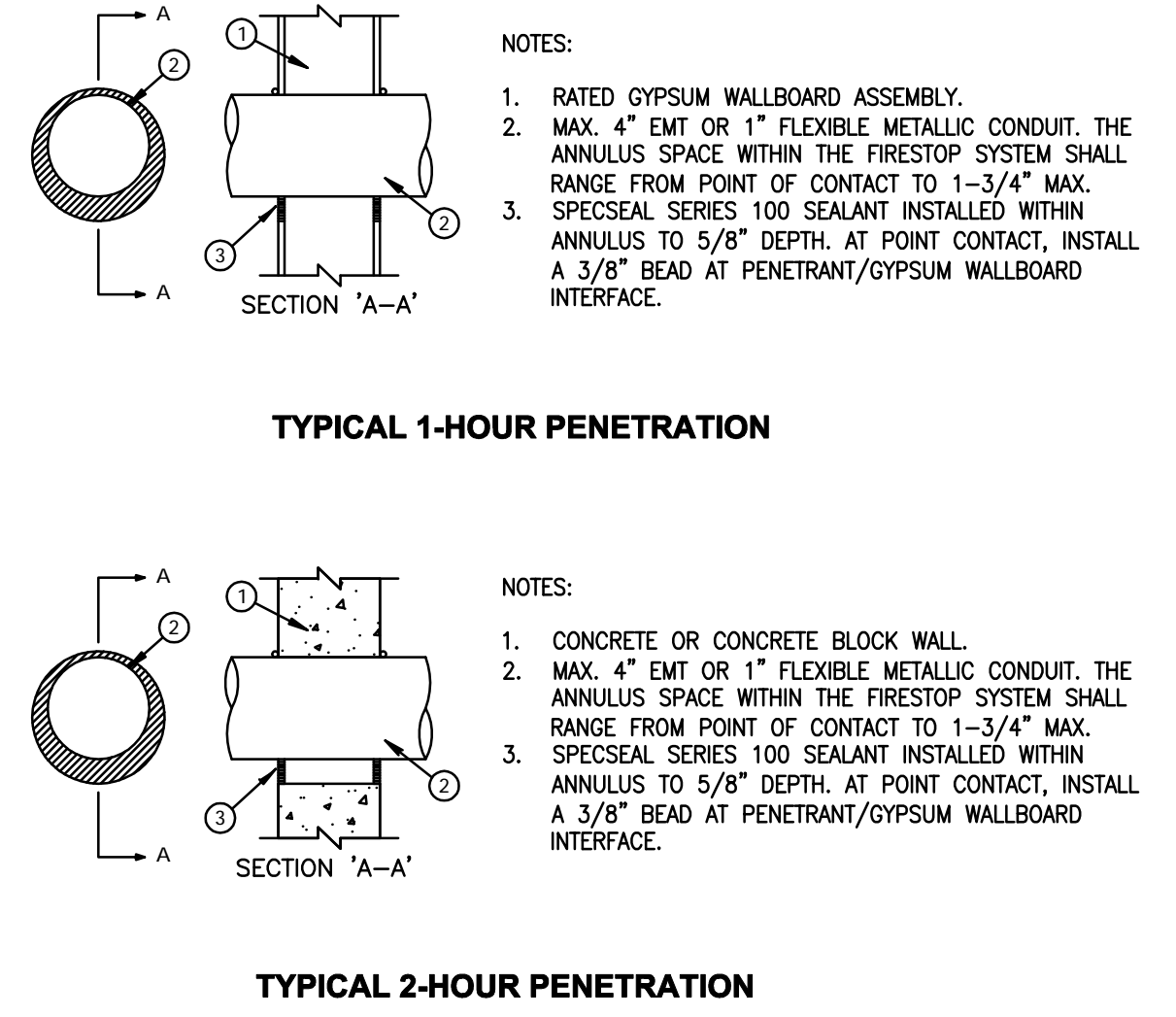
DOOR BELL WIRING DIAGRAM  
SCALE: NONE 2



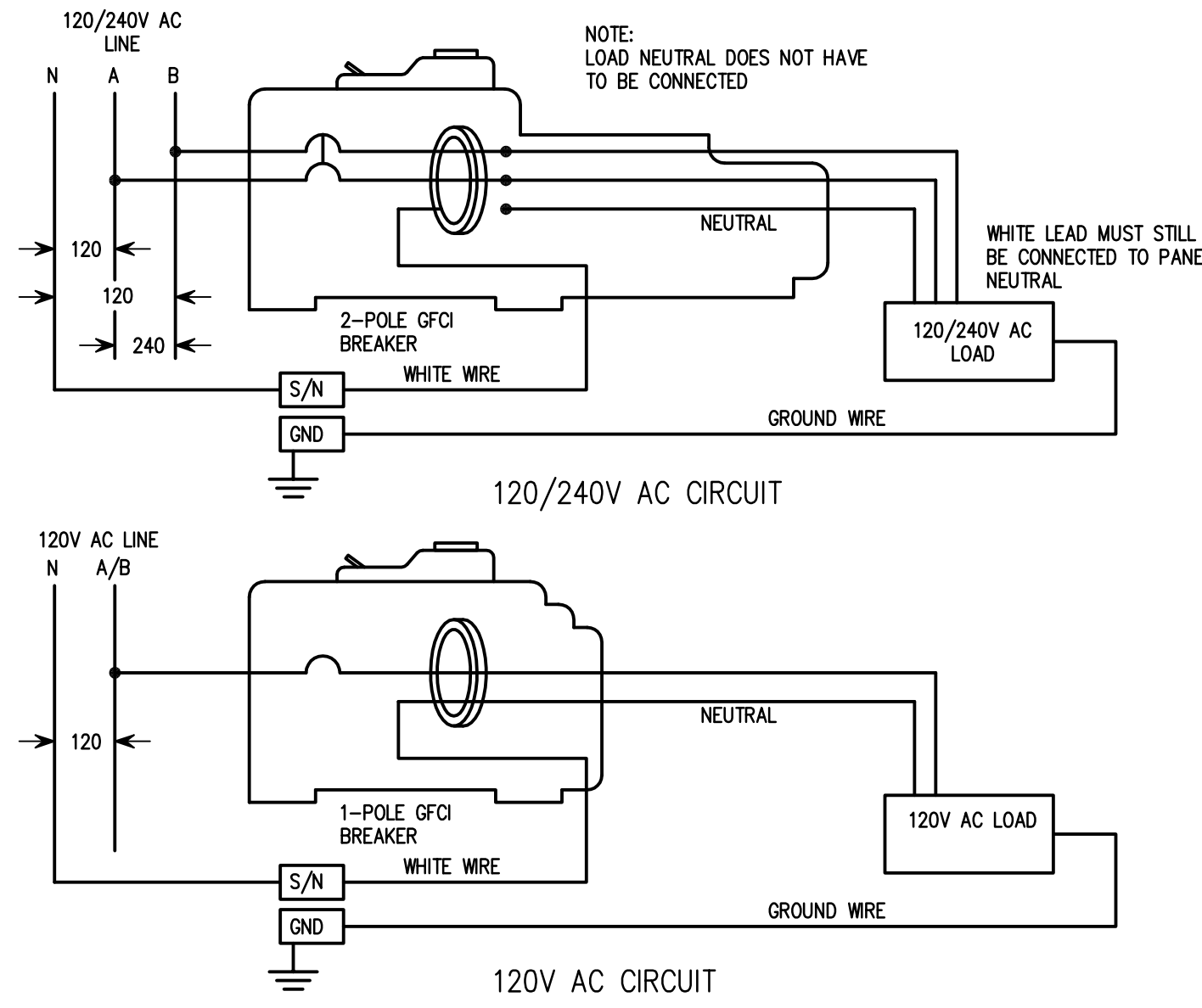
ANSUL PULL STATION DETAIL  
SCALE: NONE 1



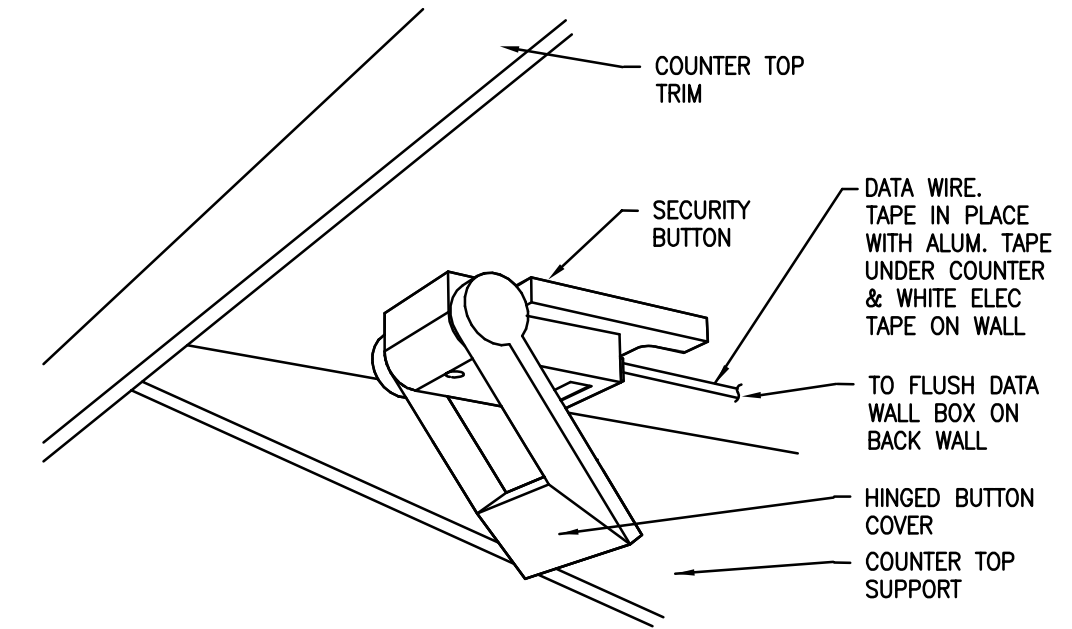
POWER-DATA SECURITY MONITOR  
SCALE: NONE 8



FIRE RATED WALL PENETRATION DETAIL  
SCALE: NONE 7

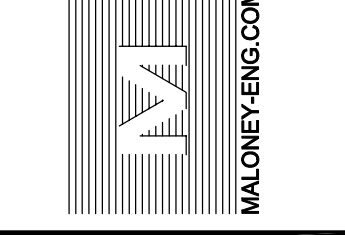


120V-1 POLE AND 208V-2 POLE GFCI BREAKER WIRING DIAGRAM  
SCALE: NONE 6



SECURITY BUTTON UNDER COUNTER  
SCALE: NONE 5



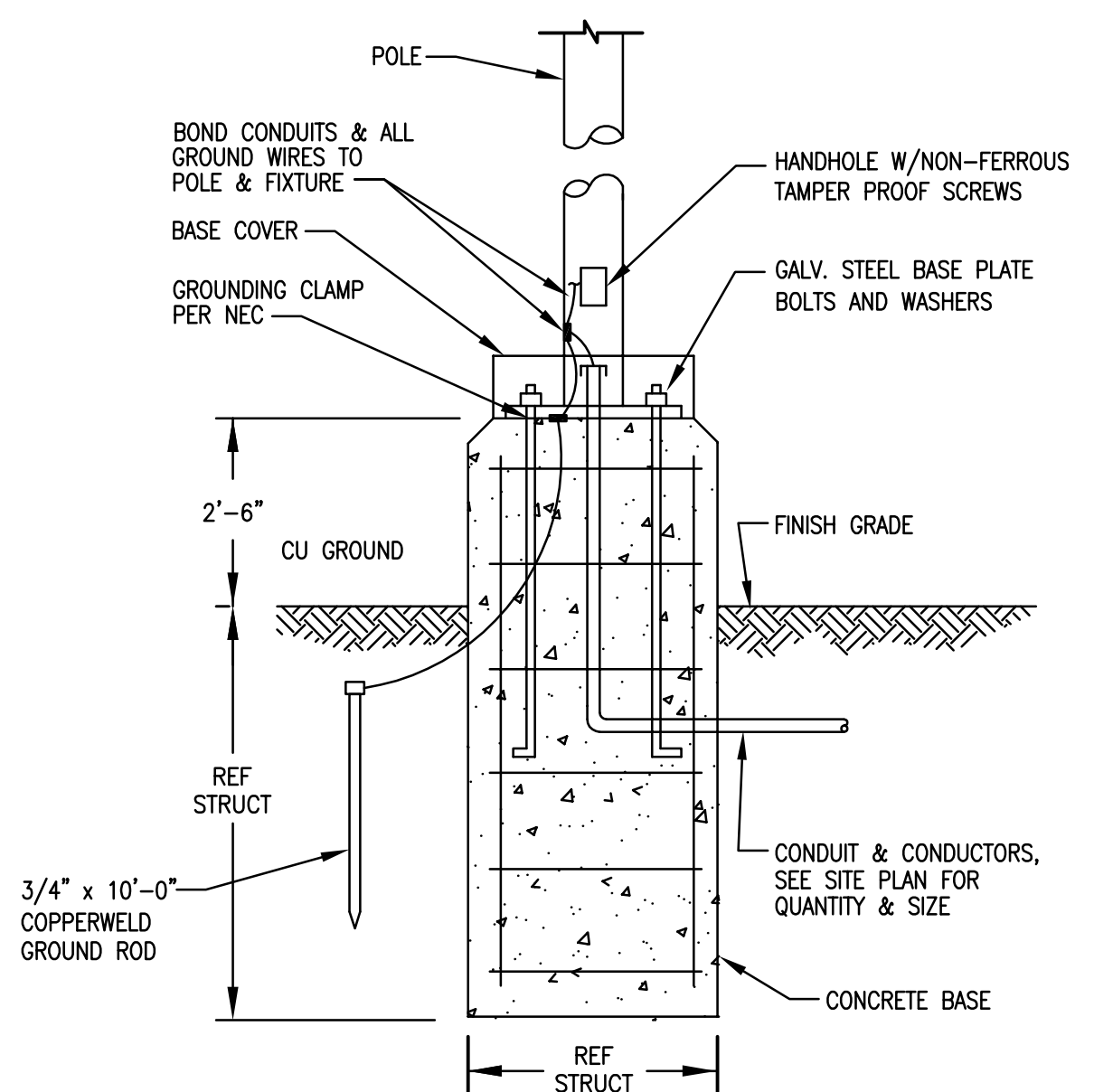


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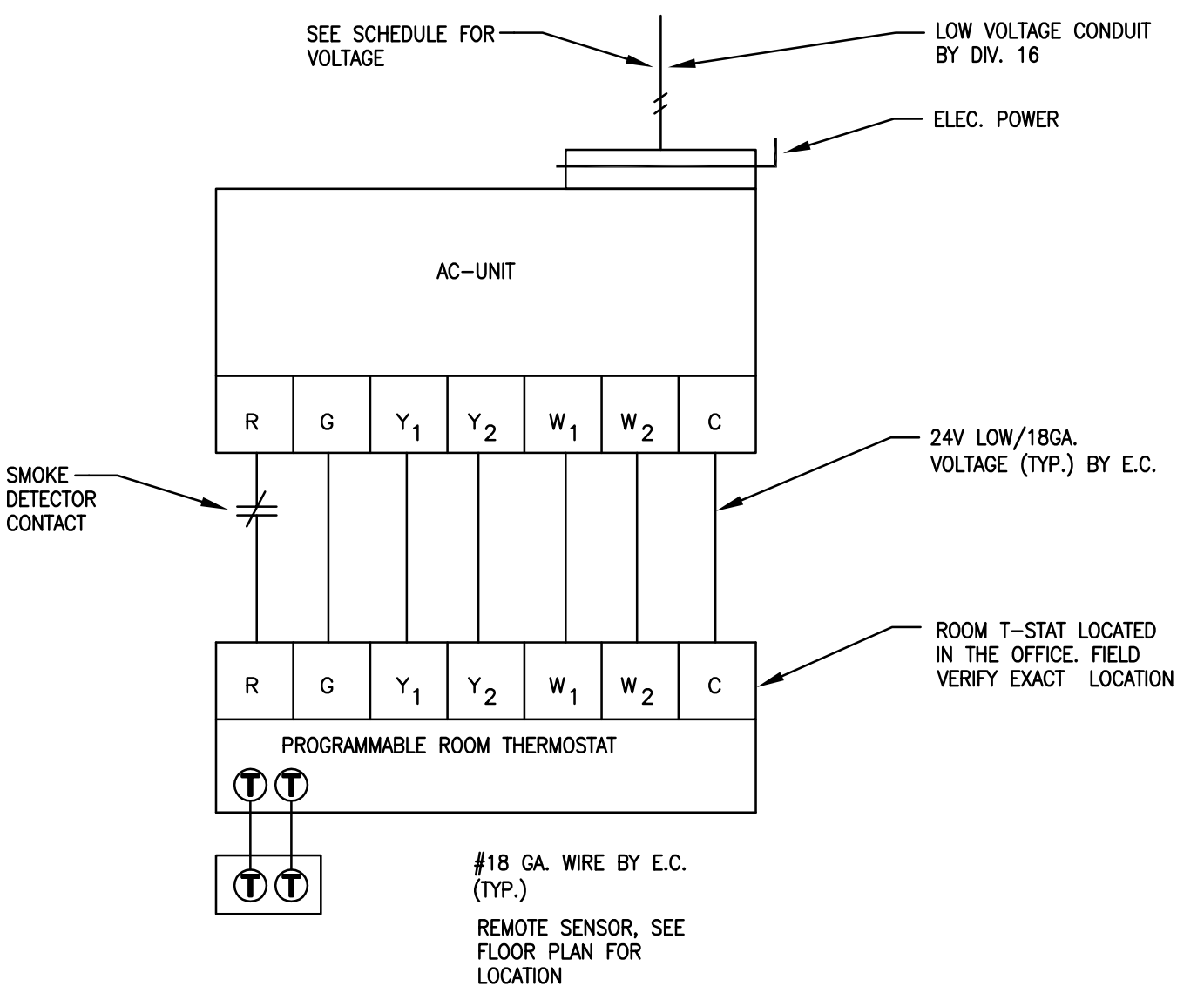
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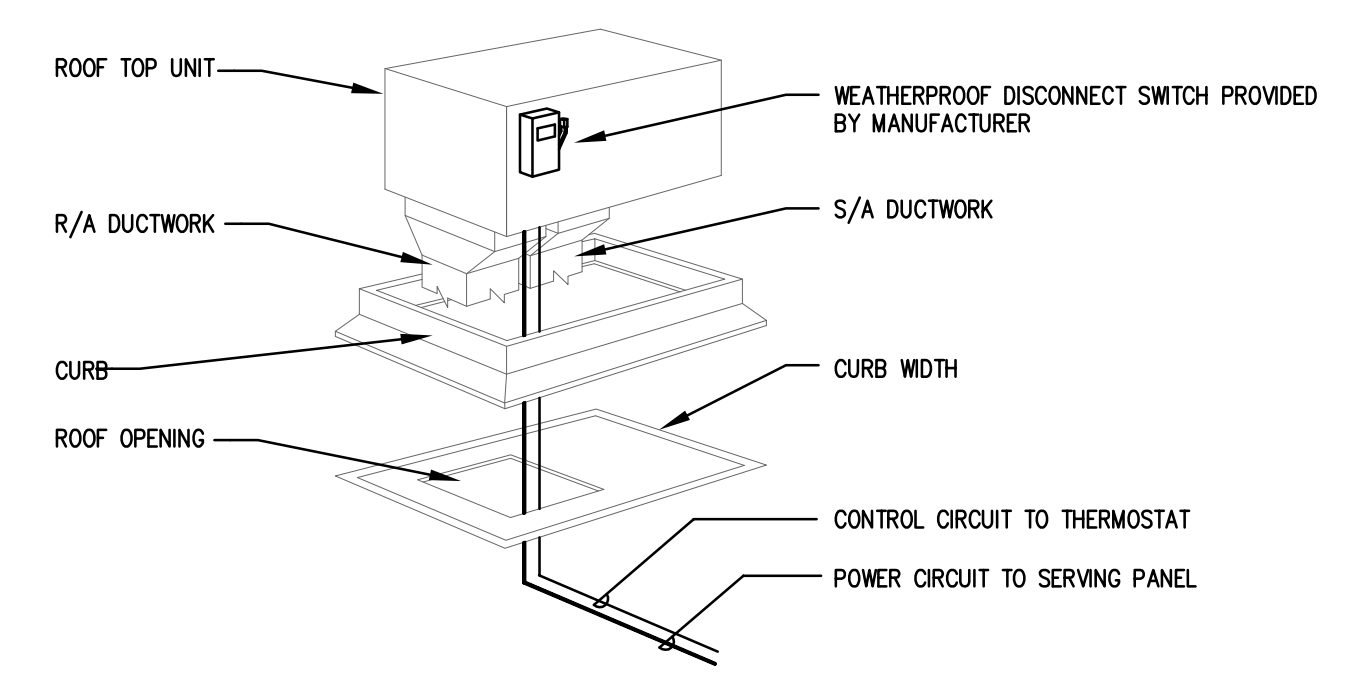
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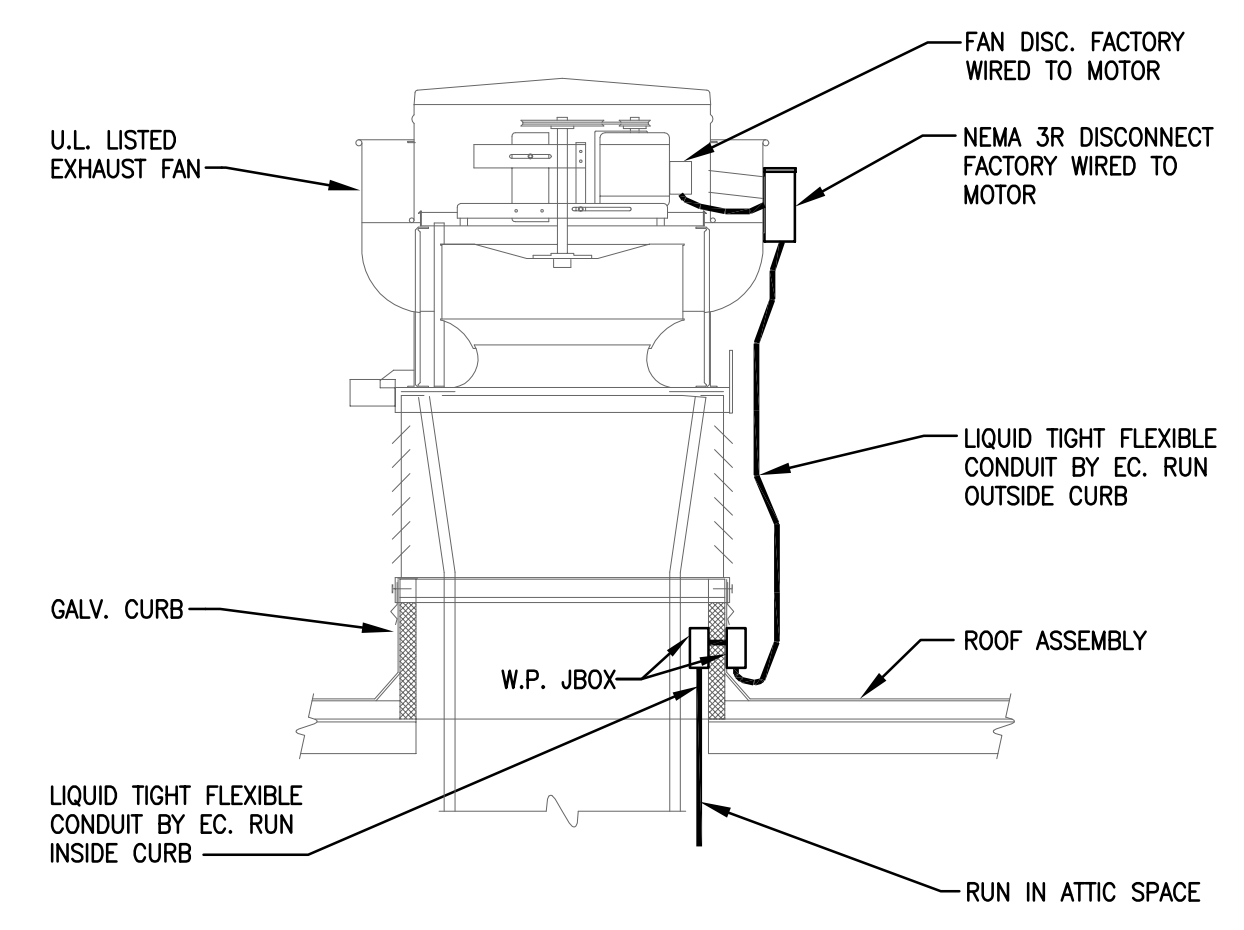
POLE BASE GROUNDING DETAIL  
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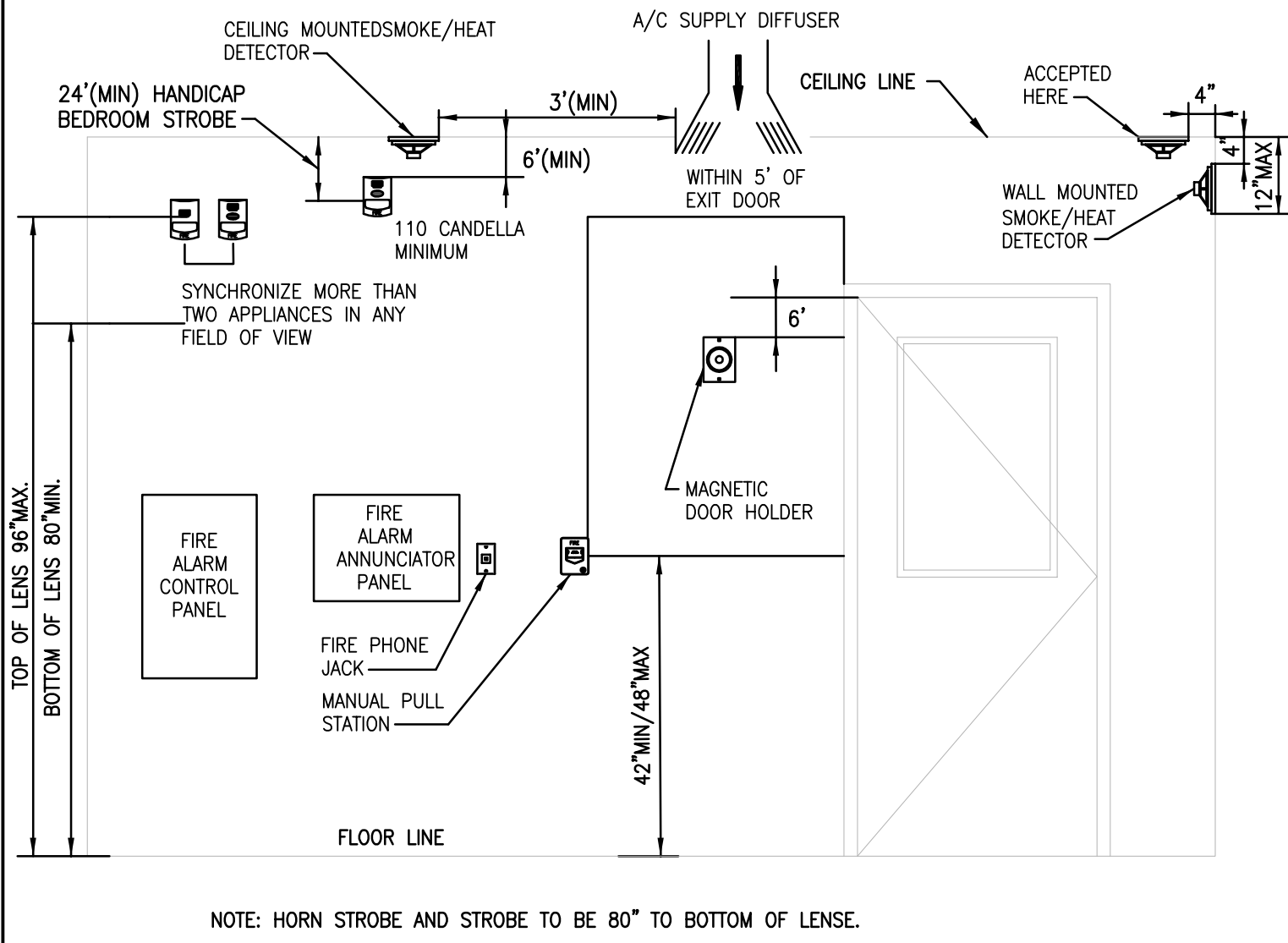
THERMOSTAT WIRING DIAGRAM  
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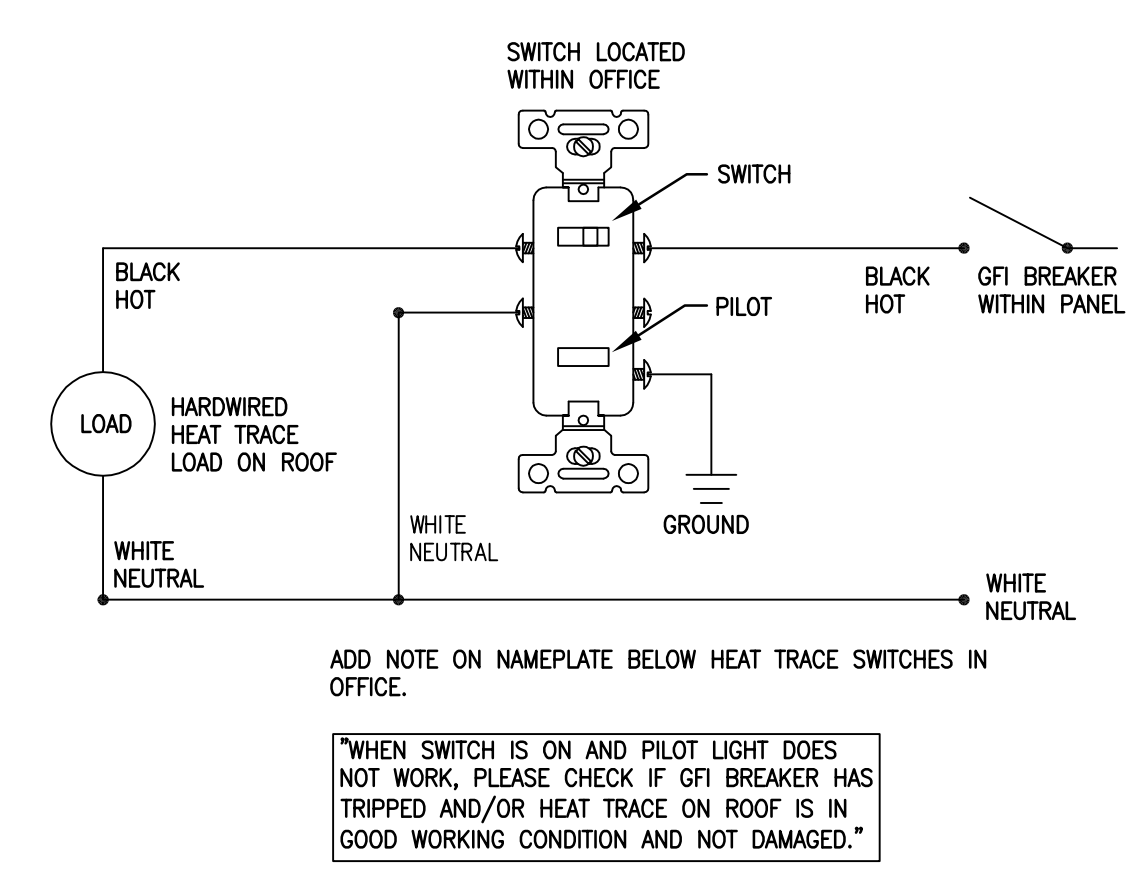
ROOF TOP UNIT WIRING DIAGRAM  
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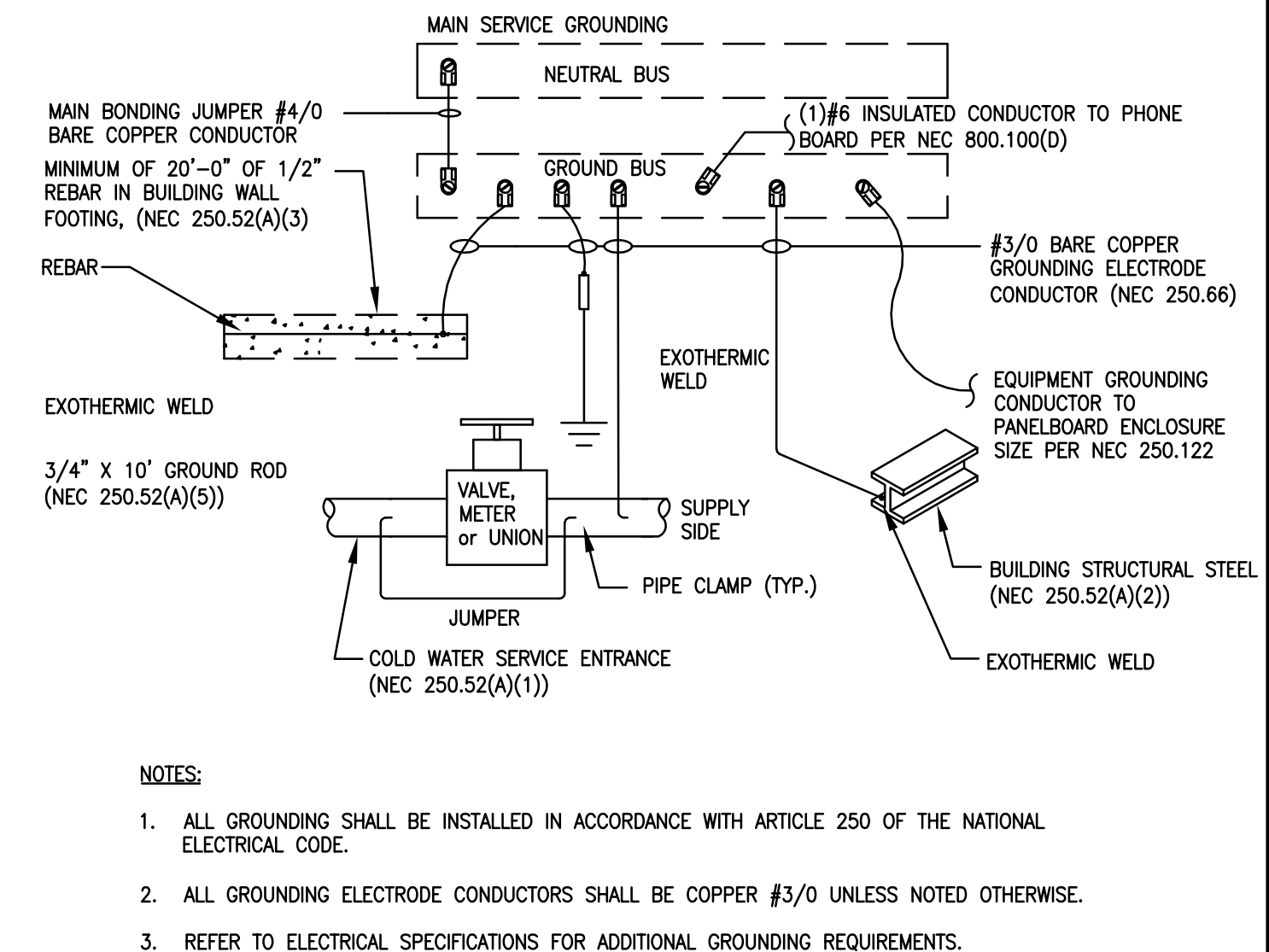
EXHAUST FAN ELECTRICAL CONNECTION DETAIL  
SCALE: NONE 1



FIRE ALARM MOUNTING HEIGHT DETAIL  
SCALE: NONE 7



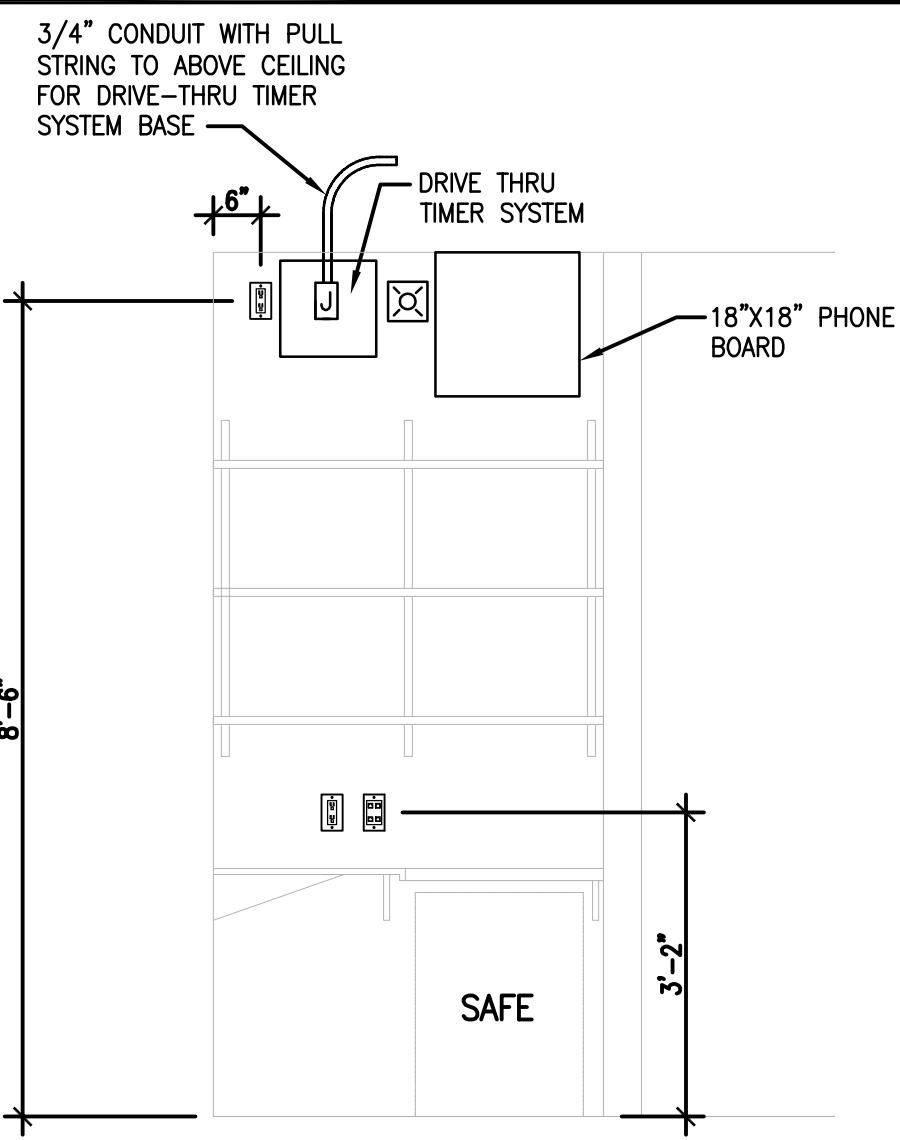
HEAT TRACE PILOT LIGHT WIRING DIAGRAM  
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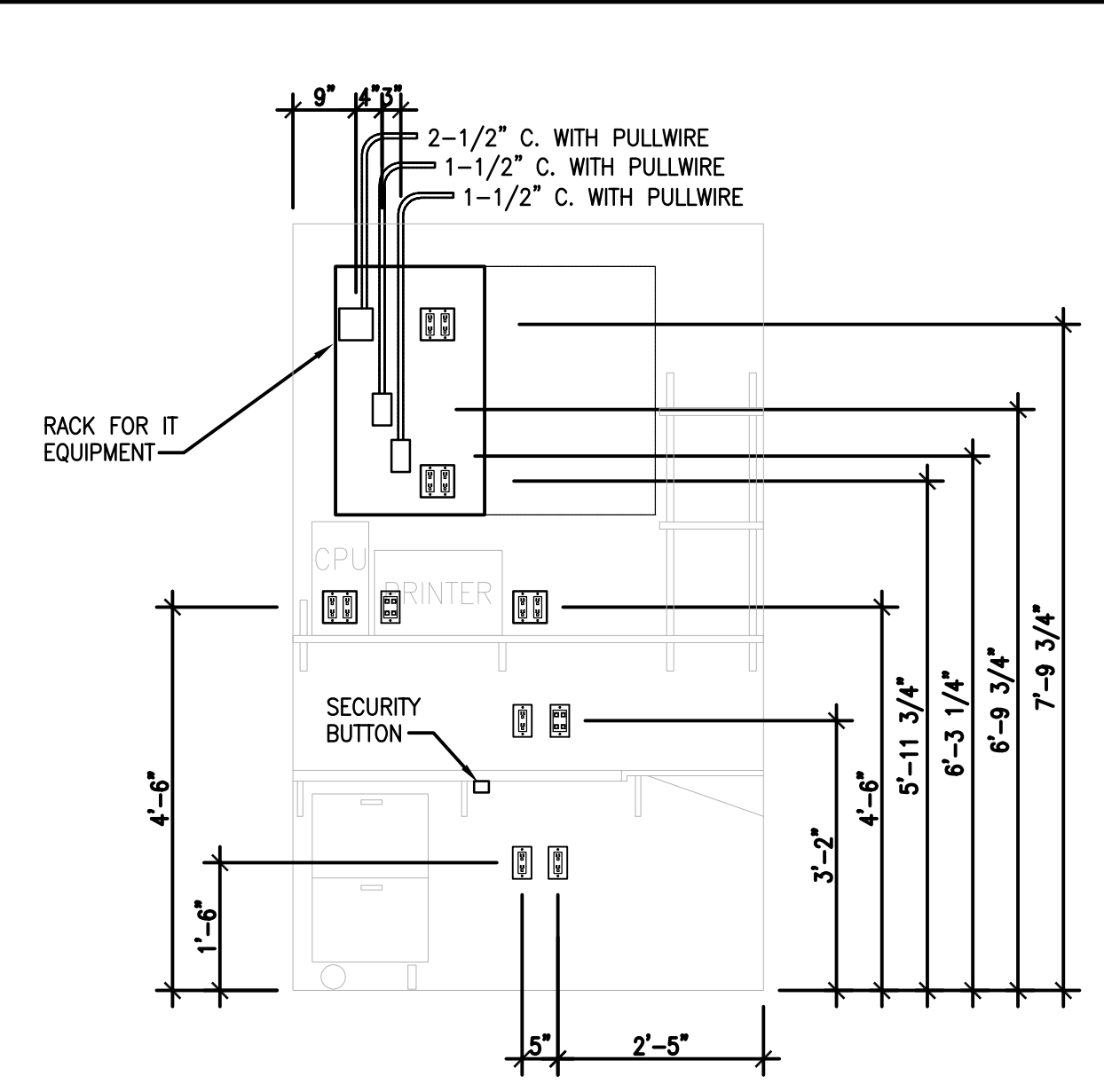
GROUNDING OF MAIN SERVICE ENTRANCE  
SCALE: NONE 5

NOT USED  
SCALE: NONE 8

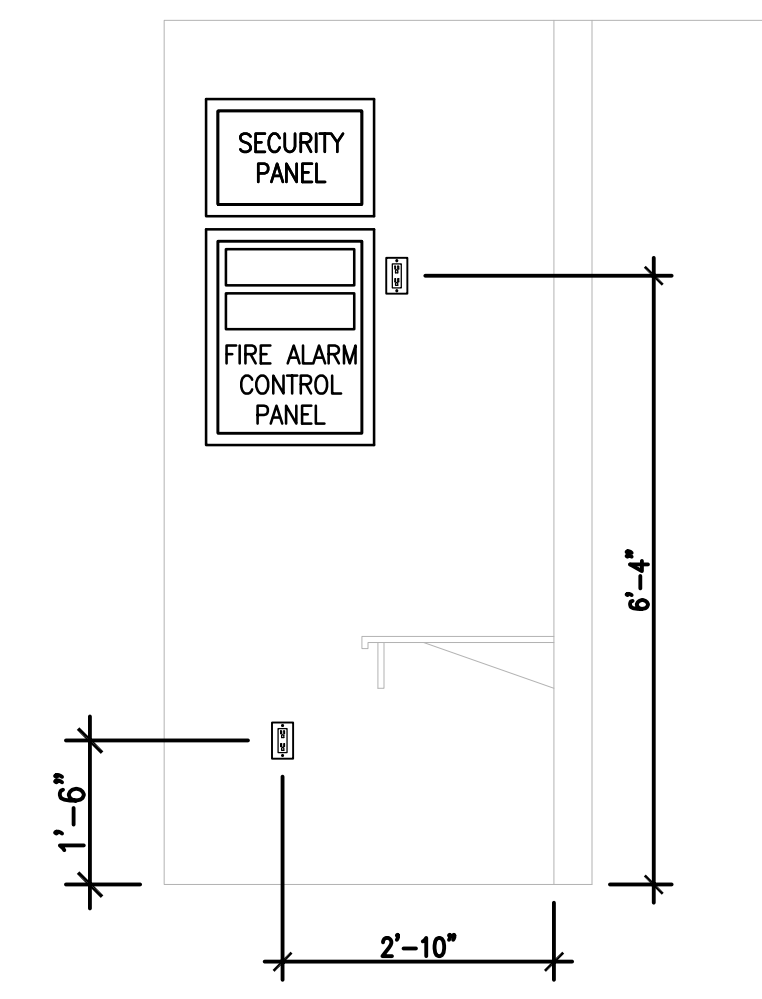




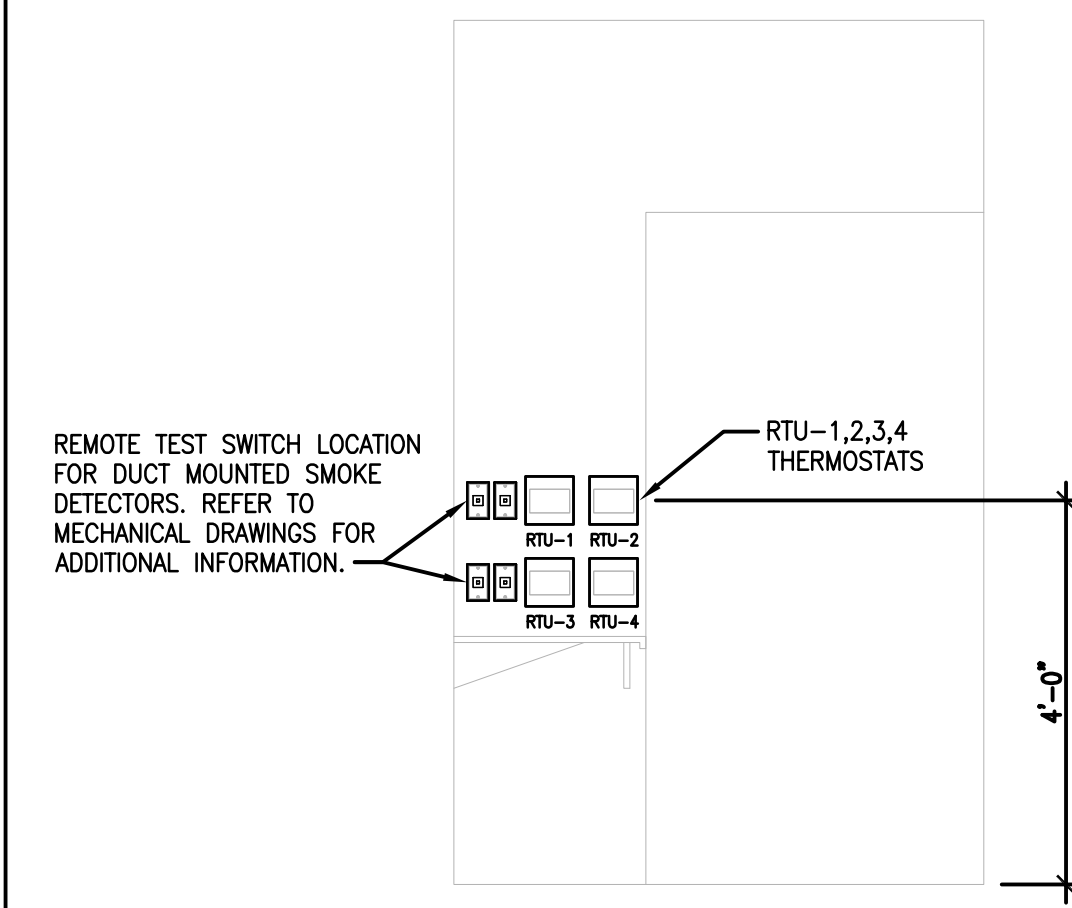
OFFICE ELEVATION 1  
1/2'-1'-0"



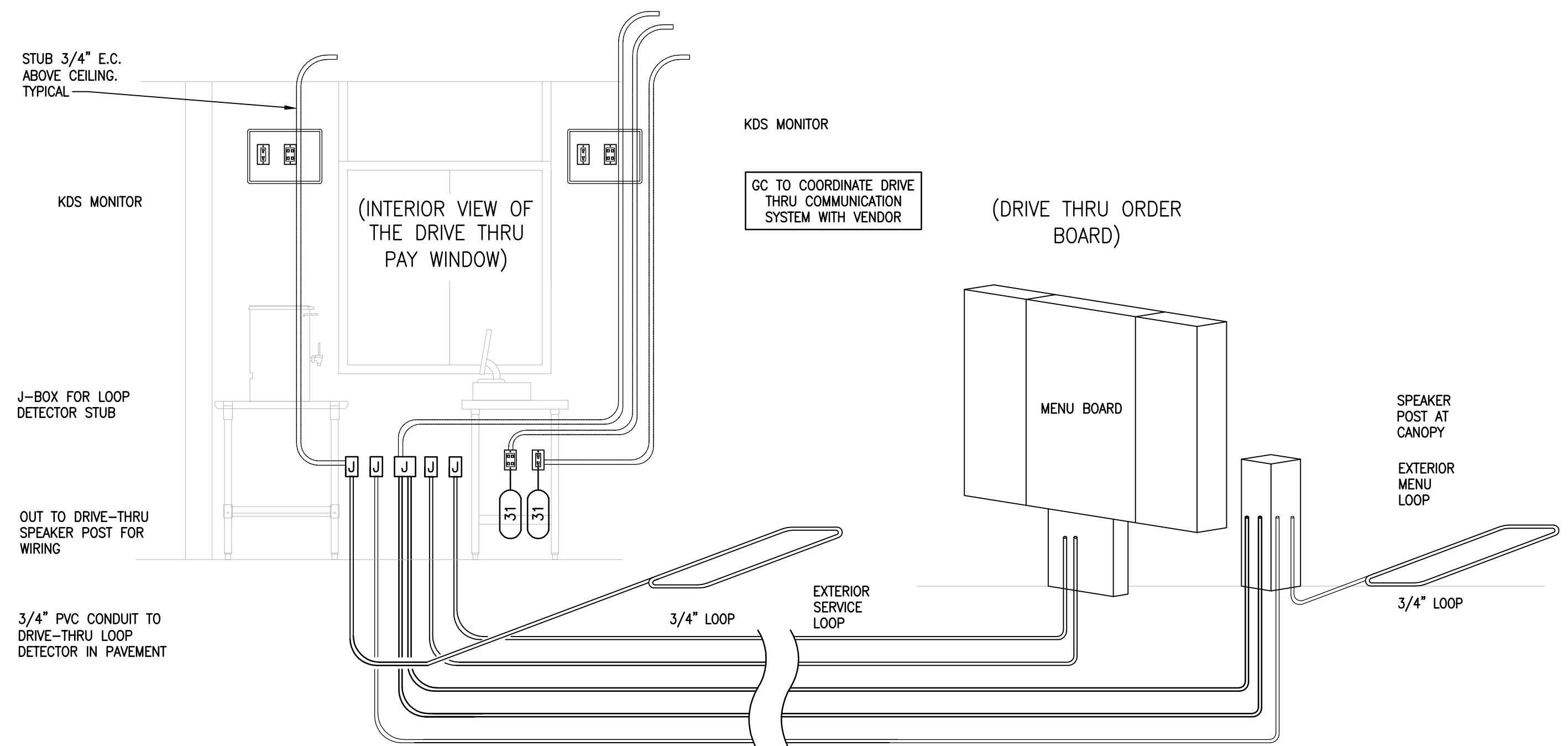
OFFICE ELEVATION 2  
1/2'-1'-0"



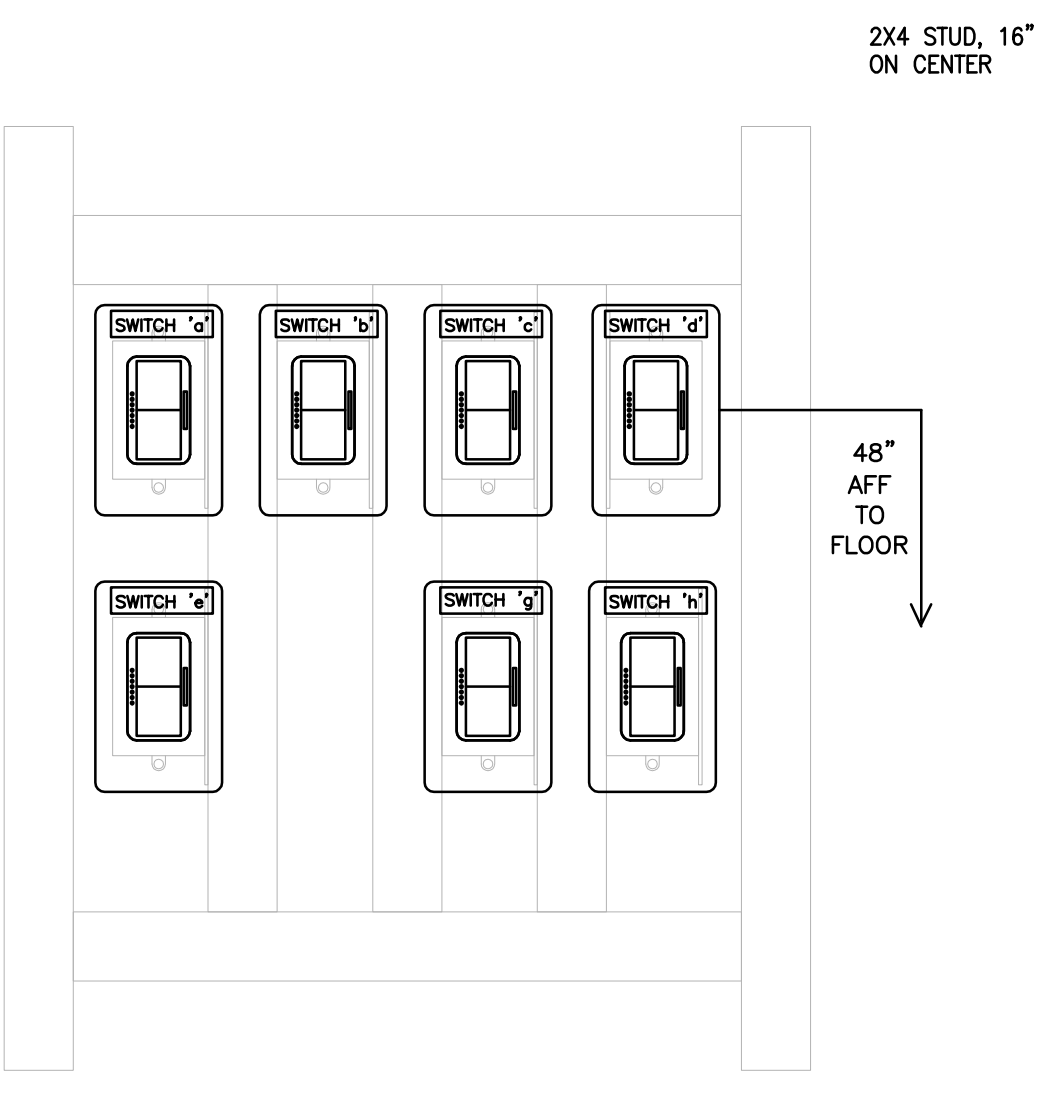
OFFICE ELEVATION 3  
1/2'-1'-0"



OFFICE ELEVATION 4  
1/2'-1'-0"



DRIVE THRU EQUIPMENT DETAIL  
SCALE: NONE

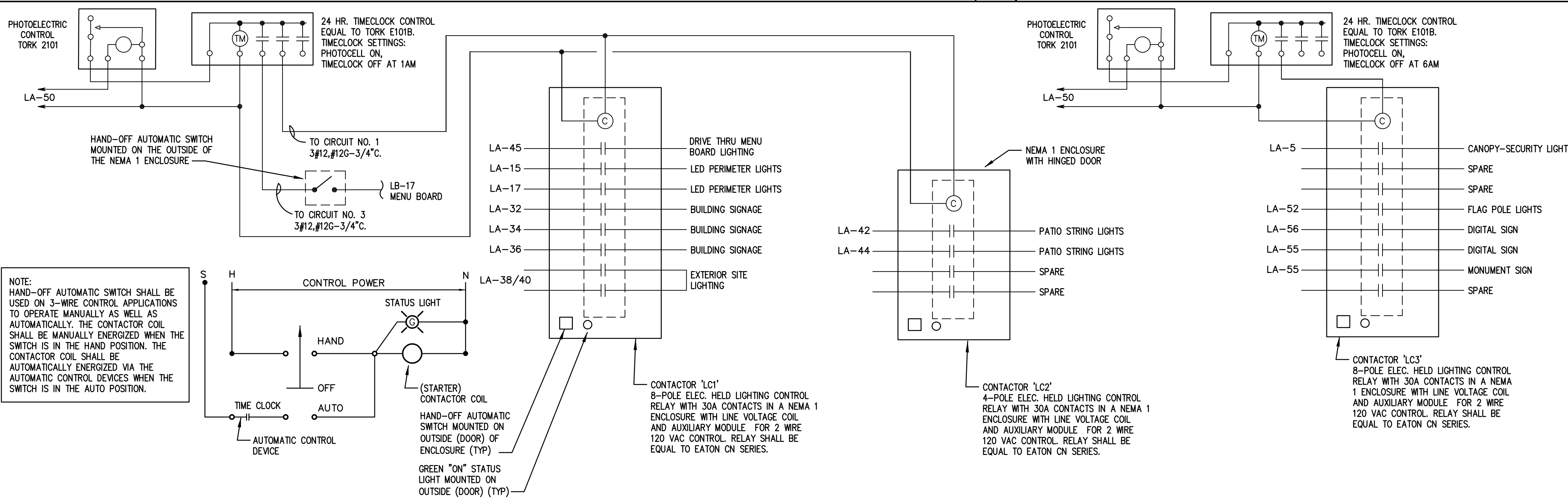


**DIMMER SCHEDULE**

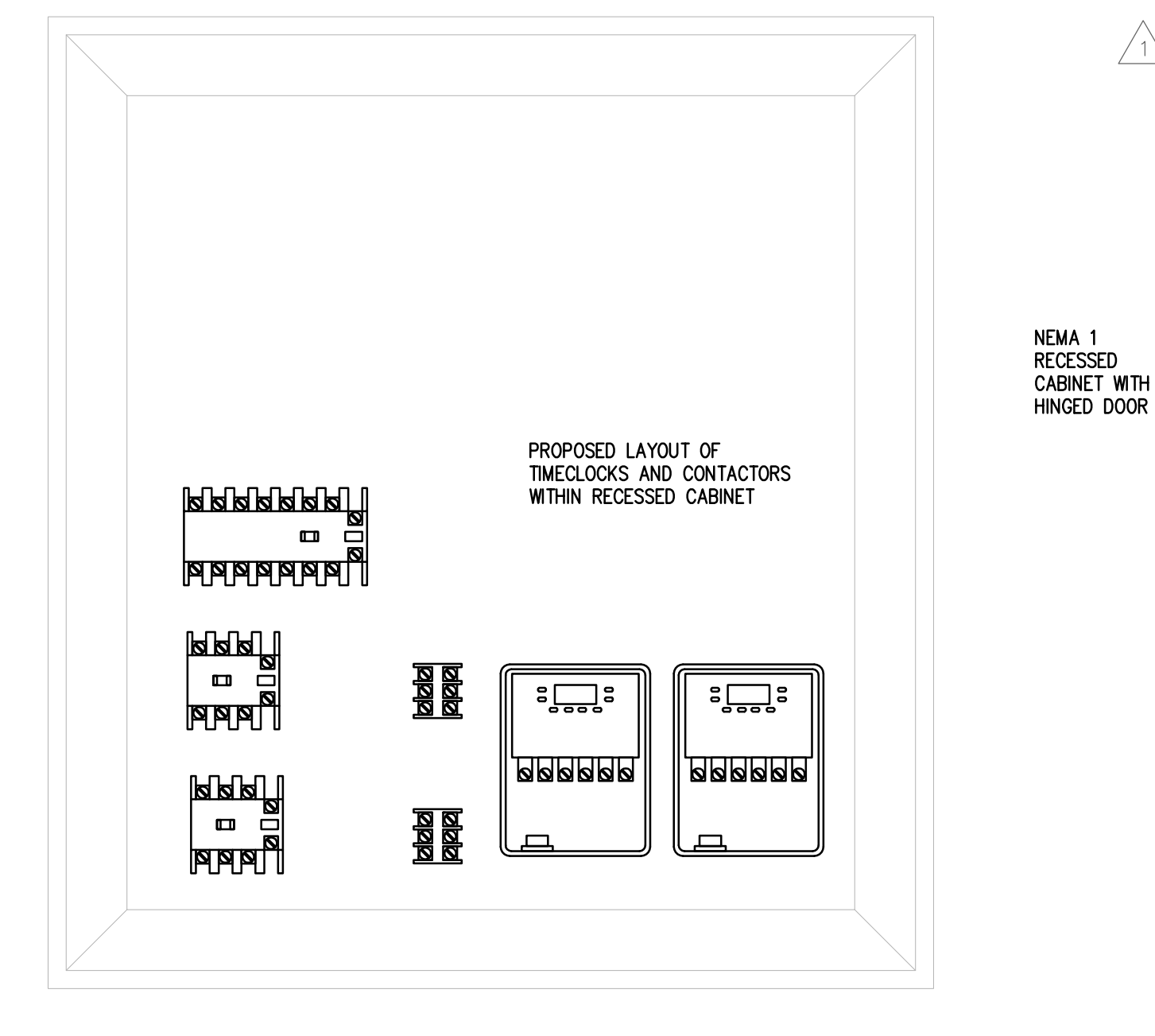
DIMMER DESIG	FIXTURE DESCRIPTION	NAMEPLATE DESCRIPTION	CIRCUIT WATTAGE	DIMMER SIZE	DIMMER MANUFACTURER	DIMMER MODEL NUMBER
a	2X4 LED	BACK OF HOUSE	28	600W	LUTRON	MAESTRO FADE
b	2X4 LED	BACK OF HOUSE	432	600W	LUTRON	MAESTRO FADE
c	RECESSED DOWNLIGHTS	DINING	28	600W	LUTRON	MAESTRO FADE
d	TRACK LIGHTS	DINING	49	600W	LUTRON	MAESTRO FADE
e	CEILING FANS	DINING	42	600W	LUTRON	MAESTRO DVA FAN
g	CC SIGNAGE	DINING	300	600W	LUTRON	MAESTRO FADE
h	INTERIOR SIGNAGE	KITCHEN	300	600W	LUTRON	MAESTRO FADE

- DIMMER SWITCH BANK GENERAL NOTES**
- DIMMERS SHALL BE EQUAL TO LUTRON DVA SERIES UNLESS NOTED OTHERWISE, COLOR IS TO BE WHITE.
  - CONTRACTOR SHALL COORDINATE DIMMERS WITH LIGHT FIXTURES PROVIDED AND PROVIDE ALL NECESSARY APPURTENANCES FOR A COMPLETE DIMMING SYSTEM.
  - CONTRACTOR SHALL PROVIDE AND INSTALL A SEPARATE NEUTRAL FOR EACH DIMMER CONTROL CIRCUIT FOR INDIVIDUAL CONTROL.
  - CONTRACTOR TO VERIFY AND ADJUST SIZE OF DIMMER SWITCH BASED ON FINAL LOAD OF CIRCUIT.
  - PROVIDE AND INSTALL RECESSED CABINET WITH VENTED DOORS. SIZE CABINET BASED ON DIMMERS REQUIRED. PAINT TO MATCH WALL.
  - PROVIDE THE REQUIRED NUMBER OF SWITCHBOXES FOR A NEAT, UNIFORMLY SPACED INSTALLATION AS SHOWN. PROVIDE NOMENCLATURE SPECIFYING WHICH LUMINAIRES ARE CONTROLLED BY WHICH CONTROLLER. VERIFY NOMENCLATURE WITH OWNER AND ARCHITECT. VERIFY FINAL COLOR SELECTION WITH ARCHITECT.
  - SLIDE DIMMER SWITCHES ARE PROVIDED FOR 50% CONTROL OF LIGHTS. DIMMERS ARE TO BE SIZED PER NEC HEAT LOAD REQUIREMENTS.
  - PROVIDE DEDICATED NEUTRALS FOR EACH DIMMER
  - ALL SWITCHES ARE TO BE LABELED WITH PHENOLIC ENGRAVED PLATES.

SWITCH BANK DETAIL  
SCALE: NONE



EXTERIOR LIGHTING CONTROL DIAGRAM  
SCALE: NONE



LIGHTING CONTROLS CABINET DETAIL  
SCALE: NONE

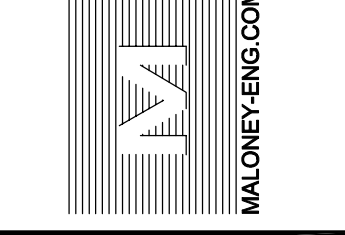
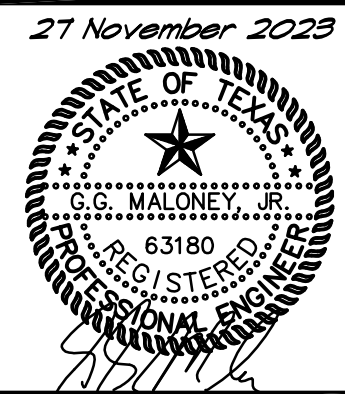
BY: \_\_\_\_\_  
DATE: \_\_\_\_\_  
DESCRIPTION: \_\_\_\_\_

SCALE:  
AS NOTED

PROJECT NO.  
05-05-22

SHEET NO.  
**E4.2**





DATE	DESCRIPTION	BY

SCALE:  
AS NOTED

PROJECT NO.  
05-05-22

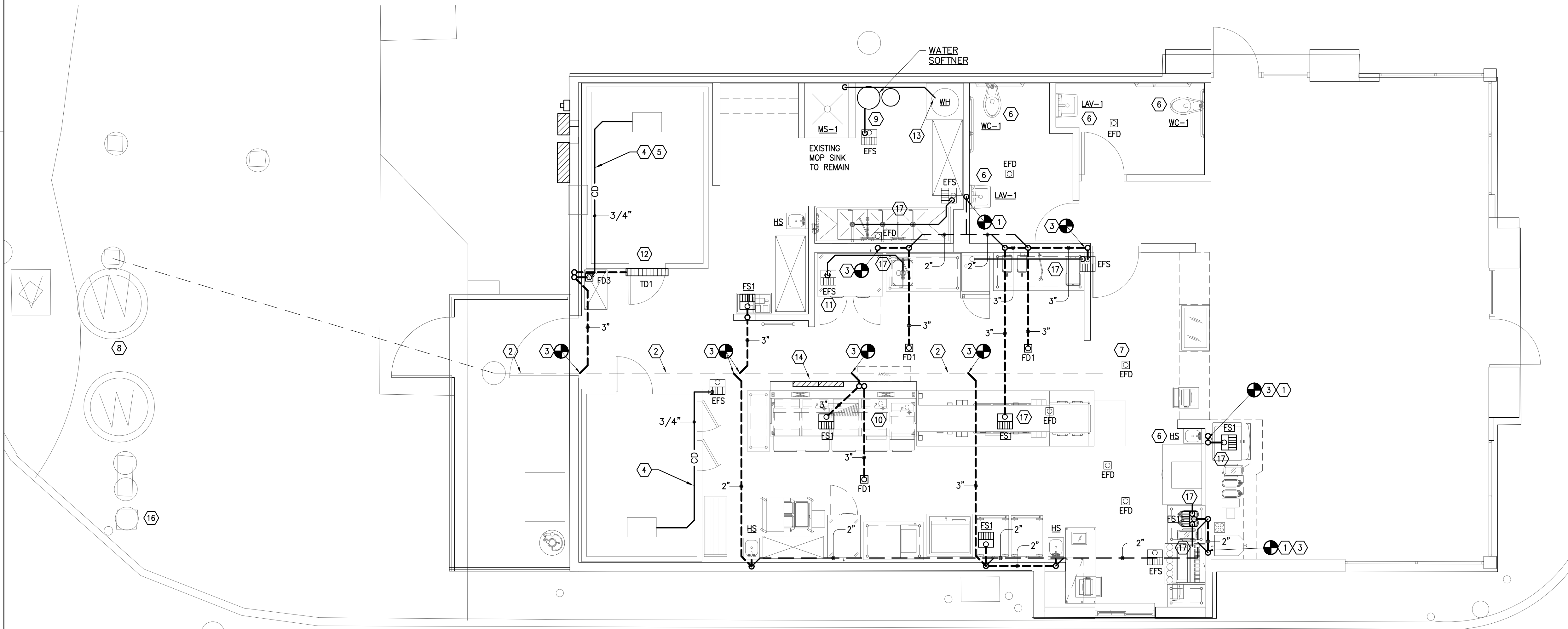
SHEET NO.  
**P1.1**

**GENERAL NOTES**

- A. KEY NOTES WITH ELLIPTICAL SYMBOL AND NUMBER CORRESPOND TO KITCHEN EQUIPMENT SHOWN IN THE FOOD SERVICE SHEETS.
- B. ANY EXPOSED PIPING SHALL BE INSTALLED AS TIGHT AS POSSIBLE TO THE HEATED SIDE OF THE EXPOSED ROOF STRUCTURE. PIPING INSTALLED IN EXTERIOR WALLS SHALL BE INSTALLED ON THE HEATED SIDE OF THE WALL INSULATION.
- C. INSTALLATION OF THE PLUMBING SYSTEMS SHALL BE COORDINATED WITH ELECTRICAL AND MECHANICAL EQUIPMENT, STRUCTURAL SLAB AND FRAMING.
- D. REFER TO PLUMBING SHEET P2.1 FOR PLUMBING FIXTURE AND EQUIPMENT SCHEDULES INCLUDING SPECIFICATIONS AND ROUGH-IN SIZES.
- E. REFER TO THE FOOD SERVICE SHEETS FOR ADDITIONAL INFORMATION PERTAINING TO KITCHEN EQUIPMENT NOT SHOWN ON THESE SHEETS.
- F. PLUMBING CONTRACTOR SHALL COORDINATE WITH THE KITCHEN EQUIPMENT SUPPLIER FOR THE COMPLETE INSTALLATION AND SERVICE CONNECTIONS OF ALL KITCHEN EQUIPMENT.
- G. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION OF ALL DRAIN LINES FROM KITCHEN EQUIPMENT. REFER TO THE FOOD SERVICE SHEETS FOR PROPOSED SIZES AND ROUTING. ALL INDIRECT DRAIN LINES SHALL BE INSTALLED WITH APPROVED AIR GAPS.
- H. REFER TO ARCHITECTURAL AND MILLWORK DRAWINGS FOR DETAILS OF COUNTERTOPS, CASEWORK, AND OTHER FIXTURES. SHOWING EXACT LOCATION OF OPENINGS FOR PLUMBING ITEMS BEING INSTALLED. COORDINATE THE COMPLETE INSTALLATION WITH THE GENERAL CONTRACTOR.
- I. PLUMBING CONTRACTOR TO ARRANGE AND PAY FOR ALL REQUIRED FEES, PERMITS, AND MISCELLANEOUS COSTS ASSOCIATED WITH THE PLUMBING WORK PER LOCAL PLUMBING CODES.
- J. PLUMBING CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS, ELEVATIONS AND CHARACTERISTICS OF UTILITIES AND PIPING PRIOR TO ANY NEW CONSTRUCTION. COORDINATE WITH CIVIL DRAWINGS AND LOCAL UTILITIES PRIOR TO NEW INSTALLATION.
- K. ALL WALL PIPING STUB-OUTS SHALL BE SECURELY TIED TO THE STRUCTURE WITH SUFFICIENT BACKING TO ELIMINATE ANY MOVEMENT.
- L. FINAL CONNECTIONS TO SINKS IN THE KITCHEN SHALL BE HARD PIPED.
- M. ALL PENETRATIONS IN FIRE RATED WALL ASSEMBLIES SHALL BE SEALED WITH UL LISTED FIRE STOPPING MATERIAL.

**KEYED NOTES**

- 1. CONNECT TO EXISTING VENT ABOVE CEILING. FIELD VERIFY LOCATION AND SIZE.
- 2. EXISTING GREASE WASTE LINE. FIELD VERIFY LOCATION, SIZE AND FLOW LINE.
- 3. CONNECT NEW GREASE WASTE LINE TO EXISTING GREASE WASTE BELOW FLOOR. FIELD VERIFY LOCATION, SIZE AND FLOW LINE.
- 4. ROUTE WALK-IN COOLER/ FREEZER CONDENSATE DRAIN LINE AS HIGH AS POSSIBLE AND ALONG WALLS AS SHOWN. INSULATE ALL CONDENSATE PIPING AND PITCH A MINIMUM OF 1/4" PER FOOT IN THE DIRECTION OF FLOW. SEAL ALL COOLER WALL PENETRATIONS WATER TIGHT AND COVER EACH WITH AN ESCUTCHEON PLATE. PROVIDE FULL SIZE TRAP AND EXTEND ABOVE FLOOR AND BEHIND EQUIPMENT FOR AN INDIRECT CONNECTION TO AN APPROVED RECEPTOR.
- 5. CONDENSATE DRAIN LINE IN THE WALK-IN FREEZER SHALL BE HEAT TRACED TO PREVENT FREEZING. HEAT TRACE TAPE SHALL BE PROVIDED BY THE PLUMBING CONTRACTOR.
- 6. INSTALL NEW FIXTURE. CONNECT TO EXISTING WASTE LINE IN WALL OR FLOOR. FIELD VERIFY LOCATION AND SIZE.
- 7. EXISTING FLOOR DRAIN TO REMAIN. PROVIDE NEW BRONZE GRATE. FIELD VERIFY AND MATCH EXISTING FLOOR DRAIN SIZE AND MANUFACTURER.
- 8. EXISTING GREASE TRAP TO REMAIN. PUMP OUT AND STEAM CLEAN. VERIFY OPERATION OF TRAP.
- 9. ROUTE BACKWASH DRAIN LINE FROM WATER SOFTENER TO FLOOR SINK.
- 10. ANY DWV PIPING IN COOKLINE WALL WITHIN 18" OF THE TYPE 1 EXHAUST HOOD SHALL BE CAST IRON.
- 11. EXISTING FLOOR SINK TO REMAIN. PROVIDE NEW 1/2 GRATE. FIELD VERIFY AND MATCH EXISTING FLOOR SINK SIZE AND MANUFACTURER.
- 12. TRENCH DRAINS SHALL BE FORMED IN PLACE BY THE GENERAL CONTRACTOR. GRATE SHALL BE PROVIDED AND INSTALLED BY THE GENERAL CONTRACTOR.
- 13. EXTEND T&P VALVE DRAIN LEADER (3/4" MIN.) FROM TANKLESS WATER HEATER & TERMINATE INDIRECTLY INTO MOP SINK. COORDINATE ROUTING IN THE FIELD.
- 14. PROPOSED ELECTRICAL PANEL LOCATION. NO PIPING SHALL BE INSTALLED ABOVE OR BELOW THE CEILING AT THIS LOCATION.
- 15. NOT USED
- 16. EXISTING SAMPLING WELL.
- 17. ROUTE INDIRECT DRAINAGE FROM TEA BAR AND KITCHEN EQUIPMENT TO NEAREST FLOOR SINK WITH AN APPROVED AIR GAP.



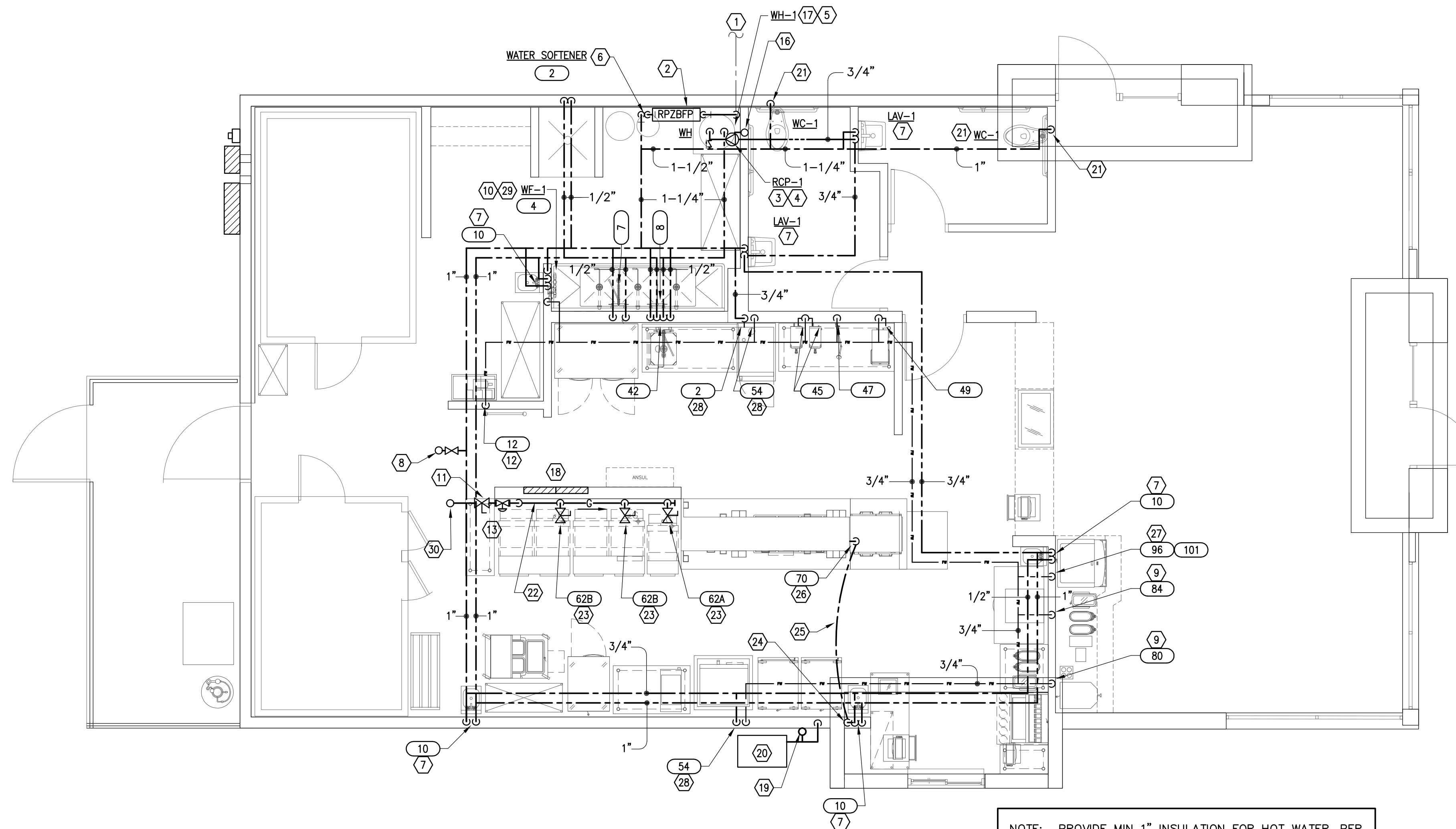


PLUMBING SCHEDULE			
ITEM	UTILITY	AFF	REMARKS
2	1-1/2" COLD WATER	DFA	WATER SOFTENER SYSTEM
3	1/2" HOT AND COLD WATER	36"	BTC ON MOP SINK FAUCET, VERIFY REQUIREMENTS - PLUMBER PROVIDED
4	3/4" COLD WATER	72"	BTC ON WATER FILTER THEN TO EQUIPMENT, SEE WATER FILTER DETAIL
7-8	1/2" HOT AND COLD WATER	14"	BTC ON SINK FAUCET OR PRE-RINSE FAUCET
10	HOT AND COLD WATER	20"	BTC ON HAND SINK FAUCET
12	1/2" FILTERED/TREATED WATER	72"	BTC ON SODA SYSTEM
42	1/2" HOT AND COLD WATER	14"	BTC ON SINK FAUCET OR PRE-RINSE FAUCET
45	1/2" FILTERED/TREATED WATER	48"	BTC ON HOT WATER DISPENSER
47	1/2" FILTERED/TREATED WATER	54"	BTC ON POT FILL FAUCET ON WALL
49	1/2" FILTERED/TREATED WATER	48"	BTC ON TEA BREWER
54	3/4" FILTERED WATER	54"	BTC ON COMBI OVEN
84	1/2" FILTERED/TREATED WATER	72"	BTC ICE MACHINE
96	1/2" FILTERED/TREATED WATER	72"	BTC ICE MACHINE
101	1/2" FILTERED/TREATED WATER	72"	BTC ICE MACHINE

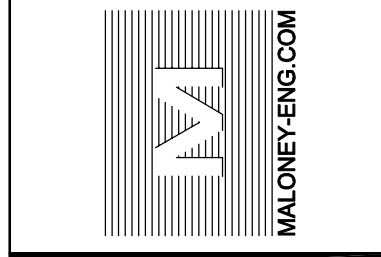
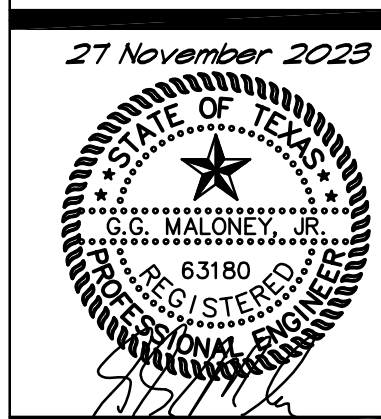
- ### KEYED NOTES
- EXISTING 1-1/2" DOMESTIC WATER SERVICE. FIELD VERIFY LOCATION AND SIZE.
  - DOMESTIC WATER SERVICE RISER SHALL BE INSTALLED COMPLETE WITH LINE SIZED SHUT OFF VALVE, AND REDUCED PRESSURE ZONE BACKFLOW PREVENTER.
  - FIELD COORDINATE THE INSTALLATION OF THE INLINE HOT WATER RECIRCULATION PUMP, EXPANSION TANK AND CHECK VALVE ASSEMBLY.
  - TERMINATE THE HOT WATER RETURN TO THE WATER SUPPLY TO THE WATER HEATERS AS SHOWN, AND INSTALL COMPLETE WITH LINE SIZED CHECK VALVE. ROUTE THE 1 1/4" HW, AND 1" GAS TO THE WALL WATER HEATER.
  - EXTEND 1 1/4" H&C DN TO WATER HEATER, FULL SIZED AS SHOWN.
  - THE WATER SOFTENER SYSTEM SHALL BE FURNISHED BY THE CONTRACTOR AND INSTALLED BY THE MANUFACTURER'S TECHNICIAN. THE PLUMBING CONTRACTOR SHALL INSTALL THE TAPS, BYPASS AND VALVING FOR FINAL CONNECTION BY OTHERS. THE WATER ASSEMBLY SHALL BE USED FOR SUPPLY TO THE WATER HEATERS ONLY.
  - ROUTE 1/2" HW & CW TO HAND WASHING FIXTURE. INSTALL SUPPLIES COMPLETE WITH HOT WATER TEMPERING VALVE.
  - ROUTE 3/4" COLD WATER UP ROOF AND TERMINATE WITH HOSE BIB (HB-2). REFER TO SHEET MEP1.0 FOR PIPING CONTINUATION ON THE ROOF.
  - COORDINATE INSTALLATION OF ACCESSIBLE LINE SIZED SHUT OFF VALVE TO ICE MAKER & APPROVED BACKFLOW PREVENTER. SHUT OFF VALVE SHALL BE RECESSED IN THE WALL AND COVERED WITH ACCESS PANEL.
  - INSTALL OWNER FURNISHED WATER FILTER ASSEMBLY FOR FINAL CONNECTION.
  - MECHANICAL GAS PLUG VALVE TO BE INSTALLED AS HIGH AS POSSIBLE TIGHT TO THE BOTTOM OF THE LAY IN CEILING IN AN ACCESSIBLE LOCATION. EXTEND GAS DOWN FOR COOKING APPLIANCES TO FULL SIZED MANIFOLD 12" AFF, INSTALLED TIGHT TO WALL. THE ANSUL VALVE SHALL BE FURNISHED WITH THE HOOD PACKAGE (BY OWNER) AND INSTALLED COMPLETE BY THE PLUMBING CONTRACTOR.
  - ROUTE THE FILTER WATER SUPPLY WITH SHUT-OFF & APPROVED BACKFLOW PREVENTER AS SCHEDULED FOR CONNECTION TO THE BAG-N-BOX ASSEMBLY. THE SYSTEM SHALL BE FURNISHED AND INSTALLED COMPLETE BY SODA VENDOR. FIELD COORDINATE THE COMPLETE INSTALLATION.
  - ANY WATER PIPING IN THE COOKLINE WALL WITHIN 18" OF THE TYPE 1 EXHAUST HOOD SHALL BE INSTALLED AS RIGID COPPER PIPE. NO PLASTIC TUBING ALLOWED.
  - COORDINATE INSTALLATION OF WALL MOUNTED HOSE BIB, WITH INTERIOR WALL FRAMING AND EXTERIOR FINISHES. REFER TO ARCHITECTURAL ELEVATION FOR ADDITIONAL INFORMATION.
  - FIELD VERIFY OPERATION OF EXISTING TRAP PRIMER TO FLOOR DRAIN.

- EXISTING 1" GAS (0.5 PSI) DOWN TO WATER HEATER CONNECTION. PROVIDE COMPLETE WITH GAS COCK, UNION & 6" DIRT LEG.
- FIELD COORDINATE PLACEMENT OF THE HOT WATER EXPANSION TANK. WATER PIPE SHALL BE FULL SIZE OF THE EXPANSION TANK CONNECTION.
- PROPOSED ELECTRICAL PANEL LOCATION. NO PIPING SHALL BE INSTALLED ABOVE OR BELOW THE CEILING AT THIS LOCATION.
- ROUTE THE 1 1/2" (2.0 PSI) GAS SERVICE PIPING UP THE EXTERIOR WALL WITH EXTERIOR MAIN GAS SHUT-OFF FOR ROOF MOUNTED DISTRIBUTION. EXPOSED PIPING SHALL BE PAINTED TO MATCH THE EXTERIOR WALL FINISH. REFER TO MEP1.0 FOR CONTINUATION OF PIPING ON ROOF.
- EXISTING GAS METER, VERIFY SIZE AND LOCATION. ADJUST GAS METER AND REGULATOR ASSEMBLY AS REQUIRED FOR NEW GAS LOAD. COORDINATE WITH THE LOCAL SERVICE PROVIDER.
- 1" CW DN IN WALL TO WC-1.
- 1 1/2" GAS (0.5 PSI) PIPING MANIFOLD SHALL BE INSTALLED LOW ON COOK LINE WALL. REFER TO KITCHEN PLANS FOR ROUGH-IN INFORMATION.
- 3/4" COMPLETE W/ SOC AND UNION (565 CFH TOTAL) FOR FRYERS. FLEXIBLE HOSE CONNECTION WITH QUICK DISCONNECT PROVIDED BY KEC AND INSTALLED BY PLUMBING CONTRACTOR.
- TEE-OFF 1/2" CW LINE & EXTEND DOWN TO UNDER FLOOR AS SHOWN.
- CONTINUOUSLY SLEEVE & INSULATE UNDER SLAB PIPING. STUB-UP THE CW FROM UNDER FLOOR AND EXTEND PIPING TO FIXTURES/EQUIPMENT. SLAB PENETRATIONS SHALL BE SEALED WATER TIGHT AND LEVELED FLUSHED WITH FINISHED FLOOR.
- 1/2" CW LINE UP FROM UNDER FLOOR & EXTEND TO FIXTURE FAUCET COMPLETE WITH SUPPLY & STOP.
- ROUTE THE FILTERED WATER SUPPLY PIPING WITH SHUT-OFF & STAINLESS STEEL RPZ BACKFLOW PREVENTER AS SCHEDULED TO THE ICE MAKER EQUIPMENT AS SHOWN. THE WATER FILTER ASSEMBLY SHALL BE FURNISHED WITH THE KITCHEN EQUIPMENT PACKAGE & INSTALLED BY THE PLUMBING CONTRACTOR.
- ROUTE 3/4" FW AND 3/4" CW LINE DOWN WITH SHUT-OFFS & BFP-1 DOWN TO COMBI-OVEN CONNECTIONS.
- ROUTE THE CW SUPPLY PIPING WITH SHUT-OFF & STAINLESS STEEL RPZ BACKFLOW PREVENTER AS SCHEDULED TO THE WATER FILTER ASSEMBLY PRIOR TO FINAL CONNECTION TO THE EQUIPMENT AS SHOWN. THE WATER FILTER ASSEMBLY SHALL BE FURNISHED WITH THE KITCHEN EQUIPMENT PACKAGE & INSTALLED BY THE PLUMBING CONTRACTOR.
- 1-1/2" GAS LINE (0.5 PSI) DOWN FROM ROOF TO AUTOMATIC GAS VALVE AND FRYERS.

- ### GENERAL NOTES
- KEY NOTES WITH ELLIPTICAL SYMBOL AND NUMBER CORRESPOND TO KITCHEN EQUIPMENT SHOWN IN THE FOOD SERVICE SHEETS.
  - ANY EXPOSED PIPING SHALL BE INSTALLED AS TIGHT AS POSSIBLE TO THE HEATED SIDE OF THE EXPOSED ROOF STRUCTURE. PIPING INSTALLED IN EXTERIOR WALLS SHALL BE INSTALLED ON THE HEATED SIDE OF THE WALL INSULATION.
  - REFER TO PLUMBING SHEET P2.1 FOR PLUMBING FIXTURE AND EQUIPMENT SCHEDULES INCLUDING SPECIFICATIONS AND ROUGH-IN SIZES.
  - REFER TO THE FOOD SERVICE SHEETS FOR ADDITIONAL INFORMATION PERTAINING TO KITCHEN EQUIPMENT NOT SHOWN ON THESE SHEETS.
  - PLUMBING CONTRACTOR SHALL COORDINATE WITH THE KITCHEN EQUIPMENT SUPPLIER FOR THE COMPLETE INSTALLATION AND SERVICE CONNECTIONS OF ALL KITCHEN EQUIPMENT.
  - REFER TO ARCHITECTURAL AND MILLWORK DRAWINGS FOR DETAILS OF COUNTERTOPS, CASEWORK, AND OTHER FIXTURES, SHOWING EXACT LOCATION OF OPENINGS FOR PLUMBING ITEMS BEING INSTALLED. COORDINATE THE COMPLETE INSTALLATION WITH THE GENERAL CONTRACTOR.
  - PLUMBING CONTRACTOR TO ARRANGE AND PAY FOR ALL REQUIRED FEES, PERMITS, AND MISCELLANEOUS COSTS ASSOCIATED WITH THE PLUMBING WORK PER LOCAL PLUMBING CODES.
  - BEFORE ANY USE OF THE WATER SYSTEM IS MADE FOR DOMESTIC PURPOSES, IT SHALL BE STERILIZED BY SLOWLY FILLING WITH WATER TO WHICH A STERILIZING AGENT HAS BEEN APPLIED, AT A RATE GIVING 50 PPM OF CHLORINE, AS DETERMINED BY RESIDUAL CHLORINE TEST AT EXTREMITIES OF THE LINE. AFTER LINES HAVE BEEN FILLED FOR A PERIOD OF THREE (3) HOURS, TESTS FOR RESIDUAL CHLORINE SHALL SHOW NOT LESS THAN 50 PPM. IF LESS THAN 50 PPM IS INDICATED, DRAIN OR FLUSH OUT THE LINE AND REPEAT STERILIZATION TREATMENT UNTIL TESTS INDICATE AT LEAST 50 PPM OF RESIDUAL CHLORINE AFTER THREE (3) HOURS. THE LINES SHALL BE FLUSHED UNTIL ALL TRACES OF CHEMICAL HAVE BEEN REMOVED.
  - PLUMBING CONTRACTOR TO FLUSH AND SANITIZE ALL WATER LINES PRIOR TO THE INSTALLATION OF THE FILTRATION SYSTEM.
  - PLUMBING CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS, ELEVATIONS AND CHARACTERISTICS OF UTILITIES AND PIPING PRIOR TO ANY NEW CONSTRUCTION. COORDINATE WITH CIVIL DRAWINGS AND LOCAL UTILITIES PRIOR TO NEW INSTALLATION.
  - ALL WALL PIPING STUB-OUTS SHALL BE SECURELY TIED TO THE STRUCTURE WITH SUFFICIENT BACKING TO ELIMINATE ANY MOVEMENT.
  - ALL FIXTURES AND EQUIPMENT SHALL BE INSTALLED WITH WATER SUPPLY STOP VALVES IN ACCESSIBLE LOCATIONS. SUPPLY PIPING TO SINKS AND EQUIPMENT SHOULD BE INSTALLED COMPLETE WITH 1/4 TURN BALL VALVES.
  - FINAL CONNECTIONS TO SINKS IN THE KITCHEN SHALL BE HARD PIPED.



NOTE: PROVIDE MIN 1" INSULATION FOR HOT WATER. PER IECC 504.5 - PIPING SHALL BE INSULATED WITH 1 INCH OF INSULATION HAVING A CONDUCTIVITY NOT EXCEEDING 0.27 BTU PER INCH/Hxft2x°F.



DATE	DESCRIPTION	BY

SCALE:  
AS NOTED

PROJECT NO.  
05-05-22

SHEET NO.  
**P1.2**



PLUMBING FIXTURE SCHEDULE						
MARK	FIXTURE	ROUGH-IN-SIZE				DESCRIPTION/REMARKS
		S/W	V	CW	HW	
WC-1	WATER CLOSET ASSEMBLY (ADA)	4"	2"	1 1/2"	-	KOHLER #3K-4302 FLOOR MOUNTED, FLUSH VALVE, WHITE VITREOUS CHINA WITH 1.6 GPF SIPHON JET BOWL, 1 1/2" TOP SPUD CONNECTION, BOLT CAPS, SLOAN ROYAL 1111.1.6 EXPOSED TOP SPUD FLUSH VALVE, ELONGATED HEAVY DUTY WHITE PLASTIC OPEN FRONT SEAT (LESS COVER) WITH CHECK HINGE STOPS. INSTALL SOLID RING PIPE SUPPORT SLOAN J-212-A.
LAV-1	LAVATORY (ADA)	2"	1 1/2"	1/2"	1/2"	KOHLER #K-2867 WHITE VITREOUS CHINA WALL MOUNT, FAUCET: K-7404-5A FAUCET WITH WRIST BLADE HANDLES, 0.5 GPM ARATOR, 17 GA. P-TRAP, GRID DRAIN & WALL CARRIER.
TD-1	TRENCH DRAIN	3"	2"	-	-	POLYDRAIN 4" TRENCH DRAIN ASSEMBLY INCLUDING STAINLESS STEEL BODY AND GRATEWITH DEEP SEAL P-TRAP.
FD-1	FLOOR DRAIN	3"	2"	-	-	ZURN #415 TYPE 'C' HINGED STRAINER, 8" NICKEL BRONZE GRATE, CAST IRON BODY, CONVERTIBLE MEMBRANE CLAMP, AND ADJUSTABLE COLLAR.
FD-2	FLOOR DRAIN	3"	2"	1/2"	-	ZURN #415 TYPE 'B' STRAINER, 5" NICKEL BRONZE GRATE, CAST IRON BODY, CONVERTIBLE MEMBRANE CLAMP, ADJUSTABLE COLLAR, AND TRAP PRIMER CONNECTION.
FD-3	FLOOR DRAIN	3"	2"	-	-	SAME AS FD-1 WITH FUNNEL.
ES-1	FLOOR SINK	3"	2"	1/2"	-	ZURN #1900 SANI-FLOOR RECEPTOR, 12x12x6 ACID RESISTING PORCELAIN ENAMEL INTERIOR AND TOP, CAST IRON BODY, SQUARE SLOTTED LIGHT DUTY GRATE, AND WHITE ABS DOME STRAINER. COORDINATE GRATE CONFIGURATION WITH KITCHEN ROUGH IN PLANS.
EQO	FLOOR CLEANOUT	LINE SIZED	-	-	-	ZURN #1400 ADJUSTABLE FLOOR CLEANOUT, DURA-COATED CAST IRON BODY, GAS AND WATER TIGHT TAPERED THREAD PLUG, AND 5" ROUND POLISHED NICKEL BRONZE TOP.
WCO	WALL CLEANOUT	LINE SIZED	-	-	-	ZURN #1443 SQUARE WALL CLEANOUT, DURA-COATED CAST IRON BODY, GAS AND WATER TIGHT TAPERED THREAD PLUG, AND NICKEL BRONZE SECURED SQUARE, SMOOTH WALL ACCESS COVER AND FRAME.
DCO	DOUBLE CLEANOUT	LINE SIZED	-	-	-	ZURN #CO-2448, PVC CLEANOUT WITH ROUND ADJUSTABLE SCORATED SECURED CAST IRON TOP, GASKET SEAL CAST IRON PLUG WITH RECESSED SOCKET. INSTALL IN MINIM OF 12"x12"x4" REINFORCED CONCRETE PAD WITH BEVELED EDGES.
HB-1	HOSE BIBB (EXTERIOR WALL)	-	-	LINE SIZED	-	WOODFORD #B67 (COORDINATE WITH WALL THICKNESS) AUTOMATIC DRAINING FREEZELESS WALL FAUCET ENCLOSED IN A LOCKING WALL BOX, WITH ANTI-SIPHON INTEGRAL VACUUM BREAKER AND CHROME BRASS FINISH. INSTALL BOTTOM OF WALL BOX 24" ABOVE FINISHED GRADE (UNO).
HB-2	HOSE BIBB (ROOF)	-	-	3/4"	-	WOODFORD #SRH-MS WITH ANTI-SIPHON INTEGRAL VACUUM BREAKER CAST IRON UNDER DECK FLANGE & EPDM BOOT COVERS. NO DRAIN REQUIRED. INSTALL FIXTURE THROUGH ROOF.

PLUMBING EQUIPMENT SCHEDULE						
MARK	FIXTURE	ROUGH-IN-SIZE				DESCRIPTION/REMARKS
		S/W	V	CW	HW	
WH-1	EXISTING WATER HEATER	-	-	1 1/4"	1 1/4"	REUSE EXISTING WATER HEATER
ET-1	EXPANSION TANK	-	-	-	-	WATTS PLT-12 OR EQUAL PRODUCT COMPATIBLE WITH WATER HEATER SYSTEM. FACTORY CHARGED AT 40 PSIG, HEAVY DUTY BUTYL DIAPHRAGM, RIGID POLYPROPYLENE LINER.
RCP-1	RECIRCULATION PUMP	-	-	-	3/4"	GRUNDFOS #UP15-42B7 INLINE HOT WATER OPEN SYSTEM RECIRCULATING PUMP, CAPABLE OF 4.0 GPM (140°F) @ 14' HEAD, 1/25 HP, 115V/1PH, AQUASTAT, INTEGRAL ATTACHED TIMER FOR OPERATION CONTROLS, AN ATTACHED POWER CORD.
TP-1	TRAP PRIMER	-	-	1/2"	-	PPP, INC. #PR-500 "PRIME RITE" TRAP PRIMER, BRONZE CONSTRUCTION WITH VACUUM PORTS, ADJUSTABLE WITH 1/2" COPPER TYPE "L" TO RECEPTOR, PROVIDE DISTRIBUTION UNIT AS REQUIRED FOR SUPPLY TO MULTIPLE DRAINS. INSTALL VALVE RECESSED IN WALL A MINIMUM 12" AFF, PROVIDE ACCESS PANEL.
WHA-1	WATER HAMMER ARRESTER	-	-	LINE SIZED	-	PPP, INC. SERIES SC, FULLY MECHANICAL WATER HAMMER ARRESTER SIZED AND LOCATED PER THE MANUFACTURER SPECIFICATIONS.
MXV-1	MIXING VALVE	-	-	1/2"	1/2"	WATTS REGULATOR #LFMM UNDER SINK THERMOSTATIC MIXING VALVE, WITH BRASS BODY AND INTEGRAL MOUNTING HOLES, TAMPER RESISTANT ENCLOSURE. SECURED TO STRUCTURE, SET AT 110°F.
RPZ-1	REDUCED PRESSURE BACKFLOW PREVENTER	-	-	LINE SIZED	-	WATTS REGULATOR SSO09 REDUCED PRESSURE ZONE ASSEMBLY WATER SUPPLY TO ICE MAKER(S) & CARBONATOR(S) SHALL BE PROTECTED BY AN APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER AND SHALL BE RATED FOR 150 PSI, THE BODY & ADAPTERS ARE OF STAINLESS STEEL CONSTRUCTION, ALL RUBBER COMPONENTS COMPLY WITH FDA FOOD ADDITIVE REGULATIONS. THE MODEL IS SUBJECT TO LOCAL HEALTH DEPARTMENT APPROVAL WATTS SB-2.
BFP-1	BACKFLOW PREVENTER	-	-	LINE SIZED	-	WATTS REGULATOR LFO07 DOUBLE CHECK VALVE ASSEMBLY. DOMESTIC WATER SERVICE TO THE BUILDING SHALL BE PROTECTED BY AN APPROVED BACKFLOW PREVENTER AND SHALL BE RATED FOR 150 PSI, TWO POSITIVE SEATING CHECK MODULES WITH CAPTURED SPRINGS AND RUBBER SEAT DISCS. VERIFY APPROVAL WITH UTILITY AND JURISDICTION PRIOR TO INSTALLATION.
BFP-2	BACKFLOW PREVENTER	-	-	LINE SIZED	-	WATTS REGULATOR SD-3 DUAL CHECK WITH ATMOSPHERIC PORT. WATER SUPPLY TO BEVERAGE FIXTURE APPLIANCES, BREWER(S), ETC. SHALL BE PROTECTED BY AN APPROVED BACKFLOW PREVENTER AND SHALL BE RATED FOR CONTINUOUS OR INTERMITTENT PRESSURE, STAINLESS STEEL BODY CONSTRUCTION AND ALL RUBBER INTERNAL COMPONENTS.
GI-1	GREASE INTERCEPTOR	4"	2"	-	-	EXISTING TO REMAIN, PROVIDE GREASE TRAP SERVICE COMPLETE WITH PUMP OUT AND CLEANING.
SW-1	SAMPLE WELL	4"	-	-	-	EXISTING TO REMAIN
SO-1	WATER SOFTENER RO SYSTEM	-	-	1 1/2"	-	WATER SOFTENER TO BE FURNISHED INSTALLED BY THE PLUMBING CONTRACTOR.
WF-1	WATER FILTER SYSTEM	-	-	3/4"	-	WATER FILTER TO BE FURNISHED BY OWNER AND INSTALLED BY THE PLUMBING CONTRACTOR.

GAS DEMAND LOAD					
NO.	DESCRIPTION	CONN. SIZE	QTY.	INPUT (MBH/EA)	TOTAL (MBH)
62	FRYER	3/4"	1	85	85
63	FRYER	3/4"	2	240	480
RTU-1	ROOF TOP UNIT	3/4"	1	67	67
RTU-2	ROOF TOP UNIT	3/4"	1	67	67
RTU-3	ROOF TOP UNIT	1"	1	125	125
RTU-4	ROOF TOP UNIT	1"	1	125	125
WH-1	WATER HEATER	3/4"	1	75	75
HVAC SUB-TOTAL					384
WATER HEATER SUB-TOTAL					75
COOKING APPLIANCE SUB-TOTAL					565
GAS DEMAND TOTAL (CFH)					1024
GAS DEMAND TOTAL (BTUH)					1,024,000
GAS DEMAND TOTAL (CFH)					1024

NOTE(S):

- THE ACTUAL LENGTH TO THE MOST REMOTE APPLIANCE CONNECTION IS 60'-0". THE SYSTEM IS SIZED FOR A TOTAL DEVELOPED LENGTH OF MAXIMUM 100'-0".
- THE CONTRACTOR SHALL COORDINATE WITH THE NATURAL GAS SERVICE PROVIDER FOR THE PROVISION OF THE COMPLETE SYSTEM INCLUDING METER AND REGULATOR ASSEMBLY, ETC.
- THE SERVICE PRESSURE TO THE BUILDING SHALL BE INSTALLED AS MEDIUM PRESSURE SUPPLY (0.5 PSI).
- COORDINATE THE COMPLETE INSTALLATION OF THE METER ASSEMBLY INCLUDING PRESSURE REGULATOR TO REDUCE SUPPLY PRESSURE OF DISTRIBUTION PIPING DOWNSTREAM FROM THE METER TO 2 PSI.
- PIPE SIZES SHOWN ON THE RISER DIAGRAM ARE BASED ON THE APPLICABLE GAS TABLES IN THE 2021 INTERNATIONAL PLUMBING CODE WITH LOCAL AMENDMENTS. VERIFY FIELD CONDITIONS FOR ACTUAL DEVELOPED LENGTH AND POSSIBLE ADJUSTMENTS TO PIPE SIZES IN THE FIELD.

PIPING MATERIAL SCHEDULE	
1. WATER PIPE (ABOVE GROUND)	UPONOR CROSSLINKED POLYETHYLENE (PEX-g) PIPING MEETING ASTM F 877, SDR 9 STANDARDS WITH MANUFACTURER AVAILABLE ENGINEERED POLYMER (EP) COLD EXPANSION FITTINGS AND PEX REINFORCING RINGS MEETING ASTM F 1960. PIPING SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND SHALL NOT BE INSTALLED WHERE IT IS EXPOSED TO SUNLIGHT. FIELD COORDINATE THE INSTALLATION OF MANUFACTURED PIPING COLOR AND PIPING LENGTHS TO RUN AS STRAIGHT AS POSSIBLE UTILIZING PEX-g PIPE SUPPORTS. ALL PIPING AND FITTINGS SHALL BE BY THE SAME MANUFACTURER.
2. WATER PIPE (BELOW GROUND)	UPONOR CROSSLINKED POLYETHYLENE (PEX-g) PIPING MEETING ASTM F 877, SDR 9 STANDARDS. NO JOINTS OR FITTINGS SHALL BE INSTALLED BELOW THE BUILDING SLAB. FIELD COORDINATE THE INSTALLATION OF MANUFACTURED PIPING COLOR AND PIPING LENGTHS TO RUN AS STRAIGHT AS POSSIBLE. ALL PIPING AND FITTINGS SHALL BE BY THE SAME MANUFACTURER.
3. WATER PIPE (INSULATION)	BOTH HOT AND COLD WATER PIPING SHALL BE INSTALLED COMPLETE WITH INSULATION EITHER IN CONCEALED OR EXPOSED LOCATIONS. REFER TO GENERAL NOTES FOR INSULATION THICKNESS INFORMATION.
4. SEWER AND VENT PIPE (ABOVE AND BELOW GRADE)	DWV SCHEDULE 40 POLYVINYL CHLORIDE (PVC) PIPING, INSIDE BUILDING SERVICE WEIGHT (HUBLESS) CAST IRON SOIL PIPE AND STAINLESS STEEL NO HUB COUPLINGS SHALL BE UTILIZED FOR THE FIRST 10'-0" OF PIPING RECEIVING DISCHARGE FROM A DISHWASHER(S).
5. CONDENSATE DRAIN PIPE AND INDIRECT DRAINAGE PIPE (INTERIOR TO BUILDING)	TYPE 'M' COPPER WITH 95/5 SILVER SOLDER JOINT FITTINGS. INSULATE CONDENSATE PIPING WITH 1/2" ARMAFLEX CLOSED CELL PIPE INSULATION WITH SELF SEALING ADHESIVE JOINTS, OR EQUIVALENT.
6. CONDENSATE DRAIN PIPE (EXTERIOR TO BUILDING)	TYPE 'M' COPPER WITH 95/5 SILVER SOLDER JOINT FITTINGS.
7. GAS PIPE	GAS PIPE - SCHEDULE 40 BLACK STEEL WITH MALLEABLE IRON FITTINGS. WELDED JOINTS FOR PIPE 2 1/2" AND LARGER AND ALL JOINTS BELOW GRADE. EXTERIOR GAS PIPING AT THE METER ASSEMBLY SHALL BE FIELD PAINTED MISSISSIPPI BRONZE. GAS PIPING EXTERIOR ON THE ROOF SHALL BE FIELD PAINTED WITH ZINC RICH GALVANIZED YELLOW PAINT FOR CORROSION PROTECTION. GAS PIPING INTERIOR TO THE BUILDING SHALL BE FIELD PAINTED YELLOW.
8. SUSPENDED PIPING SUPPORT	SUPPORT PIPING WITH CLEVIS OR SPLIT RING TYPE PIPE HANGERS 3/8" ALL THREAD ROD AND BEAM CLAMPS. "PLUMBERS TAPE AND WIRE" NOT PERMITTED.

HOT WATER DEMAND			
ITEM	QTY.	GPH	TOTAL GPH
LAVATORY	2	5	10
KITCHEN HAND SINK	4	5	20
3 COMP POT SINK	1	90	90
PRE RINSE SINK	1	20	20
MOP SINK FAUCET	1	20	20
1 COMP POT SINK	1	15	15
TOTAL			175

HOT WATER CALCULATIONS:

PEAK DEMAND

- 1.75 GPH (PEAK DEMAND) X 0.40 (DEMAND FACTOR) = 70 GPH.
- 2.70 GPH (DEMAND) X 1.0 (STORAGE FACTOR) = 70 GALS.
- 3.175 GPH (PEAK DEMAND) / 60 MIN./HR = 2.9 GPM.
4. 50°F DOMESTIC SUPPLY WATER TEMPERATURE.
5. 140°F DESIGN SUPPLY HOT WATER FOR KITCHEN.
6. 500 GPM X ΔT = MIN. OUTPUT BTUH REQUIRED AT WATER HEATER. (500)(2.9)(90) = 130,500 BTUH.

PROBABLE DEMAND

- 1.70 GPH (PROBABLE DEMAND) X 0.40 (DEMAND FACTOR) = 28 GPH.
- 2.28 GPH (DEMAND) X 1.0 (STORAGE FACTOR) = 28 GALS.
- 3.70 GPH (PROBABLE DEMAND) / 60 MIN./HR = 1.16 GPM.
4. 50°F DOMESTIC SUPPLY WATER TEMPERATURE.
5. 140°F DESIGN SUPPLY HOT WATER FOR KITCHEN.
6. 500 GPM X ΔT = MIN. OUTPUT BTUH REQUIRED AT WATER HEATER. (500)(1.16)(90) = 52,200 BTUH.

CAPACITY PROVIDED

- (1) TANKLESS WATER HEATER WITH 199,000 BTUH INPUT CAPACITY AND CONTINUOUS RECOVERY AT 140°F.

PLUMBING LEGEND		
SYMBOL	ABBREV.	DESCRIPTION
---	S OR W	SOIL OR WASTE (BELOW GRADE)
---	GW	GREASE WASTE
---	V	VENT
---	CD	CONDENSATE DRAIN
---	ST	STORM DRAIN
---	CW	COLD WATER
---	FW	FILTERED WATER
---	SW	SOFTENED WATER
---	FSW	FIRE SERVICE WATER
---	HW	HOT WATER
---	HWR	HOT WATER RETURN
---	RO	REVERSE OSMOSIS WATER
---	G	GAS, NATURAL OR PROPANE
○	UP	PIPE UP
○	DN.	TEE DOWN
○	DN.	PIPE DOWN
●	FCO	FLOOR CLEANOUT
●●	DCO	DOUBLE CLEANOUT
---	CO	CLEANOUT, WALL OR PIPE
---	SOV	SHUT-OFF VALVE
---	NO	SHUT-OFF VALVE, NORMALLY OPEN
---	NC	SHUT-OFF VALVE, NORMALLY CLOSED
---	C.V.	CHECK VALVE
---	B.V.	BALANCING VALVE
---	U	UNION
---	P.V.	MECHANICAL PLUG VALVE (GAS)
---	SOV	SHUT-OFF COCK (GAS)
---	EAAV	EARTHQUAKE ACTUATED AUTOMATIC VALVE (GAS)
---	S.V.	ELECTRIC SOLENOID VALVE (GAS)
---	P.R.	PRESSURE REGULATOR (GAS)
---	POC	POINT OF CONNECTION
---	T&P	TEMPERATURE & PRESSURE RELIEF VALVE
---	VTR	VENT TO ROOF
---	HD	HUB DRAIN
---	FD	FLOOR DRAIN (COORDINATE GRATE REQ'S)
---	FS	FLOOR SINK (COORDINATE GRATE REQ'S)
---	RP	RECIRCULATION PUMP
---	CFH	CUBIC FEET PER HOUR (1 MBH = 1 CFH)
---	(E)	EXISTING
---	I.E.	INVERT ELEVATION
---	CONN	CONNECTION
---	FU	FIXTURE UNITS
---	GPM	GALLONS PER MINUTE
---	GPH	GALLONS PER HOUR
---	HP	HORSEPOWER
---	PSI	POUNDS PER SQUARE INCH
---	AP	ACCESS PANEL
---	W/	WITH
---	FLR	FLOOR
---	CLG	CILING
---	ABV	ABOVE
---	BEL	BELOW
---	UG	UNDERGROUND
---	DN	DOWN
---	CONT.	CONTINUE
---	TYP.	TYPICAL
---	FOH	FRONT OF HOUSE
---	BOH	BACK OF HOUSE
---	A.D.A.	AMERICAN DISABILITIES ACT
---	A.F.F.	ABOVE FINISH FLOOR
---	B.F.F.	BELOW FINISH FLOOR

BACKFLOW DEVICE SCHEDULE		
ITEM/ FIXTURE	ITEM/ EQUIPMENT #	BACKFLOW DEVICE
BAG-N-BOX SODA SYSTEM	-	RPZ-1
INCOMING WATER SERVICE	-	BFP-1
TEA BREWER(S)	-	
COFFEE MACHINE(S)	-	
ICE MAKER(S)	-	BFP-2
ECOLAB CONNECTION(S)	-	
SODA DISPENSER(S)	-	
ICE & WATER DISPENSER(S)	-	
SERVICE SINK	-	INTEGRAL
HOSE BIBB(S)	-	

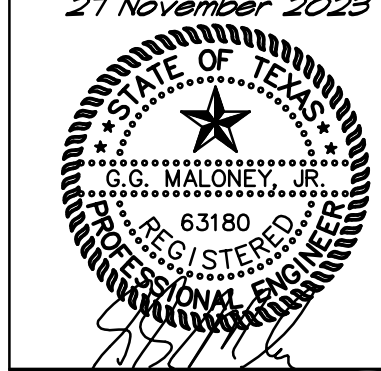
PLUMBING GENERAL NOTES	
1.	NOTE: FOR THE PURPOSE OF CLARITY AND LEGIBILITY, THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND ALTHOUGH SIZES AND LOCATIONS OF EQUIPMENT ARE DRAWN TO SCALE, WHEREVER POSSIBLE, THE CONTRACTOR SHALL MAKE USE OF ALL DATA IN ALL OF THE CONTRACT DOCUMENTS AND VERIFY THIS INFORMATION PRIOR TO ORDERING, FABRICATING OR INSTALLING ANY MATERIALS.
2.	THE PLUMBING SYSTEM DESIGN, INSTALLATION AND MATERIALS SHALL CONFORM TO ALL FEDERAL, STATE AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTION.
3.	PLUMBING QUALITY, WEIGHTS OF MATERIALS AND ALTERNATE METHODS OF CONSTRUCTION SHALL CONFORM TO THE 2015 INTERNATIONAL PLUMBING CODE WITH LOCAL AMENDMENTS.
4.	CONTRACTOR SHALL COORDINATE ALL WORK SHOWN ON THESE DRAWINGS AND SPECIFICATIONS WITH ALL DISCIPLINES AND TRADES PRIOR TO SUBMITTAL OF BID AND INSTALLATION OF SYSTEM.
5.	CONTRACTOR SHALL MAKE ALL ARRANGEMENTS WITH UTILITY COMPANIES FOR SERVICE AND CONNECTIONS AND SHALL PAY FOR ALL FEES, CHARGES, PERMITS AND METERS.
6.	THE PLUMBING CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND LABOR (INCLUDING THE COMPLETE PLUMBING SYSTEM) FOR A PERIOD OF ONE YEAR FROM WRITTEN ACCEPTANCE BY THE TENANT. ANY DEFECTS IN MATERIALS AND/OR LABOR FOUND WITHIN THE GUARANTEE PERIOD SHALL BE REMEDIED OR REPAIRED BY THIS CONTRACTOR IN A TIMELY FASHION, AT NO COST TO THE TENANT.
7.	ALL PLUMBING FIXTURE LOCATIONS (WATER CLOSETS, LAVATORIES ETC.) ARE DIAGRAMMATIC. CONTRACTOR SHALL REFER TO FOOD SERVICE AND ARCHITECTURAL DRAWINGS FOR EXACT PLACEMENT AND MOUNTING HEIGHTS.
8.	ANY DEVIATIONS FROM THE DRAWINGS OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER PRIOR TO INSTALLATION.
9.	CONTRACTOR SHALL VISIT SITE PRIOR TO SUBMITTAL OF BID AND FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS. SUBMITTAL OF BID WILL VERIFY THAT THE CONTRACTOR HAS VISITED THE SITE.
10.	PIPING SHALL BE INSTALLED PARALLEL TO BUILDING LINES AND SUPPORTED AND ANCHORED AS REQUIRED TO FACILITATE EXPANSION AND CONTRACTION. THE INSTALLATION SHALL MEET ALL CONSTRUCTION CONDITIONS AND ALLOW FOR THE INSTALLATION OF OTHER TRADES.
11.	TRAP PRIMERS FOR FLOOR DRAINS AND FLOOR SINKS AND WATER HAMMER ARRESTORS ARE TO BE INSTALLED AS PER THE 2015 INTERNATIONAL PLUMBING CODE WITH LOCAL AMENDMENTS AND THE LATEST EDITION OF THE AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE 1010) SIZING AND INSTALLATION REQUIREMENTS.
12.	ALL VALVES, TRAP PRIMERS, WATER HAMMER ARRESTORS OR OTHER EQUIPMENT SHOWN IN WALLS OR ABOVE NON-ACCESSIBLE CEILING SHALL BE INSTALLED BEHIND AN ACCESS PANEL.
13.	ALL SERVICE WATER HEATING EQUIPMENT TO BE IN COMPLIANCE WITH THE 2015 INTERNATIONAL PLUMBING CODE WITH LOCAL AMENDMENTS AND LABELED AS SUCH.
14.	ALL ITEMS PROJECTING THROUGH THE ROOF SHALL BE FLASHED THROUGH CURBS OR PIPE SEALS A MINIMUM OF 12" ABOVE THE ROOF. THE PIPE CURBS AND SEALS SHALL BE INSTALLED BY THE ROOFING CONTRACTOR. ENSURE THAT AMPLE BOOT OPENINGS ARE PROVIDED TO ACCOMMODATE ANY ELECTRICAL CONDUIT PENETRATIONS REQUIRED FOR POWER.
15.	ALL WATER PIPING TO BE INSULATED AS PER THE 2015 INTERNATIONAL PLUMBING CODE WITH LOCAL AMENDMENT REQUIREMENTS: PIPE SIZE INSULATION THICKNESS INSULATION VALUE 1/2" THRU 1 1/4" 1" R = 4.0 1-1/2" THRU 2" 1 1/2" R = 6.0
16.	CONTRACTOR SHALL PROVIDE: FAUCETS, TRAPS, STOPS, BALL VALVES, BACKFLOW DEVICES FOR KITCHEN EQUIP. GASCOCKS, WATER HAMMER ARRESTORS, CLEANOUT COVERS AND INDIRECT WASTE TO AN APPROVED RECEPTOR AND ALL NECESSARY TRIM FOR A COMPLETELY CONNECTED PLUMBING SYSTEM.
17.	ALL CLEANOUTS SHALL BE INSTALLED WHERE READILY ACCESSIBLE AND LOCATED AS PER CODE REQUIREMENTS. THE CONTRACTOR SHALL COORDINATE ALL CLEAN OUT LOCATIONS WITH EQUIPMENT, MILLWORK, ETC., PRIOR TO INSTALLATION.
18.	ALL PLUMBING FIXTURE VENTS TO TERMINATE A MINIMUM OF 12 INCHES ABOVE ANY VERTICAL SURFACE AND 10'-0" FROM OR 3'-0" ABOVE ANY MECHANICAL EQUIPMENT OUTSIDE AIR INTAKE.
19.	ALL VALVES, UNIONS, ETC. TO BE SAME SIZE AS CONNECTED SUPPLY LINE UNLESS OTHERWISE NOTED ON DRAWINGS.
20.	UNIONS SHALL BE PROVIDED AND INSTALLED AFTER EACH SCREW-TYPE VALVE AND PRIOR TO EQUIPMENT CONNECTIONS.
21.	ALL UNDERGROUND METALLIC PIPE AND FITTINGS SHALL BE PROTECTED IN ACCORDANCE WITH THE SOILS ENGINEER'S RECOMMENDATIONS.
22.	NO PIPING SHALL BE DIRECTLY EMBEDDED IN CONCRETE, MASONRY WALLS, OR CONCRETE FOOTINGS.
23.	THE PLUMBING CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS FOR ALL POINTS OF CONNECTION WITH THE GENERAL CONTRACTOR AND OTHER TRADES PRIOR TO START OF WORK.
24.	VERIFY EXACT LOCATIONS, DEPTH AND SIZE OF ALL PIPING TO WHICH CONNECTIONS ARE REQUIRED. COORDINATE ALL CONNECTIONS WITH SITE CONDITIONS AND SITE UTILITY CONTRACTOR/ REPRESENTATIVE.
25.	ALL HORIZONTAL PIPING LINES EXTENDED AND CONNECTED TO EQUIPMENT SHALL BE RUN AT THE HIGHEST POSSIBLE ELEVATIONS AND NOT LESS THAN 6" ABOVE THE FLOOR TO PROVIDE CLEARANCE FOR CLEANING.
26.	ALL CUTTING OF EXISTING PAVING, WALKS AND/OR FLOORS SHALL UTILIZE MACHINE SAW CUTTING EQUIPMENT. HOLES FOR PIPES IN CONCRETE WALLS OR FLOORS SHALL UTILIZE CORE DRILLING EQUIPMENT. COORDINATE WITH ARCHITECTURAL DETAILS FOR FLOOR CUTTING AND PATCHING.
27.	THE PLUMBING CONTRACTOR IS TO PROVIDE ALL ADDITIONAL STEEL, HANGER MATERIALS, RODS AND CLAMPS AS REQUIRED FOR COORDINATION WITH WORK OF OTHER TRADES.
28.	PIPING LAYOUT IS SCHEMATIC ONLY. EXACT ROUTING AND INSTALLATION OF PIPES TO BE COORDINATED WITH THE BUILDING STRUCTURE AND THE WORK OF OTHER CONTRACTORS. NO WATER OR DRAIN LINES ARE PERMITTED TO BE INSTALLED OVER OR UNDER ELECTRICAL PANELS.
29.	NO LIQUID TRANSMISSION PLUMBING PIPING SHALL BE INSTALLED ABOVE ELECTRICAL SWITCH GEAR, EQUIPMENT, OR PANELS. MAKE ADJUSTMENTS NECESSARY TO REROUTE PIPING FOR ACTUAL INSTALLATION OF ELECTRIC EQUIPMENT.
30.	WHENEVER FOUNDATION WALLS, EXTERIOR WALLS, ROOFS, ETC. ARE PENETRATED FOR THE INSTALLATION OF PLUMBING SYSTEMS, THEY SHALL BE PATCHED TO MATCH EXISTING CONSTRUCTION AND SEALED WEATHER TIGHT.
31.	ANY EXPOSED PIPING IN THE GUEST AREAS SHALL BE PAINTED TO MATCH THE WALL COLOR. ANY EXPOSED GAS PIPING IN THE KITCHEN SHALL BE PAINTED WHITE.
32.	PLUMBING CONTRACTOR SHALL BE ON SITE AND PRESENT AT THE DATE OF STORE TURNOVER.
33.	DURING THE PROGRESS OF THE WORK, MAINTAIN AN ACCURATE RECORD OF ALL CHANGES MADE IN THE PLUMBING SYSTEMS. THE RECORD DRAWING SHALL SHOW CHANGES IN MANUFACTURER (WITH NUMBERS AND TRADE NAMES), MATERIALS, SIZES, LOCATIONS AND HOOK-UP POINTS. AS-BUILTS SHALL BE GIVEN TO OWNER'S CONSTRUCTION MANAGER AT COMPLETION OF JOB.
34.	UPON COMPLETION OF JOB, THIS CONTRACTOR SHALL INSPECT ALL EXPOSED PORTIONS OF THE PLUMBING INSTALLATION AND COMPLETELY REMOVE ALL EXPOSED LABELS, SOIL, MARKINGS AND FOREIGN MATERIAL EXCEPT PRODUCT LABELS AND THOSE REQUIRED BY LAW.
35.	PLUMBING CONTRACTOR SHALL PROVIDE MANUFACTURER'S OPERATION LITERATURE FOR ALL INSTALLED EQUIPMENT AND FIXTURES AT THE DATE OF STORE TURNOVER.
36.	ALL PENETRATIONS IN FIRE RATED WALL ASSEMBLIES SHALL BE SEALED WITH UL LISTED FIRE STOPPING MATERIAL.



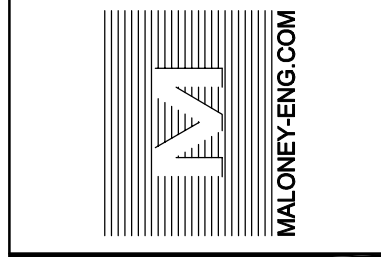
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DRAWING COORDINATION  
Architectural, Landscape, Civil, Structural, Mechanical and Electrical drawings are interrelated. General Contractor and all Sub Contractors shall review and coordinate the entire set of drawings and specifications.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY G.G. MALONEY, JR., P.E. 63180 ON NOV 27, 2023. ALTERATION OF SEALED DOCUMENTS WITHOUT PROPER NOTIFICATION OF THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.



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PLUMBING SCHEDULES AND NOTES  
Golden Chick Restaurant Remodel  
2311 Fredericksburg Rd  
San Antonio, Texas

DATE	DESCRIPTION	BY

SCALE:  
AS NOTED

PROJECT NO.  
05-05-22

SHEET NO.  
P2.1



